

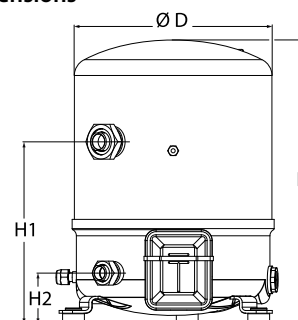
Datasheets

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



General Characteristics

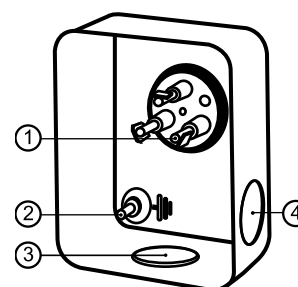
Model number (on compressor nameplate)		MT44HJ4BVE
Code number for Singlepack*		MT44-4VI
Code number for Industrial pack**		MT44-4VM
Drawing number		8502012g
Suction and discharge connections		Rotolock
Suction connection		1-3/4" Rotolock
Discharge connection		1-1/4" Rotolock
Suction connection with supplied sleeve		7/8" 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	2	
Swept volume	76,22 cm ³ /rev	
Displacement @ Nominal speed	13.3 m ³ /h @ 2900 rpm - 16.0 m ³ /h @ 3500 rpm	
Net weight	37 kg	
Oil charge	1,8 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	5 kg	
Approved refrigerants	R22, R417A-160PZ	

Dimensions


D=288 mm
H=413 mm
H1=265 mm
H2=74 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	3,22 Ω
Maximum Continuous Current (MCC)	9.5 A
Locked Rotor Amps (LRA)	48.5 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

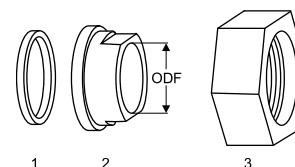
**Industrial pack: 6 Unboxed compressors on pallet (order per multiples of 6)

Rotolock accessories, suction side

Code no.

Solder sleeve, P07 (1-3/4" Rotolock, 7/8" ODF)	8153013
Angle adapter, C07 (1-3/4" Rotolock, 7/8" ODF)	8168008
Rotolock valve, V07 (1-3/4" Rotolock, 7/8" ODF)	8168032
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, C07 (1-3/4"~7/8"), C04 (1-1/4"~3/4")	7703013
Valve set, V07 (1-3/4"~7/8"), V04 (1-1/4"~3/4")	7703006
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009

Oil / lubricants

Code no.

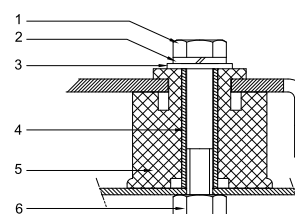
Mineral oil, 160P, 2 litre can	7754001
Mineral oil, 160P, 5 litre can	7754002

Crankcase heaters

Code no.

PTC heater 27W, CE mark, UL	120Z0459
Belt type crankcase heater, 65 W, 230 V, CE mark, UL	7773107
Belt type crankcase heater, 65 W, 400 V, CE mark, UL	7773117
Belt type crankcase heater, 65 W, 460 V, CE mark, UL	120Z0466

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.

Electronic soft start kit, MCI 15 C	7705006
Acoustic hood for 2 cylinder compressor	120Z0472
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	2 499	3 543	4 855	6 462	8 389	10 661	13 305	16 347	19 811
35	2 234	3 195	4 412	5 913	7 722	9 865	12 369	15 258	18 559
40	1 995	2 868	3 987	5 377	7 065	9 075	11 434	14 167	17 301
45	1 788	2 570	3 586	4 862	6 423	8 296	10 507	13 080	16 041
50	-	2 306	3 215	4 372	5 804	7 536	9 593	12 002	14 788
55	-	-	2 880	3 915	5 213	6 799	8 700	10 940	13 546
60	-	-	-	3 496	4 656	6 093	7 832	9 900	12 323
65	-	-	-	-	4 140	5 423	6 998	8 889	11 123

Power input in W

30	1 611	1 799	1 969	2 120	2 251	2 362	2 451	2 519	2 564
35	1 655	1 868	2 064	2 242	2 401	2 540	2 659	2 758	2 834
40	1 684	1 924	2 148	2 355	2 544	2 714	2 865	2 996	3 106
45	1 695	1 965	2 219	2 457	2 678	2 881	3 066	3 232	3 378
50	-	1 988	2 275	2 546	2 801	3 039	3 260	3 463	3 647
55	-	-	2 313	2 619	2 911	3 187	3 446	3 688	3 912
60	-	-	-	2 675	3 005	3 320	3 620	3 903	4 170
65	-	-	-	-	3 082	3 438	3 781	4 108	4 418

Current consumption in A

30	4.12	4.29	4.47	4.66	4.83	4.98	5.10	5.19	5.22
35	4.17	4.37	4.57	4.78	4.97	5.15	5.30	5.41	5.48
40	4.21	4.43	4.67	4.90	5.13	5.34	5.52	5.67	5.78
45	4.23	4.48	4.75	5.02	5.29	5.54	5.76	5.96	6.11
50	-	4.50	4.81	5.13	5.44	5.74	6.01	6.26	6.46
55	-	-	4.85	5.21	5.58	5.93	6.26	6.57	6.83
60	-	-	-	5.27	5.69	6.11	6.50	6.87	7.20
65	-	-	-	-	5.78	6.26	6.73	7.17	7.57

Mass flow in kg/h

30	54	76	103	135	173	218	269	326	392
35	51	71	97	129	166	209	259	316	381
40	47	67	91	122	158	200	249	305	369
45	44	63	86	115	150	191	239	293	356
50	-	59	81	108	141	181	228	281	342
55	-	-	76	102	133	172	216	269	328
60	-	-	-	96	126	162	205	256	314
65	-	-	-	-	118	153	194	243	299

Coefficient of performance (C.O.P.)

30	1.55	1.97	2.47	3.05	3.73	4.51	5.43	6.49	7.73
35	1.35	1.71	2.14	2.64	3.22	3.88	4.65	5.53	6.55
40	1.18	1.49	1.86	2.28	2.78	3.34	3.99	4.73	5.57
45	1.05	1.31	1.62	1.98	2.40	2.88	3.43	4.05	4.75
50	-	1.16	1.41	1.72	2.07	2.48	2.94	3.47	4.05
55	-	-	1.25	1.49	1.79	2.13	2.52	2.97	3.46
60	-	-	-	1.31	1.55	1.83	2.16	2.54	2.96
65	-	-	-	-	1.34	1.58	1.85	2.16	2.52

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

Cooling capacity	9 593	W
Power input	3 260	W
Current consumption	6.01	A
Mass flow	228	kg/h
C.O.P.	2.94	

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	77	dB(A)
With acoustic hood	71	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	2 655	3 760	5 148	6 847	8 882	11 280	14 068	17 272	20 919
35	2 382	3 402	4 695	6 286	8 203	10 472	13 120	16 173	19 658
40	2 135	3 066	4 258	5 738	7 532	9 668	12 171	15 069	18 388
45	1 923	2 760	3 847	5 210	6 877	8 875	11 229	13 968	17 116
50	-	2 489	3 466	4 709	6 244	8 099	10 301	12 875	15 850
55	-	-	3 124	4 241	5 640	7 348	9 392	11 798	14 595
60	-	-	-	3 814	5 072	6 628	8 510	10 744	13 359
65	-	-	-	-	4 547	5 947	7 663	9 721	12 149

Power input in W

30	1 611	1 799	1 969	2 120	2 251	2 362	2 451	2 519	2 564
35	1 655	1 868	2 064	2 242	2 401	2 540	2 659	2 758	2 834
40	1 684	1 924	2 148	2 355	2 544	2 714	2 865	2 996	3 106
45	1 695	1 965	2 219	2 457	2 678	2 881	3 066	3 232	3 378
50	-	1 988	2 275	2 546	2 801	3 039	3 260	3 463	3 647
55	-	-	2 313	2 619	2 911	3 187	3 446	3 688	3 912
60	-	-	-	2 675	3 005	3 320	3 620	3 903	4 170
65	-	-	-	-	3 082	3 438	3 781	4 108	4 418

Current consumption in A

30	4.12	4.29	4.47	4.66	4.83	4.98	5.10	5.19	5.22
35	4.17	4.37	4.57	4.78	4.97	5.15	5.30	5.41	5.48
40	4.21	4.43	4.67	4.90	5.13	5.34	5.52	5.67	5.78
45	4.23	4.48	4.75	5.02	5.29	5.54	5.76	5.96	6.11
50	-	4.50	4.81	5.13	5.44	5.74	6.01	6.26	6.46
55	-	-	4.85	5.21	5.58	5.93	6.26	6.57	6.83
60	-	-	-	5.27	5.69	6.11	6.50	6.87	7.20
65	-	-	-	-	5.78	6.26	6.73	7.17	7.57

Mass flow in kg/h

30	54	76	103	135	172	216	267	325	390
35	50	71	97	128	165	208	258	314	379
40	47	66	91	121	157	199	248	303	367
45	44	62	85	114	149	190	237	292	354
50	-	59	80	108	141	180	226	280	340
55	-	-	76	101	133	171	215	267	326
60	-	-	-	95	125	161	204	254	312
65	-	-	-	-	118	152	193	241	297

Coefficient of performance (C.O.P.)

30	1.65	2.09	2.62	3.23	3.95	4.78	5.74	6.86	8.16
35	1.44	1.82	2.27	2.80	3.42	4.12	4.93	5.86	6.94
40	1.27	1.59	1.98	2.44	2.96	3.56	4.25	5.03	5.92
45	1.13	1.40	1.73	2.12	2.57	3.08	3.66	4.32	5.07
50	-	1.25	1.52	1.85	2.23	2.66	3.16	3.72	4.35
55	-	-	1.35	1.62	1.94	2.31	2.73	3.20	3.73
60	-	-	-	1.43	1.69	2.00	2.35	2.75	3.20
65	-	-	-	-	1.48	1.73	2.03	2.37	2.75

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

Cooling capacity	10 521	W
Power input	3 531	W
Current consumption	6.37	A
Mass flow	239	kg/h
C.O.P.	2.98	

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	77	dB(A)
With acoustic hood	71	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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