

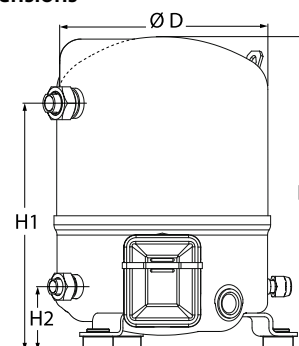
Datasheets

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



**General Characteristics**

Model number (on compressor nameplate)		<b>MT22JC5PVE</b>
Code number for Singlepack*		MT22-5VI
Code number for Industrial pack**		MT22-5VM
Drawing number		8501021e
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		None
Cylinders		1
Swept volume		38.12 cm <sup>3</sup> /rev
Displacement @ Nominal speed		6.6 m <sup>3</sup> /h @ 2900 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**


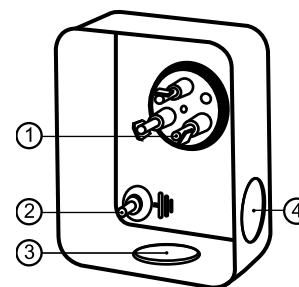
D=224 mm

H=333 mm

H1=263 mm

H2=68 mm

H3=- mm

**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")

**Electrical Characteristics**

Nominal voltage	220-240V/1/50Hz
Voltage range	220-240 V
Winding resistance (main / start) at 25°C	1.35 Ω / 3.83 Ω
Run capacitors A + C	20 µF + 10 µF
Start capacitor B	100 µF
Start relay	RVA-6AMKL
Maximum Continuous Current (MCC)	15 A
Locked Rotor Amps (LRA)	41 A
Motor protection	Internal overload protector

**Recommended Installation torques**

Oil sight glass	50 Nm
Power connections / Earth connection	2 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, -, CCC certified

\*Singlepack: Compressor in cardboard box

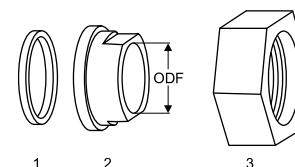
\*\*Industrial pack: 12 Unboxed compressors on pallet (order per multiples of 12)

**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**



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

**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

**Oil / lubricants**

**Code no.**

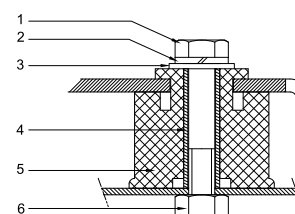
Mineral oil, 160P, 2 litre can	7754001
Mineral oil, 160P, 5 litre can	7754002

**Crankcase heaters**

**Code no.**

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

**Mounting kit**



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

**Miscellaneous accessories**

**Code no.**

PSC starting kit, 20 µF, 10 µF	7701026
CSR starting kit, 20 µF, 10 µF, 98 µF	7701022
CSR starting kit, prewired box, 20 µF, 10 µF, 98 µF	7701028
Acoustic hood for 1 cylinder compressor	120Z0575
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

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	5.12	5.40	5.70	6.01	6.28	6.49	6.61	6.61	6.47
35	5.19	5.48	5.81	6.14	6.46	6.73	6.91	6.99	6.93
40	5.24	5.55	5.90	6.28	6.64	6.96	7.22	7.37	7.40
45	5.26	5.59	5.98	6.40	6.81	7.20	7.53	7.77	7.89
50	-	5.60	6.03	6.50	6.97	7.43	7.84	8.17	8.39
55	-	-	6.06	6.58	7.12	7.65	8.14	8.57	8.89
60	-	-	-	6.63	7.24	7.85	8.43	8.96	9.40
65	-	-	-	-	7.34	8.03	8.71	9.34	9.89

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	7.84	A
Mass flow	117	kg/h
C.O.P.	2.79	

Pressure switch settings

Maximum HP switch setting	27.9	bar(g)
Minimum LP switch setting	0.7	bar(g)
LP pump down setting	0.9	bar(g)

Sound power data

Sound power level	71	dB(A)
With acoustic hood	0	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

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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	5.12	5.40	5.70	6.01	6.28	6.49	6.61	6.61	6.47
35	5.19	5.48	5.81	6.14	6.46	6.73	6.91	6.99	6.93
40	5.24	5.55	5.90	6.28	6.64	6.96	7.22	7.37	7.40
45	5.26	5.59	5.98	6.40	6.81	7.20	7.53	7.77	7.89
50	-	5.60	6.03	6.50	6.97	7.43	7.84	8.17	8.39
55	-	-	6.06	6.58	7.12	7.65	8.14	8.57	8.89
60	-	-	-	6.63	7.24	7.85	8.43	8.96	9.40
65	-	-	-	-	7.34	8.03	8.71	9.34	9.89

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	8.30	A
Mass flow	122	kg/h
C.O.P.	2.84	

Pressure switch settings

Maximum HP switch setting	27.9	bar(g)
Minimum LP switch setting	0.7	bar(g)
LP pump down setting	0.9	bar(g)

Sound power data

Sound power level	71	dB(A)
With acoustic hood	0	dB(A)

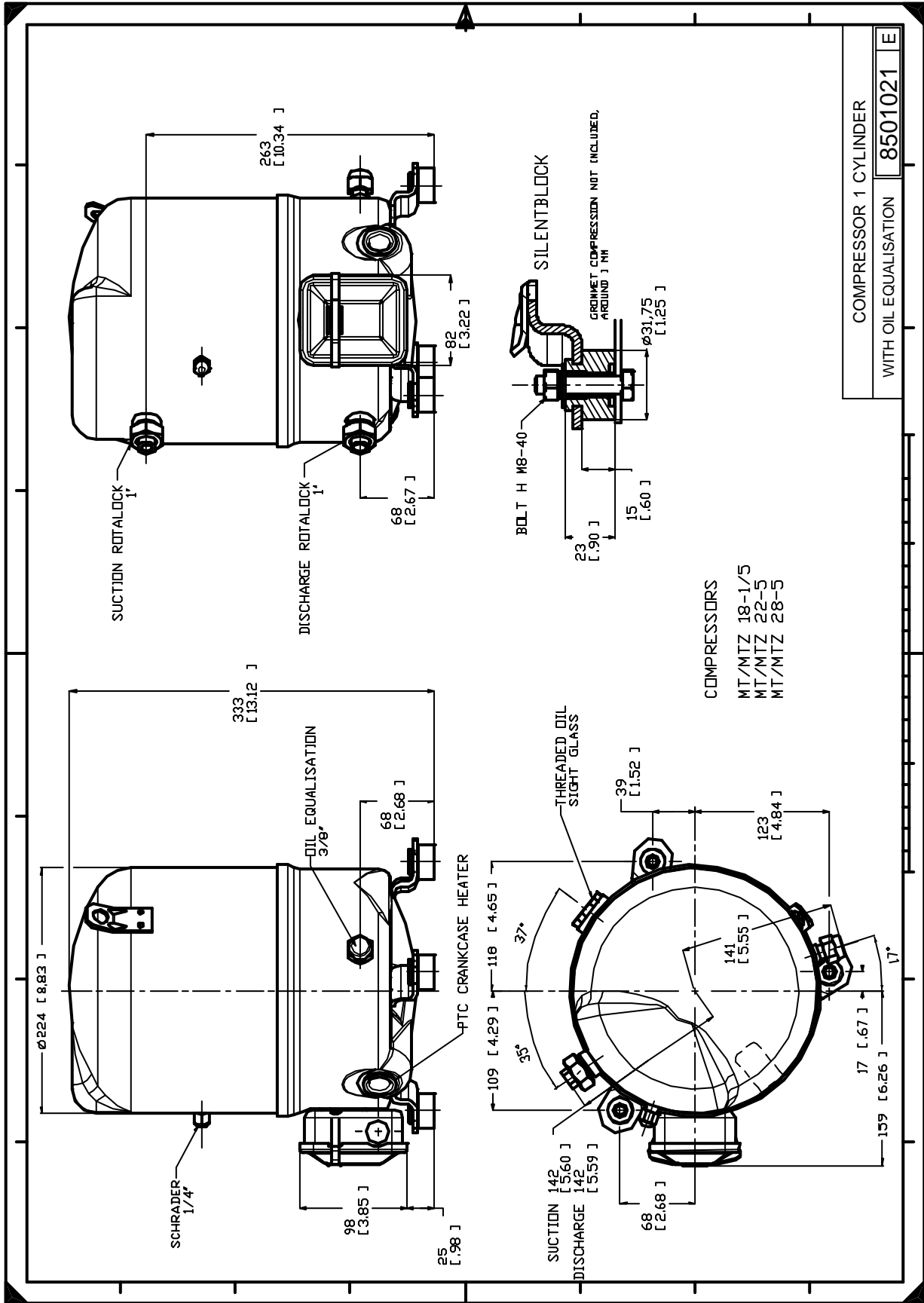
to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

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