Products and technologies for all your application needs

Refrigeration & air conditioning components



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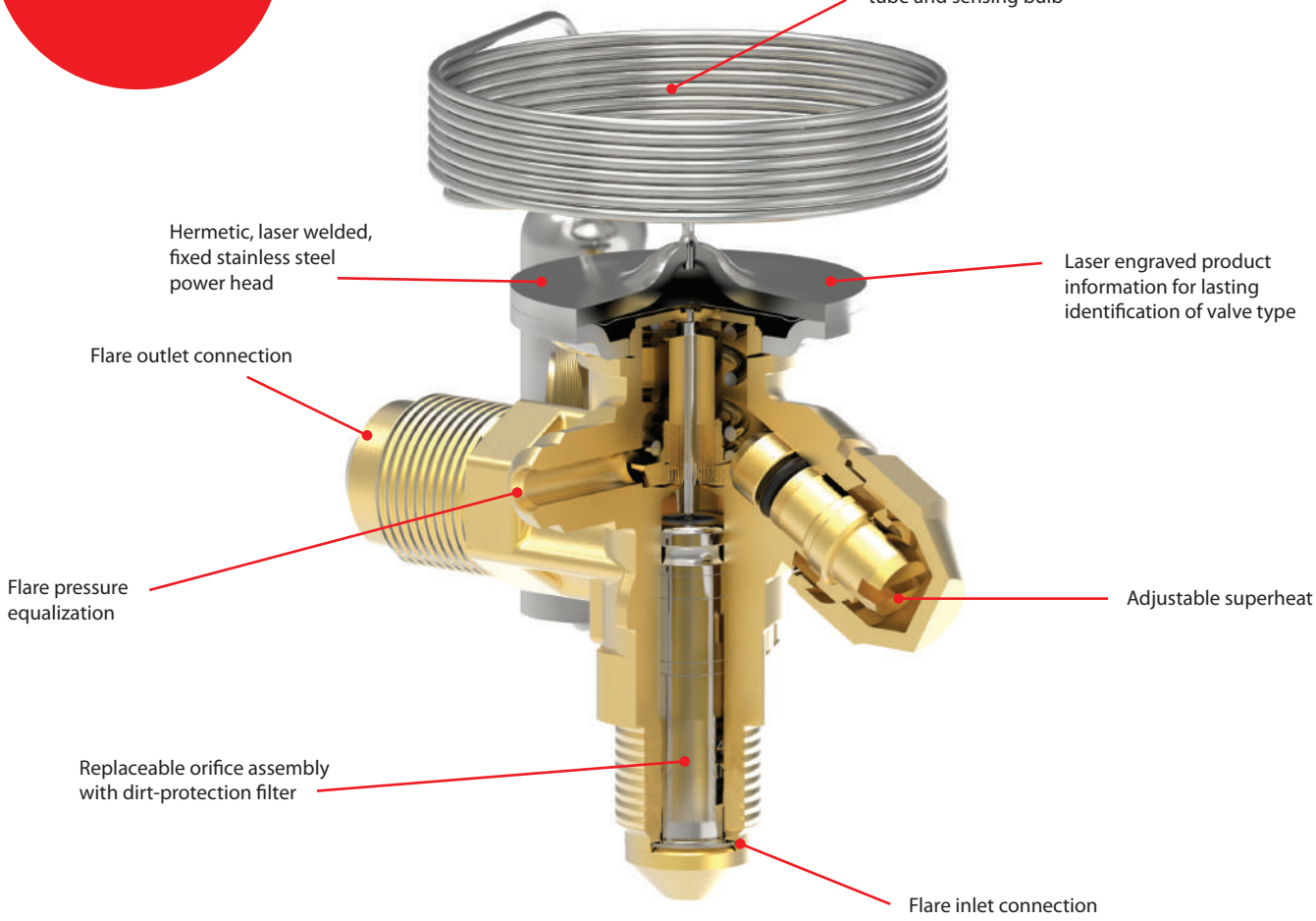
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T2 / TE2 - Thermostatic Expansion Valves

Danfoss T2/TE2 brass body thermostatic expansion valves feature flare inlet and outlet connections. By pairing one valve body with one of eight replaceable orifices, a contractor can satisfy applications from –40 °F to +50 °F and from ⅛ to 5 ¾ tons capacity (see capacity chart for specifics).



Features
T2 / TE2



Facts

Applications:

- Commercial refrigeration
- Self-contained refrigerators
- Transport refrigeration
- Supermarket refrigeration

- Temperature range: –40 °F to +50 °F
- Capacity range: ⅛ to 5 ¾ tons (varies by refrigerant)
- Refrigerants: R-22, R-407C, R-134a, R-404A, R-448A, R-449A
- Functional valve consists of valve body and orifice
- Flare/solder adaptor available

Product Selection

1. Select Valve Body

Equalization	R-22	R-407C	R-404A	R-134a	R-448A	R-449A
Internal	068Z3206		068Z3400	068Z3346	068Z3727	
External	068Z3209		068Z3403	068Z3348	068Z3728	

All valves above have ⅜ in. × ½ in. flare connections and are desined for evaporator temperatures –40 °F to 50 °F (N charge).
Other variations available, please contact your local Danfoss authorized wholesaler.

2. Select Orifice

A. T2/TE2 valve capacities are based on the installed orifice. To select the correct size, use one of the two methods below:
A. System characteristics: Select the orifice using appropriate refrigerant, evaporator temperature, and system capacity.
OR
B. Nominal capacity of the installed valve: Use the nominal capacity of the originally installed valve and match with the nominal capacity in chart (3rd column from left).

Technical data and ordering

T2 and TE2 (IF EXACT CAPACITY CANNOT FOUND, USE NEXT LARGER ORIFICE)

R-22 / R-407C			Evaporator temperature (°F)									
Orifice size	Danfoss Code No.	Nominal capacity of installed valve[1] (tons)	–40	–30	–20	–10	0	10	20	30	40	50
			Rated capacity[2] (tons)									
0X	068-2002	¼	⅕	¼	¼	¼	¼	¼	¼	¼	¼	¼
00	068-2003	½	¼	⅓	⅓	⅓	⅓	⅓	½	½	½	½
01	068-2010	1	⅓	⅓	½	½	½	¾	¾	¾	1	1
02	068-2015	1 ⅓	⅓	½	½	¾	¾	1	1	1 ¼	1 ⅓	1 ⅓
03	068-2006	2 ⅓	¾	¾	1	1	1 ⅓	1 ½	1 ¾	2	2 ¼	2 ⅓
04	068-2007	3 ⅓	1	1	1 ½	1 ¾	2	2 ⅓	2 ¾	3	3 ½	3 ½
05	068-2008	5	1 ⅓	1 ¾	2	2 ⅓	2 ¾	3	3 ¾	4 ¼	4 ¾	5
06	068-2009	5 ½	1 ½	2	2 ⅓	2 ¾	3	3 ¾	4 ⅓	5	5 ½	5 ¾

R-404A			Evaporator temperature (°F)									
Orifice size	Danfoss Code No.	Nominal capacity of installed valve[1] (tons)	–40	–30	–20	–10	0	10	20	30	40	50
			Rated capacity[2] (tons)									
0X	068-2002	⅙	⅛	⅙	⅙	⅙	⅙	⅕	⅕	⅕	⅕	⅙
00	068-2003	⅓	⅕	⅕	¼	¼	⅓	⅓	⅓	⅓	⅓	⅓
01	068-2010	¾	¼	⅓	⅓	⅓	½	½	½	¾	¾	¾
02	068-2015	1	¼	⅓	⅓	½	½	¾	¾	1	1	1
03	068-2006	1 ¾	½	½	¾	¾	1	1 ⅓	1 ½	1 ¾	1 ¾	1 ¾
04	068-2007	2 ¾	¾	¾	1	1 ⅓	1 ½	2	2 ⅓	2 ½	3	3
05	068-2008	3 ¾	1	1	1 ½	1 ¾	2	2 ½	3	3 ½	3 ¾	4
06	068-2009	4 ½	1	1 ⅓	1 ¾	2	2 ½	3	3 ¾	4	4 ½	4 ½

R-134a			Evaporator temperature (°F)									
Orifice size	Danfoss Code No.	Nominal capacity of installed valve[1] (tons)	–40	–30	–20	–10	0	10	20	30	40	50
			Rated capacity[2] (tons)									
0X	068-2002	⅕	⅛	⅛	⅙	⅙	⅙	⅕	⅕	⅕	⅕	⅕
00	068-2003	⅓	⅛	⅙	⅕	⅕	¼	¼	¼	⅓	⅓	⅓
01	068-2010	½	⅕	¼	¼	⅓	⅓	⅓	½	½	½	½
02	068-2015	¾	¼	¼	⅓	⅓	⅓	½	½	½	¾	¾
03	068-2006	1 ½	⅓	⅓	½	½	¾	¾	1	1	1 ¼	1 ⅓
04	068-2007	1 ¾	½	½	¾	¾	1	1 ¼	1 ⅓	1 ½	1 ¾	2
05	068-2008	2 ⅓	¾	¾	1	1	1 ⅓	1 ½	1 ¾	2	2 ⅓	2 ½
06	068-2009	3	¾	1	1¼	1 ⅓	1 ½	2	2 ¼	2 ½	2 ¾	3

R-448A			Evaporator temperature (°F)					
Orifice size	Danfoss Code No.	Nominal capacity of installed valve[3] (tons)	–40	–20	0	20	40	50
			Rated capacity[2] (tons)					
0X	**068-2002**	¼	¼	¼	¼	¼	¼	¼
00	**068-2003**	½	⅓	⅓	⅖	½	½	½
01	**068-2010**	1	⅖	½	¾	⅞	1	1
02	**068-2015**	1 ⅖	½	⅔	⅘	1 ⅕	1 ⅖	1 ½
03	**068-2006**	2 ⅓	⅘	1	1 ⅖	1 ⅞	2 ⅓	2 ½
04	**068-2007**	3 ⅗	1 ⅕	1 ⅗	2	2 ⅘	3 ⅔	4
05	**068-2008**	4 ⅗	1 ⅗	2	2 ¾	3 ⅔	4 ¾	5 ⅕
06	**068-2009**	5 ⅗	1 ⅘	2 ½	3 ⅓	4 ½	5 ¾	6 ¼

R-449A			Evaporator temperature (°F)					
Orifice size	Danfoss Code No.	Nominal capacity of installed valve[3] (tons)	–40	–20	0	20	40	50
			Rated capacity[2] (tons)					
0X	**068-2002**	¼	¼	¼	¼	¼	¼	¼
00	**068-2003**	½	⅓	⅓	⅖	½	½	½
01	**068-2010**	1	⅖	½	⅔	⅞	1	1
02	**068-2015**	1 ⅓	½	⅔	⅘	1	1 ⅓	1 ½
03	**068-2006**	2 ⅕	⅘	1	1 ⅖	1 ⅘	2 ⅔	2 ½
04	**068-2007**	3 ⅖	1 ¼	1 ⅗	2	2 ¾	3 ½	3 ⅘
05	**068-2008**	4 ½	1 ⅗	2	2 ¾	3 ⅗	4 ⅗	5
06	**068-2009**	5 ⅖	1 ⅞	2 ½	3 ¼	4 ⅓	5 ⅗	6

All capacity data is in accordance to ARI 750-2007 except where noted.

[1] Nominal capacity based on ARI standards: Evaporating temperature = 40 °F, Liquid temperature = 100 °F, Condensing temperature = 110 °F

[2]Capacity based on condensing temperature of 95 °F and a vapor free liquid temperature of 88 °F ahead of the expansion valve.

[3] Condensing temperature = 100 °F

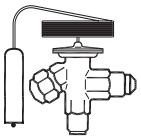
Spare Parts and Accessories

Description	Danfoss Code No.
Bulb strap	**068U3507**

Selection and Installation Instructions

1. Select Valve Body

Select the valve body based on refrigerant and need for internal or external equalization using the table on the previous page under “Select Valve Body.”



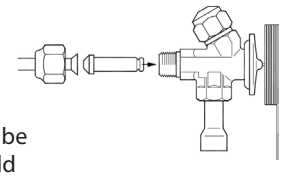
2. Select Orifice

T2/TE2 valve capacities are based on the installed orifice.
To select the correct size orifice, use one of the two methods using the “Select Orifice” section on the previous page.



3. Assemble Valve and Install into System

1. Slide the orifice into the valve body and secure using liquid line flare nut
2. Attach evaporator inlet or distributor assembly to valve outlet flare nut
3. Tighten both flare nuts
    - Specification for inlet is 26–33 ft.-lbs
    - Specification for outlet is 37–52 ft.-lbs
4. Secure sensing bulb with enclosed bulb strap to suction line. Bulb should be located between 1:00 & 4:00 or 8:00 & 11:00 on the tube, and the strap should be tight enough that no bulb movement is possible.
5. Wrap included insulation tape beginning one inch before the bulb and overlapping each wrap, finishing one inch beyond the bulb on the other end.



4. Adjust Superheat

1. Remove the cap
2. Make superheat adjustments ¼ turn at a time (¼ turn ≈ 1.75 °F).
    - Turning clockwise increases superheat.
    - Turning counter-clockwise decreases superheat.
3. Reinstall the cap

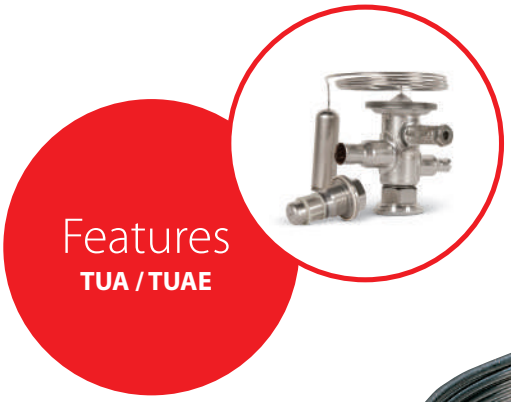


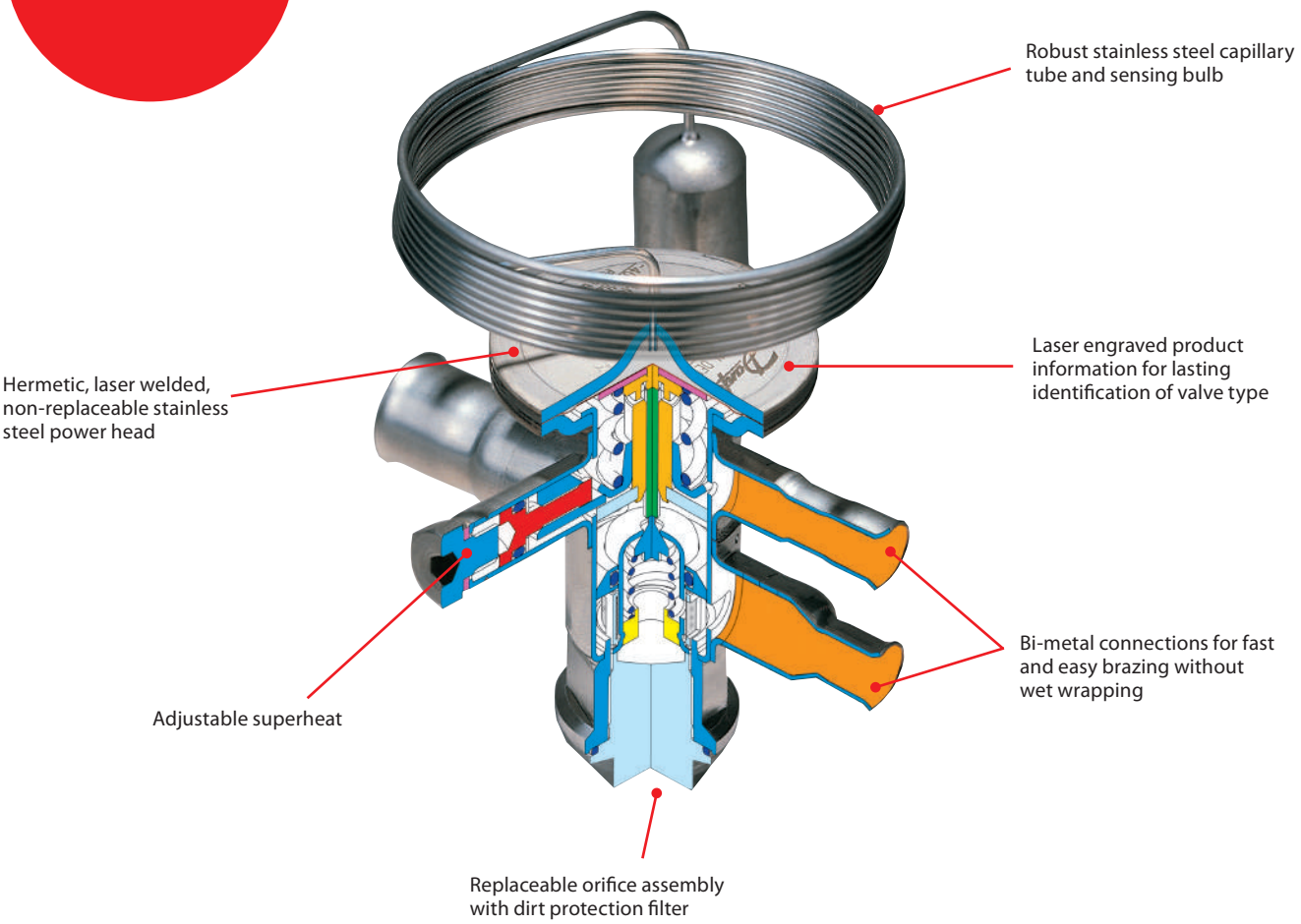
Easy to carry kits for truck stock	
All T2/TE2 valve bodies and orifice featured on the next page and a hex key for superheat adjustment.	**068Z7100**
Both TUA/TUAE valve bodies and orifices and T2/TE2 and orifices plus gaskets for TUA/TUAE and a hex key for superheat adjustment.	**068U7001**

Kits are plastic cases with foam inserts, all valves and orifices, and instructions for selection and installation of the valves. Empty kits and foam available available upon request.

TUA / TUAE - Thermostatic Expansion Valves

Danfoss TUA/TUAE stainless steel thermostatic expansion valves feature solder inlet and outlet connections. By pairing one valve body with one of ten replaceable orifices, a contractor can satisfy applications from –40 °F to + 50 °F and up to 4 ½ tons capacity (see capacity chart for specifics).





Facts

Applications:

- Traditional refrigeration
- Self-contained refrigerators
- Transport refrigeration
- Supermarket refrigeration

- Temperature range: –40 °F to +50 °F
- Capacity range: 1/30 to 4 ½ tons (varies by refrigerant)
- Refrigerants: R-22, R-407C, R-134a, R-404A, and R448/9A
- Functional valve consists of valve body and orifice

Scan the QR Code for a video with more information on the TUA valve features and installation or visit http://bit.ly/TUAinstall

Product Selection

1. Select Valve Body

Equalization	R-22	R-407C	R-404A	R-134a	R-448A	R-449A
Internal	068U2235		068U2285	068U2205	068U3945	068U3946
External	068U2237		068U2287	068U2207	068U3859	068U3858

All valves above have ⅜ in. × ½ in. solder ODF connections and are designed for evaporator temperature -40 °F to 50 °F (N charge). Other variation available, please contact your local Danfoss authorized wholesaler.

2. Select Orifice

TUA/TUAE valve capacities are based on the installed orifice. To select the correct size, use one of the two methods below:
A. System characteristics: Select the orifice using appropriate refrigerant, evaporator temperature, and system capacity.
OR
B. Nominal capacity of the installed valve: Use the nominal capacity of the originally installed valve and match with the nominal capacity in chart (3rd column from left).

Technical data and ordering

TUA and TUAE (IF EXACT CAPACITY CANNOT BE FOUND, USE NEXT LARGER ORIFICE)

R-22 / R-407C			Evaporator temperature (°F)									
Orifice size	Danfoss Code No.	Nominal capacity of installed valve[1] (tons)	–40	–30	–20	–10	0	10	20	30	40	50
			Rated capacity[2] (tons)									
0	068U1030	⅛	1/15	1/15	1/15	1/10	⅛	⅛	⅙	⅙	⅙	⅕
1	068U1031	⅕	1/10	⅛	⅛	⅙	⅙	⅕	⅕	⅕	¼	¼
2	068U1032	¼	1/10	⅛	⅛	⅙	⅕	¼	¼	¼	⅓	⅓
3	068U1033	⅓	⅛	⅙	⅕	¼	¼	⅓	⅓	⅓	⅓	⅓
4	068U1034	½	¼	¼	¼	⅓	⅓	½	½	½	¾	¾
5	068U1035	¾	⅓	⅓	⅓	½	½	¾	¾	¾	1	1
6	068U1036	1 ½	½	½	½	¾	¾	1	1 ¼	1 ⅓	1 ½	1 ½
7	068U1037	2	½	¾	¾	1	1	1 ⅓	1 ½	1 ¾	2	2
8	068U1038	2 ¾	1	1	1 ⅓	1 ½	1 ¾	2	2 ⅓	2 ½	3	3
9	068U1039	4	1 ⅓	1 ½	1 ¾	2	2 ½	2 ¾	3 ¼	3 ½	4	4 ½

R-404A			Evaporator temperature (°F)									
Orifice size	Danfoss Code No.	Nominal capacity of installed valve[1] (tons)	–40	–30	–20	–10	0	10	20	30	40	50
			Rated capacity[2] (tons)									
0	068U1030	⅛	1/20	1/20	1/15	1/15	1/10	1/10	⅛	⅛	⅛	⅛
1	068U1031	⅕	1/15	1/15	1/10	⅛	⅛	⅙	⅙	⅕	⅕	⅕
2	068U1032	¼	1/15	1/15	1/10	⅛	⅙	⅕	⅕	¼	¼	¼
3	068U1033	⅓	1/10	⅛	⅛	⅙	⅕	¼	¼	⅓	⅓	⅓
4	068U1034	½	⅙	⅕	¼	¼	⅓	⅓	½	½	½	½
5	068U1035	¾	⅕	¼	⅓	⅓	½	½	½	¾	¾	¾
6	068U1036	1 ¼	⅓	⅓	½	½	¾	¾	1	1	1	1 ⅓
7	068U1037	1 ½	⅓	½	½	¾	1	1	1 ⅓	1 ½	1 ½	1 ¾
8	068U1038	2 ⅓	½	¾	1	1	1 ⅓	1 ½	2	2	2 ⅓	2 ½
9	068U1039	3 ⅓	¾	1	1 ⅓	1 ½	2	2 ¼	2 ½	3	3 ½	3 ¾

R-134a			Evaporator temperature (°F)									
Orifice size	Danfoss Code No.	Nominal capacity of installed valve[1] (tons)	–40	–30	–20	–10	0	10	20	30	40	50
			Rated capacity[2] (tons)									
0	068U1030	⅛	1/30	1/20	1/20	1/20	1/15	1/15	1/10	1/10	⅛	⅛
1	068U1031	⅙	1/20	1/15	1/15	1/10	1/10	⅛	⅛	⅙	⅙	⅕
2	068U1032	⅕	1/15	1/15	1/15	1/10	⅛	⅙	⅙	⅕	⅕	⅕
3	068U1033	¼	1/15	1/10	⅛	⅛	⅙	⅕	⅕	¼	¼	¼
4	068U1034	⅓	⅛	⅙	⅕	⅕	¼	¼	⅓	⅓	⅓	½
5	068U1035	½	⅕	⅕	¼	¼	⅓	⅓	½	½	½	½
6	068U1036	¾	¼	¼	⅓	⅓	½	½	¾	¾	1	1
7	068U1037	1 ¼	⅓	⅓	½	½	¾	¾	1	1	1 ¼	1 ½
8	068U1038	1 ¾	½	½	¾	¾	1	1 ¼	1 ½	1 ¾	2	2
9	068U1039	2 ½	¾	1	1	1 ⅓	1 ½	1 ¾	2	2 ⅓	2 ¾	3

R-448A			Evaporator temperature (°F)					
Orifice size	Danfoss Code No.	Nominal capacity of installed valve[3] (tons)	–40	–20	0	20	40	50
			Rated capacity[2] (tons)					
0	**068U1030**	1/5	2/25	1/10	1/5	1/6	1/5	1/5
1	**068U1031**	1/4	1/10	1/8	1/5	1/4	1/4	1/3
2	**068U1032**	1/3	1/8	1/6	1/5	1/4	1/3	1/3
3	**068U1033**	2/5	1/6	1/5	1/4	1/3	2/5	1/2
4	**068U1034**	3/4	1/4	1/3	1/2	3/5	3/4	4/5
5	**068U1035**	1	1/3	1/2	3/5	3/4	1	1
6	**068U1036**	1 1/2	1/2	2/3	1	1 1/5	1 1/2	1 2/3
7	**068U1037**	2	2/3	1	1 1/4	1 3/5	2	2 1/4
8	**068U1038**	3	1	1 1/3	1 4/5	2 1/3	3	3 1/4
9	**068U1039**	4	1 2/5	1 4/5	2 2/5	3 1/6	4	4 1/2

R-449A			Evaporator temperature (°F)					
Orifice size	Danfoss Code No.	Nominal capacity of installed valve[3] (tons)	–40	–20	0	20	40	50
			Rated capacity[2] (tons)					
0	**068U1030**	1/5	2/25	1/10	1/8	1/6	1/5	1/5
1	**068U1031**	1/4	1/10	1/8	1/5	1/4	1/4	1/3
2	**068U1032**	1/3	1/8	1/6	1/5	1/4	1/3	1/3
3	**068U1033**	2/5	1/6	1/5	1/4	1/3	2/5	2/5
4	**068U1034**	2/3	1/4	1/3	1/2	3/5	3/4	4/5
5	**068U1035**	1	1/3	1/2	3/5	3/4	1	1
6	**068U1036**	1 2/5	1/2	2/3	1	1 1/5	1 1/2	1 3/5
7	**068U1037**	2	2/3	1	1 1/5	1 1/2	2	2 1/8
8	**068U1038**	2 4/5	1	1 1/3	1 3/4	2 1/3	2 4/5	3 1/10
9	**068U1039**	4	1 1/3	1 4/5	2 1/3	3 1/8	4	4 2/5

All capacity data is in accordance to ARI 750-2007 except where noted.

[1] Nominal capacity based on ARI standards: Evaporating temperature = 40 °F, Liquid temperature = 100 °F, Condensing temperature = 110 °F

[2] Capacity based on condensing temperature of 95 °F and a vapor free liquid temperature of 85 °F ahead of the expansion valve.

[3] Condensing temperature = 100 °F

Spare Parts and Accessories

Description	Danfoss Code No.
Bulb strap	**068U3507**
Metal Gasket (24 pcs)	**068U0015**
Filter for orifices 0–4 (clear, 24 pcs)	**068U1706**
Filter for orifices 5–9 (blue, 24 pcs)	**068U0016**

Selection and Installation Instructions

1. Select Valve Body

Select the valve body based on refrigerant and need for internal or external equalization using the table on the previous page under "Select Valve Body."



2. Select Orifice

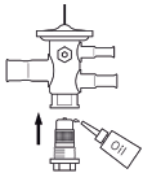
1. Select one of ten orifices using the "Select Orifice" section on the previous page.
2. Prior to installing into system, verify that only mesh portions of the screen cover the orifice inlet.



3. Assemble Valve

1. Place one drop of refrigerant oil between the screen cage and the pushpin.
2. Verify that the metal gasket is seated on the base of the orifice.
3. Tighten orifice into valve (specification is 26–30 ft.-lbs.). In addition to eliminating leaks, proper torquing insures proper superheat control.

► Replace the metal washer/gasket that is mounted at the base of the orifice every time you change the orifice assembly or remove it from the valve body.



4. Braze Valve into System

1. Clean and insert copper tubing into appropriate connection on valve.
2. Direct torch at copper tubing until it begins to color (10–15 seconds).
3. Briefly direct torch on valve connection (2–5 seconds).
4. Apply brazing alloy until it flows.

Do not try to fill the ridge. Attempts to do so may clog the connector.

► Sweat connections using any common brazing alloy (minimum 5% silver).
As internal connector surface is copper, connections are copper to copper, and there is no need for use of high content silver solder or flux.

► *NO WET WRAP REQUIRED*

5. Secure sensing bulb with enclosed bulb strap to suction line. Bulb should be located between 1:00 & 4:00 or 8:00 & 11:00 on the tube, and the strap should be tight enough that no bulb movement is possible.
6. Wrap included insulation tape beginning one inch before the bulb and overlapping each wrap, finishing one inch beyond the bulb on the other end.

5. Adjust Superheat

1. Remove the cap with a 5⁄32 inch hex key.
2. Make superheat adjustments ¼ turn at a time (¼ turn ≈ 1 °F).
   - Turning clockwise increases superheat.
   - Turning counter-clockwise decreases superheat.
3. Reinstall the cap.

► Expansion valves on low temperature systems may require minor adjustment as the factory setting is for medium temperature systems.



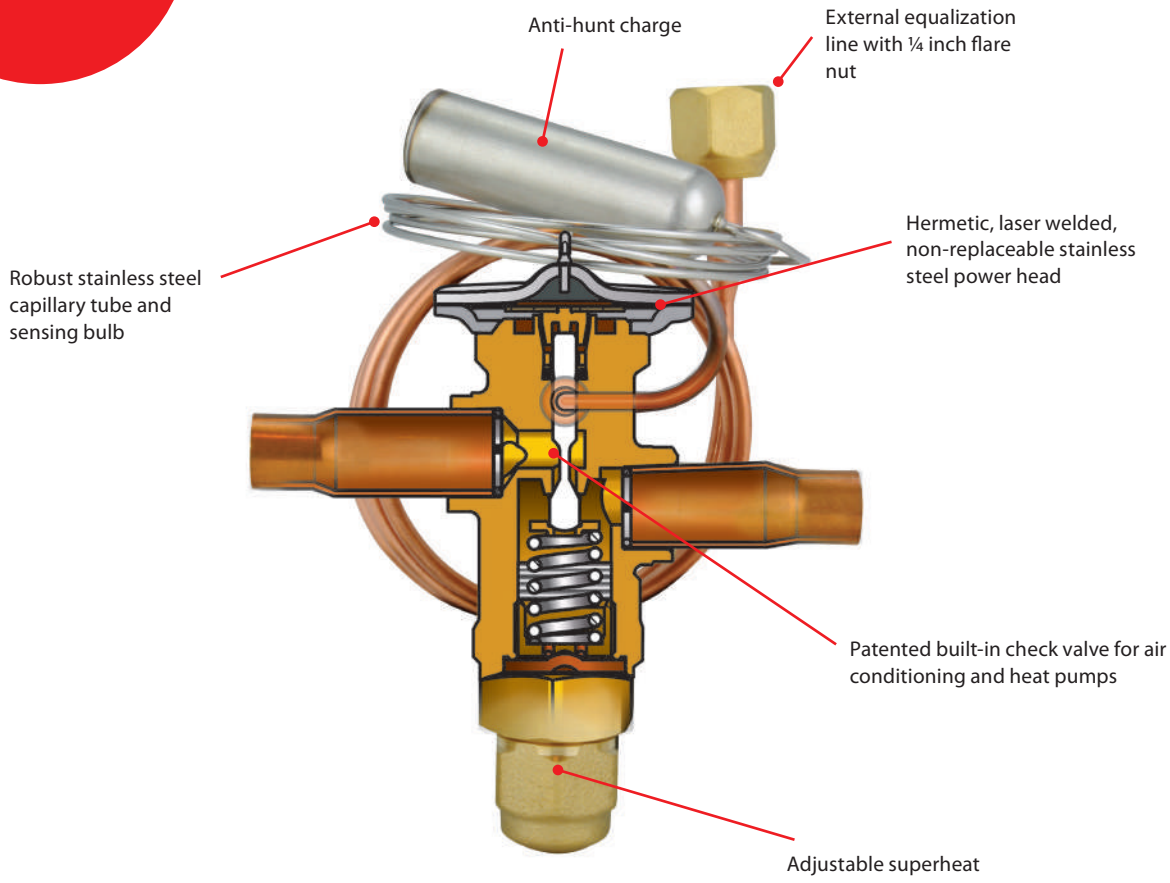
Easy to carry kits for truck stock	
All TUA/TUAE valve bodies and orifice featured on the next page and a hex key for superheat adjustment.	**068U7000**
Both TUA/TUAE valve bodies and orifices and T2/TE2 and orifices plus gaskets for TUA/TUAE and a hex key for superheat adjustment.	**068U7001**

Kits are plastic cases with foam inserts, all valves and orifices, and instructions for selection and installation of the valves. Empty kits and foam available available upon request.

TR6 - Thermostatic Expansion Valve Kits

Danfoss TR6 kits include a valve, aeroquip, chatleff, and ⅜ inch flare fittings for evaporator connections, insulating tape, a bulb strap and instructions for easy installation in the field. All valves have a balanced port design which reduces the influence from varying condensing pressures. The valves feature a built-in a check valve for heat pump applications and an anti-hunt bulb charge, optimized for residential A/C requirements.





Facts

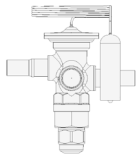
Applications:

- Residential air conditioning systems
- Rooftop units
- Heat pumps
- Light commercial air conditioning systems
- Chillers
- Split systems

- Refrigerants: R-22, R-407C, R-410A
- Capacity range: 3 to 7 Tons
- Temperature range: 15 °F to 60 °F

- Kits Include:
  - Thermostatic expansion valve
  - Aeroquip, chatleff, ⅜ inch flare fittings
  - Insulating tape
  - Bulb strap
  - Installation guide

Ordering



Orifice no.	Connections Solder ODF [in]	Equalization size flare [in]	Kit code no. R-410A	Kit code no. R-32	Kit code no. R-454B	Kit code no. R-22/R-407C
2	⅜ × ⅜	¼	067L6005	067L6005	067L6005	-
3	⅜ × ⅜	¼	067L6006	067L6006	067L6006	067L5855
4	⅜ × ⅜	¼	067L6007	067L6007	067L6007	067L5856
5	⅜ × ⅜	¼	067L6008	067L6008	067L6008	067L5857
6	⅜ × ⅜	¼	067L6009	067L6009	067L6009	067L5858
7	⅜ × ⅜	¼	067L6010	067L6010	067L6010	067L5859

Nominal Capacity (TR) by Refrigerant and Orifice Size

Orifice no.	R-407C	R-410A	R-32	R-454B	R-22
2	-	1 - 2	1.5 - 3.5	1.5 - 3	-
3	2 - 3	2 - 3	3 - 5	2.5 - 3.5	2 - 3
4	3 - 4	3 - 4	5 - 7	3 - 4.5	3 - 4
5	3.5 - 4.5	4 - 5	7 - 8	4 - 5.5	4 - 5
6	4 - 5	5 - 6	8 - 9	5 - 6.5	4.5 - 5.5
7	5 - 6	6 - 7	9 - 11	6 - 8	5.5 - 7

Temperature range = -10 to 15 °C / 15 to 60 °F

Kit part numbers consist of a valve, bulb strap, insulation tape, installation guide, and the following connectors:

1 Chatleff female 3/4 in. connector

1 Aeroquip female 5/8 in. connector

1 Flare 3/8 in. connector

Spare Parts and Accessories

Description	Danfoss Code No.
Bulb strap	**068U3507**
Fitting ⅜ in. ODM × Chatleff	**119F3965**
Fitting ⅜ in. ODM × Aeroquip	**119F3966**

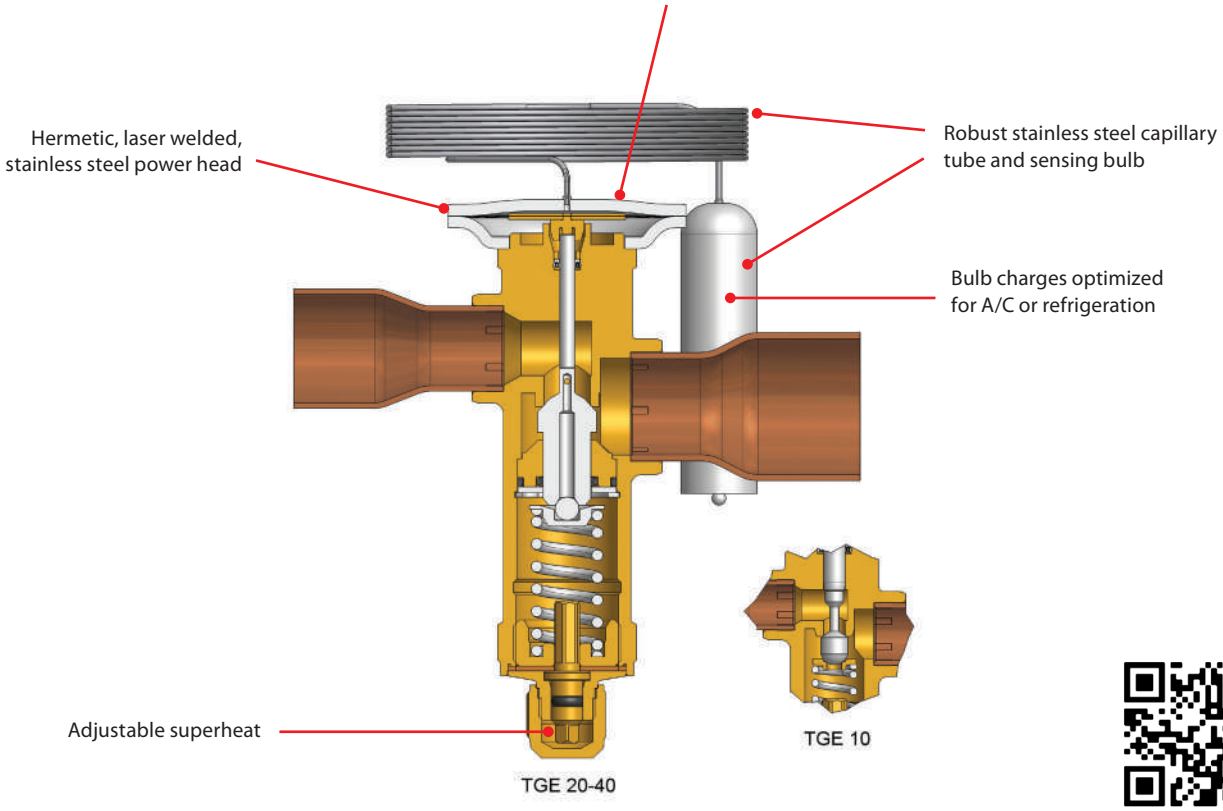
Scan the QR Code for more information about the universal TR6 valve or visit https://qrco.de/DanfossTR6

TGE - Thermostatic Expansion Valves

Danfoss TGE thermostatic expansion valves are designed for commercial air conditioning and refrigeration. They feature a balanced port design which reduces the influence from varying condensing pressures. The air conditioning valves in this catalog feature an anti-hunt charge optimized for A/C applications and the refrigeration valves are designed for stable operation across a wide temperature range.



Features
TGE



Scan the QR Code for a step-by-step set up video

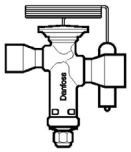
Facts

Applications:
- Traditional refrigeration
- Residential air conditioning systems
- Rooftops
- Commercial air conditioning systems
- Chillers

- Refrigerants: R-22, R-407C, R-410A, R-404A, R-507A, R-454B
- Capacity range: 9 to 46 tons (varies by refrigerant)

- Temperature range:
  - Refrigeration Valves: –40 °F to +50 °F
  - Air Conditioning Valves: –22 °F to +60 °F
- Balanced port

Technical data and ordering



TGE

Danfoss Type	Competitor Model Numbers		Nominal capacity (tons)[3]	Solder ODF connection (in.)	Danfoss Code No.
R-22, MAH charge[1]		**R-407C, MAH charge[1]**			
TGEX 10	SVE-5, EVRE-5	HFES-5H	6	½ × ⅝	**067N9403**
TGEX 10	SVE-5, EVRE-5	HFES-5H	6	½ × ⅞	**067N9404**
TGEX 10	SVE-6, EVRE-6		7 ½	⅝ × ⅞	**067N9406**
TGEX 10	SVE-6, EVRE-6		7 ½	⅝ × 1 ⅛	**067N9483**
TGEX 10	SVE-8, SVE-10, EBSVE 8, EVRE 8, EVRE 10	HFES-8H, HFES-10H, TRAE-10H	11	⅝ × ⅞	**067N9407**
TGEX 20	EBSVE 11, EVRE 12		12	⅝ × ⅞	**067N9409**
TGEX 20	EBSVE15, OVE 15	HFES-15H, TRAE-15H	15	⅝ × 1 ⅛	**067N9411**
TGEX 20	EBSVE15, OVE 15	HFES-15H, TRAE-15H	15	⅞ × 1 ⅛	**067N9412**
TGEX 20			18	⅞ × 1 ⅛	**067N9413**
TGEX 40	EBSVE 20, OVE 20	HFES-20H, TRAE 20H	26	⅞ × 1 ⅜	**067N9415**
TGEX 40	OVE 30	TRAE 30H	30	1 ⅛ × 1 ⅜	**067N9418**
TGEX 40	OVE 40	TRAE 40H	38	2 ⅛ × 1 ⅜	**067N9419**
R-410A, MAH charge[1]					
TGE 3.5			3.5	½ × ⅝	**067N9201**
TGE 4.5			4.5	½ × ⅞	**067N9202**
TGE 6.5			6.5	½ × ⅞	**067N9203**
TGEL 10	ERZE-8		9	⅝ × ⅞	**067N9206**
TGEL 10	ERZE-12.5	TFES-12Z	13	⅝ × ⅞	**067N9207**
TGEL 20	ERZE-15	TFES-16Z	15	⅝ × ⅞	**067N9209**
TGEL 20	ERZE-15	TFES-16Z	15	⅝ × 1 ⅛	**067N9210**
TGEL 20	OZE-20		23	⅞ × 1 ⅛	**067N9213**
TGEL 20	OZE-20		23	1 ⅛ × 1 ⅛	**067N9284**
TGEL 40	OZE-25		31	⅞ × 1 ⅛	**067N9285**
TGEL 40	OZE-25		31	⅞ × 1 ⅜	**067N9215**
TGEL 40	OZE-35		35	1 ⅛ × 1 ⅜	**067N9218**
TGEL 40			46	1 ⅛ × 1 ⅜	**067N9219**
R-134A, N charge[2]		**R-513A, N charge[2]**			
TGEN 10	SJE-5, SJE-6, EBSJE-5	HFES-6M	7	⅝ × 1 ⅛	**067N5158**
TGEN 20	EBSJE-7	HFES-7.5M	8	⅝ × ⅞	**067N5159**
TGEN 20	EBSJE-12, OJE-12	HFES-11M	12	⅞ × 1 ⅛	**067N5163**
TGEN 40	OJE-16	HFES-14M, TRAE-13M, TRAE-14M	17	1 ⅛ × 1 ⅛	**067N5254**
TGEN 40			20	1 ⅛ × 1 ⅛	**067N5255**
TGEN 40	OJE-23	TRAE-22M	25	1 ⅛ × 1 ⅜	**067N5169**
R-404A, N charge[2]		**R-507A, N charge[2]**			
TGES 10	SSE-3	HFES-3.5S	4	½ × ⅞	**067N6151**
TGES 10	SSE-4	HFES-5S	5	½ × ⅞	**067N6166**
TGES 10	SSE-4	HFES-5S	5	⅝ × ⅞	**067N6150**
TGES 10	SSE-6, SSE-7, EBSSE-6	HFES-7S	7 ½	⅝ × ⅞	**067N6154**
TGES 20	EBSSE-7.5	TRAE-8S	9	⅝ × ⅞	**067N6158**
TGES 20	EBSSE-10, OSE-9	HFES-10S	11	⅝ × ⅞	**067N6188**
TGES 20	EBSSE-10, OSE-9	HFES-10S	11	⅝ × 1 ⅛	**067N6155**
TGES 20	EBSSE-10, OSE-9	HFES-10S	11	⅞ × 1 ⅛	**067N6181**
TGES 20	EBSSE-13, OSE-12	HFES-13S, TRAE-12S	13	⅞ × 1 ⅛	**067N6162**
R-454B					
TGE 5			5	½ x ⅝	**067N9548**
TGE 7.5			7.5	½ x ⅝	**067N9528**
TGE 10			10	⅝ x ⅞	**067N9529**
TGE 12			12	⅝ x ⅞	**067N9530**
TGE 14			14	⅝ x ⅞	**067N9549**
TGE 16			16	⅞ x 1 ⅛	**067N9557**
TGE 25			25	⅞ x 1⅛	**067N9205**
TGE 34			34	1 ⅛ x 1 ⅜	**067N9237**
TGE 39			39	1 ⅛ x 1 ⅜	**067N9208**
TGE 51			51	1 ⅛ x 1 ⅛	**067N9238**
TGE 59			59	1 ⅛ x 1 ⅜	**067N9239**

[1] MAH charge: –22 °F to 60 °F, Maximum operating temperature = 300 °F

[2] N charge: –40 °F to 50 °F, Maximum operating temperature = 210 °F

[3] Nominal capacity based on ARI standard: Evaporating temperature = 40 °F, Liquid temperature = 100 °F, Condensing temperature = 110 °F

Spare Parts and Accessories

Description	Danfoss Code No.
Bulb strap	**067N0557**

ERC 211/213 - Electronic Temperature Controls

The ERC 213 is designed to meet the needs of today's refrigeration technician. Its universal fit, easy setup, and capacity to work with any common temperature sensor make it the obvious choice when replacing an electronic temperature control.

Features
ERC 211/213

Compatible with all common temperature sensors

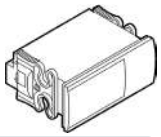
Kitted with two temperature sensors



Easy to install (attachment clips included)

Quick five-step set up process

Technical data and ordering



ERC 213 Kit

Voltage	Applications	Danfoss Code No.
115V 50/60 Hz	Compressor or solenoid for pump down, defrost, and fan	**080G3467**
220V 50/60 Hz		**080G3469**

ERC 211 Kit

Voltage	Applications	Danfoss Code No.
Red LED, 115V	Compressor or solenoid for pump down, defrost, and fan	**080G3451**
Red LED, 230V		**080G3453**

Scan the QR Code for a step-by-step set up video or visit http://bit.ly/ERC213_video

Facts

Applications:
- Traditional refrigeration
- Walk-ins
- Chillers

- Controls:
  - defrost
  - fan
  - compressor/solenoid for pump down

- Temperature range:
  - operating conditions: 14 °F to 131 °F
  - storage conditions: –40 °F to 158 °F

- 4 inputs:
  - 2 analog
  - 1 analog/digital
  - 1 digital

KoolConnect Bluetooth Enabler and App

Save time on equipment programming in the production line, and during on-site service. Simply connect to the electronic controls via Bluetooth to read-out historic data, adjust, download, and upload parameter settings, and look up alarm and error status. All from the convenience of your mobile phone.

- Plug-and-play on-site connectivity
- Easy commissioning and service
- Seamless parameter configuration
- Mass programming
- Immediate report sharing



Model	Description	Code no. single pack	Code no. industrial pack (60 pcs)
EKA 202	BLE adapter without power backup	080N0022	080N0026
EKA 203	BLE adapter with power backup	080N0023	080N0027

Model	Description
Interface cable – ERC 11X series	080N0329
Interface cable – ERC 21X series	080N0327
Interface cable – EETa	080N0325

Scan here to download the app

KPU 19 - Thermostats

The KPU 19 thermostats are designed for easy installation and service with bottom and rear knockouts, differential adjustment dial, a tamper-resistant design, and a robust thermoplastic housing.



Features
KPU 19



Facts

Applications:

- Traditional refrigeration
- Air conditioning
- Ventilating systems
- Heating systems

- Ambient temperature: –30 °F to +158 °F (bulb sensor); –30 °F to +140 °F (room sensor)
- Switch: Single pole changeover switch (SPDT) and single pole non-changeover switch (SPST)
- Enclosure: NEMA 1
- Cable entry: ⅞ inch cable entry for ½ inch male pipe thread connection (conduit boss) or similar screwed cable entry

Technical data and ordering



KPU 19 Thermostats

KPU Series	Bulb type	Range (°F)	Contact/ Reset	Capillary tube length (in.)	Maximum bulb temperature (°F)	Competitor part no.	Danfoss Type	Danfoss Code No.
KPU 19	Remote bulb	–30 to 80	SPDT/Auto	120	140	A19ABC-24C A19ABC-37C A19ABC-74C A19AAC-4C A19AAF-20C	KPU19	**060L2150**[1]
KPU 19		–30 to 80	SPST/Auto	80	140	A19AAD-5C A19ABA-40C A19AAD-12C	KPU19	**060L2151**[1]
KPU 19	Room bulb	–30 to 80	SPDT/Auto	Room sensor	140	A19BBC-2C A19BAB-3C A19BAC-1C A19BAF-1C	KPU19	**060L2152**

[1] As 060L1250 is SPDT, 060L2150 can replace competitor parts crossed to both 060L2150 and 060L2151.

Contact Load	Resistive load		0.5~16A/120V AC 0.5~8A/240V AC
	Inductive load	Full load	0.5~16A/120V AC 0.5~8A/240V AC
		Locked rotor	96A/120V AC 48A/240V AC
	Pilot duty		125VA/240V DC

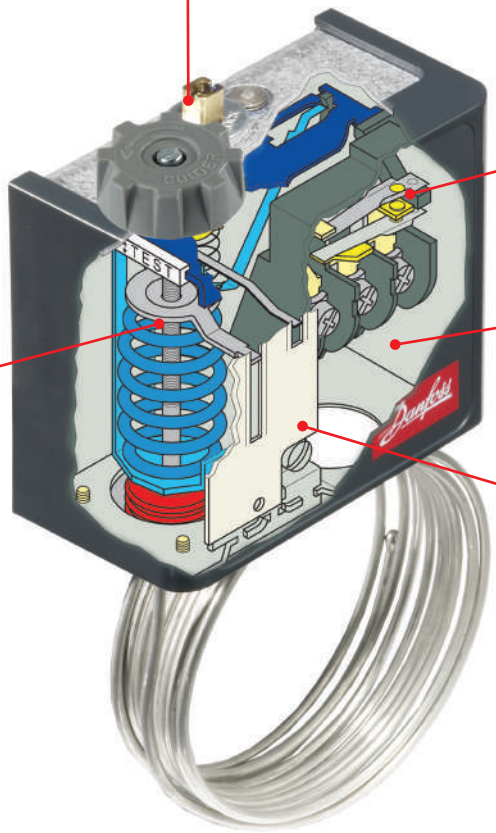
Visit for a video of a KPU 19 temperature control replacement:
http://bit.ly/KPU19_video

KPU 60/70 - Thermostats

KPU 60/70 thermostats are designed to be technician-friendly by functioning as easy and direct replacements for most controls on the market and feature snap-action switches, highly visible contrast scales, fingertip contact testing, and are easily adjustable using a standard refrigeration wrench.



Features
KPU 60/70



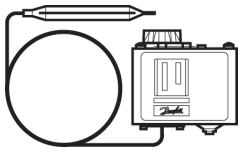
Facts

Applications:

- Traditional refrigeration
- Air conditioning
- Ventilating systems
- Heating systems

- Ambient temperature: –40 °F to +122 °F (175 °F for maximum 2 hours)
- Switch: Single pole double throw (SPDT)
- Enclosure: NEMA 1
- Cable entry: ⅞ inch cable entry for ½ inch male pipe thread connection (conduit boss) or similar screwed cable entry

Technical data and ordering



KPU 60/70 Thermostats

Danfoss Type	Bulb type	Range (°F)	Contact/ Reset	Capillary tube length (in.)	Differential		Maximum bulb temperature (°F)	Competitor part no.	Danfoss Code No.
					at lowest temp. setting	at highest temp. setting			
KPU 61	Straight capillary tube[1]	–20 to 60	SPDT/Auto	80	10 to 40	2.5 to 13	250	O10-1416 O10-1010 O16-111 O10-1419	**060L5201**
KPU 61	Remote air coil[1]	–20 to 60	SPDT/Auto	80	10 to 40	2.5 to 13	250	O10-1408 O10-1409 O10-1473 O16-104 O10-1410	**060L5203**
KPU 62	Room sensor[1]	–20 to 60	SPDT/Auto	Room sensor	10 to 40	2.5 to 13	250	O10-1072 O10-1418 O16-594 O60-101	**060L5206**
KPU 68	Room sensor[1]	25 to 95	SPDT/Auto	Room sensor	8 to 45	3 to 13	250	O10-1802 O16-595 O10-301 O16-165	**060L5215**
KPU 73	Remote bulb[2]	–15 to 60	SPDT/Auto	80	6.5 to 32	5 to 50	175	O60-100 O60-120	**060L5208**
KPU 71	Remote bulb[2]	25 to 70	SPDT/Auto	80	5.5 to 18	4 to 16	175		**060L5218**
KPU 77	Remote bulb[2]	60 to 140	SPDT/Auto	80	6 to 18	6.3 to 18	265	O60-200 A19AAF-12C A19AAB-4C A19ABB-2C A19ABB-7C	**060L5223**

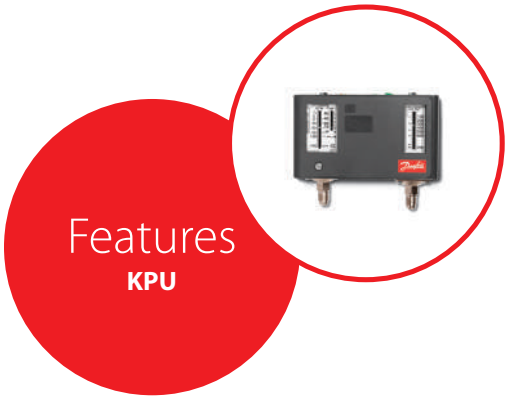
[1] Bulb must be installed in colder position than thermostat housing and capillary tube.
[2] Temperature variations in excess of 70 °F between sensing bulb, housing, and capillary tube will influence scale accuracy.

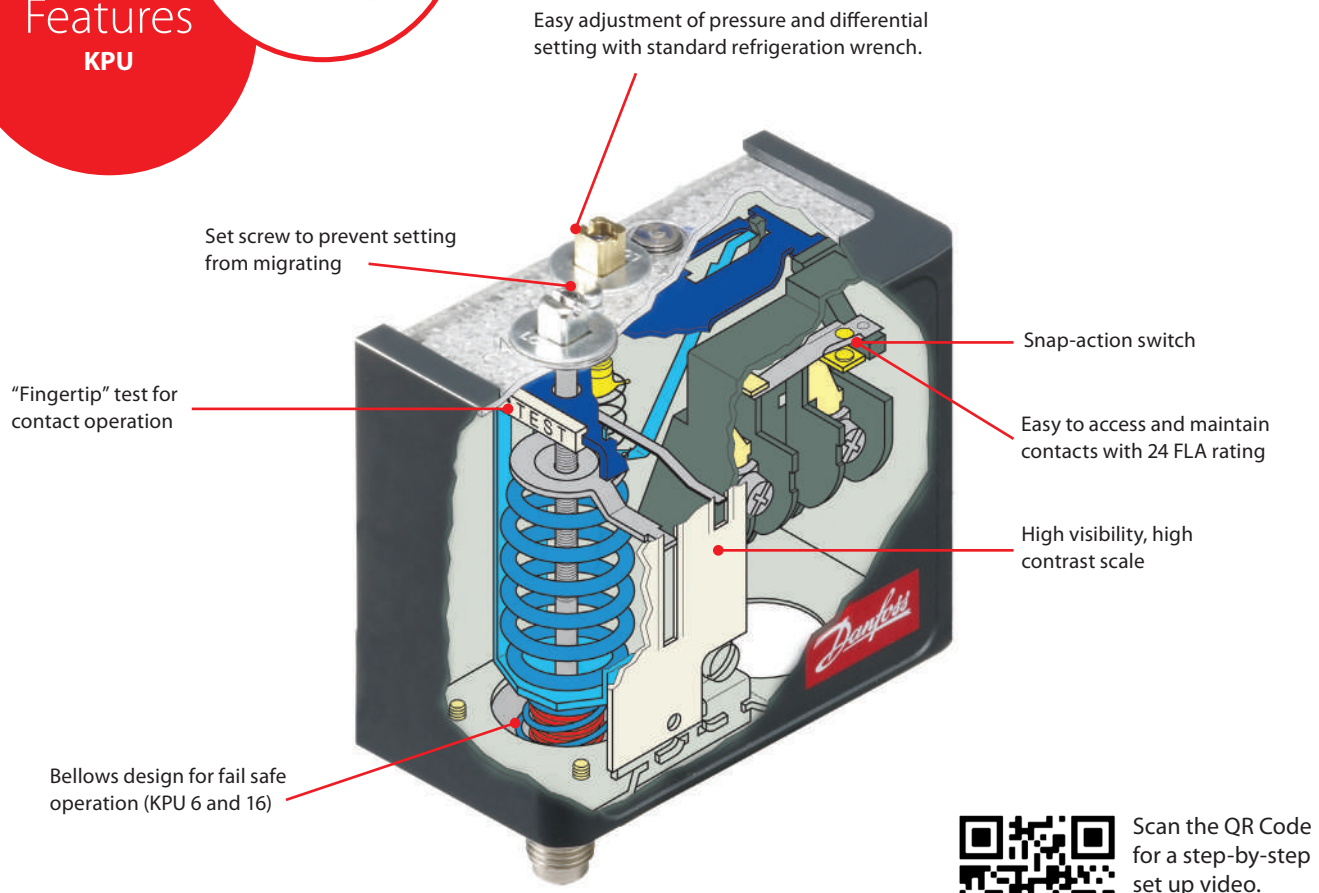
Contact Load	Resistive load		24A/120V AC 24A/240V AC
	Inductive load	Full load	24A/120V AC 24A/240V AC
		Locked rotor	144A/120V AC 144A/240V AC
	Pilot duty		12W/120V DC

Visit for a video of a KPU 60/70 temperature control replacement http://bit.ly/KPU6070_video

KPU - Pressure Switches

KPU pressure switches are designed to be contractor friendly and used in refrigeration and air-conditioning systems to protect the systems from excessively low suction or high discharge pressure. They can also be applied to start and stop compressors and the fans of air-cooled condensers. KPU pressure switches, in single and dual versions, cover a comprehensive range of applications and are designed for use with fluorinated and non-aggressive refrigerants. Most KPU pressure controls can be used with R-410a systems with only a few code numbers.





Scan the QR Code for a step-by-step set up video.

Facts

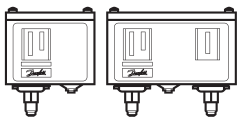
Applications:

- Commercial air conditioning
- Commercial refrigeration
- Supermarket Refrigeration
- Food processing and storage

- Product Types
  - Low Pressure
  - High Pressure
  - Dual Pressure
- Maximum working/test pressure
  - LP controls: 245/290 psig
  - HP controls: 505/505 psig
  - KPU 6 and 16 on HP side: 675/675 psig

- Refrigerants: R-22, R-134a, R-404A, R-407A, R-407C, R-407F, R-422B, R-422D, R-438A, R-448A, R-449A, R-450A, R-452A, R-507A, R-513A, R-410A (only KPU 1, 2, 6, 16)
- Ambient temperature: –40 to +150 °F (175 °F for max. 2 hours)
- Enclosure: NEMA 1
- Cable entry: ⅞ inch cable entry for ½ inch male pipe thread connection (conduit boss) or similar screwed cable entry
- Pressure connection: ¼ inch M flare or 36 inch capillary tube with ¼ inch flare nut
- KPU 6W, 6B, and 16B feature "dual bellows" on high pressure side to prevent leaks in the case of a bellows rupture

Technical data and ordering



KPU Pressure Switches

Danfoss Type	Pressure	Reset	Contact system	Range (in. Hg/psig)	Differential (psig)	Max. working pressure (psig)	Competitor part no.[1]	Danfoss Code No.	
								¼ in. M flare	36 in. capillary tubes with ¼ in. flare nuts
KPU 1	Low	Automatic	SPDT	6 to 108	10 to 60	250	O10-1483 P70AB-2C	**060-5231**	**060-5233**
KPU 2	Low	Automatic	SPST (NO)	6 to 73	6 to 30	250	O10-1402 P70AB-12C P170AB-12C	**060-5237**	**060-5235**
KPU 2	Low	Automatic	SPDT	6 to 73	6 to 30	250		**060-5239**	**060-5240**
KPU1B	Low	Manual	SPDT	28 to 100	10.2	250		**060-5232**	**060-5234**
KPU 5	Fan cycling	Automatic	SPST (NO)	100 to 465	25 to 85	510	O10-2054 P70AA-118C	**060-5241**	**060-5242**
KPU 6W[2]	High	Automatic	SPDT	100 to 600	58 to 145	675	O16-108 P170CA-400C P70CA-3C	**060-5243**	**060-5245**
KPU 6B[2]	High	Manual	SPDT	100 to 600	60	675	P70DA-1C	**060-5244**	**060-5246**

KPU Dual Pressure Switches

Danfoss Type	Low pressure side		High pressure side		Rest		Contact system (LP/HP)	Max. working pressure (low/high side) (psig)	Competitor part no.[1]	Danfoss Code No.	
	Range (in. Hg/psig)	Differential (psig)	Range (psig)	Differential (psig)	Low pressure side	High pressure side				¼ in. M flare	36 in. capillary tubes with ¼ flare nuts
KPU 15	6 to 108	10 to 60	100 to 465	60	Automatic	Automatic	SPST (NO/NC)	250/510	O12-1549 P170LB-1C	**060-5247**	**060-5248**
KPU 15B	6 to 108	10 to 60	100 to 465		Automatic	Manual	SPST (NO/NC)	250/510	P70LB-1C P70MA-1C	**060-5249**	**060-5250**
KPU 16B	6 to 108	10 to 60	100 to 600		Convertible[3]	Convertible[3]	SPDT/ SPST (NO)	250/675	O12-4834 P170LB-1C P70LB-1C P70MA-1C	**060-5253**	**060-5254**

[1] Competitor part no. equipped with capillary tube for all but P170LB-1C which has flare connections.

[2] KPU 6 and the high pressure side of KPU 16 are designed with fail-safe double bellows.

[3] Convertible reset controls can be adjusted for either automatic or manual reset. Adjust reset setting to match product being replaced.

All controls are supplied with universal mounting bracket and mounting screws.

Ambient tempature: –40 °F to +122 °F (175 °F for maximum 2 hours).

KPU 1, 2, 6, 16 suitable for all HFC refrigerants, including R-410A.

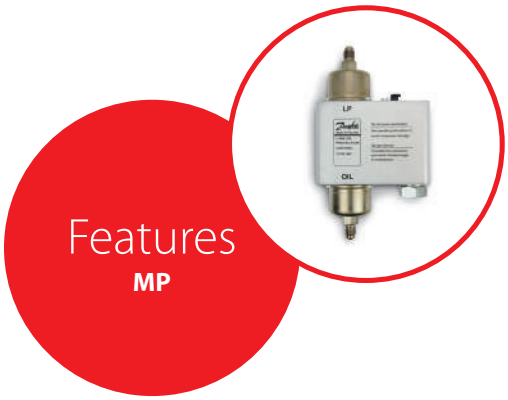
	120/240 VAC
Alternating Current	
Motor Full Load Amps (FLA)	24
Locked Rotor Amps (LRA)	144
Direct Current	240 V DC: 12W pilot duty

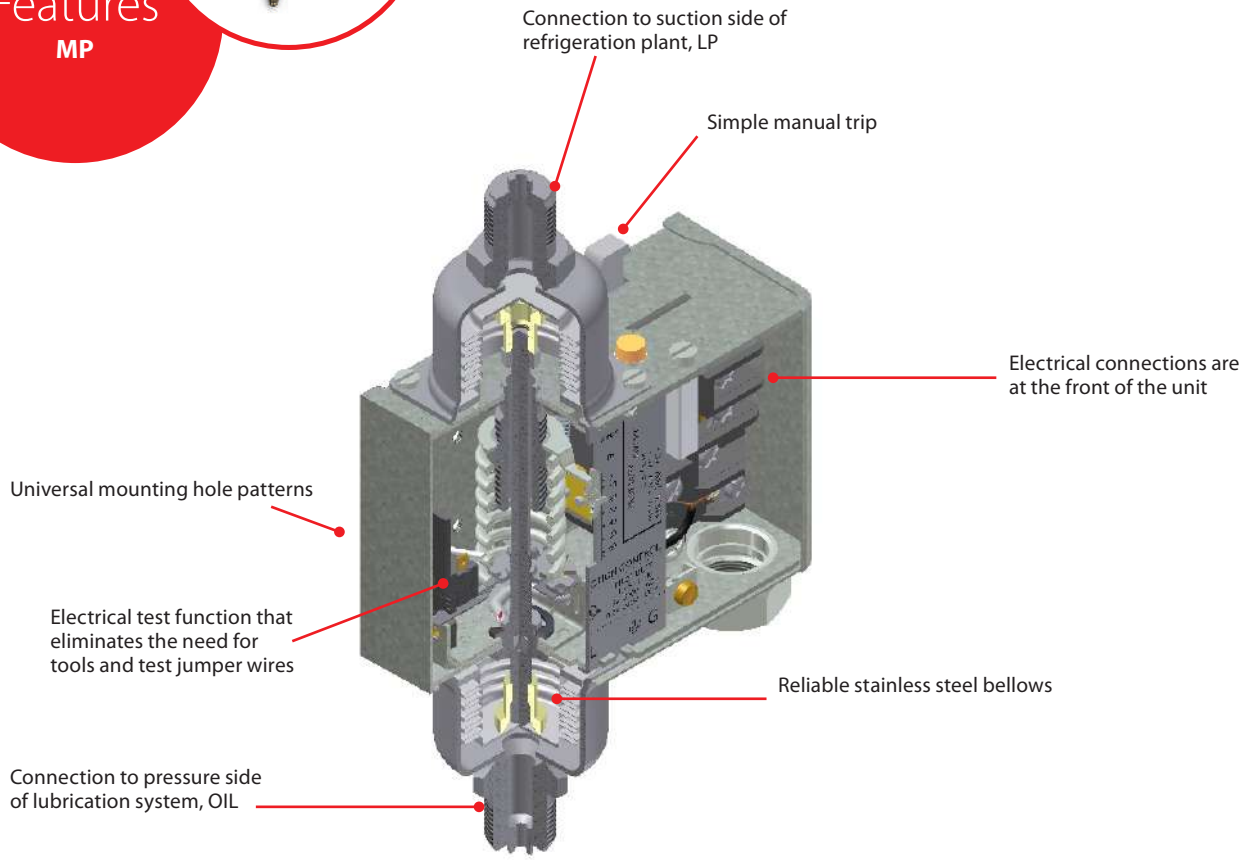
Spare Parts and Accessories

Description	Type(s) applied to	Danfoss Code No.
Capillary tube; 39 in. with ¼ in. flare coupling nuts on each end	KPU with ¼ in. M flare	**060-017166**

MP - Differential Pressure Switch / Lube Oil Protection Switch

MP 54 and MP 55 oil differential pressure switches are used to protect refrigeration compressors against low oil pressure. These switches are compatible with HCFC and non-flammable HFC refrigerants.



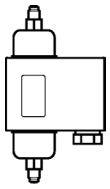


Facts

Applications:

- Commercial refrigeration
- Commercial air conditioning
- Supermarket Refrigeration
- Food processing and storage

- Product Types
  - Fixed Differential (MP 54)
  - Adjustable Differential (MP 55)
- Refrigerants: HCFC and non-flammable HFC refrigerants
- Max working/test pressure: 245 psig/320 psig
- Ambient temperature: The time relay is temperature-compensated in the range –40 °F to +140 °F
- Enclosure: ~NEMA 1
- Cable entry: Integral ½ inch female NPSM swivel cable connector for ½ inch male pipe thread connector.
- Pressure connection: ¼ inch M flare or 36 inch capillary tube with ¼ inch flare nut



Technical data and ordering

MP - Differential Pressure Control / Lube Oil Protection Control

Danfoss Type	Control differential Δp (psig)	LP side Regulation range (in. Hg/psig)	Time relay delay time seconds	Competitor Code Nos.	Danfoss Code No.	Competitor Code Nos.	Danfoss Code No.
				¼ in. M flare		36 in. capillary tubes with ¼ in. flare nuts	
MP54	6	29 to 175	45	P145NCA/B-82C	**060B200891**	P45NCA-82C 3321-009	**060B205091**
	9	29 to 175	90	3321-001	**060B200266**		
	9	29 to 175	120	P145NCA/B-12C P31-5827 3321-001	**060B200391**[2]	P45NCA-12C P30-5826 3321-010	**060B205391**[2]
MP55	4.3 to 65	29 to 175	45			P288AA-18/2C P30-3601 3321-014/5[3]	**060B205491**
	4.3 to 65	29 to 175	60	P128AA-2C	**060B201291**[1]		
	4.3 to 65	29 to 175	120	P128AA-17C	**060B200791**	P28AA-17C P28NA-5C P30-3801 3321-014/5[3]	**060B205791**

[1] With glow lamp that remains on during normal operation of compressor.
Note: When time delay is energized which also means that min. permissible oil pressure (differential Δp) is reached, light goes out.
[2] Three-wire hook-up with jumper that is provided in the box with control.
[3] The 3321 series controls feature adjustable delay and fixed differential. The differential for 3321-014 controls is set at 15 psig and 3321-015 is at 30 psig. Select control with appropriate delay time.

Spare Parts and Accessories

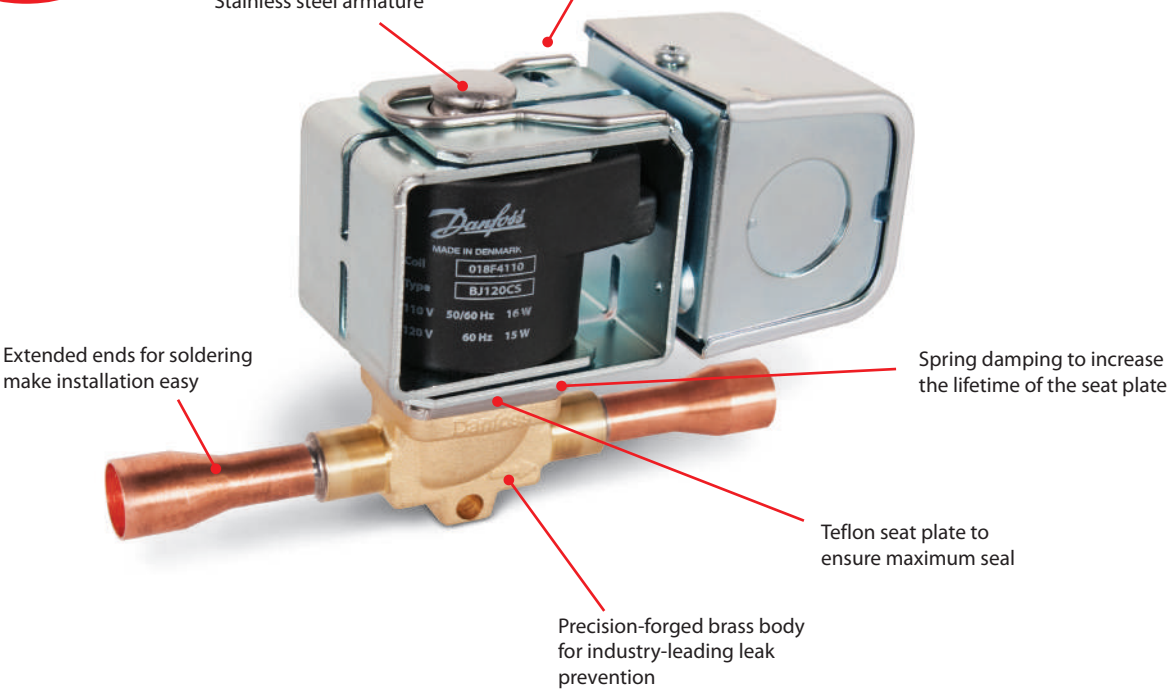
Description	Type(s) applied to	Danfoss Code No.
Capillary tube; 39 in. with ¼ in. flare coupling nuts on each end	MP with ¼ in. M flare	**060-017166**

EVR Version 2 - Solenoid Valves

EVR Version 2 solenoid valves are direct or servo-operated solenoid valves for liquid, suction, and hot gas lines. They are suitable for all refrigeration, freezing, and air conditioning applications and are compatible with fluorinated refrigerants. The valves can be delivered as normally open or closed as well as with or without manual operation.



Features
EVR Version 2



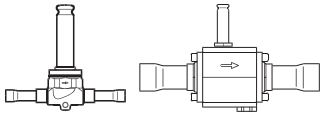
Facts

Applications:

- Commercial refrigeration
- Freezers
- Air conditioning units
- Commercial refrigeration
- Supermarket Refrigeration

- Refrigerants: Use with any fluorinated refrigerant
- Maximum working pressure:
  - EVR 2–EVR 8: 655 psig
  - EVR 10: 655 psig
  - EVR 15–EVR 40: 655 psig
- Temperature range: –40 °F to +220 °F
- Connections:
  - Flare connections up to ⅝ inch
  - Solder connections up to 2 ⅛ inch
- Available in normally open and normally closed
- Available with or without manual stem
- Coil available with junction box (NEMA 2) and conduit boss (NEMA 4)

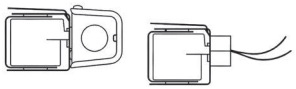
Technical data and ordering



EVR Version 2 Solenoid valves

Danfoss Type	Rated capacity (liquid tons)			Solder ODF connection (in.)	Port size (in.)	Max. working pressure (psig)	Danfoss Code No.[1]	
	R-22 / R-407C	R-134a	R-404A / R-507A				with manual stem	without manual stem
EVR 2	0.92	0.85	0.59	¼		655		**032F7100**
EVR 3	1.66	1.54	1.07	¼		655		**032F7105**
EVR 3	1.66	1.54	1.07	¼	⅛	655		**032F1206**
EVR 3	1.66	1.54	1.07	⅜	⅛	655		**032F1204**
EVR 6	5.47	5.07	3.51	⅜	15⁄64	655	**032L7116**	**032L1212**
EVR 6	5.47	5.07	3.51	½	15⁄64	655	**032L7144**	**032L1209**
EVR 8	6.52	6.03	4.18	½	5⁄16	655	**032L7148**	**032L7121**
EVR 10	11.50	10.64	7.38	⅝	⅜	655	**032L7149**	**032L1214**
EVR 15	17.71	16.39	11.37	⅝	9⁄16	655		**032L1228**
EVR 18	23.18	21.46	14.88	⅞	19⁄32	655	**032L1004**	
EVR 20	36.76	34.04	23.60	⅞	⅞	655	**032L1254**	**032L1240**
EVR 22	41.93	38.82	26.92	1 ⅛	15⁄16	655	**032L7137**	**032L7145**
EVR 25	60.19	55.72	38.64	1 ⅜	1	655	**032L2207**	**032L2208**
EVR 32	102.85	95.23	66.03	1 ⅝	⅞	655	**032L1103**	**032L1104**

[1] Valve body is normally closed (NC) and excludes coil. Additional code nos. available in Coolselector or contact Danfoss.



Coils for Solenoid Valves

Voltage (V)	Freqency (Hz)	Power consumption (W)	Danfoss Type (junction box)[2]	Length of wire (in.)	Danfoss Code no.	Danfoss Type (conduit boss)[3]	Length of wire (in.)	Danfoss Code No.
24	50/60	14	BJ024CS	7	**018F4100**	BX024CS	18	**018F4102**
110	50/60	16	BJ120CS	7	**018F4110**	BX120CS	18	**018F4112**
120	60	15						
208–240	60	14	BJ240CS	7	**018F4120**	BX240CS	18	**018F4122**
230	50	17						

[2] Enclosure rating for BJ coils is NEMA 2 ~ IP 12-32 [3] Enclosure rating for BX coils is NEMA 4 ~ IP 54



Dual Voltage/Dual Frequency Coil

Coil Type	Voltage (V)	Freqency (Hz)	Power consumption (W)	Danfoss Type (junction box)[4]	Length of wire (in.)	Danfoss Code no.	Danfoss Type (conduit boss)[5]	Length of wire (in.)	Danfoss Code No.
EVR	110	50	12	BT240CS	7	**018F4180**	BU240CS	7	**018F4181**
	110-120	60							
	230	50							
	208-240	60							

[4] Enclosure rating for BT coils is NEMA 2 ~ IP 12-32 [5] Enclosure rating for BU coils is NEMA 4 ~ IP 54

Spare Parts and Accessories

Description	Version(s) applied to	Type(s) applied to	Danfoss Code No.
Permanent magnet coil for servicing and testing	1, 2	all	**018F0091**
Service kit (NC); O-ring, (4) screws, armature assembly, rubber gasket, compression spring	1, 2	EVR 3	**032F0181**
Seal kit (NC); O-ring for armature tube, rubber gasket, O-ring for steel cover, support ring	1	EVR 6, 8	**032F8165**
Service kit (NC); diaphragm assembly, O-ring for armature tube, (4) screws T20, (4) screws T15, armature assembly, rubber gasket, O-ring for steel cover, support ring, compression spring	1	EVR 6, 8	**032F8166**
Seal kit (NC/NO); O-ring for armature tube, rubber gasket, support ring	2	EVR 6, 8	**032L0548**
Service kit (NC); diaphragm assmbly, O-ring, (4) screws, armature assembly, rubber gasket, support ring, compression ring	2	EVR 6, 8	**032L0550**
Service kit (NC); diaphragm assembly, O-ring, (4) screws, armature assembly, rubber gasket, compression spring	1	EVR 10	**032F0185**
Service kit (NC); diaphragm assembly, O-ring, (4) screws, armature assembly, rubber gasket, compression spring	2	EVR 10	**032L0552**
Seal kit (NC/NO); O-ring for armature tube, (3) rubber gasket (1 ea. for EVR 10, 15, 20) (4) refrigeration gasket (2 ea. For EVR 15, 20)	1, 2	EVR 10, 15, 20	**032F8196**
Service kit (NC); diaphragm assembly, O-ring, (4) screws, armature assembly, rubber gasket, (2) refrigeration gasket (flange connections), compression spring	2	EVR 15, 18, 20, 22	**032L0554**
Service kit (NC); diaphragm assembly, O-ring, (4) screws, armature assembly, rubber gasket, refrigeration gasket, compression spring	1	EVR 15, 18	**032F0187**
Service kit (NC); diaphragm assembly, O-ring, (4) screws, armature assembly, rubber gasket, refrigeration gasket, compression spring	1	EVR 20, 22	**032F0189**
Manual spindle; spindle assembly	1	EVR 20, 22	**032F0193**
Seal kit (NC); (2) Al. gasket, (3) O-rings, rubber gasket	1, 2	EVR 25	**032F2326**
Piston service kit (NC); (2) O-ring, compression spring, piston assembly, insert block, rubber gasket, piston ring	1, 2	EVR 25	**032F3236**
Piston service kit (NC); (5) O-rings, Al. gasket, piston assembly, insert block, piston ring, compression spring, refrigeration gasket	1, 2	EVR 32	**042H0172**
Pilot service kit (NC); (2) Al. gaskets, O-ring, orifice, armature tube, armature assembly, compression spring	1, 2	EVR 25, 32	**042H0165**
Seal kit (NC); (4) O-rings, (2) Al. gaskets	1, 2	EVR 32	**032F2327**

To determine the version of EVR, read the code number engraved on the armature. Codes beginning with 032F, 032G and 042H are V1; codes beginning with 032L are V2. Kits for types not included in catalog may be available; contact Danfoss for more information.

KVP/KVL/KVR/NRD/KVC/CPCE - Pressure Regulators

Danfoss has a variety of pressure regulators to control the low and high pressure sides and efficient function of a refrigeration system under varying load conditions.

Pressure regulators include:

- Evaporator Pressure Regulator (KVP)
- Crankcase Pressure Regulator (KVL)
- Condensing Pressure Regulator (KVR)
- Differential Pressure Regulator (NRD)
- Hot Gas Bypass Valves (KVC/CPCE)

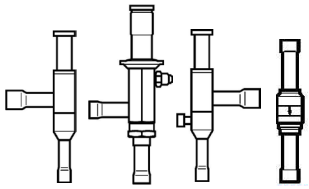
KVP/KVL/KVR/ NRD/KVC/CPCE



Facts

- All valves available for use with any CFC, HCFC, or HFC refrigerant, except R-410A
- Very stable and accurate pressure regulation
- Hermetic brazed construction 100% leak tested
- Available with flare and ODF solder connections
- Stainless steel bellows for extended lifetime
- Built-in valve seat dampening design
- Pressure regulation side
  - KVP/KVR—opens on a rise in pressure
  - KVC/KVL—opens on a fall in pressure

Technical data and ordering



KVP/KVL/KVR/NRD/KVC/CPCE - Pressure Regulators

Application	Danfoss Type	Rated capacity (tons)				Solder ODF connection (in.)	Setting range (psig)	Factory setting (psig)	Maximum working pressure (psig)	Maximum test pressure (psig)	Minimum temp. of medium (°F)	Maximum temp of medium (°F)	Danfoss Code No.
		R-22	R-134a	R-404A	R-407C								
Evaporating Pressure Regulator	KVP 12	1.30	0.90	1.20	1.20	½	0 to 80	29	260	286	–50	265	**034L0023**
	KVP 15	1.30	0.90	1.20	1.20	⅝	0 to 80	29	260	286	–50	265	**034L0029**
	KVP 22	1.30	0.90	1.20	1.20	⅞	0 to 80	29	260	286	–50	265	**034L0025**
	KVP 28	2.80	1.90	2.40	2.60	1 ⅛	0 to 80	29	260	286	–50	265	**034L0026**
	KVP 35	2.80	1.90	2.40	2.60	1 ⅜	0 to 80	29	260	286	–50	265	**034L0032**
Crankcase Pressure Regulator	KVL 12	1.20	0.80	1.00	1.10	½	3 to 87	29	260	286	–75	266	**034L0043**
	KVL 15	1.20	0.80	1.00	1.10	⅝	3 to 87	29	260	286	–75	266	**034L0049**
	KVL 22	1.20	0.80	1.00	1.10	⅞	3 to 87	29	260	286	–75	266	**034L0045**
	KVL 28	4.10	2.60	3.40	3.80	1 ⅛	3 to 87	29	260	286	–75	266	**034L0046**
	KVL 35	4.10	2.60	3.40	3.80	1 ⅜	3 to 87	29	260	286	–75	266	**034L0052**
Condensing Pressure Regulator	KVR 12	Liquid: 12.70 Hot gas: 4.13	Liquid: 11.80 Hot gas: 3.03	Liquid: 8.20 Hot gas: 3.27	Liquid: 13.80 Hot gas: 4.50	½	73 to 254	145	406	450	–50	266	**034L0093**
	KVR 15	Liquid: 12.70 Hot gas: 4.13	Liquid: 11.80 Hot gas: 3.03	Liquid: 8.20 Hot gas: 3.27	Liquid: 13.80 Hot gas: 4.50	⅝	73 to 254	145	406	450	–50	266	**034L0097**
	KVR 22	Liquid: 12.70 Hot gas: 4.13	Liquid: 11.80 Hot gas: 3.03	Liquid: 8.20 Hot gas: 3.27	Liquid: 13.80 Hot gas: 4.50	⅞	73 to 254	145	406	450	–50	266	**034L0094**
	KVR 28	Liquid: 32.60 Hot gas: 10.93	Liquid: 30.20 Hot gas: 8.04	Liquid: 20.90 Hot gas: 8.66	Liquid: 35.50 Hot gas: 11.91	1 ⅛	73 to 254	145	406	450	–50	266	**034L0095**
	KVR 35	Liquid: 32.60 Hot gas: 10.93	Liquid: 30.20 Hot gas: 8.04	Liquid: 20.90 Hot gas: 8.66	Liquid: 35.50 Hot gas: 11.91	1 ⅜	73 to 254	145	406	450	–50	266	**034L0100**
Differential Pressure Regulator	NRD 12s[1]					½	73 to 254	145	667	870	–50	266	**020B1132**
Hot Gas Bypass	KVC 12	2.14	1.36	2.02	2.31	½	3 to 87	29	406	450	–50	266	**034L0143**
	KVC 15	4.17	2.65	3.93	4.50	⅝	3 to 87	29	406	450	–50	266	**034L0147**
	KVC 22	5.35	3.41	5.04	5.78	⅞	3 to 87	29	406	450	–50	266	**034L0144**
	CPCE 12	6.20	4.30	6.30	6.70	½	0 to 87	5.8	406	450	–58	285	**034N0082**
	CPCE 15	9.20	6.30	9.10	9.90	⅝	0 to 87	5.8	406	450	–58	285	**034N0083**
	CPCE 22	12.20	8.40	12.10	12.20	⅞	0 to 87	5.8	406	450	–58	285	**034N0084**

[1] NRD generally used in conjunction with a KVR to regulate the condensing pressure.

Spare Parts and Accessories

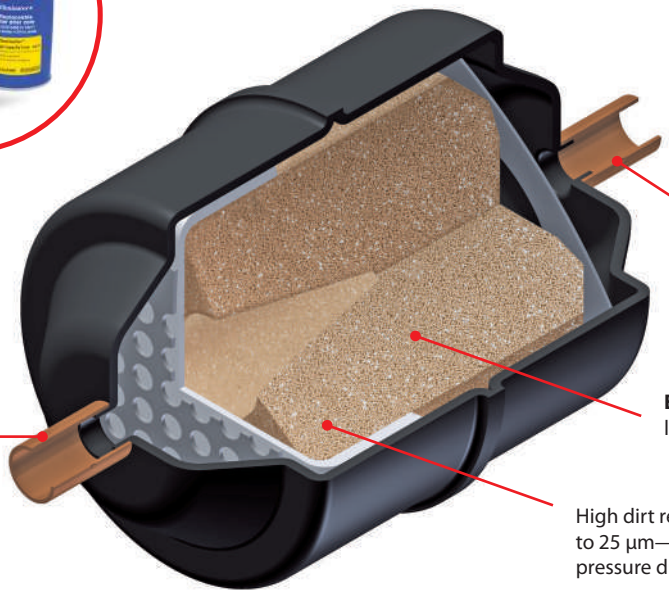
Description	Type(s) applied to	Danfoss Code No.
Schrader valve	all KVP, KVR	**034L0006**

DCL/DCB/DAS/DCR - Filter Driers

Danfoss filter driers function as simple drop-in replacements for most driers sold in the aftermarket or installed on equipment by manufacturers. All Danfoss filter driers are constructed with a solid core design to maximize moisture removal while minimizing pressure drop. These driers use a mixture of molecular sieve and activated alumina to both adsorb system moisture and capture acid and prevent solid contaminants from entering the system. The Danfoss 1.5 cubic inch hermetic filter drier can be used in hydrocarbon systems to provide exceptional protection while minimizing charge requirements.



Features
DCL/DCB/DAS/DCR



Nomenclature / Model No.

D A S 16 4 s VV

Filter drier

Solid Core
A: Core with 30% molecular sieve/ 70% activated alumina (burn-out)
C: Core with 80% molecular sieve/ 20% activated alumina
M: Core with 100% molecular sieve

Application
B: Bi-flow
L: Liquid line
S: Suction line

Size (volume)
1.5: 1.5 in.^{3}
03: 3 in.^{3}
05: 5 in.^{3}
08: 8 in.^{3}
16: 16 in.^{3}
30: 30 in.^{3}
41: 41 in.^{3}
60: 60 in.^{3}
75: 75 in.^{3}

Connection
(filter connection in ⅛ in. increments)
2/CAP: ¼ in. inlet x cap tube outlet
2: ¼ in.
2.5: 5/16 in.
3: ⅜ in.
4: ½ in.
5: ⅝ in.
6: ¾ in.
7: ⅞ in.
9: 1 ⅛ in.

Connection type
(blank): Flare connection
s: Solder connection

Access valves

	Inlet	Outlet
(blank)	none	none
V	Schrader valve	none
VV	Schrader valve	Schrader valve

Scan the QR Code for a video detailing our filter driers.

Technical data and ordering

DCL/DCB Liquid Line/Bi-flow Filter Driers

Danfoss Type	Connection (in.)	Max. working pressure (psig)	Drying capacity (lbs. of refrigerant)[2]								Liquid capacity (tons)[2]				Danfoss Code No.
			R-134a		R-404A		R-22		R-410A		R-134a	R-404A	R-22	R-410A	
			75 °F	125 °F	75 °F	125 °F	75 °F	125 °F	75 °F	125 °F					
DCL 1.52/2.8mms	¼ solder	667	5.10	4.60	5.30	5.10	5.10	4.60	4.60	4.20	0.80	0.50	0.90	0.80	**023Z8255**
DCL 032s	¼ solder	667	8.50	8.00	9.10	8.70	8.60	8.00	7.80	7.20	1.90	1.42	2.12	2.11	**023Z5013**[1]
DCL 032	¼ flare	667	8.50	8.00	9.10	8.70	8.60	8.00	7.80	7.20	1.90	1.42	2.12	2.11	**023Z5000**[1]
DCL 052s	¼ solder	667	13.60	12.80	14.60	13.80	13.80	12.70	12.40	11.40	2.18	1.60	2.40	2.37	**023Z5018**
DCL 052	¼ flare	667	13.60	12.80	14.60	13.80	13.80	12.70	12.40	11.40	2.18	1.60	2.40	2.37	**023Z5002**
DCL 053s	⅜ solder	667	13.60	12.80	14.60	13.80	13.80	12.70	12.40	11.40	3.66	2.79	4.10	4.15	**023Z5019**
DCL 053	⅜ flare	667	13.60	12.80	14.60	13.80	13.80	12.70	12.40	11.40	3.66	2.79	4.10	4.15	**023Z5003**
DCL 082s	¼ solder	667	21.70	20.50	23.30	22.10	22.00	20.30	19.80	18.20	2.18	1.55	2.37	2.28	**023Z5022**
DCL 082	¼ flare	667	21.70	20.50	23.30	22.10	22.00	20.30	19.80	18.20	2.18	1.55	2.37	2.28	**023Z5004**
DCL 083s	⅜ solder	667	21.70	20.50	23.30	22.10	22.00	20.30	19.80	18.20	4.03	3.12	4.56	4.65	**023Z5023**
DCL 084s	½ solder	667	21.70	20.50	23.30	22.10	22.00	20.30	19.80	18.20	8.14	6.07	9.03	8.99	**023Z5026**
DCL 084	½ flare	667	21.70	20.50	23.30	22.10	22.00	20.30	19.80	18.20	8.14	6.07	9.03	8.99	**023Z5006**
DCL 162	¼ flare	667	47.70	45.10	51.30	48.60	48.30	44.70	43.50	40.10	2.18	1.54	2.36	2.28	**023Z5007**
DCL 163s	⅜ solder	667	47.70	45.10	51.30	48.60	48.30	44.70	43.50	40.10	4.64	3.18	4.95	4.67	**023Z5029**
DCL 163	⅜ flare	667	47.70	45.10	51.30	48.60	48.30	44.70	43.50	40.10	4.64	3.18	4.95	4.67	**023Z5008**
DCL 164s	½ solder	667	47.70	45.10	51.30	48.60	48.30	44.70	43.50	40.10	9.15	6.69	10.07	9.90	**023Z5032**
DCL 165s	⅝ solder	667	47.70	45.10	51.30	48.60	48.30	44.70	43.50	40.10	12.69	10.41	14.74	15.59	**023Z5033**
DCL 165	⅝ flare	667	47.70	45.10	51.30	48.60	48.30	44.70	43.50	40.10	12.69	10.41	14.74	15.59	**023Z5010**
DCL 303s	⅜ solder	667	100.50	95.00	108.00	102.40	101.80	94.10	91.60	84.40	4.46	3.00	4.72	4.40	**023Z0030**
DCL 303	⅜ flare	667	100.50	95.00	108.00	102.40	101.80	94.10	91.60	84.40	4.46	3.00	4.72	4.40	**023Z0012**
DCL 304s	½ solder	667	100.50	95.00	108.00	102.40	101.80	94.10	91.60	84.40	9.24	7.11	10.41	10.58	**023Z0031**
DCL 304	½ flare	667	100.50	95.00	108.00	102.40	101.80	94.10	91.60	84.40	9.24	7.11	10.41	10.58	**023Z0013**
DCL 305s	⅝ solder	667	100.50	95.00	108.00	102.40	101.80	94.10	91.60	84.40	13.00	10.51	14.99	15.72	**023Z0032**
DCL 305	⅝ flare	667	100.50	95.00	108.00	102.40	101.80	94.10	91.60	84.40	13.00	10.51	14.99	15.72	**023Z0014**
DCL 307s	⅞ solder	667	100.50	95.00	108.00	102.40	101.80	94.10	91.60	84.40	18.27	15.34	21.44	23.05	**023Z0034**
DCL 415s	⅝ solder	667	139.50	131.90	150.00	142.20	141.30	130.70	127.30	117.30	15.78	11.9	17.61	17.66	**023Z0105**
DCL 417s	⅞ solder	500	139.50	131.90	150.00	142.20	141.30	130.70	127.30	117.30	18.98	16.01	22.32	24.08	**023Z0106**
DCL 607s	⅞ solder	667	200.90	189.90	216.00	204.80	203.50	188.20	183.30	168.90	19.93	19.94	25.16	30.71	**023Z0036**
DCB 083s	⅜ solder	667	15.60	14.70	16.70	15.80	15.60	14.50	14.10	13.00	2.10	1.50	2.30	2.30	**023Z1086**
DCB 163s	⅜ solder	667	29.30	27.70	31.50	29.90	29.70	27.50	26.80	24.60	5.10	3.70	5.70	5.70	**023Z2097**
DCB 164s	½ solder	667	29.30	27.70	31.50	29.90	29.70	27.50	26.80	24.60	8.00	5.70	9.10	9.10	**023Z1089**
DCB 165s	⅝ solder	667	29.30	27.70	31.50	29.90	29.70	27.50	26.80	24.60	10.60	8.30	11.40	11.40	**023Z1088**

[1] Wire mesh in filter drier outlet.

DAS Suction Line Filter Driers

Danfoss Type	Connection (in.)	Max. working pressure (psig)	Rated capacity (tons)[2]			Acid capacity (oz.)	Danfoss Code No.
			R-134a	R-404A	R-22 R-410A		
DAS 164sVV	½ solder	500	1.70	2.40	6.30	0.30	**023Z1009**
DAS 165sVV	⅝ solder		2.70	3.70	4.30	0.30	**023Z1010**
DAS 166sVV	¾ solder		3.40	4.90	5.70	0.30	**023Z1011**
DAS 167sVV	⅞ solder		3.90	5.40	6.30	0.30	**023Z1012**
DAS 306sVV	¾ solder		4.00	5.40	6.30	0.64	**023Z1014**
DAS 307sVV	⅞ solder		4.60	6.30	7.40	0.64	**023Z1015**
DAS 309sVV	1⅛ solder		5.70	7.70	8.90	0.64	**023Z1016**
DAS 419sVV	1⅛ solder		6.30	8.60	10.00	0.86	**023Z1018**

[2] For rated capacities for R-290, R-600, R-448A, R-449A, R-452A, and other HFO, HC, HFC, and HCFC refrigerants not listed, see Coolselector or contact Danfoss.

DCR Filter Drier Cores

Danfoss Type	Material	Danfoss Code No.
DCR core insert, type 48-DM solid core	100% molecular sieve	**023U1392**
DCR core insert, type 48-DC solid core	80% molecular sieve & 20% activated alumina	**023U4381**
DCR core insert, type 48-DA solid core	30% molecular sieve & 70% activated alumina	**023U5381**
DCR core insert, type 48-F strainer		**023U1921**

DCL with Schrader valve - Filter Driers

The Danfoss 1.5 hermetic filter driers include a Schrader valve, making servicing the system easy and convenient, and convertible outlet for fitting on capillary tube or ¼ inch system connection. Thanks to the solid core, Danfoss ELIMINATOR® filter driers offer exceptional drying capacity to protect the system against harmful acids and moisture. The DCL 1.5 cubic inch filter drier with Shrader makes an excellent upgrade in replacing loose bead driers due to superior drying and small internal volume.



Features
DCL w/Schrader



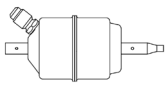
Facts

Applications:

- Traditional refrigeration
- Air conditioning units
- Transport refrigeration

- Connections:
  - Inlet: ¼ inch solder and ¼ inch service port
  - Outlet: Capillary tube outlet can be trimmed down to ¼ inch
- Refrigerants: R-22, R-32, R-134a, R-404A, R-410A, R-407C/F, R-23, R-1234yf, R-1234ze, R-452A, R-444B, R-449A, R-448A, R-450A, R-507. For other refrigerants, please contact Danfoss.
- Available with 1.5, 3, and 5 cubic inch solid core volumes
- 80% molecular sieve and 20% activated alumina core

Technical data and ordering

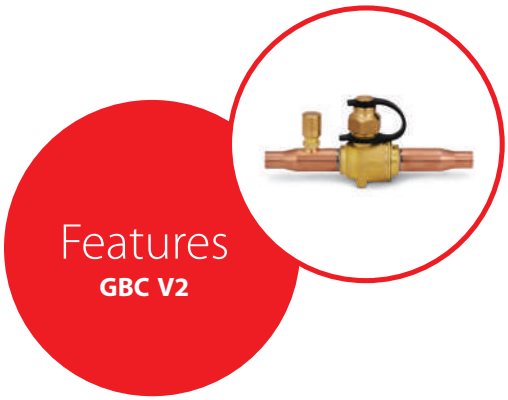


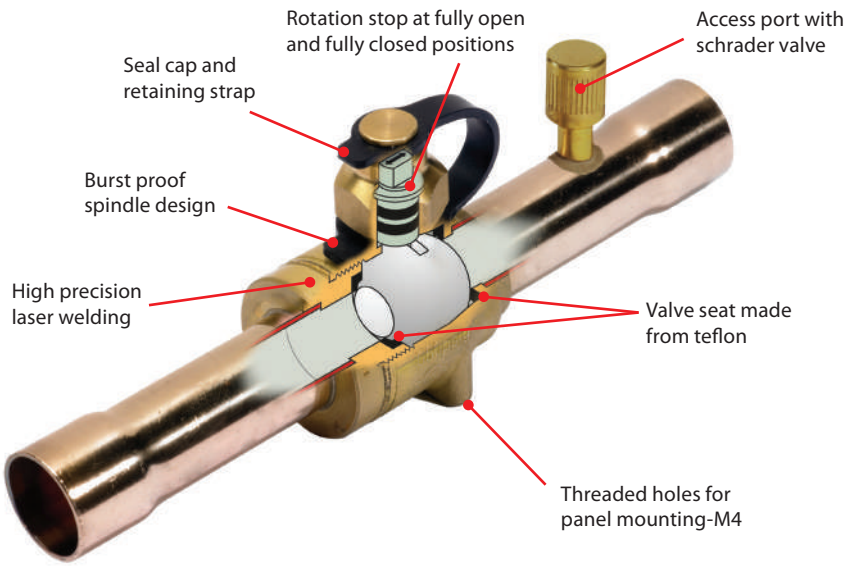
DCL with Schrader valve - Filter Drier

Danfoss Type	Connection inlet (in.)/ outlet	Max. working pressure (psig)	Drying capacity (lbs. of refrigerant)										Liquid capacity (tons)					Danfoss Code No.
			R-134a		R-404A		R-22		R-407C		R-410A		R-134a	R-404C	R-22	R-407C	R-410A	
			75 °F	125 °F	75 °F	125 °F	75 °F	125 °F	75 °F	125 °F	75 °F	125 °F						
DCL 1.52/ CAPsV	¼/capillary tube	667	5.2	4.8	5.5	5.2	5.3	4.9	5.1	4.7	4.7	4.2	1.0	0.7	1.1	1.0	1.0	**023Z8261**
DCL 032/ CAPsV	¼/capillary tube	667	8.4	7.7	8.8	8.3	8.5	7.8	8.2	7.6	7.6	6.8	1.2	0.8	1.3	1.2	1.2	**023Z5174**
DCL 052/ CAPsV	¼/capillary tube	667	13.5	12.4	14.1	13.4	13.6	12.5	13.1	12.1	12.3	10.9	1.2	0.8	1.3	1.2	1.2	**023Z5181**

GBC V2 - Ball Valves

Danfoss GBC ball valves are manually operated shut-off valves suitable for bi-directional flow. The design, weld, and choice of the sealing material enable these ball valves to meet the most demanding requirements and provide years of leak-free performance.





Product Selection

Danfoss Type	Solder ODF connection (in.)	Flow Coefficient, C_v value[1] (gal/min)	Working pressure (psig)	Danfoss Code No.[1,2]
GBC 6s	¼	2.12	650	**009L8050**
GBC 10s	⅜	9.29		**009L8051**
GBC 12s	½	15.22		**009L8052**
GBC 16s	⅝	18.10		**009L8053**
GBC 18s	¾	25.35		**009L8054**
GBC 22s	⅞	38.54		**009L8065**
GBC 28s	1 ⅛	71.96		**009L8066**
GBC 35s	1 ⅜	107.23		**009L8067**
GBC 42s	1 ⅝	155.78		**009L8068**
GBC 54s	2 ⅛	277.57		**009L8059**
GBC 67s	2 ⅝	424.69		**009L8069**

[1] All valves listed in table above are Full Port.
[2] With Strap

GBC solder ODF/ODF, coppper connections with access port

Danfoss Type	Solder ODF connection (in.)	Flow Coefficient, C_v value[1] (gal/min)	Working pressure (psig)	Danfoss Code No.[1,2]
GBC 6s	¼	2.12	650	**009L7050**
GBC 10s	⅜	9.29		**009L7051**
GBC 12s	½	15.22		**009L7052**
GBC 16s	⅝	18.1		**009L7053**
GBC 18s	¾	25.35		**009L7054**
GBC 22s	⅞	38.54		**009L7055**
GBC 28s	1 ⅛	71.96		**009L7056**
GBC 35s	1 ⅜	107.23		**009L7057**
GBC 42s	1 ⅝	155.78		**009L7058**
GBC 54s	2 ⅛	277.57		**009L7059**
GBC 67s	2 ⅝	234.81		**009L7066**
GBC 79s	3 ⅛	198.7		**009L7067**

[1] All valves listed in table above are Full Port.
[2] Without Strap

Seal Cap Kit

Type	Valve connection size in.	Industrial pack (no. of pcs)	Code no. for 009GXXXX series	Code no. for 009LXXXX 650 psig series
GBC 6s – GBC 12s	¼–½	6	**009G7210**	**009L7209**
GBC 16s – GBC 22s	⅝–⅞	6		**009L7210**
GBC 28s – GBC 35s	1 ⅛– 1 ⅜	4	**009G7211**	—
		3	—	**009L7211**
GBC 42s – GBC 79s	1 ⅝– 3 ⅛	4	**009G7212**	—
		3	—	**009L7212**

Bracket Kit

Type	Valve connection size in.	Industrial pack (no. of pcs)	Code no. for 009GXXXX series	Code no. for 009LXXXX 650 psig series
GBC 6s – GBC 12s	¼–½	12	**009G7084**	**009G7089**
GBC 16s	⅝	12		**009G7084**
GBC 18s – GBC 22s	¾–⅞	12	**009G7085**	
GBC 28s	1 ⅛	10	**009G7086**	
GBC 35s	1 ⅜	5	**009G7087**	
GBC 42s	1 ⅝	4	**009G7088**	

Spare Parts and Accessories

Description	Type(s) applied to	Danfoss Code No.
Ball valve service kit	GBC 6, 10, 12, 16, 18, 22	**009G7012**
Ball valve service kit	GBC 28, 35	**009G7014**
Ball valve service kit	GBC 42, 54, 67	**009G7016**

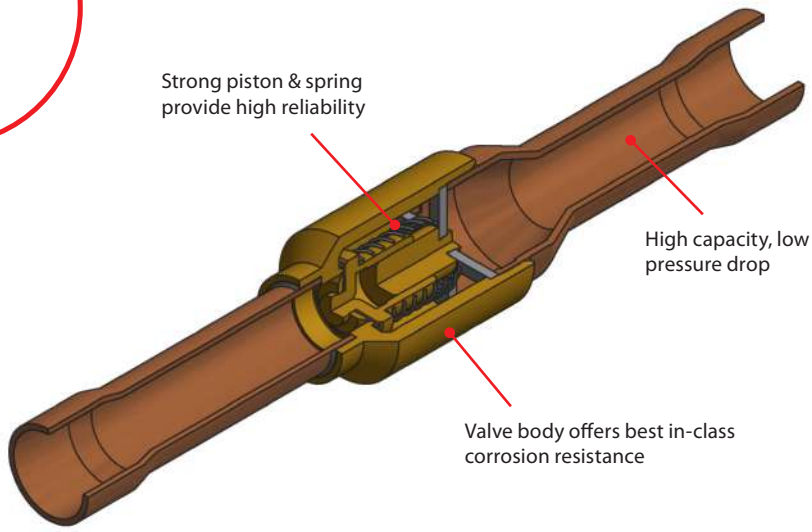
Codes listed above are for GBC V1; for GBC V2 spare parts and accessories, contact Danfoss.

NRV V2 - Check Valves

NRV V2 one-piece check valves are used in liquid suction and hot gas lines in refrigeration and air conditioning applications. NRV valves ensure the correct flow direction and prevent back-condensation from a warm part of the system to the cold evaporator. The hermetic design of solder version meets environmental demands for today and the future. The built-in damping piston makes the valves suitable for installation in lines where pulsation can occur, e.g., in a compressor discharge line.

Features
NRV V2





Product Selection

Valve Type	Connection Type	Connection	Min. OPD Δp[1]	C_v value[2]	Danfoss Code No.
		in.	psi	gal./min.	
NRV 6s V2	Straightway, solder	¼	0.58	0.77	**020B1010**
NRV 10s V2	Straightway, solder	⅜	0.58	1.90	**020B1011**
NRV 12s V2	Straightway, solder	½	0.29	2.89	**020B1012**
NRV 16s V2	Straightway, solder	⅝	0.29	4.62	**020B1018**
NRV 19s	Straightway, solder	⅞	0.29	7.51	**020B1054**

[1] Δp = Minimum Opening Pressure Differential
[2] The C_v value is the flow of water in gal./min. at a pressure drop across valve of 14.5 psi; ρ = 62.4 lbs./ft³ = 8.34 lbs./gal.

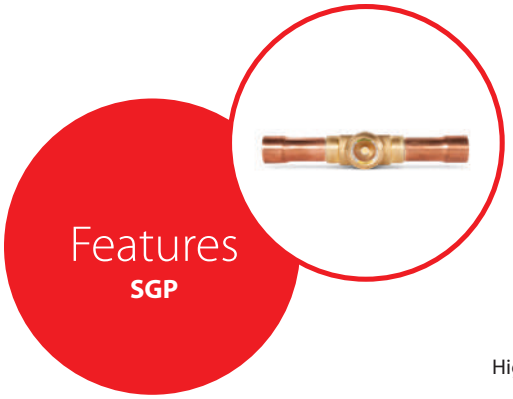
Angleway solder ODF version

Valve Type	Connection Type	Connection	Min. OPD Δp[1]	C_v value[2]	Danfoss Code No.
		in.	psi	gal./min.	
NRV 22s	Angleway, solder	⅞	0.58	9.83	**020-1020**
NRV 28s	Angleway, solder	1 ⅛	0.58	19.07	**020-1021**
NRV 28s	Angleway, solder	1 ⅜	0.58	19.07	**020-1056**
NRV 35s	Angleway, solder	1 ⅜	0.58	33.52	**020-1026**
NRV 35s	Angleway, solder	1 ⅝	0.58	33.52	**020-1061**

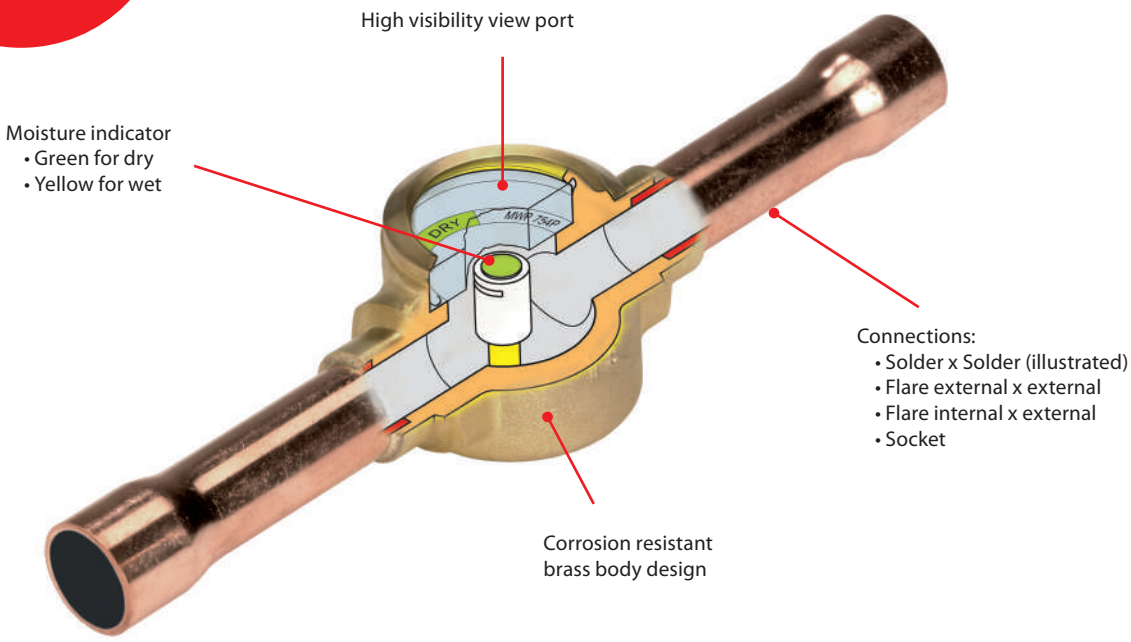
[1] Δp = Minimum Opening Pressure Differential
[2] The C_v value is the flow of water in gal./min. at a pressure drop across valve of 14.5 psi; ρ = 62.4 lbs./ft³ = 8.34 lbs./gal.

SGP - Sight Glasses

Danfoss sight glasses with hard crystal view ports are designed to accurately indicate the presence of moisture in refrigeration and air-conditioning systems. When system moisture content rises above permissible levels, the "dry/green" indicator will change to yellow indicating a "wet" system. The indication of dangerous moisture levels is essential in helping prevent the formation of harmful acids which are detrimental to the system. The SGP sight glass is simply the best-made sight glass available today.



Features
SGP



Product Selection

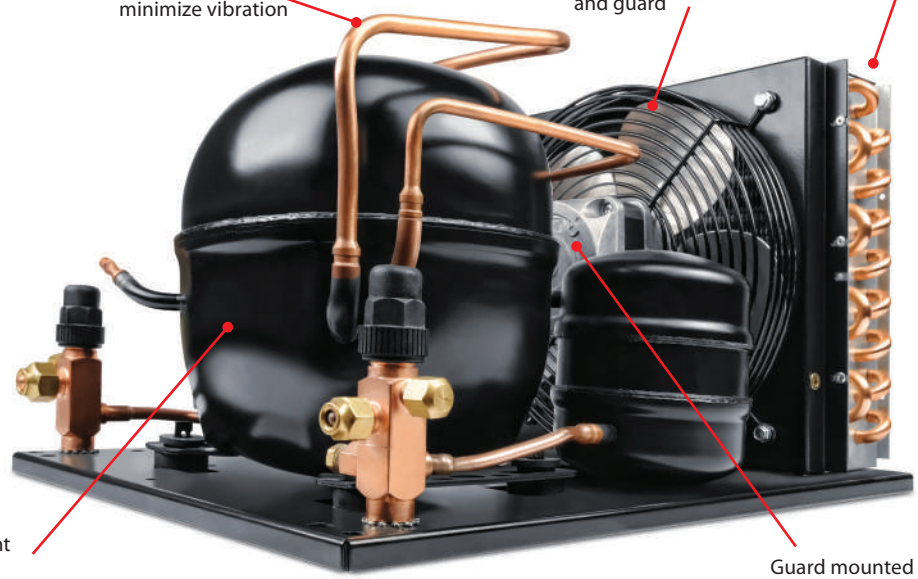
Danfoss Type	Version	Connection (in.)	Ambient temperature (°F)	Maximum working pressure (psig)	Danfoss Code No.
SGP 6 N	Flare int. x ext.[1]	¼ x ¼	–60 to 175	750	**014L0171**
SGP 10 N		⅜ x ⅜			**014L0172**
SGP 12 N		½ x ½			**014L0173**
SGP 6s N	ODF x ODF solder	¼ x ¼			**014L0181**
SGP 10s N		⅜ x ⅜			**014L0182**
SGP 12s N		½ x ½			**014L0183**
SGP 16s N		⅝ x ⅝			**014L0145**
SGP 22s N		⅞ x ⅞			**014L0186**
SGP 22s N [2]		1 ⅛ x 1 ⅛			**014L0187**
SGP ½ RN	NPT	½			**014L0006**

[1] Can be screwed directly onto Danfoss filter drier.

Optyma™ - Condensing Units

Danfoss Optyma™ line of light commercial condensing units is available with sizes ranging from ⅕ hp to 13 ½ hp for low and medium temperature applications for R-404A and R-134a. Its contractor-friendly design makes Optyma easy to install, quiet, and efficient.

Features
Optyma™



Application	Design	Refrigerant	Condenser size	HP rating	Certification	Version	Electrical code
H	N	X	M	0300	U	WG000	Q

Application:
L: Low
H: High or Medium / High
M: Medium or Low/Medium
U: Universal Low / Medium / High

Design:
C: Air cooled condenser, Single fan, Recip
J: Air cooled condenser, Slim Design, Recip
G: Air cooled condenser, Twin fan, Recip
N: Air cooled condenser, Slim Design, Scroll
R: Air cooled condenser, Twin fan, Scroll

Refrigerant:
G: R134a
H: R404A/R507/R452A
M: R22 Replacement
N: R290
Z: R404A/R507A/R134a*/R448A/R449A/R452A
X: R448A/R449A/R404A/R507A/R134a/R452A
Y: R448A/R449A/R404A/R507A/R452A
S: R410A/R454B

Condenser size:
C: Fin and Tube condenser size 110F ambient
M: Microchannel Condenser size 115F ambient

HP rating:
HP rating in hundreths of HP,
i.e.: 0033=1/3 HP, 1000 = 10 HP

Certification:
R: UL Recognized
U: UL Listed

Version:
DF: Plastic baseplate
WA: Power cord
WB: Power cord, Receiver
WC: Electrical box, Receiver
WD: Electrical box, Receiver, Low pressure control
WE: Electrical box, Receiver, Dual pressure control, Fan cycling control, larger than 3HP dual fan units use KPU fan cycling control
WF: WE + Filter drier, Sight glass, Solenoid valve with coil
WG: BX, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost Timer, Outdoor enclosure (MBP)
WH: Electrical box, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost timer, Outdoor enclosure, Suction Accumulator (LBP)
WJ: Electrical box, Receiver, Dual pressure control, Fan cycling control, Filter drier, Sight glass

Electrical code:
B: Compressor & fan(s), 115V, 1ph, 60 Hz
N: Compressor & fan(s), 230V, 1ph, 60 Hz
Q: Compressor 208-230V, 3ph, 60 Hz
Fan(s) 230V, 1ph, 60 Hz
R: Compressor 460V, 3ph, 60 Hz
Fan(s) 460V, 1ph, 60 Hz

*** R134a is available in MBP only**

Rating Conditions (ARI)

Application	LBP	MBP/HBP
Ambient Temp	90°F	90°F
Return Gas	40°F	65°F
SubCooling	5°F	5°F

Scan the QR Code for the latest Optyma Condensing Unit and Spare Parts Catalog.

Optyma™ condensing unit R290 – L/MBP

Fan	Model no	Version	Electrical code	Code no	Compressor model	Amb. temp.	Capacity range in (btu/hr) at evaporating temperature									Power consumption [W] at evap. temp. -10 F	Power Consuption [W] at evap. Temp. 20°F
						°F	-30	-20	-10	0	10	20	30	40	50		
Single fan	MCNC0015R	DF600 DF602	B	114N2090 114N2117	NBC30NR	90	313	425	596	758	950	1171	1403			118	155
						95	294	382	573	717	910	1120	1341				
						100	278	360	543	681	870	1073	1278				
						105	262	339	514	645	829	1026	1216				
	MCNC0020R	DF600 DF602	B	114N2092 114N2119	NUT55LRb	90	790	999	1299	1537	1816	2091	2383			186	268
						95	743	910	1252	1464	1744	2007	2297				
						100	702	859	1193	1397	1670	1925	2208				
						105	661	809	1133	1329	1595	1844					
	MCNC0033R	WA000 WA002	B	114N2097 114N2123	DLE6.5CN	90	950	1177	1523	1798	2118	2432	2766	3099		244	334
						95	891	1054	1467	1704	2027	2326	2657				
						100	839	990	1392	1619	1934	2223					
						105	788	927	1318	1535	1840						
	MCNC0050R	DF600 DF602	B	114N2094 114N2121	NLY12NRb	90	1122	1494	2019	2508	3065	3637	4240	4850		398	574
						95	1069	1375	1956	2399	2950	3495	4084				
						100	1024	1313	1875	2301	2832	3357	3927				
						105	978	1252	1795	2202	2715	3220	3725				
	MCNC0050R	WA000 WA002	B	114N2091 114N2118	NLY12NRb	90	1122	1494	2019	2508	3065	3637	4240	4850		398	574
						95	1069	1375	1956	2399	2950	3495	4084				
						100	1024	1313	1875	2301	2832	3357	3927				
						105	978	1252	1795	2202	2715	3220	3725				
	MCNC0075R	DF600 DF602	B	114N2095 114N2122	NPT14ND	90	1438	1881	2552	3206	3972	4776	5637			518	741
						95	1370	1733	2475	3073	3831	4598					
						100	1311	1657	2376	2952	3684	4425					
						105	1252	1581	2278	2831	3538	4253					
	LCNC0075R	DF600	B	114N2104	NPT16LR	90	1239	1569	2065	2505	3001					566	-
						95		1436	1997	2389							
						100		1368	1911	2284							
						105		1301	1824								
	MCNC0075R	WA000 WA002	B	114N2098 114N2124	NPT14 ND	90	1438	1881	2552	3206	3972	4776	5637			513	734
						95	1370	1733	2475	3073	3831	4598					
						100	1311	1657	2376	2952	3684	4425					
						105	1252	1581	2278	2831	3538	4253					
	MCNC0075R	WA000 WA002	N	114N2099 114N2125	SCE15MNX	90			2857	3568	4391	5262	6232	7275	8905	509	682
						95			2754	3404	4229	5066	6018	7021	8598		
						100			2629	3250	4050	4855	5773	6738			
						105			2505	2941	3611	4807	5389	6564			
	MCNC0100R	WA000 WA002	B	114N2100 114N2126	SCE18MNX	90			3263	4033	4947	5897	6941	8030	9828	612	813
						95			3166	3841	4753	5646	6666	7704	9434		
						100			3008	3651	4541	5401	6389	7390			
						105			2846	3461	4329	5157	6113				
	MCNC0100R	WA000 WA002	B	114N2101 114N2127	NPT16NF	90	2138	2840	3765	4579	5511	6454	7457	8477		637	909
						95	2019	2571	3628	4350	5282	6181	7174	8163			
						100	1915	2430	3452	4143	5045	5917	6885				
						105	1811	2289	3275	3935	4808	5653	6596				

Test condition
Return gas temperature 65°F
Subcooling 5°F

Electrical code
B: Compressor & fan(s) 115V, 1 ph, 60 Hz
N: Compressor & fan(s) 230V, 1 ph, 60 Hz

Version
DF: Plastic baseplate
WA: Power cord

HP rating in hundredths of HP, ie.: 033=1/3hp, (UCGC0100U:0100=1hp)
Power consumption referred at 90°F ambient temperature

Optyma™ - Condensing Units (1/4)

R-404A MBP/ R-507 MBP			Ambient temperature (°F)	Capacity range in btu/h ASHRAE[1] at evaporating temperature (°F)											AWEF rating
Competitor Model Nos.	Danfoss Model No.	Danfoss Code No.		0	5	10	15	20	25	30	35	40	45	50	
AWA7512 FJAMA125 FJAMA126 FJAMA150	HCZC0150UWJ300N HCZC0150UWJ300Q HCZC0150UWJ300R	**114N3601** **114N3602** **114N3603**	90				9989	11300	12670	14100	15590	17120	18700	20310	7.07
			95				9438	10690	12000	13370	14780	16240	17750	19280	
			100				8879	10080	11320	12620	13970	15360	16790	18250	
			105				8313	9451	10640	11870	13150	14470	15820	17200	
			110				7742	8822	9949	11120	12330	13580			
AWA7515 VJAF017H FJAMA200	HCZC0200UWJ300N HCZC0200UWJ300Q HCZC0200UWJ300R	**114N3604** **114N3605** **114N3606**	90				13320	14880	16510	18210	19960	21750	23590	25460	7.93
			95				12660	14140	15690	17290	18950	20650	22380	24150	
			100				11970	13380	14840	16360	17920	19520	21160	22820	
			105				11260	12590	13970	15400	16870	18380	19910	21470	
			110				10530	11780	13080	14420	15800	17210			
VJAF025H	HCZC0250UWJ300N HCZC0250UWJ300Q HCZC0250UWJ300R	**114N3607** **114N3608** **114N3609**	90				16910	18680	20500	22380	24310	26270	28260	30270	7.66
			95				16110	17790	19520	21310	23130	24980	26870	28760	
			100				15290	16880	18530	20210	21930	23680	25450	27240	
			105				14450	15960	17510	19100	20720	22370	24030	25700	
			110				13600	15020	16480	17970	19490	21040			

[1] Ambient temperature = 90 °F, Return gas = 65 °F, Subcooling = 5 °F

Full range of models (refrigerants, capacities, and voltages codes), spare parts, and more available on Coolselector®2 or contact Danfoss.

Optyma™ - Condensing Units (2/4)

R-404A MBP/ R-507 MBP			Ambient temperature (°F)	Capacity range in btu/h ASHRAE[1] at evaporating temperature (°F)										AWEF rating
Competitor Model Nos.	Danfoss Model No.	Danfoss Code No.		0	5	10	15	20	25	30	35	40	45	50	
	HCZC0275UWJ300N HCZC0275UWJ300Q HCZC0275UWJ300R	**114N3610** **114N3611** **114N3612**	90				20820	23050	25350	27690	30080	32500	34930	37360	7.66
			95				19740	21860	24050	26280	28540	30830	33130	35420	
			100				18660	20680	22750	24860	27000	29160	31330	33490	
			105				17580	19490	21450	23440	25460	27500	29540	31560	
			110				16500	18310	20150	22030	23930	25850			
	HCZC0300UWJ300N HCZC0300UWJ300Q HCZC0300UWJ300R	**114N3614** **114N3615** **114N3616**	90				23390	25810	28300	30830	33380	35950	38520	41060	8.23 8.23 8.18
			95				22180	24490	26850	29240	31660	34090	36510	38910	
			100				20980	23170	25400	27660	29940	32230	34510	36770	
			105				19780	21850	23950	26080	28230	30390	32530	34640	
			110				18590	20530	22510	24520	26540	28550			
	HGZC0400UWJ300N HGZC0400UWJ300Q HGZC0400UWJ300R	**114N3617** **114N3618** **114N3619**	90				31480	35020	38720	42580	46590	50730	54980	59340	8.68
			95				29880	33270	36820	40510	44330	48280	52330	56480	
			100				28260	31490	34880	38390	42040	45790	49650	53580	
			105				26600	29690	32910	36260	39720	43280	46940	50670	
			110				24930	27860	30920	34100	37380	40760			
AVA7523 FJAMA300 VJAF030H FJAMA325	HGZC0500UWJ300N HGZC0500UWJ300Q HGZC0500UWJ300R	**114N3621** **114N3622** **114N3623**	90				38340	42410	46630	50980	55440	59980	64600	69260	8.23 8.23 8.16
			95				36310	40200	44210	48350	52580	56900	61280	65700	
			100				34270	37970	41780	45700	49720	53810	51960	62130	
			105				32220	35720	39340	43050	46850	50710	54630	58570	
			110				30170	33480	36890	40390	43980	47620			
VJAF035Z VJA035H	HGZC0700UWJ300Q HGZC0700UWJ300R	**114N3626** **114N3627**	90				49600	54670	59940	65380	70990	76730	82580	88530	8.03 7.97
			95				47120	51940	56950	62120	67440	72890	78440	84070	
			100				44610	49190	53940	58840	63880	69030	74280	79600	
			105				42090	46420	50900	55530	60290	65160	70110	75130	
			110				39550	43630	47860	52220	56700	61280			
FJAMB400 VJAF040Z VJAF040H FJAMB500 VJAF050Z	HGZC0900UWJ300Q HGZC0900UWJ300R	**114N3628** **114N3629**	90				60260	67010	74070	81430	89080	97000	105200	113500	8.59
			95				57030	63470	70210	77230	84520	92050	99810	107800	
			100				53800	59940	66350	73030	79950	87110	94470	102000	
			105				50570	56400	62490	68820	73580	82160	89130	96270	
			110				47350	52870	58630	64620	70820	77230			
FJAH100Z	HGZC1000UWJ300Q HGZC1000UWJ300R	**114N3631** **114N3632**	90				75520	83250	91320	99710	108400	117400	126600	136000	8.32
			95				71710	79080	86780	94770	103000	111600	120300	129300	
			100				67860	74880	82210	89800	97660	105700	114000	122500	
			105				63980	70660	77610	84810	92250	99910	107700	115700	
			110				60090	66410	72990	79800	86830	94050			
CJDM1000	HGZC1200UWJ300Q HGZC1200UWJ300R	**114N3633** **114N3634**	90				87530	96260	105400	114800	124500	134500	144800	155200	8.04
			95				83140	91470	100100	109100	118400	127900	137600	147500	
			100				78710	86630	94860	103400	112200	121200	130400	139800	
			105				74230	81750	89550	97630	106000	114500	123200	132000	
			110				69730	76830	84210	91840	99690	107700			
FJAH120Z FJAM130Z	HGZC1350UWJ300Q HGZC1350UWJ300R	**114N3636** **114N3637**	90				94170	103400	112900	122900	133100	143600	154300	165200	7.9
			95				89460	98240	107400	116800	126500	136500	146700	157000	
			100				84750	93100	101800	110800	120000	129500	139100	148900	
			105				80020	87960	96190	104700	113400	122400	131500	140700	
							75300	82810	90600	98630	106900	115300			

[1] Ambient temperature = 90 °F, Return gas = 65 °F, Subcooling = 5 °F

Full range of models (refrigerants, capacities, and voltages codes), spare parts, and more available on Coolselector®2 or contact Danfoss.

Optyma™ - Condensing Units (3/4)

R-448A MBP/ R-449A MBP			Ambient temperature (°F)	Capacity range in btu/h ASHRAE[1] at evaporating temperature (°F)								AWEF rating
Competitor Model Nos.	Danfoss Model No.	Danfoss Code No.		15	20	25	30	35	40	45	50	
	HCZC0150UWJ300N HCZC0150UWJ300Q HCZC0150UWJ300R	**114N3601** **114N3602** **114N3603**	90	8586	9756	10990	12280	13620	15020	16460	17960	7.58
			95	8110	9234	10420	11650	12950	14290	15680	17110	
			100	7644	8723	9857	11040	12280	13570	14900	16270	
			105	7188	8222	9308	10440	11630	12860	14130	15450	
			110	6744	7732	8770	9857	10990	12160	13380	14630	
	HCZC0200UWJ300N HCZC0200UWJ300Q HCZC0200UWJ300R	**114N3604** **114N3605** **114N3606**	90	11590	12990	14490	16080	17750	19500	21320	23210	8.16
			95	11060	12390	13820	15330	16930	18600	20330	22130	
			100	10530	11800	13160	14590	16110	17700	19350	21060	
			105	10010	11210	12500	13860	15300	16810	18380	20000	
			110	9488	10630	11850	13140	14500	15930	17410	18950	
	HCZC0250UWJ300N HCZC0250UWJ300Q HCZC0250UWJ300R	**114N3607** **114N3608** **114N3609**	90	14170	15860	17660	19550	21540	23610	25750	27960	6.77 7.15 7.32
			95	13520	15130	16830	18640	20530	22500	24540	26650	
			100	12880	14400	16020	17730	19530	21400	23350	25350	
			105	12240	13680	15220	16840	18540	20320	22160	24060	
			110	11600	12970	14420	15950	17560	19240	20980	22780	
	HCZC0275UWJ300N HCZC0275UWJ300Q HCZC0275UWJ300R	**114N3610** **114N3611** **114N3612**	90	18050	20130	22290	24530	26830	29190	31570	33990	6.77 7.15 7.32
			95	17220	19200	21270	23400	25590	27830	30100	32390	
			100	16390	18270	20240	22270	24350	26470	28630	30800	
			105	15560	17350	19210	21130	23110	25120	27160	29220	
			110	14720	16420	18180	20000	21870	23770	25700	27640	
	HCZC0300UWJ300N HCZC0300UWJ300Q HCZC0300UWJ300R	**114N3614** **114N3615** **114N3616**	90	20390	22700	25090	27560	30080	32640	35230	37820	7.32 7.34 7.52
			95	19430	21630	23920	26260	28660	31090	33550	36020	
			100	18470	20570	22740	24970	27240	29550	31880	34210	
			105	17520	19510	21560	23670	25830	28010	30210	32420	
			110	16570	18450	20390	22380	24410	26480	28550	30630	
	HGZC0400UWJ300N HGZC0400UWJ300Q HGZC0400UWJ300R	**114N3617** **114N3618** **114N3619**	90	26130	29570	33220	37070	41100	45300	49670	54170	8.86
			95	24900	28200	31690	35380	39240	43270	47450	51770	
			100	23660	26820	30160	33690	37390	41240	45240	49370	
			105	22410	24530	28630	31990	35520	39210	43020	46970	
			110	21160	24040	27090	30300	33660	37170	40810	44570	
	HGZC0500UWJ300N HGZC0500UWJ300Q HGZC0500UWJ300R	**114N3621** **114N3622** **114N3623**	90	32200	36160	40310	44650	49160	53810	58600	63500	8.49 8.49 8.40
			95	30610	34410	38400	42570	46890	51360	55960	60660	
			100	29040	32680	36510	40500	44640	48920	53320	57820	
			105	27480	30970	34620	38440	42410	46500	50710	55010	
			110	25940	29270	32760	36400	40180	44090	48110	52210	
	HGZC0700UWJ300Q HGZC0700UWJ300R	**114N3626** **114N3627**	90	43870	48970	54330	59930	65750	71780	77980	84330	8.55 8.47
			95	41900	46800	51930	57300	62880	68650	74590	80670	
			100	39930	44610	49530	54660	60000	65520	71190	77000	
			105	37940	42420	47120	52020	57120	62380	67800	73340	
			110	35950	40220	44700	49380	54230	59250	64410	69690	
	HGZC0900UWJ300Q HGZC0900UWJ300R	**114N3628** **114N3629**	90	52540	59390	66680	74390	82510	91020	99900	109100	8.74
			95	49960	56530	63520	70920	78720	86890	95410	104300	
			100	47410	53700	60400	67490	74960	82790	90960	99450	
			105	44890	50900	57310	64090	71240	78730	86550	94680	
			110	42410	48140	54250	60720	67550	74710	82180	89940	
	HGZC1000UWJ300Q HGZC1000UWJ300R	**114N3631** **114N3632**	90	66450	74950	83960	93470	103400	113900	124700	135900	8.73
			95	63170	71330	79980	89100	98690	108700	119100	129900	
			100	59930	67740	76030	84770	93960	103600	113500	123900	
			105	56720	64190	72110	80480	89270	98470	108000	117900	
			110	53550	60670	68240	76230	84630	93410	102600	112000	
	HGZC1200UWJ300Q HGZC1200UWJ300R	**114N3633** **114N3634**	90	78110	86970	96280	106000	116200	126700	137500	148700	8.61
			95	74470	82980	91920	101300	111000	121100	131600	142300	
			100	70870	79040	87620	96590	105900	115600	125600	135900	
			105	67330	75150	83370	91970	100900	110200	119800	129600	
			110	63850	71320	79180	87400	95950	104800	114000	123400	
	HGZC1350UWJ300Q HGZC1350UWJ300R	**114N3636** **114N3637**	90	83580	92920	102700	112900	123500	134500	145800	157300	8.12
			95	79660	88630	98030	107800	118000	128500	139300	150400	
			100	75790	84400	93410	102800	112600	122600	133000	143600	
			105	71990	80220	88850	97840	107200	116800	126700	136800	
			110	68240	76110	84350	92930	101800	111000	120500	130100	

[1] Ambient temperature = 90 °F, Return gas = 65 °F, Subcooling = 5 °F

Full range of models (refrigerants, capacities, and voltages codes), spare parts, and more available on Coolselector®2 or contact Danfoss.

Optyma™ - Condensing Units (4/4)

R-404A LBP/ R-507 LBP			Ambient temperature (°F)	Capacity range in btu/h at evaporating temperature (°F)											AWEF rating
Competitor Model Nos.	Danfoss Model No.	Danfoss Code No.		-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	
	LCHC0150UWF000N LCHC0150UWF000Q LCZB0150UWF000R	**114N6725** **114N6726** **114N6727**	90	2911	3625	4394	5214	6082	6993	7944	8929				6.81 6.63
			95	2657	3342	4076	4858	5683	6547	7447	8378				
			100	2405	3060	3761	4504	5286	6104	6954	7831				
			105		2781	3448	4153	4893	5664	6464	7288				
			110			3138	3805	4503	5228	5979	6750				
AWA2479 AWA2490 AVA2510 FJALB200 FJALA225	LCHC0200UWF000N LCHC0200UWF000Q LCHC0200UWF000R	**114N6729** **114N6730** **114N6731**	90	4571	5324	6147	7041	8004	9036	10130	11290				3.61 3.50 3.51
			95	4227	4943	5724	6572	7486	8465	9505	10600				
			100	3898	4579	5320	6122	6987	7913	8898	9938				
			105		4230	4932	5690	6507	7381	8310	9292				
			110			4559	5275	6044	6866	7741	8665				
AVA2512 AVA2515 VJAL025V FJALB301 VJAL035Z	LCHC0300UWF300N LCHC0300UWF300Q LCZB0300UWF300R	**114N6733** **114N6734** **114N6735**	90	5850	7248	8720	10240	11800	13360	14910	16420				3.19
			95	5375	6708	8104	9544	11010	12470	13920	15320				
			100	4889	6158	7480	8837	10210	11580	12920	14220				
			105		5601	6849	8124	9406	10680	11920	13120				
			110			6213	7406	8600	9777	10920	12020				
VJAL040Z VJAL050Z	LCHC0400UWF000N LGHC0400UWF000Q LGHC0400UWF000R	**114N6737** **114N6738** **114N6739**	90	9106	11160	13370	15740	18250	20910	23700	26610				3.29
			95	8364	10340	12470	14740	17150	19690	22350	25120				
			100	7626	9529	11570	13750	16050	18470	21000	23640				
			105		8723	10680	12750	14950	17250	19660	22150				
			110			9791	11770	13850	16040	18320	20670				
CJDL0600	LGHC0600UWF000Q LGHC0600UWF000R	**114N6741** **114N6742**	90	14890	17940	21250	24820	28630	32690	36990	41500				3.66 3.63
			95	13630	16570	19760	23180	26830	30700	34800	39090				
			100	12340	15170	18230	12500	24980	28670	32560	36640				
			105		13750	16670	19790	23110	26610	30300	34160				
			110			15100	18060	21210	24530	28020	31660				
CPDK0600	LGHC0750UWF000Q LGHC0750UWF000R	**114N6744** **114N6745**	90	20210	24010	28100	32460	37070	41920	46960	52180				3.47 3.45
			95	18820	22450	26350	30500	34880	39470	44230	49160				
			100	17400	20870	24580	28520	32660	36990	41480	46110				
			105		19280	22800	26520	30430	34500	38710	43050				
			110			21010	24510	28180	31990	35930	39980				

[1] Ambient temperature = 90 °F, Return gas = 65 °F, Subcooling = 5 °F

Full range of models (refrigerants, capacities, and voltages codes), spare parts, and more available on Coolselector®2 or contact Danfoss.

Optyma™ Slim - Low Ambient Outdoor Condensing Units

The Danfoss Optyma™ Slim line of low ambient condensing units range in size from 1 to 10 hp for low and medium temperature applications for R-134a, R-404a, and R-507. With a contractor-friendly, open design the Optyma Slim is easy to install and service. Equipped with high quality components, it provides reliable and efficient performance. Equipped with variable speed fan, condenser pressure regulation, and hot gas injection to receiver; allows reliable operation during low ambient temperatures.

Low ambient model utilizes the following components* to allow operation in cold winter climates:

- Head pressure valve
- Heated and insulated liquid receiver
- Variable speed condenser fan
- Thermostat for receiver heat control

**In addition to standard Optyma Slim components*

Features
Optyma™ Slim



Nomenclature / Model No.

Application	Design	Refrigerant	Condenser size	HP rating	Certification	Version	Electrical code
H	N	X	M	0300	U	WG000	Q

Application:
L: Low
H: High or Medium / High
M: Medium or Low/Medium
U: Universal Low / Medium / High

Design:
C: Air cooled condenser, Single fan, Recip
J: Air cooled condenser, Slim Design, Recip
G: Air cooled condenser, Twin fan, Recip
N: Air cooled condenser, Slim Design, Scroll
R: Air cooled condenser, Twin fan, Scroll

Refrigerant:
G: R134a
H: R404A/R507/R452A
M: R22 Replacement
N: R290
Z: R404A/R507A/R134a*/R448A/R449A/R452A
X: R448A/R449A/R404A/R507A/R134a/R452A
Y: R448A/R449A/R404A/R507A/R452A
S: R410A/R454B

Condenser size:
C: Fin and Tube condenser size 110F ambient
M: Microchannel Condenser size 115F ambient

HP rating:
HP rating in hundreths of HP,
i.e.: 0033=1/3 HP, 1000 = 10 HP

Certification:
R: UL Recognized
U: UL Listed

Version:
DF: Plastic baseplate
WA: Power cord
WB: Power cord, Receiver
WC: Electrical box, Receiver
WD: Electrical box, Receiver, Low pressure control
WE: Electrical box, Receiver, Dual pressure control, Fan cycling control, larger than 3HP dual fan units use KPU fan cycling control
WF: WE + Filter drier, Sight glass, Solenoid valve with coil
WG: BX, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost Timer, Outdoor enclosure (MBP)
WH: Electrical box, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost timer, Outdoor enclosure, Suction Accumulator (LBP)
WJ: Electrical box, Receiver, Dual pressure control, Fan cycling control, Filter drier, Sight glass
WK: WG + Low Ambient Temperature
WL: WH + Low Ambient Temperature

Electrical code:
B: Compressor & fan(s), 115V, 1ph, 60 Hz
N: Compressor & fan(s), 230V, 1ph, 60 Hz
Q: Compressor 208-230V, 3ph, 60 Hz
Fan(s) 230V, 1ph, 60 Hz
R: Compressor 460V, 3ph, 60 Hz
Fan(s) 460V, 1ph, 60 Hz

*** R134a is available in MBP only**

Rating Conditions (ARI)

Application	LBP	MBP/HBP
Ambient Temp	90°F	90°F
Return Gas	40°F	65°F
SubCooling	5°F	5°F

Scan the QR Code for Outdoor Units without low-ambient kit

Optyma™ Slim condensing unit R448A/R449A - MBP

Fan	Model no	Version	Electrical code	Code no	Compressor model	Amb. temp.	Capacity range in (btu/hr) at evaporating temperature							Power consumption [W] at evap. temp. 25 F	Power consumption [W] at evap. temp. 20 F	AWEF*
						°F	10	15	20	25	30	35	40			
Single fan	HJZM0150	WK	N Q	114N3575 114N3576	MTZ18	90	7668	8819	10040	11330	12680	14100	15590	1705	1629	8.19
						95	7224	8330	9503	10740	12040	13410	14830			
						100	6791	7852	8978	10170	11420	12720	14090			
						110	-	6929	7960	9049	10190	11390	12640			
						115	-	6484	7469	8508	9599	10740	11930			
	HNXM0200	WK	N Q	114N3577 114N3578	MLZ15	90	12910	14400	15990	17690	19490	21400	23430	2408	2357	8.44 8.77
						95	12460	13900	15430	17070	18810	20650	22610			
						100	12010	13390	14870	16450	18120	19900	21780			
						110	-	12370	13730	15190	16730	18370	20110			
						115	-	11850	13160	14550	16030	17600	19270			
	HNXM0250	WK	N Q	114N3581 114N3582	MLZ19	90	16790	18660	20650	22770	25020	27390	29900	3013	2944	8.79 9.19
						95	16240	18040	19960	22000	24170	26460	28870			
						100	15690	17420	19260	21230	23310	25510	27830			
						110	-	16140	17840	19640	21560	23580	25730			
						115	-	15480	17110	18840	20670	22610	24660			
	HNXM0300	WK	N Q	114N3579 114N3580	MLZ21	90	17760	19770	21910	24180	26580	29120	31800	3174	3097	8.92 9.24
						95	17130	19070	21130	23320	25630	28080	30660			
						100	16490	18360	20340	22440	24670	27030	29510			
						110	-	16900	18730	20660	22710	24880	27170			
						115	-	16160	17900	19750	21710	23790	25980			
	HNXM0350	WK	N Q	114N3583 114N3584	MLZ26	90	22170	24600	27190	29960	32890	35990	39270	3826	3730	9.22 9.87
						95	21400	23740	26230	28890	31700	34690	37840			
						100	20620	22860	25250	27800	30500	33360	36390			
						110	-	21060	23240	25560	28030	30650	33420			
						115	-	20140	22210	24420	26770	29260	31900			
	HNXM0400	WK	N Q	114N3585 114N3586	MLZ30	90	26300	29140	32180	35420	38860	42510	46370	4455	4336	9.40 9.80
						95	25260	28000	30920	34040	37360	40890	44610			
						100	24200	26830	29640	32640	35830	39220	42810			
						110	-	24410	26980	29730	32670	35800	39110			
						115	-	23180	25620	28240	31040	34030	37210			

Test condition
Return gas temperature 65°F
Subcooling 5°F

Electrical code
N: Compressor & fan(s) 230V, 1 ph, 60 Hz
Q: Compressor 208-230V, 3ph, 60 Hz
Fan(s) 230V, 1ph, 60 Hz

Version
WG: Electrical box, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost Timer, Outdoor enclos ure (MBP)
WK: WG + Low Ambient Kit

HP rating in hundredths of HP, ie.: 033=1/3hp, (UCGC0100U:0100=1hp)
Power consumption referred at 90°F ambient temperature
*This refrigeration system is designed and certified for use in walk-in cooler applications
R448A and R449A performance data are nearly identical
Performance data is based on fan full speed

All Optyma Slim Condensing units are UL Listed

Optyma™ Slim condensing unit R448A/R449A - MBP

Fan	Model no	Version	Electrical code	Code no	Compressor model	Amb. temp.	Capacity range in (btu/hr) at evaporating temperature							Power consumption [W] at evap. temp. 25 F	Power consumption [W] at evap. temp. 20 F	AWEF*
						°F	10	15	20	25	30	35	40			
Two fan	HNXM0500	WK	N Q	114N3587 114N3588	MLZ38	90	31640	35200	39050	43210	47670	52450	57540	5406	5301	9.06 9.58
						95	30560	33980	37700	41710	46020	50630	55560			
						100	29480	32760	36330	40180	44340	48790	53550			
						110	-	30290	33550	37090	40920	45040	49460			
						115	-	29050	32150	35530	39190	43140	47380			
	HRXM0600	WK	Q	114N3589	MLZ45	90	38490	42850	47520	52510	57830	63480	69460	6504	6351	9.64
						95	37070	41280	45790	50610	55760	61220	67020			
						100	35650	39700	44050	48710	53670	58950	64550			
						110	-	36520	40550	44850	49450	54360	59570			
						115	-	34920	38780	42910	47320	52040	57060			
	HRXM0700	WK	Q	114N3591	MLZ48	90	42340	47050	52070	57410	63070	69060	75370	6907	6749	9.83
						95	40720	45260	50110	55260	60720	66490	72580			
						100	39070	43440	48100	53060	58320	63880	69750			
						110	-	39700	43980	48540	53380	58510	63930			
						115	-	37770	41860	46210	50840	55760	60960			
	HRXM0750	WK	Q	114N3592	MLZ58	90	51070	56740	62810	69310	76240	83610	91420	7665	7493	10.28
						95	49310	54780	60640	66910	73590	80710	88260			
						100	47530	52790	58430	64470	70910	77770	85060			
						110	-	48720	53920	59480	65420	71770	78510			
						115	-	46650	51620	56940	62630	68700	75180			
	HRXM1000	WK	Q	114N3593	MLZ76	90	62370	69580	77310	85550	94330	103600	113500	9991	9768	9.88
						95	59830	66820	74300	82280	90790	99810	109400			
						100	57230	63980	71210	78930	87150	95890	105200			
						110	-	58100	64800	71980	79630	87770	96420			
						115	-	55060	61490	68380	75740	83580	91920			

Test condition

Return gas temperature	65°F
Subcooling	5°F

Electrical code

N: Compressor & fan(s) 230V, 1 ph, 60 Hz
Q: Compressor 208-230V, 3ph, 60 Hz & Fan(s) 230V, 1ph, 60 Hz
R: Compressor 420-460V, 3ph, 60 Hz & Fan(s) 460V, 1ph, 60Hz

Version

WG: Electrical box, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost Timer, Outdoor enclosure (MBP)
WK: WG + Low Ambient Kit

HP rating in hundredths of HP, ie.: 033=1/3hp, (UCGC0100U:0100=1hp)
Power consumption referred at 90°F ambient temperature
*This refrigeration system is designed and certified for use in walk-in cooler applications
R448A and R449A performance data are nearly identical
Performance data is based on fan full speed

All Optyma Slim Condensing units are UL Listed

Optyma™ Slim condensing unit R134a - MBP

Fan	Model no	Version	Electrical code	Code no	Compressor model	Amb. temp.	Capacity range in (btu/hr) at evaporating temperature							Power consumption [W] at evap. temp. 25°F	Power consumption [W] at evap. temp. 20°F	AWEF*
						°F	10	15	20	25	30	35	40			
Single fan	HJZM0150	WK	N	114N3575	MTZ18	90	4842	5722	6684	7725	8847	10050	11330	1150	1107	7.76
			Q	114N3576		95	4571	5415	6336	7334	8408	9558	10780			7.93
						100	4297	5106	5987	6941	7968	9067	10240			
						110	-	4486	5288	6156	7088	8086	9147			
						115	-	4176	4940	5765	6651	7598	8606			
	HNXM0200	WK	N	114N3577	MLZ15	90	8480	9651	10900	12220	13630	15140	16730	1577	1555	8.01
			Q	114N3578		95	8207	9349	10570	11860	13240	14710	16280			8.78
						100	7932	9041	10230	11490	12840	14270	15800			
						110	-	8422	9532	10720	12000	13360	14810			
						115	-	8113	9183	10330	11560	12880	14290			
	HNXM0250	WK	N	114N3581	MLZ19	90	10900	12380	13960	15640	17440	19350	21380	2053	2019	8.00
			Q	114N3582		95	10530	11980	13520	15170	16930	18800	20770			9.19
						100	10160	11570	13070	14680	16400	18220	20150			
						110	-	10750	12170	13690	15310	17030	18850			
						115	-	10350	11720	13180	14750	16420	18180			
	HNXM0300	WK	N	114N3579	MLZ21	90	11600	13160	14830	16600	18480	20480	22600	2124	2090	8.21
			Q	114N3580		95	11220	12740	14370	16100	17940	19890	21960			9.42
						100	10830	12310	13890	15580	17370	19280	21300			
						110	-	11430	12910	14500	16190	18000	19920			
						115	-	10980	12420	13950	15590	17340	19200			
	HNXM0350	WK	N	114N3583	MLZ26	90	14440	16380	18460	20690	23060	25580	28260	2611	2570	8.38
			Q	114N3584		95	13970	15870	17900	20070	22390	24860	27480			10.17
						100	13500	15340	17320	19440	21700	24110	26660			
						110	-	14270	16130	18120	20250	22530	24950			
						115	-	13740	15520	17440	19500	21710	24050			
	HNXM0400	WK	N	114N3585	MLZ30	90	17090	19430	21920	24550	27340	30300	33440	2940	2883	8.87
			Q	114N3586		95	16540	18820	21230	23800	26530	29420	32490			10.2
						100	15980	18190	20540	23040	25690	28510	31500			
						110	-	16940	19130	21470	23960	26610	29430			
						115	-	16320	18420	20670	23070	25630	28360			

Test condition
Return gas temperature 65°F
Subcooling 5°F

Electrical code
N: Compressor & fan(s) 230V, 1 ph, 60 Hz
Q: Compressor 208-230V, 3ph, 60 Hz
Fan(s) 230V, 1ph, 60 Hz

Version
WG: Electrical box, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost Timer, Outdoor enclosure (MBP)
WK: WG + Low Ambient Kit

HP rating in hundredths of HP, ie.: 033=1/3hp, (UCGC0100U:0100=1hp)
Power consumption referred at 90°F ambient temperature
*This refrigeration system is designed and certified for use in walk-in cooler applications
Performance data is based on fan full speed

All Optyma Slim Condensing units are UL Listed

Optyma™ Slim condensing unit R404A/R507 - MBP

Fan	Model no	Version	Electrical code	Code no	Compressor model	Amb. temp.	Capacity range in (btu/hr) at evaporating temperature							Power consumption [W] at evap. temp. 25°F	Power consumption [W] at evap. temp. 20°F	AWEF*
						°F	10	15	20	25	30	35	40			
Single fan	HJZM0150	WK	N Q	114N3575 114N3576	MTZ18	90	9048	10350	11676	13124	14644	16232	17847	2002	1935	7.85
						95	8504	9749	11017	12399	13848	15363	16904			
						100	7957	9146	10355	11672	13052	14492	15960			
						110	-	8138	9249	10458	11723	13042	14388			
						115	-	7532	8585	9730	10927	12175	13449			
	HNXM0200	WK	N Q	114N3577 114N3578	MLZ15	90	14640	16250	17950	19740	21590	23520	25490	2359	2337	10.06 10.04
						95	13970	15520	17150	18870	20650	22490	24380			
						100	13290	14780	16340	17990	19700	21460	23260			
						110	-	13240	14680	16180	17750	19350	20990			
						115	-	12440	13820	15260	16750	18280	19850			
	HNXM0250	WK	N Q	114N3581 114N3582	MLZ19	90	19080	20970	22970	25090	27320	29670	32130	2973	2933	10.04 10.30
						95	18290	20100	22020	24040	26180	28430	30800			
						100	17490	19210	21040	22980	25030	27180	29450			
						110	-	17390	19050	20810	22670	24640	26710			
						115	-	16450	18020	19690	21470	23340	25320			
	HNXM0300	WK	N Q	114N3579 114N3580	MLZ21	90	20150	22110	24190	26400	28730	31190	33790	3187	3136	9.92 10.27
						95	19300	21180	23180	25290	27530	29890	32390			
						100	18420	20220	22140	24160	26310	28580	30970			
						110	-	18230	19980	21840	23800	25890	28090			
						115	-	17190	18860	20630	22510	24510	26630			
	HNXM0350	WK	N Q	114N3583 114N3584	MLZ26	90	25330	27850	30510	33300	36230	39270	42440	3829	3774	10.33 10.58
						95	24270	26680	29230	31910	34720	37640	40680			
						100	23170	25480	27930	30490	33180	35980	38900			
						110	-	22980	25210	27560	30020	32580	35250			
						115	-	21670	23800	26040	28390	30840	33400			
	HNXM0400	WK	N Q	114N3585 114N3586	MLZ30	90	28880	31820	34900	38120	41480	44960	48570	4596	4507	9.62 10.51
						95	27590	30400	33360	36450	39660	43010	46470			
						100	26270	28960	31790	34740	37820	41020	44340			
						110	-	25990	28570	31250	34060	36970	40000			
							-	24470	26910	29470	32140	34920	37800			

Test condition
Return gas temperature 65°F
Subcooling 5°F

Electrical code
N: Compressor & fan(s) 230V, 1 ph, 60 Hz
Q: Compressor 208-230V, 3ph, 60 Hz
Fan(s) 230V, 1ph, 60 Hz

Version
WG: Electrical box, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost Timer, Outdoor enclosure (MBP)
WK: WG + Low Ambient Kit

HP rating in hundredths of HP, ie.: 033=1/3hp, (UCGC0100U:0100=1hp)
Power consumption referred at 90°F ambient temperature
*This refrigeration system is designed and certified for use in walk-in cooler applications
Performance data is based on fan full speed

All Optyma Slim Condensing units are UL Listed

Optyma™ Slim condensing unit R404A/R507 - MBP

Fan	Model no	Version	Electrical code	Code no	Compressor model	Amb. temp.	Capacity range in (btu/hr) at evaporating temperature							Power consumption [W] at evap. temp. 25˚F	Power consumption [W] at evap. temp. 20˚F	AWEF*
						˚F	10	15	20	25	30	35	40			
Two fan	HRXM0500	WK	N Q	114N3587 114N3588	MLZ38	90	35730	39530	43530	47720	52110	56690	61440	5430	5336	9.64 10.48
						95	34120	37770	41630	45690	49930	54360	58960			
						100	32480	35990	39700	43610	47700	51970	56420			
						110	-	32350	35750	39340	43110	47060	51190			
						115	-	30520	33750	37170	40770	44560	48510			
	HRXM0600	WK	Q	114N3589	MLZ45	90	43050	47300	51790	56540	61520	66740	72210	6264	6181	10.57
						95	41250	45320	49630	54180	58960	63980	69220			
						100	39410	43310	47430	51780	56360	61170	66200			
						110	-	39140	42890	46860	51040	55430	60040			
						115	-	36980	40550	44320	48310	52500	56900			
	HRXM0700	WK	Q	114N3591	MLZ48	90	46560	51140	55980	61060	66380	71930	77700	6912	6798	10.45
						95	44590	48980	53610	58470	63570	68890	74420			
						100	42570	46760	51180	55830	60700	65790	71080			
						110	-	42140	46150	50360	54790	59420	64250			
						115	-	39740	43540	47540	51750	56160	60760			
	HRXM0750	WK	Q	114N3592	MLZ58	90	56950	63010	69380	76050	83030	90340	97970	8089	7948	10.66
						95	54160	59960	66040	72410	79070	86030	93300			
						100	51290	56830	62620	68670	75010	81620	88520			
						110	-	50310	55510	60940	66610	72520	78690			
						115	-	46940	51840	56950	62280	67840	73640			
	HRXM1000	WK	Q	114N3593	MLZ76	90	72760	79770	87190	95020	103300	111900	120900	10580	10380	10.3
						95	69610	76280	83330	90760	98580	106800	115400			
						100	66390	72700	79370	86410	93800	101600	109700			
						110	-	65300	71210	77440	84000	90890	98100			
						115	-	61460	67000	72830	78970	85420	92190			

Test condition
Return gas temperature 65°F
Subcooling 5°F

Electrical code
N: Compressor & fan(s) 230V, 1 ph, 60 Hz
Q: Compressor 208-230V, 3ph, 60 Hz & Fan(s) 230V, 1ph, 60 Hz

Version
WG: Electrical box, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost Timer, Outdoor enclosure (MBP)
R: Compressor 420-460V, 3ph, 60 Hz & Fan(s) 460V, 1ph, 60Hz
WK: WG + Low Ambient Kit

HP rating in hundredths of HP, ie.: 033=1/3hp, (UCGC0100U:0100=1hp)
Power consumption referred at 90°F ambient temperature
*This refrigeration system is designed and certified for use in walk-in cooler applications
Performance data is based on fan full speed

All Optyma Slim Condensing units are UL Listed

Optyma™ Slim condensing unit R452A - MBP

Fan	Model no	Version	Electrical code	Code no	Compressor model	Amb. temp.	Capacity range in (btu/hr) at evaporating temperature							Power consumption [W] at evap. temp. 25°F	Power consumption [W] at evap. temp. 20°F	AWEF*
						°F	10	15	20	25	30	35	40			
Single fan	HJZM0150	WK	N Q	114N3575 114N3576	MTZ18	90	8675	9829	11050	12340	13690	15100	16570	1875	1801	8.09
						95	8167	9269	10440	11660	12950	14290	15690			
						100	7662	8712	9822	10990	12210	13490	14820			
						110	-	7606	8606	9658	10760	11910	13100			
						115	-	7059	8005	8999	10040	11120	12250			
	HNXM0200	WK	N Q	114N3577 114N3578	MLZ15	90	14020	15500	17070	18730	20490	22340	24290	2481	2442	8.69 8.98
						95	13490	14900	16400	18000	19680	21450	23310			
						100	12930	14280	15720	17240	18850	20540	22320			
						110	-	13000	14300	15670	17120	18660	20270			
						115	-	12340	13560	14860	16240	17690	19230			
	HNXM0250	WK	N Q	114N3581 114N3582	MLZ19	90	17940	19830	21830	23940	26150	28470	30900	3087	3032	9.06 9.23
						95	17220	19030	20940	22960	25080	27300	29620			
						100	16470	18210	20030	21960	23980	26100	28320			
						110	-	16500	18150	19890	21720	23640	25650			
						115	-	15620	17190	18830	20560	22380	24290			
	HNXM0300	WK	N Q	114N3579 114N3580	MLZ21	90	18820	20800	22890	25100	27430	29870	32420	3237	3177	9.06 9.28
						95	18050	19940	21940	24060	26280	28620	31070			
						100	17250	19060	20970	22990	25110	27340	29680			
						110	-	17220	18940	20770	22690	24710	26840			
						115	-	16270	17900	19620	21450	23360	25380			
	HNXM0350	WK	N Q	114N3583 114N3584	MLZ26	90	23480	25980	28640	31450	34410	37530	40790	3855	3779	9.56 9.76
						95	22490	24900	27450	30150	32990	35980	39120			
						100	21490	23800	26240	28830	31550	34420	37430			
						110	-	21530	23760	26110	28600	31230	33980			
						115	-	20360	22480	24730	27100	29600	32240			
	HNXM0400	WK	N Q	114N3585 114N3586	MLZ30	90	27420	30250	33240	36400	39720	43200	46830	4572	4466	9.35 9.80
						95	26330	29040	31900	34920	38100	41430	44910			
						100	25210	27800	30530	33410	36440	39620	42950			
						110	-	25210	27670	30280	33020	35910	38940			
						115	-	23870	26200	28670	31270	34010	36890			

Test condition

Return gas temperature 65°F
Subcooling 5°F

Electrical code

N: Compressor & fan(s) 230V, 1 ph, 60 Hz
Q: Compressor 208-230V, 3ph, 60 Hz & Fan(s) 230V, 1ph, 60 Hz

Version

WG: Electrical box, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost Timer, Outdoor enclosure (MBP)
WK: WG + Low Ambient Kit

HP rating in hundredths of HP, ie.: 033=1/3hp, (UCGC0100U:0100=1hp)
Power consumption referred at 90°F ambient temperature
*This refrigeration system is designed and certified for use in walk-in cooler applications
Performance data is based on fan full speed

All Optyma Slim Condensing units are UL Listed

Optyma™ Slim condensing unit R452A - MBP

Fan	Model no	Version	Electrical code	Code no	Compressor model	Amb. temp.	Capacity range in (btu/hr) at evaporating temperature							Power consumption [W] at evap. temp. 25 F	Power consumption [W] at evap. temp. 20 F	AWEF*
						˚F	10	15	20	25	30	35	40			
Two fan	HRXM0500	WK	N Q	114N3587 114N3588	MLZ38	90	33490	37040	40820	44840	49100	53590	58330	5617	5514	9.14 9.71
						95	32190	35580	39210	43050	47130	51440	55980			
						100	30850	34100	37560	41230	45130	49240	53580			
						110	-	31020	34150	37470	41000	44740	48690			
						115	-	29440	32390	35540	38890	42440	46190			
	HRXM0600	WK	Q	114N3589	MLZ45	90	40810	44950	49360	54040	58980	64190	69670	6647	6484	9.53
						95	39180	43130	47340	51800	56510	61490	66730			
						100	37520	41280	45270	49520	54010	58750	63750			
						110	-	37480	41060	44860	48890	53170	57680			
						115	-	35540	38900	42480	46290	50330	54610			
	HRXM0700	WK	Q	114N3591	MLZ48	90	44500	49090	53970	59130	64580	70310	76320	7246	7086	9.81
						95	42630	47020	51680	56620	61830	67320	73080			
						100	40720	44900	49350	54050	59030	64270	69780			
						110	-	40550	44550	48790	53280	58030	63050			
						115	-	38330	42090	46100	50350	54860	59620			
	HRXM0750	WK	Q	114N3592	MLZ58	90	53900	59650	65770	72280	79180	86470	94150	8415	8255	10.3
						95	51680	57210	63090	69350	75980	82990	90380			
						100	49420	54710	60350	66340	72700	79430	86520			
						110	-	49540	54670	60140	65940	72090	78600			
						115	-	46880	51750	56940	62470	68330	74550			
	HRXM1000	WK	Q	114N3593	MLZ76	90	67150	74200	81650	89500	97760	106400	115500	10420	10220	9.95
						95	64380	71130	78270	85800	93710	102000	110700			
						100	61540	68000	74820	82020	89590	97530	105800			
						110	-	61520	67700	74220	81090	88310	95890			
						115	-	58180	64040	70220	76740	83600	90810			

Test condition
Return gas temperature 65°F
Subcooling 5°F

Electrical code
N: Compressor & fan(s) 230V, 1 ph, 60 Hz
Q: Compressor 208-230V, 3ph, 60 Hz & Fan(s) 230V, 1ph, 60 Hz
R: Compressor 420-460V, 3ph, 60 Hz & Fan(s) 460V, 1ph, 60Hz

Version
WG: Electrical box, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost Timer, Outdoor enclosure (MBP)
WK: WG + Low Ambient Kit

HP rating in hundredths of HP, ie.: 033=1/3hp, (UCGC0100U:0100=1hp)
Power consumption referred at 90°F ambient temperature
*This refrigeration system is designed and certified for use in walk-in cooler applications
Performance data is based on fan full speed

All Optyma Slim Condensing units are UL Listed

Optyma™ Slim condensing unit R448A/R449A - LBP

	Model no	Version	Electrical code	Code no	Compressor model	Amb. temp.	Capacity range in (btu/hr) at evaporating temperature								Power consumption [W] at evap. temp. -20 F	Power consumption [W] at evap. temp. -10 F	AWEF*
						°F	-25	-20	-15	-10	-5	0	5	10			
Single fan	LNYM0400	WL	Q	114N3594	LLZ013	90	11030	12470	14030	15720	17550	19500	21590	23820	3268	3563	3.41
						95	-	12090	13590	15220	16970	18850	20850	22980			
						100	-	-	13140	14700	16380	18180	20100	22140			
						105	-	-	-	14170	15770	17490	19330	21270			
						110	-	-	-	-	15150	16790	18540	20400			
	LNYM0500	WL	Q	114N3595	LLZ015	90	13550	15280	17170	19210	21420	23800	26350	29070	3981	4297	3.48
						95	-	14850	16660	18620	20730	23000	25430	28020			
						100	-	-	16140	18010	20020	22180	24500	26960			
						105	-	-	-	17380	19300	21350	23550	25890			
						110	-	-	-	-	18550	20500	22580	24790			
	LNYM0600	WL	Q	114N3596	LLZ018	90	15080	17030	19150	21440	23920	26570	29400	32420	4954	5385	3.26
						95	-	16410	18440	20630	22990	25520	28220	31090			
						100	-	-	17700	19780	22030	24440	27010	29740			
						105	-	-	-	18900	21030	23320	25750	28340			
						110	-	-	-	-	19990	22150	24450	26890			
Two fan	LRYM0800	WL	Q	114N3597	LLZ024	90	20000	22510	25230	28170	31330	34730	38350	42200	5683	6222	3.39
						95	-	21860	24480	27310	30340	33590	37060	40750			
						100	-	-	23700	26410	29320	32430	35750	39270			
						105	-	-	-	25470	28250	31220	34390	37750			
							-	-	-	-	27140	29970	32980	36180			

Test condition
Return gas temperature 40°F
Subcooling 5°F

Electrical code
N: Compressor & fan(s) 230V, 1 ph, 60 Hz
Q: Compressor 208-230V, 3ph, 60 Hz & Fan(s) 230V, 1ph, 60 Hz
R: Compressor 420-460V, 3ph, 60 Hz & Fan(s) 460V, 1ph, 60Hz

Version
WH: Electrical box, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost Timer, Outdoor enclosure, Suction Accumulator (LBP)
WL: WH+Low Ambient Kit

HP rating in hundredths of HP, ie.: 033=1/3hp, (UCGC0100U:0100=1hp)
Power consumption referred at 90°F ambient temperature
Performance data is based on fan full speed

All Optyma Slim Condensing units are UL Listed

Optyma™ Slim condensing unit R404A/R507 - LBP

Fan	Model no	Version	Electrical code	Code no	Compressor model	Amb. temp.	Capacity range in (btu/hr) at evaporating temperature								Power consumption [W] at evap. temp. -20 F	Power consumption [W] at evap. temp. -10 F	AWEF*
						˚F	-25	-20	-15	-10	-5	0	5	10			
Single fan	LNYM0400	WL	Q	114N3594	LLZ013	90	13650	15330	17130	19030	21050	23190	25440	27810	3405	3672	3.81
						95	-	14750	16460	18280	20200	22230	24370	26610			
						100	-	-	15780	17510	19330	21250	23270	25390			
						105	-	-	-	16720	18440	20250	22160	24150			
						110	-	-	-	-	17530	19230	21020	22880			
Two fan	LRYM0800	WL	Q	114N3597	LLZ024	90	24780	27840	31150	34720	38560	42650	47010	51640	5852	6360	3.76
						95	-	26780	29940	33350	37000	40890	45040	49440			
						100	-	-	28710	31950	35410	39110	43040	47210			
						105	-	-	-	30510	33800	37300	41020	44960			
						110	-	-	-	-	32150	35450	38960	42670			

Test condition
Return gas temperature 40°F
Subcooling 5°F

Electrical code
N: Compressor & fan(s) 230V, 1 ph, 60 Hz
Q: Compressor 208-230V, 3ph, 60 Hz & Fan(s) 230V, 1ph, 60 Hz
R: Compressor 420-460V, 3ph, 60 Hz & Fan(s) 460V, 1ph, 60Hz

Version
WH: BX, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost Timer, Outdoor enclosure, Suction Accumulator (LBP)
WL: WH+Low Ambient Kit

HP rating in hundredths of HP, ie.: 033=1/3hp, (UCGC0100U:0100=1hp)
Power consumption referred at 90°F ambient temperature
Performance data is based on fan full speed

All Optyma Slim Condensing units are UL Listed

Optyma™ Slim condensing unit R452A - LBP

Fan	Model no	Version	Electrical code	Code no	Compressor model	Amb. temp.	Capacity range in (btu/hr) at evaporating temperature						Power consumption [W] at evap. temp. -20 F	Power consumption [W] at evap. temp. -10 F	AWEF*
						˚F	-25	-20	-15	-10	-5	0			
Single fan	LNYM0400	WL	Q	114N3594	LLZ013	90	-	13370	15000	16750	18620	20620	3426	3736	3.52
						95	-	-	14400	16080	17870	19780			
						100	-	-	-	15400	17110	18940			
						110	-	-	-	-	15550	17200			
						115	-	-	-	-	-	16320			
Two fan	LRYM0800	WL	Q	114N3597	LLZ024	90	-	24510	27440	30580	33940	37510	5893	6499	3.48
						95	-	-	26400	29400	32610	36020			
						100	-	-	-	28200	31250	34490			
						110	-	-	-	-	28430	31340			
						115	-	-	-	-	-	29710			

Test condition
Return gas temperature 40°F
Subcooling 5°F

Electrical code
N: Compressor & fan(s) 230V, 1 ph, 60 Hz
Q: Compressor 208-230V, 3ph, 60 Hz & Fan(s) 230V, 1ph, 60 Hz
R: Compressor 420-460V, 3ph, 60 Hz & Fan(s) 460V, 1ph, 60Hz

Version
WH: Electrical box, Receiver, Dual pressure control, Fan speed controller or Fan cycling, Defrost Timer, Outdoor enclosure, Suction Accumulator (LBP)
WL: WH+Low Ambient Kit

HP rating in hundredths of HP, ie.: 033=1/3hp, (UCGC0100U:0100=1hp)
Power consumption referred at 90°F ambient temperature
Performance data is based on fan full speed

All Optyma Slim Condensing units are UL Listed

MT/MTZ - Medium/High Temperature Reciprocating Compressors

Known for their legendary durability, Maneurop® reciprocating compressors from Danfoss cover a wide range of operating conditions. Maneurop MT and MTZ series hermetic reciprocating compressors are designed for high and medium temperature applications. These compressors have a large internal free volume that protects against the risk of liquid hammering when liquid refrigerant enters the compressor.

MT/MTZ Reciprocating Compressors



Nomenclature / Model No.

MT Z 64 HM 4 B VE

Compressor type
MT: medium and high temperature reciprocating compressor

Refrigerant & oil
Blank: R-22, mineral oil
Z: R-134a, R-404A, R-407A/C/F, R-452A*, R-448A*, R449A*, R507A, POE oil (*not available for all model numbers)

Nominal Capacity
In thousand Btu/h at 60 Hz, ARI Conditions

Displacement code
(in³/rev)

JA: 1.84 **HL:** 5.87
JC: 2.33 **HM:** 6.57
JE: 2.93 **HN:** 7.38
JF: 3.29 **HP:** 8.29
JG: 3.69 **HS:** 10.45
JH: 4.14 **HU:** 13.15
HJ: 4.65 **HV:** 14.76
HK: 5.23 **HW:** 16.57

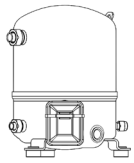
Motor voltage code
1: 208-230 V / 1 ph / 60 Hz
3: 200-230 V / 3 ph / 60 Hz
4: 380-400 V / 3 ph / 50 Hz
460 V / 3 ph / 60 Hz
5: 230 V / 1 ph / 50 Hz
6: 230 V / 3 ph / 50 Hz
7: 500 V / 3 ph / 50 Hz
575 V / 3 ph / 60 Hz
9: 380 V / 3 ph / 60 Hz

Evolution index

Oil equalization port and sight glass

Scan the QR Code for a video on interpretting Maneurop®Nomeclature.

Technical data and ordering



MT/MTZ -Medium/High Temperature Reciprocating Compressors

Nominal capacity (Btu/h)[2]				Connection type Rotolock (in.)	Connection with supplied sleeve (in. ODF)	No. of cylinders	Weight (lbs.)	208–230/1/60		200–230/3/60		460/3/60	
R-22[3]	R-134a[3] R-513A	R-404A[4] R-507A[4]	R-448A R-449A					Danfoss Model No.[1]	Danfoss Code No.	Danfoss Model No.[1]	Danfoss Code No.	Danfoss Model No.[1]	Danfoss Code No.
15903				1 × 1	½ × ⅜	1	46	MT18JA1*VE	**MT18-1VI**	MT18JA3*VE	**MT18-3VI**	MT18JA4*VE	**MT18-4VI**
21975				1 × 1[(5)]	½ × ⅜[(5)]	1	46	MT22JC1*VE	**MT22-1VI**[5]	MT22JC3*VE	**MT22-3VI**	MT22JC4*VE	**MT22-4VI**
30231				1 × 1[(5)]	½ × ⅜[(5)]	1	51	MT28JE1*VE	**MT28-1VI**[5]	MT28JE3*VE	**MT28-3VI**	MT28JE4*VE	**MT28-4VI**
33044				1 ¼ × 1	⅝ × ½	1	53	MT32JF1*VE	**MT32-1VI**	MT32JF3*VE	**MT32-3VI**	MT32JF4*VE	**MT32-4VI**
37992				1 ¼ × 1	⅝ × ½	1	55	MT36JG1*VE	**MT36-1VI**	MT36JG3*VE	**MT36-3VI**	MT36JG4*VE	**MT36-4VI**
42930				1 ¼ × 1	⅝ × ½	1	57	MT40JH1*VE	**MT40-1VI**	MT40JH3*VE	**MT40-3VI**	MT40JH4*VE	**MT40-4VI**
43999				1 ¾ × 1 ¼	⅞ × ¾	2	82	MT44HJ1*VE	**MT44-1VI**	MT44HJ3*VE	**MT44-3VI**	MT44HJ4*VE	**MT44-4VI**
50160				1 ¾ × 1 ¼	⅞ × ¾	2	82	MT50HK1*VE	**MT50-1VI**	MT50HK3*VE	**MT50-3VI**	MT50HK4*VE	**MT50-4VI**
56420				1 ¾ × 1 ¼	⅞ × ¾	2	86	MT56HL1*VE	**MT56-1VI**	MT56HL3*VE	**MT56-3VI**	MT56HL4*VE	**MT56-4VI**
64366				1 ¾ × 1 ¼	⅞ × ¾	2	86	MT64HM1*VE	**MT64-1VI**	MT64HM3*VE	**MT64-3VI**	MT64HM4*VE	**MT64-4VI**
74561				1 ¾ × 1 ¼	⅞ × ¾	2	88			MT72HN3*VE	**MT72-3VI**	MT72HN4*VE	**MT72-4VI**
84977				1 ¾ × 1 ¼	1 ⅛ × ¾	2	88			MT80HP3*VE	**MT80-3VI**	MT80HP4*VE	**MT80-4VI**
95898				1 ¾ × 1 ¼	1 ⅛ × ¾	4	132			MT100HS3*VE	**MT100-3VI**	MT100HS4*VE	**MT100-4VI**
124678				1 ¾ × 1 ¼	1 ⅛ × ¾	4	141			MT125HU3*VE	**MT125-3VI**	MT125HU4*VE	**MT125-4VI**
140697				1 ¾ × 1 ¼	1 ⅛ × ¾	4	148			MT144HV3*VE	**MT144-3VI**	MT144HV4*VE	**MT144-4VI**
156820				1 ¾ × 1 ¼	1 ⅛ × ¾	4	152			MT160HW3*VE	**MT160-3VI**	MT160HW4*VE	**MT160-4VI**
	11200	8980	8980	1 × 1	½ × ⅜	1	46	MTZ18JA1*VE	**MTZ18-1VI**	MTZ18JA3*VE	**MTZ18-3VI**	MTZ18JA4*VE	**MTZ18-4VI**
	14849	12306	12306	1 × 1[(5)]	½ × ⅜[(5)]	1	46	MTZ22JC1*VE	**MTZ22-1VI**[5]	MTZ22JC3*VE	**MTZ22-3VI**	MTZ22JC4*VE	**MTZ22-4VI**
	19276	15986	15986	1 × 1[(5)]	½ × ⅜[(5)]	1	51	MTZ28JE1*VE	**MTZ28-1VI**[5]	MTZ28JE3*VE	**MTZ28-3VI**	MTZ28JE4*VE	**MTZ28-4VI**
	20949	17480	17480	1 ¼ × 1	⅝ × ½	1	53	MTZ32JF1*VE	**MTZ32-1VI**	MTZ32JF3*VE	**MTZ32-3VI**	MTZ32JF4*VE	**MTZ32-4VI**
	24482	20189	20189	1 ¼ × 1	⅝ × ½	1	55	MTZ36JG1*VE	**MTZ36-1VI**	MTZ36JG3*VE	**MTZ36-3VI**	MTZ36JG4*VE	**MTZ36-4VI**
	27864	23031	23031	1 ¼ × 1	⅝ × ½	1	57	MTZ40JH1*VE	**MTZ40-1VI**	MTZ40JH3*VE	**MTZ40-3VI**	MTZ40JH4*VE	**MTZ40-4VI**
	30110	24323	24323	1 ¾ × 1 ¼	⅞ × ¾	2	82	MTZ44HJ1*VE	**MTZ44-1VI**	MTZ44HJ3*VE	**MTZ44-3VI**	MTZ44HJ4*VE	**MTZ44-4VI**
	34538	28590	28590	1 ¾ × 1 ¼	⅞ × ¾	2	82	MTZ50HK1*VE	**MTZ50-1VI**	MTZ50HK3*VE	**MTZ50-3VI**	MTZ50HK4*VE	**MTZ50-4VI**
	38881	32451	32451	1 ¾ × 1 ¼	⅞ × ¾	2	86					MTZ56HL4*VE	**MTZ56-4VI**
	44404	36056	36056	1 ¾ × 1 ¼	⅞ × ¾	2	86	MTZ64HM1*VE	**MTZ64-1VI**	MTZ64HM3*VE	**MTZ64-3VI**	MTZ64HM4*VE	**MTZ64-4VI**
	50000	40894	40894	1 ¾ × 1 ¼	⅞ × ¾	2	88			MTZ72HN3*VE	**MTZ72-3VI**	MTZ72HN4*VE	**MTZ72-4VI**
	56336	46521	46521	1 ¾ × 1 ¼	1 ⅛ × ¾	2	88			MTZ80HP3*VE	**MTZ80-3VI**	MTZ80HP4*VE	**MTZ80-4VI**
	63963	52953	52953	1 ¾ × 1 ¼	1 ⅛ × ¾	4	132			MTZ100HS3*VE	**MTZ100-3VI**	MTZ100HS4*VE	**MTZ100-4VI**
	78906	68297	68297	1 ¾ × 1 ¼	1 ⅛ × ¾	4	141			MTZ125HU3*VE	**MTZ125-3VI**	MTZ125HU4*VE	**MTZ125-4VI**
	96936	80472	80472	1 ¾ × 1 ¼	1 ⅛ × ¾	4	148			MTZ144HV3*VE	**MTZ144-3VI**	MTZ144HV4*VE	**MTZ144-4VI**
	107631	87421	87421	1 ¾ × 1 ¼	1 ⅛ × ¾	4	152			MTZ160HW3*VE	**MTZ160-3VI**	MTZ160HW4*VE	**MTZ160-4VI**

[1] These compressor models have threaded sight glass and ⅜ in. flare oil equalization line.
[2] To determine the nominal capacity for R-407A/C/F, R-452A, R-448A, R-449A, check Coolselector.
[3] Evaporator temperature = 45 °F, condensing temperature = 130 °F, superheat = 20 °F, subcooling = 15 °F
[4] Evaporator temperature = 20 °F, condensing temperature = 120 °F, superheat = 20 °F, subcooling = 0 °F
[5] Actual connection for MT and MTZ 22–28 (208–230/1/60) is rotolock 1 ¼ in. × 1 in. and connection with supplied sleeve is ⅝ in. × ½ in. ODF.
Capacitor values and relays for 1 phase compressors are available on page 80.

Spare Parts and Accessories

Description	Type(s) applied to	Danfoss Code No.
Belt type crankcase heater; 54W, 230V	MT(Z) 018–040	**7773106**
Belt type crankcase heater; 65W, 110V	MT(Z) 044–081	**7773109**
Belt type crankcase heater; 65W, 230V		**7773107**
Belt type crankcase heater; 65W, 400V		**7773117**
Belt type crankcase heater; 65W, 460V		**120Z0466**
Belt type crankcase heater; 75W, 110V	MT(Z) 100–160	**7773110**
Belt type crankcase heater; 75W, 230V		**7773108**
Belt type crankcase heater; 75W, 400V		**7773118**
Belt type crankcase heater; 75W, 460V		**120Z0464**
PTC heater	all	**120Z0459**
Mounting kit 1 cyl high	MT(Z) 22–28 for 208–230/1/60; 32–40 for 200–230/3/60 and 460/3/60	**8156001**
Mounting kit 1 cyl low	MT(Z) 18 for 208–230/1/60; 22–28 for 200–230/3/60 and 460/3/60	**120Z0760**
Mounting kit 2 cyl HP	MT(Z) 80 for 200-230/3/60	**120Z0761**
Mounting kit 2 cyl except HP	MT(Z) 50–60 for 208–230/1/60	**120Z0762**
Mounting kit 2 cyl	MT(Z) 44 for 208–230/1/60; 4–72 for 200–230/3/60 and 460/3/60	**120Z0763**
Mounting kit 2 cyl HP	MT(Z) 80 for 460/3/60	**120Z0764**
Mounting kit—4 cylinder compressors	MT(Z) 100–160	**8156007**
Mineral oil, 160P; 2 liter can	all MT	**7754001**
Mineral oil, 160P; 5 liter can	all MT	**7754002**
POE lubricant, 160PZ; 1 liter can	all MTZ	**120Z0638**
Oil sight glass and gasket	all	**8156019**
Terminal box; include cover and clamp	MT(Z) 18–44 for 208–230/1/60 18–72 for 200–230/3/60 18–80 for 460/3/60	**8156134**
Terminal box; include cover and clamp	MT(Z) 50–64 for 208–230/1/60 80–160 for 200–230/3/60 100–160 for 460/3/60	**8156135**
Blue spray paint	all	**8154001**
Gasket Set; 1 of each size gasket for the MT(Z) line	all—need 2 for: MT(Z)18 for 208–230 and 460 MT(Z)22–28 for 208–230/3 and 460	**8156009**
Rotolock Service Valve Set (no gaskets) Suction and Discharge	MT(Z)18 for 208–230 and 460 MT(Z)22–28 for 208–230/3 and 460	**7703004**
Rotolock Service Valve Set (no gaskets) Suction and Discharge	MT(Z) 22–40 for 208–230/1 MT(Z) 32–40 for 208–230/3 and 460	**7703005**
Rotolock Service Valve Set (no gaskets) Suction and Discharge	MT(Z) 44–64 for 208–230/1 MT(Z) 44–72 for 208–230/3 and 460	**7703006**
Rotolock Service Valve Set (no gaskets) Suction and Discharge	MT(Z) 80–160 for 208–230/3 and 460	**7703009**
Solder Sleeve P02 (1 ¾ in. rotolock, 1 ⅛ in. ODF)	Suction: MT(Z) 80–160 for 208–230/3 and 460	**8153004**
Solder Sleeve P06 (1 in. rotolock, ½ in. ODF)	Suction: MT(Z) 18 for 208–230/1 MT(Z) 18–28 for 208–230/3 and460 Discharge: MT(Z) 22–40 for 208–230/1 MT(Z) 32–40 for 208–230/3 and 460	**8153007**
Solder Sleeve P04 (1 ¼ in. rotolock, ¾ in. ODF)	Discharge: MT(Z) 44–64 for 208–230/1 MT(Z) 44–160 for 208–230/3 and 460	**8153008**
Solder Sleeve P01 (1 in. rotolock, ⅜ in. ODF)	Discharge: MT(Z) 18 for 208–230/1 MT(Z) 18–28 for 208–230/3 and 460	**8153010**
Solder Sleeve P09 (1 ¼ in. rotolock, ⅝ in. ODF)	Suction: MT(Z) 22–40 for 208–230/1 MT(Z) 32–40 for 208–230/8 and 460	**8153011**
Solder Sleeve P02 (1 ¾ in. rotolock, ⅞ in. ODF)	Suction: MT(Z) 44–64 for 208–230/1 MT(Z) 44–72 for 208–230/3 and 460	**8153013**
Rotolock Nut, 1 in.	Suction: MT(Z) 18 for 208–230/1 MT(Z) 18–28 for 208–230/3 and 460 Discharge: MT(Z) 18–40 for 208–230/1 MT(Z) 18–40 for 208–230/3 and 460	**8153122**
Rotolock Nut, 1 ¼ in.	Suction: MT(Z) 22–40 for 208–230/1 MT(Z) 32–40 for 208–230/3 and 460 Discharge: MT(Z) 44–64 for 208–230/1 MT(Z) 44–160 for 208–230/3 and 460	**8153123**
Rotolock Nut, 1 ¾ in.	Suction: MT(Z) 44–64 for 208–230/1 MT(Z) 44–160 for 208–230/3 and 460	**8153124**

NTZ - Low Temperature Reciprocating Compressors

The Maneurop® NTZ series of reciprocating compressors from Danfoss Commercial Compressors are designed for low evaporating temperature applications with refrigerants R-404A, R-452A, and R-507A. The NTZ series is optimized at –30 °F with an extended evaporating temperature range from –50 °F to +15 °F. NTZ compressors have a large internal free volume that protects against the risk of liquid hammering when liquid refrigerant enters the compressor.



NTZ Reciprocating Compressors

Nomenclature / Model No.

NT Z 048 A 4 L R1 A

- **NT**: Compressor type — **NT:** low temperature reciprocating compressor
- **Z**: Refrigerant & oil — **Z:** R-404A, R-452A*, R507A, POE oil (*Evolution B only)
- **048**: Displacement (cm³/rev)
- **A**: UL index indicator
- **4**: Motor voltage code
  - **1**: 208-230 V / 1 ph / 60 Hz
  - **3**: 200-230 V / 3 ph / 60 Hz
  - **4**: 380-400 V / 3 ph / 50 Hz, 460 V / 3 ph / 60 Hz
  - **5**: 230 V / 1 ph / 50 Hz
  - **9**: 380 V / 3 ph / 60 Hz
- **L**: Motor Protection — **L:** Internal motor protection
- **R1**: Equipment version — **R1:** Rotolock connections, oil equalization, sight glass
- **A**: Evolution index

Technical data and ordering

NTZ - Low Temperature Reciprocating Compressors

Connection type Rotolock (in.)	Connection with supplied sleeve (in. ODF)	No. of cylinders	Weight (lbs.)	208–230/1/60			200–230/3/60			460/3/60		
				Danfoss Model No.	Nominal capacity[1] (Btu/h)	Danfoss Code No.[2]	Danfoss Model No.	Nominal capacity[1] (Btu/h)	Danfoss Code No.[2]	Danfoss Model No.	Nominal capacity[1] (Btu/h)	Danfoss Code No.[2]
1 ¼ × 1	⅝ × ½	1	46	NTZ048A1LR1B	4547	**120F0293**	NTZ048A3LR1B	4490	**120F0279**	NTZ048A4LR1B	4490	**120F0226**
1 ¼ × 1	⅝ × ½	1	51	NTZ068A1LR1B	6649	**120F0294**	NTZ068A3LR1B	7518	**120F0280**	NTZ068A4LR1B	7518	**120F0230**
1 ¾ × 1 ¼	⅞ × ¾	2	77	NTZ096A1LR1B	9155	**120F0295**	NTZ096A3LR1B	9110	**120F0281**	NTZ096A4LR1B	9110	**120F0234**
1 ¾ × 1 ¼	⅞ × ¾	2	77	NTZ108A1LR1B	10805	**120F0296**	NTZ108A3LR1B	10536	**120F0282**	NTZ108A4LR1B	10536	**120F0238**
1 ¾ × 1 ¼	1 ⅛ × ¾	2	77	NTZ136A1LR1B	10805	**120F0297**	NTZ136A3LR1B	13901	**120F0283**	NTZ136A4LR1B	13901	**120F0236**
1 ¾ × 1 ¼	1 ⅛ × ¾	4	137				NTZ215A3LR1B	21461	**120F0284**	NTZ215A4LR1B	21461	**120F0240**
1 ¾ × 1 ¼	1 ⅛ × ¾	4	141				NTZ271A3LR1B	29788	**120F0285**	NTZ271A4LR1B	29788	**120F0242**

[1] Evaporating temperature = –25 °F, condensing temperature = 105 °F, superheat = 20 °F, subcooling = 0 °F.
[2] Single compressor, threaded sight glass, ⅜ in. oil equalization connection.
Capacitor values and relays for 1 phase compressors are available on page 80.

Spare Parts and Accessories

Description	Type(s) applied to	Danfoss Code No.
Belt type crankcase heater; 54W, 230V	NTZ04–068	**7773106**
Belt type crankcase heater; 65W, 110V	NTZ096–136	**7773109**
Belt type crankcase heater; 65W, 230V		**7773107**
Belt type crankcase heater; 65W, 400V		**7773117**
Belt type crankcase heater; 65W, 460V		**120Z0466**
Belt type crankcase heater; 75W, 110V	NTZ215–271	**7773110**
Belt type crankcase heater; 75W, 230V		**7773108**
Belt type crankcase heater; 75W, 400V		**7773118**
Belt type crankcase heater; 75W, 460V		**120Z0464**
PTC heater	all	**120Z0459**
Mounting kit 1 cyl high	NTZ048-68	**8156001**
Mounting kit 2 cyl HP	NTZ136 for 208-230/1/60	**120Z0761**
Mounting kit 2 cyl	NT096-108	**120Z0763**
Mounting kit 2 cyl HP	NTZ136 for 200-230/1/60 and 460/3/60	**120Z0764**
Mounting kit—4 cylinder compressors	NTZ215–271	**8156007**
Oil sight glass and gasket	all	**8156019**
Terminal box; include cover and clamp	NTZ048–136 (except 136–1)	**8156134**
Terminal box; include cover and clamp	NTZ136–1, NTZ215–271	**8156135**
Blue spray paint	all	**8154001**
Rotolock Service Valve Set (no gaskets) Suction and Discharge	NTZ048–068	**7703005**
Rotolock Service Valve Set (no gaskets) Suction and Discharge	NTZ096–108	**7703006**
Rotolock Service Valve Set (no gaskets) Suction and Discharge	NTZ136–271	**7703009**
Solder Sleeve P02 (1 ¾ in. rotolock, 1 ⅛ in. ODF)	all	**8153004**
Solder Sleeve P06 (1 in. rotolock, ½ in. ODF)	Discharge: all	**8153007**
Solder Sleeve P04 (1 ¼ in. rotolock, ¾ in. ODF)	Discharge: all	**8153008**
Solder Sleeve P01 (1 in. rotolock, ⅜ in. ODF)	Discharge: all	**8153010**
Solder Sleeve P09 (1 ¼ in. rotolock, ⅝ in. ODF)	Suction: all	**8153011**
Solder Sleeve P02 (1 ¾ in. rotolock, ⅞ in. ODF)	Suction:all	**8153013**
Rotolock Nut, 1 in.	Discharge: all	**8153122**
Rotolock Nut, 1 ¼ in.	Discharge: all	**8153123**
Rotolock Nut, 1 ¾ in.	Suction: all	**8153124**

H Series - Residential and Light Commercial Scroll Compressors

Danfoss Residential and Light Commercial Air Conditioning Scroll Compressors install quickly and easily and feature a design that minimizes internal parts, decreasing the overall weight and significantly reducing noise during operation. With a bolt pattern and liquid and suction line connections that line up with those of other major scroll compressor manufacturers, Danfoss scroll compressors can be used to replace compressors made by nearly any company.

H Series Scroll Compressors



Nomenclature / Model No.

H R H 040 U 1 L P 6

Application
H: high temperature / air conditioning

Family
C: light commercial scroll
R: residential scroll (new platform)
L: light commercial scroll (new platform)

Refrigerant & oil
M: R-22, AB or PVE oil*
P: R-22 and R-407C, PVE oil
H: R-410A/R-454B, POE oil
J: R-410A/R-454B, POE oil

Nominal capacity
In thousand Btu/h at 60 Hz, ARI conditions

Model variation
T: design optimized for 45 °F / 130 °F
U: design optimized for 45 °F / 100 °F

Motor voltage code
1: 208-230 V / 1ph / 60 Hz
2: 200-220 V / 3 ph / 50Hz & 208–230 V /3 ph / 60 Hz
4: 380-400 V /3 ph / 50 Hz & 460 V / 3 ph / 60 Hz
5: 220-240 V / 1 ph / 50 Hz
7: 500 V / 3 ph / 50 Hz & 575 V / 3 ph / 60 Hz
9: 380 V / 3 ph / 60 Hz

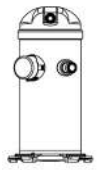
Motor protection
L: internal motor protection

Tubing and electrical connections
P: brazed connections, spade terminals
C: brazed connections, screw terminals



Other features
6: none
7: threaded oil sight glass
8: brazed oil and gas equalization connections

Technical data and ordering

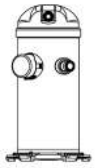


H Series - Residential and Light Commercial Scroll Compressors (R-22/R-407C)

Refrigerant		Voltage/Phase/ Frequency	Tons (approx.)	Competitor Model No.	Solder ODF connection (in.)	Weight (lbs.)	OLD Danfoss Model	NEW Danfoss Model	
								Danfoss Model No.	Danfoss Code No.
R-22	R-407C	1: 200–230V/1/60Hz	2	ZR25K-PFV	¾ × ½	73	HRM025T1LP6	HRP025TL1P6	**121L3086**
			2 ½	ZR28K*-PFV ZR32K*-PFV	¾ × ½	75	HRM032U1LP6	HRP032U1LP6	**121L3345**
			3	ZR34K*-PFV ZR36K*-PFV	¾ × ½	75	HRM038U1LP6	HRP038U1LP6	**121L3353**
			3 ½	ZR40K*-PFV ZR42K*-PFV	¾ × ½	75	HRM040U1LP6 HRM042U1LP6	HRP042T1LP6	**121L3094**
			4	ZR47K*-PFV	⅞ × ½	77	HRM047U1LP6	HRP047U1LP6	**121L3347**
			4 ½	ZR54K*-TF5	⅞ × ½	97	HRM054U1LP6	HRM054U1LP6	**121L3349**
			5	ZR57K*-PFV ZR61K*-PFV	⅞ × ½	97	HRM060U1LP6	HRP060T1LP6	**121L3070**
		2: 200–220V/3/50Hz & 208–230V/3/60Hz	2.8					HRP034T2LP6	**121L3355**
			3.2					HRP038T2LP6	**121L1086**
			3 ½	ZR42K*-TF5	¾ × ½	75	HRM042U2LP6	HRP042U2LP6	**121L1106**
			4	ZR47K*-TF5	⅞ × ½	71	HRM047U2LP6	HRP047T2LP6	**121L1126**
			4 ½	ZR54K*-TF5	⅞ × ½	93	HRM054U2LP6	HRP054U2LP6	**121L3351**
			5	ZR57K*-TF5 ZR61K*-TF5	⅞ × ½	93	HRM060U2LP6	HRP060T2LP6	**121L2297**
			5 ½		⅞ × ½	85		HLP068T2LC6	**121L3276**
			6	ZR72K*-TF5	⅞ × ½	95	HLM072T2LC6 HLM075T2LC6	HLP075T2LC6	**121L3098**
			7	ZR81KC-TF5	⅞ × ¾	91	HLM081T2LC6	HLP081T2LC6	**121L1916**
			8	ZR94KC-TF5	1 ⅛ × ⅞	108	HCM094T2LC6	HCP094T2LC6	**121L0906**
			10	ZR125KC-TF5 ZR12M3*-TWC	1 ⅛ × ⅞	106	HCM120T2LC6	HCP120T2LC6	**121L0766**
		4: 380–415V/3/50Hz & 460V/3/60Hz	2					HRP025T4LP6	**121L3088**
			2.8					HRP034T4LP6	**121L2024**
			3.2					HRP038T4LP6	**121L1006**
			3 ½					HRP042T4LP6	**121L1026**
			4	ZR47K*-TFD	⅞ × ½	82	HRM047U4LP6	HRP047T4LP6	**121L1046**
			4 ½	ZR54K*-TFD	⅞ × ½	89	HRM054U4LP6	HRP054T4LP6	**121L1691**
			5	ZR57K*-TFD ZR61K*-TFD	⅞ × ½	88	HRM058U4LP6 HRM060U4LP6	HRP060T4LP6	**121L1726**
			5 ½		⅞ × ½	86		HLP068T4LC6	**121L2014**
			6	ZR72K*-TFD	⅞ × ½	58	HLM072T4LC6 HLM075T4LC6	HLP075T4LC6	**121L1766**
			7	ZR81KC-TFD	⅞ × ¾	94	HLM078T4LC6 HLM081T4LC6	HLP081T4LC6	**121L1781**
			8	ZR94KC-TFD	1 ⅛ × ⅞	101	HCM094T4LC6	HCP094T4LC6	**121L0601**
			9	ZR108KC-TFD ZR11M3-TWD	1 ⅛ × ⅞	108	HCM109T4LC6	HCP109T4LC6	**121L0376**
			10	ZR12M3-TWD	1 ⅛ × ⅞	109	HCM120T4LC6	HCP120T4LC6	**121L0401**

Additional models may be available upon request.
Full range of models (refrigerants, tons, and voltage codes) available. Check Coolselector or visit our Online Datasheet Generator at www.danfoss.com/odsg.
Capacitor values and relays for 1 phase compressors are available on page 80.

Technical data and ordering



H Series - Universal Residential and Light Commercial Scroll Compressors (R-410A and R454B)

Refrigerant	Motor Voltage	Tons (approx.)	Competitor Model No.	Solder ODF connection (in.)	Weight (lbs.)	OLD Danfoss Model	NEW Danfoss Model	
							Danfoss Model No.	Danfoss Code No.
R-410A R-454B	1: 200–230V/1/60Hz	2 ½	ZP29K*E-PFV ZP31K*E-PFV ZP32K*E-PFV	¾ × ½	70	HRH032U1LP6	HRH029U1LP6A	121L8527
		3	ZP36K*E-PFV	¾ × ½	94	HRH038U1LP6	HRH034U1LP6A	**121L8531**
		3 ¼	ZP41K*E-PFV	⅞ × ½	73	HRH040U1LP6	HRH038U1LP6A	121L8533
		3 ¾	ZP44K*E-PFV	⅞ × ½	99		HRH044U1LP6A	121L8535
		4 ½	ZP51K*E-PFV	⅞ × ½	82		HRH051U1LP6A	121L8537
						HRH054U1LP6	HRH054U1LP6A	121L8541
		5	ZP61K*E-PFV	⅞ × ½	90	HLH061T1LP6	HLH061T1LC6A	121L8543
	2: 200–220/3/50Hz & 208–230V/3/60Hz	2.4					HRH029U2LP6A	121L8551
		2.7					HRH032U2LP6A	121L8553
		2.8					HRH034U2LP6A	121L8555
		3 ¼	ZP36K*E-TF5 ZP38K*E-TF5 ZP41K*E-TF5	⅞ × ½	77	HRH040U2LP6	HRH038U2LP6A	121L8557
		3 ¾	ZP44K*E-TF5	⅞ × ½	89		HRH044U2LP6A	**121L8559**
		4	ZP51K*E-TF5	⅞ × ½	85		HRH051U2LP6A	121L8561
						HRH054U2LP6	HRH054U2LP6A	121L8565
		5		⅞ × ½	90	HLH061T2LC6	HLH061T2LC6A	121L8569
		5 ½	ZP67KCE-TF5	⅞ × ½	89	HLH068T2LC6	HLH068T2LC6A	121L8573
		6	ZP72KCE-TF5	⅞ × ½	96	HLJ072T2LC6	HLJ072T2LC6A	121L8577
		7	ZP83KCE-TF5	⅞ × ½	96	HLJ083T2LC6	HLJ083T2LC6A	121L8585
		7 ½	ZP90KCE-TF5	1 ⅛ × ⅞	102	HCJ090T2LC6	DCJ091T2LC6A	121L8589
		8 ½	ZP103KCE-TF5	1 ⅛ × ⅞	104	HCJ105T2LC6	DCJ106T2LC6A	121L8593
		10	ZP120KCE-TF5	1 ⅛ × ⅞	106	HCJ120T2LC6	DCJ121T2LC6A	121L8597
	4: 380–415V/3/50Hz & 460V/3/60Hz	2.4					HRH029U4LP6A	121L8601
		2.7					HRH032U4LP6A	121L8603
		2.8					HRH034U4LP6A	121L8605
		3 ¼	ZP36K*E-TFD ZP38K*E-TFD ZP41K*E-TFD	⅞ × ½	77	HRH036U4LP6 HRH038U4LP6 HRH040U4LP6	HRH038U4LP6A	121L8607
		3 ¾	ZP44K*E-TFD	⅞ × ½	77		HRH044U4LP6A	121L8609
		4	ZP51K*E-TFD	⅞ × ½	87		HRH051U4LP6A	121L8611
							HRH054U4LP6A	**121L8615**
		5	ZP61KCE-TFD	⅞ × ½	96	HLH061T4LC6	HLH061T4LC6A	121L8475
		5 ½	ZP67KCE-TFD	⅞ × ½	96	HLH068T4LC6	HLH068T4LC6A	121L8902
		6	ZP72KCE-TFD	⅞ × ½	97	HLJ072T4LC6	HLJ072T4LC6A	121L8479
		7	ZP83KCE-TFD	⅞ × ½	93	HLJ083T4LC6	HLJ083T4LC6A	121L8483
		7 ½	ZP90K*E-TFD	1 ⅛ × ⅞	109	HCJ090T4LC6	DCJ091T4LC6A	121L8910
		8 ½	ZP104KCE-TFD	1 ⅛ × ⅞	109	HCJ105T4LC6	DCJ106T4LC6A	121L8914
		10	ZP120K*E-TFD	1 ⅛ × ⅞	164	HCJ120T4LC6	DCJ121T4LC6A	121L8918

Additional models may be available upon request.
Full range of models (refrigerants, tons, and voltage codes) available. Check Coolselector or visit our Online Datasheet Generator at www.danfoss.com/odsg.
Capacitor values and relays for 1 phase compressors are available on page 80.

Spare Parts and Accessories

Description	Type(s) applied to	Danfoss Code No.
Terminal cover, spade terminals (round)	all	**120Z5015**
Terminal cover, screw terminals (square)		**120Z5018**
Mounting kit for 1 compressor: 4 grommets, 4 sleeves, 4 bolts, 4 washers		**120Z5064**
PVE lubricant, 210HV (FVC68D); 1 liter can	all	**120Z5034**
Wire harness; 5 feet, for 200–230V scroll compressor	models with spade terminals	**120Z5056**
Wire harness; 5 feet, for 380–575V scroll compressor	models with spade terminals	**120Z5057**
Belt type crankcase heater: 40W, 230V	HRM032-047, HRH031-040	**120Z0055**
Belt type crankcase heater: 40W, 400V		**120Z0056**
Belt type crankcase heater: 50W, 230V	HRM048-060, HLM068-075, HRM044-056, HLH061-068, HLJ072-075	**120Z0057**
Belt type crankcase heater: 50W, 400V		**120Z0058**
Belt type crankcase heater: 65W, 230V	HLM078-081, HCM094-120, HLJ083, HCJ090-120	**120Z0059**
Belt type crankcase heater: 65W, 400V		**120Z0060**
Belt type crankcase heater: 70W, 230V		**120Z5040**
Belt type crankcase heater: 70W, 400/440V		**120Z5041**

S Series - Light Commercial and Commercial Scroll Compressors

Danfoss Performer® Universal Scroll Compressors are designed to serve as quick, easy replacements for most commercial air conditioning scroll compressors. These compressors come with a bolt pattern, suction and discharge lines, and performance characteristics that match up directly with some competitors' products.

S Series Scroll Compressors



Nomenclature / Model No.

SM	115	S	4	Q	C
DSH	090	A	4	AL	C

Refrigerant & oil
SM: R-22, mineral oil
SY: R-22, R-407C, R-134a, POE oil
SZ: R-407C, R-134a, R-404A / R-507A, POE oil
DSH: R-410A/R-452B/R-454B, POE oil

Nominal Capacity
In thousand Btu/h at 60 Hz, ARI Conditions

UL index

Motor voltage code
3: 200-230 V / 3 ph / 60 Hz
4: 380-400 V / 3 ph / 50 Hz & 460 V / 3 ph / 60 Hz
6: 230 V / 3 ph / 50 Hz
7: 500 V / 3 ph / 50 Hz & 575 V / 3 ph / 60 Hz
9: 380 V / 3 ph / 60 Hz

Evolution index

Version (for SM, SY, SZ)	Motor protection module	Connection	Module voltage	Applies to
V	Internal overload protector	brazed		084, 090, 100, 110, 120, 148, 161
A		brazed		112, 124, 147
C	Internal thermostat	brazed		115, 125, 160, 175, 185
Q		brazed		
R		rotolock		
P	Electronic protection module	brazed	24V AC	
X		brazed	230V	
S		rotolock	24V AC	
Y		rotolock	230V	
CA		brazed	24V AC	240, 300, 380
CB		brazed	115/230V	
PA		rotolock	24V AC	
PB		rotolock	115/230V	
AC	contact OEM			

Version (for SH)	Motor protection module	Connection	Module voltage	Applies to
AL	Internal overload protector	brazed		090, 105, 120, 140, 161, 175, 184
AA	Electronic protection module	brazed	24V AC	240, 295, 300, 380, 485
AB		brazed	115/230V	
AB		brazed	230V	180
AC	contact OEM			

Technical data and ordering



S Series - Scroll Compressors

Nominal tonnage	Voltage/ Phase/ Frequency	Competitor Part Nos.[1]		Net weight (lbs.)	Connection size/type (suction x discharge)	Solder sleeve adapter set for Rotolock connectors	R-22		R-407C	
							Danfoss Model No.	Danfoss Code No.[2]	Danfoss Model No.	Danfoss Code No.[2]
7 ½	200-230/3/60		ZR94KC-TF5	143	1 ⅜ x ¾ Brazed	**7765005**	SM090S3VC	**SM090-3VI**	SZ090S3VC	**SZ090-3VI**
	460/3/60 400/3/50		ZR94KC-TFD				SM090S4VC	**SM090-4VI**	SZ090S4VC	**SZ090-4VI**
9 ⅓	200-230/3/60	CSHA-093R-0*00 or 0A	ZR108KC-TF5 ZR11M3-TWC	172	1 ⅜ x ⅞ Brazed	**120Z0405**	SM115S3QC	**SM115-3QAI**	SZ115S3QC	**SZ115-3QAI**
	460/3/60 400/3/50	CSHA-093K-0*00 or 0A	ZR108KC-TFD ZR11M3-TWD				SM115S4QC	**SM115-4QAI**	SZ115S4QC	**SZ115-4QAI**
10	200-230/3/60	CSHA-100R-0*00 or 0A	ZR125KC-TF5 ZR12M3-TWC				SM125S3QC	**SM125-3QAI**	SZ125S3QC	**SZ125-3QAI**
	460/3/60 400/3/50	CSHA-100K-0*00 or 0A	ZR125KC-TFD ZR12M3-TWD				SM125S4QC	**SM125-4QAI**	SZ125S4QC	**SZ125-4QAI**
12 ½	200-230/3/60	CSHA-125R-0*00 or 0A	ZR16M3-TWC	198	1 ⅝ x 1 ⅛ Brazed	**7765028**	SM160T3CC	**SM160-3CBI**	SZ160T3CC	**SZ160-3CBI**
	460/3/60 400/3/50	CSHA-125K-0*00 or 0A	ZR16M3-TWD				SM160T4CC	**SM160-4CBI**	SZ160T4CC	**SZ160-4CBI**
14	200-230/3/60	CSHA-140R-0*00 or 0A		220			SM175S3QC	**SM175-3QAI**	SZ175S3QC	**SZ175-3QAI**
	460/3/60 400/3/50	CSHA-140K-0*00 or 0A					SM175S4QC	**SM175-4QAI**	SZ175S4QC	**SZ175-4QAI**
15	200-230/3/60	CSHA-150R-0*00 or 0A	ZR190KC-TW5 ZR19M3-TWC				SM185S3QC	**SM185-3QAI**	SZ185S3QC	**SZ185-3QAI**
	460/3/60 400/3/50	CSHA-150K-0*00 or 0A	ZR190KC-TWD ZR19M3-TWD				SM185S4QC	**SM185-4QAI**	SZ185S4QC	**SZ185-4QAI**

[1] Competitor Model Nos. beginning "ZR" may have different footprint, suction, discharge or height compared to Danfoss Model No.
[2] Code Nos. ending "QAI" include threaded sight glass, ⅜ in. flare SAE oil equalization connection, brazed suction and discharge connections and mounting bracket. Code Nos. ending "VI" and "CBI" have threaded sight glass, ⅜ in. flare SAE oil equalization connection and brazed suction and discharge connections. Use compressor beginning with SM when system will use R-22; use compressor beginning with SZ when retrofitting system to R-407C. For additional information, see Danfoss Literature No. DKRCC.PE.000.H1.02 (http://bit.ly/RefrigerantRetrofits)
Full range of models (refrigerants, tons, and voltage codes) available. Check Coolselector or visit our Online Datasheet Generator at www.danfoss.com/odsg.

Spare Parts and Accessories

Description	Type(s) applied to	Danfoss Code No.
Solder sleeve adapter set (1 ¾ in. rotolock, 1 ⅛ in. ODF), (1 ¼ in. rotolock, ⅞ in. ODF)	SH090	**120Z0125**
Solder sleeve adapter set (1 ¾ in. rotolock, 1 ⅜ in. ODF), (1 ¼ in. rotolock, ⅞ in. ODF) *diameter restrictor	SM115, 125, 160, DSH105, 120, 140, 161, 184	**7765006**
Solder sleeve adapter set (1 ¾ in. rotolock, 1 ⅜ in. ODF), (1 ¼ in. rotolock, ⅞ in. ODF)	SM115, 125, SZ115, 125, DSH105, 120, 140, 161, 184	**120Z0405**
Solder sleeve adapter set (2 ¾ in. rotolock, 1 ⅝ in. ODF), (1 ¾ rotolock, ⅞ in. ODF)	SM160, 175, 185, SZ160, 175, 185, DSH240, 295, 380, 381	**7765028**
Motor protection module, 24V AC	SM115, 125, 160, 185	**120Z0584**
Electrical module 115/230V	DSH 240, 295, 380	**120Z0585**
Belt type crankcase heater; 65W, 460V	SM115, 125, 160, DSH090, 105, 120, 140, 161, 175, 184	**120Z0466**
Belt type crankcase heater; 65W, 110V		**7773109**
Belt type crankcase heater; 65W, 230V		**7773107**
Belt type crankcase heater; 65W, 400V		**7773117**
Belt type crankcase heater; 65W, 400V		**120Z0039**
Belt type crankcase heater; 75W, 110V	SM175, 185, DSH240, 295	**7773110**
Belt type crankcase heater, 75W, 230V		**7773108**
Belt type crankcase heater, 75W, 400V		**7773118**
Belt type crankcase heater, 75W, 460V		**120Z0464**
Belt type crankcase heater, 130W, 110V	DSH380	**7773121**
Belt type crankcase heater, 130W, 230V		**7773122**
Belt type crankcase heater, 130W, 400V		**7773123**
Service kit for terminal box; includes cover, clamp, terminal block connector	DSH090, 105, 120, 140, 161	**8156135**
Terminal box, including cover	SM115, 125, 160, 175, 185	**8156139**
Terminal box cover	DSH140–3, 161–3, 184, 175	**120Z0413**
Terminal box, including cover	DSH240, 295, 380	**120Z0458**
Oil sight glass with gaskets	SM090, 115, 125, 160, 175, 185	**8156019**
Mounting kit for 1 compressor: 4 grommets, 4 sleeves, 4 bolts, 4 washers	SM115–185	**8156138**
Mounting kit for 1 compressor: 4 grommets, 4 sleeves, 4 bolts, 4 washers	DSH090, 105, 120, 140, 161, 175, 184	**120Z0066**
Mounting kit for 1 compressor: 4 rigid grommets, 4 sleeves, 4 bolts, 4 washers	DSH240, 295, 380	**7777045**
Mineral oil, 160P; 2 liter can	all SM, SZ	**7754001**
Mineral oil, 160P; 5 liter can	all SM, SZ	**7754002**
Blue spray paint	all	**8154001**
Oil equalization adaptor. To connect ⅞ in. tube on 22mm oil sight glass connection; includes (1) 22mm to ⅞ in., (2) gaskets.	all SM, SZ, DSH	**120Z0164**
Oil equalization adaptor. To connect ½ in. tube on 22mm oil sight glass connection; includes (1) 22mm to ½ in., (2) gaskets.	all SM, SZ, DSH	**120Z0165**
Oil equalization adaptor kit for trio mounting; oil fittings, gasket and adaptors (copper pipes not included)	SM 160, 185	**7773112**

DSH Series - Light Commercial and Commercial Scroll Compressors with Intermediate Discharge Valves

Refrigerant	Nominal tonnage	Voltage/ phase/ frequency	Competitor model no.[1]		Motor protection	Net weight (lbs.)	Solder ODF connection (in.)	Solder sleeve adaptor set to Rotolock connections	OLD Danfoss Model No.	OLD Danfoss Code No.[2]	NEW Danfoss Model No.[3]	NEW Danfoss Code No.[2]
R-410A	7 ½	200–230/3/60	CCSHD-089J CSHD-092J	ZP90KCE-TF5 ZP91KCE-TF5	Internal Overload Protector	128	1 ⅛ × ⅞	**120Z0125**	SH090A3AL*	**120H0001**	DSH090A3ALCM	**120H2314**
		460/3/60	CSHD-089K CSHD-092K	ZP90KCE-TFD					SH090A4AL*	**120H0003**	DSH0904ALDM	**120H2315**
	8 ¾	200–230/3/60	CSHD-105J	ZP103KCE-TF5		141	1 ⅜ × ⅞		SH105A3AL*	**120H0209**	DSH105A3ALCM	**120H2311**
		460/3/60	CSHD-105K	ZP103KCE-TFD					SH105A4AL*	**120H0211**	DSH105A4ALDM	**120H2312**
	10	200–230/3/60	CSHD-125J	ZP120KCE-TF5					SH120A3AL*	**120H0011**	DSH120A3ALCM	**120H2308**
		460/3/60	CSHD-125K	ZP120KCE-TFD					SH120A4AL*	**120H0013**	DSH120A4ALDM	**120H2309**
	11 ⅓	200–230/3/60	CSHD-142J	ZP137KCE-TF5		148			SH140A3AL*	**120H0199**	DSH140A3ALDM	**120H2305**
		460/3/60	CSHD-142K	ZP137KCE-TFD					SH140A4AL*	**120H0201**	DSH140A4ALDM	**120H2306**
	13 ½	200–230/3/60	CSHD-161J	ZP154KCE-TF5		152			SH161A3AL*	**120H0021**	DSH161A3ALDM	**120H2302**
		460/3/60	CSHD-161K	ZP154KCE-TFD					SH161A4AL*	**120H0023**	DSH161A4ALDM	**120H2303**
	15	200–230/3/60	CSHD-183J	ZP182KCE-TF5		158			SH184A3AL*	**120H0359**	DSH184A3ALDM	**120H2299**
		460/3/60	CSHD-183K	ZP182KCE-TFD					SH184A4AL*	**120H0361**	DSH184A4ALDM	**120H2300**
	20	200–230/3/60	CSHN-176J	ZP236KCE-TW5[2]	24V AC 115/230V	251			SH240A3AA*/ DSH240A3AAA SH240A3AB*/ DSH240A3ABA	**120H0289/ 120H1159 120H0297/ 120H1161**	DSH240A3AA* DSH240A3AB*	**120H1749 120H1751**
		460/3/60	CSHN-176K	ZP236KCE-TWD[2]	24V AC 115/230V				SH240A4AA*/ DSH240A4AAA SH240A4AB*/ DSH240A4ABA	**120H0291/ 120H1119 120H0299/ 120H1121**	DSH240A4AA* DSH240A4AB*	**120H1376 120H1374**
	25	200–230/3/60	CSHN-250J	ZP295KCE-TW5[2]	24V AC 115/230V	258	1 ⅝ × 1 ⅛	**7765028**	SH295A3AA*/ DSH295A3AAA SH295A3AB*/ DSH295A3ABA	**120H0851/ 120H1163 120H0853/ 120H1165**	DSH295A3AA* DSH295A3AB*	**120H1745 120H1747**
		460/3/60	CSHN-250K	ZP295KCE-TWD[2]	24V AC 115/230V				SH295A4AA*/ DSH295A4AAA SH295A4AB*/ DSH295A4ABA	**120H0825/ 120H1123 120H0827/ 120H1125**	DSH295A4AA* DSH295A4AB*	**120H1372 120H1370**
	30	200–230/3/60	CSHN-315J	ZP385KCE-TW5[2]	24V AC 115/230V	357			SH380A3AA*/ DSH381A3AAA SH380A3AB*/ DSH381A3ABA	**120H0151/ 120H1167 120H0152/ 120H1169**	DSH381A3AA* DSH381A3AB*	**120H1741 120H1743**
		460/3/60	CSHN-315K	ZP385KCE-TWD[2]	24V AC 115/230V				SH380A4AA*/ DSH381A4AAA SH380A4AB*/ DSH381A4ABA	**120H0253/ 120H1127 120H0255/ 120H1129**	DSH381A4AA* DSH381A4AB*	**120H1368 120H1366**
	40	200–230/3/60			24V AC 115/230V	388	1 ⅝ × 1 ⅜	**120Z0504**	DSH485A3AAA	**120H1105**	DSH485A3AA* DSH485A3AB*	**120H1737 120H1739**
		460/3/60			24V AC 115/230V				DSH485A4AAA DSH485A4ABA	**120H1131 120H1133**	DSH485A4AA* DSH485A4AB*	**120H1364 120H136**
	50	460/3/60			24V AC 115/230V	474	2 ⅛ × 1 ⅜	**N/A**			DSH600A4AA* DSH600A4AB*	**120H1788 120H1786**

[1] Competitor Model Nos. beginning "ZP" may have different footprint, suction, discharge or height compared to Danfoss Model No.

[2] Control voltage of external motor protection module must be checked before crossing to Danfoss Model No with 24V ac or 115/230V motor protection module.

[3] Intermediate Discharge Valves (IDVs) are mechanical valves that improve the partload efficiency of air conditioning systems. The Danfoss scroll range with IDVs is backwards compatible with existing Danfoss scrolls to reduce complexity and save time during installation.

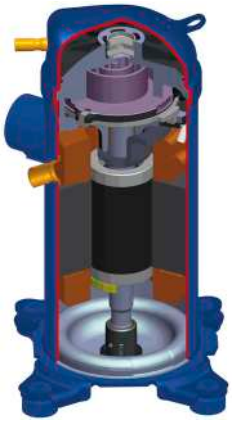
Full range of models (refrigerant, tons, and voltage codes) available. Check Coolselector or visit our Online Datasheet Generator at www.danfoss.com/odsg.

Visit http://bit.ly/DSHappguide for the application guideline.

MLZ - Medium Temperature Scroll Compressors

Built for performance and designed for versatility, the Danfoss MLZ refrigeration compressor is a smart choice for demanding commercial refrigeration applications. Its advanced scroll technology delivers high efficiency and dependable operation, while a range of 12 medium-temperature models covering 2 to 10 HP provides the flexibility to match virtually any system requirement. Designed specifically for refrigeration, the MLZ family helps customers achieve reliable cooling, optimize performance, and lower total operating costs.

MLZ Evolution B and C



Nomenclature / Model No.

Type	Size	Motor	Features	Evolution
MLZ	021	T 2 L	P 9	C

Application
M: Medium temperature refrigeration

Family, Refrigerant
LZ(C): R404A - R507 - R22 - R134a - R407A - R407F - R448A - R449A - R452A - R513A - R454C - R455A - R454A

Nominal capacity
In thousand Btu/h at 60Hz, ARI, MBP conditions

Model variation
T: Design optimised for refrigeration

Index
- with PVE oil
A with POE oil, C with POE oil and UL marked only

Other features

	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalisation port
9	Threaded	None	Schrader	None	None

Tubing and electrical connections
P: Brazed connections, spade terminals
C: Brazed connections, screw terminals
T: Rotolock connections, spade terminals
Q: Rotolock connections, screws terminals


Spade terminals
Screw terminals

Motor protection
L: Internal motor protection

Motor voltage code
1: 208-230V/1~/60Hz
2: 200-220V/3~/50Hz & 208-230V/3~/60Hz

Type	Size	Motor	Features	Evolution
MLZ	021	T 4 L	P 9	B

Application
M: Medium temperature refrigeration

Family, Refrigerant
LZ(B): R404/R507, R134a, R22, R407A, R407F, R448A, R449A, R452A, R513A, R454C, R455A

Nominal capacity
In thousand Btu/h at 60Hz, ARI, MBP conditions

Model variation
T: Design optimised for refrigeration

Index
- with PVE oil
B with POE oil

Other features

	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalisation port
9	Threaded	None	Schrader	None	None

Tubing and electrical connections
P: Brazed connections, spade terminals
C: Brazed connections, screw terminals
T: Rotolock connections, spade terminals
Q: Rotolock connections, screws terminals


Spade terminals
Screw terminals

Motor protection
L: Internal motor protection

Motor voltage code
4: 380-415V/3~/50Hz & 460V/3~/60Hz
5: 220-240V/1~/50Hz

Technical data and ordering

MLZ Evolution B

Single Pack - Brazed Version

Reference Capacity	Model	Voltage/Phase/ Frequency	Danfoss Code No.
2 HP	Scroll compressor, MLZ015T4LP9B	460V/3/60Hz	**121L8421**
2.5 HP	Scroll compressor, MLZ019T4LP9B		**121L8425**
3 HP	Scroll compressor, MLZ021T4LP9B		**121L8429**
3.5 HP	Scroll compressor, MLZ026T4LP9B		**121L8433**
4 HP	Scroll compressor, MLZ030T4LC9B		**121L8437**
5 HP	Scroll compressor, MLZ038T4LC9B		**121L8441**
6 HP	Scroll compressor, MLZ045T4LC9B		**121L8445**
7 HP	Scroll compressor, MLZ048T4LC9B		**121L8447**
7.5 HP	Scroll compressor, MLZ058T4LC9B		**121L8449**
9 HP	Scroll compressor, MLZ066T4LC9B		**121L8451**
10 HP	Scroll compressor, MLZ076T4LC9B		**121L8453**

MLZ Evolution C

Single Pack - Brazed Version

Reference Capacity	Model	Voltage/Phase/ Frequency	Danfoss Code No.
2 HP	Scroll compressor, MLZ015T1LP9C	230V/1/60Hz	**121L8985**
2.5 HP	Scroll compressor, MLZ019T1LP9C		**121L8989**
3 HP	Scroll compressor, MLZ021T1LP9C		**121L8993**
3.5 HP	Scroll compressor, MLZ026T1LP9C		**121L8997**
4 HP	Scroll compressor, MLZ030T1LC9C		**121L9001**
5 HP	Scroll compressor, MLZ038T1LC9C		**121L9005**
2 HP	Scroll compressor, MLZ015T2LP9C	230V/1/60Hz	**121L9009**
2.5 HP	Scroll compressor, MLZ019T2LP9C		**121L9013**
3 HP	Scroll compressor, MLZ021T2LP9C		**121L9017**
3.5 HP	Scroll compressor, MLZ026T2LP9C		**121L9021**
4 HP	Scroll compressor, MLZ030T2LC9C		**121L9025**
5 HP	Scroll compressor, MLZ038T2LC9C		**121L9029**
6 HP	Scroll compressor, MLZ045T2LC9C		**121L9033**
7 HP	Scroll compressor, MLZ048T2LC9C		**121L9037**
7.5 HP	Scroll compressor, MLZ058T2LC9C		**121L9041**
9 HP	Scroll compressor, MLZ066T2LC9C		**121L9045**
10 HP	Scroll compressor, MLZ076T2LC9C		**121L9049**

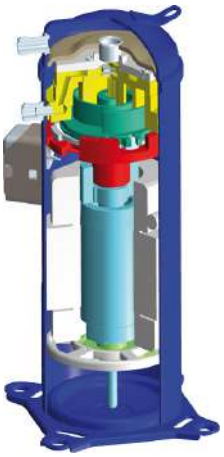
Single Pack - Rotolock

Reference Capacity	Model	Voltage/Phase/ Frequency	Danfoss Code No.
2 HP	Scroll compressor, MLZ015T1LT9C	230V/1/60Hz	**121L8987**
2.5 HP	Scroll compressor, MLZ019T1LT9C		**121L8991**
3 HP	Scroll compressor, MLZ021T1LT9C		**121L8995**
3.5 HP	Scroll compressor, MLZ026T1LT9C		**121L8999**
4 HP	Scroll compressor, MLZ030T1LQ9C		**121L9003**
5 HP	Scroll compressor, MLZ038T1LQ9C		**121L9007**
2 HP	Scroll compressor, MLZ015T2LT9C	230V/3/60Hz	**121L9011**
2.5 HP	Scroll compressor, MLZ019T2LT9C		**121L9015**
3 HP	Scroll compressor, MLZ021T2LT9C		**121L9019**
3.5 HP	Scroll compressor, MLZ026T2LT9C		**121L9023**
4 HP	Scroll compressor, MLZ030T2LQ9C		**121L9027**
5 HP	Scroll compressor, MLZ038T2LQ9C		**121L9031**
6 HP	Scroll compressor, MLZ045T2LQ9C		**121L9035**
7 HP	Scroll compressor, MLZ048T2LQ9C		**121L9039**
7.5 HP	Scroll compressor, MLZ058T2LQ9C		**121L9043**
9 HP	Scroll compressor, MLZ066T2LQ9C		**121L9047**
10 HP	Scroll compressor, MLZ076T2LQ9C		**121L9051**

LLZ - Low Temperature Scroll Compressors

Danfoss LLZ refrigeration scroll compressors deliver a highly efficient and reliable solution for demanding commercial refrigeration applications. Featuring a unique scroll design and advanced manufacturing flexibility, the LLZ portfolio includes five low-temperature compressor sizes engineered specifically for refrigeration. With cooling capacities ranging from 5 to 12 kW (4 to 10 HP), these compressors provide the performance, efficiency, and versatility contractors and system designers need to optimize refrigeration systems across a wide range of commercial applications.

LLZ Evolution B and C



Nomenclature / Model No.

Type	Size	Motor	Features	Evolution
LLZ	013	T4L	Q 9	B

Application
L: low temperature refrigeration

Family, Refrigerant
LZ(B): R404A, R507, R452A, R448A,R449A, R454C, R455A

Nominal capacity
In thousand Btu/h at 60 Hz, ARI, LBP conditions of R404A

Model variation
T: design optimised for refrigeration

Motor voltage code
2: 200-220V/3~/50Hz & 208-230V/3~/60Hz
4: 380-415V/3~/50 Hz & 460V/3~/60 Hz
9: 380V/3~60Hz

Tubing and electrical connections
Q: rotolock connections, screw terminals

Motor protection
L: internal motor protection

Other features

	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalisation port
9	Threaded	None	Schrader	None	None

- with PVE Oil
B with POE Oil

Type	Size	Motor	Features	Evolution
LLZ	013	T2L	Q 9	C

Application
L: low temperature refrigeration

Family, Refrigerant
LZ(C): R404A, R507, R452A, R448A, R449A, R454C, R455A, R454A

Nominal capacity
In thousand Btu/h at 60 Hz, ARI, LBP conditions of R404A

Model variation
T: design optimised for refrigeration

Motor voltage code
2: 200-220V/3~/50Hz & 208-230V/3~/60Hz

Tubing and electrical connections
Q: rotolock connections, screw terminals

Motor protection
L: internal motor protection

Other features

	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalisation port
9	Threaded	None	Schrader	None	None

- with PVE Oil
A with POE Oil, C with POE oil and UL marked only

LLZ Evolution B – Single Pack - Rotolock - Low Temperature

Reference Capacity	Model	Voltage/Phase/Frequency	Danfoss Code No.
4 HP	Scroll compressor, LLZ013T4LQ9B	460/3/60Hz	**121L8455**
5 HP	Scroll compressor, LLZ015T4LQ9B		**121L8457**
6 HP	Scroll compressor, LLZ018T4LQ9B		**121L8459**
8 HP	Scroll compressor, LLZ024T4LQ9B		**121L8461**
10 HP	Scroll compressor, LLZ034T4LQ9B		**121L8463**

LLZ Evolution C – Single Pack - Rotolock - Low Temperature

Reference Capacity	Model	Voltage/Phase/Frequency	Danfoss Code No.
4 HP	Scroll compressor, LLZ013T2LQ9C	208-230V/3~/60Hz	**121L9053**
5 HP	Scroll compressor, LLZ015T2LQ9C		**121L9055**
6 HP	Scroll compressor, LLZ018T2LQ9C		**121L9057**
8 HP	Scroll compressor, LLZ024T2LQ9C		**121L9059**
10 HP	Scroll compressor, LLZ034T2LQ9C		**121L9061**

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