

# INDUSTRIAL REFRIGERATION

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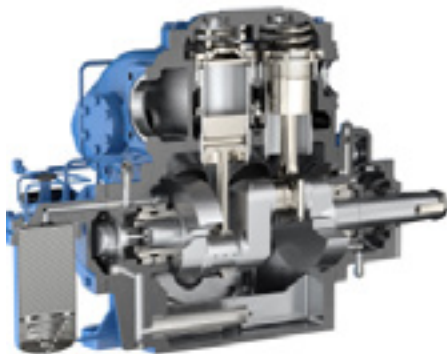
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**VILTER  
 RECIPROCATING COMPRESSOR PARTS (PISTON TYPE)**
**VILTER®**  
 Since 1867


450XL Model Shown

**440 SERIES**

| ITEM NUMBER  | DESCRIPTION                     | SEARCH PART   | POSITION NUMBER |
|--------------|---------------------------------|---------------|-----------------|
| VIL-31909A-# | Suction Valve ring              | VIRINGSV      | 407             |
| VIL-31939B-# | Discharge Diaphragm             | VIDIA         | 515             |
| B527TUA      | Discharge Diaphragm (budge)     | B527TUA       | NA              |
| VIL-33803A-# | Suction Valve spring            | VISPRINGSV    | 519             |
| 4ZD1080      | Suction Valve spring (budge)    | BUSUCSPRING   | NA              |
| VIL-32695C   | Discharge Valve assy complete   | VIDISCHVA     | 513 - 518       |
| VIL-33531B-# | Discharge bare safety head      | VISAFHEADBARE | 517             |
| VIL-31882A   | Safety Head Spring              | VISPRINGSH    | 521             |
| VIL-31941B-# | Safety Head Yoke                | VIYOKE        | 520             |
| VIRELVAL440  | Internal Relief 440             | VIRELVAL440   | 118             |
|              |                                 |               |                 |
| VIL-31989M-# | Compression rings               | VIRINGCOMP    | 501             |
| VIL-31989N-# | Oil rings                       | VIRINGOIL     | 502             |
| VIL-KT213-#  | Piston pin & rings Assy         | VIPISTASSY    | 501 - 505       |
| VIL-33245A-# | Piston pin/ Gudgeon             | VIPINPIST     | 505             |
| VIPISTPC     | Circlip set, Piston pin         | VIPISTPC      | 503             |
| VIL-31896B-# | Gudgeon bush                    | VIBUSHPP      | 506             |
|              |                                 |               |                 |
| VIL-KT512-#  | Big End bearing STD             | VIBRGSTD      | 511             |
| VIL-KT513A   | Big End bearing .0015"          | VIBRG015      | 511             |
| VIL-KT513-#  | Big End bearing .0030"          | VIBRG030      | 511             |
| VIL-2028A-#  | Pal nuts                        | VIPAL         | 510             |
|              |                                 |               |                 |
| VIL-KT463    | Conrod ( w/std bearing & bush ) | VIRODASSY     | 506 - 512       |
| VIL-2027A-#  | Conrod bolt nuts                | VINUTCR       | 509             |
| VIL-31955A-# | Conrod bolts                    | VIBOLTCR      | 512             |
|              |                                 |               |                 |
| VIL-1448C-#  | Filter, Trimicro with Gasket    | VITRIMICRO    | 315             |
| VIL-KT256    | Conversion Kit, trimicro        | VIKT256       | NA              |
|              |                                 |               |                 |

**440 SERIES**

| ITEM NUMBER      | DESCRIPTION                       | SEARCH PART   | POSITION NUMBER |
|------------------|-----------------------------------|---------------|-----------------|
| VIL-33179A-#     | Cylinder liner std/grooved        | VILINER2ST    | 401             |
| VIL-33350A       | Unloader Lift Pin                 | VIPINULP      | 506             |
| VIL-33352A       | Unloader lift spring              | VISPRINGULS   | 405             |
|                  |                                   |               |                 |
| 87299700         | Shaft Seal 2-1/2"                 | WISEAL212     | 217             |
| 87500762         | Shaft Seal 3"                     | WISEAL3       | 217             |
| VIL-33480A-#     | Oil Pump (Vilter)                 | VIOILPMP      | 306             |
|                  |                                   |               |                 |
| K-567A/90168 TIM | Main bearing 2-1/2"               | VIBRG212      | 227 / 231       |
| K-581/90068-TIM  | Main bearing 3"                   | VIBRG3        | 227             |
| VIL-1386B        | Sump Heater with T/Stat 230VAC    | VIHEAT300W    | NA              |
|                  |                                   |               |                 |
| VI31897          | Gasket Shaft Seal 2-12"           | VIGKTSEAL212  | 218             |
| VI33496          | Gasket Shaft Seal 3"              | VIGKTSEAL3    | 218             |
| VI33330          | Gasket, head                      | VIGKTHEAD     | 106             |
| VI33329          | Gasket, water jacket              | VIGKTWJ       | 104             |
| VIGKTHAND        | Gasket, hand hole                 | VIGKTHAND     | 122             |
| VI31894H         | Gasket, hand hole with Bolt Holes | VIGKTHANDH    | 122             |
| VI31889          | Gasket, oil pump inner            | VIGKTOPIN     | 305             |
| VI31900          | Gasket, oil pump outer            | VIGKTOPOUT    | 307             |
| VI33320          | Gasket, oil pump trimicro rubber  | VIGKTTRIM     | 308             |
| VIGKTOS          | Gasket, oil strainer              | VIGKTOS       | 114             |
| VIGKTCUNO        | Gasket, cuno filter               | VIGKTCUNO     | NA              |
| VI31226          | Gasket, sightglass                | VIGKTSG       | 127             |
|                  |                                   |               |                 |
| BS-255 N70       | Liner o-ring (Top)                | VIORLINER     | 402             |
| BS-351-N70       | Liner o-ring (Bottom)             | VIORING2STVIL | 402B            |

**450XL SERIES**

| ITEM NUMBER    | DESCRIPTION                  | SEARCH PART   | POSITION NUMBER |
|----------------|------------------------------|---------------|-----------------|
| VIRELVAL450XL  | 450XL Internal Relief Valve  | VIRELVAL450XL | 118             |
| VIL-35252-#    | 450XL Safety Head Spring     | VISPRINGSHXL  | 509             |
| A35082AA       | 450XL safety Head Bare       | VI35082A      | 514             |
| VIL-350805S    | 450XL Disch. Valve Plates    | VIDISPLATE450 | 512             |
| VIL-C5X503KT-# | 450XL Conrod / Bearing Kit   | VIKT573       | 503 - 506       |
| VIL-KT575#     | 450XL Std. Bearing set       | VIBRG450XLSTD | 507 / 508       |
| VIL-KT399A     | 450XL.015ConrodBear.Set      | VIBRG450XL015 | 507 / 508       |
| VIL-KT399      | 450XL .030 Bearing Set       | VIKT399B      | 507 / 508       |
| 87500762       | Shaft Seal 3"                | WISEAL3       | 217             |
| VI33496        | Gasket Shaft Seal 3"         | VIGKTSEAL3    | 218             |
| VIL-35108D     | 450/450XL 2 Stage Cyl. Liner | VI35108D      | 401             |

**MYCOM**  
**RECIPRICATING COMPRESSOR (PISTON TYPE)**


- Series A / WA
- Series B / WB

**MYCOM A/WA SERIES COMPRESSOR PARTS**

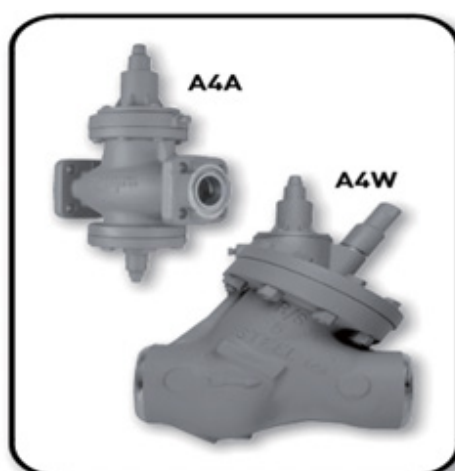
| ITEM NUMBER     | DESCRIPTION                  | POSITION NUMBER | VENDOR NUMBER   |
|-----------------|------------------------------|-----------------|-----------------|
| CR7100-A        | PLATE VALVE, SUCTION         | 17              | CR07100-A       |
| CR0729-A2       | SPRING SET, SUCTION A        | 72              | CR0729-A2       |
| CR0729-WA4      | SPRING SET, SUCTION WA       | 72              | CR0729-WA4      |
| CR11000-A       | PLATE VALVE, DISCHARGE       | 110             | CR11000-A       |
| CR1169-A3       | SPRING SET DISCHARGE A       | 116             | CR1169-A3       |
| CR1169-WA4      | SPRING SET, DISCHARGE WA     | 16              | CR1169-WA4      |
| CR08900-AFCBFG1 | PISTON RING FC PC BFG1       | 89              | CR08900-AFCBFG1 |
| CR08900-AFCP    | PISTON RING FC-P             | 90              | CR08900-AFCP    |
| CR08900-AFCBC3P | OIL RING FC PC BC3P          | 100             | CR08900-AFCBC3P |
| CR08900-AFCBC3  | OIL RING FC PC BC3           | 101             | CR08900-AFCBC3  |
| CR08500-ALAMH   | PISTON A/WA                  | 85              | CR08500-ALAMH   |
| CR08600-A       | PISTON PIN A/WA              | 86              | CR08600-A       |
| CR08200-AF      | BUSH, PISTON PIN PLAIN A/WA  | 82              | CR08200-AF      |
| CR0830-A        | BUSH, PISTON PIN NEEDLE A/WA | 83              | CR08300-A       |
| CR0849-A        | BEARING HALVES STD A/WA      | 84              | CR0849-A        |
| CR0849-AO5      | BEARING HALVES 0.5MM         | 84              | CR0849-A05      |
| CR0329-NA       | SHAFT SEAL A                 | 32-42           | CR0329-NA       |
| CR0329-WA       | SHAFT SEAL WA                | 32-42           | CR0329-WA       |
| CRO569-AVS      | OIL PUMP STD                 | 56              | CR0569-AVS      |
| CR0619-A2       | CYLINDER LINER               | 61              | CR0619-A2       |
| CR07600-AM      | CONROD, PLAIN                | 76              | CR07600-AM      |
| CR07600-AN      | CONROD, NEEDLE               | 76              | CR07600-AN      |
| CR01200-A       | MAIN BEARING                 | 12              | CR01200-A       |
| CRH02900-A      | THRUST BEARING               | 29              | CR02900-A       |

| ITEM NUMBER  | DESCRIPTION                       | POSITION NUMBER | VENDOR NUMBER |
|--------------|-----------------------------------|-----------------|---------------|
| CR0510A      | GASKET, HEAD                      | 51              | CR05100-AN    |
| CR05500-A    | GASKET, NAME PLATE A              | 55              | CR05500-A     |
| CR05500-WAW  | GASKET, NAME PLATE WA             | 55              | CR05500-WAW   |
| CR71900-1    | GASKET, WATER FLANGE              | 235             | CR71900-1     |
| CR0470-A     | GASKET, HANDHOLE                  | 47              | CR04700-AN    |
| CR19000-A    | GASKET SHELL END A/WA             | 190             | CR19000-A     |
| CR18800-ABN  | GASKET, OIL COOLER COIL A/AW/B/WB | 188             | CR18800-ABN   |
| CR01500-AN   | GASKET, CUNO A/WA                 | 15              | CR01500-AN    |
| CR12200-AN   | GASKET OIL STRAINER A/WA          | 122             | CR12200-AN    |
| CR02700-AN   | GASKET, SHAFT SEAL                | 27              | CR02700-AN    |
| CR05900-AN   | GASKET, OIL PUMP                  | 59              | CR05900-AN    |
| CR06600-A    | GASKET, CYLINDER SLEEVE           | 66              | CR06600-A     |
| PA61-H90-035 | O-RING, OIL SIGHT GLASS           | 165             | PA61-H90-035  |
| PA61-041     | O-RING, OIL PUMP                  | 58              | PA61-041      |

**MYCOM B / WB RECIP COMPRESSOR PARTS**

| ITEM NUMBER     | DESCRIPTION                  | POSITION NUMBER | VENDOR NUMBER   |
|-----------------|------------------------------|-----------------|-----------------|
| CR07100-B       | PLATE VALVE, SUCTION         | 71              | CR07100-B       |
| CR0729-B2       | SPRING SET, SUCTION B        | 72              | CR0729-B2       |
| CR0729-WB4      | SPRING SET, SUCTION WB       | 72              | CR0729-WB4      |
| CR11000-B14     | PLATE VALVE, DISCHARGE       | 110             | CR11000-B14     |
| CR1169-B3       | SPRING SET DISCHARGE B       | 116             | CR1169-B3       |
| CR1169-WB4      | SPRING SET, DISCHARGE WB     | 16              | CR1169-WB4      |
| CR08900-BFCBFG1 | PISTON RING FC PC BFG1       | 89              | CR08900-BFCBFG1 |
| CR08900-BFCP    | PISTON RING FC-P             | 90              | CR08900-BFCP    |
| CR08900-BFCBC3P | OIL RING FC PC BC3P          | 100             | CR08900-BFCBC3P |
| CR08900-BFCBC3  | OIL RING FC PC BC3           | 101             | CR08900-BFCBC3  |
| CR08500-ALBMH   | PISTON B/BW                  | 85              | CR08500-ALBMH   |
| CR08600-B       | PISTON PIN B/BW              | 86              | CR08600-B       |
| CR08200-BF      | BUSH, PISTON PIN PLAIN B/BW  | 82              | CR08200-BF      |
| CR08300-B       | BUSH, PISTON PIN NEEDLE B/BW | 83              | CR08300-B       |
| CR0849-B        | BEARING HALVES STD B/BW      | 84              | CR0849-B        |
| CR0849-B05      | BEARING HALVES 0.5MM B/BW    | 84              | CR0849-B05      |
| CR0329-NB       | SHAFT SEAL B                 | 32 - 42         | CR0329-NB       |
| CR0329-WB       | SHAFT SEAL WB                | 32 - 42         | CR0329-WB       |
| CR0569-B2VS     | OIL PUMP STD                 | 56              | CR0569-B2VS     |
| CR0619-B2       | CYLINDER LINER               | 61              | CR0619-B2       |
| CR0760-BM       | CONROD, PLAIN                | 76              | CR07600-BM      |
| CR07600-BN      | CONROD, NEEDLE               | 76              | CR07600-BN      |
| CR01200-B       | MAIN BEARING                 | 12              | CR01200-B       |
| CRH02900-B      | THRUST BEARING               | 29              | CR02900-B       |
| CR0510-B        | GASKET, HEAD                 | 51              | CR05100-BN      |
| CR0550-B        | GASKET, NAME PLATE B         | 55              | CR05500-B       |

| ITEM NUMBER  | DESCRIPTION                      | POSITION NUMBER | VENDOR NUMBER |
|--------------|----------------------------------|-----------------|---------------|
| CR05500-WBW  | GASKET, NAME PLATE WB            | 55              | CR05500-WBW   |
| CR71900-1    | GASKET, WATER FLANGE             | 235             | CR71900-1     |
| CR0470-B     | GASKET, HANDHOLE                 | 47              | CR04700-BN    |
| CR19000-B    | GASKET SHELL END OIL COOLER B/BW | 190             | CR19000-B     |
| CR18800-ABN  | GASKET, OIL COOLER COIL          | 188             | CR18800-ABN   |
| CR01500-BN   | GASKET, CUNO B/BW                | 15              | CR01500-BN    |
| CR12200-BN   | GASKET OIL STRAINER B/BW         | 122             | CR12200-BN    |
| CR02700-BN   | GASKET, SHAFT SEAL               | 27              | CR02700-BN    |
| CR05900-BN   | GASKET, OIL PUMP                 | 59              | CR05900-BN    |
| CR06600-B    | GASKET, CYLINDER SLEEVE          | 66              | CR06600-B     |
| PA61-H90-035 | O-RING, OIL SIGHT GLASS          | 165             | PA61-H90-035  |
| PA61-043     | O-RING, OIL PUMP                 | 58              | PA61-043      |

**PARKER (RS) REFRIGERATING SPECIALTIES  
 INDUSTRIAL VALVES AND COMPONENTS**

**MYCOM B / WB RECIP COMPRESSOR PARTS**

| ITEM NUMBER       | DESCRIPTION | PURPOSE        |
|-------------------|-------------|----------------|
| RS-SV2-1/2-BARE   | SV2 15      | Solenoid Valve |
| RS-SV2-3/4-BARE   | SV2 20      | Solenoid Valve |
| RS-SV2-1-BARE     | SV2 25      | Solenoid Valve |
| RS-SV2-1-1/4-BARE | SV2 32      | Solenoid Valve |
|                   |             |                |
| RS-S4A-3/4-BARE   | S4A 20      | Solenoid Valve |
| RS-S4A-1-BARE     | S4A 25      | Solenoid Valve |
| RS-S4A-1-1/4-BARE | S4A 32      | Solenoid Valve |
| RS-S4A-1-5/8-BARE | S4A 40      | Solenoid Valve |
| RS-S4A-2          | S4A 50      | Solenoid Valve |
|                   |             |                |
| RS-S5A-1-1/4      | S5A32       | Solenoid Valve |
| RS-S5A-1-5/8      | S5A40       | Solenoid Valve |
| RS-S5A-2-BARE     | S5A50       | Solenoid Valve |
| RS-S5A-2-1/2-BARE | S5A65       | Solenoid Valve |
| RS-S5A-3-BARE     | S5A80       | Solenoid Valve |
|                   |             |                |
| RS-S6A-BARE       | S6A pilot   | Pilot Solenoid |
| RS-S6N-BARE       | S6N Bare    | Solenoid Valve |
|                   |             |                |
| RS-S8F-BARE       | S8F Bare    | Solenoid Valve |
|                   |             |                |
| RS-S7A-3/4-BARE   | S7A 20 Bare | Solenoid Valve |
| RS-S7A-1-BARE     | S7A 25 Bare | Solenoid Valve |

| ITEM NUMBER       | DESCRIPTION        | PURPOSE                        |
|-------------------|--------------------|--------------------------------|
| RS-A2D2           | A2D2 (20-50mm)     | Pilot Regulator                |
| RS-A2D-R-A        | A2D (65-80mm)      | Pilot Regulator                |
|                   |                    |                                |
| RS-A4AK-3/4-R-A   | A4AK 20            | Defrost Relief Regulator       |
| RS-A4AK-1-R-A     | A4AK 25            | Defrost Relief Regulator       |
| RS-A4AK-1-1/4-R-A | A4AK32             | Defrost Relief Regulator       |
|                   |                    |                                |
| RS-A4AL-3/4-R-A   | A4AL 20            | Oil Press Relief Regulator     |
| RS-A4AL-1-R-A     | A4AL 25            | Oil Press Relief Regulator     |
| RS-A4AL-1-1/4-R-A | A4AL 32            | Oil Press Relief Regulator     |
|                   |                    |                                |
| RS-A4AZ-3/4-R-A   | A4AZ 20            | Regulator / A4A with Sub plate |
| RS-A4AZ-1-R-A     | A4AZ 25            | Regulator / A4A with Sub plate |
| RS-A4AZ-1-1/4     | A4AZ 32            | Regulator / A4A with Sub plate |
| RS-A4AZ-1-5/8-R-A | A4AZ 40            | Regulator / A4A with Sub plate |
| RA-A4AZ-2-R-A     | A4AZ 50            | Regulator / A4A with Sub plate |
| RS-A4AZ-2-1/2-R-A | A4AZ 65            | Regulator / A4A with Sub plate |
|                   |                    |                                |
| RS-LLSS-DIN       | LLSS Complete      | Liquid Level float complete    |
| RS-210220         | LLSS Switch gear   | Liquid level Switchgear only   |
|                   |                    |                                |
| RS-RSF-1/2        | RSF 15 Strainer    | Strainer Complete              |
| RS-RSF-1          | RSF 20/25 Strainer | Strainer Complete              |
| RS-RSF-1-1/4      | RSF 32 Strainer    | Strainer Complete              |
| RS-RSF-2          | RSF 40/50          | Strainer Complete              |
|                   |                    |                                |
| RS-205945         | RSF 15 INSERT      | Strainer Insert                |
| RS-200140         | RSF 20/25 INSERT   | Strainer Insert                |
| RS-200142         | RSF 32 INSERT      | Strainer Insert                |
|                   |                    |                                |
| RS-CK2-1-1/4(BJ5) | CK2 - 32mm         | Gas powered Suction stop valve |
| RS-CK2A-1-5/8     | CK2 - 40mm         | Gas powered Suction stop valve |
| RS-CK2-2          | CK2 - 50mm         | Gas powered Suction stop valve |
| RSCK2-2-1/2       | CK2 - 65mm         | Gas powered Suction stop valve |
| RS-CK2-3          | CK2 - 75mm         | Gas powered Suction stop valve |
|                   |                    |                                |
| RS-CK4A2          | CK4A-2 15mm        | Check valve                    |
| RS-CK4A3          | CK4A-3 20mm        | Check valve                    |
| RS-CK4A4          | CK4A-4 25mm        | Check valve                    |
| RS-CK4A6          | CK4A-6 32mm        | Check valve                    |
| RS-CK4A8          | CK4A-8 50mm        | Check valve                    |
| RS-CK4A9          | CK4A-9 65mm        | Check valve                    |
|                   |                    |                                |
| RS-FK13-1/2-SW    | FK15               | Flange set (M&M)               |
| RS-FK13-3/4-SW    | FK15 x 20sw        | Flange set (M&M)               |
| RS-FK25-3/4-SW    | FK25 x 20sw        | Flange set (M&M)               |
| RS-FK25-1-SW      | FK25               | Flange set (M&M)               |

| ITEM NUMBER      | DESCRIPTION | PURPOSE                |
|------------------|-------------|------------------------|
| RS-FK32-1-1/4-SW | FK32        | Flange set (M&M)       |
| RS-FK32-1-1/2-SW | FK32 x 40sw | Flange set (M&M)       |
| RS-FK50-1-1/2-WN | FK50 x 40sw | Flange set (M&M)       |
| RS-FK50-2-SW     | FK50        | Flange set (M&M)       |
| RS-FK65-2-1/2-SW | FK65        | Flange set (M&M)       |
| RS-FK65-3-SW     | FK65 X 80sw | Flange set (M&M)       |
| RS-FK80-3-SW     | FK75        | Flange set (M&M)       |
|                  |             |                        |
| RS-FU13-1/2-SW   | FU15SW      | Flange union kit (M&F) |
| RS-FU13-3/4-SW   | FU15 x 20SW | Flange union kit (M&F) |
| RS-FU25-3/4-SW   | FU25 x 20SW | Flange union kit (M&F) |
| RS-FU25-1-SW     | FU25SW      | Flange union kit (M&F) |
| RS-FU32-1-1/4-SW | FU32SW      | Flange union kit (M&F) |
| RS-FU50-1-1/2-SW | FU50 x 40SW | Flange union kit (M&F) |
| RS-FU50-2-SW     | FU50SW      | Flange union kit (M&F) |
| RS-FU65-2-1/2-SW | FU65SW      | Flange union kit (M&F) |
|                  |             |                        |
| RS-205226        | 240v coil   | Coil for solenoid      |
| RS-203734(ZZZZ)  | SV2 coil    | Coil for solenoid      |

## COMMON VALVES AND COMPONENTS

- **ALTERNATIVE PRODUCT FOR PARKER RS (OFTEN INTERCHANGEABLE)**



Pressure Relief  
Valves



Float Switches



Solenoid Valves

| ITEM NUMBER     | ITEM NAME                      | SEARCH        | PURPOSE   |
|-----------------|--------------------------------|---------------|-----------|
| HAN-HS2-1/4     | Hansen HS2 1/4 Bare Sol. Valve | HANHS214      | Solenoid  |
| HAN-HS2-3/8     | Hansen HS2 3/8 Bare Sol.Valve  | HANHS238      | Solenoid  |
| HAN-HS2-1/2     | Hansen HS2 1/2 Sol. Valve      | HANHS212      | Solenoid  |
|                 |                                |               |           |
| HAN-HS4A-3/4    | Hansen HS4A 20 Sol. Valve      | HANHS4A20     | Solenoid  |
| HAN-HS4A-1-BARE | Hansen HS4A 25 Bare Sol. Valve | HANHS4A25     | Solenoid  |
| HAN-HS2-1/4     | Hansen HS2 1/4 Bare Sol. Valve | HANHS214      | Solenoid  |
| HAN-HS2-3/8     | Hansen HS2 3/8 Bare Sol.Valve  | HANHS238      | Solenoid  |
| HAN-HS2-1/2     | Hansen HS2 1/2 Sol. Valve      | HANHS212      | Solenoid  |
|                 |                                |               |           |
| HAN-HS4A-3/4    | Hansen HS4A 20 Sol. Valve      | HANHS4A20     | Solenoid  |
| HAN-HS4A-1-BARE | Hansen HS4A 25 Bare Sol. Valve | HANHS4A25     | Solenoid  |
| HAN-HS4A-1-1/4  | Hansen HS4A 32 Bare Sol.Valve  | HANHS4A32     | Solenoid  |
| HA040140        | Hansen HS4A 40mm Sol. Valve    | HANHS4A40     | Solenoid  |
|                 |                                |               |           |
| HAN-HS6-BARE    | Hansen HS6 Bare Solenoid Valve | HANHS6        | Solenoid  |
|                 |                                |               |           |
| HAN-HS7-3/4     | Hansen HS7, 20mm, Sol.Valve    | HANHS720      | Solenoid  |
| HAN-HS7-1-BARE  | Hansen HS7-25 Solenoid Valve   | HANHS7A25     | Solenoid  |
| HANHS7A32SV     | Hansen HS7A-32 Bare Sol. Valve | HANHS7A32SV   | Solenoid  |
| HAN-HS8A        | Hansen HS8 Bare Solenoid Valve | HANHS8        | Solenoid  |
|                 |                                |               |           |
| HAN-70-1095     | Hansen 24V D.C. Solenoid Coils | HANCOIL24VDC  | Coil      |
| HP70 0586       | Hansen 24v A.C. Solenoid Coil  | HANCOIL24VAC  | Coil      |
| HP 70.0585      | Hansen 240v Solenoid Coil      | HANCOIL240VAC | Coil      |
| HP700584        | Hansen 120v AC Solenoid Coil   | HANCOIL120VAC | Coil      |
| HANCOILCN       | Hansen Solenoid Coil Cap Nuts  | HANCOILCN     | Coil Part |

| ITEM NUMBER         | ITEM NAME                      | SEARCH              | PURPOSE           |
|---------------------|--------------------------------|---------------------|-------------------|
| HAN-50-0432         | Hansen 1/2 Valve Cap O Ring    | HANCAP12OR          | Valve Cap         |
| HAN-50-0423         | Hansen 1/2 Valve Cap           | HANCAP12            | Valve Cap Part    |
|                     |                                |                     |                   |
| HAN-H5600A-1100KPa  | 15 x 20 Relief valve 1100kPa   | H5600A-1100         | Relief Valve      |
| HAN-H5600A-1600KPa  | 15 x 20 Relief valve 1600kPa   | H5600A-1600         | Relief Valve      |
| HAN-H5600A-1700KPa  | 15 x 20 Relief valve 1700kPa   | H5600A-1700         | Relief Valve      |
| HAN-H5600A-2000KPa  | 15 x 20 Relief valve 2000kPa   | H5600A-2000         | Relief Valve      |
| HAN-H5600A-2200KPa  | 15 x 20 Relief valve 2200kPa   | H5600A-2200         | Relief Valve      |
|                     |                                |                     |                   |
| HAN-H5602-1100KPa   | 20 x 25 Relief valve 1100kPa   | H5602-1100          | Relief Valve      |
| HAN-H5602-1600KPa   | 20 x 25 Relief valve 1600kPa   | H5602-1600          | Relief Valve      |
| HAN-H5602-1700KPa   | 20 x 25 Relief valve 1700kPa   | H5602-1700          | Relief Valve      |
| HAN-H5602-2000KPa   | 20 x 25 Relief valve 2000kPa   | H5602-2000          | Relief Valve      |
| HAN-H5602-2200KPa   | 20 x 25 Relief valve 2200kPa   | H5602-2200          | Relief Valve      |
|                     |                                |                     |                   |
| HAN-H5603-1100KPa   | 25 x 32 Relief valve 1100kPa   | H5603-1100          | Relief Valve      |
| HAN-H5603-1600KPa   | 25 x 32 Relief valve 1600kPa   | H5603-1600          | Relief Valve      |
| HAN-H5603-1700KPa   | 25 x 32 Relief valve 1700kPa   | H5603-1700          | Relief Valve      |
| HAN-H5603-2000KPa   | 25 x 32 Relief valve 2000kPa   | H5603-2000          | Relief Valve      |
| HAN-H5603-2200KPa   | 25 x 32 Relief valve 2200kPa   | H5603-2200          | Relief Valve      |
|                     |                                |                     |                   |
| HAN-H5613-2200KPa   | 32 x 40 Relief valve 1100kPa   | H5613-1100          | Relief Valve      |
| HAN-H5613-2200KPa   | 32 x 40 Relief valve 1600kPa   | H5613-1600          | Relief Valve      |
| HAN-H5613-2200KPa   | 32 x 40 Relief valve 1700kPa   | H5613-1700          | Relief Valve      |
| HAN-H5613-2200KPa   | 32 x 40 Relief valve 2000kPa   | H5613-2000          | Relief Valve      |
| HAN-H5613-2200KPa   | 32 x 40 Relief valve 2200kPa   | H5613-2200          | Relief Valve      |
|                     |                                |                     |                   |
| HAN-EZLQ/BW2-700KPa | PRV / EZLQ 20 x 25 BW - 700kPa | HAN-EZLQ/700KPa-BW2 | Relief Valve      |
| HAN-H8021           | Hansen 15mm Dual Rel. Manifold | HANDRVM15           | Relief Manifold   |
| HAN-H8022           | Hansen 20mm Dual Rel. Manifold | HANDRVM20           | Relief Manifold   |
| HAN-8024            | Hansen 25mm Dual Relief Man.   | HANDRVM25           | Relief Manifold   |
| HAN-H8025           | Hansen 32mm Dual Relief Man.   | HANDRVM32           | Relief Manifold   |
|                     |                                |                     |                   |
| HANHA4A20           | Hansen HA4A-20 Press. Reg.     | HANHA4A20           | Pressure Reg.     |
| HA4A-25             | Hansen HA4A-25 Pressure Reg.   | HANHA4A25PR         | Pressure Reg.     |
|                     |                                |                     |                   |
| HA4AL20             | Hansen HA4AL20 Pressure Reg.   | HANHA4AL20          | Oil Pressure Reg. |
| HAN-HA4AL-1-BARE    | Hansen HA4AL-25 Pressure Reg.  | HANHA4AL25          | Oil Pressure Reg. |
|                     |                                |                     |                   |
| HD004020            | Hansen HS Pilot Module Kit     | HANHSPMK            | Pilot             |
| HD004010W           | Hansen HA4A M3W Pilot Kit      | HANHA4AM3WP         | Pilot             |

| ITEM NUMBER | ITEM NAME                            | SEARCH        | PURPOSE          |
|-------------|--------------------------------------|---------------|------------------|
| 78-1081     | Hansen M3L pilot                     | HANM3L        | Pilot            |
| 75-1100     | Hansen M3O pilot                     | HANM3OPilot   | Pilot            |
| 75-1126     | Hansen Pilot Reg (0-10 Bar)          | HANM3W        | Pilot            |
| 70-1052     | Hansen Modular Solenoid              | HANMSPILLOT   | Pilot            |
|             |                                      |               |                  |
| HAN-HGV1    | Hansen 1/4 Long Neck Valve           | HANHGV1       | Access Valve     |
| HAN-H7771   | Hansen 1/4 Gauge Valve               | HANH7771      | Access Valve     |
| HAN-H957C   | 1/4 S/T Globe Valve (Cap)            | HANH957C      | Access Valve     |
| HAN-H957H   | 1/4 S/T Globe Valve (Bar Handle)     | HANH957H      | Access Valve     |
| HAN-H7773   | Hansen 3/8 Gauge Valve (R/A)         | HANH7773      | Access Valve     |
| HAN-H958C   | Hansen 3/8 Gauge Valve (S/T) (Cap)   | HANH958C      | Access Valve     |
| H958H       | Hansen 3/8 S/T Needle Valve (Handle) | HANH958H      | Access Valve     |
| HAN-AT051H  | 1/2 FPT R/A Stop valve (Handle)      | HANATO51H     | Access Valve     |
| HAN-GT051H  | 1/2 FPT S/T Stop valve (Handle)      | HANGTO51H     | Access Valve     |
| HAN-AT051C  | 1/2 FPT R/A Stop valve (Cap)         | HANATO51C     | Access Valve     |
| HAN-GT051C  | 1/2 FPT S/T Stop valve (Cap)         | HANGTO51C     | Access Valve     |
|             |                                      |               |                  |
| HAN-NEAP    | Hansen Non-Elec. Auto Purger         | HANNEAP       | Purger           |
| HAN-AP08    | Hansen AP-08 Auto Purger             | HANAP08       | Purger           |
| HAN-APM     | Hansen 4 Point NH3 Auto Purg.        | HANHA4PNH3P   | Purger           |
| HAN-VPM     | Hansen Auto Purger Valve Pack.       | HANNEAPVPM    | Purger Accessory |
| HAN20.2369  | Hansen NEAP Sporlan TX Valve         | HANNEAPTXXVS  | Purger Accessory |
| HP20.2199   | Hansen NEAP Sporlan TX Valve         | HANNEAPTXXV   | Purger Accessory |
| HP20-2200   | Hansen NEAP Temp Valve Assy          | HANNEAPTV     | Purger Accessory |
| 78-1010     | Hansen NEAP Strainer Screen Kit      | HANNEAPSSK    | Purger Accessory |
| HAN-20-2166 | Hansen NEAP O Ring                   | HANNEAPPOR    | Purger Accessory |
| 20-1311     | Hansen NEAP Liquid Drainer           | HANNEAPLD     | Purger Accessory |
| 20-2202     | Hansen NEAP Float Ball Seat          | HANNEAPFBS    | Purger Accessory |
| 20-2201     | Hansen NEAP Float Ball Plunger       | HANNEAPFBP    | Purger Accessory |
| 20.2204     | Hansen NEAP 225psi Check Valve Kit   | HANNEAPCVK225 | Purger Accessory |
| HP20.2199   | Hansen NEAP 80psi Check V Assy       | HANNEAPCVA    | Purger Accessory |
| 20-1187     | Hansen - NEAP Ball Check Valve       | HANNEAPBCV    | Purger Accessory |
|             |                                      |               |                  |
| HAN-SPLN    | Hansen Single Point Sensor 24V       | HANSPLN24V    | Level Switch     |
| HAN-SPSN-2  | Hansen 240v Single Point Switch      | HANSPSN       | Level Switch     |
|             |                                      |               |                  |
| HAN-ST050   | Hansen 1/2 Strainer Assembly         | HANSTR15      | Strainer         |
| HC 025000   | Hansen 20/25 Strainer Assy.          | HANSTR2025    | Strainer         |
| HAN-78-1001 | Hansen 1/2 Strainer Insert Kit       | HAN12SIK      | Strainer Insert  |
| HAN-78-1003 | Hansen 3/4 - 1 1/4 Str.InsertKit     | HANSTR2032INS | Strainer Insert  |
|             |                                      |               |                  |
| HAN-HLLCE   | Hansen LLSS Float Assembly           | HANLLSSTD     | Float Assembly   |
| HAN-HLLSW-E | Hansen LLC Switchgear (top)          | HANLLCSW240V  | Float Switch Top |

## PENN / VILTER AMMONIA

- PRESSURE SWITCHES
- PENN FLOW SWITCH

**VILTER**  
 Since 1867


| ITEM NUMBER  | DESCRIPTION                | SEARCH       |
|--------------|----------------------------|--------------|
| V11643AB     | OIL FAILURE, MANUAL        | VIL-1643AB   |
| V11643E      | DUAL PRESSURE              | VIL-1643E    |
| VIL-1643F    | HP, AUTO                   | V11643F      |
| VIL-1643JJ   | HP, MANUAL                 | V11643JJ     |
| VIL-1643LL   | LP, MANUAL                 | V11643LL     |
| VIL1643T     | HP, REVERSE, AUTO          | V11643T      |
| 1643W        | LP, 2 POLE (NC & NO), AUTO | V11643W      |
| F261MAH-V01C | FLOW SWITCH, RAIN-TIGHT    | F261MAH-V01C |

## H.A PHILLIPS LEVEL EYE



(Also known as Bulls Eye or Sight Glass)

- Reflex lens for Ammonia Application
- 2"(RN) and 4"(LRN) laying length



| ITEM NUMBER  | DESCRIPTION                        | SEARCH    |
|--------------|------------------------------------|-----------|
| HAP-1100RN   | Phillips 1100R 2" Long Level Eye   | PH1100RN  |
| HAP-1100LRN  | Phillips 1100LRN 4" Long Level Eye | PH1100LRN |
|              |                                    |           |
| HAP-1103     | Phillips 1100L/Eye Rubb.Gasket     | PH1100RG  |
| HAP-1104     | Phillips 1100L/Eye Fibre Gasket    | PH1100FG  |
| HAP-1101R    | Phillips Level Eye Reflex Lens     | PH1100RL  |
|              |                                    |           |
| 1105L-S/1106 | Phillips Frost Shield W/O Ring (2) | PH1100SFS |
| HAP-1106     | Phillips 1100 Level Eye O Ring     | PH1100OR  |

## DIRECTIONAL CONTROL VALVES VICKERS AND PARKER (HYDRAULIC)



- Vickers and Parker Valves are generally interchangeable
- Parker valves come with Neoprene O-rings suitable for Ammonia duty.
- Vickers Valves require 4 Neoprene O-rings to be sold with the valve for Ammonia duty.
- Directional control valves are used to drive the slide valve (unloader valve) in a screw compressor.

### VICKERS

| ITEM NUMBER   | DESCRIPTION                            | SEARCH               | PURPOSE                                               |
|---------------|----------------------------------------|----------------------|-------------------------------------------------------|
| <b>859173</b> | <b>Vickers 240V Dir. Valve (CTOP3)</b> | <b>VICKCT3DV240V</b> | <b>Valve with Coils 240 VAC</b>                       |
| 507827        | Vickers 240V DG4V-3 Sol. Coil          | VICKCT3COIL240V      | 240 VAC Coil                                          |
| 507848        | Vickers CTOP3 24V DC coil              | VICKCT3COIL24VDC     | 24 VDC Coil                                           |
| C70-012       | Vickers/ Parker C Top 3 O Ring         | VICKCT3OR            | Neoprene O-ring for NH3 / supply with most valves x 4 |
| 02-350053     | Vickers CTOP3 Sub Plate (Side)         | VICKCT3SPS           | Sub Plate                                             |
| 866305        | Vickers CTOP3 Sub Plate (Rear)         | VICKCT3SPR           | Sub Plate                                             |
| 616452        | Bolt Set, Vickers CTOP 3               | VICKCT3BS            | Bolt Set (4 pcs)                                      |
| <b>639610</b> | <b>Vickers 240V Dir.Valve(CTOP5)</b>   | <b>VICKCT5DV240V</b> | <b>Valve with Coils 240 VAC</b>                       |
| 617477        | Vickers 240v DG4V-5 Sol. Coil          | VICKCT5COIL240V      | 240 VAC Coil                                          |
| 617471        | Vickers Ctop5 24VDC coil               | VICKCT5COIL24DC      | 24 VDC Coil                                           |
| C70-014       | Vickers/ Parker Ctop 5 o-rings         | VICKCT5OR            | Neoprene O-ring for NH3 / supply with most valves x 4 |
| 711921        | Sub Plate, Vickers CTOP 5              | VICKCT5SP            | Sub Plate                                             |
| 534569        | Bolt Set, Vickers CTOP 5               | VICKCT5BS            | Bolt Set (4 pcs)                                      |

### PARKER

| ITEM NUMBER   | DESCRIPTION                       | SEARCH            | PURPOSE                         |
|---------------|-----------------------------------|-------------------|---------------------------------|
| <b>542474</b> | <b>Parker D1VW001C Dir. Valve</b> | <b>PAD1VW240V</b> | <b>Valve with Coils 240 VAC</b> |
| 824304        | D1VW240v Coil (22mm)              | PAD1COIL240V22    | 240 VAC Coil                    |
| 133298        | Parker D1VW Dir. Valve Sub Plate  | PAD1SP            | Sub Plate                       |
| <b>104846</b> | <b>Parker D3W1 Direct. Valve</b>  | <b>PAD3V240V</b>  | <b>Valve with Coils 240 VAC</b> |
| 509985        | Parker D3VW 240v Sol. Coil        | PAD3COIL240V      | 240 VAC Coil                    |
| 997409        | Parker D3VW1 Dir.Valve Sub Plate  | PAD3SP            | Sub Plate                       |

## GAUGES AND PRESSURE TRANSMITTERS



- Gauges are suitable for Ammonia
- Gauges are Stainless Steel throughout
- Gauges are 1/4 BSPTM connection

| ITEM NUMBER    | DESCRIPTION                    | SEARCH       | PURPOSE                                            |
|----------------|--------------------------------|--------------|----------------------------------------------------|
| 505.888.103610 | Wika-100/1500,R717,LP Gauge    | WLP717       | Direct mount (STD.) 100mm (Low Press.)             |
| 505.888.103614 | Wika,-100/2600,R717,HP Gauge   | WHP717       | Direct mount (STD.) 100mm (High Press.)            |
| 505.888.104116 | -100/1500,P/Mt,1/4,R/E, Gauge  | WPM141001500 | Panel Mount / Flush 100mm (Low Press.)             |
| 505.888.104118 | -100/2600, P/Mt,1/4,R/E, Gauge | WPM141002600 | Panel Mount / Flush 100mm (High Press.)            |
| 505.888.318876 | 63mm -100/1500, 717,S/S Gauge  | W631001500   | Direct mount (STD.) 63mm (Low Press.)              |
| 505.888.318878 | 63mm,-100/2600,717,S/S Gauge   | W631002600   | Direct mount (STD.) 63mm (High Press.)             |
| 902.1470752    | Surface Mount Flange 100mm     | WFLA100      | Converts direct mount to surface mount. (3 screws) |

- Pressure transmitters are 4/20ma output
- Pressure transmitters are 0-5Vdc supply
- Pressure transmitters are 1/4 BSPTM connection
- Pressure transmitters have DIN plug

| ITEM NUMBER | DESCRIPTION                        | SEARCH    |
|-------------|------------------------------------|-----------|
| 14559851    | Wika Press trans -1/12Bar -40/100C | WPTA10112 |
| 14559859    | Wika Press trans -1/20Bar -40/100C | WPTA10120 |

**FILTERS & COALESCERS**


| ITEM NUMBER        | DESCRIPTION                           | SEARCH                |
|--------------------|---------------------------------------|-----------------------|
| <b>4022</b>        | <b>24/9 Coalescer Oil Filter</b>      | <b>COAL249</b>        |
| <b>4023</b>        | <b>30/9 Coalescer Oil Filter</b>      | <b>COAL309</b>        |
| <b>5500G34</b>     | <b>34/9 Coalescer Oil Filter</b>      | <b>COAL349</b>        |
| <b>4024</b>        | <b>36/9 Coalescer Oil Filter</b>      | <b>COAL369</b>        |
| <b>42/9</b>        | <b>42/9 Coalescer Oil Filter</b>      | <b>COAL429</b>        |
| 5500S12            | 12/7 Coalescer Oil Filter             | COAL127               |
| COAL127PLT         | Coalescer 12/7 pleated                | COAL127PLT            |
| COAL247PLT         | Coalescer 24/7 Pleated                | COAL247PLT            |
| 4007               | 24/7 Coalescer Oil Filter             | COAL247               |
| <b>6028-C709</b>   | <b>C 709 standard oil filter</b>      | <b>C709STD</b>        |
| 1076               | Howden Oil Filter (C709WB)            | C709WB-HRS006         |
| 6001               | C709SS Stain. Steel Pre Filter        | C709SS                |
| C709RF             | C709 Reverse Flow Oil Filter          | C709RF                |
| <b>N70-453</b>     | <b>Oil Separator O Ring Std</b>       | <b>COALHOR</b>        |
| <b>N70-264</b>     | <b>C709 Housing O Ring</b>            | <b>C709OR</b>         |
| <b>N70-439</b>     | <b>Muller C709 Housing O Ring</b>     | <b>C709MULLOR</b>     |
| N70-450A           | GBI Super Separator O Ring            | GBISSOR               |
| BS-458 N70         | Mycom 250 Oil Sep Oring               | MYOSOR250             |
| SUL-42712          | Sullair General Oil Filter            | FLTSULGOF             |
| SUL-826202-153     | Sullair 250008 Filter O Ring          | FLTSUL250008OR        |
| SUL-250008-955     | Sull.Oil FilterKL2500(PallType)       | FLTSUL250008955       |
| <b>1076</b>        | <b>Howden Oil Filter (C709WB)</b>     | <b>C709WB-HRS006</b>  |
| 6030               | Howden 46/92/230 Oil Filter           | FLTHRS002             |
| <b>50020006</b>    | <b>Howden HRS004 Oil Filter</b>       | <b>FLTHRS004</b>      |
| FRK-535A0354H02    | Frick Super Oil Filter Spin on        | FLT535A0354H02        |
| <b>531A0028H01</b> | <b>Frick Oil Filters (C709 type )</b> | <b>FLT531A0028H01</b> |
| 10286              | Frick 25micron Cuno Filter            | FLTF25RPN0F           |
| 55010046           | Grasso Oil Filter 90/37/235           | FLTG2409037           |

## INDUSTRIAL OILS



- BVA is our exclusive Brand.
- The BVA 717 "P" is our main Ammonia oil
- Industrial Pack sizes are generally 20 and 205 liter approximately.

| ITEM NUMBER      | DESCRIPTION                       | SEARCH          | PRODUCT                                   |
|------------------|-----------------------------------|-----------------|-------------------------------------------|
| BVA-717P68-205L  | Semi-synthetic (Ammonia)          | OILBVA717P208   | 208lt BVA717P Semi/Syn.Oil                |
| BVA 717P68-19L   | Semi-synthetic (Ammonia)          | OILBVA717P19    | 19lt. BVA717P Semi. Synth. Oil            |
| BVA 717N 208L    | Mineral (Ammonia)                 | OILBVA717N208   | 208lt BVA717N Mineral Oil                 |
| BVA-717N-19L     | Mineral (Ammonia)                 | OILBVA717N19    | 19lt BVA 717N Mineral Oil                 |
| BVA 717P-68LT    | Semi-synthetic Low Temp (Ammonia) | OILBVA717LT208  | 208lt BVA717Lo Temp Semi Syn Oil          |
| 717P68-LT-19L    | Semi-synthetic Low Temp (Ammonia) | OILBVA717LT19L  | BVA717LT 19L low temp oil                 |
| 56-O4SA020       | Mineral (Ammonia)                 | OIL4SA20LT      | 20lt. Suniso 4SA Oil                      |
| N0593            | Mineral (Ammonia)                 | OIL4SA205LT     | 205 Lt. Suniso 4SA Oil                    |
| N0545            | Mineral                           | OIL4GS20LT      | 20 Lt. Suniso 4GS Oil                     |
| 04GS205          | Mineral                           | OIL4GS205LT     | 205 Lt. Suniso 4GS Oil                    |
| OIL3GS4LT        | Mineral                           | OIL3GS4LT       | 4Lt. Suniso 3GS Oil                       |
| 03GS020          | Mineral                           | OIL3GS20LT      | 20lt. Suniso 3GS Oil                      |
| 03GS205          | Mineral                           | OIL3GS205LT     | 205 Lt. Suniso 3GS Oil                    |
| BVA-VAC235-4L    | Vac Pump Oil                      | OILBVAVAC4LT235 | 4lt BVA Vac. Pump Oil (235G)              |
| OILBVAVAC1004LT  | Vac Pump Oil                      | OILBVAVAC1004LT | 4lt x BVA-100G Vac. Pump Oil              |
| BVA-RPOE C-85-4L | CO <sub>2</sub>                   | OILBVAPOE854L   | 4lt. BVA CO <sub>2</sub> Refrig. Oil C-85 |
| OILBVAPOE4619L   | Polyolester (POE)                 | OILBVAPOE4619L  | 19lt BVA POE46 Refrig. Oil                |
| BVA-RPOE68-19L   | Polyolester (POE)                 | OILBVAPOE6819L  | 19lt BVA POE68 Refrig. Oil                |
| BVA-RPOE32-19L   | Polyolester (POE)                 | OILBVAPOE3219L  | 19lt BVA POE32 Refrig. Oil                |
| RPOE170-19L      | Polyolester (POE)                 | OILBVAPOE17019L | 19lt. BVA POE170 Refrig. Oil              |

## STOP VALVES (52 BAR)

### SVA-S & L - BUTT WELD ANSI



**Note: When a Capped valve is required purchase SVA with hand wheel and CAP separately**

- 1) SVA-DL has a higher KV than the DH version.
  - 2) VA-DH version has a high closed holding pressure differential in both directions where the DL is in one direction.
- Socket weld (SOC) versions steel are available from DN15 to DN50 on request but will have long lead times.
  - 140 bar stop valves DN50 to 100 in ANG and STR capped versions available to order late 2022
  - All current version SVL DN15 - 200 (SVA, SCA-X, CHV-X, FIA, REG) use common bodies
  - Therefore the bonnets are interchangeable between the same size STR or ANG of the complete range
  - The bonnet or top assembly of sizes (15 & 20) plus (25, 32 & 40) are common in SVL range so are interchangeable within those size groups
  - <http://www.danfoss.com/BusinessAreas/RefrigerationAndAirConditioning/SVLFlexline/SVL>

### ANGLE

| 52 BAR<br>-60 TO 150°C                                              | HANDWHEEL                              | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|---------------------------------------------------------------------|----------------------------------------|----------------------------------|---------------|
| SIZE                                                                | TYPE                                   | CODE                             | APPROX WEIGHT |
| 15 long bonnet                                                      | SVA-L 15 A ANG H-WHEEL (long bonnet)   | 148B5260                         | 2.30          |
| 20 long bonnet                                                      | SVA-L 20 A ANG H-WHEEL (long bonnet)   | 148B5360                         | 2.35          |
| 25 long bonnet                                                      | SVA-L 25 A ANG H-WHEEL (long bonnet)   | 148B5460                         | 4.47          |
| 32 long bonnet                                                      | SVA-L 32 A ANG H-WHEEL (long bonnet)   | 148B5560                         | 4.40          |
| 40 long bonnet                                                      | SVA-L 40 A ANG H-WHEEL (long bonnet)   | 148B5660                         | 4.39          |
| 10                                                                  | SVA-S 10 A ANG H-WHEEL                 | 148B5120                         | 0.60          |
| 15                                                                  | SVA-S 15 A ANG H-WHEEL                 | 148B5220                         | 1.95          |
| 20                                                                  | SVA-S 20 A ANG H-WHEEL                 | 148B5320                         | 1.90          |
| 25                                                                  | SVA-S 25 A ANG H-WHEEL                 | 148B5420                         | 3.73          |
| 32                                                                  | SVA-S 32 A ANG H-WHEEL                 | 148B5520                         | 3.74          |
| 40                                                                  | SVA-S 40 A ANG H-WHEEL                 | 148B5620                         | 3.82          |
| 50                                                                  | SVA-S 50 A ANG H-WHEEL                 | 148B5720                         | 5.25          |
| 65                                                                  | SVA-S 65 A ANG H-WHEEL                 | 148B5820                         | 6.80          |
| 80                                                                  | SVA-S 80 A ANG H-WHEEL                 | 148B5920                         | 14.24         |
| 100                                                                 | SVA-S 100 A ANG H-WHEEL                | 148B6020                         | 22.15         |
| 125                                                                 | SVA-S 125 A ANG H-WHEEL                | 148B6120                         | 40.30         |
| 150                                                                 | SVA-S 150 A ANG H-WHEEL                | 148B6220                         | 51.25         |
| 200                                                                 | SVA-S 200 A ANG H-WHEEL                | 148B6320                         | 101.00        |
| *40B-60>+60°C<br>*36B+60>+80°C<br>*32B+80>+120°C<br>*28B+120>+150°C |                                        |                                  |               |
| 250 *                                                               | SVA-DL 250 A ANG H-WHEEL <sup>1)</sup> | 148B3763                         | 143.00        |
| 250 *                                                               | SVA-DH 250 A ANG H-WHEEL <sup>2)</sup> | 148B3767                         | 153.50        |
| 300 *                                                               | SVA-DL 300 A ANG H-WHEEL <sup>1)</sup> | 148B3773                         | 191.50        |
| 300 *                                                               | SVA-DH 300 A ANG H-WHEEL <sup>2)</sup> | 148B3777                         | 211.00        |
| 25 BAR<br>-60 TO 150°C                                              | NEW                                    |                                  |               |
| 350                                                                 | AVR 350 A ANG Shut-off valve Handwheel | 148B4801                         | 380.00        |
| 400                                                                 | AVR 400 A ANG Shut-off valve Handwheel | 148B4802                         | 544.00        |
| 500                                                                 | AVR 500 A ANG Shut-off valve Handwheel | 148B4803                         | 905.00        |
| 350                                                                 | AVR 350 A ANG Shut-off valve Cap       | 148B4804                         | 379.00        |
| 400                                                                 | AVR 400 A ANG Shut-off valve Cap       | 148B4805                         | 544.00        |
| 500                                                                 | AVR 500 A ANG Shut-off valve Cap       | 148B4806                         | 905.00        |

## STOP VALVES (52 BAR) (CONT'D)

### SVA-S & L - BUTT WELD ANSI



**Note: When a Capped valve is required purchase SVA with hand wheel and CAP separately**

- Socket weld (SOC) versions steel are available from DN15 to DN50 on request but will have long lead times.
- 140 bar stop valves DN50 to 100 in ANG and STR capped versions available to order late 2022
- All current version SVL DN15 - 200 (SVA, SCA-X, CHV-X, FIA, REG) use common bodies
- Therefore the bonnets are interchangeable between the same size STR or ANG of the complete range
- The bonnet or top assembly of sizes (15 & 20) plus (25, 32 & 40) are common in SVL range so are interchangeable within those size groups

### STRAIGHT

| 52 BAR<br>-60 TO 150°C | HANDWHEEL                              | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|------------------------|----------------------------------------|----------------------------------|---------------|
| SIZE                   | TYPE                                   | CODE                             | APPROX WEIGHT |
| 15 long bonnet         | SVA-L 15 A STR H-WHEEL (long bonnet)   | 148B5270                         | 2.73          |
| 20 long bonnet         | SVA-L 20 A STR H-WHEEL (long bonnet)   | 148B5370                         | 2.73          |
| 25 long bonnet         | SVA-L 25 A STR H-WHEEL (long bonnet)   | 148B5470                         | 5.29          |
| 32 long bonnet         | SVA-L 32 A STR H-WHEEL (long bonnet)   | 148B5570                         | 5.21          |
| 40 long bonnet         | SVA-L 40 A STR H-WHEEL (long bonnet)   | 148B5670                         | 5.26          |
| 10                     | SVA-S 10 A STR H-WHEEL                 | 148B5130                         | 0.69          |
| 15                     | SVA-S 15 A STR H-WHEEL                 | 148B5230                         | 2.25          |
| 20                     | SVA-S 20 A STR H-WHEEL                 | 148B5330                         | 2.20          |
| 25                     | SVA-S 25 A STR H-WHEEL                 | 148B5430                         | 4.70          |
| 32                     | SVA-S 32 A STR H-WHEEL                 | 148B5530                         | 4.18          |
| 40                     | SVA-S 40 A STR H-WHEEL                 | 148B5630                         | 2.35          |
| 50                     | SVA-S 50 A STR H-WHEEL                 | 148B5730                         | 6.10          |
| 65                     | SVA-S 65 A STR H-WHEEL                 | 148B5830                         | 8.12          |
| 80                     | SVA-S 80 A STR H-WHEEL                 | 148B5930                         | 16.10         |
| 100                    | SVA-S 100 A STR H-WHEEL                | 148B6030                         | 27.22         |
| 125                    | SVA-S 125 A STR H-WHEEL                | 148B6130                         | 57.00         |
| 150                    | SVA-S 150 A STR H-WHEEL                | 148B6230                         | 77.00         |
| 200                    | SVA-S 200 A STR H-WHEEL                | 148B6330                         | 133.00        |
| 25 BAR<br>-60 TO 150°C | NEW                                    |                                  |               |
| 350                    | AVR 350 A STR Shut-off valve Handwheel | 148B4807                         | 461.00        |
| 400                    | AVR 400 A STR Shut-off valve Handwheel | 148B4808                         | 710.00        |
| 350                    | AVR 350 A STR Shut-off valve Cap       | 148B4809                         | 480.00        |
| 400                    | AVR 400 A STR Shut-off valve Cap       | 148B4810                         | 687.00        |



### SVA -CAPS

|         | CAP ONLY         |          |               |
|---------|------------------|----------|---------------|
| SIZE    | TYPE             | CODE     | APPROX WEIGHT |
| 15-20   | CAP SVA 15-20    | 148B4075 | 0.08          |
| 25-65   | CAP SVA 25-65    | 148B4076 | 0.22          |
| 80-100  | CAP SVA 80-100   | 148B4077 | 0.30          |
| 125-150 | CAP SVA 125-150  | 148B4078 | 0.72          |
| 200     | CAP SVA 200      | 148B4079 | 1.71          |
| 250-300 | CAP SVA 250 -300 | 148B4171 | 2.05          |

## STOP VALVES (52 BAR) (CONT'D)

### SVA-SS - STAINLESS STEEL BUTT WELD DIN STOP VALVES (ANSI OPTION IN DN65)



Note:

- All current version SVL DN15 - 200 (SVA, SCA-X, CHV-X, FIA, REG) use common bodies
- Therefore the bonnets are interchangeable between the same size STR or ANG of the complete range
- The bonnet or top assembly of sizes (15 & 20) plus (25, 32 & 40) are common in SVL range so are interchangeable within those size groups

#### ANGLE

| *52B-60 >+50°C<br>*40B+50 >+150°C<br>**50B-60 >+50°C<br>**40B+50 >+150°C | CAP                                       | STAINLESS STEEL OPTION |               |
|--------------------------------------------------------------------------|-------------------------------------------|------------------------|---------------|
| SIZE                                                                     | TYPE                                      | CODE                   | APPROX WEIGHT |
| 15 *                                                                     | SVA-L SS 15 D ANG CAP (long bonnet) (new) | 148B6547               | 2.34          |
| 20 *                                                                     | SVA-L SS 20 D ANG CAP (long bonnet) (new) | 148B6551               | 2.37          |
| 25 *                                                                     | SVA-L SS 25 D ANG CAP (long bonnet) (new) | 148B6555               | 4.39          |
| 32 *                                                                     | SVA-L SS 32 D ANG CAP (long bonnet) (new) | 148B6559               | 4.77          |
| 40 *                                                                     | SVA-L SS 40 D ANG CAP (long bonnet) (new) | 148B6563               | 4.46          |
| 15 *                                                                     | SVA-S SS 15 D ANG CAP                     | 148B5290               | 1.85          |
| 20 *                                                                     | SVA-S SS 20 D ANG CAP                     | 148B5378               | 1.85          |
| 25 *                                                                     | SVA-S SS 25 D ANG CAP                     | 148B5487               | 3.60          |
| 32 *                                                                     | SVA-S SS 32 D ANG CAP                     | 148B5567               | 3.45          |
| 40 *                                                                     | SVA-S SS 40 D ANG CAP                     | 148B5647               | 3.65          |
| 50 *                                                                     | SVA-S SS 50 D ANG CAP                     | 148B5754               | 4.70          |
| 65 *                                                                     | SVA-S SS 65 D ANG CAP                     | 148B5848               | 6.35          |
| 65 *                                                                     | SVA-S SS 65 A 10 ANG CAP                  | 148B6448               | 6.35          |
| 80 **                                                                    | SVA-S SS 80 D ANG CAP                     | 148B5928               | 12.05         |
| 100 **                                                                   | SVA-S SS 100 D ANG CAP                    | 148B6032               | 19.41         |
| 125 **                                                                   | SVA-S SS 125 D ANG CAP                    | 148B6126               | 52.00         |

## STOP VALVES (52 BAR) (CONT'D)

### SVA-SS - STAINLESS STEEL BUTT WELD DIN STOP VALVES (ANSI OPTION IN DN65) (CONT'D)



Note:

- All current version SVL DN15 - 200 (SVA, SCA-X, CHV-X, FIA, REG) use common bodies
- Therefore the bonnets are interchangeable between the same size STR or ANG of the complete range
- The bonnet or top assembly of sizes (15 & 20) plus (25, 32 & 40) are common in SVL range so are interchangeable within those size groups

#### STRAIGHT

| *52B-60 >+50°C<br>*40B+50 >+150°C | CAP                                       | STAINLESS STEEL OPTION |               |                         |
|-----------------------------------|-------------------------------------------|------------------------|---------------|-------------------------|
| SIZE                              | TYPE                                      | CODE                   | APPROX WEIGHT | AVAILABILITY INDICATION |
| 15 *                              | SVA-L SS 15 D STR CAP (long bonnet) (new) | 148B6549               | 2.50          | TBA                     |
| 20 *                              | SVA-L SS 20 D STR CAP (long bonnet) (new) | 148B6553               | 2.35          | TBA                     |
| 25 *                              | SVA-L SS 25 D STR CAP (long bonnet) (new) | 148B6557               | 4.93          | TBA                     |
| 32 *                              | SVA-L SS 32 D STR CAP (long bonnet) (new) | 148B6561               | 5.00          | TBA                     |
| 40 *                              | SVA-L SS 40 D STR CAP (long bonnet) (new) | 148B6565               | 4.90          | TBA                     |
| 15 *                              | SVA-S SS 15 D STR CAP                     | 148B5292               | 1.99          | TBA                     |
| 20 *                              | SVA-S SS 20 D STR CAP                     | 148B5380               | 2.02          | TBA                     |
| 25 *                              | SVA-S SS 25 D STR CAP                     | 148B5489               | 4.08          | TBA                     |
| 32 *                              | SVA-S SS 32 D STR CAP                     | 148B5569               | 4.15          | TBA                     |
| 40 *                              | SVA-S SS 40 D STR CAP                     | 148B5649               | 4.25          | TBA                     |
| 50 *                              | SVA-S SS 50 D STR CAP                     | 148B5756               | 5.35          | TBA                     |
| 65 *                              | SVA-S SS 65 D STR CAP                     | 148B5850               | 7.68          | TBA                     |
| 65 *                              | SVA-S SS 65 A 10 STR CAP                  | 148B6449               | 7.68          | TBA                     |

## STOP VALVES (65 BAR)

### SVA-S - BUTT WELD ANSI



Note:

- 140 bar stop valves DN50 to 100 in ANG and STR capped versions available to order late 2022
- <http://www.danfoss.com/BusinessAreas/RefrigerationAndAirConditioning/SVLFlexline/SVL>

#### ANGLE

| 65 BAR<br>-60 TO 150°C | CAPPED                              | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|------------------------|-------------------------------------|----------------------------------|---------------|
| SIZE                   | TYPE                                | CODE                             | APPROX WEIGHT |
| 10                     | SVA-S 10 A ANG STOP VALVE CAP PS65  | 148B5034                         | 1.40          |
| 15                     | SVA-S 15 A ANG STOP VALVE CAP PS65  | 148B5035                         | 1.81          |
| 20                     | SVA-S 20 A ANG STOP VALVE CAP PS65  | 148B5036                         | 1.83          |
| 25                     | SVA-S 25 A ANG STOP VALVE CAP PS65  | 148B5037                         | 3.79          |
| 32                     | SVA-S 32 A ANG STOP VALVE CAP PS65  | 148B5038                         | 3.79          |
| 40                     | SVA-S 40 A ANG STOP VALVE CAP PS65  | 148B5039                         | 3.86          |
| 50                     | SVA-S 50 A ANG STOP VALVE CAP PS65  | 148B5040                         | 5.31          |
| 65                     | SVA-S 65 A ANG STOP VALVE CAP PS65  | 148B5041                         | 6.79          |
| 80                     | SVA-S 80 A ANG STOP VALVE CAP PS65  | 148B5042                         | 13.09         |
| 100                    | SVA-S 100 A ANG STOP VALVE CAP PS65 | 148B5043                         | 20.16         |
| 125                    | SVA-S 125 A ANG STOP VALVE CAP PS65 | 148B5044                         | 35.00         |
| 150                    | SVA-S 150 A ANG STOP VALVE CAP PS65 | 148B6667                         | 54.00         |
| 200                    | SVA-S 200 A ANG STOP VALVE CAP PS65 | 148B6675                         | 102.50        |



#### STRAIGHT

| 65 BAR<br>-60 TO 150°C | CAPPED                              | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|------------------------|-------------------------------------|----------------------------------|---------------|
| SIZE                   | TYPE                                | CODE                             | APPROX WEIGHT |
| 10                     | SVA-S 10 A STR STOP VALVE CAP PS65  | 148B5054                         | 0.70          |
| 15                     | SVA-S 15 A STR STOP VALVE CAP PS65  | 148B5055                         | 2.28          |
| 20                     | SVA-S 20 A STR STOP VALVE CAP PS65  | 148B5056                         | 2.24          |
| 25                     | SVA-S 25 A STR STOP VALVE CAP PS65  | 148B5057                         | 4.70          |
| 32                     | SVA-S 32 A STR STOP VALVE CAP PS65  | 148B5058                         | 4.17          |
| 40                     | SVA-S 40 A STR STOP VALVE CAP PS65  | 148B5059                         | 4.40          |
| 50                     | SVA-S 50 A STR STOP VALVE CAP PS65  | 148B5060                         | 6.13          |
| 65                     | SVA-S 65 A STR STOP VALVE CAP PS65  | 148B5061                         | 2.67          |
| 80                     | SVA-S 80 A STR STOP VALVE CAP PS65  | 148B5062                         | 15.01         |
| 100                    | SVA-S 100 A STR STOP VALVE CAP PS65 | 148B5063                         | 25.28         |
| 125                    | SVA-S 125 A STR STOP VALVE CAP PS65 | 148B5064                         | 52.00         |
| 150                    | SVA-S 150 A STR STOP VALVE CAP PS65 | 148B6668                         | 74.60         |
| 200                    | SVA-S 200 A STR STOP VALVE CAP PS65 | 148B6676                         | 128.20        |

## STOP NEEDLE VALVES

### SNV - NEEDLE VALVES



Note:

- G = Parallel BSP thread / MPT = Male NPT thread / FPT = Female NPT / W = Weld
- 1) Suitable for PM & ICS pressure gauge ports in conjunction with ICS/PM Press Gauge Adaptor G1/4-1/4NPT, 027B2062
- 2) Suitable for ICF (SOC weld version) valve side ports and strainer
- 3) 1/2" G female swivel nuts both ends CW 3/8" to 1/2" adaptor
- 4) only to be ordered in lots of 30 pcs
- 5) Suitable as FIA 50 to 200 as a purge valve, 148H3450 blind nut and gasket to be purchased separately if required
- 6) Suitable as FIA15 to 40 as a purge valve
- 7) Suitable for LLG
- 8) only to be ordered in lots of 20 pcs
- 9) 148B3746 SNV-ST 1/4 NPT and 027B2062 ICS/PM Press Gauge Adaptor G1/4-1/4NPT together in gauge port
- 10) SNV-ST 1/4 FPT X 1/4 MPT for PM & ICS pressure gauge ports complete with G1/4-1/4NPT Adaptor
- 11) Suitable for ICF (SOC weld SS version) valve side ports and strainer
- 12) Only to be ordered in lots of 20 pcs
- 13) Purge valve for HFI (comes fitted on new HFI)

## ANGLE

| 52 BAR AND<br>-60 TO 150°C | CAP                                                           |          |               |
|----------------------------|---------------------------------------------------------------|----------|---------------|
| TYPE                       |                                                               | CODE     | APPROX WEIGHT |
| 1/4"                       | SNV-ST 1/4 FPT X 1/4 MPT <sup>1) 6) 9)</sup>                  | 148B3746 | 0.51          |
| 1/4"                       | SNV-ST 1/4 FPT X 1/4 MPT c/w 1/4G-1/4NPT adapt <sup>10)</sup> | 148B4772 | 0.61          |
| 1/4"                       | SNV-ST 1/4FPT-1/4MPT L100 <sup>8)</sup>                       | 148B4232 | 0.65          |
| 1/4"                       | SNV-ST 1/4FPT-1/4MPT L100                                     | 148B4567 | 0.75          |
| 1/4" - 1/2"W               | SNV-ST 1/4FPT- W 1/2 L100 <sup>12)</sup>                      | 148B4495 | 0.94          |
| 3/8"                       | SNV-ST 3/8 FPT X 3/8 MPT <sup>2)</sup>                        | 148B3747 | 0.45          |
| 1/2"                       | SNV-ST G 1/2 male X G 1/2 male <sup>5) 13)</sup>              | 148B3745 | 0.46          |
| 1/2"                       | SNV-ST G 1/2 male X W 1/2 L100 <sup>7)</sup>                  | 148B3769 | 0.77          |
| 1/2"                       | SNV-ST 1/2" MPT X 1/2" MPT <sup>4)</sup>                      | 148B4224 | 0.43          |
| 1/2"                       | SNV-ST 1/2" MPT X 1/2" MPT                                    | 148B4564 | 0.47          |
| 1/2"                       | SNV-ST G 1/2 MAN <sup>3)</sup>                                | 148B3778 | 0.73          |
| 1/2"                       | Blind nut including gasket G1/2"                              | 148H3450 | 0.06          |
|                            | ICS/PM Press Gauge Adaptor (G1/4-1/4NPT) <sup>9)</sup>        | 027B2062 | 0.05          |
|                            | SNV cap and gasket (spare part)                               | 148B4576 | 0.08          |

## STOP NEEDLE VALVES (CONT'D)

### SNV-SS - STAINLESS STEEL NEEDLE VALVES



#### ANGLE

| 52 BAR AND<br>-60 TO 150°C | CAP                                               | CODE     | APPROX WEIGHT |
|----------------------------|---------------------------------------------------|----------|---------------|
| TYPE                       |                                                   |          |               |
| 1/4"                       | SNV-SS 1/4FPT-1/4MPT                              | 148B4771 | 0.54          |
| 3/8"                       | SNV-SS 3/8FPT-3/8MPT <sup>1)</sup>                | 148B3750 | 0.62          |
| 1/2"                       | W $\frac{1}{2}$ L50 SNV-SS G1/2-W1/2 L50 65 bar   | 148B4581 | 0.64          |
| 1/2"                       | W $\frac{1}{2}$ L150 SNV-SS G1/2-W1/2 L150 65 bar | 148B4582 | 0.93          |
| 1/2"                       | Blind nut SS incl. gasket G 1/2"                  | 148B4317 | 0.06          |



#### CAP LOCKING DEVICE (DISC ONLY NO LOCK OR CHAIN PROVIDED - FITS ALL SVL AND ICF CAPS)

| SIZE  | CAP LOCKING DEVICE                     | CODE     | APPROX WEIGHT |
|-------|----------------------------------------|----------|---------------|
|       | TYPE                                   |          |               |
| 6-300 | Lockout Ring for SVA 6 – 300 with caps | 148B6707 | 0.24          |



#### RATCHET TOOLS FOR VALVE SPINDLES

| SIZE          | RATCHET TOOLS                                          | CODE     | APPROX WEIGHT |
|---------------|--------------------------------------------------------|----------|---------------|
|               | TYPE                                                   |          |               |
| 5 & 6mm       | Hand tool - EVRA/T,ICFO,ICLX,ICS,New pilot,SNV,SVA6-10 | 148B6574 | 0.18          |
| 7,8,10 & 14mm | Hand tools - SVA15,20,25,32,40,50,65,80,100            | 148B6573 | 0.49          |

## REGULATING VALVES

### REG-SA & SB - BUTT WELD ANSI (NEW REG-SA/B HAS A YELLOW CAP)



Note:

- Cone "A" is generally for expansion lines and cone "B" is for liquid regulation.
- Cone "B" has a Kv typically 3-4 times the Kv of cone "A" for the same connection size.
- Cone "A" or "B" are suitable for either application should the selection be favourable
- Socket weld (SOC) versions steel are available from DN15 to DN40 on request but will have long lead times.
- 65 bar REG's DN10 to 40 (A cone), 10 to 65 (B cone) ANG and STR versions available with extended lead times

#### ANGLE (A CONE)

| 52 BAR AND<br>-60 TO 150°C | FOR EXPANSION LINE "A" CONE      | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|----------------------------|----------------------------------|----------------------------------|---------------|
| SIZE                       | TYPE                             | CODE                             | APPROX WEIGHT |
| 10                         | REG-SA 10 A ANG REGULATING VALVE | 148B5106                         | 0.62          |
| 15                         | REG-SA 15 A ANG REGULATING VALVE | 148B5202                         | 1.95          |
| 20                         | REG-SA 20 A ANG REGULATING VALVE | 148B5302                         | 1.98          |
| 25                         | REG-SA 25 A ANG REGULATING VALVE | 148B5402                         | 3.81          |
| 32                         | REG-SA 32 A ANG REGULATING VALVE | 148B5502                         | 3.95          |
| 40                         | REG-SA 40 A ANG REGULATING VALVE | 148B5602                         | 4.05          |

#### ANGLE (B CONE)

| 52 BAR AND<br>-60 TO 150°C | FOR LIQUID REGULATION "B" CONE   | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|----------------------------|----------------------------------|----------------------------------|---------------|
| SIZE                       | TYPE                             | CODE                             | APPROX WEIGHT |
| 10                         | REG-SB 10 A ANG REGULATING VALVE | 148B5107                         | 0.66          |
| 15                         | REG-SB 15 A ANG REGULATING VALVE | 148B5203                         | 1.87          |
| 20                         | REG-SB 20 A ANG REGULATING VALVE | 148B5303                         | 1.98          |
| 25                         | REG-SB 25 A ANG REGULATING VALVE | 148B5403                         | 3.85          |
| 32                         | REG-SB 32 A ANG REGULATING VALVE | 148B5503                         | 3.80          |
| 40                         | REG-SB 40 A ANG REGULATING VALVE | 148B5603                         | 3.85          |
| 50                         | REG-SB 50 A ANG REGULATING VALVE | 148B5706                         | 5.55          |
| 65                         | REG-SB 65 A ANG REGULATING VALVE | 148B5806                         | 7.20          |

## REGULATING VALVES (CONT'D)

### REG-SA & SB - BUTT WELD ANSI

### (NEW REG-SA/B HAS A YELLOW CAP) (CONT'D)



Note:

- Cone "A" is generally for expansion lines and cone "B" is for liquid regulation.
- Cone "B" has a Kv typically 3-4 times the Kv of cone "A" for the same connection size.
- Cone "A" or "B" are suitable for either application should the selection be favourable
- Socket weld (SOC) versions steel are available from DN15 to DN40 on request but will have long lead times.
- 65 bar REG's DN10 to 40 (A cone), 10 to 65 (B cone) ANG and STR versions available with extended lead times

#### STRAIGHT (A CONE)

| 52 BAR AND<br>-60 TO 150°C | FOR EXPANSION LINE "A" CONE      | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|----------------------------|----------------------------------|----------------------------------|---------------|
| SIZE                       | TYPE                             | CODE                             | APPROX WEIGHT |
| 10                         | REG-SA 10 A STR REGULATING VALVE | 148B5116                         | 0.74          |
| 15                         | REG-SA 15 A STR REGULATING VALVE | 148B5212                         | 2.30          |
| 20                         | REG-SA 20 A STR REGULATING VALVE | 148B5312                         | 2.30          |
| 25                         | REG-SA 25 A STR REGULATING VALVE | 148B5412                         | 4.85          |
| 32                         | REG-SA 32 A STR REGULATING VALVE | 148B5512                         | 4.65          |
| 40                         | REG-SA 40 A STR REGULATING VALVE | 148B5612                         | 4.65          |

#### ANGLE (B CONE)

| 52 BAR AND<br>-60 TO 150°C | FOR LIQUID REGULATION "B" CONE   | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|----------------------------|----------------------------------|----------------------------------|---------------|
| SIZE                       | TYPE                             | CODE                             | APPROX WEIGHT |
| 10                         | REG-SB 10 A STR REGULATING VALVE | 148B5117                         | 0.73          |
| 15                         | REG-SB 15 A STR REGULATING VALVE | 148B5213                         | 2.30          |
| 20                         | REG-SB 20 A STR REGULATING VALVE | 148B5313                         | 2.24          |
| 25                         | REG-SB 25 A STR REGULATING VALVE | 148B5413                         | 4.86          |
| 32                         | REG-SB 32 A STR REGULATING VALVE | 148B5513                         | 4.60          |
| 40                         | REG-SB 40 A STR REGULATING VALVE | 148B5613                         | 4.65          |
| 50                         | REG-SB 50 A STR REGULATING VALVE | 148B5724                         | 6.35          |
| 65                         | REG-SB 65 A STR REGULATING VALVE | 148B5809                         | 8.80          |

## REGULATING VALVES (CONT'D)

### REG-SS - STAINLESS STEEL BUTT WELD DIN REG VALVES (NEW REG-SA/B HAS A YELLOW CAP)



Note:

- All current version SVL DN15 - 200 (SVA, SCA-X, CHV-X, FIA, REG) use common bodies
- Therefore the bonnets are interchangeable between the same size STR or ANG of the complete range
- The bonnet or top assembly of sizes (15 & 20) plus (25, 32 & 40) are common in SVL range so are interchangeable within those size groups

#### ANGLE (A CONE)

| *52B-60 >+50°C<br>*40B+50 >+150°C | FOR EXPANSION LINE "A" CONE         | STAINLESS STEEL OPTION |               |
|-----------------------------------|-------------------------------------|------------------------|---------------|
| SIZE                              | TYPE                                | CODE                   | APPROX WEIGHT |
| 15 *                              | REG-SA SS 15 D ANG REGULATING VALVE | 148B5297               | 1.90          |
| 20 *                              | REG-SA SS 20 D ANG REGULATING VALVE | 148B5385               | 1.88          |
| 25 *                              | REG-SA SS 25 D ANG REGULATING VALVE | 148B5494               | 3.75          |
| 32 *                              | REG-SA SS 32 D ANG REGULATING VALVE | 148B5589               | 2.70          |
| 40 *                              | REG-SA SS 40 D ANG REGULATING VALVE | 148B5674               | 3.79          |

#### ANGLE (B CONE)

| *52B-60 >+50°C<br>*40B+50 >+150°C | FOR LIQUID REGULATION "B" CONE      | STAINLESS STEEL OPTION |               |
|-----------------------------------|-------------------------------------|------------------------|---------------|
| SIZE                              | TYPE                                | CODE                   | APPROX WEIGHT |
| 15 *                              | REG-SB SS 15 D ANG REGULATING VALVE | 148B5387               | 1.88          |
| 20 *                              | REG-SB SS 20 D ANG REGULATING VALVE | 148B5389               | 1.87          |
| 25 *                              | REG-SB SS 25 D ANG REGULATING VALVE | 148B5496               | 3.15          |
| 32 *                              | REG-SB SS 32 D ANG REGULATING VALVE | 148B5591               | 3.76          |
| 40 *                              | REG-SB SS 40 D ANG REGULATING VALVE | 148B5676               | 3.80          |

## REGULATING VALVES (CONT'D)

### REG-SS - STAINLESS STEEL BUTT WELD DIN REG VALVES (NEW REG-SA/B HAS A YELLOW CAP) (CONT'D)



**Note:**

- All current version SVL DN15 - 200 (SVA, SCA-X, CHV-X, FIA, REG) use common bodies
- Therefore the bonnets are interchangeable between the same size STR or ANG of the complete range
- The bonnet or top assembly of sizes (15 & 20) plus (25, 32 & 40) are common in SVL range so are interchangeable within those size groups

#### STRAIGHT (A CONE)

| *52B-60 >+50°C<br>*40B+50 >+150°C | FOR EXPANSION LINE "A" CONE         | STAINLESS STEEL OPTION |               |
|-----------------------------------|-------------------------------------|------------------------|---------------|
| SIZE                              | TYPE                                | CODE                   | APPROX WEIGHT |
| 15 *                              | REG-SA SS 15 D STR REGULATING VALVE | 148B5298               | 2.10          |
| 20 *                              | REG-SA SS 20 D STR REGULATING VALVE | 148B5386               | 2.11          |
| 25 *                              | REG-SA SS 25 D STR REGULATING VALVE | 148B5495               | 4.35          |
| 32 *                              | REG-SA SS 32 D STR REGULATING VALVE | 148B5590               | 4.25          |
| 40 *                              | REG-SA SS 40 D STR REGULATING VALVE | 148B5675               | 4.31          |

#### ANGLE (B CONE)

| *52B-60 >+50°C<br>*40B+50 >+150°C | FOR LIQUID REGULATION "B" CONE      | STAINLESS STEEL OPTION |               |
|-----------------------------------|-------------------------------------|------------------------|---------------|
| SIZE                              | TYPE                                | CODE                   | APPROX WEIGHT |
| 15 *                              | REG-SB SS 15 D STR REGULATING VALVE | 148B5388               | 2.04          |
| 20 *                              | REG-SB SS 20 D STR REGULATING VALVE | 148B5390               | 2.10-         |
| 25 *                              | REG-SB SS 25 D STR REGULATING VALVE | 148B5497               | 4.25          |
| 32 *                              | REG-SB SS 32 D STR REGULATING VALVE | 148B5592               | 4.30          |
| 40 *                              | REG-SB SS 40 D STR REGULATING VALVE | 148B5677               | 4.16          |

## STRAINERS



Note:

- Socket weld (SOC) versions steel are available from DN15 to DN50 on request but will have long lead times.
- 65 bar FIA's DN15 to 125 ANG and STR versions available with extended lead times
- 140 bar strainers DN50 to 100 in ANG and STR available to order mid 2022

### FIA - BUTT WELD ANSI (WITHOUT FILTER INSERT)

| 52 BAR AND<br>-60 TO 150°C | ANGLE                        | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|----------------------------|------------------------------|----------------------------------|---------------|
| SIZE                       | TYPE                         | CODE                             | APPROX WEIGHT |
| 15                         | FIA 15 A ANG FILTER HOUSING  | 148B5244                         | 1.41          |
| 20                         | FIA 20 A ANG FILTER HOUSING  | 148B5344                         | 1.50          |
| 25                         | FIA 25 A ANG FILTER HOUSING  | 148B5444                         | 2.37          |
| 32                         | FIA 32 A ANG FILTER HOUSING  | 148B5545                         | 2.40          |
| 40                         | FIA 40 A ANG FILTER HOUSING  | 148B5642                         | 2.55          |
| 50                         | FIA 50 A ANG FILTER HOUSING  | 148B5714                         | 2.90          |
| 65                         | FIA 65 A ANG FILTER HOUSING  | 148B5814                         | 4.40          |
| 80                         | FIA 80 A ANG FILTER HOUSING  | 148B5907                         | 8.60          |
| 100                        | FIA 100 A ANG FILTER HOUSING | 148B6008                         | 13.65         |
| 125                        | FIA 125 A ANG FILTER HOUSING | 148B6107                         | 29.50         |
| 150                        | FIA 150 A ANG FILTER HOUSING | 148B6204                         | 38.00         |
| 200                        | FIA 200 A ANG FILTER HOUSING | 148B6304                         | 74.00         |
| 40BAR<br>-60 TO 150°C      |                              |                                  |               |
| 250                        | FIA 250 A ANG FILTER HOUSING | 148H3173                         | 112.00        |
| 300                        | FIA 300 A ANG FILTER HOUSING | 148H3174                         | 154.00        |

## STRAINERS (CONT'D)



**Note:**

- Socket weld (SOC) versions steel are available from DN15 to DN50 on request but will have long lead times.
- 65 bar FIA's DN15 to 125 ANG and STR versions available with extended lead times
- 140 bar strainers DN50 to 100 in ANG and STR available to order mid 2022
- 5) Suitable as FIA 50 to 200 as a purge valve, 148H3450 blind nut and gasket to be purchased separately if required
- 6) Suitable as FIA 15 to 40 as a purge valve, 148H3450 blind nut and gasket to be purchased separately if required

### FIA - BUTT WELD ANSI (WITHOUT FILTER INSERT)

| 52 BAR AND<br>-60 TO 150°C | STRAIGHT                     | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|----------------------------|------------------------------|----------------------------------|---------------|
| SIZE                       | TYPE                         | CODE                             | APPROX WEIGHT |
| 15                         | FIA 15 A STR FILTER HOUSING  | 148B5247                         | 1.85          |
| 20                         | FIA 20 A STR FILTER HOUSING  | 148B5347                         | 1.86          |
| 25                         | FIA 25 A STR FILTER HOUSING  | 148B5447                         | 3.35          |
| 32                         | FIA 32 A STR FILTER HOUSING  | 148B5552                         | 3.24          |
| 40                         | FIA 40 A STR FILTER HOUSING  | 148B5644                         | 3.27          |
| 50                         | FIA 50 A STR FILTER HOUSING  | 148B5716                         | 3.70          |
| 65                         | FIA 65 A STR FILTER HOUSING  | 148B5815                         | 5.90          |
| 80                         | FIA 80 A STR FILTER HOUSING  | 148B5908                         | 8.75          |
| 100                        | FIA 100 A STR FILTER HOUSING | 148B6009                         | 18.40         |
| 125                        | FIA 125 A STR FILTER HOUSING | 148B6108                         | 47.30         |
| 150                        | FIA 150 A STR FILTER HOUSING | 148B6205                         | 67.00         |
| 200                        | FIA 200 A STR FILTER HOUSING | 148B6305                         | 109.00        |

### FIA ACCESSORIES - PURGE VALVES

| 52 BAR AND<br>-60 TO 150°C |                                        |          |               |
|----------------------------|----------------------------------------|----------|---------------|
| TYPE                       |                                        | CODE     | APPROX WEIGHT |
| 1/2"                       | SNV-ST G 1/2 X G 1/2 <sup>5)</sup>     | 148B3745 | 0.46          |
| 1/4"                       | SNV-ST 1/4 FPT X 1/4 MPT <sup>6)</sup> | 148B3746 | 0.51          |
| 1/2"                       | Blind nut including gasket G1/2"       | 148H3450 | 0.06          |

## STRAINERS (CONT'D)



Note:

- All current version SVL DN15 - 200 (SVA, SCA-X, CHV-X, FIA, REG) use common bodies
- Therefore the bonnets are interchangeable between the same size STR or ANG of the complete range
- The bonnet or top assembly of sizes (15 & 20) plus (25, 32 & 40) are common in SVL range so are interchangeable within those size groups

### FIA-SS - STAINLESS STEEL BUTT WELD DIN, ANSI OPTION IN DN65 (WITHOUT FILTER INSERT)

| *52B-60 >+50°C<br>*40B+50 >+150°C | ANGLE                             |          |               |
|-----------------------------------|-----------------------------------|----------|---------------|
| SIZE                              | TYPE                              | CODE     | APPROX WEIGHT |
| 15 *                              | FIA SS 15 D ANG FILTER HOUSING    | 148B5295 | 1.45          |
| 20 *                              | FIA SS 20 D ANG FILTER HOUSING    | 148B5383 | 1.42          |
| 25 *                              | FIA SS 25 D ANG FILTER HOUSING    | 148B5492 | 2.37          |
| 32 *                              | FIA SS 32 D ANG FILTER HOUSING    | 148B5587 | 2.45          |
| 40 *                              | FIA SS 40 D ANG FILTER HOUSING    | 148B5666 | 2.47          |
| 50 *                              | FIA SS 50 D ANG FILTER HOUSING    | 148B5757 | 3.00          |
| 65 *                              | FIA SS 65 D ANG FILTER HOUSING    | 148B5851 | 4.35          |
| 65 *                              | FIA SS 65 A 10 ANG FILTER HOUSING | 148B6498 | 4.46          |



### FIA-SS - STAINLESS STEEL BUTT WELD DIN, ANSI OPTION IN DN65 (WITHOUT FILTER INSERT)

| *52B-60 >+50°C<br>*40B+50 >+150°C | STRAIGHT                          |          |               |
|-----------------------------------|-----------------------------------|----------|---------------|
| SIZE                              | TYPE                              | CODE     | APPROX WEIGHT |
| 15 *                              | FIA SS 15 D STR FILTER HOUSING    | 148B5296 | 1.65          |
| 20 *                              | FIA SS 20 D STR FILTER HOUSING    | 148B5384 | 1.70          |
| 25 *                              | FIA SS 25 D STR FILTER HOUSING    | 148B5493 | 2.96          |
| 32 *                              | FIA SS 32 D STR FILTER HOUSING    | 148B5588 | 3.00          |
| 40 *                              | FIA SS 40 D STR FILTER HOUSING    | 148B5667 | 3.05          |
| 50 *                              | FIA SS 50 D STR FILTER HOUSING    | 148B5758 | 3.50          |
| 65 *                              | FIA SS 65 D STR FILTER HOUSING    | 148B5852 | 5.66          |
| 65 *                              | FIA SS 65 A 10 STR FILTER HOUSING | 148B6499 | 5.60          |

## STRAINERS (CONT'D)



Note:

- 5) Suitable as FIA 50 to 200 as a purge valve, 148H3450 blind nut and gasket to be purchased separately if required
- 6) Suitable as FIA 15 to 40 as a purge valve, 148H3450 blind nut and gasket to be purchased separately if required

### FIA ACCESSORIES - PURGE VALVES

| 52 BAR AND<br>-60 TO 150°C |                                        |          |               |
|----------------------------|----------------------------------------|----------|---------------|
| TYPE                       |                                        | CODE     | APPROX WEIGHT |
| 1/2"                       | SNV-ST G 1/2 X G 1/2 <sup>5)</sup>     | 148B3745 | 0.46          |
| 1/4"                       | SNV-ST 1/4 FPT X 1/4 MPT <sup>6)</sup> | 148B3746 | 0.51          |
| 1/2"                       | Blind nut including gasket G1/2"       | 148H3450 | 0.06          |



Note: Includes 150u filter insert  
 Not to be used for direct mounting to EVRA's etc. For separate inline application only.

### FIA - STRAINERS INLINE MOUNTING (INCLUDES FLANGES AND BOLTS)

| *52B-60 >+50°C<br>*40B+50 >+150°C |                                  |          |               |
|-----------------------------------|----------------------------------|----------|---------------|
| STRAIGHT                          |                                  |          |               |
| SIZE                              | TYPE                             | CODE     | APPROX WEIGHT |
| 15                                | FA 15 STRAINER 1/2" WELD FLANGES | 006-0052 | 1.83          |
| 20                                | FA 20 STRAINER 3/4" WELD FLANGES | 006-0066 | 2.99          |

## STRAINERS (CONT'D)

### FIA - FILTER INSERTS



Note:

Top cover gasket does not come with insert, but comes with FIA body or as a spare part

\*\* It is recommended to use Pleated Inserts when installed in economiser lines

#### STANDARD FIA INSERTS

| SIZE         | TYPE                  | CODE     | APPROX WEIGHT |
|--------------|-----------------------|----------|---------------|
| 15 / 20      | FIA 15-20 INSERT 100u | 148H3122 | 0.03          |
| 15 / 20      | FIA 15-20 INSERT 150u | 148H3124 | 0.03          |
| 15 / 20      | FIA 15-20 INSERT 250u | 148H3126 | 0.03          |
| 15 / 20      | FIA 15-20 INSERT 500u | 148H3128 | 0.03          |
| 25 / 32 / 40 | FIA 25-40 INSERT 100u | 148H3123 | 0.05          |
| 25 / 32 / 40 | FIA 25-40 INSERT 150u | 148H3125 | 0.05          |
| 25 / 32 / 40 | FIA 25-40 INSERT 250u | 148H3127 | 0.05          |
| 25 / 32 / 40 | FIA 25-40 INSERT 500u | 148H3129 | 0.05          |
| 50           | FIA 50 INSERT 100u    | 148H3157 | 0.06          |
| 50           | FIA 50 INSERT 150u    | 148H3130 | 0.06          |
| 50           | FIA 50 INSERT 250u    | 148H3138 | 0.06          |
| 50           | FIA 50 INSERT 500u    | 148H3144 | 0.06          |
| 65           | FIA 65 INSERT 150u    | 148H3131 | 0.08          |
| 65           | FIA 65 INSERT 250u    | 148H3139 | 0.08          |
| 65           | FIA 65 INSERT 500u    | 148H3145 | 0.08          |
| 80           | FIA 80 INSERT 150u    | 148H3119 | 0.15          |
| 80           | FIA 80 INSERT 250u    | 148H3120 | 0.14          |
| 80           | FIA 80 INSERT 500u    | 148H3121 | 0.15          |
| 100          | FIA 100 INSERT 150u   | 148H3132 | 0.34          |
| 100          | FIA 100 INSERT 250u   | 148H3140 | 0.32          |
| 100          | FIA 100 INSERT 500u   | 148H3146 | 0.32          |
| 125          | FIA 125 INSERT 150u   | 148H3133 | 0.50          |
| 125          | FIA 125 INSERT 250u   | 148H3141 | 0.49          |
| 125          | FIA 125 INSERT 500u   | 148H3147 | 0.49          |
| 150          | FIA 150 INSERT 150u   | 148H3134 | 0.69          |
| 150          | FIA 150 INSERT 250u   | 148H3142 | 0.68          |
| 150          | FIA 150 INSERT 500u   | 148H3148 | 0.68          |
| 200          | FIA 200 INSERT 250u   | 148H3143 | 0.96          |
| 250          | FIA 250 INSERT 150u   | 148H3136 | 2.08          |
| 250          | FIA 250 INSERT 250u   | 148H3175 | 2.05          |
| 300          | FIA 300 INSERT 150u   | 148H3137 | 3.52          |
| 300          | FIA 300 INSERT 250u   | 148H3176 | 2.99          |

## STRAINERS (CONT'D)

### FIA - FILTER INSERTS (CONT'D)



Note:

Top cover gasket does not come with insert, but comes with FIA body or as a spare part

\*\* It is recommended to use Pleated Inserts when installed in economiser lines

#### PLEATED FIA INSERTS \*\*

| SIZE         | TYPE                          | CODE     | APPROX WEIGHT |
|--------------|-------------------------------|----------|---------------|
| 15 / 20      | FIA 15-20 INSERT PLEATED 150u | 148H3303 | 0.03          |
| 15 / 20      | FIA 15-20 INSERT PLEATED 250u | 148H3363 | 0.03          |
| 25 / 32 / 40 | FIA 25-40 INSERT PLEATED 150u | 148H3304 | 0.06          |
| 25 / 32 / 40 | FIA 25-40 INSERT PLEATED 250u | 148H3269 | 0.06          |
| 50           | FIA 50 INSERT PLEATED 150u    | 148H3179 | 0.07          |
| 50           | FIA 50 INSERT PLEATED 250u    | 148H3184 | 0.07          |
| 50           | FIA 50 INSERT PLEATED 500u    | 148H3189 | 0.07          |
| 65           | FIA 65 INSERT PLEATED 150u    | 148H3180 | 0.10          |
| 65           | FIA 65 INSERT PLEATED 250u    | 148H3185 | 0.10          |
| 65           | FIA 65 INSERT PLEATED 500u    | 148H3190 | 0.35          |
| 80           | FIA 80 INSERT PLEATED 150u    | 148H3181 | 0.16          |
| 80           | FIA 80 INSERT PLEATED 250u    | 148H3186 | 0.17          |
| 80           | FIA 80 INSERT PLEATED 500u    | 148H3191 | 0.16          |
| 100          | FIA 100 INSERT PLEATED 150u   | 148H3182 | 0.37          |
| 100          | FIA 100 INSERT PLEATED 500u   | 148H3192 | 0.34          |
| 125          | FIA 125 INSERT PLEATED 150u   | 148H3183 | 0.51          |
| 125          | FIA 125 INSERT PLEATED 500u   | 148H3193 | 0.49          |
| 150          | FIA 150 INSERT PLEATED 150u   | 148H3226 | 0.83          |
| 150          | FIA 150 INSERT PLEATED 250u   | 148H3293 | 0.75          |
| 200          | FIA 200 INSERT PLEATED 150u   | 148H3297 | 1.12          |
| 200          | FIA 200 INSERT PLEATED 250u   | 148H3294 | 1.16          |



#### FILTER BAGS AND MAGNETIC INSERTS

| SIZE      | TYPE                        | CODE     | APPROX WEIGHT |
|-----------|-----------------------------|----------|---------------|
| 50        | FIA-BAG 50 50my FILTER BAG  | 148H3150 | 0.07          |
| 65        | FIA-BAG 65 50my FILTER BAG  | 148H3151 | 0.09          |
| 80        | FIA-BAG 80 50my FILTER BAG  | 148H3152 | 0.15          |
| 100       | FIA-BAG 100 50my FILTER BAG | 148H3153 | 0.36          |
| 125       | FIA-BAG 125 50my FILTER BAG | 148H3154 | 0.51          |
| 150       | FIA-BAG 150 50my FILTER BAG | 148H3155 | 0.75          |
| 200       | FIA-BAG 200 50my FILTER BAG | 148H3156 | 1.05          |
| 50        | Magnet insert 50            | 148H3446 | 0.33          |
| 65 - 100  | Magnet insert 65 - 100      | 148H3447 | 0.46          |
| 125 - 200 | Magnet insert 125 - 200     | 148H3448 | 0.60          |

## CHECK VALVES

### NRVA - CHECK VALVES COMPLETE WITH WELD FLANGES



| 40 BAR AND<br>-50 TO 140°C | STRAIGHT             |          |               |
|----------------------------|----------------------|----------|---------------|
| SIZE                       | TYPE                 | CODE     | APPROX WEIGHT |
| 15                         | NRVA 15 INCL FLANGES | 020-2000 | 1.03          |
| 20                         | NRVA 20 INCL FLANGES | 020-2001 | 1.05          |
| 25                         | NRVA 25 INCL FLANGES | 020-2002 | 3.26          |
| 32                         | NRVA 32 INCL FLANGES | 020-2003 | 3.18          |
| 40                         | NRVA 40 INCL FLANGES | 020-2004 | 5.58          |
| 50                         | NRVA 50 INCL FLANGES | 020-2005 | 5.29          |
| 65                         | NRVA 65 INCL FLANGES | 020-2006 | 13.90         |

### NRVS - CHECK VALVES DIRECT MOUNTING



Note: NRVS only compatible with special NRVS flanges listed below  
 For use in liquid lines only

| 28 BAR AND<br>-50 TO 140°C | STRAIGHT               |          |               |
|----------------------------|------------------------|----------|---------------|
| SIZE                       | TYPE                   | CODE     | APPROX WEIGHT |
| NRVS 15                    | EVRA/T 10-15           | 020-2032 | 0.08          |
| NRVS 25                    | EVRA/T 20-25, PM 15-25 | 020-2033 | 0.18          |
| NRVS 15                    | NRVS 15 FLANGES 3/4"   | 027N1255 | 0.62          |
| NRVS 25                    | NRVS 25 FLANGES 1"     | 027N1254 | 1.10          |

## CHECK VALVES (CONT'D)

### CHV-X - CHECK VALVES



Note:

- 65 bar CHV-X's DN15 to 125 ANG and STR versions available with extended lead times

| 52 BAR AND<br>-60 TO 150°C | ANGLE                       | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|----------------------------|-----------------------------|----------------------------------|---------------|
| SIZE                       | TYPE                        | CODE                             | APPROX WEIGHT |
| 15                         | CHV-X 15 A ANG CHECK VALVE  | 148B5237                         | 1.55          |
| 20                         | CHV-X 20 A ANG CHECK VALVE  | 148B5337                         | 1.59          |
| 25                         | CHV-X 25 A ANG CHECK VALVE  | 148B5437                         | 2.94          |
| 32                         | CHV-X 32 A ANG CHECK VALVE  | 148B5537                         | 3.11          |
| 40                         | CHV-X 40 A ANG CHECK VALVE  | 148B5637                         | 3.02          |
| 50                         | CHV-X 50 A ANG CHECK VALVE  | 148B5737                         | 3.30          |
| 65                         | CHV-X 65 A ANG CHECK VALVE  | 148B5837                         | 4.92          |
| 80                         | CHV-X 80 A ANG CHECK VALVE  | 148B5937                         | 10.28         |
| 100                        | CHV-X 100 A ANG CHECK VALVE | 148B6037                         | 16.24         |
| 125                        | CHV-X 125 A ANG CHECK VALVE | 148B6137                         | 42.00         |



| 52 BAR AND<br>-60 TO 150°C | ANGLE                             | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|----------------------------|-----------------------------------|----------------------------------|---------------|
| SIZE                       | TYPE                              | CODE                             | APPROX WEIGHT |
| 15                         | CHV-X 15 A STR CHECK VALVE (new)  | 148B6582                         | 1.91          |
| 20                         | CHV-X 20 A STR CHECK VALVE (new)  | 148B6584                         | 1.86          |
| 25                         | CHV-X 25 A STR CHECK VALVE (new)  | 148B6586                         | 3.97          |
| 32                         | CHV-X 32 A STR CHECK VALVE (new)  | 148B6588                         | 3.50          |
| 40                         | CHV-X 40 A STR CHECK VALVE (new)  | 148B6590                         | 3.60          |
| 50                         | CHV-X 50 A STR CHECK VALVE (new)  | 148B6592                         | 4.13          |
| 65                         | CHV-X 65 A STR CHECK VALVE (new)  | 148B6594                         | 6.26          |
| 80                         | CHV-X 80 A STR CHECK VALVE (new)  | 148B6596                         | 12.10         |
| 100                        | CHV-X 100 A STR CHECK VALVE (new) | 148B6598                         | 21.76         |
| 125                        | CHV-X 125 A STR CHECK VALVE (new) | 148B6600                         | 52.50         |

## CHECK VALVES (CONT'D)

### CHV-X - STAINLESS STEEL CHECK VALVES



**Note:**

- All current version SVL DN15 - 200 (SVA, SCA-X, CHV-X, FIA, REG) use common bodies
- Therefore the bonnets are interchangeable between the same size STR or ANG of the complete range
- The bonnet or top assembly of sizes (15 & 20) plus (25, 32 & 40) are common in SVL range so are interchangeable within those size groups

| *52B-60 >+50°C<br>*40B+50 >+150°C | ANGLE             | STAINLESS STEEL OPTION |               |
|-----------------------------------|-------------------|------------------------|---------------|
| SIZE                              | TYPE              | CODE                   | APPROX WEIGHT |
| 15 *                              | CHV-X SS 15 D ANG | 148B5294               | 1.50          |
| 20 *                              | CHV-X SS 20 D ANG | 148B5382               | 1.50          |
| 25 *                              | CHV-X SS 25 D ANG | 148B5491               | 2.85          |
| 32 *                              | CHV-X SS 32 D ANG | 148B5586               | 2.91          |
| 40 *                              | CHV-X SS 40 D ANG | 148B5665               | 2.99          |

## STOP CHECK AND OVERFLOW VALVES

(NEW SCA-X HAS A GREEN CAP)



Note:

- 65 bar SCA-X's DN15 to 125 ANG and STR versions available with extended lead times

### SCA-X - STOP CHECK VALVES

| 52 BAR AND<br>-60 TO 150°C | ANGLE                            | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|----------------------------|----------------------------------|----------------------------------|---------------|
| SIZE                       | TYPE                             | CODE                             | APPROX WEIGHT |
| 15                         | SCA-X 15 A ANG STOP/CHECK VALVE  | 148B5209                         | 2.20          |
| 20                         | SCA-X 20 A ANG STOP/CHECK VALVE  | 148B5309                         | 2.15          |
| 25                         | SCA-X 25 A ANG STOP/CHECK VALVE  | 148B5409                         | 4.37          |
| 32                         | SCA-X 32 A ANG STOP/CHECK VALVE  | 148B5509                         | 4.29          |
| 40                         | SCA-X 40 A ANG STOP/CHECK VALVE  | 148B5609                         | 4.29          |
| 50                         | SCA-X 50 A ANG STOP/CHECK VALVE  | 148B5703                         | 5.30          |
| 65                         | SCA-X 65 A ANG STOP/CHECK VALVE  | 148B5802                         | 6.98          |
| 80                         | SCA-X 80 A ANG STOP/CHECK VALVE  | 148B5903                         | 13.25         |
| 100                        | SCA-X 100 A ANG STOP/CHECK VALVE | 148B6004                         | 20.50         |
| 125                        | SCA-X 125 A ANG STOP/CHECK VALVE | 148B6103                         | 38.49         |



Note:

- All current version SVL DN15 - 200 (SVA, SCA-X, CHV-X, FIA, REG) use common bodies
- Therefore the bonnets are interchangeable between the same size STR or ANG of the complete range
- The bonnet or top assembly of sizes (15 & 20) plus (25, 32 & 40) are common in SVL range so are interchangeable within those size groups

### SCA-X - STAINLESS STEEL STOP CHECK VALVES (NEW)

| *52B-60 >+50°C<br>*40B+50 >+150°C | ANGLE             | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|-----------------------------------|-------------------|----------------------------------|---------------|
| SIZE                              | TYPE              | CODE                             | APPROX WEIGHT |
| 15 *                              | SCA-X SS 15 D ANG | 148B5293                         | 2.10          |
| 20 *                              | SCA-X SS 20 D ANG | 148B5381                         | 2.17          |
| 25 *                              | SCA-X SS 25 D ANG | 148B5490                         | 4.10          |
| 32 *                              | SCA-X SS 32 D ANG | 148B5585                         | 4.15          |
| 40 *                              | SCA-X SS 40 D ANG | 148B5664                         | 4.35          |

## STOP CHECK AND OVERFLOW VALVES (CONT'D)



Note:

- Please be aware the OFV25 has a slightly smaller kv than the ICS25-5 and the OFV20 is approx 1/3 of the OFV25
- Caution should be taken when sizing for hot gas defrost pressure relief particularly on evaporator coils with nozzles

### OFV - OVERFLOW VALVES

| 40 BAR AND<br>-50 TO 150°C | ANGLE                    | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|----------------------------|--------------------------|----------------------------------|---------------|
| SIZE                       | TYPE                     | CODE                             | APPROX WEIGHT |
| 20                         | OFV 20 A OVER FLOW VALVE | 2412+185                         | 2.25          |
| 25                         | OFV 25 A OVER FLOW VALVE | 2412+186                         | 2.25          |



Note:

- Please be aware the OFV25 has a slightly smaller kv than the ICS25-5 and the OFV20 is approx 1/3 of the OFV25
- Caution should be taken when sizing for hot gas defrost pressure relief particularly on evaporator coils with nozzles

### OFV - STAINLESS STEEL OVERFLOW VALVES

| 40 BAR AND<br>-50 TO 150°C | ANGLE                           | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|----------------------------|---------------------------------|----------------------------------|---------------|
| SIZE                       | TYPE                            | CODE                             | APPROX WEIGHT |
| 20                         | OFV-SS 20 D ANG OVER FLOW 52BAR | 148G3194                         | 2.25          |
| 25                         | OFV-SS 25 D ANG OVER FLOW 52BAR | 148G3195                         | 2.20          |



Note:

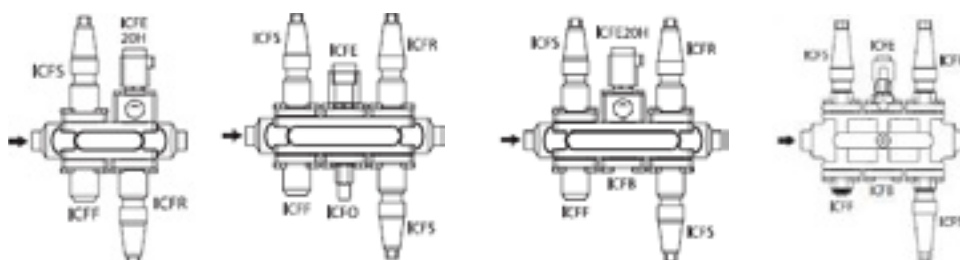
- 1) Most common used connection

### QDV - QUICK DRAIN VALVES

| 40 BAR AND<br>-50 TO 150°C | ANGLE                                 | SVL FLEXLINE™<br>LINE COMPONENTS |               |
|----------------------------|---------------------------------------|----------------------------------|---------------|
| SIZE                       | TYPE                                  | CODE                             | APPROX WEIGHT |
| 15                         | QDV 15 D OIL DRAIN VALVE              | 148H3272                         | 1.55          |
| 15                         | QDV WELD CONNECTION SET <sup>1)</sup> | 148H3452                         | 0.19          |
| 15                         | QDV HOSE CONNECTION SET               | 148H3451                         | 0.12          |

## ICF VALVE STATIONS

### PUMPED LIQUID APPLICATION (WITHOUT HOT GAS DEFROST)



| 52 BAR AND<br>-60 TO 120°C | ANGLE                                              | ICF FLEXLINET™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|----------------------------------------------------|-------------------------------------------|---------------|
| SIZE                       | TYPE                                               | CODE                                      | APPROX WEIGHT |
| 15                         | ICF 15-4-10RA (1/2" Soc) <sup>4)</sup> (new)       | 027L4586                                  | 6.84          |
| 15                         | ICF 15-4-10HRB (1/2" Soc) <sup>1)</sup>            | 027L4530                                  | 7.79          |
| 20                         | ICF 15-4-10RA (3/4" Soc) <sup>4)</sup> (new)       | 027L4625                                  | 6.80          |
| 20                         | ICF 15-4-10HRB (3/4" Soc) <sup>1)</sup> (new)      | 027L4615                                  | 7.72          |
| 20                         | ICF 20-4-10RA (3/4" Soc) <sup>4)</sup> (new)       | 027L3078                                  | 7.51          |
| 25                         | ICF 20-4-10RA (1" Soc) <sup>4)</sup> (new)         | 027L3080                                  | 7.43          |
| 20                         | ICF 20-6-1RA (3/4" Soc) <sup>2)</sup>              | 027L3005                                  | 10.71         |
| 25                         | ICF 20-6-1RA (1" Soc) <sup>2)</sup>                | 027L3007                                  | 10.45         |
| 32                         | ICF 20-6-1RA (1 1/4" Soc) <sup>2)</sup>            | 027L3008                                  | 10.63         |
| 25                         | ICF 20-6-1HRB (1" Soc) <sup>3)</sup> (ex 027L3305) | 027L3408                                  | 11.40         |
| 32                         | ICF 20-6-1HRB (1 1/4" Soc) <sup>3)</sup>           | 027L3409                                  | 11.44         |
| 25                         | ICF 25-6-1RA (1" Soc) <sup>3)</sup>                | 027L4003                                  | 25.01         |
| 32                         | ICF 25-6-1RA (1 1/4" Soc) <sup>3)</sup>            | 027L4008                                  | 25.20         |
| 32                         | ICF 25-6-1RB (1 1/4" Soc) <sup>3)</sup>            | 027L4013                                  | 25.09         |
| 40                         | ICF 25-6-1RB (1 1/2" Soc) <sup>3)</sup>            | 027L4017                                  | 25.35         |
| 52 BAR AND<br>-60 TO 120°C | STRAIGHT (STAINLESS STEEL)                         | CODE                                      | APPROX WEIGHT |
| 20                         | ICF SS 20-6-1RA (3/4" DIN) <sup>2)</sup>           | 027L4700                                  | 10.01         |
| 25                         | ICF SS 20-6-1RA (1" DIN) <sup>2)</sup>             | 027L4701                                  | 10.01         |

1) Stop valve / strainer (insert incl) / solenoid with manual stem / reg valve

2) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / manual stem / reg valve / stop valve

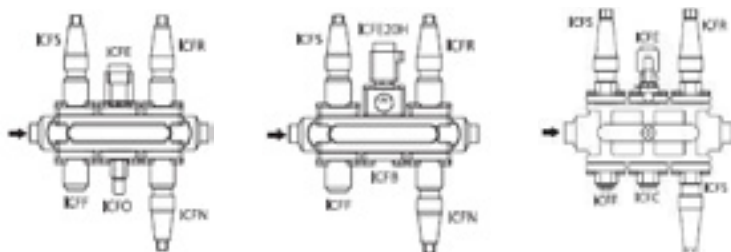
3) Stop valve / strainer (insert incl) / solenoid with manual stem / blank / reg valve / stop valve

4) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / reg valve

## ICF VALVE STATIONS (CONT'D)



### PUMPED LIQUID APPLICATION (WITH HOT GAS DEFROST)



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                           | ICF FLEXLINET™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|----------------------------------------------------|-------------------------------------------|---------------|
| SIZE                       | TYPE                                               | CODE                                      | APPROX WEIGHT |
| 20                         | ICF 20-6-2RA (3/4" Soc) <sup>1)</sup>              | 027L3014                                  | 10.65         |
| 25                         | ICF 20-6-2RA (1" Soc) <sup>1)</sup>                | 027L3016                                  | 10.49         |
| 32                         | ICF 20-6-2RA (1 1/4" Soc) <sup>1)</sup>            | 027L3017                                  | 10.52         |
| 25                         | ICF 20-6-2HRB (1" Soc) <sup>2)</sup> (ex 027L3312) | 027L3412                                  | 11.39         |
| 32                         | ICF 20-6-2HRB (1 1/4" Soc) <sup>2)</sup>           | 027L3413                                  | 11.51         |
| 25                         | ICF 25-6-3RA (1" soc) <sup>3)</sup>                | 027L4021                                  | 25.17         |
| 32                         | ICF 25-6-3RA (1 1/4" Soc) <sup>3)</sup>            | 027L4026                                  | 25.07         |
| 32                         | ICF 25-6-3RB (1 1/4" Soc) <sup>3)</sup>            | 027L4031                                  | 25.08         |
| 40                         | ICF 25-6-3RB (1 1/2" Soc) <sup>3)</sup>            | 027L4035                                  | 25.17         |
| 52 BAR AND<br>-60 TO 120°C | STRAIGHT (STAINLESS STEEL)                         | CODE                                      | APPROX WEIGHT |
| 25                         | ICF SS 20-6-2RA (1" DIN) <sup>1)</sup>             | 027L4758                                  | 10.01         |
| 32                         | ICF SS 20-6-2HRB (1 1/4" DIN) <sup>2)</sup>        | 027L4759                                  | 10.74         |
| 25                         | ICF SS 25-6-3RA (1" DIN) <sup>3)</sup>             | 027L4724                                  | 24.18         |
| 32                         | ICF SS 25-6-3RB (1 1/4" DIN) <sup>3)</sup>         | 027L4725                                  | 24.40         |
| 32                         | ICF SS 25-6-3RA (1 1/4" DIN) <sup>3)</sup>         | 027L4760                                  | 24.25         |
| 40                         | ICF SS 25-6-3RB (1 1/2" DIN) <sup>3)</sup>         | 027L4761                                  | 24.10         |

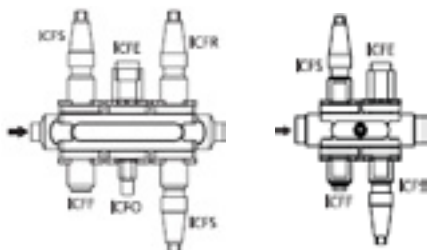
1) Stop valve / strainer (insert incl) / solenoid (assisted lift no man spindle) / man stem / reg valve / stop check valve

2) Stop valve / strainer (insert incl) / solenoid with manual stem / blank / reg valve / stop check valve

3) Stop valve / strainer (insert incl) / solenoid with manual stem / Check / reg valve / stop valve

## ICF VALVE STATIONS (CONT'D)

### PUMPED LIQUID APPLICATION MULTIPLE EVAPS (WITHOUT HOT GAS DEFROST)



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                    | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|---------------------------------------------|------------------------------------------|---------------|
| SIZE                       | TYPE                                        | CODE                                     | APPROX WEIGHT |
| 15                         | ICF 15-4-8 (1/2" Soc) <sup>1)</sup>         | 027L4526                                 | 6.50          |
| 15                         | ICF 15-4-9 (1/2" Soc) <sup>5)</sup> (new)   | 027L4538                                 | 7.00          |
| 15                         | ICF 15-4-9H (1/2" Soc) <sup>2)</sup>        | 027L4527                                 | 7.50          |
| 20                         | ICF 20-6-4 (3/4" Soc) <sup>3)</sup>         | 027L3124                                 | 9.88          |
| 25                         | ICF 20-6-4 (1" Soc) <sup>3)</sup>           | 027L3032                                 | 9.85          |
| 32                         | ICF 20-6-4 (1 1/4" Soc) <sup>3)</sup>       | 027L3033                                 | 10.18         |
| 25                         | ICF 20-4-9 (1" Soc) <sup>5)</sup> (new)     | 027L3071                                 | 7.45          |
| 32                         | ICF 20-4-9 (1 1/4" Soc) <sup>5)</sup> (new) | 027L3072                                 | 7.67          |
| 20                         | ICF 20-4-9H (3/4" Soc) <sup>2)</sup>        | 027L3351                                 | 8.56          |
| 25                         | ICF 20-4-9H (1" Soc) <sup>2)</sup>          | 027L3336                                 | 8.64          |
| 32                         | ICF 20-4-9H (1 1/4" Soc) <sup>2)</sup>      | 027L3337                                 | 8.51          |
| 25                         | ICF 25-4-9 (1" soc) <sup>2)</sup>           | 027L4064                                 | 16.97         |
| 32                         | ICF 25-4-9 (1 1/4" Soc) <sup>2)</sup>       | 027L4069                                 | 18.12         |
| 40                         | ICF 25-4-9 (1 1/2" Soc) <sup>2)</sup>       | 027L4073                                 | 18.10         |
| 52 BAR AND<br>-60 TO 120°C | STRAIGHT (STAINLESS STEEL)                  | CODE                                     | APPROX WEIGHT |
| 25                         | ICF SS 20-4-9 (1" DIN) <sup>4)</sup>        | 027L4707                                 | 6.98          |
| 25                         | ICF SS 20-4-9H (1" DIN) <sup>2)</sup>       | 027L4720                                 | 7.97          |
| 32                         | ICF SS 20-4-9 (1 1/4" DIN) <sup>4)</sup>    | 027L4708                                 | 6.97          |
| 32                         | ICF SS 20-4-9H (1 1/4" DIN) <sup>2)</sup>   | 027L4721                                 | 7.88          |
| 32                         | ICF SS 25-4-9 (1 1/4" DIN) <sup>2)</sup>    | 027L4729                                 | 16.56         |
| 40                         | ICF SS 25-4-9 (1 1/2" DIN) <sup>2)</sup>    | 027L4730                                 | 16.66         |

1) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / manual stem

2) Stop valve / strainer (insert incl) / solenoid with manual stem / stop valve

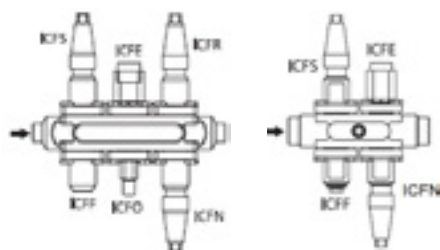
3) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / manual stem / blank / stop valve

4) Stop valve / strainer (insert incl) / solenoid no manual stem (assisted lift) / stop valve

5) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / stop valve

## ICF VALVE STATIONS (CONT'D)

### PUMPED LIQUID APPLICATION MULTIPLE EVAPS (WITH HOT GAS DEFROST)



### PUMPED LIQUID APPLICATION MULTIPLE EVAPS (WITH HOT GAS DEFROST)

| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                   | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|--------------------------------------------|------------------------------------------|---------------|
| SIZE                       | TYPE                                       | CODE                                     | APPROX WEIGHT |
| 15                         | ICF 15-4-18 (1/2" Soc) <sup>3)</sup> (new) | 027L4558                                 | 6.89          |
| 20                         | ICF 20-6-90 (3/4" Soc) <sup>1)</sup>       | 027L3150                                 | 10.00         |
| 20                         | ICF 20-4-18H (3/4" Soc) <sup>2)</sup>      | 027L3353                                 | 8.45          |
| 25                         | ICF 20-4-18H (1" Soc) <sup>2)</sup>        | 027L3354                                 | 8.49          |
| 32                         | ICF 20-4-18H (1 1/4" Soc) <sup>2)</sup>    | 027L3355                                 | 8.52          |
| 25                         | ICF 25-4-18 (1" Soc) <sup>2)</sup>         | 027L4136                                 | 17.85         |
| 32                         | ICF 25-4-18 (1 1/4" Soc) <sup>2)</sup>     | 027L4137                                 | 17.87         |
| 40                         | ICF 25-4-18 (1 1/2" Soc) <sup>2)</sup>     | 027L4138                                 | 17.17         |

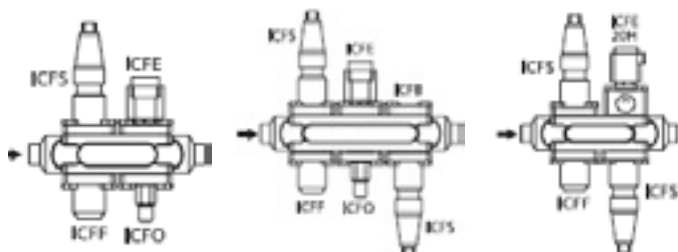
1) Stop valve / strainer (insert incl) / solenoid assisted lift no manual spindle) / man stem / blank / stop check valve

2) Stop valve / strainer (insert incl) / solenoid with manual stem / stop check valve

3) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / stop check valve

## ICF VALVE STATIONS (CONT'D)

### HOT GAS OR LIQUID LINE APPLICATION (WITHOUT REG VALVE)



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                    | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |
|----------------------------|---------------------------------------------|------------------------------------------|
| SIZE                       | TYPE                                        | CODE                                     |
| 15                         | ICF 15-4-8 (1/2" Soc) <sup>1)</sup>         | 027L4526                                 |
| 15                         | ICF 15-4-9 (1/2" Soc) <sup>5)</sup> (new)   | 027L4538                                 |
| 15                         | ICF 15-4-9H (1/2" Soc) <sup>2)</sup>        | 027L4527                                 |
| 20                         | ICF 20-6-4 (3/4" Soc) <sup>3)</sup>         | 027L3124                                 |
| 25                         | ICF 20-6-4 (1" Soc) <sup>3)</sup>           | 027L3032                                 |
| 32                         | ICF 20-6-4 (1 1/4" Soc) <sup>3)</sup>       | 027L3033                                 |
| 25                         | ICF 20-4-9 (1" Soc) <sup>5)</sup> (new)     | 027L3071                                 |
| 32                         | ICF 20-4-9 (1 1/4" Soc) <sup>5)</sup> (new) | 027L3072                                 |
| 20                         | ICF 20-4-9H (3/4" Soc) <sup>2)</sup>        | 027L3351                                 |
| 25                         | ICF 20-4-9H (1" Soc) <sup>2)</sup>          | 027L3336                                 |
| 32                         | ICF 20-4-9H (1 1/4" Soc) <sup>2)</sup>      | 027L3337                                 |
| 25                         | ICF 25-4-9 (1" soc) <sup>2)</sup>           | 027L4064                                 |
| 32                         | ICF 25-4-9 (1 1/4" Soc) <sup>2)</sup>       | 027L4069                                 |
| 40                         | ICF 25-4-9 (1 1/2" Soc) <sup>2)</sup>       | 027L4073                                 |
| 52 BAR AND<br>-60 TO 120°C | STRAIGHT (STAINLESS STEEL)                  | CODE                                     |
| 25                         | ICF SS 20-4-9 (1" DIN) <sup>4)</sup>        | 027L4707                                 |
| 25                         | ICF SS 20-4-9H (1" DIN) <sup>2)</sup>       | 027L4720                                 |
| 32                         | ICF SS 20-4-9 (1 1/4" DIN) <sup>4)</sup>    | 027L4708                                 |
| 32                         | ICF SS 20-4-9H (1 1/4" DIN) <sup>2)</sup>   | 027L4721                                 |
| 32                         | ICF SS 25-4-9 (1 1/4" DIN) <sup>2)</sup>    | 027L4729                                 |
| 40                         | ICF SS 25-4-9 (1 1/2" DIN) <sup>2)</sup>    | 027L4730                                 |

1) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / manual stem

2) Stop valve / strainer (insert incl) / solenoid with manual stem / stop valve

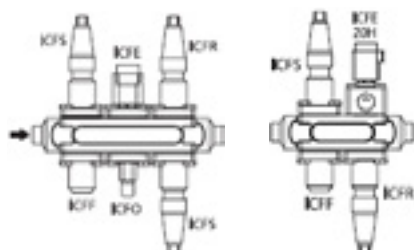
3) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / manual stem / blank, stop valve

4) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / stop valve

5) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / stop valve

## ICF VALVE STATIONS (CONT'D)

### HOT GAS OR LIQUID LINE APPLICATION (WITH REG VALVE)



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                                | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|---------------------------------------------------------|------------------------------------------|---------------|
| SIZE                       | TYPE                                                    | CODE                                     | APPROX WEIGHT |
| 15                         | ICF 15-4-10RA (1/2" Soc) <sup>3)</sup> (new)            | 027L4586                                 | 6.84          |
| 15                         | ICF 15-4-10HRB (1/2" Soc) <sup>1)</sup>                 | 027L4530                                 | 7.79          |
| 20                         | ICF 15-4-10RA (3/4" Soc) <sup>3)</sup> (new)            | 027L4625                                 | 6.80          |
| 20                         | ICF 15-4-10HRB (3/4" Soc) <sup>1)</sup> (new)           | 027L4615                                 | 7.72          |
| 20                         | ICF 20-6-1RA (3/4" Soc) <sup>2)</sup>                   | 027L3005                                 | 10.71         |
| 25                         | ICF 20-6-1RA (1" Soc) <sup>2)</sup>                     | 027L3007                                 | 10.45         |
| 32                         | ICF 20-6-1RA (1 1/4" Soc) <sup>2)</sup>                 | 027L3008                                 | 10.63         |
| 20                         | ICF 20-4-10RA (3/4" Soc) <sup>3)</sup> (new)            | 027L3078                                 | 7.51          |
| 25                         | ICF 20-4-10RA (1" Soc) <sup>3)</sup> (new)              | 027L3080                                 | 7.43          |
| 20                         | ICF 20-4-10HRB (3/4" Soc) <sup>1)</sup> (ex 027L3350)   | 027L3404                                 | 8.46          |
| 25                         | ICF 20-4-10HRB (1" Soc) <sup>1)</sup> (ex 027L3342)     | 027L3402                                 | 8.55          |
| 32                         | ICF 20-4-10HRB (1 1/4" Soc) <sup>1)</sup> (ex 027L3343) | 027L3403                                 | 8.58          |
| 25                         | ICF 25-4-10RA (1" soc) <sup>1)</sup>                    | 027L4077                                 | 16.78         |
| 32                         | ICF 25-4-10RA (1 1/4" soc) <sup>1)</sup>                | 027L4082                                 | 18.10         |
| 32                         | ICF 25-4-10RB (1 1/4" Soc) <sup>1)</sup>                | 027L4087                                 | 17.17         |
| 40                         | ICF 25-4-10RB (1 1/2" Soc) <sup>1)</sup>                | 027L4091                                 | 17.12         |
| 52 BAR AND<br>-60 TO 120°C | STRAIGHT (STAINLESS STEEL)                              | CODE                                     | APPROX WEIGHT |
| 25                         | ICF SS 20-4-10RA (1" DIN) 3)                            | 027L4709                                 | 7.01          |
| 25                         | ICF SS 25-4-10RA (1" DIN) 1)                            | 027L4731                                 | 16.62         |
| 32                         | ICF SS 25-4-10RB (1 1/4" DIN) 1)                        | 027L4732                                 | 16.59         |

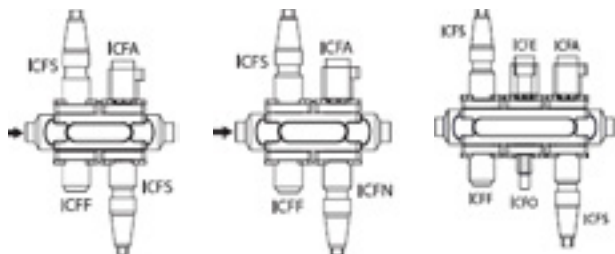
1) Stop valve / strainer (insert incl) / solenoid with manual stem / reg valve

2) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / manual stem / reg valve / stop valve

3) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / reg valve

## ICF VALVE STATIONS (CONT'D)

### LIQUID MAKE-UP OR DX APPLICATION (WITH AKVA FUNCTION)



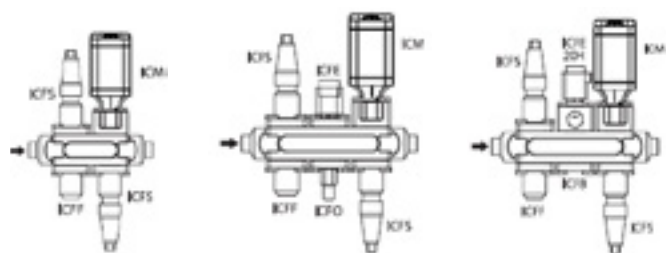
| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                             | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|--------------------------------------|------------------------------------------|---------------|
| SIZE                       | TYPE                                 | CODE                                     | APPROX WEIGHT |
| 15                         | ICF 15-4-12 (1/2" Soc) <sup>1)</sup> | 027L4528                                 | 6.85          |
| 15                         | ICF 15-4-13 (1/2" Soc) <sup>2)</sup> | 027L4529                                 | 6.95          |
| 20                         | ICF 20-6-90 (3/4" Soc) <sup>3)</sup> | 027L3055                                 | 9.84          |

**Note:**

- ICFA modules have #8 AKVA10 orifice fitted. Use codes for AKVA10 orifices on page 157 for alternatives.
- <sup>1)</sup> Stop valve / strainer (insert included) / AKVA (ICFA) / stop valve
- <sup>2)</sup> Stop valve / strainer (insert included) / AKVA (ICFA) / stop check valve
- <sup>3)</sup> Stop valve / strainer (insert incl) / solenoid (assisted lift no man spindle) / manual stem / AKVA / stop valve

## ICF VALVE STATIONS (CONT'D)

### LIQUID MAKE-UP OR DX APPLICATION (WITH ICM FUNCTION)



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                              | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|---------------------------------------|------------------------------------------|---------------|
| SIZE                       | TYPE                                  | CODE                                     | APPROX WEIGHT |
| 15                         | ICF 15-4-14MA (1/2" Soc) 1)           | 027L4531                                 | 7.54          |
| 20                         | ICF 20-6-5MA33 (3/4" Soc) 2)          | 027L3154                                 | 10.63         |
| 20                         | ICF 20-6-5MA33 (3/4" Soc) 4) (new)    | 027L3171                                 | 10.78         |
| 20                         | ICF 20-6-5MA (3/4" Soc) 2)            | 027L3038                                 | 10.46         |
| 25                         | ICF 20-6-5MA (1" Soc) 2)              | 027L3040                                 | 10.55         |
| 25                         | ICF 20-6-5MB66 (1" Soc) 2)            | 027L3160                                 | 10.80         |
| 25                         | ICF 20-6-5MB (1" Soc) 2)              | 027L3045                                 | 10.53         |
| 25                         | ICF 20-6-5HMB (1" Soc) 3)             | 027L3326                                 | 11.49         |
| 32                         | ICF 20-6-5MB-66 (1 1/4" Soc) 2) (new) | 027L3392                                 | 10.83         |
| 32                         | ICF 20-6-5MC (1 1/4") 2)              | 027L3052                                 | 10.55         |
| 32                         | ICF 20-6-5HMC (1 1/4") 3)             | 027L3331                                 | 11.56         |
| 32                         | ICF 25-6-5MA33 (1 1/4" Soc) 3) (new)  | 027L4173                                 | 24.50         |
| 32                         | ICF 25-6-5MA (1 1/4" Soc) 3)          | 027L4044                                 | 24.11         |
| 40                         | ICF 25-6-5MA33 (1 1/2" Soc) 3) (new)  | 027L4172                                 | 24.54         |
| 40                         | ICF 25-6-5MA (1 1/2" Soc) 3)          | 027L4132                                 | 24.08         |
| 52 BAR AND<br>-60 TO 120°C | STRAIGHT (STAINLESS STEEL)            |                                          |               |
| 20                         | ICF SS 20-6-5MA33 (3/4" DIN) 2)       | 027L4714                                 | 0.01          |
| 25                         | ICF SS 20-6-5MA33 (1" DIN) 2)         | 027L4755                                 | 0.01          |
| 25                         | ICF SS 20-6-5MA (1" DIN) 2)           | 027L4704                                 | 10.31         |
| 25                         | ICF SS 20-6-5MB (1" DIN) 2)           | 027L4705                                 | 0.01          |
| 25                         | ICF SS 20-6-5HMB (1" DIN) 3)          | 027L4718                                 | 0.01          |
| 32                         | ICF SS 20-6-5MB66 (1 1/4" DIN) 2)     | 027L4754                                 | 10.32         |
| 32                         | ICF SS 20-6-5HMB (1 1/4" DIN) 3)      | 027L4756                                 | 0.10          |
| 32                         | ICF SS 20-6-5MC (1 1/4" DIN) 2)       | 027L4706                                 | 0.01          |
| 32                         | ICF SS 20-6-5HMC (1 1/4" DIN) 3)      | 027L4719                                 | 0.01          |
| 25                         | ICF SS 25-6-5MA (1" DIN) 3)           | 027L4726                                 | 23.16         |
| 40                         | ICF SS 25-6-5MA (1 1/2" DIN) 3)       | 027L4735                                 | 23.20         |

1) Stop valve / strainer (insert incl) / ICM / stop valve

2) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / manual stem / ICM / stop valve

3) Stop valve / strainer (insert incl) / solenoid with manual stem / blank / ICM / stop valve

4) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / ICM / stop check valve

Note:

- DC coil will only just fit the ICF20 with the ICFE20 solenoid module
- With ICFE20H solenoid module fitted to ICF20 DC coil may hit the ICAD600A if ICM installed
- ICAD to be ordered separately for ICF's with ICM modules fitted

## ICF VALVE STATIONS (CONT'D)

### ICF25 WITH CONTROL VALVE FUCTION (ICFG = ICS-3) (NEW)



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                    | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|---------------------------------------------|------------------------------------------|---------------|
| SIZE                       | TYPE                                        | CODE                                     | APPROX WEIGHT |
| 25                         | ICF 25-4-42S3-5 (1" SOC) <sup>1)</sup>      | 027L4230                                 | TBA           |
| 25                         | ICF 25-4-42S3-10 (1" SOC) <sup>1)</sup>     | 027L4231                                 | TBA           |
| 25                         | ICF 25-4-42S3-15 (1" SOC) <sup>1)</sup>     | 027L4232                                 | TBA           |
| 25                         | ICF 25-4-42S3-20 (1" SOC) <sup>1)</sup>     | 027L4234                                 | TBA           |
| 32                         | ICF 25-4-42S3-25 (1 1/4" SOC) <sup>1)</sup> | 027L4236                                 | TBA           |
| 25                         | ICF 25-6-42S3-5 (1" SOC) <sup>2)</sup>      | 027L4240                                 | TBA           |
| 25                         | ICF 25-6-42S3-10 (1" SOC) <sup>2)</sup>     | 027L4241                                 | TBA           |
| 25                         | ICF 25-6-42S3-15 (1" SOC) <sup>2)</sup>     | 027L4242                                 | TBA           |
| 25                         | ICF 25-6-42S3-20 (1" SOC) <sup>2)</sup>     | 027L4243                                 | TBA           |
| 25                         | ICF 25-6-42S3-25 (1" SOC) <sup>2)</sup>     | 027L4244                                 | TBA           |

Note: ICFG valves come without pilots, see page 82 for pilots

- 1) Stop valve / strainer (insert included) / ICFG (ICS-3) / stop valve
- 2) Stop valve / strainer (insert included) / ICFG (ICS-3) / check valve / blank / Stop valve



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                            | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|-----------------------------------------------------|------------------------------------------|---------------|
| SIZE                       | TYPE                                                | CODE                                     | APPROX WEIGHT |
|                            | ICFG 25 – Pilot-operated valve module <sup>3)</sup> | 027L2261                                 | TBA           |
|                            | ICS25 Top cover 3 Pilots                            | 027H2173                                 | TBA           |
|                            | ICS 25-5 Insert servo                               | 027H2201                                 | TBA           |
|                            | ICS 25-10 Insert servo                              | 027H2202                                 | TBA           |
|                            | ICS 25-15 Insert servo                              | 027H2203                                 | TBA           |
|                            | ICS 25-20 Insert servo                              | 027H2204                                 | TBA           |
|                            | ICS 25-25 Insert servo                              | 027H2200                                 | TBA           |



To better meet market demand for regulation and pressure applications, Danfoss is now introducing the **ICS module for ICF 25**. ICF already contains a wide range of applications, now including **ICS and pilot controls function**, such as evaporator pressure regulator for smaller systems as well as outlet regulators for hot gas feed. See ICS literature for complete application overview.

#### ICF provides:

- ✓ Easy installation
- ✓ Compact design
- ✓ Reduced freight cost
- ✓ Easier ordering and handling process

#### ICS provides:

- ✓ Flexibility of pilot arrangements
- ✓ Wide range of applications
- ✓ Adjustment and regulation to a higher level

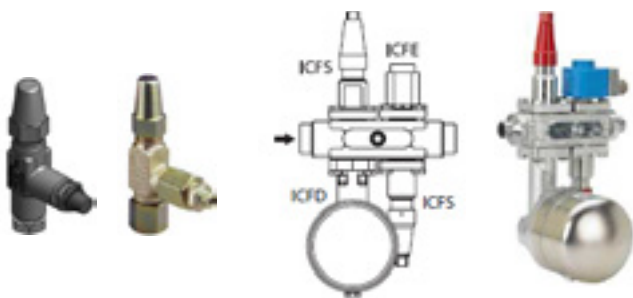


#### Combined values:

- ✓ Fully compatible to ICF 25-4 & ICF 25-6
- ✓ Easy to service with standard components (ICF and ICS platform)
- ✓ Supports pressure control function for smaller systems in suction lines
- ✓ Trustworthy technology – More than a decade of successful stories for ICF and ICS



## ICF VALVE STATIONS (CONT'D)



### HOT GAS DEFROST DRAIN APPLICATION

| 28 B (ICFD 20)<br>52 B (ICFD20C)<br>-60 TO 120°C | STRAIGHT                                               | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|--------------------------------------------------|--------------------------------------------------------|------------------------------------------|---------------|
| SIZE                                             | TYPE                                                   | CODE                                     | APPROX WEIGHT |
| ICFD FOR AMMONIA (28 BAR)                        |                                                        |                                          |               |
| 20                                               | ICF 20-4-102D1 (3/4" SOC) <sup>1)</sup>                | 027L3480                                 | 15.82         |
| 25                                               | ICF 20-4-102D1 (1" SOC) <sup>1)</sup>                  | 027L3481                                 | 15.22         |
| 32                                               | ICF 20-4-102D1 (1 1/4" SOC) <sup>1)</sup>              | 027L3482                                 | 15.92         |
| 20                                               | ICF 20-4-108D1 (3/4" SOC) <sup>4)</sup>                | 027L3558                                 | 15.44         |
| 25                                               | ICF 20-4-108D1 (1" SOC) <sup>4)</sup>                  | 027L3559                                 | 15.36         |
| 32                                               | ICF 20-4-108D1 (1 1/4" SOC) <sup>4)</sup>              | 027L3560                                 | 15.65         |
| 20                                               | ICF 20-4-101D1P1 (3/4" SOC) <sup>2)</sup>              | 027L3628                                 | 15.49         |
| 25                                               | ICF 20-4-101D1P1 (1" SOC) <sup>2)</sup>                | 027L3629                                 | 0.01          |
| 32                                               | ICF 20-4-101D1P1 (1 1/4" SOC) <sup>2)</sup>            | 027L3630                                 | 0.01          |
| 20                                               | ICF 20-6-110D1P1 (3/4" SOC) <sup>3)</sup>              | 027L3625                                 | 18.50         |
| 25                                               | ICF 20-6-110D1P1 (1" SOC) <sup>3)</sup>                | 027L3626                                 | 18.44         |
| 32                                               | ICF 20-6-110D1P1 (1 1/4" SOC) <sup>3)</sup>            | 027L3627                                 | 18.45         |
| ICFD FOR CO <sub>2</sub> (52 BAR)                |                                                        |                                          |               |
| 20                                               | ICF 20-4-90 (3/4"SOC) <sup>5)</sup>                    | 027L3605                                 | 15.82         |
| 25                                               | ICF 20-4-90 (1" SOC) <sup>5)</sup>                     | 027L3606                                 | 15.82         |
| 20                                               | ICF 20-4-102D2 (3/4" SOC) <sup>1)</sup>                | 027L3607                                 | 15.82         |
| 25                                               | ICF 20-4-102D2 (1" SOC) <sup>1)</sup>                  | 027L3608                                 | 15.82         |
| ICFD ACCESSORIES                                 |                                                        |                                          |               |
| 3/8"                                             | SNV-ST 3/8FPT-3/8MPT STOP NEEDLE VALVE <sup>6)</sup>   | 148B3747                                 | 0.45          |
| 3/8"                                             | SNV Service kit ICF 20 ICFD - FPT 3/8 in <sup>7)</sup> | 148B6607                                 | 0.56          |
| 1/2"                                             | SNV-ST G1/2 MAN STOP NEEDLE VALVE <sup>7)</sup>        | 148B3778                                 | 0.73          |

1) Stop valve / ICFD / Solenoid (assisted lift no manual spindle) / stop valve

2) Stop valve / ICFD / Blank / ICFC 20P1 (loaded check)

3) Stop valve / ICFD / Blank / ICFC 20P1 (loaded check) / Blank / Stop

4) Stop valve / ICFD / Blank / Stop

5) Blank / ICFD / Solenoid (assisted lift no manual spindle) / Blank

6) SNV service valve to fit side ports on ICF body

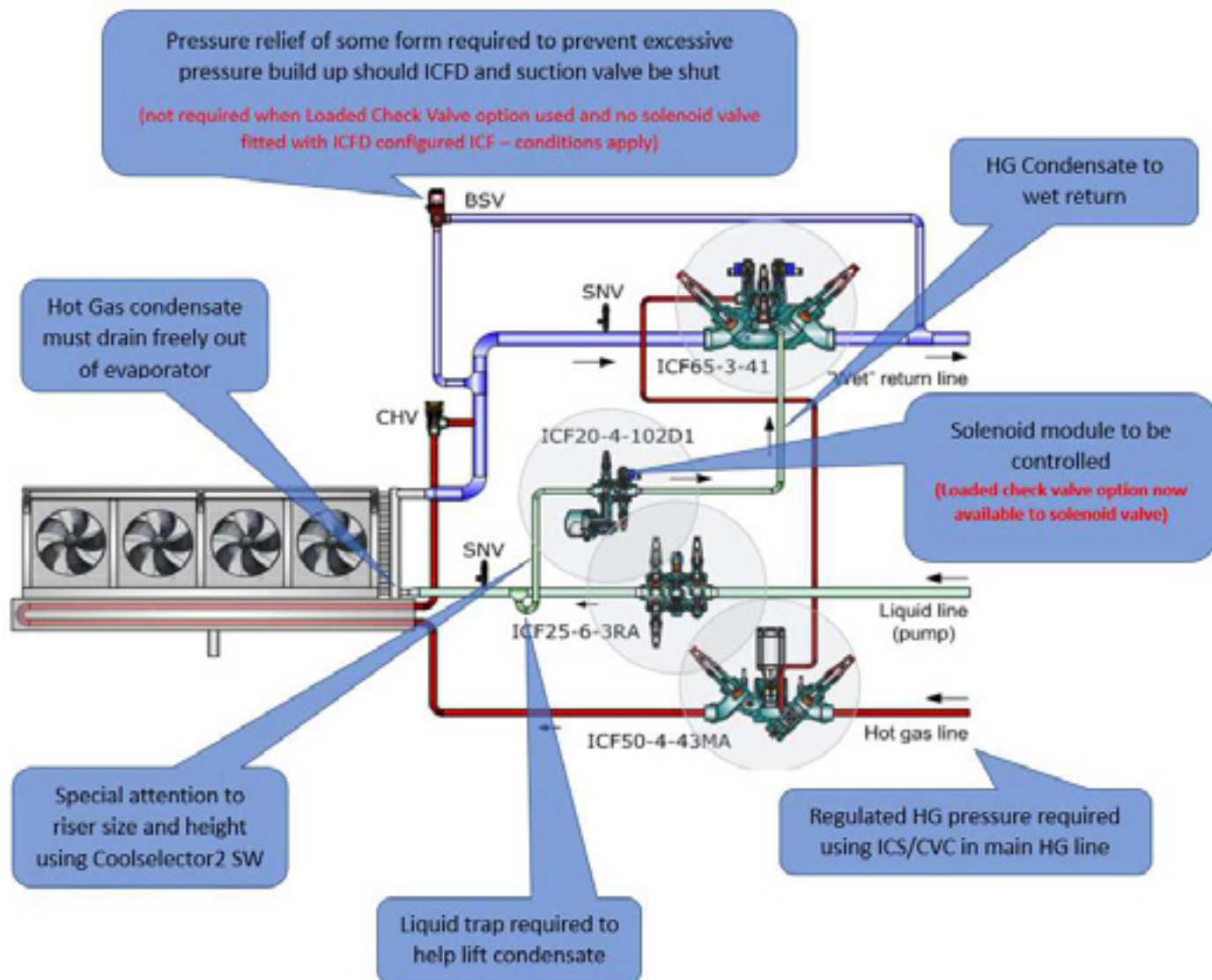
7) SNV service valve to replace drain plug in bottom of ICFD float chamber

- ICFD module can be fitted to a ICV20 body with use of a special orifice kit 027L6711
- See ICV section of quick guide (page 80)
- Solenoid coil not included

## ICF VALVE STATIONS (CONT'D)



### ICFD Important Installation Considerations



## ICF VALVE STATIONS (CONT'D)



### APPLICATION 41:

### RETURN LINES - ON/OFF WITH 2 STAGE OPENING (INCL EVM'S)



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                               | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|----------------------------------------|------------------------------------------|---------------|
| SIZE                       | TYPE                                   | CODE                                     | APPROX WEIGHT |
| 40                         | ICF50-4-41 (1 1/2" SOC) <sup>1)</sup>  | 027L5022                                 | 42.75         |
| 50                         | ICF50-4-41 (2" SOC) <sup>1)</sup>      | 027L5024                                 | 41.50         |
| 65                         | ICF65-3-41 (2 1/2" BUTT) <sup>2)</sup> | 027L6522                                 | 50.00         |
| 80                         | ICF65-3-41 (3" BUTT) <sup>2)</sup>     | 027L6524                                 | 50.00         |

1) Stop valve / strainer (insert not included 3)) / ICLX, stop valve (ICF side port accessories & coils not included)

2) Stop valve / ICLX / stop valve (ICF side port accessories & Coils not included)

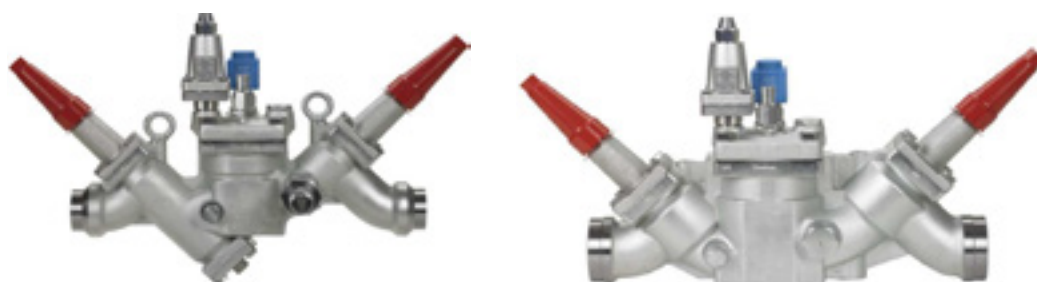
**Note:**

- Please ensure instructions are followed regarding the installation of the dampening orifice (supplied with the "external hot gas connector") in the NC EVM
- Please ensure instructions in the ICLX tech data is followed and allow appropriate time delays after the close and open signal to the ICLX
- NC and NO EVM's are included with ICLX module

## ICF VALVE STATIONS (CONT'D)



### APPLICATION 42: RETURN LINES - PRESSURE (TEMP) - MECHANICAL CONTROL



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                  | ICF FLEXLINET™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|-------------------------------------------|-------------------------------------------|---------------|
| SIZE                       | TYPE                                      | CODE                                      | APPROX WEIGHT |
| 40                         | ICF50-4-42S32 (1 1/2" SOC) <sup>1)</sup>  | 027L5006                                  | 40.00         |
| 40                         | ICF50-4-42S40 (1 1/2" SOC) <sup>1)</sup>  | 027L5010                                  | 40.50         |
| 40                         | ICF50-4-42S50 (1 1/2" SOC) <sup>1)</sup>  | 027L5002                                  | 40.00         |
| 50                         | ICF50-4-42S32 (2" SOC) <sup>1)</sup>      | 027L5008                                  | 49.90         |
| 50                         | ICF50-4-42S40 (2" SOC) <sup>1)</sup>      | 027L5012                                  | 50.25         |
| 50                         | ICF50-4-42S50 (2" SOC) <sup>1)</sup>      | 027L5004                                  | 40.00         |
| 65                         | ICF65-3-42S40 (2 1/2" BUTT) <sup>2)</sup> | 027L6506                                  | 46.50         |
| 65                         | ICF65-3-42S65 (2 1/2" BUTT) <sup>2)</sup> | 027L6502                                  | 46.25         |
| 65                         | ICF65-3-42S80 (2 1/2" BUTT) <sup>2)</sup> | 027L6510                                  | 33.24         |
| 80                         | ICF65-3-42S40 (3" BUTT) <sup>2)</sup>     | 027L6508                                  | 48.00         |
| 80                         | ICF65-3-42S65 (3" BUTT) <sup>2)</sup>     | 027L6504                                  | 33.54         |
| 80                         | ICF65-3-42S80 (3" BUTT) <sup>2)</sup>     | 027L6512                                  | 70.00         |

- 1) Stop valve / strainer (insert not incl 3)) / ICS / stop valve (coil, pilots & side port accessories not included)
- 2) Stop valve / ICS / stop valve (pilots & side port accessories not included)
  - 2 x blank plugs & caps included with all application 42 ICF large

**ICF VALVE STATIONS (CONT'D)**

**APPLICATION 43: RETURN LINES - PRESSURE (TEMP) - ELECTRONIC CONTROL**

| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                 | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|------------------------------------------|------------------------------------------|---------------|
| SIZE                       | TYPE                                     | CODE                                     | APPROX WEIGHT |
| 40                         | ICF50-4-43MA (1 1/2" SOC) <sup>1)</sup>  | 027L5014                                 | 38.50         |
| 40                         | ICF50-4-43MB (1 1/2" SOC) <sup>1)</sup>  | 027L5018                                 | 39.00         |
| 50                         | ICF50-4-43MA (2" SOC) <sup>1)</sup>      | 027L5016                                 | 24.94         |
| 50                         | ICF50-4-43MB (2" SOC) <sup>1)</sup>      | 027L5020                                 | 39.00         |
| 65                         | ICF65-3-43MA (2 1/2" BUTT) <sup>2)</sup> | 027L6514                                 | 57.10         |
| 65                         | ICF65-3-43MB (2 1/2" BUTT) <sup>2)</sup> | 027L6518                                 | 46.10         |
| 80                         | ICF65-3-43MA (3" BUTT) <sup>2)</sup>     | 027L6516                                 | 33.00         |
| 80                         | ICF65-3-43MB (3" BUTT) <sup>2)</sup>     | 027L6520                                 | 47.75         |

1) Stop valve / strainer (insert not incl 3)) / ICM / stop valve (ICAD & side port accessories not included)

2) Stop valve / ICM / stop valve (ICAD & side port accessories not included)

- ICAD to be ordered separately

## ICF VALVE STATIONS (CONT'D)



### APPLICATION 45:

#### PRESS (TEMP) MECHANICAL CONTROL + MANUAL REGULATING



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                 | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|------------------------------------------|------------------------------------------|---------------|
| SIZE                       | TYPE                                     | CODE                                     | APPROX WEIGHT |
| 40                         | ICF50-4-45S32 (1 1/4" SOC) <sup>1)</sup> | 027L5030                                 | 40.45         |
| 40                         | ICF50-4-45S40 (1 1/4" SOC) <sup>1)</sup> | 027L5034                                 | 26.01         |
| 40                         | ICF50-4-45S50 (1 1/4" SOC) <sup>1)</sup> | 027L5026                                 | 26.01         |
| 50                         | ICF50-4-45S32 (2" SOC) <sup>1)</sup>     | 027L5032                                 | 39.55         |
| 50                         | ICF50-4-45S40 (2" SOC) <sup>1)</sup>     | 027L5036                                 | 40.00         |
| 50                         | ICF50-4-45S50 (2" SOC) <sup>1)</sup>     | 027L5028                                 | 39.20         |

1) Stop valve / strainer (insert not incl 3)) / ICS / REG valve (Coil, pilots & side port accessories not included)

3) Please use standard FIA50 inserts from page 38 if a the strainer insert is required

### APPLICATION 47:

#### HOT GAS DEFROST - ON/OFF 2-STEP SOLENOID (INCL EVM'S)



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                  | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|-------------------------------------------|------------------------------------------|---------------|
| SIZE                       | TYPE                                      | CODE                                     | APPROX WEIGHT |
| 40                         | ICF 50-4-47H32 (1 1/2" SOC) <sup>1)</sup> | 027L5070                                 | 40.35         |
| 40                         | ICF 50-4-47H40 (1 1/2" SOC) <sup>1)</sup> | 027L5071                                 | 51.00         |
| 50                         | ICF 50-4-47H40 (2" SOC) <sup>1)</sup>     | 027L5072                                 | 39.50         |
| 50                         | ICF 50-4-47H50 (2" SOC) <sup>1)</sup>     | 027L5073                                 | 39.70         |

1) Stop valve / strainer (FIA insert incl) / ICSH / stop valve (coils & side port accessories not included)

## ICF VALVE STATIONS (CONT'D)



### APPLICATION 48:

**HOT GAS DEFROST - ON/OFF 2-STEP SOLENOID + MANUAL REGULATING  
(INCL EVM'S)**



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                  | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|----------------------------|-------------------------------------------|------------------------------------------|---------------|
| SIZE                       | TYPE                                      | CODE                                     | APPROX WEIGHT |
| 40                         | ICF 50-4-48H32 (1 1/2" SOC) <sup>1)</sup> | 027L5074                                 | 40.55         |

<sup>1)</sup> Stop valve / strainer (FIA insert incl) / ICSH / REG valve (coils & side port accessories not included)

## ICF VALVE STATIONS (CONT'D)



Always install at least 1 x 3/8" NPT SNV in ICF's for ease of service etc

### ACCESSORIES - ICF15/20/25/50/65

| TYPE                      |                                                   | ICF FLEXLINE™<br>COMPLETE VALVE STATIONS |               |
|---------------------------|---------------------------------------------------|------------------------------------------|---------------|
|                           |                                                   | CODE                                     | APPROX WEIGHT |
| ACCESSORIES - ICF ALL     |                                                   |                                          |               |
| 3/8"                      | SIGHT GLASS 3/8-18 NPT                            | 027L1269                                 | 0.10          |
| 3/8"                      | SNV-ST 3/8 FPT X 3/8 MPT <sup>1)</sup>            | 148B3747                                 | 0.45          |
| 3/8"                      | SNV-SS 3/8FPT-3/8MPT (new)                        | 148B3750                                 | 0.62          |
| 10 WATT                   | COIL 240 VAC TERMINAL BOX                         | 018F6702                                 | 0.34          |
| 10 WATT                   | COIL 24 VAC TERMINAL BOX                          | 018F6707                                 | 0.32          |
| 12 WATT                   | COIL 240 VAC TERMINAL BOX                         | 018F6802                                 | 0.51          |
| 12 WATT                   | COIL 24 VAC TERMINAL BOX                          | 018F6807                                 | 0.51          |
| 20 WATT                   | COIL 24 VAC 20W (all AKVA's) (ex 018F6901 & 6903) | 018F6904                                 | 0.51          |
| 12 WATT                   | COIL 240 VAC 12 W (AKVA's)                        | 018F6802                                 | 0.51          |
| 16 WATT                   | COIL 24VDC T-BOX 16 WATT TYPE 1                   | 018F6857                                 | 0.60          |
| ACCESSORIES - ICF15/20/25 |                                                   |                                          |               |
| 20                        | ICFB 20 BLIND MODULE, SPARE PART                  | 027L1259                                 | 0.64          |
| 25                        | ICFB 25 BLIND MODULE, SPARE PART                  | 027L2259                                 | 1.23          |
| 20                        | ICFW 20, 3/4" SOC WELDING MODULE                  | 027L1245                                 | 0.59          |
| 25                        | ICFW 25, 1" SOC WELDING MODULE                    | 027L2263                                 | 1.40          |
| 3/8"                      | ICF 20 ICFD SNV Service kit - FPT 3/8 in 2)       | 148B6607                                 | 0.56          |
|                           | ICAD 600A FOR ICM (ex 027H9065)                   | 027H9075                                 | 1.84          |
|                           | PROTECTIVE CAP FOR GEN 2 ICAD's                   | 027H0431                                 | 0.13          |
|                           | ICM 20-32 MULTI FUNCTION TOOL                     | 027H0180                                 | 0.16          |
| ACCESSORIES - ICF50/65    |                                                   |                                          |               |
| M33                       | ADAPTOR KIT -M33 TO 3/8" NPT                      | 027H5548                                 | 0.78          |
| M33                       | DEFROST ADAPTOR -M33 TO 1" WELD                   | 027H5546                                 | 0.83          |
|                           | ICAD 1200A FOR ICM40-50                           | 027H9077                                 | 2.37          |
|                           | PROTECTIVE CAP FOR GEN 2 ICAD's                   | 027H0431                                 | 0.13          |
|                           | ICM 40-150 MULTI FUNCTION TOOL                    | 027H0181                                 | 0.25          |

1) for ICF valve side ports compatible with 148B3747.

2) for installation in ICFD bottom service port

Note:

- DC coil will only just fit the ICF20 with the ICFE20 solenoid module
- With ICFE20H solenoid module fitted to ICF20 DC coil may hit the ICAD600A if ICM installed



### Description of ICF function modules

|      |                                |         |                                                      |
|------|--------------------------------|---------|------------------------------------------------------|
| ICFS | Stop valve module              | ICFB    | Blank top cover                                      |
| ICFR | Manual regulating valve module | ICFA    | Electronic expansion valve module (ICF 15/20 only)   |
| ICFF | Filter (strainer) module       | ICFE20  | Solenoid valve module (assisted lift ICF 15/20 only) |
| ICFE | Solenoid valve module          | ICFE20H | Solenoid valve module (full servo ICF 15/20 only)    |
| ICFC | Check valve module             | ICFO    | Manual opening module (ICF 15/20 only)               |
| ICFN | Stop/check valve module        | ICFW    | Welding module                                       |
| ICFD | Defrost Drain module           |         |                                                      |
| ICM  | Motor valve module             |         |                                                      |

### ICF Flexline™ extra descriptive letters added

#### > ICF 20-6-2RB (1" Soc)

- > 20 = body size i.e. 15, 20, 25, 50 or 65
- > 6 = number of modules
- > 2 = application
- > R = REG valve fitted
- > B = B capacity REG fitted

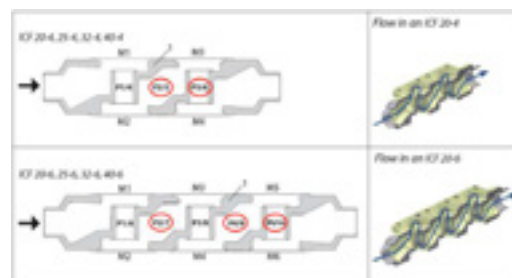
#### > ICF 20-6-5HMB66 (1" Soc)

- > 20 = body size i.e. 15, 20, 25, 50 or 65
- > 6 = number of modules
- > 5 = application
- > H = high capacity solenoid module
- > M = Motorised Module (ICM)
- > B66 = B66 ICM module capacity/size

### Tables below are applicable to ICF 20 and 25 only

| Function/Module Type | Can be installed in these locations                 |    |    |    |    |    |
|----------------------|-----------------------------------------------------|----|----|----|----|----|
| ICFS                 | Stop valve module                                   | M1 | M2 | M3 | M4 | M5 |
| ICFR                 | Manual regulating valve module                      | M1 | M2 | M3 | M4 | M5 |
| ICFF                 | Filter (strainer) module                            |    | M2 |    | M4 | M5 |
| ICFE                 | Solenoid valve module                               |    |    | M3 |    |    |
| ICFC                 | Check valve module                                  |    |    |    | M4 | M5 |
| ICFN                 | Stop/check valve module                             |    |    |    | M4 | M5 |
| ICM                  | Motor valve module                                  | M1 |    | M3 |    | M5 |
| ICFB                 | Blank top cover                                     | M1 | M2 | M3 | M4 | M5 |
| ICFA                 | Electronic expansion valve module (for ICF 20 only) | M1 |    | M3 |    | M5 |
| ICFE20H              | Solenoid valve module (for ICF 20 only)             | M1 |    | M3 |    | M5 |
| ICFO                 | Manual opening module                               |    |    |    | M4 |    |
| ICFW                 | Welding module                                      | M1 | M2 | M3 | M4 | M5 |

Module locations are indicated by M1, M2, M3, M4, M5 and M6. With respect to refrigerant flow, M1 is closest to inlet.



## SOLENOID VALVES

### ICF 20-2 - WELD IN SOLENOID VALVE WITH MANUAL OPENING (NEW)



| 65 BAR AND<br>-60 TO 120°C | STRAIGHT                                  |          |               |
|----------------------------|-------------------------------------------|----------|---------------|
| WELD                       | TYPE                                      | CODE     | APPROX WEIGHT |
| DN15                       | ICF 20-2-121 (Butt 1/2") <sup>1)</sup>    | 027L3801 | 3.07          |
| DN20                       | ICF 20-2-121 (Butt 3/4") <sup>1)</sup>    | 027L3805 | 3.06          |
| DN20                       | ICF 20-2-121 (SOC 3/4") <sup>1)</sup>     | 027L3809 | 3.11          |
| DN20                       | ICF 20-2-121H (Butt 3/4") <sup>2)</sup>   | 027L3806 | 9.91          |
| DN20                       | ICF 20-2-121H (SOC 3/4") <sup>2)</sup>    | 027L3810 | 3.95          |
| DN25                       | ICF 20-2-121H (Butt 1") <sup>2)</sup>     | 027L3808 | 3.90          |
| SOLDER                     |                                           |          |               |
| 7/8"                       | ICF 20-2-121 (Solder 7/8") <sup>1)</sup>  | 027L3813 | 3.05          |
| 7/8"                       | ICF 20-2-121H (Solder 7/8") <sup>2)</sup> | 027L3814 | 3.85          |

**Note:**

- The ICF 20-2 is the valve range that will replace the EVRA/T 10, 15 & 20:
  - 1) ICF 20-2-121 has kv (flow value) approx. 20% larger than EVRA/T 15 (assisted lift servo diaphragm valve & manual opening)
  - 2) ICF 20-2-121H has kv (flow value) approx. 10% larger than EVRA/T 20 (servo piston valve with manual opening)

## SOLENOID VALVES (CONT'D)



### ICF EVRAT - FLANGED STRAINER AND SOLENOID VALVES COMBINATION

BOLT IN, ALL IN ONE REPLACEMENT FOR FA AND EVRA/T STRAINER / SOLENOID VALVE CONFIGURATIONS



| 42 BAR AND<br>-40 TO 105°C | STRAIGHT                                  |          |               |
|----------------------------|-------------------------------------------|----------|---------------|
| SIZE                       | TYPE                                      | CODE     | APPROX WEIGHT |
| 15                         | ICF 15 EVRAT <sup>1)</sup> assisted servo | 027L4517 | 3.68          |
| 20                         | ICF 20 EVRAT <sup>2)</sup> assisted servo | 027L4518 | 4.34          |
| 20                         | ICF 20 EVRAT-H <sup>3)</sup> servo only   | 027L4519 | 5.23          |

**Note:**

- The ICF EVRAT drop-in valves matches 2 existing flange connections:
  - ICF 15 EVRAT fits directly into the FA15+EVRA/T10 or 15 (replaces FA15+EVRA/T10 or 15 combo)
  - ICF 20 EVRAT fits directly into the FA20+EVRA/T20 flanges (replaces FA20+EVRA/T20 but slightly lower capacity)
  - ICF 20 EVRAT-H fits directly into the FA20+EVRA/T20 flanges (replaces FA20+EVRA/T20 with slightly)
- Comes complete with new SS bolts and flange gaskets (excludes flanges and Coils)

## SOLENOID VALVES (CONT'D)

### COILS - ICF20-2 & ICF-EVRAT



| POWER   | TYPE                                          | CODE     | APPROX WEIGHT |
|---------|-----------------------------------------------|----------|---------------|
| 10 WATT | COIL 240 VAC T-BOX 10 WATT                    | 018F6702 | 0.34          |
| 10 WATT | COIL 24 VAC T-BOX 10 WATT                     | 018F6707 | 0.32          |
| 12 WATT | COIL 240 VAC T-BOX 12 WATT                    | 018F6802 | 0.51          |
| 12 WATT | COIL 24 VAC T-BOX 12 WATT                     | 018F6807 | 0.51          |
| 16 WATT | COIL 24VDC T-BOX 16 WATT TYPE 1               | 018F6857 | 0.60          |
| 20 WATT | COIL 24VDC T-BOX 20 WATT TYPE 2 ( EVR* 20>22) | 018F6887 | 0.60          |

## SOLENOID VALVES (CONT'D)



### EVRA/T - FLANGED SOLENOID VALVES

(EXCLUDING COILS AND FLANGES BUT INCLUDES FLANGE GASKETS) <sup>2)</sup>



| 42 BAR AND<br>-40 TO 105°C<br>(130°C SHORT TERM) | STRAIGHT                                     | EVRA/T TO BE PHASED OUT<br>WITHIN 2 YEARS |               |
|--------------------------------------------------|----------------------------------------------|-------------------------------------------|---------------|
| SIZE                                             | TYPE                                         | CODE                                      | APPROX WEIGHT |
| 6                                                | EVRA 3 W/O MANUAL LIFT <sup>1)</sup>         | 032F3050                                  | 0.90          |
| 10                                               | EVRAT 10 MANUAL OPENING <sup>1)</sup>        | 032F6214                                  | 1.76          |
| 15                                               | EVRAT 15 MANUAL OPENING <sup>1)</sup>        | 032F6216                                  | 1.75          |
| 20                                               | EVRAT 20 MANUAL OPENING <sup>1)</sup>        | 032F6219                                  | 2.70          |
| 25                                               | EVRA 25 MANUAL OPENING                       | 032F6225                                  | 3.28          |
| 32                                               | EVRA 32 DIRECT WELD CW flanges <sup>2)</sup> | 042H1126                                  | 4.90          |
| 40                                               | EVRA 40 DIRECT WELD CW flanges <sup>2)</sup> | 042H1128                                  | 4.70          |

**Note:**

- EVRA/T 10-15-20 will be phased out mid 2023 (please consider ICF for new installs and ICF-EVRAT for replacements)
- EVRA/T Spare parts program will continue to be available once valve production has stopped
- Excluding coil and flanges but includes flange gaskets

1) No pressure drop required for opening of valve as EVRA3 is Direct and the EVRAT's are assisted lift

2) With cam operation manual opening and complete with flanges

- EVRA32 and 40 current version complete new valve will not fit in approx. 2001 and before EVRA32 and 40 flanges
- EVRA32/40 changed to M10 bolts from M8
- For larger solenoid valve use ICS-1 and EVM

## SOLENOID VALVES (CONT'D)

**EVRs/T - STAINLESS STEEL DIN BUTT WELD  
(EXCLUDES COILS AND FLANGES NOT REQUIRED)**



| 50 BAR AND<br>-40 TO 105°C | STRAIGHT                        | STAINLESS STEEL OPTION |               |
|----------------------------|---------------------------------|------------------------|---------------|
| SIZE                       | TYPE                            | CODE                   | APPROX WEIGHT |
| 10                         | EVRs 3 VALVE WELD CON. 3/8 IN   | 032F3080               | 0.35          |
| 15                         | EVRST 10 VALVE WELD CON. 1/2 IN | 032F3083               | 1.35          |
| 20                         | EVRST 15 VALVE WELD CON. 3/4IN  | 032F3085               | 1.36          |
| 25                         | EVRST 20 VALVE WELD CON. 1 IN   | 032F5438               | 2.12          |

## SOLENOID VALVES (CONT'D)



### WELDING FLANGES - FOR EVRA/T (FLANGES ONLY, EXCLUDES GASKETS)



| SIZE | TYPE                         | CODE     | APPROX WEIGHT |
|------|------------------------------|----------|---------------|
| 10   | EVRA(T) 3-15 FLANGES 3/8"    | 027N1112 | 0.55          |
| 15   | EVRA(T) 3-15 FLANGES 1/2"    | 027N1115 | 0.55          |
| 20   | EVRA(T) 3-15 FLANGES 3/4"    | 027N1120 | 0.52          |
| 20   | EVRA(T) 20-25 FLANGES 3/4"   | 027N1220 | 0.95          |
| 25   | EVRA(T) 20-25 FLANGES 1"     | 027N1225 | 0.94          |
| 32   | EVRA(T) 20-25 FLANGES 1 1/4" | 027N1230 | 0.98          |

### FA - STRAINERS DIRECT MOUNTING (INCLUDES LONGER BOLTS AND GASKETS)



Note: 150u filter insert is included

| 28 BAR AND<br>-50 TO 140°C |                                  |          |               |
|----------------------------|----------------------------------|----------|---------------|
| SIZE                       | TYPE                             | CODE     | APPROX WEIGHT |
| 6                          | FA 15 STRAINER FOR EVRA 3        | 006-0043 | 1.35          |
| 10-15                      | FA 15 STRAINER FOR EVRA(T) 10-15 | 006-1012 | 1.21          |
| 20-25                      | FA 20 STRAINER FOR EVRA(T) 20-25 | 006-1013 | 1.86          |

## OTHER VALVES AND COILS

### EV220 - WATER AND OIL VALVES

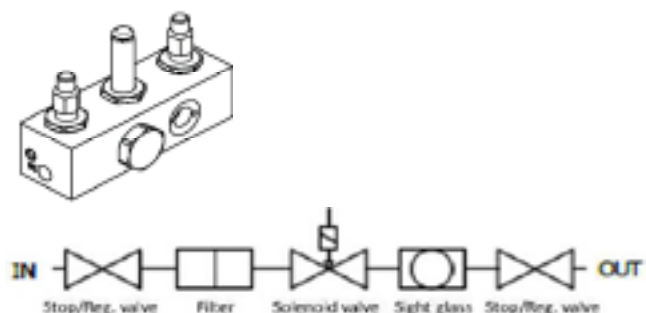


|        | STRAIGHT          |          |               |
|--------|-------------------|----------|---------------|
| SIZE   | TYPE              | CODE     | APPROX WEIGHT |
| 1/2"   | EV220B 15B (EPDM) | 032U7115 | 0.73          |
| 1/2"   | EV220B 15B (FKM)  | 032U7116 | TBA           |
| 3/4"   | EV220B 20B (EPDM) | 032U7120 | 0.91          |
| 3/4"   | EV220B 20B (FKM)  | 032U7121 | 0.92          |
| 1"     | EV220B 25B (EPDM) | 032U7125 | 1.39          |
| 1"     | EV220B 25B (FKM)  | 032U7126 | TBA           |
| 1 1/4" | EV220B 32B (EPDM) | 032U7132 | 2.30          |
| 1 1/4" | EV220B 32B (FKM)  | 032U7133 | TBA           |
| 1 1/2" | EV220B 40B (EPDM) | 032U7140 | 3.35          |
| 1 1/2" | EV220B 40B (FKM)  | 032U7141 | 3.36          |
| 2"     | EV220B 50B (EPDM) | 032U7150 | 5.16          |
| 2"     | EV220B 50B (FKM)  | 032U7151 | 5.13          |

- EPDM is recommended for water (-30 to 120 oC) and steam (steam max. +140° C / 4 bar).
- FKM is suitable for oil and air and water at max. +60 °C

## OTHER VALVES AND COILS (CONT'D)

### EVBR - OIL RETURN BLOCK VALVE



|          | STRAIGHT                    |          |               |
|----------|-----------------------------|----------|---------------|
| SIZE BSP | TYPE                        | CODE     | APPROX WEIGHT |
| G 1/4"   | EVBR OIL RETURN BLOCK VALVE | 032F6361 | 2.58          |

- EVRB body comes complete with 2 x M8 threaded holes in the base of the block
- Media temperature range: -40 to 100 °C
- Ambient Temperature range: -40 to 50 °C
- Maximum Working pressure: 52 bar
- Coil sold separately (standard range)

#### MAX OPENING DIFF. PRESSURE (MOPD)

| ORIFICE          | 240VAC 11W | 24VDC 20W |
|------------------|------------|-----------|
| Ø1,25 (032F6324) | 35 bar     | 35 bar    |
| Ø1,7 (Standard)  | 35 bar     | 35 bar    |
| Ø2,3 (032F5228)  | 35 bar     | 30 bar    |
| Ø3 (032F6325)    | 35 bar     | 23 bar    |

### COILS - ICF20-2, EVRA, EVRB AND EV220

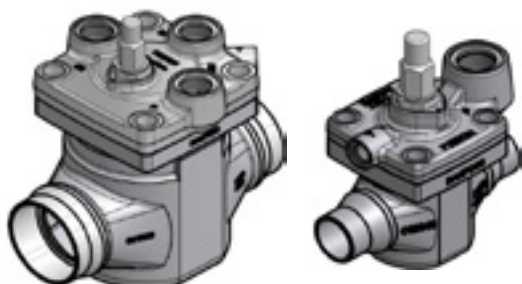


| POWER   | TYPE                                          | CODE     | APPROX WEIGHT |
|---------|-----------------------------------------------|----------|---------------|
| 10 WATT | COIL 240 VAC T-BOX 10 WATT                    | 018F6702 | 0.34          |
| 10 WATT | COIL 24 VAC T-BOX 10 WATT                     | 018F6707 | 0.32          |
| 12 WATT | COIL 240 VAC T-BOX 12 WATT                    | 018F6802 | 0.51          |
| 12 WATT | COIL 24 VAC T-BOX 12 WATT                     | 018F6807 | 0.51          |
| 16 WATT | COIL 24VDC T-BOX 16 WATT TYPE 1               | 018F6857 | 0.60          |
| 20 WATT | COIL 24VDC T-BOX 20 WATT TYPE 2 ( EVR* 20>22) | 018F6887 | 0.60          |

## CONTROL VALVES



### ICS - COMPLETE CONTROL VALVES (SOC & BUTT WELD)



#### 1 PILOT

| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                       | ICV FLEXLINE™<br>CONTROL VALVES |               |
|----------------------------|--------------------------------|---------------------------------|---------------|
| SIZE                       | SOC WELD TYPE (WELD)           | CODE                            | APPROX WEIGHT |
| 20                         | ICS1 25-5 MAIN VALVE 3/4" SOC  | 027H2140                        | 4.02          |
| 20                         | ICS1 25-10 MAIN VALVE 3/4" SOC | 027H2141                        | 4.16          |
| 20                         | ICS1 25-15 MAIN VALVE 3/4" SOC | 027H2142                        | 4.12          |
| 20                         | ICS1 25-20 MAIN VALVE 3/4" SOC | 027H2143                        | 3.94          |
| 25                         | ICS1 25-25 MAIN VALVE 1" SOC   | 027H2062                        | 4.25          |
| 32                         | ICS1 32 MAIN VALVE 1 1/4" SOC  | 027H3022                        | 5.56          |
| 40                         | ICS1 40 MAIN VALVE 1 1/2" SOC  | 027H4022                        | 7.69          |
| 50                         | ICS1 50 MAIN VALVE 2" SOC      | 027H5022                        | 11.74         |
| 65                         | ICS1 65 MAIN VALVE 2 1/2" SOC  | 027H6023                        | 16.32         |
| 20                         | ICS1 25-5 MAIN VALVE 3/4" SOC  | 027H2140                        | 4.02          |
| 20                         | ICS1 25-10 MAIN VALVE 3/4" SOC | 027H2141                        | 4.16          |
| 20                         | ICS1 25-15 MAIN VALVE 3/4" SOC | 027H2142                        | 4.12          |
| 20                         | ICS1 25-20 MAIN VALVE 3/4" SOC | 027H2143                        | 3.94          |
| 25                         | ICS1 25-25 MAIN VALVE 1" SOC   | 027H2062                        | 4.25          |
| 32                         | ICS1 32 MAIN VALVE 1 1/4" SOC  | 027H3022                        | 5.56          |
| 40                         | ICS1 40 MAIN VALVE 1 1/2" SOC  | 027H4022                        | 7.69          |
| 50                         | ICS1 50 MAIN VALVE 2" SOC      | 027H5022                        | 11.74         |
| 65                         | ICS1 65 MAIN VALVE 2 1/2" SOC  | 027H6023                        | 16.32         |

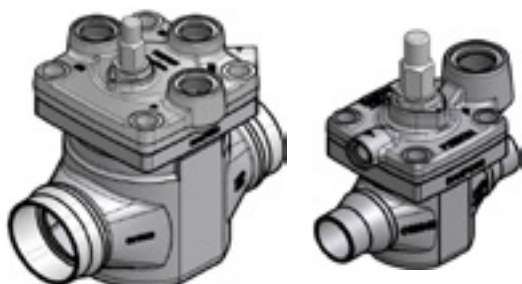
#### Note:

- \* PM and ICS capacities are not like for like in all sizes.
  - \* Please refer to tech data or Kv values at rear of this document.
  - \* ICS 25-5 to ICS 25-25 have the same ICV body with different capacity insert modules
- PM's valves discontinued late 2013 - see rear for spare parts and bolt in option  
<http://www.danfoss.com/BusinessAreas/RefrigerationAndAirConditioning/ICV/>  
 \*\*\* Pilots and accessories for ICS on page 82

## CONTROL VALVES (CONT'D)



### ICS - COMPLETE CONTROL VALVES (SOC & BUTT WELD)



#### 3 PILOTS

(COMES WITH 1 X 027F1046 BLANKING CAP & PLUG (A&B))

| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                       | ICV FLEXLINE™<br>CONTROL VALVES |               |
|----------------------------|--------------------------------|---------------------------------|---------------|
| SIZE                       | SOC WELD TYPE (WELD)           | CODE                            | APPROX WEIGHT |
| 20                         | ICS3 25-5 MAIN VALVE 3/4" SOC  | 027H2145                        | 4.82          |
| 20                         | ICS3 25-10 MAIN VALVE 3/4" SOC | 027H2146                        | 4.65          |
| 20                         | ICS3 25-15 MAIN VALVE 3/4" SOC | 027H2147                        | 4.66          |
| 20                         | ICS3 25-20 MAIN VALVE 3/4" SOC | 027H2148                        | 4.76          |
| 25                         | ICS3 25-25 MAIN VALVE 1" SOC   | 027H2112                        | 4.91          |
| 32                         | ICS3 32 MAIN VALVE 1 1/4" SOC  | 027H3032                        | 7.00          |
| 40                         | ICS3 40 MAIN VALVE 1 1/2" SOC  | 027H4032                        | 7.55          |
| 50                         | ICS3 50 MAIN VALVE 2" SOC      | 027H5032                        | 12.18         |
| 65                         | ICS3 65 MAIN VALVE 2 1/2" SOC  | 027H6033                        | 16.88         |
| 20                         | ICS3 25-5 MAIN VALVE 3/4" SOC  | 027H2145                        | 4.82          |
| 20                         | ICS3 25-10 MAIN VALVE 3/4" SOC | 027H2146                        | 4.65          |
| 20                         | ICS3 25-15 MAIN VALVE 3/4" SOC | 027H2147                        | 4.66          |
| 20                         | ICS3 25-20 MAIN VALVE 3/4" SOC | 027H2148                        | 4.76          |
| 25                         | ICS3 25-25 MAIN VALVE 1" SOC   | 027H2112                        | 4.91          |
| 32                         | ICS3 32 MAIN VALVE 1 1/4" SOC  | 027H3032                        | 7.00          |
| 40                         | ICS3 40 MAIN VALVE 1 1/2" SOC  | 027H4032                        | 7.55          |
| SIZE                       | BUTT WELD TYPE (WELD)          | CODE                            | APPROX WEIGHT |
| 80                         | ICS3 80 MAIN VALVE 3"          | 027H8031                        | 15.96         |
| 100                        | ICS3 100 MAIN VALVE 4"         | 027H7122                        | 53.00         |
| 125                        | ICS3 125 MAIN VALVE 5"         | 027H7142                        | 89.50         |
| 150                        | ICS3 150 MAIN VALVE 6"         | 027H7162                        | 140.00        |

#### Note:

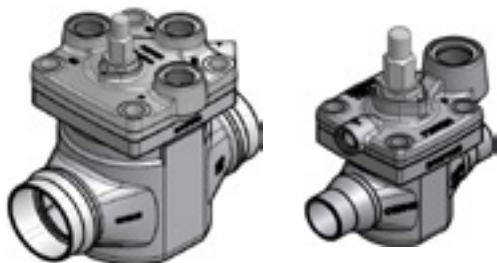
- \* PM and ICS capacities are not like for like in all sizes.
- \* Please refer to tech data or Kv values at rear of this document.
- \* ICS 25-5 to ICS 25-25 have the same ICV body with different capacity insert modules
- \*\*\* Pilots and accessories for ICS on page 82

## CONTROL VALVES (CONT'D)



### ICS - COMPLETE CONTROL VALVES

(SOLDER VERSION - STEEL VALVE ENDS MACHINED TO FIT COPPER TUBE)



#### 1 PILOT

| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                       | ICV FLEXLINE™<br>CONTROL VALVES |               |
|----------------------------|--------------------------------|---------------------------------|---------------|
| SIZE                       | SOLDER TYPE (WELD)             | CODE                            | APPROX WEIGHT |
| 7/8                        | ICS1 25-5 MAIN VALVE 7/8 SA    | 027H2025                        | 3.69          |
| 7/8                        | ICS1 25-10 MAIN VALVE 7/8 SA   | 027H2035                        | 3.95          |
| 7/8                        | ICS1 25-15 MAIN VALVE 7/8 SA   | 027H2045                        | 3.76          |
| 7/8                        | ICS1 25-20 MAIN VALVE 7/8 SA   | 027H2055                        | 3.72          |
| 1 1/8                      | ICS1 25-25 MAIN VALVE 1 1/8 SA | 027H2066                        | 3.73          |
| 1 3/8                      | ICS1 32 MAIN VALVE 1 3/8 SA    | 027H3023                        | 5.49          |
| 1 5/8                      | ICS1 40 MAIN VALVE 1-5/8 SA    | 027H4024                        | 7.17          |
| 2 1/8                      | ICS1 50 MAIN VALVE 2 1/8 SA    | 027H5023                        | 11.09         |
| 2 5/8                      | ICS1 65 MAIN VALVE 2-5/8 SA    | 027H6025                        | 15.93         |
| 7/8                        | ICS1 25-5 MAIN VALVE 7/8 SA    | 027H2025                        | 3.69          |
| 7/8                        | ICS1 25-10 MAIN VALVE 7/8 SA   | 027H2035                        | 3.95          |
| 7/8                        | ICS1 25-15 MAIN VALVE 7/8 SA   | 027H2045                        | 3.76          |
| 7/8                        | ICS1 25-20 MAIN VALVE 7/8 SA   | 027H2055                        | 3.72          |

#### 3 PILOTS

(COMES WITH 1 X 027F1046 BLANKING CAP & PLUG (A&B))

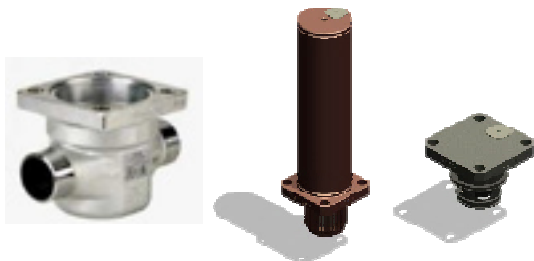
| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                       | ICV FLEXLINE™<br>CONTROL VALVES |               |                            |
|----------------------------|--------------------------------|---------------------------------|---------------|----------------------------|
| SIZE                       | SOLDER TYPE (WELD)             | CODE                            | APPROX WEIGHT | AVAILABILITY<br>INDICATION |
| 7/8                        | ICS3 25-5 MAIN VALVE 7/8 SA    | 027H2075                        | 4.41          | TBA                        |
| 7/8                        | ICS3 25-10 MAIN VALVE 7/8 SA   | 027H2085                        | 4.37          | TBA                        |
| 7/8                        | ICS3 25-15 MAIN VALVE 7/8 SA   | 027H2095                        | 4.43          | TBA                        |
| 7/8                        | ICS3 25-20 MAIN VALVE 7/8 SA   | 027H2105                        | 4.35          | TBA                        |
| 1 1/8                      | ICS3 25-25 MAIN VALVE 1 1/8 SA | 027H2116                        | 4.44          | TBA                        |
| 1 3/8                      | ICS3 32 MAIN VALVE 1 3/8 SA    | 027H3033                        | 7.00          | TBA                        |
| 1 5/8                      | ICS3 40 MAIN VALVE 1-5/8 SA    | 027H4034                        | 7.55          | TBA                        |
| 2 1/8                      | ICS3 50 MAIN VALVE 2 1/8 SA    | 027H5033                        | 11.21         | TBA                        |
| 2 5/8                      | ICS3 65 MAIN VALVE 2-5/8 SA    | 027H6035                        | 16.28         | TBA                        |

Note:

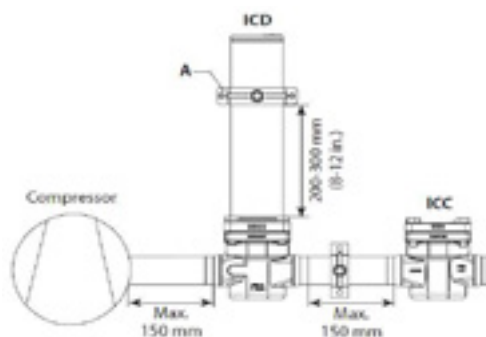
- \* PM and ICS capacities are not like for like in all sizes.
- \* Please refer to tech data or Kv values at rear of this document.
- \* ICS 25-5 to ICS 25-25 have the same ICV body with different capacity insert modules
- \*\*\* Pilots and accessories for ICS on page 82

## CONTROL VALVES (CONT'D)

### ICD AND ICC ECONOMISER LINE MODULES



| 52 BAR AND<br>-20 TO 150°C | STRAIGHT                          |          |               |
|----------------------------|-----------------------------------|----------|---------------|
| SIZE                       | TYPE                              | CODE     | APPROX WEIGHT |
| 32                         | ICD 32 + ICC 32 Kit (new)         | 027H3201 | 14.40         |
| 50                         | ICD 50 + ICC 50 Kit (new)         | 027H5201 | 20.00         |
| 32                         | ICV 32 32 SOC Valve housing (new) | 027H3122 | 2.86          |
| 50                         | ICV 50 50 SOC Valve housing (new) | 027H5122 | 6.42          |



- The kits contain both the ICD (Damper) and ICC (Check) modules plus gaskets and bolts
- For each kit two (2) ICV bodies of the same size must also be purchased

**Note:**

- To prevent very high gas temperatures developing in the economiser line in no flow conditions with compressor still operating a small high pressure gas bleed can be utilised between the ICC and ICD
- Installation instructions must be followed

## CONTROL VALVES (CONT'D)

### ICM - COMPLETE VALVES WITHOUT ICAD ACTUATOR (SOC AND BUTT WELD)



| 52 BAR AND<br>-60 TO 120°C |                                                  | ICV FLEXLINE™<br>CONTROL VALVES |               |
|----------------------------|--------------------------------------------------|---------------------------------|---------------|
| SIZE                       | SOC WELD TYPE                                    | CODE                            | APPROX WEIGHT |
|                            | ICM 20-A33 (insert only available) <sup>1)</sup> | 027H1186                        | 1.33          |
|                            | ICM 20-B66 (insert only available) <sup>1)</sup> | 027H1194                        | 1.31          |
| 20                         | ICV 20 3/4" SOC Valve housing                    | 027H1151                        | 0.82          |
| 20                         | ICM 20-A WELD 3/4" SOC                           | 027H1040                        | 2.02          |
| 20                         | ICM 20-B WELD 3/4" SOC                           | 027H1041                        | 2.02          |
| 25                         | ICM 20-C WELD 3/4" SOC                           | 027H1042                        | 2.50          |
|                            | ICM 25-A33 (insert only available) <sup>1)</sup> | 027H2190                        | 1.83          |
| 25                         | ICV 25 1" SOC Valve housing                      | 027H2122                        | 2.34          |
| 25                         | ICM 25-A WELD 1" SOC                             | 027H2004                        | 3.94          |
| 25                         | ICM 25-B WELD 1" SOC                             | 027H2005                        | 4.02          |
| 32                         | ICM 32-A WELD 1 1/4" SOC                         | 027H3004                        | 5.36          |
| 32                         | ICM 32-B WELD 1 1/4" SOC                         | 027H3005                        | 5.55          |
| 40                         | ICM 40-A WELD 1 1/2" SOC                         | 027H4004                        | 7.22          |
| 40                         | ICM 40-B WELD 1 1/2" SOC                         | 027H4005                        | 7.24          |
| 50                         | ICM 50-A WELD 2" SOC                             | 027H5004                        | 10.77         |
| 50                         | ICM 50-B WELD 2" SOC                             | 027H5005                        | 10.83         |
| 65                         | ICM 65-A WELD 2 1/2" SOC                         | 027H6004                        | 16.09         |
| 65                         | ICM 65-B WELD 2 1/2" SOC                         | 027H6005                        | 16.36         |
| SIZE                       | BUTT WELD TYPE                                   | CODE                            | APPROX WEIGHT |
| 65                         | ICM 65-A WELD 2 1/2"                             | 027H6012                        | 15.19         |
| 100                        | ICM 100 WELD 4"                                  | 027H7131                        | 56.50         |
| 125                        | ICM 125 WELD 5"                                  | 027H7151                        | 87.00         |
| 150                        | ICM 150 WELD 6"                                  | 027H7171                        | 126.80        |

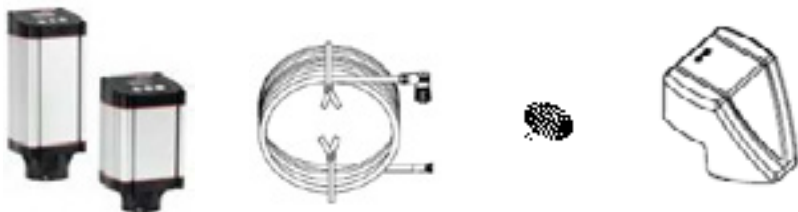
**Note:**

- ICM reverse flow holding Diff Press with powered ICAD, ICM20-32=52B / ICM40=40B / ICM50=30B / ICM65=20B / ICM100-150=1B
- All ICM20's and ICM25 to ICM65 "A" versions only are suitable for Expansion applications.

1) Purchase separate ICV body to make complete ICM

## CONTROL VALVES (CONT'D)

### ICM - ACCESSORIES



| TYPE                                                                               | CODE     | APPROX WEIGHT |
|------------------------------------------------------------------------------------|----------|---------------|
| ICAD 600A FOR ICM 20-32 <sup>1)</sup> (ex 027H9065)                                | 027H9075 | 1.84          |
| ICAD 1200A FOR ICM40-150 <sup>1)</sup> (ex 027H9066 & 027H9067)                    | 027H9077 | 2.37          |
| ICM 20-32 MULTI FUNCTION TOOL                                                      | 027H0180 | 0.16          |
| ICM 40-150 MULTI FUNCTION TOOL                                                     | 027H0181 | 0.25          |
| ICAD-UPS BACKUP POWER SUPPLY                                                       | 027H0182 | 1.90          |
| PROTECTIVE CAP FOR GEN 2 ICAD's (after 2009)                                       | 027H0431 | 0.13          |
| Connector set, ICAD 600/900/1200 (connectors only)                                 | 027H0430 | 0.06          |
| Cable set 1.5 m, ICAD 600/900/1200 (including connectors)                          | 027H0426 | 0.17          |
| Cable set 15 m, ICAD 600/900/1200 (including connectors)                           | 027H0435 | 1.34          |
| ICAD 600A/ICM Grease/EPDM kit (Wear & O-ring,3 screws,grease) <sup>2)</sup>        | 027H0356 | 3.20          |
| ICAD 1200A/ICM Grease/EPDM kit (Wear & O-ring,3 screws,grease) <sup>2&amp;3)</sup> | 027H0357 | 3.20          |

Note:

1) Includes 1.5m cables with fittings

2) When replacing an ICAD please order the applicable service kit to get new O-ring, wear ring and grease

3) The ICAD 1200 kit is also suitable for the superseded ICAD 900

ICAD600A, ICAD1200A & ICAD 600A-TS had an update to SW and some hardware Week 10, 2020

## CONTROL VALVES (CONT'D)

### ICMTS - MOTOR OPERATED VALVE FOR CO<sub>2</sub>



| 140 BAR AND<br>-60 TO 120°C | STRAIGHT                               |          |               |
|-----------------------------|----------------------------------------|----------|---------------|
| SIZE                        | DIN BUTT WELD TYPE                     | CODE     | APPROX WEIGHT |
| 25                          | ICMTS 20-A33 25 DIN *CO <sub>2</sub> * | 027H1084 | 2.43          |
| 25                          | ICMTS 20-A 25 DIN *CO <sub>2</sub> *   | 027H1085 | 2.45          |
| 25                          | ICMTS 20-B66 25 DIN *CO <sub>2</sub> * | 027H1093 | 2.43          |
| 25                          | ICMTS 20-B 25 DIN *CO <sub>2</sub> *   | 027H1086 | 2.42          |
| 25                          | ICMTS 20-C 25 DIN *CO <sub>2</sub> *   | 027H1087 | 2.42          |

### ICMTS - ACCESSORIES

| TYPE                                         | CODE     | APPROX WEIGHT |
|----------------------------------------------|----------|---------------|
| ICAD 600A-TS actuator with cables            | 027H9078 | 1.87          |
| ICM 40-150 MULTI FUNCTION TOOL               | 027H0181 | 0.25          |
| PROTECTIVE CAP FOR GEN 2 ICAD's (after 2009) | 027H0431 | 0.13          |

## GAS POWERED SUCTION VALVES

### ICLX - GAS POWERED STOP VALVES - TWO STEP (SOC AND BUTT WELD)



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                             | ICV FLEXLINE™<br>CONTROL VALVES |               |
|----------------------------|--------------------------------------|---------------------------------|---------------|
| SIZE                       | SOC WELD TYPE                        | CODE                            | APPROX WEIGHT |
| 32                         | ICLX 32 1 1/4" SOC                   | 027H3042                        | 8.75          |
| 40                         | ICLX 40 1 1/2" SOC                   | 027H4042                        | 10.47         |
| 50                         | ICLX 50 2" SOC                       | 027H5042                        | 14.82         |
| 65                         | ICLX 65 2 1/2" SOC                   | 027H6042                        | 19.51         |
| SIZE                       | BUTT WELD TYPE (WELD)                | CODE                            | APPROX WEIGHT |
| 80                         | ICLX 80 ANSI (same Kv as the ICLX65) | 027H8042                        | 19.04         |
| 100                        | ICLX 100 ANSI                        | 027H7148                        | 59.00         |
| 125                        | ICLX 125 ANSI                        | 027H7158                        | 94.00         |
| 150                        | ICLX 150 ANSI                        | 027H7168                        | 139.00        |

- Excluding coils (1 X 10W for NC and 1 X 12W for NO required)
- Including NO and NC EVM's plus External connector

**Note:**

- Please ensure instructions are followed regarding the installation of the dampening orifice (supplied with the "external hot gas connector") in the NC EVM
- Please ensure instructions in the ICLX tech data is followed and allow appropriate time delays required following the close and open signal is given to the ICLX
- PMLX & GPLX valves are discontinued - see rear for spare parts and bolt in option for PMLX

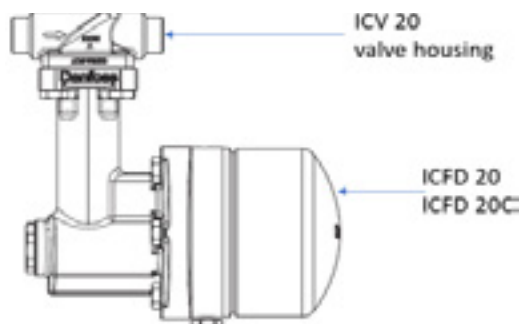
## GAS POWERED SUCTION VALVES (CONT'D)

### ICLX - COILS



| POWER   | TYPE                            | CODE     | APPROX WEIGHT |
|---------|---------------------------------|----------|---------------|
| 10 WATT | COIL 240 VAC TERMINAL BOX       | 018F6702 | 0.34          |
| 10 WATT | COIL 24 VAC TERMINAL BOX        | 018F6707 | 0.32          |
| 12 WATT | COIL 240 VAC TERMINAL BOX       | 018F6802 | 0.51          |
| 12 WATT | COIL 24 VAC TERMINAL BOX        | 018F6807 | 0.51          |
| 16 WATT | COIL 24VDC T-BOX 16 WATT TYPE 1 | 018F6857 | 0.60          |

### ICV - ICFD 20 (AMMONIA) AND ICFD 20C (CO<sub>2</sub>) STANDALONE OPTIONS



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                                         | ICV FLEXLINE™<br>CONTROL VALVES |               |
|----------------------------|--------------------------------------------------|---------------------------------|---------------|
| SIZE                       | SOLDER TYPE (WELD)                               | CODE                            | APPROX WEIGHT |
| NH3                        | ICFD 20 Defrost module (Ammonia)                 | 027L6701                        | 8.53          |
| CO <sub>2</sub>            | ICFD 20C module (CO <sub>2</sub> )               | 027L6708                        | 8.61          |
| 20                         | ICV 20 3/4" SOC Valve housing                    | 027H1151                        | 0.82          |
|                            | ICFD 20/20C orifice kit for ICV 20 <sup>1)</sup> | 027L6711                        | 0.01          |

Note:

1) Special orifice must be purchased separately and used when ICFD 20/C is installed in an ICV 20

## GAS POWERED SUCTION VALVES (CONT'D)



### ICV - VALVE HOUSING ONLY

### SA - SOLDER VERSION - STEEL VALVE, ENDS MACHINED TO FIT COPPER TUBE)

OPTION TO PURCHASE ICM, ICSH AND ICLX WITH SOLDER CONNECTIONS



| 52 BAR AND<br>-60 TO 120°C | STRAIGHT                      | ICV FLEXLINE™<br>CONTROL VALVES |               |                            |
|----------------------------|-------------------------------|---------------------------------|---------------|----------------------------|
| SIZE                       | SOLDER TYPE (WELD)            | CODE                            | APPROX WEIGHT | AVAILABILITY<br>INDICATION |
| 7/8                        | ICV 25 7/8 SA VALVE HOUSING   | 027H2125                        | 1.69          | TBA                        |
| 1 1/8                      | ICV 25 1-1/8 SA VALVE HOUSING | 027H2126                        | 1.85          | TBA                        |
| 1 3/8                      | ICV 32 1-3/8 SA VALVE HOUSING | 027H3123                        | 2.64          | TBA                        |
| 1 5/8                      | ICV 40 1-5/8 SA VALVE HOUSING | 027H4124                        | 3.54          | TBA                        |
| 2 1/8                      | ICV 50 2-1/8 SA VALVE HOUSING | 027H5123                        | 5.49          | TBA                        |
| 2 5/8                      | ICV 65 2-5/8 SA VALVE HOUSING | 027H6125                        | 8.55          | TBA                        |

**Note:**

- Complete solder version ICM and ICLX not available in AU & NZ at this stage.
- Please use solder (SA) valve housing above and overhaul kit from spare parts page 145
- Example: Solder ICLX 40 = 027H4124, ICV 40 1-5/8 SA VALVE HOUSING + 027H4204, ICLX 40 Overhaul kit

## CONTROL VALVES

### PILOTS AND ACCESSORIES - PM AND ICS



| TYPE                                                             | CODE     | APPROX WEIGHT |
|------------------------------------------------------------------|----------|---------------|
| CVP-L (-0.66 - 7 bar) (52 bar MWP)                               | 027B0920 | 1.61          |
| CVP-M (4 - 28 bar) (52 bar MWP)                                  | 027B0921 | 1.65          |
| CVP-H (25 - 52 bar) (52 bar MWP)                                 | 027B0922 | 1.65          |
| CVPP-L (-0.66 - 7 bar) (52 bar MWP)                              | 027B0930 | 2.13          |
| CVPP-M (4 - 28 bar) (52 bar MWP)                                 | 027B0931 | 2.19          |
| CVC-L (-0.66 - 7 bar) (52 bar MWP)                               | 027B0940 | 2.04          |
| CVC-M (4 - 28 bar) (52 bar MWP)                                  | 027B0941 | 2.07          |
| CVE (-0.66 - 8 bar) 1) (52 bar MWP) (less ICAD)                  | 027B0980 | 1.91          |
| ICAD 1200A with 1.5M cable set for CVE pilot (required with CVE) | 027H9077 | 2.37          |
| CVE remote mounting kit less CVH <sup>2)</sup>                   | 027B0995 | 0.90          |
| CVP (LP) 0-7 BAR (17 bar MWP) (phased out late 2018)             | 027B1100 | NLA           |
| CVP (LP) -0.66-2 BAR (17 bar MWP) (phased out late 2018)         | 027B1101 | NLA           |
| CVP (HP) -0.66-7 BAR (28 bar MWP) (phased out late 2018)         | 027B1164 | NLA           |
| CVP (HP) 4-22 BAR (28 bar MWP) (phased out late 2018)            | 027B1160 | NLA           |
| CVP (HP) 4-28 BAR (28 bar MWP) (phased out late 2018)            | 027B1161 | NLA           |
| CVP (HP) 4-28 BAR (40 bar MWP) (phased out late 2018)            | 027B1261 | NLA           |
| CVP-XP 10-40 BAR (52 bar MWP) (phased out late 2018)             | 027B0090 | NLA           |
| CVP-XP 25-52 BAR (52 bar MWP) (phased out late 2018)             | 027B0080 | NLA           |
| CVC -0.5-9 BAR MWP 17 BAR (phased out late 2018)                 | 027B1080 | NLA           |
| CVC 4 to 28 BAR MWP 28 BAR (phased out late 2018)                | 027B0087 | NLA           |
| CVPP 0-7 BAR (phased out late 2018)                              | 027B1102 | NLA           |
| CVPP (HP) 0-7 BAR (phased out late 2018)                         | 027B1162 | NLA           |
| CVPP (HP) 4-22 BAR (phased out late 2018)                        | 027B1268 | NLA           |
| CVQ PILOT 0-6 BAR (phased out late 2018)                         | 027B1140 | NLA           |
| CVQ PILOT 1.7-8 BAR (phased out late 2018)                       | 027B1141 | NLA           |
| CVMD PILOT VALVE 0-7 bar                                         | 027B1038 | NLA           |
| EVM (NC) (65 bar MWP)                                            | 027B1120 | 0.25          |
| EVM (NO) (use 12W coil) (52 bar MWP)                             | 027B1130 | 0.25          |

1) When replacing CVQ with CVE note wiring changes required and the CVE/ICAD combination is higher than CVQ

2) CVE Remote mounting kit available if CVE/ICAD1200 is too high when replacing existing CVQ (CVH also required)

Notes below are applicable to previous design Pilot valve range

- In hot gas relief systems Danfoss recommends the use of CVP-HP due to the robust design
- The CVP (LP) and CVPP (LP) are non-serviceable pilot valves. Malfunction of such pilot valves in the system will lead to a non-functional system. In order to have a proactive approach Danfoss therefore recommends that CVP (LP) and CVPP (LP) are replaced after max. 7 years in operation.

**CONTROL VALVES (CONT'D)**


| TYPE                                                                  | CODE     | APPROX WEIGHT |
|-----------------------------------------------------------------------|----------|---------------|
| EVM DAMPENING ORIFICE 1mm (pack of 10 pcs)                            | 027F0664 | 0.05          |
| EVM DAMPENING ORIFICE 1.8mm (pack of 10 pcs)                          | 027F0176 | 0.04          |
| CVH HOUSING BUTT WELD 3/8"                                            | 027F1047 | 0.34          |
| CVH HOUSING BUTT WELD 1/2"                                            | 027F1090 | 0.34          |
| CVH HOUSING SOC WELD 1/2"                                             | 027F1091 | 0.43          |
| CVH HOUSING NPT 1/4"                                                  | 027F1159 | 0.37          |
| CVH HOUSING BUTT WELD 3/8" DIN SS (stainless option)                  | 192H3764 | 0.34          |
| Ext pilot connection Butt Weld PM5-65, ICS25-80 (1mm damp orif)       | 027F1048 | 0.32          |
| Ext pilot connection 1/4" FPT PM5-65, ICS25-80 (1mm damp orif)        | 027B2065 | 0.32          |
| Ext pilot connection Butt Weld PM80-125, ICS100-150 (1.8mm damp orif) | 027F1049 | 0.32          |
| Ext pilot connection 1/4" FPT PM80-125, ICS100-150 (1.8mm damp orif)  | 027B2066 | 0.32          |
| COIL 240 VAC T-BOX 10 WATT                                            | 018F6702 | 0.34          |
| COIL 24 VAC T-BOX 10 WATT                                             | 018F6707 | 0.32          |
| COIL 240 VAC T-BOX 12 WATT                                            | 018F6802 | 0.51          |
| COIL 24 VAC T-BOX 12 WATT                                             | 018F6807 | 0.51          |
| COIL 24VDC T-BOX 16 WATT TYPE 1                                       | 018F6857 | 0.60          |
| COIL 24VDC T-BOX 20 WATT TYPE 2 (for EVR-A-T-S 20>22)                 | 018F6887 | 0.60          |
| PERMANENT MAGNET COIL                                                 | 018F0091 | 0.13          |
| SNV-ST 1/4 FPT X 1/4 MPT (PM/ICS gauge port, use 027B2062 adaptor)    | 148B3746 | 0.51          |
| ICS/PM Press Gauge Adaptor (G1/4-1/4NPT)                              | 027B2062 | 0.05          |
| BLANKING PLUG (A+B, cap & plug)                                       | 027F1046 | 0.12          |
| PRESSURE GAUGE CONNECTION                                             | 027B2035 | 0.12          |
| PILOT SEAL KIT                                                        | 027F0666 | 0.03          |

- 1) When replacing CVQ with CVE note wiring changes required and the CVE/ICAD combination is higher than CVQ  
 2) CVE Remote mounting kit available if CVE/ICAD1200 is too high when replacing existing CVQ (CVH also required)

Notes below are applicable to previous design Pilot valve range

- In hot gas relief systems Danfoss recommends the use of CVP-HP due to the robust design
- The CVP (LP) and CVPP (LP) are non-serviceable pilot valves. Malfunction of such pilot valves in the system will lead to a non-functional system. In order to have a proactive approach Danfoss therefore recommends that CVP (LP) and CVPP (LP) are replaced after max. 7 years in operation.

## ELECTRONIC CONTROLS



### EKC & EKE - ELECTRONIC CONTROLLERS

\* EKC315A, 361 & 366 WILL STOPPED BEING PRODUCED IN OCTOBER 2022, A RETROFIT OPTION WILL BE AVAILABLE USING EKE400



| TYPE                                                         | CODE     | APPROX WEIGHT |
|--------------------------------------------------------------|----------|---------------|
| EKE 347 LIQUID LEVEL CONTROL (ICM & AKVA with MODBUS)        | 080G5000 | 0.36          |
| EKC 361 TEMPERATURE CONTROL (ICM & CVQ)                      | 084B7060 | 0.35          |
| EKC 366 INTERFACE (CVQ)                                      | 084B7076 | 0.31          |
| EKC 315A SUPERHEAT CONTROL (AKVA & ICM) 1)                   | 084B7086 | 0.35          |
| EKC 316A SUPERHEAT CONTROL (ETS & CCM) 1)                    | 084B7088 | 0.35          |
| EKE 1C SUPERHEAT CONTROL DIN MOUNT (for ETS, Colibri, CCM/T) | 080G5400 | 0.28          |
| MMIGRS2 REMOTE DISPLAY, PANEL MOUNT (for EKE)                | 080G0294 | 0.25          |
| ACCCBI REMOTE DISPLAY CABLE USER 3m (from EKE 1 to Display)  | 080G0076 | 0.08          |
| EKC 319A DISCHARGE TEMP CONTROL (AKVA)                       | 084B7251 | NLA           |
| EKC204 / AK-CC 250 (SYSTEM CONTROL with built in MODBUS)     | 084B8528 | 0.25          |
| EKE 2U Backup power module                                   | 080G5555 | 0.30          |

• For temperature sensors and pressure transmitters, refer to page 126

1) Use in conjunction with AKS33 or AKS3000 and AKS21 or AKS11

### EKE400 - EVAPORATOR CONTROLLER (NEW)



| TYPE                                                        | CODE     | APPROX WEIGHT |
|-------------------------------------------------------------|----------|---------------|
| EKE 400 Evap. Controller. w HMI. 230 V                      | 080G5003 | 0.66          |
| EKE 400 Evap. Contr. w HMI. 24 V ac/dc                      | 080G5004 | 0.64          |
| EKE 400 Evap. Controller. w/o HMI. 230 V                    | 080G5005 | 0.60          |
| EKE 400 Evap. Contr. w/o HMI. 24 V ac/dc                    | 080G5006 | 0.60          |
| MMIGRS2 REMOTE DISPLAY/HMI, PANEL MOUNT (for EKE)           | 080G0294 | 0.25          |
| ACCCBI REMOTE DISPLAY CABLE USER 3m (from EKE 1 to Display) | 080G0076 | 0.08          |
| EKE1-B controller w/o HMI 24 VAC/DC 1)                      | 080G5350 | 0.24          |

- Evaporator controller for industrial and heavy commercial refrigeration
- Utilised the commonly used sensors in the IR industry (AKS33 and AKS21 etc)
- Analogue output are voltage signal only so signal converter required should 4-20mA required

1) EKE1-B is required as a driver when using a CCM/T, ETS, KVS etc stepper valves

- <https://www.danfoss.com/en/products/electronic-controls/dcs/evaporator-control-eke-400/#tab-overview>

## ELECTRONIC CONTROLS (CONT'D)



### Excellent evaporator control Saves you time and money

 **Specifically for industrial refrigeration**

- Application specific evaporator controller managing the complete operation in cooling and defrost mode for optimal operation and defrost sequence
- One dedicated controller per evaporator
- For small and large systems alike
- Applicable for defrosting flooded evaporators and DX evaporators
- Supports multiple defrost methods: Hot gas defrost, electrical defrost, and water/brine defrost

 **Cost efficient installation & easy setup**

- Distributed Control Systems (DCS) reduce controls installation costs compared to central PLC systems.
- Easy-to-use Wizard enables quick setup of key parameters, reduced need for PLC programming in the field
- Replication of setup to multiple EKE 400 units via Danfoss tools
- Especially designed to get the best performance from Danfoss valves
- Also works with non-Danfoss valves
- Modbus communication allows integration to central PLC system
- CANbus communication for interconnection of multiple EKE 400 controllers and process alignment
- Can be used without central PLC as standalone



 **Complete solution from Danfoss**

- Standardized solution with high flexibility
- Predefined process sequence for reliable operation and defrost
- Complies with IIR recommendations for hot gas defrosting
- Wizard supports correct valve selection for specific evaporator applications
- Reduced reliance on PLC programming expertise

 **Complete solution from Danfoss**

- One point of contact regardless of valve/actuator/sensor/controller support

## ELECTRONIC EXPANSION VALVES

### AKVA - INJECTION VALVES



| 42 BAR AND<br>-50 TO 60°C | STRAIGHT                                    |          |               |
|---------------------------|---------------------------------------------|----------|---------------|
| SIZE                      | TYPE                                        | CODE     | APPROX WEIGHT |
| 12                        | AKVA 10-5 WELD 3/8 X 1/2"                   | 068F3265 | 0.45          |
| 12                        | AKVA 10-6 WELD 3/8 X 1/2" <sup>1)</sup>     | 068F3266 | 0.45          |
| 15                        | AKVA 10-7 WELD 1/2 X 3/4" <sup>1)</sup>     | 068F3267 | 0.46          |
| 15                        | AKVA 10-8 WELD 1/2 X 3/4"                   | 068F3268 | 0.47          |
| 20-25                     | AKVA 15-1 W/O FLANGES                       | 068F5020 | 2.13          |
| 20-25                     | AKVA 15-2 W/O FLANGES <sup>1)</sup>         | 068F5023 | 2.13          |
| 20-25                     | AKVA 15-3 W/O FLANGES                       | 068F5026 | 2.13          |
| 20-25                     | AKVA 15-4 W/O FLANGES                       | 068F5029 | 2.11          |
| 32                        | AKVA 20-1 WELD 1 1/4 X 1 1/4"               | 042H2101 | 4.93          |
| 32                        | AKVA 20-2 WELD 1 1/4 X 1 1/4" <sup>1)</sup> | 042H2102 | 4.90          |
| 32                        | AKVA 20-3 WELD 1 1/4 X 1 1/4"               | 042H2103 | 4.90          |
| 40                        | AKVA 20-4 WELD 1 1/2 X 1 1/2" <sup>1)</sup> | 042H2104 | 4.70          |
| 50                        | AKVA 20-5 WELD 2 X 2"                       | 042H2105 | 4.67          |

### AKVA - ACCESSORIES

| TYPE                                              | CODE     | APPROX WEIGHT |
|---------------------------------------------------|----------|---------------|
| AKVA 15 WELD FLANGES 3/4"                         | 027N1220 | 0.95          |
| AKVA 15 WELD FLANGES 1"                           | 027N1225 | 0.94          |
| COIL 24 VAC 20W (all AKVA's) (ex 018F6901 & 6903) | 018F6904 | 0.51          |
| COIL 240 VAC 12 W (all AKVA's except AKV20-4 & 5) | 018F6802 | 0.51          |
| COIL 230 VDC 18 W (all AKVA's)                    | 018F6781 | 0.34          |

Note:

1) AKVA 10-6, AKVA 10-7, AKV15-2, AKVA20-2 and AKVA20-4 will have the best availability.

- If other sizes are required but they are needed urgently your options are:
- Purchase a 15-2, 20-2 or 20-4 and the piston kit for the valve capacity required (see spare parts at rear).
- Use cone from the old valve to replace cone on piston of the new valve to achieve required capacity (inspect cone first).
- ICM valves can also be used as expansion valves (all ICM20 and "A" version of ICM 25 to 65)
- AKVA 20-1 to 20-3 have the same internal porting
- AKVA 20-4 & 20-5 have the same internal porting
- AKVA20's come complete with BUTT weld flanges
- AKVA15's require flanges to be purchased separately
- Current version complete AKVA15 and AKVA20 will not fit in approx. 2001 and before AKVA15 and 20 flanges
- AKVA15 changed to M8 bolts from M6
- AKVA20 changed to M10 bolts from M8



## ELECTRONIC EXPANSION VALVES (CONT'D)



### CCM & CCMT - GAS BYPASS & EXPANSION VALVES FOR CO<sub>2</sub> (WITHOUT CABLE)



| CCM 90 BAR &<br>-40 TO 40°C<br>CCMT 140 BAR &<br>-40 TO 60°C | STRAIGHT/OFFSET                 |          |               |
|--------------------------------------------------------------|---------------------------------|----------|---------------|
| SIZE                                                         | TYPE                            | CODE     | APPROX WEIGHT |
| 1/2" W / 5/8" Sol                                            | CCM 10 CO <sub>2</sub> MP valve | 027H7188 | 2.05          |
| 3/4"W / 7/8" Sol                                             | CCM 20 CO <sub>2</sub> MP valve | 027H7187 | 2.18          |
| 1" W / 1 1/8" Sol                                            | CCM 30 CO <sub>2</sub> MP valve | 027H7186 | 2.20          |
| 1" W / 1 1/8" Sol                                            | CCM 40 CO <sub>2</sub> MP Valve | 027H7185 | 2.17          |
| 1/2" W / 5/8" Sol                                            | CCMT 2, CO <sub>2</sub> Valve   | 027H7200 | 1.86          |
| 1/2" W / 5/8" Sol                                            | CCMT 4, CO <sub>2</sub> Valve   | 027H7201 | 1.86          |
| 1/2" W / 5/8" Sol                                            | CCMT 8, CO <sub>2</sub> Valve   | 027H7202 | 1.86          |
| 1" W / 1 1/8" Sol                                            | CCMT 16 Electric reg. valve     | 027H7231 | 3.03          |
| 1" W / 1 1/8" Sol                                            | CCMT 24 Electric reg. valve     | 027H7232 | 3.03          |
| 1" W / 1 1/8" Sol                                            | CCMT 30 Electric reg. valve     | 027H7233 | 3.00          |
| 1" W / 1 1/8" Sol                                            | CCMT 42 Electric reg. valve     | 027H7234 | 3.02          |

### CCM & CCMT - ACCESSORIES

| SIZE | TYPE                                                 | CODE     | APPROX WEIGHT |
|------|------------------------------------------------------|----------|---------------|
| 8m   | ETS-CCM-CCMT Cable 4 core x 0.5mm 8m w M12 FM        | 034G2200 | 0.32          |
| 10m  | Cable 10m w Round Packard for MBS 8250 <sup>1)</sup> | 064G0950 | 0.59          |
|      | EKE 2U Backup power module                           | 080G5555 | 0.30          |
|      | AKA 211, Accessories, Cable filter <sup>2)</sup>     | 084B2238 | 0.16          |

Note:

- CCMT16 to 42 complete with MBS 8250 ratiometric pressure transmitter -1 to 159 B, 7/16-20 UNF-2A thread (less Packard cable)
- CCM and CCMT does not come with M12 cable, please order separately

1) Cable for CCMT16 to 42 with MBS 8250 fitted as standard.

2) AKA 211 is to be fitted when cable length exceeds 5 meters between valve and controller

## LIQUID LEVEL CONTROL

### AKS4100/U - ELECTRONIC LIQUID LEVEL SENSOR



AKS4100  
Coaxial (Tube) version



AKS4100  
Cable version

| 100 BAR &<br>-60 TO 100°C | AKS4100 REPLACES AKS41                                 |          |               |
|---------------------------|--------------------------------------------------------|----------|---------------|
| LENGTH IN MM              | TYPE                                                   | CODE     | APPROX WEIGHT |
| 800 - 5000                | AKS 4100 LEVEL SENSOR CABLE G 1" BSP <sup>3)</sup>     | 084H4501 | 3.68          |
| 800 - 5000                | AKS 4100U LEVEL SENSOR CABLE 3/4" MPT <sup>2) 3)</sup> | 084H4521 | 3.62          |
| 280                       | AKS 4100 LEVEL SENSOR COAX 1" BSP <sup>1)</sup>        | 084H4517 | 3.73          |
| 280                       | AKS 4100 LEVEL SENSOR COAX 3/4" MPT <sup>1)</sup>      | 084H4536 | 3.72          |
| 500                       | AKS 4100 LEVEL SENSOR COAX 1" BSP <sup>4)</sup>        | 084H4510 | 6.02          |
| 500                       | AKS 4100 LEVEL SENSOR COAX 3/4" MPT <sup>4)</sup>      | 084H4530 | 6.12          |
| 800                       | AKS 4100 LEVEL SENSOR COAX 1" BSP <sup>4)</sup>        | 084H4511 | 6.40          |
| 1000                      | AKS 4100 LEVEL SENSOR COAX 1" BSP <sup>4)</sup>        | 084H4512 | 6.53          |
| 1200                      | AKS 4100 LEVEL SENSOR COAX 1" BSP <sup>4)</sup>        | 084H4513 | 6.27          |
| 1500                      | AKS 4100 LEVEL SENSOR COAX 1" BSP <sup>4)</sup>        | 084H4514 | 6.86          |
| 1700                      | AKS 4100 LEVEL SENSOR COAX 1" BSP <sup>4)</sup>        | 084H4515 | 6.57          |
| 2200                      | AKS 4100 LEVEL SENSOR COAX 1" BSP <sup>4)</sup>        | 084H4516 | 6.91          |
|                           | AKS 4100 1" BUSH                                       | 027F1010 | 0.14          |
|                           | AKS 4100 ALU GASKET (price each, sold in lots 10)      | 084H4547 | 0.07          |

**Note:**

- The AKS4100 is IP66/67 and UV resistant however it is strongly recommended the display (HMI) be protected from direct sunlight
- \*HMI supplied with device can be removed for safe storage and replaced with AKS4100 blank cover 084H4544
- Please order 1" bush for installing AKS4100 G 1" BSP version 084H4501
- AKS4100/4100U come with aluminium gasket

1) AKS4100 280mm version only suitable for Ammonia in current version

2) AKS4100U is 3/4" MPT and will replace the Hansen Level Probes

3) AKS4100 cable version must be fitted to a column and is not suitable for CO<sub>2</sub> or on ships (use Coax)

4) AKS4100 Coax version can be fitted direct into a vessel or column and is suitable for CO<sub>2</sub> + other refrigerants

## LIQUID LEVEL CONTROL (CONT'D)

### LEVEL SWITCHES- ELECTRONIC AND FLOAT



#### LLS4000 - LIQUID LEVEL SWITCH



| 65 BAR &<br>SEE TABLE FOR<br>MEDIA TEMP | NEW                                                                       |          |               |
|-----------------------------------------|---------------------------------------------------------------------------|----------|---------------|
|                                         | TYPE                                                                      | CODE     | APPROX WEIGHT |
|                                         | LLS 4000 liquid level switch G 3/4" BSP (less M12 cable & weld bush)      | 084H6001 | 0.38          |
|                                         | LLS 4000 SIL2 liquid level switch G 3/4" BSP (less M12 cable & weld bush) | 084H6002 | 0.37          |
|                                         | LLS 4000U liquid level switch 3/4" NPT (less M12 cable & weld bush)       | 084H6003 | 0.34          |
|                                         | LLS 4000U SIL2 liquid level switch 3/4" NPT (less M12 cable & weld bush)  | 084H6004 | 0.38          |
|                                         | Weld connector G 3/4" BSP (bush)                                          | 084H6012 | 0.24          |
|                                         | LLS 4000/U Electronic top part, non SIL2                                  | 084H6010 | 0.09          |
|                                         | M12 Danfoss female straight cable, 8 meter 1)                             | 034G2200 | 0.32          |
|                                         | LLS 4000/U Inspection sealing kit                                         | 084H6011 | 0.03          |

**Note:**

- M12 cable and weld connector/bush sold separately (listed above) ((1) new recommended cable)
- Applicable for ammonia and commonly used H(C)FCs, see data sheet for details
- LLS4000 P02 version using latest LLS app version 2.xxx now suitable for OIL, see data sheet for details
- Convenient communication with all units via Bluetooth and a Danfoss app for simple configuration if required
- For SIL applications the SIL2 versions are not configurable
- Relay (Solid state) - 30 V DC max., 200 mA. Use only safety extra low voltage (SELV). Functionally isolated from supply
- Supply - 24 V DC +/-25%, 80 mA
- Low power source (LPS) must be used with safety extra low voltage output (SELV) and current limited to 8 A maximum

#### AKS 38 - FLOAT SWITCH - COMPLETE WITH FLANGES

\* AKS38 WILL STOPPED BEING PRODUCED IN OCTOBER 2022, A RETROFIT OPTION WILL BE AVAILABLE USING LLS4000



| 28 BAR &<br>-50 TO 65°C |                                                     |          |               |
|-------------------------|-----------------------------------------------------|----------|---------------|
|                         | TYPE                                                | CODE     | APPROX WEIGHT |
|                         | AKS 38 FLOAT SWITCH WELD 1"                         | 148H3204 | 11.00         |
|                         | AKS 38 to LLS 4000 retrofit kit <sup>1)</sup> (new) | 148H3504 | 8.94          |

1) LLS 4000 Retrofit AKS 38 kit includes 1 x LLS 4000 G 3/4" plus a second G3/4" access port for another LLS4000 if required.

## LIQUID LEVEL CONTROL (CONT'D)



### PMFL - FLANGED MAIN VALVES

(PRODUCT DISCONTINUED SEPT 2021 - SPARES SUPPORTED FOR 10 YEARS)

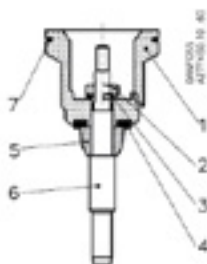


| 28 BAR &<br>-60 TO 120°C | STRAIGHT                           |          |               |
|--------------------------|------------------------------------|----------|---------------|
| SIZE                     | TYPE                               | CODE     | APPROX WEIGHT |
| 20-32                    | PMFL 80-1 MAIN VALVE <sup>1)</sup> | 027F3054 | NLA           |
|                          | PMFL 80-2 MAIN VALVE               | 027F3055 | NLA           |
|                          | PMFL 80-3 MAIN VALVE               | 027F3056 | NLA           |
|                          | PMFL 80-4 MAIN VALVE               | 027F3057 | NLA           |
|                          | PMFL 80-5 MAIN VALVE <sup>1)</sup> | 027F3058 | NLA           |
|                          | PMFL 80-6 MAIN VALVE               | 027F3059 | NLA           |
|                          | PMFL 80-7 MAIN VALVE               | 027F3060 | NLA           |
| 32-40                    | PMFL 125 MAIN VALVE                | 027F3061 | NLA           |
| 40-50                    | PMFL 200 MAIN VALVE                | 027F3062 | NLA           |
| 50-65                    | PMFL 300 MAIN VALVE                | 027F3063 | NLA           |
|                          | PMFL 80 WEAK SPRING                | 027F0123 | NLA           |
|                          | PMFL 125 WEAK SPRING               | 027F0124 | NLA           |
|                          | PMFL 200 WEAK SPRING               | 027F0125 | NLA           |
|                          | PMFL 300 WEAK SPRING               | 027F0126 | NLA           |
|                          | PMFL 80 STRONG SPRING              | 027F0118 | NLA           |
|                          | PMFL 125 STRONG SPRING             | 027F0119 | NLA           |
|                          | PMFL 200 STRONG SPRING             | 027F0120 | NLA           |
|                          | PMFL 300 STRONG SPRING             | 027F0121 | NLA           |

- Excluding flanges
- The PMFL can be used together with SV 4 as a pilot valve.

1) Best availability for urgent needs

- \*\* If other sizes are required urgently purchase item 1) and reuse cone (part 5) from valve being replaced in the new valve



PMFL Piston Assembly

\*\*\* PMFL 80-1 to 80-3 have the same orifice size in body so cone (part 5) can be interchanged

\*\*\* PMFL 80-4 to 80-7 have the same orifice size in body so cone (part 5) can be interchanged

The cone (part 5) determines the valves capacity.

After inspection this cone can be installed in a new PMFL80 to achieve the required valve capacity.

## LIQUID LEVEL CONTROL (CONT'D)

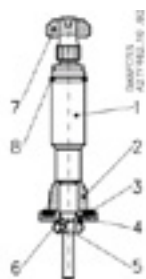
### PMFH - FLANGED MAIN VALVES

(PRODUCT DISCONTINUED SEPT 2021 - SPARES SUPPORTED FOR 10 YEARS)



| 28 BAR &<br>-60 TO 120°C | STRAIGHT                           |          |               |
|--------------------------|------------------------------------|----------|---------------|
| SIZE                     | TYPE                               | CODE     | APPROX WEIGHT |
| 20-32                    | PMFH 80-2 MAIN VALVE               | 027F3065 | NLA           |
|                          | PMFH 80-3 MAIN VALVE               | 027F3066 | NLA           |
|                          | PMFH 80-4 MAIN VALVE               | 027F3067 | NLA           |
|                          | PMFH 80-5 MAIN VALVE               | 027F3068 | NLA           |
|                          | PMFH 80-6 MAIN VALVE <sup>1)</sup> | 027F3069 | NLA           |
|                          | PMFH 80-7 MAIN VALVE               | 027F3070 | NLA           |
| 32-40                    | PMFH 125 MAIN VALVE                | 027F3071 | NLA           |
| 40-50                    | PMFH 200 MAIN VALVE                | 027F3072 | NLA           |
| 50-65                    | PMFH 300 MAIN VALVE                | 027F3073 | NLA           |
| 65-80                    | PMFH 500 MAIN VALVE                | 027F3074 | NLA           |

- Excluding flanges
- 1) Best availability for urgent needs
- If other sizes are required urgently purchase item 1) and reuse cone (part 2) from valve being replaced in the new valve



PMFH Piston Assembly

\*\*\* For PMFH 80-2 to 80-7 part 2 determines the valves capacity.  
 After inspection this cone can be installed in a new PMFH80 to achieve the required valve capacity.

## LIQUID LEVEL CONTROL (CONT'D)

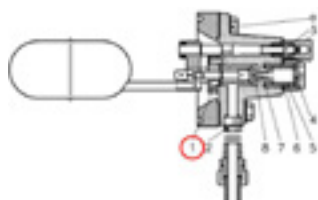


### PMFL/H - WELDING FLANGES

(PM VALVE RANGE TO BE PHASED OUT IN LATE 2013, SPARES PARTS WILL CONTINUE)



| SIZE | TYPE                           | CODE     | APPROX WEIGHT |
|------|--------------------------------|----------|---------------|
| 20   | PMFL/H 80 WELD FLANGES 3/4"    | 027N1220 | 0.95          |
| 25   | PMFL/H 80 WELD FLANGES 1"      | 027N1225 | 0.94          |
| 32   | PMFL/H 80 WELD FLANGES 1 1/4"  | 027N1230 | 0.98          |
| 32   | PMFL/H 125 WELD FLANGES 1 1/4" | 027N2332 | 1.59          |
| 40   | PMFL/H 125 WELD FLANGES 1 1/2" | 027N2340 | 1.63          |
| 40   | PMFL/H 200 WELD FLANGES 1 1/2" | 027N2440 | 2.11          |
| 50   | PMF/HL 200 WELD FLANGES 2"     | 027N2450 | 2.12          |
| 50   | PMFL/H 300 WELD FLANGES 2"     | 027N2550 | 3.00          |
| 65   | PMFL/H 300 WELD FLANGES 2 1/2" | 027N2565 | 3.17          |



Note:

- PMFL, recommended to use SV4
- When using SV4 with PMFL remove 4 x M6 grub screw (pos 1). See SV4-6 instructions for more details.

## FLOATS

### SV - LP AND HP FLOATS



| SV FLOAT<br>28 BAR AND<br>-50 TO 65°C |                                          |          |               |
|---------------------------------------|------------------------------------------|----------|---------------|
| TYPE                                  |                                          | CODE     | APPROX WEIGHT |
| <b>LP AND HP APPLICATIONS</b>         |                                          |          |               |
|                                       | SV 1 PILOT VALVE                         | 027B2021 | 7.65          |
|                                       | SV 3 PILOT VALVE                         | 027B2023 | 7.64          |
|                                       | SV1-3 DEFROST DRAIN FLOAT CONVERSION KIT | 027B2054 | 0.07          |
| <b>LP APPLICATIONS ONLY</b>           |                                          |          |               |
|                                       | SV 4 PILOT VALVE                         | 027B2024 | 26.50         |
|                                       | SV 5 PILOT VALVE                         | 027B2025 | 26.50         |
|                                       | SV 6 PILOT VALVE                         | 027B2026 | 26.50         |
|                                       | SV 4 PILOT VALVE W/O HOUSING             | 027B2014 | 10.60         |
|                                       | SV 5 PILOT VALVE W/O HOUSING             | 027B2015 | TBA           |
|                                       | SV 6 PILOT VALVE W/O HOUSING             | 027B2016 | 8.92          |

- PMFH, use SV1 & 3 only

## HIGH PRESSURE FLOAT

### HFI - HIGH PRESSURE FLOAT VALVE



| 25 BAR AND<br>-50 TO 80°C |                                                    |          |               |
|---------------------------|----------------------------------------------------|----------|---------------|
| SIZE                      | TYPE                                               | CODE     | APPROX WEIGHT |
| <b>FLANGED</b>            |                                                    |          |               |
| 100                       | HFI 040 FD 100 (4" flange)                         | 148G3102 | 45.80         |
| 100                       | HFI 060 FD 100 (4" flange)                         | 148G3104 | 45.80         |
| 100                       | HFI 070 FD 100 (4" flange)                         | 148G3422 | 43.35         |
| 150                       | HFI 050 FD 150 (6" flange)                         | 148G3105 | 56.49         |
| 150                       | HFI 060 FD 150 (6" flange)                         | 148G3106 | 56.49         |
| 150                       | HFI 070 FD 150 (6" flange)                         | 148G3423 | 49.60         |
| <b>ANSI BUTT WELD</b>     |                                                    |          |               |
| 100                       | HFI 040 A 100 (4" butt weld)                       | 148G3097 | 37.70         |
| 100                       | HFI 050 A 100 (4" butt weld)                       | 148G3098 | 47.49         |
| 100                       | HFI 060 A 100 (4" butt weld)                       | 148G3099 | 47.49         |
| 100                       | HFI 070 A 100 (4" butt weld)                       | 148G3420 | 40.70         |
| 150                       | HFI 060 A 150 (6" butt weld)                       | 148G3101 | 47.49         |
| 150                       | HFI 070 A 150 (6" butt weld)                       | 148G3421 | 39.50         |
| <b>DIN BUTT WELD</b>      |                                                    |          |               |
| 100                       | HFI 040 D 100 (4" butt weld & 2 x ext connections) | 148G3765 | 38.20         |
| 100                       | HFI 050 D 100 (4" butt weld & 2 x ext connections) | 148G3704 | 41.05         |
| 100                       | HFI 060 D 100 (4" butt weld & 2 x ext connections) | 148G3766 | 41.00         |
| 100                       | HFI 070 D 100 (4" butt weld & 2 x ext connections) | 148G3720 | 40.65         |

**Note:**

- Outlet on all HFI's is DN50 Butt Weld / Top external connection is 1/2"-14 NPT & bottom external connection is 3/8"-18 NTP
- The Lead Time indicated can be improved to a possible 4+ weeks (compared to 10+ weeks) using our consolidated air freight at a minimum charge of \$280 per HFI. These arrangements MUST be made when placing your order.

## THERMOSTATIC EXPANSION VALVES

### TEA - INJECTION VALVES (COMPLETE WITH WELD FLANGES)



| 19 BAR AND<br>-50 TO 10°C | STRAIGHT                                        |          |               |
|---------------------------|-------------------------------------------------|----------|---------------|
| SIZE                      | TYPE                                            | CODE     | APPROX WEIGHT |
| 15                        | TEA 20-1 EXPANSION VALVE -50>0C                 | 068G6000 | 2.47          |
| 15                        | TEA 20-2 EXPANSION VALVE -50>0C                 | 068G6001 | 2.44          |
| 15                        | TEA 20-3 EXPANSION VALVE -50>0C                 | 068G6002 | 2.34          |
| 15                        | TEA 20-5 EXPANSION VALVE -50>0C                 | 068G6003 | 2.45          |
| 15                        | TEA 20-8 EXPANSION VALVE -50>0C <sup>1)</sup>   | 068G6004 | 2.34          |
| 15                        | TEA 20-12 EXPANSION VALVE -50>0C                | 068G6005 | 2.47          |
| 15                        | TEA 20-20 EXPANSION VALVE -50>0C                | 068G6006 | 2.38          |
| 15                        | TEA 20-20 EXPANSION VALVE -20>30C <sup>1)</sup> | 068G6135 | 2.43          |
| 20                        | TEA 85-33 EXPANSION VALVE -50>0C                | 068G6007 | 3.22          |
| 20                        | TEA 85-33 EXPANSION VALVE -20>30C               | 068G6141 | 3.12          |
| 20                        | TEA 85-55 EXPANSION VALVE -50>0C <sup>1)</sup>  | 068G6008 | 3.39          |
| 20                        | TEA 85-85 EXPANSION VALVE -50>0C                | 068G6009 | 3.21          |

1) Best availability

- If other sizes are required the best delivery would be to purchase item 1) and orifice kit for the valve capacity required.

**THERMOSTATIC EXPANSION VALVES (CONT'D)**
**TEAT - INJECTION VALVES (COMPLETE WITH WELD FLANGES)**


| 20 BAR | STRAIGHT                             |          |               |
|--------|--------------------------------------|----------|---------------|
| SIZE   | TYPE                                 | CODE     | APPROX WEIGHT |
| 15     | TEAT 20-2 35-65 DEG C                | 068G6125 | TBA           |
| 15     | TEAT 20-2 55-95 DEG C                | 068G6062 | TBA           |
| 15     | TEAT 20-2 90-130 DEG C               | 068G6065 | TBA           |
| 15     | TEAT 20-5 35-65 DEG C                | 068G6126 | TBA           |
| 15     | TEAT 20-5 55-95 DEG C                | 068G6061 | TBA           |
| 15     | TEAT 20-5 90-130 DEG C               | 068G6127 | 2.62          |
| 15     | TEAT 20-8 35-65 DEG C                | 068G6128 | TBA           |
| 15     | TEAT 20-8 55-95 DEG C <sup>1)</sup>  | 068G6063 | 2.67          |
| 15     | TEAT 20-8 90-130 DEG C               | 068G6066 | 2.64          |
| 15     | TEAT 20-20 35-65 DEG C               | 068G6068 | 2.63          |
| 15     | TEAT 20-20 55-95 DEG C               | 068G6064 | 2.62          |
| 15     | TEAT 20-20 90-130 DEG C              | 068G6067 | 2.63          |
| 20     | TEAT 85-33 35-65 DEG C               | 068G6129 | 3.39          |
| 20     | TEAT 85-33 55-95 DEG C <sup>1)</sup> | 068G6070 | 3.57          |
| 20     | TEAT 85-33 90-130 DEG C              | 068G6072 | TBA           |
| 20     | TEAT 85-55 35-65 DEG C               | 068G6130 | 3.36          |
| 20     | TEAT 85-55 55-95 DEG C               | 068G6073 | TBA           |
| 20     | TEAT 85-55 90-130 DEG C              | 068G6131 | TBA           |
| 20     | TEAT 85-85 35-65 DEG C               | 068G6069 | 3.34          |
| 20     | TEAT 85-85 55-95 DEG C               | 068G6071 | TBA           |
| 20     | TEAT 85-85 90-130 DEG C              | 068G6132 | 3.40          |

<sup>1)</sup> Best availability

- If other sizes are required the best delivery would be to purchase item 1) and orifice kit for the valve capacity required.

## EXPANSION VALVES



### TEVA - LIQUID LEVEL CONTROL

**TEVA's were phased out in 2012 (spare parts phased out mid 2020 but not the orifices)**

Spare parts program will need to be used

If a complete new TEVA is required a complete TEA valve and TEVA element assembly is to be purchased

Note: TEVA element spare part does not include the weld pocket or heater

**Codes required for complete TEVA and TEVA Service replacement option:**

**Complete TEVA 20-xx:**

|                                        |          |                     |
|----------------------------------------|----------|---------------------|
| TEA 20-xx (TEA codes on previous page) | 068G6xxx |                     |
| TEVA element                           | 068G3255 | No longer available |
| TEVA heater                            | 068G0037 | No longer available |
| TEVA weld bush                         | 068G0026 |                     |

**Service replacement TEVA 20-xx (no weld bush and optional heater):**

|                                        |          |                     |
|----------------------------------------|----------|---------------------|
| TEA 20-xx (TEA codes on previous page) | 068G6xxx |                     |
| TEVA element                           | 068G3255 | No longer available |
| TEVA heater (optional)                 | 068G0037 | No longer available |

- Please note the availability notes for TEA on previous page



| 19 BAR AND<br>-50 TO 10°C | STRAIGHT                 |          |               |
|---------------------------|--------------------------|----------|---------------|
| SIZE                      | TYPE                     | CODE     | APPROX WEIGHT |
| 15                        | TEVA 20-2 LEVEL CONTROL  | 068G6041 | NLA           |
| 15                        | TEVA 20-3 LEVEL CONTROL  | 068G6042 | NLA           |
| 15                        | TEVA 20-5 LEVEL CONTROL  | 068G6043 | NLA           |
| 15                        | TEVA 20-8 LEVEL CONTROL  | 068G6044 | NLA           |
| 15                        | TEVA 20-12 LEVEL CONTROL | 068G6045 | NLA           |
| 15                        | TEVA 20-20 LEVEL CONTROL | 068G6046 | NLA           |
| 20                        | TEVA 85-33 LEVEL CONTROL | 068G6047 | NLA           |
| 20                        | TEVA 85-55 LEVEL CONTROL | 068G6048 | NLA           |
| 20                        | TEVA 85-85 LEVEL CONTROL | 068G6049 | NLA           |

## EXPANSION VALVES (CONT'D)



### FA - STRAINERS FOR DIRECT MOUNTING (COMPLETE WITH LONGER STAY BOLTS)



| 28 BAR AND<br>-50 TO 140°C | STRAIGHT               |          |               |
|----------------------------|------------------------|----------|---------------|
| SIZE                       | TYPE                   | CODE     | APPROX WEIGHT |
| 15                         | FA STRAINER FOR TEA 20 | 006-0042 | 1.30          |
| 20                         | FA STRAINER FOR TEA 85 | 006-0048 | 2.00          |

### TEA / TEAT / TEVA - ORIFICES



| TYPE                           | CODE     | APPROX WEIGHT |
|--------------------------------|----------|---------------|
| TEA/A ORIFICE ASSEMBLY 1 TR    | 068G2050 | 0.13          |
| TEA/T/A ORIFICE ASSEMBLY 2 TR  | 068G2051 | 0.11          |
| TEA/T/A ORIFICE ASSEMBLY 3 TR  | 068G2052 | 0.11          |
| TEA/T/A ORIFICE ASSEMBLY 5 TR  | 068G2053 | 0.11          |
| TEA/T/A ORIFICE ASSEMBLY 8 TR  | 068G2054 | 0.11          |
| TEA/T/A ORIFICE ASSEMBLY 12 TR | 068G2055 | 0.12          |
| TEA/T/A ORIFICE ASSEMBLY 20 TR | 068G2056 | 0.11          |
| TEA/T/A ORIFICE ASSEMBLY 33 TR | 068G2057 | 0.12          |
| TEA/T/A ORIFICE ASSEMBLY 55 TR | 068G2058 | 0.12          |
| TEA/T/A ORIFICE ASSEMBLY 85 TR | 068G2059 | 0.12          |

**SAFETY VALVES - SUPPLIED WITH TÜV CERTIFICATE**
**SFA10 - SAFETY RELIEF VALVES (CONNECTIONS 1/2"G AND 3/4"G BSP)**


| VALVE  | NOMINAL SIZE |        | FLOW DIAMETER<br>$d_o$ | FLOW AREA<br>$A_0$    | DE-RATED, CERTIFIED<br>COEFFICIENT OF DISCHARGE<br>$K_{dr}$ | EFFECTIVE DISCHARGE AREA<br>$A_0 \times K_{dr}$ |
|--------|--------------|--------|------------------------|-----------------------|-------------------------------------------------------------|-------------------------------------------------|
|        | INLET        | OUTLET |                        |                       |                                                             |                                                 |
| SFA 10 | 10MM         | 20MM   | 6.8MM                  | 36.3MM <sup>2</sup>   | 0.85                                                        | 30.9 mm <sup>2</sup>                            |
|        | 3/8 IN       | 1/2 IN | 0.268 IN               | 0.056 IN <sup>2</sup> |                                                             | 0.048 in <sup>2</sup>                           |

| ANGLE           |                                   |          |               |
|-----------------|-----------------------------------|----------|---------------|
| -50°C*/+100°C   | TYPE                              | CODE     | APPROX WEIGHT |
| 1/2"~3/4" G BSP | SFA 10 T 310 SAFETY VALVE 10 BAR  | 148F4310 | 1.16          |
| 1/2"~3/4" G BSP | SFA 10 T 311 SAFETY VALVE 11 BAR  | 148F4311 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10 T 312 SAFETY VALVE 12 BAR  | 148F4312 | 1.15          |
| 1/2"~3/4" G BSP | SFA 10 T 313 SAFETY VALVE 13 BAR  | 148F4313 | 1.11          |
| 1/2"~3/4" G BSP | SFA 10 T 314 SAFETY VALVE 14 BAR  | 148F4314 | 1.15          |
| 1/2"~3/4" G BSP | SFA 10 T 315 SAFETY VALVE 15 BAR  | 148F4315 | 1.16          |
| 1/2"~3/4" G BSP | SFA 10 T 316 SAFETY VALVE 16 BAR  | 148F4316 | 1.13          |
| 1/2"~3/4" G BSP | SFA 10 T 317 SAFETY VALVE 17 BAR  | 148F4317 | 1.15          |
| 1/2"~3/4" G BSP | SFA 10 T 318 SAFETY VALVE 18 BAR  | 148F4318 | 1.16          |
| 1/2"~3/4" G BSP | SFA 10 T 319 SAFETY VALVE 19 BAR  | 148F4319 | 1.12          |
| 1/2"~3/4" G BSP | SFA 10 T 320 SAFETY VALVE 20 BAR  | 148F4320 | 1.15          |
| 1/2"~3/4" G BSP | SFA 10 T 321 SAFETY VALVE 21 BAR  | 148F4321 | 1.15          |
| 1/2"~3/4" G BSP | SFA 10 T 322 SAFETY VALVE 22 BAR  | 148F4322 | 1.13          |
| 1/2"~3/4" G BSP | SFA 10 T 323 SAFETY VALVE 23 BAR  | 148F4323 | 1.15          |
| 1/2"~3/4" G BSP | SFA 10 T 324 SAFETY VALVE 24 BAR  | 148F4324 | 1.16          |
| 1/2"~3/4" G BSP | SFA 10 T 325 SAFETY VALVE 25 BAR  | 148F4325 | 1.13          |
| 1/2"~3/4" G BSP | SFA 10 T 326 SAFETY VALVE 26 BAR  | 148F4326 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10 T 327 SAFETY VALVE 27 BAR  | 148F4327 | 1.16          |
| 1/2"~3/4" G BSP | SFA 10H T 328 SAFETY VALVE 28 BAR | 148F4328 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 329 SAFETY VALVE 29 BAR | 148F4329 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 330 SAFETY VALVE 30 BAR | 148F4330 | 1.78          |

**Note:**

- SFA 10 suitable for HCFC, HFC, R717 (Ammonia) and R744 (CO<sub>2</sub>) within a temperature range of -50 °C to 100 °C
- SFA 10H only suitable for R744 (CO<sub>2</sub>) within a temperature range of -50 °C to 100 °C

**SAFETY VALVES - SUPPLIED WITH TÜV CERTIFICATE (CONT'D)**

**SFA10 - SAFETY RELIEF VALVES (CONNECTIONS 1/2"G AND 3/4"G BSP) (CONT'D)**

| ANGLE           |                                   |          |               |
|-----------------|-----------------------------------|----------|---------------|
| -50°C*/+100°C   | TYPE                              | CODE     | APPROX WEIGHT |
| 1/2"~3/4" G BSP | SFA 10H T 331 SAFETY VALVE 31 BAR | 148F4331 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 332 SAFETY VALVE 32 BAR | 148F4332 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 333 SAFETY VALVE 33 BAR | 148F4333 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 334 SAFETY VALVE 34 BAR | 148F4334 | 1.24          |
| 1/2"~3/4" G BSP | SFA 10H T 335 SAFETY VALVE 35 BAR | 148F4335 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 336 SAFETY VALVE 36 BAR | 148F4336 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 337 SAFETY VALVE 37 BAR | 148F4337 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 338 SAFETY VALVE 38 BAR | 148F4338 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 339 SAFETY VALVE 39 BAR | 148F4339 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 340 SAFETY VALVE 40 BAR | 148F4340 | 1.23          |
| 1/2"~3/4" G BSP | SFA 10H T 341 SAFETY VALVE 41 BAR | 148F4341 | 0.78          |
| 1/2"~3/4" G BSP | SFA 10H T 342 SAFETY VALVE 42 BAR | 148F4342 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 343 SAFETY VALVE 43 BAR | 148F4343 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 344 SAFETY VALVE 44 BAR | 148F4344 | 1.23          |
| 1/2"~3/4" G BSP | SFA 10H T 345 SAFETY VALVE 45 BAR | 148F4345 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 346 SAFETY VALVE 46 BAR | 148F4346 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 347 SAFETY VALVE 47 BAR | 148F4347 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 348 SAFETY VALVE 48 BAR | 148F4348 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 349 SAFETY VALVE 49 BAR | 148F4349 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 350 SAFETY VALVE 50 BAR | 148F4350 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 351 SAFETY VALVE 51 BAR | 148F4351 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 352 SAFETY VALVE 52 BAR | 148F4352 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 353 SAFETY VALVE 53 BAR | 148F4353 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 354 SAFETY VALVE 54 BAR | 148F4354 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 355 SAFETY VALVE 55 BAR | 148F4355 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 356 SAFETY VALVE 56 BAR | 148F4356 | 0.78          |
| 1/2"~3/4" G BSP | SFA 10H T 357 SAFETY VALVE 57 BAR | 148F4357 | 0.78          |
| 1/2"~3/4" G BSP | SFA 10H T 358 SAFETY VALVE 58 BAR | 148F4358 | 0.78          |
| 1/2"~3/4" G BSP | SFA 10H T 359 SAFETY VALVE 59 BAR | 148F4359 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 360 SAFETY VALVE 60 BAR | 148F4360 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 361 SAFETY VALVE 61 BAR | 148F4361 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 362 SAFETY VALVE 62 BAR | 148F4362 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 363 SAFETY VALVE 63 BAR | 148F4363 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 364 SAFETY VALVE 64 BAR | 148F4364 | 1.78          |
| 1/2"~3/4" G BSP | SFA 10H T 365 SAFETY VALVE 65 BAR | 148F4365 | 1.78          |

**Note:**

- SFA 10 suitable for HCFC, HFC, R717 (Ammonia) and R744 (CO<sub>2</sub>) within a temperature range of -50 °C to 100 °C
- SFA 10H only suitable for R744 (CO<sub>2</sub>) within a temperature range of -50 °C to 100 °C

**SAFETY VALVES - SUPPLIED WITH TÜV CERTIFICATE (CONT'D)**
**SFA15 - SAFETY RELIEF VALVES (CONNECTIONS 3/4"G AND 1"G BSP)**


| VALVE  | NOMINAL SIZE |        | FLOW DIAMETER<br>$d_o$ | FLOW AREA<br>$A_o$    | DE-RATED, CERTIFIED<br>COEFFICIENT OF DISCHARGE<br>$K_{dr}$ |
|--------|--------------|--------|------------------------|-----------------------|-------------------------------------------------------------|
|        | INLET        | OUTLET |                        |                       |                                                             |
| SFA 15 | 15MM         | 20MM   | 13MM                   | 133MM <sup>2</sup>    | 0.73                                                        |
|        | ½ IN         | ¾ IN   | 0.512 IN               | 0.206 IN <sup>2</sup> |                                                             |

**ANGLE**

| -50°C*/+100°C | TYPE                             | CODE     | APPROX WEIGHT |
|---------------|----------------------------------|----------|---------------|
| 3/4"~1" G BSP | SFA 15 T 310 SAFETY VALVE 10 BAR | 148F3310 | 2.11          |
| 3/4"~1" G BSP | SFA 15 T 311 SAFETY VALVE 11 BAR | 148F3311 | 1.96          |
| 3/4"~1" G BSP | SFA 15 T 312 SAFETY VALVE 12 BAR | 148F3312 | 2.10          |
| 3/4"~1" G BSP | SFA 15 T 313 SAFETY VALVE 13 BAR | 148F3313 | 1.98          |
| 3/4"~1" G BSP | SFA 15 T 314 SAFETY VALVE 14 BAR | 148F3314 | 1.97          |
| 3/4"~1" G BSP | SFA 15 T 315 SAFETY VALVE 15 BAR | 148F3315 | 1.98          |
| 3/4"~1" G BSP | SFA 15 T 316 SAFETY VALVE 16 BAR | 148F3316 | 1.98          |
| 3/4"~1" G BSP | SFA 15 T 317 SAFETY VALVE 17 BAR | 148F3317 | 2.00          |
| 3/4"~1" G BSP | SFA 15 T 318 SAFETY VALVE 18 BAR | 148F3318 | 1.98          |
| 3/4"~1" G BSP | SFA 15 T 319 SAFETY VALVE 19 BAR | 148F3319 | 1.98          |
| 3/4"~1" G BSP | SFA 15 T 320 SAFETY VALVE 20 BAR | 148F3320 | 1.99          |
| 3/4"~1" G BSP | SFA 15 T 321 SAFETY VALVE 21 BAR | 148F3321 | 2.10          |
| 3/4"~1" G BSP | SFA 15 T 322 SAFETY VALVE 22 BAR | 148F3322 | 1.98          |
| 3/4"~1" G BSP | SFA 15 T 323 SAFETY VALVE 23 BAR | 148F3323 | 1.97          |
| 3/4"~1" G BSP | SFA 15 T 324 SAFETY VALVE 24 BAR | 148F3324 | 1.99          |
| 3/4"~1" G BSP | SFA 15 T 325 SAFETY VALVE 25 BAR | 148F3325 | 1.99          |
| 3/4"~1" G BSP | SFA 15 T 326 SAFETY VALVE 26 BAR | 148F3326 | 2.02          |
| 3/4"~1" G BSP | SFA 15 T 327 SAFETY VALVE 27 BAR | 148F3327 | 2.01          |
| 3/4"~1" G BSP | SFA 15 T 328 SAFETY VALVE 28 BAR | 148F3328 | 2.00          |
| 3/4"~1" G BSP | SFA 15 T 329 SAFETY VALVE 29 BAR | 148F3329 | 2.10          |
| 3/4"~1" G BSP | SFA 15 T 330 SAFETY VALVE 30 BAR | 148F3330 | 2.00          |
| 3/4"~1" G BSP | SFA 15 T 331 SAFETY VALVE 31 BAR | 148F3331 | 2.00          |
| 3/4"~1" G BSP | SFA 15 T 332 SAFETY VALVE 32 BAR | 148F3332 | 2.01          |
| 3/4"~1" G BSP | SFA 15 T 333 SAFETY VALVE 33 BAR | 148F3333 | 2.01          |
| 3/4"~1" G BSP | SFA 15 T 334 SAFETY VALVE 34 BAR | 148F3334 | 2.01          |
| 3/4"~1" G BSP | SFA 15 T 335 SAFETY VALVE 35 BAR | 148F3335 | 2.02          |
| 3/4"~1" G BSP | SFA 15 T 336 SAFETY VALVE 36 BAR | 148F3336 | 2.02          |
| 3/4"~1" G BSP | SFA 15 T 337 SAFETY VALVE 37 BAR | 148F3337 | 2.00          |
| 3/4"~1" G BSP | SFA 15 T 338 SAFETY VALVE 38 BAR | 148F3338 | 2.03          |
| 3/4"~1" G BSP | SFA 15 T 339 SAFETY VALVE 39 BAR | 148F3339 | 2.03          |
| 3/4"~1" G BSP | SFA 15 T 340 SAFETY VALVE 40 BAR | 148F3340 | 2.02          |

**Note:**

- \* Below -30°C full tightness can only be guaranteed when refrigerant pressure is equal to or lower than 0.5 x Pset
- The discharge capacity of the safety relief valves are based on (ISO 4126-1 / prEN 1313 6 (1998)).

**SAFETY VALVES - SUPPLIED WITH TÜV CERTIFICATE (CONT'D)**
**SFV20 - SAFETY RELIEF VALVES (CONNECTIONS 1 1/4"G AND 1 1/2"G BSP)**


| VALVE  | NOMINAL SIZE |        | FLOW DIAMETER<br>$d_o$ | FLOW AREA<br>$A_o$    | DE-RATED, CERTIFIED<br>COEFFICIENT OF DISCHARGE<br>$K_{dr}$ |
|--------|--------------|--------|------------------------|-----------------------|-------------------------------------------------------------|
|        | INLET        | OUTLET |                        |                       |                                                             |
| SFA 20 | 20MM         | 25MM   | 18MM                   | 254MM <sup>2</sup>    | 0.54                                                        |
|        | 3/4 IN       | 1 IN   | 0.709 IN               | 0.394 IN <sup>2</sup> |                                                             |

| ANGLE                 |                                 |          |               |
|-----------------------|---------------------------------|----------|---------------|
| -30/+100°C            | TYPE                            | CODE     | APPROX WEIGHT |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 310 SAFETY VALVE 10 BAR | 2416+285 | 4.01          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 311 SAFETY VALVE 11 BAR | 2416+286 | 3.98          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 312 SAFETY VALVE 12 BAR | 2416+287 | 4.01          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 313 SAFETY VALVE 13 BAR | 2416+160 | 4.00          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 314 SAFETY VALVE 14 BAR | 2416+288 | 4.21          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 315 SAFETY VALVE 15 BAR | 2416+289 | 4.01          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 316 SAFETY VALVE 16 BAR | 2416+290 | 4.06          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 317 SAFETY VALVE 17 BAR | 2416+291 | 4.24          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 318 SAFETY VALVE 18 BAR | 2416+161 | 4.03          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 319 SAFETY VALVE 19 BAR | 2416+292 | 4.02          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 320 SAFETY VALVE 20 BAR | 2416+293 | 4.03          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 321 SAFETY VALVE 21 BAR | 2416+162 | 4.05          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 322 SAFETY VALVE 22 BAR | 2416+294 | 4.13          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 323 SAFETY VALVE 23 BAR | 2416+295 | 3.99          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 324 SAFETY VALVE 24 BAR | 2416+296 | 3.98          |
| 1 1/4" ~ 1 1/2" G BSP | SFV20 T 325 SAFETY VALVE 25 BAR | 2416+186 | 4.01          |

**SAFETY VALVES - SUPPLIED WITH TÜV CERTIFICATE (CONT'D)**
**SFV25 - SAFETY RELIEF VALVES (CONNECTIONS 1 1/4"G AND 1 1/2"G BSP)**


| VALVE  | NOMINAL SIZE |          | FLOW DIAMETER<br>$d_o$ | FLOW AREA<br>$A_o$    | DE-RATED, CERTIFIED<br>COEFFICIENT OF DISCHARGE<br>$K_{dr}$ |
|--------|--------------|----------|------------------------|-----------------------|-------------------------------------------------------------|
|        | INLET        | OUTLET   |                        |                       |                                                             |
| SFV 25 | 25MM         | 32MM     | 23MM                   | 415MM <sup>2</sup>    | 0.48                                                        |
|        | 1 IN         | 1 1/4 IN | 0.906 IN               | 0.643 IN <sup>2</sup> |                                                             |

| ANGLE               |                                 |          |               |
|---------------------|---------------------------------|----------|---------------|
| -30/+100°C          | TYPE                            | CODE     | APPROX WEIGHT |
| 1 1/4"~1 1/2" G BSP | SFV25 T 310 SAFETY VALVE 10 BAR | 2416+297 | 4.01          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 311 SAFETY VALVE 11 BAR | 2416+298 | 3.98          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 312 SAFETY VALVE 12 BAR | 2416+299 | 4.01          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 313 SAFETY VALVE 13 BAR | 2416+163 | 4.29          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 314 SAFETY VALVE 14 BAR | 2416+300 | 4.04          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 315 SAFETY VALVE 15 BAR | 2416+301 | 4.04          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 316 SAFETY VALVE 16 BAR | 2416+302 | 4.07          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 317 SAFETY VALVE 17 BAR | 2416+303 | 4.11          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 318 SAFETY VALVE 18 BAR | 2416+164 | 4.03          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 319 SAFETY VALVE 19 BAR | 2416+304 | 4.24          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 320 SAFETY VALVE 20 BAR | 2416+305 | 4.02          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 321 SAFETY VALVE 21 BAR | 2416+165 | 4.04          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 322 SAFETY VALVE 22 BAR | 2416+306 | 4.04          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 323 SAFETY VALVE 23 BAR | 2416+307 | 4.02          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 324 SAFETY VALVE 24 BAR | 2416+308 | 4.03          |
| 1 1/4"~1 1/2" G BSP | SFV25 T 325 SAFETY VALVE 25 BAR | 2416+187 | 4.03          |

- The discharge capacity of the safety relief valves are based on (ISO 4126-1 / prEN 1313 6 (1998)).

## SAFETY VALVES

### DSV - DOUBLE STOP VALVES AND ACCESSORIES



| TYPE                                              | CODE     | APPROX WEIGHT |
|---------------------------------------------------|----------|---------------|
| NIPPLES + GASKETS SET DSV 10/SFA 10               | 148F3067 | 0.95          |
| NIPPLES + GASKETS SET SFV 15/SFA 15 <sup>1)</sup> | 148F3019 | 0.34          |
| SFA 10/SFA 10H G Inlet weld connector DN15        | 148F3075 | 0.18          |
| Flanges + gaskets set for SFV 20                  | 148F3020 | 2.82          |
| Flanges + gaskets set for SFV 25                  | 148F3021 | 2.79          |
| DSV 10 Cap and alu gasket for testing (1 set)     | 148F3063 | 0.30          |
| DSV 10 for SFA 10 G thread                        | 148F3054 | 2.60          |
| DSV1 D25/ND20, DUAL STOPVALVE+KIT (for SFA15)     | 148F3005 | 4.95          |
| DSV2 FD20/ND20, DUAL STOPVALVE+KIT (for SFA15)    | 148F3006 | 9.73          |
| DSV2 FD25/ND20, DUAL STOPVALVE+KIT (for SFA15)    | 148F3007 | 9.90          |
| DSV2 FD32/ND20, DUAL STOPVALVE+KIT (for SFA15)    | 148F3008 | 9.56          |
| DSV2 FD25/FD25, DUAL STOPVALVE+KIT (for SFV20)    | 148F3009 | 11.77         |
| DSV2 FD32/FD25, DUAL STOPVALVE+KIT (for SFV20)    | 148F3010 | 11.76         |
| DSV2 FD32/FD32, DUAL STOPVALVE+KIT (for SFV25)    | 148F3011 | 9.66          |
| Nipples + gaskets set for 25D/ND20 DSV1/SFA 15    | 148F3037 | 1.01          |
| Flanges + gaskets set for FD20/ND20 DSV2/SFA 15   | 148F3038 | 3.38          |
| Flanges + gaskets set for FD25/ND20 DSV2/SFA 15   | 148F3039 | 3.37          |
| Flanges + gaskets set for FD32/ND20 DSV2/SFA 15   | 148F3040 | 3.16          |
| Flanges + gaskets set for FD25/FD25 DSV2/SFV 20   | 148F3041 | 5.48          |
| Flanges + gaskets set for FD32/FD25 DSV2/SFV 20   | 148F3042 | 5.21          |
| Flanges + gaskets set for FD32/FD32 DSV2/SFV 25   | 148F3043 | 5.78          |

Note:

1) Weld nipple for SFA10 inlet (G 1/2") not included in 148F3019, order 148F3075 in addition to 148F3019 (for stand alone applications).

**SAFETY VALVES (CONT'D)**

**TYPE CODES**

| VALVE TYPE           | DSV INLET CONNECTION | DSV OUTLET CONNECTION           | SFA/SFV OUTLET CONNECTION | SAFETY VALVE COMBINATION | CODE NO. |
|----------------------|----------------------|---------------------------------|---------------------------|--------------------------|----------|
| DSV 10 G             | ND20 (¾ in. RH)      | G ½ in. Union                   | ND20 (¾ in.)              | SFA 10 T                 | 148F3054 |
| DSV 10 NPT           | NPT (¾ in.) Male     | NPT (½ in.) Female              | NPT (¾ in.) Male          | SFA 10 NPT               | 148F3055 |
| DSV 1                | D25 (1 in.)          | G ¾ in. Union                   | ND20 (¾ in.)              | SFA 15/BSV 8             | 148F3005 |
| DSV 2                | FD20 (¾ in.)         | G ¾ in. thread flange           | ND20 (¾ in.)              | SFA 15/BSV 8             | 148F3006 |
| DSV 2                | FD25 (1 in.)         | G ¾ in. thread flange           | ND20 (¾ in.)              | SFA 15/BSV 8             | 148F3007 |
| DSV 2                | 2 FD32 (1¼ in.)      | G ¾ in. thread flange           | ND20 (¾ in.)              | SFA 15/BSV 8             | 148F3008 |
| DSV 2                | FD25 (1 in.)         | G 1¼ in. thread flange          | FD25 (1 in.)              | SFV 20                   | 148F3009 |
| DSV 2                | 2 FD32 (1¼ in.)      | G 1¼ in. thread flange          | FD25 (1 in.)              | SFV 20                   | 148F3010 |
| DSV 2                | 2 FD32 (1¼ in.)      | G 1¼ in. thread flange          | FD32 (1¼ in.)             | SFV 25                   | 148F3011 |
| CONNECTION FITTINGS: | T                    | Thread branch ISO 228 male      |                           |                          |          |
|                      | NPT                  | Thread branch ANSI/ASME B1.20.1 |                           |                          |          |
|                      | D                    | Weld branch DIN 2448            |                           |                          |          |
|                      | ND                   | Weld nipples DIN 2448           |                           |                          |          |
|                      | FD                   | Weld flanges DIN 2448           |                           |                          |          |

Note:

Above code numbers include:

- DSV valve, DSV inlet connection fitting, DSV outlet connection fitting, SFA/BSV/SFV outlet connection fittings and necessary seals.
- Safety valves SFA/BSV/SFV must be ordered separately (see SFA/BSV/SFV technical documentation).

## SAFETY VALVES (CONT'D)

### POV - INTERNAL SAFETY RELIEF VALVE



| ANGLE                               |          |               |
|-------------------------------------|----------|---------------|
| TYPE                                | CODE     | APPROX WEIGHT |
| POV 600 BUTT WELD, ANSI DN40 ANG    | 2417+047 | 4.75          |
| POV 1050 BUTT WELDNG, ANSI DN65 ANG | 148F3027 | 6.80          |
| POV 2150 BUTT WELD, ANSI DN80 ANG   | 148F3034 | 12.81         |

**Note:**

- POV does not come with pilot connect as this is part of the WELDING NIPPLES FOR BSV set purchased separately
- POV are approved to operate with BSV's of pressure setting ranges 15 to 25 bar only.

## SAFETY VALVES (CONT'D)

**BSV - PILOT VALVE FOR POV OR STAND ALONE  
(CONNECTIONS 3/4"G AND 1"G BSP)**

**SUPPLIED WITH TÜV CERTIFICATE**



| ANGLE                                                                               |          |               |
|-------------------------------------------------------------------------------------|----------|---------------|
| TYPE                                                                                | CODE     | APPROX WEIGHT |
| BSV 8 T 310 SAFETY VALVE 10 BAR                                                     | 2416+316 | 1.67          |
| BSV 8 T 311 SAFETY VALVE 11 BAR                                                     | 2416+317 | 1.80          |
| BSV 8 T 312 SAFETY VALVE 12 BAR                                                     | 2416+318 | 1.65          |
| BSV 8 T 313 SAFETY VALVE 13 BAR                                                     | 2416+206 | 1.65          |
| BSV 8 T 314 SAFETY VALVE 14 BAR                                                     | 2416+319 | 1.64          |
| BSV 8 T 315 SAFETY VALVE 15 BAR                                                     | 2416+320 | 1.66          |
| BSV 8 T 316 SAFETY VALVE 16 BAR                                                     | 2416+222 | 1.66          |
| BSV 8 T 317 SAFETY VALVE 17 BAR                                                     | 2416+321 | 1.61          |
| BSV 8 T 318 SAFETY VALVE 18 BAR                                                     | 2416+207 | 1.66          |
| BSV 8 T 319 SAFETY VALVE 19 BAR                                                     | 2416+322 | 1.65          |
| BSV 8 T 320 SAFETY VALVE 20 BAR                                                     | 2416+208 | 1.65          |
| BSV 8 T 321 SAFETY VALVE 21 BAR                                                     | 2416+209 | 1.62          |
| BSV 8 T 322 SAFETY VALVE 22 BAR                                                     | 2416+210 | 1.62          |
| BSV 8 T 323 SAFETY VALVE 23 BAR                                                     | 2416+323 | 1.65          |
| BSV 8 T 321 SAFETY VALVE 24 BAR                                                     | 2416+324 | 1.65          |
| BSV 8 T 325 SAFETY VALVE 25 BAR                                                     | 2416+211 | 1.62          |
| WELDING NIPPLES FOR POV+BSV <sup>1)</sup>                                           | 148H3453 | 0.56          |
| NIPPLES + GASKETS SET SFV15 / SFA15 <sup>2)</sup>                                   | 148F3019 | 0.34          |
| Dismounting kit for DSV 1 (2 x inlet & outlet gaskets for BSV or SFA) <sup>3)</sup> | 148F3029 | 0.03          |

## SAFETY VALVES (CONT'D)

### BSV - PILOT VALVE FOR POV OR STAND ALONE (CONNECTIONS 3/4"G AND 1"G BSP) (CONT'D)

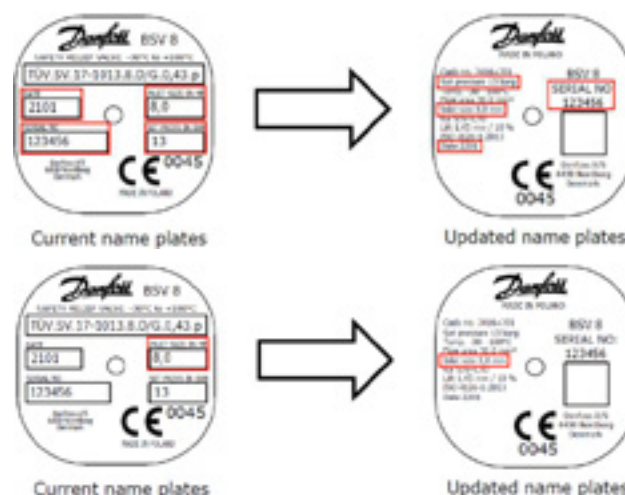


- BSV's are supplied without fittings or gaskets
- <sup>1)</sup> For system POV + BSV use WELDING NIPPLES FOR POV+BSV (148H3453)
- <sup>2)</sup> For stand-alone BSV use NIPPLES + GASKETS SET SFV 15/SFA 15 (148F3019)
- <sup>3)</sup> For BSV gaskets only, use Dismounting kit for DSV 1 (148F3029)
- It is now possible to download copies of Pressure Setting Certificates for the following
- Danfoss Safety valves produced after January 1st 2015 (SFA10 & 15, SFV20 & 25, BSV)
- Only 4 search parameters are required which are all available on the valve:

- Date (example 2101 = yr 2021 wk 01)
- Inlet size in mm
- Serial number
- Set pressure in bar

- After clicking SEARCH; the certificate opens in pdf format
- Link to certificate download site: <http://industrialrefrigeration.danfoss.com/documentation/safety-valve-certificates/#/>
- Please note:

- "Flow Diameter" stated at the top of each safety valve section and "Inlet size" as stated on the safety valves tag is the same.
- Using these sizes is a good way to identify the actual safety valve if required



| VALVE | NOMINAL SIZE |        | FLOW DIAMETER<br>$d_o$ | FLOW AREA<br>$A_o$    | DE-RATED, CERTIFIED COEFFICIENT OF DISCHARGE<br>$K_{dr}$ |
|-------|--------------|--------|------------------------|-----------------------|----------------------------------------------------------|
|       | INLET        | OUTLET |                        |                       |                                                          |
| BSV 8 | 15MM         | 20MM   | 8MM                    | 50MM <sup>2</sup>     | 0.46                                                     |
|       | ½ IN         | ¾ IN   | 0.315 IN               | 0.078 IN <sup>2</sup> |                                                          |

## OIL REGULATING AND MULTIFUNCTION VALVES

### KDC - MULTIFUNCTIONAL COMPRESSOR VALVE



| 40 BAR AND<br>-50 TO 150°C | ANGLE           |          |               |
|----------------------------|-----------------|----------|---------------|
| SIZE                       | TYPE            | CODE     | APPROX WEIGHT |
| 65                         | KDC-065-A-2 bar | 148G3588 | 5.95          |
| 80                         | KDC-080-A-2 bar | 148G3592 | 10.39         |
| 100                        | KDC-100-A-2 bar | 148G3596 | 19.25         |
| 125                        | KDC-125-A-2 bar | 148G3600 | 37.00         |
| 150                        | KDC-150-A-2 bar | 148G3604 | 56.50         |
| 200                        | KDC-200-A-2 bar | 148G3608 | 93.00         |
| 65                         | KDC-065-A-3 bar | 148G3811 | 5.81          |
| 80                         | KDC-080-A-3 bar | 148G3812 | 10.49         |
| 100                        | KDC-100-A-3 bar | 148G3813 | 19.11         |

## OIL REGULATING AND MULTIFUNCTION VALVES (CONT'D)



### ORV - OIL REGULATING VALVE



| 40 BAR AND<br>-10 TO 85°C                                                                                           | ANGLE                                      |          |               |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------|---------------|
| SIZE                                                                                                                | TYPE                                       | CODE     | APPROX WEIGHT |
| <b>Note: Complete ORV valves will not be available as at December 2013. Please order body and insert separately</b> |                                            |          |               |
| <b>THERMOSTAT</b>                                                                                                   |                                            |          |               |
| 43°C                                                                                                                | ORV THERMOSTAT H1 43°C/110°F 1)            | 148H3466 | 0.35          |
| 49°C                                                                                                                | ORV THERMOSTAT H1 49°C/120°F 1)            | 148H3463 | 0.28          |
| 60°C                                                                                                                | ORV THERMOSTAT H1 60°C/140°F 1)            | 148H3469 | 0.28          |
| 77°C                                                                                                                | ORV THERMOSTAT H1 77°C/170°F 1)            | 148H3472 | 0.25          |
| 43°C                                                                                                                | ORV THERMOSTAT H2 43°C/110°F 1)            | 148H3467 | 0.40          |
| 49°C                                                                                                                | ORV THERMOSTAT H2 49°C/120°F 1)            | 148H3464 | 0.34          |
| 60°C                                                                                                                | ORV THERMOSTAT H2 60°C/140°F 1)            | 148H3470 | 0.39          |
| 77°C                                                                                                                | ORV THERMOSTAT H2 77°C/170°F 1)            | 148H3473 | 0.28          |
| 43°C                                                                                                                | ORV THERMOSTAT H3 43°C/110°F (2 PCS) 1)    | 148H3468 | 0.48          |
| 49°C                                                                                                                | ORV THERMOSTAT H3 49°C/120°F (2 PCS) 1)    | 148H3465 | 0.55          |
| 60°C                                                                                                                | ORV THERMOSTAT H3 60°C/140°F (2 PCS) 1)    | 148H3471 | 0.54          |
| 77°C                                                                                                                | ORV THERMOSTAT H3 77°C/170°F (2 PCS) 1)    | 148H3474 | 0.49          |
| <b>HOUSING</b>                                                                                                      |                                            |          |               |
| 25                                                                                                                  | ORV 25 SOC H1 Valve housing with cover 3)  | 148H3400 | 4.92          |
| 25                                                                                                                  | ORV 25 ANSI H1 Valve housing with cover 3) | 148H3401 | 4.57          |
| 40                                                                                                                  | ORV 40 ANSI H1 Valve housing with cover 3) | 148H3404 | 4.65          |
| 40                                                                                                                  | ORV 40 SOC H2 Valve housing with cover 3)  | 148H3403 | 8.70          |
| 40                                                                                                                  | ORV 40 ANSI H2 Valve housing with cover 3) | 148H3405 | 8.40          |
| 50                                                                                                                  | ORV 50 SOC H2 Valve housing with cover 3)  | 148H3407 | 8.66          |
| 50                                                                                                                  | ORV 50 ANSI H2 Valve housing with cover 3) | 148H3408 | 8.30          |
| 65                                                                                                                  | ORV 65 ANSI H3 Valve housing with cover 3) | 148H3410 | 18.96         |
| 80                                                                                                                  | ORV 80 ANSI H3 Valve housing with cover 3) | 148H3411 | 18.36         |
| <b>SPARES</b>                                                                                                       |                                            |          |               |
| 25 & 40                                                                                                             | ORV DISMOUNTING KIT H1 4)                  | 148H3246 | 0.24          |
| 40 & 50                                                                                                             | ORV DISMOUNTING KIT H2 4)                  | 148H3247 | 0.02          |
| 65 & 80                                                                                                             | ORV DISMOUNTING KIT H3 2)                  | 148H3248 | 0.02          |

1) Includes cover gasket but does not include guide ring

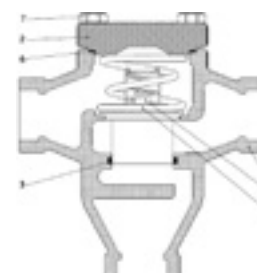
2) Includes two guide rings and one cover gasket

3) Includes cover gasket and guide ring(s) but without thermostat

4) Includes one guide ring and one cover gasket

- Please note: It is recommended to purchase the appropriate dismounting kit when purchasing an ORV Thermostat for service. You will end up with a spare cover gasket but it is beneficial to have the Guide Ring as its condition will be unknown until the ORV is disassembled.

| No. | Part       |
|-----|------------|
| 1   | Housing    |
| 2   | Cover      |
| 3   | Glide Ring |
| 4   | Element *) |
| 5   | Spring     |
| 6   | Gasket     |
| 7   | Bolts      |



## SIGHT GLASSES



### LLG -LIQUID LEVEL GLASSES WITH STOP VALVES

(LLG VERSION WITH SERVICE VALVES NO LONGER SOLD IN AU, PLEASE USE VERSION WITH NIPPLES AND BUY SERVICE VALVES SEPARATELY)



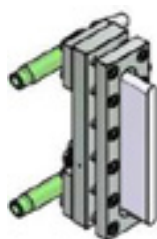
| 25 BAR |                          |          |               |
|--------|--------------------------|----------|---------------|
| LENGTH | TYPE                     | CODE     | APPROX WEIGHT |
| 185    | LLG 185 S <sup>1)</sup>  | 2512+056 | NLA           |
| 335    | LLG 335 S <sup>1)</sup>  | 2512+057 | NLA           |
| 590    | LLG 590 S <sup>1)</sup>  | 2512+058 | NLA           |
| 740    | LLG 740 S <sup>1)</sup>  | 2512+059 | NLA           |
| 995    | LLG 995 S <sup>1)</sup>  | 2512+060 | NLA           |
| 1145   | LLG 1145 S <sup>1)</sup> | 2512+061 | NLA           |
| 1550   | LLG 1550 S <sup>1)</sup> | 2512+062 | NLA           |

Note:

1) For LLG with service valves please order LLG with nipples plus 2 x 148B3769 SNV-ST G 1/2 male X W 1/2 L100

### LLG -LIQUID LEVEL GLASSES WITH STOP VALVES LOW TEMP

(LLG VERSION WITH SIGHT ADAPTOR FOR LT INSULATION NOT STOCKED IN AU AND WILL BE BOUGHT IN TO ORDER)



| 25 BAR |             |          |               |
|--------|-------------|----------|---------------|
| LENGTH | TYPE        | CODE     | APPROX WEIGHT |
| 185    | LLG 185 SF  | 2512+066 | 8.54          |
| 335    | LLG 335 SF  | 2512+067 | 12.35         |
| 590    | LLG 590 SF  | 2512+068 | 20.21         |
| 740    | LLG 740 SF  | 2512+069 | 20.93         |
| 995    | LLG 995 SF  | 2512+070 | 35.54         |
| 1145   | LLG 1145 SF | 2512+071 | 38.84         |
| 1550   | LLG 1550 SF | 2512+072 | 51.00         |

## SIGHT GLASSES (CONT'D)



### LLG -LIQUID LEVEL GLASSES WITH WELDING NIPPLES

(THIS VERSION NOW STOCKED IN AU, PLEASE USE THIS VERSION AND BUY SERVICE VALVES SEPARATELY  
IS SERVICE VALVE OPTION REQUIRED)



| 25 BAR |                                |          |               |
|--------|--------------------------------|----------|---------------|
| LENGTH | TYPE                           | CODE     | APPROX WEIGHT |
| 185    | LLG 185                        | 2512+049 | 7.36          |
| 335    | LLG 335                        | 2512+050 | 10.96         |
| 590    | LLG 590                        | 2512+051 | 18.92         |
| 740    | LLG 740                        | 2512+052 | 19.52         |
| 995    | LLG 995                        | 2512+053 | 36.00         |
| 1145   | LLG 1145                       | 2512+054 | 42.00         |
| 1550   | LLG 1550                       | 2512+055 | 48.34         |
| 1/2"   | SNV-ST G 1/2 male X W 1/2 L100 | 148B3769 | 0.77          |

Note:

1) For LLG with service valves please order LLG with nipples plus 2 x 148B3769 SNV-ST G 1/2 male X W 1/2 L100

## GAS DETECTORS FOR INDUSTRIAL REFRIGERATION APPLICATIONS



General Specs:

| NOTATION | OPERATING RANGE |
|----------|-----------------|
| 1)       | 0°C TO 40°C     |
| 2)       | -10°C TO 50°C   |
| 3)       | -20°C TO 50°C   |
| 4)       | -25°C TO 50°C   |
| 5)       | -30°C TO 50°C   |
| 6)       | -40°C TO 50°C   |
| 7)       | -25°C TO 60°C   |

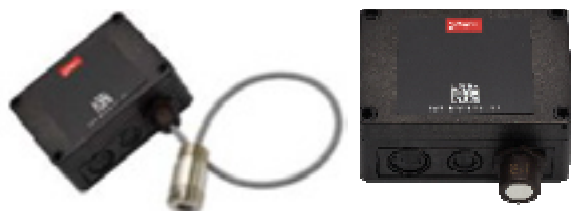
| SENSOR TECHNOLOGY    | IP RATING | RH (NON-CONDESING) | MIN RECOMMENDED CALIBRATION INTERVALS |
|----------------------|-----------|--------------------|---------------------------------------|
| SEMI-CONDUCTOR (SC)  | IP65      | 15% TO 90% RH      | 1 YEAR                                |
| ELECTROCHEMICAL (EC) | IP65      | 15% TO 90% RH      | 1 YEAR                                |
| PELLISTER (P)        | IP65      | 15% TO 90% RH      | 6 MONTHS                              |
| INFRARED (IR)        | IP65      | 15% TO 90% RH      | 5 YEAR                                |



Note:

- All units have Analog 2-10VDC & 4-20mA plus RS485 MODBUS built in
- LCD Displays (when fitted) will not operate below approx. -20°C. They will then operate again above this temp
- Mount the sensor in a location with minimum vibration and minimum temperature variation (\*\* avoid direct sunlight \*\*)
- BASIC units manufactured week 36, 2019 and beyond are now rated down to -40°C
- The previous min rated temp was -30°C for EC and -10°C for SC (new temp stated on unit enclosure)
- \* Remote kit (148H6238) enabling the separation of the GD unit and the sensor head allows sensor heads to work down to -45°C

## GDU - GAS DETECTORS



| GAS                                                                                                                                                                              | TYPE                                    | CODE     | APPROX WEIGHT |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------|---------------|
| <b>BASIC VERSION = 24VAC/DC / AO 2-10VDC &amp; 4-20MA / RS485 MODBUS</b><br>(SERVICE TOOL 148H6224 REQUIRED FOR FUTURE CALIBRATION AND SERVICE) (WATCHDOG FEATURE > MODBUS ONLY) |                                         |          |               |
| R717                                                                                                                                                                             | GDA EC 100 Basic <sup>6)</sup>          | 148H6000 | 0.35          |
| R717                                                                                                                                                                             | GDA EC 300 Basic <sup>6)</sup>          | 148H6008 | 0.30          |
| R717                                                                                                                                                                             | GDA EC 1000 Basic <sup>6)</sup>         | 148H6014 | 0.34          |
| R717                                                                                                                                                                             | GDA SC 1000 Basic <sup>6)</sup>         | 148H6023 | 0.34          |
| R717                                                                                                                                                                             | GDA SC 10000 Basic <sup>6)</sup>        | 148H6071 | 0.01          |
| R717                                                                                                                                                                             | GDA SC 10000 Basic Remote <sup>6)</sup> | 148H6073 | 0.01          |
| CO <sub>2</sub>                                                                                                                                                                  | GDC IR 20000 Basic <sup>6)</sup>        | 148H6072 | 0.35          |

## GAS DETECTORS (CONT'D) FOR INDUSTRIAL REFRIGERATION APPLICATIONS



### BASIC+ VERSION = 24VAC / DC / BUZZER AND LED / AO 2-10VDC & 4-20MA / RS485 MODBUS

(SERVICE TOOL 148H6224 REQUIRED FOR FUTURE CALIBRATION AND SERVICE) (WATCHDOG FEATURE > MODBUS ONLY)

| GAS  | TYPE                              | CODE     | APPROX WEIGHT |
|------|-----------------------------------|----------|---------------|
| R717 | GDA EC 100 Basic + <sup>6)</sup>  | 148H6001 | 0.37          |
| R717 | GDA EC 300 Basic + <sup>6)</sup>  | 148H6009 | 0.37          |
| R717 | GDA EC 1000 Basic + <sup>6)</sup> | 148H6015 | 0.37          |
| R717 | GDA SC 1000 Basic + <sup>6)</sup> | 148H6024 | 0.36          |



### PREMIUM VERSION = 24VDC / 3 RELAYS / AO 2-10VDC & 4-20MA / RS485 MODBUS

(SERVICE TOOL 148H6224 REQUIRED FOR FUTURE CALIBRATION AND SERVICE) (WATCHDOG FEATURE > AO, DO & MODBUS)

| GAS  | TYPE                               | CODE     | APPROX WEIGHT |
|------|------------------------------------|----------|---------------|
| R717 | GDA EC 100 Premium <sup>5)</sup>   | 148H6002 | 0.59          |
| R717 | GDA EC 300 Premium <sup>5)</sup>   | 148H6010 | 0.59          |
| R717 | GDA EC 1000 Premium <sup>5)</sup>  | 148H6016 | 0.59          |
| R717 | GDA SC 1000 Premium <sup>5)</sup>  | 148H6025 | 0.59          |
| R717 | GDA SC 10000 Premium <sup>2)</sup> | 148H6032 | 0.59          |



### PREMIUM+ VERSION = 24VDC / BUZZER AND LED / 3 RELAYS / AO 2-10VDC & 4-20MA / RS485 MODBUS

(SERVICE TOOL 148H6224 REQUIRED FOR FUTURE CALIBRATION AND SERVICE) (WATCHDOG FEATURE > AO, DO & MODBUS)

| GAS  | TYPE                                 | CODE     | APPROX WEIGHT |
|------|--------------------------------------|----------|---------------|
| R717 | GDA EC 100 Premium + <sup>5)</sup>   | 148H6003 | 0.61          |
| R717 | GDA EC 300 Premium + <sup>5)</sup>   | 148H6011 | 0.61          |
| R717 | GDA EC 1000 Premium + <sup>5)</sup>  | 148H6017 | 0.60          |
| R717 | GDA SC 1000 Premium + <sup>2)</sup>  | 148H6026 | 0.61          |
| R717 | GDA EC 5000 Premium + <sup>5)</sup>  | 148H6028 | 0.61          |
| R717 | GDA SC 10000 Premium + <sup>2)</sup> | 148H6033 | 0.60          |
| R717 | GDA P LEL Premium + <sup>5)</sup>    | 148H6036 | 0.61          |

## GAS DETECTORS (CONT'D) FOR INDUSTRIAL REFRIGERATION APPLICATIONS



### GDU - GAS DETECTORS



#### PREMIUM FLEX VERSION = 24VDC / 3 RELAYS / LCD DISPLAY / AO 2-10VDC & 4-20MA / RS485 MODBUS

(ONBOARD DISPLAY CAN BE USED FOR FUTURE CALIBRATION AND SERVICE) (WATCHDOG FEATURE > AO, DO & MODBUS)

| GAS             | TYPE                                                   | CODE     | APPROX WEIGHT |
|-----------------|--------------------------------------------------------|----------|---------------|
| R717            | GDA EC 100 Premium Flex <sup>3)</sup>                  | 148H6006 | 0.60          |
| R717            | GDA EC 300 Premium Flex <sup>3)</sup>                  | 148H6013 | 0.63          |
| R717            | GDA EC 1000 Premium Flex <sup>3)</sup>                 | 148H6020 | 0.60          |
| R717            | GDA SC 1000 Premium Flex <sup>2)</sup>                 | 148H6027 | 0.62          |
| R717            | GDA P LEL Premium Flex <sup>3)</sup>                   | 148H6038 | 0.63          |
| CO <sub>2</sub> | GDC IR 20000 Premium Flex <sup>3)</sup>                | 148H6040 | 0.63          |
| CO <sub>2</sub> | GDC IR 50000 Premium Flex <sup>3)</sup>                | 148H6041 | 0.62          |
| R123            | GDHC Gas detection unit SC 2000 P Flex <sup>3)</sup>   | 148H6044 | 0.63          |
| See table       | GDHF Gas detection unit SC 2000 PremFlex <sup>3)</sup> | 148H6049 | 0.49          |
| See table       | GDHF Gas detection unit R134a SC2000Flex <sup>3)</sup> | 148H6052 | 0.63          |
| See table       | GDHC unit R401/R22 SC 2000 PrFlex <sup>3)</sup>        | 148H6062 | 0.62          |
| R290/Propane    | GDH Gas detection unit P 5000 Prem Flex <sup>3)</sup>  | 148H6055 | 0.63          |



#### PREMIUM DUPLEX VERSION = 24VDC / 3 RELAYS / LCD DISPLAY / AO 2-10VDC & 4-20MA / RS485 MODBUS

(ONBOARD DISPLAY USED FOR FUTURE CALIBRATION AND SERVICE) 2ND SENSOR IS "P LEL" 140000 PPM (WATCHDOG FEATURE > AO, DO & MODBUS)

| GAS  | TYPE                                           | CODE     | APPROX WEIGHT |
|------|------------------------------------------------|----------|---------------|
| R717 | GDA EC 100/P LEL Premium Duplex <sup>3)</sup>  | 148H6004 | 0.66          |
| R717 | GDA EC 300/P LEL Premium Duplex <sup>3)</sup>  | 148H6012 | 0.66          |
| R717 | GDA EC 1000/P LEL Premium Duplex <sup>3)</sup> | 148H6018 | 0.65          |
| R717 | GDA SC 1000/P LEL Premium Duplex <sup>2)</sup> | 148H6037 | 0.64          |

## GAS DETECTORS (CONT'D) FOR INDUSTRIAL REFRIGERATION APPLICATIONS



### PREMIUM REMOTE VERSION = 24VDC / 3 RELAYS / LCD DISPLAY / 5M / AO 2-10VDC & 4-20MA / RS485 MODBUS

(ONBOARD DISPLAY USED FOR FUTURE CALIBRATION AND SERVICE) 5M SENSOR FITTED WITH M30 X 1.5 THREAD (WATCHDOG FEATURE > AO, DO & MODBUS)

| GAS  | TYPE                                      | CODE     | APPROX WEIGHT |
|------|-------------------------------------------|----------|---------------|
| R717 | GDA EC 100 Premium Remote <sup>3)</sup>   | 148H6005 | 1.05          |
| R717 | GDA EC 1000 Premium Remote <sup>3)</sup>  | 148H6019 | 1.10          |
| R717 | GDA EC 5000 Premium Remote <sup>3)</sup>  | 148H6029 | 1.08          |
| R717 | GDA SC 10000 Premium Remote <sup>2)</sup> | 148H6034 | 1.10          |
| All  | GDU M30 female to 3/4" NPT male adapter   | 148H6234 | 0.09          |

Note:

- GDA SC 10000 Prem Remote 148H6034 & GDU M30 female to 3/4" NPT adapter 148H6234 can be used for monitoring vent line.
- \* The sensor must be mounted approx. 600mm from the vent outlet & unit is not to be mounted in direct sunlight



### PREMIUM UPTIME VERS = 90-240VAC / BUZZER & LED / 3 RELAYS / DISPLAY / UPS / AO 2-10VDC & 4-20MA / RS485 MODBUS

(ONBOARD DISPLAY CAN BE USED FOR FUTURE CALIBRATION AND SERVICE) (WATCHDOG FEATURE > AO, DO & MODBUS)

| GAS  | TYPE                                                     | CODE     | APPROX WEIGHT |
|------|----------------------------------------------------------|----------|---------------|
| R717 | GDA EC 100 Premium Uptime <sup>1)</sup>                  | 148H6007 | 1.74          |
| R717 | GDA EC 1000 Premium Uptime <sup>1)</sup>                 | 148H6021 | 1.65          |
| R717 | GDA EC 5000 Premium Uptime <sup>1)</sup> (C/W 5m remote) | 148H6030 | 0.01          |

**GAS DETECTORS (CONT'D)  
 FOR INDUSTRIAL REFRIGERATION APPLICATIONS**

**HEAVY DUTY = 24VDC / 2 X DO1) / LCD DISPLAY / AO 2-10VDC & 4-20MA / RS485 MODBUS /  
 EXPLOSION PROOF / ATEX / IECEC**

(GDU MAGNETIC PEN 148H6229 REQUIRED FOR FUTURE CALIBRATION AND SERVICE) (WATCHDOG FEATURE &gt; AO, DO &amp; MODBUS)

| GAS  | TYPE                                      | CODE     | APPROX WEIGHT |
|------|-------------------------------------------|----------|---------------|
| R717 | GDA EC 100 Heavy Duty <sup>4)</sup>       | 148H6059 | 1.30          |
| R717 | GDA EC 300 Heavy Duty <sup>4)</sup>       | 148H6060 | 1.34          |
| R717 | GDA EC 1000 Heavy Duty <sup>4)</sup>      | 148H6022 | 1.30          |
| R717 | GDA EC 5000 Heavy Duty <sup>4)</sup>      | 148H6031 | 1.35          |
| R717 | GDA SC 10000 Heavy Duty <sup>2)</sup>     | 148H6035 | 1.30          |
| R717 | GDA P LEL 140000 Heavy Duty <sup>7)</sup> | 148H6039 | 1.30          |

Note:

1) 2 x DO (1 x alarm &amp; 1 x fault by default configuration but can be reconfigured)


**HEAVY DUTY = 24VDC / 2 X DO1) / NO DISPLAY / AO 2-10VDC & 4-20MA / RS485 MODBUS /  
 EXPLOSION PROOF / ATEX / IECEC**

| GAS  | TYPE                                              | CODE     | APPROX WEIGHT |
|------|---------------------------------------------------|----------|---------------|
| R717 | GDA EC 100 Heavy Duty less Display <sup>6)</sup>  | 148H6064 | 1.30          |
| R717 | GDA EC 300 Heavy Duty less Display <sup>6)</sup>  | 148H6065 | 1.30          |
| R717 | GDA EC 1000 Heavy Duty less Display <sup>6)</sup> | 148H6066 | 1.30          |

| COMPLETE UNIT | REFRIGERANTS                                                                       | SENSOR   |
|---------------|------------------------------------------------------------------------------------|----------|
| 148H6062      | R401a, R22, R401b, R402a, R402b, R403a, R408a, R409a, R411a                        | 148H6243 |
| 148H6049      | R404a, R507a, R32, R125, R407c, R434a, R488a, R410a, R452b, R143b                  | 148H6210 |
| 148H6052      | R134a, R407a, R416a, R417a, R422a, R422d, R427a, R437a, R438a, R449a, R407f, R450a | 148H6211 |

Note:

- Applicable refrigerants for Premium Flex versions above

## GAS DETECTORS (CONT'D) FOR INDUSTRIAL REFRIGERATION APPLICATIONS



### GDU - ACCESSORIES AND SPARE PARTS



#### REPLACEMENT PARTS AND SENSORS (SENSOR SUPPLIED WITH CALIBRATION CERTIFICATES)

| GAS             | TYPE                                           | CODE     | APPROX WEIGHT |
|-----------------|------------------------------------------------|----------|---------------|
| R717            | GDA EC 100 sensor replacement                  | 148H6200 | 0.04          |
| R717            | GDA EC 300 sensor replacement                  | 148H6201 | 0.04          |
| R717            | GDA EC 1000 sensor replacement                 | 148H6202 | 0.04          |
| R717            | GDA SC 1000 sensor replacement                 | 148H6203 | 0.03          |
| R717            | GDA EC 5000 sensor replacement                 | 148H6204 | 0.03          |
| R717            | GDA SC 10000 sensor replacement                | 148H6205 | 0.03          |
| R717            | GDA P LEL sensor replacement                   | 148H6206 | 0.04          |
| R717            | GDA EC 100 Remote sensor replacement           | 148H6213 | 0.58          |
| R717            | GDA EC 1000 Remote sensor replacement          | 148H6214 | 0.55          |
| R717            | GDA EC 5000 Remote sensor replacement          | 148H6215 | 0.54          |
| R717            | GDA SC 10000 Remote sensor replacement         | 148H6216 | 0.56          |
| R717            | GDA EC 100 Heavy Duty sensor replacement       | 148H6240 | 0.01          |
| R717            | GDA EC 300 Heavy Duty sensor replacement       | 148H6241 | 0.01          |
| R717            | GDA EC 1000 Heavy Duty sensor replacement      | 148H6217 | 0.22          |
| R717            | GDA EC 5000 Heavy Duty sensor replacement      | 148H6218 | 0.21          |
| R717            | GDA SC 10000 Heavy Duty sensor replacement     | 148H6219 | 0.25          |
| R717            | GDA P LEL 140000 Heavy Duty sensor replacement | 148H6220 | 0.25          |
| CO <sub>2</sub> | GDC IR 20000 sensor replacement                | 148H6207 | 0.03          |
| CO <sub>2</sub> | GDC IR 50000 sensor replacement                | 148H6208 | 0.03          |
| R123            | GDHC SC 2000 sensor replacement.               | 148H6209 | 0.01          |
| See table       | GDHF SC 2000 sensor replacement.               | 148H6210 | 0.04          |
| See table       | GDHF-R134A SC 2000 sens replacement.           | 148H6211 | 0.04          |
| See table       | GDHC R401/R22 SC 2000 sensor replacement       | 148H6243 | 0.01          |
| R290/Propane    | GDH P 5000 sensor replacement.                 | 148H6212 | 0.04          |
| All             | GD Premium display                             | 148H6250 | 0.21          |

- 1) GDU Service Tool required for calibration and service of GD's without displays
- 2) GDU Magnetic Pen required for calibration and service of HD units
- 3) Price each, sold in multiples of 10
- 4) Ampoules are for performing bump tests only are can not be used for calibration of sensors
- 5) GDU service tool 148H6224 cannot be used on the Danfoss DGS commercial range of detectors & vice versa (DGS tool is 080Z2820)

**GAS DETECTORS (CONT'D)  
 FOR INDUSTRIAL REFRIGERATION APPLICATIONS**

**GDU - ACCESSORIES AND SPARE PARTS (CONT'D)**
**TOOLS AND ACCESSORIES**

| GAS  | TYPE                                                    | CODE     | APPROX WEIGHT |
|------|---------------------------------------------------------|----------|---------------|
| All  | Controller solution (controller + enclosure)            | 148H6221 | 4.52          |
| All  | Controller expansion module                             | 148H6222 | 0.26          |
| All  | Warning module (wire break monitoring module)           | 148H6223 | 0.55          |
| All  | GDU Service Tool <sup>1) 5)</sup>                       | 148H6224 | 0.46          |
| All  | GDU Premium Buzzer & Light                              | 148H6225 | 0.03          |
| All  | GDU Splash Guard                                        | 148H6226 | 0.01          |
| All  | GDU Protection Cap                                      | 148H6227 | 0.01          |
| All  | GDU Gateway                                             | 148H6228 | 0.12          |
| All  | GDU Magnetic Pen <sup>2)</sup>                          | 148H6229 | 0.02          |
| All  | Controller unit                                         | 148H6231 | 0.30          |
| All  | GDU Calibration Adapter                                 | 148H6232 | 0.09          |
| All  | GDU Calibration Adapter Heavy Duty                      | 148H6233 | 0.22          |
| All  | GDU M30 female to 3/4" NPT male adapter                 | 148H6234 | 0.09          |
| All  | GDU PC Tool                                             | 148H6235 | 0.57          |
| All  | GDU Duct Set                                            | 148H6236 | 0.11          |
| All  | Controller solution Uptime                              | 148H6237 | 8.57          |
| All  | Remote Kit                                              | 148H6238 | 0.65          |
| R717 | GDU AMMONIA 100 PPM AMPOULES <sup>3) 4)</sup>           | 148H5234 | 0.01          |
| R717 | GDU AMMONIA 1,000 PPM AMPOULES <sup>3) 4)</sup>         | 148H5235 | 0.01          |
| R744 | GDU CO <sub>2</sub> 2,000 PPM AMPOULES <sup>3) 4)</sup> | 148H5236 | 0.01          |

1) GDU Service Tool required for calibration and service of GD's without displays

2) GDU Magnetic Pen required for calibration and service of HD units

3) Price each, sold in multiples of 10

4) Ampoules are for performing bump tests only are can not be used for calibration of sensors

5) GDU service tool 148H6224 cannot be used on the Danfoss DGS commercial range of detectors & vice versa (DGS tool is 080Z2820)

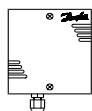
## GAS DETECTORS (CONT'D) FOR INDUSTRIAL REFRIGERATION APPLICATIONS



### GD - GAS DETECTORS AND ACCESSORIES

- This version of gas detector will be phased out during 2018.
- \*Please order new version from previous pages.
- <sup>1)</sup> This code is for the replacement sensor/daughter board for the code above it

#### IP30 -20 TO 40 DEGC (STANDARD BASIC VERSION)



| GAS             | TYPE                                       | CODE     | APPROX WEIGHT |
|-----------------|--------------------------------------------|----------|---------------|
| R717            | GDA EC 100 PPM                             | 148H5000 | NLA           |
| R717            | GDA EC 100 PPM SENSOR PCB <sup>1)</sup>    | 148H5200 | NLA           |
| R717            | GDA EC 300 PPM                             | 148H5060 | NLA           |
| R717            | GDA EC 300 PPM SENSOR PCB <sup>1)</sup>    | 148H5215 | NLA           |
| R717            | GDA EC 1,000 PPM                           | 148H5010 | NLA           |
| R717            | GDA EC 1,000 PPM SENSOR PCB <sup>1)</sup>  | 148H5201 | NLA           |
| R717            | GDA SC 1,000 PPM                           | 148H5040 | NLA           |
| R717            | GDA SC 1,000 PPM SENSOR PCB <sup>1)</sup>  | 148H5249 | NLA           |
| R717            | GDA SC 10,000 PPM                          | 148H5020 | NLA           |
| R717            | GDA SC 10,000 PPM SENSOR PCB <sup>1)</sup> | 148H5202 | NLA           |
| HFC             | GDHF SC 1,000 PPM                          | 148H5110 | NLA           |
| HFC             | GDHF SC 1,000 PPM SENSOR PCB <sup>1)</sup> | 148H5206 | NLA           |
| CO <sub>2</sub> | GDC IR 10,000 PPM c/w LCD DISPLAY          | 148H5071 | NLA           |

#### IP65 -20 TO 40 DEGC (WITH STAINLESS STEEL SENSOR HEAD)



| GAS  | TYPE                                            | CODE     | APPROX WEIGHT |
|------|-------------------------------------------------|----------|---------------|
| R717 | GDA EC 1,000 PPM IP 65                          | 148H5012 | NLA           |
| R717 | GDA EC 1,000 PPM IP 65 SENSOR PCB <sup>1)</sup> | 148H5209 | NLA           |
| R717 | GDA SC 1,000 PPM IP 65                          | 148H5042 | NLA           |
| R717 | GDA SC 1,000 PPM IP 65 SENSOR PCB <sup>1)</sup> | 148H5254 | NLA           |

#### IP65 -20 TO 40 DEGC (WITH PLASTIC SENSOR HEAD)



| GAS  | TYPE                                      | CODE     | APPROX WEIGHT |
|------|-------------------------------------------|----------|---------------|
| R717 | GDA EC 1,000 PPM                          | 148H5059 | NLA           |
| R717 | GDA EC 1,000 PPM SENSOR PCB <sup>1)</sup> | 148H5226 | NLA           |

## GAS DETECTORS (CONT'D) FOR INDUSTRIAL REFRIGERATION APPLICATIONS



### GD - GAS DETECTORS AND ACCESSORIES (CONT'D)

#### IP65 LOW TEMPERATURE -40 TO 40 DEGC (WITH PLASTIC SENSOR HEAD)



| GAS             | TYPE                                           | CODE     | APPROX WEIGHT |
|-----------------|------------------------------------------------|----------|---------------|
| R717            | GDA EC 100 PPM LOW TEMP                        | 148H5005 | NLA           |
| R717            | GDA EC 100 PPM L/TEMP SENSOR PCB <sup>1)</sup> | 148H5221 | NLA           |
| R717            | GDA EC 300 PPM LOW TEMP                        | 148H5065 | NLA           |
| R717            | GDA EC 300 PPM L/TEMP SENSOR PCB <sup>1)</sup> | 148H5224 | NLA           |
| R717            | GDA EC 1,000 PPM LOW TEMP                      | 148H5015 | NLA           |
| R717            | GDA EC 1,000 PPM L/T SENSOR PCB <sup>1)</sup>  | 148H5225 | NLA           |
| CO <sub>2</sub> | GDC IR 20,000 PPM LOW TEMP                     | 148H5082 | NLA           |
| CO <sub>2</sub> | GDC IR 20,000 PPM L/T SENSOR PCB <sup>1)</sup> | 148H5219 | NLA           |

#### IP65 EEXD -20 TO 40 DEGC (CT IS -20 TO 50 DEGC) (ATEX APPROVAL ONLY NOT IEC APPROVED AT THIS STAGE)



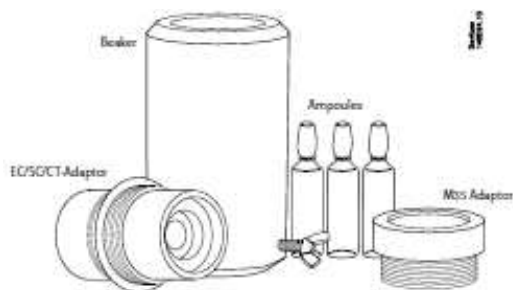
| GAS  | TYPE                                           | CODE     | APPROX WEIGHT |
|------|------------------------------------------------|----------|---------------|
| R717 | GDA EC 1000 EExd                               | 148H5013 | NLA           |
| R717 | GDA EC 1000 EExd SENSOR AND PCB <sup>1)</sup>  | 148H5209 | NLA           |
| R717 | GDA SC 10000 EExd                              | 148H5023 | NLA           |
| R717 | GDA SC 10000 EExd SENSOR AND PCB <sup>1)</sup> | 148H5241 | NLA           |
| R717 | GDA CT 30000 EExd                              | 148H5033 | NLA           |
| R717 | GDA CT 30000 EExd SENSOR AND PCB <sup>1)</sup> | 148H5211 | NLA           |

1) This code is for the replacement sensor/daughter board for the code above it

## GAS DETECTORS (CONT'D) FOR INDUSTRIAL REFRIGERATION APPLICATIONS



### GD - ACCESSORIES AND SPARE PARTS



| GAS  | TYPE                                        | CODE     | APPROX WEIGHT |
|------|---------------------------------------------|----------|---------------|
| All  | GD BUMP TEST KIT                            | 148H5230 | NLA           |
| R717 | GDA AMMONIA 100 PPM AMPOULES 2) 3)          | 148H5234 | 0.01          |
| R717 | GDA AMMONIA 1,000 PPM AMPOULES 2) 3)        | 148H5235 | 0.01          |
| R744 | GD CO <sub>2</sub> 2,000 PPM AMPOULES 2) 3) | 148H5236 | 0.01          |
| All  | GD Tester for mother board, PCB             | 148H5239 | 0.04          |

2) Price each, sold in multiples of 10

3) Ampoules are for performing bump tests only are can not be used for calibration of sensors

## PRESSURE AND TEMPERATURE CONTROLS

### KP - PRESSURE AND TEMPERATURE CONTROLS



| PRESSURE / TEMPERATURE |              |              |           |               |           |           |            |               |
|------------------------|--------------|--------------|-----------|---------------|-----------|-----------|------------|---------------|
| PRESSURE               | TYPE         | LOW PRESSURE |           | HIGH PRESSURE |           | RESET     | CODE       | APPROX WEIGHT |
|                        |              | RANGE        | DIFF      | RANGE         | DIFF      | LP/HP     |            |               |
| Low                    | KP1A         | -0.2 - 7.5   | 0.7 - 4.0 |               |           | Auto      | 060-116091 | 0.32          |
| Low                    | KP1A         | -0.9 - 7.0   | Fixed 0.7 |               |           | Man       | 060-116166 | 0.46          |
| High                   | KP5A         |              |           | 8 - 32        | Fixed 3   | Man       | 060-123191 | 0.01          |
| High                   | KP5A         |              |           | 8 - 32        | 1.8 - 6.0 | Auto      | 060-123091 | 0.50          |
| High                   | KP6W 1)      |              |           | 8 - 42        | 4 - 10    | Auto      | 060-519091 | 0.38          |
| High                   | KP6B 1)      |              |           | 8 - 42        | Fixed 4   | Man       | 060-519191 | 0.38          |
| High                   | KP7ABS 2) 3) |              |           | 8 - 32        | Fixed 4   | Man       | 060-120566 | 0.79          |
| High                   | KP7ABS 2) 4) |              |           | 8 - 32        | Fixed 4   | Man       | 060-501366 | 0.55          |
| Dual                   | KP15A        | -0.2 - 7.5   | 0.7 - 4.0 | 8 - 32        | Fixed 4   | Auto/Man  | 060-129491 | 0.01          |
| Dual                   | KP15A        | -0.9 - 7.0   | Fixed 0.7 | 8 - 32        | Fixed 4   | Conv/Conv | 060-128366 | 0.74          |
| Dual                   | KP15A        | -0.2 - 7.5   | 0.7 - 4.0 | 8 - 32        | Fixed 4   | Auto/Auto | 060-129366 | 0.77          |
| TEMP                   | TYPE         | OIL TEMP     | HIGH TEMP | HIGH PRESSURE |           | RESET     | CODE       | APPROX WEIGHT |
|                        |              |              |           | RANGE         | DIFF      | LP/HP     |            |               |
| Oil & HT               | KP98         | 60 - 120C    | Fixed 14  | 100 - 180C    | Fixed 25  | Man       | 060L113166 | 0.69          |
| H / Temp               | KP77         |              |           | 20 - 60C      | 3.5 - 10C | Auto      | 060L112166 | 0.45          |

KP pressure controls come complete with applicable capillary tube/s

1) KP6 is NOT suitable for Ammonia, Used mostly on CO<sub>2</sub>

2) KP7ABS meets the requirements of refrigeration safety standard ISO 5149 for Electro-mechanical safety switching in accordance with IEC 60730-2-6 if used to protect the system against excessive pressure it shall not be used for any other purposes

3) This model KP7ABS is supplied with 2 x capillary tubes 060-007866

4) This model KP7ABS is supplied without fittings and is suitable for "Nut And Ring For Cutt. Ring Coupling 6mm" code 060B121066

## PRESSURE AND TEMPERATURE CONTROLS (CONT'D)

### MP, RT - DIFFERENTIAL PRESSURE CONTROLS



| TYPE          | DIFF      | SWITCH DIFF | RANGE LP | TIME RELAY | CONTACT LOAD | CODE       | APPROX WEIGHT |
|---------------|-----------|-------------|----------|------------|--------------|------------|---------------|
| MP 55A - Auto | 0.3 - 4.5 | 0.2         | -1 - 12  | 0          | B            | 060B029891 | 0.90          |
| MP 55A - Man  | 0.3 - 4.5 | 0.2         | -1 - 12  | 45         | A            | 060B017491 | 0.90          |
| MP 55A - Man  | 0.3 - 4.5 | 0.2         | -1 - 12  | 60         | A            | 060B017591 | 0.93          |
| MP 55A - Man  | 0.3 - 4.5 | 0.2         | -1 - 12  | 90         | A            | 060B017691 | 0.93          |
| RT260A        | 0.5 - 4.0 | 0.3         | -1 - 18  |            |              | 017D002166 | 1.27          |
| RT262A        | 0.1 - 1.5 | 0.1         | -1 - 9   |            |              | 017D002566 | 1.36          |

- Complete with Weld Nipples

### RT - PRESSURE AND TEMPERATURE CONTROLS



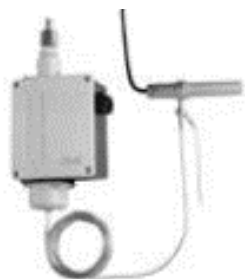
| PRESSURE | TYPE | RANGE    | DIFF      | WORKING PRESSURE | TEST PRESSURE | RESET      | CODE       | APPROX WEIGHT |
|----------|------|----------|-----------|------------------|---------------|------------|------------|---------------|
| Low      | RT1A | -0.8 - 5 | 0.5 - 1.6 | 22               | 25            | Auto       | 017-500166 | 0.91          |
| Low      | RT1A | -0.8 - 5 | Fixed 0.5 | 22               | 25            | Man        | 017-500266 | 0.93          |
| High     | RT5A | 4 - 17   | 1.2 - 4.0 | 22               | 25            | Auto       | 017-504666 | 0.90          |
| High     | RT5A | 4 - 17   | Fixed 1.2 | 22               | 25            | Man        | 017-504766 | 0.92          |
| PRESSURE | TYPE | RANGE    | DIFF      | WORKING PRESSURE | TEST PRESSURE | RESET      | CODE       | APPROX WEIGHT |
| MED      | RT14 | -5 - 30  | 2 - 10    | 150              | AUTO          | 017-509966 |            | 0.98          |

- RT Pressure control complete with Weld Nipple

## PRESSURE AND TEMPERATURE CONTROLS (CONT'D)



### RT - LIQUID LEVEL AND ALARM CONTROLS



| TYPE    | DIFF     | SWITCH DIFF | RANGE LP | TIME RELAY | CONTACT LOAD | CODE       | APPROX WEIGHT |
|---------|----------|-------------|----------|------------|--------------|------------|---------------|
| RT 280A | -50 - 0  | 40 mm       | 22       | 25         | IP 66        | 017D004066 | NLA           |
| RT 281A | -30 - 20 | 40 mm       | 22       | 25         | IP 66        | 017D004666 | 2.12          |

### KP, MP & RT - ACCESSORIES



| TYPE                                     | CODE       | APPROX WEIGHT |
|------------------------------------------|------------|---------------|
| IP55 enclosure for KP (Single)           | 060-033066 | 0.21          |
| IP55 enclosure for KP (Dual)             | 060-035066 | 0.26          |
| POCKET KP/RT STAINLESS 112MM G ½         | 017-436966 | 0.11          |
| KP Wall bracket angle                    | 060-105666 | 0.17          |
| KP Wall bracket straight                 | 060-105566 | 0.10          |
| 1 m cap tube/s with M10 x 0.75           | 060-007866 | 0.07          |
| Nut And Ring For Cutt. Ring Coupling 6mm | 060B121066 | 0.01          |

## PRESSURE TRANSMITTERS AND TEMPERATURE SENSORS



### AKS 33 - PRESSURE TRANSMITTERS 4-20 MA (WITH DIN PLUG FITTED)



| OPERATING RANGE BAR |                           | MAX. PRESSURE | TEMP. RANGE | CONNECTION | CODE     | APPROX WEIGHT |
|---------------------|---------------------------|---------------|-------------|------------|----------|---------------|
| LP                  | -1 - 5                    |               | -30 - 40    | 1/4 NPT    | 060G2112 | 0.20          |
|                     | -1 - 6                    | 33            | -30 - 40    | 1/4 NPT    | 060G2100 | 0.20          |
|                     | -1 - 9                    | 33            | -30 - 40    | 1/4 NPT    | 060G2113 | 0.20          |
|                     | -1 - 12                   | 33            | -30 - 40    | 1/4 NPT    | 060G2101 | 0.20          |
|                     | -1 - 20                   | 40            | 0 - 80      | 1/4 NPT    | 060G2102 | 0.20          |
| HP                  | -1 - 34                   | 55            | 0 - 80      | 1/4 NPT    | 060G2103 | 0.20          |
|                     | 0 - 25                    | 40            | 0 - 80      | 1/4 NPT    | 060G2115 | 0.20          |
|                     | 0 - 16                    | 40            | 0 - 80      | 1/4 NPT    | 060G2114 | 0.21          |
|                     | PULSATION SNUBBER ADAPTOR |               |             | 1/4 NPT    | 060G0250 | 0.09          |

|    |                           |    |          |         |          |      |
|----|---------------------------|----|----------|---------|----------|------|
| LP | -1 - 5                    | 33 | -30 - 40 | G 3/8 A | 060G2108 | TBA  |
|    | -1 - 6                    | 33 | -30 - 40 | G 3/8 A | 060G2104 | TBA  |
|    | -1 - 9                    | 33 | -30 - 40 | G 3/8 A | 060G2111 | 0.20 |
|    | -1 - 12                   | 33 | -30 - 40 | G 3/8 A | 060G2105 | 0.19 |
|    | -1 - 20                   | 40 | 0 - 80   | G 3/8 A | 060G2106 | TBA  |
| HP | -1 - 34                   | 55 | 0 - 80   | G 3/8 A | 060G2107 | TBA  |
|    | 0 - 16                    | 40 | 0 - 80   | G 3/8 A | 060G2109 | TBA  |
|    | 0 - 25                    | 40 | 0 - 80   | G 3/8 A | 060G2110 | 0.20 |
|    | PULSATION SNUBBER ADAPTOR |    |          | G 3/8 A | 060G0251 | 0.10 |

### AKS 3000 - PRESSURE TRANSMITTERS 4-20 MA (WITH DIN PLUG FITTED)



| OPERATING RANGE BAR |        | MAX. PRESSURE | TEMP. RANGE | CONNECTION | CODE     | APPROX WEIGHT |
|---------------------|--------|---------------|-------------|------------|----------|---------------|
| HP                  | 0 - 40 | 100           | 0 - 80      | 1/4" flare | 060G1328 | 0.19          |
|                     | 0 - 60 | 100           | 0 - 80      | 1/4" NPT   | 060G1083 | 0.20          |

## PRESSURE TRANSMITTERS AND TEMPERATURE SENSORS



### AKS 2050 - PRESSURE TRANSMITTERS RATIOMETRIC VOLTAGE (DIN PLUG SEPARATE)



| OPERATING RANGE BAR       |          | MAX. PRESSURE | TEMP. RANGE | CONNECTION   | CODE     | APPROX WEIGHT |
|---------------------------|----------|---------------|-------------|--------------|----------|---------------|
| HP                        | -1 - 59  | 100           | -30 - 40    | 1/4" NPT     | 060G6342 | 0.14          |
|                           | -1 - 159 | 250           | 0 - 80      | 1/4" NPT     | 060G6344 | 0.14          |
|                           | -1 - 59  | 100           | -30 - 40    | G 3/8" A BSP | 060G5750 | 0.15          |
|                           | -1 - 159 | 250           | 0 - 80      | G 3/8" A BSP | 060G5752 | 0.15          |
| DIN plug to suit AKS 2050 |          |               |             |              | 060G0008 | 0.03          |

- AKS2050 is ratiometric voltage output suitable for specific Danfoss controls such as EKD and EKE

### AKS 11, 12 & 21 - TEMPERATURE SENSORS PT1000



| TEMPERATURE RANGE                   | ACCURACY | TEMP RANGE | CABLE | CODE     | APPROX WEIGHT |
|-------------------------------------|----------|------------|-------|----------|---------------|
| AKS 21W IMMERSION (Terminal box) 1) |          | -70 +180   | NA    | 084N2016 | 0.49          |
| AKS 21W IMMERSION (Gland & nut) 1)  |          | -70 +180   | 2.5 m | 084N2017 | 0.30          |
| AKS120 THEROWELL (no gland/nut) 2)  |          |            | NA    | 084N2040 | 0.30          |
| AKS 21A SURFACE (with clamp)        |          | -70 +180   | 2.5 m | 084N2007 | 0.11          |
| AKS 11 SURFACE MOUNT                |          | -50 +100   | 3.5 m | 084N0003 | 0.08          |
| AKS 12                              |          | -40 + 80   | 1.5 m | 084N0036 | 0.05          |
| AKS 12                              |          | -40 + 80   | 3.5 m | 084N0039 | 0.11          |
| AKS 12                              |          | -40 + 80   | 5.5 m | 084N0038 | 0.17          |

- AKS12 cannot be used as suction line superheat sensor
- 1) Includes AKS 21 sensor and thermowell
- 2) AKS 21 sensor can be fitted into this pocket but does not include gland or nut

## IPS 8 AIR PURGER

**INTELLIGENT PURGE SYSTEM (INTUITIVE ELECTRONIC CONTROL OF SIMPLE, ROBUST MECHANICAL COMPONENTS)**



| SIZE                    | TYPE                                                          | CODE     | APPROX WEIGHT |
|-------------------------|---------------------------------------------------------------|----------|---------------|
| 1-8 points              | IPS 8 Intelligent Purger System                               | 084H5001 | 115.00        |
| <b>Main Accessories</b> |                                                               |          |               |
| DN40                    | SV3 Float Valve                                               | 027B2023 | 7.64          |
| DN15                    | ICF 15-4-9 (1/2" Soc) <sup>1) 2)</sup>                        | 027L4538 | 7.00          |
| DN40                    | Welding Flange incl Bolts, nuts and Gaskets <sup>3)</sup>     | 084H5055 | 1.12          |
| DN40                    | Blind blank flange incl Bolts, nuts and Gaskets <sup>4)</sup> | 084H5053 | 1.24          |

The Danfoss Intelligent Purger System (IPS) is an automatic, self-contained operating unit that helps remove non-condensable gases in a safe and energy efficient way. This helps maintain an optimum refrigeration capacity and system efficiency, allowing professionals to achieve maximum system performance.

**Note:**

- IPS 8 comes as a complete easy to install self contained Air Purger
- IPS can do 1 to 8 purge points (additional field components are required for multiple point (see main accessories)

1) Coils and SNV service valve for ICF15 sold separately

2) Stop valve / strainer (insert incl) / solenoid (assisted lift no manual spindle) / stop valve

3) The field piping mounted matting flange is included with purchase of IPS 8

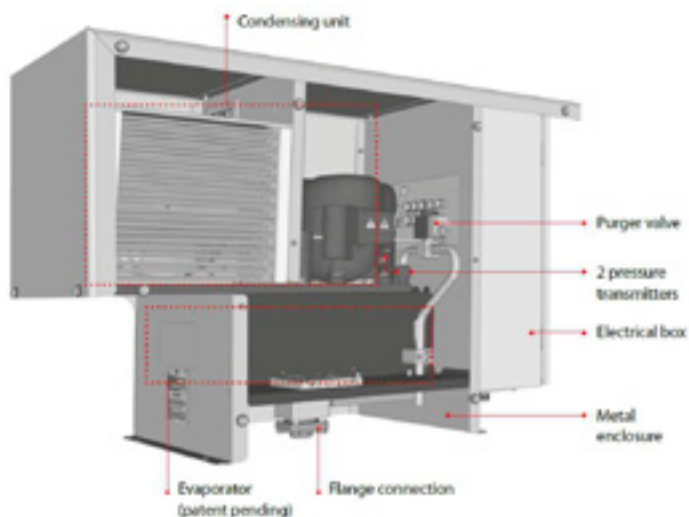
4) Blind flange for closing system flange during system pressure testing

- <https://www.danfoss.com/en/products/condensing-units/dcs/condensing-units/air-purger/>

## IPS 8 AIR PURGER (CONT'D)



### Zoom in on the Danfoss IPS 8



| TECHNICAL DATA             |                     |
|----------------------------|---------------------|
| Supply voltage             | 230V AC, 1ph, 50Hz  |
| Current                    | 3.7 A               |
| Power consumption          | 1.3 kW              |
| Ambient temp, operation    | -10°C to +43°C      |
| Ambient temp, transport    | -30°C to 55°C       |
| Enclosure                  | IP55                |
| Weight                     | 90 kg               |
| Dimensions (LxWxH)         | 1051 x 441 x 703 mm |
| Purger refrigerant         | R452A 900gram       |
| System refrigerant         | R717 minimum 6 bar  |
| Max operating press (R717) | 40 bar              |
| Operating temp (R717)      | -40°C to +60°C      |

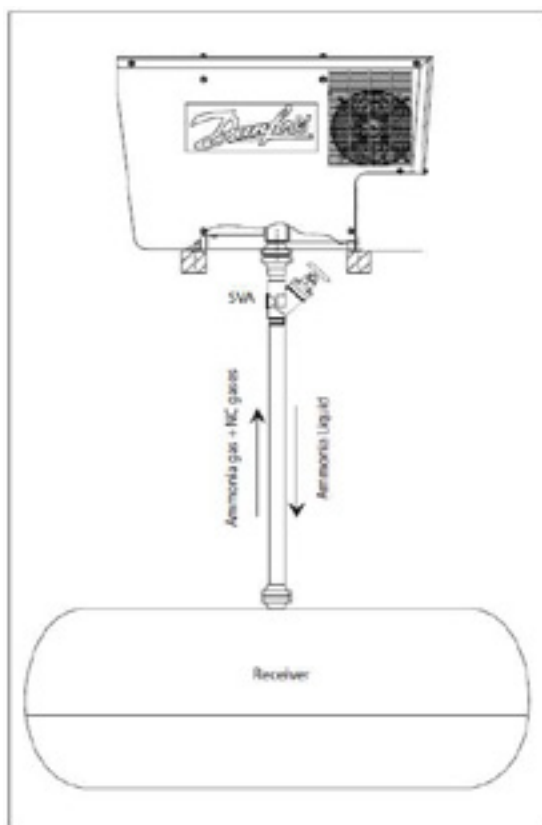


Fig. 9 Single point purging from receiver

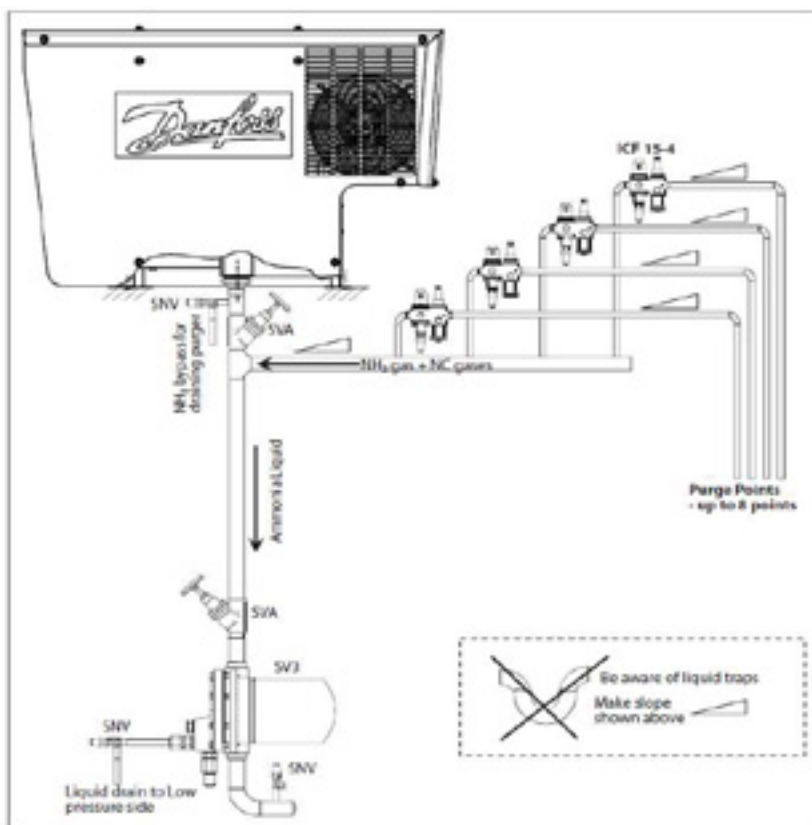


Fig. 10 Multi-point purging from up to 8 purging points

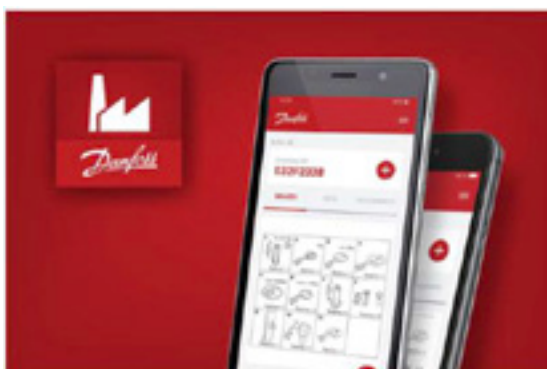
## SPARE PARTS



### DANFOSS INDUSTRIAL REFRIGERATION SPARE PARTS AVAILABLE IN AN ONLINE OR MOBILE APP.

Please use link below to access the App. (It is the well known Ref Tools App that includes Ref Slider etc):

<https://www.danfoss.com/en/service-and-support/downloads/dcs/spare-parts/#tab-overview>

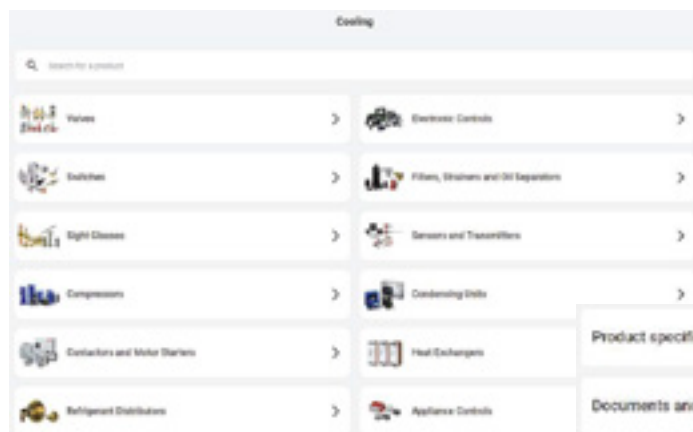


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## ABOUT SPARE PARTS

With the Spare Parts app, you can access the Danfoss spare parts and service kit catalog right from your smartphone. The app contains a wide range of components for air conditioning and refrigeration applications, such as valves, strainers, pressure switches, and sensors.

Finding the right spare part or kit is easy. A streamlined interface help you navigate different product categories and types to find the right one. Once there, you can view images, illustrations, data sheets, and documentation to see which parts are included and their specifications and code number.

To place an order, simply build a spare parts list right in the app and then email it to your wholesaler, so everything is ready for pickup and payment when you arrive.

The Spare Parts app can be toggled into online and offline mode. Go offline to download product information for use in remote locations and without an internet signal. Switch back to online mode to ensure you always have the most up-to-date catalog information (online is the default setting).

## SPARE PARTS (CONT'D)



### SVL - LINE VALVES

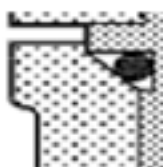
Backward Compatibility of SVL Products

| New SVL Flexline       | Size    | Stop Valves<br>SVA-S/L     | Stop/check Valves<br>SCA-X | Check Valves<br>CHV-X | Regulating Valves<br>REG-SA/SB | Filter<br>FIA |
|------------------------|---------|----------------------------|----------------------------|-----------------------|--------------------------------|---------------|
| Backward Compatibility | DN6     |                            |                            |                       |                                |               |
|                        | DN10    |                            |                            |                       |                                |               |
|                        | DN15-20 |                            |                            |                       |                                |               |
|                        | DN25-40 |                            |                            |                       |                                |               |
|                        | DN50    |                            |                            |                       |                                |               |
|                        | DN65    |                            |                            |                       |                                |               |
|                        | DN80    |                            |                            |                       |                                |               |
|                        | DN100   |                            |                            |                       |                                |               |
|                        | DN125   |                            |                            |                       |                                |               |
|                        | DN150   |                            |                            |                       |                                |               |
|                        | DN200   |                            |                            |                       |                                |               |
| Existing SVA range     |         | Stop Valves<br>SVA-ST / HS | Stop/check Valves<br>SCA   | Check Valves<br>CHV   | Regulating Valves<br>REG       | Filter<br>FIA |
|                        |         |                            |                            |                       |                                |               |

Backward Compatible  
 Not Backward Compatible

- \*\*\* The backwards compatibility in the above table refers to Series 3 back to series 2 only.
- \*\*\* Series 3 bonnets can't be fitted to series 1 bodies with the bevelled body recess for the thick O-ring.
- Older SVA80 to 200 (ST/LT/HS) had the square body recess similar to series 2 and 3 of the SVA15-65.
- Therefore the current SVA-S bonnets will fit in all SVA80 to 200's (this does not include earlier SCV models)
- <http://www.danfoss.com/BusinessAreas/RefrigerationAndAirConditioning/IR+Content/Newsparepartkitsset-up.htm>

**SVA Series 1**  
(no ID ring on bonnet)



**SVA Series 2**  
(silver ID ring on bonnet & PS40)



**SVA Series 3**  
(colour coded ID ring on bonnet & PS52)

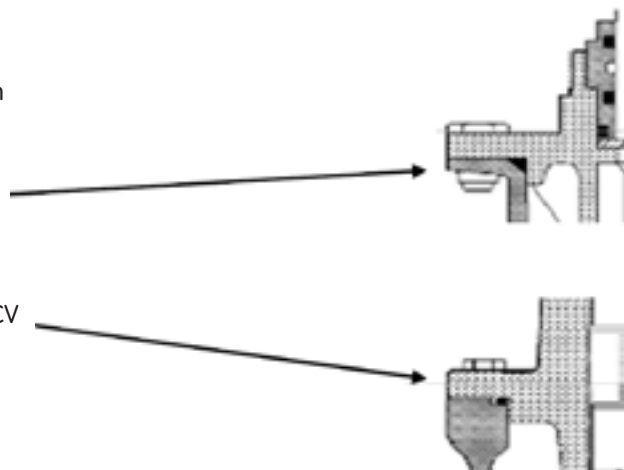


Transition late 2002  
to early 2003

Transition mid 2012

### HOW TO IDENTIFY THE OLD SCV FROM THE SVA STOP VALVES (RULE OF THUMB)

- Please note SVA stop valves etc will have "DANFOSS" cast on the body where older valves such as SCV will have "DANVALVE" cast on the body and are completely different spare parts
- The old SCV has a pronounced flange look at the top of the body
- The SVA has bolts that are more encapsulated compared to the SCV
- New SVL kits include O-rings and gaskets for series 1, 2 and 3



## SPARE PARTS (CONT'D)



### SVL - LINE VALVES (CONT'D)

#### INSPECTION KIT- (SVA-ST/LT/HS/L/S, REG SA/SB, SCA/X, FIA, CHV/X)

CONTAINS ALL GASKETS, O-RINGS AND ALUMINIUM RINGS BELONGING TO 1 VALVE SIZE



| DESCRIPTION                     | CODE     | APPROX WEIGHT |
|---------------------------------|----------|---------------|
| Inspection kit for SVL DN 6-10  | 148B6050 | 0.01          |
| Inspection kit for SVL DN 15-20 | 148B6051 | 0.02          |
| Inspection kit for SVL DN 25-40 | 148B6052 | 0.02          |
| Inspection kit for SVL DN 50    | 148B6053 | 0.02          |
| Inspection kit for SVL DN 65    | 148B6054 | 0.04          |
| Inspection kit for SVL DN 80    | 148B6055 | 0.06          |
| Inspection kit for SVL DN 100   | 148B6056 | 0.13          |
| Inspection kit for SVL DN 125   | 148B6057 | 0.21          |
| Inspection kit for SVL DN 150   | 148B6058 | 0.28          |
| Inspection kit for SVL DN 200   | 148B6059 | 0.62          |

<http://www.danfoss.com/BusinessAreas/RefrigerationAndAirConditioning/IR+Content/Newsparepartkitsset-up.htm>

Note:

- The 3 bonnet gasket types for new and old Danfoss manual valves are included in these kits (thin O-ring, Thick O-ring & gasket)

#### REPAIR KIT- (SVA-ST/LT/HS/L/S, REG SA/SB, SCA/X)

CONTAINS ALL GASKETS, O-RINGS AND ALUMINIUM RINGS BELONGING TO ONE VALVE SIZE AND A COMPLETE PACKING GLAND



| DESCRIPTION                 | CODE     | APPROX WEIGHT |
|-----------------------------|----------|---------------|
| Repair kit for SVL DN 6-10  | 148B6060 | 0.04          |
| Repair kit for SVL DN 15-20 | 148B6061 | 0.06          |
| Repair kit for SVL DN 25-40 | 148B6062 | 0.16          |
| Repair kit for SVL DN 50    | 148B6063 | 0.13          |
| Repair kit for SVL DN 65    | 148B6064 | 0.16          |
| Repair kit for SVL DN 80    | 148B6065 | 0.31          |
| Repair kit for SVL DN 100   | 148B6066 | 0.32          |
| Repair kit for SVL DN 125   | 148B6067 | 0.52          |
| Repair kit for SVL DN 150   | 148B6068 | 0.64          |
| Repair kit for SVL DN 200   | 148B6473 | 0.99          |

Note:

- The 3 bonnet gasket types for new and old Danfoss manual valves are included in these kits (thin O-ring, Thick O-ring & gasket)

## SPARE PARTS (CONT'D)



### SVL - LINE VALVES (CONT'D)

#### OVERHAUL KIT- (SVA-ST/LT/HS/L/S, REG SA/SB, SCA/X, FIA, CHV/X)

CONTAINS ALL GASKETS, O-RINGS AND ALUMINIUM RINGS BELONGING TO INDICATED VALVE AND SIZE AND COMPLETE PACKING GLAND PLUS PARTS WHICH MAY BE DAMAGED OR WORN OUT.



| DESCRIPTION                                         | CODE     | APPROX WEIGHT |
|-----------------------------------------------------|----------|---------------|
| <b>Overhaul Kit for SVA-S/L, ST, LT, HS, SS</b>     |          |               |
| SVA Overhaul kit DN 6-10                            | 148B6150 | 0.05          |
| SVA Overhaul kit DN 15-20                           | 148B6151 | 0.17          |
| SVA Overhaul kit DN 25-40                           | 148B6152 | 0.31          |
| SVA Overhaul kit DN 50                              | 148B6153 | 0.40          |
| SVA Overhaul kit DN 65                              | 148B6154 | 0.66          |
| SVA Overhaul kit DN 80                              | 148B6155 | 1.24          |
| SVA Overhaul kit DN 100                             | 148B6156 | 1.90          |
| SVA Overhaul kit DN 125                             | 148B6157 | 3.33          |
| SVA Overhaul kit DN 150                             | 148B6158 | 4.91          |
| SVA Overhaul kit DN 200 (includes complete spindle) | 148B6472 | 14.87         |

Note:

- The 3 bonnet gasket types for new and old Danfoss manual valves are included in these kits (thin O-ring, Thick O-ring & gasket)

#### PACKING GLAND FOR SVA-DL & DH 250 & 300 (NOT PART OF SVL SPARE PART RANGE)

|                                       |          |      |
|---------------------------------------|----------|------|
| SPARE PART KIT FOR BONNET-CAP SVA 250 | 148B4166 | 0.60 |
|---------------------------------------|----------|------|

#### GASKET KIT FOR SVA-DL & DH 250 & 300 (NOT PART OF SVL SPARE PART RANGE)

|                                       |          |      |
|---------------------------------------|----------|------|
| SPARE PART KIT FOR BONNET-CAP SVA 250 | 148B4162 | 0.28 |
| SPARE PART KIT FOR BONNET-CAP SVA 300 | 148B4163 | 0.43 |

#### REPAIR KIT FOR SVA-DL 250 & 300 (NOT PART OF SVL SPARE PART RANGE)

|                       |          |      |
|-----------------------|----------|------|
| REPAIR KIT SVA-DL 250 | 148B4175 | 1.16 |
| REPAIR KIT SVA-DL 300 | 148B4176 | 1.09 |

#### REPAIR KIT FOR SVA-DH 250 & 300 (NOT PART OF SVL SPARE PART RANGE)

|                       |          |      |
|-----------------------|----------|------|
| REPAIR KIT SVA-DH 250 | 148B4167 | 1.19 |
| REPAIR KIT SVA-DH 300 | 148B4168 | 1.16 |

#### OVERHAUL KIT FOR SCA AND SCA- X

|                           |          |      |
|---------------------------|----------|------|
| SCA Overhaul kit DN 15-20 | 148B6160 | 0.82 |
| SCA Overhaul kit DN 25-40 | 148B6161 | 0.61 |
| SCA Overhaul kit DN 50    | 148B6162 | 0.62 |
| SCA Overhaul kit DN 65    | 148B6163 | 1.04 |
| SCA Overhaul kit DN 80    | 148B6164 | 1.87 |
| SCA Overhaul kit DN 100   | 148B6165 | 2.97 |
| SCA Overhaul kit DN 125   | 148B6166 | 5.12 |

## SPARE PARTS (CONT'D)



### SVL - LINE VALVES (CONT'D)



### OVERHAUL KIT FOR CHV AND CHV- X

| DESCRIPTION               | CODE     | APPROX WEIGHT |
|---------------------------|----------|---------------|
| CHV Overhaul kit DN 15-20 | 148B6167 | 0.15          |
| CHV Overhaul kit DN 25-40 | 148B6168 | 0.41          |
| CHV Overhaul kit DN 50    | 148B6169 | 0.48          |
| CHV Overhaul kit DN 65    | 148B6170 | 0.80          |
| CHV Overhaul kit DN 80    | 148B6171 | 1.66          |
| CHV Overhaul kit DN 100   | 148B6172 | 2.73          |
| CHV Overhaul kit DN 125   | 148B6173 | 4.79          |

### OVERHAUL KIT FOR REG-SA/SB

|                                        |          |      |
|----------------------------------------|----------|------|
| REG Overhaul kit DN 10 cone A and B    | 148B6174 | 0.13 |
| REG Overhaul kit DN 15-20 cone A and B | 148B6175 | 0.34 |
| REG Overhaul kit DN 25-40 cone A and B | 148B6176 | 0.73 |
| REG Overhaul kit DN 50 cone B          | 148B6177 | 0.68 |
| REG Overhaul kit DN 65 cone B          | 148B6178 | 1.00 |

**Note:**

- The 3 bonnet gasket types for new and old Danfoss manual valves are included in these kits (thin O-ring, Thick O-ring & gasket)
- Above REG-S/B codes are for new range only. Please see codes for old numerical cone range.

**SPARE PARTS / ACCESSORIES**

**SVL - LINE VALVES (SVA-ST/LT/HS/L/S, REG SA/SB, SCA/X, FIA, CHV/X)**


| DESCRIPTION                                                       | CODE     | APPROX WEIGHT |
|-------------------------------------------------------------------|----------|---------------|
| CAP+GASKET SVA 3-10                                               | 148B4074 | 0.05          |
| CAP+GASKET SVA 15-20                                              | 148B4075 | 0.08          |
| CAP+GASKET SVA 25-65                                              | 148B4076 | 0.22          |
| CAP+GASKET SVA 80-100                                             | 148B4077 | 0.30          |
| CAP+GASKET SVA 125-150                                            | 148B4078 | 0.72          |
| CAP+GASKET SVA 200                                                | 148B4079 | 1.71          |
| CAP+GASKET SVA 250 -300                                           | 148B4171 | 2.05          |
| HANDWHEEL-SS SVA 15-20 (STAINLESS STEEL OPTION)                   | 148B4300 | TBA           |
| HANDWHEEL-SS SVA 25-40 (STAINLESS STEEL OPTION)                   | 148B4301 | TBA           |
| HANDWHEEL SVA 3-10 (SVA 3-10 REG 3-10 SCA 3-10)                   | 148B4073 | 0.06          |
| HANDWHEEL SVA 15-20 (SVA 15-20 ICFS 20 REG 20 SCA 20)             | 148B4060 | 0.09          |
| HANDWHEEL SVA 25-40 (SVA 25-40 ICFS 25-40 REG 25-40 SCA 25-40)    | 148B4062 | 0.20          |
| HANDWHEEL SVA 50-65 (SVA 50-65 REG 50-65 SCA 50-65 SCV SVA 50-65) | 148B4064 | 0.14          |
| HANDWHEEL SVA 80 (SVA 80 REG 80 SCA 80 SCV 100-1)                 | 148B4065 | 1.69          |
| HANDWHEEL SVA 100 (SVA 100 REG 100 SCA 100)                       | 148B4066 | 2.57          |
| HANDWHEEL SVA 125-150 (SVA 125-150 REG 125-150 SCA 125-150)       | 148B4067 | 4.52          |
| HANDWHEEL SVA 200 (SVA 200 REG 200 SCA 200 SCV 250)               | 148B4068 | 7.72          |
| HANDWHEEL SVA 250                                                 | 148B4169 | 7.44          |
| HANDWHEEL SVA300                                                  | 148B4170 | 14.71         |
| SPRING-STD 0.04BAR SCA 15-20                                      | 148G3204 | TBA           |
| SPRING-STD 0.04BAR SCA 25-40                                      | 148G3205 | TBA           |
| SPRING-STD 0.04BAR SCA/CHV 50                                     | 148G3475 | 0.02          |
| SPRING-STD 0.04BAR SCA/CHV 65                                     | 148G3476 | 0.03          |
| SPRING-STD 0.04BAR SCA/CHV 80                                     | 148G3477 | 0.07          |
| SPRING-STD 0.04BAR SCA/CHV100                                     | 148G3478 | 0.14          |
| SPRING-STD 0.04BAR SCA/CHV125                                     | 148G3479 | TBA           |
| SPRING-SPEC 0.3BAR SCA 15-20#                                     | 148G3206 | 0.01          |
| SPRING-SPEC 0.3BAR SCA 25-40#                                     | 148G3207 | TBA           |
| SPRING-SPEC 0.3BAR SCA/CHV 50                                     | 148G3480 | 0.03          |
| SPRING-SPEC 0.3BAR SCA/CHV 65                                     | 148G3481 | TBA           |
| SPRING-SPEC 0.3BAR SCA/CHV 100                                    | 148G3734 | TBA           |
| SPRING-SPEC 0.3 BAR SCA/CHV125                                    | 148G3735 | TBA           |
| SVA-HS/FIA 15-20 GASKET TOP (price ea, sold in lots of 10)        | 148B4153 | 0.01          |

**SPARE PARTS / ACCESSORIES (CONT'D)**

**SVL - LINE VALVES (SVA-ST/LT/HS/L/S, REG SA/SB, SCA/X, FIA, CHV/X) (CONT'D)**


| DESCRIPTION                                                | CODE     | APPROX WEIGHT |
|------------------------------------------------------------|----------|---------------|
| SVA-HS/FIA 25-40 GASKET TOP (price ea, sold in lots of 10) | 148B4154 | 0.00          |
| SVA-HS/FIA 50 GASKET-TOP (price ea, sold in lots of 10)    | 148B4155 | 0.01          |
| SVA-HS/FIA 65 GASKET-TOP (price ea, sold in lots of 10)    | 148B4156 | 0.01          |
| SVA-HS/FIA 80 GASKET-TOP (price ea, sold in lots of 10)    | 148B4157 | 0.02          |
| SVA-HS/FIA 100 GASKET-TOP (price ea, sold in lots of 10)   | 148B4158 | 0.03          |
| SVA-HS/FIA 125 GASKET-TOP (price ea, sold in lots of 10)   | 148B4159 | 0.01          |
| SVA-HS/FIA 150 GASKET-TOP (price ea, sold in lots of 10)   | 148B4160 | 0.02          |
| SVA-HS/FIA 200 GASKET-TOP (price ea, sold in lots of 10)   | 148B4161 | 0.15          |
| TUBE OF GREASE 30G FOR PACKING GLAND                       | 148H3445 | 0.02          |

## SPARE PARTS



### OLD LINE VALVES NOT COVERED UNDER NEW PARTS PROGRAM - (SCV, SCH, REG NUMERICAL ETC)

#### REG - REGULATING VALVES (OLD RANGE WITH NUMERIC CONE SIZES)



| DESCRIPTION                  | CODE     | APPROX WEIGHT |
|------------------------------|----------|---------------|
| REPAIR KIT REG 3-10 CONE 3   | 2453+037 | 0.05          |
| REPAIR KIT REG 10-25 CONE 4  | 2453+038 | 0.10          |
| REPAIR KIT REG 10-25 CONE 5  | 2453+039 | 0.11          |
| REPAIR KIT REG 10-25 CONE 6  | 2453+040 | 0.16          |
| REPAIR KIT REG 10-25 CONE 7  | 2453+041 | 0.10          |
| REPAIR KIT REG 10-25 CONE 8  | 2453+042 | 0.32          |
| REPAIR KIT REG 25-40 CONE 9  | 2453+043 | 0.22          |
| REPAIR KIT REG 25-40 CONE 10 | 2453+044 | 0.20          |
| REPAIR KIT REG 50 CONE 11    | 148G3197 | 0.67          |
| REPAIR KIT REG 65 CONE 12    | 148G3198 | TBA           |

#### SCV - STOP VALVES (PRODUCTION OF THESE KITS STOPS EARLY 2020)



| DESCRIPTION                               | CODE     | APPROX WEIGHT |
|-------------------------------------------|----------|---------------|
| REPAIR KIT SCV 10-20 (prior to SVA)       | 3184+073 | NLA           |
| REPAIR KIT SCV 25-32 (prior to SVA)       | 3184+076 | NLA           |
| REPAIR KIT SCV 40-50 (prior to SVA)       | 3184+077 | NLA           |
| REPAIR KIT SCV 65-80 (prior to SVA)       | 3184+078 | NLA           |
| REPAIR KIT SCV 100 (prior to SVA)         | 3184+079 | NLA           |
| REPAIR KIT SCV 125 (prior to SVA)         | 3184+080 | NLA           |
| REPAIR KIT SCV 150 and 200 (prior to SVA) | 3184+081 | NLA           |
| REPAIR KIT SCV 250 (prior to SVA)         | 3184+108 | NLA           |
| REPAIR KIT SCV 300 (prior to SVA)         | 3184+109 | NLA           |

## SPARE PARTS (CONT'D)



### OLD LINE VALVES NOT COVERED UNDER NEW PARTS PROGRAM - (SCV, SCH, REG NUMERICAL ETC) (CONT'D)

SCH - STOP CHECK VALVES (PRIOR TO SCA) (PRODUCTION OF THESE KITS STOPS EARLY 2020)



| DESCRIPTION            | CODE     | APPROX WEIGHT |
|------------------------|----------|---------------|
| REPAIR KIT SCH 15-20   | 2453+077 | NLA           |
| REPAIR KIT SCH 25-40   | 2453+078 | NLA           |
| REPAIR KIT SCH 40-50   | 3184+112 | NLA           |
| REPAIR KIT SCH 65-80   | 3184+113 | NLA           |
| REPAIR KIT SCH 100     | 3184+114 | NLA           |
| REPAIR KIT SCH 125     | 3184+115 | NLA           |
| REPAIR KIT SCH 150-200 | 3184+116 | NLA           |

## SPARE PARTS (CONT'D)

### FIA - STRAINERS



| DESCRIPTION                                          | CODE     | APPROX WEIGHT |
|------------------------------------------------------|----------|---------------|
| Magnet insert 50                                     | 148H3446 | 0.33          |
| Magnet insert 65 - 100                               | 148H3447 | 0.46          |
| Magnet insert 125 - 200                              | 148H3448 | 0.60          |
| GASKET-TOP FIA 15-20 I-PACK (sold in lots of 10 pcs) | 148B4153 | 0.01          |
| GASKET-TOP FIA 25-40 I-PACK (sold in lots of 10 pcs) | 148B4154 | 0.00          |
| GASKET-TOP FIA 50 I-PACK (sold in lots of 10 pcs)    | 148B4155 | 0.01          |
| GASKET-TOP FIA 65 I-PACK (sold in lots of 10 pcs)    | 148B4156 | 0.01          |
| GASKET-TOP FIA 80 I-PACK (sold in lots of 10 pcs)    | 148B4157 | 0.02          |
| GASKET-TOP FIA 100 I-PACK (sold in lots of 10 pcs)   | 148B4158 | 0.03          |
| GASKET-TOP FIA 125 I-PACK (sold in lots of 10 pcs)   | 148B4159 | 0.01          |
| GASKET-TOP FIA 150 I-PACK (sold in lots of 10 pcs)   | 148B4160 | 0.02          |
| GASKET-TOP FIA 200 I-PACK (sold in lots of 10 pcs)   | 148B4161 | 0.15          |

### FA / NRVA - LINE COMPONENTS



| DESCRIPTION                                        | CODE     | APPROX WEIGHT |
|----------------------------------------------------|----------|---------------|
| REPAIR KIT FA 15 (strainer, cover gasket & screws) | 006-0331 | 0.07          |
| REPAIR KIT FA 20 (strainer, cover gasket & screws) | 006-0332 | 0.08          |
| REPAIR KIT FA 25 (strainer, cover gasket & screws) | 006-0333 | 0.07          |
| SEAL KIT FA 15 (cover & flange gaskets)            | 006-0334 | 0.01          |
| SEAL KIT FA 20 (cover & flange gaskets)            | 006-0335 | 0.01          |
| SEAL KIT FA 25 (cover & flange gaskets)            | 006-0336 | 0.01          |
| FLANGE GASKETS (EVRA3-15, NRVA15-20, TE/A/VA/AT20) | 020-2133 | 0.00          |
| FLANGE GASKETS NRVA 25/32                          | 027F2176 | 0.03          |
| FLANGE GASKETS NRVA 40/50                          | 027F2178 | 0.03          |

## SPARE PARTS (CONT'D)

### GPLX - GAS POWERED STOP VALVES - TWO STEP



| DESCRIPTION                                    | CODE     | APPROX WEIGHT |
|------------------------------------------------|----------|---------------|
| GPLX 80 Spare part kit dismounting Kit         | 148G3427 | 0.24          |
| GPLX 100 Spare part kit dismounting Kit        | 148G3428 | 0.06          |
| GPLX 125 Spare part kit dismounting Kit        | 148G3429 | 0.01          |
| GPLX 150 Spare part kit dismounting Kit        | 148G3430 | 0.12          |
| GPLX 80 - Repair kit - Additional              | 148G0100 | 0.19          |
| GPLX 100 - Repair Kit - Additional             | 148G0101 | 0.39          |
| GPLX 125 - Repair Kit - Additional             | 148G0102 | 0.48          |
| GPLX 150 - Repair Kit Additional               | 148G0103 | 0.52          |
| GPLX 80 - Repair Kit - Overhaul                | 148G0104 | 1.60          |
| GPLX 100 - Repair Kit - Overhaul               | 148G0105 | 2.53          |
| GPLX 125 - Repair Kit - Overhaul               | 148G0106 | 4.55          |
| GPLX 150 - Repair Kit - Overhaul               | 148G0107 | 8.01          |
| EVRB Complete pilot valve block type W/O coils | 2453+103 | 1.25          |

## SPARE PARTS (CONT'D)



### EVRA(T) (S) & EVM - SOLENOID VALVES

#### INSPECTION AND REPAIR KITS

CONTAINS ALL GASKETS, O-RINGS AND ALUMINIUM RINGS BELONGING TO 1 VALVE (+ ARMATURE ASSEMBLY IN REPAIR KIT).



| DESCRIPTION                                       | CODE     | APPROX WEIGHT |
|---------------------------------------------------|----------|---------------|
| INSPECTION KIT EVRA 25                            | 032F2326 | 0.05          |
| INSPECTION KIT EVRA 32,40                         | 032F2327 | 0.04          |
| REPAIR KIT EVRA 3 (new design only) <sup>3)</sup> | 032F2329 | 0.35          |
| REPAIR KIT EVM NC                                 | 032F2324 | 0.09          |
| REPAIR KIT EVM NO                                 | 032F2325 | 0.14          |
| PILOT SEAL KIT                                    | 027F0666 | 0.03          |

#### OVERHAUL KIT

CONTAINS ALL GASKETS, O-RINGS AND ALUMINIUM RINGS BELONGING TO ONE VALVE SIZE AND PARTS WHICH MAY BE DAMAGED OR WORN OUT.



| DESCRIPTION                                            | CODE     | APPROX WEIGHT |
|--------------------------------------------------------|----------|---------------|
| OVERHAUL KIT EVRA/EVRS 3 NEW DESIGN                    | 032F2336 | 0.15          |
| OVERHAUL KIT EVRA/EVRS 20 NEW DESIGN <sup>(2)</sup>    | 032F2339 | 0.66          |
| OVERHAUL KIT EVRA/EVRS 25 NEW DESIGN                   | 032F2340 | 0.48          |
| OVERHAUL KIT EVRA/EVRS 32 NEW DESIGN                   | 032F2341 | 0.47          |
| OVERHAUL KIT EVRA/EVRS 40 NEW DESIGN                   | 032F2342 | 0.47          |
| OVERHAUL KIT EVRAT, EVRST 10 NEW DESIGN <sup>(1)</sup> | 032F2346 | 0.42          |
| OVERHAUL KIT EVRAT, EVRST 15 NEW DESIGN <sup>(1)</sup> | 032F2347 | 0.63          |
| OVERHAUL KIT EVRAT, EVRST 20 NEW DESIGN <sup>(2)</sup> | 032F2348 | 0.52          |
| OVERHAUL KIT EVRA 20 PREVIOUS DESIGN <sup>(2)</sup>    | 032F2210 | 0.58          |
| OVERHAUL KIT EVRA 25 PREVIOUS DESIGN                   | 032F2218 | 0.52          |
| OVERHAUL KIT EVRAT 10 PREVIOUS DESIGN <sup>(1)</sup>   | 032F2321 | 0.34          |
| OVERHAUL KIT EVRAT 15 PREVIOUS DESIGN <sup>(1)</sup>   | 032F2322 | 0.30          |
| OVERHAUL KIT EVRAT 20 PREVIOUS DESIGN <sup>(2)</sup>   | 032F2323 | 0.38          |

Note:

1) Kit can be used for EVRA and EVRAT of the same size (please note previous and new design)

2) Use valve specific service kits for EVRA20 & EVRAT20 (please note previous and new design) \*\*\*

If an EVRA20 must be converted to an EVRAT20 every part including jacking spindle must be replaced from kit supplied

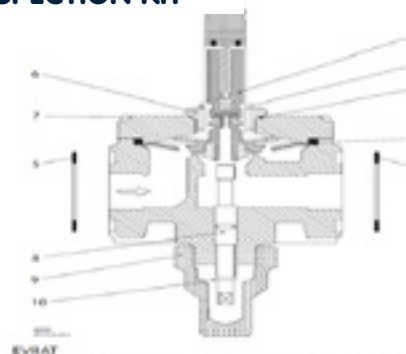
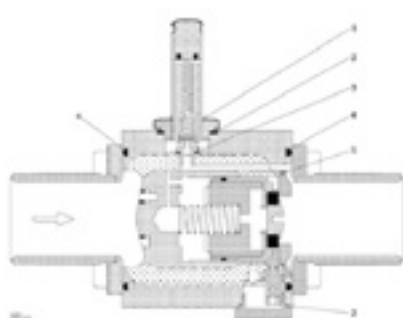
3) For Previous design EVRA3 please replace with new valve

## SPARE PARTS (CONT'D)

### EVRA(T) (S) & EVM - SOLENOID VALVES (CONT'D)



#### EXAMPLE OF EVRA32/40 INSPECTION KIT



#### How to identify previous and new EVRA/T (3 to 25)

- Old / previous design has armature assembly held in by 4 screws
- New design has armature assembly that screws in with hex at bottom of tube



#### How to identify EVRA/T valve

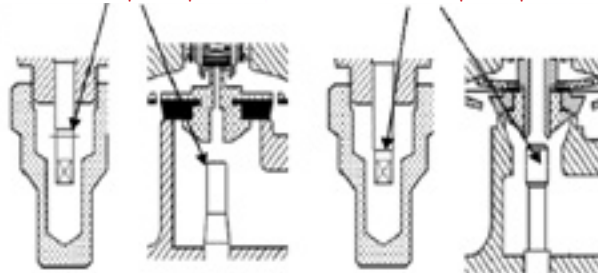
|    |             |                     |
|----|-------------|---------------------|
| A: | EVRA/T10    | = 10mm              |
|    | EVRA/T15    | = 14mm              |
| B: | EVRA/T10&15 | = 68mm              |
|    | EVRA/T20    | = 85mm              |
|    | EVRA 25     | = 92mm              |
|    | EVRA25      | = 86mm (very old**) |

\*\* (it will have a piston not a diaphragm as does a EVRA/T20)

#### How to identify EVRA20 and EVRAT20 (previous or new)

\*\*\*EVRA20 spindle profile

\*\*\*EVRAT20 spindle profile



## SPARE PARTS (CONT'D)

### ICV - CONTROL VALVES (ICS, ICM, ICLX, ICSH, ICD AND ICC)



#### INSPECTION KIT

CONTAINS ALL GASKETS, O-RINGS AND ALUMINIUM RINGS BELONGING TO 1 VALVE SIZE



| DESCRIPTION                                                    | CODE     | APPROX WEIGHT |
|----------------------------------------------------------------|----------|---------------|
| ICAD 600A/ICM Grease/EPDM kit (Wear & O-ring,3 screws,grease)  | 027H0356 | 3.20          |
| ICAD 1200A/ICM Grease/EPDM kit (Wear & O-ring,3 screws,grease) | 027H0357 | 3.20          |
| ICS/ICM 25, Inspection kit                                     | 027H2218 | 0.04          |
| ICS/ICLX/ICM 32, Inspection kit                                | 027H3016 | 0.21          |
| ICS/ICLX/ICM 40, Inspection kit                                | 027H4014 | 0.08          |
| ICS/ICLX/ICM 50, Inspection kit                                | 027H5014 | 0.09          |
| ICS/ICLX/ICM 65/80, Inspection kit                             | 027H6016 | 0.23          |
| ICS/ICLX/ICM 100, Inspection kit                               | 027H7191 | 0.10          |
| ICS/ICLX/ICM 125, Inspection kit                               | 027H7194 | 0.19          |
| ICS/ICLX/ICM 150, Inspection kit                               | 027H7196 | 0.20          |

## SPARE PARTS (CONT'D)



### ICV - CONTROL VALVES (ICS, ICM, ICLX, ICSH, ICD AND ICC) (CONT'D)

#### REPAIR KIT

CONTAIN ALL GASKETS, O-RINGS AND ALUMINIUM RINGS BELONGING TO ONE VALVE SIZE, VALVE SEAT AND PISTON RING AS REQUIRED.



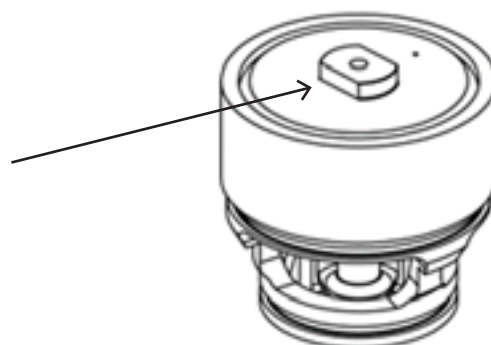
| DESCRIPTION                                                   | CODE     | APPROX WEIGHT |
|---------------------------------------------------------------|----------|---------------|
| ICS 25 Repair kit <sup>1)</sup>                               | 027H2219 | 0.05          |
| ICS/ICSH/ICLX 32 Repair kit <sup>1)</sup>                     | 027H3017 | 0.09          |
| ICS/ICSH/ICLX 40 Repair kit <sup>1)</sup>                     | 027H4015 | 0.10          |
| ICS/ICSH/ICLX 50 Repair kit <sup>1)</sup>                     | 027H5015 | 0.12          |
| ICS/ICSH/ICLX 65/80 Repair kit <sup>1)</sup>                  | 027H6017 | 0.25          |
| ICS/ICLX 100 Repair kit <sup>1)</sup>                         | 027H7192 | 0.25          |
| ICS/ICLX 125 Repair kit <sup>1)</sup>                         | 027H7204 | 0.01          |
| ICS/ICLX 150 Repair kit <sup>1)</sup>                         | 027H7197 | 0.78          |
| ICM 20 Orifice Repair kit (20A-33 / 20A / 20B-66 / 20B / 20C) | 027H1190 | 0.03          |
| ICM 100 Repair kit                                            | 027H7135 | 0.81          |
| ICM 125 Repair kit                                            | 027H7155 | 1.24          |
| ICM 150 Repair kit                                            | 027H7175 | 1.08          |
| ICC 32 Repair kit (new)                                       | 027H3039 | 0.80          |
| ICC 50 Repair kit (new)                                       | 027H5017 | 1.08          |

**Jacking Spindle is temporarily available as a separate code (otherwise are included in Overhaul kits)**

|                                         |          |      |
|-----------------------------------------|----------|------|
| MANUAL OPERATION PM 25-65 and ICS 25-80 | 027F2130 | 0.26 |
| MANUAL OPERATION PM 80-125              | 027F2134 | 0.76 |

#### Note:

- <sup>1)</sup> Repair kit is only suitable for ICS modules manufactured from early 2012
- Prior to 2012 ICS modules were pressed together and could not be disassembled
  - The serviceable modules can be identified by the spanner flats on top of the modules piston
  - O-rings and gaskets from this kit can be used on pre 2012 modules but the Teflon seat and piston ring can not be installed



## SPARE PARTS (CONT'D)



### ICV - CONTROL VALVES (ICS, ICM AND ICLX)

#### OVERHAUL KIT

- CONTAINS ALL GASKETS, O-RINGS & ALUMINIUM RINGS FOR ONE VALVE SIZE AND PARTS WHICH MAY BE DAMAGED OR WORN OUT
- MODULE / INSERT PLUS MANUAL JACKING DEVICE WHERE APPLICABLE IS INCLUDED



| DESCRIPTION             | CODE     | APPROX WEIGHT |
|-------------------------|----------|---------------|
| ICS 25-5 Overhaul kit   | 027H2225 | 1.07          |
| ICS 25-10 Overhaul kit  | 027H2138 | 0.79          |
| ICS 25-15 Overhaul kit  | 027H3019 | 0.79          |
| ICS 25 -20 Overhaul kit | 027H3043 | 0.78          |
| ICS 25-25 Overhaul kit  | 027H3044 | 0.77          |
| ICS 32 Overhaul kit     | 027H3018 | 1.30          |
| ICS 40 Overhaul kit     | 027H4016 | 1.51          |
| ICS 50 Overhaul kit     | 027H5016 | 2.07          |
| ICS 65 Overhaul kit     | 027H6018 | 3.02          |
| ICS 80 Overhaul kit     | 027H6028 | 2.88          |
| ICS 100 Overhaul kit    | 027H7193 | 7.83          |
| ICS 125 Overhaul kit    | 027H7195 | 11.05         |
| ICS 150 Overhaul kit    | 027H7198 | 35.00         |
| ICM 20 A33 Overhaul kit | 027H1186 | 1.33          |
| ICM 20 A Overhaul kit   | 027H1180 | 1.31          |
| ICM 20 B66 Overhaul kit | 027H1194 | 1.31          |
| ICM 20 B Overhaul kit   | 027H1181 | 1.32          |
| ICM 20 C Overhaul kit   | 027H1182 | 1.31          |
| ICM 25A-33 Overhaul kit | 027H2190 | 1.83          |
| ICM 25A Overhaul kit    | 027H2180 | 1.79          |
| ICM 25B Overhaul kit    | 027H2181 | 1.90          |
| ICM 32A Overhaul kit    | 027H3180 | 2.76          |
| ICM 32B Overhaul kit    | 027H3181 | 2.84          |
| ICM 40A Overhaul kit    | 027H4180 | 3.58          |
| ICM 40B Overhaul kit    | 027H4181 | 3.58          |
| ICM 50A Overhaul kit    | 027H5180 | 5.02          |
| ICM 50B Overhaul kit    | 027H5181 | 4.92          |
| ICM 65A Overhaul kit    | 027H6180 | 7.14          |
| ICM 65B Overhaul kit    | 027H6181 | 6.92          |
| ICM 100 Overhaul kit    | 027H7136 | 8.13          |
| ICM 125 Overhaul kit    | 027H7156 | 10.65         |
| ICM 150 Overhaul kit    | 027H7176 | 24.86         |

## SPARE PARTS (CONT'D)



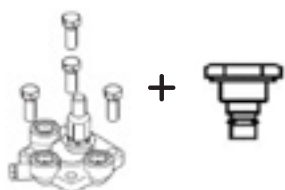
### ICV - CONTROL VALVES (ICS, ICM AND ICLX) (CONT'D)

#### OVERHAUL KIT (CONT'D)

- CONTAINS ALL GASKETS, O-RINGS & ALUMINIUM RINGS FOR ONE VALVE SIZE AND PARTS WHICH MAY BE DAMAGED OR WORN OUT
- MODULE / INSERT PLUS MANUAL JACKING DEVICE WHERE APPLICABLE IS INCLUDED

| DESCRIPTION           | CODE     | APPROX WEIGHT |
|-----------------------|----------|---------------|
| ICLX 32 OVERHAUL KIT  | 027H3204 | 5.91          |
| ICLX 40 OVERHAUL KIT  | 027H4204 | 6.78          |
| ICLX 50 OVERHAUL KIT  | 027H5204 | 8.86          |
| ICLX 65 OVERHAUL KIT  | 027H6204 | 10.99         |
| ICLX 100 OVERHAUL KIT | 027H7221 | 10.86         |
| ICLX 125 OVERHAUL KIT | 027H7222 | 16.38         |
| ICLX 150 OVERHAUL KIT | 027H7223 | 33.50         |
| ICC 32 MODULE         | 027H3202 | 2.79          |
| ICC 50 MODULE         | 027H5202 | 5.04          |

### ICS - TOP COVERS (3 PORT ONLY)



| DESCRIPTION                 | CODE     | APPROX WEIGHT |
|-----------------------------|----------|---------------|
| ICS/L 25 TOP COVER 3 PILOTS | 027H2173 | 2.48          |
| ICS/L 32 TOP COVER 3 PILOTS | 027H3173 | 2.95          |
| ICS/L 40 TOP COVER 3 PILOTS | 027H4173 | 3.21          |
| ICS/L 50 TOP COVER 3 PILOTS | 027H5173 | 4.09          |
| ICS/L 65 TOP COVER 3 PILOTS | 027H6173 | 5.12          |
| ICS/L 80 TOP COVER 3 PILOTS | 027H8193 | 5.03          |
| ICS 100 TOP COVER 3 PILOTS  | 027H7123 | 12.50         |
| ICS 125 TOP COVER 3 PILOTS  | 027H7143 | 17.54         |
| ICS 150 TOP COVER 3 PILOTS  | 027H7163 | 34.68         |

## SPARE PARTS (CONT'D)

### ICF - VALVE STATIONS (CARBON STEEL VERSIONS)



| DESCRIPTION                                                            | CODE     | APPROX WEIGHT |
|------------------------------------------------------------------------|----------|---------------|
| ICFS 15 STOP VALVE MODULE, SPARE PART                                  | 148B5276 | 1.05          |
| ICFS 15/20 STOP VALVE MODULE, SPARE PART <sup>5)</sup>                 | 027L1250 | 1.25          |
| ICFS 25 STOP VALVE MODULE, SPARE PART                                  | 027L2250 | 2.42          |
| SVA-S 50 – STOP VALVE MODULE                                           | 148B5728 | 3.65          |
| SVA-S 65 – STOP VALVE MODULE                                           | 148B5822 | 4.15          |
| ICFF 15 FILTER MODULE                                                  | 027L1247 | 0.83          |
| ICFF 20 FILTER MODULE, SPARE PART                                      | 027L1251 | 0.92          |
| ICFF 20E FILTER MODULE, SPARE PART                                     | 027L2256 | 1.25          |
| ICFF 25E FILTER MODULE, SPARE PART                                     | 027L2299 | 2.73          |
| ICFF 15 FILTER INSERT 150u                                             | 148H1136 | 0.05          |
| ICFF 20 FILTER INSERT 250u <sup>2) 4)</sup>                            | 148H3363 | 0.03          |
| ICFF 20E FILTER INSERT 150u <sup>4)</sup> (ex 148H3304 <sup>2)</sup> ) | 027L0800 | 0.05          |
| ICFF 20E FILTER INSERT 250u <sup>2) 3) 4)</sup>                        | 148H3269 | 0.06          |
| ICFF 25E FILTER INSERT 150u <sup>4)</sup>                              | 027L0802 | 0.14          |
| ICFF 25E FILTER INSERT 250u <sup>4)</sup>                              | 148H3296 | 0.15          |
| ICFN 15/20 STOP/CHECK MODULE, SPARE <sup>5)</sup>                      | 027L1253 | 1.31          |
| ICFN 25 STOP/CHECK MODULE, SPARE                                       | 027L2253 | 2.53          |
| ICFC 20 CHECK VALVE MODULE, SPARE PART                                 | 027L1252 | 0.90          |
| ICFC 25 CHECK VALVE MODULE, SPARE PART                                 | 027L2252 | 1.69          |
| ICFR 15/20 A REGULATION MODULE, SPARE PART <sup>5)</sup>               | 027L1254 | 1.24          |
| ICFR 15/20 B REGULATION MODULE, SPARE PART <sup>5)</sup>               | 027L1255 | 1.23          |
| ICFR 25 A REGULATION MODULE, SPARE PART                                | 027L2254 | 2.50          |
| ICFR 25 B REGULATION MODULE, SPARE PART                                | 027L2255 | 2.67          |
| REG-SB 50 – MANUAL REGULATING MODULE                                   | 148B5734 | 3.95          |
| REG-SB 65 – MANUAL REGULATING MODULE                                   | 148B5824 | 4.62          |
| ICFE 15/20 REPAIR KIT, SPARE PART <sup>1)</sup>                        | 032F8030 | 0.13          |
| ICFE 15/20 SOLENOID MODULE, SPARE PART                                 | 027L1257 | 0.80          |
| ICFE 15/20H SOLENOID MODULE, SPARE PART                                | 027L1270 | 1.71          |
| ICFE 25 SOLENOID MODULE, SPARE PART                                    | 027L2257 | 2.34          |
| ICFE 25 ARMATURE ASSEMBLY (NC EVM)                                     | 027B1120 | 0.25          |
| ICS 50-32 INSERT -REDUCED CAPACITY                                     | 027H5211 | 1.91          |
| ICS 50-40 INSERT -REDUCED CAPACITY                                     | 027H5212 | 1.89          |

1) ICF20 gasket kit 027L1261 to be purchased also (contains 6 x module to body gaskets)

2) Pleated 150u and 250u insert from FIA product range

3) Pleated 250u is the standard insert that comes with the ICF (as of mid 2016 150u are now standard)

4) ICF Module gasket not supplied with ICF strainer insert (order gasket set 027L1261 or 027L2260)

5) These modules not suitable for M1 or M2 of the ICF15 valves

**SPARE PARTS (CONT'D)**

**ICF - VALVE STATIONS (CARBON STEEL VERSIONS) (CONT'D)**

| DESCRIPTION                                              | CODE     | APPROX WEIGHT |
|----------------------------------------------------------|----------|---------------|
| ICS 65-40 INSERT -REDUCED CAPACITY                       | 027H6212 | 2.74          |
| ICF0 20 MANUAL OPENER MODULE, SPARE PART                 | 027L1260 | 0.73          |
| ICM 20 A33 FUNCTION MODULE                               | 027H1186 | 1.33          |
| ICM 20 A FUNCTION MODULE                                 | 027H1180 | 1.31          |
| ICM 20 B66 FUNCTION MODULE                               | 027H1194 | 1.31          |
| ICM 20 B FUNCTION MODULE                                 | 027H1181 | 1.32          |
| ICM 20 C FUNCTION MODULE                                 | 027H1182 | 1.31          |
| ICM 25A-33 FUNCTION MODULE                               | 027H2190 | 1.83          |
| ICM 25A FUNCTION MODULE                                  | 027H2180 | 1.79          |
| ICM 25B FUNCTION MODULE                                  | 027H2181 | 1.90          |
| SEAT/S FOR ICF20 BODY (ICM20-A33/A/B/C, ICFR20 & ICFE20) | 027H1190 | 0.03          |
| ICFD DEFROST MODULE (ammonia)                            | 027L6701 | 8.53          |
| ICFD DEFROST MODULE (CO <sub>2</sub> )                   | 027L6708 | 8.61          |
| ICFD DEFROST MODULE GASKET KIT                           | 027L6702 | 0.05          |
| ICFD DEFROST MODULE REPAIR KIT                           | 027L6703 | 0.17          |
| ICFD DEFROST MODULE REPAIR KIT (CO <sub>2</sub> )        | 027L6709 | 0.17          |
| ICFD Defrost Mod. orifice kit for ICF 20                 | 027L6711 | 0.01          |
| ICFD DEFROST MODULE INLET CONNECTOR/DRAIN PLUG           | 027L6704 | 0.12          |
| ICFC 20 P1 CHECK VALVE MODULE, SPARE PART                | 027L1232 | TBA           |
| ICFA 10 AKVA MODULE (c/w #8 orifice)                     | 027L1258 | 0.80          |
| ARMATURE KIT FOR ICFA 20                                 | 068F5045 | 0.11          |
| ICFB 20 BLIND MODULE, SPARE PART                         | 027L1259 | 0.64          |
| ICFB 25 BLIND MODULE, SPARE PART                         | 027L2259 | 1.23          |
| ICFW 25 1" SOC WELDING MODULE                            | 027L2263 | 1.40          |
| SIGHT GLASS 3/8-18 NPT                                   | 027L1269 | 0.10          |
| ICF 15 GASKETS, SPARE PART KIT                           | 027L1271 | 0.02          |
| ICF 20 GASKETS, SPARE PART KIT                           | 027L1261 | 0.03          |
| ICF25 GASKETS, SPARE PART KIT                            | 027L2260 | 0.04          |
| YELLOW CAP - ICF20                                       | 027L1306 | 0.08          |
| YELLOW CAP - ICFR25-40 REG 25-65                         | 027L1308 | 0.22          |
| RED CAP - ICF20                                          | 148B4075 | 0.08          |
| RED CAP - ICFR25-40 REG 25-65                            | 148B4076 | 0.22          |

- 1) ICF20 gasket kit 027L1261 to be purchased also (contains 6 x module to body gaskets)
- 2) Pleated 150u and 250u insert from FIA product range
- 3) Pleated 250u is the standard insert that comes with the ICF (as of mid 2016 150u are now standard)
- 4) ICF Module gasket not supplied with ICF strainer insert (order gasket set 027L1261 or 027L2260)
- 5) These modules not suitable for M1 or M2 of the ICF15 valves

**SPARE PARTS (CONT'D)**

**ICF - VALVE STATIONS (STAINLESS STEEL VERSIONS)**

| DESCRIPTION                                                            | CODE     | APPROX WEIGHT |
|------------------------------------------------------------------------|----------|---------------|
| ICFS SS 15/20 STOP VALVE MODULE <sup>5)</sup>                          | 027L4772 | 1.30          |
| ICFS SS 25 STOP VALVE MODULE                                           | 027L4791 | 2.60          |
| ICFF SS 20E FILTER MODULE                                              | 027L4777 | 1.28          |
| ICFF SS 25E FILTER MODULE                                              | 027L4796 | 2.92          |
| ICFF 15 FILTER INSERT 150u                                             | 148H1136 | 0.05          |
| ICFF 20 FILTER INSERT 250u <sup>2) 4)</sup>                            | 148H3363 | 0.03          |
| ICFF 20E FILTER INSERT 150u <sup>4)</sup> (ex 148H3304 <sup>2)</sup> ) | 027L0800 | 0.05          |
| ICFF 20E FILTER INSERT 250u <sup>2) 3) 4)</sup>                        | 148H3269 | 0.06          |
| ICFF 25E FILTER INSERT 150u <sup>4)</sup>                              | 027L0802 | 0.14          |
| ICFF 25E FILTER INSERT 250u <sup>4)</sup>                              | 148H3296 | 0.15          |
| ICFN SS 15/20 STOP/CHECK MODULE <sup>5)</sup>                          | 027L4788 | 1.26          |
| ICFN SS 25 STOP/CHECK MODULE                                           | 027L4803 | 2.56          |
| ICFC SS 20 CHECK VALVE MODULE                                          | 027L4775 | 0.91          |
| ICFC SS 25 CHECK VALVE MODULE                                          | 027L4794 | 1.68          |
| ICFR SS 15/20A REG VALVE MODULE <sup>5)</sup>                          | 027L4773 | TBA           |
| ICFR SS 15/20B REG VALVE MODULE <sup>5)</sup>                          | 027L4774 | 1.26          |
| ICFR SS 25A REG VALVE MODULE                                           | 027L4792 | 2.70          |
| ICFR SS 25B REG VALVE MODULE                                           | 027L4793 | 2.72          |
| ICFE 20 REPAIR KIT, SPARE PART <sup>1)</sup>                           | 032F8030 | 0.13          |
| ICFE SS 20 SOLENOID VALVE MODULE                                       | 027L4778 | 0.67          |
| ICFE SS 20H SOLENOID VALVE MODULE                                      | 027L4779 | 1.71          |
| ICFE SS 25 SOLENOID VALVE MODULE                                       | 027L4797 | 2.33          |
| ICFE 25 ARMATURE ASSEMBLY (INC EVM)                                    | 027B1120 | 0.25          |
| ICFO SS 20 MANUAL OPENING MODULE                                       | 027L4786 | 0.79          |
| ICM SS 20-A33 MOTOR VALVE MODULE                                       | 027L4785 | 0.01          |
| ICM SS 20-A MOTOR VALVE MODULE                                         | 027L4782 | 1.60          |
| ICM SS 20-B66 MOTOR VALVE MODULE                                       | 027L4781 | 1.58          |
| ICM SS 20-B MOTOR VALVE MODULE                                         | 027L4783 | 1.61          |
| ICM SS 20-C MOTOR VALVE MODULE                                         | 027L4784 | 1.57          |
| ICM SS 25-A MOTOR VALVE MODULE                                         | 027L4798 | 1.83          |
| ICM SS 25-B MOTOR VALVE MODULE                                         | 027L4799 | 1.88          |
| SEAT/S FOR ICF20 BODY (ICM20-A33/A/B/C & ICFE20)                       | 027H1190 | 0.03          |
| ICFA SS 20 ELECTRONIC EXPANSION VALVE MODULE                           | 027L4780 | 0.69          |
| ATMATURE KIT FOR ICFA 20                                               | 068F5045 | 0.11          |
| ICFB SS 20 BLANK TOP COVER                                             | 027L4787 | 0.64          |
| ICFB SS 25 BLANK TOP COVER                                             | 027L4802 | 1.24          |
| ICFW SS 20 WELDING MODULE 20 DIN                                       | 027L4789 | 0.62          |
| ICFW SS 25 WELDING MODULE 25DIN                                        | 027L4800 | 1.26          |

**SPARE PARTS (CONT'D)**

**ICF - VALVE STATIONS (STAINLESS STEEL VERSIONS) (CONT'D)**

| DESCRIPTION                     | CODE     | APPROX WEIGHT |
|---------------------------------|----------|---------------|
| SIGHT GLASS 3/8-18 NPT          | 027L1269 | 0.10          |
| ICF 15 GASKETS, SPARE PART KIT  | 027L1271 | 0.02          |
| ICF 20 GASKETS, SPARE PART KIT  | 027L1261 | 0.03          |
| ICF 25 GASKETS, SPARE PART KIT  | 027L2260 | 0.04          |
| GREEN CAP - ICFN 20 SCA-X 15-20 | 027L1316 | 0.28          |
| GREEN CAP - ICFN 25 SCA-X 25-65 | 027L1318 | 0.27          |
| YELLOW CAP - ICFR20 REG 15-20   | 027L1306 | 0.08          |
| YELLOW CAP - ICFR25 REG 25-65   | 027L1308 | 0.22          |
| RED CAP - ICF20 SVA 15-20       | 148B4075 | 0.08          |
| RED CAP - ICF25 REG 25-65       | 148B4076 | 0.22          |

- 1) ICF20 gasket kit 027L1261 to be purchased also (contains 6 x module to body gaskets)
- 2) Pleated 150u and 250u insert from FIA product range
- 3) Pleated 250u is the standard insert that comes with the ICF (as of mid 2016 150u are now standard)
- 4) ICF Module gasket not supplied with ICF strainer insert (order gasket set 027L1261 or 027L2260)
- 5) These modules not suitable for M1 or M2 of the ICF15 valves
  - ICFS25-40 / ICFR25-40 / ICFN25-40 packing gland is the same as the SVA25-40
  - For Orifice options for ICFA 20 please see AKVA spare parts

## SPARE PARTS (CONT'D)

### PM, PML, PMC, PMLX, PMFL, PMFH, MEV, MRV- CONTROL VALVES



#### INSPECTION KITS

CONTAINS ALL GASKETS, O-RINGS AND ALUMINIUM RINGS FOR ONE VALVE SIZE.

| DESCRIPTION                                      | CODE     | APPROX WEIGHT |
|--------------------------------------------------|----------|---------------|
| Inspection kit PM5. 10, 15, 20 & 25 / MEV-PMFx80 | 027F3075 | 0.06          |
| Inspection kit PM32 / MEV-PMFx125                | 027F3076 | 0.09          |
| Inspection kit PM40 / MEV-PMFx200                | 027F3077 | 0.09          |
| Inspection kit PM50 / MEV-PMFx300                | 027F3078 | 0.09          |
| Inspection set A - PM65                          | 027F3079 | 0.10          |
| Inspection set A - PM80                          | 027F3091 | 0.35          |
| Inspection set A - PM100                         | 027F3092 | 0.72          |
| Inspection set A - PM125                         | 027F3093 | 0.78          |

### PM, PML, PMLX, PMFL, PMFH, MEV, MRV- CONTROL VALVES



#### REPAIR KITS

CONTAINS ALL GASKETS, O-RINGS AND ALUMINIUM RINGS FOR ONE VALVE SIZE, VALVE SEAT AND PISTON RING.

| DESCRIPTION                          | CODE     | APPROX WEIGHT |
|--------------------------------------|----------|---------------|
| Repair Kit B - PM 5, 10, 15, 20 & 25 | 027F3150 | 0.08          |
| Repair Kit B - PM32                  | 027F3152 | 0.13          |
| Repair Kit B - PM40                  | 027F3153 | 0.15          |
| Repair Kit B - PM50                  | 027F3154 | 0.31          |
| Repair Kit B - PM65                  | 027F3155 | 0.35          |
| Repair Kit B - PM80                  | 027F3156 | 0.41          |
| Repair Kit B - PM100                 | 027F3157 | 0.84          |
| Repair Kit B - PM125                 | 027F3158 | 1.00          |
| Repair Kit B PMC 20 (5 to 20)        | 027F0555 | TBA           |

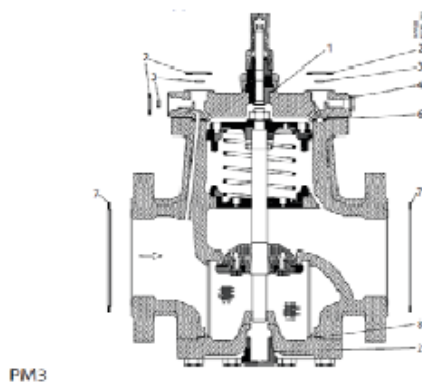
Jacking Spindle is temporarily available as a separate code

|                                               |          |      |
|-----------------------------------------------|----------|------|
| MANUAL OPERATION PM 25 to 65 and ICS 25 to 80 | 027F2130 | 0.26 |
| MANUAL OPERATION PM 80 to 125                 | 027F2134 | 0.76 |

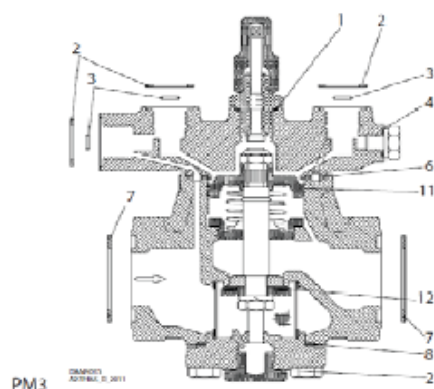
## SPARE PARTS (CONT'D)



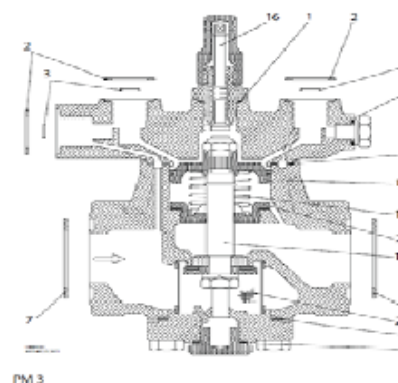
**Example of PM3 Inspection Kit**



**Example of PM3 Repair Kit**



**Example of PM3 Repair Kit**



## SPARE PARTS (CONT'D)

### PM, PML, PMLX, PMC, PMFL, PMFH - CONTROL VALVES



- <sup>(1)</sup> V-cone is only available for these sizes and can be used in the standard PM valve or applications.

#### OVERHAUL KITS

CONTAINS ALL GASKETS, O-RINGS AND ALUMINIUM RINGS FOR ONE VALVE SIZE AND PARTS THAT COULD BE DAMAGED OR WORN OUT (I.E. PISTON, PUSH ROD, MANUAL OPENING DEVICE, SPRING ETC)

| DESCRIPTION                                   | CODE     | APPROX WEIGHT |
|-----------------------------------------------|----------|---------------|
| Overhaul kit C, PM5 (V. cone) <sup>(1)</sup>  | 027F3380 | 0.70          |
| Overhaul kit C, PM10 (V cone) <sup>(1)</sup>  | 027F3381 | 0.70          |
| Overhaul kit C, PM15 (V. cone) <sup>(1)</sup> | 027F3382 | 0.63          |
| Overhaul kit C, PM20 (Std. cone)              | 027F3370 | 0.68          |
| Overhaul kit C, PM25 (Std. cone)              | 027F3371 | 0.66          |
| Overhaul kit C, PM32 (Std. cone)              | 027F3373 | 0.92          |
| Overhaul kit C, PM40 (Std. cone)              | 027F3374 | 1.33          |
| Overhaul kit C, PM50 (Std. cone)              | 027F3375 | 2.19          |
| Overhaul Kit C, PM65 (Std. cone)              | 027F3376 | 2.97          |
| Overhaul Kit C, PM80 (Std. cone)              | 027F3377 | 6.68          |
| Overhaul Kit C, PM100 (Std. cone)             | 027F3378 | 9.02          |
| Overhaul Kit C, PM125 (Std. cone)             | 027F3379 | 16.13         |
| Overhaul Kit PML 32                           | 027F0556 | 1.12          |
| Overhaul Kit PML 40                           | 027F0557 | 1.38          |
| Overhaul Kit PML 50                           | 027F0558 | 2.01          |
| Overhaul Kit PML 65                           | 027F0559 | 2.87          |
| Overhaul Kit PML 80                           | 027F0560 | 6.54          |
| Overhaul Kit PML 100                          | 027F0561 | 9.83          |
| Overhaul Kit PML 125                          | 027F0562 | 15.85         |
| Overhaul Kit PMLX 32                          | 027F0563 | 1.22          |
| Overhaul Kit PMLX 40                          | 027F0568 | 1.34          |
| Overhaul Kit PMLX 50                          | 027F0569 | 2.18          |
| Overhaul Kit PMLX 65                          | 027F0570 | 3.00          |
| Overhaul Kit PMLX 80                          | 027F0571 | 6.65          |
| Overhaul Kit PMLX 100                         | 027F0572 | 10.02         |
| Overhaul Kit PMLX 125                         | 027F0573 | 13.82         |
| Overhaul Kit for PMC1 and PMC3 20-5           | 027F0770 | 0.77          |
| Overhaul Kit for PMC1 and PMC3 20-8           | 027F0754 | 0.79          |
| Overhaul Kit for PMC1 and PMC3 20-12          | 027F0755 | 0.78          |
| Overhaul Kit for PMC1 and PMC3 20-20          | 027F0756 | 0.78          |

(1) V-cone is only available for these sizes and can be used in the standard PM valve or applications.

**SPARE PARTS (CONT'D)**

**PM, PML, PMLX, PMC, PMFL, PMFH - CONTROL VALVES (CONT'D)**
**OVERHAUL KITS**

CONTAINS ALL GASKETS, O-RINGS AND ALUMINIUM RINGS FOR ONE VALVE SIZE AND PARTS THAT COULD BE DAMAGED OR WORN OUT (I.E. PISTON, PUSH ROD, MANUAL OPENING DEVICE, SPRING ETC)

| DESCRIPTION                | CODE     | APPROX WEIGHT |
|----------------------------|----------|---------------|
| Overhaul Kit PMFL 80-1     | 027F0611 | 0.63          |
| Overhaul Kit PMFL 80-2     | 027F0631 | 0.79          |
| Overhaul Kit PMFL 80-3     | 027F0632 | 0.74          |
| Overhaul Kit PMFL 80-4     | 027F0633 | 0.65          |
| Overhaul Kit PMFL 80-5     | 027F0634 | 0.65          |
| Overhaul Kit PMFL 80-6     | 027F0635 | 0.75          |
| Overhaul Kit PMFL 80-7     | 027F0636 | 0.76          |
| Overhaul Kit PMFL 125      | 027F0637 | 1.94          |
| Overhaul Kit PMFL 200      | 027F0638 | 1.59          |
| Overhaul Kit PMFL 300      | 027F0639 | 2.32          |
| Overhaul Kit PMFH 80-2     | 027F0663 | 0.64          |
| Overhaul Kit PMFH 80-3     | 027F0669 | 0.62          |
| Overhaul Kit for PMFH 80-4 | 027F0676 | 0.71          |
| Overhaul Kit for PMFH 80-5 | 027F0677 | 0.68          |
| Overhaul Kit for PMFH 80-6 | 027F0678 | 0.74          |
| Overhaul Kit for PMFH 80-7 | 027F0700 | 0.71          |
| Overhaul Kit for PMFH 125  | 027F0704 | 0.93          |
| Overhaul Kit for PMFH 200  | 027F0705 | 1.08          |
| Overhaul Kit for PMFH 300  | 027F0709 | 1.56          |
| Overhaul Kit for PMFH 500  | 027F0710 | 2.76          |

## SPARE PARTS (CONT'D)



### PM-ICS COMPLETE VALVE SERVICE REPLACEMENT KITS

Kits will be supplied as 3 separate parts/codes under PM-ICS kit code below and will no longer be boxed together

#### PM3 SERVICE VALVE REPLACEMENT KIT



| DESCRIPTION                  | CODE       | APPROX WEIGHT |
|------------------------------|------------|---------------|
| PM-ICS3-5 FLANGED VALVE KIT  | PM-ICS3-5  | 4.71          |
| PM-ICS3-10 FLANGED VALVE KIT | PM-ICS3-10 | 4.68          |
| PM-ICS3-15 FLANGED VALVE KIT | PM-ICS3-15 | 4.69          |
| PM-ICS3-20 FLANGED VALVE KIT | PM-ICS3-20 | 4.69          |
| PM-ICS3-25 FLANGED VALVE KIT | PM-ICS3-25 | 4.69          |
| PM-ICS3-32 FLANGED VALVE KIT | PM-ICS3-32 | 7.54          |
| PM-ICS3-40 FLANGED VALVE KIT | PM-ICS3-40 | 9.08          |
| PM-ICS3-50 FLANGED VALVE KIT | PM-ICS3-50 | 13.53         |
| PM-ICS3-65 FLANGED VALVE KIT | PM-ICS3-65 | 19.00         |

- Please note the capacity of similar sized PM to ICS can vary
- \* Use kv flow cross reference on page 163-164 to check suitability for your application
- Note: The above kits will have the individual items delivered in one box
- PM-ICS in 3 parts packed in one box (body c/w SS bolts and flange gaskets, module/insert c/w top gasket & O-rings, top cover c/w 1 x blanking plug and SS bolts)
- For PM1 replacement please use the PM-ICS3 and purchase an extra Cap & Blanking Plug (A&B) 027F1046

### ICV-PM VALVE HOUSING ONLY SERVICE REPLACEMENT (HOUSING, FLANGE BOLTS & GASKETS)



#### ICV-PM BODIES ONLY

| DESCRIPTION             | CODE     | APPROX WEIGHT |
|-------------------------|----------|---------------|
| ICV 25 PM Valve housing | 027H2119 | 2.61          |
| ICV 32 PM Valve housing | 027H3129 | 4.70          |
| ICV 40 PM Valve housing | 027H4128 | 5.33          |
| ICV 50 PM Valve housing | 027H5127 | 9.56          |
| ICV 65 PM Valve housing | 027H6128 | 13.00         |

Note:

- PMLX, MRV and MEV replacement options are available by using ICV-PM bodies above and overhaul kit for the ICLX and ICM valves in spare parts of the this guide

## SPARE PARTS (CONT'D)



### ICV-(H)A4A VALVE HOUSING ONLY SERVICE REPLACEMENT (HOUSING, FLANGE BOLTS & GASKETS)

#### ICV- (H)A4A BODIES ONLY



| DESCRIPTION                                                       | CODE     | APPROX WEIGHT |
|-------------------------------------------------------------------|----------|---------------|
| ICV 25 (H)A4A VALVE HOUSING <sup>1)</sup>                         | 027H2304 | 4.54          |
| ICV 32 A4A VALVE HOUSING (ONLY PARKER REPLACEMENT)                | 027H3130 | 5.32          |
| ICV 32 HA4A VALVE HOUSING (ONLY HANSEN REPLACEMENT) <sup>1)</sup> | 027H3131 | 5.32          |
| ICV 40 (H)A4A VALVE HOUSING                                       | 027H4129 | 6.94          |
| ICV 50 (H)A4A VALVE HOUSING                                       | 027H5128 | 13.34         |
| ICV 65 (H)A4A VALVE HOUSING                                       | 027H6129 | 20.72         |

Note:

1) These codes have 2 bolt flanges with the remainder having 4 bolt

- (H)S4A, (H)A4A, (H)A4AS, (H)A4AB, (H)A4AD, HA4AJ etc replacement options are available by using ICV-(H)A4A bodies above and overhaul kit for the ICS, ICLX and ICM valves (see page 82)
- For ICS option the function module (overhaul kit) and Top Cover must be purchased (see page 82)
- For ICLX and ICM function overhaul kits include Top Cover.

Note:

- All Pilots are sold separately and not included in any kits above
- PM-ICS uses the same pilots as PM and ICS but may have different orientation on the top coverers from PM to ICS.



**SPARE PARTS (CONT'D)**

**AKVA - EXPANSION VALVES**

| DESCRIPTION                                                         | CODE     | APPROX WEIGHT |
|---------------------------------------------------------------------|----------|---------------|
| ORIFICE AKVA 10-1                                                   | 068F0526 | 0.03          |
| ORIFICE AKVA 10-2                                                   | 068F0527 | 0.03          |
| ORIFICE AKVA 10-3                                                   | 068F0528 | 0.03          |
| ORIFICE AKVA 10-4                                                   | 068F0529 | 0.03          |
| ORIFICE AKVA 10-5                                                   | 068F0530 | 0.03          |
| ORIFICE AKVA 10-6                                                   | 068F0531 | 0.03          |
| ORIFICE AKVA 10-7                                                   | 068F0532 | 0.03          |
| ORIFICE AKVA 10-8                                                   | 068F0533 | 0.03          |
| ORIFICE KIT AKVA 15 (1/2/3/4)                                       | 068F5261 | 0.02          |
| ORIFICE KIT AKVA 20 (1/2/3)                                         | 068F5270 | 0.15          |
| ORIFICE KIT AKVA 20 (4/5)                                           | 068F5271 | 0.15          |
| PISTON KIT AKVA 15-1                                                | 068F5265 | 0.06          |
| PISTON KIT AKVA 15-2                                                | 068F5266 | 0.06          |
| PISTON KIT AKVA 15-3                                                | 068F5267 | 0.06          |
| PISTON KIT AKVA 15-4                                                | 068F5268 | 0.06          |
| PISTON KIT AKVA 20-1                                                | 042H2040 | 0.23          |
| PISTON KIT AKVA 20-2                                                | 042H2041 | 0.23          |
| PISTON KIT AKVA 20-3                                                | 042H2042 | 0.22          |
| PISTON KIT AKVA 20-4                                                | 042H2043 | 0.24          |
| PISTON KIT AKVA 20-5                                                | 042H2044 | 0.23          |
| AKVA 10/15 FILTER (INCLUDES TUBE GASKET AKVA10/15/20) <sup>1)</sup> | 068F0540 | 0.03          |
| ARMATURE SET AKVA 10/15/20                                          | 068F5045 | 0.11          |
| GASKET SET AKVA 15                                                  | 068F5264 | 0.01          |
| GASKET SET AKVA 20 (EVRA32/40 INSPECTION KIT)                       | 032F2327 | 0.04          |

<sup>1)</sup> Sold in pack of 10 pieces i.e. 1 x 068F0540 = 10 pcs of gaskets and filters

- How to Identify AKV/A20 valves size using Orifice plate and Piston cone dimensions:

**ORIFICE SET**


| TYPE                            | CODE NO. | CONTENTS                                                            |
|---------------------------------|----------|---------------------------------------------------------------------|
| AKV 20/AKVA 20<br>-0.6, 1, 2, 3 | 068F5270 | Main orifice 8mm<br>Pilot orifice 1.2 mm<br>2 AL-gaskets<br>O-ring  |
| AKV 20/AKVA 20<br>-4,5          | 068F5271 | Main orifice 14mm<br>Pilot orifice 2.4 mm<br>2 AL-gaskets<br>O-ring |

**ORIFICE SET**

| D       | TYPE            |
|---------|-----------------|
| Ø 7.37  | AKV/AKVA 20-0.6 |
| Ø 6.65  | AKV/AKVA 20-1   |
| Ø 5.95  | AKV/AKVA 20-2   |
| Ø 3.30  | AKV/AKVA 20-3   |
| Ø 10.37 | AKV/AKVA 20-4   |
| Ø 4.60  | AKV/AKVA 20-5   |

**SPARE PARTS (CONT'D)**

**TEA / TEAT / TEVA - VALVES**

| DESCRIPTION                                     | CODE     | APPROX WEIGHT |
|-------------------------------------------------|----------|---------------|
| TEA/A ORIFICE ASSEMBLY 1 TR                     | 068G2050 | 0.13          |
| TEA/T/A ORIFICE ASSEMBLY 2 TR                   | 068G2051 | 0.11          |
| TEA/T/A ORIFICE ASSEMBLY 3 TR                   | 068G2052 | 0.11          |
| TEA/T/A ORIFICE ASSEMBLY 5 TR                   | 068G2053 | 0.11          |
| TEA/T/A ORIFICE ASSEMBLY 8 TR                   | 068G2054 | 0.11          |
| TEA/T/A ORIFICE ASSEMBLY 12 TR                  | 068G2055 | 0.12          |
| TEA/T/A ORIFICE ASSEMBLY 20 TR                  | 068G2056 | 0.11          |
| TEA/T/A ORIFICE ASSEMBLY 33 TR                  | 068G2057 | 0.12          |
| TEA/T/A ORIFICE ASSEMBLY 55 TR                  | 068G2058 | 0.12          |
| TEA/T/A ORIFICE ASSEMBLY 85 TR                  | 068G2059 | 0.12          |
| INSPECTION KIT TEA,TEAT,TEVA,TEAQ (seal kit)    | 068G0064 | 0.04          |
| TEVA 20/85 HEATER (production stop early 2020)  | 068G0037 | 0.10          |
| TEVA WELD BUSH                                  | 068G0026 | 0.45          |
| TEVA 20/85 ELEMENT (production stop early 2020) | 068G3255 | 0.90          |
| TEA 20/85 ELEMENT -50 > 0C                      | 068G3250 | 0.69          |
| TEA 20/85 ELEMENT -20 > 30C                     | 068G3252 | 0.56          |
| TEAT 20/85 ELEMENT 35 > 65C                     | 068G3262 | 0.61          |
| TEAT 20/85 ELEMENT 55 > 95C                     | 068G3260 | 0.63          |
| TEAT 20/85 ELEMENT 90 > 130C                    | 068G3261 | 0.65          |

**SPARE PARTS (CONT'D)**

**MISC - AKS38 / AKS4100 / SV1,3,4,5,6 / KDC / QDV / POV**

| DESCRIPTION                                                  | CODE     | APPROX WEIGHT |
|--------------------------------------------------------------|----------|---------------|
| SV 1/3 SEAL KIT                                              | 027B2045 | 0.28          |
| SV 1 SERVICE KIT                                             | 027B2055 | 0.02          |
| SV 3 SERVICE KIT                                             | 027B2056 | 0.02          |
| SV 4-5-6 SEAL KIT                                            | 027B2070 | 0.08          |
| SV 4-5-6 SERVICE KIT                                         | 027B2073 | 0.05          |
| SV 4 ORIFICE ASSEMBLY Ø 3.0                                  | 027B2085 | 0.31          |
| SV 5 ORIFICE ASSEMBLY Ø 3.5                                  | 027B2086 | 0.31          |
| SV 6 ORIFICE ASSEMBLY Ø 4.0                                  | 027B2087 | 0.31          |
| AKS 4100/4100U CABLE SERVICE KIT (CABLE & C/W)               | 084H4542 | 0.86          |
| AKS 4100/4100U COAXIAL END TERMINATOR KIT                    | 084H4549 | 0.08          |
| AKS 4100/4100U COAXIAL TUBE 680MM                            | 084H4543 | 0.66          |
| AKS 4100/4100U Converter with Metaglas and HMI (ex 084H4541) | 084H4555 | 2.83          |
| AKS 4100/4100U HMI DISPLAY UNIT                              | 084H4548 | 0.99          |
| AKS 4100/4100U blank top cover for signal converter          | 084H4544 | 0.89          |
| AKS 4100/4100U converter connecting cable (5 pk)             | 084H4557 | 0.67          |
| AKS 4100 1"PROCESS CONN (CW/CABLE/1" PRO CON)                | 084H4545 | 1.43          |
| AKS 4100 3/4"PROCESS CONN (CW/CABLE/3/4" PRO CON)            | 084H4546 | 1.66          |
| AKS4100 & 41 ALU GASKET (ORDER IN LOTS OF 10)                | 084H4547 | 0.07          |
| LLS 4000/U Inspection sealing kit                            | 084H6011 | 0.03          |
| QDV REPAIR KIT (OLD MODEL ONLY)                              | 2453+092 | 0.08          |
| AKS 38 ELECTRICAL SWITCHBOX                                  | 148H3202 | 0.73          |
| AKS 38 FLOAT ASSEMBLY                                        | 148H3203 | 0.43          |
| AKS 38 REPAIR KIT (GASKETS & LOCKING RING)                   | 148H3200 | 0.08          |
| GASKET BONNET/HOUSING KDC/GVD 65                             | 148G3048 | 0.14          |
| GASKET BONNET/HOUSING KDC/GVD 80                             | 148G3049 | 0.10          |
| GASKET BONNET/HOUSING KDC/GVD 100                            | 148G3050 | 0.06          |
| GASKET BONNET/HOUSING KDC/GVD 125                            | 148G3051 | 0.05          |
| GASKET BONNET/HOUSING KDC/GVD 150z                           | 148G3052 | 0.13          |
| GASKET BONNET/HOUSING KDC/GVD 200                            | 148G3053 | 0.14          |
| KDC/GVD 65 seal kit set                                      | 148G3054 | 0.10          |
| KDC/GVD 80 Seal kit set                                      | 148G3055 | 0.09          |
| KDC/GVD 100 Seal kit set                                     | 148G3056 | 0.11          |
| KDC/GVD 125 Seal kit set                                     | 148G3057 | 0.13          |
| KDC/GVD150 Seal kit set                                      | 148G3058 | 0.41          |
| KDC/GVD 200 seal kit set                                     | 148G3059 | 0.54          |
| POV 40 SERVICE KIT                                           | 2453+089 | 0.78          |
| POV 50 SERVICE KIT                                           | 2453+090 | 0.03          |
| POV 80 SERVICE KIT                                           | 2453+098 | 0.34          |
| POV 600 SERVICE KIT                                          | 148F3050 | 0.02          |
| POV 1050 SERVICE KIT                                         | 148F3051 | 0.78          |
| POV 2150 SERVICE KIT                                         | 148F3052 | 0.78          |

**SPARE PARTS (CONT'D)**

**MISC - HFI / SFA / SFV / ORV / OFV / FA / ICAD**

| DESCRIPTION                                                     | CODE     | APPROX WEIGHT |
|-----------------------------------------------------------------|----------|---------------|
| HFI 040, complete insert and gaskets                            | 148G3661 | 1.79          |
| HFI 050, complete insert and gaskets                            | 148G3662 | 1.79          |
| HFI 060, complete insert and gaskets                            | 148G3663 | 1.77          |
| HFI 070, complete insert and gaskets                            | 148G3584 | 1.76          |
| REPAIR KIT HFI 40-70 (gaskets)                                  | 2453+094 | 0.15          |
| Repair kit for SFA 10                                           | 148F3069 | 0.15          |
| Repair kit for SFA 10H                                          | 148F3070 | 0.78          |
| Repair kit for SFA 15                                           | 148F3036 | 0.05          |
| Repair kit for SFV 20                                           | 2453+082 | 0.10          |
| Repair kit for SFV 25                                           | 2453+083 | 0.13          |
| Dismounting kit for DSV 1 (gaskets for SRV and DSV connections) | 148F3029 | 0.03          |
| Dismounting kit for DSV 2 (gaskets for SRV and DSV connections) | 148F3030 | 0.04          |
| REPAIR-KIT FOR DSV 1                                            | 148F3024 | 0.08          |
| REPAIR-KIT FOR DSV 2                                            | 148F3025 | 0.07          |
| ORV DISMOUNTING KIT H1                                          | 148H3246 | 0.24          |
| ORV DISMOUNTING KIT H2                                          | 148H3247 | 0.02          |
| ORV DISMOUNTING KIT H3 (2 guide rings and 1 gasket)             | 148H3248 | 0.02          |
| SPARE PARTS OFV 20 inc. Guide (previous design)                 | 2433+107 | 0.30          |
| SPARE PARTS OFV 25 inc. Guide (previous design)                 | 2433+108 | 0.31          |
| Repair kit FA 15 (strainer, gasket, screws)                     | 006-0331 | 0.07          |
| Repair kit FA 20 (strainer, gasket, screws)                     | 006-0332 | 0.08          |
| Repair kit FA 25 (strainer, gasket, screws)                     | 006-0333 | 0.07          |
| Seal kit FA 15 (cover gasket, flange gaskets)                   | 006-0334 | 0.01          |
| Seal kit FA 20 (cover gasket, flange gaskets)                   | 006-0335 | 0.01          |
| Seal kit FA 25 (cover gasket, flange gaskets)                   | 006-0336 | 0.01          |
| ICAD 600A/ICM Grease/EPDM kit (Wear & O-ring,3 screws,grease)   | 027H0356 | 3.20          |
| ICAD 1200A/ICM Grease/EPDM kit (Wear & O-ring,3 screws,grease)  | 027H0357 | 3.20          |
| ICMTS 20 A33 TOP *CO <sub>2</sub> *                             | 027H1088 | 1.15          |
| ICMTS 20 A TOP *CO <sub>2</sub> *                               | 027H1080 | 1.17          |
| ICMTS 20 B66 TOP *CO <sub>2</sub> *                             | 027H1094 | 1.15          |
| ICMTS 20 B TOP *CO <sub>2</sub> *                               | 027H1081 | 1.16          |
| ICMTS 20 C, TOP *CO <sub>2</sub> *                              | 027H1082 | 1.15          |
| ICMTS 20 B / C SERVICE KIT *CO <sub>2</sub> *                   | 027H1192 | 0.02          |
| ICMTS 20 A / A33 SERVICE KIT *CO <sub>2</sub> *                 | 027H1193 | 0.02          |

**SPARE PARTS (CONT'D)**

**MISC - HFI / SFA / SFV / ORV / OFV / FA / ICAD (CONT'D)**

| DESCRIPTION                             | CODE     | APPROX WEIGHT |
|-----------------------------------------|----------|---------------|
| SPARE PART SIGHT GLASS LLG 185          | 148H3034 | 0.37          |
| SPARE PART SIGHT GLASS LLG 335          | 148H3035 | 0.78          |
| SPARE PART SIGHT GLASS LLG 590          | 148H3036 | 1.06          |
| SPARE PART SIGHT GLASS LLG 740          | 148H3037 | 1.21          |
| SPARE PART SIGHT ADAPTER LLG-F /SF 185  | 148H3041 | 0.49          |
| SPARE PART SIGHT ADAPTER LLG-F /SF 335  | 148H3042 | 0.87          |
| SPARE PART SIGHT ADAPTER LLG-F /SF 590  | 148H3043 | 1.29          |
| SPARE PART SIGHT ADAPTER LLG-F /SF 995  | 148H3045 | 1.49          |
| SPARE PART SIGHT ADAPTER LLG-F /SF 1145 | 148H3046 | 10.84         |
| SPARE PART SIGHT ADAPTER LLG-F /SF 1550 | 148H3047 | 1.90          |
| REPAIR KIT LLG 185 (GASKETS)            | 2453+056 | 0.07          |
| REPAIR KIT LLG 335 (GASKETS)            | 2453+057 | 0.35          |
| REPAIR KIT LLG 590 (GASKETS)            | 2453+058 | 0.53          |
| REPAIR KIT LLG 740 (GASKETS)            | 2453+059 | 0.36          |
| REPAIR KIT LLG 995 (GASKETS)            | 2453+060 | 0.48          |
| REPAIR KIT LLG1145 (GASKETS)            | 2453+061 | 0.56          |
| REPAIR KIT LLG1550 (GASKETS)            | 2453+062 | 0.54          |
| SNV-ST G 1/2 male X W 1/2 L100          | 148B3769 | 0.77          |

**SPARE PARTS (CONT'D)**

**IPS 8 AIR PURGER**

| DESCRIPTION                                                           | CODE     | APPROX WEIGHT |
|-----------------------------------------------------------------------|----------|---------------|
| Sight glass                                                           | 014-0191 | TBA           |
| Solenoid coil, 24V for AKV                                            | 018F6757 | 0.35          |
| Solenoid coil, 220 – 230V, 50 HZ for AKV                              | 018F6801 | 0.50          |
| SV3 Float Valve                                                       | 027B2023 | 7.64          |
| ICF 15-4 solenoid, ANSI                                               | 027L4538 | 7.00          |
| Pressure transmitter evaporator, soldered (AKS 32R)                   | 060G3552 | TBA           |
| Pressure transmitter - R717, Threaded, AKS2050                        | 060G5750 | 0.15          |
| Expansion valve, R452A                                                | 068U3881 | TBA           |
| PSU, 24V - optional for powering purge points                         | 080Z0055 | 0.32          |
| Danfoss Intelligent Purger System IPS 8 unit                          | 084H5001 | 115.00        |
| Purger solenoid kit (Armature, tube, Sealing, Orifice, Filter insert) | 084H5051 | 0.12          |
| Pre-programmed MCX 15                                                 | 084H5052 | 1.03          |
| Flange blind blank incl Bolts, nuts and Gaskets*                      | 084H5053 | 1.24          |
| Restrictor, purge line                                                | 084H5054 | 0.19          |
| Welding Flange incl Bolts, nuts and Gaskets                           | 084H5055 | 1.12          |
| Extraction Fan                                                        | 084H5056 | 0.50          |
| Air grid with filter (2 pieces)                                       | 084H5057 | 0.34          |
| Compressor Crank case heater                                          | 084H5058 | 0.23          |
| Condenser coil assy incl screws                                       | 084H5059 | 4.73          |
| Fan motor for condenser Incl fan grid and screws                      | 084H5060 | 1.78          |
| Compressor Hi-temp sensor                                             | 084N2003 | TBA           |
| Temperature sensor - R717, AKS 21M                                    | 084N2003 | TBA           |
| Thermostat for crankcase heater control                               | 0L111166 | TBA           |
| Compressor including Start relay box and Start and Run Capacitor      | 123F2126 | TBA           |
| Pressure switch for Fan (Contact Danfoss)                             | TBA      | TBA           |
| Pressure safety switch (Contact Danfoss)                              | TBA      | TBA           |



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- The volume flow in cubic metres per hour of water at a temperature of between 5° and 40° Celsius with a pressure drop across the valve of 1 bar ( $k_v = c_v \times 0.865$  and  $c_v = k_v \times 1.156$ )


**CONTROL & SOLENOID VALVE KV X-REFERENCE**

| EVM, EVRA/T/S VALVES                                                              |           | ICF MODULES (APPROX ONLY)                                                         |                | PM VALVES                                                                         |           | ICS VALVES                                                                          |           | ICM VALVES                                                                          |           |
|-----------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------|-----------|
|  |           |  |                |  |           |  |           |  |           |
| SV SIZES                                                                          | KV VALUES | ICF MODULES                                                                       | KV VALUES      | PM SIZES                                                                          | KV VALUES | ICS SIZES                                                                           | KV VALUES | ICM SIZES                                                                           | KV VALUES |
| EVM NO                                                                            | 0.12      |                                                                                   |                |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           | ICM20A-33                                                                         | 0.2            |                                                                                   |           |                                                                                     |           | ICM20A-33                                                                           | 0.2       |
| EVRA/S 3                                                                          | 0.23      |                                                                                   |                |                                                                                   |           |                                                                                     |           |                                                                                     |           |
| EVM NC                                                                            | 0.28      |                                                                                   |                |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           | ICM20-A                                                                           | 0.6            |                                                                                   |           |                                                                                     |           | ICM20-A                                                                             | 0.6       |
| EVRA/T/S 10                                                                       | 1.5       |                                                                                   |                |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           | ICM20-B66                                                                         | 1.6            | PM5                                                                               | 1.6       |                                                                                     |           | ICM20-B66                                                                           | 1.6       |
|                                                                                   |           |                                                                                   |                |                                                                                   |           | ICS25-5                                                                             | 1.7       | ICM25-A33                                                                           | 2         |
|                                                                                   |           | ICM20-B                                                                           | 2.4            |                                                                                   |           |                                                                                     |           | ICM20-B                                                                             | 2.4       |
| EVRA/T/S 15                                                                       | 2.7       |                                                                                   |                |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           | ICFR20A                                                                           | 3              | PM10                                                                              | 3         |                                                                                     |           |                                                                                     |           |
|                                                                                   |           | ICFR20B                                                                           | 4              |                                                                                   |           | ICS25-10                                                                            | 3.5       |                                                                                     |           |
| EVRA/T/S 20                                                                       | 4.5       | ICFE20                                                                            | 4.5 LESS BODY  | PM15                                                                              | 4         |                                                                                     |           |                                                                                     |           |
|                                                                                   |           | ICM20-C                                                                           | 4.6            |                                                                                   |           |                                                                                     |           | ICM20-C                                                                             | 4.6       |
|                                                                                   |           | ICM25-A                                                                           | 6              |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           | ICFR25A                                                                           | 6              |                                                                                   |           | ICS25-15                                                                            | 6         | ICM25-A                                                                             | 6         |
|                                                                                   |           |                                                                                   |                | PM20                                                                              | 7         |                                                                                     |           |                                                                                     |           |
|                                                                                   |           | ICFE20H                                                                           | 8 LESS BODY    |                                                                                   |           | ICS25-20                                                                            | 8         |                                                                                     |           |
|                                                                                   |           |                                                                                   |                |                                                                                   |           |                                                                                     |           | ICM32-A                                                                             | 9         |
| EVRA 25                                                                           | 10        |                                                                                   |                |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |                | PM25                                                                              | 11.5      | ICS25-25                                                                            | 11.5      |                                                                                     |           |
|                                                                                   |           | ICFR25B                                                                           | 12             |                                                                                   |           |                                                                                     |           | ICM25-B                                                                             | 12        |
|                                                                                   |           |                                                                                   |                |                                                                                   |           |                                                                                     |           | ICM40-A                                                                             | 15        |
| EVRA 32                                                                           | 16        | ICFE25                                                                            | 16.4 LESS BODY |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   | 17             |                                                                                   |           | ICS32                                                                               | 17        | ICM32-B                                                                             | 17        |
|                                                                                   |           |                                                                                   |                | PM32                                                                              | 17.2      |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |                |                                                                                   |           |                                                                                     |           | ICM50-A                                                                             | 23        |
| EVRA 40                                                                           | 25        |                                                                                   |                |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |                |                                                                                   |           |                                                                                     |           | ICM40-B                                                                             | 26        |
|                                                                                   |           |                                                                                   |                |                                                                                   |           | ICS40                                                                               | 27        |                                                                                     |           |
|                                                                                   |           |                                                                                   |                | PM40                                                                              | 30        |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |                |                                                                                   |           |                                                                                     |           | ICM65-A                                                                             | 35        |
|                                                                                   |           |                                                                                   |                |                                                                                   |           |                                                                                     |           | ICM50-B                                                                             | 40        |
|                                                                                   |           |                                                                                   |                | PM50                                                                              | 43        |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |                |                                                                                   |           | ICS50                                                                               | 44        |                                                                                     |           |
|                                                                                   |           |                                                                                   |                |                                                                                   |           | ICS65                                                                               | 70        | ICM65-B                                                                             | 70        |
|                                                                                   |           |                                                                                   |                | PM65                                                                              | 79        |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |                |                                                                                   |           | ICS80                                                                               | 85        |                                                                                     |           |
|                                                                                   |           |                                                                                   |                | PM80                                                                              | 141       |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |                |                                                                                   |           | ICS100                                                                              | 142       | ICM100                                                                              | 142       |
|                                                                                   |           |                                                                                   |                | PM100                                                                             | 205       |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |                |                                                                                   |           | ICS125                                                                              | 207       |                                                                                     |           |
|                                                                                   |           |                                                                                   |                |                                                                                   |           |                                                                                     |           | ICM125                                                                              | 223       |
|                                                                                   |           |                                                                                   |                | PM125                                                                             | 329       |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |                |                                                                                   |           | ICS150                                                                              | 354       |                                                                                     |           |
|                                                                                   |           |                                                                                   |                |                                                                                   |           |                                                                                     |           | ICM150                                                                              | 370       |

- Kv value is the metric measure for the flow of a valve.
- The volume flow in cubic metres per hour of water at a temperature of between 5° and 40° Celsius with a pressure drop across the valve of 1 bar ( $k_v = c_v \times 0.865$  and  $c_v = k_v \times 1.156$ )


**CONTROL & SOLENOID VALVE KV X-REFERENCE (CONT'D)**

| PML VALVES                                                                        |           | PMLX VALVES                                                                       |           | GPLX VALVES                                                                       |           | ICLX VALVES                                                                         |           | REG VALVES                                                                          |           |
|-----------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------|-----------|
|  |           |  |           |  |           |  |           |  |           |
| PML SIZES                                                                         | KV VALUES | PMLX MODULES                                                                      | KV VALUES | GPLX SIZES                                                                        | KV VALUES | ICLX SIZES                                                                          | KV VALUES | REG SIZES                                                                           | KV VALUES |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG #1                                                                              | 0.17      |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG10-SA                                                                            | 0.2       |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG #2                                                                              | 0.33      |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG10-SB                                                                            | 0.6       |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG #3                                                                              | 0.66      |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG15-20 SA                                                                         | 1.5       |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG #4                                                                              | 1.6       |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG #5                                                                              | 2.3       |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG #6                                                                              | 4.5       |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG15-20SB                                                                          | 5         |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG #7                                                                              | 6.8       |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG25-40 SA                                                                         | 7         |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG #8                                                                              | 11        |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG #9                                                                              | 17        |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG25-40SB                                                                          | 20        |
|                                                                                   |           |                                                                                   |           |                                                                                   |           | ICLX 32                                                                             | 22        |                                                                                     |           |
|                                                                                   |           | PMLX 32                                                                           | 22.4      |                                                                                   |           |                                                                                     |           | REG #10                                                                             | 23        |
| PML 32                                                                            | 25.5      |                                                                                   |           |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           | PMLX 40                                                                           | 29.4      |                                                                                   |           | ICLX 40                                                                             | 29        |                                                                                     |           |
| PML 40                                                                            | 34        |                                                                                   |           |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG #11                                                                             | 45        |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG50 SB                                                                            | 45        |
|                                                                                   |           |                                                                                   |           |                                                                                   |           | ICLX 50                                                                             | 47        |                                                                                     |           |
|                                                                                   |           | PMLX 50                                                                           | 47.8      |                                                                                   |           |                                                                                     |           |                                                                                     |           |
| PML 50                                                                            | 50        |                                                                                   |           |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           | PMLX 65                                                                           | 80.3      |                                                                                   |           |                                                                                     |           | REG65 SB                                                                            | 80        |
|                                                                                   |           |                                                                                   |           |                                                                                   |           |                                                                                     |           | REG #12                                                                             | 82        |
|                                                                                   |           |                                                                                   |           |                                                                                   |           | ICLX 65 & 80                                                                        | 83        |                                                                                     |           |
|                                                                                   |           |                                                                                   |           | GPLX 80                                                                           | 133       |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |           |                                                                                   |           | ICLX 100                                                                            | 151       |                                                                                     |           |
|                                                                                   |           | PMLX 80                                                                           | 170       |                                                                                   |           |                                                                                     |           |                                                                                     |           |
| PML 80                                                                            | 188       |                                                                                   |           |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |           | GPLX 100                                                                          | 223       |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |           |                                                                                   |           | ICLX 125                                                                            | 225       |                                                                                     |           |
|                                                                                   |           | PMLX 100                                                                          | 242       |                                                                                   |           |                                                                                     |           |                                                                                     |           |
| PML 100                                                                           | 269       |                                                                                   |           |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           | PMLX 125                                                                          | 385       |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |           |                                                                                   |           | ICLX 150                                                                            | 390       |                                                                                     |           |
| PML 125                                                                           | 427       |                                                                                   |           |                                                                                   |           |                                                                                     |           |                                                                                     |           |
|                                                                                   |           |                                                                                   |           | GPLX 150                                                                          | 566       |                                                                                     |           |                                                                                     |           |

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