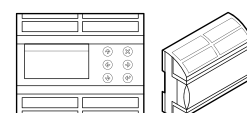


Technical data and ordering



AK-PC 551, Capacity Controller

Technical data

Features	Description
Supply voltage	24 V AC \pm 15%, 50 / 60 Hz, 17 V A
	24 V DC (20 – 60 V), 17 V A
	230 V AC (85 – 265 V) 50 / 60 Hz, 20 V A
8 analog input	Pressure measuring: Ratiometric pressure transmitter type AKS 32R 1 – 5 volt pressure transmitter type AKS 32 0 – 20 (4 – 20) mA pressure transmitter type AKS 33
	Temperature measurement Pt 1000 ohm / 0 °C NTC - 86 K from digital scroll / stream
8 digital input	From contact function E.g. to: Start / stop of regulation Monitoring of safety circuits General alarm function
Relay output to capacity control	4 pcs. SPDT (8 A): AC-1: 6 A (ohmic)
	4 pcs. SPDT (8 A): AC-15: 4 A (inductive)
	2 pcs. SPST (16 A): AC-1: 10 A (ohmic)
	2 pcs. SPST (16 A): AC-15: 3.5 A (inductive)
2 Voltage output	2 pcs. Solid State. PWM for scroll -unload
	I _{max.} = 0.5 A
	I _{min.} = 50 mA Leak < 1.5 mA
2 Voltage output	0-10 V DC R _i = 1 kohm, Separate 24 V supply required
Display output	For type MMIGRS2
Data communication	Modbus for AK-SM 850
Environments	-20 – 60 °C, During operations
	-40 – 70 °C, During transport
	20 – 80% Rh, not condensed
	No shock influence / vibrations
Enclosure	IP20
Weight	0.4 kg
Mounting	DIN-rail
Connection terminals	max. 2.5 mm ² multi core
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 and EN 60730-2-9 EMC-tested acc. EN61000-6-2 and 3

Ordering - AK-PC 551

Type	Description	Code no.
AK-PC 551	230 V, LCD, 2SSR, RS485, S	080G0281
AK-PC 551	24 V, LCD, 2SSR, RS485, S	080G0283

Ordering - AK-PC 551 kit

Type	Description	Code no.
AK-PC 551 kit	230 V, for remote display, 2SSR, RS485, S + MMIGRS2 + 1.5m CABLE	080G0282
AK-PC 551 kit	24 V, for remote display, 2SSR, RS485, S + MMIGRS2 + 1.5m CABLE	080G0288

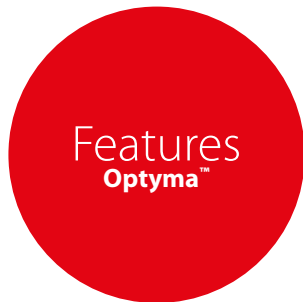
Accessories

Type	Description	Code no.
MMIGRS2	MMIGRS2, REMOTE DISPLAY, PANEL, S	080G0294
ACCCBI	TELEPHONE CABLE USER INTERFACE CONNECTOR, 1.5 M CABLE	080G0075
ACCCBI	TELEPHONE CABLE USER INTERFACE CONNECTOR, 3 M CABLE	080G0076

Optyma™ Control, Single-phase

The Optyma™ Control is particularly suitable for the Optyma™ and Optyma™ Plus condensing units from Danfoss but is also compatible with other condensing units on the market. The control features an attractive new design and simple flexible programming.

It offers both control and protection in a single unit, thanks to the unique built-in differential magnetothermic circuit breaker, which guarantees safety by cutting the general power supply.



Stylish new design

Simple wiring and live outputs

Transparent cover for access to magnetothermic breaker, all with IP65 protection rating

New hinged cover ease of installation and opening

Integration of control and protection in a single room dedicated unit reduces installation time and costs



Simple, flexible programming for optimum versatility

Compressor can be run in pump-down stop mode

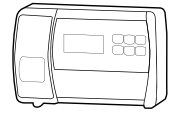
RS485 Modbus for data communication and integration into a complete ADAP-KOOL® system

Guaranteed certified safety and protection thanks to incorporated differential magnetothermic circuit breaker, which cuts the general power supply

Facts

- Direct control of defrosting elements, evaporator fans, room light with outputs directly connectable to the various units
- Automatic fuse protect the refrigeration unit
- Stylish ABS housing with transparent cover for access to the automatic fuse, all with an IP65 protection rating so that panel can be used outside the room
- LED indicators and large display show system status
- User-friendly keypad
- Display resolution to 0.1 °C
- Standard and ADAP-KOOL® compatible Modbus data communication

Technical data and ordering



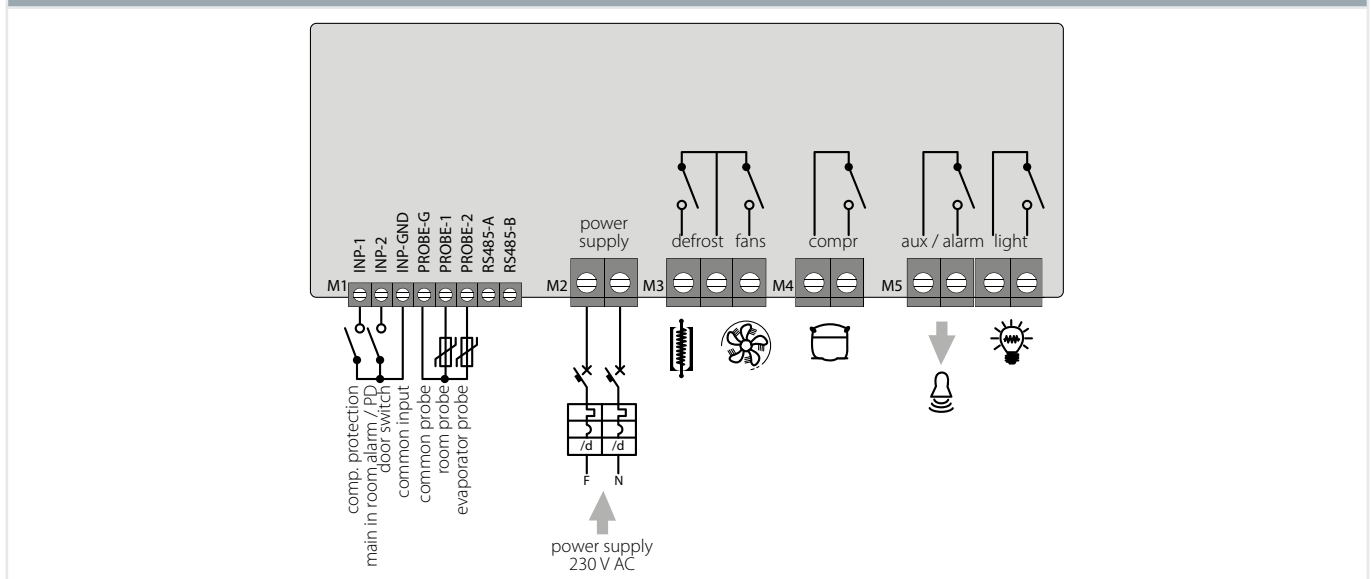
Optyma™ Control, Single phase

Technical data

Features	Description	
Power supply	Voltage	230 V AC ± 10%, 50 / 60 Hz
	Max absorbed power (electronic control)	~ 7 V A
Ambient conditions	Operating temperature	-5 – 50 °C
	Storage temperature	-30 – 70 °C
	Relative humidity	< 90% RH
General characteristics	Connectable sensor types	NTC 10 K 1%
	Resolution	0.1 °K
	Probe read precision	± 0.5 °K
	Read range	-45 – 45 °C
Output characteristics max. applicable load (230 V AC)	Compressor	1500 W (AC3)
	Defrost	3000 W (AC1)
	Fans	500 W (AC3)
	Room light	800 W (AC1)
	Configurable alarm contact / aux (voltage-free contact)	100 W
General electric protection	Bipolar differential magnetothermic circuit breaker	16 A Id = 300 mA switching power 4.5 kA Id = 30 mA (on request)
Insulation and mechanical characteristics	Cover protection rating	IP65
	Cover material	self-extinguishing ABS
	Type of insulation	Class II
	Box dimensions	262 x 168 x 97

Connection diagram

AK-RC 101



Ordering

Type	Description	Code no.
AK-RC 101	Optyma™ Control, single-phase	080Z3200

Optyma™ Control, Three-phase

The Optyma™ Control is particularly suitable for the Optyma™ and Optyma™ Plus condensing units from Danfoss but is also compatible with other condensing units on the market. The control features an attractive new design and simple flexible programming.

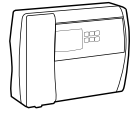
It offers both control and protection in a single unit, thanks to the unique built-in differential magnetothermic circuit breaker, which guarantees safety by cutting the general power supply.



Facts

- LED icons to signal plant status
- Electronic control with wide LED display and easy to use buttons
- Display and adjustment of cold room temperature accurate to 0.1 °C
- Display of evaporator temperature from parameter
- System control activation / deactivation
- Alarm signalling: sensor errors, minimum and maximum temperature alarm, compressor protection (man-in-cold-room alarm in preset models)
- Evaporator fan control
- Automatic and manual defrost control (static, heating element)
- Direct or pump-down control of motor compressor unit (selectable by terminal block connection in preset models)
- Room light activation, via panel key or door switch
- Auxiliary relay with activation configurable by parameter
- Parameter access with password (4 different selectable restriction levels)
- General automatic fuse accessible from the front panel, which cuts the general power supply
- Adjustable motor protector for compressor protection accessible from the front panel (in preset models)
- Standard and ADAP-KOOL® compatible Modbus data communication

Technical data and ordering

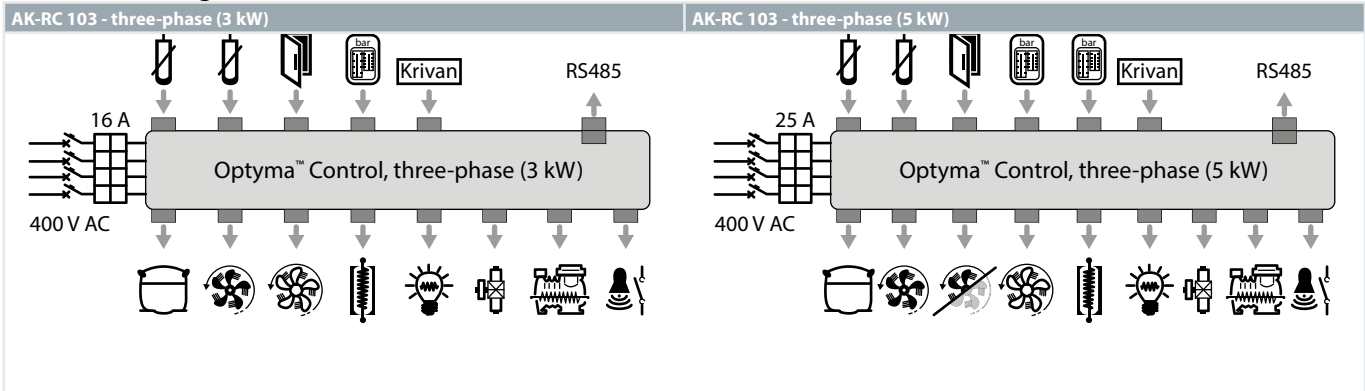


Optyma™ Control, three phase

Technical data

Features	Optyma™ Control AK-RC 103, three-phase (3 kW)	Optyma™ Control AK-RC 103, three-phase (5 kW)
Case dimensions	400 × 300 × 135 mm	400 × 300 × 135 mm
Protection rating	IP65	IP65
Power supply (3F + N + T)	400 V AC ± 10% 50 / 60 Hz	400 V AC ± 10% 50 / 60 Hz
Load type	three-phase	three-phase
Operating temperature	-5 – 40 °C	-5 – 40 °C
Storage temperature	-25 – 55 °C	-25 – 55 °C
Relative ambient humidity	< 90% RH	< 90% RH
Main switch / general protection	4 poles magnetothermic 16 A	4 poles magnetothermic 25 A
Compressor protection	motor circuit breaker	motor circuit breaker
Defrosting	electrical	electrical
Status indicators	LED + display	LED + display
Alarm signals	LED + buzzer	LED + buzzer
Ambient probe	NTC 10 K 1%	NTC 10 K 1%
Evaporator probe	NTC 10 K 1%	NTC 10 K 1%
Door switch	present	present
High/low pressure switch	present	present
Kriwan® connection	present	present
Compressor functioning mode selection	pump-down / thermostat	pump-down / thermostat
Compressor	370 W – 3000 W	3000 W – 5500 W
Condenser fans output 1	800 W (1 ph)	800 W (1 ph)
Condenser fans output 2 (separated)		total (1 ph)
Evaporator fans	500 W (1 ph)	2000 W (1 ph/3 ph)
Defrosting heaters	6000 W	9000 W
Room light	800 W (AC1) resistive load	800 W (AC1) resistive load
Solenoid valve	present	present
Compressor oil heater	present	present
Alarm relay	100 W	100 W

Connection diagram



Ordering

Type	Description	Code no.
AK-RC 103	Optyma™ Control, three-phase (3 kW) 4.5-6.3 A	080Z3201
AK-RC 103	Optyma™ Control, three-phase (3 kW) 7-10 A	080Z3202
AK-RC 103	Optyma™ Control, three-phase (5 kW) 11-16 A	080Z3206
AK-RC 103	Optyma™ Control, three-phase (5 kW) 14-20 A	080Z3207

AK-SM 800 series, System Manager

The System Manager controller from Danfoss is the global control and supervisory solution for the food retail industry. The System Manager uses the latest technology to provide the maximum benefit to the end user, both in terms of energy saving optimization, control options and full web user access.

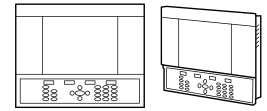
Designed specifically for the food retail and food processing / handling market, the System Manager provides comprehensive functionality and support tools to cover small to large stores.



Facts

- **Product highlights:**
 - direct support to EM-800 (AKM not supported / needed)
 - supports centralized and decentralized control strategy; compatible with Danfoss case and pack controllers and Danfoss I/O
 - open XML data transfer allowing remote access to key system parameters
- **Design features:**
 - active TFT SVGA color screen 800x600
 - front alarm status LED
 - removable keyboard panel (revealing connections)
 - easy access to USB flash drive
 - wall and panel mounting options
 - built in alarm relay output
- **Hardware capability features:**
 - built in web server
 - no back up battery required
 - RS485 LonWorks®
 - ethernet
 - EKC Modbus
 - USB

Technical data and ordering



AK-SM 800 series, System Manager

Technical data

SM800 version comparison	SM820 - C-Store Version	SM850 - Refrig version	SM880 - Full version
Refrigeration Control			
All SM800 variants come with Centralized I/O and Pack / Case control options. EKC AK2 SLV FC102	Max 32 generic device support	Max 120 generic support	Max 120 generic support
Lighting Control			
All SM800 variants come with built in lighting control via I/O modules. The number of zones differ	10	30	30
HVAC			
Only the SM820 and SM880 support built in HVAC control via I/O	10	n/a	45
Alarms			
Capacity	250	250	250
Miscellaneous points (via IO modules)			
Relay (R), Sensor (S), ON / OFF (O / F), Variable (V)	R=20, S=20, O / F=20, V=20	R=70, S=80, O / F=70, V=70	R=70, S=80, O / F=70, V=70
Master control			
Po Optimization, Master Schedules, AKC ON <i>Note: Adaptive Defrost not currently supported</i>	X	X	X
Misc Calculations			
Boolean Logic statements	96	96	96
History			
The SM800 has the ability to record datapoints for history and view	600 points	600 points	600 points
Leak Detectors			
Refrigerant gas detectors (connected via AK I/O)	10	50	50
Energy Meters			
Pulse Input (via I/O module), Carlo Garvazi, Wattnode, Wattnode Plus Modbus, Veris Modbus	32	80	80
Service Tool Support			
Tunneling via front end (IP connection only)	X	X	X

Ordering

Type	Description	Options	Code no.
AK-SM 820	C-Store (Refrigeration / HVAC / Lighting)	Convenience Store version with 32 device capacity	080Z4004
AK-SM 850	Refrigeration (including lighting)	Refrigeration version with 120 device capacity	080Z4001
AK-SM 880	Full (Refrigeration / HVAC / Lighting)	Full store version with 120 device capacity	080Z4008

01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20

GD - Gas detecting sensor

Danfoss Gas detecting sensors, type GD are a range of products designed to meet all industrial refrigeration and air conditioning application requirements.

GD detects a wide range of commonly used refrigerants including Ammonia, Carbon Dioxide, Halo-Carbons and Hydro-Carbons.

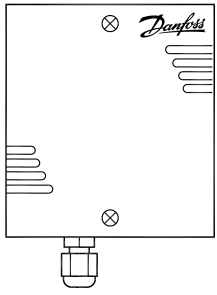
Features GD



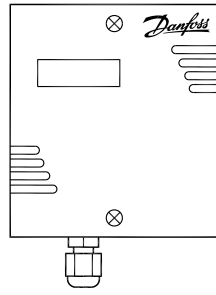
Facts

- GD is specifically developed for refrigeration applications
- Interchangeable precalibrated sensors
- Optional models:
 - LCD display
 - IP65 enclosure
 - EExd (Explosion Protected)
- Linear analog outputs, current [mA] / volt [V] proportional to the gas concentration
- Two digital outputs. Low Level and High Level Alarm
- Adjustable setting for alarm levels and output contacts with optional NO or NC switches
- GD can be connected directly to a Danfoss monitoring unit system
- Available with a range of different sensor technologies to monitor industrial refrigeration gases:
 - Electro-Chemical
 - Semi-Conductor
 - Catalytic
 - Infra-Red

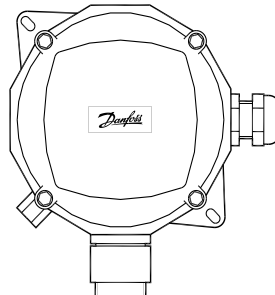
Product range



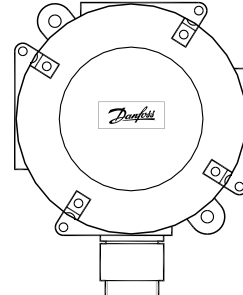
Standard



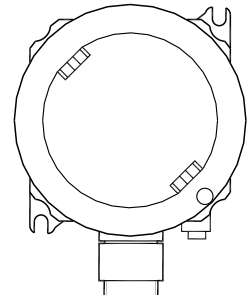
LCD display



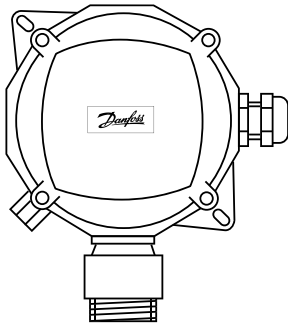
IP65 with stainless steel



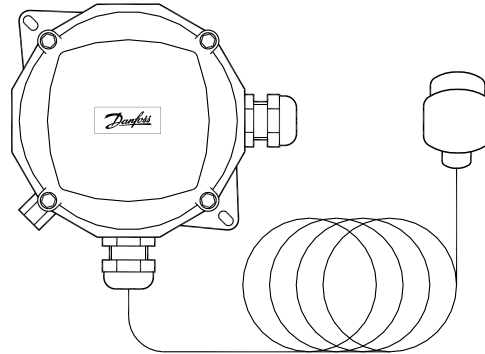
EExd Low temperature
sensor head



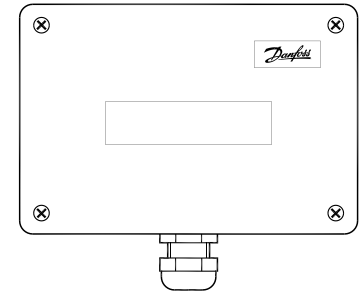
EExd Low temperature for CO₂



IP65 enclosure



IP66 enclosure 5m remote IP65 sensor
IP66 enclosure 5m remote IP65 EExd sensor



Remote LCD display IP41

Standard

Basic standard model for machine / engine rooms and cold rooms.

Standard with LCD display

Basic standard model for machine / engine rooms with the actual reading of present ppm level in the room and Alarm messages.

IP65

Two models with IP65 available:

- IP65 with stainless steel sensor head
- Temperature down to -20 °C / -4 °F
- IP65 enclosure. Temperature down to -40 °C / -40 °F

EExd

Like Standard but applicable in explosive areas Zone 1 and 2 and higher IP (NEMA). The sensor is mounted in an external Stainless Steel head.

Remote LCD (accessory)

Remote LCD display with 5 m cable.

Remote sensor

Models with 5 m cable. Can be used in connection with safety valves / vent pipe applications. Also available with remote EExd sensor.

01

02

03

04

05

06

07

08

09

10

11

12

13

14

15

16

17

18

19

20

Technical data

GD - Gas detecting sensors

Technical data

Features	Description
Refrigerants	Ammonia (R717)
	Type GDA: 0 – 100 ppm, 0 – 300 ppm, 0 – 1.000 ppm, 0 – 10.000 ppm, 0 – 30.000 ppm
	Carbon Dioxide (R744)
	Type GDC: 0 – 10.000 ppm, 0 – 20.000 ppm, 0 – 40.000 ppm
	Halo-Carbon - HCFC (R22, R123)
	Type GDHC: 0 – 1.000 ppm
	HFC (R404A, R410A, R134a, R407C, R507)
	Type GDHF: 0 – 1.000 ppm
Versions / temperature range	Standard, LCD display, IP65 and EExd: -20 – 50 °C
	Low temperature model: -40 – 50 °C
Cable connection	1 gland for 6 – 13 mm / 0.2 – 0.5 inch, 1 cable ø20 mm / 0.8 inch hole with blanking plug
	1 extra gland can be fitted (only Standard, LCD display and EExd)
Approvals	CE: EN55011 EN61326 Following the provisions of 89 / 336 / EEC, EMC directives and, Cenelec EN61010-2 : 2001 Following the provisions of 73 / 23 / EEC, Low Voltage directive (LVD) ATEX for EExd model: Directive 94 / 9 / EC Group 2, Category2, G and D, Zones 1 and 2

Models Sensor	Standard Basic	Standard Basic with LCD display	IP65 with stainless steel sensor head	IP65 enclosure		EExd model	EExd model Low Temperature	IP66 enclosure 5 m remote IP65 sensor	IP66 enclosure 5 m remote IP65 EExd sensor	Remote LCD display IP41 5 m cable ³⁾
Temperature range										
EC ¹⁾	-20 – 40 °C -4 – 104 °F	0 – 40 °C 32 – 104 °F	-20 – 40 °C -4 – 104 °F	-20 – 40 °C -4 – 104 °F	-40 – 40 °C -40 – 104 °F	-20 – 40 °C -4 – 104 °F	-40 – 40 °C -40 – 104 °F	-20 – 40 °C -4 – 104 °F	-20 – 40 °C -4 – 104 °F	0 – 40 °C 32 – 104 °F
SC, CT	-20 – 50 °C -4 – 122 °F	0 – 50 °C 32 – 122 °F	-20 – 50 °C -4 – 122 °F	-40 – 50 °C / -40 – 122 °F		-20 – 50 °C -4 – 122 °F	-40 – 50 °C -40 – 122 °F	-20 – 50 °C -4 – 122 °F	-20 – 50 °C -4 – 122 °F	0 – 50 °C 32 – 122 °F
IR	0 – 50 °C 32 – 122 °F	0 – 50 °C 32 – 122 °F	-20 – 50 °C -4 – 122 °F	-40 – 50 °C / -40 – 122 °F		-20 – 50 °C -4 – 122 °F	not available	not available	not available	0 – 50 °C 32 – 122 °F
Electrical data										
EC SC, CT	12 – 24 V DC, 0.23 A 12 – 24 V AC, 4 W			12 – 24 V DC, 0.23 A 12 – 24 V AC, 4 W		12 – 24 V DC, 0.23 A 12 – 24 V AC, 4 W	12 – 24 V DC, 0.23 A 12 – 24 V AC, 4 W	12 – 24 V DC, 0.23 A 12 – 24 V AC, 4 W		Supplied from connector on GD motherboard
IR	12 – 24 V DC, 0.3 A			12 – 24 V DC, 0.24 A		not available	not available	not available		
Enclosure										
EC SC, CT IR	IP30 (~NEMA 1)	IP30 (~NEMA 1)	IP65 (~NEMA 4)	IP65 (~NEMA 4)		IP65 (~NEMA 4)	IP65 (~NEMA 4)	²⁾ IP66 (~NEMA 4x)	²⁾ IP66 (~NEMA 4x)	IP41 (~NEMA 1)
							not available	not available	not available	

¹⁾ Two models

²⁾ Remote sensor: IP65

³⁾ For all models except EExd and EExd Low Temperature

Sensor head

Models Sensor	Standard Basic	Standard Basic with LCD display	IP65 for High RH and Fast response	IP65 enclosure	EExd model	EExd model Low Temperature	IP66 enclosure 5 m remote IP65 sensor	IP66 enclosure 5 m remote EExd IP65 sensor
Thread on external sensor								
EC	–	–	M 42 x 1.5 mm	M 42 x 1.5 mm	M 42 x 1.5 mm	M 42 x 1.5 mm	M 42 x 1.5 mm	M 42 x 1.5 mm
SC	–	–	M 42 x 1.5 mm	M 42 x 1.5 mm	1"5 / 16 x 20 UNF	1"5 / 16 x 20 UNF	M 42 x 1.5 mm	1"5 / 16 x 20 UNF
CT	–	–	M 35 x 1.5 mm	M 42 x 1.5 mm	1"5 / 16 x 20 UNF	M 35 x 1.5 mm	M 35 x 1.5 mm	M 35 x 1.5 mm
IR	–	–	M 42 X 1.5 mm	M 42 x 1.5 mm	M 42 X 1.5 mm	not available	not available	not available
Material for external sensor								
EC	–	–	Stainless Steel	Plastic	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
SC, CT	–	–	Stainless Steel	Plastic	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
IR	–	–	Stainless Steel	Plastic	Stainless Steel	not available	not available	not available

Ordering complete GD gas detecting sensors

GD - Standard basic

Ordering

Type of gas	Refrigerant	Type	Range [ppm]	Alarm limits Low / High [ppm]	Respons delay [s]	Sensor type	Code no.
Ammonia - NH ₃	R717	GDA EC 100	0 – 100	25 / 35	0	Electro-chemical	148H5000
		GDA EC 300	0 – 300	100 / 200	0	Electro-chemical	148H5060
		GDA EC 1000	0 – 1000	500 / 1000	0	Electro-chemical	148H5010
			0 – 1000	25 / 500	0	Electro-chemical	148H5050
		GDA SC 1000	0 – 1000	80 / 250	0	Semi-Conductor	148H5040
		GDA SC 10000	0 – 10000	5000 / 9000	0	Semi-Conductor	148H5020
Carbon Dioxide - CO ₂	R744	GDA CT 30000	0 – 30000	3000 / 28000	0	Catalytic	148H5030
		GDC IR 10000	0 – 10000	5000 / 9000	0	Infrared	148H5070
		GDC IR 20000	0 – 20000	10000 / 18000	0	Infrared	1)
Halo-Carbon	HCFC R22, R123 HFC R404A, R507 HFC R134a	GDC IR 40000	0 – 40000	20000 / 36000	0	Infrared	1)
		GDHC SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5100
		GDHF SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5110
Hydro-Carbon	R290, R600, R600a, R1270	GDHF-R3 SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5120
		GDH SC 5000	0 – 5000	800 / 2500	–	Semi-Conductor	148H5190

GD - Standard basic with LCD display

Ordering

Type of gas	Refrigerant	Type	Range [ppm]	Alarm limits Low / High [ppm]	Respons delay [s]	Sensor type	Code no.
Ammonia - NH ₃	R717	GDA EC 100	0 – 100	25 / 35	0	Electro-chemical	148H5001
		GDA EC 300	0 – 300	100 / 200	0	Electro-chemical	1)
		GDA EC 1000	0 – 1000	500 / 1000	0	Electro-chemical	148H5011
		GDA SC 1000	0 – 1000	80 / 250	0	Semi-Conductor	1)
		GDA SC 10000	0 – 10000	5000 / 9000	0	Semi-Conductor	148H5021
		GDA CT 30000	0 – 30000	3000 / 28000	0	Catalytic	148H5031
Carbon Dioxide - CO ₂	R744	GDC IR 10000	0 – 10000	5000 / 9000	0	Infrared	148H5071
		GDC IR 20000	0 – 20000	10000 / 18000	0	Infrared	1)
		GDC IR 40000	0 – 40000	20000 / 36000	0	Infrared	1)
Halo-Carbon	HCFC R22, R123 HFC R404A, R507 HFC R134a	GDHC SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5101
		GDHF SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5111
		GDHF-R3 SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5121
Hydro-Carbon	R290, R600, R600a, R1270	GDH SC 5000	0 – 5000	800 / 2500	–	Semi-Conductor	148H5191

IP65 with stainless steel sensor head

Ordering

Type of gas	Refrigerant	Type	Range [ppm]	Alarm limits Low / High [ppm]	Respons delay [s]	Sensor type	Code no.
Ammonia - NH ₃	R717	GDA EC 100	0 – 100	25 / 35	0	Electro-chemical	148H5002
		GDA EC 300	0 – 300	100 / 200	0	Electro-chemical	1)
		GDA EC 1000	0 – 1000	500 / 1000	0	Electro-chemical	148H5012
			0 – 1000	25 / 500	0	Electro-chemical	148H5052
		GDA SC 1000	0 – 1000	80 / 250	0	Semi-Conductor	148H5042
		GDA SC 10000	0 – 10000	5000 / 9000	0	Semi-Conductor	148H5022
Halo-Carbon	HCFC R22, R123 HFC R404A, R507	GDA CT 30000	0 – 30000	3000 / 28000	0	Catalytic	148H5032
		GDHC SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5102
		GDHF SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5112

IP65 (-20 – 40 °C / -4 – 104 °F)

Ordering

Type of gas	Refrigerant	Type	Range [ppm]	Alarm limits Low / High [ppm]	Respons delay [s]	Sensor type	Code no.
Ammonia - NH ₃	R717	GDA EC 100	0 – 100	25 / 35	0	Electro-chemical	148H5009
		GDA EC 1000	0 – 1000	500 / 1000	0	Electro-chemical	148H5019
			0 – 1000	25 / 500	0	Electro-chemical	148H5059

1) Please contact your local Danfoss sales office

Ordering complete GD gas detecting sensors

IP65 (-40 – 50 °C / -40 – 122 °F)

Ordering

Type of gas	Refrigerant	Type	Range [ppm]	Alarm limits Low / High [ppm]	Respons delay [s]	Sensor type	Code no.
Ammonia - NH ₃	R717	GDA SC 1000	0 – 1000	80 / 250	0	Semi-Conductor	148H5049
		GDA SC 10000	0 – 10000	5000 / 9000	0	Semi-Conductor	148H5029
		GDA CT 30000	0 – 30000	3000 / 28000	0	Catalytic	148H5039
Carbon Dioxide - CO ₂	R744	GDC IR 10000	0 – 10000	5000 / 9000	0	Infrared	148H5072
		GDC IR 20000	0 – 20000	10000 / 18000	0	Infrared	148H5082
		GDC IR 40000	0 – 40000	20000 / 36000	0	Infrared	148H5092
Halo-Carbon	HCFC R22, R123	GDHC SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5109
	HFC R404A, R507	GDHF SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5119
	HFC R134a	GDHF-R3 SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5129

IP65 (-40 – 40 °C / -40 – 104 °F)

Ordering

Type of gas	Refrigerant	Type	Range [ppm]	Alarm limits Low / High [ppm]	Respons delay [s]	Sensor type	Code no.
Ammonia - NH ₃	R717	GDA EC 100	0 – 100	25 / 35	0	Electro-chemical	148H5005
		GDA EC 300	0 – 300	100 / 200	0	Electro-chemical	148H5065
		GDA EC 1000	0 – 1000	500 / 1000	0	Electro-chemical	148H5015
			0 – 1000	25 / 500	0	Electro-chemical	148H5055

EExd

Ordering

Type of gas	Refrigerant	Type	Range [ppm]	Alarm limits Low / High [ppm]	Respons delay [s]	Sensor type	Code no.
Ammonia - NH ₃	R717	GDA EC 100	0 – 100	25 / 35	0	Electro-chemical	148H5003
		GDA EC 1000	0 – 1000	500 / 1000	0	Electro-chemical	148H5013
			0 – 1000	25 / 500	0	Electro-chemical	148H5053
		GDA SC 1000	0 – 1000	80 / 250	0	Semi-Conductor	¹⁾
		GDA SC 10000	0 – 10000	5000 / 9000	0	Semi-Conductor	148H5023
		GDA CT 30000	0 – 30000	3000 / 28000	0	Catalytic	148H5033
Carbon Dioxide - CO ₂	R744	GDC IR 10000	0 – 10000	5000 / 9000	0	Infrared	148H5073
		GDC IR 20000	0 – 20000	10000 / 18000	0	Infrared	¹⁾
		GDC IR 40000	0 – 40000	20000 / 36000	0	Infrared	¹⁾
Halo-Carbon	HCFC R22, R123	GDHC SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	¹⁾
	HFC R404A, R507	GDHF SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5113
	HFC R134a	GDHF-R3 SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	¹⁾
Hydro-Carbon	R290, R600, R600a, R1270	GDH SC 5000	0 – 5000	800 / 2500	–	Semi-Conductor	148H5193

EExd Low Temperature

Ordering

Type of gas	Refrigerant	Type	Range [ppm]	Alarm limits Low / High [ppm]	Respons delay [s]	Sensor type	Code no.
Ammonia - NH ₃	R717	GDA EC 100	0 – 100	25 / 35	0	Electro-chemical	148H5006
		GDA EC 300	0 – 300	100 / 200	0	Electro-chemical	¹⁾
		GDA EC 1000	0 – 1000	500 / 1000	0	Electro-chemical	148H5016
			0 – 1000	25 / 500	0	Electro-chemical	¹⁾
		GDA SC 1000	0 – 1000	80 / 250	0	Semi-Conductor	¹⁾
		GDA SC 10000	0 – 10000	5000 / 9000	0	Semi-Conductor	148H5026
		GDA CT 30000	0 – 30000	3000 / 28000	0	Catalytic	¹⁾
Carbon Dioxide - CO ₂	R744	GDC IR 10000	0 – 10000	5000 / 9000	0	Infrared	¹⁾
		GDC IR 20000	0 – 20000	10000 / 18000	0	Infrared	¹⁾
		GDC IR 40000	0 – 40000	20000 / 36000	0	Infrared	¹⁾
Halo-Carbon	HCFC R22, R123	GDHC SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	¹⁾
	HFC R404A, R507	GDHF SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	¹⁾
	HFC R134a	GDHF-R3 SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	¹⁾

¹⁾ Please contact your local Danfoss sales office

Ordering complete GD gas detector

IP66 enclosure, 5 m remote, IP65 sensor

Ordering

Type of gas	Refrigerant	Type	Range [ppm]	Alarm limits Low / High [ppm]	Response delay [s]	Sensor type	Code no.
Ammonia - NH ₃	R717	GDA EC 100	0 – 100	25 / 35	0	Electro-chemical	148H5007
		GDA EC 300	0 – 300	100 / 200	0	Electro-chemical	¹⁾
		GDA EC 1000	0 – 1000	500 / 1000	0	Electro-chemical	148H5017
		GDA SC 1000	0 – 1000	80 / 250	0	Semi-Conductor	¹⁾
		GDA SC 10000	0 – 10000	5000 / 9000	0	Semi-Conductor	148H5027
Carbon Dioxide - CO ₂	R744	GDC IR 10000	0 – 10000	5000 / 9000	0	Infrared	¹⁾
		GDC IR 20000	0 – 20000	10000 / 18000	0	Infrared	¹⁾
		GDC IR 40000	0 – 40000	20000 / 36000	0	Infrared	¹⁾
Halo-Carbon	HCFC R22, R123	GDHC SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5107
	HFC R404A, R507	GDHF SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5117
	HFC R134a	GDHF-R3 SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	148H5127

IP66 enclosure, 5 m remote, IP65 EExd sensor

Ordering

Type of gas	Refrigerant	Type	Range [ppm]	Alarm limits Low / High [ppm]	Response delay [s]	Sensor type	Code no.
Ammonia - NH ₃	R717	GDA EC 100	0 – 100	25 / 35	0	Electro-chemical	¹⁾
		GDA EC 300	0 – 300	100 / 200	0	Electro-chemical	¹⁾
		GDA EC 1000	0 – 1000	500 / 1000	0	Electro-chemical	¹⁾
		GDA SC 1000	0 – 1000	80 / 250	0	Semi-Conductor	¹⁾
		GDA SC 10000	0 – 10000	5000 / 9000	0	Semi-Conductor	148H5028
Carbon Dioxide - CO ₂	R744	GDC IR 10000	0 – 10000	5000 / 9000	0	Infrared	¹⁾
		GDC IR 20000	0 – 20000	10000 / 18000	0	Infrared	¹⁾
		GDC IR 40000	0 – 40000	20000 / 36000	0	Infrared	¹⁾
Halo-Carbon	HCFC R22, R123	GDHC SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	¹⁾
	HFC R404A, R507	GDHF SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	¹⁾
	HFC R134a	GDHF-R3 SC 1000	0 – 1000	500 / 900	0	Semi-Conductor	¹⁾

¹⁾ Please contact your local Danfoss sales office

Ordering

GD sensor PCB

Ordering

Type	Description	Code No.
GDA EC 100	Sensor PCB	148H5200
GDA EC 1000	Sensor PCB	148H5201
GDA SC 10000	Sensor PCB	148H5202
GDA CT 30000	Sensor PCB	148H5203
GDC IR 10000	Sensor PCB for Standard Basic and Standard Basic with LCD display	148H5204
GDHC SC 1000	Sensor PCB	148H5205
GDHF SC 1000	Sensor PCB	148H5206
GDH CT 5000	Sensor PCB	148H5207
GDA EC 100	Sensor PCB Ext for IP65 / EExd enclosure	148H5208
GDA EC 1000	Sensor PCB Ext for IP65 / EExd enclosure	148H5209
GDA SC 10000	Sensor PCB Ext for IP65 enclosure	148H5210
GDA CT 30000	Sensor PCB Ext for IP65 / EExd enclosure	148H5211
GDHC SC 1000	Sensor PCB Ext for IP65 enclosure	148H5212
GDHF SC 1000	Sensor PCB Ext for IP65 enclosure	148H5213
GDH CT 5000	Sensor PCB Ext for EExd enclosure	148H5214
GDA EC 300	Sensor PCB Ext for IP65 / EExd enclosure	148H5240
GDA EC 300	Sensor PCB	148H5215
GDA SC 10000	Sensor PCB Ext for EExd enclosure / EExd Low Temperature enclosure	148H5241
GDHC SC 1000	Sensor PCB Ext for EExd enclosure	148H5242
GDHF SC 1000	Sensor PCB Ext for EExd enclosure	148H5243
GDHF-R3 SC 1000	Sensor PCB	148H5246
GDHF-R3 SC 1000	Sensor PCB Ext for IP65 enclosure	148H5247
GDE EC 500	Sensor PCB Ext for IP65	148H5248
GDA SC 1000	Sensor PCB	148H5249
GDC IR 10000	Sensor PCB Ext for EExd enclosure	148H5250
GDA SC 1000	Sensor PCB Ext for IP65 enclosure	148H5254
GDH SC 5000	Sensor PCB Ext for EExd enclosure	148H5260
GDA SC 10000	Sensor PCB with 5 m remote IP65 sensor. For IP66 enclosure	148H5261
GDHC SC 1000	Sensor PCB with 5 m remote IP65 sensor. For IP66 enclosure	148H5262
GDHF SC 1000	Sensor PCB with 5 m remote IP65 sensor. For IP66 enclosure	148H5263
GDHF-R3 SC 1000	Sensor PCB with 5 m remote IP65 sensor. For IP66 enclosure	148H5264
GDA SC 10000	Sensor PCB with 5 m remote IP65 EExd sensor. For IP66 enclosure	148H5265
GDH SC 5000	Sensor PCB	148H5267
GDA EC 100	Sensor PCB Ext for EExd Low Temperature enclosure	148H5268
GDA EC 1000	Sensor PCB Ext for EExd Low Temperature enclosure	148H5269
GDA EC 100	Sensor PCB with 5 m remote IP65 sensor. For IP66 enclosure	148H5273
GDA EC 1000	Sensor PCB with 5 m remote IP65 sensor. For IP66 enclosure	148H5275

Accessories

Ordering

Description	Code No.
GD Test Kit	
<ul style="list-style-type: none"> • GD Tester all models. To test mother PCB at Sensor PCB replacement • Beaker M42 • EC / SC / CT-Adapter. Fit Beaker M42 • M35 Adapter. Fit Beaker M42 	148H5230
GD mother PCB all models	148H5232
GD Tester for mother PCB, all models	148H5239
I-PACK (10) GD Ampoules 100 ppm ammonia	148H5234
I-PACK (10) GD Ampoules 1000 ppm ammonia	148H5235
I-PACK (10) GD Ampoules 2000 ppm CO ₂	148H5236
Remote LCD display IP41	148H5238

DGS - Gas sensors

DGS helps to comply to environmental F-Gas Regulations and / or Health and Safety requirements, on new or existing systems in:

- Supermarkets
- Process refrigeration plants
- Refrigerated storage and warehousing
- Special applications areas / zones

Features DGS

Utilizing
either Semi-Conductor (SC)
or Infrared (IR) technologies

Can be used
in stand-alone or integrated
systems, where continuous
real-time, automatic monitoring
with Danfoss ADAP-KOOL®
Refrigeration Control and
Monitoring System and / or
Building Management Systems is
applied

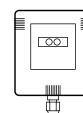
Gives
quick and immediate response
in detecting a wide range
of different gases typically
applied in Refrigeration and
Air Conditioning systems



Facts

- Typical Refrigerant gas applications include:
 - Halocarbons: HFC's, HCFC's, CFCs
 - Carbon Dioxide (CO₂ / R744)
 - Hydrocarbons (e.g. R290, R600a)
 - Other special application gases to customer request

Technical data and ordering



DGS - Gas Sensors

Technical data

Features	Description
Power Supply	12 / 24 V AC / DC ± 20%
Power Consumption	SC:153 mA / IR: 136 mA
Power Monitoring	Green LED indication
Visual Alarm	RED LED indication
Audible Alarm	Sounder, enabled / disabled
Fault Monitoring	Red LED ON ~ Green LED OFF
Fault State	0 – 0.5 V (1 – 5 V), 0 – 1 V (2 – 10 V), 0 – 2 mA (4 – 20 mA)
Analogue Outputs	0 – 5 V, 1 – 5 V, 0 – 10 V, 2 – 10 V, 4 – 20 mA
Digital Outputs	1-Relay 1 A / 24 V DC / 120 V AC Selectable Delay: 0.1 min., 5 min., 10 min.
IP Enclosure rating	IP41 or IP66
Standard Compliance	WEEE RoHS EuP

Sensor Information	Value	Semi-Conductor with filter (multigas) SC Halocarbons	Semi-Conductor (multigas) SC Hydrocarbons	Infrared IR CO ₂
Typical Measurement Range	–	0 – 1.000 ppm	0 – 1.000 ppm	0 – 10.000 ppm 0 – 20.000 ppm 0 – 50.000 ppm
Temperature Range	IP41	-20 – 50 °C / -4 – 122 °F	20 – 50 °C / -4 – 122 °F	20 – 50 °C / -4 – 122 °F
	IP66	-40 – 50 °C / -40 – 122 °F	-40 – 50 °C / -40 – 122 °F	-40 – 50 °C / -40 – 122 °F
Relay Factory Default Setting	–	50% of Range	50% of Range	50% of Range
Humidity Range non-condensing	–	0 – 95%	0 – 95%	0 – 95%
Typical sensor life	–	5-years	5-years	5-years
Alarm threshold	T50	76 sec (filtered)	50 sec (filtered)	50 sec
Recovery time	T90	215 sec (filtered) 600 sec	90 sec (filtered) 200 sec	120 sec 235 sec
Linearity	–	Linear over calibrated range		
Calibration requirements	–	Standards generally require annual test and calibration See Danfoss Manual for Instructions <i>Note: Semi-Conductor sensors are non-selective, but calibrated to a specific gas</i>		

Danfoss DGS - IP41 Enclosure Versions

Ordering

Refrigerant	Type	Description	Code no.
R404A, R507	DGS-SC	Gas Detector (IP41) Std. default R404A / R507 (min. -20 °C)	080Z2098
R134a	DGS-SC	Gas Detector (IP41) std. default R134a (min. -20 °C)	080Z2092
R407A	DGS-SC	Gas Detector (IP41) std. default R407A (min. -20 °C)	080Z2093
R410A	DGS-SC	Detector (IP41) std. default R410 (min. -20 °C)	Contact Danfoss
CO ₂ (R744)	DGS-IR-CO ₂	Gas Detector (IP41) for CO ₂ std. (min.-20 °C)	080Z2095
	DGS-IR-CO ₂ -FS	Fail safe. Gas Detector (IP41) for CO ₂ std. (min. -20 °C)	080Z2294

Danfoss DGS - IP66 Enclosure Versions

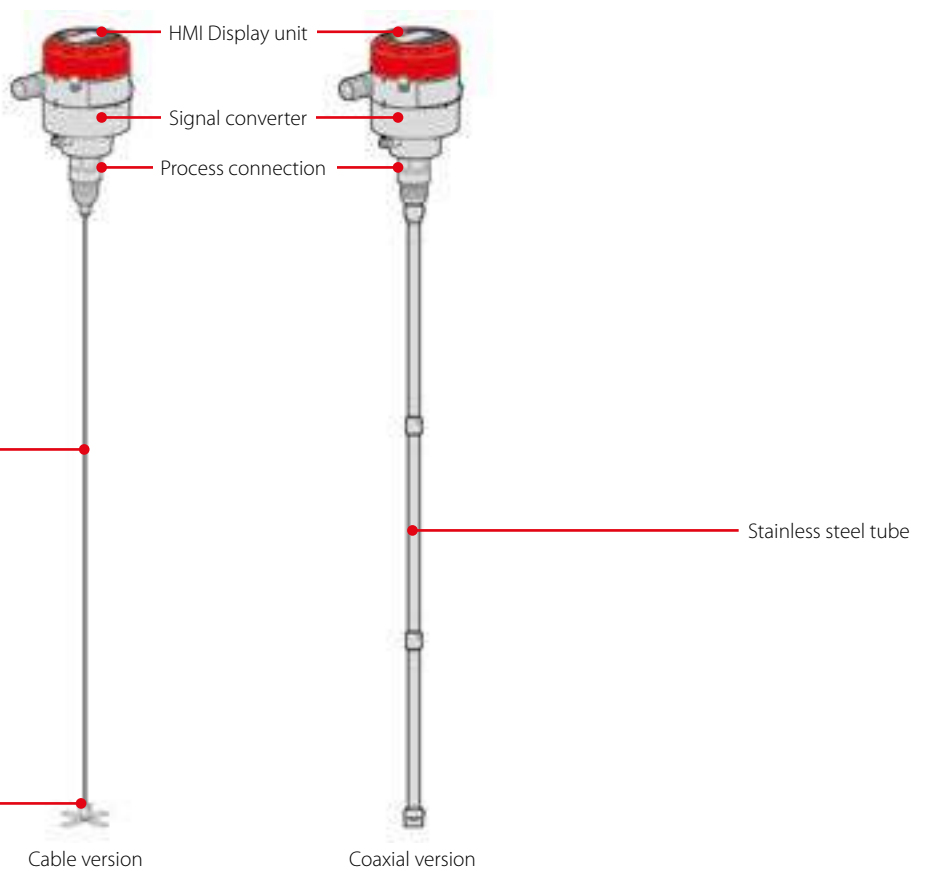
Ordering

Refrigerant	Type	Description	Code no.
R404A, R507	DGS-SC	Gas Detector (IP66) Std. default R404A / R507 (min. -40 °C)	080Z2099
R134a	DGS-SC	Gas Detector (IP66) std. default R134a (min. -40 °C)	080Z2089
R407A	DGS-SC	Gas Detector (IP66) std. default R407A (min. -40 °C)	080Z2094
R410A	DGS-SC	Detector (IP66) std. default R410 (min. -40 °C)	Contact Danfoss
CO ₂ (R744)	DGS-IR-CO ₂	Gas Detector (IP66) for CO ₂ std. (min.-40 °C)	080Z2096
	DGS-IR-CO ₂	Remote, 3 m. Gas Detector (IP66) for CO ₂ std. (min. -40 °C)	080Z2097
	DGS-IR-CO ₂ -FS	Fail safe. Gas Detector (IP66) for CO ₂ std. (min. -40 °C)	080Z2293
	DGS-IR-CO ₂ -FS	Remote, 3 m. Fail safe. Gas Detector (IP66) for CO ₂ std. (min. -40 °C)	080Z2292

AKS 4100 / AKS 4100U - Liquid level sensor

The AKS 4100 / AKS 4100U liquid level sensor is designed specifically to measure liquid levels in a wide range of refrigeration applications. The liquid level sensor is based on a proven technology called Time Domain Reflectometry (TDR) or Guided Micro Wave.

AKS 4100 / AKS 4100U liquid level sensor can be used to measure the liquid level of many different refrigerants in vessels, accumulators, receivers, standpipes, etc.



Facts

- Approved and qualified by Danfoss for refrigeration applications
- One product covering several probe lengths (cable version)
- A single product for all commonly used refrigerants (cable version)
- Cable version requires less top-end clearance for installation and service
- Proven operation with all refrigerants in combination with oil
- No need to clean cable version when fully covered by oil
- The cable version is very compact and easy to handle, ship, install and use with different lengths and refrigerants
- Changes of the liquid dielectric constant (ϵ_r) does not affect operation
- Up to 5000 mm / 197 inch probe length with cable version
- 2-wire loop powered; no separate transformer needed
Please Note: if used together with Danfoss EKC 347 Level Controller, a 14 – 30 V DC supply is required
- Multi language HMI
- Level and setting readout in [mm], [cm], [m] / [ft], [in]

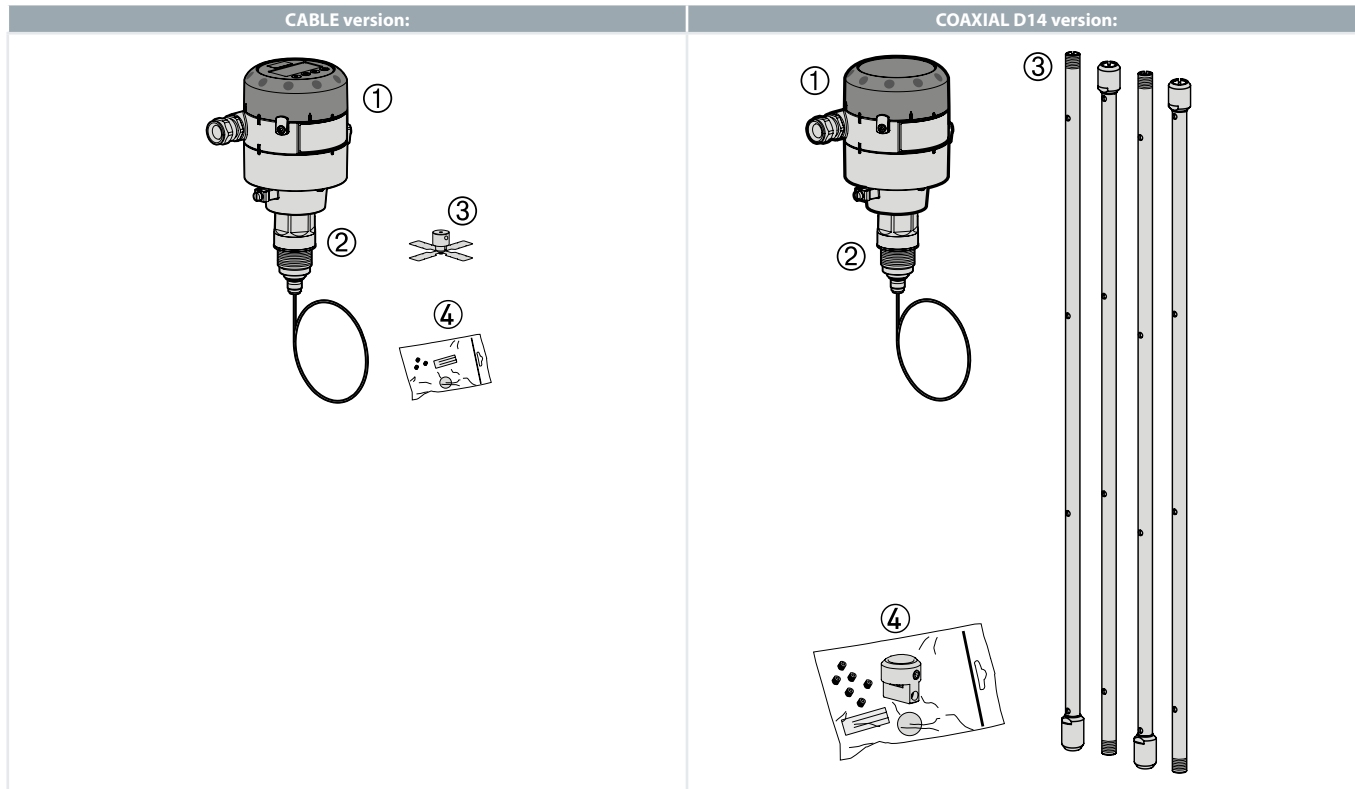
The AKS 4100 / AKS 4100U concept

AKS 4100 / AKS 4100U is available in two different versions:

- Cable version
- Coaxial version

Both cable and coaxial versions are available with two different mechanical process connections:

- AKS 4100: G1 inch pipe thread. Aluminium gasket included
- AKS 4100U: 3/4 inch NPT



Cable version

The cable version consists of:

1. Signal converter, which can be supplied with or without HMI
2. Process connection with 5 m / 197 in, \varnothing 2 mm / 0.08 in stainless cable
3. Counterweight
4. Accessory bag comprising:
 - 3 mm set screws
 - Red cover to protect process connection (2) prior to mounting signal converter
 - Setting label

With the cable version it is possible to adapt the AKS 4100 / AKS 4100U to any length:
800 mm / 31.5 in – 5000 mm / 196.9 in

Coaxial version

The Coaxial version consists of:

1. Signal Converter (with or without HMI)
2. Process connection with 5 m / 197 in, \varnothing 2 mm / 0.08 in stainless wire
3. Tube(s) depending on required length
4. Accessory bag comprising:
 - End Connector (incl. 3 mm / 0.12 in set screws)
 - 3 mm / 0.12 in set screws (1 set screw pr. tube)
 - Red cover to protect mechanical process connection (2), before Signal Converter is mounted
 - Setting label

The coaxial version is available in the following probe lengths:
500 mm, 800 mm, 1000 mm, 1200 mm, 1500 mm, 1700 mm, 2200 mm

Technical data

Measuring system

Measuring principle	2-wire loop-powered level transmitter; Time Domain Reflectometry (TDR)
Application range	Level measurement of liquid refrigerants Approved refrigerants: Halogen Free / Environmentally friendly: R717 / NH ₃ / R744 CO ₂ / HCFC and non flammable HFC
Primary measured value	Time between the emitted and received signal
Secondary measured value	Distance or level

Display and User interface

Display	Integrated LCD display 128 x 64 pixels in 8-step greyscale with 4-button keypad
Interface languages	English (default), German, French, Spanish, Japanese, Chinese, Russian

Operating conditions

Ambient temperature	-40 – 80 °C / -40 – 175 °F For HMI: -20 – 60 °C / -4 – 140 °F
Storage temperature	-40...85 °C / -40...185 °F
Process connection temperature	Standard -60 – 100 °C / -76 – 212 °F

Operating pressure	Standard: -1 – 100 barg / -14.5 – 1450 psig
---------------------------	--

Liquid dielectric constant (ε_r)	Cable version to be used in R717 / NH ₃ , HCFC and HFC ε _r , liquid > 5.6 Coaxial version is mandatory in R744 / CO ₂ ε _r , liquid > 1.3
Vibration resistance	EN 60721-3-4 (1...9 Hz: 3 mm / 10...200 Hz: 1g; 10g shock half-wave sinusoidal: 11 ms)
Enclosure rating	IP66 / IP67 equivalent to NEMA type 4X (housing) and type 6P (probe)

Process connections

Thread	
Cable Ø2 mm / 0.08 in	AKS 4100: G1 inch pipe thread. Aluminium gasket included AKS 4100U: ¾ inch NPT
Coaxial	AKS 4100: G1 inch pipe thread. Aluminium gasket included AKS 4100U: ¾ inch NPT

Electrical connections

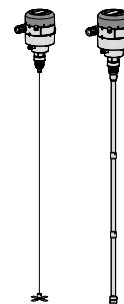
Power supply	Terminals output: 14 – 30 V DC. Min. / Max. Value for an output of 22 mA at the terminal Ambient temperature limitations: -40 – 80 °C / -40 – 176 °F: 16 – 30 V DC -20 – 80 °C / -4 – 176 °F: 14 – 30 V DC
Current output load	RL [Ω] ≤ ((U _{ext} - 14 V) / 20 mA) – Default (Error output set to 3.6 mA) RL [Ω] ≤ ((U _{ext} - 14 V) / 22 mA) – (Error output set to 22 mA)
Cable gland	AKS 4100: PG 13, M20x1.5; (cable diameter: 6 – 8 mm / 0.24 – 0.31 in) AKS 4100U: ½ inch NPT
Cable entry capacity (terminal)	0.5 – 1.5 mm ² (~20 – 15 AWG)

Input and output

Current output	
Output signal	4...20 mA or 3.8...20.5 mA acc. to NAMUR NE 43
Resolution	±3 µA
Temperature drift	Typically 75 ppm / K
Error signal	High: 22 mA; Low: 3.6 mA acc. to NAMUR NE 43; Hold (frozen value - not available with NAMUR NE 43 compliant output)

Technical data Ordering

When ordering without HMI please note:
Each AKS 4100 / AKS 4100U must always be programmed via the HMI display unit.



The HMI display unit can be ordered separately:

- **084H4540 / 084H4590**
AKS 4100 / AKS 4100U HMI display unit with rear cover and mounting bracket for easy programming.
The same AKS 4100 / AKS 4100U HMI display unit can be used to programme more AKS 4100 / AKS 4100U.
- **084H4548 / 084H4598**
AKS 4100 / AKS 4100U HMI display unit (usually spare part).

AKS 4100 / AKS 4100U - Cable version

Technical data

Type	Description	Languages	HMI	Code no.
			with / without	
AKS 4100	with 5 m (197 in) ø2 mm (ø0.08 in) stainless cable and counterweight	English (default), German, French, Spanish	with	084H4501
AKS 4100	with 5 m (197 in) ø2 mm (ø0.08 in) stainless cable and counterweight	English (default), Japanese, Chinese, Russian	with	084H4550
AKS 4100	with 5 m (197 in) ø2 mm (ø0.08 in) stainless cable and counterweight	-	without	084H4500
AKS 4100U	with 5 m (197 in) ø2 mm (ø0.08 in) stainless cable and counterweight	English (default), German, French, Spanish	with	084H4521
AKS 4100U	with 5 m (197 in) ø2 mm (ø0.08 in) stainless cable and counterweight	English (default), Japanese, Chinese, Russian	with	084H4571
AKS 4100U	with 5 m (197 in) ø2 mm (ø0.08 in) stainless cable and counterweight	-	without	084H4520

AKS 4100 / AKS 4100U - Coaxial version

Technical data

Type	Description	Languages	Probe length		HMI	Code no.
			[mm]	[in]	with / without	
AKS 4100	Coaxial	English (default), German, French, Spanish	500	-	with	084H4510
AKS 4100	Coaxial	English (default), Japanese, Chinese, Russian	500	-	with	084H4560
AKS 4100	Coaxial	-	500	-	without	084H4503
AKS 4100	Coaxial	English (default), German, French, Spanish	800	-	with	084H4511
AKS 4100	Coaxial	English (default), Japanese, Chinese, Russian	800	-	with	084H4561
AKS 4100	Coaxial	-	800	-	without	084H4504
AKS 4100	Coaxial	English (default), German, French, Spanish	1000	-	with	084H4512
AKS 4100	Coaxial	English (default), Japanese, Chinese, Russian	1000	-	with	084H4562
AKS 4100	Coaxial	-	1000	-	without	084H4505
AKS 4100	Coaxial	English (default), German, French, Spanish	1200	-	with	084H4513
AKS 4100	Coaxial	English (default), Japanese, Chinese, Russian	1200	-	with	084H4563
AKS 4100	Coaxial	-	1200	-	without	084H4506
AKS 4100	Coaxial	English (default), German, French, Spanish	1500	-	with	084H4514
AKS 4100	Coaxial	English (default), Japanese, Chinese, Russian	1500	-	with	084H4564
AKS 4100	Coaxial	-	1500	-	without	084H4507
AKS 4100	Coaxial	English (default), German, French, Spanish	1700	-	with	084H4515
AKS 4100	Coaxial	English (default), Japanese, Chinese, Russian	1700	-	with	084H4565
AKS 4100	Coaxial	-	1700	-	without	084H4508
AKS 4100	Coaxial	English (default), German, French, Spanish	2200	-	with	084H4516
AKS 4100	Coaxial	English (default), Japanese, Chinese, Russian	2200	-	with	084H4566
AKS 4100	Coaxial	-	2200	-	without	084H4509
AKS 4100U	Coaxial	English (default), German, French, Spanish	-	19.2	with	084H4530
AKS 4100U	Coaxial	English (default), Japanese, Chinese, Russian	-	19.2	with	084H4580
AKS 4100U	Coaxial	-	-	19.2	without	084H4524
AKS 4100U	Coaxial	English (default), German, French, Spanish	-	30	with	084H4531
AKS 4100U	Coaxial	English (default), Japanese, Chinese, Russian	-	30	with	084H4581
AKS 4100U	Coaxial	-	-	30	without	084H4525
AKS 4100U	Coaxial	English (default), German, French, Spanish	-	45	with	084H4532
AKS 4100U	Coaxial	English (default), Japanese, Chinese, Russian	-	45	with	084H4582
AKS 4100U	Coaxial	-	-	45	without	084H4526
AKS 4100U	Coaxial	English (default), German, French, Spanish	-	55	with	084H4533
AKS 4100U	Coaxial	English (default), Japanese, Chinese, Russian	-	55	with	084H4583
AKS 4100U	Coaxial	-	-	55	without	084H4527
AKS 4100U	Coaxial	English (default), German, French, Spanish	-	65	with	084H4534
AKS 4100U	Coaxial	English (default), Japanese, Chinese, Russian	-	65	with	084H4584
AKS 4100U	Coaxial	-	-	65	without	084H4528
AKS 4100U	Coaxial	English (default), German, French, Spanish	-	85	with	084H4535
AKS 4100U	Coaxial	English (default), Japanese, Chinese, Russian	-	85	with	084H4585
AKS 4100U	Coaxial	-	-	85	without	084H4529

Technical data Ordering

AKS 4100 / AKS 4100U - HMI

Accessories

Type	Description	Languages	Code no.
AKS 4100 / AKS 4100U HMI	Service / Display unit with rear cover and mounting bracket	English (default), German, French, Spanish	084H4540
AKS 4100 / AKS 4100U HMI	Service / Display unit with rear cover and mounting bracket	English (default), Japanese, Chinese, Russian	084H4590
AKS 4100 / AKS 4100U HMI	Display	English (default), German, French, Spanish	084H4548
AKS 4100 / AKS 4100U HMI	Display	English (default), Japanese, Chinese, Russian	084H4598
AKS 4100 / AKS 4100U	Signal Converter without HMI, excluding cable gland	-	084H4541

Lined area for notes with horizontal ruling lines.

Secop reciprocating compressors produced for Danfoss - Direct current

BD range is the leading and widest AC / DC compressor range tailored for cooling on the move.

The excellent performance of the BD series safeguards food, medical and telecommunication.

Features Reciprocating compressors



Efficient and reliable

Lasting performance

Low weight

Silent operation



Models available for solar supply

Compact design

Energy optimisation

Built in speed control, thermostat signal, thermal protection

Facts

Applications:

- 12 / 24 V DC mobile refrigerators and freezers
- 12 V DC LBP / MBP van cooling boxes
- 12 / 24 V DC HBP mobile spot cooling systems
- 48 V DC HBP telecommunication applications

- Operation under extreme conditions
- Minimal energy consumption
- Portable beyond traditional limits

- Safety against destructive battery discharge, electronic thermostat and fan speed control
- Low sound emission
- Application possible at extreme voltage rate

Technical data and ordering

Compressors R134a R404A/R507 * R600a ** R290 ***	Code numbers	Electronic units (voltages & code numbers)													
		Standard 12 – 24 V DC 101N0210	EMI 12 – 24 V DC 101N0220	High Start 12 – 24 V DC 101N0230	High Speed 12 – 24 V DC 101N0290	AEO EMI 12 – 24 V DC 101N0320	AEO High Start 12 – 24 V DC 101N0330	Solar 10 – 30 V DC 101N0400	Solar 20 – 45 V DC 101N0410	AC/DC converter 12 – 24 V DC & 100 – 240 V AC 101N0500	Automotive 12 – 24 V DC 101N0600 101N0630	101N8xxx 12 V DC 101N0820+0800 (alt.: 101N0830)	101N8xxx 24 V DC 101N0820+0810	101N07xx 24 V DC 101N0715	Telecom 48 V DC 101N0720
BD35F	101Z0200	x	x	-	-	x	-	x	x	x	x	-	-	-	-
BD35F (inch con.)	101Z0204	x	x	-	-	x	-	x	x	x	x	-	-	-	-
BD35F-B	101Z0205	x	x	-	-	x	-	-	-	x	x	-	-	-	-
BD35F-HD	101Z0206	x	-	-	-	-	-	-	-	-	-	-	-	-	-
BD50F	101Z1220	x	x	x	-	x	x	-	-	x	-	-	-	-	-
BD50F (inch con.)	101Z0203	x	x	x	-	x	x	-	-	x	-	-	-	-	-
BD80F	101Z0280	-	-	-	x	-	-	-	-	-	-	-	-	-	-
BD250GH.2	101Z0406	-	-	-	x	-	-	-	-	-	-	-	-	-	-
BD250GH.2 (48V)	101Z0405	-	-	-	-	-	-	-	-	-	-	-	-	-	x
BD350GH (12V)	102Z3015	-	-	-	-	-	-	-	-	-	-	x+x	-	-	-
BD350GH (24V)	102Z3016	-	-	-	-	-	-	-	-	-	-	-	x+x	x	-
BD350GH (48V)	102Z3031	-	-	-	-	-	-	-	-	-	-	-	-	-	x
BD350GH Twin (12V)	102Z3018	-	-	-	-	-	-	-	-	-	-	x+xx	-	-	-
BD350GH Twin (24V)	102Z3017	-	-	-	-	-	-	-	-	-	-	-	x+x	xx	-
BD220CL *	102Z3020	-	-	-	-	-	-	-	-	-	-	x+x	-	-	-
BD35K **	101Z0211	x	x	-	-	-	-	x	x	-	-	-	-	-	-
BD80CN ***	101Z0403	-	-	x	-	-	x	-	-	-	-	-	-	-	-
BD100CN ***	101Z0401	-	-	-	x	-	-	-	-	-	-	-	-	-	-
TOOL4COOL® applicable		-	-	-	-	-	-	-	-	-	-	x	-	x	x

Compressors R134a	Code numbers	Electronic units (voltages & code numbers)				
		Variable Speed (VSD) 12 – 24 V DC 101N2100	Fixed Speed (FSD) 12 – 24 V DC 101N2600	VSD w. AC/DC converter 12 – 24 V DC & 100 – 240 V AC 101N5100	FSD w. AC/DC converter 12 – 24 V DC & 100 – 240 V AC 101N5200	Automotive 12 V DC 101N1010
BD1.4F-AUTO	109Z0102	-	-	-	-	x
BD1.4F-FSD	109Z0305	-	x	-	x	-
BD1.4F-VSD	109Z0200	x	-	x	-	-
BD1.4F-VSD-HD	109Z0250	x	-	-	-	-
BD1.4F-VSD (inch connectors)	109Z0202	x	-	x	-	-
BD1.4F-VSD-HD (inch connectors)	109Z0251	x	-	-	-	-
TOOL4COOL® applicable		x	x	x	x	x

Applications	Compressors															
	BD1.4F-AUTO	BD1.4F-VSD	BD1.4F-VSD-HD	BD1.4F-FSD	BD35F	BD35F-B	BD35F-HD	BD35K	BD50F	BD80F	BD80CN	BD100CN	BD150F	BD250GH	BD350GH	BD220CL
Truck refrigerators	-	x	x	-	x	-	x	-	x	-	-	-	-	-	-	-
Boat refrigerators	-	x	-	-	x	-	-	-	x	x	-	-	-	-	-	-
Bus refrigerators	-	x	-	-	x	x	-	-	-	-	-	-	-	-	-	-
Portable boxes	-	x	-	x	x	-	-	-	x	x	-	-	-	-	-	-
Car minbars (high end)	x	x	-	-	x	-	-	-	-	-	-	-	-	-	-	-
Car minibars (SUV, MPV)	-	x	-	-	x	-	-	-	-	-	-	-	-	-	-	-
Spot cooling (e.g. trucks)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x
Van boxes	-	-	-	-	-	-	-	-	x	x	-	-	x	x	x	x
Battery cooling	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x
Solar cabinets	-	-	-	-	x	-	-	x	x	-	x	x	-	-	-	-

01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20

Technical data and ordering

Compressors R134a R404A/R507 * R600a **, R290 ***	Capacity [W] at max. speed **** EN12900 Household/CECOMAF ASHRAE Evaporating temperature [°C]														
	-40	-35	-30	-25	-23.3	-20	-15	-10	-5	0	5	7.2	10	15	
	BD35F /-B /-HD	-	-	26 32	36 44	40 50	51 62	70 86	94 115	122 150	-	-	-	-	-
BD50F	-	-	37 45	52 64	58 72	71 88	95 117	123 152	157 194	-	-	-	-	-	
BD80F	-	-	55 68	78 96	87 107	105 130	138 170	176 218	221 274	-	-	-	-	-	
BD250GH.2	-	-	-	61 76	69 86	87 108	119 148	156 194	200 248	251 311	308 383	336 418	373 464	446 556	
BD250GH.2 (48V)	-	-	-	64 80	73 91	91 113	124 153	162 201	208 257	261 323	322 400	352 437	392 488	472 589	
BD350GH (12V)	-	-	-	126 156	139 173	169 209	220 273	282 349	355 440	440 546	540 670	588 731	654 814	786 979	
BD350GH (24V)	-	-	-	126 156	139 173	169 209	220 273	282 349	355 440	440 546	540 670	588 731	654 814	786 979	
BD350GH (48V)	-	-	-	121 150	135 167	164 203	216 267	277 343	350 434	436 540	535 664	584 725	650 808	781 973	
BD350GHTwin (12V)	-	-	-	251 312	279 346	337 418	440 546	564 698	710 880	880 1092	1080 1340	1176 1462	1308 1628	1572 1958	
BD350GH Twin (24V)	-	-	-	252 312	278 346	338 418	440 546	564 698	710 880	880 1092	1080 1340	1176 1462	1308 1628	1572 1958	
BD220CL *	83 96	121 140	166 193	220 255	240 279	283 328	355 413	439 511	535 624	-	-	-	-	-	
BD35K **	-	-	25 30	36 44	41 49	49 60	65 79	84 102	106 129	-	-	-	-	-	
BD80CN ***	31 35	45 51	62 69	82 91	90 100	105 118	133 148	164 184	-	-	-	-	-	-	
BD100CN ***	45 50	62 70	83 93	108 121	117 131	137 153	170 190	209 233	-	-	-	-	-	-	
BD1.4F-VSD /-HD	-	-	12 15	23 29	27 34	36 45	52 65	71 88	92 114	116 144	144 179	158 197	178 222	218 272	
BD1.4F-FSD	-	-	5 6	13 17	16 21	23 29	35 44	49 62	66 82	85 106	-	-	-	-	
BD1.4F-AUTO	-	-	-	14 18	18 22	24 31	36 45	50 62	66 83	86 106	108 134	-	-	-	

Compressors R134a R404A/R507 * R600a **, R290 ***	Code numbers	Power consumption [W] at max. speed **** Evaporating temperature [°C]														
		-40	-35	-30	-25	-23.3	-20	-15	-10	-5	0	5	7.2	10	15	
		BD35F /-B /-HD	101Z0200 /0204 /0205 /0206	-	-	36	43	45	51	60	69	79	-	-	-	-
BD50F	101Z1220 /0203	-	-	47	59	63	71	83	95	108	-	-	-	-	-	
BD80F	101Z0280	-	-	69	87	93.0	105	123	144	168	-	-	-	-	-	
BD250GH.2	101Z0406	-	-	-	68	72	82	95	108	122	138	156	165	177	202	
BD250GH.2 (48V)	101Z0405	-	-	-	72	77	85	99	113	128	143	160	167	177	196	
BD350GH (12V)	102Z3015	-	-	-	140	149	168	197	228	259	292	325	340	358	391	
BD350GH (24V)	102Z3016	-	-	-	122	129	144	169	194	221	248	276	288	303	330	
BD350GH (48V)	102Z3031	-	-	-	131	139	155	181	208	236	265	294	307	323	352	
BD350GHTwin (12V)	102Z3018	-	-	-	280	298	336	394	456	518	584	650	680	716	782	
BD350GH Twin (24V)	102Z3017	-	-	-	244	258	288	338	388	442	496	552	576	606	660	
BD220CL *	102Z3020	121	147	173	200	209	227	255	284	314	-	-	-	-	-	
BD35K **	101Z0211	-	-	35	43	45	50	56	63	70	-	-	-	-	-	
BD80CN ***	101Z0403	47	55	63	72	75	81	89	97	-	-	-	-	-	-	
BD100CN ***	101Z0401	57	69	81	93	96	104	115	125	-	-	-	-	-	-	
BD1.4F-VSD /-HD	109Z0200 /0202 /0250 /0251	-	-	27	34	36	41	48	55	61	68	76	79	83	90	
BD1.4F-FSD	109Z0305	-	-	16	23	25	29	35	40	44	49	-	-	-	-	
BD1.4F-AUTO	109Z0102	-	-	-	26	28	30	35	40	45	50	56	-	-	-	

Quick Selection Notes:

Secop reciprocating compressors produced for Danfoss - Light commercial

Specially optimised for use in household and light commercial applications, hermetic reciprocating compressors from Secop for Danfoss provide high cooling capacity in an energy saving design.

Compressor models are available for R134a, R290, R404A / R507A, R407C and R600a, for cooling needs from 20 W to 6 kW.

Features Reciprocating compressors



Compact construction

Durable housing

Optimised motor technology

Wide voltage range



Low GWP refrigerant possible

Variable speed models available

Facts

Applications:

- Laboratory and medical equipment
- Compressed air dryers
- Glass door merchandisers
- Display cabinets
- Fridges and freezers
- Ice cream cabinets
- Vending machines
- Drink dispensers
- Ice making machines
- Bottle coolers
- Heat pumps
- Milk cooling tanks
- Wine cellars

- Easy installation
- Low noise and high energy efficiency
- Robust in tough operating conditions
- Immune to unstable power supply
- Environmentally friendly solutions

Secop inverter reciprocating compressors produced for Danfoss - Light Commercial

Cut a slice out of your energy bill with variable speed technology in supermarket and convenience store cabinets with SLV compressors. SLV inverter compressor with intelligent 220 V 50 / 60 Hz controller is the natural choice when you need a versatile package for a wide range of light commercial LBP and MBP applications like freezers and cabinets.

SLV compressors are available for R404A / R507 and the environmentally friendly refrigerant, R290.



- Tight temperature control
- Built-in data logging and failure detection
- High temperature stability

- Compressor, speed control, cabinet control functions, display and monitoring, all in one integrated solution
- Low average motor speed and wide voltage range

Facts

Applications:

- Freezers
- Display cabinets
- Advanced efficiency reduces energy consumption dramatically
- Reduces food loss and increases food quality
- Environmentally friendly
- Enables shop owners to comply with the HACCP standard on food quality
- Easy integration in existing and new monitoring systems
- Simpler installation, less room for errors, easier field service
- Reduces food losses and increases food quality
- Lower noise level

Technical data and ordering

Reciprocating compressors - Light Commercial

R134a

Application	Compressor	Code numbers		Capacity [W] at test conditions																	Power consumption [W]				Displacement [cm ³]
		Compressor	Compressor with oil cooling	Evaporating temperature [°C]																					
				-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15	20	-35	-25	-10	5			
HBP / MBP / (LBP)	PL35G	101G0250	-	-	-	28	31.6	39.3	53	69.4	82	89	112	140	153	172	209	-	-	48	66.6	90	2.00		
	TL2.5G	102G4251	-	11	22.4	35.5	40.5	50.9	69	90.4	107	116	145	179	196	219	264	-	47.6	59.6	83.9	113	2.61		
	TL3G	102G4350	-	-	25.3	40.9	46.7	59.1	80.5	106	125	136	170	211	231	258	312	-	-	65.8	96.2	133	3.13		
	TL4G	102G4452	-	-	40.8	58.3	65.3	80.3	107	140	165	180	226	280	306	342	413	-	-	82.7	118	154	3.86		
	TL5G	102G4550	-	-	55.6	79	87.9	107	139	178	208	224	278	341	372	414	497	-	-	100	149	205	5.08		
	FR6G	103G6660	-	-	47.7	83.3	96.5	124	171	226	267	290	365	452	494	552	-	-	-	109	172	241	6.23		
	FR7.5G	103G6680	103G6690	-	61.7	99	113	142	193	254	299	325	408	505	553	618	-	-	-	126	194	272	6.93		
	FR8.5G	103G6780	103G6790	-	84.9	123	138	171	228	298	351	381	478	592	647	722	-	-	-	151	231	321	7.95		
	FR10G	103G6880	103G6890	-	91.9	136	152	188	250	324	380	412	516	638	697	779	-	-	-	179	265	362	9.05		
	FR11G	103G6980	-	-	115	170	191	233	307	395	463	501	628	780	-	-	-	-	-	202	317	445	11.15		
	SC10G	104G8000	-	23	60	113	135	183	268	369	445	486	618	764	833	925	1100	-	93	181	290	383	10.29		
	SC12G	104G8240	104G8250	64.6	113	175	199	252	348	464	553	603	768	960	1054	1182	1437	-	148	227	355	493	12.87		
	SC15G	104G8520	104G8530	-	-	164	206	290	424	568	672	728	908	1110	1207	1340	1600	-	-	233	440	595	15.28		
	SC18G	104G8820	104G8830	-	-	283	318	394	526	684	804	870	1087	1337	1459	1624	1950	-	-	331	507	695	17.69		
	SC21G	104G8140	-	-	-	333	370	453	606	792	934	1012	1268	1560	1700	1889	2257	-	-	382	575	789	20.95		
	SC12/ 12G	104G8280	-	129	226	350	399	505	696	928	1106	1206	1535	1920	2108	2364	2875	-	296	454	710	986	2x12.87		
SC15/ 15G	104G8580	-	-	-	328	413	581	847	1137	1344	1457	1815	2220	2415	2679	3201	-	-	465	879	1190	2x15.28			
SC18/ 18G	104G8880	-	-	-	566	636	788	1052	1368	1607	1740	2174	2674	2918	3248	3900	-	-	662	1014	1390	2x17.69			
SC21/ 21G	104G8180	-	-	-	667	741	907	1212	1584	1868	2025	2536	3120	3400	3778	4511	-	-	771	1156	1581	2x20.95			
LBP	PL50F	101G0222	-	14.2	26.2	40	45.1	55.8	74.1	95.2	111	120	148	-	-	-	-	-	43.6	60	85.6	-	2.50		
	TL53FT	102G4324	-	21	34	50	56	69	92	120	-	-	-	-	-	-	-	-	45	62	92	-	3.13		
	TL54FT	102G4424	-	27	43	63	71	88	117	152	-	-	-	-	-	-	-	-	68	87	123	-	3.86		
	TL55FT	102G4524	-	47.8	70.7	98	109	131	170	216	-	-	-	-	-	-	-	-	84.5	114	165	-	5.08		
	TLE55.7FT.3	102G4615	-	66.3	90.3	120	132	156	200	253	-	-	-	-	-	-	-	-	90	120	170	-	5.70		
	NL6.1FT	105G6620	-	60	84	115	127	152	198	253	-	-	-	-	-	-	-	-	93	123	184	-	6.13		
	NL7.3FT	105G6726	-	71	100	136	150	181	235	299	-	-	-	-	-	-	-	-	108	145	220	-	7.27		
	NL8.4FT	105G6865	-	87	120	162	178	213	275	350	-	-	-	-	-	-	-	-	127	169	252	-	8.35		
	NL10FT	105G6829	105G6839	115	158	210	235	274	352	444	-	-	-	-	-	-	-	-	159	215	316	-	10.10		
	SC12FT	104G8205	104G8215	103	163	233	259	314	408	517	599	645	-	-	-	-	-	-	184	265	380	-	12.87		
	SC15FT	104G8505	104G8515	126	197	280	311	376	489	620	718	772	-	-	-	-	-	-	223	311	451	-	15.28		
	SC18FTX	104G8805	-	144	229	325	361	437	567	719	833	896	-	-	-	-	-	-	257	365	517	-	17.69		
	SC21FTX 50 Hz	104G8105	-	192	296	415	460	553	713	901	1041	1119	-	-	-	-	-	-	296	428	613	-	20.95		
SC21FTX 60 Hz	104G8106	-	240	345	470	518	620	800	1012	1173	1262	-	-	-	-	-	-	342	475	707	-	20.95			
MBP	NL6.1MF	105G6660	-	-	-	-	141	189	245	288	312	390	482	527	588	709	-	-	-	187	243	6.13			
	NL7.3MF	105G6772	-	-	-	-	179	236	304	356	385	480	591	645	719	867	-	-	-	227	298	7.27			
	NL8.4MF	105G6879	-	-	-	-	213	277	353	412	445	553	679	741	825	994	-	-	-	261	349	8.35			
	NL10MF	105G6885	-	-	-	-	266	346	441	513	554	687	843	919	1023	1231	-	-	-	323	435	10.10			
	NL11MF	105G6151	-	-	-	-	292	380	485	565	609	756	927	1011	1125	1354	-	-	-	360	495	11.15			
	NLE10MF	105G6888	-	88	137	194	216	262	343	440	513	554	688	845	922	-	-	-	134	198	308	426	10.10		
	GS26MFX	107B0700	-	-	-	-	-	754	989	1266	1476	1591	1970	2411	2626	-	-	-	-	696	942	26.30			
GS34MFX	107B0701	-	-	-	-	-	998	1296	1648	1918	2063	2550	3115	3392	-	-	-	-	909	1234	33.80				
HBP	TL4GH	102G4455	-	-	-	-	-	104	140	167	182	230	287	315	353	429	-	-	-	121	159	3.86			
	FR7GH	103G6683	103G6692	-	-	-	-	199	255	301	327	417	525	580	655	807	-	-	-	192	258	6.93			
	SC10GH	104G8041	-	-	-	-	-	233	352	434	478	613	762	832	927	113	1323	-	-	281	395	10.29			
	SC12GH	104G8261	-	-	-	-	-	-	429	524	577	752	957	1058	1196	1471	1787	-	-	356	487	12.87			
	SC15GH	104G8561	-	-	-	-	-	-	559	664	723	915	1139	1429	1398	1698	2041	-	-	424	565	15.28			
	SC18GH	104G8860	-	-	-	-	-	-	539	676	789	855	1077	1340	1469	1645	1990	-	-	498	697	17.69			
	SC18GH	104G8861	-	-	-	-	-	-	485	639	758	825	1047	1310	1440	1618	1976	2389	-	-	452	605	17.69		
SC15GHH	-	104G8571	-	-	-	-	-	435	570	670	726	911	1135	1247	1405	1731	-	-	377	505	15.28				
GS26GHX	107B0702	-	-	-	-	-	-	937	1198	1400	1510	1880	2316	2531	2826	3417	4098	-	-	737	970	26.30			

Applications

LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Compressor cooling

S = Static cooling normally sufficient
O = Oil cooling
F₁ = Fan cooling 1.5 m/s
(compressor compartment temp. equal to ambient temperature)
F₂ = Fan cooling 3.0 m/s necessary
* = O / F₁ possible at 220 V nominal (187 - 242 V)

Motor types

RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies

1 = 198 - 254 V, 50Hz 5 = 198 - 254 V, 60Hz, MBP
2 = 187 - 254 V, 50Hz, LBP 6 = 207 - 254 V, 60Hz, HBP
3 = 198 - 254 V, 60Hz, LBP 7 = 187 - 254 V, 50Hz
4 = 198 - 254 V, 60Hz 8 = 187 - 254 V, 60Hz

Starting devices

LST = Low Starting Torque
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
HST = HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.

Electrical Equipment

** Cover, clamp, gasket parts of compressor

Technical data and ordering

Recommended compressor cooling at ambient temperatures										Voltage and frequency		Electrical equipment						Dimensions [mm]							
32 °C					38 °C			43 °C				LST (RSIR)			HST (CSIR)		HST(CSR)	LST / HST		Height		Connectors location /LD			
LBP	MBP	HBP	LBP	MBP	HBP	LBP	MBP	HBP	PTC starting device			Starting relay	Starting capacitor	Starting device	Cord relief		Cover					A	B	Suc-tion	Pro-cess
Spades 6.3 mm		Spades 4.8 mm		Spades 6.3 mm	Spades 6.3 mm	Spades 6.3 mm		Spades 6.3 mm																	
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1/5	103N0011	103N0018	117U6021	117U5014	-	103N1010	103N0491	137	135	6.2	6.2	5.0	-			
S	S	S	S	S	S	S	S	F ₂	1/2/3/6	103N0011	103N0018	117U6007	117U5014	-	103N1010	103N2011	163	159	6.2	6.2	5.0	-			
S	S	F ₂	S	S	F ₂	S	S	F ₂	1/2/3	103N0011	103N0018	117U6009	117U5014	-	103N1010	103N2010	163	159	6.2	6.2	5.0	-			
S	S	F ₂	S	S	F ₂	S	S	F ₂	1/2/3	103N0011	103N0018	117U6004	117U5014	-	103N1010	103N2010	173	169	6.2	6.2	5.0	-			
S	S	F ₂	S	S	F ₂	S	S	F ₂	1/2/3	103N0011	103N0018	117U6000	117U5014	-	103N1010	103N2010	173	169	6.2	6.2	5.0	-			
S	F ₂	F ₂	S	F ₂	F ₂	S	F ₂	F ₂	1/2/3	103N0011	103N0018	117U6000	117U5015	-	103N1010	103N2010	196	191	8.2	6.2	6.2	-			
S	F ₂	F ₂	S	F ₂	F ₂	O/F ₁	F ₂	F ₂	1/2/3	103N0011	103N0018	117U6001	117U5015	-	103N1010	103N2010	196	191	8.2	6.2	6.2	6.2			
S	F ₂	F ₂	S	F ₂	F ₂	O/F ₁	F ₂	F ₂	1/2/3	103N0011	103N0018	117U6015	117U5015	-	103N1010	103N2010	196	191	8.2	6.2	6.2	6.2			
S	F ₂	F ₂	S	F ₂	F ₂	O/F ₁	F ₂	F ₂	1/2/3	103N0011	103N0018	117U6010	117U5015	-	103N1010	103N2010	196	191	8.2	6.2	6.2	6.2			
F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	1/2	103N0011	103N0018	117U6010	117U5015	-	103N1010	103N2010	196	191	8.2	6.2	6.2	-			
F ₁	F ₂	F ₂	F ₁	F ₂	F ₂	F ₁	F ₂	F ₂	1/2/3	103N0011	-	117U6002	117U5017	-	103N1004	103N2009	199	193	8.2	6.2	6.2	-			
O/F ₁	F ₂	F ₂	O/F ₁	F ₂	F ₂	O/F ₁	F ₂	F ₂	1/2/3	103N0011	-	117U6003	117U5017	-	103N1004	103N2009	209	203	8.2	6.2	6.2	6.2			
O/F ₁	F ₂	F ₂	O/F ₁	F ₂	F ₂	O/F ₁	F ₂	F ₂	1/2/3	-	-	117U6005	117U5017	-	103N1004	103N2009	209	203	10.2	6.2	6.2	6.2			
O/F ₁	F ₂	F ₂	O/F ₁	F ₂	F ₂	O/F ₁	F ₂	F ₂	1/2/3	-	-	117U6019	117U5017	-	103N1004	103N2009	219	213	10.2	6.2	6.2	6.2			
F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	1/2/3	-	-	-	-	117-7029	103N1004	103N2009	219	213	10.2	6.2	6.2	-			
F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	1	-	-	117U6003	117U5017	-	103N1004	103N2009	249	244	12	6.2	6.2	-			
F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	1	-	-	117U6005	117U5017	-	103N1004	103N2009	249	244	12	6.2	6.2	-			
F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	1	-	-	117U6019	117U5017	-	103N1004	103N2009	259	254	16	6.2	6.2	-			
F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	F ₂	1	-	-	-	-	117-7029	103N1004	103N2009	259	254	16	6.2	6.2	-			
-	F ₂	-	-	F ₂	-	-	F ₂	-	1	-	-	117U6021	117U5014	-	103N1010	103N0491	137	135	6.2	6.2	5.0	-			
S	-	-	S	-	-	S	-	-	2	103N0011	103N0018	117U6007	117U5014	-	103N1010	103N2010	173	169	6.2	6.2	5.0	-			
S	-	-	S	-	-	S	-	-	2	103N0011	103N0018	117U6004	117U5014	-	103N1010	103N2010	173	169	6.2	6.2	5.0	-			
S	-	-	S	-	-	S	-	-	2	103N0011	103N0018	117U6000	117U5014	-	103N1010	103N2010	173	169	6.2	6.2	5.0	-			
S	-	-	S	-	-	S	-	-	2	103N0011	103N0018	117U6004	117U5014	-	103N1010	103N2010	173	169	6.2	6.2	5.0	-			
S	-	-	S	-	-	F ₁	-	-	2/3	103N0011	103N0018	117U6000	117U5015	-	103N1010	103N2010	188	182	6.2	6.2	5.0	-			
S	-	-	S	-	-	F ₁	-	-	2	103N0011	103N0018	117U6001	117U5015	-	103N1010	103N2010	188	182	6.2	6.2	5.0	-			
S	-	-	F ₁	-	-	F ₁	-	-	2	103N0011	103N0018	117U6001	117U5015	-	103N1010	103N2010	190	184	6.2	6.2	5.0	-			
S	-	-	O/F ₁	-	-	O/F ₁	-	-	2	103N0011	103N0018	117U6002	117U5015	-	103N1010	103N2010	203	197	8.2	6.2	6.2	6.2			
O/F ₁	-	-	O/F ₁	-	-	F ₂ *	-	-	2/3	103N0011	-	117U6003	117U5017	-	103N1004	103N2009	209	203	8.2	6.2	6.2	6.2			
F ₁	-	-	F ₁	-	-	F ₂	-	-	2/3	103N0011	-	117U6005	117U5017	-	103N1004	103N2009	209	203	10.2	6.2	6.2	6.2			
F ₂	-	-	F ₂	-	-	F ₂	-	-	2/3	-	-	117U6019	117U5017	-	103N1004	103N2009	219	213	10.2	6.2	6.2	-			
F ₂	-	-	F ₂	-	-	F ₂	-	-	2	-	-	117U6019	117U5017	-	103N1004	103N2009	219	213	10.2	6.2	6.2	-			
F ₂	-	-	F ₂	-	-	F ₂	-	-	8	-	-	-	-	117-7039	103N1004	103N2008	219	213	10.2	6.2	6.2	-			
-	F ₁	F ₁	-	F ₁	F ₁	-	F ₁	F ₁	5/7	103N0011	103N0018	117U6015	117U5015	-	103N1010	103N2011	190	184	8.2	6.2	6.2	-			
-	F ₁	F ₁	-	F ₁	F ₁	-	F ₁	F ₁	5/7	103N0011	103N0018	117U6016	117U5015	-	103N1010	103N2011	197	191	8.2	6.2	6.2	-			
-	F ₁	F ₁	-	F ₁	F ₁	-	F ₁	F ₁	5/7	103N0011	103N0018	117U6016	117U5015	-	103N1010	103N2011	197	191	8.2	6.2	6.2	-			
-	F ₁	F ₁	-	F ₁	F ₁	-	F ₁	F ₁	5/7	103N0011	103N0018	117U6022	117U5018	-	103N1010	103N2011	203	197	8.2	6.2	6.2	-			
-	F ₂	F ₂	-	F ₂	F ₂	-	F ₂	F ₂	7	103N0011	103N0018	117U6022	117U5018	-	103N1010	103N2011	203	197	8.2	6.2	6.2	-			
F ₁	F ₁	-	F ₁	F ₁	-	F ₁	F ₁	-	1	103N0011	103N0018	117U6003	117U5015	-	103N1010	103N2011	203	197	8.2	6.2	6.2	-			
-	F ₂	-	-	F ₂	-	-	F ₂	-	1	Starting device (start relay, start & run capacitor):117-7055				107B9100/9101/9104**	259	247	12.9	6.5	8.2	-					
-	F ₂	-	-	F ₂	-	-	F ₂	-	1	Starting device (start relay, start & run capacitor):117-7056				107B9100/9101/9104**	259	247	12.9	6.5	8.2	-					
-	-	F ₂	-	-	F ₂	-	-	F ₂	1/4	-	-	117U6000	117U5014	-	103N1010	103N2011	173	169	6.2	6.2	5.0	-			
-	-	O/F ₁	-	-	O/F ₁	-	-	O/F ₁	1/4	-	-	117U6016	117U5015	-	103N1010	103N2011	196	191	8.2	6.2	8.2	8.2			
-	-	F ₂	-	-	F ₂	-	-	F ₂	1/4	-	-	117U6005	117U5017	-	103N1004	103N2008	199	193	10.2	6.2	8.2	-			
-	-	F ₂	-	-	F ₂	-	-	F ₂	1/4	-	-	117U6011	117U5017	-	103N1004	103N2008	209	203	10.2	6.2	8.2	-			
-	-	F ₂	-	-	F ₂	-	-	F ₂	1/4	-	-	117U6011	117U5017	-	103N1004	103N2008	209	203	10.2	6.2	8.2	-			
-	-	F ₂	-	-	F ₂	-	-	F ₂	1	-	-	117U6019	117U5017	-	103N1004	103N2009	219	213	10.2	6.2	8.2	-			
-	-	F ₂	-	-	F ₂	-	-	F ₂	1/4	-	-	-	-	117-7039	103N1004	103N2008	219	213	10.2	6.2	8.2	-			
-	-	O	-	-	O	-	-	O	1	-	-	-	-	117-7027	103N1004	103N2009	209	203	10.2	6.2	8.2	8.2			
-	-	F ₂	-	-	F ₂	-	-	F ₂	1	Starting device (start relay, start & run capacitor):117-7070				107B9100/9101/9104**	259	247	12.9	6.5	8.2	-					

Test conditions EN 12900 CECOMAF (220 V / 50 Hz)

Compressors: PL / TL / TLS / TLES / NL / NLE / FR / SC
 Condensing temperature: 55 °C
 Ambient temperature: 32 °C
 Suction gas temperature: 32 °C
 Liquid temperature: 55 °C

Test conditions EN 12900 MBP (220 V / 50 Hz)

Compressors: GS
 Condensing temperature: 45 °C
 Ambient temperature: 32 °C
 Suction gas temperature: 20 °C
 Liquid temperature: no sub cooling

Test conditions EN 12900 HBP (220 V / 50 Hz)

Compressors: GS
 Condensing temperature: 45 °C
 Ambient temperature: 32 °C
 Suction gas temperature: 20 °C
 Liquid temperature: no sub cooling

01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20

Technical data and ordering

Recommended compressor cooling at ambient temperatures									Voltage and frequency	Electrical equipment					Dimensions [mm]						
32 °C			38 °C			43 °C				LST (RSIR)		HST (CSIR)		HST(CSR)	LST / HST		Height		Connectors location / I.D		
LBP	MBP	HBP	LBP	MBP	HBP	LBP	MBP	HBP		PTC starting device		Starting relay	Starting capacitor	Starting device	Cord relief	Cover	A	B	Suction	Process	Dis-charge
										Spades 6.3 mm	Spades 4.8 mm	Spades 6.3 mm	Spades 6.3 mm	Spades 6.3 mm					C	D	E
F ₂	F ₂	-	F ₂	F ₂	-	-	-	-	1	-	-	117U6000	117U5014	-	103N1010	103N2010	173	169	6.2	6.2	5.0
F ₂	-	-	F ₂	-	-	F ₂	-	-	7	-	-	117U6001	117U5014	-	-	117U1022	173	169	6.2	6.2	5.0
F ₂	F ₂	-	F ₂	F ₂	-	-	-	-	1	-	-	117U6015	117U5015	-	103N1010	103N2010	196	191	8.2	6.2	6.2
F ₂	F ₂	-	F ₂	F ₂	-	-	-	-	1	-	-	117U6016	117U5015	-	103N1010	103N2010	196	191	8.2	6.2	6.2
F ₂	-	-	F ₂	-	-	-	-	-	1	-	-	117U6010	117U5015	-	103N1010	103N2010	196	191	8.2	6.2	6.2
F ₁	F ₁	-	F ₁	F ₁	-	F ₂	F ₂	-	1	103N0011	103N0018	117U6002	117U5015	-	103N1010	103N2010	203	197	8.2	6.2	6.2
F ₂	F ₂	-	F ₂	F ₂	-	F ₂	F ₂	-	7	103N0011	103N0018	117U6003	117U5015	-	103M1010	103N2010	203	197	8.2	6.2	6.2
F ₂	F ₂	-	F ₂	F ₂	-	-	-	-	1	-	-	117U6003	117U5017	-	103N1004	103N2009	209	203	8.2	6.2	6.2
F ₂	F ₂	-	F ₂	F ₂	-	-	-	-	1/3	-	-	117U6005	117U5017	-	103N1004	103N2008	209	203	8.2	6.2	6.2
F ₂	F ₂	-	F ₂	F ₂	-	-	-	-	1	-	-	117U6005	117U5017	-	103N1004	103N2009	209	203	8.2	6.2	6.2
F ₂	-	-	F ₂	-	-	-	-	-	1/4	-	-	117U6019	117U5017	-	103N1004	103N2008	219	213	8.2	6.2	6.2
F ₂	-	-	F ₂	-	-	F ₂	-	-	1	-	-	117U6019	117U5017	-	103N1004	103N2009	219	213	8.2	6.2	6.2
F ₂	-	-	F ₂	-	-	F ₂	-	-	1	-	-	117U6013	117U5012	-	103N1004	103N2009	219	213	10.2	6.2	6.2
F ₂	-	-	F ₂	-	-	F ₂	-	-	1	-	-	-	-	117-7027	103N1004	103N2009	219	213	10.2	6.2	6.2
F ₂	-	-	F ₂	-	-	F ₂	-	-	1	-	-	-	-	117-7027	103N1004	103N2009	219	213	10.2	6.2	6.2
F ₂	-	-	F ₂	-	-	F ₂	-	-	1	Starting device (start. Relay, start & run capacitor): 117-7056					107B9100/ 9101/ 9104	259	247	12.9	6.5	8.2	
F ₂	-	-	F ₂	-	-	F ₂	-	-	1	Starting device (start. Relay, start & run capacitor): 117-7074					107B9100/ 9101/ 9104	279	267	12.9	6.5	8.2	
F ₂	F ₂	-	F ₂	F ₂	-	-	-	-	1	-	-	117U6005	117U5017	-	103N1004	103N2009	249	244	12	6.2	6.2
F ₂	F ₂	-	F ₂	F ₂	-	-	-	-	1	-	-	117U6019	117U5017	-	103N1004	103N2009	259	254	12	6.2	6.2
F ₂	F ₂	-	F ₂	F ₂	-	-	-	-	1	-	-	-	-	117-7027	103N1004	103N2009	259	254	16	6.2	6.2
F ₂	-	-	F ₂	-	-	-	-	-	1	-	-	-	-	117-7027	103N1004	103N2009	259	254	16	6.2	6.2
F ₂	F ₂	-	F ₂	F ₂	-	-	-	-	1/3	-	-	117U6005	117U5017	-	103N1004	103N2008	209	203	8.2	6.2	6.2
F ₂	-	-	F ₂	-	-	F ₂	-	-	8	-	-	-	-	117-7027	103N1004	103N2008	219	213	9.7	6.5	6.5
F ₂	-	-	F ₂	-	-	F ₂	-	-	1/4	-	-	117U6019	117U5017	-	103N1004	103N2008	219	213	8.2	6.2	6.2
F ₂	-	-	F ₂	-	-	F ₂	-	-	8	-	-	-	-	117-7039	103N1004	103N2008	219	213	9.7	6.5	6.5
F ₂	-	-	F ₂	-	-	F ₂	-	-	8	-	-	-	-	117-7066	103N1004	103N2008	219	213	9.7	6.5	6.5
F ₂	F ₂	-	F ₂	F ₂	-	-	-	-	4	-	-	117U6005	117U5017	-	103N1004	103N2009	249	244	12	6.2	6.2
F ₂	-	-	F ₂	-	-	-	-	-	4	-	-	117U6019	117U5017	-	103N1004	103N2009	259	254	12	6.2	6.2
F ₂	-	-	F ₂	-	-	-	-	-	4	-	-	-	-	117-7029	103N1004	103N2009	259	254	12	6.2	6.2
-	F ₂	-	-	F ₂	-	-	F ₂	-	7	-	-	117U4139	117U5018	-	2x117U0349	117U1021	203	197	9.7	6.5	6.5
-	F ₂	-	-	F ₂	-	-	F ₂	-	7	-	-	117U6011	117U5017	-	103N1004	103N2008	209	203	8.2	6.5	6.5
-	F ₂	-	-	F ₂	-	-	F ₂	-	7	-	-	117U6011	117U5017	-	103N1004	103N2008	219	213	8.2	6.5	6.5
-	F ₂	-	-	F ₂	-	-	F ₂	-	1	-	-	117U6013	117U5012	-	103N1004	103N2009	219	213	10.2	6.2	6.2
-	F ₂	-	-	F ₂	-	-	F ₂	-	1	-	-	-	-	117-7027	103N1004	103N2009	219	213	10.2	6.2	6.2
-	F ₂	-	-	F ₂	-	-	F ₂	-	1	-	-	-	-	117-7027	103N1004	103N2009	219	213	10.2	6.2	6.2
-	F ₂	-	-	F ₂	-	-	F ₂	-	1	Starting device (start. Relay, start & run capacitor): 117-7070					107B9100/ 9101/ 9104	259	247	12.9	6.5	8.2	
-	F ₂	-	-	F ₂	-	-	F ₂	-	1	Starting device (start. Relay, start & run capacitor): 117-7072					107B9100/ 9101/ 9104	279	267	16.1	6.5	9.7	
-	F ₂	-	-	F ₂	-	-	F ₂	-	1	Starting device (start. Relay, start & run capacitor): 117-7056					107B9100/ 9101/ 9104	279	267	16.1	6.5	9.7	
-	F ₂	-	-	F ₂	-	-	F ₂	-	8	-	-	117U4139	117U5018	-	2x117U0349	117U1021	203	197	9.7	6.5	6.5
-	F ₂	-	-	F ₂	-	-	F ₂	-	8	-	-	117U6011	117U5017	-	103N1004	103N2008	209	203	8.2	6.5	6.5
-	F ₂	-	-	F ₂	-	-	F ₂	-	8	-	-	117U6011	117U5017	-	103N1004	103N2008	219	213	8.2	6.5	6.5
-	F ₂	-	-	F ₂	-	-	F ₂	-	8	-	-	-	-	117-7058	103N1004	103N2008	219	213	9.7	6.5	6.5
-	F ₂	-	-	F ₂	-	-	F ₂	-	8	-	-	-	-	117-7066	103N1004	103N2008	219	213	9.7	6.5	6.5
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	117U6001	117U5014	-	103N1010	103N2010	173	169	6.2	6.2	5.0
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	117U6010	117U5015	-	103N1010	103N2010	196	191	8.2	6.2	6.2
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	117U6005	117U5017	-	103N1004	103N2009	209	203	8.2	6.2	6.2
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	117U6019	117U5017	-	103N1004	103N2009	219	213	10.2	6.2	6.2
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	-	-	117-7029	103N1004	103N2009	219	213	10.2	6.2	6.2
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	117U6005	117U5017	-	103N1004	103N2009	249	244	12	6.2	6.2
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	117U6019	117U5017	-	103N1004	103N2009	249	244	12	6.2	6.2
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	-	-	117-7029	103N1004	103N2009	259	254	16	6.2	6.2
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	117U6005	117U5017	-	103N1004	103N2009	209	203	8.2	6.2	6.2
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	117U6019	117U5017	-	103N1004	103N2009	219	213	10.2	6.2	6.2
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	-	-	117-7029	103N1004	103N2009	219	213	10.2	6.2	6.2
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	117U6005	117U5017	-	103N1004	103N2009	249	244	12	6.2	6.2
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	117U6019	117U5017	-	103N1004	103N2009	249	244	12	6.2	6.2
-	F ₂	F ₂	-	F ₂	F ₂	-	-	-	1	-	-	-	-	117-7029	103N1004	103N2009	259	254	16	6.2	6.2

Test conditions
EN 12900-CECOMAF
 Compressors: TL / NL / NF / FR / SC
 Application: R404A / R507
 Condensing temperature: 45 °C
 Ambient and suction gas temperature: 32 °C
 Liquid temperature: No sub cooling

Test condition
EN 12900-MBP
 Compressors: GS
 Application: R404A / R507
 Condensing temperature: 45 °C
 Ambient temperature: 32 °C
 Suction gas temperature: 20 °C
 Liquid temperature: No sub cooling

Test condition
EN 12900-LBP
 Compressors: GS
 Application: R404A / R507
 Condensing temperature: 40 °C
 Ambient temperature: 32 °C
 Suction gas temperature: 20 °C
 Liquid temperature: No sub cooling

Test condition
EN 12900-CECOMAF
 Compressors: SC
 Application: R407
 Condensing temperature: 45 °C
 Ambient and suction gas temperature: 32 °C
 Liquid temperature: No sub cooling

Technical data and ordering

Reciprocating compressors - Light Commercial

R290

Voltage	Application	Motor types	Compressor	Code numbers	Capacity [W] at EN12900 / CECOMAF														Power consumption [W]	Displacement [cm ³]	Recommended compressor cooling at ambient temperatures						
					Evaporating temperature [°C]																32 °C	38 °C		43 °C			
					-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	-25	-10	LBP	MBP	LBP	MBP	LBP	MBP	
220 - 240 V 50 Hz	LBP/MBP	LST/HST	TL3CN	102H4380	38	54	75	99	108	128	161	200	228	244	294	351	-	-	108	135	3.13	F1	F1	F1	F1	F1	F1
			TL4CN	102H4490	57	78	103	132	143	166	205	250	283	302	360	426	-	-	127	162	3.86	F1	F1	F1	F1	F1	F1
			TL5CN	102H4590	81	109	143	183	198	230	283	345	391	416	496	586	-	-	162	211	5.08	F1	F1	F1	F1	F1	F1
			NL7CN	105H6756	118	166	223	290	315	368	458	561	637	679	814	965	-	-	221	291	7.27	F1	F1	F1	F1	F1	F2
			NL9CN	105H6856	138	194	259	335	364	423	526	643	730	778	930	1102	-	-	250	334	8.35	F1	F1	F1	F1	F2	F2*
			NL9CN	105H6780	138	194	259	335	364	423	526	643	730	778	930	1102	-	-	250	334	8.35	F1	F1	F1	F1	F2	F2*
	LBP/MBP	HST	SC10CNX	104H8065	126	179	245	325	355	420	531	660	748	809	979	1172	-	-	274	362	10.29	F2	F2	F2	F2	F2	F2
			SC12CNX	104H8265	178	250	331	426	462	540	678	846	976	1050	1293	1582	-	-	344	456	12.87	F2	F2	F2	F2	F2	F2
			SC12CNX	104H8267	178	250	331	426	462	540	678	846	976	1050	1293	1582	-	-	344	456	12.87	F2	F2	F2	F2	F2	F2
			SC15CNX	104H8565	195	297	415	550	601	707	887	1093	1245	1328	1594	1894	-	-	420	560	15.28	F2	F2	F2	F2	F2	F2
			SC15CNX	104H8576	195	297	415	550	601	707	887	1093	1245	1328	1594	1894	-	-	420	560	15.28	F2	F2	F2	F2	F2	F2
			SC18CNX	104H8865	219	341	480	640	700	824	1033	1272	1448	1543	1849	2193	-	-	500	707	17.69	F2	F2	F2	F2	F2	F2
			SC18CNX	104H8867	219	341	480	640	700	824	1033	1272	1448	1543	1849	2193	-	-	500	707	17.69	F2	F2	F2	F2	F2	F2
			SC18CNX	104H8867	219	341	480	640	700	824	1033	1272	1448	1543	1849	2193	-	-	500	707	17.69	F2	F2	F2	F2	F2	F2
	LBP	HST	SC12CNX.2	104H8266	186	258	346	453	493	578	725	895	-	-	-	-	-	-	379	502	12.87	F2	-	F2	-	F2	-
			SC15CNX.2	104H8566	252	332	434	560	609	714	900	1120	-	-	-	-	-	-	445	610	15.28	F2	-	F2	-	F2	-
			SC18CNX.2	104H8866	244	384	531	689	747	863	1057	1273	-	-	-	-	-	-	541	682	17.69	F2	-	F2	-	F2	-
			SC21CNX.2	104H8166	339	492	654	828	891	1020	1233	1471	-	-	-	-	-	-	623	855	20.95	F2	-	F2	-	F2	-
	MBP	HST	SC10MNX	104H8075	-	149	234	332	368	445	575	724	834	894	1088	1307	1412	1554	295	405	10.29	-	F2	-	F2	-	F2
			SC12MNX	104H8275	-	224	327	446	490	582	738	918	1050	1123	1356	1620	1747	1918	392	503	12.87	-	F2	-	F2	-	F2
SC15MNX			104H8575	-	-	-	-	611	715	893	1098	1249	1332	1598	1900	2044	2239	-	597	15.28	-	F2	-	F2	-	F2	
SC18MNX			104H8875	-	-	-	675	730	844	1039	1263	1428	1519	1810	2140	2298	2512	544	709	17.69	-	F2	-	F2	-	F2	

Voltage	Application	Motor types	Compressor	Code numbers	Capacity [BTU/h] at ASHRAE														Power consumption [W]	Displacement [cu. inch]	Recommended compressor cooling at ambient temperatures							
					Evaporating temperature [°F]																32 °C	38 °C		43 °C				
					-49	-40	-30	-20	-13	-10	0	10	14	20	30	40	41	45	-13	14	41	LBP	MBP	LBP	MBP	LBP	MBP	
115V 60 Hz	LBP/MBP	HST	SC10CNX.2	104H7070	-	204	571	1007	1359	1523	2133	2848	3167	3682	4649	5762	5882	6378	366	495	573	0.63	F2	F2	F2	F2	F2	F2
			SC12CNX.2	104H7270	268	589	1005	1500	1899	2085	2776	3587	3949	4533	5627	6887	7022	7583	456	606	731	0.78	F2	F2	F2	F2	F2	F2

Applications

LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Compressor cooling

S = Static cooling normally sufficient
O = Oil cooling
F₁ = Fan cooling 1.5 m/s
 (compressor compartment temp. equal to ambient temperature)
F₂ = Fan cooling 3.0 m/s necessary
***** = Run capacitor 4 µF compulsory in 43°C ambient temperature at MBP conditions.

Motor types

RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Starting devices

LST = Low Starting Torque
 LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
HST = HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.

Test conditions

EN 12900-CECOMAF (220 V / 50 Hz)
 Compressors: TL / NL / SC-CNX and CNX 2
 Condensing temperature: 45 °C
 Ambient and suction gas temperature: 32 °C
 Liquid temperature: No sub cooling

Test condition

EN 12900-MBP (220 V / 50 Hz)
 Compressors: SC-MNX
 Condensing temperature: 45 °C
 Ambient temperature: 32 °C
 Suction gas temperature: 20 °C
 Liquid temperature: No sub cooling

Test condition

ASHRAE-LBP (115 V / 60 Hz)
 Compressors: SC-CNX 2
 Condensing temperature: 130 °F
 Ambient temperature: 90 °F
 Suction gas temperature: 90 °F
 Liquid temperature: 90 °F

Technical data and ordering

Electrical equipment										Dimensions [mm]				
LST (RSIR)		LST (RSCR)		HST (CSIR)		HST (CSR)		LST / HST		Height		Connectors location / I.D		
PTC starting device		PTC starting device		Starting relay	Starting capacitor	Starting device	Starting kit					Suction	Process	Dis-charge
Spades 6.3 mm	Spades 4.8 mm	Spades 6.3 mm	Spades 4.8 mm	Spades 6.3 mm	Spades 6.3 mm	Spades 6.3 mm	Spades 6.3 mm	Cord relief	Cover	A	B	C	D	E
103N0011	103N0018	-	-	117U7004	117U5014	-	-	103N1010	103N2010	163	159	6.2	6.2	5
103N0011	103N0018	-	-	117U7004	117U5014	-	-	103N1010	103N2010	173	169	6.2	6.2	5
103N0011	103N0018	103N0016	103N0021	117U7000	117U5014	-	-	103N1010	103N2010	173	169	6.2	6.2	5
103N0011	103N0018	103N0016	103N0021	117U7002	117U5015	-	-	103N1010	103N2010	203	197	8.2	6.2	6.2
103N0011	103N0018	103N0016	103N0021	117U7002	117U5015	-	-	103N1010	103N2010	203	197	8.2	6.2	6.2
103N0011	103N0018	103N0016	103N0021	117U7002	117U5015	-	-	103N1010	103N2010	203	197	9.7	6.5	6.5
-	-	-	-	-	-	117-7025	117-9719	103N1004	103N2009	209	203	8.2	6.2	6.2
-	-	-	-	-	-	117-7025	117-9719	103N1004	103N2009	209	203	8.2	6.2	6.2
-	-	-	-	-	-	117-7025	117-9719	103N1004	103N2009	209	203	9.7	6.5	6.5
-	-	-	-	-	-	117-7031	117-9711	103N1004	103N2009	209	203	10.2	6.2	6.2
-	-	-	-	-	-	117-7031	117-9711	103N1004	103N2009	209	203	9.7	6.5	6.5
-	-	-	-	-	-	117-7052	117-9718	103N1004	103N2009	209	203	10.2	6.2	6.2
-	-	-	-	-	-	117-7052	117-9718	103N1004	103N2009	209	203	9.7	6.5	6.5
-	-	-	-	117U7003	117U5017	-	-	103N1004	103N2009	209	203	8.2	6.2	6.2
-	-	-	-	117U7005	117U5017	-	-	103N1004	103N2009	209	203	8.2	6.2	6.2
-	-	-	-	117U7011	117U5017	-	-	103N1004	103N2009	209	203	10.2	6.2	6.2
-	-	-	-	117U7013	117U5012	-	-	103N1004	103N2009	219	213	10.2	6.2	6.2
-	-	-	-	117U7005	117U5017	-	-	103N1004	103N2008	209	203	8.2	6.2	6.2
-	-	-	-	117U7019	117U5017	-	-	103N1004	103N2008	219	213	8.2	6.2	6.2
-	-	-	-	117U7019	117U5017	-	-	103N1004	103N2008	219	213	8.2	6.2	6.2
-	-	-	-	117U7011	117U5017	-	-	103N1004	103N2008	219	213	8.2	6.2	6.2

Electrical equipment										Dimensions [in]				
LST (RSIR)		LST (RSCR)		HST (CSIR)		HST (CSR)		LST / HST		Height		Connectors location / I.D		
PTC starting device		PTC starting device		Starting relay	Starting capacitor	Starting device	Starting kit					Suction	Process	Dis-charge
Spades ¼ in	Spades ⅜ in	Spades ¼ in	Spades ⅜ in	Spades ¼ in	Spades ¼ in	Spades ¼ in	Spades ¼ in	Cord relief	Cover	A	B	C	D	E
-	-	-	-	117U7020	117U5023	-	-	103N1004	103N2008	8.23	8.00	0.378	0.252	0.252
-	-	-	-	117U7020	117U5023	-	-	103N1004	103N2008	8.23	8.00	0.378	0.252	0.252

Technical data and ordering

R600a

Level Generation	Compressor	Code numbers	Capacity [W] at EN12900 / CECOMAF									EN 12900 (CECOMAF) at LBP rating point -25 °C / 55 °C			ASHRAE subcooled at LBP rating point -23.3 °C / 54.4 °C						Displacement [cm ³]
			Evaporating temperature [°C]									Cooling Capacity [W]	COP without Run Capacitor [W]/[W]	COP with Run Capacitor [W/W]	Cooling Capacity		COP without Run Capacitor		COP with Run Capacitor		
			-35	-30	-20	-15	-10	-5	0	5	[W]				[W]	[kcal/h]	[W/W]	[kcal/Wh]	[W]/[W]	[kcal/Wh]	
Energy-optimized	1	PLE35K	101H0360	-	-	38	52	68	87	109	-	27	-	0.68	38	33	-	-	0.90	0.77	3.00
	3	TLES4KK.3	102H4438	19	29	57	75	96	-	-	-	42	0.90	-	57	49	1.18	-	-	-	4.01
		TLES4.8KK.3	102H4538	28	40	73	94	119	-	-	-	55	1.00	-	74	65	1.30	-	-	-	4.78
		TLES5.7KK.3	102H4638	36	50	89	114	144	-	-	-	68	1.02	-	91	79	1.32	-	-	-	5.70
		TLES6.5KK.3	102H4738	45	61	105	134	168	-	-	-	81	1.02	-	108	94	1.31	-	-	-	6.49
		TLES7.5KK.3	102H4838	53	71	122	155	194	-	-	-	94	1.02	1.07	126	108	1.32	1.14	1.38	1.19	7.48
		TLES8.7KK.3	102H4938	62	83	143	181	228	-	-	-	110	1.03	1.08	147	126	1.33	1.14	1.39	1.19	8.67
		TLES10KK.3	102H4038	73	97	162	205	255	-	-	-	126	0.98	1.06	168	145	1.26	1.08	1.36	1.17	10.14
	4	NLE8.8KK.4	105H6800	63	84	141	179	223	-	-	-	110	1.18	1.22	147	127	1.51	1.30	1.56	1.34	8.76
		NLE10KK.4	105H6867	74	98	164	207	257	-	-	-	128	1.19	1.23	170	146	1.51	1.30	1.57	1.35	10.09
		NLE11KK.4	105H6952	82	109	184	232	290	-	-	-	143	1.19	1.22	191	165	1.52	1.31	1.56	1.34	11.15
		NLE13KK.4	105H6959	99	131	217	274	340	-	-	-	170	1.18	1.23	226	194	1.50	1.29	1.57	1.35	13.25
		NLE15KK.4	105H6968	110	146	243	307	382	-	-	-	190	1.20	1.25	253	213	1.53	1.32	1.59	1.37	14.65

Applications

LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types

RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run

Starting devices

LST = Low Starting Torque
HST = High Starting Torque

Compressor cooling

S = Static cooling normally sufficient
O = Oil cooling
F₁ = Fan cooling 1.5 m/s
 (compressor compartment temp. equal to ambient temperature)
F₂ = Fan cooling 3.0 m/s necessary

Voltage and frequencies

1 = 198 – 254 V, 50Hz
 2 = 187 – 254 V, 50Hz
 3 = 198 – 254 V, 60Hz, LBP, F₁
 4 = 198 – 254 V, 50 - 60Hz
 Note: To fulfil the requirements of EN 60355-2-34 the protection screen 103N0476 must be applied to the PTC starting device.

Run capacitors

117-7117.....4 µF
 117-7119.....4 µF

Test conditions

EN 12900-CECOMAF (220 V / 50 Hz)
 Application: R600a
 Condensing temperature: 55 °C
 Ambient and suction gas temperature: 32 °C
 Liquid temperature: 55 °C

Test condition

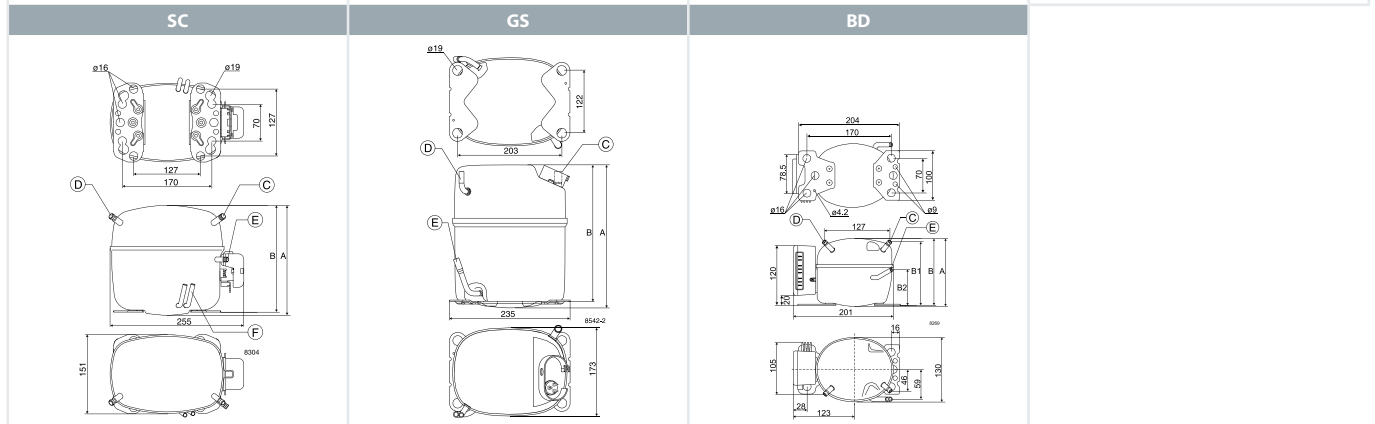
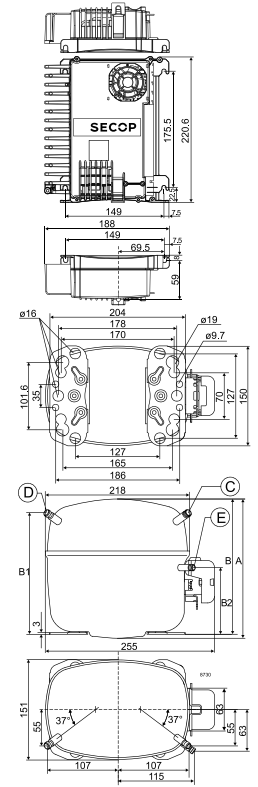
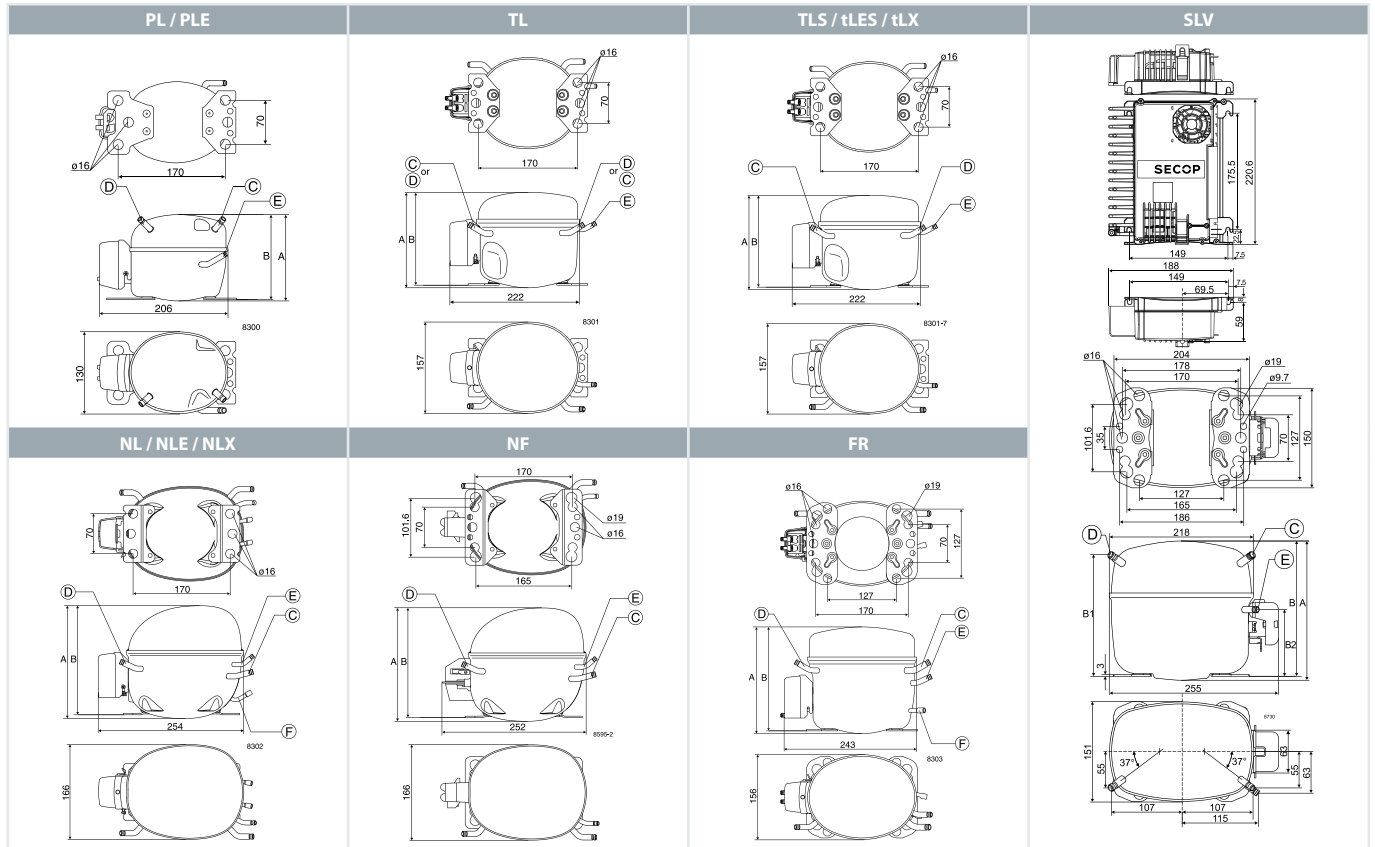
ASHRAE (220 V / 50 Hz)
 Application: R600a
 Condensing temperature: 54.4 °C
 Ambient and suction gas temperature: 32 °C
 Liquid temperature: 32 °C

Technical data and ordering

Recommended compressor cooling at ambient temperatures				Voltage and frequency	Electrical equipment								Dimensions [mm]				
32 °C	38 °C	43 °C	LBP		LST (RSIR)		LST (RSCR)		Run capacitor		LST / HST		Height		Connectors location / I.D		
					PTC device w/o run capacitor connector		PTC device with run capacitor connector		1 optional 2 compulsory						Suction	Process	Dis-charge
					Spades 4.8 mm	Spades 6.3 mm	Spades 4.8 mm	Spades 6.3 mm	Spades 4.8 mm	Spades 6.3 mm	Cord relief	Cover	A	B	C	D	E
S*	S*	-	1	-	-	103N0021	103N0016	117-7119 ²	117-7117 ²	103N1010	103N0491	137	135	6.2	6.2	5.0	
S	S	S	1	103N0018	103N0011	103N0021	103N0016	117-7119 ¹	117-7117 ¹	103N1010	103N2010	163	159	6.2	6.2	5.0	
S	S	S	1	103N0018	103N0011	103N0021	103N0016	117-7119 ¹	117-7117 ¹	103N1010	103N2010	163	159	6.2	6.2	5.0	
S	S	S	1	103N0018	103N0011	103N0021	103N0016	117-7119 ¹	117-7117 ¹	103N1010	103N2010	163	159	6.2	6.2	5.0	
S	S	S	1	103N0018	103N0011	103N0021	103N0016	117-7119 ¹	117-7117 ¹	103N1010	103N2010	163	159	6.2	6.2	5.0	
S	S	S	1	103N0018	103N0011	103N0021	103N0016	117-7119 ¹	117-7117 ¹	103N1010	103N2010	163	159	6.2	6.2	5.0	
S	S	S	1	103N0018	103N0011	103N0021	103N0016	117-7119 ¹	117-7117 ¹	103N1010	103N2010	173	169	6.2	6.2	5.0	
S	S	S	1	103N0018	103N0011	103N0021	103N0016	117-7119 ¹	117-7117 ¹	103N1010	103N2010	190	183	6.2	6.2	5.0	
S	S	S	1	103N0018	103N0011	103N0021	103N0016	117-7119 ¹	117-7117 ¹	103N1010	103N2010	190	183	6.2	6.2	5.0	
S	S	S	1	103N0018	103N0011	103N0021	103N0016	117-7119 ¹	117-7117 ¹	103N1010	103N2010	190	183	6.2	6.2	5.0	
S	S	S	1	103N0018	103N0011	103N0021	103N0016	117-7119 ¹	117-7117 ¹	103N1010	103N2010	190	183	6.2	6.2	5.0	
S	S	S	1	103N0018	103N0011	103N0021	103N0016	117-7119 ¹	117-7117 ¹	103N1010	103N2010	197	190	6.2	6.2	5.0	

01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20

Diagram and dimensions



Mounting accessories

Washer
Compressor base
Cabinet base
Nut M6
Grommet sleeve
Screw M6 X 25
Rubber grommet

Bolt joint for one compressor: 118-1917
in quantities: 118-1918

Bolt joint for one GS compressor: 107B9150 (M8 x 40, base plate distance: 17 mm)

Snap-on
in quantities: 118-1919

Washer
Compressor base
Cabinet base
Clip
Steel pin
Rubber grommet

Protection Screen for PTC

Note:
to fulfil the requirements of EN 60355-2-34 the protection screen 103N0476 must be applied to the PTC starting device

Compressor design	Optimization level	Compressor size	Application range	Start characteristics	Generation
PL	Blank Standard energy level	Nominal displacement in cm ³	CL R404A / R507 LBP	Blank => universal (principal rule) X = HST characteristics (expansion valve)	Blank => first generation .2 => second generation .3 => third generation etc.
TL			CN R290 LBP (MBP)		
NL			DL R404A / R507 HBP		
FR	S Semi-direct intake	Exception: For PL compressors the capacity at rating point is stated	F R134a LBP / (MBP) FT R134a LBP tropical G R134a LBP / MBP/hBP GH R134a Heat Pumps		
SC	E Energy-optimized		GHH R134a Heat Pumps optimized		
GS			K R600a LBP / (MBP) MF R134a MBP ML R404A / R507 MBP		
Examples					
TL	ES	5,7	FT		.3
NL	E	10	MF		
SC		15	CN	X	.2

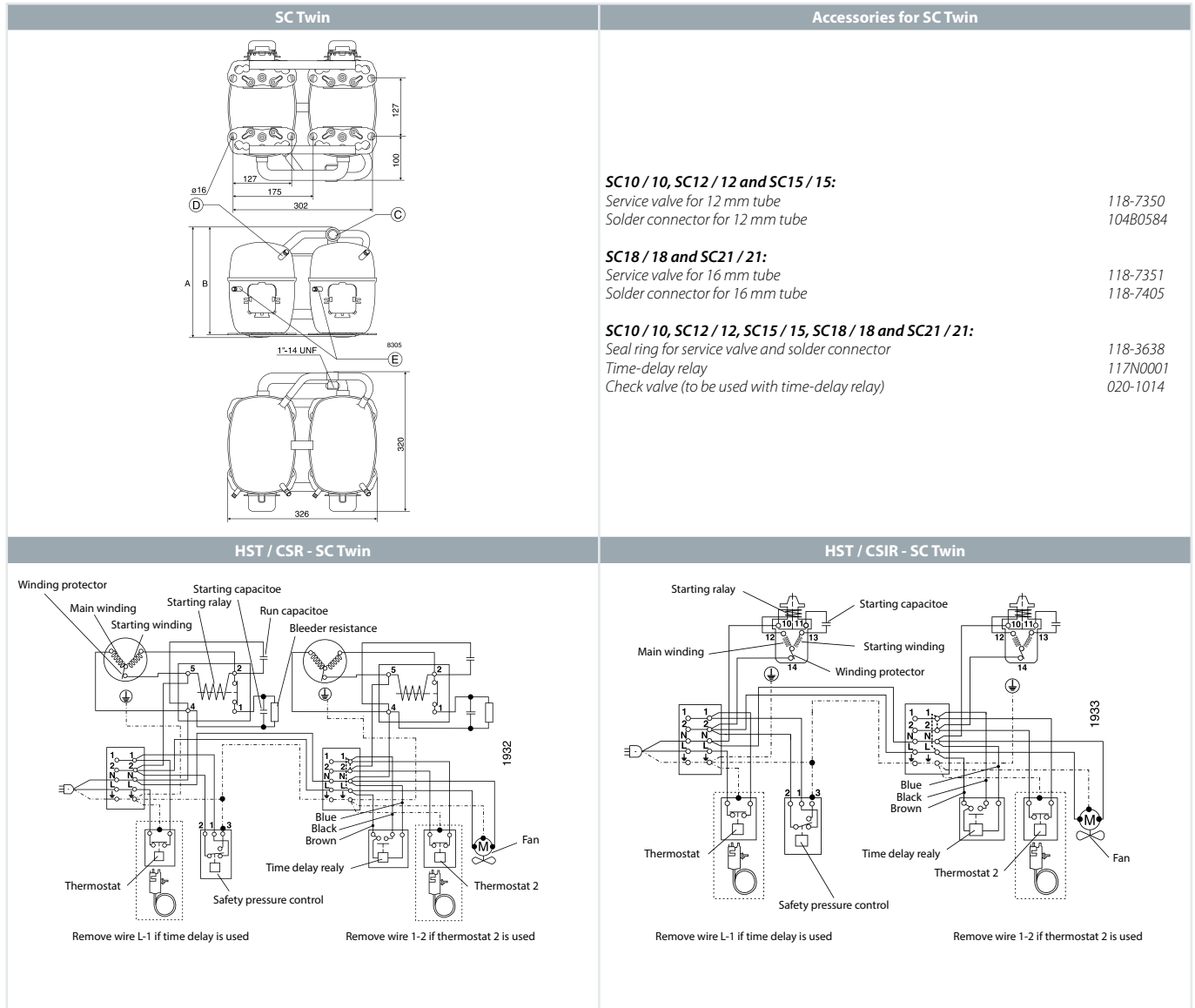
Diagram and dimensions

LST / RSIR - PL	LST / RSIR - TL-TLS-TLES-NL-NLE-FR	LST / RSIR - SC
<p>Main winding a1 Start winding</p> <p>Winding protector</p>	<p>Main winding a1 Start winding</p> <p>Winding protector</p>	<p>Main winding a1 Start winding</p> <p>Winding protector</p>
HST / CSIR - PL	HST / CSIR - TL-TLS-TLES-NL-NLE-FR	HST / CSIR - SC
<p>Main winding a2 Start winding</p> <p>Winding protector</p>	<p>Main winding a2 Start winding</p> <p>Winding protector</p>	<p>Main winding a2 Start winding</p> <p>Winding protector</p>
HST / CSIR - NF	HST / CSR - SC	HST / CSR - GS
<p>Main winding a2 Start winding</p> <p>Winding protector Thermostat</p>	<p>Start winding a3 Main winding a2 e c b d</p> <p>Winding protector Bleeder resistance Thermostat Fan</p>	<p>Start winding a3 Main winding a2 e c b d</p> <p>Winding protector Main winding Start winding Bleeder resistance Thermostat Fan</p> <p>Earthing (yellow / green) Start (black) Common (brown) Run (blue)</p>

Legend

- a1) PTC starting device
- a2) Starting relay
- a3) Starting device
- b) Cover
- b1) Clamp (part of compressor)
- b2) Gasket (part of compressor)
- c) Starting capacitor
- d) Cord relief
- e) Run capacitor
- g) Protection screen for PTC

Diagram and dimensions



Applications

LBP: Low Back Pressure
MBP: Medium Back Pressure
HBP: High Back Pressure

Motor types

RSIR: Resistant Start Induction Run
RSCR: Resistant Start Capacitor Run
CSIR: Capacitor Start Induction Run
CSR: Capacitor Start Run

Starting devices

LST: Low Starting Torque
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes)
The PTC starting device requires 5 minutes cooling before each start
HST: High Starting Torque
HST consisting of relay and starting capacitor, is used for expansion valve control or for capillary tube control without pressure equalizing

Test conditions EN 12900 (CECOMAF)

PL / tL / tLS / NL / FR / SC / BD

Application	R134a	R404A / R507
	R600a	R290
Condensing temperature	55 °C	45 °C
Ambient temperature	32 °C	32 °C
Suction gas temperature	32 °C	32 °C
No subcooling		
PL / tL / tLS / NL / FR / SC: 220 V 50 Hz		
BD: 12 V, 24 V or 56 V DC		

Test conditions ASHRAE

BD

Application	R600a	R404A / R507
	R134a	R290
Condensing temperature	54.4 °C	45 °C
Ambient temperature	32 °C	32 °C
Suction gas temperature	32 °C	32 °C
Liquid temperature	32 °C	32 °C
12 V, 24 V or 56 V DC		

Test conditions EN 12900

GS

Application	LBP	MBP	HBP
Condensing temperature	40 °C	45 °C	50 °C
Ambient temperature	32 °C	32 °C	32 °C
Suction gas temperature	20 °C	20 °C	20 °C
Liquid temperature	no subcooling		
220 V, 50 Hz			

Electrical equipment GS compressors

*) Gasket / cover / clamp are parts of compressor

Compressor cooling

S) Static cooling normally sufficient
O) Oil cooling
F₁) Fan cooling 1.5 m/s
(compressor compartment temperature equal to ambient temperature)
F₂) Fan cooling 3.0 m/s necessary
**) run capacitor 4 µF compulsory

Voltages and frequencies

- 1) 198 – 254 V, 50 Hz
- 2) 187 – 254 V, 50 Hz, LBP
- 3) 198 – 254 V, 60 Hz, LBP
- 4) 198 – 254 V, 60 Hz, HBP
- 5) 198 – 254 V, 60 Hz, MBP
- 6) 207 – 254 V, 60 Hz, HBP
- 7) 187 – 254 V, 50 Hz, MBP
- 8) 187 – 254 V, 60 Hz, MBP
- 9) 187 – 254 V, 60 Hz, LBP

1 Watt = 0.86 kcal/h
1 Watt = 3.41 Btu/h

MT / MTZ / NTZ - Reciprocating compressors

Maneurop® MT and MTZ series compressors are of the hermetic reciprocating type and are designed for medium and high evaporating temperature applications.

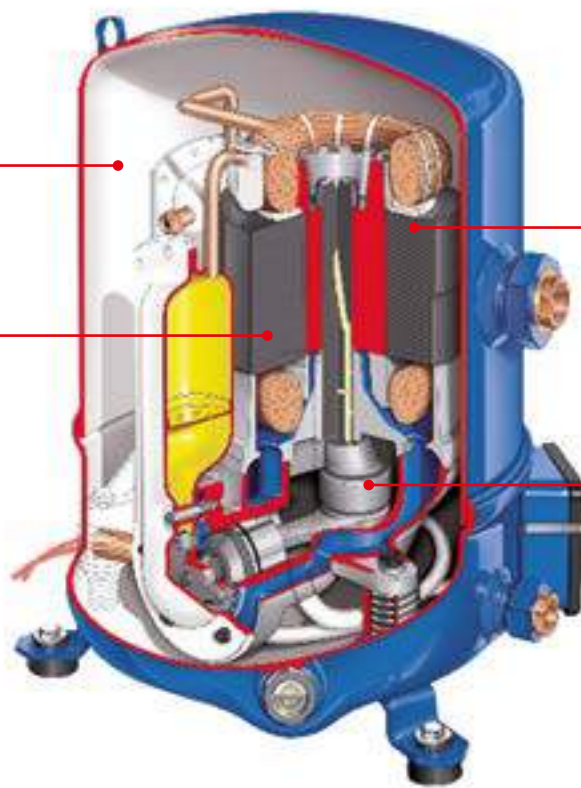
Available in a large variety of single and tandem models for refrigerants R404A, R134a, R407A / F, the compressors fit in lots of different applications.

Features MT / MTZ / NTZ



Large internal volume,
large oil sump, sturdy
design

Internal motor protection



100% suction
gas-cooled motor

High efficiency
circular valve design

Facts

Applications:

- Walk-in freezers and cold rooms
- Frozen food processing and storage
- Blast freezers
- Low temperature racks
- Ice cream machines
- Display cabinets
- Water chillers
- Large packaged air conditioners

- Operation under extreme conditions
- Versatile

- No need for air circulation around the compressor
- Long lifetime expectancy and reliability

Technical data and ordering

MT / MTZ / NTZ - Reciprocating compressors

Technical data

Type	4	5	6	7	Swept volume [cm ³ /rev]	Displacement [m ³ /h] at 2900 [rpm]	Cylinder number	Oil charge [dm ³]	Net weight [kg]	
	460 / 3 / 60 400 / 3 / 50	230 / 1 / 50	230 / 3 / 50	575 / 3 / 60 500 / 3 / 50						
Low back pressure applications	NTZ048	120F0001	120F0087	–	–	48	8.4	1	0.95	21
	NTZ068	120F0002	120F0088	–	–	68	11.8	1	0.95	23
	NTZ096	120F0003	–	–	–	96	16.7	2	1.8	35
	NTZ108	120F0004	–	–	–	108	18.7	2	1.8	35
	NTZ136	120F0005	–	–	–	136	23.6	2	1.8	35
	NTZ215	120F0006	–	–	–	215	37.5	4	3.9	62
	NTZ271	120F0007	–	–	–	271	47.3	4	3.9	64
	NTZ430	120F0024	–	–	–	2 x 215	2 x 37.5	2 x 4	2 x 3.9	138
	NTZ542	120F0025	–	–	–	2 x 271	2 x 47.3	2 x 4	2 x 2.9	142
Medium - High back pressure applications	MT018	MT18-4VI	MT18-5VI	–	–	30	5.3	1	0.95	21
	MT022	MT22-4VI	MT22-5VI	MT22-6VI	–	38	6.6	1	0.95	21
	MT028	MT28-4VI	MT28-5VI	MT28-6VI	–	48	8.4	1	0.95	23
	MT032	MT32-4VI	MT32-5VI	MT32-6VI	–	54	9.4	1	0.95	24
	MT036	MT36-4VI	MT36-5VI	MT36-6VI	–	60	10.5	1	0.95	25
	MT040	MT40-4VI	–	MT40-6VI	–	68	11.8	1	0.95	26
	MT044	MT44-4VI	–	MT44-6VI	MT44-7VI	76	13.3	2	1.8	37
	MT050	MT50-4VI	–	MT50-6VI	MT50-7VI	86	14.9	2	1.8	37
	MT056	MT56-4VI	–	MT56-6VI	MT56-7VI	96	16.7	2	1.8	39
	MT064	MT64-4VI	–	MT64-6VI	–	108	18.7	2	1.8	39
	MT072	MT72-4VI	–	MT72-6VI	–	121	21.0	2	1.8	40
	MT080	MT80-4VI	–	MT80-6VI	–	136	23.6	2	1.8	40
	MT100	MT100-4VI	–	MT100-6VI	MT100-7VI	171	29.8	4	3.9	60
	MT125	MT125-4VI	–	MT125-6VI	MT125-7VI	215	37.5	4	3.9	64
	MT144	MT144-4VI	–	MT144-6VI	MT144-7VI	242	42.1	4	3.9	67
	MT160	MT160-4VI	–	MT160-6VI	MT160-7VI	272	47.3	4	3.9	67
	MTM200	MTM200T4SA	–	–	–	2 x 171	2 x 29.8	2 x 4	2 x 3.9	134
	MTM250	MTM250T4SA	–	–	–	2 x 215	2 x 37.5	2 x 4	2 x 3.9	142
	MTM288	MTM288T4SA	–	–	–	2 x 242	2 x 42.1	2 x 4	2 x 3.9	148
	MTM320	MTM320T4SA	–	–	–	2 x 272	2 x 47.3	2 x 4	2 x 3.9	148
	MTZ018	MTZ18-4VI	MTZ18-5VI	MTZ18-6VI	–	30	5.3	1	0.95	21
	MTZ022	MTZ22-4VI	MTZ22-5VI	MTZ22-6VI	–	38	6.6	1	0.95	21
	MTZ028	MTZ28-4VI	MTZ28-5VI	MTZ28-6VI	–	48	8.4	1	0.95	23
	MTZ032	MTZ32-4VI	MTZ32-5VI	MTZ32-6VI	MTZ32-7VI	54	9.4	1	0.95	24
	MTZ036	MTZ36-4VI	MTZ36-5VI	MTZ36-6VI	MTZ36-7VI	60	10.5	1	0.95	25
	MTZ040	MTZ40-4VI	–	MTZ40-6VI	–	68	11.8	1	0.95	26
	MTZ044	MTZ44-4VI	–	MTZ44-6VI	MTZ44-7VI	76	13.3	2	1.8	37
	MTZ050	MTZ50-4VI	–	MTZ50-6VI	MTZ50-7VI	86	14.9	2	1.8	37
	MTZ056	MTZ56-4VI	–	MTZ56-6VI	MTZ56-7VI	96	16.7	2	1.8	39
	MTZ064	MTZ64-4VI	–	MTZ64-6VI	–	108	18.7	2	1.8	39
	MTZ072	MTZ72-4VI	–	MTZ72-6VI	–	121	21.0	2	1.8	40
	MTZ080	MTZ80-4VI	–	MTZ80-6VI	–	136	23.6	2	1.8	40
MTZ100	MTZ100-4VI	–	MTZ100-6VI	MTZ100-7VI	171	29.8	4	3.9	60	
MTZ125	MTZ125-4VI	–	MTZ125-6VI	MTZ125-7VI	215	37.5	4	3.9	64	
MTZ144	MTZ144-4VI	–	MTZ144-6VI	MTZ144-7VI	242	42.1	4	3.9	67	
MTZ160	MTZ160-4VI	–	MTZ160-6VI	MTZ160-7VI	272	47.3	4	3.9	67	
MTZ200	MTZ200T4SA	–	–	–	2 x 171	2 x 29.8	2 x 4	2 x 3.9	134	
MTZ250	MTZ250T4SA	–	–	–	2 x 215	2 x 37.5	2 x 4	2 x 3.9	142	
MTZ288	MTZ288T4SA	–	–	–	2 x 242	2 x 42.1	2 x 4	2 x 3.9	148	
MTZ320	MTZ320T4SA	–	–	–	2 x 272	2 x 47.3	2 x 4	2 x 3.9	148	

Technical data and ordering

MTZ - R134a - 50 Hz - Reciprocating compressors

Performance table

Type	To	-15		-10		-5		0		5		10		15		20	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	700	0.61	1 050	0.69	1 470	0.76	1 970	0.82	2 570	0.87	3 270	0.91	4 090	0.93	5 020	0.93
MTZ022	45	940	0.72	1 370	0.81	1 900	0.91	2 550	0.99	3 320	1.06	4 240	1.11	5 310	1.15	6 560	1.16
MTZ028	45	1 230	0.91	1 720	1.02	2 350	1.13	3 130	1.23	4 090	1.34	5 260	1.43	6 650	1.51	8 300	1.58
MTZ032	45	1 430	1.09	2 020	1.25	2 770	1.40	3 690	1.54	4 810	1.66	6 160	1.76	7 760	1.83	9 630	1.86
MTZ036	45	2 050	1.29	2 740	1.45	3 580	1.60	4 590	1.74	5 780	1.86	7 170	1.97	8 790	2.05	10 660	2.10
MTZ040	45	2 450	1.47	3 160	1.61	4 000	1.75	4 980	1.89	6 100	2.01	7 390	2.12	8 860	2.21	10 520	2.27
MTZ044	45	2 070	1.62	2 900	1.80	3 940	1.96	5 210	2.12	6 760	2.25	8 610	2.35	10 800	2.42	13 350	2.45
MTZ050	45	2 400	1.79	3 380	2.01	4 600	2.21	6 090	2.40	7 880	2.56	10 020	2.69	12 540	2.78	15 480	2.83
MTZ056	45	2 680	1.95	3 790	2.20	5 150	2.44	6 820	2.66	8 810	2.85	11 180	3.01	13 970	3.13	17 200	3.20
MTZ064	45	3 030	2.14	4 300	2.43	5 860	2.71	7 750	2.97	10 010	3.20	12 680	3.40	15 810	3.54	19 440	3.63
MTZ072	45	3 650	2.34	5 110	2.67	6 880	2.99	9 000	3.30	11 500	3.58	14 450	3.83	17 870	4.03	21 810	4.18
MTZ080	45	4 430	2.76	6 060	3.11	8 020	3.46	10 360	3.80	13 120	4.13	16 360	4.42	20 100	4.69	24 420	4.91
MTZ100	45	4 660	3.25	6 550	3.65	8 860	4.02	11 680	4.35	15 050	4.63	19 050	4.84	23 730	4.96	29 170	4.98
MTZ125	45	5 870	3.63	8 230	4.17	11 090	4.69	14 520	5.16	18 590	5.57	23 380	5.89	28 950	6.09	35 380	6.18
MTZ144	45	7 880	4.85	10 680	5.40	14 060	5.94	18 090	6.46	22 850	6.93	28 420	7.34	34 870	7.67	42 290	7.92
MTZ160	45	8 770	5.23	11 800	5.84	15 470	6.45	19 890	7.06	25 130	7.65	31 300	8.21	38 480	8.72	46 760	9.18
MTZ200	45	9 320	6.50	13 090	7.29	17 730	8.04	23 350	8.70	30 100	9.26	38 090	9.68	47 460	9.92	58 340	9.96
MTZ250	45	11 740	7.25	16 460	8.35	22 180	9.39	29 040	10.33	37 190	11.14	46 760	11.77	57 910	12.19	70 770	12.35
MTZ288	45	15 750	9.71	21 370	10.81	28 130	11.89	36 190	12.91	45 710	13.85	56 840	14.67	69 750	15.35	84 580	15.84
MTZ320	45	17 540	10.46	23 600	11.67	30 950	12.90	39 780	14.11	50 260	15.29	62 590	16.41	76 950	17.44	93 530	18.37

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling Capacity in [W]

Pe: Power input in [kW]

Subcooling: 0 K

Superheat: 10 K

Voltage: 400 V / 3 / 50 Hz

MTZ - R134a - 60 Hz - Reciprocating compressors

Performance table

Type	To	-15		-10		-5		0		5		10		15		20	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	1070	0.73	1480	0.82	2010	0.91	2670	0.99	3470	1.06	4440	1.12	5600	1.16	6960	1.17
MTZ022	45	1430	0.90	2000	1.03	2700	1.15	3550	1.26	4580	1.36	5790	1.43	7220	1.48	8890	1.50
MTZ028	45	1890	1.14	2680	1.32	3600	1.50	4670	1.66	5900	1.80	7320	1.91	8940	1.98	10770	2.02
MTZ032	45	2050	1.37	2880	1.58	3870	1.78	5040	1.96	6430	2.12	8030	2.24	9890	2.31	12010	2.34
MTZ036	45	2580	1.53	3530	1.79	4660	2.04	5980	2.27	7530	2.48	9310	2.64	11350	2.77	13680	2.84
MTZ040	45	3120	1.68	4190	1.99	5440	2.28	6900	2.57	8590	2.82	10530	3.04	12740	3.22	15250	3.35
MTZ050	45	3090	1.97	4460	2.25	6110	2.49	8080	2.69	10400	2.87	13120	3.01	16280	3.12	19910	3.20
MTZ056	45	3420	2.20	5010	2.56	6910	2.87	9170	3.15	11850	3.38	14970	3.57	18590	3.72	22750	3.84
MTZ064	45	4040	2.42	5820	2.81	7950	3.15	10480	3.44	13440	3.69	16890	3.91	20870	4.09	25430	4.24
MTZ072	45	4670	2.78	6680	3.19	9060	3.58	11880	3.93	15170	4.25	19000	4.54	23420	4.78	28490	4.99
MTZ080	45	5540	3.17	7710	3.64	10310	4.06	13410	4.46	17070	4.82	21370	5.17	26350	5.51	32080	5.85
MTZ100	45	6010	3.80	8650	4.37	11810	4.92	15570	5.41	20010	5.83	25200	6.16	31200	6.37	38090	6.43
MTZ125	45	7680	4.33	10880	5.02	14740	5.71	19340	6.37	24780	6.98	31140	7.53	38510	7.99	46990	8.35
MTZ144	45	11010	6.06	14700	6.84	19030	7.56	24060	8.21	29850	8.74	36490	9.14	44040	9.36	52580	9.37
MTZ160	45	12270	6.52	16380	7.40	21180	8.26	26740	9.07	33120	9.82	40410	10.48	48690	11.03	58010	11.43
MTZ200	45	12030	7.59	17290	8.75	23620	9.84	31150	10.83	40030	11.67	50400	12.32	62400	12.73	76190	12.86
MTZ250	45	15370	8.65	21770	10.04	29480	11.42	38690	12.73	49560	13.96	62280	15.05	77030	15.98	93980	16.70
MTZ288	45	22010	12.12	29410	13.67	38060	15.12	48110	16.42	59710	17.49	72990	18.27	88090	18.71	105160	18.75
MTZ320	45	24540	13.05	32770	14.79	42360	16.51	53470	18.14	66240	19.64	80830	20.96	97370	22.05	116030	22.86

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling Capacity in [W]

Pe: Power input in [kW]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage: 400 V / 3 / 60 Hz

Technical data and ordering

MTZ - R404A / R507A - 50 Hz - Reciprocating compressors

Performance table

Type	To	-30			-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
MTZ018	45	390	0.69	650	0.83	980	0.96	1 400	1.09	1 900	1.21	2 520	1.31	3 250	1.40	4 110	1.47	5 120	1.53	
MTZ022	45	640	0.86	980	1.03	1 410	1.19	1 960	1.34	2 620	1.48	3 440	1.61	4 410	1.72	5 550	1.82	6 880	1.90	
MTZ028	45	760	1.05	1 250	1.30	1 850	1.53	2 570	1.75	3 430	1.96	4 450	2.14	5 640	2.31	7 040	2.45	8 640	2.56	
MTZ032	45	1 040	1.20	1 580	1.46	2 240	1.71	3 030	1.94	3 980	2.16	5 110	2.36	6 440	2.55	7 980	2.71	9 760	2.86	
MTZ036	45	1 300	1.50	1 930	1.78	2 690	2.06	3 600	2.33	4 670	2.58	5 930	2.81	7 400	3.01	9 100	3.19	11 050	3.34	
MTZ040	45	1 600	1.70	2 320	2.05	3 160	2.37	4 160	2.67	5 330	2.95	6 700	3.20	8 290	3.44	10 130	3.65	12 230	3.84	
MTZ044	45	1 320	2.00	1 970	2.29	2 800	2.59	3 850	2.88	5 150	3.16	6 750	3.42	8 690	3.64	11 010	3.83	13 750	3.96	
MTZ050	45	1 680	2.27	2 440	2.61	3 420	2.95	4 640	3.29	6 150	3.61	8 000	3.90	10 220	4.15	12 870	4.36	15 990	4.50	
MTZ056	45	1 650	2.40	2 640	2.81	3 840	3.22	5 280	3.62	7 000	4.00	9 030	4.35	11 420	4.66	14 190	4.90	17 390	5.08	
MTZ064	45	2 080	2.77	3 200	3.21	4 560	3.66	6 190	4.11	8 130	4.54	10 420	4.94	13 090	5.30	16 190	5.61	19 760	5.84	
MTZ072	45	2 490	3.05	3 730	3.52	5 220	4.01	7 010	4.50	9 150	4.99	11 680	5.45	14 640	5.88	18 080	6.26	22 040	6.59	
MTZ080	45	2 770	3.63	4 250	4.17	6 010	4.72	8 080	5.29	10 520	5.84	13 360	6.38	16 640	6.88	20 400	7.34	24 680	7.73	
MTZ100	45	3 240	4.01	4 930	4.80	6 960	5.53	9 390	6.18	12 280	6.76	15 700	7.26	19 710	7.70	24 370	8.06	29 760	8.34	
MTZ125	45	4 660	5.16	6 620	6.02	9 060	6.86	12 060	7.67	15 710	8.44	20 080	9.16	25 250	9.83	31 300	10.44	38 310	10.98	
MTZ144	45	5 700	6.08	8 060	7.05	10 920	8.00	14 370	8.91	18 490	9.78	23 380	10.60	29 110	11.36	35 770	12.06	43 450	12.69	
MTZ160	45	6 280	6.80	8 870	7.95	12 010	9.04	15 790	10.08	20 310	11.08	25 640	12.05	31 900	13.01	39 160	13.97	47 540	14.95	
MTZ200	45	6 480	8.02	9 860	9.60	13 920	11.05	18 770	12.36	24 560	13.52	31 400	14.53	39 420	15.39	48 750	16.11	59 510	16.68	
MTZ250	45	9 320	10.32	13 230	12.05	18 110	13.73	24 120	15.34	31 420	16.88	40 160	18.32	50 500	19.66	62 600	20.88	76 620	21.96	
MTZ288	45	11 410	12.17	16 120	14.11	21 840	16.00	28 740	17.82	36 990	19.56	46 760	21.20	58 220	22.72	71 550	24.12	86 900	25.37	
MTZ320	45	12 550	13.61	17 740	15.90	24 030	18.08	31 590	20.15	40 610	22.15	51 280	24.10	63 790	26.03	78 330	27.95	95 070	29.90	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling capacity in [W]

Pe: Power input in [kW]

Subcooling: 0 K

Superheat: 10 K

Voltage: 400 V / 3 / 50 Hz

MTZ - R404A / R507A - 60 Hz - Reciprocating compressors

Performance table

Type	To	-30			-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
MTZ018	45	400	0.78	840	1.06	1370	1.29	2000	1.48	2750	1.64	3620	1.76	4650	1.85	5830	1.91	7180	1.96	
MTZ022	45	950	1.08	1480	1.30	2110	1.51	2880	1.70	3790	1.87	4880	2.03	6160	2.17	7650	2.29	9370	2.39	
MTZ028	45	1440	1.42	2120	1.71	2920	1.98	3860	2.23	4960	2.45	6250	2.66	7730	2.84	9440	2.99	11380	3.13	
MTZ032	45	1570	1.52	2290	1.84	3150	2.15	4180	2.44	5420	2.72	6870	2.97	8590	3.19	10580	3.37	12880	3.51	
MTZ036	45	1630	1.67	2490	2.01	3530	2.35	4770	2.69	6250	3.03	7990	3.36	10030	3.67	12400	3.97	15120	4.24	
MTZ040	45	1930	1.93	2910	2.32	4080	2.69	5480	3.06	7140	3.42	9090	3.77	11380	4.12	14020	4.47	17050	4.82	
MTZ050	45	2290	2.29	3530	2.80	5020	3.27	6790	3.69	8870	4.06	11320	4.38	14170	4.66	17460	4.90	21240	5.10	
MTZ056	45	2510	2.41	3960	3.07	5680	3.64	7720	4.14	10120	4.58	12910	4.98	16140	5.35	19840	5.69	24060	6.03	
MTZ064	45	3050	2.83	4600	3.53	6450	4.15	8650	4.70	11240	5.21	14290	5.67	17840	6.10	21950	6.51	26650	6.90	
MTZ072	45	3670	3.44	5360	4.16	7400	4.83	9850	5.45	12770	6.01	16230	6.53	20260	7.00	24940	7.41	30320	7.78	
MTZ080	45	4570	4.02	6440	4.91	8680	5.72	11360	6.47	14540	7.16	18280	7.80	22640	8.40	27690	8.96	33490	9.51	
MTZ100	45	4390	4.61	6700	5.63	9440	6.54	12710	7.35	16560	8.06	21080	8.69	26350	9.23	32430	9.70	39390	10.10	
MTZ125	45	6750	6.37	9570	7.47	12900	8.52	16830	9.52	21460	10.45	26860	11.30	33130	12.06	40350	12.72	48620	13.28	
MTZ144	45	8350	7.40	11570	8.66	15400	9.83	19940	10.92	25300	11.95	31590	12.94	38900	13.92	47360	14.91	57040	15.91	
MTZ160	45	9270	8.38	12730	9.64	16850	10.93	21730	12.23	27500	13.53	34260	14.80	42140	16.05	51240	17.26	61680	18.40	
MTZ200	45	8780	9.21	13390	11.26	18890	13.08	25410	14.70	33120	16.13	42170	17.37	52700	18.46	64850	19.40	78790	20.21	
MTZ250	45	13500	12.74	19140	14.94	25800	17.05	33670	19.04	42920	20.89	53720	22.59	66260	24.12	80710	25.45	97230	26.56	
MTZ288	45	16700	14.81	23140	17.33	30800	19.65	39880	21.83	50600	23.89	63180	25.89	77810	27.85	94710	29.81	114090	31.82	
MTZ320	45	18540	16.75	25470	19.28	33700	21.86	43460	24.46	55000	27.05	68530	29.61	84280	32.11	102480	34.51	123360	36.80	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling capacity in [W]

Pe: Power input in [kW]

Subcooling: 8.3 K

Superheat: 11.1 K - Voltage: 400 V / 3 / 60 Hz

Voltage: 400 V / 3 / 60 Hz

Technical data and ordering

MTZ - R407A - 50 Hz - Reciprocating compressors

Performance table

Type	To	-30			-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
MTZ018-4	45	260	0.49	510	0.63	830	0.76	1240	0.90	1740	1.02	2340	1.14	3070	1.24	3930	1.32	4940	1.39	
MTZ022-4	45	430	0.60	760	0.77	1190	0.94	1730	1.10	2390	1.26	3200	1.40	4170	1.53	5300	1.64	6630	1.72	
MTZ028-4	45	510	0.74	990	0.99	1570	1.23	2280	1.46	3130	1.67	4140	1.86	5330	2.03	6720	2.19	8330	2.32	
MTZ032-4	45	700	0.85	1240	1.11	1890	1.37	2690	1.61	3630	1.84	4760	2.05	6080	2.25	7630	2.43	9400	2.59	
MTZ036-4	45	870	1.06	1510	1.35	2270	1.64	3180	1.92	4260	2.19	5520	2.44	7000	2.66	8700	2.86	10670	3.03	
MTZ040-4	45	1070	1.21	1830	1.56	2700	1.90	3710	2.22	4890	2.51	6250	2.79	7840	3.04	9670	3.27	11760	3.47	
MTZ050-4	45	1140	1.36	1940	1.73	2950	2.08	4190	2.42	5700	2.73	7520	3.02	9670	3.28	12190	3.50	15120	3.69	
MTZ056-4	45	1160	1.43	2030	1.84	3120	2.24	4470	2.62	6120	2.98	8100	3.32	10460	3.63	13240	3.91	16480	4.15	
MTZ064-4	45	1450	1.64	2480	2.15	3760	2.64	5340	3.12	7270	3.57	9600	3.99	12360	4.38	15620	4.73	19420	5.03	
MTZ072-4	45	1710	1.93	2850	2.46	4260	2.98	6010	3.49	8130	3.98	10670	4.44	13680	4.88	17190	5.27	21260	5.61	
MTZ080-4	45	2130	2.23	3520	2.91	5190	3.57	7180	4.18	9540	4.76	12330	5.31	15590	5.81	19360	6.28	23710	6.72	
MTZ100-4	45	2170	2.83	3860	3.64	5880	4.41	8300	5.11	11200	5.74	14620	6.31	18640	6.80	23310	7.22	28700	7.56	
MTZ125-4	45	3130	3.65	5130	4.56	7610	5.46	10650	6.33	14330	7.17	18710	7.96	23890	8.70	29950	9.36	36940	9.95	
MTZ144-4	45	3830	4.33	6270	5.37	9190	6.39	12700	7.38	16870	8.32	21780	9.21	27540	10.04	34220	10.81	41910	11.49	
MTZ160-4	45	4220	4.84	6900	6.05	10120	7.21	13960	8.33	18520	9.42	23890	10.48	30180	11.51	37470	12.53	45860	13.53	
MTZ200-4	45	4300	5.65	7700	7.29	11800	8.81	16600	10.21	22400	11.48	29200	12.61	37300	13.60	46600	14.44	57400	15.13	
MTZ250-4	45	6300	7.31	10300	9.12	15200	10.91	21300	12.66	28700	14.34	37400	15.92	47800	17.39	59900	18.73	73900	19.89	
MTZ288-4	45	7700	8.66	12500	10.74	18400	12.78	25400	14.75	33700	16.64	43600	18.42	55100	20.09	68400	21.61	83800	22.99	
MTZ320-4	45	8400	9.69	13800	12.10	20200	14.42	27900	16.66	37000	18.84	47800	20.96	60400	23.02	74900	25.06	91700	27.06	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling Capacity in [W]

Pe: Power input in [kW]

Subcooling: 0 K

Superheat: 10 K

Voltage: 400 V / 3 / 50 Hz

MTZ - R407A - 60 Hz - Reciprocating compressors

Performance table

Type	To	-30			-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
MTZ018-4	45	310	0.58	620	0.75	1000	0.92	1490	1.07	2080	1.23	2810	1.36	3690	1.48	4720	1.59	5930	1.66	
MTZ022-4	45	520	0.72	910	0.93	1420	1.13	2070	1.32	2870	1.51	3840	1.68	5000	1.83	6360	1.97	7950	2.07	
MTZ028-4	45	620	0.89	1190	1.19	1890	1.48	2740	1.75	3760	2.00	4970	2.23	6400	2.44	8070	2.63	9990	2.78	
MTZ032-4	45	840	1.02	1490	1.34	2270	1.64	3220	1.93	4360	2.21	5710	2.46	7300	2.70	9150	2.92	11290	3.11	
MTZ036-4	45	1050	1.27	1810	1.62	2730	1.97	3820	2.31	5110	2.62	6630	2.92	8400	3.19	10440	3.44	12800	3.64	
MTZ040-4	45	1290	1.45	2190	1.88	3230	2.28	4450	2.66	5860	3.02	7510	3.35	9410	3.65	11600	3.92	14110	4.16	
MTZ050-4	45	1370	1.64	2330	2.08	3540	2.50	5030	2.90	6840	3.28	9020	3.62	11600	3.93	14630	4.21	18140	4.43	
MTZ056-4	45	1400	1.72	2440	2.21	3750	2.68	5370	3.14	7340	3.58	9720	3.99	12560	4.36	15890	4.69	19770	4.98	
MTZ064-4	45	1740	1.97	2980	2.58	4520	3.17	6410	3.74	8730	4.29	11520	4.79	14840	5.26	18750	5.67	23300	6.03	
MTZ072-4	45	2050	2.32	3420	2.95	5120	3.57	7210	4.18	9760	4.77	12810	5.33	16410	5.85	20630	6.32	25510	6.73	
MTZ080-4	45	2560	2.67	4230	3.50	6230	4.28	8620	5.02	11450	5.71	14800	6.37	18700	6.97	23240	7.54	28450	8.06	
MTZ100-4	45	2610	3.39	4630	4.37	7050	5.29	9960	6.13	13440	6.89	17540	7.57	22360	8.16	27970	8.67	34440	9.08	
MTZ125-4	45	3750	4.39	6150	5.47	9130	6.55	12780	7.59	17190	8.60	22460	9.55	28670	10.44	35930	11.24	44330	11.94	
MTZ144-4	45	4600	5.19	7520	6.45	11030	7.67	15240	8.85	20240	9.98	26140	11.05	33050	12.05	41070	12.97	50300	13.79	
MTZ160-4	45	5060	5.81	8280	7.26	12140	8.65	16750	10.00	22220	11.30	28670	12.57	36210	13.82	44960	15.03	55030	16.24	
MTZ200-4	45	5200	6.78	9300	8.75	14100	10.57	19900	12.25	26900	13.77	35100	15.13	44700	16.32	55900	17.33	68900	18.15	
MTZ250-4	45	7500	8.77	12300	10.94	18300	13.09	25600	15.19	34400	17.20	44900	19.11	57300	20.87	71900	22.47	88700	23.87	
MTZ288-4	45	9200	10.39	15000	12.89	22100	15.33	30500	17.70	40500	19.96	52300	22.10	66100	24.10	82100	25.94	100600	27.58	
MTZ320-4	45	10100	11.63	16600	14.52	24300	17.30	33500	19.99	44400	22.61	57300	25.15	72400	27.63	89900	30.07	110100	32.47	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling Capacity in [W]

Pe: Power input in [kW]

Subcooling: 0 K

Superheat: 10 K

Voltage: 460 V / 3 / 60 Hz

Technical data and ordering

MTZ - R407F - 50 Hz - Reciprocating compressors

Performance table

Type	To	-25			-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
MTZ018-4	45	540	0.70	890	0.83	1320	0.96	1850	1.08	2490	1.20	3260	1.30	4170	1.39	5230	1.44	
MTZ022-4	45	810	0.86	1270	1.02	1840	1.18	2540	1.33	3400	1.48	4410	1.61	5620	1.72	7030	1.80	
MTZ028-4	45	1030	1.09	1660	1.31	2420	1.54	3320	1.76	4390	1.97	5650	2.15	7130	2.31	8830	2.42	
MTZ032-4	45	1310	1.22	2010	1.46	2850	1.70	3860	1.94	5050	2.17	6450	2.38	8080	2.56	9970	2.71	
MTZ036-4	45	1610	1.49	2430	1.76	3390	2.04	4520	2.32	5860	2.57	7410	2.81	9210	3.01	11290	3.16	
MTZ040-4	45	1930	1.71	2850	2.02	3920	2.34	5170	2.65	6620	2.94	8300	3.21	10250	3.44	12480	3.63	
MTZ050-4	45	2090	1.88	3160	2.24	4470	2.58	6060	2.90	7970	3.19	10240	3.44	12910	3.67	16020	3.85	
MTZ056-4	45	2180	2.04	3340	2.40	4770	2.78	6500	3.16	8590	3.51	11080	3.84	14020	4.11	17460	4.33	
MTZ064-4	45	2670	2.38	4040	2.84	5700	3.31	7730	3.78	10180	4.22	13100	4.63	16540	4.97	20580	5.25	
MTZ072-4	45	3060	2.74	4570	3.21	6410	3.71	8640	4.21	11310	4.69	14480	5.14	18190	5.53	22520	5.85	
MTZ080-4	45	3790	3.23	5560	3.84	7650	4.44	10140	5.04	13070	5.61	16500	6.13	20490	6.60	25100	7.01	
MTZ100-4	45	4090	4.01	6270	4.73	8840	5.42	11900	6.07	15500	6.66	19740	7.18	24680	7.59	30400	7.89	
MTZ125-4	45	5520	5.07	8160	5.88	11360	6.73	15220	7.58	19830	8.41	25290	9.17	31700	9.84	39130	10.38	
MTZ144-4	45	6730	5.92	9840	6.85	13530	7.81	17910	8.78	23090	9.72	29160	10.60	36220	11.36	44370	11.99	
MTZ160-4	45	7420	6.70	10820	7.75	14870	8.84	19670	9.95	25320	11.05	31950	12.13	39650	13.16	48540	14.12	
MTZ200-4	45	8200	8.01	12500	9.45	17700	10.84	23800	12.14	31000	13.33	39500	14.35	49400	15.18	60800	15.78	
MTZ250-4	45	11000	10.14	16300	11.76	22700	13.46	30400	15.16	39700	16.81	50600	18.34	63400	19.67	78300	20.75	
MTZ288-4	45	13500	11.85	19700	13.69	27100	15.62	35800	17.57	46200	19.45	58300	21.19	72400	22.73	88700	23.98	
MTZ320-4	45	14800	13.40	21700	15.50	29700	17.68	39300	19.90	50600	22.11	63900	24.27	79300	26.32	97100	28.23	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling Capacity in [W]

Pe: Power input in [kW]

Subcooling: 0 K

Superheat: 10 K

Voltage: 400 V / 3 / 50 Hz

MTZ - R407F - 60 Hz - Reciprocating compressors

Performance table

Type	To	-25			-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
MTZ018-4	45	650	0.84	1060	0.99	1580	1.15	2220	1.30	2990	1.44	3910	1.57	5010	1.67	6280	1.73	
MTZ022-4	45	970	1.04	1520	1.22	2210	1.41	3050	1.60	4070	1.77	5300	1.93	6740	2.06	8430	2.16	
MTZ028-4	45	1240	1.30	1990	1.57	2900	1.84	3980	2.11	5270	2.36	6780	2.58	8550	2.77	10600	2.91	
MTZ032-4	45	1580	1.46	2420	1.75	3430	2.04	4630	2.33	6060	2.60	7740	2.85	9700	3.07	11960	3.25	
MTZ036-4	45	1930	1.79	2910	2.12	4070	2.45	5430	2.78	7030	3.09	8890	3.37	11060	3.61	13550	3.79	
MTZ040-4	45	2320	2.05	3420	2.43	4700	2.81	6200	3.18	7940	3.53	9970	3.85	12300	4.13	14980	4.36	
MTZ050-4	45	2500	2.26	3790	2.69	5370	3.10	7270	3.48	9560	3.82	12290	4.13	15490	4.40	19220	4.62	
MTZ056-4	45	2610	2.44	4010	2.88	5720	3.34	7800	3.79	10310	4.22	13300	4.61	16830	4.94	20950	5.19	
MTZ064-4	45	3210	2.85	4840	3.41	6840	3.97	9280	4.53	12210	5.07	15710	5.55	19850	5.97	24690	6.30	
MTZ072-4	45	3680	3.28	5490	3.86	7690	4.45	10370	5.05	13570	5.63	17370	6.17	21830	6.64	27030	7.02	
MTZ080-4	45	4540	3.88	6670	4.60	9180	5.33	12170	6.05	15680	6.73	19800	7.36	24590	7.92	30120	8.41	
MTZ100-4	45	4910	4.81	7520	5.67	10610	6.51	14270	7.29	18600	8.00	23690	8.61	29610	9.11	36480	9.47	
MTZ125-4	45	6630	6.08	9790	7.06	13630	8.07	18260	9.10	23800	10.09	30350	11.00	38040	11.80	46960	12.45	
MTZ144-4	45	8080	7.11	11810	8.22	16240	9.38	21500	10.54	27710	11.67	34990	12.72	43460	13.64	53240	14.39	
MTZ160-4	45	8900	8.04	12990	9.30	17850	10.61	23600	11.94	30390	13.27	38340	14.56	47580	15.79	58250	16.94	
MTZ200-4	45	9800	9.62	15000	11.34	21200	13.01	28600	14.57	37200	15.99	47400	17.22	59200	18.22	73000	18.94	
MTZ250-4	45	13300	12.17	19600	14.11	27300	16.15	36500	18.19	47600	20.17	60700	22.00	76100	23.61	93900	24.90	
MTZ288-4	45	16200	14.22	23600	16.43	32500	18.75	43000	21.08	55400	23.34	70000	25.43	86900	27.27	106500	28.77	
MTZ320-4	45	17800	16.08	26000	18.60	35700	21.21	47200	23.88	60800	26.53	76700	29.12	95200	31.59	116500	33.88	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling Capacity in [W]

Pe: Power input in [kW]

Subcooling: 0 K

Superheat: 10 K

Voltage: 460 V / 3 / 60 Hz

Technical data and ordering

MTZ - R407C - 50 Hz - Reciprocating compressors

Performance table

Type	To	-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	1 180	0.82	1 750	0.94	2 430	1.04	3 240	1.13	4 180	1.20	5 270	1.25	6 530	1.30
MTZ022	45	1 770	1.07	2 490	1.24	3 330	1.39	4 320	1.50	5 460	1.60	6 790	1.67	8 310	1.73
MTZ028	45	2 160	1.30	3 110	1.52	4 220	1.72	5 520	1.89	7 030	2.03	8 770	2.13	10 800	2.21
MTZ032	45	2 710	1.50	3 740	1.75	4 940	1.95	6 330	2.12	7 940	2.27	9 800	2.38	11 900	2.48
MTZ036	45	3 270	1.81	4 400	2.10	5 710	2.36	7 200	2.57	8 920	2.73	10 900	2.86	13 100	2.95
MTZ040	45	3 890	2.18	5 150	2.48	6 610	2.74	8 290	2.98	10 200	3.18	12 400	3.35	15 000	3.48
MTZ044	45	3 390	2.21	4 770	2.47	6 420	2.72	8 390	2.94	10 700	3.14	13 400	3.28	16 500	3.38
MTZ050	45	3 880	2.42	5 450	2.74	7 330	3.04	9 570	3.32	12 200	3.57	15 300	3.78	18 800	3.94
MTZ056	45	4 460	2.67	6 260	3.05	8 420	3.43	11 000	3.78	14 000	4.10	17 500	4.38	21 500	4.60
MTZ064	45	5 020	2.91	7 060	3.36	9 490	3.80	12 400	4.22	15 700	4.61	19 600	4.96	24 100	5.25
MTZ072	45	5 850	3.30	8 110	3.81	10 800	4.32	13 900	4.80	17 600	5.25	21 900	5.64	26 700	5.98
MTZ080	45	6 850	3.76	9 380	4.35	12 400	4.93	15 800	5.48	19 900	6.00	24 500	6.46	29 800	6.85
MTZ100	45	7 870	4.81	11 000	5.47	14 800	6.04	19 300	6.52	24 500	6.92	30 700	7.26	37 800	7.56
MTZ125	45	11 500	6.13	15 500	6.97	20 100	7.69	25 600	8.31	31 900	8.84	39 300	9.30	47 700	9.69
MTZ144	45	12 700	7.07	17 000	7.92	22 200	8.70	28 200	9.42	35 300	10.04	43 500	10.58	52 900	11.01
MTZ160	45	15 400	8.21	20 200	9.20	25 800	10.09	32 500	10.91	40 300	11.68	49 400	12.42	59 900	13.16
MTZ200	45	15 700	9.61	22 000	10.94	29 600	12.08	38 600	13.03	49 100	13.84	61 400	14.53	75 500	15.11
MTZ250	45	23 000	12.26	30 900	13.93	40 200	15.37	51 100	16.61	63 800	17.68	78 500	18.59	95 400	19.38
MTZ288	45	25 300	14.13	34 000	15.83	44 400	17.41	56 500	18.83	70 600	20.09	87 000	21.16	105 900	22.02
MTZ320	45	30 700	16.43	40 300	18.39	51 700	20.17	65 100	21.81	80 700	23.36	98 800	24.85	119 700	26.32

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling capacity in [W]

Pe: Power input in [kW]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage: 400 V / 3 / 50 Hz

MTZ - R407C - 60 Hz - Reciprocating compressors

Performance table

Type	To	-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	1690	1.03	2420	1.20	3260	1.33	4250	1.42	5380	1.49	6680	1.54	8170	1.57
MTZ022	45	2320	1.32	3170	1.52	4170	1.68	5340	1.82	6710	1.93	8290	2.02	10120	2.10
MTZ028	45	3160	1.77	4190	1.96	5430	2.14	6910	2.30	8680	2.45	10760	2.58	13190	2.71
MTZ032	45	3590	1.94	4700	2.17	6030	2.37	7620	2.57	9510	2.74	11730	2.89	14320	3.03
MTZ036	45	3900	2.21	5130	2.54	6630	2.86	8450	3.15	10620	3.41	13180	3.63	16160	3.80
MTZ040	45	4310	2.46	5890	2.81	7740	3.18	9890	3.54	12400	3.90	15290	4.23	18610	4.52
MTZ050	45	5310	2.92	7120	3.32	9300	3.66	11910	3.95	15010	4.19	18660	4.38	22940	4.53
MTZ056	45	6050	3.24	8120	3.69	10610	4.07	13580	4.40	17100	4.69	21230	4.96	26040	5.22
MTZ064	45	6620	3.64	9050	4.14	11880	4.56	15170	4.93	18970	5.27	23340	5.58	28350	5.89
MTZ072	45	7840	4.25	10560	4.88	13750	5.43	17480	5.91	21800	6.33	26800	6.70	32530	7.03
MTZ080	45	8480	4.80	11490	5.47	15000	6.08	19130	6.64	23990	7.15	29710	7.64	36400	8.10
MTZ100	45	10390	5.95	14170	6.79	18630	7.47	23870	8.02	30010	8.48	37140	8.88	45370	9.25
MTZ125	45	14650	7.79	19270	8.75	24670	9.63	30960	10.43	38260	11.15	46680	11.82	56340	12.45
MTZ144	45	16610	8.78	21990	9.90	28140	10.88	35190	11.73	43240	12.47	52430	13.11	62860	13.68
MTZ160	45	18680	9.98	24390	11.22	31060	12.42	38850	13.54	47890	14.57	58320	15.46	70290	16.19
MTZ200	45	20770	11.91	28330	13.57	37250	14.93	47750	16.04	60020	16.96	74290	17.76	90740	18.49
MTZ250	45	29310	15.57	38550	17.50	49340	19.26	61910	20.85	76510	22.31	93360	23.65	112680	24.90
MTZ288	45	33220	17.56	43980	19.80	56280	21.76	70370	23.46	86480	24.94	104850	26.23	125710	27.36
MTZ320	45	37360	19.95	48770	22.44	62120	24.84	77690	27.09	95770	29.13	116640	30.91	140590	32.38

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling capacity in [W]

Pe: Power input in [kW]

Subcooling: 8.3 K

Superheat: 11.1 K - Voltage: 400 V / 3 / 60 Hz

Voltage: 400 V / 3 / 60 Hz

Technical data and ordering

MT - R22 - 50 Hz - Reciprocating compressors

Performance table

Type	To	-25			-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
MT018	45	570	0.64	890	0.76	1 300	0.88	1 810	1.00	2 450	1.10	3 220	1.19	4 150	1.26	5 260	1.31	6 550	1.33	
MT022	45	740	0.77	1 280	0.95	1 920	1.12	2 670	1.29	3 540	1.44	4 560	1.56	5 720	1.66	7 040	1.73	8 550	1.76	
MT028	45	1 460	1.22	2 190	1.43	3 030	1.63	4 000	1.81	5 090	1.98	6 330	2.11	7 720	2.20	9 280	2.25	11 000	2.24	
MT032	45	1 550	1.46	2 310	1.68	3 190	1.90	4 230	2.11	5 440	2.31	6 830	2.47	8 420	2.60	10 200	2.69	12 300	2.74	
MT036	45	1 960	1.68	2 890	1.90	3 950	2.13	5 150	2.35	6 500	2.56	8 020	2.76	9 710	2.93	11 600	3.07	13 700	3.17	
MT040	45	2 050	1.77	3 080	2.08	4 260	2.39	5 590	2.67	7 090	2.93	8 780	3.15	10 700	3.32	12 800	3.42	15 100	3.45	
MT044	45	2 350	1.82	3 240	2.13	4 340	2.44	5 680	2.72	7 310	2.98	9 250	3.19	11 600	3.34	14 200	3.43	17 400	3.44	
MT050	45	2 560	1.99	3 530	2.31	4 740	2.63	6 230	2.95	8 050	3.25	10 200	3.54	12 800	3.79	15 900	4.00	19 400	4.16	
MT056	45	2 660	2.21	3 990	2.64	5 530	3.05	7 320	3.44	9 380	3.78	11 700	4.07	14 400	4.28	17 500	4.40	20 900	4.42	
MT064	45	3 090	2.57	4 500	3.02	6 190	3.46	8 190	3.89	10 500	4.28	13 300	4.62	16 500	4.91	20 100	5.11	24 300	5.22	
MT072	45	3 470	3.07	5 070	3.47	6 950	3.88	9 130	4.29	11 700	4.69	14 600	5.08	17 900	5.44	21 600	5.76	25 900	6.03	
MT080	45	3 950	3.46	5 780	3.91	7 930	4.38	10 400	4.84	13 300	5.30	16 600	5.74	20 400	6.14	24 700	6.51	29 500	6.83	
MT100	45	4 570	4.06	6 650	4.66	9 150	5.25	12 100	5.79	15 700	6.27	19 900	6.66	24 700	6.94	30 400	7.09	36 800	7.08	
MT125	45	6 690	5.48	9 360	6.17	12 500	6.87	16 400	7.55	20 800	8.18	26 100	8.75	32 200	9.24	39 300	9.63	47 400	9.88	
MT144	45	7 700	6.16	10 700	6.94	14 200	7.71	18 500	8.47	23 600	9.17	29 600	9.81	36 600	10.36	44 700	10.80	54 000	11.09	
MT160	45	8 660	6.93	11 900	7.79	15 800	8.65	20 600	9.49	26 200	10.28	32 800	11.00	40 500	11.61	49 500	12.10	59 800	12.44	
MTM200	45	9 140	8.12	13 300	9.32	18 300	10.49	24 300	11.58	31 400	12.54	39 700	13.32	49 500	13.89	60 700	14.19	73 600	14.17	
MTM250	45	13 400	10.95	18 700	12.35	25 100	13.74	32 700	15.09	41 700	16.36	52 200	17.51	64 500	18.49	78 600	19.25	94 800	19.77	
MTM288	45	15 400	12.32	21 300	13.87	28 500	15.42	37 000	16.93	47 200	18.35	59 200	19.63	73 200	20.72	89 400	21.59	108 000	22.18	
MTM320	45	17 300	13.86	23 800	15.58	31 700	17.30	41 100	18.98	52 300	20.57	65 600	22.00	81 000	23.23	98 900	24.20	119 500	24.88	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling capacity in [W]

Pe: Power input in [kW]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage: 400 V / 3 / 50 Hz

MT - R22 - 60 Hz - Reciprocating compressors

Performance table

Type	To	-25			-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
MT018	45	690	0.77	1070	0.92	1560	1.06	2170	1.20	2940	1.32	3860	1.43	4980	1.52	6310	1.57	7860	1.60	
MT022	45	890	0.92	1540	1.14	2310	1.35	3210	1.54	4250	1.72	5470	1.88	6860	2.00	8450	2.08	10250	2.11	
MT028	45	1750	1.46	2630	1.71	3640	1.95	4800	2.18	6110	2.37	7590	2.53	9260	2.64	11140	2.70	13220	2.69	
MT032	45	1870	1.75	2770	2.02	3830	2.28	5080	2.54	6520	2.77	8190	2.97	10110	3.13	12290	3.23	14760	3.28	
MT036	45	2350	2.01	3470	2.28	4740	2.55	6180	2.82	7800	3.07	9620	3.31	11660	3.51	13920	3.68	16410	3.80	
MT040	45	2460	2.13	3700	2.50	5110	2.86	6710	3.21	8510	3.52	10540	3.78	12800	3.98	15310	4.11	18090	4.14	
MT050	45	2950	2.43	4260	2.86	5830	3.24	7700	3.56	9900	3.85	12460	4.10	15430	4.31	18850	4.50	22740	4.66	
MT056	45	3280	2.68	4820	3.14	6640	3.56	8770	3.93	11250	4.27	14110	4.57	17400	4.85	21150	5.09	25400	5.32	
MT064	45	4260	3.24	5790	3.65	7680	4.05	9980	4.43	12720	4.80	15960	5.15	19730	5.48	24080	5.80	29050	6.10	
MT072	45	4720	3.39	6560	3.97	8800	4.51	11500	5.03	14700	5.52	18460	5.97	22830	6.39	27850	6.76	33580	7.10	
MT080	45	5420	3.97	7600	4.59	10180	5.19	13240	5.76	16820	6.30	21000	6.83	25820	7.35	31350	7.86	37640	8.36	
MT100	45	5490	4.87	7980	5.59	10980	6.30	14570	6.95	18830	7.52	23840	7.99	29680	8.33	36430	8.51	44180	8.50	
MT125	45	8030	6.57	11230	7.41	15060	8.24	19620	9.06	25020	9.82	31340	10.51	38690	11.09	47180	11.55	56880	11.86	
MT144	45	9240	7.39	12790	8.32	17080	9.25	22220	10.16	28320	11.01	35510	11.78	43910	12.44	53630	12.95	64790	13.31	
MT160	45	10400	8.31	14300	9.35	19020	10.38	24680	11.39	31410	12.34	39350	13.20	48620	13.94	59360	14.52	71700	14.93	
MTM200	45	10970	9.75	15960	11.19	21960	12.59	29140	13.89	37660	15.05	47680	15.99	59360	16.67	72870	17.02	88360	17.00	
MTM250	45	16060	13.14	22460	14.81	30120	16.49	39240	18.11	50030	19.64	62680	21.01	77390	22.18	94350	23.10	113770	23.72	
MTM288	45	18470	14.79	25580	16.65	34160	18.51	44430	20.32	56640	22.02	71020	23.55	87820	24.87	107260	25.91	129590	26.61	
MTM320	45	20790	16.63	28610	18.69	38040	20.77	49350	22.78	62820	24.68	78690	26.40	97240	27.87	118720	29.04	143400	29.85	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling Capacity in [W]

Pe: Power input in [kW]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage: 400 V / 3 / 60 Hz

Technical data and ordering

NTZ - R404A / R507A - 50 Hz - Reciprocating compressors

Performance table

Type	To	-45 ¹⁾			-40 ¹⁾		-35 ¹⁾		-30 ²⁾		-25 ²⁾		-20 ²⁾		-15 ²⁾		-10 ²⁾	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
NTZ048	45	190	0.35	420	0.59	710	0.84	1 240	1.09	1 700	1.34	2 240	1.57	2 860	1.79	3 570	1.99	
NTZ068	45	520	1.02	870	1.28	1290	1.54	2110	1.81	2785	2.09	3570	2.38	4490	2.68	5540	2.99	
NTZ096	45	–	–	910	1.29	1 420	1.67	2 430	2.09	3 360	2.53	4 510	2.99	5 900	3.47	7 550	3.97	
NTZ108	45	–	–	1120	1.57	1770	2.03	3010	2.49	4080	2.95	5340	3.40	680	3.85	8530	4.29	
NTZ136	45	–	–	1 570	2.27	2 360	2.86	3 890	3.47	5 200	4.08	6 750	4.69	8 570	5.29	10 710	5.87	
NTZ215	45	1 190	2.31	2 240	3.17	3 540	4.08	5 970	5.01	8 030	5.94	10 440	6.86	13 220	7.72	16 420	8.52	
NTZ271	45	2 120	3.57	3 470	4.61	5 140	5.66	8 380	6.73	11 050	7.81	14 190	8.90	17 840	10.00	22 040	11.10	
NTZ430	45	2 370	4.61	4 480	6.33	7 080	8.15	11 930	10.02	16 060	11.89	20 880	13.71	26 450	15.44	32 840	17.04	
NTZ542	45	4 240	7.14	6 940	9.21	10 290	11.32	16 760	13.46	22 110	15.62	28 380	17.80	35 670	19.99	44 080	22.20	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling capacity in [W]

Pe: Power input in [kW]

¹⁾ Superheat: 10 K

Subcooling: 0 K

Voltage: 400 V / 3 / 50 Hz

²⁾ Suction temperature: 20 °C

Subcooling: 0 K

Voltage: 400 V / 3 / 50 Hz

NTZ - R404A / R507A - 60 Hz - Reciprocating compressors

Performance table

Type	To	-45 ¹⁾			-40 ¹⁾		-35 ¹⁾		-30 ²⁾		-25 ²⁾		-20 ²⁾		-15 ²⁾		-10 ²⁾	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
NTZ048	45	220	0.40	500	0.71	850	1.02	1480	1.33	2040	1.62	2690	1.89	3440	2.13	4310	2.33	
NTZ068	45	610	1.20	1020	1.51	1530	1.82	2490	2.14	3290	2.47	4220	2.81	5290	3.16	6530	3.53	
NTZ096	45	–	–	890	1.40	1630	1.96	2960	2.54	4160	3.12	5560	3.70	7190	4.24	9050	4.75	
NTZ108	45	–	–	1240	2.04	2040	2.51	3530	3.04	4860	3.62	6440	4.24	8290	4.88	10460	5.53	
NTZ136	45	–	–	1690	2.65	2720	3.31	4620	4.03	6260	4.80	8170	5.60	10380	6.44	12920	7.31	
NTZ215	45	1400	2.72	2640	3.74	4170	4.81	7040	5.91	9480	7.01	12320	8.09	15600	9.11	19380	10.05	
NTZ271	45	2500	4.22	4090	5.44	6070	6.68	9890	7.94	13040	9.21	16740	10.50	21050	11.80	26010	13.10	
NTZ430	45	2800	5.44	5280	7.47	8350	9.62	14080	11.82	18950	14.03	24640	16.18	31210	18.22	38750	20.10	
NTZ542	45	5000	8.43	8180	10.87	12140	13.36	19780	15.88	26090	18.43	33490	21.00	42090	23.59	52010	26.20	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling capacity in [W]

Pe: Power input in [kW]

¹⁾ Superheat: 10 K

Subcooling: 0 K

Voltage: 400 V / 3 / 60 Hz

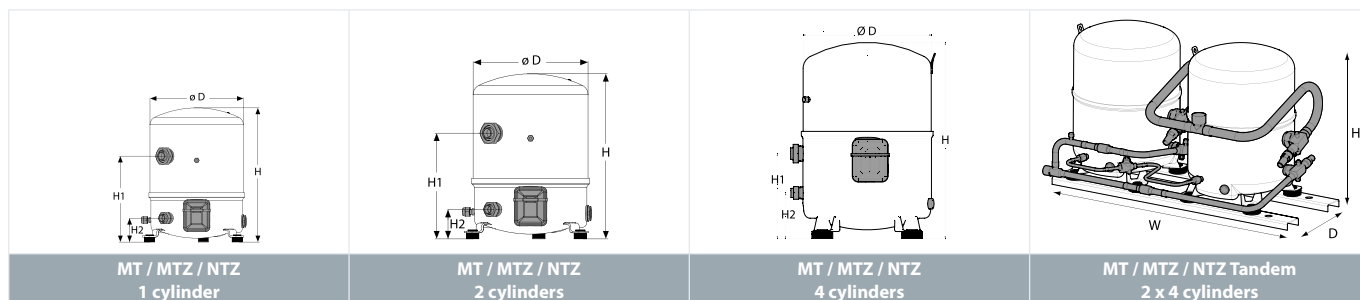
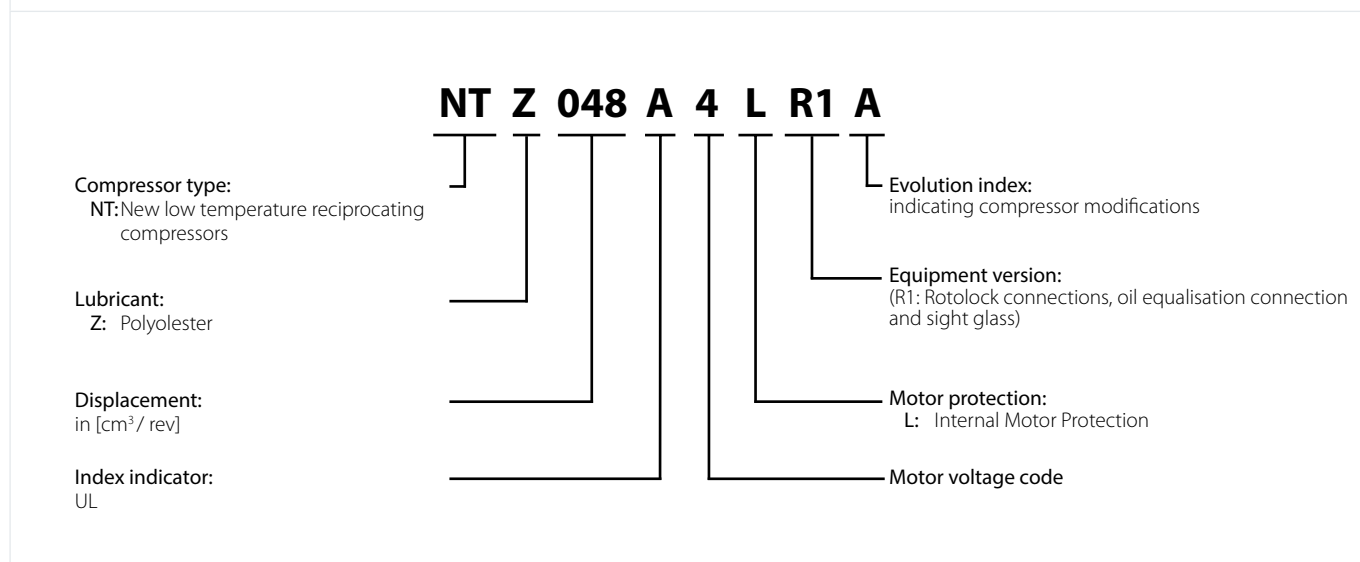
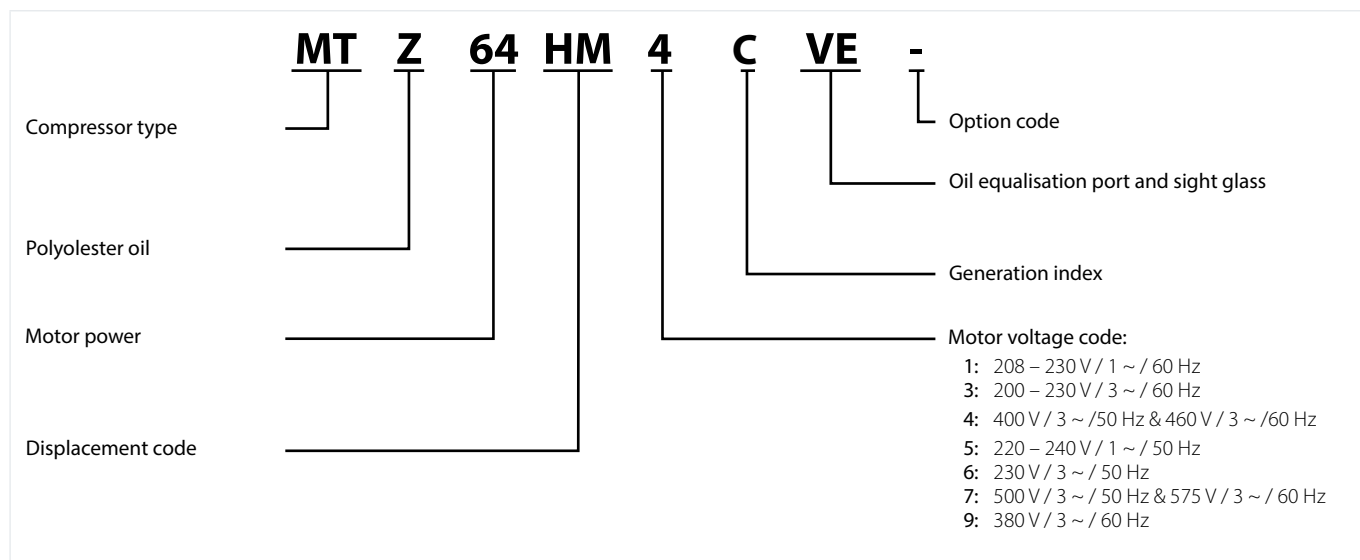
²⁾ Suction temperature: 20 °C

Subcooling: 0 K

Voltage: 400 V / 3 / 60 Hz

Nomenclature and Dimensions

Nomenclature



Single compressors [mm]

Type	D	H	H1	H2
1 cylinder	224	333 / 358	263	68
2 cylinders	288	413	265	74
4 cylinders	352	519 / 540	233	128

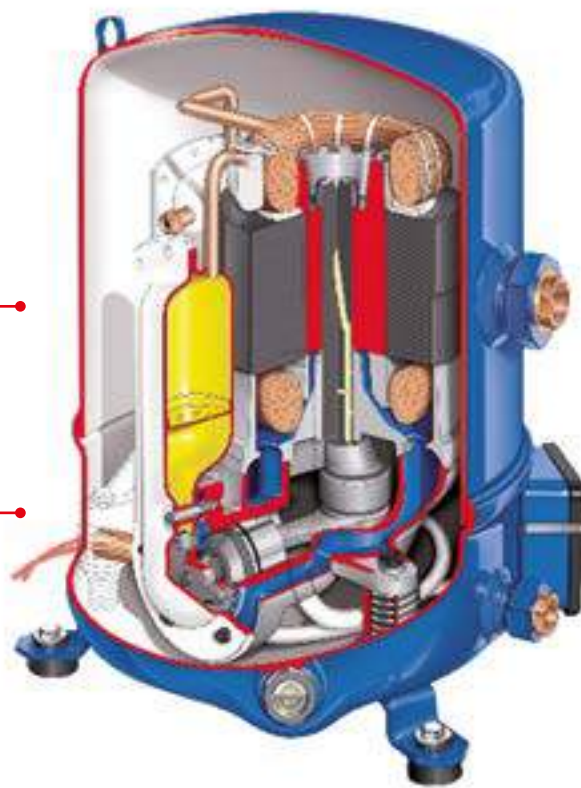
Tandem model [mm]

Type	D	H	W	
2 x 4 cylinders	515	544 / 565	925	-

VTZ - Inverter Reciprocating Compressors

Maneurop® -VTZ reciprocating inverter compressors 3 – 48 kW multirefrigerant units - R404A, R407C and R134a - for commercial and process cooling applications prevent you from oversized and short cycling systems by automatically adapting to the current load in your commercial package air conditioning, chillers and rooftops.

Use the innovative and intelligent compressor package that utilizes variable speed technology to ensure superior efficiency across the entire operating range.



Flexibility and precision cooling within a wide capacity range (30 – 90 rps)

Highly reliable solution

High COP across the whole operating range for great energy savings

One qualified "plug & play" compressor and drive solution

Facts

Applications:

- Packaged air conditioning
- Rooftops
- Chillers
- Close controls
- Heat pumps
- Data centers

- Capacity modulation: adapts motorspeed to varying load continuously, quickly and smoothly
- Tight temperature control $\pm 0.3\text{ }^{\circ}\text{C}$
- Pre-qualified compressor and drive package
- Drive protection
- Multi-refrigerant capability inverter reciprocating compressors
- Advanced energy efficiency cuts the electric bill and easily meets the energy standards

- Improves comfort and process reliability, greater humidity control
- Lower noise level during part-load operations
- Faster time to market, saves time on development and enhances overall system reliability
- Reduces the size of needed power back up systems
- Reduces installation costs with elimination of components

Technical data and ordering

VTZ - Inverter Reciprocating Compressors - Voltage code G 380 – 480 V and CD302

Ordering

Type	Compressor		Frequency converter				
	Code no.		Model & power	IP class	RFI class	LCP	Code no.
	Single pack	Industrial pack					Single pack
VTZ038-G	120B0001	NA	CD302 - 4.0 kW	IP20	H1	yes	131B3543
	120B0001	NA	CD302 - 4.0 kW	IP20	H1	no	131B3544
	120B0001	NA	CD302 - 4.0 kW	IP20	H2	yes	131B3545
	120B0001	NA	CD302 - 4.0 kW	IP20	H2	no	131B3546
	120B0001	NA	CD302 - 4.0 kW	IP55	H1	yes	131B3547
	120B0001	NA	CD302 - 4.0 kW	IP55	H1	no	131B3548
	120B0001	NA	CD302 - 4.0 kW	IP55	H2	yes	131B3550
VTZ054-G	120B0001	NA	CD302 - 4.0 kW	IP55	H2	no	131B3549
	120B0002	NA	CD302 - 5.5 kW	IP20	H1	yes	131B3552
	120B0002	NA	CD302 - 5.5 kW	IP20	H1	no	131B3553
	120B0002	NA	CD302 - 5.5 kW	IP20	H2	yes	131B3554
	120B0002	NA	CD302 - 5.5 kW	IP20	H2	no	131B3555
	120B0002	NA	CD302 - 5.5 kW	IP55	H1	yes	131B3556
	120B0002	NA	CD302 - 5.5 kW	IP55	H1	no	131B3557
	120B0002	NA	CD302 - 5.5 kW	IP55	H2	yes	131B3558
	120B0002	NA	CD302 - 5.5 kW	IP55	H2	no	131B3559
	120B0003	120B0054	CD302 - 7.5 kW	IP20	H1	yes	131B3560
	120B0003	120B0054	CD302 - 7.5 kW	IP20	H1	no	131B3561
	120B0003	120B0054	CD302 - 7.5 kW	IP20	H2	yes	131B3562
	120B0003	120B0054	CD302 - 7.5 kW	IP20	H2	no	131B3563
	120B0003	120B0054	CD302 - 7.5 kW	IP55	H1	yes	131B3564
	120B0003	120B0054	CD302 - 7.5 kW	IP55	H1	no	131B3565
	120B0003	120B0054	CD302 - 7.5 kW	IP55	H2	yes	131B3566
	120B0003	120B0054	CD302 - 7.5 kW	IP55	H2	no	131B3567
	120B0004	120B0052	CD302 - 11.0 kW	IP20	H1	no	131X2198
	120B0004	120B0052	CD302 - 11.0 kW	IP21	H1	yes	131B3568
	120B0004	120B0052	CD302 - 11.0 kW	IP21	H1	no	131B3569
	120B0004	120B0052	CD302 - 11.0 kW	IP21	H2	yes	131B3570
120B0004	120B0052	CD302 - 11.0 kW	IP21	H2	no	131B3571	
120B0004	120B0052	CD302 - 11.0 kW	IP55	H1	yes	131B3572	
120B0004	120B0052	CD302 - 11.0 kW	IP55	H1	no	131B3573	
120B0004	120B0052	CD302 - 11.0 kW	IP55	H2	yes	131B3574	
120B0004	120B0052	CD302 - 11.0 kW	IP55	H2	no	131B3575	
VTZ171-G	120B0005	120B0055	CD302 - 15.0 kW	IP20	H1	no	131X2199
	120B0005	120B0055	CD302 - 15.0 kW	IP21	H1	yes	131B3576
	120B0005	120B0055	CD302 - 15.0 kW	IP21	H1	no	131B3577
	120B0005	120B0055	CD302 - 15.0 kW	IP21	H2	yes	131B3578
	120B0005	120B0055	CD302 - 15.0 kW	IP21	H2	no	-
	120B0005	120B0055	CD302 - 15.0 kW	IP55	H1	yes	131B3580
	120B0005	120B0055	CD302 - 15.0 kW	IP55	H1	no	-
	120B0005	120B0055	CD302 - 15.0 kW	IP55	H2	yes	131B3582
VTZ215-G	120B0006	120B0056	CD302 - 18.5 kW	IP55	H2	no	131B3583
	120B0006	120B0056	CD302 - 18.5 kW	IP20	H1	no	131X2200
	120B0006	120B0056	CD302 - 18.5 kW	IP21	H1	yes	131B3584
	120B0006	120B0056	CD302 - 18.5 kW	IP21	H1	no	131B3585
	120B0006	120B0056	CD302 - 18.5 kW	IP21	H2	yes	131B3586
	120B0006	120B0056	CD302 - 18.5 kW	IP21	H2	no	131B3587
	120B0006	120B0056	CD302 - 18.5 kW	IP55	H1	yes	131B3588
VTZ242-G	120B0006	120B0056	CD302 - 18.5 kW	IP55	H1	no	131B3589
	120B0006	120B0056	CD302 - 18.5 kW	IP55	H2	yes	131B3590
	120B0006	120B0056	CD302 - 18.5 kW	IP55	H2	no	131B3591
	120B0007	120B0053	CD302 - 22.0 kW	IP21	H1	yes	131B3592
	120B0007	120B0053	CD302 - 22.0 kW	IP21	H1	no	131B3593
	120B0007	120B0053	CD302 - 22.0 kW	IP21	H2	yes	131B3594
	120B0007	120B0053	CD302 - 22.0 kW	IP21	H2	no	131B3595
VTZ242-G	120B0007	120B0053	CD302 - 22.0 kW	IP55	H1	yes	131B3596
	120B0007	120B0053	CD302 - 22.0 kW	IP55	H1	no	131B3597
	120B0007	120B0053	CD302 - 22.0 kW	IP55	H2	yes	131B3598
	120B0007	120B0053	CD302 - 22.0 kW	IP55	H2	no	131B3599

01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20

Technical data and ordering

VTZ - Inverter Reciprocating Compressors - Voltage code J 200 - 240 V and CD302

Ordering

Type	Compressor		Frequency converter				
	Code no.		Model and power	IP class	RFI class	LCP	Code no.
	Single pack	Industrial pack					Single pack
VTZ038-J	120B0029	NA	CD302 - 4.0 kW	IP20	H1	yes	131B5347
	120B0029	NA	CD302 - 4.0 kW	IP20		no	131B5348
	120B0029	NA	CD302 - 4.0 kW	IP20	H2	yes	131B5349
	120B0029	NA	CD302 - 4.0 kW	IP20	H2	no	131B5350
	120B0029	NA	CD302 - 4.0 kW	IP55	H1	yes	-
	120B0029	NA	CD302 - 4.0 kW	IP55	-	no	-
	120B0029	NA	CD302 - 4.0 kW	IP55	H2	yes	-
VTZ054-J	120B0030	NA	CD302 - 5.5 kW	IP21	H1	yes	131B5351
	120B0030	NA	CD302 - 5.5 kW	IP21	-	no	131B5352
	120B0030	NA	CD302 - 5.5 kW	IP21	H2	yes	131B5355
	120B0030	NA	CD302 - 5.5 kW	IP21	H2	no	131B5356
	120B0030	NA	CD302 - 5.5 kW	IP55	H1	yes	-
	120B0030	NA	CD302 - 5.5 kW	IP55	-	no	131B5354
	120B0030	NA	CD302 - 5.5 kW	IP55	H2	yes	131B5357
VTZ086-J	120B0031	NA	CD302 - 7.5 kW	IP21	H1	yes	131B5009
	120B0031	NA	CD302 - 7.5 kW	IP21	-	no	131B5359
	120B0031	NA	CD302 - 7.5 kW	IP21	H2	yes	-
	120B0031	NA	CD302 - 7.5 kW	IP21	H2	no	131B5360
	120B0031	NA	CD302 - 7.5 kW	IP55	H1	yes	131B5361
	120B0031	NA	CD302 - 7.5 kW	IP55	-	no	131B5362
	120B0031	NA	CD302 - 7.5 kW	IP55	H2	yes	131B5363
VTZ121-J	120B0032	tbd	CD302 - 11.0 kW	IP21	H1	yes	131B5365
	120B0032	tbd	CD302 - 11.0 kW	IP21	H1	no	-
	120B0032	tbd	CD302 - 11.0 kW	IP21	H2	yes	131B5367
	120B0032	tbd	CD302 - 11.0 kW	IP21	H2	no	131B5368
	120B0032	tbd	CD302 - 11.0 kW	IP55	H1	yes	131B5369
	120B0032	tbd	CD302 - 11.0 kW	IP55	H1	no	131B5370
	120B0032	tbd	CD302 - 11.0 kW	IP55	H2	yes	131B5371
	120B0032	tbd	CD302 - 11.0 kW	IP55	H2	no	131B5372

Technical data and ordering

VTZ - Inverter reciprocating compressors

Electrical specification

Supply voltage	Compressor Type	Nominal motor power [kW]	RW [Ohm]	RT [Ohm]	RLA [A]	MMT [A]	LRA [A]
200 – 240 V	VTZ038-J	3.59	0.31	0.65	13.5	17	69
	VTZ054-J	5	0.215	0.44	20	25	93
	VTZ086-J	7.8	0.158	0.317	32.5	40.6	88
	VTZ121-J	12.5	0.095	0.156	50	64.4	160
380 – 480 V	VTZ038-G	3.59	1.684	3.37	7.35	9.2	30.5
	VTZ054-G	4.95	1.039	2.08	12	15	47
	VTZ086-G	7.8	0.685	1.37	16	20	74
	VTZ121-G	11.66	0.294	0.59	23.2	29	139
	VTZ171-G	16	0.337	0.67	30.5	38.1	130
	VTZ215-G	21.3	0.236	0.47	40.8	51	197

RW: Winding resistance per winding (in CD302 parameter list)

RT: Winding resistance as measured at motor terminals

RLA: Rated load current with R404A at 5 – 60 °C

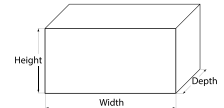
MMT: Maximum must trip current

LRA: Locked rotor current

Note that parameter 1-30 in the frequency converter settings reflects the winding resistance per winding
This is not the same value as measured at the motor terminals

VTZ - Inverter reciprocating compressors

Frequency converter single pack



Drive supply voltage	Drive supply voltage code	Drive power [kW]	IP20			IP21			IP55		
			Drive enclosure	Overall dimension (H x W x L) [mm]	Weight [kg]	Drive enclosure	Overall dimension (H x W x L) [mm]	Weight [kg]	Drive enclosure	Overall dimension (H x W x L) [mm]	Weight [kg]
200 – 240 / 3 / 50 – 60	T2	3.7	A3	290x390x200	6.6	–	–	–	–	–	–
	T2	5.5	–	–	–	B1	346x810x320	23	B1	346x810x320	23
	T2	7.5	–	–	–	B1	346x810x320	23	B1	346x810x320	23
	T2	11	–	–	–	B2	346x810x320	28	B2	346x810x320	28
380 – 480 / 3 / 50 – 60	T4	4	A2	290x390x160	5	–	–	–	A5	335x550x280	15
	T4	5.5	A3	290x390x200	6.6	–	–	–	A5	335x550x280	15
	T4	7.5	A3	290x390x200	6.6	–	–	–	A5	335x550x280	15
	T4	11	B3	349x500x330	13	B1	346x810x320	23	B1	346x810x320	23
	T4	15	B3	349x500x330	13	B1	346x810x320	23	B1	346x810x320	23
	T4	18.5	B4	346x810x320	24	B2	346x810x320	28	B2	346x810x320	28
	T4	22	–	–	–	B2	346x810x320	28	B2	346x810x320	28

Dimensions are given with drives in delivery position, without black plastic pallet

01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20

Technical data and ordering

VTZ - Inverter reciprocating compressors - R134a - 380 – 480 V

Performance table

Type	[rpm]	Te	-15		-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VTZ038-G	2100	40	800	0.52	1000	0.60	1300	0.67	1800	0.72	2300	0.77	2900	0.80	3700	0.82
	2100	50	600	0.52	800	0.61	1100	0.70	1500	0.77	1900	0.84	2500	0.90	3200	0.94
	2100	60	-	-	-	-	900	0.73	1200	0.82	1600	0.90	2100	0.98	2700	1.04
	3600	40	1400	0.95	1900	1.09	2500	1.20	3300	1.30	4200	1.39	5400	1.45	6800	1.49
	3600	50	1100	0.95	1500	1.12	2000	1.27	2700	1.40	3600	1.52	4600	1.62	5900	1.70
	3600	60	-	-	-	-	1600	1.31	2200	1.48	2900	1.63	3800	1.76	4900	1.88
	5400	40	2100	1.41	2800	1.60	3800	1.77	4900	1.92	6400	2.04	8100	2.13	10300	2.19
	5400	50	1600	1.40	2300	1.64	3100	1.87	4100	2.06	5400	2.24	7000	2.38	8900	2.50
5400	60	-	-	-	-	2400	1.92	3300	2.17	4400	2.40	5800	2.60	7500	2.77	
VTZ054-G	2100	40	1200	0.73	1600	0.81	2100	0.90	2700	0.98	3400	1.06	4200	1.13	5100	1.20
	2100	50	900	0.76	1300	0.86	1700	0.96	2300	1.07	2900	1.17	3600	1.27	4500	1.37
	2100	60	-	-	-	-	1400	1.02	1900	1.14	2400	1.27	3000	1.40	3800	1.52
	3600	40	2200	1.32	2900	1.47	3800	1.63	4900	1.78	6300	1.92	7800	2.05	9500	2.16
	3600	50	1700	1.37	2400	1.56	3200	1.75	4200	1.93	5300	2.12	6700	2.30	8300	2.47
	3600	60	-	-	-	-	2600	1.84	3500	2.07	4500	2.30	5600	2.53	7000	2.76
	5400	40	3300	1.93	4400	2.17	5800	2.39	7500	2.62	9500	2.83	11800	3.02	14400	3.19
	5400	50	2600	2.02	3700	2.29	4900	2.57	6400	2.85	8100	3.12	10200	3.39	12500	3.64
5400	60	-	-	-	-	4000	2.71	5200	3.04	6800	3.38	8500	3.71	10600	4.04	
VTZ086-G	1800	40	1500	0.99	2100	1.12	2800	1.23	3600	1.32	4600	1.39	5800	1.45	7200	1.50
	1800	50	1200	1.00	1700	1.16	2300	1.31	3000	1.44	3900	1.55	5000	1.65	6200	1.74
	1800	60	-	-	-	-	1800	1.36	2500	1.52	3200	1.67	4100	1.80	5200	1.93
	3600	40	3200	2.10	4500	2.37	6000	2.59	7900	2.77	10000	2.92	12600	3.07	15600	3.20
	3600	50	2500	2.11	3600	2.46	5000	2.77	6600	3.03	8500	3.25	10800	3.46	13400	3.66
	3600	60	-	-	-	-	3900	2.87	5300	3.21	6900	3.52	8900	3.81	11200	4.08
	5400	40	4900	3.04	6800	3.49	9100	3.85	11900	4.13	15200	4.35	19100	4.52	23700	4.65
	5400	50	3800	3.06	5500	3.61	7600	4.08	10000	4.48	12900	4.82	16300	5.11	20300	5.38
5400	60	-	-	-	-	5900	4.26	8000	4.74	10500	5.18	13500	5.57	16900	5.95	
VTZ121-G	1800	40	2400	1.39	3100	1.54	4000	1.69	5000	1.83	6300	1.96	7700	2.08	9400	2.19
	1800	50	2000	1.49	2700	1.68	3400	1.86	4300	2.04	5400	2.21	6700	2.37	8300	2.53
	1800	60	-	-	-	-	2800	1.99	3600	2.21	4500	2.43	5700	2.64	7000	2.84
	3600	40	5100	2.92	6600	3.23	8400	3.54	10500	3.83	13100	4.11	16200	4.36	19700	4.60
	3600	50	4300	3.13	5600	3.52	7200	3.90	9100	4.28	11400	4.64	14200	4.98	17400	5.30
	3600	60	-	-	-	-	5900	4.19	7500	4.65	9500	5.10	11900	5.54	14800	5.97
	5100	40	7300	4.05	9400	4.49	11900	4.92	15000	5.34	18700	5.72	23100	6.08	28200	6.38
	5100	50	6100	4.35	7900	4.88	10200	5.41	13000	5.93	16300	6.45	20200	6.94	24800	7.40
5100	60	-	-	-	-	8300	5.82	10700	6.45	13600	7.08	17000	7.70	21100	8.31	
VTZ171-G	1800	40	2900	2.09	4000	2.31	5500	2.49	7200	2.64	9200	2.76	11600	2.86	14400	2.96
	1800	50	2100	2.12	3200	2.44	4400	2.71	5900	2.94	7700	3.13	9800	3.29	12300	3.43
	1800	60	-	-	-	-	3400	2.84	4700	3.18	6200	3.46	8000	3.71	10200	3.92
	3600	40	6500	4.23	9000	4.76	12100	5.22	15700	5.62	20000	5.97	25000	6.28	30800	6.55
	3600	50	4900	4.22	7200	4.93	9900	5.55	13100	6.10	16900	6.60	21400	7.03	26600	7.43
	3600	60	-	-	-	-	7600	5.69	10400	6.43	13700	7.10	17600	7.71	22100	8.25
	5400	40	10000	6.22	13800	7.25	18300	8.19	23600	9.02	29900	9.73	37200	10.31	45700	10.74
	5400	50	7600	6.19	11000	7.32	15100	8.44	19900	9.51	25600	10.54	32300	11.50	40000	12.38
5400	60	-	-	-	-	11800	8.62	16000	9.80	21000	11.00	26900	12.21	33800	13.41	
VTZ215-G	1800	40	4300	2.77	5700	3.07	7500	3.33	9500	3.56	11900	3.79	14800	4.03	18000	4.29
	1800	50	3500	2.88	4800	3.28	6300	3.63	8200	3.94	10300	4.23	12900	4.50	15800	4.78
	1800	60	-	-	-	-	5100	3.82	6700	4.25	8600	4.63	10900	4.99	13500	5.33
	3600	40	9300	5.87	12400	6.51	16200	7.08	20600	7.60	25800	8.10	31800	8.61	38700	9.14
	3600	50	7500	6.07	10300	6.93	13700	7.68	17700	8.35	22400	8.96	27700	9.54	33900	10.11
	3600	60	-	-	-	-	11100	8.07	14600	8.97	18700	9.77	23500	10.49	29000	11.17
	5400	40	14000	8.66	18800	9.56	24500	10.38	31200	11.16	39100	11.92	48300	12.70	58900	13.54
	5400	50	11300	8.97	15600	10.16	20700	11.23	26800	12.22	33900	13.17	42200	14.09	51900	15.02
5400	60	-	-	-	-	16800	11.83	22100	13.12	28300	14.32	35700	15.46	44300	16.58	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling capacity in [W]

Pe: Power input in [kW]

Subcooling: 0 K

Superheat: 10 K

Voltage code: G: 380 – 480 V / 3 / 50 and 60 Hz

Technical data and ordering

VTZ - Inverter Reciprocating Compressors - R404A - 380 – 480 V

Performance table

Type	[rpm]	Te	-30		-25		-20		-15		-10		-5		0		5	
			Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VTZ038-G	2100	20	1100	0.61	1400	0.67	1800	0.71	2400	0.74	2900	0.76	3700	0.77	-	-	-	-
	2100	30	800	0.64	1100	0.72	1500	0.79	1900	0.85	2400	0.89	3000	0.93	3700	0.95	4600	0.96
	2100	40	600	0.64	900	0.75	1100	0.85	1500	0.94	1900	1.02	2400	1.09	3000	1.14	3700	1.18
	2100	50	400	0.62	600	0.76	800	0.90	1100	1.02	1500	1.14	1900	1.24	2400	1.33	2900	1.40
	2100	60	-	-	-	-	500	0.92	700	1.08	1000	1.23	1300	1.37	1700	1.50	2200	1.61
	3600	20	1700	1.08	2300	1.20	3000	1.29	3900	1.37	4900	1.43	6100	1.45	-	-	-	-
	3600	30	1400	1.10	1900	1.26	2600	1.40	3400	1.52	4300	1.62	5400	1.69	6700	1.74	8200	1.75
	3600	40	1000	1.10	1500	1.30	2100	1.49	2800	1.66	3600	1.81	4600	1.93	5700	2.03	7000	2.11
	3600	50	600	1.04	1000	1.29	1500	1.52	2100	1.75	2800	1.95	3600	2.14	4600	2.30	5800	2.44
	3600	60	-	-	-	-	1000	1.47	1400	1.75	2000	2.02	2600	2.27	3400	2.50	4400	2.70
	5400	20	2200	1.76	3100	2.01	4200	2.22	5500	2.39	7000	2.51	8800	2.57	-	-	-	-
	5400	30	1700	1.74	2500	2.08	3500	2.38	4600	2.64	6000	2.86	7700	3.03	9500	3.15	11700	3.22
	5400	40	1100	1.60	1900	2.03	2700	2.43	3700	2.78	5000	3.10	6400	3.37	8100	3.60	10000	3.78
	5400	50	600	1.34	1200	1.86	1900	2.34	2800	2.79	3800	3.21	5100	3.58	6500	3.92	8200	4.20
5400	60	-	-	-	-	1200	2.11	1900	2.66	2700	3.17	3600	3.65	4800	4.09	6200	4.49	
VTZ054-G	2100	20	1500	0.88	2000	0.97	2600	1.05	3400	1.11	4300	1.16	5400	1.19	-	-	-	-
	2100	30	1200	0.94	1600	1.06	2100	1.16	2800	1.26	3600	1.34	4500	1.40	5700	1.45	7100	1.48
	2100	40	900	0.96	1300	1.11	1700	1.25	2200	1.38	2900	1.50	3700	1.60	4700	1.69	5800	1.76
	2100	50	700	0.96	900	1.14	1300	1.32	1700	1.49	2200	1.64	2900	1.79	3700	1.92	4600	2.03
	2100	60	-	-	-	-	900	1.37	1200	1.57	1600	1.77	2100	1.96	2700	2.13	3500	2.29
	3600	20	2500	1.58	3300	1.76	4300	1.91	5400	2.05	6900	2.16	8600	2.26	-	-	-	-
	3600	30	2100	1.67	2800	1.89	3700	2.09	4800	2.28	6100	2.44	7600	2.59	9400	2.72	11400	2.82
	3600	40	1700	1.69	2300	1.96	3100	2.22	4000	2.46	5100	2.69	6500	2.90	8000	3.09	9900	3.25
	3600	50	1200	1.64	1700	1.97	2400	2.29	3100	2.60	4100	2.89	5200	3.17	6500	3.42	8100	3.66
	3600	60	-	-	-	-	1600	2.29	2200	2.66	2900	3.03	3800	3.37	4900	3.71	6200	4.02
	5400	20	3700	2.45	4900	2.76	6200	3.06	7900	3.34	9900	3.61	12200	3.84	-	-	-	-
	5400	30	3000	2.47	4000	2.84	5300	3.21	6800	3.57	8600	3.92	10700	4.26	13200	4.58	16100	4.87
	5400	40	2200	2.43	3100	2.85	4200	3.28	5500	3.72	7100	4.16	9000	4.59	11200	5.02	13800	5.43
	5400	50	1400	2.30	2200	2.77	3100	3.26	4200	3.77	5500	4.29	7100	4.82	9000	5.35	11300	5.87
5400	60	-	-	-	-	1900	3.15	2800	3.73	3900	4.32	5100	4.94	6700	5.56	8600	6.19	
VTZ086-G	1800	20	1800	1.18	2600	1.31	3500	1.42	4700	1.49	6000	1.54	7700	1.56	-	-	-	-
	1800	30	1300	1.21	2000	1.40	2700	1.56	3700	1.69	4800	1.80	6200	1.87	7800	1.92	9600	1.94
	1800	40	900	1.16	1400	1.43	2000	1.66	2800	1.85	3700	2.02	4800	2.16	6100	2.27	7700	2.35
	1800	50	600	1.04	1000	1.38	1500	1.69	2000	1.97	2800	2.21	3600	2.42	4700	2.60	5900	2.75
	1800	60	-	-	-	-	900	1.67	1400	2.03	1900	2.36	2600	2.65	3400	2.91	4300	3.14
	3600	20	4300	2.46	5800	2.74	7600	2.97	9800	3.16	12400	3.29	15500	3.38	-	-	-	-
	3600	30	3300	2.53	4600	2.91	6200	3.25	8100	3.54	10400	3.78	13100	3.96	16300	4.10	19900	4.18
	3600	40	2300	2.46	3400	2.97	4800	3.42	6500	3.82	8400	4.17	10800	4.47	13500	4.72	16700	4.91
	3600	50	1400	2.24	2300	2.87	3500	3.45	4800	3.98	6500	4.46	8400	4.88	10700	5.25	13400	5.56
	3600	60	-	-	-	-	2200	3.34	3200	4.00	4500	4.62	6000	5.18	7900	5.68	10100	6.13
	5400	20	6200	3.89	8300	4.34	11000	4.74	14100	5.10	17900	5.40	22300	5.66	-	-	-	-
	5400	30	5000	4.00	6900	4.59	9300	5.13	12100	5.61	15500	6.05	19400	6.44	23900	6.78	29100	7.07
	5400	40	3600	3.91	5400	4.66	7400	5.35	9900	5.99	12800	6.58	16200	7.11	20200	7.60	24700	8.03
	5400	50	2300	3.59	3700	4.51	5500	5.38	7500	6.19	10000	6.94	12800	7.64	16200	8.28	20000	8.87
5400	60	-	-	-	-	3400	5.16	5100	6.15	7000	7.09	9300	7.96	12000	8.78	15100	9.55	

Technical data and ordering

VTZ - Inverter Reciprocating Compressors - R404A - 380 – 480 V

Performance table

Type	[rpm]	Te	-30		-25		-20		-15		-10		-5		0		5	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VTZ121-G	1800	20	2700	1.89	3700	2.05	4800	2.19	6200	2.30	7900	2.39	10000	2.46	-	-	-	-
	1800	30	2300	2.03	3100	2.25	4100	2.44	5400	2.60	6900	2.74	8700	2.85	10800	2.95	13300	3.02
	1800	40	1800	2.10	2500	2.38	3400	2.64	4400	2.86	5700	3.06	7300	3.24	9100	3.39	11300	3.52
	1800	50	1200	2.08	1800	2.44	2500	2.77	3400	3.07	4400	3.35	5700	3.60	7300	3.82	9100	4.01
	1800	60	-	-	-	-	1700	2.82	2300	3.21	3100	3.57	4100	3.90	5300	4.20	6700	4.48
	3600	20	5500	3.69	7500	4.09	9900	4.47	12900	4.85	16400	5.21	20600	5.56	-	-	-	-
	3600	30	4500	3.88	6200	4.36	8400	4.82	11000	5.26	14100	5.70	17900	6.12	22300	6.54	27400	6.96
	3600	40	3500	3.99	5000	4.56	6800	5.11	9000	5.64	11800	6.17	15000	6.68	18900	7.18	23400	7.68
	3600	50	2600	4.00	3800	4.68	5200	5.33	7000	5.98	9300	6.60	12000	7.21	15200	7.81	19100	8.41
	3600	60	-	-	-	-	3700	5.49	5000	6.25	6700	6.99	8800	7.72	11400	8.43	14600	9.14
	5100	20	8100	5.47	10800	6.11	14200	6.73	18300	7.32	23400	7.85	29400	8.31	-	-	-	-
	5100	30	6400	5.63	8800	6.38	11700	7.14	15300	7.90	19800	8.64	25000	9.34	31300	9.99	39000	10.59
	5100	40	4900	5.67	6900	6.50	9400	7.38	12400	8.29	16200	9.20	20700	10.10	26100	10.99	33000	11.59
	5100	50	3400	5.64	5100	6.53	7100	7.49	9600	8.51	12600	9.57	16400	10.65	20900	11.74	26700	12.39
	5100	60	-	-	-	-	4900	7.52	6800	8.62	9100	9.79	12100	11.02	15700	12.29	20100	12.89
VTZ171-G	1800	20	3900	2.31	5400	2.59	7200	2.83	9400	3.04	12000	3.20	15200	3.31	-	-	-	-
	1800	30	2900	2.32	4200	2.65	5700	2.96	7600	3.24	9800	3.47	12400	3.67	15500	3.82	19100	3.91
	1800	40	2100	2.31	3100	2.72	4300	3.11	5900	3.48	7700	3.81	9900	4.10	12500	4.36	15500	4.57
	1800	50	1400	2.23	2200	2.74	3100	3.23	4300	3.70	5800	4.14	7500	4.56	9600	4.94	12100	5.28
	1800	60	-	-	-	-	2100	3.25	2900	3.84	4000	4.41	5300	4.97	6900	5.49	8800	5.98
	3600	20	7700	4.52	10400	5.12	13800	5.67	18100	6.16	23200	6.61	29200	7.03	-	-	-	-
	3600	30	6200	4.73	8700	5.49	11700	6.16	15400	6.77	19900	7.32	25200	7.82	31400	8.28	38600	8.71
	3600	40	4700	4.78	6800	5.75	9500	6.61	12600	7.39	16400	8.08	21000	8.71	26300	9.28	32500	9.81
	3600	50	3100	4.54	4900	5.76	7100	6.87	9700	7.87	12900	8.77	16600	9.58	21000	10.31	26200	10.98
	3600	60	-	-	-	-	4700	6.81	6700	8.08	9200	9.24	12100	10.29	15600	11.24	19700	12.10
	5400	20	11300	7.31	15900	8.36	21500	9.26	28000	10.05	35600	10.73	44300	11.32	-	-	-	-
	5400	30	8900	7.54	13000	8.95	17900	10.20	23700	11.32	30400	12.32	38000	13.21	46600	14.03	56100	14.77
	5400	40	6400	7.24	10000	9.03	14200	10.66	19300	12.14	25000	13.50	31600	14.73	39000	15.87	47200	16.93
	5400	50	3800	6.29	6800	8.51	10400	10.55	14700	12.44	19500	14.17	25000	15.78	31200	17.28	38100	18.69
	5400	60	-	-	-	-	6500	9.78	9900	12.09	13900	14.25	18300	16.27	23300	18.16	28900	19.95
VTZ215-G	1800	20	4800	3.00	6700	3.31	9000	3.58	11900	3.79	15400	3.95	19500	4.04	-	-	-	-
	1800	30	3700	3.18	5300	3.60	7400	3.97	9800	4.30	12800	4.57	16300	4.79	20400	4.94	25200	5.02
	1800	40	2700	3.24	4100	3.78	5800	4.28	7800	4.74	10300	5.15	13300	5.51	16800	5.80	20800	6.03
	1800	50	1800	3.15	2900	3.83	4200	4.48	5900	5.09	7900	5.65	10300	6.16	13200	6.62	16500	7.02
	1800	60	-	-	-	-	2800	4.52	4100	5.30	5600	6.03	7400	6.72	9700	7.36	12300	7.95
	3600	20	9200	5.45	12700	6.26	17200	7.01	22700	7.68	29400	8.27	37400	8.76	-	-	-	-
	3600	30	7600	5.86	10700	6.85	14600	7.79	19300	8.68	25100	9.49	32100	10.23	40300	10.86	49800	11.38
	3600	40	5900	6.12	8600	7.28	11900	8.41	15900	9.49	20800	10.53	26700	11.49	33700	12.38	41900	13.16
	3600	50	4100	6.24	6400	7.55	9200	8.85	12500	10.13	16500	11.37	21300	12.56	27100	13.68	33900	14.72
	3600	60	-	-	-	-	6300	9.13	8900	10.58	12000	12.02	15700	13.41	20300	14.76	25700	16.04
	5400	20	15200	9.71	20500	11.10	27000	12.40	34800	13.62	44100	14.73	55000	15.73	-	-	-	-
	5400	30	12200	9.94	17200	11.64	23200	13.30	30300	14.90	38800	16.44	48700	17.91	60200	19.30	73400	20.59
	5400	40	9000	9.79	13400	11.78	18700	13.76	25000	15.73	32500	17.67	41200	19.58	51400	21.44	63200	23.24
	5400	50	5800	9.21	9500	11.46	13900	13.73	19100	16.03	25400	18.35	32900	20.66	41600	22.97	51800	25.26
	5400	60	-	-	-	-	8900	13.17	13000	15.77	17900	18.43	23800	21.13	30900	23.85	39300	26.60

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling capacity in [W]

Pe: Power input in [kW]

Subcooling: 0 K

Superheat: 10 K

Voltage code: G: 380 – 480 V / 3 / 50 and 60 Hz

) Error 3: Evaporating temperature too high. Approximative result

Technical data and ordering

VTZ - Inverter Reciprocating Compressors - R407C - 380 – 480 V

Performance table

Type	[rpm]	Te	-15		-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VTZ038-G	2100	20	2000	0.69	2600	0.71	3300	0.73	4100	0.72	-	-	-	-	-	-
	2100	30	1700	0.77	2200	0.84	2800	0.89	3600	0.91	4400	0.93	5400	0.93	-	-
	2100	40	1300	0.82	1800	0.93	2300	1.01	3000	1.08	3700	1.13	4600	1.17	5600	1.20
	2100	50	-	-	1400	0.98	1900	1.11	2400	1.22	3100	1.32	3800	1.40	4700	1.47
	2100	60	-	-	-	-	1400	1.18	1800	1.34	2400	1.48	3000	1.61	3800	1.73
	3600	20	3200	1.11	4200	1.19	5400	1.25	6900	1.30	-	-	-	-	-	-
	3600	30	2700	1.24	3600	1.35	4700	1.45	6000	1.53	7500	1.59	9400	1.63	-	-
	3600	40	2200	1.34	3000	1.49	3900	1.63	5100	1.75	6400	1.86	8000	1.94	9900	2.01
	3600	50	-	-	2400	1.60	3300	1.79	4200	1.96	5400	2.11	6700	2.25	8400	2.36
	3600	60	-	-	-	-	2600	1.92	3400	2.14	4300	2.35	5500	2.54	6900	2.71
	5400	20	4600	1.79	6000	2.00	7600	2.19	9700	2.35	-	-	-	-	-	-
	5400	30	4000	1.96	5200	2.22	6700	2.47	8600	2.70	10900	2.91	13600	3.08	-	-
	5400	40	3300	2.06	4400	2.38	5700	2.68	7400	2.98	9400	3.26	11800	3.51	14700	3.73
	5400	50	-	-	3500	2.49	4600	2.85	6100	3.21	7800	3.55	9900	3.88	12500	4.18
	5400	60	-	-	-	-	3600	2.98	4800	3.40	6200	3.81	8000	4.21	10200	4.59
VTZ054-G	2100	20	2700	0.90	3500	0.94	4400	0.97	5500	0.99	-	-	-	-	-	-
	2100	30	2300	1.03	3000	1.11	3800	1.17	4800	1.21	6000	1.24	7500	1.26	-	-
	2100	40	1900	1.13	2500	1.26	3200	1.36	4100	1.45	5100	1.51	6400	1.56	7900	1.60
	2100	50	-	-	1900	1.37	2500	1.53	3300	1.67	4200	1.79	5300	1.88	6600	1.96
	2100	60	-	-	-	-	1900	1.65	2500	1.86	3300	2.04	4200	2.20	5200	2.33
	3600	20	4700	1.66	6100	1.79	7800	1.90	9900	1.99	-	-	-	-	-	-
	3600	30	4000	1.82	5200	2.00	6800	2.16	8700	2.32	10900	2.46	13500	2.58	-	-
	3600	40	3300	1.96	4400	2.19	5700	2.41	7400	2.62	9400	2.83	11700	3.02	14400	3.20
	3600	50	-	-	3600	2.33	4700	2.62	6100	2.89	7800	3.17	9900	3.43	12300	3.69
	3600	60	-	-	-	-	3700	2.76	4900	3.10	6300	3.45	8100	3.79	10200	4.13
	5400	20	6600	2.70	8600	3.01	11200	3.28	14300	3.51	-	-	-	-	-	-
	5400	30	5700	2.92	7500	3.32	9700	3.70	12400	4.05	15800	4.37	19800	4.63	-	-
	5400	40	4700	3.05	6300	3.53	8200	4.01	10600	4.48	13500	4.93	17000	5.34	21200	5.69
	5400	50	-	-	5200	3.63	6800	4.20	8800	4.78	11300	5.35	14300	5.89	17900	6.41
	5400	60	-	-	-	-	5400	4.26	7100	4.93	9100	5.62	11700	6.29	14700	6.96
VTZ086-G	1800	20	3700	1.14	5000	1.19	6500	1.22	8400	1.24	-	-	-	-	-	-
	1800	30	2900	1.34	3900	1.45	5200	1.53	6700	1.58	8600	1.62	10700	1.65	-	-
	1800	40	2200	1.47	3100	1.67	4100	1.82	5400	1.93	6800	2.02	8600	2.09	10700	2.14
	1800	50	-	-	2300	1.78	3200	2.03	4200	2.23	5500	2.40	6900	2.53	8600	2.63
	1800	60	-	-	-	-	2400	2.13	3300	2.45	4300	2.71	5400	2.93	6800	3.12
	3600	20	6300	2.61	8600	2.76	11500	2.88	14900	2.96	-	-	-	-	-	-
	3600	30	5500	2.86	7600	3.10	10100	3.28	13000	3.42	16500	3.53	20500	3.62	-	-
	3600	40	4600	3.04	6400	3.40	8600	3.69	11200	3.92	14200	4.10	17700	4.25	21700	4.38
	3600	50	-	-	5200	3.61	7100	4.04	9400	4.40	11900	4.69	14800	4.94	18200	5.16
	3600	60	-	-	-	-	5500	4.27	7400	4.80	9500	5.24	11900	5.63	14700	5.97
	5400	20	10200	3.86	13400	4.11	17500	4.31	22600	4.44	-	-	-	-	-	-
	5400	30	8800	4.33	11500	4.69	14900	5.02	19200	5.30	24500	5.52	31100	5.65	-	-
	5400	40	7700	4.72	9900	5.19	12700	5.65	16200	6.07	20700	6.45	26100	6.76	32800	7.00
	5400	50	-	-	8400	5.62	10800	6.19	13700	6.75	17300	7.29	21800	7.77	27300	8.21
	5400	60	-	-	-	-	8900	6.66	11300	7.35	14300	8.04	17900	8.69	22400	9.31

Technical data and ordering

VTZ - Inverter Reciprocating Compressors - R407C - 380 – 480 V

Performance table

Type	[rpm]	T _e	-15		-10		-5		0		5		10		15	
		T _c	Q _o	P _e	Q _o	P _e	Q _o	P _e	Q _o	P _e	Q _o	P _e	Q _o	P _e	Q _o	P _e
VTZ121-G	1800	20	5200	1.66	6900	1.77	8900	1.84	11300	1.85	–	–	–	–	–	–
	1800	30	4400	1.91	5800	2.10	7600	2.25	9700	2.35	12200	2.40	15100	2.39	–	–
	1800	40	3500	2.11	4800	2.39	6400	2.62	8200	2.80	10400	2.94	12900	3.02	15800	3.04
	1800	50	–	–	3900	2.63	5200	2.95	6800	3.21	8600	3.43	10800	3.60	13300	3.71
	1800	60	–	–	–	–	4100	3.23	5400	3.58	6900	3.89	8700	4.15	10900	4.35
	3600	20	11100	3.94	14300	4.27	18200	4.60	22800	4.92	–	–	–	–	–	–
	3600	30	9400	4.21	12200	4.60	15700	4.98	19900	5.34	24800	5.69	30600	6.03	–	–
	3600	40	7800	4.52	10300	5.01	13300	5.47	17100	5.93	21500	6.36	26700	6.77	32700	7.16
	3600	50	–	–	8400	5.36	11100	5.97	14300	6.55	18200	7.11	22800	7.64	28200	8.15
	3600	60	–	–	–	–	8900	6.33	11600	7.09	14900	7.82	18900	8.51	23700	9.18
	5100	20	15400	5.71	19800	6.34	25000	6.98	31300	7.64	–	–	–	–	–	–
	5100	30	13100	6.11	17100	6.81	21900	7.52	27600	8.26	34300	9.02	42200	9.79	–	–
	5100	40	10900	6.48	14400	7.28	18700	8.09	23800	8.92	29900	9.77	37000	10.64	45200	11.52
	5100	50	–	–	11800	7.68	15500	8.62	19900	9.56	25300	10.53	31600	11.51	39000	12.51
	5100	60	–	–	–	–	12400	9.04	16100	10.13	20700	11.23	26100	12.35	32600	13.49
VTZ171-G	1800	20	6900	2.27	9000	2.38	11700	2.45	14800	2.47	–	–	–	–	–	–
	1800	30	6000	2.68	7900	2.88	10300	3.05	13200	3.17	16700	3.24	20800	3.27	–	–
	1800	40	4900	3.00	6600	3.31	8800	3.59	11400	3.84	14500	4.04	18100	4.19	22500	4.28
	1800	50	–	–	5200	3.64	7100	4.05	9300	4.44	12000	4.78	15200	5.08	19000	5.33
	1800	60	–	–	–	–	5300	4.38	7100	4.93	9300	5.44	12000	5.92	15300	6.34
	3600	20	15300	5.05	19600	5.33	24800	5.49	30900	5.50	–	–	–	–	–	–
	3600	30	12900	5.67	16900	6.18	21700	6.59	27400	6.88	34200	7.02	42100	7.00	–	–
	3600	40	10500	6.06	14100	6.82	18400	7.49	23700	8.06	29900	8.50	37200	8.80	45700	8.93
	3600	50	–	–	11300	7.25	15100	8.19	19700	9.04	25300	9.80	31900	10.43	39700	10.91
	3600	60	–	–	–	–	11800	8.69	15700	9.84	20600	10.91	26400	11.88	33300	12.72
	5400	20	21100	7.82	27300	8.46	34800	9.00	43600	9.43	–	–	–	–	–	–
	5400	30	18500	8.77	24500	9.71	31600	10.55	39900	11.31	49600	11.97	60700	12.54	–	–
	5400	40	15600	9.47	21100	10.71	27600	11.87	35300	12.96	44200	13.96	54600	14.89	66400	15.73
	5400	50	–	–	17300	11.40	23100	12.89	30000	14.31	38100	15.66	47400	16.95	58200	18.18
	5400	60	–	–	–	–	18300	13.52	24200	15.29	31300	17.01	39600	18.67	49100	20.29
VTZ215-G	1800	20	9200	2.96	11800	3.13	15100	3.26	18900	3.37	–	–	–	–	–	–
	1800	30	8100	3.48	10500	3.75	13400	3.98	17000	4.16	21200	4.31	26300	4.42	–	–
	1800	40	6800	3.93	8900	4.34	11600	4.70	14700	5.00	18500	5.26	23100	5.47	28400	5.64
	1800	50	–	–	7200	4.82	9500	5.35	12300	5.82	15600	6.23	19600	6.58	24300	6.88
	1800	60	–	–	–	–	7400	5.87	9700	6.54	12500	7.14	15900	7.68	19900	8.15
	3600	20	20700	6.67	26200	7.18	32800	7.63	40600	8.03	–	–	–	–	–	–
	3600	30	17800	7.45	22800	8.14	28900	8.79	36000	9.38	44400	9.92	54100	10.40	–	–
	3600	40	14800	8.04	19300	8.97	24800	9.85	31200	10.68	38800	11.45	47700	12.16	57900	12.81
	3600	50	–	–	15800	9.62	20600	10.78	26300	11.88	33100	12.93	41000	13.92	50300	14.85
	3600	60	–	–	–	–	16400	11.54	21300	12.96	27200	14.33	34200	15.64	42400	16.89
	5400	20	28400	10.93	36500	12.14	46200	13.25	57500	14.22	–	–	–	–	–	–
	5400	30	24600	11.71	32100	13.25	41100	14.75	51600	16.17	63800	17.48	77800	18.64	–	–
	5400	40	20600	12.27	27500	14.11	35700	15.97	45300	17.81	56400	19.60	69300	21.30	84000	22.87
	5400	50	–	–	22700	14.80	30000	16.98	38600	19.20	48600	21.43	60100	23.64	73500	25.78
	5400	60	–	–	–	–	24100	17.85	31600	20.42	40400	23.06	50600	25.73	62500	28.40

T_o: Evaporating temperature in [°C]

T_c: Condensing temperature in [°C]

Q_o: Cooling capacity in [W]

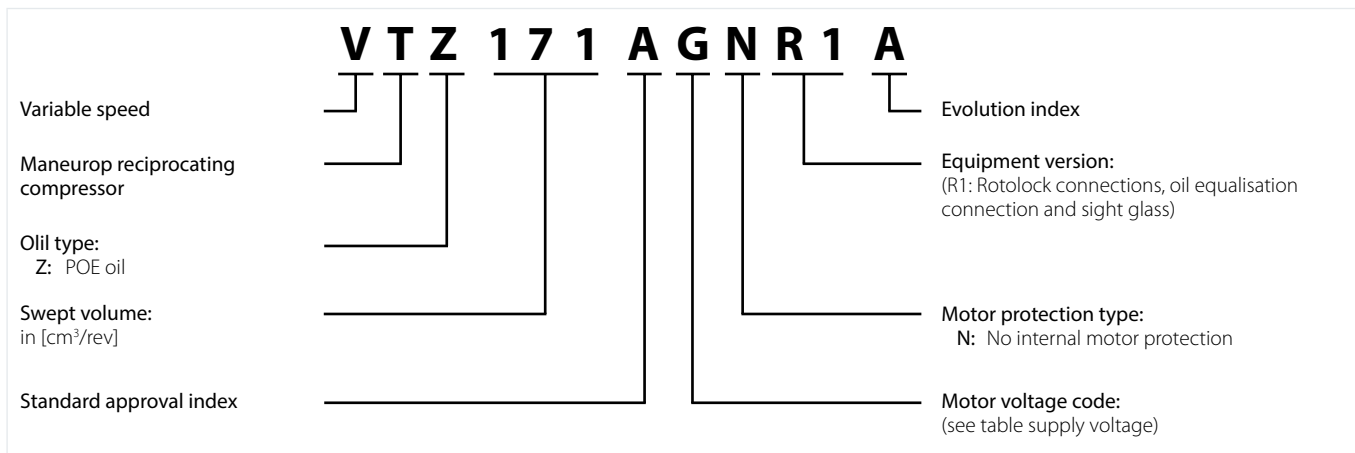
P_e: Power input in [kW]

Subcooling: 0 K

Superheat: 10 K

Voltage code: G: 380 – 480 V / 3 / 50 and 60 Hz

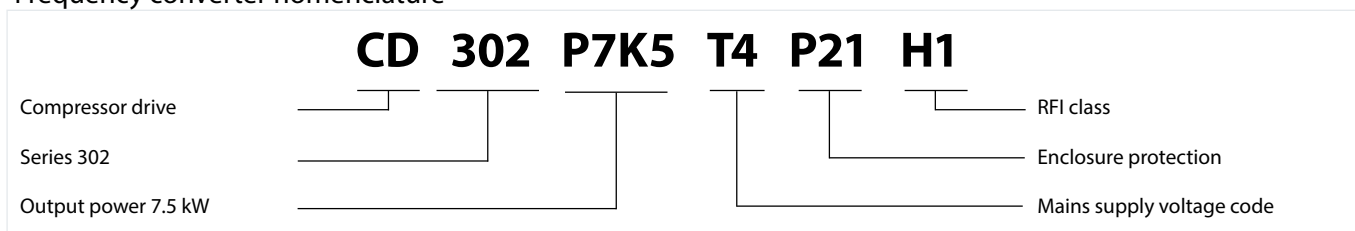
Nomenclature



Compressor specifications

Compressor Type	Swept volume [cm ³ /rev]	Displacement			Cyl. nbr	Oil charge [dm ³]	Net Weight [kg]
		Min speed [m ³ /h]	50 Hz [m ³ /h]	Max speed [m ³ /h]			
VTZ038	38.12	4.57	6.63	12.12	1	0.95	21
VTZ054	53.86	6.46	9.37	17.13	1	0.95	24
VTZ086	85.64	8.74	14.90	27.23	2	1.80	35
VTZ121	120.94	12.34	21.04	36.28	2	1.80	40
VTZ171	171.26	17.47	29.80	54.46	4	3.90	60
VTZ215	215.44	21.97	37.49	68.51	4	3.90	64

Frequency converter nomenclature

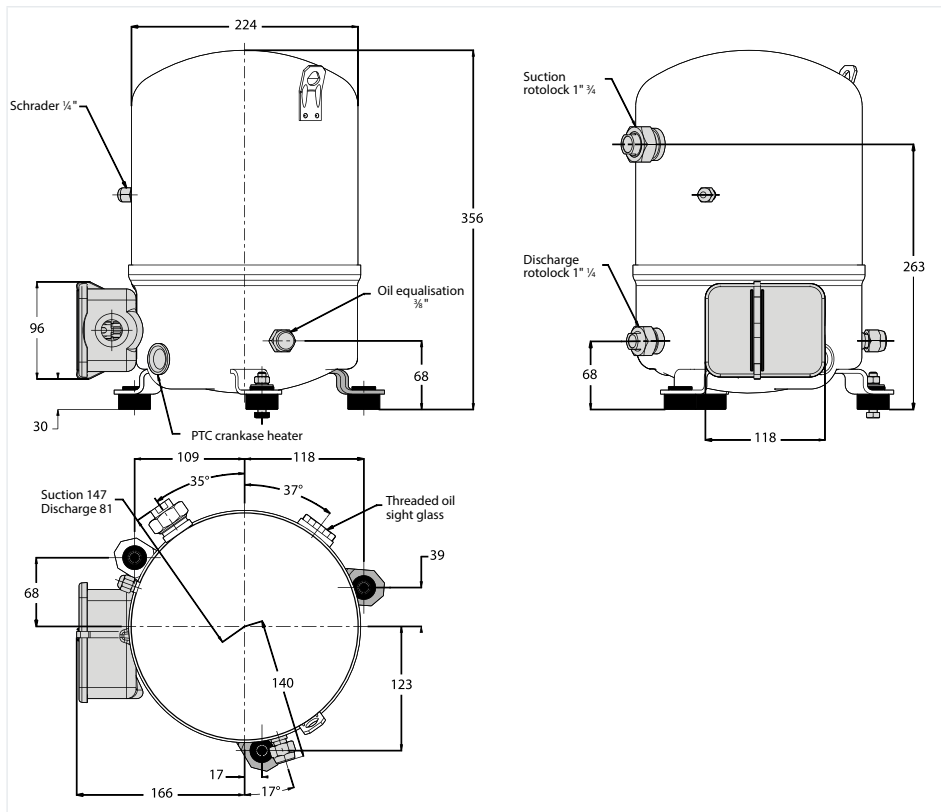


Frequency converter specifications

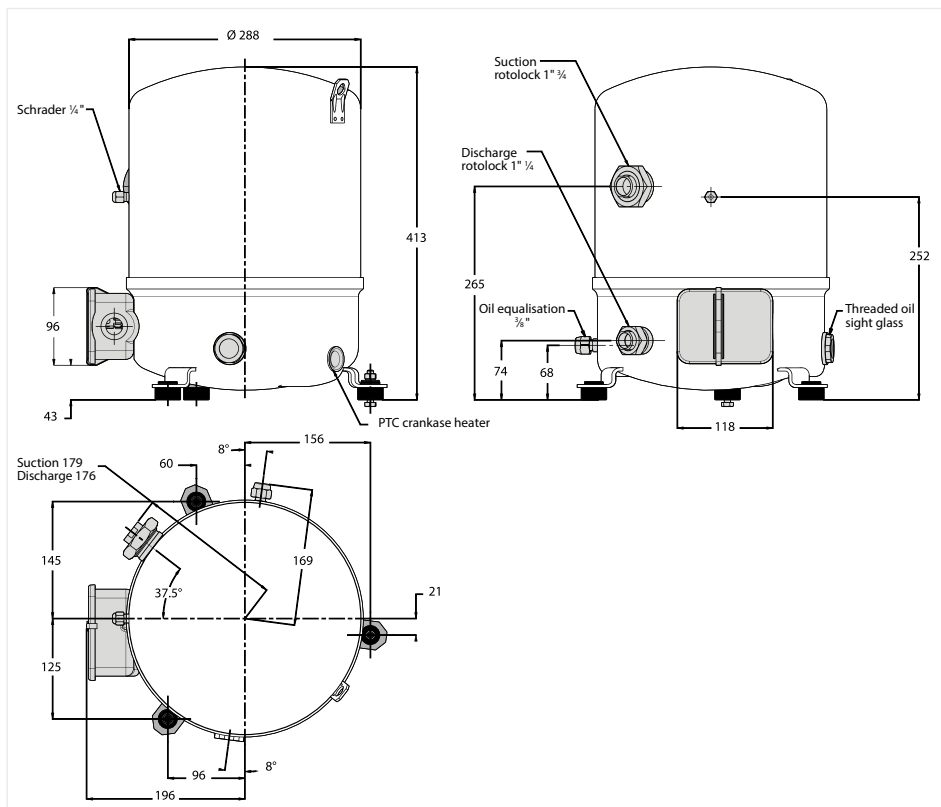
Mains supply voltage	T2: 200 – 240 V ± 10% (3-phase), T4: 380 – 480 V ± 10% (3-phase)
Supply frequency	50 / 60 Hz
Output voltage	0 – 100% of supply voltage
Inputs	6 digital (0 – 24 V), 2 analogue (-10 – 10V or 0 / 4 V -20 mA, scalable)
Programmable outputs	2 digital (0 – 24 V), 1 analogue, 2 relay
Protection functions	Over-current protection, over-modulation handling, low / high current handling
Smart Logic Control functions	Pump-down function, Anti short-cycle function, Oil return management
Communication	Modbus

Dimensions

VTZ038 / VTZ054

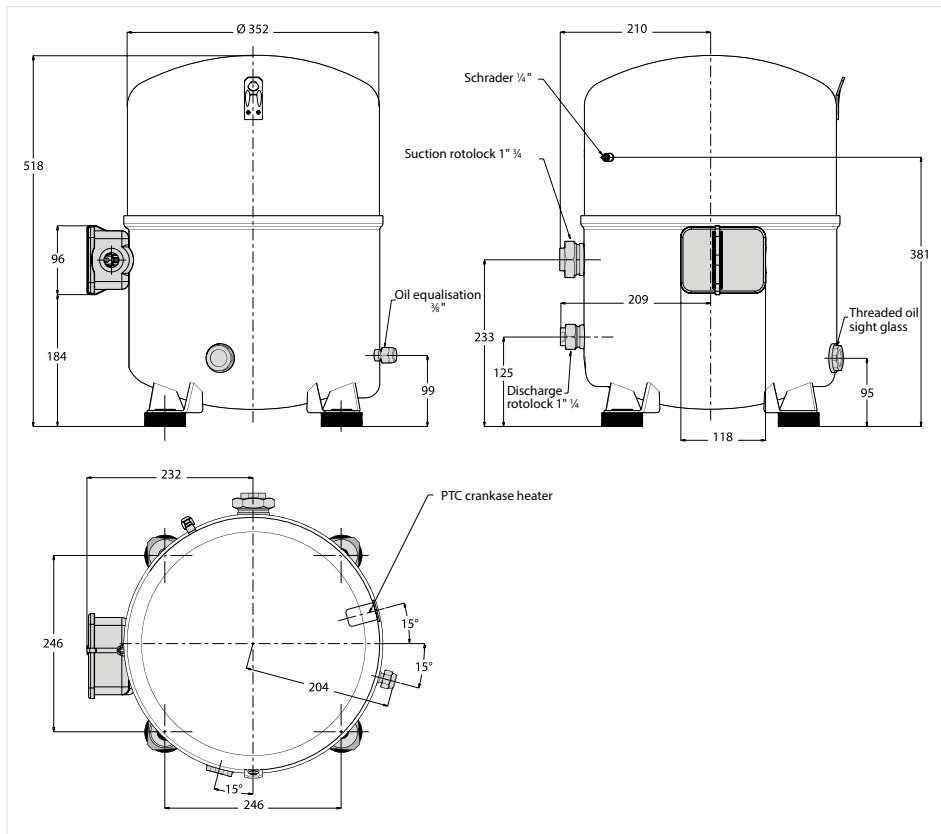


VTZ086 / VTZ121



Dimensions

VTZ171 / VTZ215



- 01
- 02
- 03
- 04
- 05
- 06
- 07
- 08
- 09
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18**
- 19
- 20

Technical data

Sight glass

VTZ compressors come equipped with a threaded oil sight glass with 1 1/8 – 18 inch UNEF connection. It can be used for visual check of oil amount and conditions, or it may be replaced by an oil management device.

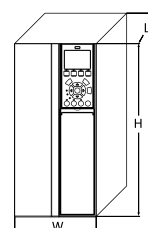
Schrader

The oil fill connection and gauge port is a 1/4 inch male flare connector incorporating a schrader valve.

Suction and discharge connections

VTZ compressors are all delivered with suction and discharge rotolock connections only.

Type	Rotolock connections size		Pipe sizing		Rotolock valve	
	Suction [in]	Discharge [in]	Suction [in]	Discharge [in]	Suction	Discharge
VTZ038 – 054	1 1/4	1	5/8	1/2	V09	V06
VTZ086 – 121	1 3/4	1 1/4	7/8	3/4	V07	V04
VTZ171 – 215	1 3/4	1 1/4	1 1/8	3/4	V02	V04



VTZ - Inverter reciprocating compressors

Frequency converter dimensions

Drive supply voltage	Drive power [kW]	Compressor voltage code	Compressor model	IP20			IP21			IP55		
				Drive enclosure	Overall dimension (H x W x L) [mm]	Weight [kg]	Drive enclosure	Overall dimension (H x W x L) [mm]	Weight [kg]	Drive enclosure	Overall dimension (H x W x L) [mm]	Weight [kg]
T2: 200 – 240 / 3 / 50 – 60	3.7	J	VTZ038	A3	268x130x205	6.6	–	–	–	–	–	–
	5.5	J	VTZ054	–	–	–	B1	494x242x260	23	B1	480x242x260	23
	7.5	J	VTZ086	–	–	–	B1	494x242x260	23	B1	480x242x260	23
	11	J	VTZ121	–	–	–	B2	664x242x260	27	B2	664x242x260	27
T4: 380 – 480 / 3 / 50 – 60	4	G	VTZ038	A2	268x90x205	4.9	–	–	–	A5	420x242x200	13.5
	5.5	G	VTZ054	A3	268x130x205	6.6	–	–	–	A5	420x242x200	13.5
	7.5	G	VTZ086	A3	268x130x205	6.6	–	–	–	A5	420x242x200	13.5
	11	G	VTZ121	B3	399x165x248	12	B1	494x242x260	23	B1	480x242x260	23
	15	G	VTZ171	B3	399x165x248	12	B1	494x242x260	23	B1	480x242x260	23
	18.5	G	VTZ215	B4	518x231x242	23	B2	664x242x260	27	B2	650x242x260	27

Frequency converter dimensions depend on supply voltage, IP rating and power

The below table gives an overview of the overall dimensions and different drive enclosures (B1 - C3)

Details for each drive enclosure are on the following pages

01

02

03

04

05

06

07

08

09

10

11

12

13

14

15

16

17

18

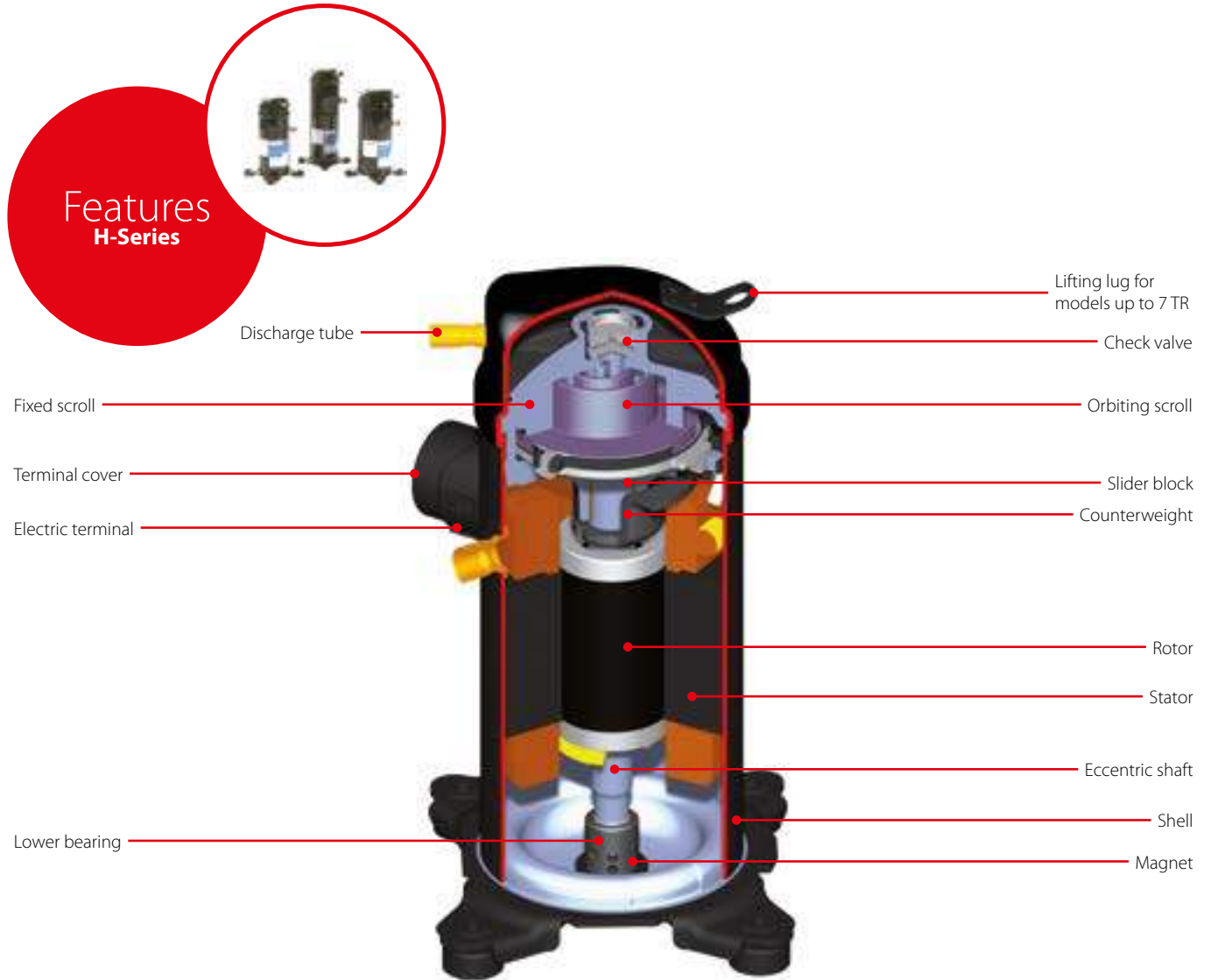
19

20

H-Series, Scroll Compressors

Danfoss scrolls are designed for excellence in performance, silence and endurance. They feature compressors that are among the quietest, most efficient, reliable and available on the market. Ranging from 2.5 – 10 TR, the universal dimension, footprint and connections of the H series make it the natural choice for greater comfort in existing or new residences.

Available in a large variety of single and tandem models for refrigerants R407C, R134a, R410A and R22, the compressors combine high energy efficiency with low sound and minimal vibration.



Facts

- Discharge check valve: no reverse rotation hence no shutdown noise
- Radial scroll compliance: good resistance to liquid flood back
- Axial scroll compliance: low starting current
- Oil injection: good lubrication at fierce conditions
- Lead-free bearings: high reliability even with low lubrication
- Patented internal protection combined with HOOP (Hot Oil Over Protector) thermal valve: excellent reliability
- Standard dimensions and tubing: ideal for both new installations and replacement markets

Technical data and ordering

H series - Scroll compressors - R22 / R407C / R410A - 50 Hz

Technical data

Type	Nominal Cap 60 Hz	Nominal cooling capacity		Power input	A max.	Efficiency		Swept volume	Displacement	Oil charge	Net weight		
	[TR]	[W]	[Btu/h]	[kW]	[A]	COP [W]/[W]	EER [Btu/h]/[W]	[cm³/rev]	[m³/h]	[dm³]	[kg]		
R22	HRM025T4	2.1	5900	20300	1.86	7	3.20	10.93	33.77	5.88	1.06	31	
	HRM032T4	2.7	7800	26800	2.35	9.5	3.34	11.40	43.43	7.56	1.06	31	
	HRM032U4	2.7	7800	26800	2.55	9.5	3.08	10.52	43.59	7.58	1.06	31	
	HRM034T4	2.8	8200	28000	2.50	9.5	3.28	11.20	46.24	8.05	1.06	31	
	HRM034U4	2.8	8300	28500	2.66	9.5	3.14	10.72	46.21	8.04	1.06	31	
	HRM038T4	3.2	9200	31500	2.78	10	3.31	11.30	51.67	8.99	1.06	31	
	HRM038U4	3.2	9200	31500	2.95	10	3.14	10.72	51.62	8.98	1.06	31	
	HRM040T4	3.3	9600	32900	2.88	10	3.34	11.40	54.39	9.46	1.06	31	
	HRM040U4	3.3	9700	33100	2.98	10	3.25	11.10	54.4	9.47	1.06	31	
	HRM042T4	3.5	10100	34500	3.08	11	3.28	11.20	57.11	9.94	1.06	31	
	HRM042U4	3.5	10200	34800	3.13	11	3.25	11.10	57.19	9.95	1.06	31	
	HRM045U4	3.8	10900	37300	3.45	12	3.17	10.82	61.45	10.69	1.33	31	
	HRM047T4	3.9	11500	39300	3.46	12	3.33	11.37	64.07	11.15	1.33	31	
	HRM047U4	3.9	11500	39300	3.57	12	3.22	10.99	64.07	11.15	1.33	31	
	HRM048U4	4.0	11500	39300	3.57	12.5	3.22	10.99	64.4	11.21	1.57	37	
	HRM051T4	4.3	12400	42300	3.67	13	3.37	11.51	68.83	11.98	1.57	37	
	HRM051U4	4.3	12800	43700	3.83	13	3.34	11.40	68.83	11.98	1.57	37	
	HRM054T4	4.5	13300	45400	3.84	12.5	3.46	11.81	72.84	12.67	1.57	37	
	HRM054U4	4.5	13400	45700	3.97	13	3.37	11.51	72.92	12.69	1.57	37	
	HRM058U4	4.8	14300	49000	4.25	15	3.37	11.51	78.17	13.60	1.57	37	
	HRM060T4	5.0	14600	49700	4.29	15	3.40	11.61	80.95	14.09	1.57	37	
	HRM060U4	5.0	14800	50600	4.40	15	3.37	11.51	80.95	14.09	1.57	37	
	HLM068T4	5.7	16900	57600	5.01	15	3.37	11.51	93.08	16.20	1.57	37	
	HLM072T4	6.0	17800	60900	5.29	15	3.37	11.51	98.57	17.15	1.57	37	
HLM075T4	6.3	18400	62900	5.37	16	3.43	11.71	102.75	17.88	1.57	37		
HLM078T4	6.5	19400	66400	5.81	16	3.34	11.40	107.48	18.70	1.57	37		
HLM081T4	6.8	20000	68400	5.94	17	3.37	11.51	110.94	19.30	1.57	37		
HCM094T4	7.8	23100	78700	6.80	21	3.39	11.57	126.02	21.93	2.66	44		
HCM109T4	9.1	26700	91100	7.77	24	3.43	11.71	148.79	25.89	2.66	45		
HCM120T4	10.0	29000	99100	8.85	25	3.28	11.20	162.4	28.26	2.66	45		
R407C	HRP025T4	2.1	5700	19600	1.86	7	3.08	10.52	33.77	5.88	1.06	31	
	HRP034T4	2.8	7900	27100	2.68	9.5	2.96	10.11	46.21	8.04	1.06	31	
	HRP038T4	3.2	8800	30200	2.82	11	3.14	10.72	51.62	8.98	1.06	31	
	HRP040T4	3.3	9100	31100	3.14	11.5	2.90	9.90	54.4	9.47	1.06	31	
	HRP042T4	3.5	9600	32700	3.30	10	2.90	9.90	57.19	9.95	1.06	31	
	HRP045T4	3.8	10800	36900	3.58	12	3.02	10.31	61.45	10.69	1.33	31	
	HRP047T4	3.9	11100	38000	3.69	12	3.02	10.31	64.07	11.15	1.33	31	
	HRP048T4	4.0	11100	37900	3.35	12	3.31	11.30	64.4	11.21	1.57	37	
	HRP051T4	4.3	12100	41400	3.83	13	3.17	10.82	68.83	11.98	1.57	37	
	HRP054T4	4.5	12600	42900	3.97	12.5	3.17	10.82	72.76	12.66	1.57	37	
	HRP058T4	4.8	13500	46000	4.25	14	3.17	10.82	78.17	13.60	1.57	37	
	HRP060T4	5.0	13900	47300	4.26	15	3.25	11.10	80.95	14.09	1.57	37	
	HLP068T4	5.7	15700	53600	5.10	15	3.08	10.52	93.08	16.20	1.57	37	
	HLP072T4	6.0	16600	56700	5.30	15	3.14	10.72	98.65	17.17	1.57	37	
	HLP075T4	6.3	18000	61600	5.54	16	3.25	11.10	102.75	17.88	1.57	37	
	HLP078T4	6.5	19200	65500	5.83	16	3.29	11.23	107.48	18.70	1.57	37	
	HLP081T4	6.8	19500	66500	5.99	17	3.25	11.10	110.94	19.30	1.57	37	
	HCP094T4	7.8	21600	73700	6.63	21	3.25	11.10	126.02	21.93	2.66	44	
	HCP109T4	9.1	26000	88900	7.93	24	3.28	11.20	148.79	25.89	2.66	45	
	HCP120T4	10.0	28100	96100	8.88	25	3.17	10.82	162.4	28.26	2.66	45	
	R410A	HRH029U4	2.4	7100	24300	2.43	10	2.93	10.00	27.79	4.84	1.06	31
		HRH031U4	2.6	7500	25700	2.68	10	2.81	9.59	29.69	5.17	1.06	31
		HRH032U4	2.7	7700	26200	2.76	10	2.78	9.49	30.64	5.33	1.06	31
		HRH034U4	2.8	8500	29000	2.90	10	2.93	10.00	33.04	5.75	1.06	31
HRH036U4		3.0	8800	30100	3.13	10	2.81	9.59	34.74	6.04	1.06	31	
HRH038U4		3.2	9300	31600	3.36	12	2.75	9.39	36.54	6.36	1.06	32	
HRH040U4		3.3	10200	34800	3.58	12	2.84	9.70	39.64	6.90	1.33	32	
HRH041U4		3.4	10000	34300	3.43	13	2.93	10.00	39.33	6.84	1.57	37	
HRH044U4		3.7	10800	36900	3.92	13.5	2.75	9.39	42.61	7.41	1.57	37	
HRH047U4		3.9	11300	38700	3.87	13	2.93	10.00	44.43	7.73	1.33	31	
HRH048U4		4.0	11900	40600	4.02	14	2.96	10.11	46.41	8.08	1.33	31	
HRH049U4		4.1	12100	41300	4.05	13.5	2.99	10.21	47.36	8.24	1.57	37	
HRH050U4		4.2	12400	42500	4.20	14	2.96	10.11	48.92	8.51	1.33	31	
HRH051U4		4.3	12900	43900	4.22	13	3.05	10.41	49.32	8.58	1.57	37	
HRH054U4		4.5	13300	45500	4.41	15	3.02	10.31	52.11	9.07	1.57	37	
HRH056U4		4.7	13800	47200	4.58	15	3.02	10.31	54.11	9.42	1.57	37	
HLH061T4		5.1	14800	50700	4.78	15	3.11	10.62	57.78	10.05	1.57	37	
HLH068T4		5.7	16900	57600	5.26	19	3.21	10.96	64.4	11.21	1.57	37	
HLJ072T4		6.0	17800	60900	5.56	19	3.21	10.96	67.97	11.83	1.57	37	
HLJ075T4		6.3	18600	63500	5.77	18	3.22	10.99	70.79	12.32	1.57	37	
HLJ083T4		6.9	20400	69700	6.27	19	3.25	11.10	78.08	13.59	1.57	37	
HCI090T4		7.5	22300	76200	7.18	19	3.11	10.62	86.85	15.11	2.66	45	
HCI091T4		7.5	22380	76360	7.03	18.0	3.18	10.87	86.9	15.11	2.46	49	
HCI105T4		8.8	26000	88700	8.21	25	3.17	10.82	101.6	17.68	2.66	45	
HCI106T4	8.8	26050	88880	8.07	21.0	3.23	11.01	101.6	17.68	2.46	49		
HCI120T4	10.0	29600	101100	9.52	27	3.11	10.62	113.07	19.67	2.66	45		
HCI121T4	10.0	29720	101400	9.22	22.0	3.22	11.0	116.4	20.24	2.46	49		

TR: Ton of Refrigeration
COP: Coefficient Of Performance
EER: Energy Efficiency Ratio

*) ARI standard rating conditions,
400 V / 3 ph / 50 Hz

Evaporating temperature: 7.2 °C
Condensing temperature: 54.4 °C
Superheat: 11.1 K
Sub-cooling: 8.3 K

Technical data and ordering

H series - Scroll compressors - R22 / R407C / R410A - 60 Hz

Technical data

Type	Nominal Cap. 60 Hz	Nominal cooling capacity		Power input	A max.	Efficiency		Swept volume	Displacement	Oil charge	Net weight	
	[TR]	[W]	[Btu/h]	[kW]	[A]	COP [W]/[W]	EER [Btu/h]/[W]	[cm ³ /rev]	[m ³ /h]	[dm ³]	[kg]	
R22	HRM025T4	2.1	7100	24200	2.22	7	3.20	10.93	33.77	7.09	1.06	31
	HRM032T4	2.7	9300	31700	2.78	9.5	3.34	11.40	43.43	9.12	1.06	31
	HRM032U4	2.7	9300	31800	2.94	9.5	3.17	10.82	43.59	9.15	1.06	31
	HRM034T4	2.8	10000	34000	2.98	9.5	3.34	11.40	46.24	9.71	1.06	31
	HRM034U4	2.8	9800	33500	3.07	9.5	3.20	10.93	46.21	9.70	1.06	31
	HRM038T4	3.2	11100	37800	3.25	10	3.40	11.61	51.67	10.85	1.06	31
	HRM038U4	3.2	11100	38000	3.39	10	3.28	11.20	51.62	10.84	1.06	31
	HRM040T4	3.3	11500	39300	3.41	10	3.37	11.51	54.39	11.42	1.06	31
	HRM040U4	3.3	11700	40000	3.57	10	3.28	11.20	54.4	11.42	1.06	31
	HRM042T4	3.5	12200	41500	3.64	11	3.34	11.40	57.11	11.99	1.06	31
	HRM042U4	3.5	12300	42000	3.75	11	3.28	11.20	57.19	12.01	1.06	31
	HRM045U4	3.8	13200	45000	4.01	12	3.28	11.20	61.45	12.90	1.33	31
	HRM047T4	3.9	13900	47500	4.13	12	3.37	11.51	64.07	13.45	1.33	31
	HRM047U4	3.9	13900	47500	4.22	12	3.30	11.27	64.07	13.45	1.33	31
	HRM048U4	4.0	13800	47200	4.25	12.5	3.25	11.10	64.4	13.52	1.57	37
	HRM051T4	4.3	15000	51300	4.46	13	3.37	11.51	68.83	14.45	1.57	37
	HRM051U4	4.3	15000	51300	4.46	13	3.37	11.51	68.83	14.45	1.57	37
	HRM054T4	4.5	15800	54000	4.53	12.5	3.49	11.92	72.84	15.30	1.57	37
	HRM054U4	4.5	15700	53700	4.63	13	3.40	11.61	72.92	15.31	1.57	37
	HRM058U4	4.8	16900	57800	5.02	15	3.37	11.51	78.17	16.42	1.57	37
HRM060T4	5.0	17500	59700	5.14	15	3.40	11.61	80.95	17.00	1.57	37	
HRM060U4	5.0	17500	59700	5.19	15	3.37	11.51	80.95	17.00	1.57	37	
HLM068T4	5.7	20200	68900	5.94	15	3.40	11.61	93.08	19.55	1.57	37	
HLM072T4	6.0	21300	72800	6.27	15	3.40	11.61	98.57	20.70	1.57	37	
HLM075T4	6.3	22100	75500	6.45	16	3.43	11.71	102.75	21.58	1.57	37	
HLM078T4	6.5	23000	78500	6.70	16	3.43	11.71	107.48	22.57	1.57	37	
HLM081T4	6.8	23900	81500	6.96	17	3.43	11.71	110.94	23.30	1.57	37	
HCM094T4	7.8	27700	94500	8.07	21	3.43	11.71	126.02	26.46	2.66	44	
HCM109T4	9.1	32000	109300	9.33	24	3.43	11.71	148.79	31.25	2.66	45	
HCM120T4	10.0	34900	119300	10.22	25	3.42	11.68	162.4	34.10	2.66	45	
R407C	HRP025T4	2.1	6900	23500	2.21	7	3.11	10.62	33.77	7.09	1.06	31
	HRP034T4	2.8	9500	32400	3.24	9.5	2.93	10.00	46.21	9.70	1.06	31
	HRP040T4	3.3	11000	37500	3.70	11.5	2.97	10.14	54.4	11.42	1.06	31
	HRP042T4	3.5	11500	39400	3.90	10	2.96	10.11	57.19	12.01	1.06	31
	HRP047T4	3.9	12700	43300	4.23	12	3.00	10.24	64.07	13.45	1.33	31
	HRP051T4	4.3	14400	49100	4.46	13	3.22	10.99	68.83	14.45	1.57	37
	HRP060T4	5.0	16600	56600	5.33	15	3.11	10.62	80.95	17.00	1.57	37
	HLP072T4	6.0	19900	68100	6.24	15	3.19	10.89	98.65	20.72	1.57	37
	HLP078T4	6.5	23000	78600	6.95	16	3.31	11.30	107.48	22.57	1.57	37
	HLP081T4	6.8	23400	79800	7.14	17	3.27	11.17	110.94	23.30	1.57	37
	HCP094T4	7.8	25900	88400	7.89	21	3.28	11.20	126.02	26.46	2.66	44
	HCP120T4	10.0	33800	115300	10.58	25	3.19	10.89	162.4	34.10	2.66	45
	R410A	HRH029U4	2.4	8500	29000	2.84	10	2.99	10.21	27.79	5.84	1.06
HRH031U4		2.6	9100	31000	3.04	10	2.99	10.21	29.69	6.23	1.06	31
HRH032U4		2.7	9400	32000	3.10	10	3.02	10.31	30.64	6.43	1.06	31
HRH034U4		2.8	10100	34500	3.38	10	2.99	10.21	33.04	6.94	1.06	31
HRH036U4		3.0	10400	35400	3.47	10	2.99	10.21	34.74	7.30	1.06	31
HRH038U4		3.2	11100	37900	3.79	12	2.93	10.00	36.54	7.67	1.06	32
HRH040U4		3.3	12200	41500	4.03	12	3.02	10.31	39.64	8.32	1.33	32
HRH041U4		3.4	12100	41300	4.05	13	2.99	10.21	39.33	8.26	1.57	37
HRH044U4		3.7	13000	44400	4.31	13.5	3.02	10.31	42.61	8.95	1.57	37
HRH047U4		3.9	13600	46500	4.55	13	2.99	10.21	44.43	9.33	1.33	31
HRH048U4		4.0	14100	48200	4.68	14	3.02	10.31	46.41	9.75	1.33	31
HRH049U4		4.1	14300	49000	4.66	13.5	3.08	10.52	47.36	9.95	1.57	37
HRH050U4		4.2	14800	50500	4.90	14	3.02	10.31	48.92	10.27	1.33	31
HRH051U4		4.3	15200	51800	4.84	13	3.14	10.72	49.32	10.36	1.57	37
HRH054U4		4.5	16000	54500	5.14	15	3.11	10.62	52.11	10.94	1.57	37
HRH056U4		4.7	16700	56900	5.36	15	3.11	10.62	54.11	11.36	1.57	37
HLH061T4		5.1	18100	61900	5.73	15	3.17	10.82	57.78	12.13	1.57	37
HLH068T4		5.7	20100	68700	6.30	19	3.20	10.93	64.4	13.52	1.57	37
HLJ072T4		6.0	21200	72500	6.65	19	3.19	10.89	67.97	14.27	1.57	37
HLJ075T4		6.3	22300	76200	6.86	18	3.25	11.10	70.79	14.87	1.57	37
HLJ083T4	6.9	24300	83100	7.55	19	3.22	10.99	78.08	16.40	1.57	37	
H CJ090T4	7.5	26800	91500	8.46	19	3.17	10.82	86.85	18.24	2.66	45	
H CJ091T4	7.5	27140	92600	8.37	17.0	3.24	11.07	86.9	18.24	2.46	49	
H CJ105T4	8.8	31200	106400	9.74	25	3.20	10.93	101.6	21.34	2.66	45	
H CJ106T4	8.8	31670	108050	9.67	20.0	3.28	11.18	101.6	21.34	2.46	49	
H CJ120T4	10.0	35600	121600	11.14	27	3.20	10.93	113.07	23.74	2.66	45	
H CJ121T4	10.0	35940	122620	11.07	21.0	3.25	11.08	116.4	24.43	2.46	49	

TR: Ton of Refrigeration
 COP: Coefficient Of Performance
 EER: Energy Efficiency Ratio

*) ARI standard rating conditions,
 460 V / 3 ph / 60 Hz

Evaporating temperature: 7.2 °C
 Condensing temperature: 54.4 °C
 Superheat: 11.1 K
 Sub-cooling: 8.3 K

Technical data and ordering

R410A - Single pack

Ordering

Type	Model Variation	Connect.	Features	Code no.					
				1	2	4	5	7	9
HRH029	U	P	6	120U2277	120U2282	120U2287	-	-	-
HRH031	U	P	6	120U1136	120U1251	120U1191	120U1166	120U1216	-
HRH032	U	P	6	120U1141	120U1256	120U1196	120U1171	120U1221	-
HRH034	U	P	6	120U1146	120U1261	120U2446	120U2650	120U1226	120U2654
HRH036	U	P	6	120U1151	120U1266	120U1201	120U1176	120U1231	-
HRH038	U	P	6	120U1156	120U1271	120U1206	120U1181	120U1236	120U2658
HRH039	U	P	6	120U2466	-	-	-	-	-
HRH040	U	P	6	120U1161	120U1276	120U1211	120U1186	120U1241	-
HRH041	U	P	6	120U1281	120U1451	120U1356	-	120U1406	-
	U	C	6	-	120U2412	-	-	-	-
	U	C	8	-	120U2407	120U2397	-	120U2402	-
HRH044	U	P	6	120U1286	120U1456	120U1361	-	120U1411	-
HRH047	U	P	6	120U2362	-	-	-	-	-
HRH048	U	P	6	120U2582	-	-	-	-	-
HRH049	U	P	6	120U1291	120U1461	120U1366	-	120U1416	-
	U	C	8	-	120U2482	120U2474	-	120U2478	-
HRH050	U	P	6	120U2470	-	-	-	-	-
HRH051	U	P	6	120U1296	120U1466	120U1371	120U1326	120U1421	-
HRH054	U	P	6	120U1301	120U1471	120U1376	120U1331	120U1426	-
HRH056	U	C	6	-	-	120U1386	-	120U2237	-
	U	P	6	120U1306	120U1476	120U1381	120U1336	120U1431	-
HLH061	T	C	6	-	120U2062	120U2052	-	120U2057	120U2450
	T	P	6	120U2042	-	-	120U2047	-	-
	T	C	8	-	120U2494	120U2486	-	120U2490	-
HLH068	T	C	6	-	120U1481	120U1391	-	120U1436	-
	T	P	6	120U1311	-	-	120U1341	-	-
HLJ072	T	C	8	-	120U2427	120U2417	-	120U2422	-
	T	C	6	-	120U1486	120U1396	-	120U2037	-
HLJ075	T	P	6	120U1316	-	-	120U1346	-	-
	T	C	8	-	120U2177	120U2167	-	120U2498	-
HLJ083	T	C	6	-	120U2272	120U2267	-	120U2262	-
	T	C	8	-	120U2442	120U2432	-	120U2437	-
HCH090	T	C	6	-	120U1491	120U1401	-	120U1441	120U2387
	T	P	6	120U1321	-	-	120U1351	-	-
	T	C	8	-	120U2182	120U2172	-	120U2502	-
HCH091	T	C	6	-	120U2307	120U2302	-	120U2312	-
	T	C	7	-	-	-	-	-	-
HCH105	T	C	8	-	-	121L3113	-	-	-
	T	C	6	-	-	-	-	-	-
HCH106	T	C	7	-	120U2327	120U2322	-	120U2332	-
	T	C	8	-	-	120U2578	-	-	-
HCH120	T	C	6	-	-	121L3115	-	-	-
	T	C	8	-	-	121L3121	-	-	-
HCH121	T	C	6	-	120U2347	120U2342	-	120U2352	-
	T	C	7	-	-	-	-	-	-
HCH121	T	C	8	-	120U2570	120U2562	-	-	-
	T	C	6	-	-	121L3117	-	-	-
HCH121	T	C	8	-	-	121L3121	-	-	-

Technical data and ordering

R410A - Industrial pack

Ordering

Type	Model Variation	Connect.	Features	Code no.					
				1	2	4	5	7	9
HRH029	U	P	6	120U2274	120U2279	120U2284	-	-	-
HRH031	U	P	6	120U1133	120U1248	120U1188	120U1163	120U1213	-
HRH032	U	P	6	120U1138	120U1253	120U1193	120U1168	120U1218	-
HRH034	U	P	6	120U1143	120U1258	120U2443	120U2647	120U1223	120U2651
HRH036	U	P	6	120U1148	120U1263	120U1198	120U1173	120U1228	-
HRH038	U	P	6	120U1153	120U1268	120U1203	120U1178	120U1233	-
HRH039	U	P	6	120U2463	-	-	-	-	-
HRH040	U	P	6	120U1158	120U1273	120U1208	120U1183	120U1238	-
HRH041	U	P	6	120U1278	120U1448	120U1353	-	120U1403	-
	U	C	6	-	120U2409	-	-	-	-
	U	C	8	-	120U2404	120U2394	-	120U2399	-
HRH044	U	P	6	120U1283	120U1453	120U1358	-	120U1408	-
HRH047	U	P	6	120U2359	-	-	-	-	-
HRH048	U	P	6	120U2579	-	-	-	-	-
HRH049	U	P	6	120U1288	120U1458	120U1363	-	120U1413	-
	U	C	8	-	120U2479	120U2471	-	120U2475	-
HRH050	U	P	6	120U2467	-	-	-	-	-
HRH051	U	P	6	120U1293	120U1463	120U1368	120U1323	120U1418	-
HRH054	U	P	6	120U1298	120U1468	120U1373	120U1328	120U1423	-
HRH056	U	C	6	-	-	120U1383	-	120U2234	-
HRH056	U	P	6	120U1303	120U1473	120U1378	120U1333	120U1428	-
HLH061	T	P	6	120U2039	-	-	120U2044	-	-
	T	C	6	-	120U2059	120U2049	-	120U2054	120U2447
	T	C	8	-	120U2491	120U2483	-	120U2487	-
HLH068	T	C	6	-	120U1478	120U1388	-	120U1433	-
	T	C	8	-	120U2424	120U2414	-	120U2419	-
	T	P	6	120U1308	-	-	120U1338	-	-
HLJ072	T	C	6	-	120U1483	120U1393	-	120U2034	-
	T	C	8	-	120U2174	120U2164	-	120U2495	-
	T	P	6	120U1313	-	-	120U1343	-	-
HLJ075	T	C	6	-	120U2269	120U2264	-	120U2259	120U1443
	T	C	8	-	120U2439	120U2429	-	120U2434	-
HLJ083	T	C	6	-	120U1488	120U1398	-	120U1438	120U2384
	T	C	8	-	120U2179	120U2169	-	120U2499	-
	T	P	6	120U1318	-	-	120U1348	-	-
HCJ090	T	C	6	-	120U2304	120U2299	-	-	-
	T	C	7	-	120U2539	120U2531	-	-	-
	T	C	8	-	-	-	-	-	-
HCJ091	T	C	6	-	-	121L3112	-	-	-
	T	C	8	-	-	121L3118	-	-	-
HCJ105	T	C	6	-	120U2324	120U2319	-	120U2329	-
	T	C	7	-	120U2547	120U2571	-	-	-
HCJ106	T	C	8	-	-	120U2575	-	-	-
	T	C	6	-	-	121L3114	-	-	-
HCJ120	T	C	8	-	-	121L3120	-	-	-
	T	C	6	-	120U2344	120U2339	-	120U2349	-
HCJ121	T	C	7	-	-	120U2555	-	-	-
	T	C	8	-	-	120U2559	-	-	-
HCJ121	T	C	6	-	-	121L3116	-	-	-
	T	C	8	-	-	121L3122	-	-	-

Technical data and ordering

R407C - Single pack

Ordering

Type	Model Variation	Connect.	Features	Code no.					
				1	2	4	5	7	9
HRP034	T	P	6	-	-	120U2024	120U2019	-	-
HRP038	T	P	6	-	120U1086	120U1006	120U0961	-	-
HRP040	T	P	6	-	120U1096	120U1016	120U1929	-	-
HRP042	T	P	6	-	-	120U1026	-	-	-
HRP045	T	P	6	-	-	120U1036	120U0976	-	-
HRP047	T	P	6	-	120U1126	120U1046	120U0986	-	-
HRP048	T	C	8	-	-	120U1661	-	-	-
HRP048	T	P	6	-	-	120U1656	-	-	-
HRP051	T	P	6	120U1501	120U1861	120U1681	120U2192	120U1796	-
HRP054	T	P	6	-	-	120U1691	120U2197	120U1806	-
	T	C	8	-	-	120U2004	-	-	-
HRP058	T	C	8	-	-	120U1706	-	-	-
	T	P	6	-	-	120U1701	120U1596	120U1816	-
HRP060	T	C	8	-	-	120U1731	-	-	-
	T	P	6	-	120U2297	120U1726	120U1606	120U1826	-
HLP068	T	C	6	-	-	120U2014	-	-	-
	T	P	6	-	-	-	120U1621	-	-
HLP072	T	C	6	-	-	120U1756	-	-	-
	T	C	8	-	-	120U2072	-	-	-
HLP075	T	P	6	120U1571	-	-	120U1631	-	-
	T	C	6	-	-	120U1766	-	120U1841	-
HLP078	T	P	6	120U1581	-	-	120U1641	-	-
	T	C	6	-	120U2458	120U2454	-	-	-
HLP081	T	C	6	-	120U1916	120U1781	-	120U1851	-
	T	C	8	-	-	120U1786	-	-	-
	T	P	6	120U1591	-	-	120U1651	-	-
HCP094	T	C	6	-	120U0906	120U0601	-	-	-
	T	C	7	-	-	120U0606	-	-	-
	T	C	8	-	-	120U0611	-	-	-
HCP109	T	C	6	-	-	120U0376	-	-	-
	T	C	7	-	-	120U0381	-	-	-
HCP120	T	C	8	-	-	120U0386	-	-	-
	T	C	6	-	120U0766	120U0401	-	-	-
	T	C	7	-	-	120U0406	-	-	-
	T	C	8	-	-	120U0411	-	-	-

Technical data and ordering

R407C - Industrial pack

Ordering

Type	Model Variation	Connect.	Features	Code no.					
				1	2	4	5	7	9
HRP034	T	P	6	-	-	120U2021	120U2016	-	-
HRP038	T	P	6	-	120U1083	120U1003	120U0958	-	-
HRP040	T	P	6	-	120U1093	120U1013	120U1926	-	-
HRP042	T	P	6	-	120U1103	120U1023	-	-	-
HRP045	T	P	6	-	120U1113	120U1033	-	-	-
HRP047	T	P	6	-	-	120U1043	120U0983	-	-
HRP048	T	C	8	-	-	120U1658	-	-	-
HRP048	T	P	6	-	-	120U1653	-	-	-
HRP051	T	P	6	120U1498	120U1858	120U1678	120U2189	120U1793	-
HRP054	T	P	6	-	-	120U1688	120U2194	120U1803	-
	T	C	8	-	-	120U2001	-	-	-
HRP058	T	C	8	-	-	120U1703	-	-	-
	T	P	6	-	-	120U1698	120U1593	120U1813	-
HRP060	T	C	8	-	-	120U1728	-	-	-
	T	P	6	-	120U2297	120U1723	120U1603	120U1823	-
HLP068	T	C	6	-	-	120U2011	-	-	-
	T	P	6	120U1558	-	-	120U1618	-	-
HLP072	T	C	6	-	-	120U1753	-	-	-
	T	C	8	-	-	120U2074	-	-	-
	T	P	6	120U1568	-	-	120U1628	-	-
HLP075	T	C	6	-	-	120U1763	-	120U1838	-
	T	P	6	120U1578	-	-	120U1638	-	-
HLP078	T	C	6	-	120U2455	120U2451	-	-	-
HLP081	T	C	6	-	120U1913	120U1778	-	120U1848	-
	T	C	8	-	-	120U1783	-	-	-
	T	P	6	120U1588	-	-	120U1648	-	-
HCP094	T	C	6	-	-	120U0598	-	-	-
	T	C	7	-	-	120U0603	-	-	-
	T	C	8	-	-	120U0608	-	-	-
HCP109	T	C	6	-	-	120U0373	-	-	-
	T	C	7	-	-	-	-	-	-
HCP120	T	C	8	-	-	120U0383	-	-	-
	T	C	6	-	-	120U0398	-	-	-
	T	C	7	-	-	-	-	-	-
	T	C	8	-	-	120U0408	-	-	-

Technical data and ordering

R22 - Single pack

Ordering

Type	Model Variation	Connect.	Features	Code no.					
				1	2	4	5	7	9
HRM032	U	P	6	120U0921	120U2029	120U0996	-	-	-
	T	P	6	-	-	-	120U0956	-	-
HRM034	U	P	6	120U0926	120U1081	120U1001	-	120U2232	-
	T	P	6	-	-	120U2367	120U2122	-	120U2087
HRM038	U	P	6	120U0931	120U1091	120U1011	120U0966	120U1056	-
	T	P	6	-	-	120U2372	120U2137	-	120U2092
HRM040	U	P	6	120U0936	120U1101	120U1021	120U2147	120U1061	-
	T	P	6	-	-	120U2377	120U2142	-	120U2462
HRM042	U	P	6	120U0941	120U1111	120U1031	120U0971	120U1066	-
	T	P	6	-	-	120U2127	120U2152	-	120U2107
HRM045	U	P	6	120U0946	120U1121	120U1041	120U0981	120U1071	-
HRM047	U	P	6	120U0951	120U1131	120U1051	120U0991	120U1076	-
	T	P	6	-	-	120U2132	120U2162	-	120U2097
HRM048	U	C	8	-	-	120U1671	-	-	-
	U	P	6	120U1496	-	120U1666	-	120U1791	-
HRM051	T	P	6	-	-	120U1676	120U2187	-	120U2382
	U	P	6	120U1506	120U1866	120U1686	120U2252	120U1801	-
HRM054	U	C	6	120U1516	-	-	-	-	-
	U	P	6	120U1511	120U1871	120U1696	120U2257	120U1811	-
HRM058	T	P	6	120U1521	-	-	-	-	120U2112
	U	C	6	120U1536	-	-	-	-	-
HRM060	U	P	6	120U1531	120U1876	120U1711	-	120U1821	-
	T	P	6	120U1541	-	120U1721	-	-	120U2082
HRM068	T	C	6	120U2242	-	-	-	-	-
	U	C	6	120U1551	120U2077	-	-	-	-
HLM068	U	C	8	-	-	120U1741	-	-	-
	U	P	6	120U1546	120U1881	120U1736	120U1611	120U1831	-
HLM072	T	C	6	-	120U1891	120U1746	-	120U2598	120U2392
	T	P	6	120U1556	-	-	120U1616	-	-
HLM075	T	C	6	-	120U1896	120U1751	-	120U2602	120U1856
	T	C	8	-	120U2202	120U2067	-	-	-
HLM078	T	P	6	120U1566	-	-	120U1626	-	-
	T	C	6	-	120U1901	120U1761	-	120U1836	-
HLM081	T	P	6	120U1576	-	-	120U1636	-	-
	T	C	6	-	120U1906	120U1771	-	-	-
HCM094	T	C	6	-	120U1911	120U1776	-	120U1846	120U2102
	T	P	6	120U1586	-	-	120U1646	-	-
HCM109	T	C	6	-	120U0891	120U0581	-	120U0711	120U0746
	T	C	7	-	-	120U0586	-	-	-
HCM120	T	C	8	-	-	120U0596	-	-	-
	T	C	6	-	120U2506	120U0366	-	-	-
HCM109	T	C	7	-	-	-	-	-	-
	T	C	8	-	-	120U1924	-	-	-
HCM120	T	C	6	-	120U0761	120U0391	-	-	-
	T	C	7	-	-	120U0396	-	-	-
	T	C	8	-	-	120U2207	-	-	-

Technical data and ordering

R22 - Industrial pack

Ordering

Type	Model Variation	Connect.	Features	Code no.					
				1	2	4	5	7	9
HRM032	U	P	6	120U0918	120U2026	120U0993	–	–	–
	T	P	6	–	–	–	120U0953	–	–
HRM034	T	P	6	–	–	120U2364	120U2119	–	120U2084
	U	P	6	120U0923	120U1078	120U0998	–	120U2229	–
HRM038	T	P	6	–	–	120U2369	120U2134	–	120U2089
	U	P	6	120U0928	120U1088	120U1008	120U0963	120U1053	–
HRM040	T	P	6	–	–	120U2374	120U2139	–	120U2459
	U	P	6	120U0933	120U1098	120U1018	120U2144	120U1058	–
HRM042	T	P	6	–	–	120U2124	120U2149	–	120U2104
	U	P	6	120U0938	120U1108	120U1028	120U0968	120U1063	–
HRM045	U	P	6	120U0943	120U1118	120U1038	120U0978	120U1068	–
HRM047	T	P	6	–	–	120U2129	120U2159	–	120U2094
	U	P	6	120U0948	120U1128	120U1048	120U0988	120U1073	–
HRM048	U	C	8	–	–	120U1668	–	–	–
	U	P	6	120U1493	–	120U1663	–	120U1788	–
HRM051	T	P	6	–	–	120U1673	120U2184	–	120U2379
	U	P	6	120U1503	120U1863	120U1683	120U2249	120U1798	–
HRM054	T	P	6	–	–	–	–	–	120U2289
	U	C	6	120U1513	–	–	–	–	–
HRM058	U	P	6	120U1508	120U1868	120U1693	120U2254	120U1808	–
	T	C	6	120U1523	–	–	–	–	–
	T	P	6	120U1518	–	–	–	–	120U2109
	U	C	6	120U1533	–	–	–	–	–
	U	C	8	–	–	120U1716	–	–	–
HRM060	U	P	6	120U1528	120U1873	120U1708	120U1598	120U1818	–
	T	C	6	120U2239	–	–	–	–	–
	T	P	6	120U1538	–	120U1718	–	–	120U2079
	U	C	6	120U1548	120U2074	–	–	–	–
	U	C	8	–	–	120U1738	–	–	–
HLM068	U	P	6	120U1543	120U1878	120U1733	120U1608	120U1828	–
	T	C	6	–	120U1888	120U1743	–	120U2595	120U2389
HLM072	T	P	6	120U1553	–	–	120U1613	–	–
	T	C	6	–	120U1893	120U1748	–	120U2599	120U1853
	T	C	8	–	120U2199	120U2064	–	–	–
HLM075	T	P	6	120U1563	–	–	120U1623	–	–
	T	C	6	–	120U1898	120U1758	–	120U1833	–
HLM078	T	P	6	120U1573	–	–	120U1633	–	–
	T	C	6	–	120U1903	120U1768	–	–	–
HLM081	T	C	6	–	120U1908	120U1773	–	120U1843	120U2099
	T	C	8	–	–	120U2006	–	–	–
	T	P	6	120U1583	–	–	120U1643	–	–
HCM094	T	C	6	–	120U0888	120U0578	–	–	120U0743
	T	C	7	–	–	120U0583	–	–	–
	T	C	8	–	–	–	–	–	–
HCM109	T	C	6	–	–	120U0363	–	–	–
	T	C	7	–	–	–	–	–	–
	T	C	8	–	–	–	–	–	–
HCM120	T	C	6	–	120U0758	120U0388	–	–	–
	T	C	7	–	–	–	–	–	–
	T	C	8	–	–	–	–	–	–

Technical data and ordering

H-Series - Scroll compressors - R410A - 50 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HRH029U4	35	-	-	2670	1.62	3480	1.60	4430	1.58	5550	1.56	6850	1.54	8330	1.52	10010	1.49
	55	-	-	-	-	-	-	-	-	4150	2.56	5230	2.52	6460	2.48	7860	2.44
HRH031U4	35	-	-	2870	1.74	3730	1.71	4750	1.69	5950	1.67	7340	1.65	8930	1.63	10730	1.60
	55	-	-	-	-	-	-	-	-	4380	2.82	5520	2.78	6830	2.74	8300	2.69
HRH032U4	35	-	-	2910	1.71	3780	1.68	4820	1.66	6040	1.65	7450	1.63	9060	1.60	10890	1.57
	55	-	-	-	-	-	-	-	-	4470	2.91	5630	2.87	6960	2.82	8470	2.78
HRH034U4	35	-	-	3220	1.88	4190	1.86	5340	1.83	6690	1.81	8250	1.79	10030	1.77	12060	1.74
	55	-	-	-	-	-	-	-	-	4950	3.06	6230	3.01	7700	2.97	9370	2.91
HRH036U4	35	-	-	3350	1.98	4350	1.95	5550	1.93	6950	1.91	8570	1.88	10420	1.86	12530	1.82
	55	-	-	-	-	-	-	-	-	5130	3.31	6470	3.26	8000	3.21	9730	3.15
HRH038U4	35	-	-	3550	2.16	4610	2.13	5880	2.10	7360	2.08	9080	2.05	11050	2.02	13280	1.99
	55	-	-	-	-	-	-	-	-	5390	3.55	6790	3.49	8390	3.44	10210	3.38
HRH040U4	35	-	-	3850	2.34	5010	2.31	6390	2.28	8000	2.25	9870	2.23	12000	2.20	14430	2.16
	55	-	-	-	-	-	-	-	-	5940	3.78	7480	3.73	9250	3.67	11250	3.60
HRH041U4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HRH044U4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HRH047U4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HRH048U4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HRH049U4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HRH050U4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HRH051U4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HRH054U4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HRH056U4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HLH061T4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HLH068T4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HLJ072T4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HLJ075T4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HLJ083T4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HCJ090T4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HCJ091T4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HCJ105T4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HCJ106T4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HCJ120T4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
HCJ121T4	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07
	35	-	-	4450	2.13	5560	2.15	6790	2.17	8210	2.17	9880	2.15	11840	2.12	14170	2.07

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

H: Heating capacity in [W]

Pe: Power input in [kW]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage code: G: 380 - 480 V / 3 / 50 Hz

Technical data and ordering

H-Series - Scroll compressors - R410A - 60 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HRH029U4	35	-	-	3210	1.91	4180	1.89	5320	1.87	6670	1.84	8220	1.82	10000	1.80	12020	1.77
	55	-	-	-	-	-	-	-	-	4950	2.99	6230	2.95	7710	2.90	9370	2.85
HRH031U4	35	-	-	3430	2.05	4470	2.02	5690	2.00	7130	1.97	8790	1.95	10700	1.92	12860	1.89
	55	-	-	-	-	-	-	-	-	5290	3.20	6660	3.15	8240	3.10	10020	3.05
HRH032U4	35	-	-	3520	2.10	4580	2.07	5840	2.05	7310	2.02	9010	2.00	10970	1.97	13180	1.94
	55	-	-	-	-	-	-	-	-	5460	3.27	6880	3.22	8500	3.17	10350	3.12
HRH034U4	35	-	-	3810	2.25	4950	2.22	6310	2.20	7900	2.17	9750	2.15	11860	2.12	14250	2.08
	55	-	-	-	-	-	-	-	-	5880	3.56	7420	3.51	9170	3.46	11150	3.40
HRH036U4	35	-	-	3940	2.33	5120	2.30	6520	2.27	8170	2.25	10080	2.22	12260	2.19	14740	2.15
	55	-	-	-	-	-	-	-	-	6040	3.66	7610	3.60	9400	3.54	11440	3.48
HRH038U4	35	-	-	4180	2.47	5440	2.44	6930	2.41	8680	2.38	10710	2.35	13030	2.32	15660	2.28
	55	-	-	-	-	-	-	-	-	6460	4.00	8150	3.94	10070	3.87	12250	3.81
HRH040U4	35	-	-	4560	2.69	5930	2.65	7560	2.62	9470	2.59	11680	2.56	14210	2.53	17080	2.48
	55	-	-	-	-	-	-	-	-	7080	4.24	8920	4.18	11030	4.12	13420	4.04
HRH041U4	35	-	-	5380	2.55	6720	2.58	8210	2.59	9930	2.60	11940	2.58	14310	2.54	17130	2.48
	55	-	-	-	-	-	-	-	-	7340	4.11	9150	4.12	11080	4.11	13200	4.09
HRH044U4	35	-	-	5830	2.70	7280	2.73	8890	2.75	10750	2.75	12930	2.73	15500	2.69	18550	2.63
	55	-	-	-	-	-	-	-	-	7890	4.38	9840	4.39	11910	4.38	14190	4.35
HRH047U4	35	-	-	5130	3.00	6670	2.96	8500	2.93	10640	2.89	13130	2.86	15970	2.82	19190	2.77
	55	-	-	-	-	-	-	-	-	7930	4.80	10000	4.73	12360	4.66	15030	4.58
HRH048U4	35	-	-	5350	3.14	6960	3.10	8880	3.06	11120	3.02	13710	2.99	16680	2.95	20050	2.90
	55	-	-	-	-	-	-	-	-	8220	4.93	10360	4.86	12810	4.78	15580	4.70
HRH049U4	35	-	-	6380	2.95	7970	2.98	9740	3.00	11770	3.00	14150	2.98	16970	2.94	20310	2.87
	55	-	-	-	-	-	-	-	-	8710	4.74	10860	4.75	13150	4.74	15670	4.71
HRH050U4	35	-	-	5620	3.29	7310	3.25	9320	3.21	11670	3.18	14400	3.14	17520	3.10	21060	3.04
	55	-	-	-	-	-	-	-	-	8610	5.16	10860	5.09	13420	5.01	16320	4.92
HRH051U4	35	-	-	6800	3.10	8490	3.13	10370	3.15	12540	3.15	15080	3.13	18080	3.08	21640	3.01
	55	-	-	-	-	-	-	-	-	9200	4.92	11470	4.92	13890	4.91	16560	4.88
HRH054U4	35	-	-	7160	3.31	8940	3.35	10920	3.37	13200	3.37	15870	3.35	19030	3.30	22780	3.22
	55	-	-	-	-	-	-	-	-	9680	5.22	12070	5.23	14620	5.22	17420	5.19
HRH056U4	35	-	-	6320	3.65	8220	3.60	10470	3.56	13120	3.52	16170	3.48	19680	3.43	23650	3.37
	55	-	-	-	-	-	-	-	-	9700	5.65	12230	5.57	15120	5.48	18390	5.38
HLH061T4	35	6160	3.82	8040	3.89	10050	3.93	12270	3.95	14840	3.95	17840	3.93	21390	3.87	25600	3.79
	55	-	-	-	-	-	-	8360	5.78	11000	5.81	13720	5.82	16610	5.81	19790	5.77
HLH068T4	35	6810	4.10	8880	4.16	11090	4.21	13550	4.23	16380	4.23	19700	4.20	23620	4.14	28260	4.05
	55	-	-	-	-	-	-	9280	6.37	12210	6.39	15220	6.40	18440	6.39	21970	6.35
HLJ072T4	35	7190	4.31	9380	4.38	11710	4.43	14310	4.45	17290	4.45	20790	4.42	24930	4.36	29840	4.26
	55	-	-	-	-	-	-	9800	6.72	12890	6.75	16070	6.76	19460	6.75	23190	6.70
HLJ075T4	35	7680	4.62	10040	4.70	12540	4.75	15320	4.78	18510	4.78	22260	4.75	26700	4.68	31950	4.58
	55	-	-	-	-	-	-	10280	6.92	13540	6.96	16880	6.97	20440	6.95	24350	6.91
HLJ083T4	35	8320	5.08	10860	5.17	13570	5.23	16570	5.26	20030	5.26	24090	5.22	28890	5.15	34570	5.03
	55	-	-	-	-	-	-	11220	7.62	14770	7.66	18410	7.67	22290	7.65	26560	7.60
HCJ090T4	35	9020	5.49	11770	5.57	14710	5.61	17990	5.61	21740	5.61	26110	5.62	31250	5.68	37300	5.79
	55	-	-	-	-	-	-	13710	8.55	16960	8.59	20540	8.59	24600	8.58	29280	8.58
HCJ091T4	35	9770	5.36	12280	5.38	15200	5.42	18590	5.46	22510	5.51	27020	5.57	32180	5.64	38040	5.71
	55	-	-	-	-	-	-	13910	8.43	17050	8.43	20680	8.44	24850	8.46	29640	8.50
HCJ105T4	35	10580	6.03	13810	6.13	17350	6.21	21310	6.29	25790	6.39	30920	6.51	36790	6.69	43510	6.93
	55	-	-	-	-	-	-	15690	9.53	19420	9.62	23650	9.71	28510	9.81	34100	9.94
HCJ106T4	35	11410	6.19	14330	6.25	17740	6.30	21700	6.35	26270	6.41	31530	6.48	37550	6.56	44390	6.66
	55	-	-	-	-	-	-	16230	9.75	19890	9.76	24130	9.77	29000	9.79	34580	9.81
HCJ120T4	35	12110	7.01	15810	7.13	19860	7.22	24390	7.30	29520	7.39	35390	7.53	42110	7.74	49810	8.04
	55	-	-	-	-	-	-	17950	10.94	22190	11.00	27030	11.08	32580	11.20	38980	11.38
HCJ121T4	35	12950	7.09	16270	7.12	20130	7.17	24620	7.22	29800	7.29	35770	7.36	42590	7.46	50340	7.56
	55	-	-	-	-	-	-	18430	11.14	22580	11.15	27390	11.17	32910	11.20	39240	11.25

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

H: Heating capacity in [W]

Pe: Power input in [kW]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage code: G: 380 - 480 V / 3 / 60 Hz

Technical data and ordering

H-Series - Scroll compressors - R407C - 50 Hz

Performance table

Type	To	-25			-20		-15		-10		-5		0		5		10	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	
HRP025T4	35	1920	1.11	2440	1.15	3050	1.18	3750	1.21	4550	1.24	5460	1.26	6480	1.29	7630	1.32	
	55	-	-	-	-	-	-	3020	1.76	3680	1.81	4440	1.85	5290	1.88	6240	1.89	
HRP034T4	35	2480	1.73	3190	1.71	4050	1.70	5080	1.69	6290	1.68	7710	1.67	9340	1.64	11220	1.59	
	55	-	-	-	-	-	-	3790	2.77	4760	2.76	5900	2.75	7220	2.73	8740	2.71	
HRP038T4	35	2710	1.85	3480	1.83	4410	1.82	5530	1.82	6850	1.80	8390	1.79	10170	1.76	12210	1.71	
	55	-	-	-	-	-	-	4230	2.91	5300	2.90	6570	2.89	8040	2.87	9740	2.84	
HRP040T4	35	2850	2.03	3670	2.01	4660	2.00	5840	1.99	7230	1.97	8850	1.95	10730	1.92	12890	1.87	
	55	-	-	-	-	-	-	4350	3.24	5460	3.23	6770	3.22	8280	3.20	10030	3.17	
HRP042T4	35	3000	2.13	3860	2.11	4900	2.10	6140	2.09	7600	2.08	9310	2.06	11290	2.02	13560	1.97	
	55	-	-	-	-	-	-	4570	3.41	5740	3.40	7120	3.38	8710	3.36	10550	3.33	
HRP045T4	35	3270	2.19	4200	2.16	5320	2.15	6670	2.14	8260	2.13	10120	2.11	12270	2.07	14720	2.01	
	55	-	-	-	-	-	-	5170	3.70	6490	3.69	8040	3.68	9840	3.66	11920	3.62	
HRP047T4	35	3430	2.30	4410	2.28	5600	2.26	7020	2.25	8690	2.24	10650	2.22	12910	2.18	15500	2.12	
	55	-	-	-	-	-	-	5320	3.81	6680	3.80	8270	3.78	10130	3.76	12270	3.73	
HRP048T4	35	3460	2.39	4450	2.38	5640	2.37	7070	2.36	8760	2.35	10730	2.32	13010	2.28	15620	2.23	
	55	-	-	-	-	-	-	5300	3.44	6660	3.44	8250	3.42	10100	3.40	12230	3.37	
HRP051T4	35	3750	2.33	4790	2.36	6070	2.39	7610	2.42	9420	2.46	11540	2.50	14000	2.54	16810	2.60	
	55	-	-	-	-	-	-	5830	4.00	7300	3.95	9030	3.91	11040	3.89	13350	3.87	
HRP054T4	35	3920	2.44	5010	2.46	6350	2.50	7950	2.53	9850	2.57	12070	2.61	14630	2.66	17580	2.72	
	55	-	-	-	-	-	-	6050	4.15	7570	4.10	9360	4.06	11440	4.03	13840	4.01	
HRP058T4	35	4200	2.61	5380	2.64	6810	2.68	8530	2.71	10560	2.75	12940	2.80	15690	2.85	18840	2.91	
	55	-	-	-	-	-	-	6490	4.45	8120	4.39	10030	4.35	12260	4.32	14840	4.30	
HRP060T4	35	4340	2.71	5560	2.74	7040	2.78	8820	2.81	10920	2.85	13380	2.90	16230	2.95	19490	3.02	
	55	-	-	-	-	-	-	6690	4.50	8350	4.42	10320	4.36	12610	4.32	15260	4.31	
HLP068T4	35	5320	3.37	6830	3.42	8630	3.46	10790	3.50	13340	3.55	16330	3.60	19820	3.67	23850	3.77	
	55	-	-	-	-	-	-	7760	5.43	9540	5.31	11680	5.22	14240	5.16	17260	5.15	
HLP072T4	35	5580	3.57	7170	3.66	9060	3.71	11330	3.75	14010	3.78	17150	3.83	20810	3.89	25040	4.00	
	55	-	-	-	-	-	-	8200	5.76	10090	5.56	12370	5.42	15080	5.35	18280	5.37	
HLP075T4	35	5550	3.84	7130	3.81	9040	3.80	11330	3.78	14040	3.76	17200	3.72	20850	3.65	25020	3.56	
	55	-	-	-	-	-	-	8620	5.70	10820	5.69	13410	5.67	16410	5.64	19880	5.58	
HLP078T4	35	5940	3.42	7600	3.46	9620	3.50	12050	3.55	14930	3.61	18290	3.67	22180	3.74	26630	3.81	
	55	-	-	-	-	-	-	9220	6.04	11550	6.00	14280	5.96	17460	5.93	21130	5.91	
HLP081T4	35	5730	4.16	7330	4.15	9280	4.13	11640	4.11	14420	4.07	17660	4.02	21400	3.95	25670	3.85	
	55	-	-	-	-	-	-	9340	6.26	11700	6.21	14490	6.16	17750	6.10	21510	6.02	
HCP094T4	35	6600	4.61	8480	4.59	10750	4.57	13480	4.55	16690	4.52	20450	4.47	24790	4.40	29750	4.29	
	55	-	-	-	-	-	-	10320	6.83	12960	6.81	16050	6.78	19650	6.74	23800	6.68	
HCP109T4	35	8100	4.80	10230	4.93	12990	5.02	16360	5.09	20270	5.15	24670	5.21	29530	5.26	34780	5.32	
	55	-	-	-	-	-	-	12560	7.84	15580	7.98	19310	8.05	23700	8.06	28700	8.01	
HCP120T4	35	8980	5.49	11340	5.64	14380	5.75	18060	5.81	22330	5.86	27160	5.91	32520	5.98	38360	6.07	
	55	-	-	-	-	-	-	13670	8.82	16830	8.94	20810	8.99	25560	9.01	31050	8.99	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

H: Heating capacity in [W]

Pe: Power input in [kW]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage code: G: 380 - 480 V / 3 / 50 Hz

Technical data and ordering

H-Series, Scroll compressors - R407C - 60 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HRP025T4	35	2310	1.31	2930	1.35	3650	1.40	4500	1.43	5460	1.47	6550	1.50	7780	1.53	9150	1.57
	55	-	-	-	-	-	-	3620	2.09	4420	2.15	5320	2.20	6340	2.23	7490	2.25
HRP034T4	35	2960	2.17	3810	2.15	4840	2.14	6060	2.13	7510	2.12	9190	2.09	11150	2.06	13390	2.01
	55	-	-	-	-	-	-	4530	3.34	5690	3.33	7050	3.31	8630	3.30	10450	3.26
HRP040T4	35	3490	2.07	4460	2.08	5650	2.11	7070	2.14	8760	2.18	10730	2.22	13010	2.26	15640	2.29
	55	-	-	-	-	-	-	5320	3.79	6630	3.78	8180	3.78	9990	3.77	12100	3.75
HRP042T4	35	3630	2.51	4670	2.49	5930	2.47	7430	2.46	9200	2.45	11270	2.42	13660	2.38	16410	2.32
	55	-	-	-	-	-	-	5510	4.02	6920	4.01	8570	4.00	10490	3.97	12710	3.94
HRP047T4	35	4110	2.38	5260	2.40	6660	2.43	8330	2.47	10310	2.51	12630	2.56	15320	2.60	18420	2.64
	55	-	-	-	-	-	-	6180	4.34	7670	4.33	9450	4.32	11530	4.31	13970	4.29
HRP051T4	35	4410	2.98	5660	2.96	7180	2.94	9000	2.93	11150	2.91	13660	2.88	16560	2.83	19870	2.76
	55	-	-	-	-	-	-	6880	4.60	8630	4.58	10690	4.57	13090	4.54	15850	4.50
HRP060T4	35	5100	3.53	6560	3.50	8320	3.48	10430	3.47	12910	3.44	15820	3.41	19170	3.35	23020	3.27
	55	-	-	-	-	-	-	7920	5.50	9950	5.48	12320	5.46	15080	5.43	18270	5.38
HLP072T4	35	6700	4.23	8600	4.30	10880	4.36	13590	4.40	16810	4.45	20580	4.52	24980	4.61	30050	4.74
	55	-	-	-	-	-	-	9830	6.70	12110	6.53	14840	6.40	18100	6.32	21940	6.30
HLP078T4	35	7120	4.32	9110	4.37	11540	4.43	14460	4.49	17910	4.55	21940	4.63	26610	4.72	31950	4.82
	55	-	-	-	-	-	-	11070	7.30	13860	7.19	17150	7.11	20960	7.05	25360	7.03
HLP081T4	35	6880	4.95	8790	4.92	11140	4.90	13960	4.88	17300	4.85	21200	4.80	25680	4.72	30800	4.60
	55	-	-	-	-	-	-	11210	7.34	14040	7.33	17390	7.31	21300	7.26	25810	7.19
HCP094T4	35	8220	4.91	10390	5.05	13170	5.14	16550	5.20	20470	5.24	24910	5.28	29820	5.34	35160	5.43
	55	-	-	-	-	-	-	12570	7.85	15490	7.94	19160	7.99	23530	8.00	28560	7.99
HCP120T4	35	10760	6.69	13600	6.90	17240	7.01	21650	7.07	26770	7.11	32570	7.16	38990	7.24	45990	7.40
	55	-	-	-	-	-	-	16410	10.56	20210	10.65	24980	10.69	30680	10.70	37260	10.74

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

H: Heating capacity in [W]

Pe: Power input in [kW]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage code: G: 380 – 480 V / 3 / 60 Hz

Technical data and ordering

H-Series, Scroll compressors - R22 - 50 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HRM025T4	35	--	--	2550	1.33	3100	1.32	3810	1.31	4670	1.30	5660	1.28	6780	1.26	8010	1.22
	55	--	--	--	--	--	--	--	--	3600	1.95	4490	1.91	5450	1.89	6480	1.88
HRM032T4	35	--	--	3280	1.45	4000	1.44	4930	1.45	6040	1.48	7330	1.53	8780	1.57	10350	1.59
	55	--	--	--	--	--	--	--	--	4750	2.27	5940	2.33	7210	2.37	8550	2.38
HRM032U4	35	--	--	3330	1.69	4050	1.67	4980	1.66	6110	1.65	7400	1.63	8870	1.60	10470	1.54
	55	--	--	--	--	--	--	--	--	4760	2.68	5930	2.63	7200	2.60	8560	2.58
HRM034T4	35	2950	1.83	3470	1.80	4220	1.79	5190	1.77	6350	1.76	7700	1.74	9220	1.70	10890	1.65
	55	--	--	--	--	--	--	3870	2.70	4970	2.62	6190	2.57	7530	2.53	8950	2.52
HRM034U4	35	--	--	3530	1.75	4300	1.73	5280	1.72	6470	1.71	7840	1.69	9390	1.65	11090	1.60
	55	--	--	--	--	--	--	--	--	5060	2.80	6300	2.74	7660	2.71	9110	2.69
HRM038T4	35	3340	1.98	3930	1.94	4780	1.92	5880	1.91	7200	1.89	8740	1.87	10460	1.83	12350	1.78
	55	--	--	--	--	--	--	4350	3.02	5590	2.93	6970	2.87	8460	2.83	10070	2.81
HRM038U4	35	--	--	3970	1.93	4830	1.90	5940	1.89	7270	1.88	8820	1.85	10560	1.82	12480	1.76
	55	--	--	--	--	--	--	--	--	5590	3.10	6970	3.04	8470	3.00	10070	2.98
HRM040T4	35	3480	2.12	4100	2.09	4990	2.06	6130	2.05	7510	2.03	9110	2.01	10900	1.97	12880	1.91
	55	--	--	--	--	--	--	4540	3.12	5840	3.02	7280	2.96	8840	2.93	10510	2.91
HRM040U4	35	--	--	4140	1.99	5030	1.97	6190	1.96	7580	1.94	9190	1.92	11000	1.88	13000	1.82
	55	--	--	--	--	--	--	--	--	5880	3.14	7330	3.07	8900	3.04	10590	3.02
HRM042T4	35	3660	2.23	4310	2.19	5240	2.17	6450	2.15	7900	2.13	9580	2.11	11460	2.07	13540	2.01
	55	--	--	--	--	--	--	4760	3.33	6120	3.23	7630	3.16	9270	3.13	11020	3.10
HRM042U4	35	--	--	4340	2.09	5280	2.07	6490	2.05	7950	2.04	9640	2.01	11550	1.97	13640	1.91
	55	--	--	--	--	--	--	--	--	6170	3.29	7690	3.23	9350	3.19	11120	3.17
HRM045U4	35	--	--	4690	2.22	5710	2.19	7020	2.17	8600	2.16	10420	2.13	12480	2.09	14740	2.02
	55	--	--	--	--	--	--	--	--	6620	3.64	8260	3.56	10030	3.52	11920	3.50
HRM047T4	35	4170	2.43	4910	2.38	5970	2.36	7340	2.34	8990	2.32	10900	2.30	13050	2.25	15420	2.18
	55	--	--	--	--	--	--	5430	3.75	6970	3.63	8690	3.56	10560	3.52	12560	3.49
HRM047U4	35	--	--	4910	2.32	5970	2.30	7340	2.28	8990	2.26	10900	2.24	13050	2.19	15420	2.12
	55	--	--	--	--	--	--	--	--	6970	3.75	8690	3.68	10550	3.63	12550	3.61
HRM048U4	35	--	--	4940	2.36	6010	2.36	7390	2.36	9060	2.35	10980	2.33	13150	2.29	15530	2.23
	55	--	--	--	--	--	--	--	--	6970	3.67	8690	3.64	10560	3.62	12550	3.61
HRM051T4	35	4430	2.43	5210	2.35	6340	2.32	7810	2.33	9580	2.38	11620	2.44	13910	2.51	16410	2.56
	55	--	--	--	--	--	--	5820	3.48	7500	3.56	9370	3.64	11380	3.70	13500	3.74
HRM051U4	35	--	--	5310	2.48	6460	2.47	7940	2.47	9730	2.46	11800	2.44	14120	2.40	16680	2.34
	55	--	--	--	--	--	--	--	--	7760	3.95	9670	3.91	11750	3.89	13980	3.88
HRM054T4	35	--	--	5610	2.39	6830	2.37	8410	2.39	10310	2.44	12510	2.51	14970	2.57	17670	2.62
	55	--	--	--	--	--	--	--	--	8060	3.72	10050	3.81	12210	3.87	14500	3.90
HRM054U4	35	--	--	5620	2.60	6840	2.60	8410	2.60	10300	2.59	12490	2.56	14950	2.52	17660	2.46
	55	--	--	--	--	--	--	--	--	8110	4.09	10110	4.05	12290	4.03	14610	4.02
HRM058U4	35	--	--	6030	2.79	7340	2.79	9020	2.79	11050	2.77	13400	2.75	16040	2.71	18940	2.64
	55	--	--	--	--	--	--	--	--	8690	4.38	10830	4.34	13160	4.32	15650	4.31
HRM060T4	35	5210	2.85	6120	2.75	7460	2.72	9190	2.73	11270	2.78	13670	2.85	16360	2.93	19310	3.00
	55	--	--	--	--	--	--	6840	4.07	8830	4.15	11020	4.24	13380	4.31	15880	4.36
HRM060U4	35	--	--	6230	2.88	7580	2.88	9320	2.88	11420	2.87	13850	2.84	16580	2.80	19580	2.73
	55	--	--	--	--	--	--	--	--	8980	4.53	11190	4.49	13600	4.47	16180	4.45
HLM068T4	35	6120	3.36	7200	3.25	8760	3.21	10770	3.22	13200	3.28	16000	3.36	19160	3.45	22630	3.54
	55	--	--	--	--	--	--	7950	4.76	10220	4.85	12740	4.94	15480	5.03	18410	5.09
HLM072T4	35	6420	3.53	7550	3.41	9190	3.36	11310	3.38	13860	3.44	16810	3.53	20130	3.63	23760	3.71
	55	--	--	--	--	--	--	8390	5.02	10810	5.13	13480	5.23	16370	5.32	19450	5.38
HLM075T4	35	6520	3.70	7650	3.70	9310	3.70	11440	3.70	14020	3.68	17000	3.65	20350	3.59	24030	3.51
	55	--	--	--	--	--	--	8700	5.59	11170	5.52	13920	5.48	16920	5.45	20120	5.43
HLM078T4	35	6760	3.61	7940	3.46	9700	3.43	11980	3.48	14720	3.57	17870	3.69	21380	3.78	25180	3.82
	55	--	--	--	--	--	--	9060	5.42	11780	5.62	14740	5.79	17890	5.88	21160	5.87
HLM081T4	35	7370	3.86	8670	3.72	10540	3.67	12940	3.70	15840	3.78	19200	3.89	22990	3.99	27190	4.07
	55	--	--	--	--	--	--	9480	5.60	12140	5.75	15110	5.89	18370	5.99	21880	6.03
HCM094T4	35	8240	4.77	9680	4.78	11780	4.79	14480	4.78	17740	4.76	21510	4.72	25760	4.64	30420	4.54
	55	--	--	--	--	--	--	10880	7.08	13970	6.99	17410	6.93	21160	6.89	25160	6.87
HCM109T4	35	9480	5.94	11140	5.86	13550	5.80	16660	5.76	20410	5.71	24750	5.64	29630	5.54	34990	5.38
	55	--	--	--	--	--	--	12600	8.39	16170	8.15	20160	7.98	24500	7.88	29140	7.83
HCM120T4	35	8980	5.61	11550	5.71	14710	5.78	18410	5.84	22610	5.88	27260	5.93	32320	6.01	37740	6.11
	55	--	--	--	--	--	--	14550	9.27	18150	9.00	22220	8.87	26730	8.90	31630	9.09

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

H: Heating capacity in [W]

Pe: Power input in [kW]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage code: G: 380 - 480 V / 3 / 50 Hz

Technical data and ordering

H-Series, Scroll compressors - R22 - 60 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HRM025T4	35	-	-	3030	1.59	3690	1.58	4530	1.56	5550	1.55	6730	1.53	8060	1.50	9530	1.46
	55	-	-	-	-	-	-	-	-	4290	2.33	5350	2.28	6500	2.25	7730	2.24
HRM032T4	35	-	-	3900	1.78	4750	1.76	5850	1.77	7180	1.80	8710	1.85	10420	1.90	12300	1.94
	55	-	-	-	-	-	-	-	-	5620	2.69	7020	2.75	8530	2.80	10120	2.83
HRM032U4	35	-	-	3930	1.96	4780	1.94	5870	1.93	7200	1.91	8730	1.89	10450	1.85	12340	1.79
	55	-	-	-	-	-	-	-	-	5640	3.09	7040	3.03	8550	2.99	10170	2.97
HRM034T4	35	3570	2.17	4200	2.14	5110	2.12	6280	2.10	7690	2.08	9330	2.06	11170	2.02	13190	1.96
	55	-	-	-	-	-	-	4700	3.22	6030	3.13	7520	3.06	9140	3.02	10870	3.00
HRM034U4	35	-	-	4190	2.05	5100	2.03	6280	2.01	7690	2.00	9320	1.98	11160	1.94	13180	1.87
	55	-	-	-	-	-	-	-	-	5940	3.23	7410	3.16	9000	3.13	10700	3.10
HRM038T4	35	3980	2.36	4680	2.32	5700	2.30	7000	2.28	8580	2.26	10400	2.23	12460	2.19	14710	2.13
	55	-	-	-	-	-	-	5220	3.52	6710	3.42	8360	3.35	10160	3.31	12080	3.28
HRM038U4	35	-	-	4760	2.30	5800	2.27	7120	2.25	8730	2.24	10580	2.21	12670	2.17	14970	2.10
	55	-	-	-	-	-	-	-	-	6740	3.56	8400	3.49	10210	3.45	12140	3.43
HRM040T4	35	4150	2.51	4880	2.47	5940	2.45	7300	2.43	8950	2.41	10850	2.38	12990	2.34	15340	2.27
	55	-	-	-	-	-	-	5430	3.69	6970	3.58	8690	3.51	10560	3.46	12560	3.44
HRM040U4	35	-	-	5010	2.42	6100	2.39	7500	2.37	9190	2.36	11140	2.33	13340	2.28	15760	2.21
	55	-	-	-	-	-	-	-	-	7100	3.75	8850	3.68	10750	3.63	12780	3.61
HRM042T4	35	4370	2.65	5140	2.60	6260	2.58	7690	2.56	9420	2.54	11430	2.51	13680	2.46	16160	2.39
	55	-	-	-	-	-	-	5730	3.93	7360	3.82	9180	3.74	11150	3.69	13270	3.67
HRM042U4	35	-	-	5210	2.54	6340	2.51	7790	2.49	9540	2.47	11570	2.45	13850	2.40	16360	2.32
	55	-	-	-	-	-	-	-	-	7450	3.94	9290	3.86	11290	3.81	13430	3.79
HRM045U4	35	-	-	5610	2.66	6820	2.63	8390	2.61	10280	2.59	12460	2.56	14920	2.51	17620	2.43
	55	-	-	-	-	-	-	-	-	7980	4.22	9950	4.14	12090	4.09	14380	4.06
HRM047T4	35	4970	2.86	5840	2.81	7110	2.78	8730	2.76	10700	2.74	12980	2.71	15540	2.65	18350	2.57
	55	-	-	-	-	-	-	6570	4.47	8430	4.34	10510	4.25	12770	4.20	15190	4.17
HRM047U4	35	-	-	5840	2.77	7110	2.74	8740	2.72	10700	2.70	12980	2.67	15540	2.62	18350	2.53
	55	-	-	-	-	-	-	-	-	8430	4.44	10510	4.35	12770	4.30	15190	4.27
HRM048U4	35	-	-	5870	2.78	7140	2.78	8780	2.78	10760	2.77	13040	2.74	15620	2.70	18450	2.63
	55	-	-	-	-	-	-	-	-	8380	4.38	10440	4.34	12690	4.32	15080	4.30
HRM051T4	35	5340	2.94	6280	2.83	7660	2.80	9430	2.82	11570	2.87	14040	2.95	16800	3.03	19820	3.10
	55	-	-	-	-	-	-	7040	4.22	9100	4.32	11370	4.41	13800	4.49	16370	4.53
HRM051U4	35	-	-	6310	2.93	7680	2.93	9440	2.92	11570	2.91	14030	2.89	16790	2.84	19830	2.77
	55	-	-	-	-	-	-	-	-	9110	4.59	11350	4.55	13790	4.53	16400	4.51
HRM054T4	35	-	-	6660	2.85	8110	2.82	9990	2.84	12250	2.90	14860	2.98	17780	3.06	20990	3.12
	55	-	-	-	-	-	-	-	-	9580	4.39	11960	4.49	14520	4.57	17240	4.60
HRM054U4	35	-	-	6650	3.09	8090	3.09	9950	3.09	12190	3.07	14780	3.04	17690	3.00	20900	2.92
	55	-	-	-	-	-	-	-	-	9530	4.76	11880	4.72	14430	4.70	17160	4.68
HRM058U4	35	-	-	7140	3.32	8690	3.31	10690	3.31	13090	3.30	15880	3.27	19000	3.21	22450	3.13
	55	-	-	-	-	-	-	-	-	10260	5.17	12790	5.13	15540	5.10	18480	5.09
HRM060T4	35	6250	3.42	7350	3.31	8960	3.26	11030	3.28	13530	3.34	16410	3.43	19640	3.52	23180	3.61
	55	-	-	-	-	-	-	8210	4.88	10590	4.98	13220	5.08	16060	5.17	19060	5.23
HRM060U4	35	-	-	7380	3.42	8980	3.42	11040	3.42	13520	3.41	16400	3.37	19630	3.32	23190	3.24
	55	-	-	-	-	-	-	-	-	10600	5.34	13210	5.29	16050	5.27	19080	5.25
HLM068T4	35	7330	3.98	8630	3.85	10500	3.80	12910	3.82	15810	3.88	19170	3.98	22950	4.09	27120	4.20
	55	-	-	-	-	-	-	9520	5.64	12230	5.75	15240	5.86	18520	5.97	22020	6.04
HLM072T4	35	7670	4.17	9020	4.03	10990	3.98	13520	4.00	16570	4.07	20100	4.17	24060	4.29	28400	4.39
	55	-	-	-	-	-	-	10030	5.95	12920	6.07	16110	6.20	19570	6.31	23250	6.38
HLM075T4	35	7820	4.43	9180	4.44	11160	4.44	13730	4.44	16820	4.42	20390	4.38	24410	4.31	28830	4.21
	55	-	-	-	-	-	-	10440	6.72	13410	6.63	16710	6.57	20310	6.54	24160	6.52
HLM078T4	35	8210	4.66	9650	4.66	11740	4.67	14430	4.66	17680	4.64	21440	4.60	25670	4.53	30310	4.42
	55	-	-	-	-	-	-	10850	6.98	13930	6.89	17370	6.83	21110	6.79	25100	6.77
HLM081T4	35	8520	4.83	10020	4.84	12190	4.85	14980	4.84	18350	4.82	22260	4.77	26640	4.70	31460	4.59
	55	-	-	-	-	-	-	11260	7.25	14470	7.15	18030	7.09	21910	7.05	26060	7.03
HCM094T4	35	9880	5.79	11620	5.81	14130	5.82	17380	5.82	21290	5.79	25820	5.73	30900	5.65	36500	5.52
	55	-	-	-	-	-	-	13060	8.39	16770	8.29	20910	8.21	25410	8.17	30220	8.14
HCM109T4	35	11380	6.82	13370	6.85	16260	6.86	19990	6.86	24500	6.82	29710	6.76	35560	6.66	41990	6.51
	55	-	-	-	-	-	-	15110	9.69	19400	9.58	24190	9.50	29390	9.44	34960	9.41
HCM120T4	35	12420	7.47	14600	7.50	17760	7.51	21830	7.51	26740	7.47	32430	7.40	38820	7.29	45850	7.13
	55	-	-	-	-	-	-	16490	10.61	21180	10.49	26400	10.40	32080	10.34	38160	10.30

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

H: Heating capacity in [W]

Pe: Power input in [kW]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage code: G: 380 - 480 V/3/60 Hz

Nomenclature and Dimensions

Type	Size	Motor	Features
HRH	036	U1L	P6

Application:
H: high temperature / air conditioning

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

Refrigerant & Lubricant:
M: LR22, alkylbenzene lubricant
P: R407C, PVE lubricant
H: R410A, PVE lubricant
J: R410A, PVE lubricant

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

Model variation:
T: design optimized for 7.2 / 54.4 °C
U: design optimized for 7.2 / 37.8 °C

Other features

	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalis. port
6	None	None	None	None	None
7	Threaded	None	None	None	None
8	None	Brazed	None	None	Brazed

Other features

Oil sight glass

Oil equalisation

Oil drain

LP gauge port

Gas equalis. port

6 None None None None None

7 Threaded None None None None

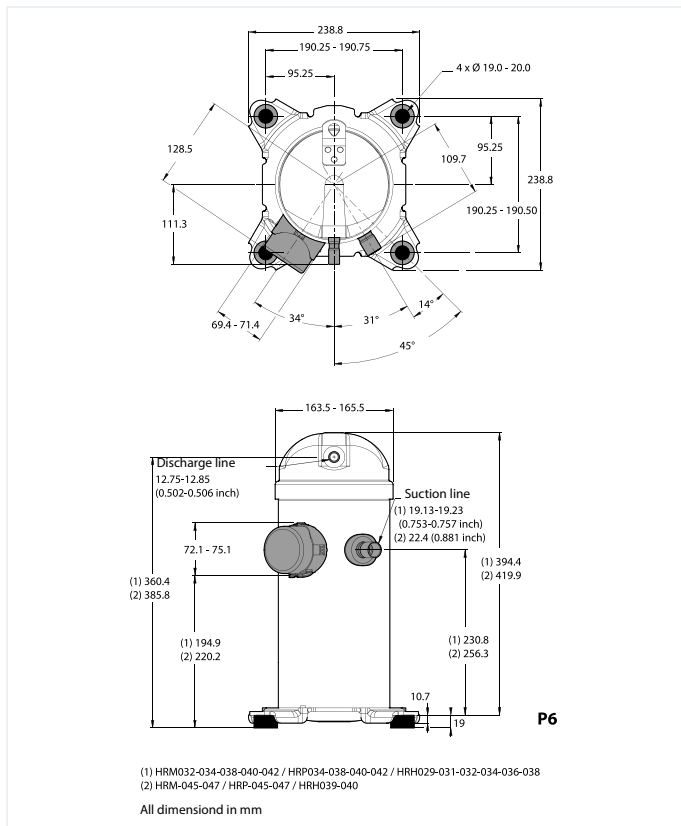
8 None Brazed None None Brazed

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

Motor protection:
L: internal motor protection

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

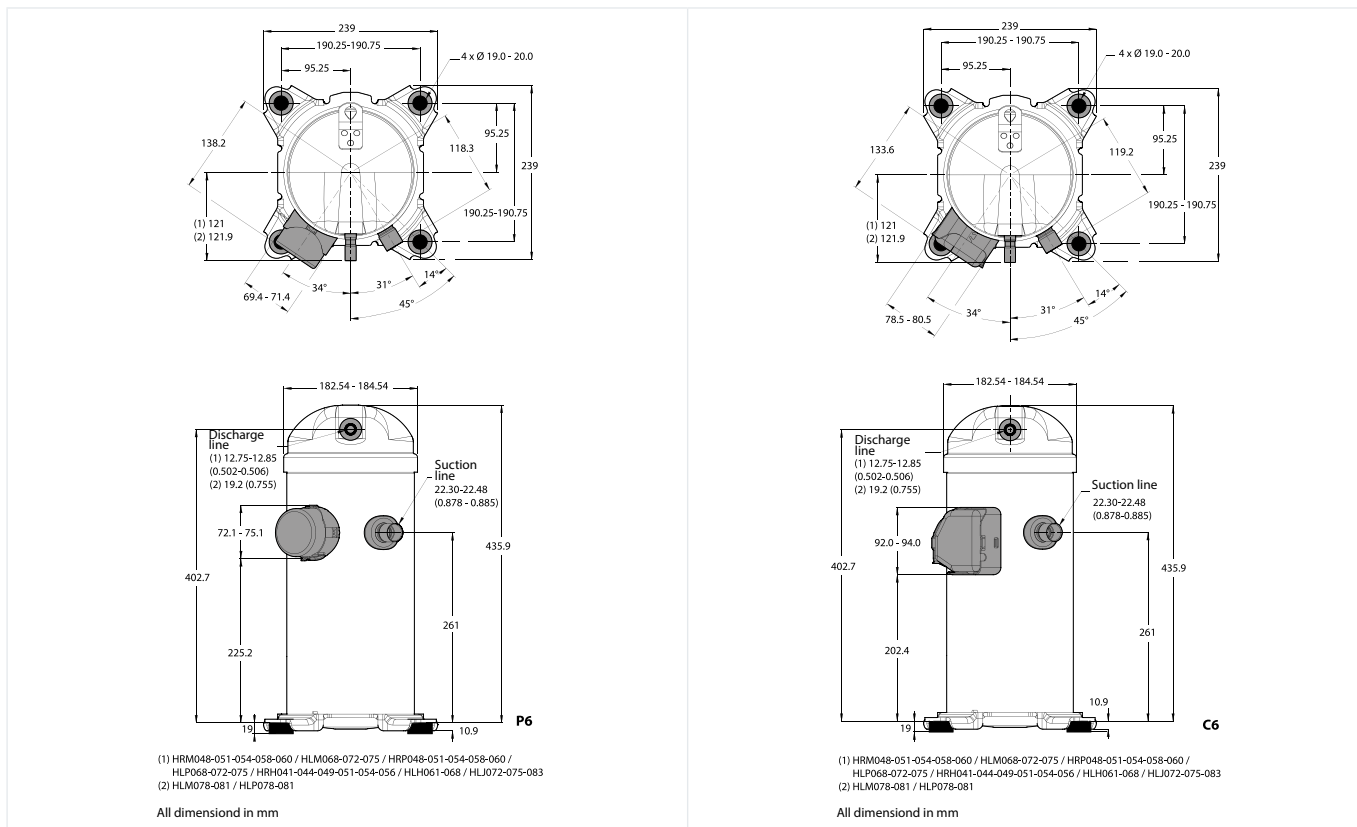
HRM032-034-038-040-042 / HRP034-038-040-042 / HRH029-031-032-034-036-038 / HRM-045-047 / HRP-045-047 / HRH039-040



01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20

Dimensions

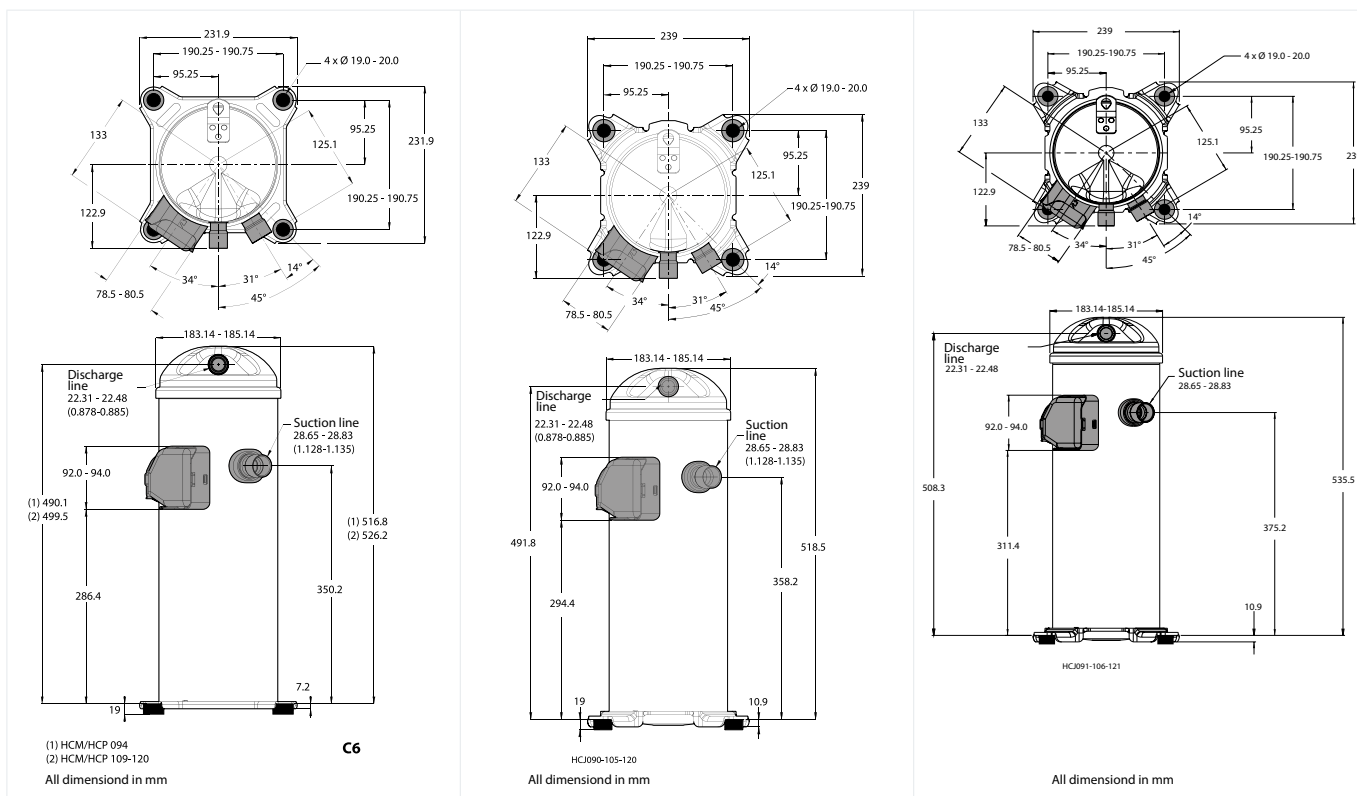
**HRM048-051-054-058-060 / HLM068-072-075-078-081 / HRP048-051-054-058-060 /
HLP068-072-075-078-081 / HRH041-044-049-051-054-056 / HLH061-068 / HLJ072-075-083**



HCM / HCP 094-109-120

HCJ090-105-120

HCJ091-106-121



01

02

03

04

05

06

07

08

09

10

11

12

13

14

15

16

17

18

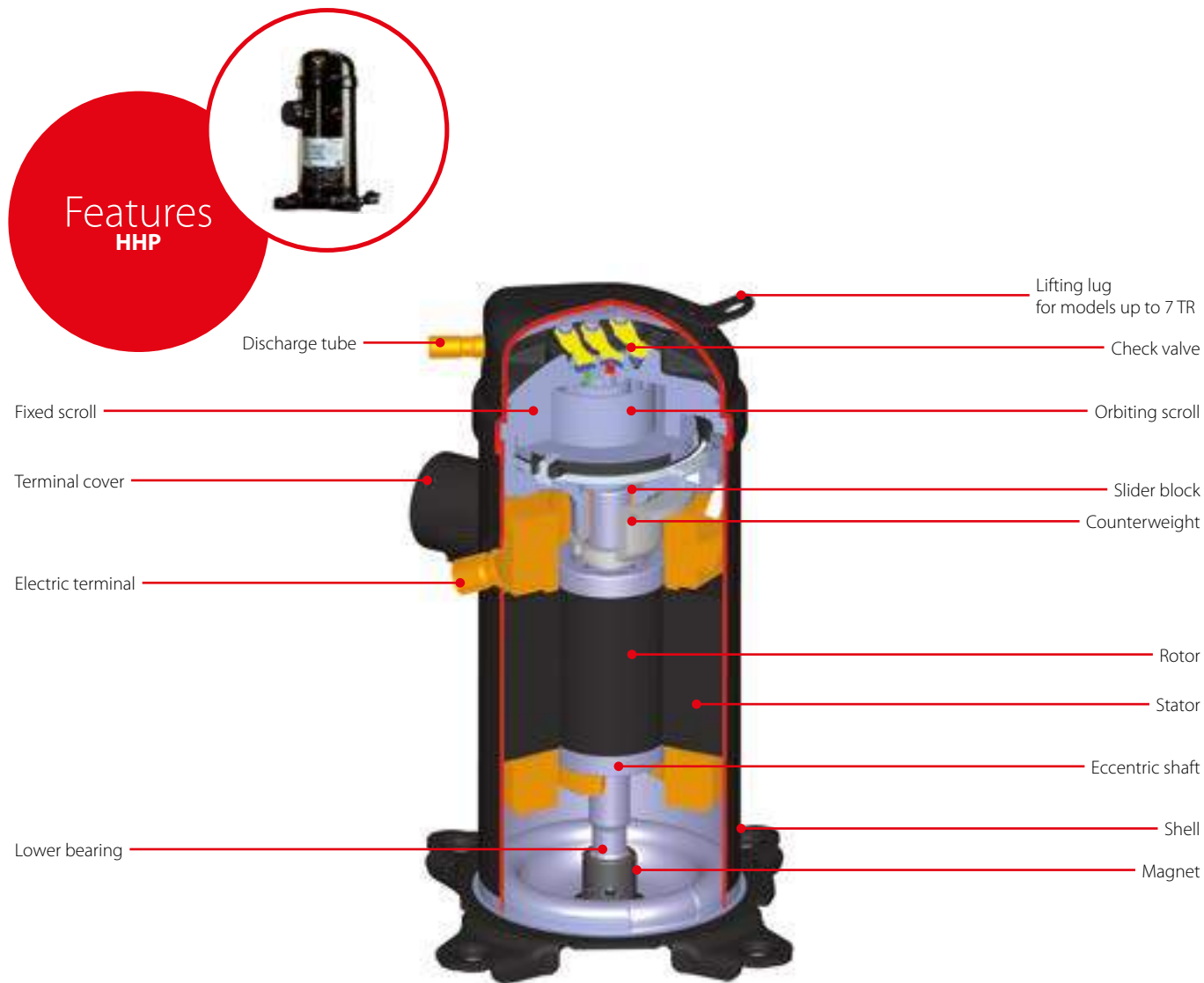
19

20

HHP - Scrolls heating compressors optimized - R407C

The Heat Pump Scroll compressor has an extended operating envelope. This means that your heat pumps will still be highly efficient when the outdoor temperature is below -20 °C.

Your customers will be able to save energy by reducing the use of a supplementary heating source.



Facts

- Discharge check valve: no reverse rotation hence no shutdown noise
- Radial scroll compliance: good resistance to liquid flood back
- Axial scroll compliance: low starting current
- Oil injection: good lubrication at fierce conditions
- Lead-free bearings: high reliability even with low lubrication
- Patented internal protection combined with HOOP (Hot Oil Over Protector) thermal valve: excellent reliability
- Standard dimensions and tubing: ideal for both new installations and replacement markets

Technical data and ordering

HHP - Scroll compressors for heating - R407C - 50 Hz

Technical data

Type	Heating capacity	Power input	Max. A.	Heating efficiency	Swept volume	Displacement	Oil charge	Net weight
	[W]	[W]	[A]	COP [W/W]	[cm ³ /rev]	[m ³ /hr] at 2900 [rpm]	[l]	[kg]
HHP015T4LP6	4800	1540	5.1	3.13	34	5.9	1.06	31
HHP015T5LP6	4880	1660	14.2	2.93	34	5.9	1.06	30
HHP019T4LP6	5780	1910	5.8	3.02	41	7.1	1.06	31
HHP019T5LP6	5830	2040	17.7	2.86	41	7.1	1.06	31
HHP021T4LP6	6410	2030	5.8	3.16	46	8	1.06	31
HHP021T5LP6	6630	2110	18.2	3.15	46	8	1.06	31
HHP026T4LP6	8100	2520	7.1	3.22	57	10	1.06	31
HHP026T5LP6	8160	2680	22.7	3.04	57	10	1.06	31
HHP030T4LC6	9700	3070	8.6	3.17	67	11.7	1.57	37
HHP030T5LC6	9790	3190	27.7	3.07	67	11.7	1.57	41
HHP038T4LC6	12050	3730	10.8	3.23	82	14.2	1.57	39
HHP038T5LC6	12140	3850	35.2	3.16	82	14.2	1.57	41
HHP045T4LC6	13940	4300	12.6	3.25	99	17.2	1.57	40

Evaporating temperature: -7 °C

Condensing temperature: 50 °C

Superheat: 10 K

Subcooling: 5 K

Subject to modification without prior notification

Conditions: 400 V / 3 ph / 50 Hz (motor T4), 230 V / 1 ph / 50 Hz (motor T5)

HHP - Scroll compressors for heating - R407C - 50 Hz

Ordering

Type	Model Variation	Connections	Features	Single pack		Industrial pack	
				4	5	4	5
HHP015	T	P	6	121U9002	121U9004	121U9001	121U9003
HHP019	T	P	6	121U9006	121U9008	121U9005	121U9007
HHP021	T	P	6	121U9010	121U9012	121U9009	121U9011
HHP026	T	P	6	121U9014	121U9016	121U9013	121U9015
HHP030	T	C	6	121U9018	121U9020	121U9017	121U9019
HHP038	T	C	6	121U9022	121U9024	121U9021	121U9023
HHP045	T	C	6	121U9026	-	121U9025	-

HHP - Scroll compressors for heating - R407C - 50 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10		15	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HHP015T4	40	2 550	1.1	3 070	1.1	3 720	1.2	4 510	1.3	5 450	1.3	6 520	1.4	7 730	1.4	9 080	1.4	10 570	1.4
	50	2 620	1.5	3 050	1.5	3 620	1.5	4 320	1.5	5 150	1.6	6 120	1.6	7 220	1.7	8 460	1.7	9 840	1.7
	60	-	-	-	-	3 860	2.2	4 410	2.1	5 090	2.1	5 890	2.1	6 830	2.1	7 900	2.1	9 100	2.1
HHP019T4	40	3 070	1.3	3 680	1.4	4 450	1.5	5 400	1.5	6 520	1.6	7 810	1.7	9 270	1.7	10 900	1.7	12 690	1.7
	50	3 180	1.7	3 680	1.7	4 340	1.8	5 180	1.9	6 180	1.9	7 340	2.0	8 670	2.1	10 160	2.2	11 830	2.2
	60	-	-	-	-	4 660	2.3	5 300	2.4	6 110	2.4	7 070	2.5	8 200	2.6	9 480	2.7	10 930	2.8
HHP021T4	40	3 530	1.4	4 250	1.5	5 090	1.6	6 080	1.7	7 230	1.7	8 570	1.8	10 100	1.8	11 840	1.7	13 820	1.7
	50	3 430	1.6	4 080	1.8	4 860	1.9	5 770	2.0	6 830	2.1	8 070	2.1	9 500	2.2	11 140	2.2	13 000	2.2
	60	-	-	-	-	4 710	2.2	5 530	2.3	6 510	2.5	7 650	2.6	8 970	2.7	10 490	2.8	12 240	2.8
HHP026T4	40	4 540	1.7	5 410	1.9	6 440	2.0	7 650	2.1	9 070	2.1	10 740	2.2	12 690	2.2	14 950	2.1	17 550	2.0
	50	4 590	2.0	5 350	2.1	6 260	2.3	7 330	2.4	8 610	2.6	10 120	2.6	11 900	2.7	13 970	2.7	16 370	2.7
	60	-	-	-	-	6 240	2.7	7 150	2.9	8 250	3.0	9 560	3.2	11 130	3.3	12 980	3.3	15 150	3.3
HHP030T4	40	4 910	2.1	6 100	2.3	7 480	2.4	9 050	2.6	10 830	2.6	12 830	2.7	15 060	2.7	17 520	2.8	20 240	2.9
	50	4 830	2.3	5 940	2.6	7 230	2.8	8 690	3.0	10 350	3.1	12 200	3.2	14 270	3.4	16 560	3.5	19 090	3.6
	60	-	-	-	-	7 000	3.1	8 330	3.4	9 850	3.6	11 550	3.8	13 440	4.0	15 540	4.2	17 870	4.4
HHP038T4	40	6 150	2.4	7 600	2.8	9 360	3.0	11 390	3.2	13 660	3.2	16 130	3.3	18 750	3.3	21 510	3.4	24 360	3.6
	50	5 730	2.2	7 120	2.8	8 800	3.3	10 740	3.6	12 890	3.8	15 220	4.0	17 700	4.1	20 280	4.2	22 940	4.4
	60	-	-	-	-	8 090	3.2	9 930	3.8	11 970	4.2	14 170	4.5	16 500	4.7	18 920	5.0	21 400	5.2
HHP045T4	40	7 110	3.0	8 800	3.1	10 830	3.3	13 180	3.5	15 800	3.7	18 660	3.8	21 700	3.9	24 890	3.8	28 180	3.7
	50	6 630	3.5	8 240	3.7	10 190	3.9	12 420	4.2	14 910	4.4	17 610	4.6	20 480	4.7	23 460	4.8	26 540	4.8
	60	-	-	-	-	9 360	4.5	11 490	4.8	13 850	5.1	16 400	5.5	19 100	5.7	21 890	6.0	24 760	6.1

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

H: Heating capacity in [W]

Pe: Power input in [kW]

Subcooling: 5 K

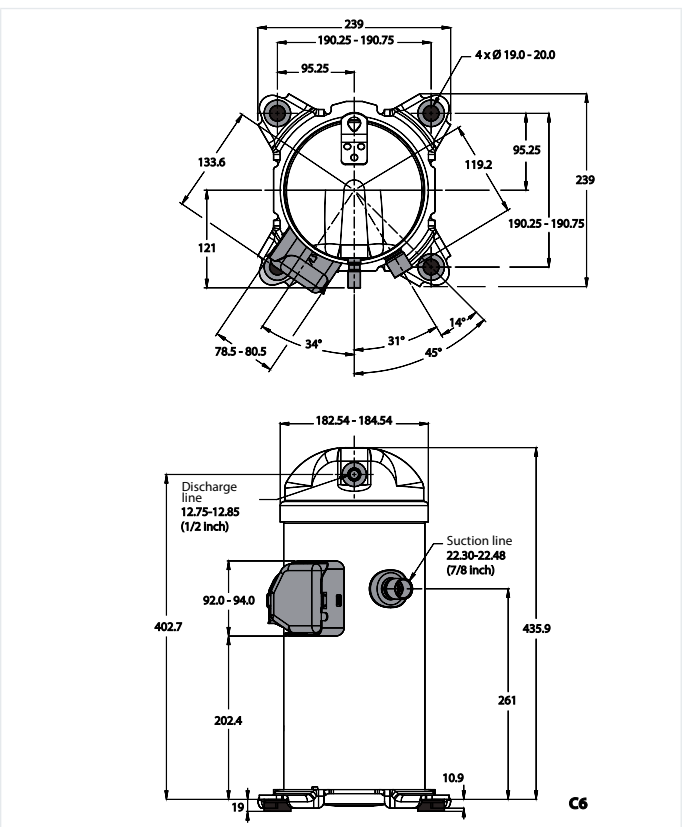
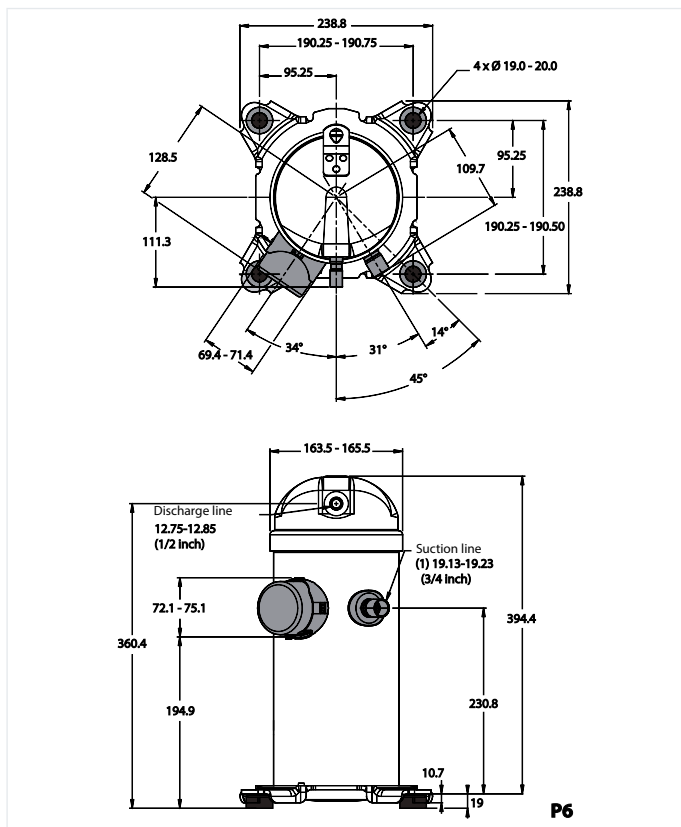
Superheat: 5 K

Nomenclature and Dimensions

	Type	Size	Motor	Features												
	HHP	030	T4L	P6												
Application:	H: high temperature															
Family:	HP: heat pump R407C PVE															
Nominal capacity																
Model variation:	T: motor design															
	Other features <table border="1"> <thead> <tr> <th></th> <th>Oil sight glass</th> <th>Oil equalisation</th> <th>Oil drain</th> <th>LP gauge port</th> <th>Gas equalis. port</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> </tr> </tbody> </table>					Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalis. port	6	None	None	None	None	None
	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalis. port											
6	None	None	None	None	None											
	Tubing and electrical connections: P: brazed connections, spade terminals C: brazed connections, screw terminals															
	Motor protection: L: internal motor protection															
	Motor voltage code: 4: 380 – 400 V / 3 ~ / 50 Hz 5: 220 – 240 V / 1 ~ / 50 Hz															

HHP015-019-021-026

HHP030-038-045



01

02

03

04

05

06

07

08

09

10

11

12

13

14

15

16

17

18

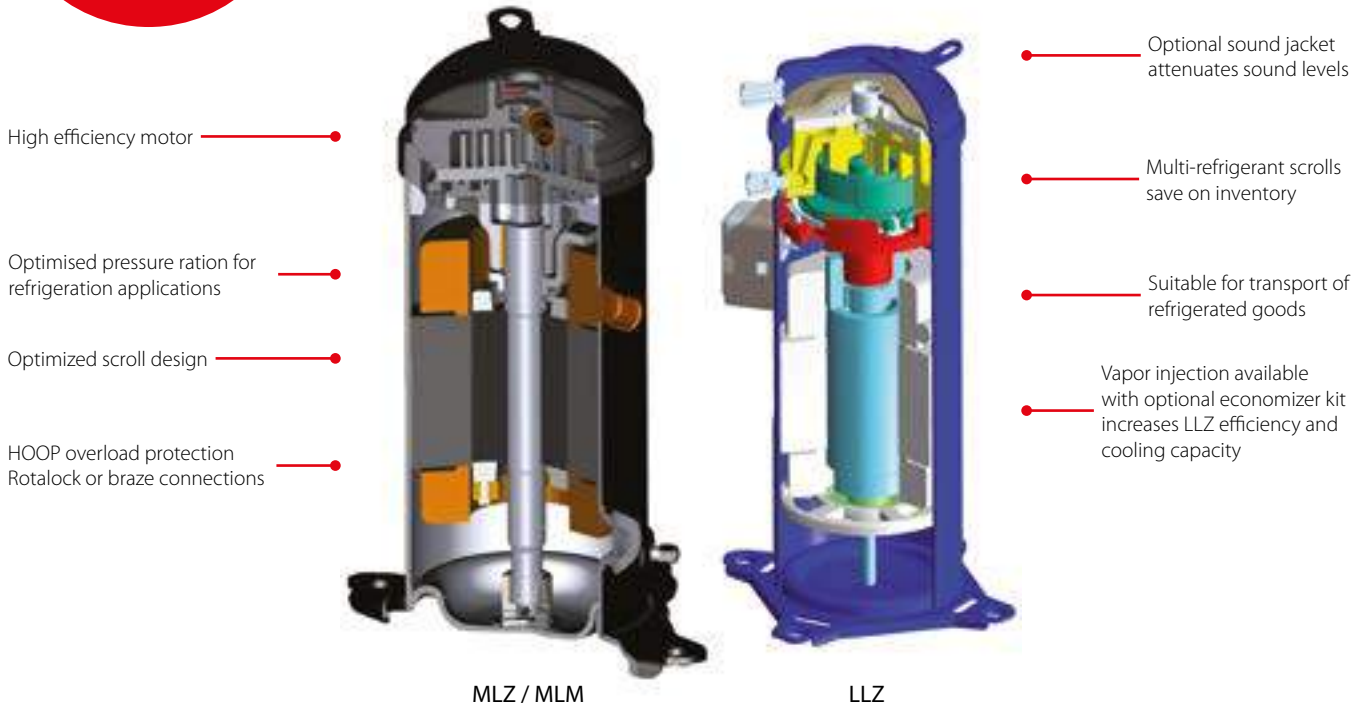
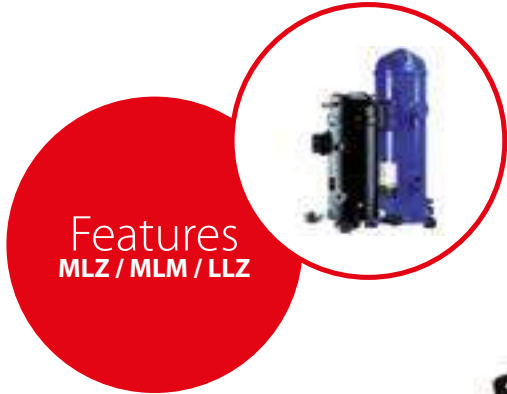
19

20

MLZ / MLM / LLZ - Scroll compressors for refrigeration

MLZ / MLM and LLZ scroll compressors are dedicated to commercial and light commercial refrigeration applications with refrigerants R134a, R404A / R507A, R22, R407A. Both brazed and rotolock connections are available for most of the compressors.

MLZ: medium-temperature scroll compressors R404 / R507A, R407A / F, R134a, R22
 MLM: medium-temperature scroll compressors (R22).
 LLZ: low-temperature scroll available with economizer line (R404A, R507A).



Facts

- Compact design esp. in large capacities
- Complete the existing scroll range for medium temperatures
- **Energy Savings**
Optimize your system with the scroll compressors for refrigeration. The combination of an energy efficient motor and an optimized scroll wrap for refrigeration applications delivers high efficiency in fixed-speed compressors. Optional vapor injection boosts the cooling capacity and efficiency by more than 20% on LLZ
- **Reliability**
Improve your system reliability to reduce your maintenance and warranty costs. Reliability is built into this compressor range, from the compliant scroll design and the engineered bearings to the simplified manufacturing process (30% fewer parts). The patented thermal fault protection also contributes to excellent reliability. A smart way to reduce your field service costs
- **Low sound**
Improve the sound environment with the lowest sound level in the industry. Scroll technology is quiet by design: the scroll provides smooth continuous compression, the absence of suction and discharge valves, and the unique disc check valve design ensure quiet, vibration-free operations
- **Compactness**
Footprint up to 30% smaller than alternative reduces the logistics costs and frees up space in the system

Technical data and ordering

MLZ / MLM - Scroll compressors - R404A / R407A / R407F / R134a / R22

Ordering - Rotolock version - Single pack

Type	Model	Connections	Features	Voltage code 1	Voltage code 2	Voltage code 4	Voltage code 5	Voltage code 7	Voltage code 9
MLZ015	T	T	9	121U8513	121U8553	121U8529	121U8521	-	121U8545
MLZ019	T	T	9	121U8515	121U8555	121U8531	121U8523	-	121U8547
MLZ021	T	T	9	121U8517	121U8557	121U8533	121U8525	121U8541	121U8549
MLZ026	T	T	9	121U8519	121U8559	121U8535	121U8527	121U8543	121U8551
MLZ030	T	Q	9	121U8561	121U8597	121U8573	121U8567	121U8581	121U8589
MLZ038	T	Q	9	121U8563	121U8599	121U8575	121U8569	121U8583	121U8591
MLZ042	T	Q	9	121U8565	-	-	121U8571	-	-
MLZ045	T	Q	9	-	121U8601	121U8577	-	121U8585	121U8593
MLZ048	T	Q	9	-	121U8603	121U8579	-	121U8587	121U8595
MLZ058	T	Q	9	-	121U8627	121U8609	-	121U8615	121U8621
MLZ066	T	Q	9	-	121U8623	121U8605	-	121U8611	121U8617
MLZ076	T	Q	9	-	121U8625	121U8607	-	121U8613	121U8619

MLZ / MLM - Scroll compressors - R404A / R407A / R407F / R134a / R22

Ordering - Rotolock version - Industrial pack

Type	Model	Connections	Features	Voltage code 1	Voltage code 2	Voltage code 4	Voltage code 5	Voltage code 7	Voltage code 9
MLZ015	T	T	9	121U8512	121U8552	121U8528	121U8520	-	121U8544
MLZ019	T	T	9	121U8514	121U8554	121U8530	121U8522	-	121U8546
MLZ021	T	T	9	121U8516	121U8556	121U8532	121U8524	121U8540	121U8548
MLZ026	T	T	9	121U8518	121U8558	121U8534	121U8526	121U8542	121U8550
MLZ030	T	Q	9	121U8560	121U8596	121U8572	121U8566	121U8580	121U8588
MLZ038	T	Q	9	121U8562	121U8598	121U8574	121U8568	121U8582	121U8590
MLZ042	T	Q	9	121U8564	-	-	121U8570	-	-
MLZ045	T	Q	9	-	121U8600	121U8576	-	121U8584	121U8592
MLZ048	T	Q	9	-	121U8602	121U8578	-	121U8586	121U8594
MLZ058	T	Q	9	-	121U8626	121U8608	-	121U8614	121U8620
MLZ066	T	Q	9	-	121U8622	121U8604	-	121U8610	121U8616
MLZ076	T	Q	9	-	121U8624	121U8606	-	121U8612	121U8618

LLZ - Scroll compressors - R404A / R507

Ordering - Rotolock version - Single pack

Type	Model variation	Connections	Features	Voltage code 2	Voltage code 4	Voltage code 9	
Danfoss pallet	LLZ013	T	Q	9	121L9519	121L9517	121L9531
	LLZ015	T	Q	9	121L9515	121L9513	121L9529
	LLZ018	T	Q	9	121L9511	121L9509	121L9527
	LLZ024	T	Q	9	121L9507	121L9505	121L9525
	LLZ034	T	Q	9	NA	121L9521	121L9533

LLZ - Scroll compressors - R404A / R507

Ordering - Rotolock version - Industrial pack

Type	Model variation	Connections	Features	Voltage code 2	Voltage code 4	Voltage code 9	
Danfoss pallet	LLZ013	T	Q	9	121L9518	121L9516	121L9530
	LLZ015	T	Q	9	121L9514	121L9512	121L9528
	LLZ018	T	Q	9	121L9510	121L9508	121L9526
	LLZ024	T	Q	9	121L9506	121L9504	121L9524
	LLZ034	T	Q	9	NA	121L9520	121L9532

Technical data and ordering

MLZ / MLM - Scroll compressors - R404A / R407A / R407F / R134a / R22

Ordering - Brazed version - Single pack

Type	Model	Connections	Features	Voltage code 1	Voltage code 2	Voltage code 4	Voltage code 5	Voltage code 7	Voltage code 9	
Danfoss pallet	MLZ015	T	P	9	-	120U8036	121U8002	121U8024	-	-
	MLZ019	T	P	9	121U8060	121U8038	121U8004	121U8026	-	-
	MLZ021	T	P	9	121U8062	121U8040	121U8006	121U8028	-	-
	MLZ026	T	P	9	121U8064	121U8042	121U8008	121U8030	-	-
	MLZ030	T	C	9	121U8066	121U8044	121U8010	121U8032	-	-
	MLZ038	T	C	9	121U8068	121U8046	121U8012	121U8034	-	-
	MLZ042	T	C	9	-	-	-	121U8419	-	-
	MLZ045	T	C	9	-	121U8048	121U8014	-	-	-
	MLZ048	T	C	9	-	121U8050	121U8016	-	-	-
	MLZ058	T	C	9	-	121U8052	121U8018	-	-	-
	MLZ066	T	C	9	-	121U8054	121U8020	-	-	-
MLZ076	T	C	9	-	121U8056	121U8022	-	-	-	
US pallet	MLZ015	T	P	9	120U8058	120U8036	120U8002	120U8024	-	120U8413
	MLZ019	T	P	9	120U8060	120U8038	120U8004	120U8026	-	120U8266
	MLZ021	T	P	9	120U8062	120U8040	120U8006	120U8028	-	120U8272
	MLZ026	T	P	9	120U8064	120U8042	120U8008	120U8030	-	120U8278
	MLZ030	T	C	9	120U8066	120U8044	120U8010	120U8032	-	120U8284
	MLZ038	T	C	9	120U8068	120U8046	120U8012	120U8034	-	120U8296
	MLZ042	T	C	9	120U8399	-	-	-	-	-
	MLZ045	T	C	9	-	120U8048	120U8014	-	120U8332	120U8302
	MLZ048	T	C	9	-	120U8050	120U8016	-	120U8338	120U8308
	MLZ058	T	C	9	-	120U8052	120U8018	-	120U8344	120U8314
	MLZ066	T	C	9	-	120U8054	120U8020	-	120U8350	-
MLZ076	T	C	9	-	120U8056	120U8022	-	120U8356	-	

MLZ / MLM - Scroll compressors - R404A / R407A / R407F / R134a / R22

Ordering - Brazed version - Industrial pack

Type	Model	Connections	Features	Voltage code 1	Voltage code 2	Voltage code 4	Voltage code 5	Voltage code 7	Voltage code 9	
Danfoss pallet	MLZ015	T	P	9	-	120U8035	121U8001	121U8023	-	-
	MLZ019	T	P	9	121U8059	121U8037	121U8003	121U8025	-	-
	MLZ021	T	P	9	121U8061	121U8039	121U8005	121U8027	-	-
	MLZ026	T	P	9	121U8063	121U8041	121U8007	121U8029	-	-
	MLZ030	T	C	9	121U8065	121U8043	121U8009	121U8031	-	-
	MLZ038	T	C	9	121U8067	121U8045	121U8011	121U8033	-	-
	MLZ042	T	C	9	-	-	-	121U8418	-	-
	MLZ045	T	C	9	-	121U8047	121U8013	-	-	-
	MLZ048	T	C	9	-	121U8049	121U8015	-	-	-
	MLZ058	T	C	9	-	121U8051	121U8017	-	-	-
	MLZ066	T	C	9	-	121U8053	121U8019	-	-	-
MLZ076	T	C	9	-	121U8055	121U8021	-	-	-	
US pallet	MLZ015	T	P	9	120U8057	120U8035	120U8001	120U8023	-	120U8412
	MLZ019	T	P	9	120U8059	120U8037	120U8003	120U8025	-	120U8265
	MLZ021	T	P	9	120U8061	120U8039	120U8005	120U8027	-	120U8271
	MLZ026	T	P	9	120U8063	120U8041	120U8007	120U8029	-	120U8277
	MLZ030	T	C	9	120U8065	120U8043	120U8009	120U8031	-	120U8283
	MLZ038	T	C	9	120U8067	120U8045	120U8011	120U8033	-	120U8295
	MLZ042	T	C	9	120U8398	-	-	-	-	-
	MLZ045	T	C	9	-	120U8047	120U8013	-	120U8331	120U8301
	MLZ048	T	C	9	-	120U8049	120U8015	-	120U8337	120U8307
	MLZ058	T	C	9	-	120U8051	120U8017	-	120U8343	120U8313
	MLZ066	T	C	9	-	120U8053	120U8019	-	120U8349	-
MLZ076	T	C	9	-	120U8055	120U8021	-	120U8355	-	

Technical data and ordering

MLZ / MLM - Scroll compressors - R404A / R134a / R22 / R407A / R407F - 50 Hz

Technical data

Type	HP	Nominal cooling capacity ¹⁾		Power input ¹⁾	Efficiency ¹⁾		Swept volume	Displacement	Oil charge	Net weight (with oil)	
		[W]	[Btu/h]		[kW]	COP					EER
		[W]	[Btu/h]	[kW]	[W]/[W]	[Btu/h]/[W]	[cm ³ /rev]	[m ³ /h]	[l]	[kg]	
R404A ²⁾	MLZ015	2	3300	11262.79863	1.75	1.89	6.45	33.77	5.88	1.06	30.84
	MLZ019	2.5	4500	15358.36177	2.16	2.06	7.03	43.51	7.57	1.06	30.84
	MLZ021	3	4700	16040.95563	2.27	2.08	7.10	46.21	8.04	1.06	30.84
	MLZ026	3.5	5800	19795.22184	2.90	2	6.83	57.11	9.94	1.06	30.84
	MLZ030	4	7100	24232.08191	3.35	2.11	7.20	68.79	11.97	1.57	37.2
	MLZ038	5	8400	28668.94198	3.86	2.19	7.47	80.95	14.09	1.57	37.2
	MLZ042	5.5	9500	32423.20819	4.72	2.02	6.89	93.09	16.20	1.57	37.2
	MLZ045	6	10200	34812.28669	4.89	2.09	7.13	98.57	17.15	1.57	37.2
	MLZ048	7	11200	38225.25597	5.38	2.09	7.13	107.48	18.70	1.57	37.2
	MLZ058	7.5	13000	44368.60068	6.08	2.13	7.27	125.95	21.92	2.66	44
	MLZ066	9	15100	51535.83618	7.01	2.15	7.34	148.8	25.89	2.66	45.18
MLZ076	10	17300	59044.3686	7.93	2.18	7.44	162.43	28.26	2.66	45.18	
R134a ³⁾	MLZ015	2	2000	6825.938567	1.02	1.94	6.62	33.77	5.88	1.06	30.84
	MLZ019	2.5	2500	8532.423208	1.28	1.98	6.76	43.51	7.57	1.06	30.84
	MLZ021	3	2700	9215.017065	1.33	2.04	6.96	46.21	8.04	1.06	30.84
	MLZ026	3.5	3300	11262.79863	1.62	2.05	7.00	57.11	9.94	1.06	30.84
	MLZ030	4	4000	13651.87713	1.93	2.09	7.13	68.79	11.97	1.57	37.2
	MLZ038	5	4700	16040.95563	2.34	2.02	6.89	80.95	14.09	1.57	37.2
	MLZ042	5.5	5300	18088.7372	2.74	1.95	6.66	93.09	16.20	1.57	37.2
	MLZ045	6	5800	19795.22184	2.69	2.17	7.41	98.57	17.15	1.57	37.2
	MLZ048	7	6200	21160.40956	2.91	2.13	7.27	107.48	18.70	1.57	37.2
	MLZ058	7.5	7400	25255.9727	3.61	2.05	7.00	125.95	21.92	2.66	44
	MLZ066	9	8600	29351.53584	4.10	2.1	7.17	148.8	25.89	2.66	45.18
MLZ076	10	9600	32764.50512	4.67	2.05	7.00	162.43	28.26	2.66	45.18	
R22	MLZ / MLM015	2	3300	11262.79863	1.53	2.15	7.34	33.77	5.88	1.06	30.84
	MLZ / MLM019	2.5	4300	14675.76792	1.87	2.3	7.85	43.51	7.57	1.06	30.84
	MLZ / MLM021	3	4600	15699.6587	2.02	2.27	7.75	46.21	8.04	1.06	30.84
	MLZ / MLM026	3.5	5700	19453.92491	2.43	2.33	7.95	57.11	9.94	1.06	30.84
	MLZ / MLM030	4	6800	23208.19113	2.93	2.33	7.95	68.79	11.97	1.57	37.2
	MLZ / MLM038	5	8100	27645.05119	3.45	2.34	7.99	80.95	14.09	1.57	37.2
	MLZ / MLM042	5.5	9100	31058.02048	4.23	2.15	7.34	93.09	16.20	1.57	37.2
	MLZ / MLM045	6	9300	31740.61433	4.14	2.24	7.65	98.57	17.15	1.57	37.2
	MLZ / MLM048	7	10600	36177.4744	4.53	2.33	7.95	107.48	18.70	1.57	37.2
	MLZ / MLM058	7.5	12300	41979.52218	5.29	2.33	7.95	125.95	21.92	2.66	44
	MLZ / MLM066	9	14100	48122.86689	5.94	2.38	8.12	148.8	25.89	2.66	45.18
MLZ / MLM076	10	16600	56655.2901	6.96	2.38	8.12	162.43	28.26	2.66	45.18	

¹⁾ at EN12900 conditions: To: -10 °C; Tc: 45 °C; RGT: 20 °C; SC: 0 K

²⁾ R507 performance data are nearly identical to R404A performance data

³⁾ R134a at conditions: To: -10 °C; Tc: 45 °C; SH: 10 K; SC: 0 K

Motor voltage code 4: 400 V / 3 ~ / 50 Hz and 460 V / 3 ~ / 60 Hz

MLZ042: motor voltage code 5: 220 - 240 V / 1 ~ / 50 Hz

01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20

Technical data and ordering

MLZ / MLM - Scroll compressors - R407A / R407F - 50 Hz

Technical data

Type	HP	Nominal cooling capacity ¹⁾		Power input ¹⁾	Efficiency ¹⁾		Swept volume	Displacement	Oil charge	Net weight (with oil)	
		[W]	[Btu/h]		COP	EER					
		[W]	[Btu/h]	[kW]	[W]/[W]	[Btu/h]/[W]	[cm ³ /rev]	[m ³ /h]	[l]	[kg]	
R407A ²⁾	MLZ015	2	3100	10580.20478	1.55	2	6.83	33.77	5.88	1.06	30.84
	MLZ019	2.5	4000	13651.87713	2.04	1.96	6.69	43.51	7.57	1.06	30.84
	MLZ021	3	4200	14334.47099	2.21	1.91	6.52	46.21	8.04	1.06	30.84
	MLZ026	3.5	5300	18088.7372	2.71	1.96	6.69	57.11	9.94	1.06	30.84
	MLZ030	4	6500	22184.30034	2.99	2.17	7.41	68.79	11.97	1.57	37.2
	MLZ038	5	7500	25597.26962	3.47	2.16	7.37	80.95	14.09	1.57	37.2
	MLZ042	5.5	8600	29351.53584	4.53	1.9	6.48	93.09	16.20	1.57	37.2
	MLZ045	6	9100	31058.02048	4.55	2.01	6.86	98.57	17.15	1.57	37.2
	MLZ048	7	10000	34129.69283	5.01	2	6.83	107.48	18.70	1.57	37.2
	MLZ058	7.5	11500	39249.14676	5.69	2.02	6.89	125.95	21.92	2.66	44
	MLZ066	9	13400	45733.7884	6.78	1.98	6.76	148.8	25.89	2.66	45.18
MLZ076	10	14700	50170.64846	7.51	1.96	6.69	162.43	28.26	2.66	45.18	
R407F ³⁾	MLZ015	2	3300	11262.79863	1.66	2	6.83	33.77	5.88	1.06	30.84
	MLZ019	2.5	4300	14675.76792	2.19	1.96	6.69	43.51	7.57	1.06	30.84
	MLZ021	3	4500	15358.36177	2.37	1.91	6.52	46.21	8.04	1.06	30.84
	MLZ026	3.5	5700	19453.92491	2.90	1.96	6.69	57.11	9.94	1.06	30.84
	MLZ030	4	6900	23549.48805	3.20	2.17	7.41	68.79	11.97	1.57	37.2
	MLZ038	5	8000	27303.75427	3.72	2.16	7.37	80.95	14.09	1.57	37.2
	MLZ042	5.5	9200	31399.31741	4.85	1.9	6.48	93.09	16.20	1.57	37.2
	MLZ045	6	9800	33447.09898	4.87	2.01	6.86	98.57	17.15	1.57	37.2
	MLZ048	7	10800	36860.06826	5.37	2.01	6.86	107.48	18.70	1.57	37.2
	MLZ058	7.5	12300	41979.52218	6.09	2.02	6.89	125.95	21.92	2.66	44
	MLZ066	9	14400	49146.75768	7.26	1.99	6.79	148.8	25.89	2.66	45.18
MLZ076	10	15800	53924.91468	8.04	1.96	6.69	162.43	28.26	2.66	45.18	

¹⁾ at EN12900 conditions: -10 °C, Tc 45 °C, RGT 20 °C, SC 0 K

²⁾ R507 performance data are nearly identical to R404A performance data

³⁾ R407A, R407F at conditions: -10 °C, Tc 45 °C, SH 10 K, SC 0 K

Motor voltage code 4: 400 V / 3 ~ / 50 Hz and 460 V / 3 ~ / 60 Hz

MLZ / MLM042: motor voltage code 5: 220 – 240 V / 1 ~ / 50 Hz

Technical data and ordering

MLZ / MLM - Scroll compressors - R404A / R134a / R22 - 60 Hz

Technical data

Type	HP	Nominal cooling capacity ¹⁾		Power input ¹⁾	Efficiency ¹⁾		Swept volume	Displacement	Oil charge	Net weight (with oil)	
		[W]	[Btu/h]		COP	EER					
		[W]	[Btu/h]	[kW]	[W]/[W]	[Btu/h]/[W]	[cm ³ /rev]	[m ³ /h]	[l]	[kg]	
R404A ²⁾	MLZ015	2	4100	13993.17406	2.10	1.94	6.62	33.77	5.88	1.06	30.84
	MLZ019	2.5	5500	18771.33106	2.58	2.11	7.20	43.51	7.57	1.06	30.84
	MLZ021	3	5800	19795.22184	2.74	2.13	7.27	46.21	8.04	1.06	30.84
	MLZ026	3.5	7200	24573.37884	3.44	2.1	7.17	57.11	9.94	1.06	30.84
	MLZ030	4	8500	29010.23891	3.90	2.18	7.44	68.79	11.97	1.57	37.2
	MLZ038	5	10200	34812.28669	4.70	2.18	7.44	80.95	14.09	1.57	37.2
	MLZ042	5.5	11800	40273.03754	5.73	2.07	7.06	93.09	16.20	1.57	37.2
	MLZ045	6	12400	42320.81911	5.64	2.19	7.47	98.57	17.15	1.57	37.2
	MLZ048	7	13500	46075.08532	6.15	2.2	7.51	107.48	18.70	1.57	37.2
	MLZ058	7.5	15700	53583.61775	7.35	2.14	7.30	125.95	21.92	2.66	44
	MLZ066	9	18400	62798.63481	8.40	2.18	7.44	148.8	25.89	2.66	45.18
MLZ076	10	20900	71331.05802	9.59	2.18	7.44	162.43	28.26	2.66	45.18	
R134a ³⁾	MLZ015	2	2400	8191.12628	1.19	2.04	6.96	33.77	5.88	1.06	30.84
	MLZ019	2.5	3100	10580.20478	1.53	2.03	6.93	43.51	7.57	1.06	30.84
	MLZ021	3	3300	11262.79863	1.58	2.1	7.17	46.21	8.04	1.06	30.84
	MLZ026	3.5	4100	13993.17406	1.91	2.14	7.30	57.11	9.94	1.06	30.84
	MLZ030	4	4900	16723.54949	2.35	2.1	7.17	68.79	11.97	1.57	37.2
	MLZ038	5	5800	19795.22184	2.80	2.08	7.10	80.95	14.09	1.57	37.2
	MLZ042	5.5	6500	22184.30034	3.33	1.94	6.62	93.09	16.20	1.57	37.2
	MLZ045	6	7100	24232.08191	3.32	2.13	7.27	98.57	17.15	1.57	37.2
	MLZ048	7	7600	25938.56655	3.54	2.13	7.27	107.48	18.70	1.57	37.2
	MLZ058	7.5	9100	31058.02048	4.28	2.12	7.24	125.95	21.92	2.66	44
	MLZ066	9	10400	35494.88055	4.85	2.15	7.34	148.8	25.89	2.66	45.18
MLZ076	10	11700	39931.74061	5.61	2.09	7.13	162.43	28.26	2.66	45.18	
R22	MLZ / MLM015	2	3900	13310.5802	1.74	2.26	7.71	33.77	5.88	1.06	30.84
	MLZ / MLM019	2.5	5200	17747.44027	2.22	2.37	8.09	43.51	7.57	1.06	30.84
	MLZ / MLM021	3	5600	19112.62799	2.36	2.36	8.05	46.21	8.04	1.06	30.84
	MLZ / MLM026	3.5	7000	23890.78498	2.93	2.39	8.16	57.11	9.94	1.06	30.84
	MLZ / MLM030	4	8200	27986.34812	3.46	2.36	8.05	68.79	11.97	1.57	37.2
	MLZ / MLM038	5	9600	32764.50512	4.06	2.36	8.05	80.95	14.09	1.57	37.2
	MLZ / MLM042	5.5	10900	37201.36519	5.00	2.18	7.44	93.09	16.20	1.57	37.2
	MLZ / MLM045	6	11700	39931.74061	4.91	2.38	8.12	98.57	17.15	1.57	37.2
	MLZ / MLM048	7	12900	44027.30375	5.36	2.4	8.19	107.48	18.70	1.57	37.2
	MLZ / MLM058	7.5	14900	50853.24232	6.34	2.34	7.99	125.95	21.92	2.66	44
	MLZ / MLM066	9	17000	58020.47782	7.14	2.38	8.12	148.8	25.89	2.66	45.18
MLZ / MLM076	10	20100	68600.68259	8.40	2.39	8.16	162.43	28.26	2.66	45.18	

¹⁾ at EN12900 conditions: -10 °C, Tc 45 °C, RGT 20 °C, SC 0 K

²⁾ R407 performance data are nearly identical to R404A performance data

³⁾ R134a at conditions: -10 °C, Tc 45 °C, SH 10 K, SC 0 K

Motor voltage code 4: 400 V / 3 ~ / 50 Hz and 460 V / 3 ~ / 60 Hz

MLZ / MLM042: motor voltage code 1: 208 - 230 V / 1 ~ / 60 Hz

01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20

Technical data and ordering

MLZ / MLM - Scroll compressors - R407A / R407F - 60 Hz

Technical data

Type	HP	Nominal cooling capacity ¹⁾		Power input ¹⁾	Efficiency ¹⁾		Swept volume	Displacement	Oil charge	Net weight (with oil)	
		[W]	[Btu/h]		COP	EER					
		[W]	[Btu/h]	[kW]	[W]/[W]	[Btu/h]/[W]	[cm ³ /rev]	[m ³ /h]	[l]	[kg]	
R407A ²⁾	MLZ015	2	3800	12969.28328	1.85	2.04	6.96	33.77	5.88	1.06	30.84
	MLZ016	2.5	4900	16723.54949	2.40	2.06	7.03	43.51	7.57	1.06	30.84
	MLZ017	3	5300	18088.7372	2.63	2.01	6.86	46.21	8.04	1.06	30.84
	MLZ018	3.5	6400	21843.00341	3.10	2.07	7.06	57.11	9.94	1.06	30.84
	MLZ019	4	7900	26962.45734	3.52	2.25	7.68	68.79	11.97	1.57	37.2
	MLZ020	5	9200	31399.31741	4.10	2.24	7.65	80.95	14.09	1.57	37.2
	MLZ021	6	11200	38225.25597	5.37	2.09	7.13	98.57	17.15	1.57	37.2
	MLZ022	7	12200	41638.22526	6.01	2.03	6.93	107.48	18.70	1.57	37.2
	MLZ023	7.5	14300	48805.46075	6.68	2.14	7.30	125.95	21.92	2.66	44
	MLZ024	9	16700	56996.58703	7.89	2.12	7.24	148.8	25.89	2.66	45.18
R407F ³⁾	MLZ015	2	4100	13993.17406	1.98	2.05	7.00	33.77	5.88	1.06	30.84
	MLZ019	2.5	5300	18088.7372	2.57	2.06	7.03	43.51	7.57	1.06	30.84
	MLZ021	3	5700	19453.92491	2.81	2.01	6.86	46.21	8.04	1.06	30.84
	MLZ026	3.5	6900	23549.48805	3.32	2.08	7.10	57.11	9.94	1.06	30.84
	MLZ030	4	8500	29010.23891	3.77	2.26	7.71	68.79	11.97	1.57	37.2
	MLZ038	5	9800	33447.09898	4.38	2.24	7.65	80.95	14.09	1.57	37.2
	MLZ045	6	12000	40955.6314	5.75	2.09	7.13	98.57	17.15	1.57	37.2
	MLZ048	7	13100	44709.89761	6.44	2.04	6.96	107.48	18.70	1.57	37.2
	MLZ058	7.5	15300	52218.43003	7.15	2.14	7.30	125.95	21.92	2.66	44
	MLZ066	9	18000	61433.4471	8.45	2.13	7.27	148.8	25.89	2.66	45.18
MLZ076	10	19400	66211.6041	9.25	2.09	7.13	162.43	28.26	2.66	45.18	

¹⁾ at EN12900 conditions: -10 °C, Tc 45 °C, RGT 20 °C, SC 0 K

²⁾ R507 performance data are nearly identical to R404A performance data

³⁾ R407A, R407F at conditions: -10 °C, Tc 45 °C, SH 10 K, SC 0 K

Motor voltage code 4: 400 V / 3 ~ / 50 Hz and 460 V / 3 ~ / 60 Hz

MLZ / MLM042: motor voltage code 5: 220 – 240 V / 1 ~ / 50 Hz

Technical data and ordering

MLZ / MLM - Scroll compressors - R134a - 50 / 60 Hz

Performance table

Type	To	-10		-5		0		5		10		15		
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	MLZ / MLM015T4	30	2400	0.74	3000	0.75	3700	0.75	4500	0.76	5400	0.77	-	-
		40	-	-	2700	0.92	3300	0.93	4100	0.94	4900	0.95	5900	0.96
		50	-	-	2400	1.14	3000	1.15	3600	1.16	4400	1.17	5200	1.18
	MLZ / MLM019T4	30	3100	0.95	3800	0.96	4700	0.96	5800	0.97	7000	0.99	-	-
		40	-	-	3500	1.18	4300	1.19	5200	1.20	6300	1.21	7600	1.22
		50	-	-	3100	1.44	3800	1.46	4700	1.48	5600	1.49	6700	1.50
	MLZ / MLM021T4	30	3300	0.98	4100	0.99	5000	1.00	6100	1.01	7400	1.03	-	-
		40	-	-	3700	1.22	4600	1.23	5600	1.25	6700	1.26	8000	1.28
		50	-	-	3300	1.49	4000	1.51	4900	1.53	6000	1.54	7200	1.56
	MLZ / MLM026T4	30	4100	1.19	5100	1.20	6200	1.22	7600	1.23	9100	1.25	-	-
		40	-	-	4600	1.48	5600	1.50	6900	1.52	8300	1.54	9900	1.55
		50	-	-	4100	1.82	5000	1.85	6100	1.87	7400	1.89	8900	1.91
	MLZ / MLM030T4	30	4900	1.42	6100	1.43	7500	1.45	9100	1.46	11000	1.48	-	-
		40	-	-	5500	1.76	6800	1.78	8300	1.80	10000	1.82	12000	1.84
		50	-	-	4900	2.16	6000	2.19	7400	2.21	8900	2.23	10700	2.26
	MLZ / MLM038T4	30	5800	1.73	7200	1.75	8800	1.77	10700	1.79	12900	1.81	-	-
		40	-	-	6500	2.15	8000	2.18	9700	2.20	11700	2.22	14000	2.24
		50	-	-	5700	2.64	7100	2.68	8700	2.71	10500	2.73	12500	2.75
	MLZ / MLM042T5	30	6600	2.15	8200	2.20	10100	2.23	12100	2.28	14400	2.35	-	-
		40	-	-	7500	2.60	9200	2.64	11100	2.68	13200	2.72	15700	2.78
50		-	-	6500	3.08	8100	3.15	9900	3.19	11800	3.22	14100	3.25	
MLZ / MLM045T4	30	7100	1.96	8900	1.99	11000	2.00	13300	2.01	16000	2.02	-	-	
	40	-	-	8000	2.46	9900	2.49	12100	2.51	14600	2.53	17400	2.55	
	50	-	-	7100	3.03	8800	3.07	10800	3.10	13000	3.13	15600	3.17	
MLZ / MLM048T4	30	7600	2.12	9500	2.15	11600	2.18	14100	2.20	16900	2.22	-	-	
	40	-	-	8500	2.66	10500	2.70	12800	2.72	15400	2.74	18300	2.75	
	50	-	-	7500	3.27	9300	3.32	11400	3.36	13800	3.38	16400	3.39	
MLZ / MLM058T4	30	9100	2.64	11300	2.69	13800	2.77	16600	2.83	20000	2.87	-	-	
	40	-	-	10100	3.33	12400	3.40	15100	3.44	18100	3.45	21600	3.40	
	50	-	-	9000	4.06	11100	4.15	13400	4.20	16100	4.20	19200	4.12	
MLZ / MLM066T4	30	10500	3.01	13000	3.07	16000	3.14	19300	3.20	23200	3.24	-	-	
	40	-	-	11800	3.79	14500	3.85	17500	3.89	21100	3.90	25000	3.86	
	50	-	-	10400	4.62	12800	4.70	15600	4.75	18800	4.75	22300	4.69	
MLZ / MLM076T4	30	11800	3.41	14600	3.49	17900	3.58	21600	3.65	25800	3.69	-	-	
	40	-	-	13100	4.31	16100	4.39	19600	4.44	23500	4.45	28000	4.39	
	50	-	-	11600	5.26	14300	5.36	17400	5.42	21000	5.42	25000	5.34	
60 Hz	MLZ / MLM015T4	30	3000	0.89	3700	0.90	4600	0.92	5500	0.94	6600	0.96	-	-
		40	-	-	3400	1.10	4200	1.12	5100	1.14	6100	1.16	7200	1.18
		50	-	-	3000	1.33	3700	1.36	4600	1.38	5500	1.40	6500	1.43
	MLZ / MLM019T4	30	3800	1.15	4800	1.18	5900	1.20	7100	1.22	8500	1.25	-	-
		40	-	-	4300	1.43	5400	1.46	6500	1.48	7800	1.50	9300	1.54
		50	-	-	3900	1.73	4800	1.77	5900	1.79	7100	1.82	8400	1.84
	MLZ / MLM021T4	30	4100	1.19	5100	1.21	6200	1.23	7600	1.25	9100	1.28	-	-
		40	-	-	4600	1.48	5700	1.50	6900	1.52	8300	1.54	9900	1.57
		50	-	-	4100	1.79	5100	1.83	6200	1.85	7500	1.87	8900	1.90
	MLZ / MLM026T4	30	5000	1.44	6300	1.46	7700	1.49	9300	1.52	11200	1.57	-	-
		40	-	-	5700	1.78	7000	1.82	8600	1.85	10300	1.88	12200	1.91
		50	-	-	5100	2.16	6300	2.22	7700	2.26	9300	2.29	11000	2.30
	MLZ / MLM030T4	30	6000	1.75	7500	1.78	9300	1.81	11300	1.85	13500	1.90	-	-
		40	-	-	6800	2.18	8500	2.21	10300	2.24	12400	2.28	14700	2.33
		50	-	-	6100	2.64	7600	2.68	9300	2.72	11200	2.76	13300	2.81
	MLZ / MLM038T4	30	7100	2.06	8800	2.10	10900	2.15	13200	2.21	15900	2.26	-	-
		40	-	-	8000	2.57	9900	2.62	12100	2.67	14600	2.72	17300	2.77
		50	-	-	7200	3.14	8900	3.19	10900	3.24	13200	3.29	15700	3.34
	MLZ / MLM042T1	30	8800	2.45	11000	2.49	13500	2.53	16300	2.58	19500	2.65	-	-
		40	-	-	9900	3.05	12200	3.09	14800	3.13	17800	3.18	21100	3.26
50		-	-	8600	3.74	10700	3.79	13100	3.83	15800	3.88	18900	3.94	
MLZ / MLM045T4	30	9300	2.61	11600	2.66	14200	2.72	17200	2.78	20600	2.86	-	-	
	40	-	-	10400	3.26	12900	3.31	15600	3.37	18800	3.43	22200	3.49	
	50	-	-	9200	3.99	11300	4.06	13900	4.11	16700	4.16	19900	4.21	
MLZ / MLM048T4	30	11100	3.14	13700	3.23	16800	3.35	20200	3.47	24000	3.57	-	-	
	40	-	-	12400	3.96	15200	4.07	18300	4.17	21900	4.24	25900	4.27	
	50	-	-	11000	4.84	13500	4.96	16300	5.06	19600	5.12	23300	5.13	
MLZ / MLM058T4	30	12700	3.60	15700	3.70	19200	3.83	23200	3.97	27600	4.10	-	-	
	40	-	-	14200	4.53	17400	4.66	21100	4.77	25200	4.85	29800	4.90	
	50	-	-	12600	5.52	15500	5.68	18800	5.79	22500	5.86	26700	5.85	
MLZ / MLM066T4	30	14300	4.12	17600	4.23	21500	4.38	26000	4.54	31000	4.70	-	-	
	40	-	-	16000	5.19	19600	5.33	23600	5.46	28300	5.56	33400	5.61	
	50	-	-	14200	6.35	17400	6.51	21100	6.64	25300	6.71	29800	6.71	
MLZ / MLM076T4	30	14 300	4.1	17 600	4.2	21 500	4.4	26 000	4.5	31 000	4.7	-	-	
	40	-	-	16 000	5.2	19 600	5.3	23 600	5.5	28 300	5.6	33 400	5.6	
50	-	-	14 200	6.4	17 400	6.5	21 100	6.6	25 300	6.7	29 800	6.7		

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling capacity in [W]

Pe: Power input in [kW]

Subcooling: 0 K

RGT: 20 °C

Capacity data at other conditions are available in the datasheets at: www.danfoss.com/odsg

Technical data and ordering

MLZ / MLM - Scroll compressors - R407A - 50 / 60 Hz

Performance table

Type	To	-25			-20		-15		-10		-5		0		5		10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	MLZ015T4	30	2400	1.09	3100	1.11	3800	1.13	4700	1.14	5800	1.14	7000	1.12	8400	1.10	8400	1.1
		40	-	-	2700	1.37	3400	1.39	4200	1.41	5100	1.42	6300	1.43	7600	1.42	7600	1.42
		50	-	-	-	-	2800	1.73	3500	1.76	4400	1.78	5400	1.80	6600	1.81	6600	1.81
	MLZ019T4	30	3200	1.44	4000	1.47	5000	1.49	6100	1.50	7500	1.50	9100	1.48	10900	1.44	10900	1.44
		40	-	-	3400	1.80	4300	1.83	5400	1.86	6600	1.88	8100	1.88	9800	1.87	9800	1.87
		50	-	-	-	-	3700	2.28	4600	2.32	5700	2.35	7000	2.37	8500	2.38	8500	2.38
	MLZ021T4	30	3200	1.52	4100	1.56	5100	1.59	6300	1.61	7700	1.63	9400	1.64	11200	1.65	11200	1.65
		40	-	-	3600	1.93	4500	1.96	5600	1.99	6900	2.02	8400	2.04	10100	2.05	10100	2.05
		50	-	-	-	-	3900	2.50	4900	2.53	6000	2.56	7300	2.58	8800	2.61	8800	2.61
	MLZ026T4	30	4100	1.87	5200	1.91	6500	1.94	8000	1.97	9700	2.00	11800	2.01	14100	2.02	14100	2.02
		40	-	-	4500	2.37	5700	2.41	7100	2.44	8700	2.47	10500	2.50	12700	2.51	12700	2.51
		50	-	-	-	-	4900	3.06	6100	3.10	7500	3.14	9200	3.17	11100	3.19	11100	3.19
	MLZ030T4	30	5000	2.07	6300	2.12	7800	2.15	9700	2.16	11800	2.18	14400	2.20	17300	2.24	17300	2.24
		40	-	-	5600	2.63	6900	2.68	8500	2.71	10400	2.72	12700	2.72	15300	2.73	15300	2.73
		50	-	-	-	-	6000	3.32	7400	3.37	9000	3.40	11000	3.40	13300	3.39	13300	3.39
	MLZ038T4	30	5800	2.41	7300	2.47	9100	2.50	11200	2.52	13700	2.54	16600	2.56	20000	2.61	20000	2.61
		40	-	-	6500	3.06	8000	3.12	9900	3.15	12100	3.16	14700	3.17	17700	3.17	17700	3.17
		50	-	-	-	-	7000	3.86	8600	3.92	10500	3.95	12700	3.96	15400	3.95	15400	3.95
	MLZ042T5	30	6700	3.19	8400	3.22	10500	3.24	13000	3.26	15900	3.29	19300	3.37	23200	3.49	23200	3.49
		40	-	-	7400	4.00	9200	4.03	11500	4.04	14100	4.05	17100	4.08	20700	4.13	20700	4.13
50		-	-	-	-	7900	5.09	9900	5.12	12200	5.13	14900	5.13	18000	5.13	18000	5.13	
MLZ045T4	30	7200	3.19	9200	3.24	11500	3.28	14200	3.31	17400	3.31	21100	3.28	25300	3.21	25300	3.21	
	40	-	-	7800	4.04	10000	4.06	12400	4.09	15300	4.12	18600	4.12	22500	4.11	22500	4.11	
	50	-	-	-	-	8300	5.11	10500	5.11	13100	5.12	16000	5.13	19500	5.13	19500	5.13	
MLZ048T4	30	7900	3.52	10100	3.57	12600	3.61	15600	3.64	19100	3.65	23200	3.62	27800	3.54	27800	3.54	
	40	-	-	8600	4.45	10900	4.48	13600	4.51	16800	4.54	20500	4.55	24700	4.53	24700	4.53	
	50	-	-	-	-	9100	5.63	11500	5.63	14400	5.64	17600	5.65	21400	5.66	21400	5.66	
MLZ058T4	30	9000	3.90	11400	3.98	14200	4.07	17400	4.15	21300	4.19	25700	4.16	30800	4.04	30800	4.04	
	40	-	-	9900	5.00	12400	5.05	15300	5.13	18800	5.21	22700	5.25	27300	5.24	27300	5.24	
	50	-	-	-	-	10600	6.44	13100	6.46	16100	6.51	19600	6.57	23600	6.61	23600	6.61	
MLZ066T4	30	10500	4.65	13300	4.75	16600	4.85	20400	4.95	24900	4.99	30000	4.96	36000	4.81	36000	4.81	
	40	-	-	11600	5.96	14500	6.03	17900	6.12	21900	6.21	26600	6.26	31900	6.25	31900	6.25	
	50	-	-	-	-	12300	7.68	15400	7.70	18900	7.77	22900	7.84	27600	7.88	27600	7.88	
MLZ076T4	30	11500	5.30	14800	5.32	18600	5.37	23000	5.44	28200	5.54	34200	5.56	41100	5.82	41100	5.82	
	40	-	-	12600	6.67	16000	6.68	20100	6.72	24800	6.78	30200	6.87	36400	6.99	36400	6.99	
	50	-	-	-	-	13400	8.48	16900	8.47	21100	8.49	25900	8.54	31500	8.62	31500	8.62	
60 Hz	MLZ015T4	30	2900	1.31	3700	1.32	4700	1.33	5800	1.33	7100	1.34	8600	1.35	10300	1.38	8400	1.38
		40	-	-	3200	1.64	4100	1.66	5100	1.67	6300	1.67	7600	1.68	9200	1.69	7600	1.69
		50	-	-	-	-	3500	2.07	4400	2.09	5400	2.11	6600	2.12	8000	2.12	6600	2.12
	MLZ019T4	30	3700	1.70	4800	1.71	6100	1.72	7500	1.72	9200	1.73	11200	1.75	13400	1.78	10900	1.78
		40	-	-	4200	2.12	5300	2.15	6600	2.16	8200	2.16	9900	2.17	12000	2.18	9800	2.18
		50	-	-	-	-	4500	2.67	5700	2.71	7100	2.73	8600	2.74	10400	2.75	8500	2.75
	MLZ021T4	30	4100	1.83	5200	1.85	6400	1.89	7900	1.92	9700	1.95	11700	1.97	14000	1.99	11200	1.99
		40	-	-	4500	2.31	5700	2.33	7000	2.37	8600	2.40	10400	2.44	12500	2.47	10100	2.47
		50	-	-	-	-	4900	2.98	6100	3.01	7500	3.04	9100	3.08	10900	3.12	8800	3.12
	MLZ026T4	30	5000	2.15	6300	2.19	7800	2.22	9600	2.26	11800	2.30	14200	2.33	17000	2.35	14100	2.35
		40	-	-	5500	2.72	6900	2.75	8500	2.79	10500	2.83	12700	2.87	15200	2.91	12700	2.91
		50	-	-	-	-	5900	3.52	7400	3.55	9100	3.59	11000	3.64	13300	3.68	11100	3.68
	MLZ030T4	30	6200	2.46	7700	2.51	9600	2.53	11800	2.56	14500	2.60	17700	2.68	21300	2.81	17300	2.81
		40	-	-	6900	3.10	8500	3.16	10500	3.19	12800	3.22	15600	3.26	18900	3.32	15300	3.32
		50	-	-	-	-	7400	3.90	9100	3.98	11100	4.02	13600	4.05	16500	4.08	13300	4.08
	MLZ038T4	30	7200	2.86	8900	2.92	11100	2.95	13700	2.98	16800	3.02	20400	3.12	24700	3.28	20000	3.28
		40	-	-	7900	3.61	9800	3.68	12100	3.72	14800	3.75	18100	3.79	21900	3.87	17700	3.87
		50	-	-	-	-	8600	4.54	10500	4.63	12900	4.68	15700	4.71	19100	4.75	15400	4.75
	MLZ045T1	30	8800	3.77	11200	3.84	14000	3.88	17300	3.90	21200	3.88	25700	3.80	30900	3.66	25300	3.66
		40	-	-	9600	4.76	12100	4.80	15100	4.83	18600	4.82	22600	4.78	27200	4.69	22500	4.69
50		-	-	-	-	10200	6.01	12900	6.01	15900	6.00	19500	5.96	23500	5.89	19500	5.89	
MLZ048T4	30	9600	4.22	12200	4.30	15300	4.35	18900	4.37	23100	4.34	28000	4.26	33700	4.10	27800	4.1	
	40	-	-	10500	5.34	13200	5.38	16500	5.41	20300	5.40	24700	5.36	29700	5.25	24700	5.25	
	50	-	-	-	-	11200	6.73	14000	6.73	17400	6.72	21200	6.68	25700	6.60	21400	6.6	
MLZ058T4	30	11200	4.64	14100	4.68	17600	4.76	21600	4.85	26300	4.97	-	5.09	38100	5.22	30800	5.22	
	40	-	-	12300	5.90	15400	5.94	19000	6.01	23300	6.11	28100	6.23	33800	6.36	27300	6.36	
	50	-	-	-	-	13100	7.54	16300	7.57	20000	7.64	24300	7.74	29300	7.86	23600	7.86	
MLZ066T4	30	13100	5.48	16500	5.53	20600	5.62	25300	5.73	30900	5.87	37300	6.01	44600	6.16	36000	6.16	
	40	-	-	14400	6.97	18100	7.02	22300	7.10	27300	7.22	33000	7.36	39600	7.52	31900	7.52	
	50	-	-	-	-	15400	8.91	19100	8.95	23500	9.03	28500	9.14	34300	9.29	27600	9.29	
MLZ076T4	30	14100	6.09	17900	6.16	22400	6.25	27700	6.33	33800	6.36	40900	6.32	49100	6.15	41100	6.15	
	40	-	-	15500	7.68	19500	7.72											