Type: Hermetic piston compressors
Producer: Danfoss-Maneurop
Series: MTZ

Model: MTZ144

Technical data

Cylinder count:	4
Displacement [m³/h]:	42,09
Cylinder capacity [cm³]:	241,9
RPM [min^{-1}]:	2900
Weight [kg]:	67
Oil charge [dm³]:	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 [dm³]:	10
Refrigerant:	R134a, 404A/R507, R407C
Sound power [dB]:	83
Sound power with accoustic hood [dB]:	77

Connections

	inches
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 \ t_e	-15	-10	-5	0	5	10	15	20
35	10 471	13 835	17 882	22 695	28 356	34 948	42 552	51 251
40	9 534	12 753	16 620	21 217	26 628	32 934	40 218	48 561
45	8 632	11 682	15 346	19 706	24 844	30 841	37 781	45 746
50	7 773	10 633	14 071	18 170	23 011	28 677	35 251	42 813
55	6 967	9 614	12 804	16 618	21 140	26 452	32 636	39 775
60	-	8 635	11 553	15 061	19 241	24 176	29 947	36 638
65	-	-	-	13 507	17 322	21 857	27 193	33 414
70	-	-	-	-	-	19 505	24 383	30 110
75	-	-	-	-	-	-	21 527	26 738

Power input [W]

t_c \ t_e	-15	-10	-5	0	5	10	15	20
35	4 531	5 009	5 460	5 867	6 215	6 489	6 672	6 748
40	4 704	5 215	5 708	6 165	6 571	6 911	7 168	7 327
45	4 854	5 404	5 943	6 456	6 925	7 336	7 673	7 920
50	4 977	5 572	6 163	6 736	7 274	7 762	8 183	8 523
55	5 069	5 713	6 363	7 001	7 613	8 183	8 695	9 133
60	-	5 826	6 538	7 248	7 939	8 596	9 204	9 746
65	-	-	-	7 471	8 247	8 997	9 706	10 357
70	-	-	-	-	-	9 382	10 197	10 962
75	-	-	-	-	-	-	10 672	11 557

Current [A]

t_c \ t_e	-15	-10	-5	0	5	10	15	20
35	10.17	10.63	11.08	11.50	11.88	12.20	12.45	12.62
40	10.32	10.84	11.34	11.83	12.29	12.70	13.05	13.34
45	10.46	11.02	11.59	12.16	12.70	13.21	13.67	14.08
50	10.56	11.19	11.83	12.47	13.11	13.72	14.30	14.84
55	10.63	11.32	12.05	12.78	13.52	14.24	14.95	15.62
60	-	11.44	12.24	13.08	13.92	14.77	15.60	16.41
65	-	-	-	13.35	14.32	15.29	16.26	17.22
70	-	-	-	-	-	15.80	16.92	18.04
75	-	-	-	-	-	-	17.58	18.87

Model: MTZ144

Capacity

Mass flow [kg/s]

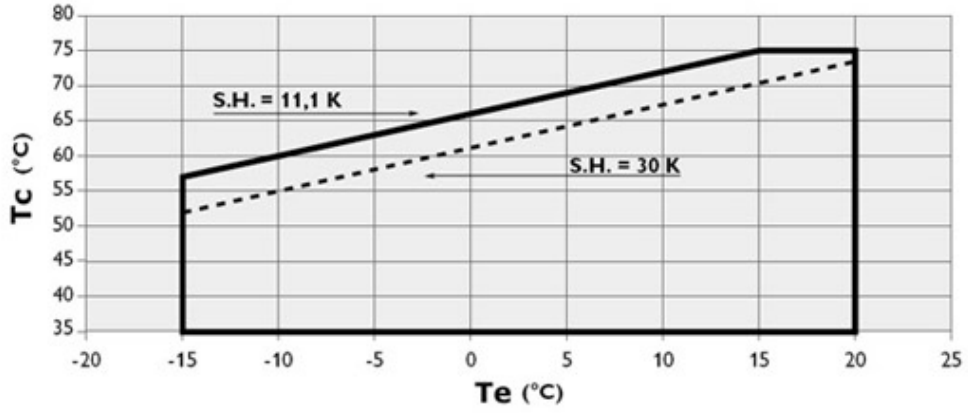
t_c \ t_e	-15	-10	-5	0	5	10	15	20
35	233.69	302.46	383.02	476.62	584.49	707.87	848.00	1 006.10
40	221.84	290.72	371.23	464.61	572.09	694.92	834.33	991.57
45	210.67	279.12	359.04	451.66	558.23	679.98	818.14	973.96
50	200.03	267.52	346.31	437.65	542.76	662.88	799.26	953.13
55	189.77	255.76	332.89	422.40	525.52	643.49	777.55	928.94
60	-	243.70	318.63	405.78	506.37	621.65	752.85	901.22
65	-	-	-	387.62	485.16	597.21	725.02	869.83
70	-	-	-	-	-	570.02	693.91	834.63
75	-	-	-	-	-	-	659.35	795.45

C.O.P. [W/W]

t_c \ t_e	-15	-10	-5	0	5	10	15	20
35	2.31	2.76	3.28	3.87	4.56	5.39	6.38	7.59
40	2.03	2.45	2.91	3.44	4.05	4.77	5.61	6.63
45	1.78	2.16	2.58	3.05	3.59	4.20	4.92	5.78
50	1.56	1.91	2.28	2.70	3.16	3.69	4.31	5.02
55	1.37	1.68	2.01	2.37	2.78	3.23	3.75	4.35
60	-	1.48	1.77	2.08	2.42	2.81	3.25	3.76
65	-	-	-	1.81	2.10	2.43	2.80	3.23
70	-	-	-	-	-	2.08	2.39	2.75
75	-	-	-	-	-	-	2.02	2.31

Operating conditions: suction superheat: 11.1 K, subcooling: 8.3 K
t_c - Condensing temperature [ºC]
t_e - Evaporating temperature [ºC]

Application range



R404A/R507

Cooling capacity [W]

t_c \ t_e	-30	-25	-20	-15	-10	-5	0	5	10
30	8 775	11 826	15 554	20 045	25 383	31 654	38 944	47 339	56 922
35	7 708	10 537	13 985	18 138	23 081	28 900	35 679	43 505	52 463
40	6 685	9 282	12 441	16 247	20 785	26 142	32 402	39 650	47 973
45	5 704	8 060	10 920	14 370	18 494	23 380	29 110	35 773	43 451
50	4 764	6 870	9 422	12 506	16 208	20 612	25 805	31 871	38 896
55	-	5 710	7 945	10 654	13 924	17 838	22 483	27 944	34 306
60	-	4 580	6 489	8 814	11 641	15 056	19 144	23 991	29 681

Power input [W]

t_c \ t_e	-30	-25	-20	-15	-10	-5	0	5	10
30	5 941	6 670	7 347	7 965	8 516	8 992	9 385	9 688	9 892
35	6 031	6 840	7 606	8 322	8 979	9 570	10 086	10 521	10 865
40	6 077	6 967	7 822	8 635	9 398	10 104	10 744	11 310	11 795
45	6 084	7 054	7 998	8 909	9 778	10 598	11 362	12 060	12 686
50	6 054	7 105	8 138	9 146	10 122	11 057	11 944	12 774	13 540
55	-	7 123	8 246	9 352	10 433	11 483	12 493	13 456	14 362
60	-	7 114	8 325	9 529	10 717	11 881	13 015	14 109	15 156

Current [A]

t_c \ t_e	-30	-25	-20	-15	-10	-5	0	5	10
30	11.52	12.38	13.25	14.07	14.82	15.47	15.97	16.29	16.39
35	11.60	12.54	13.49	14.42	15.29	16.06	16.71	17.19	17.47
40	11.67	12.69	13.74	14.79	15.79	16.71	17.51	18.16	18.63
45	11.69	12.81	13.98	15.15	16.29	17.37	18.34	19.18	19.85
50	11.63	12.86	14.15	15.47	16.76	18.01	19.17	20.21	21.09
55	-	12.82	14.25	15.71	17.18	18.60	19.96	21.21	22.32
60	-	12.64	14.22	15.85	17.49	19.12	20.68	22.16	23.50

Model: MTZ144

Capacity

Mass flow [kg/s]

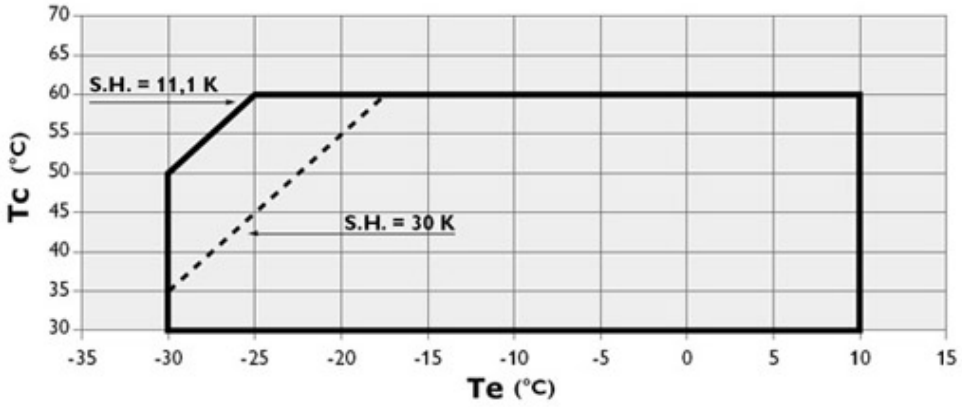
t_c \ t_e	-30	-25	-20	-15	-10	-5	0	5	10
30	275.89	363.91	466.67	585.99	723.69	881.61	1 061.58	1 265.42	1 494.96
35	260.95	347.82	449.13	566.71	702.39	857.98	1 035.33	1 236.26	1 462.59
40	245.51	330.99	430.60	546.20	679.59	832.61	1 007.09	1 204.85	1 427.73
45	229.67	313.50	411.17	524.53	655.39	805.58	976.94	1 171.30	1 390.47
50	213.52	295.45	390.93	501.80	629.88	777.00	944.99	1 135.68	1 350.90
55	-	276.93	369.97	478.10	603.15	746.94	911.32	1 098.10	1 309.11
60	-	258.03	348.38	453.52	575.29	715.51	876.02	1 058.64	1 265.19

C.O.P. [W/W]

t_c \ t_e	-30	-25	-20	-15	-10	-5	0	5	10
30	1.48	1.77	2.12	2.52	2.98	3.52	4.15	4.89	5.75
35	1.28	1.54	1.84	2.18	2.57	3.02	3.54	4.14	4.83
40	1.10	1.33	1.59	1.88	2.21	2.59	3.02	3.51	4.07
45	0.94	1.14	1.37	1.61	1.89	2.21	2.56	2.97	3.43
50	0.79	0.97	1.16	1.37	1.60	1.86	2.16	2.49	2.87
55	-	0.80	0.96	1.14	1.33	1.55	1.80	2.08	2.39
60	-	0.64	0.78	0.92	1.09	1.27	1.47	1.70	1.96

Operating conditions: suction superheat: 10 K, subcooling: 0 K
t_c - Condensing temperature [ºC]
t_e - Evaporating temperature [ºC]

Application range



R407C

Cooling capacity [W]

t_c \ t_e	-15	-10	-5	0	5	10	15
35	14 260	18 789	24 168	30 501	37 891	46 443	56 260
40	12 919	17 203	22 280	28 254	35 230	43 310	52 600
45	11 579	15 605	20 367	25 970	32 518	40 114	48 863
50	-	14 011	18 445	23 664	29 771	36 870	45 065
55	-	-	16 531	21 353	27 006	33 595	41 223
60	-	-	-	19 051	24 238	30 304	37 353
65	-	-	-	16 776	21 483	27 013	33 470

Power input [W]

t_c \ t_e	-15	-10	-5	0	5	10	15
35	6 612	7 257	7 819	8 288	8 655	8 911	9 046
40	6 858	7 606	8 281	8 871	9 369	9 765	10 048
45	7 065	7 917	8 703	9 415	10 044	10 578	11 010
50	-	8 194	9 093	9 926	10 684	11 358	11 938
55	-	-	9 456	10 410	11 298	12 111	12 838
60	-	-	-	10 874	11 892	12 842	13 718
65	-	-	-	11 325	12 471	13 560	14 583

Current [A]

t_c \ t_e	-15	-10	-5	0	5	10	15
35	12.40	13.17	13.91	14.59	15.18	15.65	15.97
40	12.71	13.58	14.42	15.20	15.89	16.46	16.89
45	13.00	13.99	14.96	15.87	16.70	17.41	17.98
50	-	14.36	15.48	16.56	17.55	18.44	19.18
55	-	-	15.95	17.22	18.42	19.50	20.45
60	-	-	-	17.82	19.24	20.56	21.74
65	-	-	-	18.29	19.97	21.56	23.01

Model: MTZ144

Capacity

Mass flow [kg/s]

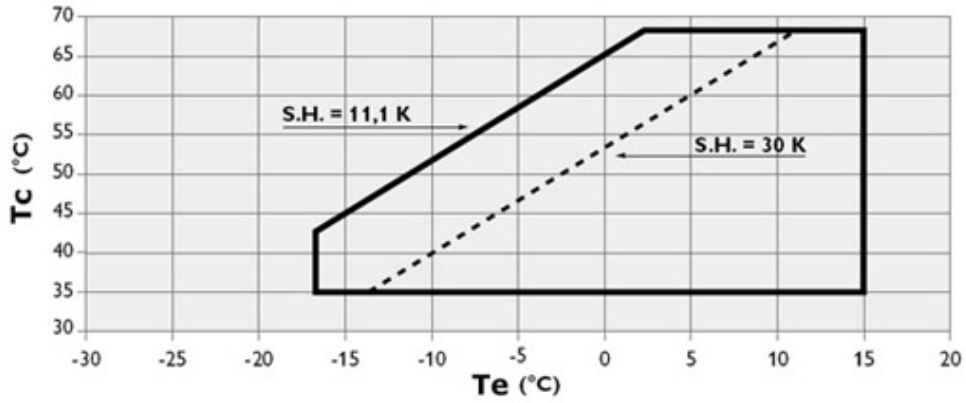
t_c \ t_e	-15	-10	-5	0	5	10	15
35	309.42	401.12	507.49	630.28	771.19	931.96	1 114.31
40	294.77	385.68	490.99	612.43	751.73	910.60	1 090.79
45	279.16	368.98	472.94	592.74	730.13	886.82	1 064.55
50	-	351.20	453.50	571.38	706.56	860.78	1 035.75
55	-	-	432.85	548.51	681.20	832.64	1 004.57
60	-	-	-	524.29	654.20	802.58	971.17
65	-	-	-	498.91	625.73	770.76	935.72

C.O.P. [W/W]

t_c \ t_e	-15	-10	-5	0	5	10	15
35	2.16	2.59	3.09	3.68	4.38	5.21	6.22
40	1.88	2.26	2.69	3.18	3.76	4.44	5.23
45	1.64	1.97	2.34	2.76	3.24	3.79	4.44
50	-	1.71	2.03	2.38	2.79	3.25	3.77
55	-	-	1.75	2.05	2.39	2.77	3.21
60	-	-	-	1.75	2.04	2.36	2.72
65	-	-	-	1.48	1.72	1.99	2.30

Operating conditions: suction superheat: 10 K, subcooling: 0 K
t_c - Condensing temperature [ºC]
t_e - Evaporating temperature [ºC]

Application range



Model: MTZ144

Dimensions