

Type: Hermetic piston compressors

Producer: Maneurop

Series: MT

Model: MT51

Technical data

Cylinder count:	2
Displacement [m ³ /h]:	14,9
Cylinder capacity [cm ³]:	85,6
RPM [min ⁻¹]:	2900
Weight [kg]:	37
Oil charge [dm ³]:	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 ³]:	5
Refrigerant:	R22
Sound power [dB]:	83
Sound power with acoustic hood [dB]:	76

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:		7/8"
Discharge connection with supplied sleeve:		3/4"

Approvals

CCC	+
CE	+
UL	+

R22
Cooling capacity [W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	2 978	4 246	5 785	7 619	9 777	12 284	15 167	18 453	22 170
35	2 649	3 850	5 306	7 042	9 085	11 462	14 199	17 324	20 863
40	2 327	3 456	4 824	6 457	8 381	10 623	13 210	16 168	19 525
45	2 018	3 071	4 347	5 871	7 672	9 774	12 206	14 994	18 164
50	-	2 702	3 881	5 293	6 965	8 924	11 196	13 808	16 787
55	-	-	3 435	4 730	6 269	8 079	10 187	12 619	15 402
60	-	-	-	4 188	5 590	7 247	9 185	11 433	14 015
65	-	-	-	-	4 935	6 434	8 199	10 257	12 635

Power input [W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	1 873	2 115	2 319	2 489	2 629	2 744	2 838	2 915	2 981
35	1 920	2 204	2 446	2 652	2 825	2 970	3 091	3 192	3 279
40	1 940	2 272	2 558	2 805	3 016	3 196	3 349	3 480	3 593
45	1 930	2 313	2 649	2 943	3 197	3 417	3 608	3 773	3 918
50	-	2 323	2 714	3 059	3 362	3 628	3 861	4 066	4 247
55	-	-	2 747	3 148	3 506	3 823	4 104	4 354	4 577
60	-	-	-	3 206	3 622	3 995	4 330	4 630	4 900
65	-	-	-	-	3 706	4 141	4 534	4 889	5 212

Current [A]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	4.29	4.53	4.76	4.99	5.19	5.37	5.52	5.64	5.73
35	4.37	4.65	4.92	5.17	5.40	5.60	5.77	5.91	6.00
40	4.41	4.74	5.06	5.36	5.63	5.87	6.07	6.23	6.35
45	4.39	4.79	5.18	5.53	5.86	6.15	6.40	6.60	6.76
50	-	4.79	5.25	5.68	6.08	6.43	6.74	7.00	7.21
55	-	-	5.26	5.78	6.26	6.70	7.09	7.42	7.70
60	-	-	-	5.83	6.41	6.94	7.42	7.84	8.20
65	-	-	-	-	6.50	7.14	7.73	8.25	8.70

Mass flow [kg/s]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	64.81	91.32	122.72	159.44	201.95	250.69	306.10	368.62	438.71
35	59.92	86.02	116.91	153.06	194.91	242.89	297.46	359.06	428.14
40	54.92	80.45	110.69	146.10	187.12	234.19	287.76	348.28	416.19
45	49.93	74.73	104.16	138.67	178.70	224.70	277.11	336.39	402.98
50	-	68.98	97.43	130.88	169.76	214.53	265.63	323.51	388.60
55	-	-	90.62	122.85	160.43	203.81	253.43	309.74	373.19
60	-	-	-	114.70	150.81	192.64	240.62	295.21	356.85
65	-	-	-	-	141.02	181.13	227.32	280.03	339.70

C.O.P. [W/W]

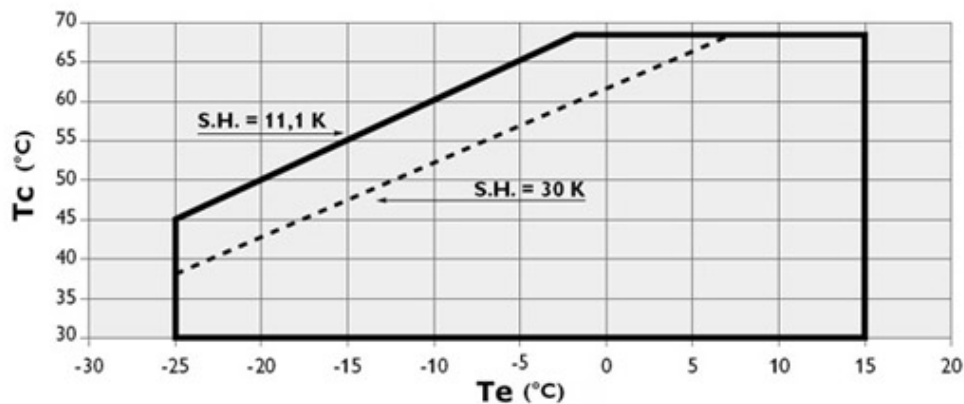
$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	1.59	2.01	2.49	3.06	3.72	4.48	5.34	6.33	7.44
35	1.38	1.75	2.17	2.66	3.22	3.86	4.59	5.43	6.36
40	1.20	1.52	1.89	2.30	2.78	3.32	3.94	4.65	5.43
45	1.05	1.33	1.64	2.00	2.40	2.86	3.38	3.97	4.64
50	-	1.16	1.43	1.73	2.07	2.46	2.90	3.40	3.95
55	-	-	1.25	1.50	1.79	2.11	2.48	2.90	3.37
60	-	-	-	1.31	1.54	1.81	2.12	2.47	2.86
65	-	-	-	-	1.33	1.55	1.81	2.10	2.42

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

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Application range



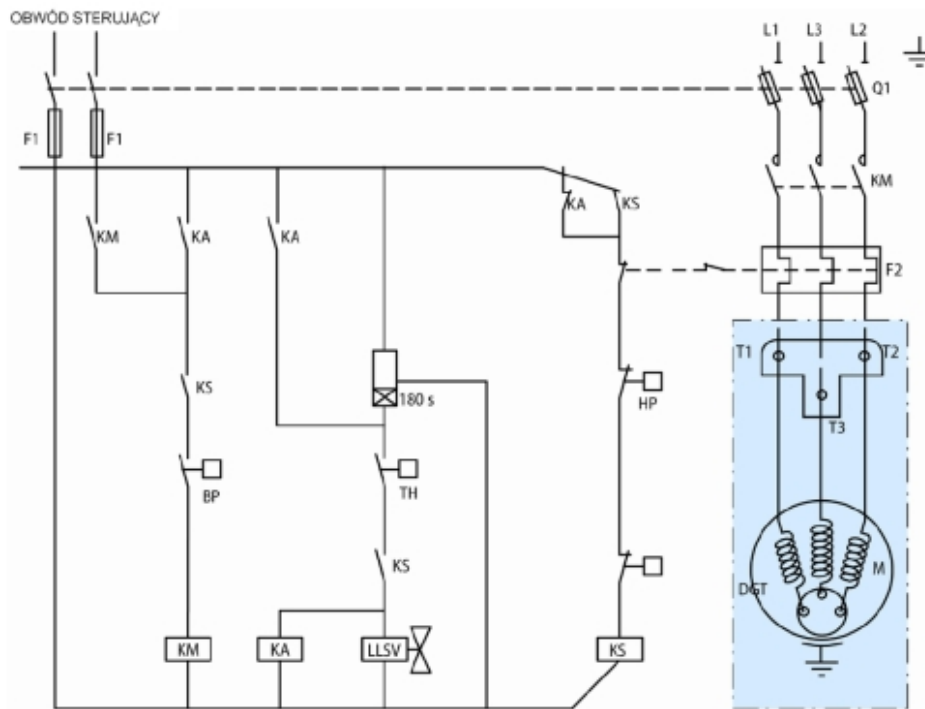


Three-phase power supply

Electrical data

Motor voltage code:	3	4	6	7	9
Starting current [A]:	120	48,5			
Maximum Continuous Current (MCC) [A]:	22	11,5			
Winding resistance (between phases) [Ω]:	0,69	3,32			

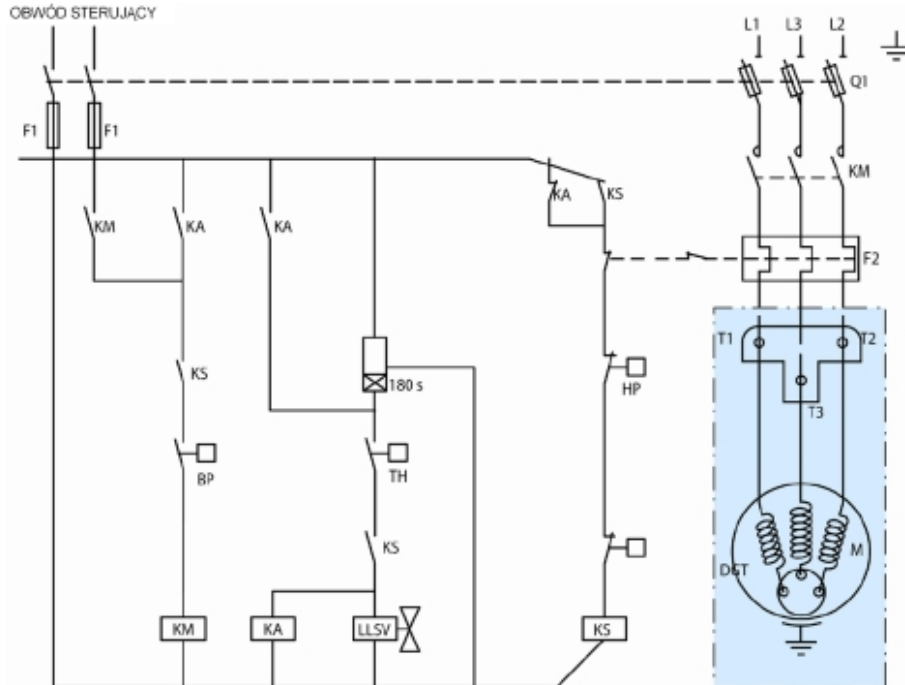
Connection diagram for systems without refrigerant suction



- TH: Termostat
- 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

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
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- F1: Fuses
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- M: Compressor's engine
- thM: Motor safety thermostat
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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 7/8"
 - 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