

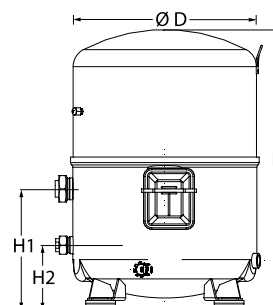
Datasheets

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



**General Characteristics**

Model number (on compressor nameplate)		<b>MT100HS4DVE</b>
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**


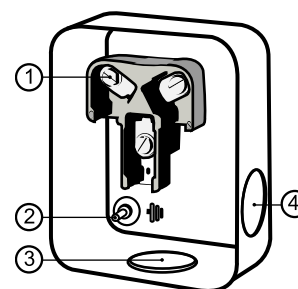
D=352 mm

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

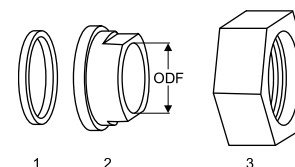
\*\*Industrial pack: 6 Unboxed compressors on pallet (order per multiples of 6)

**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.**

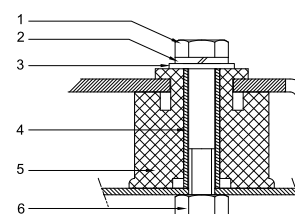
Mineral oil, 160P, 2 litre can	7754001
Mineral oil, 160P, 5 litre can	7754002

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

**Sound power data**

Sound power level	82	dB(A)
With accoustic hood	76	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	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	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

**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	82	dB(A)
With accoustic hood	76	dB(A)

Tolerance according EN12900

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**Performance data at 60 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	8 253	10 955	14 231	18 159	22 815	28 279	34 627	41 937	50 289
35	7 068	9 666	12 805	16 564	21 019	26 248	32 329	39 339	47 357
40	6 011	8 484	11 466	15 035	19 268	24 242	30 036	36 725	44 389
45	5 103	7 430	10 235	13 595	17 586	22 285	27 770	34 118	41 407
50	-	6 526	9 134	12 264	15 993	20 397	25 554	31 540	38 432
55	-	-	8 184	11 065	14 512	18 600	23 408	29 011	35 486
60	-	-	-	10 016	13 161	16 915	21 353	26 553	32 590
65	-	-	-	-	11 960	15 359	19 408	24 184	29 761

**Power input in W**

30	4 682	5 272	5 808	6 261	6 604	6 808	6 846	6 690	6 311
35	4 767	5 393	5 976	6 488	6 901	7 186	7 317	7 264	7 000
40	4 831	5 501	6 139	6 717	7 207	7 582	7 812	7 871	7 730
45	4 873	5 594	6 295	6 947	7 523	7 994	8 333	8 511	8 501
50	-	5 673	6 444	7 178	7 847	8 423	8 877	9 183	9 311
55	-	-	6 585	7 409	8 179	8 867	9 445	9 885	10 159
60	-	-	-	7 639	8 517	9 325	10 035	10 617	11 046
65	-	-	-	-	8 862	9 797	10 646	11 379	11 969

**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	179	235	302	380	471	576	698	836	993
35	160	216	283	361	452	557	678	816	973
40	142	198	264	341	432	536	656	793	949
45	126	181	246	322	411	514	632	768	922
50	-	167	230	304	391	492	608	741	893
55	-	-	217	288	372	471	584	714	863
60	-	-	-	276	356	451	561	688	833
65	-	-	-	-	344	435	541	664	804

**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	25 554	W
Power input	8 877	W
Current consumption	13.81	A
Mass flow	608	kg/h
C.O.P.	2.88	

**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	85	dB(A)
With acoustic hood	79	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 60 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	8 765	11 626	15 091	19 241	24 157	29 920	36 612	44 312	53 103
35	7 534	10 293	13 625	17 609	22 328	27 861	34 290	41 697	50 161
40	6 433	9 070	12 247	16 044	20 544	25 826	31 972	39 063	47 179
45	5 486	7 979	10 980	14 570	18 829	23 839	29 680	36 434	44 181
50	-	7 045	9 849	13 209	17 207	21 923	27 438	33 834	41 191
55	-	-	8 877	11 986	15 701	20 102	25 271	31 287	38 233
60	-	-	-	10 925	14 336	18 401	23 201	28 817	35 330
65	-	-	-	-	13 135	16 842	21 253	26 447	32 506

**Power input in W**

30	4 682	5 272	5 808	6 261	6 604	6 808	6 846	6 690	6 311
35	4 767	5 393	5 976	6 488	6 901	7 186	7 317	7 264	7 000
40	4 831	5 501	6 139	6 717	7 207	7 582	7 812	7 871	7 730
45	4 873	5 594	6 295	6 947	7 523	7 994	8 333	8 511	8 501
50	-	5 673	6 444	7 178	7 847	8 423	8 877	9 183	9 311
55	-	-	6 585	7 409	8 179	8 867	9 445	9 885	10 159
60	-	-	-	7 639	8 517	9 325	10 035	10 617	11 046
65	-	-	-	-	8 862	9 797	10 646	11 379	11 969

**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	178	234	300	378	469	573	694	831	988
35	159	215	282	359	450	554	674	812	967
40	141	197	263	340	429	533	652	789	943
45	126	180	245	320	409	511	629	763	916
50	-	166	229	303	389	489	605	737	888
55	-	-	216	287	370	468	581	710	858
60	-	-	-	274	355	449	558	684	828
65	-	-	-	-	342	432	538	660	800

**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	28 084	W
Power input	9 581	W
Current consumption	14.59	A
Mass flow	639	kg/h
C.O.P.	2.93	

**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	85	dB(A)
With acoustic hood	79	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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