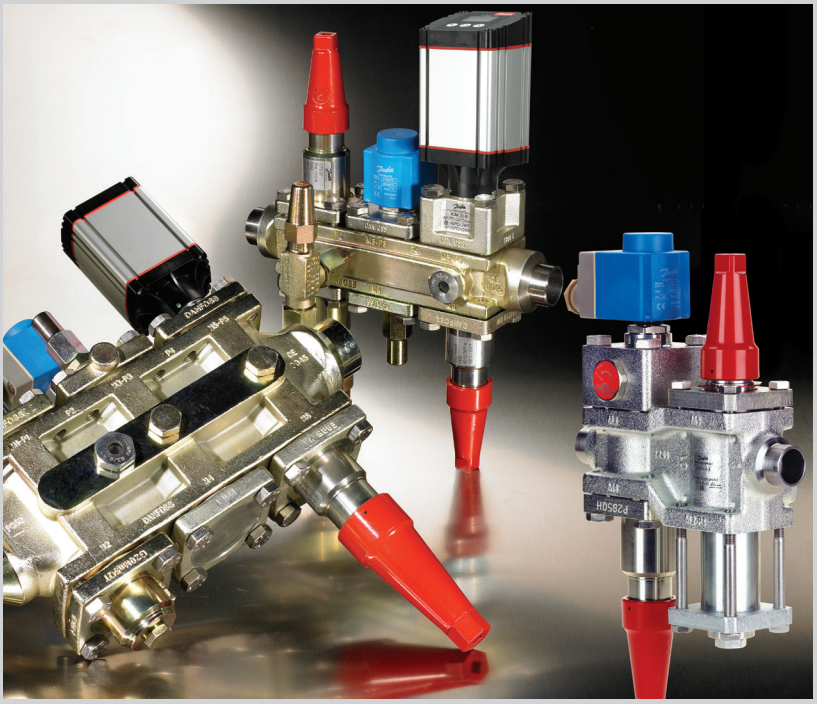
Technical brochure

Valve Station
ICF 15, 20, 25



Based on advanced technology the ICF valve station incorporates several functions in one housing, which can replace a series of conventional mechanical, electro-mechanical and electronically operated valves.

This valve station not only provides a number of advantages in the design phase of a refrigeration plant but also in the installation, service and maintenance.

The ICF valve stations are designed for low and high pressure refrigerants and can be used in pumped liquid lines, liquid injection lines and hot gas lines.

Supplied as a complete assembly, it is fully tested at high pressure and its functions are tested under factory controlled conditions.

One code number equals one application solution.

Features

- Designed for industrial refrigeration applications for a maximum working pressure of 52 bar/754 psig.
- Applicable to HCFC, non flammable HFC, R717 (Ammonia) and R744 (CO_2).
  The use of ICF valve stations with flammable hydrocarbons is not recommended.
- Direct weld connections
  (No leaks through flanges)
- Connection types include butt weld and socket weld.
- Low temperature steel housing.
- Low weight and compact design.
- V-port regulating cones on the control modules ensure optimum regulating accuracy particularly at part load.
- *Modular Concept*
  Each housing is available with several different connection types and sizes.
  Valve service is performed by replacing the function module.
- Side ports for the connection of pressure gauges, transmitters, sight glasses, service valve etc.
- UL approved

CE

ICF valve station		
Nominal bore	DN≤ 25 (1 in.)	DN 32-40 (1 ¼ - 1 ½")
Classified for	Fluid group I	
Category	Article 3, paragraph 3	II

© Danfoss A/S (RC-MCP/MWA), 2014-10

Contents **Page**

Features 1
Technical data 3
Design 3
Description of the function modules f 5
Material specification 7
Code number selection 13
Applications 14
Example of application: Liquid feed line 14
Example of application: Liquid feed line/Hot gas defrost line 15
Example of application: Liquid injection line 15
Example of application: Liquid injection line 16
Connections 17
Ordering ICF valve station 18
Ordering accessories 26
Dimensions 28

 © Danfoss A/S (RC-MCP/MWA), 2014-10

Technical data

- *Refrigerants*
  Applicable to HCFC, non flammable HFC, R717 (Ammonia) and R744 (CO_2).
  The use of ICF valve stations with flammable hydrocarbons is not recommended.

  For further information please contact the local Danfoss sales company.
- *Temperature range*
  –60/+120°C (–76/+248°F).

  If the ICM module is going to be used in liquid refrigerant with a temperature above +75°C (+167°F), please contact Danfoss.
- Ambient temperature for ICF with ICAD:
  –30°C/+50°C (–22°F/122°F)
- *Surface protection*
  The external surface is zinc-TLP treated to provide corrosion protection according to EN ISO 2081:2009
  Additional on-site corrosion protection is recommended.
- *Pressure*
  The ICF is designed for:
  Max. working pressure: 52 bar g (754 psig)

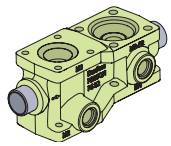
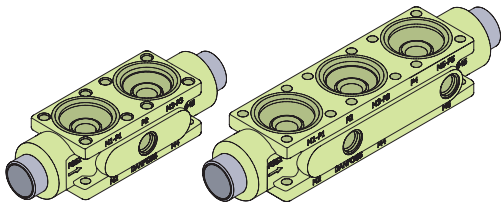
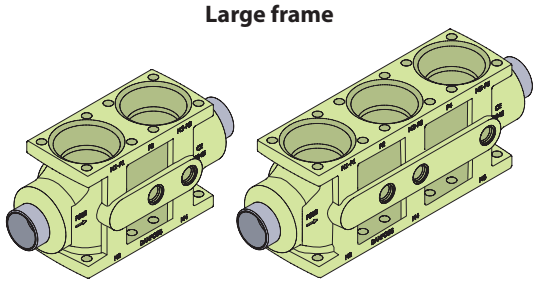
  Opening differential pressure:
  Please refer to the individual function module data.

Design

The main components of the ICF valve station are:

- A housing
- A maximum of four or six function modules
  (In all ICF 15 the 2 first modules (M1 and M2) are predefined as stop valve and filter module.)

Housing

Small frame	Medium frame		Large frame	
				
ICF 15-4	ICF 20-4	ICF 20-6	ICF 25-4	ICF 25-6

Function modules

Each housing accommodates a maximum of four or six function modules, of the following types (ICF 15 has 2 fixed modules and 2 free):

- Stop valve module
- Manual regulating valve module
- Filter module
- Solenoid valve module
- Electronic expansion valve module
- Manual opening module
- Check valve module
- Stop/check valve module
- Motor valve module
- External welding connection module
- Blank top cover

Optional:
The housings are supplied with a predefined number of side ports for the following options:

- Sight glass
- Temperature or pressure sensor
- Pressure gauge
- Side exit for drain or bypass.

The design allows maximum capacity and minimum pressure drop, using advanced technology and double seats – offering higher capacity than conventional systems using individual valves and components.

The ICF valve station is multifunctional.

ICF valve station offers compact dimensions and shortened installation time due to the reduced number of direct welded connections.

Supplied as a complete assembly, it is leak tested at high pressure and its functions are tested under factory controlled conditions.

Connections
There is a wide range of connection types and sizes available with ICF valve stations:

- D: Butt weld, DIN (EN 10220)
- A: Butt weld, ANSI (B 36.10)
- SOC: Socket weld, ANSI (B 16.11)
  15 to 40 mm (½ in. to 1½ in.)

Approvals
The ICF concept is designed to fulfil global refrigeration requirements.
For specific approval information, please contact Danfoss.

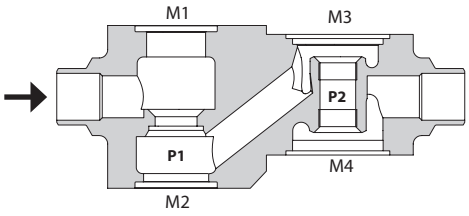
Housing and function module material
Low temperature steel

When using TIG/MIG/SMAW welding technology, it is possible to install the ICF valve station without prior removal of the function modules from the housing. If using other welding methods the modules must be removed during welding.

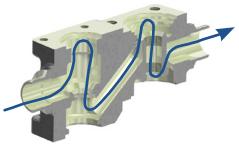
Please consult the product instruction for more details.

Side port arrangement

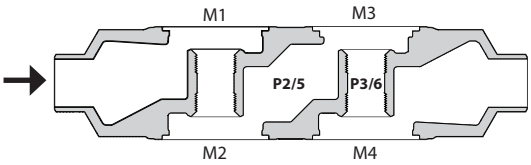
ICF 15-4



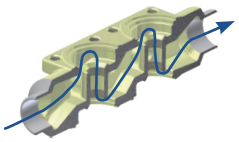
Flow in an ICF 15-4



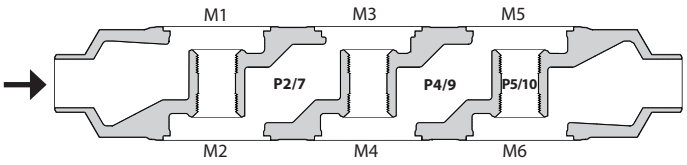
ICF 20-4, 25-4



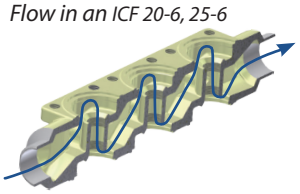
Flow in an ICF 20-4, 25-4



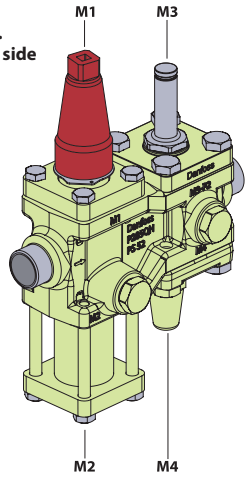
ICF 20-6, 25-6



Flow in an ICF 20-6, 25-6

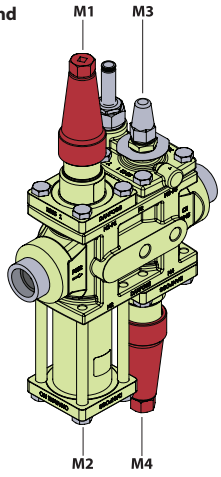


All ICF 15-4 DIN, ANSI and Socket connections. 2 side ports - right hand side in flow direction.



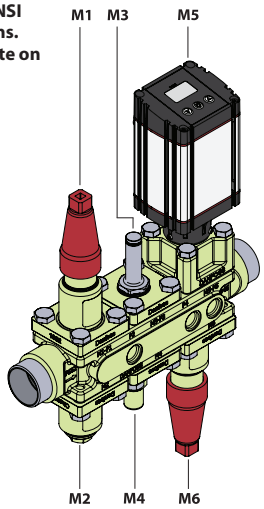
Example: ICF 15-4-8 DIN

All ICF 20/25-4 DIN, ANSI and Socket connections. 4 side ports - 2 opposite on each side.



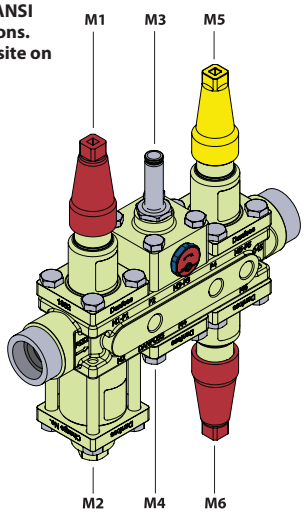
Example: ICF 25-4-9 SOC

All ICF 20/25-6 DIN, ANSI and Socket connections. 6 side ports - 3 opposite on each side



Example: ICF 20-6-5MB DIN

All ICF 20/25-6 DIN, ANSI and Socket connections. 6 side ports - 3 opposite on each side.



Example: ICF 20-6-2HRA SOC

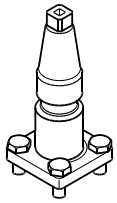
 © Danfoss A/S (RC-MCP/MWA), 2014-10

ICF 15 and 20

Description of the function modules for ICF 15 and 20
ICF 15 and ICF 20 have the same function modules except for the two fixed modules M1 (stop valve ICFS 15) and M2 (filter ICFF 15) in ICF 15.

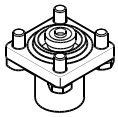
ICFS 15/20
Stop valve module
This module has the function of a stop valve, and has a red cap.

ICFR 20A
Manual regulating valve module
This module has the function of a hand regulating valve, and has a yellow cap.



ICFS 15/20 / ICFR 20A

ICFC 20
Check valve module
This module has the function of a check valve.

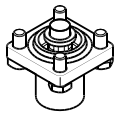


ICFC 20

ICFF 15/20 / ICFF 20E
Filter module
This module functions as a filter.

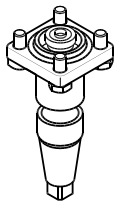
ICF 15, all connections:
Filter element 150µ (100 mesh)
60 cm^2 (9.3 in^2)
ICF 20, with DIN/ANSI connections:
Pleated 150µ (100 mesh) 45 cm^2 (7.0 in^2)

ICF 20 with SOC connections (ICFF 20E):
Pleated 250µ (72 mesh) / 160 cm^2 (24.8 in^2)



ICFF 15/20 / ICFF 20E

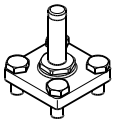
ICFN 20
Stop/check valve module
This module has the function of a combined stop and check valve, and has a red cap.



ICFN 20

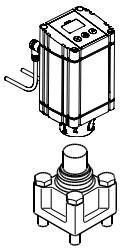
ICFE 20
Solenoid valve module
This module has the function of a normally closed solenoid valve for controlling the refrigerant flow.

ICFA 20
Electronic expansion valve module
This module has the function of an electronic pulse width modulating (PWM) expansion valve.



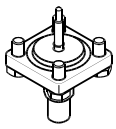
ICFE 20 / ICFA 20

ICM 20-A, B or C
Motor valve module
This module is a stepper motor actuator valve for on/off and modulating control of the refrigerant flow.



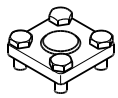
ICM 20-A, B or C

ICFO 20
Manual opening module
This module facilitates the manual opening of the solenoid valve (type ICFE).



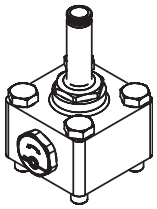
ICFO 20

ICFB 20
Blank top cover
This provides a blanking cover for unused module ports.



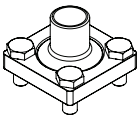
ICFB 20

ICFE 20H
Solenoid valve module with integrated manual opener
This module has the function of a normally closed solenoid valve for controlling the refrigerant flow.



ICFE 20H

ICFW 20
Welding module 20 DIN or ¾" SOC
This module is used for drain connection during hot-gas defrosting - in case of high capacity.



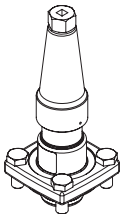
ICFW 20

Please note:
At about 10% of maximum mass flow of
ICFE 20H, the pressure differential correspond to about 0.07 Bar (1 psi). ICFE 20H will start to open at these conditions.
At a pressure differential of minimum 0.2 Bar (2.9 psi) ICFE 20H will be 100 % open.

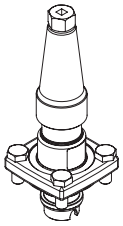
ICF 25

Description of the function modules for ICF 25

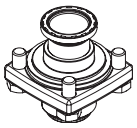
ICFS 25
Stop valve module
This module has the function of a stop valve, and has a red cap.


ICFS 25

ICFR 25, A or B
Manual regulating valve module
This module has the function of a hand regulating valve, and has a yellow cap.


ICFR 25

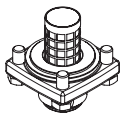
ICFC 25
Check valve module
This module has the function of a check valve.


ICFC 25

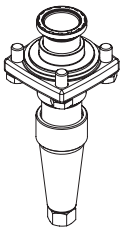
ICFF 25 / ICFF 25E
Filter module
This module functions as a filter.

Filter size:
ICF with DIN and ANSI (ICFF 25) connections: Pleated 150µ (100 mesh) / 160 cm^2 (24.8 in^2)

ICF with SOC connections (ICF 25E):
Pleated 250µ (72 mesh) / 330 cm^2 (51.2 in^2)

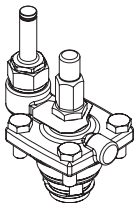

ICFF 25 / ICFF 25E

ICFN 25
Stop/check valve module
This module has the function of a combined stop and check valve, and has a red cap.

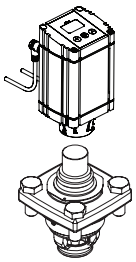

ICFN 25

ICFE 25
Solenoid valve module
This module has the function of a normally closed solenoid valve for controlling the refrigerant flow.

It has a built-in manual opening function.


ICFE 25

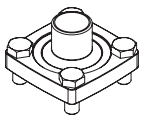
ICM 25-A or B
Motor valve module
This module is a stepper motor actuator valve for on/off and modulating control of the refrigerant flow.


ICM 25-A or B

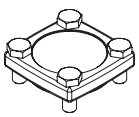
Please note:
At about 10% of maximum mass flow of ICFE 25, the pressure differential correspond to about 0.07 Bar (1 psi). ICFE 25 will start to open at these conditions.

At a pressure differential of minimum 0.2 Bar (2.9 psi) ICFE 25 will be 100 % open.

ICFW 25
Welding module, 25 DIN or 25 (1") SOC
This module is used for drain connection during hot-gas defrosting - in case of high capacity.


ICFW 25

ICFB 25
Blank top cover
This provides a blanking cover for unused module ports.

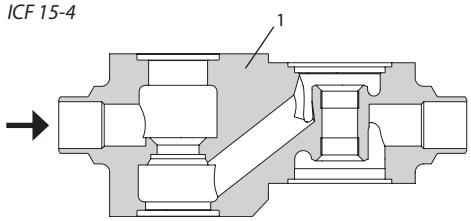

ICFB 25

 © Danfoss A/S (RC-MCP/MWA), 2014-10

Material specification

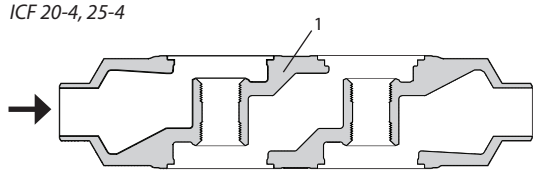
ICF housing

ICF 15-4

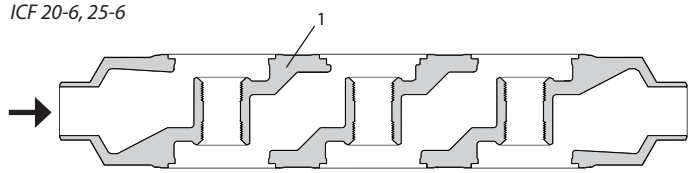


Pos.	Part	Material	EN	ASTM	JIS
1	Housing	Steel	P285QH, 10222-4	LF2, A350	

ICF 20-4, 25-4

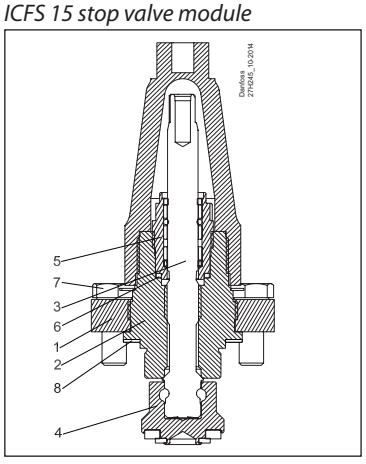


ICF 20-6, 25-6



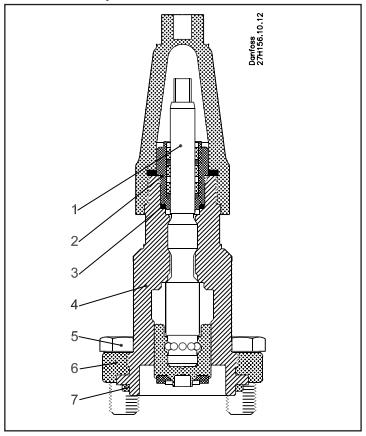
Pos.	Part	Material	EN	ASTM	JIS
1	Housing	Cast steel low temperature	G20MN5QT EN 10213-3	LCC, A352	SCPL1, G5151

ICFS 15 stop valve module



Pos.	Part	Material	EN	ASTM	JIS
1	Bonnet, Flange Steel	Steel	G20Mn5QT, 10213-3 P285QH+QT, 10222-4 P275NL, 10028-3	LCC, A352 LF2, A350	
2	Bonnet, Insert	Steel	11SMn30 10087	AISI 1213	Type 2 R 683/9
3	Spindle	Stainless steel	X8CrNiS18-9 10088	AISI 303	Type 17 683/13
4	Cone	Steel	11SMn30 10087	AISI 1213	Type 2 R 683/9
5	Packing gland	Stainless steel	X8CrNiS18-9 10088	AISI 303	Type 17 683/13
6	Packing washer	Aluminium			
7	Bolts	Stainless steel	A2-70	Type 308	A2-70
8	Gasket	Fiber, Non-asbestos			

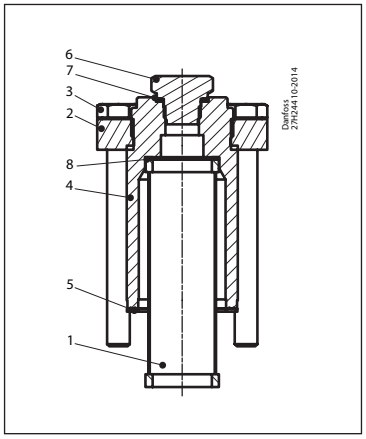
ICFS 20 stop valve module



Pos.	Part	Material	EN	ASTM	JIS
1	Spindle	Stainless steel	X8CrNiS 18-9 EN 10088		G4303 G4304
2	Thread part	Stainless steel	X8CrNiS 18-9 EN 10088		G4303 G4304
3	AL-gasket/ Refrig. gasket		AL99 alloy no. 1200 DIN 1712 BL.3	AL1200	
4	Bonnet	Steel	S235JRG2 EN 10025	A283	G3101
5	Hex-head bolt M10 × 25	Stainless steel	A2-70 EN 24017	A320	A2-70
6	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
7	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			

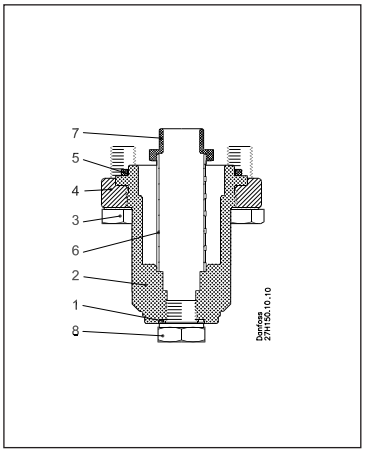
Material specification
(continued)

ICFF 15 filter module (Filter element 150µ (100 mesh) 60 cm² (9.3 in²)



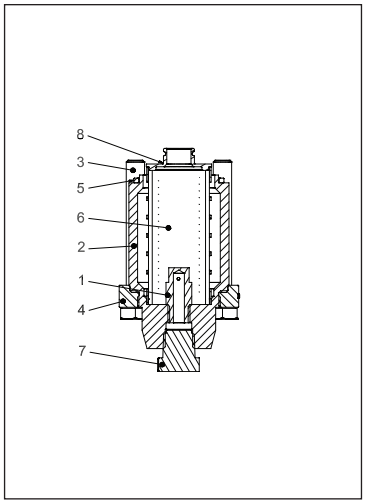
Pos.	Part	Material	EN	ASTM	JIS
1	Filter	Stainless steel			
2	Flange bonnet	Steel	G20Mn5QT, 10213-3 P285QH+QT, 10222-4 P275NL, 10028-3	LCC, A352 LF2, A350	
3	Bolt	Stainless steel	A2-70	Type 308	A2-70
4	ICFF 15 bonnet G1/4	Steel	11SMn30	AISI 1213	Type 2
5	Flat gasket	Fiber, Non-asbestos			
6	Plug $^{3}/_{8}$" NPT	Steel	11SMnPb30		
7	Gasket - metal joint	Aluminium			
8	Wave spring	Steel			

ICFF 20 filter module



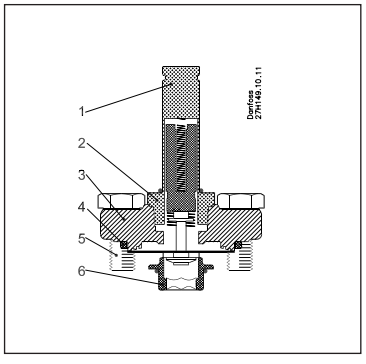
Pos.	Part	Material	EN	ASTM	JIS
1	Gasket	AL 99 F11			
2	Bonnet	Steel	S235JRG2 EN 10025	A283	G3101
3	Hex-head bolt M10 × 25	Stainless steel	A2-70 EN 24017	A320	A2-70
4	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
5	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
6	Filter element	Stainless steel 150µ	1.4301	A304	SUS304
7	Plug	Steel			
8	Plug $^{1}/_{4}$" RG for butt-weld $^{3}/_{8}$" NPT for socket weld	Stainless steel	A2-70 EN 24017	A320	A2-70

ICFF 20E extended filter module



Pos.	Part	Material	EN	ASTM	JIS
1	Dirt protection plug	Steel	11SMn30 EN 10087	Grade 1213 A29	G4804
2	Bonnet	Steel	11SMn30 EN 10087	Grade 1213 A29	G4804
3	Hex-head bolt M12x80	Stainless steel	A2-70 EN 1515-1	Grade B8 A320	A2-70 B1054
4	Flange	Steel	P285QH: EN 10222-4 G20Mn5QT; EN 10213-3	LF2 - A350 LCC - A352	SFL2 - G3205 SCPL1 - G5152
5	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
6	Filter element	Stainless steel 250µ	1.4301	A304	SUS304
7	Plug $^{3}/_{8}$" NPT	Stainless steel	A2-70 EN 1515-1	Grade B8 A320	A2-70 B1054
8	Filter adaptor	Steel	11SMn30 EN 10087	Grade 1213 A29	G4804

ICFE 20 solenoid valve module

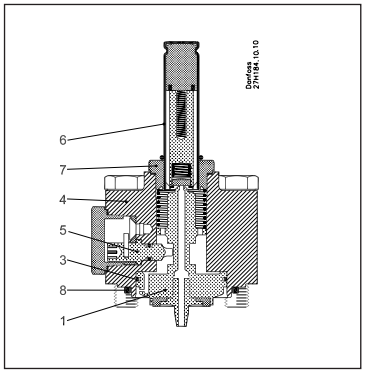


Pos.	Part	Material	EN	ASTM	JIS
1	Armature tube	Stainless steel	X2CrNi19-11 EN 10088		
2	Armature tube nut	Stainless steel	X8CrNiS18-9 EN 10088		
3	Flange	Cast Steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
4	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
5	Hex-Head bolt M10 × 25	Stainless steel	A2-70 EN 24017	A320	A2-70
6	Seat	High density polymer			

 © Danfoss A/S (RC-MCP/MWA), 2014-10

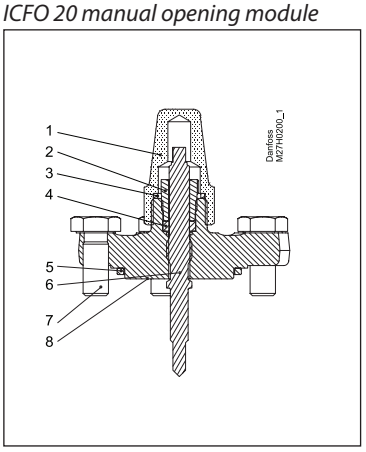
Material specification
(continued)

ICFE 20H solenoid valve module



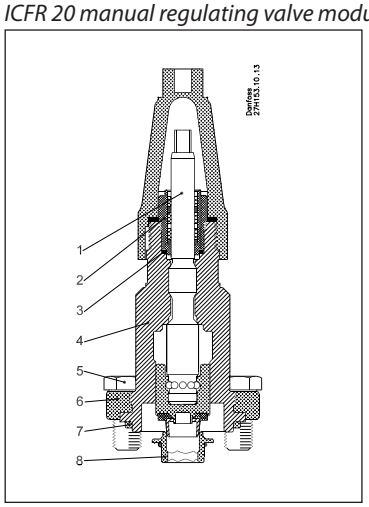
Pos.	Part	Material	EN	ASTM	JIS
1	Piston	Steel	11SMn30 EN EN 10025		
2	Seat	Teflon			
3	Piston ring				
4	Bonnet cylinder	Steel	P285QH EN 10222	A350	G3205
5	Manual opener	Steel			
6	Armature tube	Stainless steel	X2CrNi19-11 EN10028		
7	Armature tube nut	Stainless steel	X2CrNi19-11 EN10216	A320	A2-70
8	Gasket	Chloroprene (Neoprene)			

ICFO 20 manual opening module



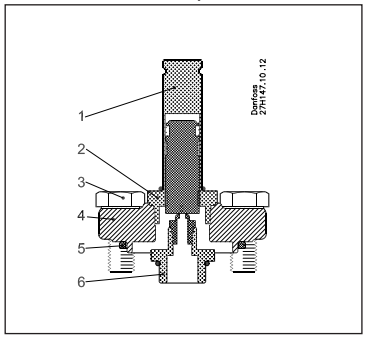
Pos.	Part	Material	EN	ASTM	JIS
1	Seal cap	Steel	DIN 1651- 9SMn28 TLP surface treatment	1213 (SAE)	SUM 22
2	Gland nut	Steel	DIN 1651 9SMn28 Zinc Chromate Surface treatment	1213 (SAE)	SUM 22
3	Seal cap gasket	Nylon	Polyamid A6	Polyamid PA6	Polyamid PA6
4	Sealing ring	Teflon	PTFE	PTFE	PTFE
5	Rubber gasket	Chloroprene rubber	CR	CR	CR
6	Spindle	Stainless steel	X8CrNiS 18-9 EN 10088	G4303 G4304	SUS 303
7	Hex-head bolt M10 × 25	Stainless steel	A2-70 EN 24017	A320	A2-70
8	Flange	Cast steel low temperature	EN10222-4 P285QH		

ICFR 20 manual regulating valve module



Pos.	Part	Material	EN	ASTM	JIS
1	Spindle	Stainless steel	X8CrNiS 18-9 EN 10088		G4303 G4304
2	Thread part	Stainless steel	X8CrNiS 18-9 EN 10088		G4303 G4304
3	AL-gasket		AL99 alloy no. 1200 DIN 1712 BL.3		
4	Bonnet	Steel	S235JRG2 EN 10025	A283	G3101
5	Hex-head bolt M10 × 25	Stainless steel	A2-70 EN 24017	A320	A2-70
6	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
7	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
8	Seat	High density polymer			

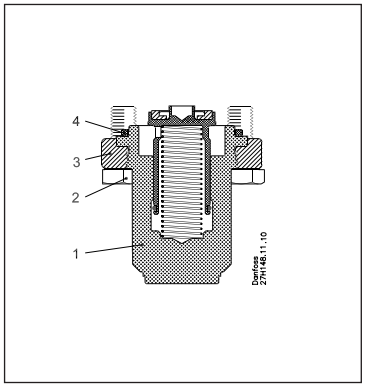
ICFA 20 electronic expansion valve module



Pos.	Part	Material	EN	ASTM	JIS
1	Armature tube	Stainless steel	X2CrNi19-11 EN 10088		
2	Armature tube nut	Stainless steel	X8CrNiS18-9 EN 10088		
3	Hex-head bolt M10 × 25	Stainless steel	A2-70 EN 24017	A320	A2-70
4	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
5	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
6	Adaptor	Steel			

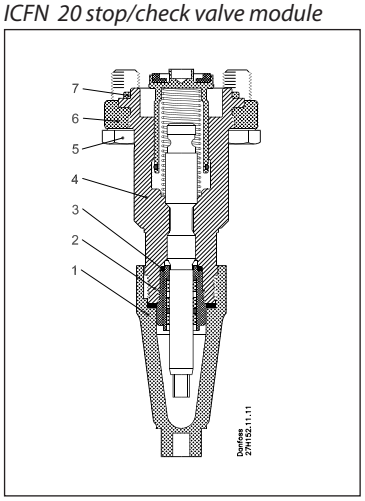
Material specification
(continued)

ICFC 20 check valve module



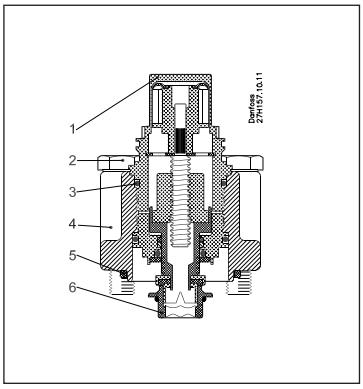
Pos.	Part	Material	EN	ASTM	JIS
1	Bonnet	Steel	S235JRG2	A283	G3101
2	Hex-head bolt M10 × 25	Stainless steel	A2-70 EN 24017	A320	A2-70
3	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	AG5152
4	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			

ICFN 20 stop/check valve module



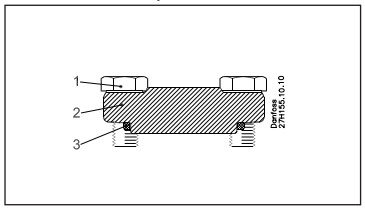
Pos.	Part	Material	EN	ASTM	JIS
1	Spindle	Stainless steel	X8CrNiS 18-9 EN 10088		G4303 G4304
2	Thread part	Stainless steel	X8CrNiS 18-9 EN 10088		G4303 G4304
3	AL-gasket		AL99 alloy no. 1200 DIN 1712 BL.3		
4	Bonnet	Steel	S235JRG2 EN 10025	A283	G3101
5	Hex-head bolt M10 × 25	Stainless steel	A2-70 EN 24017	A320	A2-70
6	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
7	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			

ICM 20-A, 20-B or 20-C motor valve module



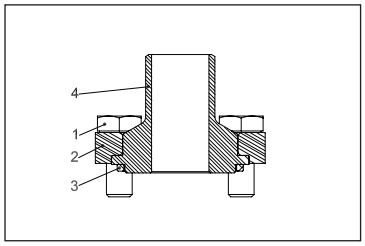
Pos.	Part	Material	EN	ASTM	JIS
1	Adapter	Stainless steel	X5CrNi18-10 EN 10088	A240	G4303 G4304
2	Hex-head bolt M10 × 50	Stainless steel	A2-70 EN 24014	A320	A2-70
3	O-ring	Chloroprene			
4	Bonnet	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
5	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
6	Seat	High density polymer			

ICFB 20 blank top cover



Pos.	Part	Material	EN	ASTM	JIS
1	Hex-head bolt M10 × 25	Stainless Steel	A2-70 EN 24017	A320	A2-70
2	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
3	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			

ICFW 20 welding module, 20 DIN or ¾" SOC

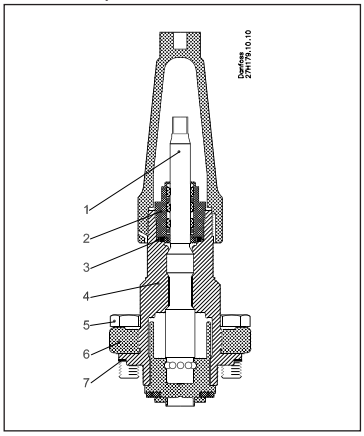


Pos.	Part	Material	EN	ASTM	JIS
1	Hex-head bolt M10 × 25	Stainless Steel	A2-70 EN 24017	A320	A2-70
2	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
3	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
4	Weld connection	Steel	S235JRG2 EN 10025	A283	G3101

 © Danfoss A/S (RC-MCP/MWA), 2014-10

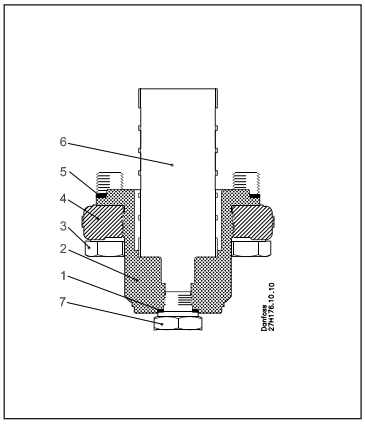
Material specification
(continued)

ICFS 25 stop valve module



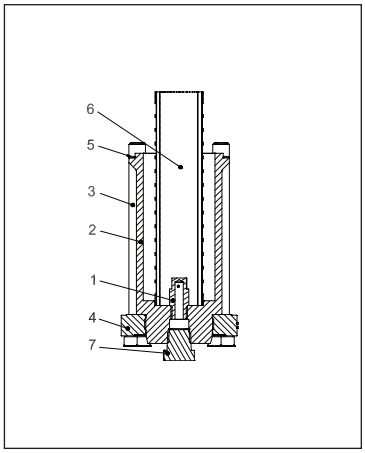
Pos.	Part	Material	EN	ASTM	JIS
1	Spindle	Stainless steel	X8CrNiS 18-9 EN 10088		G4303 G4304
2	Thread part	Stainless steel	X8CrNiS 18-9 EN 10088		G4303 G4304
3	O-ring	Chloroprene			
4	Bonnet	Steel	S235JRG2 EN 10025	A283	G3101
5	Hex-head bolt M12 × 30	Stainless steel	A2-70 EN 24017	A320	A2-70
6	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
7	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			

ICFF 25 filter module



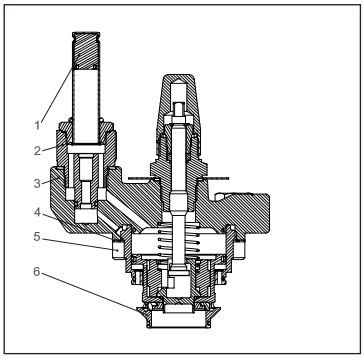
Pos.	Part	Material	EN	ASTM	JIS
1	Al. Gasket	AL 99 F11			
2	Bonnet	Steel	S235JRG2 EN 10025	A283	G3101
3	Hex-head bolt M12 × 30	Stainless steel	A2-70 EN 24017	A320	A2-70
4	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
5	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
6	Filter element	Stainless steel 150µ	1.4301	A304	SUS304
7	Plug $^{1}/_{4}$" RG for butt-weld $^{3}/_{8}$" NPT for socket weld	Stainless steel	A2-70 EN 24017	A320	A2-70

ICFF 25E extended filter module



Pos.	Part	Material	EN	ASTM	JIS
1	Dirt protection plug	Steel	11SMn30 EN 10087	Grade 1213 A29	G4804
2	Bonnet	Steel	11SMn30 EN 10087	Grade 1213 A29	G4804
3	Hex-head bolt M12x140	Stainless steel	A2-70 EN 1515-1	Grade B8 A320	A2-70 B1054
4	Flange	Steel	P285QH: EN 10222-4 G20Mn5QT; EN 10213-3	LF2 - A350 LCC - A352	SFL2 - G3205 SCPL1 - G5152
5	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
6	Filter element	Stainless steel 250µ	1.4301	A304	SUS304
7	Plug $^{3}/_{8}$" NPT	Stainless steel	A2-70 EN 1515-1	Grade B8 A320	A2-70 B1054

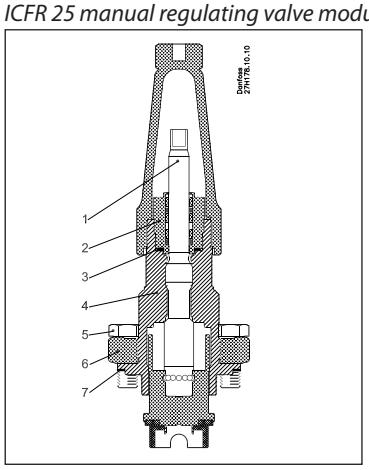
ICFE 25 solenoid valve module



Pos.	Part	Material	EN	ASTM	JIS
1	Armature tube	Stainless steel	X2CrNi19-11 EN 10088		
2	Armature tube nut	Stainless steel	X8CrNiS18-9 EN 10088		
3	Bonnet	Cast steel low temperature	G20Mn5QT EN10213-3	A352	G5152
4	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
5	Hex-Head bolt M10 × 25	Stainless steel	A2-70 EN 24017	A320	A2-70
6	Seat	High density polymer			

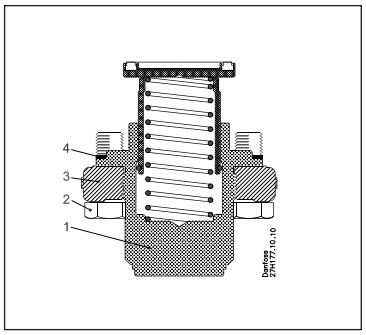
Material specification
(continued)

ICFR 25 manual regulating valve module, A or B



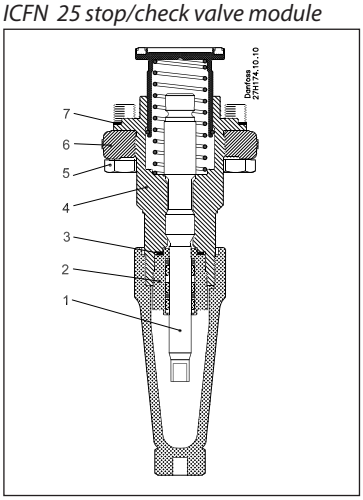
Pos.	Part	Material	EN	ASTM	JIS
1	Spindle	Stainless steel	X8CrNiS 18-9 EN 10088		G4303 G4304
2	Thread part	Stainless steel	X8CrNiS 18-9 EN 10088		G4303 G4304
3	O-ring	Chloroprene			
4	Bonnet	Steel	S235JRG2 EN 10025	A283	G3101
5	Hex-head bolt M12 × 30	Stainless steel	A2-70 EN 24017	A320	A2-70
6	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
7	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
8	Seat	High density polymer			

ICFC 25 check valve module



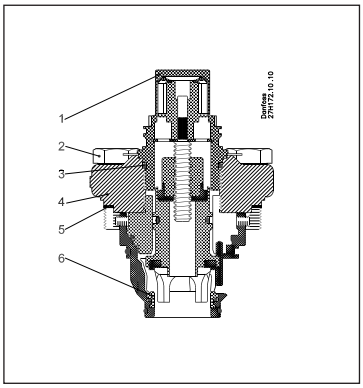
Pos.	Part	Material	EN	ASTM	JIS
1	Bonnet	Steel	S235JRG2	A283	G3101
2	Hex-head bolt M12 × 30	Stainless steel	A2-70 EN 24017	A320	A2-70
3	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	AG5152
4	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			

ICFN 25 stop/check valve module



Pos.	Part	Material	EN	ASTM	JIS
1	Spindle	Stainless steel	X8CrNiS 18-9 EN 10088		G4303 G4304
2	Thread part	Stainless steel	X8CrNiS 18-9 EN 10088		G4303 G4304
3	O-ring	Chloroprene			
4	Bonnet	Steel	S235JRG2 EN 10025	A283	G3101
5	Hex-head bolt M12 × 30	Stainless steel	A2-70 EN 24017	A320	A2-70
6	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
7	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			

ICM 25-A or B motor valve module

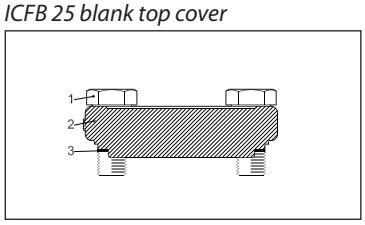


Pos.	Part	Material	EN	ASTM	JIS
1	Adapter	Stainless steel	X5CrNi18-10 EN 10088	A240	G4303 G4304
2	Hex-head bolt M12 × 30	Stainless steel	A2-70 EN 24014	A320	A2-70
3	O-ring	Chloroprene			
4	Bonnet	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
5	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
6	Seat	High density polymer			

 © Danfoss A/S (RC-MCP/MWA), 2014-10

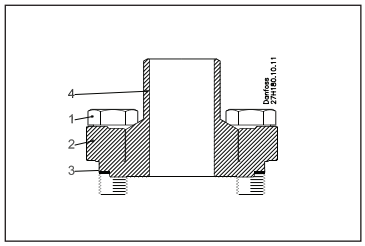
Material specification
(continued)

ICFB 25 blank top cover



Pos.	Part	Material	EN	ASTM	JIS
1	Hex-head bolt M10 × 25	Stainless Steel	A2-70 EN 24017	A320	A2-70
2	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
3	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			

ICFW 25 welding module, 25 DIN or 25 (1") SOC



Pos.	Part	Material	EN	ASTM	JIS
1	Hex-head bolt M10 × 25	Stainless Steel	A2-70 EN 24017	A320	A2-70
2	Flange	Cast steel low temperature	G20Mn5QT EN 10213-3	A352	G5152
3	Gasket	Chloroprene (Neoprene)/ Fiber non asbestos			
4	Weld connection	Steel	S235JRG2 EN 10025	A283	G3101

Code number selection

To determine the correct ICF valve station follow steps 1 through 5.

Step 1 **Determine application and function requirements:**
- Line: Pumped liquid, Liquid Injection, Hot gas defrost, Liquid DX etc.
- Control: On/off solenoid valve, motorised valve
- Defrost: Electric or hot gas

From the above determine the application reference number (see pages 20 and 21):

Step 2 **Selection criteria - (Please use ICF calculation software)**
Download the software from:
http://www.danfoss.com/BusinessAreas/RefrigerationAndAirConditioning/IR+Software+Overview/IRSoftware.htm
- Refrigerant
- Capacity
- Temperature
- Circulation rate

From the above determine the valve station required, e.g.: ICF 20 complete with ICM 20-C

Step 3 **Establish connection sizes and type**
- DIN butt-weld, ANSI butt-weld or SOC weld
- 15 (½"), 20 (¾ in.), 25 (1 in.), 32 (1 ¼ in.) or 40 (1 ½ in.)

Step 4 **Establish code number**
(see pages 21 to 27)

Applications

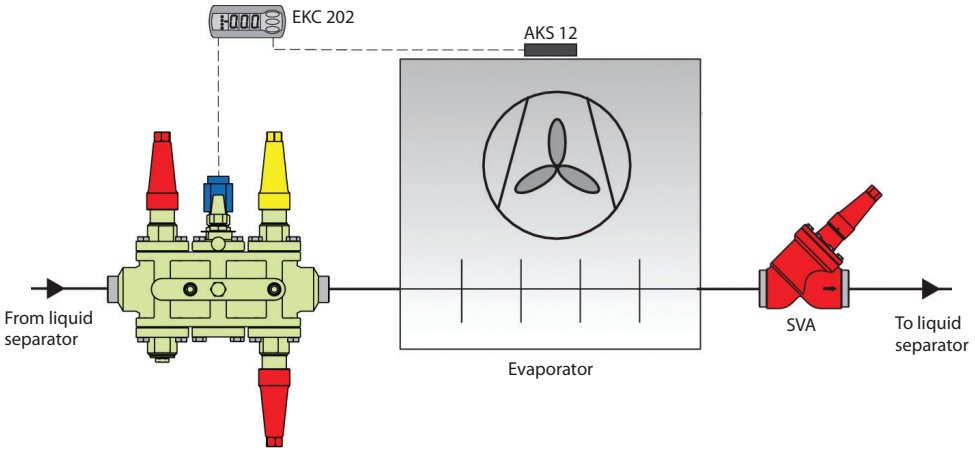
To facilitate selection of the right ICF valve station Danfoss has predefined and grouped a large number of code numbers matching common applications:

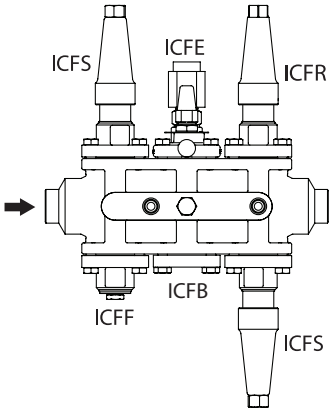
Application #		Sequence of functions					
Liquid feed							
1	Liquid feed (No hotgas defrost)	Stop	Filter	Solenoid	Man Open	Regul.	Stop
2	Liquid feed	Stop	Filter	Solenoid	Man Open	Regul.	Stop/Check
3	Liquid feed	Stop	Filter	Solenoid	Check	Regul.	Stop
10	Liquid feed (No hotgas defrost)	Stop	Filter	Solenoid	Regul.		
15	Liquid feed w. external Conn.	Stop	Filter	Solenoid	Check	Welding	Regul.
Solenoid common							
4	Solenoid - Liquid & Hot gas lines	Stop	Filter	Solenoid	Man Open	Stop	
8	Solenoid - Liquid & Hot gas lines	Stop	Filter	Solenoid	Man Open		
Liquid injection							
5	Liquid injection (expansion)	Stop	Filter	Solenoid	Man Open	Motor	Stop
12	Liquid injection (expansion) PWM	Stop	Filter	El. Exp.	Stop		
14	Liquid injection (expansion)	Stop	Filter	Motor	Stop		
Hot gas defrost							
9	Hot gas defrost	Stop	Filter	Solenoid	Stop		
Solenoid multiple evaporators							
11	Solenoid - Multiple evaporators	Stop	Filter	Solenoid	Check		
18	Solenoid - Multiple evaporators	Stop	Filter	Solenoid	Stop/Check		
Liquid PWM							
13	Liquid injection & liquid feed PWM	Stop	Filter	El. Exp.	Stop/Check		
Miscellaneous							
90	Multipurpose configurations						

For specific identification of the different codes and flow capacity (K_v) please refer to ordering section.

Example of application: Liquid feed line

A valve combination for a flooded evaporator operating on/off from a thermostat and with electric defrost is required. Manual override of the solenoid valve is requested.
Common ICF configurations for this kind of application is shown here:



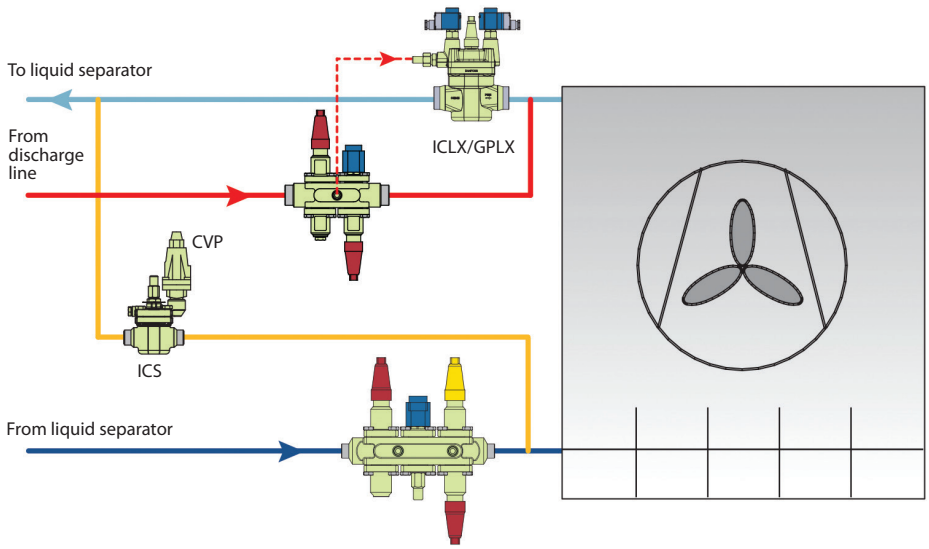


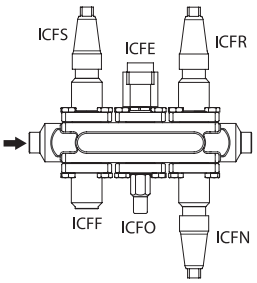
Not all valves are shown. Not to be used for construction purposes.

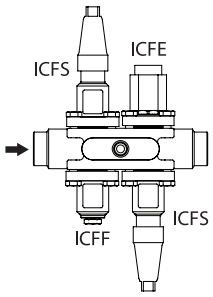
 © Danfoss A/S (RC-MCP/MWA), 2014-10

Example of application:
Liquid feed line/
Hot gas defrost line

Evaporator with soft opening gas powered valve ICLX in the suction line and hot gas defrost featuring:
ICF liquid feed station and ICF Hot gas station with side port to power ICLX.
ICS+CVP as a defrost regulator
(OFV optional depending on capacity).



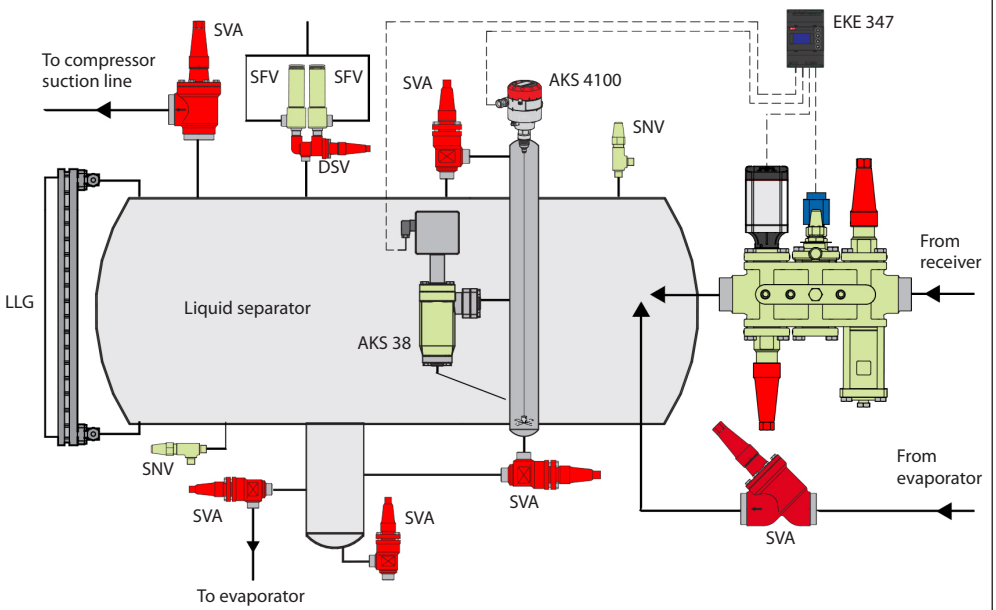


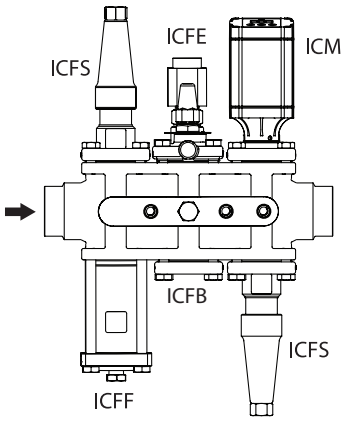


Not all valves are shown. Not to be used for construction purposes.

Example of application:
Liquid injection line

A valve combination for liquid injection to separator with electronic injection valve is required. It is requested to have a solenoid valve in front of the control valve.

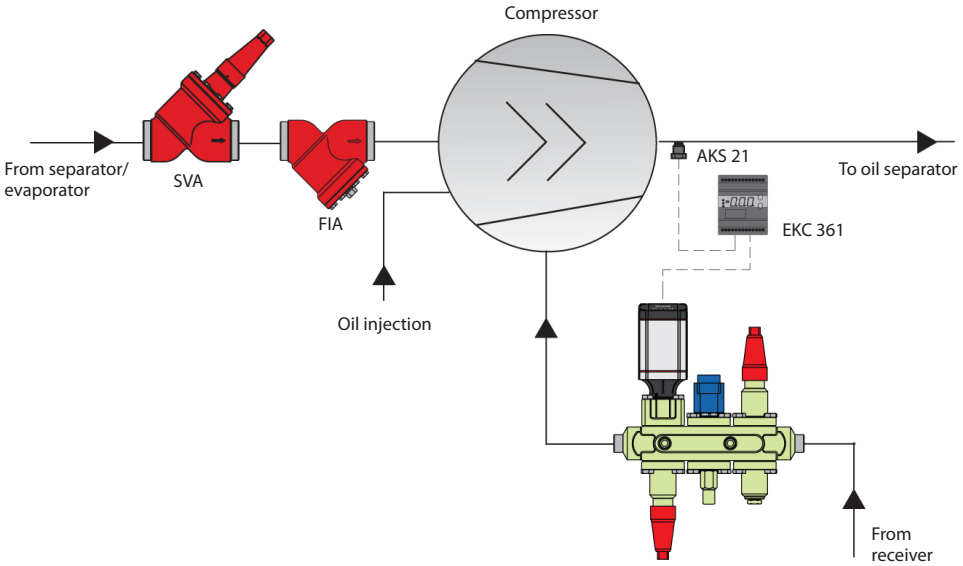


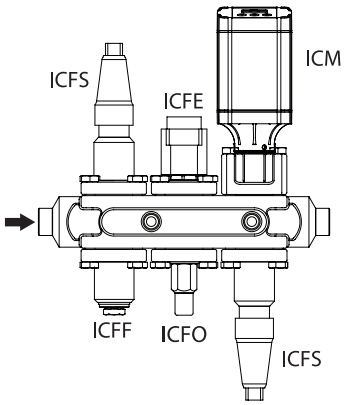


Not all valves are shown. Not to be used for construction purposes.

Example of application:
Liquid injection line

A valve combination for compressor liquid injection with electronic injection valve is required. It is a required to have a solenoid valve in front of the control valve.



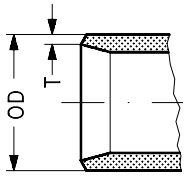


Not all valves are shown. Not to be used for construction purposes.

 © Danfoss A/S (RC-MCP/MWA), 2014-10

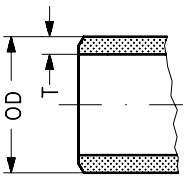
Connections

D: *Butt-weld DIN (EN 10220)*



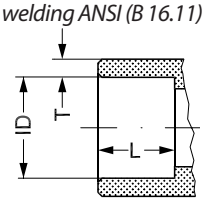
Size mm	Size in.	OD mm	T mm	OD in.	T in.		
15	½	21.3	1.3	0.839	0.052		
20	(¾)	26.9	2.3	1.059	0.091		
25	(1)	33.7	2.6	1.327	0.103		
32	(1¼)	42.4	2.6	1.669	0.102		
40	(1½)	48.3	2.6	1.902	0.103		

A: *Butt-weld ANSI (B 36.10)*



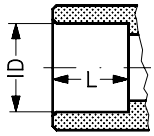
Size mm	Size in.	OD mm	T mm	OD in.	T in.	Schedule	
(15)	½	21.3	2.7	0.839	0.105	80	
(20)	¾	26.9	4.0	1.059	0.158	80	
(25)	1	33.7	4.6	1.327	0.181	80	
(32)	1¼	42.4	4.9	1.669	0.193	80	
(40)	1½	48.3	5.1	1.902	0.201	80	

SOC: *Socket welding ANSI (B 16.11)*



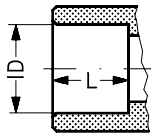
Size mm	Size in.	ID mm	T mm	ID in.	T in.	L mm	L in.
(15)	½	21.9	5.9	0.862	0.232	10.25	0.40
(20)	¾	27.2	4.6	1.071	0.181	13	0.51
(25)	1	33.9	7.2	1.335	0.284	13	0.51
(32)	1¼	42.7	6.1	1.743	0.240	13	0.51
(40)	1½	48.8	6.6	1.921	0.260	13	0.51

SD: *Soldering (DIN 2856)*



Size mm	Size in.	ID mm		ID in.		L mm	L in.
22		22.08				16.5	

SA: Soldering (ANSI B 16.22)

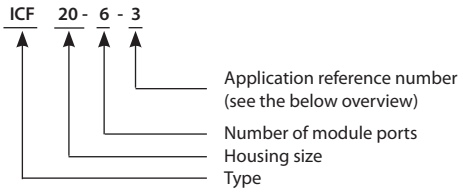


Size mm	Size in.	ID mm		ID in.		L mm	L in.
	⅞			0.875			0.650

Ordering ICF valve station

Below Nomenclature show the generic configuration and application by identification of housing size, type and application group.

This designation is often used for discussion on possible solutions and will be the final identification on the valve label (see label example)



For ordering, connection size and type must be chosen to get the final identification. **The final identification is done by code number only** (see next pages)

Label example:

Application overview (generic configuration - connection type and size excluded)

Application #		Sequence of functions					
Liquid feed							
1	Liquid feed (No hotgas defrost)	Stop	Filter	Solenoid	Man Open	Regul.	Stop
2	Liquid feed	Stop	Filter	Solenoid	Man Open	Regul.	Stop/Check
3	Liquid feed	Stop	Filter	Solenoid	Check	Regul.	Stop
10	Liquid feed (No hotgas defrost)	Stop	Filter	Solenoid	Regul.		
15	Liquid feed with external connection	Stop	Filter	Solenoid	Check	Welding	Regul.
Solenoid common							
4	Solenoid - Liquid & Hot gas lines	Stop	Filter	Solenoid	Man Open	Stop	
8	Solenoid - Liquid & Hot gas lines	Stop	Filter	Solenoid	Man Open		
Liquid injection							
5	Liquid injection (expansion)	Stop	Filter	Solenoid	Man Open	Motor	Stop
12	Liquid injection (expansion) PWM	Stop	Filter	El. Exp.	Stop		
14	Liquid injection (expansion)	Stop	Filter	Motor	Stop		
Hot gas defrost							
9	Hot gas defrost	Stop	Filter	Solenoid	Stop		
Solenoid multiple evaporators							
11	Solenoid - Multiple evaporators	Stop	Filter	Solenoid	Check		
18	Solenoid - Multiple evaporators	Stop	Filter	Solenoid	Stop/Check		
Liquid PWM							
13	Liquid injection & liquid feed PWM	Stop	Filter	El. Exp.	Stop/Check		
Miscellaneous							
90	Multipurpose configurations						

 © Danfoss A/S (RC-MCP/MWA), 2014-10

Liquid feed

Application 1: Liquid feed (no hot gas defrost)

Type	# of modules	Appl. #	Connection size		Connection type		Module location						K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4	M5	M6		kg	lbs	
ICF 20	6	1RA	3/4	20	Butt-weld ANSI (B 36.10)	A	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	2.1	9.5	20.9	027L3004
ICF 20	6	1RA	1	25	Butt-weld ANSI (B 36.10)	A	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	2.1	10.1	22.2	027L3373
ICF 25	6	1RB	1 1/4	32	Butt-weld ANSI (B 36.10)	A	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25B	ICFS 25	7.3	23.8	52.4	027L4012
ICF 20	6	1RA	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	2.1	9.5	20.9	027L3000
ICF 20	6	1RA	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	2.1	9.7	21.3	027L3002
ICF 20	6	1HRB	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICFR 20B	ICFS 20	2.8	10.3	22.7	027L3406
ICF 25	6	1RA	1	25	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25A	ICFS 25	5.3	23.6	51.9	027L4002
ICF 20	6	1RA	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	2.1	9.7	21.3	027L3003
ICF 20	6	1HRB	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICFR 20B	ICFS 20	2.8	10.3	22.7	027L3407
ICF 25	6	1RA	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25A	ICFS 25	5.3	23.6	51.9	027L4006
ICF 25	6	1RB	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25B	ICFS 25	7.3	23.6	51.9	027L4011
ICF 25	6	1RB	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25B	ICFS 25	7.3	22.7	49.9	027L4016
ICF 20	6	1RA	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	2.1	10.4	22.9	027L3005
ICF 20	6	1RA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	2.1	9.9	21.8	027L3007
ICF 20	6	1HRB	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICFR 20B	ICFS 20	2.8	10.9	24.0	027L3408
ICF 25	6	1RA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICFR 25A	ICFS 25	5.3	24.1	53.0	027L4003
ICF 20	6	1RA	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	2.1	10.1	22.2	027L3008
ICF 20	6	1HRB	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICFR 20B	ICFS 20	2.8	10.9	24.0	027L3409
ICF 25	6	1RA	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICFR 25A	ICFS 25	5.3	23.8	52.4	027L4008
ICF 25	6	1RB	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICFR 25B	ICFS 25	7.3	24.2	53.2	027L4013
ICF 25	6	1RB	1 1/2	40	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICFR 25B	ICFS 25	7.3	23.8	52.4	027L4017

Application 2: Liquid feed

Type	# of Modules	Appl. #	Connection size		Connection type		Module location						K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4	M5	M6		kg	lbs	
ICF 20	6	2RA	3/4	20	Butt-weld ANSI (B 36.10)	A	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	2.1	9.8	21.6	027L3013
ICF 20	6	2RA	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	2.1	9.7	21.3	027L3009
ICF 20	6	2RA	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	2.1	9.7	21.3	027L3011
ICF 20	6	2HRB	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICFR 20B	ICFN 20	2.6	9.2	20.2	027L3410
ICF 20	6	2RA	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	2.1	9.7	21.3	027L3012
ICF 20	6	2HRB	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICFR 20B	ICFN 20	2.6	9.2	20.2	027L3411
ICF 25	6	2RA	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25A	ICFN 25	5.3	23.3	51.3	027L4135
ICF 20	6	2RA	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	2.1	10.1	22.2	027L3014
ICF 20	6	2RA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	2.1	9.9	21.8	027L3016
ICF 20	6	2HRB	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICFR 20B	ICFN 20	2.6	8.8	19.4	027L3412
ICF 20	6	2RA	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	2.1	9.9	21.8	027L3017
ICF 20	6	2HRB	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICFR 20B	ICFN 20	2.6	10.9	24.0	027L3413

ICAD and coils are not included and must be ordered separately.

***Please Note**:*

When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body. ICAD and coils are not included and must be ordered separately.

Liquid feed

Application 3: Liquid feed

Type	# of Modules	Appl. #	Connection size		Connection type		Module location						K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4	M5	M6		kg	lbs	
ICF 20	6	3RA	3/4	20	Butt-weld ANSI (B 36.10)	A	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	2.1	9.9	21.8	027L3022
ICF 20	6	3RA	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	2.1	9.6	21.1	027L3018
ICF 20	6	3RA	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	2.1	9.7	21.3	027L3020
ICF 20	6	3HRB	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20B	ICFS 20	2.6	10.6	23.3	027L3414
ICF 25	6	3RA	1	25	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25A	ICFS 25	5.3	23.4	51.5	027L4020
ICF 20	6	3RA	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	2.1	10.4	22.9	027L3021
ICF 20	6	3HRB	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20B	ICFS 20	2.6	10.6	23.3	027L3415
ICF 25	6	3RA	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25A	ICFS 25	5.3	23.2	51.0	027L4024
ICF 25	6	3RB	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFS 25	7.2	23.8	52.4	027L4029
ICF 25	6	3RB	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFS 25	7.2	24.0	52.8	027L4034
ICF 20	6	3RA	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	2.1	10.0	22.0	027L3023
ICF 20	6	3HRB	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFR 20B	ICFS 20	2.6	10.7	23.5	027L3418
ICF 20	6	3RA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	2.1	10.0	22.0	027L3025
ICF 20	6	3HRB	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFR 20B	ICFS 20	2.6	11.2	24.6	027L3416
ICF 25	6	3RA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25A	ICFS 25	5.3	24.2	53.2	027L4021
ICF 20	6	3RA	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	2.1	10.1	22.2	027L3026
ICF 20	6	3HRB	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFR 20B	ICFS 20	2.6	11.3	24.9	027L3417
ICF 25	6	3RA	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25A	ICFS 25	5.3	24.1	53.0	027L4026
ICF 25	6	3RB	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25B	ICFS 25	7.2	24.1	53.0	027L4031
ICF 25	6	3RB	1 1/2	40	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25B	ICFS 25	7.2	24.2	53.2	027L4035

Application 10: Liquid feed (no hot gas defrost)

Type	# of Modules	Appl. #	Connection size		Connection type		Module location					K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4			kg	lbs	
ICF 20	4	10RA	3/4	20	Butt-weld ANSI (B 36.10)	A	ICFS 20	ICFF 20	ICFE 20	ICFR 20A		2.3	6.6	14.5	027L3077
ICF 25	4	10RA	1 1/4	32	Butt-weld ANSI (B 36.10)	A	ICFS 25	ICFF 25	ICFE 25	ICFR 25A		5.5	16.1	35.4	027L4081
ICF 20	4	10RA	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFR 20A		2.3	6.7	14.7	027L3073
ICF 20	4	10HRB	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFR 20B		3.0	7.9	17.4	027L3383
ICF 15	4	10HRB	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 15*	ICFF 15*	ICFE 20H	ICFR 20B		3.1	7.0	15.4	027L4524
ICF 20	4	10RA	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFR 20A		2.3	7.2	15.8	027L3075
ICF 20	4	10HRB	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFR 20B		3.0	7.9	17.4	027L3400
ICF 25	4	10RA	1	25	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFR 25A		5.5	15.9	35.0	027L4076
ICF 25	4	10RB	1	25	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFR 25B		7.9	15.9	35.0	027L4169
ICF 20	4	10RA	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFR 20A		2.3	6.7	14.7	027L3076
ICF 20	4	10HRB	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFR 20B		3.0	7.9	17.4	027L3401
ICF 25	4	10RA	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFR 25A		5.5	15.8	34.8	027L4080
ICF 25	4	10RB	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFR 25B		7.9	15.4	33.9	027L4085
ICF 25	4	10RB	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFR 25B		7.9	15.8	34.8	027L4090
ICF 15	4	10HRB	1/2	15	Socket weld, ANSI (B 16.11)	S	ICFS 15*	ICFF 15*	ICFE 20H	ICFR 20B		3.1	7.0	15.4	027L4530
ICF 20	4	10RA	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFR 20A		2.3	7.0	15.4	027L3078
ICF 20	4	10HRB	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFR 20B		3.0	8.4	18.5	027L3404
ICF 20	4	10RA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFR 20A		2.3	6.9	15.2	027L3080
ICF 20	4	10HRB	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFR 20B		3.0	7.8	17.2	027L3402
ICF 25	4	10RA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFR 25A		5.5	15.8	34.8	027L4077
ICF 20	4	10RA	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFR 20A		2.3	7.0	15.4	027L3081
ICF 20	4	10HRB	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFR 20B		3.0	8.1	17.8	027L3403
ICF 25	4	10RA	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFR 25A		5.5	12.7	27.9	027L4082
ICF 25	4	10RB	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFR 25B		7.9	16.2	35.6	027L4087
ICF 25	4	10RB	1 1/2	40	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFR 25B		7.9	16.2	35.6	027L4091

** Fixed module*
ICAD and coils are not included and must be ordered separately.
***Please Note**:*
When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body. ICAD and coils are not included and must be ordered separately.

 © Danfoss A/S (RC-MCP/MWA), 2014-10

Liquid feed

Application 15: Liquid feed with external connection

Type	# of Modules	Appl. #	Connection size		Connection type		Module location						K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4	M5	M6		kg	lbs	
ICF 20	6	15RA	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFW 20D	ICFR 20A	2.1	9.1	20.0	027L3157
ICF 25	6	15RA	1	25	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFW 25D	ICFR 25A	5.3	21.8	48.0	027L4121
ICF 25	6	15RB	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFW 25D	ICFR 25B	7.3	22.7	49.9	027L4126
ICF 25	6	15RB	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFW 25D	ICFR 25B	7.3	21.9	48.2	027L4130
ICF 25	6	15RA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFW 25S	ICFR 25A	5.3	23.5	51.7	027L4122
ICF 25	6	15RB	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFW 25D	ICFR 25B	7.3	23.6	51.9	027L4127
ICF 25	6	15RB	1 1/2	40	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFW 25S	ICFR 25B	7.3	23.7	52.1	027L4131

Solenoid common

Application 4: Solenoid - Liquid & hot gas lines

Type	# of Modules	Appl. #	Connection size		Connection type		Module location						K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4	M5	M6		kg	lbs	
ICF 20	6	4	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFB 20	ICFS 20	3.0	9.2	20.2	027L3028
ICF 20	6	4	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFB 20	ICFS 20	3.0	9.2	20.2	027L3029
ICF 20	6	4	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFB 20	ICFS 20	3.0	9.4	20.7	027L3124
ICF 20	6	4	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFB 20	ICFS 20	3.0	9.3	20.5	027L3032
ICF 20	6	4	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFB 20	ICFS 20	3.0	9.5	20.9	027L3033

Application 8: Solenoid - Liquid & hot gas lines

Type	# of Modules	Appl. #	Connection size		Connection type		Module location						K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4	M5	M6		kg	lbs	
ICF 15	4	8	1/2	15	Butt-weld ANSI (B 36.10)	A	ICFS 15*	ICFF 15*	ICFE 20	ICFO 20			3.2	5.7	12.6	027L4533
ICF 15	4	8	3/4	20	Butt-weld ANSI (B 36.10)	A	ICFS 15*	ICFF 15*	ICFE 20	ICFO 20			3.2	5.7	12.6	027L4535
ICF 20	4	8	3/4	20	Butt-weld ANSI (B 36.10)	A	ICFS 20	ICFF 20	ICFE 20	ICFO 20			3.2	6.3	13.9	027L3062
ICF 15	4	8	1/2	15	Butt-weld DIN-EN 10220	D	ICFS 15*	ICFF 15*	ICFE 20	ICFO 20			3.2	5.7	12.6	027L4532
ICF 15	4	8	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 15*	ICFF 15*	ICFE 20	ICFO 20			3.2	5.7	12.6	027L4520
ICF 20	4	8	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20			3.2	7.2	15.8	027L3060
ICF 25	4	8	1	25	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFB 25			9.9	12.4	27.3	027L4054
ICF 20	4	8	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20			3.2	6.3	13.9	027L3061
ICF 25	4	8	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFB 25			9.9	14.5	31.9	027L4133
ICF 25	4	8	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFB 25			9.9	14.5	31.9	027L4059
ICF 15	4	8	1/2	15	Pipe thread (ANSI B 1.20.1)	F	ICFS 15*	ICFF 15*	ICFE 20	ICFO 20			3.2	5.7	12.6	027L4534
ICF 15	4	8	1/2	15	Socket weld, ANSI (B 16.11)	S	ICFS 15*	ICFF 15*	ICFE 20	ICFO 20			3.2	5.7	12.6	027L4526
ICF 20	4	8	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20			3.2	6.6	14.5	027L3366
ICF 20	4	8	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20			3.2	6.7	14.7	027L3064
ICF 20	4	8	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20			3.2	6.7	14.7	027L3065
ICF 15	4	8	1 1/4	22	Solder ANSI B 16.22	X	ICFS 15*	ICFF 15*	ICFE 20	ICFO 20			3.2	5.7	12.6	027L4536
ICF 15	4	8	7/8	22	Solder DIN-EN1254-1	Y	ICFS 15*	ICFF 15*	ICFE 20	ICFO 20			3.2	5.7	12.6	027L4537

** Fixed module*
ICAD and coils are not included and must be ordered separately.
***Please Note**:*
When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body. ICAD and coils are not included and must be ordered separately.

Liquid injection

Application 5: Liquid injection (expansion)

Type	# of modules	Appl. #	Connection size		Connection type		Module location						K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4	M5	M6		kg	lbs	
ICF 20	6	5MA	3/4	20	Butt-weld ANSI (B 36.10)	A	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	0.6	9.6	21.1	027L3037
ICF 20	6	5MB	3/4	20	Butt-weld ANSI (B 36.10)	A	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	1.9	9.9	21.8	027L3043
ICF 25	6	5MA	1 1/4	32	Butt-weld ANSI (B 36.10)	A	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	5.0	23.0	50.6	027L4043
ICF 20	6	5MA33	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A33	ICFS 20	0.2	10.1	22.2	027L3367
ICF 20	6	5MA33	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20-74	ICFE 20	ICFO 20	ICM 20-A33	ICFS 20	0.2	9.8	21.6	027L3151
ICF 20	6	5MA	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	0.6	9.8	21.6	027L3034
ICF 20	6	5MA	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20-74	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	0.6	9.8	21.6	027L3147
ICF 20	6	5MB66	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B66	ICFS 20	1.4	9.6	21.1	027L3161
ICF 20	6	5MA33	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20-74	ICFE 20	ICFO 20	ICM 20-A33	ICFS 20	0.2	9.6	21.1	027L3153
ICF 20	6	5MA	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	0.6	9.8	21.6	027L3036
ICF 20	6	5HMA	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICM 20-A	ICFS 20	0.6	10.4	22.9	027L3322
ICF 20	6	5MA	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20-74	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	0.6	9.8	21.6	027L3148
ICF 20	6	5MB	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	1.9	9.6	21.1	027L3042
ICF 20	6	5MB	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20-74	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	1.9	9.8	21.6	027L3149
ICF 20	6	5HMB	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICM 20-B	ICFS 20	2.0	11.4	25.1	027L3325
ICF 20	6	5MC	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-C	ICFS 20	2.5	9.9	21.8	027L3047
ICF 20	6	5HMC	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICM 20-C	ICFS 20	3.0	11.4	25.1	027L3328
ICF 25	6	5MA	1	25	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	5.0	22.8	50.2	027L4038
ICF 20	6	5MB66	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B66	ICFS 20	1.4	9.6	21.1	027L3374
ICF 20	6	5MC	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-C	ICFS 20	2.5	9.8	21.6	027L3048
ICF 20	6	5HMC	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICM 20-C	ICFS 20	3.0	10.3	22.7	027L3329
ICF 25	6	5MA	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	5.0	23.0	50.6	027L4042
ICF 25	6	5MB	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-B	ICFS 25	7.3	22.0	48.4	027L4047
ICF 25	6	5MA	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	5.0	21.9	48.2	027L4148
ICF 25	6	5MB	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-B	ICFS 25	7.3	22.2	48.8	027L4052
ICF 20	6	5MA33	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-A33	ICFS 20	0.2	10.1	22.2	027L3154
ICF 20	6	5MA	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	0.6	10.0	22.0	027L3038
ICF 20	6	5MB66	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-B66	ICFS 20	1.4	10.5	23.1	027L3159
ICF 20	6	5MB	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	1.9	9.8	21.6	027L3127
ICF 20	6	5MA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	0.6	10.1	22.2	027L3040
ICF 20	6	5HMA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICM 20-A	ICFS 20	0.6	11.4	25.1	027L3323
ICF 20	6	5MB66	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-B66	ICFS 20	1.4	10.5	23.1	027L3160
ICF 20	6	5MB	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	1.9	10.0	22.0	027L3045
ICF 20	6	5HMB	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICM 20-B	ICFS 20	2.0	11.0	24.2	027L3326
ICF 20	6	5MC	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-C	ICFS 20	2.5	10.0	22.0	027L3051
ICF 20	6	5HMC	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICM 20-C	ICFS 20	3.0	10.0	22.0	027L3330
ICF 25	6	5MA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	5.0	23.1	50.8	027L4039
ICF 20	6	5MC	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-C	ICFS 20	2.5	10.1	22.2	027L3052
ICF 20	6	5HMC	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICM 20-C	ICFS 20	3.0	11.0	24.2	027L3331
ICF 25	6	5MA	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	5.0	23.2	51.0	027L4044
ICF 25	6	5MB	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICM 25-B	ICFS 25	7.3	23.2	51.0	027L4049
ICF 25	6	5MA	1 1/2	40	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	5.0	23.1	50.8	027L4132
ICF 25	6	5MB	1 1/2	40	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICM 25-B	ICFS 25	7.3	23.2	51.0	027L4053

Application 12: Liquid injection (expansion) PWM

Type	# of modules	Appl. #	Connection size		Connection type		Module location						K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4	M5	M6		kg	lbs	
ICF 15	4	12	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 15*	ICFF 15*	ICFA 20	ICFS 20			0.3	6.2	13.7	027L4522
ICF 20	4	12	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFA 20	ICFS 20			0.3	6.8	15.0	027L3089
ICF 15	4	12	1/2	15	Socket weld, ANSI (B 16.11)	S	ICFS 15*	ICFF 15*	ICFA 20	ICFS 20			0.3	6.2	13.7	027L4528
ICF 20	4	12	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFA 20	ICFS 20			0.3	6.8	15.0	027L3091

** Fixed module*
ICAD and coils are not included and must be ordered separately.
***Please Note**:*
When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body. ICAD and coils are not included and must be ordered separately.

 © Danfoss A/S (RC-MCP/MWA), 2014-10

Liquid injection

Application 14: Liquid injection (expansion)

Type	# of modules	Appl. #	Connection size		Connection type		Module location						K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4	M5	M6		kg	lbs	
ICF 15	4	14MA	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 15*	ICFF 15*	ICM 20-A	ICFS 20			0.6	6.8	15.0	027L4525
ICF 20	4	14MA	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICM 20-A	ICFS 20			0.6	7.3	16.1	027L3095
ICF 20	4	14MB66	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICM 20-B66	ICFS 20			1.5	7.2	15.8	027L4155
ICF 20	4	14 MA33	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICM 20-A33	ICFS 20			0.2	6.6	14.5	027L3365
ICF 20	4	14MA	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICM 20-A	ICFS 20			0.6	7.3	16.1	027L3097
ICF 20	4	14MB	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICM 20-B	ICFS 20			2.1	7.2	15.8	027L3103
ICF 20	4	14MC	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICM 20-C	ICFS 20			3.3	7.2	15.8	027L3108
ICF 25	4	14MA	1	25	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICM 25-A	ICFS 25			5.4	15.5	34.1	027L4103
ICF 20	4	14MC	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICM 20-C	ICFS 20			3.3	7.3	16.1	027L3109
ICF 25	4	14MA	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICM 25-A	ICFS 25			5.4	15.4	33.9	027L4107
ICF 25	4	14MB	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICM 25-B	ICFS 25			8.5	14.4	31.7	027L4112
ICF 25	4	14MB	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICM 25-B	ICFS 25			8.5	15.3	33.7	027L4117
ICF 15	4	14MA	1/2	15	Socket weld, ANSI (B 16.11)	S	ICFS 15*	ICFF 15*	ICM 20-A	ICFS 20			0.6	6.8	15.0	027L4531
ICF 20	4	14MA	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICM 20-A	ICFS 20			0.6	7.5	16.5	027L3099
ICF 20	4	14MA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICM 20-A	ICFS 20			0.6	6.7	14.7	027L3101
ICF 20	4	14MB	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICM 20-B	ICFS 20			2.1	6.7	14.7	027L3106
ICF 20	4	14MC	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICM 20-C	ICFS 20			3.3	6.7	14.7	027L3112
ICF 25	4	14MA	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICM 25-A	ICFS 25			5.4	15.8	34.8	027L4104
ICF 20	4	14MC	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICM 20-C	ICFS 20			3.3	7.4	16.3	027L3113
ICF 25	4	14MA	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICM 25-A	ICFS 25			5.4	15.6	34.3	027L4109
ICF 25	4	14MB	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICM 25-B	ICFS 25			8.5	17.3	38.1	027L4114
ICF 25	4	14MA	1 1/2	40	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICM 25-A	ICFS 25			5.4	15.8	34.8	027L4140
ICF 25	4	14MB	1 1/2	40	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICM 25-B	ICFS 25			8.5	16.6	36.5	027L4118

Hot gas defrost

Application 9: Hot gas defrost

Type	# of Modules	Appl. #	Connection size		Connection type		Module location					K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4			kg	lbs	
ICF 20	4	9	3/4	20	Butt-weld ANSI (B 36.10)	A	ICFS 20	ICFF 20	ICFE 20	ICFS 20		3.3	7.2	15.8	027L3069
ICF 20	4	9	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFS 20		3.3	6.7	14.7	027L3120
ICF 15	4	9H	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 15*	ICFF 15*	ICFE 20H	ICFS 20		4.2	7.2	15.4	027L4521
ICF 20	4	9	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFS 20		3.3	7.2	15.8	027L3067
ICF 20	4	9H	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFS 20		4.1	8.2	18.0	027L3333
ICF 25	4	9	1	25	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFS 25		9.7	15.8	34.8	027L4063
ICF 20	4	9	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFS 20		3.3	6.8	15.0	027L3068
ICF 20	4	9H	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFS 20		4.1	7.6	16.7	027L3334
ICF 25	4	9	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFS 25		9.7	15.7	34.5	027L4067
ICF 25	4	9	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFS 25		9.7	15.7	34.5	027L4072
ICF 15	4	9H	1/2	15	Socket weld, ANSI (B 16.11)	S	ICFS 15*	ICFF 15*	ICFE 20H	ICFS 20		4.2	7.2	15.4	027L4527
ICF 20	4	9H	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFS 20		4.1	8.0	17.6	027L3351
ICF 20	4	9	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFS 20		3.3	7.0	15.4	027L3071
ICF 20	4	9H	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFS 20		4.1	8.1	17.8	027L3336
ICF 25	4	9	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFS 25		9.7	16.0	35.2	027L4064
ICF 20	4	9	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFS 20		3.3	7.4	16.3	027L3072
ICF 20	4	9H	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFS 20		4.1	7.9	17.4	027L3337
ICF 25	4	9	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFS 25		9.7	16.0	35.2	027L4069
ICF 25	4	9	1 1/2	40	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFS 25		9.7	16.1	35.4	027L4073

** Fixed module*
ICAD and coils are not included and must be ordered separately.
***Please Note**:*
When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body. ICAD and coils are not included and must be ordered separately.

Solenoid multiple evaporators

Application 11: Solenoid - Multiple evaporators

Type	# of Modules	Appl. #	Connection size		Connection type		Module location					K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4			kg	lbs	
ICF 20	4	11	3/4	20	Butt-weld ANSI (B 36.10)	A	ICFS 20	ICFF 20	ICFE 20	ICFC 20		3.0	6.5	14.3	027L3085
ICF 20	4	11	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFC 20		3.0	6.4	14.1	027L3083
ICF 20	4	11H	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFC 20		3.7	8.0	17.6	027L3345
ICF 20	4	11	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFC 20		3.0	6.5	14.3	027L3084
ICF 20	4	11H	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFC 20		3.7	7.4	16.3	027L3346
ICF 25	4	11	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25		9.6	14.9	32.8	027L4094
ICF 25	4	11	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25		9.6	13.7	30.1	027L4099
ICF 20	4	11	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFC 20		3.0	6.9	15.2	027L3087
ICF 20	4	11H	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20		3.7	8.0	17.6	027L3348
ICF 20	4	11	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFC 20		3.0	6.7	14.7	027L3088
ICF 20	4	11H	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20		3.7	7.4	16.3	027L3349
ICF 25	4	11	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25		9.6	13.0	28.6	027L4096
ICF 25	4	11	1 1/2	40	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25		9.6	14.3	31.5	027L4100

Application 18: Solenoid - Multiple evaporators

Type	# of Modules	Appl. #	Connection size		Connection type		Module location					K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4			kg	lbs	
ICF 25	4	18	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFN 25		9.6	16.6	36.5	027L4164
ICF 25	4	18	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFN 25		9.6	16.6	36.5	027L4165
ICF 20	4	18H	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFN 20		3.7	8.2	18.1	027L3353
ICF 20	4	18H	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFN 20		3.7	8.0	17.6	027L3354
ICF 25	4	18	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFN 25		9.6	16.9	37.2	027L4136
ICF 20	4	18H	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFN 20		3.7	8.0	17.6	027L3355
ICF 25	4	18	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFN 25		9.6	16.0	35.2	027L4137
ICF 25	4	18	1 1/2	40	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFN 25		9.6	16.2	35.6	027L4138

Liquid PWM

Application 13: Liquid injection & liquid feed PWM

Type	# of Modules	Appl. #	Connection size		Connection type		Module location					K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4			kg	lbs	
ICF 15	4	13	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 15*	ICFF 15*	ICFA 20	ICFN 20		0.3	6.2	13.7	027L4523
ICF 15	4	13	1/2	15	Socket weld, ANSI (B 16.11)	S	ICFS 15*	ICFF 15*	ICFA 20	ICFN 20		0.3	6.2	13.7	027L4529

** Fixed module*
ICAD and coils are not included and must be ordered separately.
***Please Note**:*
When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body. ICAD and coils are not included and must be ordered separately.

 © Danfoss A/S (RC-MCP/MWA), 2014-10

Miscellaneous

Application 90: Miscellaneous

Type	# of modules	Appl. #	Connection size		Connection type		Module location						K_v total	Weight		Code number
			[in.]	[mm]			M1	M2	M3	M4	M5	M6		kg	lbs	
ICF 20	4	90	3/4	20	Butt-weld ANSI (B 36.10)	A	ICFS 20	ICFF 20E	ICFE 20	ICFN 20			3.0	7.2	15.8	027L3371
ICF 20	4	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFR 20A	ICFF 20	ICFA 20	ICFN 20			0.3	6.4	14.1	027L3156
ICF 20	4	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFA 20	ICFC 20			0.3	6.8	15.0	027L3092
ICF 20	4	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFR 20A	ICFF 20	ICFE 20	ICFN 20			2.2	6.4	14.1	027L3155
ICF 20	4	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFN 20			3.0	7.2	15.8	027L3379
ICF 20	4	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFW 20-D	ICFE 20	ICFS 20			3.5	5.9	13.0	027L3385
ICF 20	4	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFB 20	ICFC 20			3.9	5.9	13.0	027L3141
ICF 20	4	90	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFN 20			3.0	6.7	14.7	027L3134
ICF 20	4	90	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFB 20			3.3	5.9	13.0	027L3364
ICF 20	4	90	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFN 20			3.7	7.2	15.8	027L3380
ICF 20	4	90	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICM 20-A33	ICFB 20			0.2	7.2	15.8	027L3362
ICF 20	4	90	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFA 20	ICFC 20			0.3	6.8	15.0	027L3094
ICF 20	4	90	1	25	Socket weld, ANSI (B 16.11)	S	ICFB 20	ICFF 20	ICFE 20	ICFN 20			3.1	7.0	15.4	027L3357
ICF 25	4	90	1	25	Socket weld, ANSI (B 16.11)	S	ICFB 25	ICFF 25E	ICFE 25	ICFN 25			9.8	14.1	31.0	027L4149
ICF 20	6	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFA 20	ICFS 20	0.3	9.4	20.7	027L3053
ICF 20	6	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFA 20	ICFC 20	ICFB 20	ICFS 20	0.3	9.9	21.8	027L3056
ICF 20	6	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A	ICFN 20	0.6	9.7	21.3	027L3372
ICF 20	6	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFB 20	ICFR 20-A	ICFN 20	2.1	9.7	21.3	027L3133
ICF 20	6	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFB 20	ICFR 20A	2.1	9.4	20.7	027L3144
ICF 20	6	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICM 20-C	ICFS 20	2.5	9.7	21.3	027L3152
ICF 20	6	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFS 20	ICFC 20	2.8	9.8	21.6	027L3360
ICF 20	6	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFB 20	ICFC 20	ICFE 20	ICFO 20	ICFS 20	ICFB 20	2.9	6.2	13.6	027L3121
ICF 20	6	90	3/4	20	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFB 20	ICFS 20	3.4	9.6	21.1	027L3387
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFA 20	ICFS 20	0.3	9.8	21.6	027L3361
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFB 20	2.1	9.1	20.0	027L3363
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20B	ICFW 20D	2.6	12.0	26.4	027L3376
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFR 20B	ICFW 20D	2.6	11.5	25.3	027L3375
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	D	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFB 20	ICFS 20	2.9	9.4	20.7	027L3123
ICF 25	6	90	1	25	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFW 25D	7.3	23.6	51.9	027L4168
ICF 25	6	90	1	25	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFS 25	ICFB 25	8.6	22.0	48.4	027L4151
ICF 25	6	90	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFB 25	7.3	21.7	47.7	027L4143
ICF 25	6	90	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25B	ICFW 25D	7.3	22.7	49.9	027L4160
ICF 25	6	90	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFW 25D	7.3	21.9	48.2	027L4161
ICF 25	6	90	1 1/4	32	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFB 25	ICFS 25	8.6	21.9	48.2	027L4162
ICF 25	6	90	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25A	ICFW 25D	5.3	23.6	51.9	027L4157
ICF 25	6	90	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25B	ICFW 25D	7.3	23.6	51.9	027L4166
ICF 25	6	90	1 1/2	40	Butt-weld DIN-EN 10220	D	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFW 25D	7.3	21.7	47.7	027L4167
ICF 20	6	90	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFA 20	ICFS 20	0.3	9.3	20.5	027L3055
ICF 20	6	90	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFA 20	ICFC 20	ICFB 20	ICFS 20	0.3	9.9	21.8	027L3058
ICF 20	6	90	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFB 20	ICFN 20	2.8	9.4	20.7	027L3150
ICF 20	6	90	3/4	20	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFW 20S	ICFS 20	3.4	10.4	22.9	027L4153
ICF 20	6	90	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFW 20S	ICFS 20	3.4	11.5	25.3	027L3377
ICF 25	6	90	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFB 25	ICFS 25	8.6	23.1	50.8	027L4156
ICF 25	6	90	1	25	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFW 25S	ICFS 25	8.6	25.1	55.2	027L4158
ICF 20	6	90	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFB 20	ICFS 20	3.4	10.5	23.1	027L3378
ICF 20	6	90	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFW 20S	ICFS 20	3.4	10.5	23.1	027L4152
ICF 25	6	90	1 1/4	32	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFW 25S	ICFS 25	8.6	25.1	55.2	027L4154
ICF 25	6	90	1 1/2	40	Socket weld, ANSI (B 16.11)	S	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFW 25S	ICFS 25	8.6	25.1	55.2	027L4159

Note!
For special applications that cannot be covered by our predefined ICF code numbers a solution might be to consult DIRcalc ICF or your local Danfoss Sales company.
Download DIRclac ICF from http://www.danfoss.com/BusinessAreas/RefrigerationAndAirConditioning/IR+Software+Overview/IRSoftware.htm
Prior to designing „non standard" configurations there are some basic restrictions to the location of the function modules that must be followed (see next page)

ICAD and coils are not included and must be ordered separately.

***Please Note**:*
When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body. ICAD and coils are not included and must be ordered separately.

Ordering ICF valve station *(continued)*

ICF with four modules

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

ICF with six modules

Function Module Type		Can be installed in these locations					
ICFS	Stop valve module	M1	M2	M3	M4	M5	M6
ICFR	Manual regulating valve module	M1	M2	M3	M4	M5	M6
ICFF	Filter (strainer) module		M2		M4		M6
ICFE	Solenoid valve module			M3			
ICFC	Check valve module				M4		M6
ICFN	Stop/check valve module				M4		M6
ICM	Motor valve module	M1		M3		M5	
ICFB	Blank top cover	M1	M2	M3	M4	M5	M6
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	M6

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

location not possible

**) ICF 15 - M1 and M2 modules are fixed*

Ordering accessories

Stop valve type SNV-ST

Quantity	Code no.
SNV-ST G½" (Qty. 1)	**148B3778**
SNV-ST $^3/_8$" NPT-FPT (Qty. 1)	**148B3747**

Other SNV types see literature: DKRCI.PD.KB0.A

Blind plug

Quantity	Code no.
2 pcs. $^3/_8$" RG 2 pcs. $^3/_8$" NPT	**027L1265** **027L1268**

Connector $^1/_2$ in. - $^3/_8$ in.

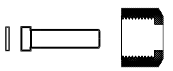
Quantity	Code no.
2	**027L1266 ***

** (For DIN and ANSI connections only)*

Sight glass

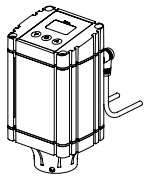
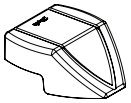
Quantity	Code no.
2 pcs. $^3/_8$" G (for DIN and ANSI connections only)	**027L1267**
2 pcs. $^3/_8$" NPT (for SOC coneections only)	**027L1269**

$^1/_2$ in. weld connector



Quantity	Code no.
2	**148B4184**

ICAD 600A

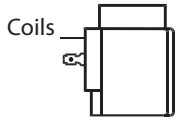
Description		Code no.
ICAD 600A		With 1,5m cable **027H9075**
ICAD 600A		Without cables **027H9120**
Cable		Cable set 10 m. **027H0427**
Cable		Cable set 15 m. **027H0435**
Connector		Connector set female **027H0430**
Protection cap		Protection cap for ICAD **027H0431**

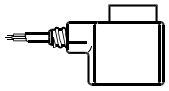
ICAD details see literature: DKRCI.PD.HT0.B

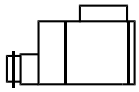
 © Danfoss A/S (RC-MCP/MWA), 2014-10

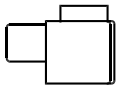
Ordering accessories (continued)

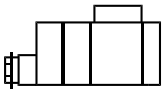
Coils









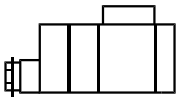


Valve type	Voltage V	Frequency Hz	Code no. With 1 m 3-core cable IP 67	Code no. With terminal box IP 67	Code no. With DIN plugs**)	Appendix no.*)	Power consumption
Alternating current a.c.							
ICFE	12	50		**018F6706**		15	Holding: 10 W 21 VA
	24	50	**018F6257**	**018F6707**	**018F7358**	16	Inrush: 44 VA
	220-230	50	**018F6251**	**018F6701**	**018F7351**	31	
	115	60	**018F6260**	**018F6710**		20	

Direct current d.c. *(can not be used for ICF 20 configurations with ICM module)* *Coil type I*

ICFE/ICFA	12			**018F6856**		01	20 W
	24			**018F6857**		02	

Special coils for ICFE *(can not be used for ICF 20 configurations with ICM module)*



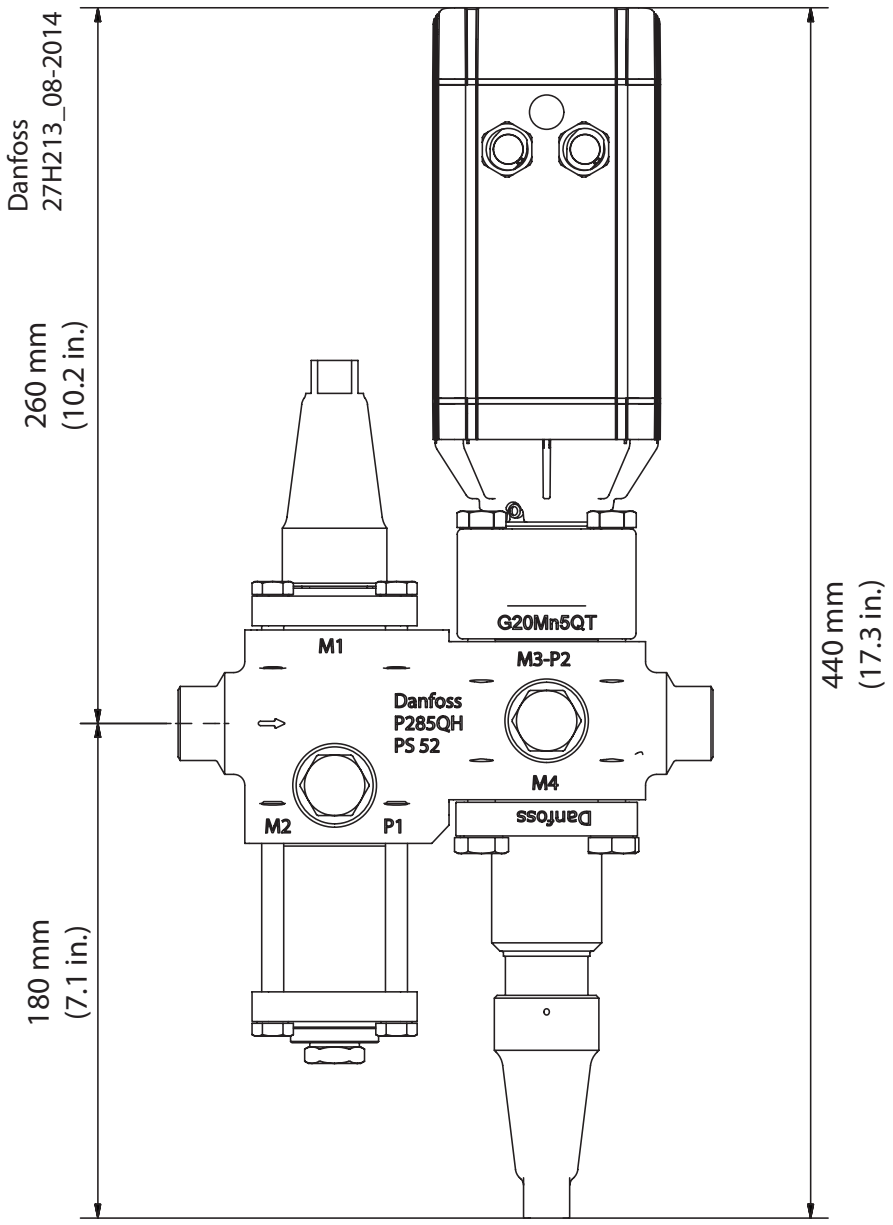
Valve type	Voltage V	Frequency Hz	Code no. With terminal box IP 67	Appendix no. Indicates voltage and frequency	Power consumption
Alternating current a.c.					
ICFE	24	50	**018F6807**	16	Holding: 12 W 26 VA
	110	50	**018F6811**	22	Inrush: 55 VA
	220-230	50	**018F6801**	31	

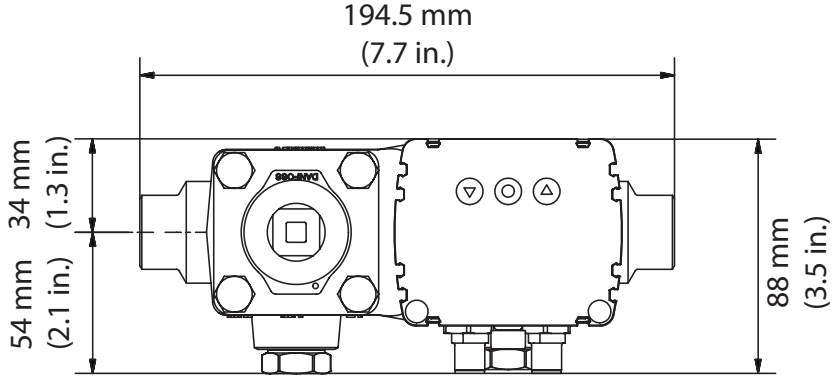
For other coil types please refer to the technical leaflets for EVRA or AKVA valves.

Dimensions

ICF 15-4

This example indicates the maximum dimensions for the ICF valve stations.



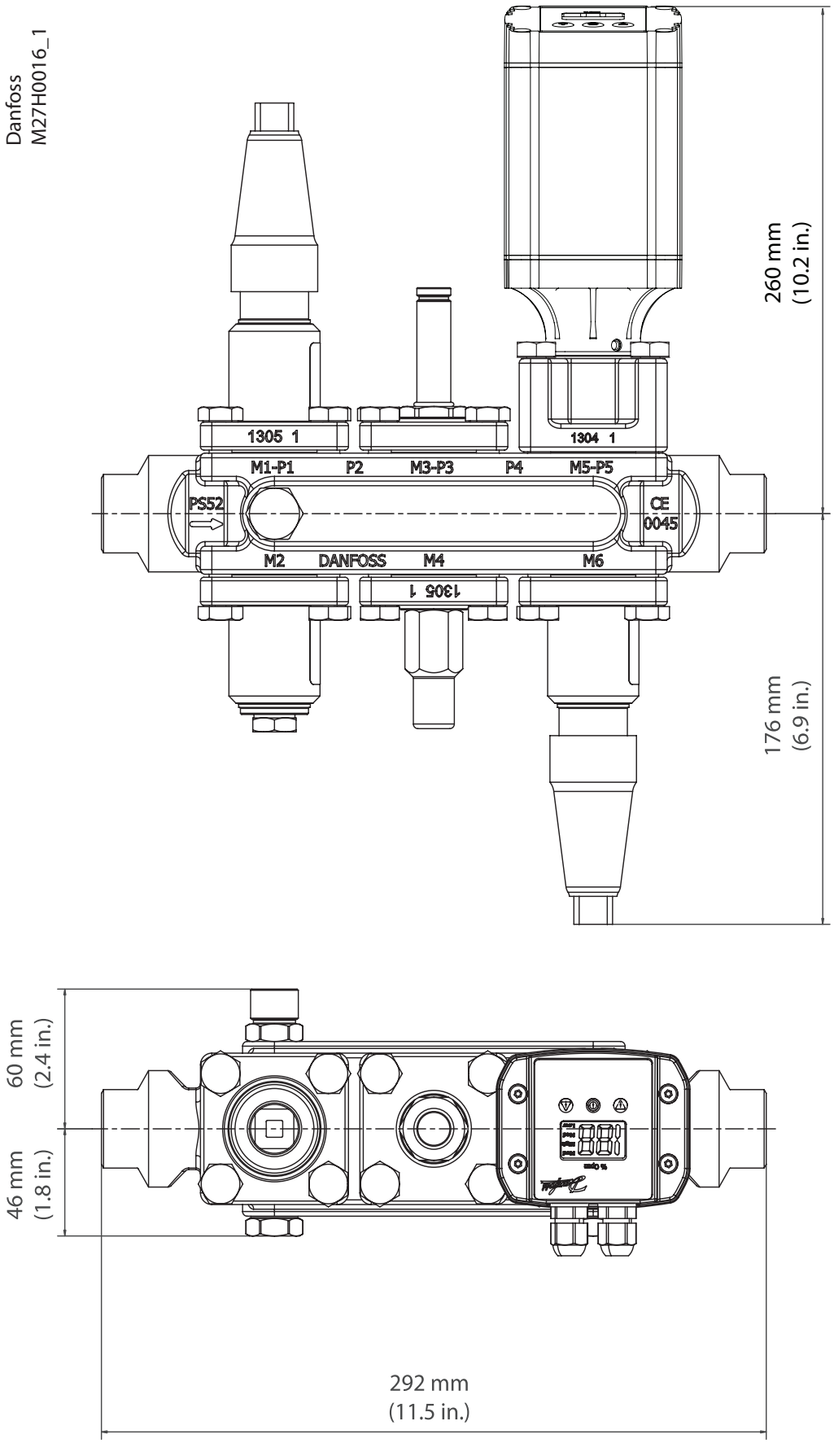


 © Danfoss A/S (RC-MCP/MWA), 2014-10

Dimensions *(continued)*

ICF 20-6

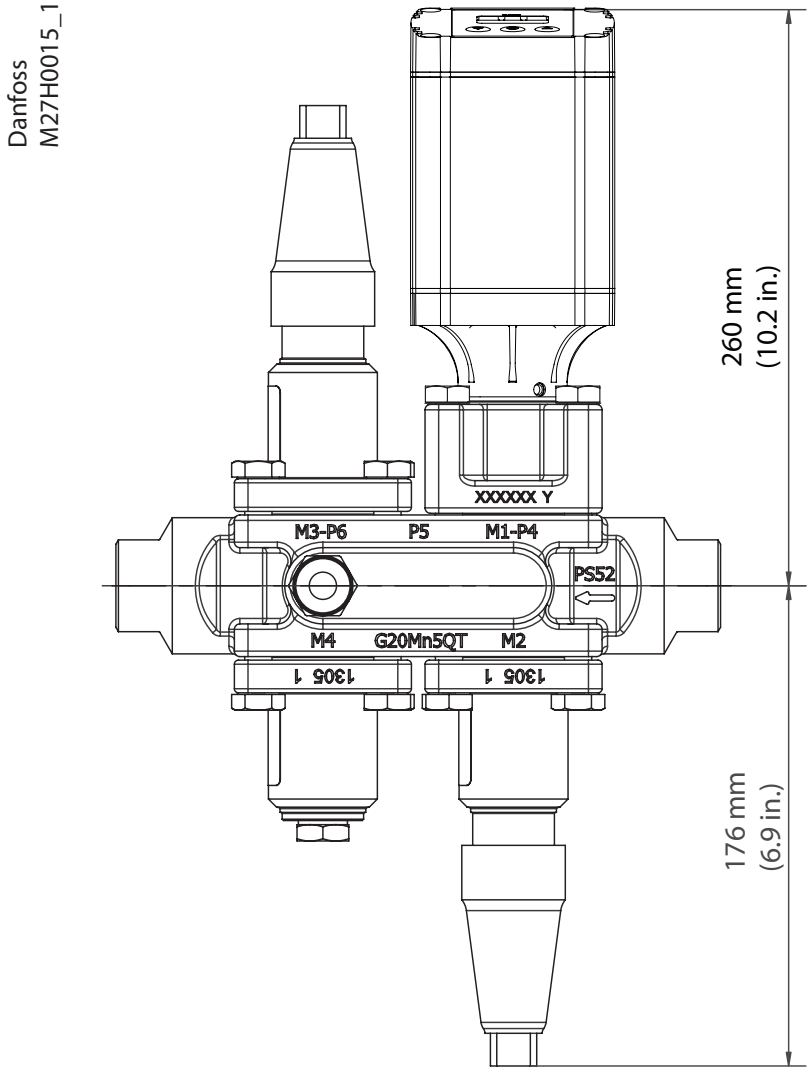
This example indicates the maximum dimensions for the ICF valve stations.

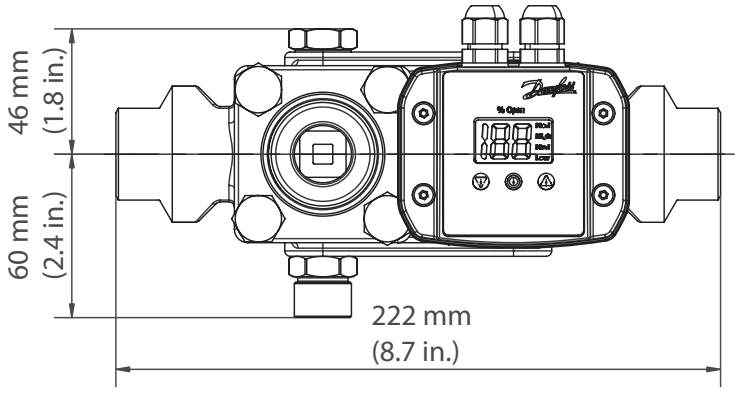


Dimensions *(continued)*

ICF 20-4

This example indicates the maximum dimensions for the ICF valve stations.



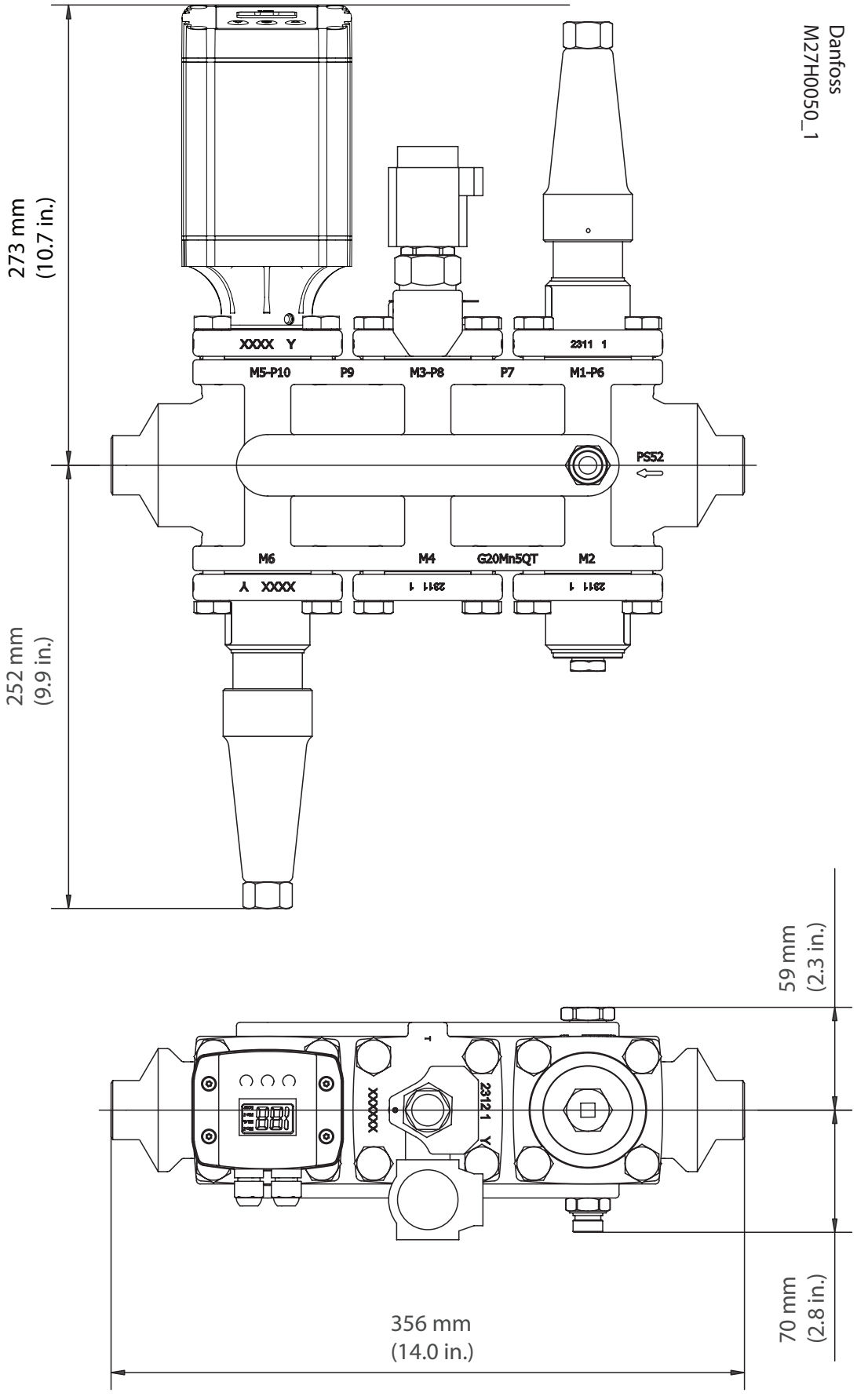


 © Danfoss A/S (RC-MCP/MWA), 2014-10

Dimensions *(continued)*

ICF 25-6

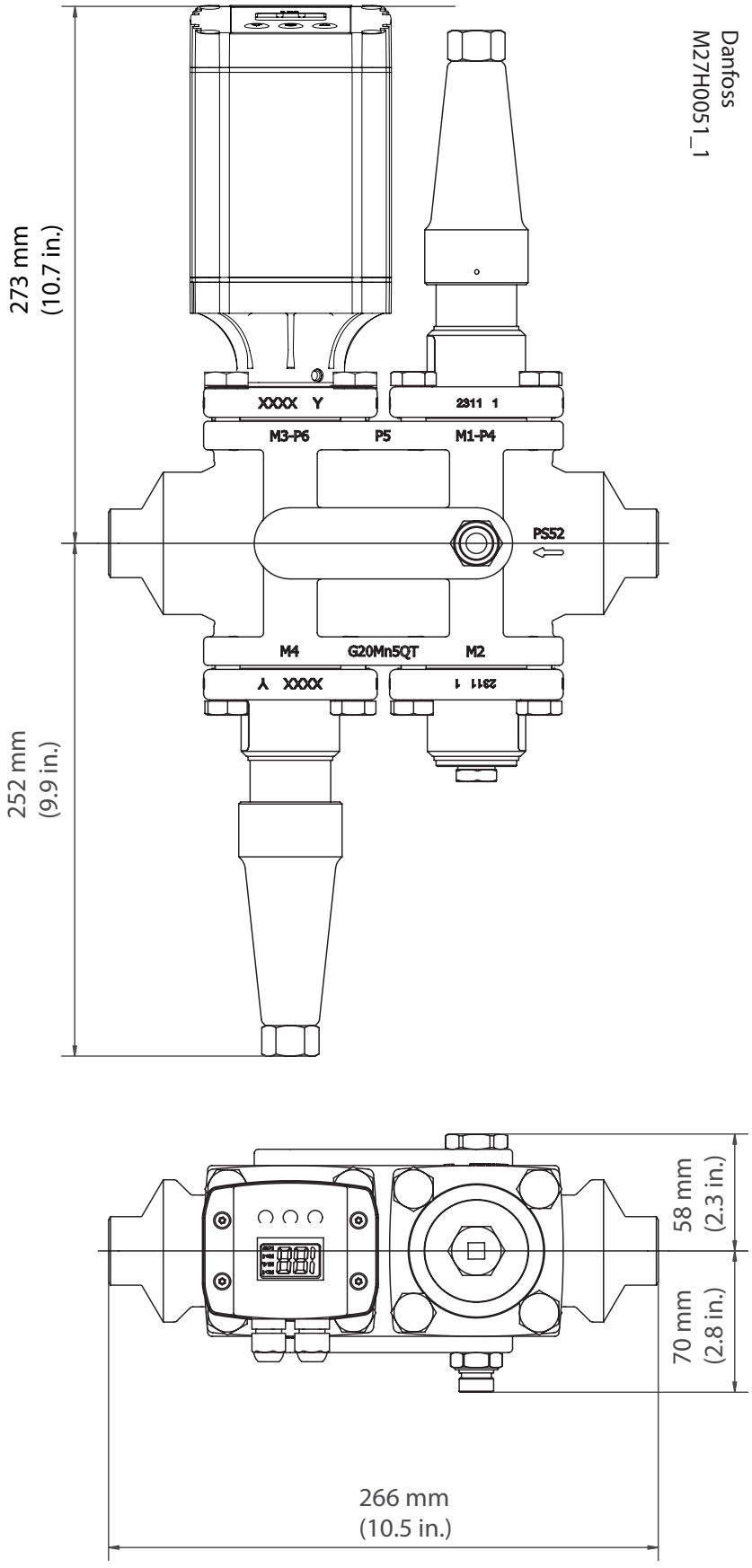
This example indicates the maximum dimensions for the ICF valve stations.



Dimensions *(continued)*

ICF 25-4

This example indicates the maximum dimensions for the ICF valve stations.



 © Danfoss A/S (RC-MCP/MWA), 2014-10

 © Danfoss A/S (RC-MCP/MWA), 2014-10

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed.
All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.