

Phillips

REFRIGERATION

VALVES • VESSELS • SYSTEMS • CONTROLS

DLP-040411

Supercedes DLP-030110

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List Pricing Industrial Refrigeration Valves, Controls, and Components

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INTRODUCTION

In order to insure receipt of expected product on a timely basis, please provide the information requested on the ordering instructions.

ORDERING INSTRUCTIONS

To order, specify:

- Code Number
- Description
- Connection (Size & Style)
- Options (if applicable)
- Coil type(if applicable)
- Voltage and Frequency (if applicable)
- Accessories (if applicable)
- Quantity

Options are listed at the end of each section or on the individual page as standard version. Any questions as to the product specifications and or pricing should be directed to your H.A. Phillips sales or customer service representative.

Unit pricing is based on individual release quantities for each code number.

All standard Danfoss products are listed by the eight or ten digit code number. For information on non-standard products, or products found in the catalogue but not listed in this price sheet, please contact your H.A. Phillips sales or customer service representative.

We accept VISA and MASTERCARD.



approved.



ICF Valve Stations - Superior Capabilities

Over 10000 installed

- A known reliable solution adopted by leading contractors and OEMs.

Easy serviced, reduced parts

- The superior design enables user to reduce spare parts and lower downtimes by more than half.

Generous strainer

- A large sturdy strainer design ready to cope with debris in new and existing plant installations

Compromise nothing

- Control valve piston does not make contact with housing for durable and trusted performance.

Rust inhibitor inside

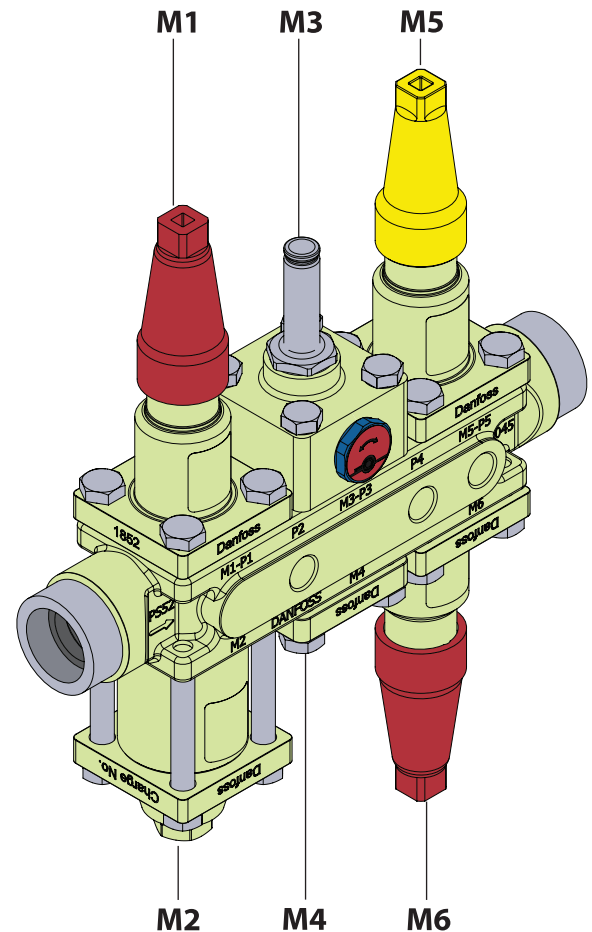
- Modules with moving parts feature enhanced protection for fast and reliable start up.

External corrosion protection

- The signature Zn-Chromate coating is standard on all models.

Increased Flexibility

- Supports AHR Innovation Award winner ICM motorized valves giving more power to your application.

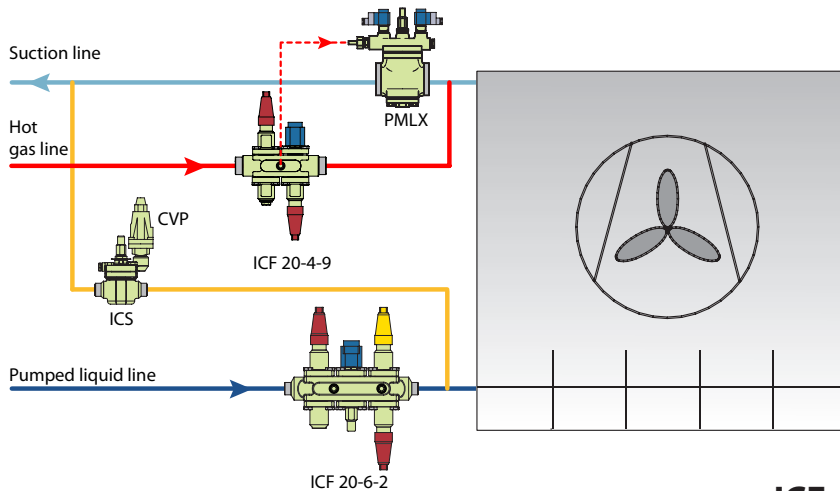


Standard Features:

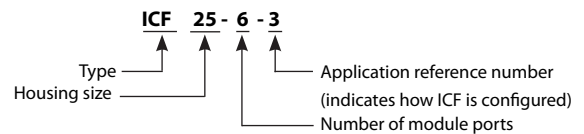
- 3/8" NPT side port vents in each side and 3/8" NPT purge connection in bottom of strainer
See technical datasheet for side port locations
- Stainless steel trim including stainless steel bolts
- Direct-weld connections to eliminate leak potential
- 754 psig rated

Typical installation with ICF valve stations

Low temperature evaporator



ICF nomenclature



Common ICF applications

Application # 1 is typically used for:

Pumped liquid lines in flooded systems without hot gas defrost

Application #1 has the following valve functions:

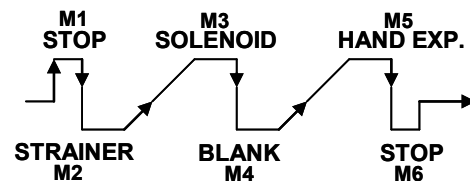
Stop valve, strainer, solenoid with manual stem, HEV, stop valve

Type	Connection Type/Size	Part No. *	List Price *
ICF20-6-1	3/4" SW	027L3005	\$1,577
ICF20-6-1	1" SW	027L3007	\$1,577
ICF20-6-1H	1" SW	027L3305	\$1,656
ICF25-6-1A	1" SW	027L4003	\$1,760
ICF32-6-1B	1 1/4" SW	027L4013	\$1,900
ICF40-6-1B	1 1/2" SW	027L4017	\$2,162

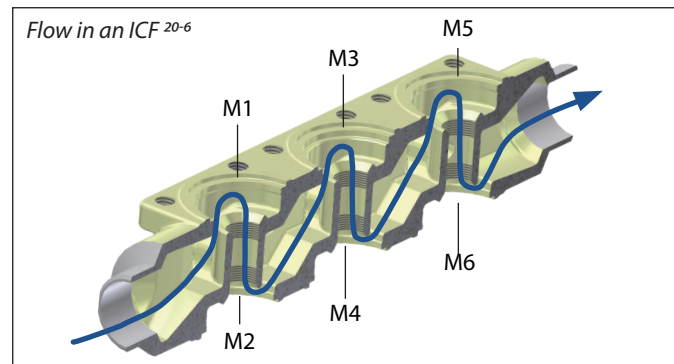
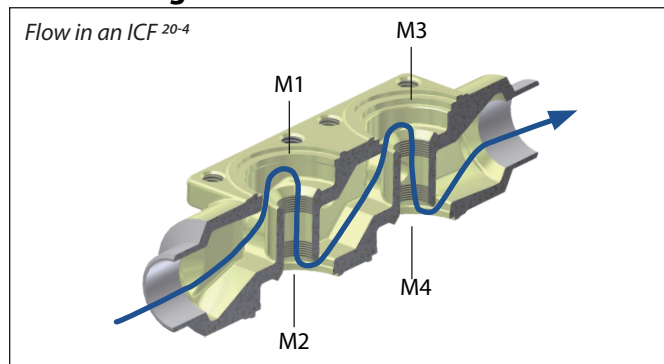
* Price does not include coil. Coil must be ordered separately; see page 21 for coil ordering.

Application #1 example:

ICF 25-6-1A



Flow through the ICF



Application # 2 and 3 are typically used for: Pumped liquid lines in flooded systems with hot gas defrost

Application #2 has the following valve functions:

Stop valve, strainer, solenoid with manual stem, HEV, **stop/check** valve

Type	Connection Type/Size	Part No. *	List Price *
ICF20-6-2	3/4" SW	027L3014	\$1,716
ICF20-6-2	1" SW	027L3016	\$1,716
ICF20-6-2H	1" SW	027L3312	\$1,840

Application #3 has the following valve functions:

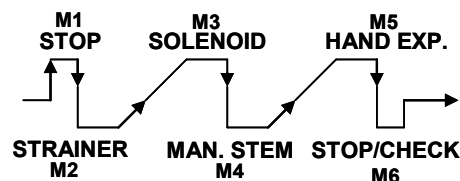
Stop valve, strainer, solenoid with manual stem, check valve, HEV, stop valve

Type	Connection Type/Size	Part No. *	List Price *
ICF25-6-3A	1" SW	027L4021	\$1,953
ICF32-6-3B	1 1/4" SW	027L4031	\$2,075
ICF40-6-3B	1 1/2" SW	027L4035	\$2,342

* Price does not include coil. Coil must be ordered separately; see page 21 for coil ordering.

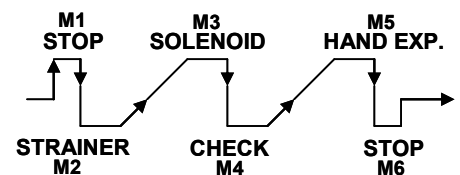
Application #2 example:

ICF 20-6-2



Application #3 example:

ICF 32-6-3B



Application # 9 and 10 are typically used for: Hot gas defrost lines

Application #9 has the following valve functions:

Stop valve, strainer, solenoid with manual stem, stop valve

Type	Connection Type/Size	Part No. *	List Price *
ICF20-4-9H	3/4" SW	027L3351	\$1,351
ICF20-4-9H	1" SW	027L3336	\$1,351
ICF25-4-9	1" SW	027L4064	\$1,474
ICF32-4-9	1 1/4" SW	027L4069	\$1,543
ICF40-4-9	1 1/2" SW	027L4073	\$1,715

Application #10 has the following valve functions:

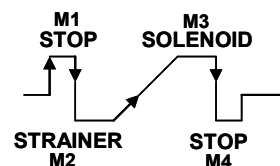
Stop valve, strainer, solenoid with manual stem, HEV

Type	Connection Type/Size	Part No. *	List Price *
ICF20-4-10H	3/4" SW	027L3350	\$1,372
ICF25-4-10A	1" SW	027L4077	\$1,524
ICF32-4-10B	1 1/4" SW	027L4087	\$1,606
ICF40-4-10B	1 1/2" SW	027L4091	\$1,779

* Price does not include coil. Coil must be ordered separately; see page 21 for coil ordering.

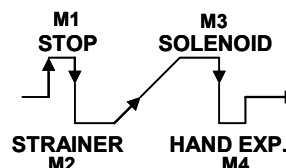
Application #9 example:

ICF 25-4-9



Application #10 example:

ICF 40-4-10B



Common Coils *

Voltage	Electrical Connection	Part No.	List Price
110 AC	Terminal box	018F6813	\$47
110 AC	Terminal box with GREEN pilot light	018F681389	\$87

* For other coil voltages and types, see p. 21.

Application # 5 is typically used for: Liquid make-up or direct expansion applications

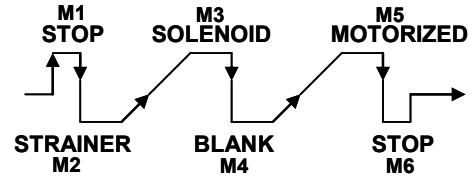
Application #5 has the following valve functions:

Stop valve, strainer, solenoid with manual stem, motorized ICM valve, stop valve

Type	Connection Type/Size	Part Number *		List Price *	
		Valve w/o Motor	ICAD 600 Motor	Valve w/o Motor *	ICAD 600 Motor *
ICF20-6-5A33	3/4" SW	027L3154	027H9065	\$2,800	\$1,625
ICF20-6-5A	3/4" SW	027L3038	027H9065	\$2,800	\$1,625
ICF20-6-5B	1" SW	027L3045	027H9065	\$2,800	\$1,625
ICF25-6-5A	1" SW	027L4039	027H9065	\$3,099	\$1,625
ICF32-6-5A	1 1/4" SW	027L4044	027H9065	\$3,205	\$1,625
ICF40-6-5A	1 1/2" SW	027L4132	027H9065	\$3,440	\$1,625

* ICF valve and ICAD 600 motor actuator must be ordered separately when ordering. ICAD 600 motor actuator is required for the motor valve to operate. Coil price not included.

Application #5 example: ICF 25-6-5A

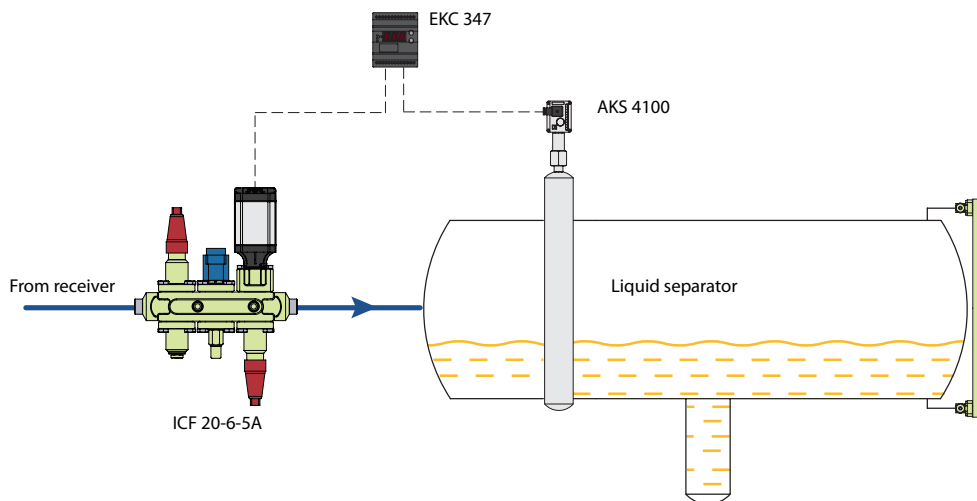


Common Coils *

Voltage	Electrical Connection	Part No.	List Price
110 AC	Terminal box	018F6813	\$47
110 AC	Terminal box with GREEN pilot light	018F681389	\$87

* For other coil voltages and types, see p. 21.

Liquid injection (Liquid make up)



Contact Danfoss for configurations not listed.

SVA - Threaded Shut-off Valves FPT 1/2" - 1 1/4"

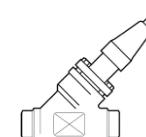
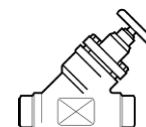
Cold-resistant steel, no ductile iron used

TYPE SVA-ST

STANDARD VALVES

Size		Part No.				List Price	Weight			
		Angle		Globe			lbs (kg)			
							Angle		Globe	
Inches	(mm)	Handwheel	Seal Cap	Handwheel	Seal Cap		Angle		Globe	
1/2"	(15)	148B3391	148B3392	148B3431	148B3432	\$107	3.1	(1.4)	4.4	(2.0)
3/4"	(20)	148B3471	148B3472	148B3511	148B3512	\$115	3.1	(1.4)	4.4	(2.0)
1"	(25)	148B3551	148B3552	148B3591	148B3592	\$130	6.4	(2.9)	6.6	(3.0)
1¼"	(32)	148B3631	148B3632	148B3671	148B3672	\$172	6.4	(2.9)	6.6	(3.0)

FPT Threaded



TYPE SVA-HS

HIGH SPEC ULTRA LOW TEMPERATURE with Seal Cap and Extended Bonnet

Size Inches (mm)		Part No.		List Price	Weight lbs (kg)			
		Angle	Globe		lbs (kg)			
		Seal Cap	Seal Cap		Angle		Globe	
1/2"	(15)	148B3398	148B3438	\$135	3.1	(1.4)	4.4	(2.0)
3/4"	(20)	148B3478	148B3518	\$144	3.1	(1.4)	4.4	(2.0)
1"	(25)	148B3558	148B3598	\$162	6.4	(2.9)	6.6	(3.0)
1 1/4"	(32)	148B3638	148B3678	\$213	6.4	(2.9)	6.6	(3.0)

Stop Valves (SVA)

- ANSI connections
- FPT: 1/2" to 1 1/4", SW: 1/2" to 2", BW: 1/2" to 12"
- All valves rated 580 psig
- **ST** - standard valves: -58°F to 302°F
- **HS** - high spec ultra low temp: -76°F to 302°F
- Seal cap or handwheel, angle or globe
- Perfect closing valve cone
- Great flow characteristics
- Polished stainless steel spindle
- Scraper designed to prevent penetration of dirt/ice into packing gland
- Cold-resistant steel design - no ductile iron valve bodies

Stainless steel trim
is **standard** on all
stop valves and
hand expansion
valves

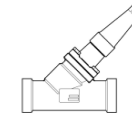
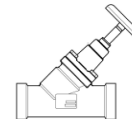
SVA - Socket-Weld Shut-off Valves SOC 1/2" - 2"

TYPE SVA-ST

STANDARD VALVES

Size	Part No.				List Price	Weight		
	Angle		Globe			lbs (kg)		
	Inches	(mm)	Handwheel	Seal Cap		Handwheel	Seal Cap	Angle
1/2"	(15)	148B3381	148B3382	148B3421	148B3422	\$107	3.1 (1.4)	4.4 (2.0)
3/4"	(20)	148B3461	148B3462	148B3501	148B3502	\$115	3.1 (1.4)	4.4 (2.0)
1"	(25)	148B3541	148B3542	148B3581	148B3582	\$130	6.4 (2.9)	6.6 (3.0)
1 1/4"	(32)	148B3621	148B3622	148B3661	148B3662	\$172	6.4 (2.9)	6.6 (3.0)
1 1/2"	(40)	148B3701	148B3702	148B3731	148B3732	\$243	6.4 (2.9)	6.6 (3.0)
2"	(50)	148B3036	148B3037	148B3042	148B3043	\$308	9.0 (4.1)	11.2 (5.1)

Socket Weld



TYPE SVA-HS

HIGH SPEC ULTRA LOW TEMPERATURE with Seal Cap and Extended Bonnet

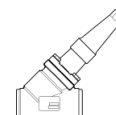
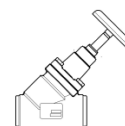
Size Inches (mm)	Part No.		List Price	Weight lbs (kg)	
	Angle	Globe		Angle	Globe
	Seal Cap	Seal Cap			
1/2" (15)	148B3388	148B3428	\$135	3.1 (1.4)	4.4 (2.0)
3/4" (20)	148B3468	148B3508	\$144	3.1 (1.4)	4.4 (2.0)
1" (25)	148B3548	148B3588	\$162	6.4 (2.9)	6.6 (3.0)
1 1/4" (32)	148B3628	148B3668	\$213	6.4 (2.9)	6.6 (3.0)
1 1/2" (40)	148B3708	148B3738	\$294	6.4 (2.9)	6.6 (3.0)
2" (50)	148B3288	148B3318	\$361	9.0 (4.1)	11.2 (5.1)

Stop Valves (SVA)

- ANSI connections
- FPT: 1/2" to 1 1/4", SW: 1/2" to 2", BW 1/2" to 12"
- All valves rated 580 psig
- **ST** - standard valves: -58°F to 302°F
- **HS** - high spec ultra low temp: -76°F to 302°F
- Seal cap or handwheel, angle or globe
- Perfect closing valve cone
- Great flow characteristics
- Polished stainless steel spindle
- Scraper designed to prevent penetration of dirt/ice into packing gland
- Cold-resistant steel design - no ductile iron valve bodies

SVA - Butt-Weld Shut-off Valves BW 1/2" - 8" (10" to 16" see page 10)
**ANGLE
STANDARD VALVES**

Size		Part No.				List Price		Weight lbs (kg)			
		Angle		Globe							
		Inches	(mm)	Handwheel	Seal Cap	Handwheel	Seal Cap	Angle	Globe	Angle	Globe
1/2"	(15)	148B3371	148B3372	148B3411	148B3412	\$113		3.1	(1.4)	4.4	(2.0)
3/4"	(20)	148B3451	148B3452	148B3491	148B3492	\$123		3.1	(1.4)	4.4	(2.0)
1"	(25)	148B3531	148B3532	148B3571	148B3572	\$138		5.3	(2.4)	6.6	(3.0)
1¼"	(32)	148B3611	148B3612	148B3651	148B3652	\$182		5.3	(2.4)	6.6	(3.0)
1½"	(40)	148B3691	148B3692	148B3721	148B3722	\$256		5.3	(2.4)	6.6	(3.0)
2"	(50)	148B3034	148B3035	148B3040	148B3041	\$314		7.1	(3.2)	9.3	(4.2)
2½"	(65)	148B3046	148B3047	148B3052	148B3053	\$415	\$432	10.6	(4.8)	13.9	(13.9)
3"	(80)	148B3071	148B3072	148B3091	148B3092	\$549	\$616	20.3	(9.2)	22.9	(10.4)
4"	(100)	148B3111	148B3112	148B3131	148B3132	\$731	\$826	32.6	(15)	39.0	(18)
5"	(125)	148B3151	148B3152	148B3171	148B3172	\$1,246	\$1,402	62	(28)	72	(33)
6"	(150)	148B3191	148B3192	148B3211	148B3212	\$1,573	\$1,767	88	(40)	132.3	(60)
8"	(200)	148B3231	148B3232	148B3251	148B3252	\$2,999	\$3,374	176	(80)	245.8	(112)

Butt Weld

TYPE SVA-HS
HIGH SPEC ULTRA LOW TEMPERATURE with Seal Cap and Extended Bonnet

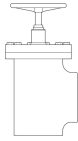
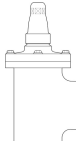
Size Inches (mm)	Part No.		List Price		Weight lbs (kg)	
	Angle	Globe				
	Seal Cap	Seal Cap	Angle	Globe	Angle	Globe
1/2" (15)	148B3378	148B3418	\$135		3.1 (1.4)	4.4 (2.0)
3/4" (20)	148B3458	148B3498	\$144		3.1 (1.4)	4.4 (2.0)
1" (25)	148B3538	148B3578	\$162		5.3 (2.4)	6.6 (3.0)
1 1/4" (32)	148B3618	148B3658	\$213		5.3 (2.4)	6.6 (3.0)
1 1/2" (40)	148B3698	148B3728	\$294		5.3 (2.4)	6.6 (3.0)
2" (50)	148B3278	148B3308	\$361		7.1 (3.2)	9.3 (4.2)
2 1/2" (65)	148B3338	148B3358	\$470	\$487	10.6 (4.8)	13.9 (13.9)
3" (80)	148B3078	148B3098	\$621	\$695	20.3 (9.2)	22.9 (10.4)
4" (100)	148B3118	148B3138	\$826	\$935	32.6 (15)	39.0 (18)
5" (125)	148B3158	148B3178	\$1,246	\$1,402	62 (28)	72 (33)
6" (150)	148B3198	148B3218	\$1,573	\$1,767	88 (40)	132 (60)
8" (200)	148B3238	148B3258	\$2,999	\$3,374	175 (80)	246 (112)

Note: Stainless steel trim includes stainless steel bonnet bolts and polished stainless steel spindle.

Stainless steel trim
is **standard** on all
stop valves and
hand expansion
valves

Stainless steel
valves available.
Consult Danfoss
for pricing and
availability.

SVA-DH - Butt-Weld Shut-off Valves BW 10" - 16"
ANGLE

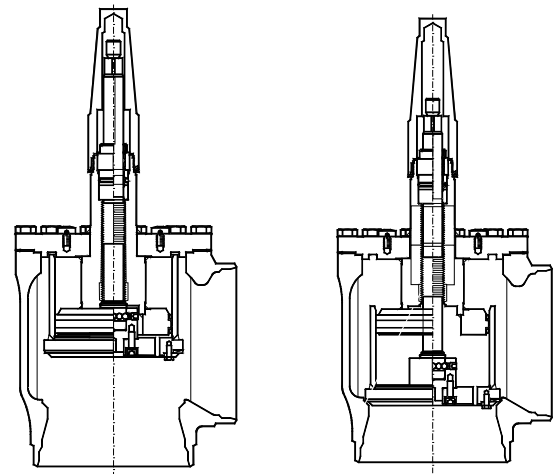
							
	Handwheel			Seal Cap			
Size Inches (mm)	Type	Part No.	List Price	Type	Part No.	List Price	Weight lbs (kg)
10" (250)	SVA-DH 250 A HW	148B3767	\$6,704	SVA-DH 250 A CAP	148B3766	\$6,704	290.0 (130.0)
12" (300)	SVA-DH 300 A HW	148B3777	\$8,733	SVA-DH 300 A CAP	148B3776	\$8,733	420.0 (190.0)
14" (350)	Contact Danfoss						
16" (400)							

Stainless steel trim
is **standard** on all
stop valves and
hand expansion
valves

For other configurations, contact Danfoss.

Features

- No restriction in flow direction
- Internal equalization makes it easy to open under high (580 psi) Δp conditions on either side
- Designed to give favorable flow conditions
- Internal backseating enables replacement of the spindle seal while the valve is active, i.e. under pressure
- Max. operating pressure: 580 psig (40 bar g)
- Temperature range:
SVA-DH: -76/+302 °F (-60/+150 °C)
- SVA-DH is equipped with an extended bonnet/spindle for installation in insulated systems

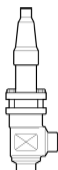


SVA-DH

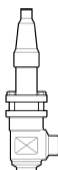
Note: Stainless steel trim includes stainless steel bonnet bolts and polished stainless steel spindle.

SCA - Stop Check Valve 1/2" - 5"

ANGLE STOP CHECK VALVES with BUTT-WELD CONNECTIONS

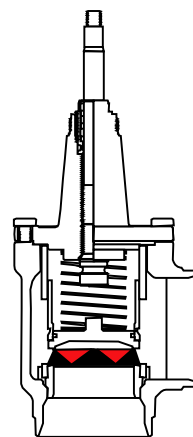
					
Size Inches (mm)	Type	Part No.	List Price	Weight lbs (kg)	
1/2" (15)	SCA 15 A ANG	148G3077	\$266	3.5	(1.6)
3/4" (20)	SCA 20 A ANG	148G3079	\$293	3.5	(1.6)
1" (25)	SCA 25 A ANG	148G3087	\$314	7.1	(3.2)
1¼" (32)	SCA 32 A ANG	148G3089	\$323	7.1	(3.2)
1 1/2" (40)	SCA 40 A ANG	148G3091	\$339	7.1	(3.2)
2" (50)	SCA 50 A ANG	148G3144	\$558	15.0	(7.0)
2½" (65)	SCA 65 A ANG	148G3145	\$773	20.0	(10.0)
3" (80)	SCA 80 A ANG	148G3146	\$926	28.0	(13.0)
4" (100)	SCA 100 A ANG	148G3147	\$1,264	45.0	(21.0)
5" (125)	SCA 125 A ANG	148G3148	\$1,745	75.0	(34.0)

ANGLE STOP CHECK VALVES with SOCKET WELD CONNECTIONS

				
Size Inches (mm)	Type	code No.	List Price	Weight lbs (kg)
2" (50)	SCA 50 SOC ANG	148G3150	\$558	15.0 (7.0)

For other sizes and options, contact Danfoss.

SCA




Features

- 1/2" to 5" ANSI BW connections
- 580 psig rated
- -76°F to 302°F
- Stainless steel bolts
- Laser cut V-ports for excellent opening characteristics even with low flow.
- Non-chattering design with built-in damping chamber
- Opens at low differential pressure of 0.58 psi
- Stronger spring available for an opening differential pressure of 4.35 psi.

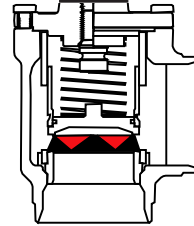
Stainless steel
valves available.
Consult Danfoss
for pricing and
availability.

CHV - Piston Type Angle Check Valves 1/2" - 5"

ANGLE CHECK VALVES with BUTT-WELD CONNECTIONS

						
Size Inches (mm)	Type	Code No.	List Price	Weight lbs (kg)		
1/2" (15)	CHV 15 A ANG	148G3073	\$210	2.6 (1.2)		
3/4" (20)	CHV 20 A ANG	148G3075	\$225	2.6 (1.2)		
1" (25)	CHV 25 A ANG	148G3081	\$235	5.1 (2.3)		
1 1/4" (32)	CHV 32 A ANG	148G3083	\$242	5.1 (2.3)		
1 1/2" (40)	CHV 40 A ANG	148G3085	\$257	5.1 (2.3)		
2" (50)	CHV 50 A ANG	148G3139	\$378	8.5 (3.8)		
2 1/2" (65)	CHV 65 A ANG	148G3140	\$494	12.5 (5.5)		
3" (80)	CHV 80 A ANG	148G3141	\$601	22 (10.0)		
4" (100)	CHV 100 A ANG	148G3142	\$764	33 (15.0)		
5" (125)	CHV 125 A ANG	148G3143	\$1,204	57 (26.0)		

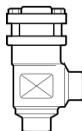
CHV



Features

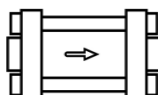
- 1/2" to 5" ANSI BW connections
- 580 psig rated
- -76°F to 302°F
- Laser cut V-ports for excellent opening characteristics
- Non-chattering design with built-in damping chamber
- Opens at low differential pressure of 0.58 psi.
- Stainless steel bolts
- Stronger spring available for an opening differential pressure of 4.35 psi.

ANGLE CHECK VALVES with SOCKET WELD CONNECTIONS

						
Size Inches (mm)	Type	Code No.	List Price	Weight lbs (kg)		
1 1/4" (32)	CHV 32 SOC ANG	148G3705	\$242	5.1 (2.3)		
2" (50)	CHV 50 SOC ANG	148G3149	\$378	8.5 (3.8)		

For other sizes and options, contact Danfoss.

Stainless steel
valves available.
Consult Danfoss
for pricing and
availability.

NRVA - Piston Type In-Line Check Valves 1/2" - 2 1/2"
NRVA VALVE INCL. FLANGES


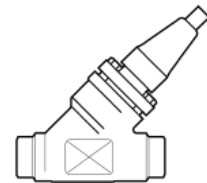
Nom. Port Size Inches (mm)	Valve Type	Flange Type	Code No.	List Price	Weight	
					lbs	(kg)
1/2" (15)	NRVA 15	3/8" FPT	020-202010	\$141	3.1	(1.4)
1/2" (15)	NRVA 15	3/8" SOC	020-202020	\$141	3.1	(1.4)
1/2" (15)	NRVA 15	3/8" WN	020-202030	\$141	3.1	(1.4)
1/2" (15)	NRVA 15	1/2" FPT	020-202011	\$141	3.1	(1.4)
1/2" (15)	NRVA 15	1/2" SOC	020-202021	\$141	3.1	(1.4)
1/2" (15)	NRVA 15	1/2" WN	020-202031	\$141	3.1	(1.4)
1/2" (15)	NRVA 15	5/8" ODS	020-202040	\$141	3.1	(1.4)
3/4" (20)	NRVA 20	3/4" SOC	020-202022	\$147	3.1	(1.4)
3/4" (20)	NRVA 20	3/4" WN	020-202032	\$147	3.1	(1.4)
3/4" (20)	NRVA 20	7/8" ODS	020-202041	\$147	3.1	(1.4)
1" (25)	NRVA 25	1" SOC	020-202221	\$226	6.6	(3.0)
1" (25)	NRVA 25	1" WN	020-202230	\$226	6.6	(3.0)
1 1/4" (32)	NRVA 32	1 1/4" SOC	020-202222	\$237	6.6	(3.0)
1 1/4" (32)	NRVA 32	1 1/4" WN	020-202231	\$237	6.6	(3.0)
1 1/4" (32)	NRVA 32	1 3/8" ODS	020-202240	\$237	6.6	(3.0)
1 1/2" (40)	NRVA 40	1 1/2" SOC	020-202421	\$359	11.0	(5.0)
1 1/2" (40)	NRVA 40	1 1/2" WN	020-202430	\$359	11.0	(5.0)
2" (50)	NRVA 50	2" SOC	020-202422	\$385	11.0	(5.0)
2" (50)	NRVA 50	2" WN	020-202431	\$385	11.0	(5.0)
2" (50)	NRVA 50	2 1/8" ODS	020-202440	\$385	11.0	(5.0)
2 1/2" (65)	NRVA 65	2 1/2" WN	020-202630	\$577	28.7	(13.0)

Features

- Suitable for pulsing discharge lines such as in reciprocating compressors
- Teflon (PTFE) seat for excellent sealing with minimum closing forces
- Can be used in liquid, suction and hot gas line
- 580 psig rated
- Temperature range: -58°F to 284°F
- No orientation limitations

REG - Threaded Hand Expansion Valve (FPT)
ANGLE AND GLOBE WITH SEAL CAP

Size		Cone No.		Part No.		List Price	Weight	
Inches	(mm)	(flow area mm ²)		Angle	Globe		lbs	(kg)
1/2"	(15)	5	(44)	148G3390	148G3394	\$125	3.1	(1.4)
3/4"	(20)	6	(92)	148G3399	148G3403	\$133	3.1	(1.4)
1"	(25)	8	(272)	148G3405	148G3408	\$167	5.3	(2.4)
1 1/4"	(32)	8	(272)	148G3411	148G3414	\$214	5.3	(2.4)


REG - Socket-Weld Hand Expansion Valve
ANGLE AND GLOBE WITH SEAL CAP

Size		Cone No.		Part No.		List Price	Weight	
Inches	(mm)	(flow area mm ²)		Angle	Globe		lbs	(kg)
1/2"	(15)	5	(44)	148G3313	148G3317	\$125	3.1	(1.4)
3/4"	(20)	6	(92)	148G3324	148G3328	\$133	3.1	(1.4)
1"	(25)	8	(272)	148G3330	148G3333	\$167	5.3	(2.4)
1 1/4"	(32)	8	(272)	148G3336	148G3339	\$214	5.3	(2.4)
1 1/2"	(40)	9	(432)	148G3343	148G3345	\$303	5.3	(2.4)
2"	(50)	11	(822)	148G3487AS	148G3487GS	\$387	8.0	(3.6)

Stainless steel valves available. Consult Danfoss for pricing and availability.

REG - Butt-Weld Hand Expansion Valve
ANGLE AND GLOBE WITH SEAL CAP

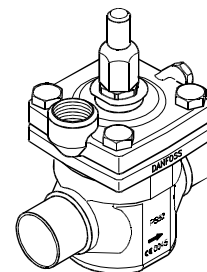
Size		Cone No.		Part No.		List Price		Weight	
Inches	(mm)	(flow area mm ²)		Angle	Globe	Angle	Globe	lbs	(kg)
1/4"	(6)	2	(6)	2415+475	2415+478	\$136		1.8	(0.8)
3/8"	(10)	3	(12)	2415+482	2415+485	\$136		1.8	(0.8)
1/2"	(15)	5	(44)	148G3277	148G3281	\$136		3.1	(1.4)
3/4"	(20)	6	(92)	148G3286	148G3290	\$143		3.1	(1.4)
1"	(25)	7	(152)	148G3295	148G3299	\$180		3.1	(1.4)
1 1/4"	(32)	8	(272)	148G3300	148G3303	\$231		5.3	(2.4)
1 1/2"	(40)	9	(432)	148G3307	148G3310	\$327		5.3	(2.4)
2"	(50)	11	(822)	148G3487	148G3487GB	\$348	\$387	7.1	(3.2)
2 1/2"	(65)	12	(1978)	148G3488	148G3488GB	\$497	\$557	10.6	(4.8)

T-bar available
Contact Danfoss
for pricing and
availability

Contact Danfoss for other sizes and options.

ICS - Pressure Regulating Valve with Direct Weld Body (Steel Body)

Valve Size	Nominal Port Size		Flow Coefficient Cv (Kv)	Connection Type and Size				Weight without pilots	
	Inches	(mm)		FPT	SW	BW	ODS	lbs	(kg)
ICS 25-5	3/16"	(5)	2 (1.7)	3/4", 1"	3/4", 1"	3/4", 1", 1 1/4"	7/8", 1-1/8", 1-3/8"	7.9	(3.6)
ICS 25-10	3/8"	(10)	4.1 (3.5)	3/4", 1"	3/4", 1"	3/4", 1", 1 1/4"	7/8", 1-1/8", 1-3/8"	7.9	(3.6)
ICS 25-15	5/8"	(15)	7 (6.0)	3/4", 1"	3/4", 1"	3/4", 1", 1 1/4"	7/8", 1-1/8", 1-3/8"	7.9	(3.6)
ICS 25-20	3/4"	(20)	9.3 (8.0)	3/4", 1"	3/4", 1"	3/4", 1", 1 1/4"	7/8", 1-1/8", 1-3/8"	7.9	(3.6)
ICS 25-25	1"	(25)	13.3 (11.5)	1"	1"	1", 1 1/4"	7/8", 1-1/8", 1-3/8"	7.9	(3.6)
ICS 32	1 1/4"	(32)	20 (17)	-	1 1/4"	1 1/4", 1 1/2"	1-3/8", 1-5/8"	11.0	(5.0)
ICS 40	1 1/2"	(40)	31 (27)	-	1-1/2"	1 1/2", 2"	1-5/8"	13.9	(6.3)
ICS 50	2"	(50)	51 (44)	-	2"	2", 2 1/2"	2-1/8"	20	(9)
ICS 65	2 1/2"	(65)	81 (70)	-	2 1/2"	2 1/2", 3"	2-5/8"	30	(14)
ICS 80	3"	(80)	98 (85)	-	-	3"	-	30	(14)
ICS 100	4"	(100)	165 (142)	-	-	4"	-	100	(45)
ICS 125	5"	(125)	240 (207)	-	-	5"	-	150	(68)
ICS 150	6"	(150)	410 (354)	-	-	6"	-	254	(115)


ICS Features:

- Direct-weld connections to eliminate leak potential
- Single-piece function module with V-port design
- ICS is one-third the weight and half the size of traditional cast iron valves with flanges (less costly to ship and takes less space)
- Complete overhaul by replacing the one-piece function module containing the only wear surfaces
- Low temperature steel body, media range: -76 °F to +248 °F
- Stainless steel bolts
- 754 psig rated

Standard Regulator Variations

Suffix	Function
STD	Constant pressure regulation - ICS sizes 5 to 80 are standard with CVP(LP) pilot range 0 to 102 psig. ICS sizes 100 to 150 are standard with CVP(HP) pilot range 20 in.HG to 102 psig.
"O"	Outlet pressure regulation - Standard with CVC pilot range 13 in.HG to 102 psig and does NOT include an external pilot mounting set (pressure reference tubing and connection in valve).
"J" (1)	Electronically controlled pressure regulation - Standard with CVQ pilot range 0 to 87 psig.
"L"	Differential pressure regulation - Standard with CVPP(HP) pilot range 0 to 102 psi and does NOT include an external pilot mounting set (pressure reference tubing and connection in valve).
"S"	Inlet pressure regulation combined with forced closing - ICS sizes 5 to 80 are standard with CVP(LP) pilot range 0 to 102 psig and EVM(NC) pilot. ICS sizes 100 to 150 are standard with CVP(HP) pilot range 20 in.HG to 102 psig and EVM(NC) pilot.
"B"	Constant inlet pressure regulation combined with electrical forced wide opening - ICS sizes 5 to 80 are standard with CVP(LP) pilot range 0 to 102 psig and EVM(NC) pilot. ICS sizes 100 to 150 are standard with CVP(HP) pilot range 20 in.HG to 102 psig and EVM(NC) pilot.
"D"	Dual inlet pressure regulation with changeover between two preset evaporating pressures - ICS sizes 5 to 80 are standard with two CVP(LP) pilots range 0 to 102 psig and EVM(NC) pilot. ICS sizes 100 to 150 are standard with two CVP(HP) pilots range 20 in.HG to 102 psig and EVM(NC) pilot.
"OS"	Outlet pressure regulation combined with electrical forced closing - Standard with CVC pilot range 13 in.HG to 102 psig and EVM(NC) pilot and does NOT include an external pilot mounting set (pressure reference tubing and connection in valve).
"BL"	Differential pressure regulation combined with electrical forced wide opening - Standard with CVPP(HP) pilot range 0 to 102 psi and EVM(NC) pilot and does NOT include external pilot mounting set (pressure reference tubing and connection in valve).
"JD" (1)	Electronically controlled temperature regulation combined with electric forced closing and changeover to constant pressure regulation - ICS sizes 5 to 80 are standard with CVQ pilot range 0 to 87 psig, EVM(NC) pilot and CVP(LP) pilot range 0 to 102 psig. ICS sizes 100 to 150 are standard with CVQ pilot range 0 to 87 psig, EVM(NC) pilot and CVP(HP) pilot range 20 in.HG to 102 psig.

(1) Requires EKC 366 Interface Module or EKC 361 Electronic Controller and AKS Temperature Sensor. See electronic controllers for pricing.

Steps for ordering:

- Step 1: Specify regulator type and size; valve prices are on the following page.
- Step 2: Specify regulator variation; consult Danfoss for variations not listed.
- Step 3: Specify connection size and type.
- Step 4: Specify coil voltage and accessories where applicable.

Example for ordering: Dual inlet pressure regulator type ICS with ¾" Port size, 1" SW connections, 120V coil and gauge valve with adapter for fitting into regulator.

Item 1: ICS 25-20-D with 1" SW and 120V coil

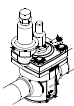

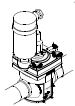
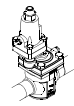
Item 2: ¼" gauge valve with adapter, p/n 148B418062 (selected from ICS accessories)

Note: Standard pilot ranges/coil versions will be supplied unless other pilot ranges/coil versions are specified.

SOLENOID COIL(S) MUST BE ORDERED SEPARATELY; SEE PAGE 21 FOR COIL ORDERING.

OTHER REGULATOR VARIATIONS AND ASSEMBLED VALVES ARE AVAILABLE. CONSULT DANFOSS FOR ASSISTANCE.

Standard Regulator Variations

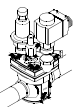
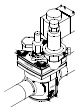

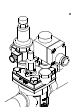
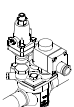
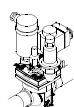
Single Pilot Variations						
Valve Size	Module Port Size		List Prices			
						
	Inches	(mm)	"STD"	"O" (2)	"J" (3)	"L"
ICS 25-5	3/16"	(5)	\$425	\$635	\$1,208	\$591
ICS 25-10	3/8"	(10)	\$425	\$635	\$1,208	\$591
ICS 25-15	5/8"	(15)	\$425	\$635	\$1,208	\$591
ICS 25-20	3/4"	(20)	\$425	\$635	\$1,208	\$591
ICS 25-25	1"	(25)	\$474	\$684	\$1,257	\$640
ICS 32	1 1/4"	(32)	\$587	\$797	\$1,370	\$753
ICS 40	1 1/2"	(40)	\$872	\$1,082	\$1,655	\$1,038
ICS 50	2"	(50)	\$977	\$1,187	\$1,760	\$1,143
ICS 65	2 1/2"	(65)	\$1,279	\$1,489	\$2,062	\$1,445
ICS 80	3"	(65)	\$1,771	\$1,981	\$2,554	\$1,937
ICS 100	4"	(100)	\$2,958	\$3,032	\$3,605	\$2,988
ICS 125	5"	(125)	\$4,601	\$4,675	\$5,248	\$4,631
ICS 150	6"	(150)	\$7,444	\$7,518	\$8,091	\$7,474

Direct Weld Body


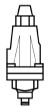


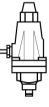






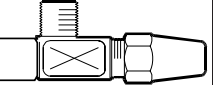
(1) Price does not include coil. Coil must be ordered separately; see page 21 for coil ordering.

(2) Outlet pressure regulators type ICS ("O" and "OS" versions) do not include external pilot mounting set with tubing and fittings.

(3) Requires EKC 366 Interface Module or EKC 361 Electronic Controller with AKS Temperature Sensor.

Multiple Pilot Variations								
Valve Size	Module Port Size		List Prices Less Coil (1)					
								
	Inches	(mm)	"S"	"B"	"D"	"OS" (2)	"BL"	"JD" (3)
ICS 25-5	3/16"	(5)	\$649	\$649	\$788	\$859	\$815	\$1,571
ICS 25-10	3/8"	(10)	\$649	\$649	\$788	\$859	\$815	\$1,571
ICS 25-15	5/8"	(15)	\$649	\$649	\$788	\$859	\$815	\$1,571
ICS 25-20	3/4"	(20)	\$649	\$649	\$788	\$859	\$815	\$1,571
ICS 25-25	1"	(25)	\$698	\$698	\$837	\$908	\$864	\$1,620
ICS 32	1 1/4"	(32)	\$824	\$824	\$963	\$1,034	\$990	\$1,746
ICS 40	1 1/2"	(40)	\$1,126	\$1,126	\$1,265	\$1,336	\$1,292	\$2,048
ICS 50	2"	(50)	\$1,255	\$1,255	\$1,394	\$1,465	\$1,421	\$2,177
ICS 65	2 1/2"	(65)	\$1,570	\$1,570	\$1,709	\$1,780	\$1,736	\$2,492
ICS 80	3"	(80)	\$2,008	\$2,008	\$2,147	\$2,218	\$2,174	\$2,930
ICS 100	4"	(100)	\$3,066	\$3,066	\$3,341	\$3,140	\$3,096	\$3,988
ICS 125	5"	(125)	\$4,709	\$4,709	\$4,984	\$4,783	\$4,739	\$5,631
ICS 150	6"	(150)	\$7,552	\$7,552	\$7,827	\$7,626	\$7,582	\$8,474

Pilots and Accessories for type ICS and PM Pressure Regulators

	Type	Description	Range	MWP psig	Part No.	List Price
	CVP (LP)	Pilot Valve, Inlet Pressure	0 to 102 psig	250	027B1100	\$139
	CVP (HP)	Pilot Valve, Inlet Pressure	20" to 102 psig	406	027B1164	\$275
			58 to 319 psig	406	027B1160	\$275
			58 to 406 psig	406	027B1161	\$385
	CVP (XP)	Pilot Valve, Inlet Pressure	363 to 754 psig	754	027B0080	\$506
	CVC	Pilot Valve, Outlet Pressure	13"-102 psig	406/247	027B1070	\$333
			58-406 psig	754/360	027B0087	\$483
	CVPP (HP)	Pilot Valve, Diff. Pressure	0 to 102 psig	406	027B1162	\$289
			58 to 319 psig	580	027B1268	\$502
	CVQ	Pilot Valve, Electronic	29.5" to 72.5 psig	250	027B1139	\$922
			0 to 87 psig	250	027B1140	\$922
			25 to 116 psig	250	027B1141	\$922
	EVM (NC)	Pilot Valve, Solenoid (Normally Closed) Does Not Include Coil	-	655	027B1120	\$108
	EVM (NO)	Pilot Valve, Solenoid (Normally Open) Does Not Include Coil	-	655	027B1130	\$156
	-	Pilot Blanking Plug for ICS or PM	-	-	027F1046	\$14
	-	External Pilot Connector for ICS 5 to 65	1/4" FPT	-	027B2065	\$43
	-	External Pilot Connector for ICS 80 to 125	1/4" FPT	-	027B2066	\$97
	-	Pressure Gauge Connection Adapter for ICS/PM Regulators or CVC pilot	1/4" FPT	-	027B2062	\$16
	-	Pressure Gauge Connection Adapter and SNV-ST 1/4" MPT x 1/4" FPT gauge valve	1/4" FPT	-	148B418062	\$54

SNV-ST - Gauge, Purge and Needle Valves

ANGLE FLOW WITH SEAL CAP

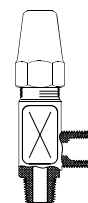
Connection size and type		Type	Part No.	List Price
Bottom	Side			Each
1/4" MPT	1/4" FPT	SNV-ST 1/4" FPT - 1/4" MPT	148B4180	\$45
1/4" MPT	1/4" FPT	SNV-ST LONG NECK (3.95")	148B4232	\$56
3/8" MPT	3/8" FPT	SNV-ST 3/8" FPT - 3/8" MPT	148B4181	\$52
1/2" MPT	3/8" FPT	SNV-ST 3/8" FPT - 1/2" MPT	148B4233	\$52
1/2" MPT	1/2" MPT	SNV-ST 1/2" MPT - 1/2" MPT	148B4224	\$52
1/4" FPT	1/4" FPT	SNV-ST 1/4" FPT - 1/4" FPT	148B4223	\$45
3/8" FPT	3/8" FPT	SNV-ST 3/8" FPT - 3/8" FPT	148B4225	\$52
1/4" MPT	1/4" Flare	SNV-ST 1/4" Flare - 1/4" MPT	148B4230	\$45

*** Receive an additional 10% discount when purchasing in multiples of 30 pcs. at any given time. Example: When ordering 30 pcs., 60 pcs., 90 pcs., etc. Must notify customer service when ordering to receive additional discount.**

Note: Purge valves for use with strainers, see purge valve kits in the relevant strainer section.

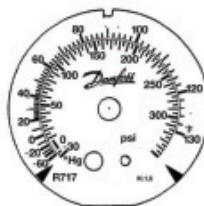
Features

- Cold resistant steel with zinc chromate coating
- Valve safety is enhanced with a non-removable stainless steel stem
- No special flow direction required
- Full temperature range: -76°F to 302°F
- 725 psig rated - valves for higher operating pressure available upon request



2 1/2" Ammonia Pressure Gauges

Pressure Range	Part No.	List Price
30" to 150 psig	027G9990	\$87
30" to 300 psig	027G9991	\$87

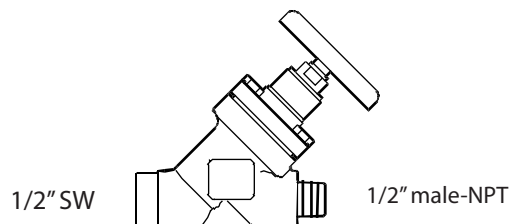


Features

- Stainless steel body
- Liquid filled design to prevent flutter
- 1/4" male NPT bottom connection
- 2 1/2" face which displays both pressure and saturation temperature

Vent/Drain Valve

Description	Connection size and type		Part No.	List Price
	Inlet	Outlet		
SVA 15 globe vent/drain valve with handwheel	1/2" SW	1/2" male NPT	148B3421SM	\$127
SVA 15 globe vent/drain valve with seal cap	1/2" SW	1/2" male NPT	148B3422SM	\$127



Allows easy connection of drain hose.

Solenoid Valves

Danfoss solenoid valves are designed and built for industrial applications. They can be installed in suction lines, return lines (liquid/vapor), pressure-equalizing lines, or bypass lines.

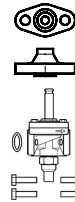
- Assisted lift, servo-operated (EVRAT). No pressure drop needed to open valve.
- Pilot operated with direct weld body $\frac{3}{4}$ " to 6" (ICS)
- Closed-coupled strainer available up to $\frac{3}{4}$ " for type EVRA/EVRAT.

EVRA / EVRAT - Flanged Solenoid Valves

Type	Cv	Nom. Port Size Inches	Min. Open dp psi	Available Connections				List Prices Less Coil (1)
				FPT	SOC	WN	ODS	
Direct Operated or Assisted Lift (zero DP needed for valve to be open)								
EVRA3	0.3	1/8"	0	3/8", 1/2"	3/8", 1/2", 3/4"	3/8", 1/2", 3/4"	5/8", 7/8"	\$221
EVRAT 10	1.8	3/8"	0	3/8", 1/2"	3/8", 1/2", 3/4"	3/8", 1/2", 3/4"	5/8", 7/8"	\$251
EVRAT 15	3.2	1/2"	0	3/8", 1/2"	3/8", 1/2", 3/4"	3/8", 1/2", 3/4"	5/8", 7/8"	\$295
EVRAT 20	5.3	3/4"	0	3/4", 1"	3/4", 1", 1¼"	3/4", 1", 1¼"	7/8", 1 1/8"	\$356

(1) Price does not include coil. Coil must be ordered separately; see page 21 for coil ordering.

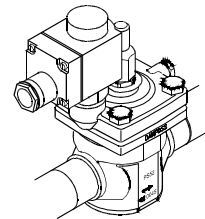
Stainless steel valves available. Consult Danfoss for pricing and availability.



ICS Solenoid Valve - Direct Weld Body (Steel)

Type	Cv	Module Port Size Inches	Min. Open dp psi	Available Connections				List Prices Less Coil (1)
				FPT	SOC	BW	ODS	
Pilot Operated								
ICS 25-5	2	3/16"	2.9	3/4", 1"	3/4", 1"	3/4", 1", 1¼"	7/8", 1-1/8", 1-3/8"	\$394
ICS 25-10	4.1	3/8"	2.9	3/4", 1"	3/4", 1"	3/4", 1", 1¼"	7/8", 1-1/8", 1-3/8"	\$394
ICS 25-15	7	5/8"	2.9	3/4", 1"	3/4", 1"	3/4", 1", 1¼"	7/8", 1-1/8", 1-3/8"	\$394
ICS 25-20	9.3	3/4"	2.9	3/4", 1"	3/4", 1"	3/4", 1", 1¼"	7/8", 1-1/8", 1-3/8"	\$394
ICS 25-25	13.3	1"	2.9	1"	1"	1", 1¼"	7/8", 1-1/8", 1-3/8"	\$443
ICS 32	20	1¼"	2.9	-	1¼"	1¼", 1½"	1-3/8", 1-5/8"	\$556
ICS 40	31	1½"	2.9	-	1-1/2"	1½", 2"	1-5/8"	\$841
ICS 50	51	2"	2.9	-	2"	2", 2½"	2-1/8"	\$946
ICS 65	81	2½"	2.9	-	2½"	2½", 3"	2-5/8"	\$1,248
ICS 80	98	3"	2.9	-	-	3"	-	\$1,740
ICS 100	165	4"	2.9	-	-	4"	-	\$2,791
ICS 125	240	5"	2.9	-	-	5"	-	\$4,434
ICS 150	410	6"	2.9	-	-	6"	-	\$7,277

(1) Price does not include coil. Coil must be ordered separately; see page 21 for coil ordering.



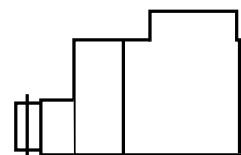
See page 15 for ICS description. See pages 24-27 for available strainers.

Coils for Solenoid Valves

Standard Encapsulated Solenoid Coils with Terminal Box

Voltage	Hz	Holding	Connection	Part No.	List Price
110 AC	60	12 W	Terminal Box	018F6813	\$47
24 AC	60	12 W	Terminal Box	018F6815	\$47
220 AC	60	12 W	Terminal Box	018F6814	\$47
24 DC	-	20 W	Terminal Box	018F6857	\$76

Coil with terminal box



Encapsulated Solenoid Coils with Terminal Box and Built-in Pilot Light

Voltage	Hz	Holding	Color	Connection	Part No.	List Price
110 AC	60	12 W	GREEN	Terminal box with pilot light	018F681389	\$87
24 AC	60	12 W	GREEN	Terminal box with pilot light	018F681589	\$87
220 AC	60	12 W	GREEN	Terminal box with pilot light	018F681489	\$87

Note: Please contact Danfoss if other coil types are needed.

DCR Filter Driers (Replaceable Cores Not Included)

Type	Filter Size	Required No. of Cores *	Steel Connections **		Filter Only Part No. *	List Price
			Butt-weld	Solder (ODF)		
DCR 0489	48 cu. in.	1	1"	1-1/8"	023U7053	\$345
DCR 09611	96 cu. in.	2	1-1/4"	1-3/8"	023U7061	\$396
DCR 14413	144 cu. in.	3	1-1/2"	1-5/8"	023U7068	\$488
DCR 19217	192 cu. in.	4	2"	2-1/8"	023U7074	\$588

* Cores must be ordered separately. See below table

** Steel connections are both butt-welded and solder according to the connection sizes listed above

Contact Danfoss for special high pressure filter driers available for CO2 and others not listed.



Standard with 1/4" NPT purge connection in end cover

Replaceable Cores For DCR Filter Driers

Type	Material	Part No. *	List Price
48-DM solid core	100% molecular sieve core (provides high moisture adsorption) optimized for HFC refrigerants: R134a, R404A, R410A, R507, R744 (CO2), etc. Can be used with R22.	023U1391	\$26
48-DC solid core	80% molecular sieve 20% activated alumina (absorbs moisture and acid in system) core optimized for CFC and HCFC refrigerants: R22, R502, etc. Can be used for HFC's.	023U4380	\$26

* Part number only includes 1 core so must order the required amount of cores needed for the given DCR filter

ICM - Motorized Regulating Valves for Expansion and Pressure Regulation Direct Weld Body (Steel Body)

ICM MOTORIZED VALVE INCLUDING MOTOR ACTUATOR

Valve Size	Flow Coefficient Cv (Kv)		Connection type and size				List Price *	Weight including motor	
			FPT	SW	BW	ODS		lbs	(kg)
ICM 20-A33	0.23	(0.2)	3/4"	3/4"	3/4", 1"	5/8", 7/8"	\$2,925	6.6	(3.0)
ICM 20-A	0.7	(0.6)	3/4"	3/4"	3/4", 1"	5/8", 7/8"	\$2,925	6.6	(3.0)
ICM 20-B66	1.8	(1.6)	3/4"	3/4"	3/4", 1"	5/8", 7/8"	\$2,925	6.6	(3.0)
ICM 20-B	2.8	(2.4)	3/4"	3/4"	3/4", 1"	5/8", 7/8"	\$2,925	6.6	(3.0)
ICM 20-C	5.3	(4.6)	3/4"	3/4"	3/4", 1"	5/8", 7/8"	\$2,925	6.6	(3.0)
ICM 25-A	7.0	(6)	1"	1"	1", 1-1/4"	7/8", 1-1/8", 1-3/8"	\$3,093	8.8	(4.1)
ICM 25-B	13.9	(12)	1"	1"	1", 1-1/4"	7/8", 1-1/8", 1-3/8"	\$3,093	8.8	(4.1)
ICM 32-A	10.4	(9)	-	1-1/4"	1-1/4", 1-1/2"	1-3/8", 1-5/8"	\$3,240	11.0	(5.8)
ICM 32-B	20	(17)	-	1-1/4"	1-1/4", 1-1/2"	1-3/8", 1-5/8"	\$3,240	11.1	(5.8)
ICM 40-A	17	(15)	-	1-1/2"	1-1/2", 2"	1-5/8"	\$3,525	17.2	(7.8)
ICM 40-B	30	(26)	-	1-1/2"	1-1/2", 2"	1-5/8"	\$3,525	17.2	(7.8)
ICM 50-A	27	(23)	-	2"	2", 2-1/2"	2-1/8"	\$3,674	24.4	(11.1)
ICM 50-B	46	(40)	-	2"	2", 2-1/2"	2-1/8"	\$3,674	24.4	(11.1)
ICM 65-A	41	(35)	-	2 1/2"	2 1/2", 3"	2-5/8"	\$4,968	36.5	(16.6)
ICM 65-B	81	(70)	-	2 1/2"	2 1/2", 3"	2-5/8"	\$4,775	36.5	(16.6)

* ICM valve sizes 20, 25 and 32 are supplied with ICAD 600 motor; Prices for ICM sizes 40, 50 and 65 are with ICAD 900 motor. **List Add \$377**, when using the advanced ICAD 1200 with ICM sizes 40, 50 and 65.

In general, ICM valves with an "A" cone and all ICM 20 cones sizes are used for liquid make-up or expansion applications. ICM valves with a "B" cone are used for motorized solenoid and regulator valve applications.

Features:

- Direct-weld connections to eliminate leak potential
- Adjustable speed digital stepper motor (Input: 4-20 mA; 0-20 mA; 0-10 VDC; 2-10 VDC)
- Magnetically coupled motor and valve are independently sealed to eliminate valve stem leakage and allow motor replacement while the system is still under pressure
- Digital display on motor constantly shows valve position and valve settings are easily programmed with three buttons on the display
- Low temperature steel body, media range: -76 °F to +167 °F
- Stainless steel bolts
- 754 psig rated

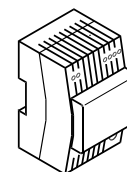
See strainers
type FIA on pages
24-27.



ICM - Motorized Valve and Motor Actuator (Valve and Actuator purchased separately)

Valve Size	Flow Coefficient Cv (Kv)		Nom. Port Size Inches	Connection Type/Size	Part Number *		List Price *		Weight with Motor	
					Valve w/o Motor	ICAD 1200 Motor	Valve w/o Motor *	ICAD 1200 Motor *		
ICM 100-B	165	(142)	4"	4" BW	027H7131	027H9067	\$4,368	\$2,204	97	(44)
ICM 125-B	259	(223)	5"	5" BW	027H7151	027H9067	\$5,754	\$2,204	121	(55)
ICM 150-B	430	(370)	6"	6" BW	027H7171	027H9067	\$8,398	\$2,204	209	(95)

* ICM valve and ICAD 1200 motor actuator must be ordered separately when ordering ICM 100, ICM 125 and ICM 150. ICAD 1200 motor actuator is required for the ICM valve to operate.

24Vdc
Power Supply

ACCESSORIES

Description	Part Number	List Price
24Vd.c., 2.5 Amp power supply for ICAD 600 and ICAD 900 motors*, 100-240Va.c. input. DIN rail or surface mounted.	080Z0055	\$248
Protection Cap for ICAD motor actuator (2nd Generation ICAD produced after 2009)	027H0431	\$35
Magnetic tool for manually operating ICM valve sizes 20, 25 and 32	027H0180	\$99
Magnetic tool for manually operating ICM valve sizes 40, 50, 65, 100, 125 and 150	027H0181	\$113
ICAD-UPS **, battery backup for multiple ICM/ICAD motorized valves	027H0182	\$938

* 24Vd.c. power supply can support a maximum of two ICAD 600 motors (for ICM 20-32) or one ICAD 900 motor (for ICM 40-65). Not for use with ICAD 1200 which needs supplied with 3 Amp, 24VDC power.

** ICAD-UPS can support up to 8 pcs. of ICAD 600 motors (ICM 20-32) or 5 pcs. of ICAD 900 motors (ICM 40-65)

ICAD - UPS



FA - Strainers for Direct Fitting on Solenoid Valves (close-couple strainers)

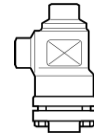
Valve Size	Nom. Port Size	Will Directly Fit with Solenoid Valves Type/Size	Part No.	List Price
FA 15	1/2"	EVRA 3	006-0043	\$77
FA 15	1/2"	EVRA 10, EVRAT 10, EVRA 15, EVRAT 15	006-1012	\$77
FA 20	3/4"	EVRA 20, EVRAT 20	006-1013	\$101

Purge Valve Drain Kits for FA Strainers

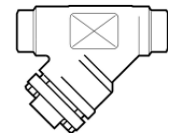
Purge Valve Kit	Description	Part No.	List Price
For use with FA 15	Includes 1/4" gauge valve type SNV, FA cover with 1/4" NPT connection and plug	006-0276DK	\$62
For use with FA 20	Includes 1/4" gauge valve type SNV, FA cover with 1/4" NPT connection and plug	006-0277DK	\$62

FIA - Threaded Strainers (Filters) FPT 1/2" - 1 1/4"
ANGLE

Size Inches (mm)	Type	Part Number				List Price	Weight	
		150 Mesh/ 100 µ	100 Mesh/ 150 µ	72 Mesh/ 250 µ	38 Mesh/ 500 µ		lbs	(kg)
1/2" (15)	FIA15 FPT ANG	148H3081 10	148H3081 15	148H3081 25	148H3081 50	\$158	2.4	(1.1)
3/4" (20)	FIA20 FPT ANG	148H3082 10	148H3082 15	148H3082 25	148H3082 50	\$158	2.4	(1.1)
1" (25)	FIA25 FPT ANG	148H3083 10	148H3083 15	148H3083 25	148H3083 50	\$209	3.7	(1.5)
1 1/4" (32)	FIA32 FPT ANG	148H3084 10	148H3084 15	148H3084 25	148H3084 50	\$212	3.7	(1.5)


GLOBE

Size Inches (mm)	Type	Part Number				List Price	Weight	
		150 Mesh/ 100 µ	100 Mesh/ 150 µ	72 Mesh/ 250 µ	38 Mesh/ 500 µ		lbs	(kg)
1/2" (15)	FIA15 FPT STR	148H3115 10	148H3115 15	148H3115 25	148H3115 50	\$158	3.1	(1.4)
3/4" (20)	FIA20 FPT STR	148H3116 10	148H3116 15	148H3116 25	148H3116 50	\$158	3.1	(1.4)
1" (25)	FIA25 FPT STR	148H3117 10	148H3117 15	148H3117 25	148H3117 50	\$209	5.3	(2.4)
1 1/4" (32)	FIA32 FPT STR	148H3118 10	148H3118 15	148H3118 25	148H3118 50	\$212	5.3	(2.4)

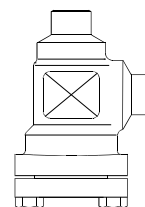


Mesh is the number of threads per inch.

- 150 Mesh/ 100 µ: Recommended before electronic expansion valve type AKVA or before very sensitive equipment
- 100 Mesh/ 150 µ: For use in liquid line where extra protection is needed
- 72 Mesh/ 250 µ: Standard protection for use in liquid or suction line
- 38 Mesh/ 500 µ: For use before pumps or in suction lines

FIA - Socket Weld Strainers (Filters) SOC 1/2" - 2"
ANGLE

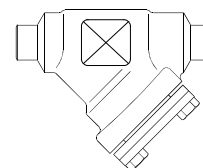
Size Inches (mm)	Type	Part Number				List Price	Weight	
		150 Mesh/ 100 µ	100 Mesh/ 150 µ	72 Mesh/ 250 µ	38 Mesh/ 500 µ		lbs	(kg)
1/2" (15)	FIA15 SOC ANG	148H3075 10	148H3075 15	148H3075 25	148H3075 50	\$158	2.4	(1.1)
3/4" (20)	FIA20 SOC ANG	148H3076 10	148H3076 15	148H3076 25	148H3076 50	\$158	2.4	(1.1)
1" (25)	FIA25 SOC ANG	148H3077 10	148H3077 15	148H3077 25	148H3077 50	\$209	3.7	(1.5)
1 1/4" (32)	FIA32 SOC ANG	148H3078 10	148H3078 15	148H3078 25	148H3078 50	\$212	3.7	(1.5)
1 1/2" (40)	FIA40 SOC ANG	148H3079 10	148H3079 15	148H3079 25	148H3079 50	\$216	3.7	(1.5)
2" (50)	FIA50 SOC ANG	148H3080 10	148H3080 15	148H3080 25	148H3080 50	\$283	6.2	(6.2)



**See page 27
for purge
valves**

GLOBE

Size Inches (mm)	Type	Part Number				List Price	Weight	
		150 Mesh/ 100 µ	100 Mesh/ 150 µ	72 Mesh/ 250 µ	38 Mesh/ 500 µ		lbs	(kg)
1/2" (15)	FIA15 SOC STR	148H3109 10	148H3109 15	148H3109 25	148H3109 50	\$158	3.1	(1.4)
3/4" (20)	FIA20 SOC STR	148H3110 10	148H3110 15	148H3110 25	148H3110 50	\$158	3.1	(1.4)
1" (25)	FIA25 SOC STR	148H3111 10	148H3111 15	148H3111 25	148H3111 50	\$209	5.3	(2.4)
1 1/4" (32)	FIA32 SOC STR	148H3112 10	148H3112 15	148H3112 25	148H3112 50	\$212	5.3	(2.4)
1 1/2" (40)	FIA40 SOC STR	148H3113 10	148H3113 15	148H3113 25	148H3113 50	\$216	5.3	(2.4)
2" (50)	FIA50 SOC STR	148H3114 10	148H3114 15	148H3114 25	148H3114 50	\$283	7.7	(3.5)

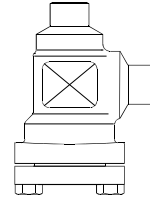


- 150 Mesh/ 100 µ: Recommended before electronic expansion valve type AKVA or before very sensitive equipment
- 100 Mesh/ 150 µ: For use in liquid line where extra protection is needed
- 72 Mesh/ 250 µ: Standard protection for use in liquid or suction line
- 38 Mesh/ 500 µ: For use before pumps or in suction lines

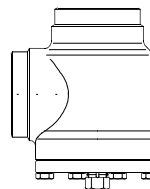
**FIA 15 to 40 (1/2" to 1 1/2")
is standard with 1/4" NPT
pump out/drain plug.**

FIA - Butt Weld Strainers (Filters) BW 1/2" - 12"
ANGLE

Size Inches (mm)	Type	Part Number				List Price	Weight	
		150 Mesh/ 100 µ	100 Mesh/ 150 µ	72 Mesh/ 250 µ	38 Mesh/ 500 µ		lbs	(kg)
1/2" (15)	FIA15 A ANG	148H3063 10	148H3063 15	148H3063 25	148H3063 50	\$158	2.4	(1.1)
3/4" (20)	FIA20 A ANG	148H3064 10	148H3064 15	148H3064 25	148H3064 50	\$158	2.4	(1.1)
1" (25)	FIA25 A ANG	148H3065 10	148H3065 15	148H3065 25	148H3065 50	\$209	3.7	(1.5)
1 1/4" (32)	FIA32 A ANG	148H3066 10	148H3066 15	148H3066 25	148H3066 50	\$212	3.7	(1.5)
1 1/2" (40)	FIA40 A ANG	148H3067 10	148H3067 15	148H3067 25	148H3067 50	\$216	3.7	(1.5)
2" (50)	FIA50 A ANG	148H3068 10	148H3068 15	148H3068 25	148H3068 50	\$283	6.2	(6.2)
2 1/2" (65)	FIA65 A ANG	-	148H3069 15	148H3069 25	148H3069 50	\$433	8.4	(3.8)
3" (80)	FIA80 A ANG	-	148H3070 15	148H3070 25	148H3070 50	\$531	16.1	(7.3)
4" (100)	FIA100 A ANG	-	148H3071 15	148H3071 25	148H3071 50	\$715	26.2	(11.9)
5" (125)	FIA125 A ANG	-	148H3072 15	148H3072 25	148H3072 50	\$1,072	46.7	(21.2)
6" (150)	FIA150 A ANG	-	148H3073 15	148H3073 25	148H3073 50	\$1,452	67.2	(30.5)
8" (200)	FIA200 A ANG	-	148H3074 15	148H3074 25	148H3074 50	\$2,762	150	(68)
10" (250)	FIA250 A ANG	-	148H3173 15	148H3173 25	148H3173 50	\$4,451	260	(118)
12" (300)	FIA300 A ANG	-	148H3174 15	148H3174 25	148H3174 50	\$5,882	339	(154)



1/2" to 1 1/2"

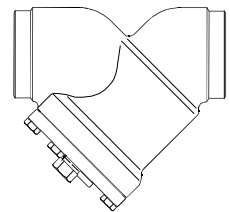


2" to 8"

GLOBE

Size Inches (mm)	Type	Part Number				List Price	Weight	
		150 Mesh/ 100 µ	100 Mesh/ 150 µ	72 Mesh/ 250 µ	38 Mesh/ 500 µ		lbs	(kg)
1/2" (15)	FIA15 A STR	148H3097 10	148H3097 15	148H3097 25	148H3097 50	\$158	3.1	(1.4)
3/4" (20)	FIA20 A STR	148H3098 10	148H3098 15	148H3098 25	148H3098 50	\$158	3.1	(1.4)
1" (25)	FIA25 A STR	148H3099 10	148H3099 15	148H3099 25	148H3099 50	\$209	5.3	(2.4)
1 1/4" (32)	FIA32 A STR	148H3100 10	148H3100 15	148H3100 25	148H3100 50	\$212	5.3	(2.4)
1 1/2" (40)	FIA40 A STR	148H3101 10	148H3101 15	148H3101 25	148H3101 50	\$216	5.3	(2.4)
2" (50)	FIA50 A STR	148H3102 10	148H3102 15	148H3102 25	148H3102 50	\$283	7.7	(3.5)
2 1/2" (65)	FIA65 A STR		148H3103 15	148H3103 25	148H3103 50	\$483	11.7	(5.3)
3" (80)	FIA80 A STR		148H3104 15	148H3104 25	148H3104 50	\$562	19	(8.6)
4" (100)	FIA100 A STR		148H3105 15	148H3105 25	148H3105 50	\$828	32.8	(14.9)
5" (125)	FIA125 A STR		148H3106 15	148H3106 25	148H3106 50	\$1,282	59.3	(26.9)
6" (150)	FIA150 A STR		148H3107 15	148H3107 25	148H3107 50	\$1,706	112	(51.0)
8" (200)	FIA200 A STR		148H3108 15	148H3108 25	148H3108 50	\$3,327	209	(95.0)

Stainless steel
valves available.
Consult Danfoss
for pricing and
availability.



Mesh is the number of threads per inch.

µ (microns) is the distance between two threads (1µ = 1/1000 mm)

150 Mesh/ 100 µ: Recommended before electronic expansion valve type AKVA or before very sensitive equipment
100 Mesh/ 150 µ: For use in liquid line where extra protection is needed
72 Mesh/ 250 µ: Standard protection for use in liquid or suction line
38 Mesh/ 500 µ: For use before pumps or in suction lines

List Pricing

Effective: April 4, 2011

Filter Bags for Plant Start Up

50 micron / includes support frame

Type FIA Filter Size		Filter Bags	
Inches	(mm)	Part No.	List Price
2"	(50)	148H3150	\$109
2½"	(65)	148H3151	\$128
3"	(80)	148H3152	\$156
4"	(100)	148H3153	\$213
5"	(125)	148H3154	\$316
6"	(150)	148H3155	\$466
8"	(200)	148H3156	\$638

Additional Price for Magnetic Inserts

Type FIA Filter Size		Magnetic Inserts		Weight	
Inches	(mm)	Part No.	List Price	lbs	(kg)
2½", 3", 4"	(65, 80, 100)	148H3447	\$92	1.5	(0.7)
5", 6", 8"	(125, 150, 200)	148H3448	\$141	1.8	(0.8)

Purge Valve for FIA Strainers

FIA Strainer Size	Purge Valve Description	Part No.	List Price
FIA 15 to 40	Standard purge valve type SNV-ST, 1/4" MPT (bottom) x 1/4" FPT (side)	148B4180	\$45
	Purge valve type SNV-ST LONG NECK (3.95"), 1/4" MPT (bottom) x 1/4" FPT (side)	148B4232	\$56
FIA 50 to 200	Standard 1/4" purge valve type SNV-ST, adapter for mounting into FIA cover and plug	148B4180DK	\$62

Replacement Strainer Elements for FIA Strainers

Type FIA Strainer Size		Part Number for Standard Element				List Price
Inches	(mm)	150 Mesh/ 100 μ	100 Mesh/ 150 μ	72 Mesh/ 250 μ	38 Mesh/ 500 μ	
1/2", 3/4"	(15, 20)	148H3122	148H3124	148H3126	148H3128	\$55
1", 1 ¼", 1 ½"	(25, 32, 40)	148H3123	148H3125	148H3127	148H3129	\$76
2"	(50)	148H3157	148H3130	148H3138	148H3144	\$101
2 1/2"	(65)		148H3131	148H3139	148H3145	\$126
3"	(80)		148H3119	148H3120	148H3121	\$161
4"	(100)		148H3132	148H3140	148H3146	\$225
5"	(125)		148H3133	148H3141	148H3147	\$346
6"	(150)		148H3134	148H3142	148H3148	\$502
8"	(200)		148H3135	148H3143	148H3149	\$701
10"	(250)		148H3136	148H3175	148H3177	\$975
12"	(300)		148H3137	148H3176	148H3178	\$1,428

Mesh is the number of threads per inch.

μ (microns) is the distance between two threads (1μ = 1/1000 mm)

Type FIA Strainer Size		Part Number for Pleated Element		List Price
Inches	(mm)	100 Mesh/ 150 μ	72 Mesh/ 250 μ	
1/2", 3/4"	(15, 20)	148H3303	148H3363	\$99
1", 1 ¼", 1 ½"	(25, 32, 40)	148H3304	148H3269	\$102
2"	(50)	148H3179	148H3184	\$170
2 1/2"	(65)	148H3180	148H3185	\$226
3"	(80)	148H3181	148H3186	\$286
4"	(100)	148H3182	148H3187	\$397
5"	(125)	148H3183	148H3188	\$589
6"	(150)	148H3226	-	\$827

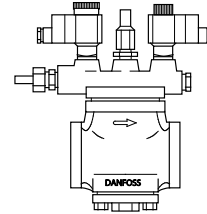
Mesh is the number of threads per inch.

μ (microns) is the distance between two threads (1μ = 1/1000 mm)

Pleated strainer elements are recommended for use in economizer lines! Contact Danfoss for complete strainers with pleated elements.

PML - Gas Powered Stop Valves Globe (1 1/4" - 6")

Valve Size	Cv	Nom. Port Size Inches	Min. Open dp psi	Available Flange Connections			List Prices (1)
				SOC	WN	ODS	With Flanges Less Coils
Gas Powered							
PML 32	29.6	1¼"	0	1¼"	1¼", 1½"	1 3/8"	\$1,014
PML 40	38.9	1½"	0	1½"	1½", 2"	1 5/8"	\$1,191
PML 50	58	2"	0	2"	2", 2½"	2 1/8"	\$1,341
PML 65	94	3"	0	2½"	2½", 3"	2 5/8"	\$1,658
PML 80	218	4"	0	-	4"	-	\$2,839
PML 100	335	5"	0	-	5"	-	\$4,690
PML 125	455	6"	0	-	6"	-	\$6,720


PMLX - Gas Powered Stop Valves Globe with Two-Step Opening (1 1/4" - 6")

Valve Size	Cv	Nom. Port Size Inches	Min. Open dp psi	Available Flange Connections			List Prices (1)
				SOC	WN	ODS	With Flanges Less Coils
Gas Powered (Two-Step Opening)							
PMLX 32	26	1¼"	0	1¼"	1¼", 1½"	1 3/8"	\$1,014
PMLX 40	34.1	1½"	0	1½"	1½", 2"	1 5/8"	\$1,191
PMLX 50	55.5	2"	0	2"	2", 2½"	2 1/8"	\$1,341
PMLX 65	93.1	3"	0	2½"	2½", 3"	2 5/8"	\$1,658
PMLX 80	197.2	4"	0	-	4"	-	\$2,839
PMLX 100	280.7	5"	0	-	5"	-	\$4,690
PMLX 125	446.6	6"	0	-	6"	-	\$6,720

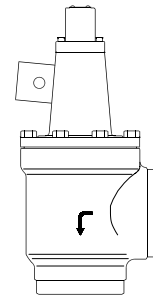
Features:

- Normally closed
- Internal bypass with 2-step seat (PMLX & GPLX)
- Internal bleed relief
- Only one electrical output needed for opening and closing the valve

GPLX - Gas Powered Solenoid Valves Angle 3" - 6" Two Step Opening
Direct Weld Angle Body

Connection Size		Valve Size	Cv	Part No.	List Price (1) Less Coils	Weight	
Inches	(mm)					lbs	(kg)
3"	(80)	GPLX 80 A	152	148G3155	\$2,458	44.0	(20.0)
4"	(100)	GPLX 100 A	259	148G3156	\$3,321	73.0	(33.0)
5"	(125)	GPLX 125 A	429	148G3157	\$5,411	99.0	(45.0)
6"	(150)	GPLX 150 A	657	148G3158	\$7,326	143.0	(65.0)

(1) Coil prices are not included and must be ordered separately. Two coils or greater are needed for each valve. See replacement coils on page 21 for other coil options.


Strainer for gas pilot connection on GPLX valve

With threaded connection - 1/4" FPT

Size	Type	Part No.	List Price	Weight
Inches (mm)				lbs (kg)
1/4" (6)	FIL 6 R 1/4"	2464+60862	\$85	0.4 (0.2)

AKVA 10, AKVA 15, and AKVA 20 - Electronic Expansion Valves

Type	Nom. TR (R717)	Connections		List Price (1) Less Coil	Strainer (2) Part No	Valve Only* Part No
		Inlet	Outlet			
AKVA10-1	1.1	1/2"	3/4"	\$360	Has a built-in strainer - an external strainer is not necessary.	068F3281
AKVA10-2	1.8	1/2"	3/4"	\$360		068F3282
AKVA10-3	2.8	1/2"	3/4"	\$360		068F3283
AKVA10-4	4.5	1/2"	3/4"	\$360		068F3284
AKVA10-5	7.1	1/2"	3/4"	\$360		068F3285
AKVA10-6	11.4	1/2"	3/4"	\$360		068F3286
AKVA10-7	17.9	1/2"	3/4"	\$360		068F3267
AKVA15-1	35	Available flanges are listed in the AKVA 15 flange suffix table. The two digit suffix must be added to the valve p/n		\$778	Please select an FIA strainer with 100 µm (150 mesh) insert. See strainers type FIA.	068F5020*
AKVA15-2	60			\$778		068F5023*
AKVA15-3	90			\$778		068F5026*
AKVA15-4	140			\$778		068F5029*
AKVA20-1	140	1 1/4"	1 1/4"	\$1,792		042H2101
AKVA20-2	240	1 1/4"	1 1/4"	\$1,792		042H2102
AKVA20-3	350	1 1/4"	1 1/4"	\$1,792		042H2103
AKVA20-4	600	1 1/2"	1 1/2"	\$1,792		042H2104
AKVA20-5	900	2"	2"	\$1,792		042H2105

AKVA 15 flange suffix table *

Flange type/size	Use suffix no.
3/4" FPT	90
1" FPT	91
3/4" SW	78
1" SW	79
1-1/4" SW	96
3/4" WN	64
1" WN	65
1-1/4" WN	66

Features

- 1/2" to 2"
- -58°F to 302°F
- 1-900 TR capacity range for ammonia applications
- Pulse width modulating electronic expansion valve
- AKVA does not require manual adjustments for changes in capacity (10 to 100%)

(1) Price includes valve and flanges where applicable. Price does not include coil which must be ordered separately. Consult Danfoss for assistance.

(2) A 100 µm strainer must be mounted in front of AKVA 15 and AKVA 20 valves. Price will depend on the selected FIA filter.

* AKVA 15 is a flanged valve and a two digit flange suffix must be added to the valve p/n for it to include flanges. See AKVA 15 flange table. Example: part number for AKVA 15-3 with 1" SW flanges would be 068F502679.

OPTION 1 FOR AKVA 10, AKVA 15, AND AKVA 20 LIQUID LEVEL CONTROL

Type	Description	Part No.	List Price
EKC 347	Electronic Liquid Level Control. (1)	084B7067	\$931
Coil	24 V, 12 W, 60Hz standard coil with terminal box for use with AKVA valve	018F6815	\$47

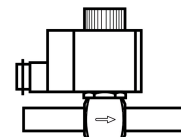
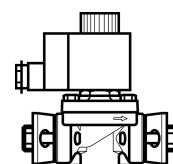
OPTION 2 FOR AKVA 10, AKVA 15, AND AKVA 20 EVAPORATOR CONTROL

Type	Description	Part No.	List Price
EKC 315A	Evaporator Controller (superheat) (1)	084B7086	\$1,128
AKS 33	Pressure transducer with 1/4" MPT and DIN plug. Range 0-200PSIA and 4-20mA output. (2)	060G1711	\$315
AKS 21W	Temperature sensor, PT 1000 with 1/2" NPT stainless steel well (2) (3)	084N204345	\$175
Coil	24 V, 12 W, 60Hz standard coil with terminal box for use with AKVA valve	018F6815	\$47

(1) Requires 24 V A.C., 50/60 Hz, 60 VA power supply. Supplied by others.

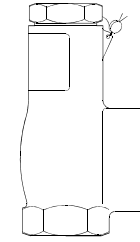
(2) Other pressure ranges, temperature ranges, connection types and sensor mounting styles available. Please see pressure and temperature sensors section or consult Danfoss for assistance.

(3) Temperature Range -94°F to +356°F (-70°C to +180°C), 8.2 ft. cable (2.5m)



SFVL - Safety Relief Valves

Type	Connections [Inlet x Outlet]	Part Number based on pressure setting					List Price
		150 psig	175 psig	225 psig	250 psig	300 psig	
SFVL 803	1/2" x 3/4" FPT	148F8000	148F8035	148F8059	148F8001	148F8002	\$182
SFVL 813	1/2" x 1" FPT	148F8003	148F8037	148F8052	148F8004	148F8005	\$186
SFVL 804	3/4" x 1" FPT	148F8006	148F8039	148F8046	148F8007	148F8008	\$252
SFVL 814	3/4" x 1-1/4" FPT	148F8009	148F8041	148F8055	148F8010	148F8011	\$259
SFVL 805	1" x 1-1/4" FPT	148F8012	148F8030	148F8060	148F8013	148F8014	\$398
SFVL 815	1" x 1-1/2" FPT	148F8015	148F8044	148F8061	148F8016	148F8017	\$407



SFVL safety relief valves are backpressure dependent and designed for protection of vessels and other components against excessive pressure. They are manufactured in accordance with the ASME Quality Control Procedures and stamped with the UV and NB symbols.

Pressure:

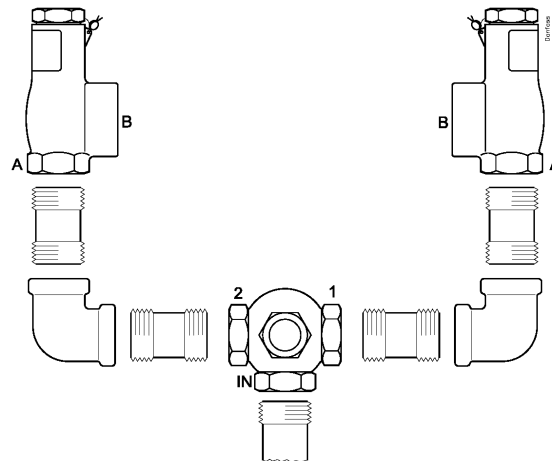
- Settings available from 75 to 400 psig
- Common pressures settings of 150, 250 and 300 psig are available from stock or with short lead-time; please contact Danfoss, Inc. for other pressure settings.
- Maximum working pressure of 500 psig

Temperature:

- -20°F to +275°F

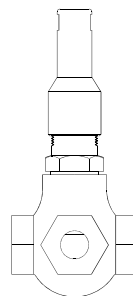
Refrigerants:

- Suitable for R717 (ammonia NH₃), HFC and HCFC refrigerants.



DSVL - Dual Shut-off Manifolds

Type	Connections	Part No.	List Price
DSVL 843	1/2" x 1/2" x 1/2" FPT	148F8018	\$185
DSVL 844	3/4" x 3/4" x 3/4" FPT	148F8019	\$196
DSVL 845	1" x 1" x 1" FPT	148F8020	\$308



DSVL valves are specifically designed for a parallel installation of two safety relief valves. Only one safety relief valve can be shut off or isolated at any one time by front seating or back seating of the DSVL valve.

- Suitable for R717 (ammonia NH₃), HFC and HCFC refrigerant
- 400 psig rated
- -20°F to +300°F

Accessory Kits for connecting SFVL and DSVL valves*

Description	Part No.	List Price
1/2" Accessory fittings kit for DSVL 843	148F8032	\$87
3/4" Accessory fittings kit for DSVL 844	148F8033	\$87
1" Accessory fittings kit for DSVL 845	148F8034	\$137

*Accessory kits include two 90° elbows and four nipples.

AKS 4100U - Liquid Level Sensors

The new AKS 4100 liquid level sensor uses proven TDR Guided Radar technology to ensure a high degree of accuracy and reliability.

NEW!

Type	Description	Part No.	List Price
AKS 4100U	Level Sensor with LCD display/interface unit and 196 in. (5 m) insertion cable length.	084H4521	\$2,647

Benefits:

- One part number covers a wide range of lengths and is easily adjusted to the required length in the field.
- No on-site calibration is needed.
- Cable version is not affected by oil in the system.
- Cable version is very compact making it easy to handle, ship, and install.
- Standard with LCD display for quick on-site commissioning and troubleshooting.
- One probe for all common refrigerants including ammonia, R-22, R-404A, R-134a, and R507. For CO₂ and other refrigerants, please contact Danfoss.

Technical details of AKS 4100

- Standard level sensor is used for insertion lengths 196 in. (5000 mm) and down. The cable length is easily trimmed to the desired length during installation. Longer lengths available upon request. For marine applications, please contact Danfoss.
- 3/4" NPT connection
- 4-20 mA signal that is 2-wire loop powered
- Maximum working pressure: 1450 psi (100 bar)
- Temperature range: -76 °F to 212 °F (-60 °C to 100 °C)



LCD Display/Interface Unit

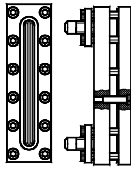
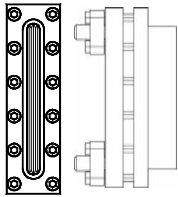
LLG - Liquid Level Glasses 7 1/4" - 61"

LIQUID LEVEL GLASSES - LLG

With safety system and welding nipples *

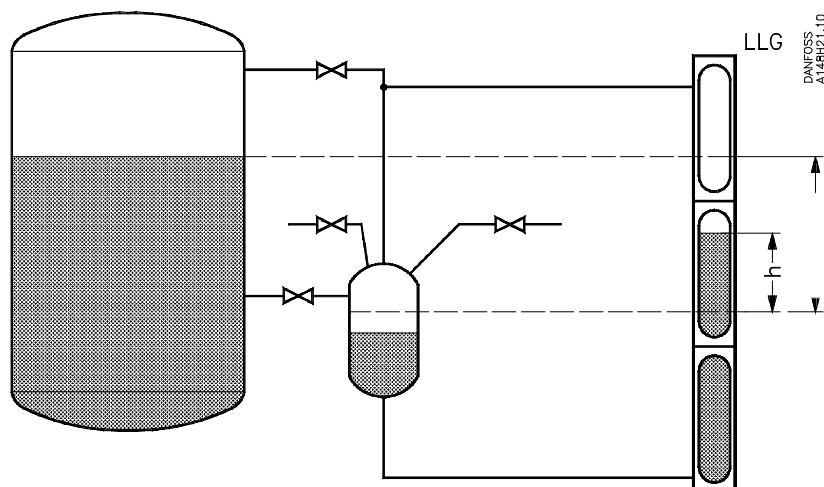
LIQUID LEVEL GLASSES - LLG F

With safety system, welding nipples * and frost shield

									
Length **		Type	Part No.	List Price	Type	Part No.	List Price	Weight	
Inches	(mm)							lbs	(kg)
7 1/4"	(185)	LLG 185	2512+04910	\$422	LLG 185 F	2512+07810	\$699	9.3	(4.2)
13 1/4"	(335)	LLG 335	2512+05010	\$577	LLG 335 F	2512+07910	\$860	17.0	(7.5)
23 1/4"	(590)	LLG 590	2512+05110	\$1,011	LLG 590 F	2512+08010	\$1,495	29.0	(3.2)
29 1/4"	(740)	LLG 740	2512+05210	\$1,234	LLG 740 F	2512+08110	\$1,692	36.0	(6.5)
39 1/4"	(995)	LLG 995	2512+05310	\$1,441	LLG 995 F	2512+08210	\$2,007	50.0	(22.5)
45"	(1145)	LLG 1145	2512+05410	\$1,724	LLG 1145 F	2512+08310	\$2,180	57.0	(25.7)
61"	(1550)	LLG 1550	2512+05510	\$2,506	LLG 1550 F	2512+08410	\$3,022	74.0	(33.5)

* The welding nipples extend 3.25" from the level glass and can easily be welded into a 1/2" socket-weld connection. If shut-off valves are needed, please see 1/2" socket-weld shut-off valves type SVA

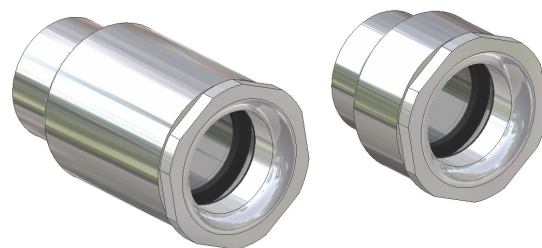
** Length between LLG connections



LEVEL EYE® (LIQUID LEVEL SIGHT GLASSES)

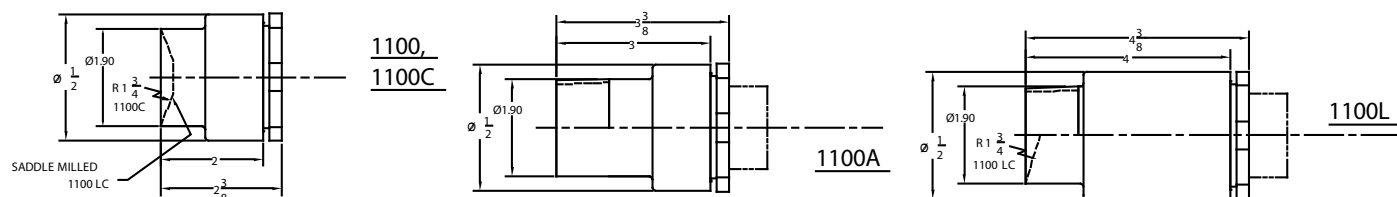
Manufactured by H.A. Phillips & Co.

Part No.	Housing Length In.	Description	List Price
1100-R	2"	Square End housing with Reflex Lens	\$109
1100-RN	2"	Square End housing with Reflex Lens and Frost Shield	\$136
1100C-R	2"	Saddle Milled housing with Reflex Lens	\$117
1100C-RN	2"	Saddle Milled housing with Reflex Lens and Frost Shield	\$144
1100A-R	3"	Square End housing with Reflex Lens	\$122
1100A-RN	3"	Square End housing with Reflex Lens and Frost Shield	\$149
1100L-R	4"	Square End housing with Reflex Lens	\$142
1100L-RN	4"	Square End housing with Reflex Lens and Frost Shield	\$168



Features

- Suitable for ASME code vessels
- 1000 psi/69 bar working pressure limit
- SA36 steel construction standard
- Suitable for low temperature applications (-60°F/-51°C)
- 1100A-Canadian registered (all provinces) - CRN0F0829.2C



AKS 38 - Liquid Level Float Switch

Type	Connections	Part No.	List Price
AKS 38	1" WN	148H3204	\$673
AKS 38	1" Socket Weld	148H3206	\$673
AKS 38	3/4" FPT	148H3207	\$673



Features

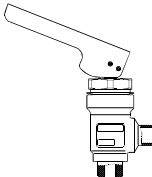
- Reliable SPDT micro switch
- Protection from high and low levels
- Operates liquid solenoid valve
- Transparent switch box cover for visual indication
- Switch box can be rotated to improve visibility

Flanges included with AKS-38 Float Switch

Contact Danfoss for other connection types/sizes.

QDV - Quick Closing Oil Drain Valve 1/2" & 3/4"

ANGLE FLOW

							
Size Inches (mm)	Type	Connections		Part No.	List Price	Weight	
		Inlet	Outlet			lbs	(kg)
1/2" (15)	QDV 15	1/2" FPT	1/2" FPT	148H3273	\$266	3.0	(1.4)
3/4" (20)	QDV 15	3/4" FPT	3/4" FPT	148H3274	\$272	3.0	(1.4)
QDV 15 Valve Train *							
1/2" (15)	QDV 15 Valve Train	1/2" SOC	1/2" FPT	148H3311	\$392	7.0	(3.2)

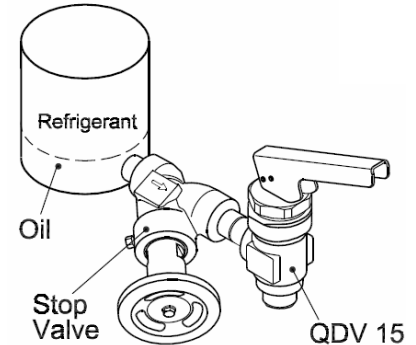
* QDV valve train includes QDV 15 with 1/2" FPT x 1/2" FPT connections and an SVA-ST 15 globe stop valve with hand wheel and 1/2" socket-weld inlet x 1/2" male NPT outlet connections for quick on site mounting.

Features

- 1/2" and 3/4" FPT connections
- Handle can be rotated 360°
- Spring-loaded handle closes immediately upon release
- Internal relief device prevents hydraulic pressure build-up

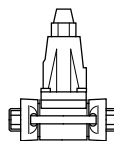
The internal relief device in the Danfoss QDV allows trapped refrigerant to slowly bleed if internal valve pressure exceeds approx. 363 psig. Further, the valve is easily actuated by hand (without tools), and has an internal spring mechanism to instantly close the valve if the actuator is let go.

QDV Valve Train!



CVMD - Small Pressure Regulator

Type	Flange Type	Part No.	List Price
CVMD	1/2" FPT	027B103849	\$287
CVMD	1/2" socket-weld	027B103845	\$287
CVMD	3/4" socket-weld	027B103895	\$287
CVMD	1/2" butt-weld	027B103800	\$298



Features

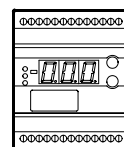
- Regulating range: 0 to 102 psig
- Temperature range: -58°F to 248°F
- Flow coefficient: $C_v = 1.74$

Flanges included with CVMD valve

Contact Danfoss for other connection types/sizes.

EKC - Electronic Controllers

Type	Description	Part No.	List Price
EKC 315A	Evaporator Controller (superheat)	084B7086	\$1,128
EKC 331T	Compressor or condenser capacity controller	084B7105	\$909
EKC 347	Electronic Liquid Level Control.	084B7067	\$931
EKC 361	Electronic Media Temperature Controller for stand alone control	084B7060	\$842
EKC 366	Interface Module that allows communication with customer supplied PLC	084B7076	\$491



DIN rail mounted

EKC accessory for panel mounting

Description	Part No.	List Price
EKC front panel mounting kit is used for mounting an EKC controller into an existing electrical panel box so the EKC display can easily be viewed through its transparent flip up door. This door also allows easy access to change EKC settings without opening the main electrical panel box.	027F0309	\$161



Custom-built panel boxes including power supplies etc. for EKC controllers are available. Contact Danfoss for information.

AKS - Pressure Transmitters

AKS 33 (4 to 20 mA output) & AKS 32 (1 - 5 V output)

Type	Output Signal	Pressure Range	Part No.	List Price
AKS 33	4 to 20 mA	0 to 100 psia	060G3802	\$315
AKS 33	4 to 20 mA	0 to 200 psia	060G1711	\$315
AKS 33	4 to 20 mA	0 to 500 psig	060G1712	\$315
MBS 3000	4 to 20 mA	0 to 14.5 psig	060G1563	\$315
AKS 32	1 to 5 Vd.c.	0 to 100 psia	060G3803	\$315
AKS 32	1 to 5 Vd.c.	0 to 200 psia	060G3804	\$315
AKS 32	1 to 5 Vd.c.	0 to 500 psig	060G3805	\$315
Accessory for AKS 32/33				
Pulse snubber, 1/4" FPT x 1/4" MPT			060G0250	\$79

Features

- 1/4" male NPT connection
- DIN connector
- Stainless steel body and material in contact with medium
- Suitable for all refrigerants, including ammonia
- UL recognized for Class I, Group A, B, C, and D, Division 2
- Built-in voltage stabilizer for varying voltage supply



AKS -Temperature Sensors, PT 1000 ohm

Type	Temperature Range	Description	Electrical connection	Part No.	List Price
AKS 21M	-94 to +356 °F	Surface/Air temperature sensor	8.2 ft. cable	084N2003	\$48
AKS 21W	-94 to +356 °F	Immersion temp. sensor with 1/2" NPT well, 1" insertion length	8.2 ft. cable	084N204345	\$175
AKS 21W	-94 to +320 °F	Immersion temp. sensor with 1/2" NPT, 4" insertion length	terminal box	084N2031	\$207

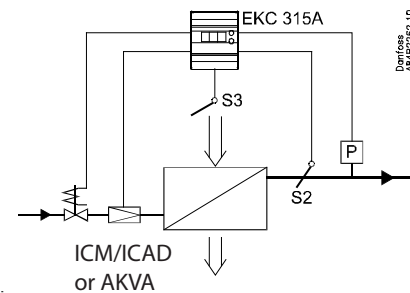
EKC 315 Evaporator controller

Application

The controller and valve can be used where there are requirements for accurate control of superheat and temperature in connection with refrigeration.

Functions

- Regulation of superheat
- Temperature control
- MOP function
- Alarm if the set alarm limits are exceeded
- Relay output for solenoid valve



EKC 347 Liquid Level Controller

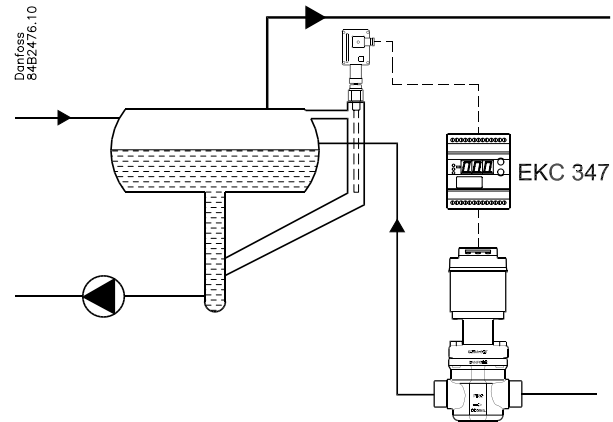
Application

The EKC 347 is a PI liquid level controller that can be used for regulation of refrigerant level in:

- Pump packages
- Economizers
- Separators
- Condensers
- Intermediate coolers
- Receivers

Functions

- Generates alarm when user-programmed limits are exceeded
- 3 relay outputs for upper and lower level limits and for alarm level
- Accepts analog input signal that can offset the liquid level setpoint
- Controls liquid level on high or low pressure side of the system
- When AKV/A is selected, a master-slave system can run up to 3 AKV/A valves with distributed opening degree
- Manual control of output
- Able to limit minimum and maximum valve opening degree.



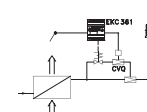
EKC 361 Media Temperature Controller

Application

The controller and valve can be used where there are stringent requirements to accurate temperature control in connection with refrigeration.

Functions

- Modulating temperature control
- ON/OFF input for start/stop of regulation of ICS/PM or forced closing of ICM
- Alarm if the set alarm limits are exceeded
- Relay output for fan
- Relay output for solenoid valves
- Input signal that can displace the temperature reference
- Output signal that follows the temperature showing on the display when not using the valve



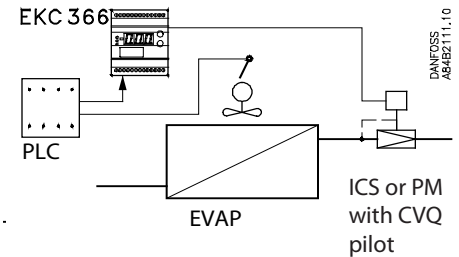
ICS or PM

EKC 366, Interface module
Application

The interface controller allows communication between a PLC and our electronic CVQ pilot valve that is used to regulate an ICS or PM pilot operated regulating valve.

Function

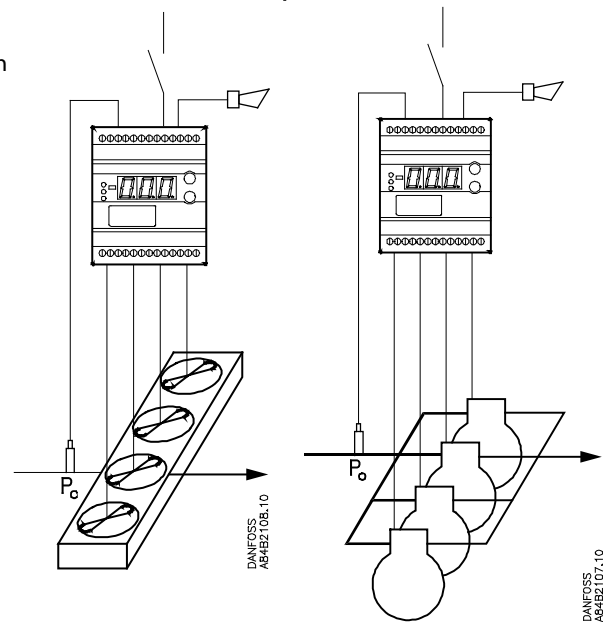
The interface controller receives a variable analog signal from a PLC or similar device and will subsequently regulate a CVQ pilot so the refrigerating temperature is as accurate as possible.


EKC 331 Condensor or compressor capacity controller
Application

The controller is used for capacity regulation of compressors or condensers in small refrigerating systems.

Functions

- Regulation
 - Regulation with up to four relay outputs can be carried out.
 - Regulation takes place with a set reference which is compared to a signal from a pressure transmitter.
- Alarm function
 - A relay becomes activated when the set alarm limits are exceeded.
- Digital input
 - The digital input can be used for:
 - night operation where the suction pressure is raised
 - heat recovery where the condensing pressure is raised
 - external start/stop of the regulation.



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