

Type: Hermetic piston compressors

Producer: Maneurop

Series: MT

Model: MT18

Technical data

Cylinder count:	1
Displacement [m ³ /h]:	5,26
Cylinder capacity [cm ³]:	30,2
RPM [min ⁻¹]:	2900
Weight [kg]:	21
Oil charge [dm ³]:	1
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]:	3
Refrigerant:	R22
Sound power [dB]:	73
Sound power with accoustic hood [dB]:	65

Connections

	<u>milimeters</u>	<u>inches</u>
Suction Rotolock valve connection:		1"
Discharge Rotolock valve connection:		1"
Suction connection with supplied sleeve:		1/2"
Discharge connection with supplied sleeve:		3/8"

Approvals

CCC	+
CE	+
UL	-

R22

Cooling capacity [W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	849	1 240	1 738	2 359	3 121	4 041	5 137	6 425	7 924
35	746	1 117	1 589	2 178	2 901	3 777	4 822	6 053	7 488
40	653	1 001	1 442	1 995	2 676	3 503	4 493	5 663	7 030
45	572	892	1 299	1 812	2 446	3 220	4 151	5 255	6 551
50	-	791	1 160	1 628	2 212	2 929	3 796	4 831	6 052
55	-	-	1 027	1 446	1 975	2 631	3 431	4 392	5 532
60	-	-	-	1 266	1 736	2 326	3 055	3 939	4 995
65	-	-	-	-	1 496	2 017	2 670	3 472	4 440

Power input [W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	587	691	789	876	950	1 005	1 037	1 043	1 018
35	610	719	823	918	1 000	1 066	1 111	1 130	1 120
40	629	743	855	959	1 051	1 128	1 186	1 220	1 226
45	644	765	884	997	1 101	1 191	1 262	1 312	1 334
50	-	782	910	1 034	1 150	1 253	1 340	1 406	1 446
55	-	-	933	1 069	1 197	1 315	1 418	1 501	1 561
60	-	-	-	1 100	1 243	1 376	1 495	1 597	1 677
65	-	-	-	-	1 285	1 435	1 573	1 694	1 795

Current [A]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	1.97	2.03	2.10	2.17	2.23	2.28	2.31	2.31	2.28
35	1.98	2.05	2.13	2.20	2.27	2.33	2.37	2.39	2.38
40	2.00	2.07	2.15	2.24	2.32	2.39	2.45	2.49	2.50
45	2.01	2.09	2.18	2.27	2.36	2.45	2.53	2.58	2.62
50	-	2.10	2.20	2.31	2.41	2.52	2.61	2.69	2.74
55	-	-	2.22	2.34	2.46	2.59	2.70	2.80	2.88
60	-	-	-	2.37	2.51	2.65	2.79	2.92	3.02
65	-	-	-	-	2.56	2.72	2.88	3.04	3.17

Mass flow [kg/s]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	17.48	25.31	34.94	46.67	60.80	77.66	97.53	120.74	147.59
35	15.71	23.42	32.91	44.49	58.46	75.14	94.82	117.82	144.45
40	14.24	21.70	30.92	42.21	55.89	72.26	91.62	114.28	140.55
45	13.04	20.11	28.94	39.82	53.07	69.00	87.90	110.10	135.89
50	-	18.66	26.95	37.29	49.99	65.34	83.66	105.25	130.43
55	-	-	24.95	34.61	46.62	61.27	78.87	99.74	124.17
60	-	-	-	31.77	42.95	56.77	73.53	93.53	117.09
65	-	-	-	-	38.97	51.83	67.61	86.62	109.17

C.O.P. [W/W]

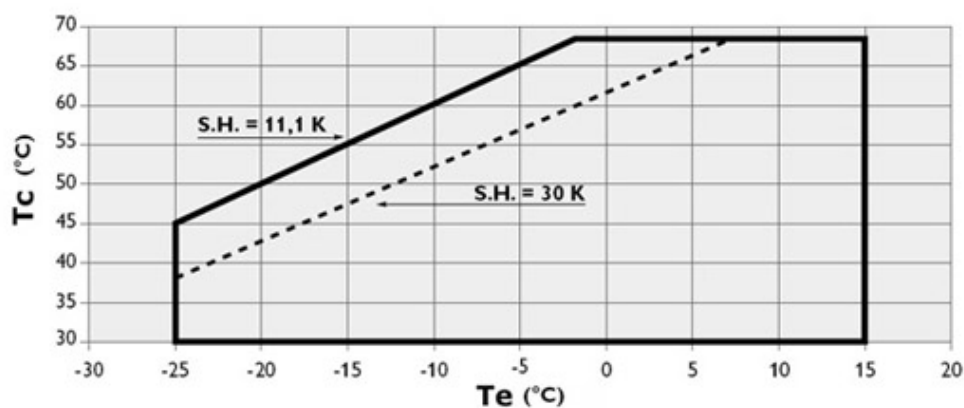
$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
30	1.45	1.80	2.20	2.69	3.29	4.02	4.95	6.16	7.78
35	1.22	1.55	1.93	2.37	2.90	3.54	4.34	5.36	6.69
40	1.04	1.35	1.69	2.08	2.55	3.11	3.79	4.64	5.74
45	0.89	1.17	1.47	1.82	2.22	2.70	3.29	4.01	4.91
50	-	1.01	1.27	1.57	1.92	2.34	2.83	3.44	4.18
55	-	-	1.10	1.35	1.65	2.00	2.42	2.93	3.54
60	-	-	-	1.15	1.40	1.69	2.04	2.47	2.98
65	-	-	-	-	1.16	1.41	1.70	2.05	2.47

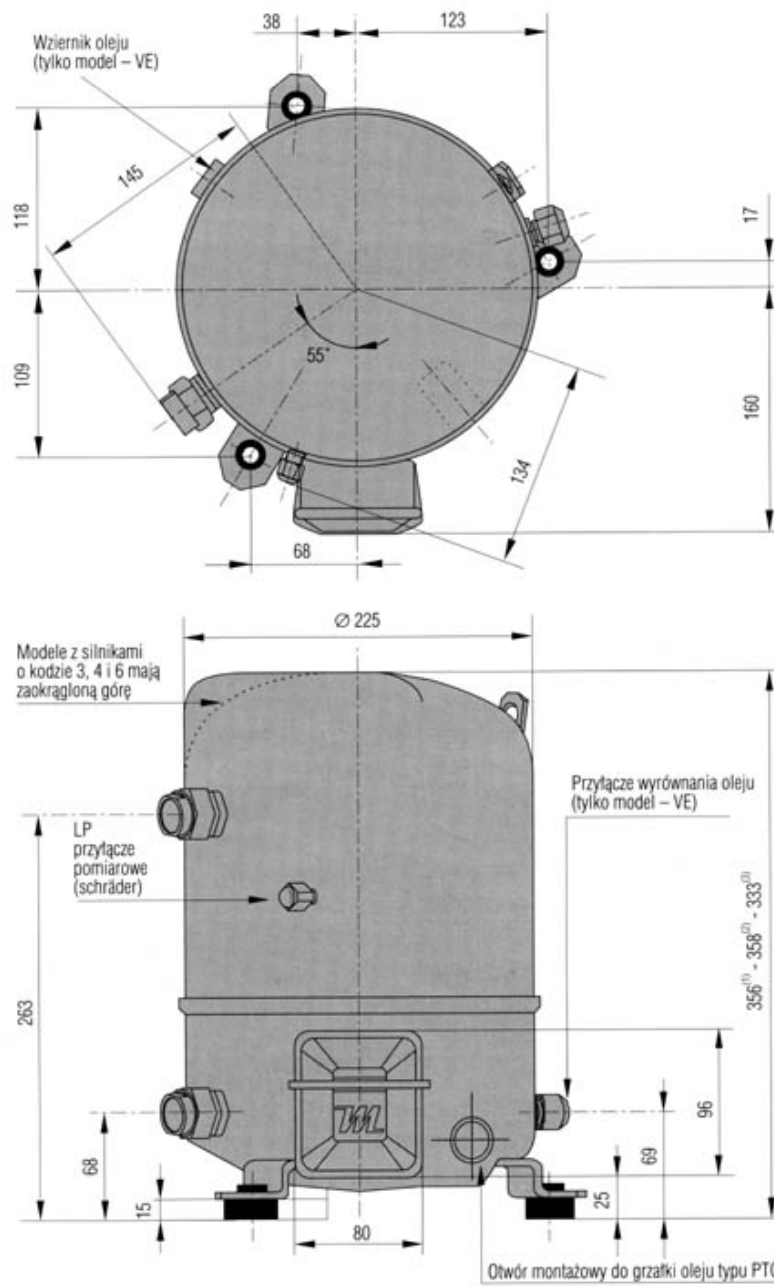
Operating conditions: suction superheat: 11.1 K, subcooling: 8.3 K

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Application range





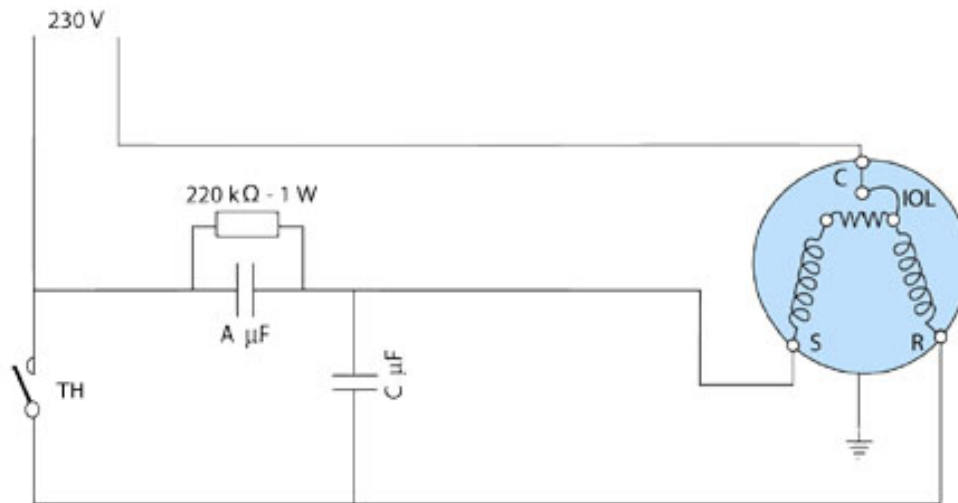


Single phase power supply

Electrical data

Motor voltage code:	1	5
Starting current [A]:	51	40
Maximum Continuous Current (MCC) [A]:	13	10
Winding resistance (between phases) (run/start) [Ω]:	1,36/4,82	1,8/4,7
Main condenser (A) (PSC/CSR) [μF]:		20
Main condenser (C) (PSC/CSR) [μF]:		10
Starting condenser (B) (CSR) [μF]:		100
Starting relay (CSR):		3ARR3J4A4

PSC starting with additional winding



IOL: inner motor protection (klixon)

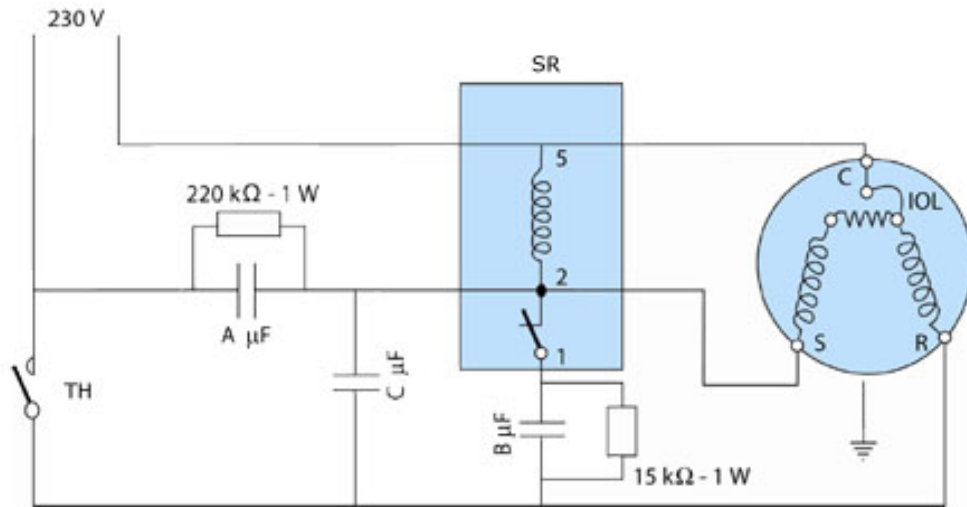
A, C: main condensers

C: starting condenser / S: common

TH: thermostat

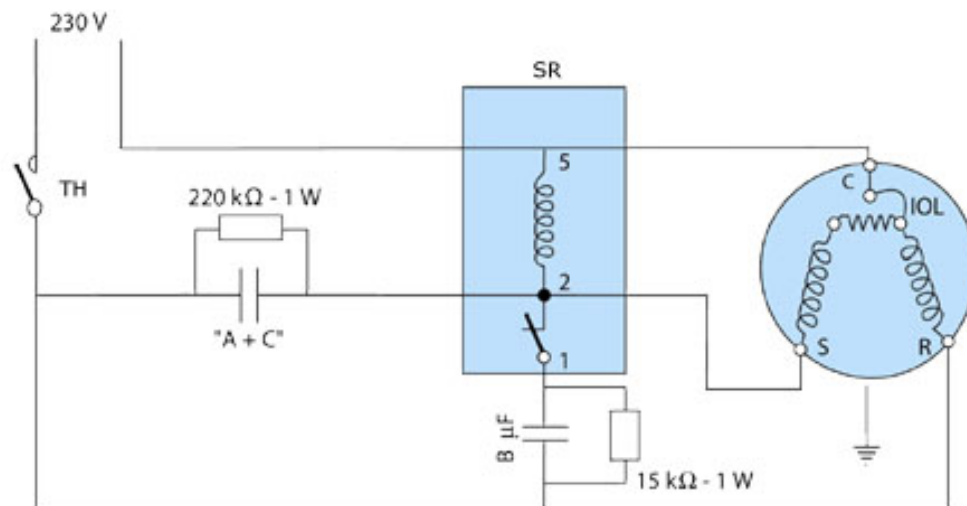
SR: movement transmitter

CSR starting with additional winding



- IOL: inner motor protection (klixon)
- A, C: main condensers
- B: starting condenser
- C: common / S: additional starting winding
- TH: thermostat
- SR: movement transmitter

CSR starting without additional winding



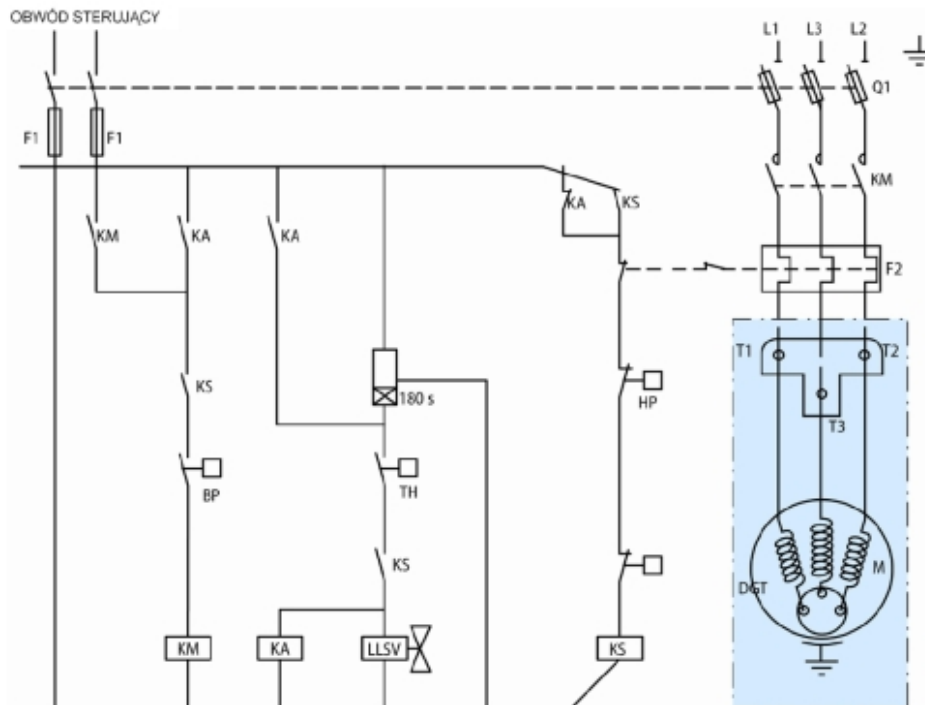
- IOL: inner motor protection (klixon)
- A, C: main condensers
- B: starting condenser
- C: common / S: additional starting winding
- TH: thermostat
- SR: movement transmitter
- condensers A and C are replaced by one condenser of capacity A + C

Three-phase power supply

Electrical data

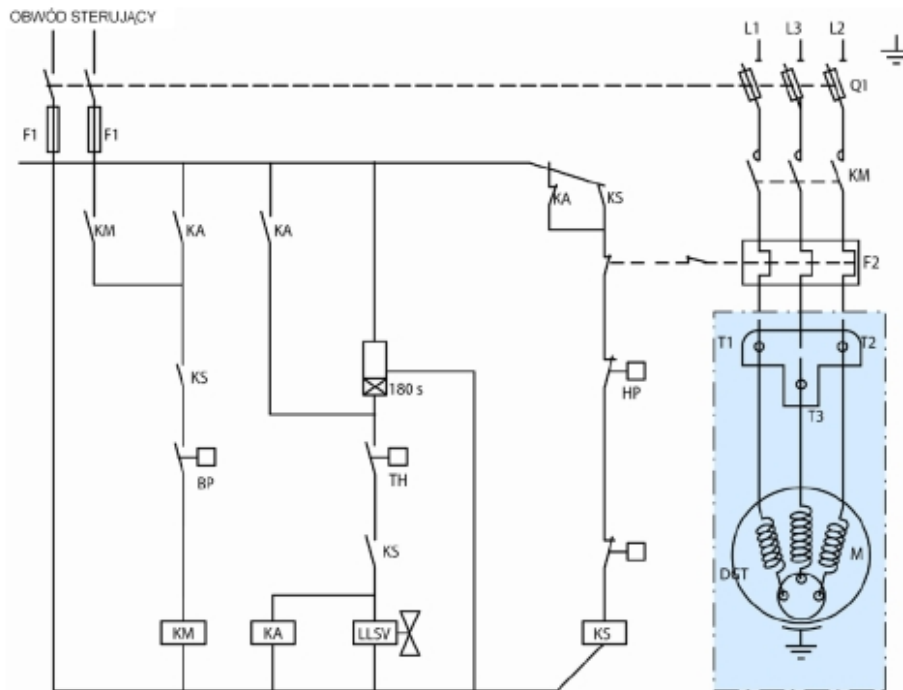
Motor voltage code:	3	4	6	7	9
Starting current [A]:	38	20	30		
Maximum Continuous Current (MCC) [A]:	9	5	30		
Winding resistance (between phases) [Ω]:	2,49	10,24	3,38		

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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- M: Compressor's engine
- thM: Motor safety thermostat
- DGT: Discharge gas thermostat

Equipment

- ▶ crankcase heater - PTC 35 W
- ▶ belt type heater - crankcase heater 55W, 230V
- ▶ Rotolock valves
 - suction: Rotolock valve connection 1", connection with supplied sleeve 1/2"
 - discharge: Rotolock valve connection 1", connection with supplied sleeve 3/8"
- ▶ soft-start kit - electronic softstart MCI 15C
- ▶ accoustic hood - acoustic shield of Danfoss catalogue number 7755001