

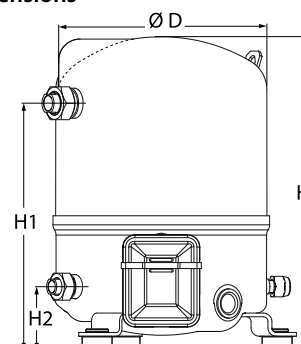
Datasheets

Danfoss Reciprocating compressors **MT / MTZ / NTZ**



General Characteristics

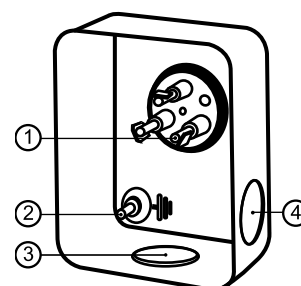
Model number (on compressor nameplate)		MT22JC4AVE
Code number for Singlepack*		MT22-4VI
Code number for Industrial pack**		MT22-4VM
Drawing number		8501024e
Suction and discharge connections		Rotolock
Suction connection		1 " Rotolock
Discharge connection		1 " Rotolock
Suction connection with supplied sleeve		1/2 " ODF
Discharge connection with supplied sleeve		3/8 " ODF
Oil sight glass		Threaded
Oil equalisation connection		3/8" flare SAE
Oil drain connection		None
LP gauge port		Schrader
IPR valve		30 bar / 8 bar
Cylinders	1	
Swept volume	38,12 cm ³ /rev	
Displacement @ Nominal speed	6.6 m ³ /h @ 2900 rpm - 8.0 m ³ /h @ 3500 rpm	
Net weight	21 kg	
Oil charge	0,95 litre, Mineral - 160P	
Maximum system test pressure Low Side / High side	25 bar(g) / 30 bar(g)	
Maximum differential test pressure	30 bar	
Maximum number of starts per hour	12	
Refrigerant charge limit	2,5 kg	
Approved refrigerants	R22, R417A-160PZ	

Dimensions


D=224 mm
 H=333 mm
 H1=263 mm
 H2=68 mm
 H3= mm

Electrical Characteristics

Nominal voltage	380-400V/3/50Hz - 460V/3/60Hz
Voltage range	340-440 V @ 50Hz - 414-506 V @ 60Hz
Winding resistance (between phases) +/- 7% at 25°C	9.17 Ω
Maximum Continuous Current (MCC)	6 A
Locked Rotor Amps (LRA)	16 A
Motor protection	Internal overload protector

Terminal box


IP55 (with cable gland)

- 1: Spade connectors 1/4"
- 2: Earth M4-12
- 3: Knock-out Ø 21 mm (0.83")
- 4: Hole Ø 21 mm (0.83")

Recommended Installation torques

Oil sight glass	50 Nm
Power connections / Earth connection	Nm / 2 Nm
Mounting bolts	15 Nm

Parts shipped with compressor

Mounting kit with grommets, bolts, nuts, sleeves and washers
Suction & Discharge solder sleeves, rotolock nuts and gaskets (shipped with rotolock version only)
Initial oil charge
Installation instructions

Approvals : CE certified, UL certified (file SA6873), CCC certified

*Singlepack: Compressor in cardboard box

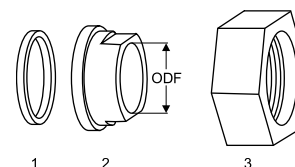
**Industrial pack: 12 Unboxed compressors on pallet (order per multiples of 12)

Rotolock accessories, suction side

Code no.

Solder sleeve, P06 (1" Rotolock, 1/2" ODF)	8153007
Angle adapter, C06 (1" Rotolock, 1/2" ODF)	8168007
Rotolock valve, V06 (1" Rotolock, 1/2" ODF)	8168031
Gasket, 1"	8156130

Gaskets, sleeves and nuts



Rotolock accessories, discharge side

Code no.

Solder sleeve, P01 (1" Rotolock, 3/8" ODF)	8153010
Angle adapter, C01 (1" Rotolock, 3/8" ODF)	8168004
Rotolock valve, V01 (1" Rotolock, 3/8" ODF)	8168027
Gasket, 1"	8156130

Rotolock accessories, sets

Code no.

Angle adapter set, C06 (1"~1/2"), C01 (1"~3/8")	7703011
Valve set, V06 (1"~1/2"), V01 (1"~3/8")	7703004
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009

- 1: Gasket
2: Solder sleeve
3: Rotolock nut

Oil / lubricants

Code no.

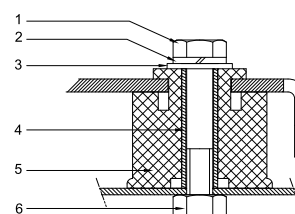
Mineral oil, 160P, 2 litre can	7754001
Mineral oil, 160P, 5 litre can	7754002

Crankcase heaters

Code no.

PTC heater 27W, CE mark, UL	120Z0459
Belt type crankcase heater, 54 W, 230 V, CE mark, UL	7773106
Belt type crankcase heater, 54 W, 400 V, UL	7773013

Mounting kit



Miscellaneous accessories

Code no.

Electronic soft start kit, MCI 15 C	7705006
Acoustic hood for 1 cylinder compressor	120Z0471
Oil equalisation nut	8153127

Spare parts

Code no.

Mounting kit for 1 and 2 cylinder compressor, including 3 grommets, 3 bolts	8156001
Oil sight glass with gaskets (black & white)	8156019
Gasket for oil sight glass (black chloroprene)	8156145
Service kit for terminal box 80 x 96 mm, including 1 cover, 1 clamp	8156134

- 1: Bolt (3x)
2: Lock washer (3x)
3: Flat washer (3x)
4: Sleeve (3x)
5: Grommet (3x)
6: Nut (3x)

Performance data at 50 Hz, EN 12900 rating conditions
R22

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-25	-20	-15	-10	-5	0	5	10	15

Cooling capacity in W

30	1 240	1 817	2 502	3 309	4 251	5 340	6 589	8 012	9 621
35	1 050	1 607	2 267	3 043	3 947	4 993	6 193	7 561	9 109
40	865	1 399	2 029	2 770	3 633	4 632	5 779	7 088	8 571
45	686	1 193	1 791	2 492	3 311	4 259	5 349	6 595	8 009
50	-	991	1 552	2 211	2 981	3 874	4 904	6 083	7 424
55	-	-	1 314	1 927	2 645	3 480	4 445	5 553	6 817
60	-	-	-	1 642	2 303	3 076	3 973	5 007	6 190
65	-	-	-	-	1 959	2 666	3 490	4 445	5 544

Power input in W

30	707	860	1 004	1 132	1 238	1 317	1 361	1 365	1 323
35	739	898	1 051	1 190	1 309	1 403	1 464	1 488	1 467
40	760	928	1 090	1 242	1 376	1 486	1 566	1 610	1 612
45	769	947	1 121	1 286	1 436	1 564	1 664	1 731	1 757
50	-	954	1 141	1 322	1 489	1 636	1 758	1 848	1 900
55	-	-	1 150	1 347	1 533	1 701	1 846	1 961	2 041
60	-	-	-	1 360	1 566	1 757	1 927	2 068	2 176
65	-	-	-	-	1 589	1 803	1 998	2 168	2 306

Current consumption in A

30	2.04	2.15	2.28	2.40	2.51	2.59	2.64	2.64	2.58
35	2.07	2.19	2.32	2.45	2.58	2.68	2.76	2.79	2.76
40	2.09	2.21	2.35	2.50	2.65	2.78	2.88	2.94	2.95
45	2.10	2.23	2.38	2.55	2.72	2.87	3.00	3.10	3.15
50	-	2.24	2.41	2.59	2.78	2.97	3.13	3.26	3.35
55	-	-	2.42	2.62	2.84	3.05	3.25	3.42	3.55
60	-	-	-	2.65	2.89	3.13	3.37	3.57	3.75
65	-	-	-	-	2.93	3.21	3.48	3.73	3.95

Mass flow in kg/h

30	27	39	53	70	88	109	133	160	191
35	24	36	50	66	85	106	130	157	187
40	20	33	47	63	81	102	126	153	183
45	17	29	43	59	77	98	122	148	178
50	-	25	39	55	73	93	117	143	172
55	-	-	35	50	68	88	111	137	166
60	-	-	-	45	62	82	104	130	158
65	-	-	-	-	56	75	97	122	150

Coefficient of performance (C.O.P.)

30	1.75	2.11	2.49	2.92	3.43	4.06	4.84	5.87	7.27
35	1.42	1.79	2.16	2.56	3.01	3.56	4.23	5.08	6.21
40	1.14	1.51	1.86	2.23	2.64	3.12	3.69	4.40	5.32
45	0.89	1.26	1.60	1.94	2.31	2.72	3.21	3.81	4.56
50	-	1.04	1.36	1.67	2.00	2.37	2.79	3.29	3.91
55	-	-	1.14	1.43	1.73	2.05	2.41	2.83	3.34
60	-	-	-	1.21	1.47	1.75	2.06	2.42	2.84
65	-	-	-	-	1.23	1.48	1.75	2.05	2.40

Nominal performance at to = 5 °C, tc = 50 °C

Cooling capacity	4 904	W
Power input	1 758	W
Current consumption	3.13	A
Mass flow	117	kg/h
C.O.P.	2.79	

Pressure switch settings

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	0.2	bar(g)
LP pump down setting	0.9	bar(g)

Sound power data

Sound power level	71	dB(A)
With accoustic hood	65	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

All performance data +/- 5%

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Performance data at 50 Hz, ARI rating conditions
R22

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-25	-20	-15	-10	-5	0	5	10	15

Cooling capacity in W

30	1 317	1 928	2 653	3 506	4 501	5 650	6 967	8 466	10 160
35	1 119	1 712	2 412	3 235	4 193	5 300	6 569	8 014	9 648
40	926	1 495	2 168	2 956	3 874	4 935	6 152	7 539	9 110
45	738	1 281	1 921	2 671	3 545	4 556	5 717	7 043	8 545
50	-	1 069	1 673	2 381	3 207	4 164	5 266	6 525	7 957
55	-	-	1 425	2 087	2 861	3 761	4 799	5 989	7 345
60	-	-	-	1 791	2 509	3 347	4 317	5 434	6 710
65	-	-	-	-	2 151	2 923	3 822	4 861	6 055

Power input in W

30	707	860	1 004	1 132	1 238	1 317	1 361	1 365	1 323
35	739	898	1 051	1 190	1 309	1 403	1 464	1 488	1 467
40	760	928	1 090	1 242	1 376	1 486	1 566	1 610	1 612
45	769	947	1 121	1 286	1 436	1 564	1 664	1 731	1 757
50	-	954	1 141	1 322	1 489	1 636	1 758	1 848	1 900
55	-	-	1 150	1 347	1 533	1 701	1 846	1 961	2 041
60	-	-	-	1 360	1 566	1 757	1 927	2 068	2 176
65	-	-	-	-	1 589	1 803	1 998	2 168	2 306

Current consumption in A

30	2.04	2.15	2.28	2.40	2.51	2.59	2.64	2.64	2.58
35	2.07	2.19	2.32	2.45	2.58	2.68	2.76	2.79	2.76
40	2.09	2.21	2.35	2.50	2.65	2.78	2.88	2.94	2.95
45	2.10	2.23	2.38	2.55	2.72	2.87	3.00	3.10	3.15
50	-	2.24	2.41	2.59	2.78	2.97	3.13	3.26	3.35
55	-	-	2.42	2.62	2.84	3.05	3.25	3.42	3.55
60	-	-	-	2.65	2.89	3.13	3.37	3.57	3.75
65	-	-	-	-	2.93	3.21	3.48	3.73	3.95

Mass flow in kg/h

30	27	39	53	69	88	109	132	159	189
35	24	36	50	66	84	105	129	156	186
40	20	32	46	63	81	102	125	152	182
45	17	29	43	59	77	98	121	148	177
50	-	25	39	55	72	93	116	142	171
55	-	-	35	50	68	88	110	136	165
60	-	-	-	45	62	82	104	129	157
65	-	-	-	-	56	75	97	121	149

Coefficient of performance (C.O.P.)

30	1.86	2.24	2.64	3.10	3.63	4.29	5.12	6.20	7.68
35	1.51	1.90	2.30	2.72	3.20	3.78	4.49	5.39	6.58
40	1.22	1.61	1.99	2.38	2.82	3.32	3.93	4.68	5.65
45	0.96	1.35	1.71	2.08	2.47	2.91	3.43	4.07	4.86
50	-	1.12	1.47	1.80	2.15	2.54	2.99	3.53	4.19
55	-	-	1.24	1.55	1.87	2.21	2.60	3.05	3.60
60	-	-	-	1.32	1.60	1.90	2.24	2.63	3.08
65	-	-	-	-	1.35	1.62	1.91	2.24	2.63

Nominal performance at to = 7.2 °C, tc = 54.4 °C

Cooling capacity	5 363	W
Power input	1 889	W
Current consumption	3.31	A
Mass flow	122	kg/h
C.O.P.	2.84	

Pressure switch settings

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	0.2	bar(g)
LP pump down setting	0.9	bar(g)

Sound power data

Sound power level	71	dB(A)
With acoustic hood	65	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

All performance data +/- 5%

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