

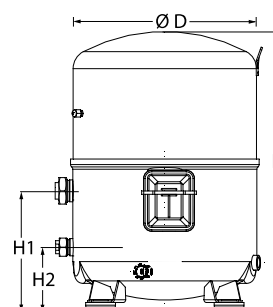
Datasheets

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



General Characteristics

Model number (on compressor nameplate)		MT100HS4DVE
Code number for Singlepack*		MT100-4VI
Code number for Industrial pack**		MT100-4VM
Drawing number		8504010f
Suction and discharge connections		Rotolock
Suction connection		1-3/4 " Rotolock
Discharge connection		1-1/4 " Rotolock
Suction connection with supplied sleeve		1-1/8 " ODF
Discharge connection with supplied sleeve		3/4 " 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	4	
Swept volume	171,26 cm3/rev	
Displacement @ Nominal speed	29.8 m3/h @ 2900 rpm - 36.0 m3/h @ 3500 rpm	
Net weight	60 kg	
Oil charge	3,9 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	10 kg	
Approved refrigerants	R22, R417A-160PZ	

Dimensions


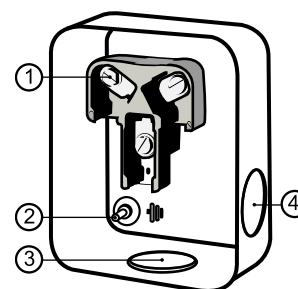
D=352 mm

H=519 mm

H1=233 mm

H2=125 mm

H3=- mm

Terminal box


IP54 (with cable gland)

1: Screw connectors 10-32 UNF x 9.5

2: Earth M4-12

3: Knock-out Ø 29 mm (1.14")

4: Knock-out Ø 25.5 mm (1.00")

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	1.57 Ω
Maximum Continuous Current (MCC)	22 A
Locked Rotor Amps (LRA)	90 A
Motor protection	Internal overload protector

Recommended Installation torques

Oil sight glass	50 Nm
Power connections / Earth connection	3 Nm / 2 Nm
Mounting bolts	50 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

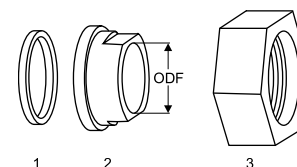
Approvals : CE certified, UL certified (file SA6873), -

*Singlepack: Compressor in cardboard box

**Industrial pack: 6 Unboxed compressors on pallet (order per multiples of 6)

Rotolock accessories, suction side
Code no.

Solder sleeve, P02 (1-3/4" Rotolock, 1-1/8" ODF)	8153004
Angle adapter, C02 (1-3/4" Rotolock, 1-1/8" ODF)	8168005
Rotolock valve, V02 (1-3/4" Rotolock, 1-1/8" ODF)	8168028
Gasket, 1-3/4"	8156132

Gaskets, sleeves and nuts


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

Rotolock accessories, discharge side
Code no.

Solder sleeve, P04 (1-1/4" Rotolock, 3/4" ODF)	8153008
Angle adapter, C04 (1-1/4" Rotolock, 3/4" ODF)	8168006
Rotolock valve, V04 (1-1/4" Rotolock, 3/4" ODF)	8168029
Gasket, 1-1/4"	8156131

Rotolock accessories, sets
Code no.

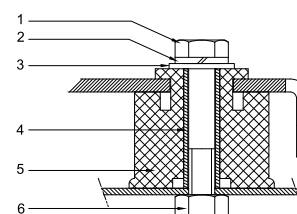
Angle adapter set, C02 (1-3/4"~1-1/8"), C04 (1-1/4"~3/4")	7703014
Valve set, V02 (1-3/4"~1-1/8"), V04 (1-1/4"~3/4")	7703009
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009

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, 75 W, 230 V, CE mark, UL	7773108
Belt type crankcase heater, 75 W, 400 V, CE mark, UL	7773118
Belt type crankcase heater, 75 W, 460 V, CE mark, UL	120Z0464

Mounting kit


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

Miscellaneous accessories
Code no.

Electronic soft start kit, MCI 25 C	7705007
Soft start kit with statoric resistors, prewired box, SCR03	7705001
Acoustic hood for 4 cylinder compressor	120Z0473
Oil equalisation nut	8153127

Spare parts
Code no.

Mounting kit for 4 cylinder compressor & MS, including 4 grommets, 4 bolts	8156007
Oil sight glass with gaskets (black & white)	8156019
Gasket for oil sight glass (black chloroprene)	8156145
Service kit for terminal box 96 x 115 mm, including 1 cover, 1 clamp	8156135
T block connector 52 x 57 mm	8173230

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	6 877	9 129	11 859	15 132	19 013	23 565	28 855	34 948	41 908
35	5 890	8 055	10 671	13 803	17 516	21 873	26 940	32 783	39 464
40	5 009	7 070	9 555	12 529	16 057	20 202	25 030	30 604	36 991
45	4 252	6 192	8 529	11 329	14 655	18 571	23 142	28 432	34 505
50	-	5 439	7 612	10 220	13 328	16 998	21 295	26 283	32 027
55	-	-	6 820	9 221	12 093	15 500	19 507	24 176	29 572
60	-	-	-	8 347	10 968	14 096	17 794	22 127	27 158
65	-	-	-	-	9 967	12 799	16 173	20 153	24 801

Power input in W

30	3 902	4 394	4 840	5 218	5 503	5 674	5 705	5 575	5 259
35	3 973	4 494	4 980	5 407	5 750	5 988	6 097	6 053	5 833
40	4 026	4 584	5 116	5 597	6 006	6 318	6 510	6 559	6 442
45	4 061	4 662	5 246	5 789	6 269	6 662	6 944	7 093	7 084
50	-	4 727	5 370	5 982	6 539	7 019	7 398	7 652	7 759
55	-	-	5 488	6 174	6 816	7 389	7 871	8 238	8 466
60	-	-	-	6 366	7 098	7 771	8 362	8 848	9 205
65	-	-	-	-	7 385	8 164	8 871	9 482	9 974

Current consumption in A

30	9.91	10.35	10.79	11.19	11.51	11.71	11.74	11.58	11.18
35	9.99	10.45	10.93	11.39	11.78	12.06	12.19	12.14	11.86
40	10.04	10.54	11.08	11.60	12.07	12.44	12.69	12.76	12.62
45	10.06	10.62	11.22	11.82	12.38	12.86	13.22	13.43	13.44
50	-	10.68	11.36	12.05	12.71	13.31	13.81	14.16	14.33
55	-	-	11.50	12.29	13.07	13.80	14.44	14.95	15.29
60	-	-	-	12.53	13.44	14.31	15.11	15.79	16.31
65	-	-	-	-	13.83	14.86	15.82	16.68	17.40

Mass flow in kg/h

30	150	197	252	317	393	481	582	698	829
35	133	180	236	301	377	464	565	680	811
40	118	165	220	284	360	446	546	661	790
45	105	151	205	268	342	428	527	640	768
50	-	139	192	253	326	410	507	618	744
55	-	-	181	240	310	392	487	595	719
60	-	-	-	230	297	376	468	574	694
65	-	-	-	-	287	362	451	553	670

Coefficient of performance (C.O.P.)

30	1.76	2.08	2.45	2.90	3.45	4.15	5.06	6.27	7.97
35	1.48	1.79	2.14	2.55	3.05	3.65	4.42	5.42	6.77
40	1.24	1.54	1.87	2.24	2.67	3.20	3.84	4.67	5.74
45	1.05	1.33	1.63	1.96	2.34	2.79	3.33	4.01	4.87
50	-	1.15	1.42	1.71	2.04	2.42	2.88	3.43	4.13
55	-	-	1.24	1.49	1.77	2.10	2.48	2.93	3.49
60	-	-	-	1.31	1.55	1.81	2.13	2.50	2.95
65	-	-	-	-	1.35	1.57	1.82	2.13	2.49

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

Cooling capacity	21 295	W
Power input	7 398	W
Current consumption	13.81	A
Mass flow	507	kg/h
C.O.P.	2.88	

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	82	dB(A)
With acoustic hood	76	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	7 304	9 688	12 575	16 034	20 131	24 933	30 510	36 927	44 253
35	6 278	8 578	11 354	14 674	18 606	23 218	28 575	34 747	41 801
40	5 361	7 558	10 206	13 370	17 120	21 522	26 643	32 552	39 316
45	4 572	6 650	9 150	12 142	15 691	19 865	24 733	30 361	36 818
50	-	5 871	8 208	11 008	14 339	18 269	22 865	28 195	34 326
55	-	-	7 397	9 989	13 084	16 752	21 059	26 073	31 861
60	-	-	-	9 104	11 947	15 334	19 334	24 014	29 441
65	-	-	-	-	10 946	14 035	17 711	22 039	27 088

Power input in W

30	3 902	4 394	4 840	5 218	5 503	5 674	5 705	5 575	5 259
35	3 973	4 494	4 980	5 407	5 750	5 988	6 097	6 053	5 833
40	4 026	4 584	5 116	5 597	6 006	6 318	6 510	6 559	6 442
45	4 061	4 662	5 246	5 789	6 269	6 662	6 944	7 093	7 084
50	-	4 727	5 370	5 982	6 539	7 019	7 398	7 652	7 759
55	-	-	5 488	6 174	6 816	7 389	7 871	8 238	8 466
60	-	-	-	6 366	7 098	7 771	8 362	8 848	9 205
65	-	-	-	-	7 385	8 164	8 871	9 482	9 974

Current consumption in A

30	9.91	10.35	10.79	11.19	11.51	11.71	11.74	11.58	11.18
35	9.99	10.45	10.93	11.39	11.78	12.06	12.19	12.14	11.86
40	10.04	10.54	11.08	11.60	12.07	12.44	12.69	12.76	12.62
45	10.06	10.62	11.22	11.82	12.38	12.86	13.22	13.43	13.44
50	-	10.68	11.36	12.05	12.71	13.31	13.81	14.16	14.33
55	-	-	11.50	12.29	13.07	13.80	14.44	14.95	15.29
60	-	-	-	12.53	13.44	14.31	15.11	15.79	16.31
65	-	-	-	-	13.83	14.86	15.82	16.68	17.40

Mass flow in kg/h

30	149	196	251	316	391	478	579	694	824
35	133	180	235	299	375	462	562	676	806
40	118	164	219	283	358	444	543	657	786
45	105	150	204	267	341	426	524	636	763
50	-	138	191	252	324	408	504	614	740
55	-	-	180	239	309	390	484	592	715
60	-	-	-	229	296	374	465	570	690
65	-	-	-	-	285	360	448	550	666

Coefficient of performance (C.O.P.)

30	1.87	2.21	2.60	3.07	3.66	4.39	5.35	6.62	8.41
35	1.58	1.91	2.28	2.71	3.24	3.88	4.69	5.74	7.17
40	1.33	1.65	2.00	2.39	2.85	3.41	4.09	4.96	6.10
45	1.13	1.43	1.74	2.10	2.50	2.98	3.56	4.28	5.20
50	-	1.24	1.53	1.84	2.19	2.60	3.09	3.68	4.42
55	-	-	1.35	1.62	1.92	2.27	2.68	3.17	3.76
60	-	-	-	1.43	1.68	1.97	2.31	2.71	3.20
65	-	-	-	-	1.48	1.72	2.00	2.32	2.72

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

Cooling capacity	23 403	W
Power input	7 984	W
Current consumption	14.59	A
Mass flow	532	kg/h
C.O.P.	2.93	

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	82	dB(A)
With acoustic hood	76	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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