



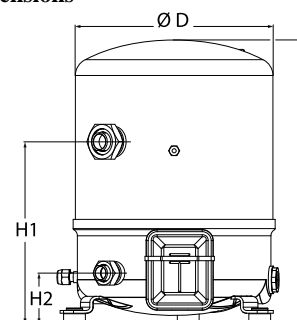
Datasheets

Maneurop[®] Reciprocating compressors MT / MTZ / MPZ / NTZ

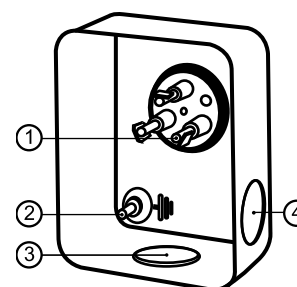


General Characteristics

Model number (on compressor nameplate)		MT80HP4AVE
Code number for Singlepack*		MT80-4V1
Code number for Industrial pack**		MT80-4VM
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		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		2
Swept volume		135,78 cm ³ /rev
Displacement @ Nominal speed		23.6 m ³ /h @ 2900 rpm - 28.5 m ³ /h @ 3500 rpm
Net weight		40 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

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	1.9 #
Maximum Continuous Current (MCC)	18 A
Locked Rotor Amps (LRA)	80 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

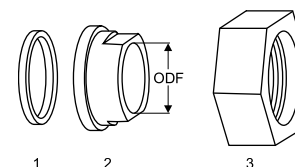
Approvals : CE certified, UL certified (file SA6873), -

*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.

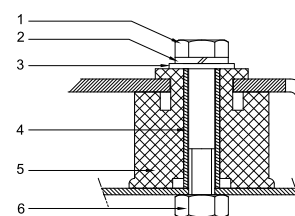
Angle adapter set, C02 (1-3/4"~1-1/8"), C04 (1-1/4"~3/4")	7703014
Valve set, V02 (1-3/4"~1-1/8"), V04 (1-1/4"~3/4")	7703009
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009

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, 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 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	6 636	8 946	11 728	15 041	18 940	23 482	28 727	34 729	41 548
35	6 122	8 345	11 011	14 178	17 903	22 242	27 252	32 992	39 517
40	5 590	7 720	10 266	13 284	16 830	20 961	25 734	31 207	37 436
45	5 040	7 072	9 491	12 352	15 713	19 629	24 157	29 355	35 278
50	-	6 415	8 703	11 404	14 575	18 273	22 553	27 472	33 087
55	-	-	7 901	10 436	13 412	16 884	20 910	25 544	30 845
60	-	-	-	9 451	12 225	15 465	19 228	23 570	28 547
65	-	-	-	-	11 035	14 039	17 536	21 581	26 230

Power input in W

30	3 651	4 088	4 507	4 914	5 312	5 705	6 097	6 492	6 893
35	3 790	4 278	4 745	5 195	5 631	6 059	6 480	6 901	7 324
40	3 899	4 450	4 975	5 479	5 966	6 439	6 902	7 360	7 816
45	3 966	4 591	5 186	5 756	6 303	6 834	7 350	7 856	8 357
50	-	4 688	5 364	6 011	6 632	7 230	7 811	8 378	8 934
55	-	-	5 498	6 233	6 938	7 617	8 273	8 911	9 535
60	-	-	-	6 410	7 210	7 980	8 724	9 445	10 148
65	-	-	-	-	7 436	8 309	9 151	9 966	10 759

Current consumption in A

30	6.88	7.24	7.63	8.05	8.48	8.90	9.30	9.67	9.99
35	7.03	7.45	7.90	8.38	8.88	9.36	9.83	10.26	10.64
40	7.13	7.62	8.15	8.71	9.27	9.83	10.37	10.88	11.34
45	7.18	7.76	8.37	9.01	9.66	10.30	10.93	11.52	12.06
50	-	7.84	8.55	9.29	10.03	10.77	11.49	12.18	12.82
55	-	-	8.70	9.54	10.39	11.23	12.06	12.85	13.60
60	-	-	-	9.75	10.72	11.68	12.62	13.54	14.40
65	-	-	-	-	11.02	12.11	13.18	14.22	15.21

Mass flow in kg/h

30	144	192	249	315	391	479	580	694	822
35	139	186	243	308	384	471	571	684	811
40	132	180	236	301	376	462	560	672	798
45	125	172	227	292	366	451	548	659	783
50	-	164	218	282	355	439	535	644	766
55	-	-	208	271	343	426	520	627	747
60	-	-	-	259	330	411	504	609	727
65	-	-	-	-	315	395	486	589	705

Coefficient of performance (C.O.P.)

30	1.82	2.19	2.60	3.06	3.57	4.12	4.71	5.35	6.03
35	1.62	1.95	2.32	2.73	3.18	3.67	4.21	4.78	5.40
40	1.43	1.73	2.06	2.42	2.82	3.26	3.73	4.24	4.79
45	1.27	1.54	1.83	2.15	2.49	2.87	3.29	3.74	4.22
50	-	1.37	1.62	1.90	2.20	2.53	2.89	3.28	3.70
55	-	-	1.44	1.67	1.93	2.22	2.53	2.87	3.23
60	-	-	-	1.47	1.70	1.94	2.20	2.50	2.81
65	-	-	-	-	1.48	1.69	1.92	2.17	2.44

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

Cooling capacity	22 553	W
Power input	7 811	W
Current consumption	11.49	A
Mass flow	535	kg/h
C.O.P.	2.89	

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	0	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

All performance data +/- 5%

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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

Cooling capacity in W

30	7 047	9 492	12 434	15 934	20 049	24 841	30 368	36 690	43 866
35	6 525	8 886	11 715	15 072	19 016	23 607	28 904	34 967	41 855
40	5 980	8 252	10 962	14 172	17 939	22 324	27 386	33 184	39 778
45	5 419	7 596	10 183	13 239	16 824	20 998	25 819	31 348	37 643
50	-	6 924	9 382	12 280	15 678	19 635	24 211	29 464	35 456
55	-	-	8 567	11 301	14 507	18 242	22 567	27 540	33 222
60	-	-	-	10 310	13 317	16 825	20 893	25 582	30 949
65	-	-	-	-	12 115	15 391	19 198	23 595	28 643

Power input in W

30	3 651	4 088	4 507	4 914	5 312	5 705	6 097	6 492	6 893
35	3 790	4 278	4 745	5 195	5 631	6 059	6 480	6 901	7 324
40	3 899	4 450	4 975	5 479	5 966	6 439	6 902	7 360	7 816
45	3 966	4 591	5 186	5 756	6 303	6 834	7 350	7 856	8 357
50	-	4 688	5 364	6 011	6 632	7 230	7 811	8 378	8 934
55	-	-	5 498	6 233	6 938	7 617	8 273	8 911	9 535
60	-	-	-	6 410	7 210	7 980	8 724	9 445	10 148
65	-	-	-	-	7 436	8 309	9 151	9 966	10 759

Current consumption in A

30	6.88	7.24	7.63	8.05	8.48	8.90	9.30	9.67	9.99
35	7.03	7.45	7.90	8.38	8.88	9.36	9.83	10.26	10.64
40	7.13	7.62	8.15	8.71	9.27	9.83	10.37	10.88	11.34
45	7.18	7.76	8.37	9.01	9.66	10.30	10.93	11.52	12.06
50	-	7.84	8.55	9.29	10.03	10.77	11.49	12.18	12.82
55	-	-	8.70	9.54	10.39	11.23	12.06	12.85	13.60
60	-	-	-	9.75	10.72	11.68	12.62	13.54	14.40
65	-	-	-	-	11.02	12.11	13.18	14.22	15.21

Mass flow in kg/h

30	144	191	248	313	389	477	577	690	818
35	138	185	241	307	382	469	568	680	806
40	131	179	234	299	374	460	557	668	793
45	124	171	226	290	364	449	545	655	778
50	-	163	217	280	353	437	532	640	761
55	-	-	207	270	341	424	517	623	743
60	-	-	-	258	328	409	501	605	723
65	-	-	-	-	314	393	483	586	701

Coefficient of performance (C.O.P.)

30	1.93	2.32	2.76	3.24	3.77	4.35	4.98	5.65	6.36
35	1.72	2.08	2.47	2.90	3.38	3.90	4.46	5.07	5.71
40	1.53	1.85	2.20	2.59	3.01	3.47	3.97	4.51	5.09
45	1.37	1.65	1.96	2.30	2.67	3.07	3.51	3.99	4.50
50	-	1.48	1.75	2.04	2.36	2.72	3.10	3.52	3.97
55	-	-	1.56	1.81	2.09	2.39	2.73	3.09	3.48
60	-	-	-	1.61	1.85	2.11	2.39	2.71	3.05
65	-	-	-	-	1.63	1.85	2.10	2.37	2.66

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

Cooling capacity	24 885	W
Power input	8 497	W
Current consumption	12.34	A
Mass flow	564	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	0	dB(A)
With acoustic hood	0	dB(A)

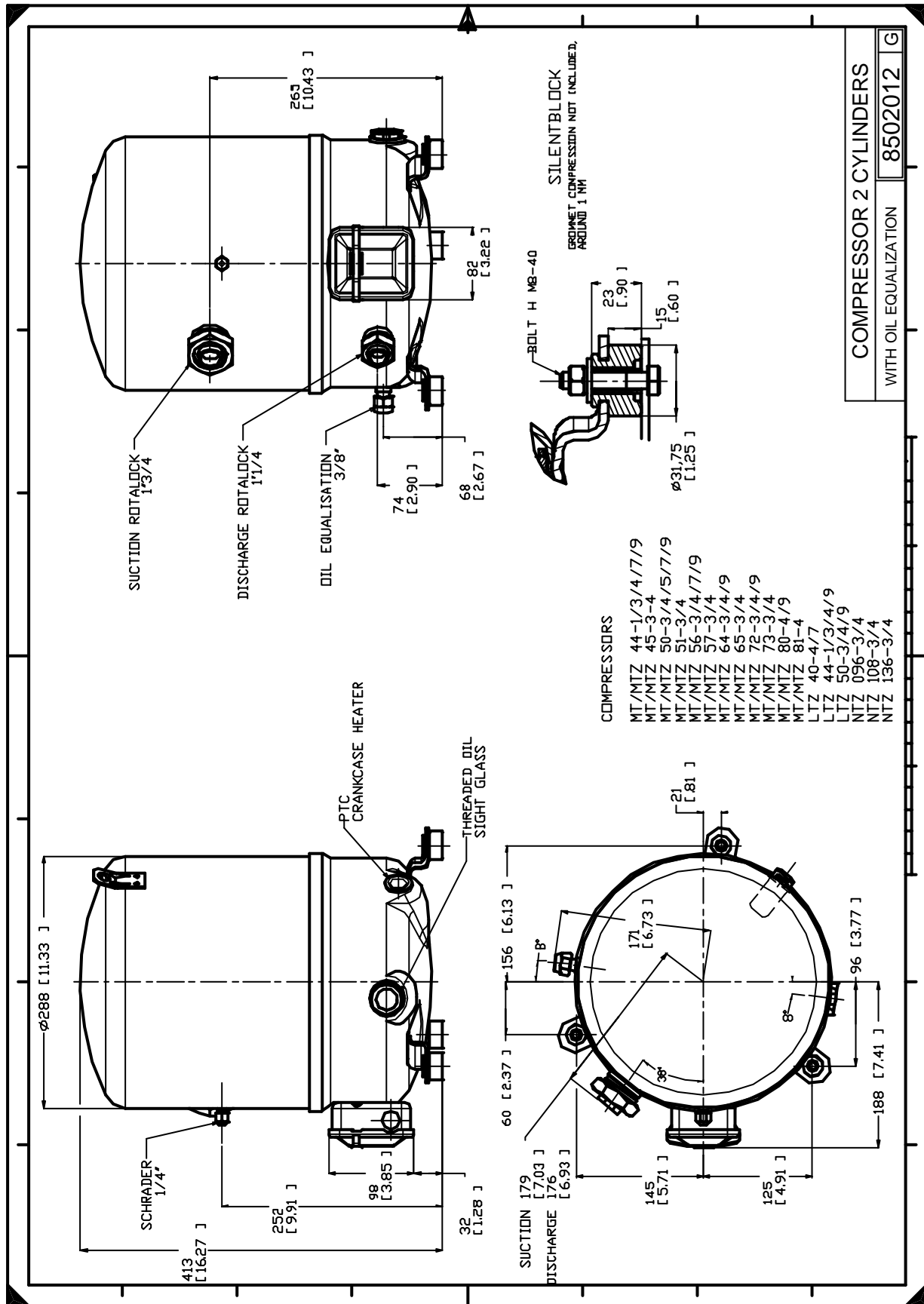
to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

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