



Quick Selection 2012/2013

Danfoss Compressors

>5000

code numbers in one catalogue

Simply the easiest way to find the code numbers you need for your specific application - all in one place

>100

Products in one catalogue

The most frequently used refrigeration products from the extended Danfoss ranges have been collected in one catalogue. A timesaving way to find exactly what you are looking for. A part of your toolbox.



www.danfoss.co.uk/ra



**CLIMATE
CENTER**
a WOLSELEY company

www.climatecenter.co.uk



Compressors

Danfoss Compressors



Constant innovation, constant progress

Throughout the last 50 years Danfoss Compressors has built a strong position as a global leader in the refrigeration and air conditioning industry. By constantly listening to the needs of our customers and the daily users of our products, we continue to develop innovative solutions that are energy-efficient and environmentally responsible.

With the most complete range of products for virtually any refrigeration or air-conditioning application, we are proud to offer solutions that are famous and trusted by customers all over the world for their reliability, efficiency and high quality.

Extensive product and application range

Our product range covers all common HC, HFC and HCFC refrigerants. Customers can choose from small, direct current hermetic compressors for mobile applications to large scroll compressors for commercial air conditioning or industrial applications.

Pushing technology further

We were the first to market with R134a. We can also cater for needs with energy optimised, including models with variable speed and monitoring as well as models developed for the solar energy industry. Proof of our constant focus on providing value through maximum efficiency, environmental safety and low noise levels.

Compressors	222 (16)
Direct current compressors.....	224 (10)
Reciprocating compressors – Household & Light commercial.....	226 (10)
Reciprocating compressors – Commercial.....	236 (16)
Scroll compressors – H series.....	240 (20)
Scroll compressors – SH series.....	248 (28)
Scroll compressors – Heat pumps.....	252 (32)
Reciprocating compressors - Variable speed.....	254 (34)

Scroll Compressors

Danfoss scroll compressors cover a full range of capacities, perfect for any application from light commercial to large commercial systems. 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.

Special features	Benefits	Applications
<ul style="list-style-type: none"> Simple, compact and lightweight construction Optimised scroll, motor and shell design 100% suction gas cooled and shielded motor Large refrigerant capacity Large oil reserve 	<ul style="list-style-type: none"> Easy to install and service Energy efficiency with long lifetime expectancy and low noise Works in high temperature environments Reliable operation in all conditions 	<ul style="list-style-type: none"> Water chillers Self contained air conditioning units Split systems Central air handling units Heat pumps Residential air conditioning

Reciprocating Compressors (commercial)

Designed for refrigeration as well as air conditioning applications with refrigerants R22, R407C, R134a, R404A and R507A, the Danfoss Maneurop range of compressors covers all requirements in the 1.5-26 HP range. The compressors are available with rotoblock connections, suitable for parallel mounting as well as factory made units.

Special features	Benefits	Applications
<ul style="list-style-type: none"> Large internal volume, large oil sump, sturdy design 100% suction gas-cooled motor Internal motor protection High efficiency circular valve design 	<ul style="list-style-type: none"> operation under extreme conditions versatile no need for air circulation around the compressor long lifetime expectancy and reliability 	<ul style="list-style-type: none"> Walk-in freezers & cold rooms Frozen food processing and storage Blast freezers Low temperature racks Ice cream machines Display cabinets Water chillers Large packaged air conditioners

Reciprocating Compressors (household & light commercial)

Specially optimised for use in household and light commercial applications, hermetic reciprocating compressors from Danfoss provide high cooling capacity in an energy saving design. The compressor series can be used with refrigerants R134a, R290, R404A/R507A, R407C and R600a perfect for cooling needs from 20 W to 6 kW.

Special features	Benefits	Applications
<ul style="list-style-type: none"> Compact construction Durable housing Optimised motor technology Wide voltage range Low GWP refrigerant Variable speed 	<ul style="list-style-type: none"> Easy installation at lower cost Low noise and high energy efficiency Robust in tough operating conditions Immune to unstable power supply Environmentally friendly solutions 	<ul style="list-style-type: none"> 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

Variable Speed Solutions for Light Commercial Refrigeration

Cut a slice out of your energy bill with variable speed control

Optimise cabinet display cooling with SLV compressors

SLV Variable Speed Drive 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 applications like freezers and cabinets. You will thus secure both high food quality and a low energy bill in a single solution.

System performance monitoring with built-in data logging function, use of one, intelligent controller for control and alarm management integrated in a compact, reliable and easy to install unit – and many other important enhancements that place SLV compressors far ahead of optimised compressors.

The integrated design of the compressors helps reduce system costs, enabling of more than 30% energy reduction in supermarket and convenience store cabinets, compared to non-optimised compressors.

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

Product advantages	Customer benefits
<ul style="list-style-type: none"> · Integrated variable speed and adaptive temperature control · High Temperature Stability · Wide voltage range · Uses R290 (other refrigerants possible) · Built-in data logging and failure detection · Remote monitoring option · Lower average compressor speed · Compressor, speed control, cabinet control functions, display and monitoring – all in one integrated solution 	<ul style="list-style-type: none"> · Reduces energy consumption of more than 30% · Reduced food loss and increased food quality · High efficiency and reliability · Allows shop owners to comply with future legal refrigerant requirements now · Environmentally friendly · Enables shop owners to comply with the HACCP standard on food quality · Easy integration in existing and new monitoring systems, e.g. Retail Care® · Lower acoustic noise · Simpler installation, less room for errors, easier field service

Reciprocating Compressors (Direct current)

Tailored for cooling on the move

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

- BD35F/50F/80F compressors for 12/24V DC, R134a in mobile refrigerators and freezers
- BD220CL compressors for 12V DC, R404A LBP/MBP for bigger van cooling boxes
- BD250GH / BD350GH compressors for 12/24V DC, R134a HBP for mobile spot cooling systems
- BD250GH / BD350GH compressors for 48 V DC, R 134a HBP for telecommunication.

All the compressors are equipped with an electronic control unit with built in speed control, thermostat signal, thermal protection, safety against destructive battery discharge, electronic thermostat and fan speed control on selected.

Product advantages	Customer benefits
<ul style="list-style-type: none"> · Efficient and reliable · Lasting performance · Low weight · Silent operation · Ideal for solar energy supply · Compact design · Energy optimisation · Speed/capacity control · Energy optimisation, high COP 	<ul style="list-style-type: none"> · Operation under extreme conditions · Minimal energy consumption · Portable beyond traditional limits · Low sound emission · Application possible at extreme voltage rate · Fits virtually anywhere · Safeguard for your food

Reciprocating compressors – BD Direct current



BD35F Multivoltage

R134a, -30°C, +10°C evap. temp.

All mobile applications for portable boxes, boats, trucks etc., can be powered with AC and DC, 85-265 V AC 50/60 Hz, 12-24 V DC, automatic selection of AC when available, 26-150 W cooling capacity.

BD35F with EMI Electronic

R134a, -30°C, +10°C evap. temp.

Designed for boats and trucks if risk of electric interference with radio or other electrical equipment, 26-150 W cooling capacity.

BD35F/50F/80F Basic

R134a, -30°C, +10°C evap. temp.

All mobile applications for portable boxes, boats, trucks etc., 26-150/36-190/55-270 W cooling capacity.

Applications	Compressors		
	BD35F	BD50F	BD80F
Truck refrigerators	✓		
Boat refrigerators	✓	✓	✓
Bus refrigerators	✓		
Portable boxes	✓	✓	✓
Car minibars (high end)	✓		
Car minibars (SUV, MPV)	✓		
Spot cooling (e.g. trucks)			
Self-contained van boxes		✓	✓
Battery cooling - telecommunication			
Solar chest cabinets	✓	✓	
Heatpumps			

Compressors R134a	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	Solar 10-45 V DC 101N0400	AC/DC conv. 12-24 V DC & 100-240 V AC 101N0500	Automotive 12-24 V DC 101N0600 101N0630	Extended EMI 12-24 V DC 101N0900
BD35F (mm con.)	101Z0200	✓	✓			✓	✓	✓	✓	✓
BD35F (inch con.)	101Z0204	✓	✓			✓	✓	✓	✓	✓
BD50F (mm con.)	101Z1220	✓	✓	✓		✓		✓		✓
BD50F (inch con.)	101Z0203	✓	✓	✓		✓		✓		✓
BD80F	101Z0280				✓					

Compressors R134a	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			26.2 32.2 35.9 44.2 40.4 49.7 50.5 62.2 69.8 86.0 93.6 115 122 150												
BD50F			36.7 45.2 52.2 64.4 58.3 71.9 71.4 88.2 94.9 117 123 152 157 194												
BD80F			54.8 67.6 78.0 96.1 86.7 107 105 130 138 170 176 218 221 274												

Compressors R134a	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	101Z0200			36.0	42.8	45.4	50.8	59.5	68.9	78.5						
BD50F	101Z1220			47.0	59.0	63.0	70.7	82.6	95.0	108						
BD80F	101Z0280			69.0	87.0	93.0	105	123	144	168						

Test condition

EN 12900-CECOMAF / ASHRAE LBP

Condensing temperature: 55 °C / 54.4 °C
Ambient temperature: 32 °C / 32 °C

Suction gas temperature: 32 °C / 32 °C
Liquid temperature: 32 °C

compressor cooling temperature compulsory)					Voltage and frequencies	Electrical Equipment					Dimensions				
						HST (CSIR)		HST (CSR)	LST/HST		Height [mm]		Connectors location/L.D. [mm]		
38°C		43°C				Starting relay	Starting capacitor	Starting device	Cord relief	Cover	A	B	C	D	E
MBP	HBP	LBP	MBP	HBP		spades		spades							
					6.3 mm	6.3 mm	6.3 mm								
F ₂					1	117U6000	117U5014		103N1010	103N2010	173	169	6.2	6.2	5.0
		F ₂			1	117U6001	117U5014		103N1004	117U1022	173	169	6.2	6.2	5.0
F ₂					1	117U6015	117U5015		103N1010	103N2010	196	191	8.2	6.2	6.2
F ₂					1	117U6016	117U5015		103N1010	103N2010	196	191	8.2	6.2	6.2
					1	117U6010	117U5015		103N1010	103N2010	196	191	8.2	6.2	6.2
F ₁		F ₂	F ₂		1	117U6002	117U5015		103N1010	103N2010	203	197	8.2	6.2	6.2
F ₂		F ₂	F ₂		1	117U6003	117U5015		103N1010	103N2010	203	197	8.2	6.2	6.2
F ₂					1	117U6003	117U5017		103N1004	103N2009	209	203	8.2	6.2	6.2
F ₂					1/3	117U6005	117U5017		103N1004	103N2008	209	203	8.2	6.2	6.2
F ₂					1	117U6005	117U5017		103N1004	103N2009	209	203	8.2	6.2	6.2
					1/4	117U6019	117U5017		103N1004	103N2008	219	213	8.2	6.2	6.2
		F ₂			1	117U6019	117U5017		103N1004	103N2009	219	213	10.2	6.2	6.2
		F ₂			1	117U6013	117U5012		103N1004	103N2009	219	213	10.2	6.2	6.2
		F ₂			1			117-7012	103N1004	103N2009	219	213	10.2	6.2	6.2
					1			117-7012	103N1004	103N2009	219	213	10.2	6.2	6.2
		F ₂			1			117-7056	107B9100/9101/9104*		259	247	12.9	6.5	8.2
					1			117-7074	107B9100/9101/9104*		279	267	12.9	6.5	8.2
F ₂					1	117U6005	117U5017		103N1004	103N2009	249	244	12	6.2	6.2
F ₂					1	117U6019	117U5017		103N1004	103N2009	259	254	12	6.2	6.2
F ₂					1			117-7012	103N1004	103N2009	259	254	16	6.2	6.2
					1			117-7012	103N1004	103N2009	259	254	16	6.2	6.2
		F ₂			1	105N46xx series controllers			103N1004	103N2009	199	193	10.2	6.2	6.2
F ₂			F ₂		7/8	117U6022	117U5015		103N1010	103N2011	203	197	8.2	6.5	6.5
F ₂			F ₂		7/8	117U4139	117U5018		2x117U0349	117U1021	203	197	9.7	6.5	6.5
F ₂			F ₂		7/8	117U6011	117U5017		103N1004	103N2008	209	203	8.2	6.5	6.5
F ₂			F ₂		7/8	117U6011	117U5017		103N1004	103N2008	219	213	8.2	6.5	6.5
F ₂					1	117U6013	117U5012		103N1004	103N2009	219	213	10.2	6.2	6.2
F ₂					1			117-7012	103N1004	103N2009	219	213	10.2	6.2	6.2
F ₂					1			117-7012	103N1004	103N2009	219	213	10.2	6.2	6.2
F ₂			F ₂		1			117-7070	107B9100/9101/9104*		259	247	12.9	6.5	8.2
F ₂			F ₂		1			117-7072	107B9100/9101/9104*		279	267	16.1	6.5	9.7
F ₂			F ₂		1			117-7056	107B9100/9101/9104*		279	267	16.1	6.5	9.7
F ₂	F ₂				1	117U6001	117U5014		103N1010	103N2010	173	169	6.2	6.2	5.0
F ₂	F ₂				1	117U6010	117U5015		103N1010	103N2010	196	191	8.2	6.2	6.2
F ₂	F ₂				1	117U6005	117U5017		103N1004	103N2009	209	203	8.2	6.2	6.2
F ₂	F ₂				1	117U6019	117U5017		103N1004	103N2009	219	213	10.2	6.2	6.2
F ₂	F ₂				1			117-7028	103N1004	103N2009	219	213	10.2	6.2	6.2
F ₂	F ₂				1	117U6019	117U5017		103N1004	103N2009	219	213	10.2	6.2	8.2
F ₂	F ₂				1	117U6005	117U5017		103N1004	103N2009	249	244	12	6.2	6.2
F ₂	F ₂				1	117U6019	117U5017		103N1004	103N2009	249	244	12	6.2	6.2
F ₂	F ₂				1			117-7028	103N1004	103N2009	259	254	16	6.2	6.2

Reciprocating compressors R290

Application	Compressor	Code numbers		EN 12900 (CECOMAF) Capacity [W]													Power consumption (W)				Displacement	Recommended at ambient (* = Run capacitor)					
		Compressor	Compressor single pack with HST equipment	Evaporating temperature [°C]													Evap temp. (°C)					32°C		38°C			
				-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	-35	-25	-10	5	[cm³]	LBP	MBP	HBP	LBP	
LBP / MBP	TL3CN	102H4380	195B0581		38	54	75	99	128	161	200	244	294	351					90	108	135	162	3.13	F ₁	F ₁		F ₁
	TL4CN	102H4490	195B0589		56.5	77.8	103	132	166	205	250	302	360	426					101	127	162	188	3.86	F ₁	F ₁		F ₁
	TL5CN	102H4590	195B0420		81	109	143	183	230	283	345	416	496	586					130	162	211	266	5.08	F ₁	F ₁		F ₁
	NL7CN	105H6756	195B0451		118	166	223	290	368	458	561	679	814	965					174	221	291	372	7.27	F ₁	F ₁		F ₁
	NL9CN	105H6856	195B0265		138	194	259	335	423	526	643	778	930	1102					196	250	334	428	8.35	F ₁	F ₁		F ₁
	SC10CNX	104H8065	195B0474		126	179	245	325	420	531	660	809	979	1172					208	274	362		10.29	F ₂	F ₂		F ₂
	SC12CNX	104H8265	195B0333		178	250	331	426	540	678	846	1050	1293	1582					269	344	456		12.87	F ₂	F ₂		F ₂
	SC15CNX	104H8565	195B0203		195	297	415	550	707	887	1093	1328	1594	1894					315	420	560		15.28	F ₂	F ₂		F ₂
	SC18CNX	104H8865	195B0414		219	341	480	640	824	1033	1272	1543	1849	2193					370	500	707		17.69	F ₂	F ₂		F ₂
	SC12CNX.2	104H8266	195B0458		186	258	346	453	578	725	895								298	379	502		12.87	F ₂			F ₂
SC15CNX.2	104H8566	195B0505		252	332	434	560	714	900	1120								351	445	610		15.28	F ₂			F ₂	
SC18CNX.2	104H8866	195B0489		244	384	531	689	863	1057	1273								417	541	682		17.69	F ₂			F ₂	
SC21CNX.2	104H8166	195B0459		339	492	654	828	1020	1233	1471								491	623	855		20.95	F ₂			F ₂	
SLV15CNK.2	104L8541	195B0505		325	460	615	792	996	1228	1494								436	583	771		15.28	F ₂			F ₂	

SLV = SC Variable speed Compressor. Performances are displayed at 4.000 rpm

Test condition
EN 12900/CECOMAF LBP
 Condensing temperature: 45 °C
 Ambient temperature: 32 °C
 Suction gas temperature: 32 °C
 Liquid temperature no subcooling

Reciprocating compressors R600a

Application	Compressor	Code numbers		EN 12900 (CECOMAF) Capacity [W]													Power consumption (W)				Displacement	Recommended at ambient (* = Run capacitor)					
		Compressor	Compressor single pack with LST equipment	Evaporating temperature [°C]													Evap temp. (°C)					32°C		38°C			
				-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	-35	-25	-10	5	[cm³]	LBP	MBP	HBP	LBP	
MBP	PLE35K	101H0360	195B0542					27.2	38.4	51.7	67.7	86.6	109						40.1	53.1			3.00	S*	S		S*
	TLES4KK.2	102H4435	on request			18	28	40	55	74	96	123	154						35	45	61		3.86	S			S
	TLES5KK.2	102H4535	on request			28	41	57	76	99	126	159	196						44	57	80		5.08	S			S
LBP	TLX4.8KK.3	102H4541	195B0565			29	42.1	57	74.2	94.2	117								34.5	46.5	65.5		4.78	S*			S*
	TLES5.7KK.3	102H4638	195B0366			36.4	50.7	68	89	114	144								50.1	66.5	93.4		5.70	S			S
	TLX8.7KK.3	102H4947	195B0361			64.8	87.9	115	146	184	227								65.7	87.7	123		8.67	S*			S*
	NLX10KK.2	105H6101	195B0405			74.5	101	133	171	217	271								63.5	89.5	134		10.09	S*			S*
	NLE10KK.2	105H6851	195B0409			67	91	120	155	198	249								82	109	157		10.09	S			S
NLE10KK.4	105H6867	195B0517			73.9	98.3	128	164	207	257								81.3	108	161		10.09	S			S	

Test condition
EN 12900/CECOMAF LBP
 Condensing temperature: 45 °C
 Ambient temperature: 32 °C
 Suction gas temperature: 20 °C
 Liquid temperature no subcooling

Reciprocating compressors R134a

Application	Compressor	Code numbers			EN 12900 (CECOMAF) Capacity [W]													Power consumption (W)				Displacement					
		Compressor	Compressor single pack with HST equipment	Compressor with oil cooling	Evaporating temperature [°C]													Evap temp. (°C)									
					-45	-40	-35	-30	-20	-15	-10	-5	0	5	10	15	20	-35	-25	-10	5	[cm³]					
LBP	TL4F	102G4400						31	44	81	107	137															3.86
	TL5F	102G4501						43	60	110	144	183															5.08
	TL55F	102G4520						48	71	131	170	216															5.08
	TL56F	102G4620						58	77	139	183	235															5.70
	TL57F	102G4720						66	89	160	208	264															6.49
	NL6F	105G6606						52	77	151	200	258															6.13
	NL7F	105G6706						71	99	182	238	303															7.27
	NL8F	105G6822						82	112	194	249	317															7.95
	NL9F	105G6802						74	111	207	268	340															8.35
	NL11F	105G6900			105G6910			102	146	268	351	453															11.15
	SC15F	104G8500			104G8510			100	155	325	439	573	726														15.28
	SC18F	104G8800			104G8810			129	194	388	518	669	842														17.69
	SC21F	104G8100			104G8110			186	246	455	610	780	987														20.95

Test condition
EN 12900/CECOMAF LBP
 Condensing temperature: 55 °C
 Ambient temperature: 32 °C
 Suction gas temperature: 32 °C
 Liquid temperature no subcooling

compressor cooling temperature compulsory)					Voltage and frequencies	Electrical Equipment										Dimensions					
						LST (RSIR)		LST (RSCR)		Run capacitor		HST (CSIR)		HST (CSR)	LST/HST		Height [mm]		Connectors location/I.D. [mm]		
PTC Starting device w/o run capacitor connector		PTC device with run capacitor connector		1 optional 2 compulsory		Starting relay	Starting capacitor	Starting unit	Cord relief	Cover											
spades		spades		spades		spades		spades													
38°C		43°C			6.3 mm	4.8 mm	6.3 mm	4.8 mm	6.3 mm	6.3 mm	6.3 mm	A	B	C	D	E					
MBP	HBP	LBP	MBP	HBP																	
F ₁		F ₁	F ₁		1	103N0011	103N0018				117U7004	117U5014		103N1010	103N2010	163	159	6.2	6.2	5.0	
F ₁		F ₁	F ₁		1	103N0011	103N0018				117U7004	117U5014		103N1010	103N2010	173	169	6.2	6.2	5.0	
F ₁		F ₁	F ₁		1	103N0011	103N0018	103N0016	103N0021	117-7117 ¹	117-7119 ¹	117U7000	117U5014		103N1010	103N2010	173	169	6.2	6.2	5.0
F ₁		F ₁	F ₂		1	103N0011	103N0018	103N0016	103N0021	117-7117 ¹	117-7119 ¹	117U7002	117U5015		103N1010	103N2010	203	197	8.2	6.2	6.2
F ₁		F ₂	F ₂		1	103N0011	103N0018	103N0016	103N0021	117-7117 ¹	117-7119 ¹	117U7002	117U5015		103N1010	103N2010	203	197	8.2	6.2	6.2
F ₂		F ₂	F ₂		1								117-7049	103N1004	103N2009	209	203	8.2	6.2	6.2	
F ₂		F ₂	F ₂		1								117-7049	103N1004	103N2009	209	203	8.2	6.2	6.2	
F ₂		F ₂	F ₂		1								117-7051	103N1004	103N2009	209	203	8.2	6.2	6.2	
F ₂		F ₂	F ₂		1								117-7034	103N1004	103N2009	219	213	10.2	6.2	6.2	
		F ₂			1							117U7003	117U5017		103N1004	103N2009	209	203	8.2	6.2	6.2
		F ₂			1							117U7005	117U5017		103N1004	103N2009	209	203	8.2	6.2	6.2
		F ₂			1							117U7011	117U5017		103N1004	103N2009	219	213	10.2	6.2	6.2
		F ₂			1							117U7013	117U5012		103N1004	103N2009	219	213	10.2	6.2	6.2
		F ₂			1	105N46xx series controllers						103N1004	103N2009	199	193	10.2	6.2	6.2			

compressor cooling temperature compulsory)					Voltage and frequencies	Electrical Equipment										Dimensions				
						LST (RSIR)		LST (RSCR)		Run capacitor		HST (CSIR)		HST (CSR)	LST/HST		Height [mm]		Connectors location/I.D. [mm]	
PTC Starting device w/o run capacitor connector		PTC device with run capacitor connector		1 optional 2 compulsory		Starting relay	Starting capacitor	Starting unit	Cord relief	Cover										
spades		spades		spades		spades		spades												
38°C		43°C			6.3 mm	4.8 mm	6.3 mm	4.8 mm	6.3 mm	6.3 mm	6.3 mm	A	B	C	D	E				
MBP	HBP	LBP	MBP	HBP																
S					1			103N0016	103N0021	117-7117 ²	117-7119 ²			103N1010	103N0491	137	135	6.2	6.2	5.0
					1	103N0011	103N0018	103N0016	103N0021	117-7117 ¹	117-7119 ¹			103N1010	103N2010	173	169	6.2	6.2	5.0
					1	103N0011	103N0018	103N0016	103N0021	117-7117 ¹	117-7119 ¹			103N1010	103N2010	173	169	6.2	6.2	5.0
		S*			1			103N0016	103N0021	117-7131 ²	117-7132 ²			103N1010	103N2010	173	169	6.2	6.2	5.0
		S			1	103N0011	103N0018	103N0016	103N0021	117-7117 ¹	117-7119 ¹			103N1010	103N2010	163	159	6.2	6.2	5.0
		S*			1			103N0016	103N0021	117-7117 ²	117-7119 ²			103N1010	103N2010	173	169	6.2	6.2	5.0
		S*			1			103N0016	103N0021		117-7136 ²			103N1010	103N2010	203	197	6.2	6.2	5.0
		S			1	103N0011	103N0018	103N0016	103N0021	117-7117 ¹	117-7119 ¹			103N1010	103N2010	197	191	6.2	6.2	5.0
		S			1	103N0011	103N0018	103N0016	103N0021	117-7117 ¹	117-7119 ¹			103N1010	103N2010	190	183	6.2	6.2	5.0

PL/PLE	TL	TLS/TLES/TLX	SLV
NL/NLE/NLX	NF	FR	
SC	GS	BD	
<p>Note: On GS34CLX compressors suction and process connectors are interchanged.</p>			

Mounting accessories

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

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

Snap-on in quantities: 118-1919

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.

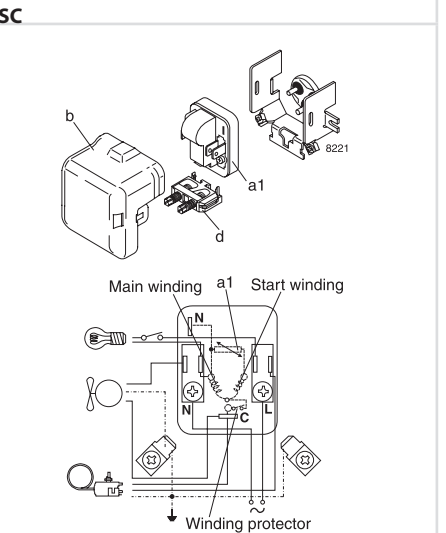
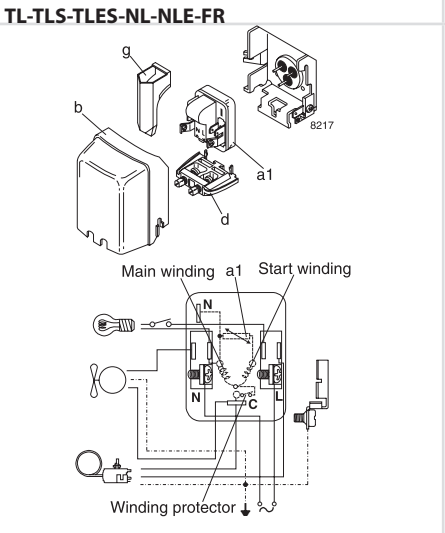
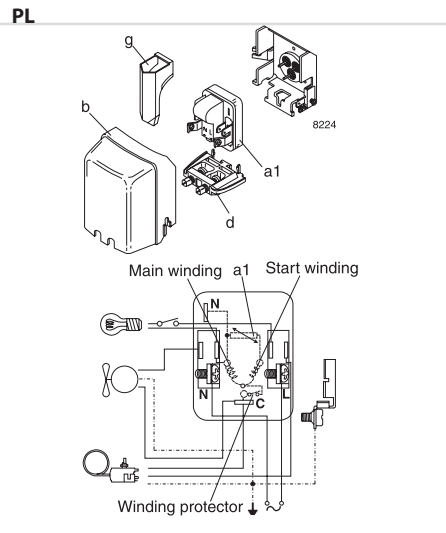
Model designation

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)	Blank => first generation
TL			CN R290 LBP (MBP)		
NL	S Semi-direct intake	Exception: For PL compressors the capacity at rating point is stated.	F R134a LBP/(MBP)	X = HST characteristics (expansion valve)	.2 => second generation
FR			FT R134a LBP tropical		
SC	E Energy-optimized		G R134a LBP/MBP/HBP		.3 => third generation
			GH R134a Heat Pumps		
GS			GHH R134a Heat Pumps optimized		etc.
			K R600a, LBP/(MBP)		
			MF R134a MBP		
			ML R404A/R507 MBP		

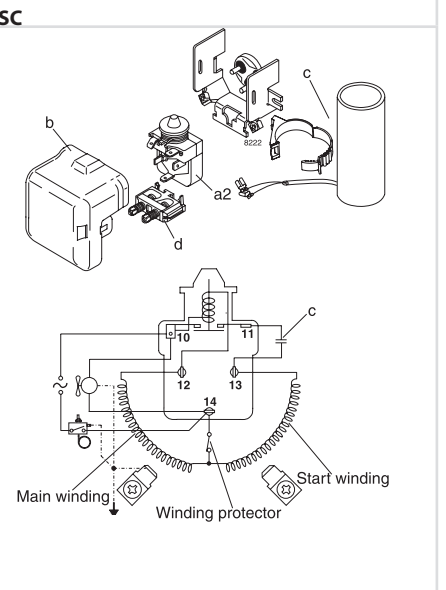
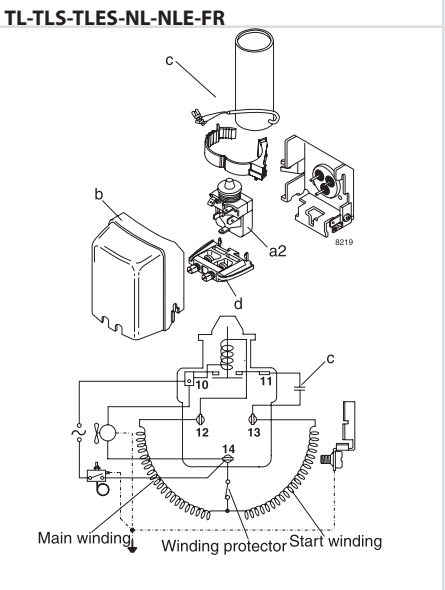
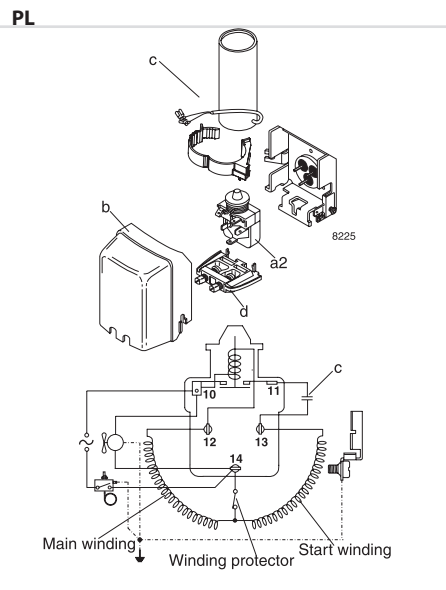
Examples

TL	ES	5.7	FT		.3
NL	E	10	MF		
SC		15	CN	X	.2

LST - RSIR

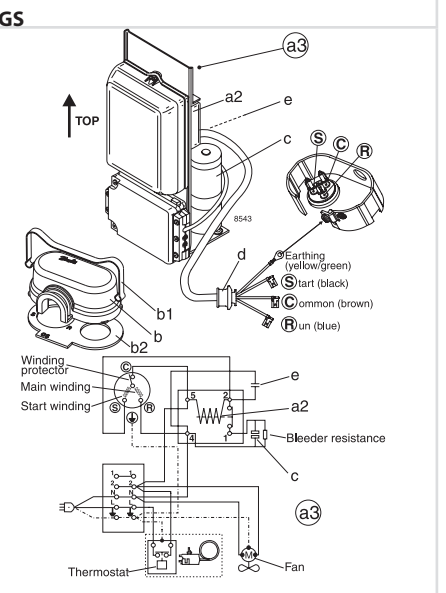
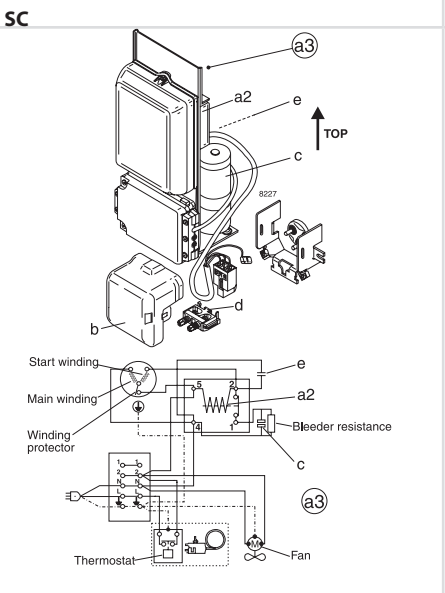
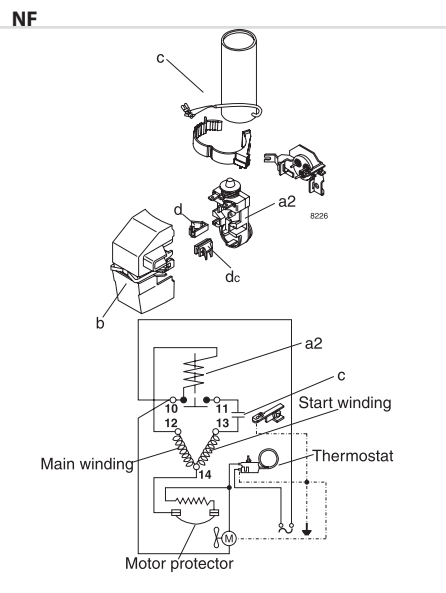


HST - CSIR



HST - CSIR

HST - CSIR

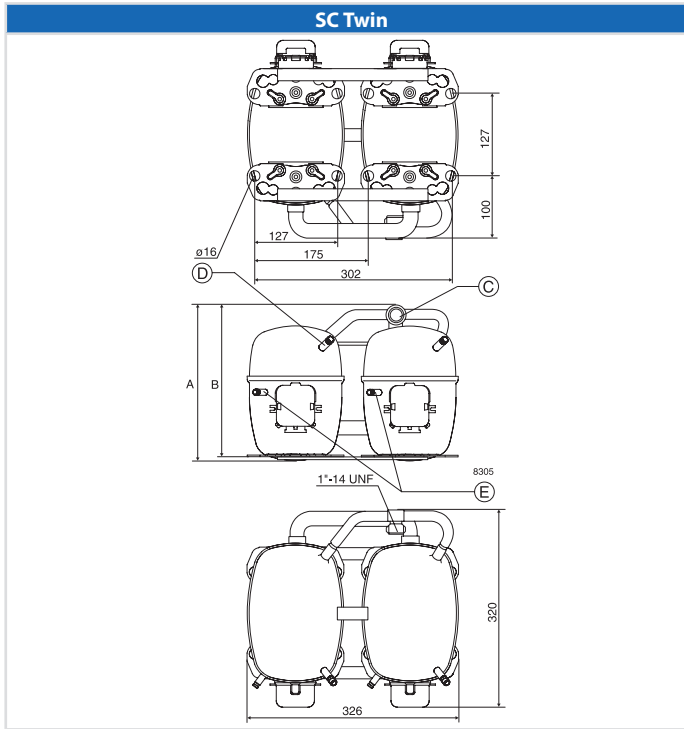


Legend

- a1:** PTC starting device
- a2:** Starting relay
- a3:** Starting device

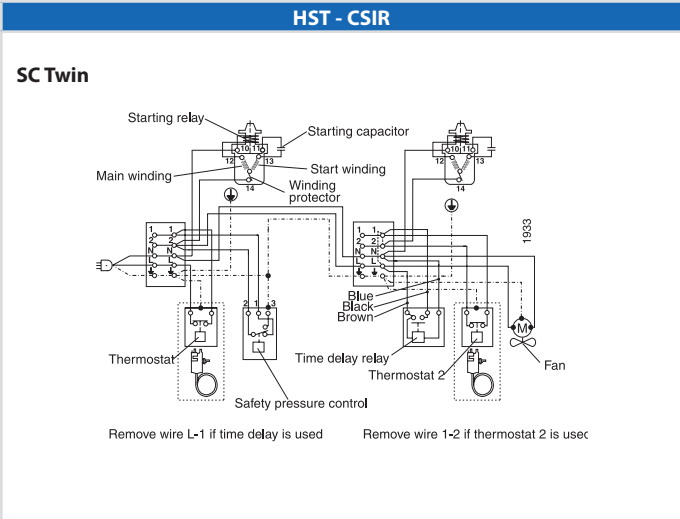
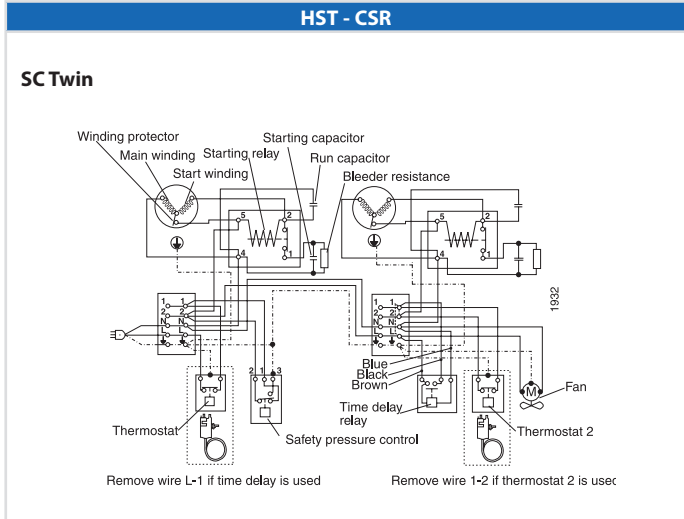
- b1:** Cover
- b2:** Gasket (part of compressor)

- c:** Starting capacitor
- d:** Cord relief
- e:** Run capacitor
- g:** Protection screen for PTC



Accessories for SC Twin

SC10/10, SC12/12 and SC15/15:	
Service valve for 12 mm tube	118-7350
Solder connector for 12 mm tube	104B0584
SC18/18 and SC21/21:	
Service valve for 16 mm tube	118-7351
Solder connector for 16 mm tube	118-7405
SC10/10, SC12/12, SC15/15, SC18/18 and SC21/21:	
Seal ring for service valve and solder connector	118-3638
Time-delay relay	117N0001
Check valve (to be used with time-delay relay)	020-1014



Applications

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

Motor types

- RSIR:** Resistant Start Induction Run
- RS CR:** 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)

Application	R134a	R404A/R507
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, 24V or 56 V DC		

Test conditions ASHRAE

Application	R600a	R404A/R507
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, 24V or 56 V DC		

Test conditions EN 12900

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 temp. 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

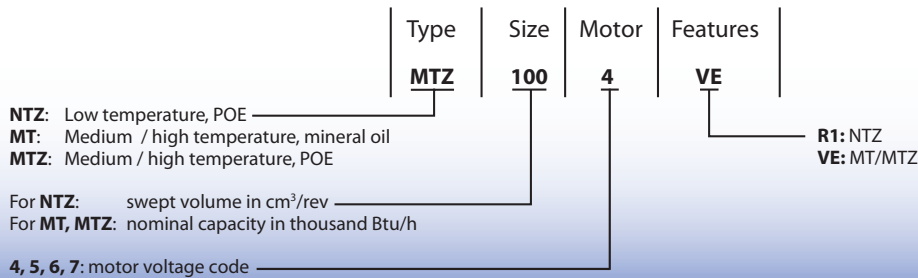
1 Watt = 0.86 kcal/h
1 Watt = 3.41 Btu/h

Performance data

Model	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	1050	0.69	1470	0.76	1970	0.82	2570	0.87	3270	0.91	4090	0.93	5020
MTZ022	45	940	0.72	1370	0.81	1900	0.91	2550	0.99	3320	1.06	4240	1.11	5310	1.15	6560	1.16	
MTZ028	45	1230	0.91	1720	1.02	2350	1.13	3130	1.23	4090	1.34	5260	1.43	6650	1.51	8300	1.58	
MTZ032	45	1430	1.09	2020	1.25	2770	1.40	3690	1.54	4810	1.66	6160	1.76	7760	1.83	9630	1.86	
MTZ036	45	2050	1.29	2740	1.45	3580	1.60	4590	1.74	5780	1.86	7170	1.97	8790	2.05	10660	2.10	
MTZ040	45	2450	1.47	3160	1.61	4000	1.75	4980	1.89	6100	2.01	7390	2.12	8860	2.21	10520	2.27	
MTZ044	45	2080	1.29	2910	1.49	3940	1.67	5190	1.83	6710	1.95	8540	2.05	10710	2.13	13270	2.17	
MTZ050	45	2360	1.57	3340	1.80	4560	2.00	6040	2.17	7820	2.31	9950	2.42	12470	2.51	15410	2.57	
MTZ056	45	2290	1.64	3380	1.88	4730	2.11	6400	2.31	8420	2.49	10820	2.64	13650	2.77	16940	2.86	
MTZ064	45	2700	1.87	4010	2.17	5600	2.43	7510	2.67	9780	2.87	12440	3.04	15550	3.18	19130	3.27	
MTZ072	45	3200	2.16	4660	2.50	6430	2.81	8560	3.08	11090	3.33	14070	3.54	17540	3.74	21560	3.92	
MTZ080	45	4130	2.59	5700	2.93	7620	3.24	9950	3.54	12740	3.80	16040	4.05	19920	4.27	24430	4.48	
MTZ100	45	4660	3.25	6550	3.65	8860	4.02	11680	4.35	15050	4.63	19050	4.84	23730	4.96	29170	4.98	
MTZ125	45	5870	3.63	8230	4.17	11090	4.69	14520	5.16	18590	5.57	23380	5.89	28950	6.09	35380	6.18	
MTZ144	45	7880	4.85	10680	5.40	14060	5.94	18090	6.46	22850	6.93	28420	7.34	34870	7.67	42290	7.92	
MTZ160	45	8770	5.23	11800	5.84	15470	6.45	19890	7.06	25130	7.65	31300	8.21	38480	8.72	46760	9.18	
MTZ200	45	9320	6.50	13090	7.29	17730	8.04	23350	8.70	30100	9.26	38090	9.68	47460	9.92	58340	9.96	
MTZ250	45	11740	7.25	16460	8.35	22180	9.39	29040	10.33	37190	11.14	46760	11.77	57910	12.19	70770	12.35	
MTZ288	45	15750	9.71	21370	10.81	28130	11.89	36190	12.91	45710	13.85	56840	14.67	69750	15.35	84580	15.84	
MTZ320	45	17540	10.46	23600	11.67	30950	12.90	39780	14.11	50260	15.29	62590	16.41	76950	17.44	93530	18.37	

Model	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	1400	1.09	1900	1.21	2520	1.31	3250	1.40	4110	1.47	5120
MTZ022	45	640	0.86	980	1.03	1410	1.19	1960	1.34	2620	1.48	3440	1.61	4410	1.72	5550	1.82	6880	1.90	
MTZ028	45	760	1.05	1250	1.30	1850	1.53	2570	1.75	3430	1.96	4450	2.14	5640	2.31	7040	2.45	8640	2.56	
MTZ032	45	1040	1.20	1580	1.46	2240	1.71	3030	1.94	3980	2.16	5110	2.36	6440	2.55	7980	2.71	9760	2.86	
MTZ036	45	1300	1.50	1930	1.78	2690	2.06	3600	2.33	4670	2.58	5930	2.81	7400	3.01	9100	3.19	11050	3.34	
MTZ040	45	1600	1.70	2320	2.05	3160	2.37	4160	2.67	5330	2.95	6700	3.20	8290	3.44	10130	3.65	12230	3.84	
MTZ044	45	1360	1.60	2100	1.94	2990	2.25	4070	2.52	5370	2.77	6910	3.00	8740	3.20	10890	3.38	13370	3.54	
MTZ050	45	1700	1.94	2500	2.29	3510	2.62	4750	2.93	6260	3.22	8070	3.48	10220	3.71	12740	3.91	15680	4.07	
MTZ056	45	1730	2.04	2620	2.43	3710	2.81	5060	3.17	6710	3.51	8690	3.83	11060	4.11	13840	4.36	17090	4.57	
MTZ064	45	2160	2.32	3200	2.83	4480	3.32	6060	3.78	7980	4.20	10300	4.60	13070	4.96	16330	5.28	20150	5.55	
MTZ072	45	2550	2.74	3670	3.25	5080	3.75	6810	4.23	8920	4.69	11450	5.11	14450	5.51	17970	5.87	22050	6.19	
MTZ080	45	3170	3.15	4530	3.85	6170	4.48	8130	5.07	10470	5.61	13230	6.11	16470	6.57	20240	7.01	24580	7.41	
MTZ100	45	3240	4.01	4930	4.80	6960	5.53	9390	6.18	12280	6.76	15700	7.26	19710	7.70	24370	8.06	29760	8.34	
MTZ125	45	4660	5.16	6620	6.02	9060	6.86	12060	7.67	15710	8.44	20080	9.16	25250	9.83	31300	10.44	38310	10.98	
MTZ144	45	5700	6.08	8060	7.05	10920	8.00	14370	8.91	18490	9.78	23380	10.60	29110	11.36	35770	12.06	43450	12.69	
MTZ160	45	6280	6.80	8870	7.95	12010	9.04	15790	10.08	20310	11.08	25640	12.05	31900	13.01	39160	13.97	47540	14.95	
MTZ200	45	6480	8.02	9860	9.60	13920	11.05	18770	12.36	24560	13.52	31400	14.53	39420	15.39	48750	16.11	59510	16.68	
MTZ250	45	9320	10.32	13230	12.05	18110	13.73	24120	15.34	31420	16.88	40160	18.32	50500	19.66	62600	20.88	76620	21.96	
MTZ288	45	11410	12.17	16120	14.11	21840	16.00	28740	17.82	36990	19.56	46760	21.20	58220	22.72	71550	24.12	86900	25.37	
MTZ320	45	12550	13.61	17740	15.90	24030	18.08	31590	20.15	40610	22.15	51280	24.10	63790	26.03	78330	27.95	95070	29.90	

Legend: To: Evaporating temperature in °C
Tc: Condensing temperature in °C
Qo: Cooling capacity in W
Pe: Power input in kW
Superheat = 10 K
Subcooling = 0 K
Voltage: 400 V / 3 / 50 Hz

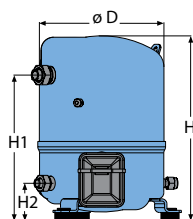


Reciprocating compressors – Commercial

Model	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	35
	MT050	MT50-4VI	MT50-5VI	MT50-6VI	MT50-7VI	86	14.9	2	1.8	35
	MT056	MT56-4VI		MT56-6VI	MT56-7VI	96	16.7	2	1.8	37
	MT064	MT64-4VI		MT64-6VI		108	18.7	2	1.8	37
	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	69
	MTM200	MTM200T4SA		MTM200T6SA		2 x 171	2 x 29.8	2 x 4	2 x 3.9	134
	MTM250	MTM250T4SA		MTM250T6SA		2 x 215	2 x 37.5	2 x 4	2 x 3.9	142
	MTM288	MTM288T4SA		MTM288T6SA		2 x 242	2 x 42.1	2 x 4	2 x 3.9	148
	MTM320	MTM320T4SA		MTM320T6SA		2 x 272	2 x 47.3	2 x 4	2 x 3.9	152
	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	35
	MTZ050	MTZ50-4VI	MTZ50-5VI	MTZ50-6VI	MTZ50-7VI	86	14.9	2	1.8	35
	MTZ056	MTZ56-4VI		MTZ56-6VI	MTZ56-7VI	96	16.7	2	1.8	37
	MTZ064	MTZ64-4VI		MTZ64-6VI		108	18.7	2	1.8	37
	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	69
MTZ200	MTZ200T4SA		MTZ200T6SA		2 x 171	2 x 29.8	2 x 4	2 x 3.9	134	
MTZ250	MTZ250T4SA		MTZ250T6SA		2 x 215	2 x 37.5	2 x 4	2 x 3.9	142	
MTZ288	MTZ288T4SA		MTZ288T6SA		2 x 242	2 x 42.1	2 x 4	2 x 3.9	148	
MTZ320	MTZ320T4SA		MTZ320T6SA		2 x 272	2 x 47.3	2 x 4	2 x 3.9	152	

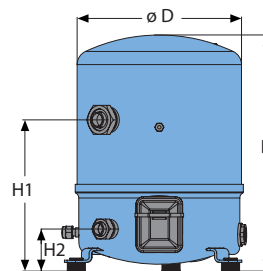
Dimensions

**MT / MTZ / NTZ
1 cylinder**



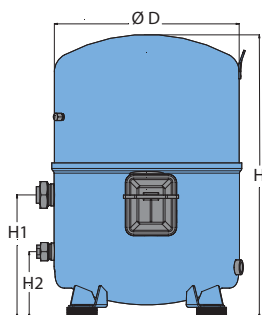
D : 224 mm
H : 333/358 mm
H1 : 263 mm
H2 : 68 mm

**MT / MTZ / NTZ
2 cylinders**



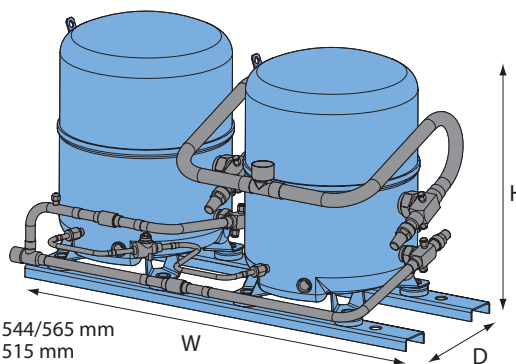
D : 288 mm
H : 413 mm
H1 : 265 mm
H2 : 74 mm

**MT / MTZ / NTZ
4 cylinders**



D : 352 mm
H : 519 / 540 mm
H1 : 233 mm
H2 : 125 mm

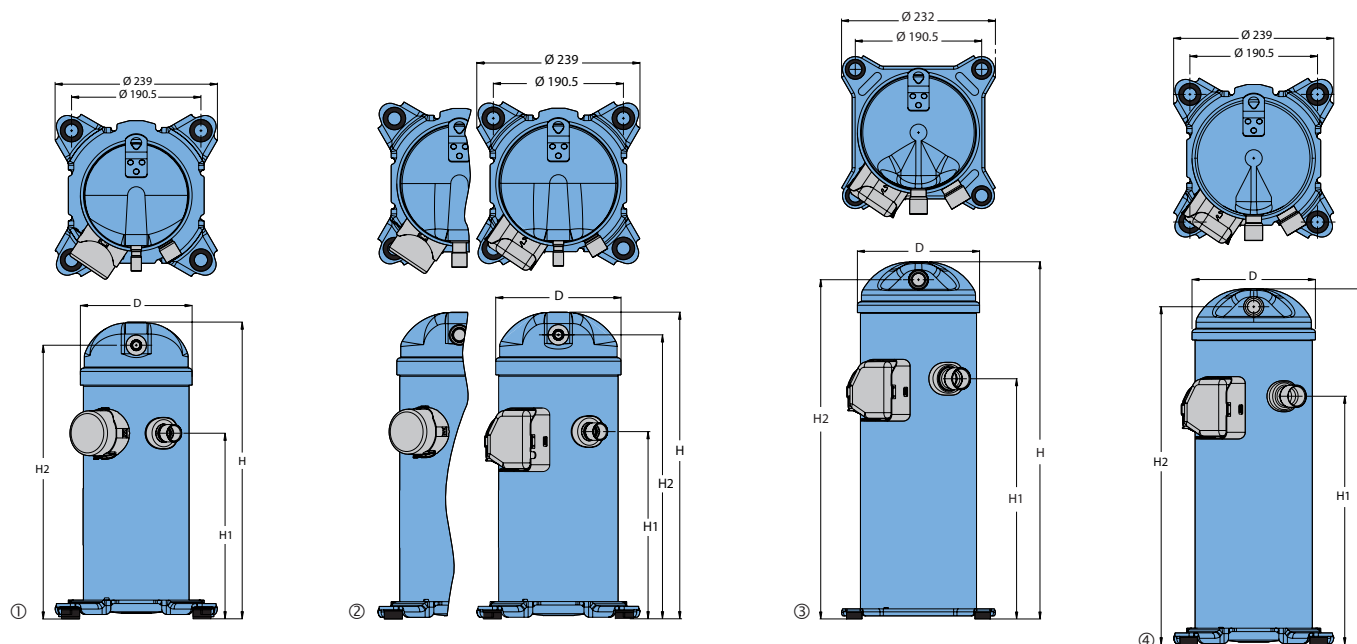
**MT / MTZ / NTZ Tandem
2 x 4 cylinders**



H : 544/565 mm
D : 515 mm
W : 925 mm

Scroll compressors – H series

Dimensions



Outline	R22	R407C	R410A	D	H	H1	H2
①	HRM032-034-038-040-042	HRP034-038-040-042	HRH029-031-032-034-036-038	165	413	250	379
①	HRM045-047	HRP045-047	HRH040	165	439	275	405
②	HRM048-051-054-058-060- HLM068-072-075-078-081	HRP048-051-054-058-060- HLP068-072-075-081	HRH041-044-049-051-054-056- HLH061-068-072-083	184	455	280	422
③	HCM094	HCP094		184	536	369	509
③	HCM109-120	HCP109-120		184	545	369	519
④			HCJ090-105-120	184	537	377	510

All dimensions in mm

Nomenclature

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: R22/R417A, 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 equalisation port
6	None	None	None	None	None
7	Threaded	None	None	None	None
8	None	Brazed	None	None	Brazed

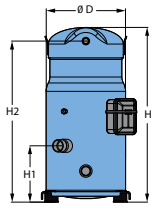
Tubing and electrical connections
P: brazed connections, spade terminals
C: brazed connections, screw terminals

Motor protection
L: internal motor protection

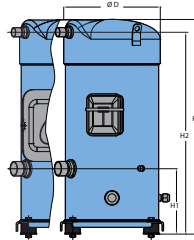
Motor voltage code
1: 208-230 V/1~/60 Hz
2: 200-220 V/3~/50Hz & 208-230 V/3~/60 Hz
4: 380-400 V/3~/50 Hz & 460 V/3~/60 Hz
5: 220-240 V/1~/50 Hz
7: 500 V/3~/50 Hz & 575 V/ 3~/60 Hz
9: 380 V/3~/60 Hz

* When H*M compressors are used with R417A, the factory charged oil must be replaced by PVE oil 320HV (120Z5034)

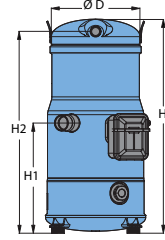
Product range single compressors – Air Conditioning Performer® scroll compressors S series



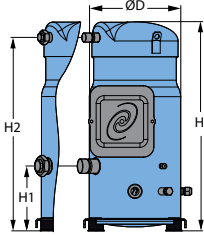
	D	H	H1	H2
S084-090-100	254	508	142	465
S110-120	254	558	178	515



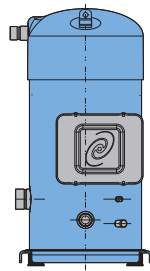
	D	H	H1	H2
S148-161	266	591	180	556



	D	H	H1	H2
S112	243	535	278	504
S124-147	243	540	278	509



	D	H	H1	H2
S115-125	254	581	180	537
S160	266	631	180	596
S175-185	316	678	180	641



	D	H	H1	H2
S240	344	727	196	654
S300	344	738	196	665
S380	344	762	196	689

All dimensions in mm

Model	Motor voltage code		
	400 V/3/50Hz - 460V/3/60Hz	230/3/50	500/3/50 - 575/3/60
	4	6	7
SM/SZ084-090-100-110-120	●	●	●
SM/SZ148-161	●	●	●
SM112-124-147	●		
SM/SZ115-125-160-175-185	○	○	○
SY185	○	●	
SY/SZ240-300	○	○	○
SY/SZ380 *	●		

○ Rotolock version ● Brazed version * SY380 only available for 400/3/50Hz

Family, lubricant & refrigerant	Nominal capacity	Voltage	Version	Evolution index	
SZ SY	185 300	- 4 7	R CA	C A	Single compressors Single compressors

Family, lubricant & refrigerant
SM: Scroll, Mineral oil, R22/R417A**
SY: Scroll, POE lubricant, R22/R417A (and R407C for SY185-240-300)
SZ: Scroll, POE lubricant, R407C - R134a (and R404A, R507A for SZ084 to SZ185)

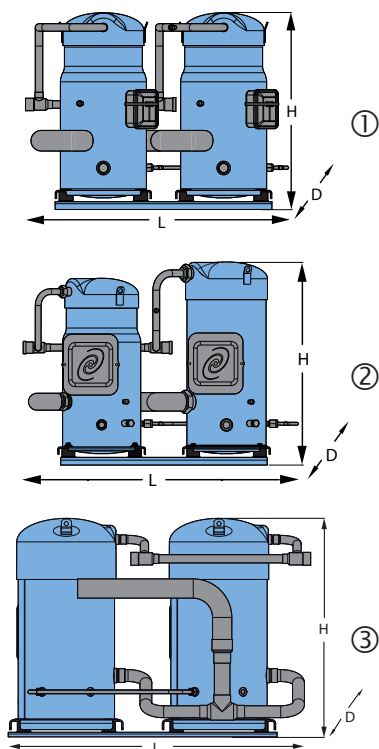
Nominal capacity
 in thousand Btu/h at 60 Hz, R22, ARI conditions

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

Motor protection type	Connection	Module voltage	Applies to
Internal overload protector	V : brazed		S 084-090-100-110-120-148-161
	A : brazed		S 112-124-147
Internal thermostat	C : brazed		S 115-125-160-175-185
	R : rotolock		
Electronic protection module	P : brazed 24 V AC		
	X : brazed 230 V		
	S : rotolock 24 V AC		
	Y : rotolock 230 V		
	CA : C: brazed	A: 24V AC	S 240 - 300
	CB : P: rotolock	B: 115/230V	
	PA : C: brazed	A: 24V AC	S 380 *
	PB : P: rotolock	B: 115/230V	
	CA : C: brazed	A: 24V AC	
	CB : P: rotolock	B: 115/230V	

* SY380 only available for 400V/3~/50 Hz, SZ380 available for both 400V/3~/50 Hz and 460V/3~/60 Hz
 ** When SM compressors are used with R417A, the factory charged mineral oil 160P must be replaced by polyolester oil 160SZ

Scroll compressors – tandem

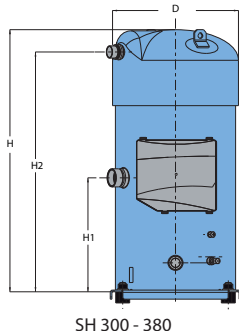
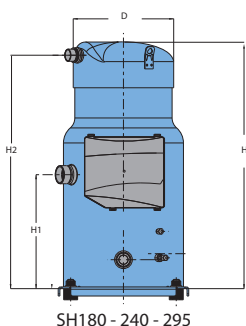
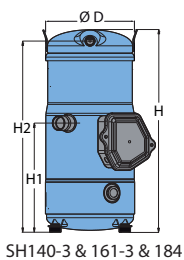
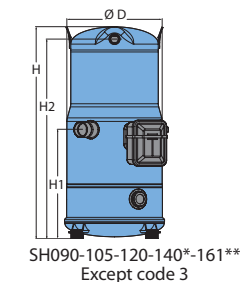


Outline n°	Model	Composition	Voltage code			Dimensions (mm)		
			4	6	7	L	D	H
			400/3/50 460/3/60	230/3/50	500/3/50 575/3/60			
①	SM/SZ170	S084 + S084	●	●	●	757	432	532
	SM/SZ180	S090 + S090	●	●	●	757	432	532
	SM/SZ200	S100 + S100	●	●	●	757	432	532
	SM/SZ220	S110 + S110	●	●	●	777	443	582
	SM/SZ230	S115 + S115	●	●	●	836	480	603
	SM/SZ242	S120 + S120	●	●	●	777	443	582
	SM248	S124 + S124	○			844	445	564
	SM/SZ250	S125 + S125	●	●	●	836	480	603
	SM272	S124 + S147	○			844	445	564
	SM294	S147 + S147	○			844	445	564
	SM/SZ296	S148 + S148	●	●	●	924	438	614
	SM/SZ320	S160 + S160	●	●	●	911	480	657
	SM/SZ322	S161 + S161	●	●	●	924	438	614
	SM/SZ350	S175 + S175	●	●	●	1004	495	717
②	SM/SZ370	S185 + S185	●	●	●	1004	495	717
	SM/SZ268	S148 + S120	●	●	●	930	441	614
	SM/SZ271	S161 + S110	●	●	●	930	441	614
	SM/SZ281	S161 + S120	●	●	●	930	441	614
	SM/SZ285	S160 + S125	●	●	●	884	480	657
	SM/SZ290	S175 + S115	●	●	●	924	496	705
	SM/SZ310	S185 + S125	●	●	●	924	496	705
	SY/SZ425	S240 + S185	○	○	○	1029	552	729
	SY/SZ485	S300 + S185	○	○	○	1029	552	740
	SY/SZ482	S240 + S240	○	○	○	984	510	730
③	SY/SZ540	S300 + S240	○	○	○	984	510	740
	SY/SZ600	S300 + S300	○	○	○	984	510	740
	SY/SZ620	S240 + S380	○			1058	595	770
	SY/SZ680	S300 + S380	○			1058	595	770
	SY/SZ760	S380 + S380	○			1063	595	770

● Factory built tandems

○ Tandems to be achieved by assembly of individual compressors. Specific outline drawings of tandems, trio and quadro units are available, refer to FRCC.PC.005.

Scroll compressors – SH

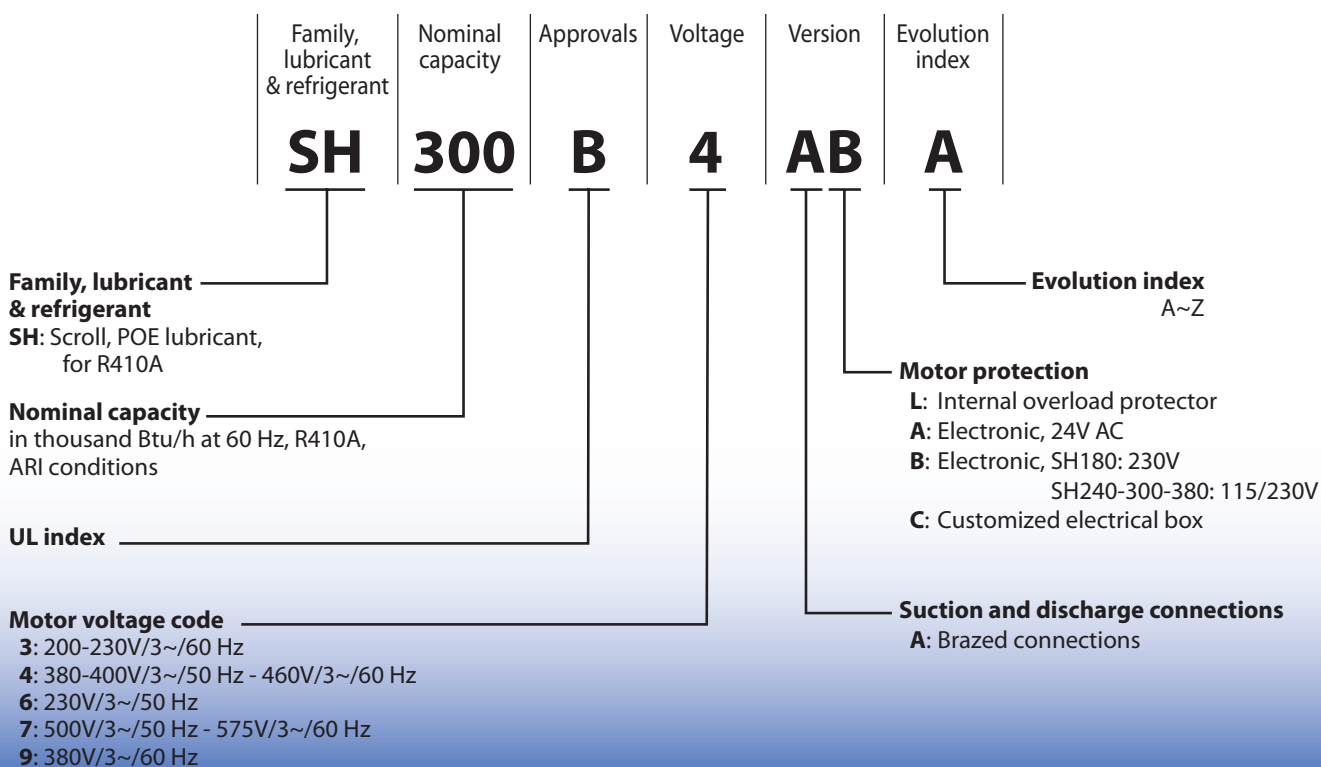


Model	D	H	H1	H2
SH090	243	482	235	451
SH105	243	540	278	509
SH120	243	540	278	509
SH140	243	540	278	509
SH161	243	540	278	509
SH184	243	555	300	525
SH180	318	682	331	647
SH240	318	682	331	647
SH295	318	682	331	647
SH300	333	723	331	664
SH380	333	755	331	696

All dimensions in mm

Motor voltage code	Code 4	Code 6	Code 7
Nominal voltage	380-400 V - 3 ph	230 V - 3 ph	500 V - 3 ph
Voltage range	340-440 V	207-253 V	450 - 550 V

Nameplate reference



Scroll compressors – SH series

Scroll compressors R410A · SH · 50 Hz

	Te	-20	-20	-15	-15	-10	-10	-5	-5	0	0	5	5	10	10	15	15
	Tc	Cooling (W)	Pe (kW)	Cooling (W)	Pe (kW)	Cooling (W)	Pe (kW)	Cooling (W)	Pe (kW)	Cooling (W)	Pe (kW)	Cooling (W)	Pe (kW)	Cooling (W)	Pe (kW)	Cooling (W)	Pe (kW)
SH090-4	35	9600	4.97	12100	4.86	14900	4.78	18200	4.71	22000	4.66	26300	4.64	31300	4.64	36900	4.68
	45	8500	5.60	10500	6.08	13100	5.99	16100	5.91	19600	5.85	23500	5.82	28000	5.81	33200	5.83
	55	-	-	-	-	11300	7.09	13900	7.44	17000	7.38	20500	7.35	24500	7.33	29200	7.35
SH105-4	35	11800	5.93	14700	5.83	18000	5.74	21900	5.67	26300	5.62	31400	5.59	37100	5.58	43700	5.58
	45	10200	6.66	12900	7.24	15900	7.15	19400	7.08	23400	7.02	28100	6.99	33400	6.97	39400	6.97
	55	-	-	-	-	13900	8.35	16800	8.82	20400	8.77	24600	8.73	29400	8.72	34800	8.73
SH120-4	35	13400	6.56	16700	6.48	20500	6.38	24900	6.28	30000	6.20	35800	6.17	42400	6.21	49900	6.32
	45	11400	7.35	14600	8.05	18100	8.00	22100	7.92	26700	7.84	32000	7.77	38000	7.75	44900	7.78
	55	-	-	-	-	15200	9.34	19100	9.82	23200	9.79	27900	9.74	33300	9.71	39500	9.70
SH140-4	35	15500	7.38	19200	7.30	23400	7.20	28400	7.11	34000	7.06	40500	7.04	47800	7.09	56100	7.22
	45	13700	8.53	16900	9.12	20800	9.04	25200	8.93	30400	8.83	36200	8.73	42900	8.68	50500	8.67
	55	-	-	-	-	18000	10.75	21700	11.20	26200	11.08	31400	10.95	37400	10.83	44200	10.72
SH161-4	35	17600	7.78	21700	7.77	26500	7.79	32100	7.83	38500	7.88	45800	7.92	54100	7.93	63600	7.91
	45	15100	9.80	19100	9.72	23500	9.72	28600	9.75	34400	9.79	41000	9.83	48700	9.87	57300	9.88
	55	-	-	-	-	19900	12.37	24600	12.16	29700	12.17	35700	12.20	42500	12.23	50300	12.25
SH180-4	35	19200	9.09	24000	9.12	29600	9.14	36000	9.16	43500	9.19	52100	9.23	61800	9.30	72700	9.38
	45	16600	11.26	21000	11.30	26200	11.33	32100	11.34	39000	11.34	46800	11.34	55700	11.35	65800	11.37
	55	-	-	-	-	22300	14.12	27600	14.12	33700	14.10	40700	14.07	48700	14.03	57800	13.99
SH184-4	35	19800	9.25	24500	9.16	29900	9.09	36200	9.04	43400	9.04	51700	9.08	61200	9.20	71900	9.39
	45	17800	10.65	21600	11.43	26500	11.34	32200	11.25	38700	11.20	46300	11.18	54800	11.21	64600	11.31
	55	-	-	-	-	23400	13.36	27800	13.98	33600	13.89	40200	13.82	47900	13.78	56600	13.80
SH240-4	35	26700	11.95	33200	12.02	40700	12.06	49200	12.11	59000	12.17	70200	12.27	82800	12.43	97100	12.65
	45	23300	14.80	29300	14.90	36100	14.97	43900	15.02	52800	15.06	63000	15.12	74500	15.21	87400	15.34
	55	-	-	-	-	30900	18.57	37800	18.64	45800	18.69	54800	18.72	65100	18.77	76800	18.85
SH295-4	35	33300	14.42	40900	14.61	49800	14.77	60200	14.95	72100	15.19	85700	15.53	101200	16.03	118600	16.72
	45	29400	17.53	36300	17.83	44400	18.05	53800	18.23	64600	18.41	76900	18.64	91000	18.96	107000	19.42
	55	-	-	-	-	38500	22.00	46700	22.27	56200	22.48	67200	22.68	79800	22.91	94100	23.22
SH300-4	35	34000	14.96	42000	15.13	51300	15.30	62100	15.49	74400	15.70	88500	15.96	104600	16.27	122700	16.66
	45	29800	18.35	37100	18.51	45500	18.67	55200	18.84	66500	19.03	79300	19.26	93900	19.55	110500	19.91
	55	-	-	-	-	39000	22.98	47600	23.13	57500	23.30	68900	23.50	82000	23.75	96900	24.07
SH380-4	35	40400	18.41	50000	18.58	61100	18.70	74000	18.83	88900	18.99	105900	19.24	125300	19.61	147200	20.15
	45	35500	22.35	44200	22.65	54300	22.85	66000	22.99	79600	23.12	95100	23.26	112900	23.48	133000	23.80
	55	-	-	-	-	46600	27.95	57000	28.19	69000	28.35	82900	28.47	98900	28.61	117100	28.79

To: Evaporating temperature in °C
Tc: Condensing temperature in °C

Qc: Cooling capacity in W
Pe: Power input in kW

Superheat = 11.1 K
Subcooling = 8.3 K

Voltage: 400 V / 3 / 50 Hz

Further reference



Compressor model	Connections	Mounting feet	Motor protection	Nbr	Code no. for Multi pack		Code no. for Single pack		
					4	4	6	7	
					460/3/60 380-400/3/50	460/3/60 380-400/3/50	230/3/50	575/3/60 500/3/50	
SH090	Brazed	Flexible	Internal	8	120H0004	120H0003	120H0005	120H0007	
SH105	Brazed	Flexible	Internal	8	120H0212	120H0211	120H0213	120H0215	
SH120	Brazed	Flexible	Internal	8	120H0014	120H0013	120H0015	120H0017	
SH140	Brazed	Flexible	Internal	8	120H0202	120H0201	120H0203	120H0205	
SH161	Brazed	Flexible	Internal	8	120H0024	120H0023	120H0025	120H0027	
SH184	Brazed	Flexible	Internal	8	120H0362	120H0361	120H0363	120H0365	
SH180 ①	Brazed	rigid	Module 24V AC *	6	120H0268	120H0267	-	120H0269	
	Brazed	rigid	Module 230 V *	6	120H0276	120H0457	-	120H0459	
SH240 ①	Brazed	rigid	Module 24V AC *	6	120H0292	120H0291	-	120H0293	
	Brazed	rigid	Module 115-230 V *	6	120H0300	120H0465	-	120H0467	
SH245 ①	Brazed	rigid	Module 24V AC *	6	120H0292	120H0291	-	120H0293	
	Brazed	rigid	Module 115-230 V *	6	120H0300	120H0465	-	120H0467	
SH300 ①	Brazed	rigid	Module 24V AC *	4	120H0238	120H0237	-	120H0241	
	Brazed	rigid	Module 115-230 V *	4	120H0240	120H0473	-	120H0475	
SH380 ①	Brazed	rigid	Module 24V AC *	4	120H0254	120H0253	-	120H0257	
	Brazed	rigid	Module 115-230 V *	4	120H0256	120H0481	-	120H0483	

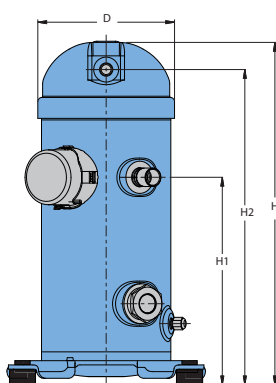
① models with rigid mounting feet are for parallel mounting only. For single mounting use flexible grommet kit ref 8156138

* Electronic motor protection, module located in terminal box

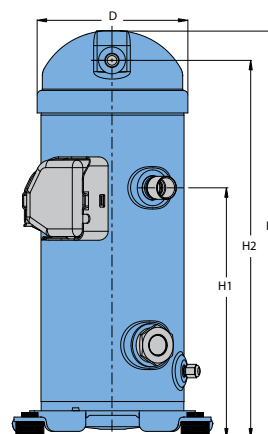
Scroll compressors • MLZ

Model	Dimensions (mm)			
	D	H	H1	H2
MLZ 015	165	412	250	379
MLZ 019	165	412	250	379
MLZ 021	165	412	250	379
MLZ 026	165	412	250	379
MLZ 030	184	455	280	422
MLZ 038	184	455	280	422
MLZ 045	184	455	280	422
MLZ 048	184	455	280	422
MLZ 058	185	536	369	509
MLZ 066	185	545	369	518
MLZ 076	185	545	369	518

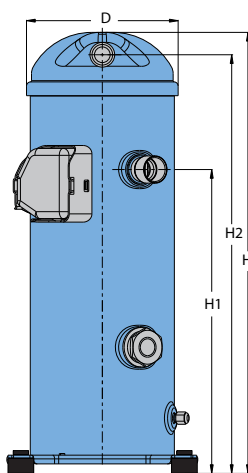
MLZ 015 - 019 - 021 - 026



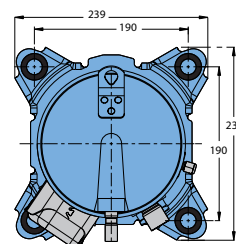
MLZ 030 - 038 - 045 - 048



MLZ 058 - 066 - 076



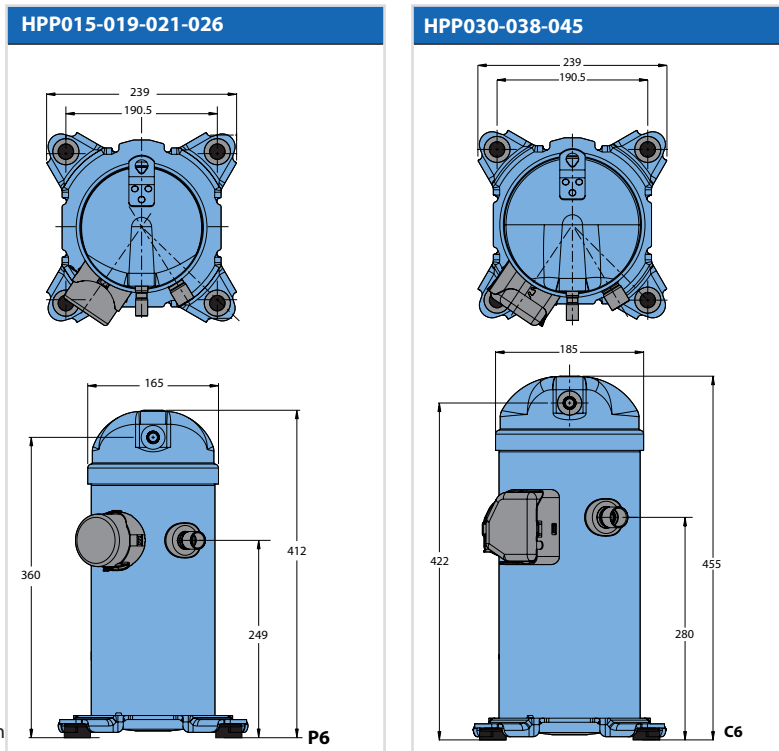
Common footprint • MLZ 015 - 076



Nomenclature

	Type	Size	Motor	Features	Other features										
Application M: medium temperature refrigeration	MLZ	021	T4L	P9	<table border="1"> <thead> <tr> <th>Oil sight glass</th> <th>Oil equalisation</th> <th>Oil drain</th> <th>LP gauge port</th> <th>Gas equalisation port</th> </tr> </thead> <tbody> <tr> <td>9 Threaded</td> <td>None</td> <td>Schrader</td> <td>None</td> <td>None</td> </tr> </tbody> </table>	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalisation port	9 Threaded	None	Schrader	None	None
Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalisation port											
9 Threaded	None	Schrader	None	None											
Family, Refrigerant & lubricant LZ: R404A - R507 - R134a - R22, PVE lubricant															
Nominal capacity In thousand Btu/h at 60 Hz, ARI, MBP conditions															
Model variation T: design optimised for refrigeration															
					Tubing and electrical connections P: brazed connections, spade terminals C: brazed connections, screw terminals										
					Motor protection L: internal motor protection										
					Motor voltage code 1: 208-230V/1~/60 Hz 2: 200-220V/3~/50 Hz & 208-230V/3~/60 Hz 4: 380-400V/3~/50 Hz & 460V/3~/60 Hz 5: 220-240V/1~/50 Hz 7: 500V/3~/50 Hz & 575V/ 3~/60 Hz 9: 380V/3~/60 Hz										

Performer® heat pump scroll compressors



All dimensions in mm

P6

C6

Performance table R407C

Model	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

Legend:

To: Evaporating temperature in °C
Tc: Condensing temperature in °C

H: Heating capacity in W
Pe: Power input in kW

Superheat = 5 K
Subcooling = 5 K

Nomenclature

Type: **HHP**
Size: **030**
Motor: **T4L**
Features: **P6**

Application: _____
H: high temperature

Family: _____
HP: heat pump R407C PVE

Nominal capacity: _____

Model variation: _____
T motor design

Other features

	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalisation 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

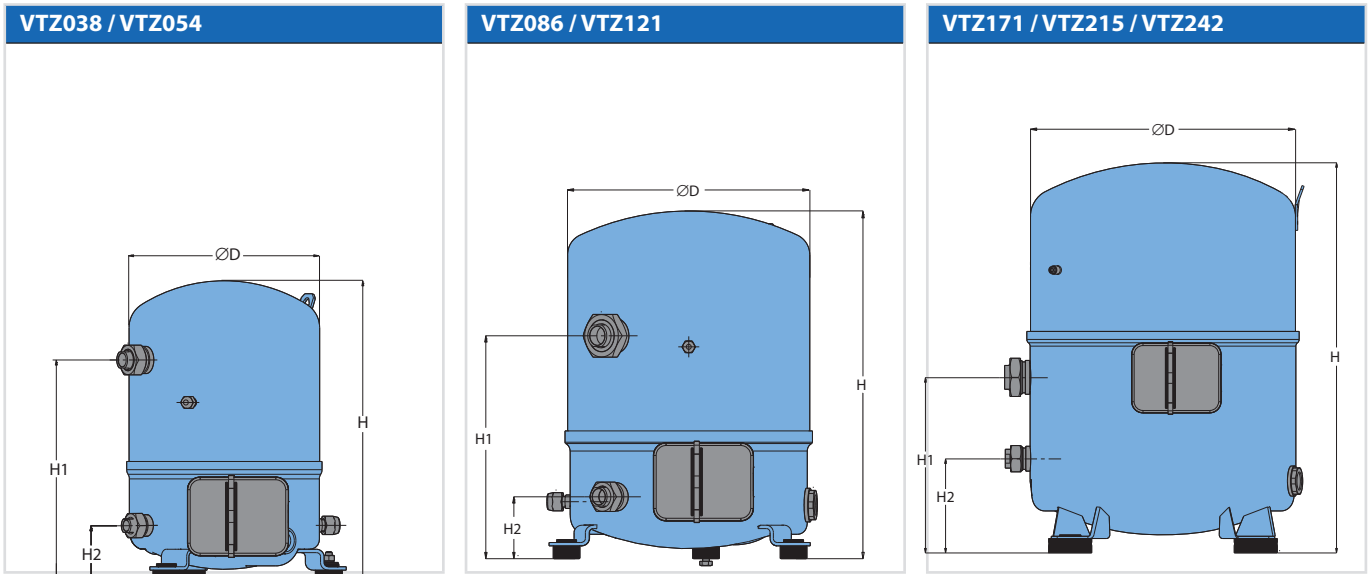
Motor voltage code

4: 380-400V/3~/50 Hz
5: 220-240V/1~/50 Hz

Notes

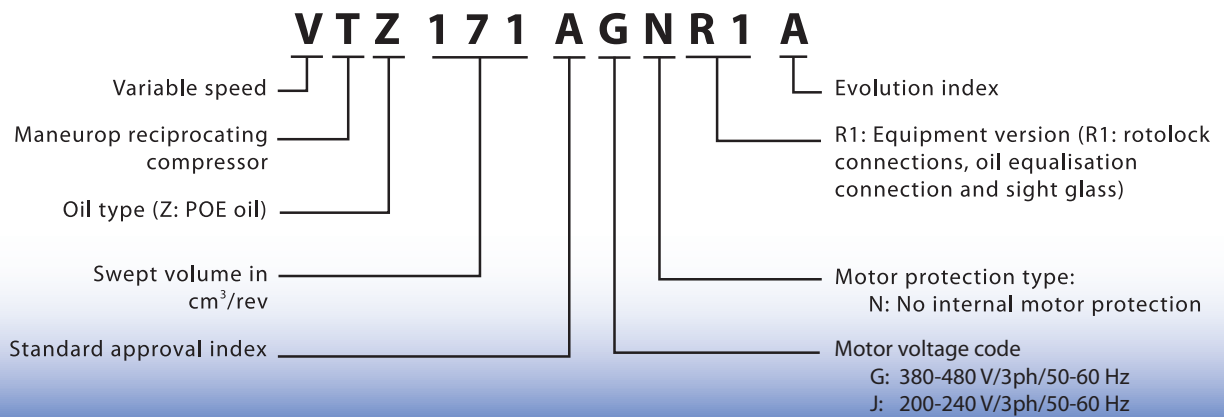
A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.

Reciprocating compressors – Variable speed

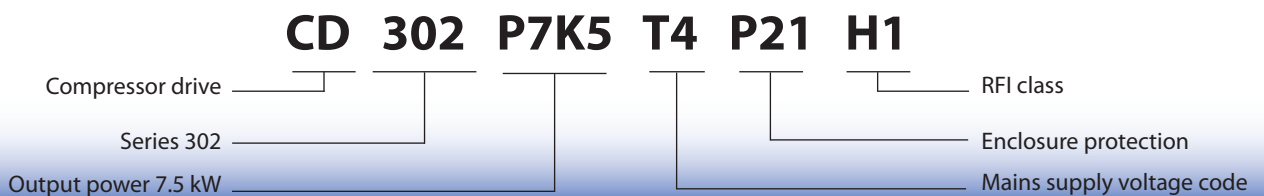


Type	Cylinders	Dimensions (mm)			
		D	H	H1	H2
VTZ038 / VTZ054	1	224	356	263	68
VTZ086 / VTZ121	2	288	413	265	74
VTZ171 / VTZ215 / VTZ242	4	352	518	233	125

Compressor nomenclature



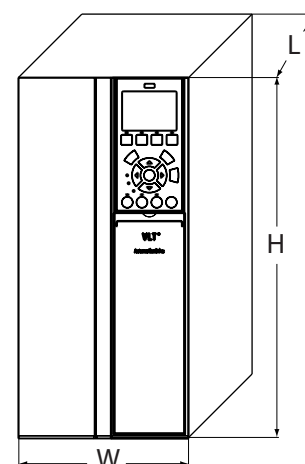
Frequency converter nomenclature



Drive supply voltage	Drive power (kW)	Compressor voltage code	Compressor model	IP20			IP21			IP55		
				Drive enclosure	Overall dimension (h×w×d) mm	Weight (kg)	Drive enclosure	Overall dimension (h×w×d) mm	Weight (kg)	Drive enclosure	Overall dimension (h×w×d) mm	Weight (kg)
T4 : 380-480/3/50-60	4	G	VTZ038	A2	268×90×205	4.9	-	-	-	A5	420×242×200	13.5
	5.5		VTZ054	A3	268×130×205	6.6	-	-	-	A5	420×242×200	13.5
	7.5		VTZ086	A3	268×130×205	6.6	-	-	-	A5	420×242×200	13.5
	11		VTZ121	B3	399×165×248	12	B1	494×242×260	23	B1	480×242×260	23
	15		VTZ171	B3	399×165×248	12	B1	494×242×260	23	B1	480×242×260	23
	18.5		VTZ215	B4	518×231×242	23	B2	664×242×260	27	B2	650×242×260	27
	22		VTZ242	-	-	-	B2	664×242×260	27	B2	650×242×260	27

Code numbers for ordering single pack compressors and frequency converters

Compressor		Frequency converter				
Model	Code No.	Model & power	IP class	RFI class*	LCP**	Code No.
VTZ038-G	120B0001	CD302 4.0 kW	IP20	H1	yes	131B3543
			IP55	H1	yes	131B3547
VTZ054-G	120B0002	CD302 5.5 kW	IP20	H1	yes	131B3552
			IP55	H1	yes	131B3556
VTZ086-G	120B0003	CD302 7.5 kW	IP20	H1	yes	131B3560
			IP55	H1	yes	131B3564
VTZ121-G	120B0004	CD302 11.0 kW	IP21	H1	yes	131B3568
			IP55	H1	yes	131B3572
VTZ171-G	120B0005	CD302 15.0 kW	IP21	H1	yes	131B3576
			IP55	H1	yes	131B3580
VTZ215-G	120B0006	CD302 18.5 kW	IP21	H1	yes	131B3584
			IP55	H1	yes	131B3588
VTZ242-G	120B0007	CD302 22.0 kW	IP21	H1	yes	131B3592
			IP55	H1	yes	131B3596



Listed code numbers are for compressors with voltage code G and frequency converters with supply voltage code T4 (380-400 V/3ph/50-60Hz). VTZ038 to VTZ121 are available with voltage code J (200-240V/3ph/50-60Hz) on request.

* RFI class H2 available on request

** Models without LCP available on request

Reciprocating compressors – variable speed

R404A

		To	-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
VTZ038																		
Min rpm	20	1 090	0.61	1 430	0.67	1 850	0.71	2 350	0.74	2 950	0.76	3 650	0.77	-	-	-	-	-
	40	610	0.64	850	0.75	1 140	0.85	1 500	0.94	1 920	1.02	2 430	1.09	3 030	1.14	3 730	1.18	-
	60	-	-	-	-	530	0.92	750	1.08	1 010	1.23	1 320	1.37	1 700	1.50	2 160	1.61	-
Max rpm	20	2 200	1.75	3 080	2.01	4 160	2.22	5 450	2.39	6 990	2.51	8 790	2.57	-	-	-	-	-
	40	1 140	1.60	1 860	2.03	2 710	2.43	3 740	2.78	4 960	3.10	6 400	3.37	8 070	3.60	10 010	3.78	-
	60	-	-	-	-	1 190	2.11	1 860	2.66	2 670	3.17	3 640	3.65	4 810	4.09	6 190	4.49	-
VTZ054																		
Min rpm	20	1 480	0.88	1 970	0.97	2 590	1.05	3 370	1.11	4 310	1.16	5 450	1.18	-	-	-	-	-
	40	920	0.96	1 260	1.11	1 690	1.25	2 220	1.38	2 890	1.50	3 700	1.60	4 670	1.69	5 820	1.76	-
	60	-	-	-	-	900	1.37	1 220	1.57	1 610	1.77	2 110	1.96	2 730	2.13	3 490	2.29	-
Max rpm	20	3 740	2.45	4 870	2.76	6 250	3.06	7 910	3.34	9 880	3.61	12 210	3.84	-	-	-	-	-
	40	2 170	2.43	3 090	2.84	4 190	3.28	5 520	3.72	7 110	4.15	9 000	4.59	11 210	5.02	13 800	5.43	-
	60	-	-	-	-	1 950	3.15	2 800	3.73	3 850	4.32	5 150	4.94	6 720	5.56	8 600	6.19	-
VTZ086																		
Min rpm	20	1 840	1.18	2 580	1.31	3 520	1.42	4 660	1.49	6 030	1.54	7 650	1.56	-	-	-	-	-
	40	930	1.16	1 420	1.42	2 040	1.66	2 800	1.85	3 720	2.02	4 830	2.16	6 140	2.27	7 670	2.35	-
	60	-	-	-	-	950	1.67	1 390	2.03	1 930	2.36	2 580	2.65	3 380	2.91	4 330	3.14	-
Max rpm	20	6 160	3.89	8 310	4.34	10 950	4.74	14 130	5.09	17 890	5.40	22 290	5.66	-	-	-	-	-
	40	3 640	3.91	5 360	4.66	7 440	5.35	9 920	5.99	12 830	6.58	16 250	7.11	20 190	7.60	24 730	8.03	-
	60	-	-	-	-	3 420	5.16	5 060	6.15	6 990	7.08	9 280	7.96	11 970	8.78	15 110	9.55	-
VTZ121																		
Min rpm	20	2 750	1.89	3 660	2.05	4 810	2.19	6 230	2.30	7 940	2.39	9 980	2.46	-	-	-	-	-
	40	1 770	2.10	2 480	2.38	3 360	2.64	4 430	2.86	5 730	3.06	7 280	3.24	9 120	3.39	11 280	3.51	-
	60	-	-	-	-	1 650	2.82	2 300	3.21	3 090	3.57	4 070	3.90	5 270	4.20	6 700	4.48	-
Max rpm	20	8 060	5.47	10 760	6.11	14 150	6.73	18 330	7.32	23 400	7.85	29 440	8.31	-	-	-	-	-
	40	4 870	5.67	6 870	6.50	9 350	7.38	12 420	8.29	16 170	9.20	20 690	10.10	26 100	10.99	32 470	11.84	-
	60	-	-	-	-	4 860	7.52	6 750	8.62	9 120	9.79	12 070	11.02	15 690	12.29	20 070	13.58	-
VTZ171																		
Min rpm	20	3 900	2.31	5 360	2.59	7 180	2.83	9 400	3.04	12 050	3.20	15 160	3.31	-	-	-	-	-
	40	2 090	2.31	3 090	2.72	4 340	3.11	5 870	3.47	7 720	3.81	9 910	4.10	12 500	4.36	15 500	4.57	-
	60	-	-	-	-	2 070	3.24	2 940	3.84	4 010	4.41	5 320	4.97	6 900	5.49	8 790	5.98	-
Max rpm	20	11 310	7.31	15 890	8.35	21 460	9.26	28 030	10.05	35 630	10.73	44 290	11.32	-	-	-	-	-
	40	6 400	7.24	9 960	9.03	14 240	10.66	19 260	12.14	25 040	13.50	31 610	14.73	38 980	15.87	47 190	16.93	-
	60	-	-	-	-	6 470	9.78	9 910	12.09	13 850	14.25	18 310	16.27	23 310	18.16	28 870	19.95	-
VTZ215																		
Min rpm	20	4 790	3.00	6 690	3.31	9 050	3.58	11 940	3.79	15 400	3.95	19 490	4.04	-	-	-	-	-
	40	2 690	3.24	4 070	3.78	5 760	4.28	7 820	4.74	10 310	5.15	13 270	5.51	16 750	5.80	20 820	6.03	-
	60	-	-	-	-	2 800	4.52	4 060	5.30	5 600	6.03	7 450	6.72	9 670	7.36	12 330	7.95	-
Max rpm	20	15 190	9.71	20 520	11.10	27 020	12.40	34 830	13.62	44 110	14.73	54 990	15.73	-	-	-	-	-
	40	9 030	9.79	13 430	11.78	18 700	13.76	25 000	15.73	32 450	17.67	41 210	19.58	51 430	21.44	63 230	23.24	-
	60	-	-	-	-	8 910	13.17	12 970	15.77	17 900	18.43	23 830	21.13	30 910	23.85	39 290	26.60	-
VTZ242																		
Min rpm	20	5 250	3.37	7 200	3.70	9 630	4.00	12 580	4.26	16 110	4.47	20 280	4.65	-	-	-	-	-
	40	3 100	3.56	4 540	4.08	6 320	4.57	8 480	5.04	11 070	5.46	14 150	5.85	17 780	6.19	21 990	6.48	-
	60	-	-	-	-	3 100	4.97	4 380	5.76	5 950	6.53	7 870	7.26	10 180	7.95	12 940	8.60	-
Max rpm	20	14 950	9.71	20 550	11.09	27 650	12.42	36 470	13.62	47 190	14.64	60 020	15.42	-	-	-	-	-
	40	9 100	10.23	13 060	11.98	18 020	13.87	24 160	15.83	31 690	17.79	40 800	19.70	51 700	21.50	64 590	23.12	-
	60	-	-	-	-	9 700	14.41	13 510	16.74	18 180	19.27	23 920	21.93	30 930	24.67	39 410	27.42	-

To: Evaporating temperature in °C
Superheat = 10 K

Tc: Condensing temperature in °C
Subcooling = 0 K

Qo: Cooling capacity in W

Pe: Power input in kW

Min rpm: Minimum rotation speed
Max rpm: Maximum rotation speed

Reciprocating compressors – variable speed

R407C

		To	-17.5		-15		-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VTZ038																		
Min rpm	20	1 780	0.66	2 030	0.68	2 610	0.71	3 310	0.72	4 140	0.72	-	-	-	-	-	-	-
	40	1 150	0.76	1 340	0.82	1 790	0.93	2 330	1.01	2 980	1.08	3 730	1.13	4 620	1.17	5 640	1.20	
	60	-	-	-	-	-	-	1 390	1.18	1 840	1.34	2 390	1.48	3 030	1.61	3 780	1.73	
Max rpm	20	4 050	1.68	4 620	1.79	5 970	2.00	7 650	2.19	9 720	2.35	-	-	-	-	-	-	-
	40	2 780	1.91	3 260	2.06	4 360	2.37	5 700	2.68	7 350	2.98	9 360	3.26	11 790	3.51	14 700	3.73	
	60	-	-	-	-	-	-	3 580	2.98	4 760	3.40	6 230	3.81	8 020	4.21	10 210	4.59	
VTZ054																		
Min rpm	20	2 350	0.87	2 680	0.90	3 460	0.94	4 400	0.97	5 530	0.99	-	-	-	-	-	-	-
	40	1 590	1.06	1 850	1.13	2 460	1.26	3 190	1.36	4 080	1.44	5 150	1.51	6 400	1.56	7 870	1.60	
	60	-	-	-	-	-	-	1 910	1.65	2 520	1.86	3 270	2.04	4 170	2.20	5 250	2.33	
Max rpm	20	5 770	2.54	6 620	2.70	8 650	3.01	11 180	3.28	14 300	3.51	-	-	-	-	-	-	-
	40	4 080	2.81	4 740	3.05	6 290	3.53	8 220	4.01	10 590	4.48	13 490	4.93	17 000	5.33	21 180	5.69	
	60	-	-	-	-	-	-	5 410	4.26	7 080	4.93	9 140	5.62	11 670	6.29	14 740	6.96	
VTZ086																		
Min rpm	20	3 140	1.10	3 680	1.14	4 970	1.19	6 550	1.22	8 450	1.24	-	-	-	-	-	-	-
	40	1 800	1.36	2 180	1.47	3 050	1.66	4 100	1.81	5 350	1.93	6 850	2.02	8 610	2.09	10 670	2.14	
	60	-	-	-	-	-	-	2 390	2.13	3 270	2.45	4 280	2.71	5 440	2.93	6 790	3.12	
Max rpm	20	8 900	3.71	10 190	3.86	13 360	4.11	17 450	4.31	22 630	4.44	-	-	-	-	-	-	-
	40	6 700	4.48	7 660	4.72	9 910	5.19	12 710	5.65	16 230	6.07	20 650	6.45	26 130	6.76	32 830	7.00	
	60	-	-	-	-	-	-	8 910	6.66	11 330	7.35	14 270	8.03	17 900	8.69	22 400	9.31	
VTZ121																		
Min rpm	20	4 520	1.58	5 230	1.66	6 890	1.77	8 890	1.84	11 260	1.85	-	-	-	-	-	-	-
	40	2 990	1.96	3 550	2.11	4 830	2.39	6 370	2.62	8 200	2.80	10 360	2.94	12 890	3.02	15 820	3.04	
	60	-	-	-	-	-	-	4 070	3.23	5 370	3.58	6 910	3.89	8 740	4.15	10 890	4.35	
Max rpm	20	13 480	5.40	15 370	5.71	19 760	6.33	25 030	6.98	31 290	7.64	-	-	-	-	-	-	-
	40	9 440	6.08	10 940	6.48	14 430	7.28	18 690	8.09	23 800	8.92	29 860	9.77	36 960	10.64	45 210	11.52	
	60	-	-	-	-	-	-	12 430	9.03	16 140	10.13	20 670	11.23	26 120	12.35	32 570	13.49	
VTZ171																		
Min rpm	20	5 980	2.20	6 880	2.27	9 030	2.38	11 660	2.45	14 850	2.47	-	-	-	-	-	-	-
	40	4 150	2.83	4 890	3.00	6 630	3.31	8 760	3.59	11 350	3.84	14 460	4.03	18 140	4.19	22 460	4.28	
	60	-	-	-	-	-	-	5 310	4.38	7 120	4.93	9 340	5.44	12 040	5.92	15 290	6.34	
Max rpm	20	18 360	7.46	21 080	7.82	27 350	8.46	34 810	9.00	43 610	9.43	-	-	-	-	-	-	-
	40	13 130	8.82	15 560	9.47	21 090	10.71	27 620	11.87	35 290	12.95	44 230	13.96	54 570	14.89	66 440	15.73	
	60	-	-	-	-	-	-	18 270	13.52	24 250	15.29	31 300	17.01	39 550	18.67	49 150	20.29	
VTZ215																		
Min rpm	20	8 120	2.86	9 230	2.96	11 840	3.13	15 050	3.26	18 950	3.37	-	-	-	-	-	-	-
	40	5 820	3.70	6 760	3.93	8 930	4.34	11 550	4.70	14 730	5.00	18 540	5.26	23 070	5.47	28 430	5.64	
	60	-	-	-	-	-	-	7 390	5.87	9 680	6.54	12 480	7.14	15 870	7.68	19 930	8.15	
Max rpm	20	24 800	10.30	28 360	10.93	36 500	12.14	46 160	13.25	57 500	14.22	-	-	-	-	-	-	-
	40	17 530	11.38	20 580	12.27	27 520	14.11	35 690	15.96	45 260	17.81	56 390	19.60	69 250	21.30	84 000	22.87	
	60	-	-	-	-	-	-	24 100	17.85	31 600	20.42	40 380	23.06	50 610	25.73	62 450	28.40	
VTZ242																		
Min rpm	20	8 590	3.14	10 010	3.26	13 380	3.44	17 490	3.57	22 450	3.63	-	-	-	-	-	-	-
	40	5 950	3.89	7 030	4.14	9 570	4.59	12 670	5.00	16 420	5.35	20 900	5.65	26 180	5.89	32 360	6.06	
	60	-	-	-	-	-	-	8 430	6.25	11 020	6.97	14 150	7.64	17 900	8.26	22 360	8.82	
Max rpm	20	25 910	10.61	29 800	11.26	38 790	12.50	49 510	13.63	62 150	14.62	-	-	-	-	-	-	-
	40	18 310	11.71	21 550	12.65	28 870	14.52	37 510	16.37	47 620	18.15	59 390	19.84	72 980	21.41	88 590	22.84	
	60	-	-	-	-	-	-	25 460	18.18	33 080	20.70	41 910	23.20	52 140	25.66	63 940	28.05	

To: Evaporating temperature in °C
Superheat = 10 K

Tc: Condensing temperature in °C
Subcooling = 0 K

Qo: Cooling capacity in W

Pe: Power input in kW

Min rpm: Minimum rotation speed
Max rpm: Maximum rotation speed

Reciprocating compressors – variable speed

R134a

To	-15		-10		-5		0		5		10		15	
Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe

VTZ038

	rpm	Performance Data													
		Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
Min	35	840	0.51	1 110	0.58	1 460	0.64	1 900	0.69	2 430	0.72	3 090	0.74	3 880	0.74
	45	660	0.52	920	0.61	1 230	0.68	1 620	0.75	2 100	0.81	2 690	0.85	3 420	0.88
	65	-	-	-	-	-	-	1 040	0.84	1 400	0.93	1 850	1.01	2 420	1.09
Max	35	2 340	1.37	3 130	1.54	4 110	1.69	5 340	1.81	6 850	1.90	8 700	1.97	10 930	2.00
	45	1 860	1.41	2 560	1.63	3 440	1.83	4 530	2.00	5 890	2.15	7 560	2.27	9 580	2.35
	65	-	-	-	-	-	-	2 920	2.23	3 930	2.48	5 200	2.71	6 780	2.92

VTZ054

	rpm	Performance Data													
		Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
Min	35	1 280	0.71	1 720	0.79	2 250	0.86	2 880	0.93	3 620	1.00	4 490	1.06	5 490	1.11
	45	1 050	0.74	1 440	0.84	1 910	0.93	2 470	1.03	3 140	1.12	3 910	1.20	4 800	1.28
	65	-	-	-	-	-	-	1 670	1.18	2 170	1.31	2 750	1.45	3 430	1.59
Max	35	3 590	1.88	4 820	2.09	6 300	2.29	8 070	2.48	10 160	2.66	12 600	2.81	15 410	2.94
	45	2 940	1.98	4 040	2.23	5 360	2.49	6 940	2.74	8 790	2.98	10 970	3.21	13 480	3.42
	65	-	-	-	-	-	-	4 680	3.13	6 070	3.49	7 720	3.86	9 640	4.23

VTZ086

	rpm	Performance Data													
		Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
Min	35	1 660	0.96	2 280	1.08	3 030	1.17	3 930	1.24	4 990	1.30	6 240	1.33	7 690	1.36
	45	1 330	0.99	1 880	1.15	2 550	1.27	3 350	1.38	4 290	1.48	5 410	1.56	6 700	1.63
	65	-	-	-	-	-	-	2 150	1.57	2 850	1.73	3 670	1.88	4 650	2.02
Max	35	5 430	2.99	7 440	3.38	9 900	3.67	12 860	3.88	16 380	4.03	20 500	4.12	25 300	4.17
	45	4 370	3.06	6 170	3.56	8 350	3.98	10 970	4.32	14 080	4.61	17 740	4.84	22 000	5.04
	65	-	-	-	-	-	-	7 050	4.90	9 340	5.37	12 050	5.80	15 230	6.22

VTZ121

	rpm	Performance Data													
		Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
Min	35	2 620	1.33	3 360	1.46	4 250	1.59	5 330	1.71	6 610	1.83	8 130	1.93	9 900	2.02
	45	2 240	1.44	2 900	1.61	3 710	1.78	4 690	1.93	5 860	2.08	7 240	2.23	8 860	2.36
	65	-	-	-	-	-	-	3 190	2.29	4 070	2.53	5 130	2.76	6 400	2.99
Max	35	7 850	3.88	10 050	4.27	12 730	4.65	15 960	5.01	19 810	5.33	24 350	5.61	29 640	5.84
	45	6 690	4.21	8 680	4.69	11 100	5.17	14 030	5.64	17 530	6.09	21 680	6.52	26 540	6.90
	65	-	-	-	-	-	-	9 550	6.67	12 170	7.36	15 350	8.05	19 160	8.73

VTZ171

	rpm	Performance Data													
		Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
Min	35	3 220	2.04	4 460	2.22	5 980	2.36	7 800	2.48	9 970	2.57	12 520	2.66	15 470	2.76
	45	2 500	2.12	3 600	2.39	4 940	2.61	6 550	2.79	8 470	2.94	10 730	3.07	13 370	3.19
	65	-	-	-	-	-	-	4 070	3.26	5 470	3.60	7 150	3.90	9 130	4.16
Max	35	11 120	6.17	15 050	7.09	19 760	7.89	25 350	8.55	31 900	9.05	39 520	9.39	48 310	9.54
	45	8 810	6.21	12 420	7.31	16 730	8.35	21 830	9.32	27 830	10.20	34 820	10.99	42 900	11.66
	65	-	-	-	-	-	-	14 050	10.01	18 690	11.25	24 160	12.53	30 570	13.83

VTZ215

	rpm	Performance Data													
		Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
Min	35	4 680	2.68	6 190	2.94	8 010	3.17	10 160	3.38	12 690	3.60	15 630	3.84	19 030	4.11
	45	3 880	2.84	5 260	3.19	6 910	3.49	8 860	3.75	11 160	4.01	13 830	4.26	16 930	4.52
	65	-	-	-	-	-	-	6 000	4.34	7 770	4.79	9 850	5.20	12 290	5.58
Max	35	15 310	8.39	20 250	9.17	26 180	9.90	33 210	10.60	41 480	11.30	51 110	12.05	62 220	12.86
	45	12 700	8.86	17 230	9.89	22 630	10.83	29 030	11.70	36 560	12.55	45 340	13.39	55 480	14.26
	65	-	-	-	-	-	-	19 640	13.47	25 450	14.83	32 290	16.11	40 280	17.34

VTZ242

	rpm	Performance Data													
		Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
Min	35	5 530	2.59	7 080	2.86	8 970	3.11	11 250	3.35	13 970	3.58	17 160	3.79	20 890	3.99
	45	4 710	2.83	6 110	3.16	7 820	3.48	9 880	3.78	12 350	4.08	15 260	4.36	18 680	4.62
	65	-	-	-	-	-	-	6 730	4.49	8 570	4.96	10 810	5.42	13 470	5.86
Max	35	16 550	7.61	21 180	8.40	26 840	9.15	33 670	9.84	41 810	10.49	51 420	11.08	62 640	11.60
	45	14 120	8.30	18 300	9.28	23 410	10.23	29 590	11.14	36 980	11.99	45 740	12.80	56 020	13.55
	65	-	-	-	-	-	-	20 170	13.15	25 710	14.50	32 410	15.81	40 430	17.08

To: Evaporating temperature in °C
Superheat = 10 K

Tc: Condensing temperature in °C
Subcooling = 0 K

Qo: Cooling capacity in W

Pe: Power input in kW

Min rpm: Minimum rotation speed
Max rpm: Maximum rotation speed

Notes

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.



The Danfoss product range for the refrigeration and air conditioning industry

Danfoss Refrigeration & Air Conditioning is a worldwide manufacturer with a leading position in industrial, commercial and supermarket refrigeration as well as air conditioning and climate solutions.

We focus on our core business of making quality products, components and systems that enhance performance and reduce total life cycle costs – the key to major savings.



Controls for Commercial Refrigeration



Controls for Industrial Refrigeration



Electronic Controls & Sensors



Industrial Automation



Household, light commercial and direct current compressors



Commercial Compressors



Condensing units



Thermostats



Heat exchangers

We offer a single source for one of the widest ranges of innovative refrigeration and air conditioning components and systems in the world. And, we back technical solutions with business solutions to help your company reduce costs, streamline processes and achieve your business goals.

Danfoss A/S · www.danfoss.com