

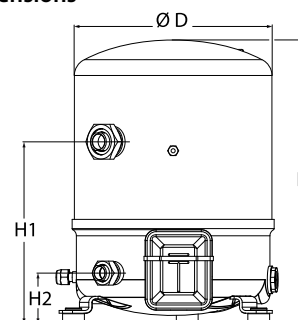
Datasheets

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

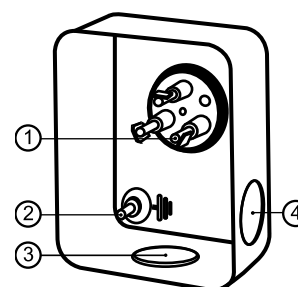


General Characteristics

Model number (on compressor nameplate)		MT56HL4BVE
Code number for Singlepack*		MT56-4VI
Code number for Industrial pack**		MT56-4VM
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	96,13 cm ³ /rev	
Displacement @ Nominal speed	16.7 m ³ /h @ 2900 rpm - 20.2 m ³ /h @ 3500 rpm	
Net weight	39 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

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	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	2.39 Ω
Maximum Continuous Current (MCC)	12 A
Locked Rotor Amps (LRA)	64 A
Motor protection	Internal overload protector

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

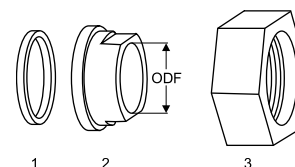
**Industrial pack: 6 Unboxed compressors on pallet (order per multiples of 6)

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.

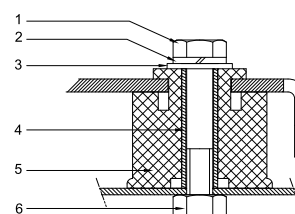
Mineral oil, 160P, 2 litre can	7754001
Mineral oil, 160P, 5 litre can	7754002

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	3 254	4 579	6 238	8 261	10 682	13 530	16 839	20 639	24 962
35	2 967	4 195	5 741	7 638	9 915	12 606	15 742	19 355	23 476
40	2 712	3 837	5 266	7 030	9 160	11 688	14 646	18 066	21 980
45	2 496	3 513	4 819	6 445	8 422	10 782	13 558	16 780	20 480
50	-	3 229	4 407	5 890	7 709	9 897	12 484	15 503	18 985
55	-	-	4 037	5 372	7 028	9 038	11 432	14 243	17 502
60	-	-	-	4 898	6 386	8 213	10 409	13 006	16 037
65	-	-	-	-	5 791	7 429	9 421	11 801	14 598

Power input in W

30	2 019	2 270	2 495	2 695	2 871	3 025	3 158	3 273	3 369
35	2 093	2 376	2 632	2 864	3 073	3 259	3 426	3 573	3 702
40	2 154	2 470	2 761	3 027	3 270	3 492	3 693	3 875	4 040
45	2 199	2 551	2 878	3 181	3 461	3 720	3 959	4 179	4 382
50	-	2 618	2 984	3 326	3 645	3 943	4 222	4 482	4 725
55	-	-	3 076	3 459	3 820	4 160	4 480	4 783	5 068
60	-	-	-	3 579	3 984	4 368	4 733	5 080	5 410
65	-	-	-	-	4 136	4 566	4 978	5 372	5 750

Current consumption in A

30	5.09	5.34	5.59	5.84	6.07	6.26	6.42	6.52	6.56
35	5.20	5.46	5.74	6.01	6.26	6.49	6.69	6.83	6.91
40	5.30	5.59	5.89	6.20	6.49	6.76	7.00	7.19	7.33
45	5.37	5.70	6.04	6.39	6.73	7.05	7.34	7.59	7.79
50	-	5.78	6.17	6.57	6.97	7.35	7.70	8.02	8.29
55	-	-	6.27	6.73	7.19	7.64	8.06	8.46	8.80
60	-	-	-	6.85	7.38	7.91	8.41	8.89	9.33
65	-	-	-	-	7.53	8.14	8.73	9.30	9.84

Mass flow in kg/h

30	71	98	132	173	221	276	340	412	494
35	67	94	127	166	213	267	330	401	482
40	64	89	121	159	204	258	319	389	469
45	62	85	115	152	196	248	308	377	454
50	-	82	111	146	188	238	296	363	440
55	-	-	106	140	180	228	284	350	424
60	-	-	-	134	172	218	273	336	408
65	-	-	-	-	165	209	261	322	392

Coefficient of performance (C.O.P.)

30	1.61	2.02	2.50	3.07	3.72	4.47	5.33	6.31	7.41
35	1.42	1.77	2.18	2.67	3.23	3.87	4.60	5.42	6.34
40	1.26	1.55	1.91	2.32	2.80	3.35	3.97	4.66	5.44
45	1.14	1.38	1.67	2.03	2.43	2.90	3.42	4.02	4.67
50	-	1.23	1.48	1.77	2.11	2.51	2.96	3.46	4.02
55	-	-	1.31	1.55	1.84	2.17	2.55	2.98	3.45
60	-	-	-	1.37	1.60	1.88	2.20	2.56	2.96
65	-	-	-	-	1.40	1.63	1.89	2.20	2.54

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

Cooling capacity	12 484	W
Power input	4 222	W
Current consumption	7.70	A
Mass flow	296	kg/h
C.O.P.	2.96	

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	78	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	3 456	4 859	6 614	8 754	11 310	14 316	17 804	21 808	26 359
35	3 163	4 468	6 109	8 120	10 533	13 381	16 698	20 515	24 866
40	2 903	4 103	5 625	7 502	9 766	12 452	15 591	19 216	23 361
45	2 683	3 773	5 170	6 907	9 017	11 534	14 490	17 919	21 853
50	-	3 486	4 752	6 343	8 294	10 637	13 405	16 631	20 349
55	-	-	4 379	5 819	7 604	9 767	12 342	15 360	18 857
60	-	-	-	5 343	6 956	8 934	11 309	14 115	17 385
65	-	-	-	-	6 360	8 146	10 317	12 905	15 944

Power input in W

30	2 019	2 270	2 495	2 695	2 871	3 025	3 158	3 273	3 369
35	2 093	2 376	2 632	2 864	3 073	3 259	3 426	3 573	3 702
40	2 154	2 470	2 761	3 027	3 270	3 492	3 693	3 875	4 040
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55	-	-	3 076	3 459	3 820	4 160	4 480	4 783	5 068
60	-	-	-	3 579	3 984	4 368	4 733	5 080	5 410
65	-	-	-	-	4 136	4 566	4 978	5 372	5 750

Current consumption in A

30	5.09	5.34	5.59	5.84	6.07	6.26	6.42	6.52	6.56
35	5.20	5.46	5.74	6.01	6.26	6.49	6.69	6.83	6.91
40	5.30	5.59	5.89	6.20	6.49	6.76	7.00	7.19	7.33
45	5.37	5.70	6.04	6.39	6.73	7.05	7.34	7.59	7.79
50	-	5.78	6.17	6.57	6.97	7.35	7.70	8.02	8.29
55	-	-	6.27	6.73	7.19	7.64	8.06	8.46	8.80
60	-	-	-	6.85	7.38	7.91	8.41	8.89	9.33
65	-	-	-	-	7.53	8.14	8.73	9.30	9.84

Mass flow in kg/h

30	70	98	132	172	220	275	338	410	491
35	67	93	126	165	212	266	328	399	479
40	64	89	120	158	203	256	317	387	466
45	61	85	115	151	195	247	306	374	452
50	-	82	110	145	187	237	295	361	437
55	-	-	106	139	179	227	283	348	422
60	-	-	-	133	171	217	271	334	406
65	-	-	-	-	165	208	260	320	390

Coefficient of performance (C.O.P.)

30	1.71	2.14	2.65	3.25	3.94	4.73	5.64	6.66	7.82
35	1.51	1.88	2.32	2.83	3.43	4.11	4.87	5.74	6.72
40	1.35	1.66	2.04	2.48	2.99	3.57	4.22	4.96	5.78
45	1.22	1.48	1.80	2.17	2.61	3.10	3.66	4.29	4.99
50	-	1.33	1.59	1.91	2.28	2.70	3.18	3.71	4.31
55	-	-	1.42	1.68	1.99	2.35	2.75	3.21	3.72
60	-	-	-	1.49	1.75	2.05	2.39	2.78	3.21
65	-	-	-	-	1.54	1.78	2.07	2.40	2.77

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

Cooling capacity	13 750	W
Power input	4 582	W
Current consumption	8.19	A
Mass flow	312	kg/h
C.O.P.	3.00	

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	78	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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