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**GACO SARL**

28, Rue Bencharif Madani

25000 BELLEVUE/CONSTANTINE - ALGERIE

Tel. : 031 92 54 56 / 031 93 22 23 - Fax : 031 92 13 45

Email : gacosarl@gmail.com / benkobbi\_fares@yahoo.fr

**Type: Hermetic piston compressors****Producer: Danfoss-Maneurop****Series: MTZ****Model: MTZ125****Technical data**

Cylinder count:	4
Displacement [m <sup>3</sup> /h]:	37,49
Cylinder capacity [cm <sup>3</sup> ]:	215,4
RPM [min <sup>-1</sup> ]:	2900
Weight [kg]:	64
Oil charge [dm <sup>3</sup> ]:	4
Oil type:	160PZ
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> ]:	10
Refrigerant:	R134a, 404A/R507, R407C
Sound power [dB]:	84
Sound power with accoustic hood [dB]:	78

**Connections**

	<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	+

## R134a

**Cooling capacity [W]**

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15	20
<b>35</b>	8 156	10 996	14 435	18 547	23 406	29 087	35 664	43 213
<b>40</b>	7 267	9 980	13 261	17 184	21 823	27 254	33 550	40 787
<b>45</b>	6 431	8 997	12 100	15 814	20 214	25 374	31 369	38 273
<b>50</b>	5 654	8 053	10 958	14 443	18 584	23 453	29 127	35 679
<b>55</b>	4 941	7 152	9 839	13 076	16 936	21 495	26 827	33 007
<b>60</b>	-	6 300	8 749	11 717	15 277	19 506	24 476	30 263
<b>65</b>	-	-	-	10 371	13 612	17 490	22 079	27 453
<b>70</b>	-	-	-	-	-	15 452	19 640	24 582
<b>75</b>	-	-	-	-	-	-	17 164	21 654

**Power input [W]**

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15	20
<b>35</b>	3 493	3 954	4 366	4 712	4 970	5 121	5 146	5 023
<b>40</b>	3 581	4 082	4 545	4 950	5 278	5 509	5 622	5 599
<b>45</b>	3 626	4 174	4 693	5 164	5 568	5 885	6 094	6 177
<b>50</b>	3 627	4 227	4 809	5 353	5 840	6 249	6 560	6 754
<b>55</b>	3 580	4 240	4 891	5 515	6 090	6 598	7 017	7 330
<b>60</b>	-	4 211	4 938	5 647	6 317	6 930	7 465	7 902
<b>65</b>	-	-	-	5 747	6 520	7 244	7 900	8 468
<b>70</b>	-	-	-	-	-	7 538	8 321	9 027
<b>75</b>	-	-	-	-	-	-	8 727	9 576

**Current [A]**

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15	20
<b>35</b>	7.66	8.13	8.55	8.91	9.20	9.39	9.47	9.41
<b>40</b>	7.74	8.25	8.74	9.18	9.55	9.84	10.03	10.10
<b>45</b>	7.77	8.35	8.90	9.43	9.90	10.30	10.61	10.82
<b>50</b>	7.76	8.41	9.04	9.66	10.24	10.75	11.19	11.54
<b>55</b>	7.71	8.43	9.15	9.87	10.55	11.20	11.77	12.27
<b>60</b>	-	8.40	9.22	10.04	10.85	11.63	12.35	13.00
<b>65</b>	-	-	-	10.18	11.12	12.03	12.91	13.73
<b>70</b>	-	-	-	-	-	12.41	13.45	14.45
<b>75</b>	-	-	-	-	-	-	13.97	15.15

### Mass flow [kg/s]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15	20
<b>35</b>	181.92	240.30	309.06	389.34	482.26	588.97	710.59	848.26
<b>40</b>	169.18	227.62	296.30	376.36	468.94	575.16	696.15	833.06
<b>45</b>	157.02	215.04	283.17	362.53	454.28	559.52	679.41	815.08
<b>50</b>	145.44	202.56	269.65	347.84	438.27	542.07	660.37	794.31
<b>55</b>	134.44	190.18	255.75	332.29	420.92	522.79	639.03	770.76
<b>60</b>	-	177.89	241.47	315.87	402.23	501.69	615.37	744.41
<b>65</b>	-	-	-	298.58	382.19	478.75	589.41	715.28
<b>70</b>	-	-	-	-	-	453.99	561.13	683.36
<b>75</b>	-	-	-	-	-	-	530.54	648.64

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

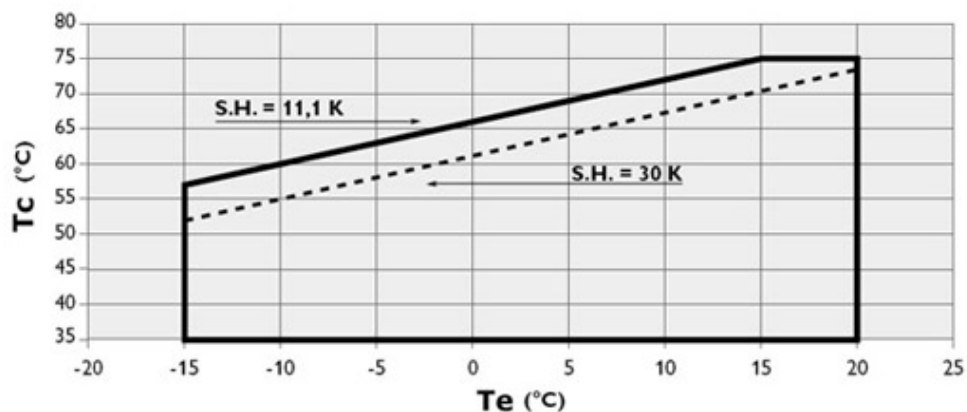
$t_c \setminus t_e$	-15	-10	-5	0	5	10	15	20
<b>35</b>	2.33	2.78	3.31	3.94	4.71	5.68	6.93	8.60
<b>40</b>	2.03	2.44	2.92	3.47	4.13	4.95	5.97	7.28
<b>45</b>	1.77	2.16	2.58	3.06	3.63	4.31	5.15	6.20
<b>50</b>	1.56	1.91	2.28	2.70	3.18	3.75	4.44	5.28
<b>55</b>	1.38	1.69	2.01	2.37	2.78	3.26	3.82	4.50
<b>60</b>	-	1.50	1.77	2.07	2.42	2.81	3.28	3.83
<b>65</b>	-	-	-	1.80	2.09	2.41	2.79	3.24
<b>70</b>	-	-	-	-	-	2.05	2.36	2.72
<b>75</b>	-	-	-	-	-	-	1.97	2.26

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

$t_c$  - Condensing temperature [°C]

$t_e$  - Evaporating temperature [°C]

### Application range



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**R404A/R507****Cooling capacity [W]**

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
<b>30</b>	7 283	9 943	13 245	17 267	22 089	27 791	34 451	42 148	50 963
<b>35</b>	6 328	8 755	11 770	15 453	19 884	25 142	31 306	38 455	46 669
<b>40</b>	5 457	7 649	10 377	13 721	17 760	22 574	28 242	34 842	42 455
<b>45</b>	4 660	6 616	9 057	12 061	15 708	20 078	25 248	31 300	38 311
<b>50</b>	3 927	5 648	7 800	10 464	13 719	17 643	22 316	27 818	34 227
<b>55</b>	-	4 734	6 598	8 921	11 782	15 261	19 436	24 387	30 194
<b>60</b>	-	3 865	5 440	7 422	9 889	12 922	16 599	20 999	26 202

**Power input [W]**

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
<b>30</b>	5 064	5 716	6 320	6 867	7 350	7 764	8 100	8 351	8 510
<b>35</b>	5 125	5 849	6 533	7 168	7 748	8 266	8 714	9 086	9 374
<b>40</b>	5 154	5 949	6 711	7 433	8 108	8 729	9 289	9 780	10 195
<b>45</b>	5 159	6 023	6 863	7 671	8 439	9 162	9 831	10 440	10 981
<b>50</b>	5 147	6 079	6 995	7 887	8 747	9 570	10 348	11 073	11 740
<b>55</b>	-	6 124	7 114	8 088	9 040	9 962	10 847	11 687	12 477
<b>60</b>	-	6 164	7 228	8 284	9 325	10 344	11 335	12 289	13 201

**Current [A]**

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
<b>30</b>	9.46	10.24	11.02	11.76	12.43	13.00	13.45	13.75	13.87
<b>35</b>	9.55	10.40	11.26	12.10	12.89	13.59	14.19	14.65	14.94
<b>40</b>	9.61	10.54	11.50	12.44	13.35	14.19	14.93	15.56	16.03
<b>45</b>	9.64	10.65	11.70	12.76	13.79	14.78	15.68	16.48	17.14
<b>50</b>	9.61	10.72	11.87	13.05	14.22	15.35	16.42	17.40	18.25
<b>55</b>	-	10.73	12.00	13.30	14.61	15.90	17.14	18.30	19.36
<b>60</b>	-	10.67	12.06	13.49	14.95	16.40	17.82	19.18	20.44

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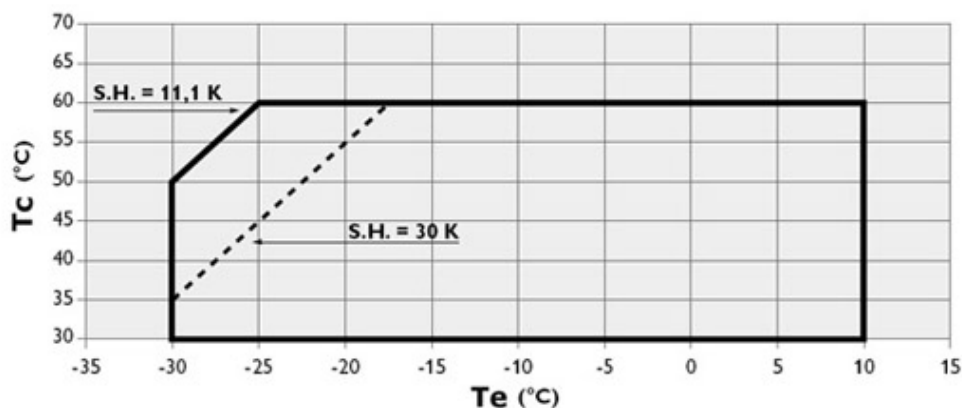
**Mass flow [kg/s]**

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
<b>30</b>	228.80	305.96	397.47	504.93	629.96	774.15	939.13	1 126.50	1 337.87
<b>35</b>	214.25	289.02	378.01	482.84	605.11	746.43	908.41	1 092.66	1 300.79
<b>40</b>	200.49	272.75	359.11	461.18	580.58	718.91	877.77	1 058.79	1 263.56
<b>45</b>	187.69	257.31	340.92	440.12	556.53	691.74	847.37	1 025.03	1 226.32
<b>50</b>	175.99	242.86	323.60	419.81	533.10	665.08	817.35	991.53	1 189.23
<b>55</b>	-	229.56	307.31	400.40	510.46	639.08	787.88	958.47	1 152.44
<b>60</b>	-	217.54	292.18	382.05	488.75	613.90	759.11	925.98	1 116.12

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

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
<b>30</b>	1.44	1.74	2.10	2.51	3.01	3.58	4.25	5.05	5.99
<b>35</b>	1.23	1.50	1.80	2.16	2.57	3.04	3.59	4.23	4.98
<b>40</b>	1.06	1.29	1.55	1.85	2.19	2.59	3.04	3.56	4.16
<b>45</b>	0.90	1.10	1.32	1.57	1.86	2.19	2.57	3.00	3.49
<b>50</b>	0.76	0.93	1.12	1.33	1.57	1.84	2.16	2.51	2.92
<b>55</b>	-	0.77	0.93	1.10	1.30	1.53	1.79	2.09	2.42
<b>60</b>	-	0.63	0.75	0.90	1.06	1.25	1.46	1.71	1.98

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

 $t_c$  - Condensing temperature [°C] $t_e$  - Evaporating temperature [°C]**Application range**

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R407C

**Cooling capacity [W]**

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
<b>35</b>	13 025	17 106	21 947	27 643	34 289	41 980	50 812
<b>40</b>	11 788	15 658	20 230	25 599	31 861	39 112	47 445
<b>45</b>	10 525	14 178	18 476	23 514	29 388	36 192	44 022
<b>50</b>	-	12 676	16 695	21 396	26 876	33 229	40 551
<b>55</b>	-	-	14 893	19 254	24 335	30 232	37 040
<b>60</b>	-	-	-	17 094	21 771	27 208	33 498
<b>65</b>	-	-	-	14 925	19 194	24 164	29 931

**Power input [W]**

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
<b>35</b>	5 760	6 328	6 807	7 209	7 548	7 834	8 081
<b>40</b>	5 986	6 676	7 265	7 766	8 191	8 552	8 861
<b>45</b>	6 132	6 965	7 686	8 307	8 840	9 297	9 691
<b>50</b>	-	7 175	8 050	8 813	9 476	10 051	10 550
<b>55</b>	-	-	8 336	9 262	10 077	10 791	11 418
<b>60</b>	-	-	-	9 635	10 622	11 498	12 274
<b>65</b>	-	-	-	9 911	11 093	12 152	13 099

**Current [A]**

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
<b>35</b>	10.20	10.99	11.67	12.29	12.91	13.58	14.34
<b>40</b>	10.49	11.43	12.23	12.93	13.58	14.23	14.94
<b>45</b>	10.62	11.79	12.76	13.60	14.34	15.03	15.74
<b>50</b>	-	12.01	13.22	14.25	15.14	15.94	16.70
<b>55</b>	-	-	13.57	14.85	15.94	16.91	17.79
<b>60</b>	-	-	-	15.36	16.72	17.91	18.97
<b>65</b>	-	-	-	15.75	17.44	18.90	20.20

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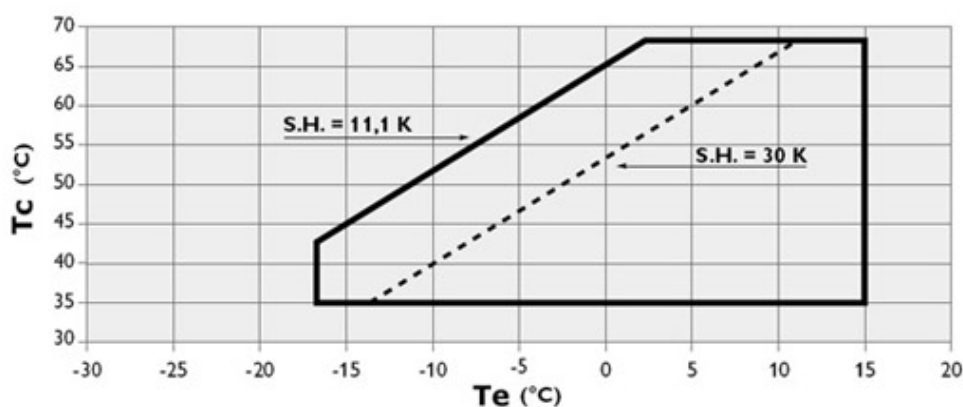
**Mass flow [kg/s]**

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
<b>35</b>	282.63	365.17	460.83	571.21	697.90	842.50	1 006.60
<b>40</b>	268.97	351.04	445.80	554.87	679.83	822.28	983.81
<b>45</b>	253.75	335.26	429.05	536.72	659.86	800.08	958.96
<b>50</b>	-	317.74	410.46	516.65	637.90	775.79	931.94
<b>55</b>	-	-	389.95	494.57	613.83	749.33	902.65
<b>60</b>	-	-	-	470.38	587.57	720.57	870.99
<b>65</b>	-	-	-	443.96	559.00	689.44	836.86

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

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
<b>35</b>	2.26	2.70	3.22	3.83	4.54	5.36	6.29
<b>40</b>	1.97	2.35	2.78	3.30	3.89	4.57	5.35
<b>45</b>	1.72	2.04	2.40	2.83	3.32	3.89	4.54
<b>50</b>	-	1.77	2.07	2.43	2.84	3.31	3.84
<b>55</b>	-	-	1.79	2.08	2.41	2.80	3.24
<b>60</b>	-	-	-	1.77	2.05	2.37	2.73
<b>65</b>	-	-	-	1.51	1.73	1.99	2.29

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

 $t_c$  - Condensing temperature [°C] $t_e$  - Evaporating temperature [°C]**Application range**

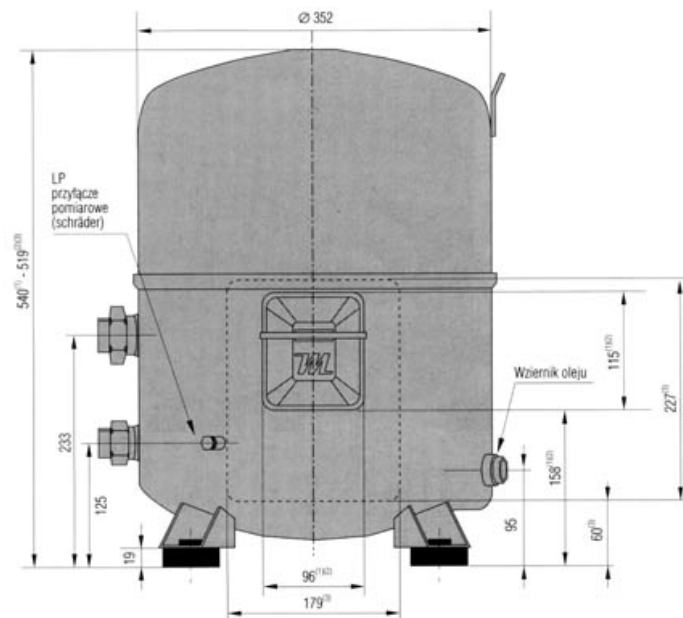
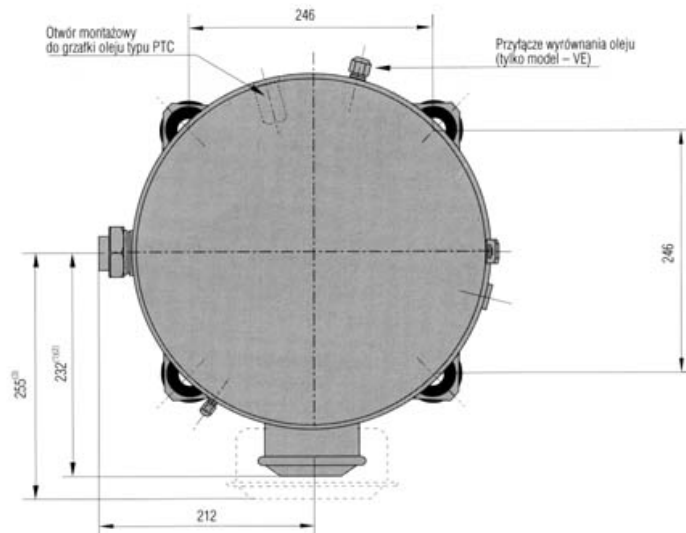
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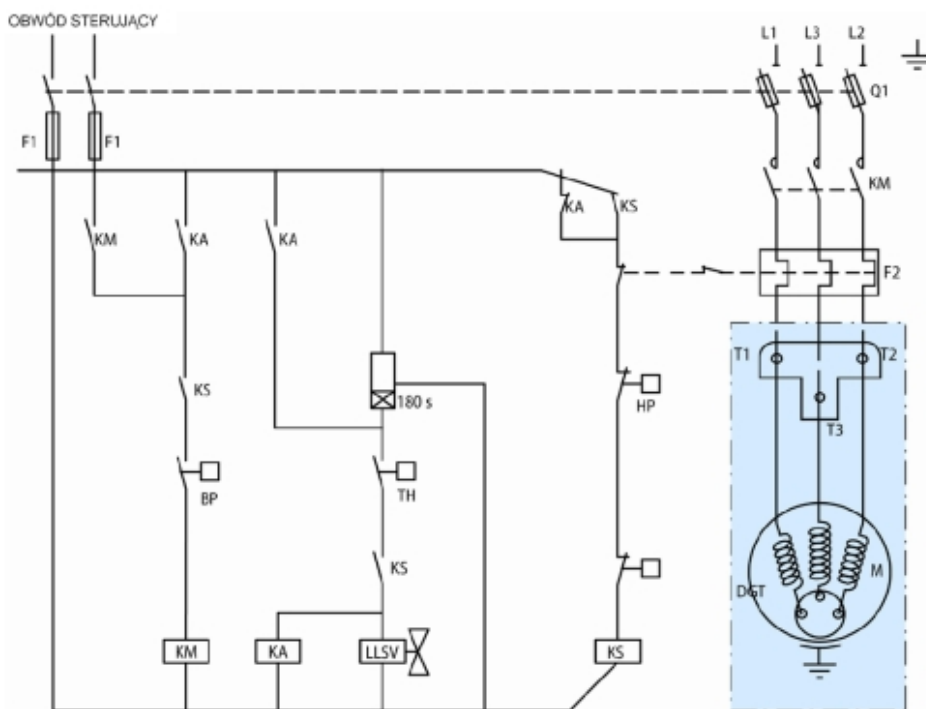


## Three-phase power supply

### Electrical data

Motor voltage code:	3	4	6	7	9
Starting current [A]:	210	105	170	75	150
Maximum Continuous Current (MCC) [A]:	54	27	170	22	30
Winding resistance (between phases) [ $\Omega$ ]:	0,38	1,57	0,43	2,51	0,84

### 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



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## **Equipment**

- ▶ crankcase heater - PTC 35 W
- ▶ belt type heater - crankcase heater 75W, 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 25C
- ▶ acoustic hood - acoustic shield of Danfoss catalogue number 7755003