

# Model: MT81

## Data

---

**Type: Hermetic piston compressors**

**Producer: Maneurop**

**Series: MT**

## Model: MT81

### Technical data

Cylinder count:	2
Displacement [m <sup>3</sup> /h]:	23,63
Cylinder capacity [cm <sup>3</sup> ]:	135,8
RPM [min <sup>-1</sup> ]:	2900
Weight [kg]:	41
Oil charge [dm <sup>3</sup> ]:	2
Oil type:	160P
Crankcase heater type:	PTC 35 W
Maximum system test pressure low side / high side:	25 / 30
Maximum number of starts without softstart [1/h]:	12
Refrigerant charge limit [dm <sup>3</sup> ]:	5
Refrigerant:	R22
Sound power [dB]:	79
Sound power with accoustic hood [dB]:	73

### Connections

	<u>milimeters</u>	<u>inches</u>
Suction Rotolock valve connection:		1 3/4"
Discharge Rotolock valve connection:		1 1/4"
Suction connection with supplied sleeve:		1 1/8"
Discharge connection with supplied sleeve:		3/4"

### Approvals

CCC	+
CE	+
UL	+

# Model: MT81

## Capacity

R22

### Cooling capacity [W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	5 461	7 514	9 952	12 815	16 146	19 986	24 378	29 362	34 980
35	4 962	6 943	9 284	12 026	15 211	18 880	23 075	27 839	33 212
40	4 451	6 353	8 590	11 204	14 235	17 727	21 720	26 256	31 377
45	3 936	5 753	7 880	10 358	13 230	16 537	20 320	24 622	29 484
50	-	5 151	7 161	9 498	12 203	15 319	18 886	22 947	27 544
55	-	-	6 444	8 632	11 164	14 082	17 426	21 240	25 564
60	-	-	-	7 771	10 123	12 836	15 951	19 510	23 555
65	-	-	-	-	9 088	11 589	14 468	17 766	21 525

### Power input [W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	3 102	3 486	3 833	4 148	4 434	4 693	4 931	5 149	5 351
35	3 198	3 635	4 032	4 392	4 718	5 014	5 284	5 531	5 757
40	3 276	3 775	4 230	4 644	5 020	5 362	5 674	5 958	6 218
45	3 320	3 891	4 414	4 891	5 327	5 724	6 087	6 418	6 721
50	-	3 972	4 571	5 121	5 626	6 087	6 510	6 897	7 252
55	-	-	4 688	5 321	5 903	6 438	6 931	7 383	7 799
60	-	-	-	5 476	6 146	6 764	7 336	7 863	8 350
65	-	-	-	-	6 342	7 052	7 712	8 323	8 890

### Current [A]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	7.44	7.83	8.22	8.60	8.96	9.29	9.57	9.78	9.93
35	7.56	8.01	8.46	8.90	9.32	9.69	10.02	10.28	10.46
40	7.65	8.18	8.70	9.21	9.70	10.14	10.53	10.85	11.09
45	7.68	8.31	8.92	9.52	10.09	10.62	11.09	11.49	11.81
50	-	8.38	9.10	9.81	10.49	11.11	11.68	12.18	12.58
55	-	-	9.23	10.06	10.86	11.60	12.29	12.89	13.41
60	-	-	-	10.26	11.19	12.07	12.89	13.62	14.27
65	-	-	-	-	11.47	12.50	13.47	14.35	15.14

# Model: MT81

## Capacity

### Mass flow [kg/s]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	118.84	161.55	211.09	268.19	333.56	407.94	492.06	586.63	692.38
35	112.26	155.10	204.57	261.42	326.35	400.10	483.39	576.95	681.51
40	105.07	147.87	197.11	253.53	317.85	390.80	473.11	565.49	668.68
45	97.38	139.96	188.80	244.63	308.18	380.16	461.31	552.35	654.00
50	-	131.48	179.75	234.83	297.43	368.27	448.10	537.62	637.57
55	-	-	170.07	224.22	285.70	355.24	433.57	521.41	619.49
60	-	-	-	212.90	273.10	341.17	417.84	503.83	599.87
65	-	-	-	-	259.73	326.16	401.00	484.97	578.81

### C.O.P. [W/W]

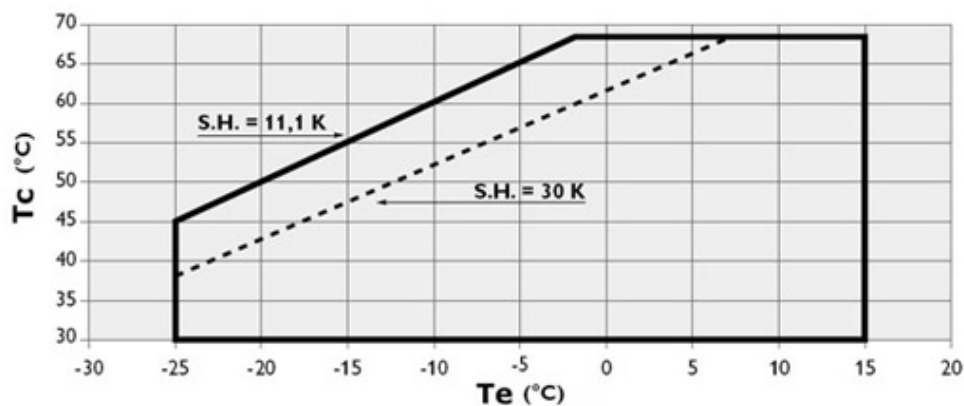
$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	1.76	2.16	2.60	3.09	3.64	4.26	4.94	5.70	6.54
35	1.55	1.91	2.30	2.74	3.22	3.77	4.37	5.03	5.77
40	1.36	1.68	2.03	2.41	2.84	3.31	3.83	4.41	5.05
45	1.19	1.48	1.79	2.12	2.48	2.89	3.34	3.84	4.39
50	-	1.30	1.57	1.85	2.17	2.52	2.90	3.33	3.80
55	-	-	1.37	1.62	1.89	2.19	2.51	2.88	3.28
60	-	-	-	1.42	1.65	1.90	2.17	2.48	2.82
65	-	-	-	-	1.43	1.64	1.88	2.13	2.42

Operating conditions: suction superheat: 10 K, subcooling: 0 K

$t_c$  - Condensing temperature [°C]

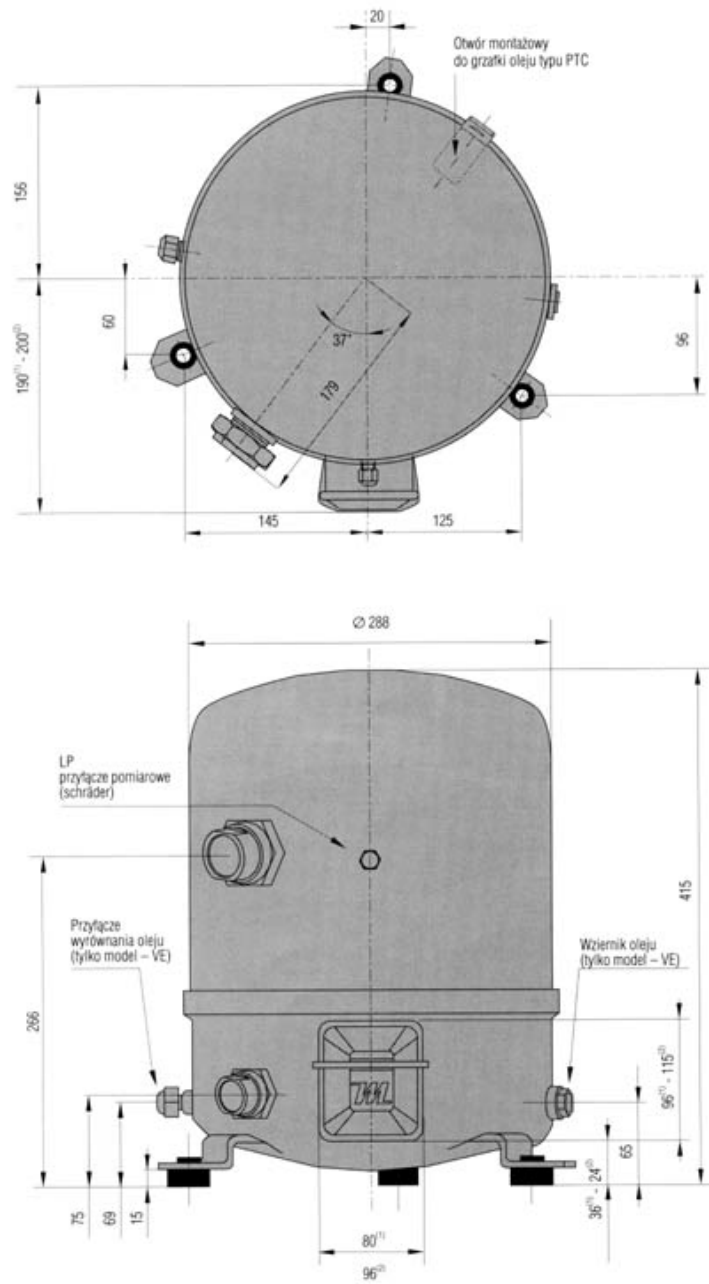
$t_e$  - Evaporating temperature [°C]

### Application range



# Model: MT81

## Dimensions



# Model: MT81

Image

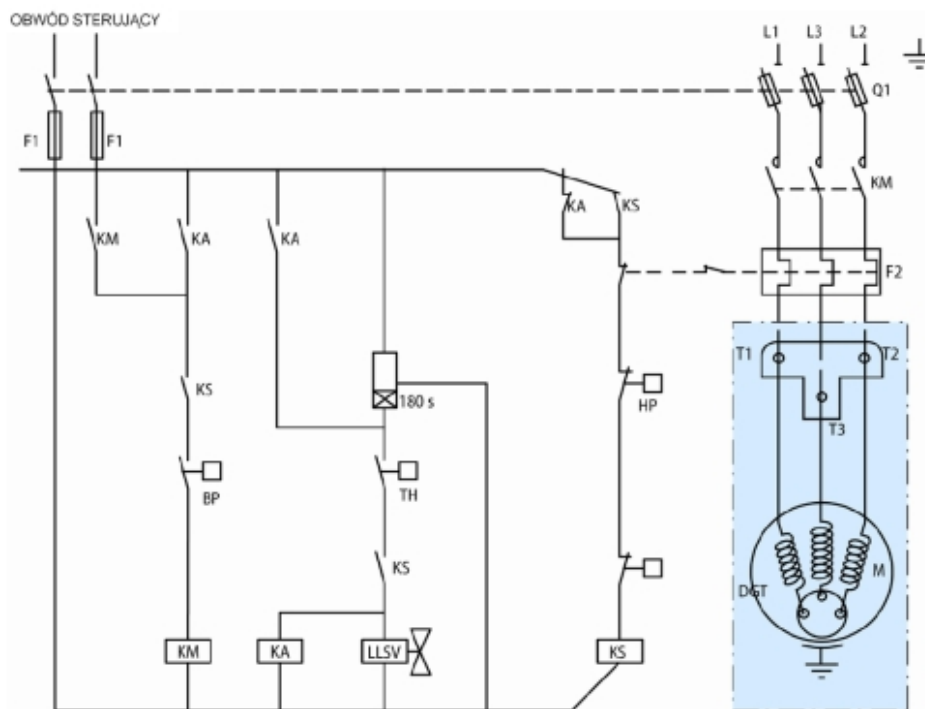


## Three-phase power supply

### Electrical data

Motor voltage code:	3	4	6	7	9
Starting current [A]:	140	80			
Maximum Continuous Current (MCC) [A]:	36	19			
Winding resistance (between phases) [ $\Omega$ ]:	0,48	1,9			

### Connection diagram for systems without refrigerant suction



TH: Thermostat

180 s: Optional short cycle timer (3min) 5 pts

KA: Control relay

LLSV: Liquid Solenoid valve

KM: Compressor contactor

KS: Safety lock out relay

BP: Low pressure switch

HP: High pressure switch

Q1: Fused disconnect

F1: Fuses

F2: External overload protection

M: Compressor's engine

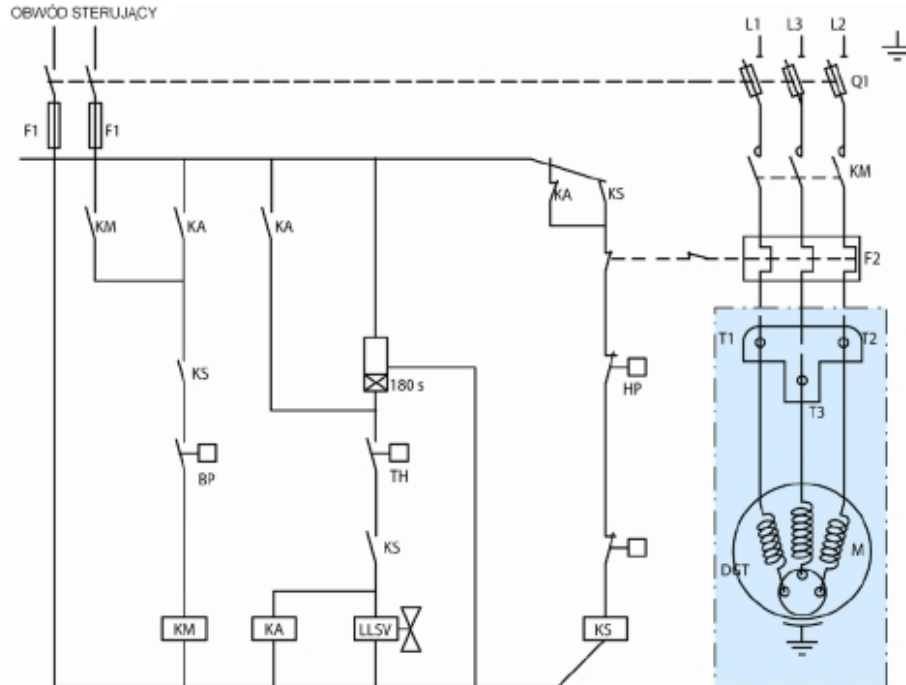
thM: Motor safety thermostat

# Model: MT81

## Electrical

DGT: Discharge gas thermostat

### Connection diagram for systems with refrigerant suction



TH: Thermostat

180 s: Optional short cycle timer (3min) 5 pts

KA: Control relay

LLSV: Liquid Solenoid valve

KM: Compressor contactor

KS: Safety lock out relay

BP: Low pressure switch

HP: High pressure switch

Q1: Fused disconnect

F1: Fuses

F2: External overload protection

M: Compressor's engine

thM: Motor safety thermostat

DGT: Discharge gas thermostat

### **Equipment**

- ▶ crankcase heater - PTC 35 W
- ▶ belt type heater - crankcase heater 65W, 230V
- ▶ Rotolock valves
  - suction: Rotolock valve connection 1 3/4", connection with supplied sleeve 1 1/8"
  - discharge: Rotolock valve connection 1 1/4", connection with supplied sleeve 3/4"
- ▶ soft-start kit - electronic softstart MCI 15C
- ▶ acoustic hood - acoustic shield of Danfoss catalogue number 7755002