ENGINEERING TOMORROW



Datasheets

# Danfoss Reciprocating compressors MT / MTZ / NTZ





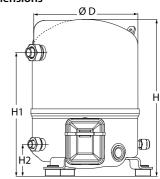


#### Datasheet, technical data

#### **General Characteristics**

Model number (on compressor nameplate)		MTZ28JE5AVE	
Code number for Singlepack*		MTZ28-5VI	
Code number for Industrial pack**		MTZ28-5VM	
Drawing number		8501021e	
Suction and discharge connections		Rotolock	
Suction connection		1 " Rotolock	
Discharge connection		1 " Rotolock	
Suction connection with supplied sleeve		1/2 " ODF	
Discharge connection with supplied sleeve		3/8 " ODF	
Oil sight glass		Threaded	
Oil equalisation connection		3/8" flare SAE	
Oil drain connection		None	
LP gauge port		Schrader	
IPR valve		None	
Cylinders	1		
Swept volume	48.06 c	m3/rev	
Displacement @ Nominal speed	8.4 m3/h @	2900 rpm	
Net weight	23	kg	
Oil charge	0.95 litre, P	OE - 175PZ	
Maximum system test pressure Low Side / High side	25 bar(g) / 30 bar(g)		
Maximum differential test pressure	30 bar		
Maximum number of starts per hour	12		
Refrigerant charge limit	2.5 kg		
Approved refrigerants	R404A,R134a,R407A/C/F,R	448A,R449A,R452A,R513A	

#### **Dimensions**

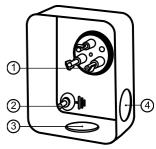


D=224 mm H=333 mm H1=263 mm H2=68 mm H3=- mm

#### **Electrical Characteristics**

Electrical characteristics	
Nominal voltage	220-240V/1/50Hz
Voltage range	220-240 V
Winding resistance (main / start) at 25°C	1.07 Ω / 3.26 Ω
Run capacitors A + C	20 μF + 10 μF
Start capacitor B	100 μF
Start relay	RVA-6AMKL
Maximum Continuous Current (MCC)	20 A
Locked Rotor Amps (LRA)	51 A
Motor protection	Internal overload protector

#### **Terminal box**



**Recommended Installation torques** 

Oil sight glass	50 Nm
Power connections / Earth connection	2 Nm / 2 Nm
Mounting bolts	15 Nm

# Parts shipped with compressor

Mounting kit with grommets, bolts, nuts, sleeves and washers
Suction & Discharge solder sleeves, rotolock nuts and gaskets (shipped with rotolock version only)
Initial oil charge
Installation instructions

IP55 (with cable gland)

- 1: Spade connectors 1/4"
- 2: Earth M4-12
- 3: Knock-out Ø 21 mm (0.83")
  - Hole Ø 21 mm (0.83")

Approvals: CE certified, -, -

- \*Singlepack: Compressor in cardboard box
- \*\*Industrial pack: 12 Unboxed compressors on pallet (order per multiples of 12)





# Datasheet, accessories and spare parts

# Maneurop reciprocating compressor, MTZ028-5

Rotolock accessories, suction side	Code no.	
Solder sleeve, P06 (1" Rotolock, 1/2" ODF)	8153007	
Rotolock valve, V06 (1" Rotolock, 1/2" ODF)	8168031	
Gasket, 1"	8156130	Gaskets, sleeves and nuts
Rotolock accessories, discharge side	Code no.	
Solder sleeve, P01 (1" Rotolock, 3/8" ODF)	8153010	
Rotolock valve, V01 (1" Rotolock, 3/8" ODF)	8168027	
Gasket, 1"	8156130	
Rotolock accessories, sets	Code no.	1 2 3
Valve set, V06 (1"~1/2"), V01 (1"~3/8")	7703004	
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009	1: Gasket
	•	2: Solder sleeve
Oil / lubricants	Code no.	3: Rotolock nut
POE lubricant, 175PZ, 1 litre can	120Z0638	
POE lubricant, 175PZ, 2.5 litre can	120Z0639	
Crankcase heaters PTC heater 27W,CE mark, UL Belt type crankcase heater, 54 W, 230 V, CE mark, UL	Code no. 120Z0459 7773106	
Miscellaneous accessories	Code no.	Mounting kit
PSC starting kit, 20 µF, 10 µF	7701026	1
CSR starting kit, 20 µF, 10 µF  CSR starting kit, 20 µF, 10 µF, 98 µF	7701026	2
CSR starting kit, 20 μr, 10 μr, 96 μr  CSR starting kit, prewired box, 20 μF, 10 μF, 98 μF	7701022	3
Acoustic hood for 1 cylinder compressor	120Z0575	
Oil equalisation nut	8153127	4
On equalisation nat	0133127	
Spare parts	Code no.	5
Mounting kit for 1 and 2 cylinder compressor, including 3 grommets, 3 bolts	8156001	6
Oil sight glass with gaskets (black & white)	8156019	
Gasket for oil sight glass (black chloroprene)	8156145	
Service kit for terminal box 80 x 96 mm, including 1 cover, 1 clamp	8156134	1: Bolt (3x)
		2: Lock washer (3x)
		3: Flat washer (3x)
		4: Sleeve (3x)
		F: C == == == + (2)

5: Grommet (3x) 6: Nut (3x)





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions

**R407C** 

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-15	-10	-5	0	5	10	15		
•		•	•	•	•	•	•	•	•
Cooling capacity	y in W								
35	2 485	3 478	4 654	6 036	7 643	9 497	11 616	-	-
40	2 217	3 156	4 258	5 544	7 034	8 749	10 708	-	-
45	1 939	2 831	3 864	5 060	6 438	8 020	9 824	-	-
50	-	2 497	3 468	4 579	5 851	7 305	8 961	-	-
55	-	-	3 064	4 097	5 268	6 600	8 113	-	-
60	-	-	-	3 609	4 686	5 902	7 277	-	-
65	-	-	-	3 113	4 101	5 206	6 449	-	-
Power input in \	N					•			
35	1 308	1 461	1 590	1 693	1 771	1 824	1 850	-	-
40	1 335	1 515	1 671	1 802	1 907	1 988	2 043	-	-
45	1 355	1 563	1 748	1 908	2 044	2 155	2 240	-	-
50	-	1 605	1 821	2 013	2 181	2 324	2 443	-	-
55	-	-	1 889	2 115	2 318	2 496	2 649	-	-
60	-	-	-	2 215	2 454	2 669	2 860	-	-
65	-	-	-	2 312	2 589	2 844	3 074	-	-
Current consum	nption in A					•			
35	8.47	8.77	9.11	9.45	9.75	9.99	10.11	-	-
40	8.55	8.94	9.36	9.78	10.18	10.50	10.72	-	-
45	8.61	9.09	9.62	10.15	10.65	11.08	11.41	-	-
50	-	9.23	9.88	10.53	11.16	11.72	12.18	-	-
55	-	-	10.12	10.92	11.69	12.40	13.01	-	-
60	-	-	-	11.30	12.23	13.10	13.88	-	-
65	-	-	-	11.66	12.77	13.83	14.79	-	-
Mass flow in kg	/h	T	•	ı	•	1	T	T	1
35	54	74	98	125	156	191	230	-	-
40	51	71	94	120	150	184	222	-	-
45	47	67	90	116	145	177	214	-	-
50	-	63	85	111	139	171	206	-	-
55	-	-	80	105	133	164	198	-	-
60	-	-	-	99	126	156	189	-	-
65	-	-	-	93	119	149	181	-	-
0 - 15 - 1 1 - 1									
Coefficient of pe			2.00	2.50	4.04	F 04	0.00	Ī	1
35	1.90	2.38	2.93	3.56	4.31	5.21	6.28	-	-
40	1.66	2.08	2.55	3.08	3.69	4.40	5.24	-	-
45	1.43	1.81	2.21	2.65	3.15	3.72	4.39	-	-
50	-	1.56	1.90	2.27	2.68	3.14	3.67	-	-
55	-	-	1.62	1.94	2.27	2.64	3.06	-	-
60	-	-	-	1.63	1.91	2.21	2.54	-	-
65	-	-	-	1.35	1.58	1.83	2.10	-	-

Nominal performance at to = 5 °C, tc = 50 °C

Cooling capacity	5 851	W	
Power input	2 181	W	
Current consumption	11.16	Α	
Mass flow	139	kg/h	
C.O.P.	2.68		

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K



Pressure switch settings

Maximum HP switch setting	29.4	bar(g)	ı
Minimum LP switch setting	1.4	bar(g)	ı
LP pump down setting	1.7	bar(g)	

Sound power data

Sound power level	73	dB(A)
With accoustic hood	66	dB(A)

Tolerance according EN12900





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, ARI rating conditions

**R407C** 

Cond. temp. in				Evapora	iting temperature	in °C (to)			
°C (tc)	-15	-10	-5	0	5	10	15		
•		•	•	•	•	•			l .
Cooling capacity	/ in W								
35	2 675	3 738	4 998	6 474	8 189	10 164	12 420	-	-
40	2 399	3 411	4 596	5 977	7 574	9 409	11 503	-	-
45	2 111	3 078	4 196	5 487	6 972	8 673	10 612	-	-
50	-	2 735	3 792	4 999	6 379	7 952	9 741	-	-
55	-	-	3 380	4 510	5 790	7 242	8 887	-	-
60	-	-	-	4 014	5 202	6 539	8 047	-	-
65	-	-	-	3 508	4 610	5 839	7 217	-	-
Power input in V			,	,	,	1		T	ı
35	1 308	1 461	1 590	1 693	1 771	1 824	1 850	-	-
40	1 335	1 515	1 671	1 802	1 907	1 988	2 043	-	-
45	1 355	1 563	1 748	1 908	2 044	2 155	2 240	-	-
50	-	1 605	1 821	2 013	2 181	2 324	2 443	-	-
55	-	-	1 889	2 115	2 318	2 496	2 649	-	-
60	-	-	-	2 215	2 454	2 669	2 860	-	-
65	-	-	-	2 312	2 589	2 844	3 074	-	-
Current consum			T	T	Т	T	1	Γ	ı
35	8.47	8.77	9.11	9.45	9.75	9.99	10.11	-	-
40	8.55	8.94	9.36	9.78	10.18	10.50	10.72	-	-
45	8.61	9.09	9.62	10.15	10.65	11.08	11.41	-	-
50	-	9.23	9.88	10.53	11.16	11.72	12.18	-	-
55	-	-	10.12	10.92	11.69	12.40	13.01	-	-
60	-	-	-	11.30	12.23	13.10	13.88	-	-
65	-	-	-	11.66	12.77	13.83	14.79	-	-
	_								
Mass flow in kg/				101	155	100	000		I
35	54	74 70	97	124	155	190	229	-	-
40	50		93	120	149	183	221	-	-
45	46	67	89	115	144	176	213	-	-
50	-	62	85	110	138	170	205	-	-
55	-	-	80	105	132	163	197	-	-
60	-	-	-	99	126	155	188	-	-
65	-	-	-	92	119	148	179	-	-
O		<b>.</b>							
Coefficient of pe	2.05	2.56	3.14	3.82	4.62	5.57	6.71	-	_
35 40	1.80	2.56	2.75	3.82	3.97	4.73	5.63	-	-
		+	2.75	1	1	+	1		-
45	1.56	1.97	1	2.87	3.41	4.02	4.74	-	-
50	-	1.70	2.08	2.48	2.92	3.42	3.99	-	-
55	-	-	1.79	2.13	2.50	2.90	3.35	-	-
60	-	-	-	1.81	2.12	2.45	2.81	-	-
65	-	-	-	1.52	1.78	2.05	2.35	-	-

Nominal performance at to = 7.2 °C, tc = 54.4 °C

Cooling capacity	6 483	W
Power input	2 381	W
Current consumption	11.94	Α
Mass flow	146	kg/h
C.O.P.	2.72	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

Maximum HP switch setting	29.4	bar(g)	
Minimum LP switch setting	1.4	bar(g)	
LP pump down setting	1.7	bar(g)	

Sound power data

Sound power level	73	dB(A)
With accoustic hood	66	dB(A)

Tolerance according EN12900





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions

R134a

Cond. temp. in	Evaporating temperature in °C (to)								
°C (tc)	-25	-20	-10	-5	0	5	10	15	20
Cooling consoit	ı in M								
Cooling capacity 35	847	1 202	2 211	2 915	3 785	4 845	6 121	7 637	9 419
40	727	1 069	2 021	2 680	3 496	4 491	5 692	7 122	8 808
45	601	929	1 823	2 438	3 198	4 128	5 252	6 596	8 185
50	473	787	1 621	2 190	2 894	3 757	4 805	6 062	7 553
55	-	-	1 416	1 939	2 586	3 383	4 353	5 522	6 915
60	-	-	-	1 688	2 278	3 007	3 899	4 979	6 273
65	-	-	_	-	1 971	2 631	3 445	4 436	5 630
75	_	_	_	_	-	-	2 547	3 357	4 350
		1	1						
Power input in V		1	,		ı	1	1	1	ı
35	690	786	980	1 072	1 157	1 233	1 296	1 345	1 376
40	714	814	1 022	1 124	1 221	1 310	1 390	1 456	1 507
45	731	837	1 061	1 174	1 284	1 389	1 485	1 570	1 642
50	740	853	1 096	1 221	1 346	1 467	1 581	1 687	1 780
55	-	-	1 125	1 264	1 404	1 543	1 677	1 804	1 921
60	-	-	-	1 301	1 458	1 615	1 770	1 920	2 062
65	-	-	-	-	1 506	1 683	1 860	2 034	2 202
75	-	-	-	-	-	-	2 026	2 251	2 475
Current consum	ption in A								
35	6.75	6.90	7.22	7.38	7.54	7.69	7.83	7.95	8.07
40	6.78	6.95	7.32	7.51	7.71	7.90	8.09	8.27	8.45
45	6.79	6.98	7.40	7.63	7.86	8.11	8.35	8.59	8.83
50	6.77	6.99	7.47	7.73	8.01	8.31	8.61	8.92	9.23
55	-	-	7.51	7.82	8.15	8.50	8.86	9.24	9.63
60	-	-	-	7.90	8.28	8.69	9.12	9.57	10.03
65	-	-	-	-	8.40	8.87	9.37	9.89	10.44
75	-	-	-	-	-	-	9.84	10.53	11.25
Mana flam in len	L								
Mass flow in kg/		30	F2	60	96	100	124	164	200
35 40	21 19	30 28	53 51	68 65	86 83	108 105	134 130	164 160	200 196
45	17	26	48	63	80	105	127	156	190
50	17	23	48	60	77	98	127	151	185
55	-	-	45	56	73	93	117	146	178
60		-	- 42	52	69	89	117	139	170
65		-	-	-	64	83	106	133	164
75	-	-	-	-	-	-	92	118	147
. •		L	ı	1	I.	1	, <u>~-</u>		1 117
Coefficient of pe	•	1	1	1	T	T	1	T	ı
35	1.23	1.53	2.26	2.72	3.27	3.93	4.72	5.68	6.85
40	1.02	1.31	1.98	2.39	2.86	3.43	4.10	4.89	5.85
45	0.82	1.11	1.72	2.08	2.49	2.97	3.54	4.20	4.99
50	0.64	0.92	1.48	1.79	2.15	2.56	3.04	3.59	4.24
55	-	-	1.26	1.53	1.84	2.19	2.60	3.06	3.60
60	-	-	-	1.30	1.56	1.86	2.20	2.59	3.04
65	-	-	-	-	1.31	1.56	1.85	2.18	2.56
75	-	-	-	-	-	-	1.26	1.49	1.76

#### Nominal performance at to = 5 °C, tc = 50 °C

	•• •		
Cooling capacity	3 757	W	
Power input	1 467	W	
Current consumption	8.31	Α	
Mass flow	98	kg/h	
C.O.P.	2.56		

to: Evaporating temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	20.2	bar(g)
Minimum LP switch setting	0.1	bar(g)
LP pump down setting	0.4	bar(g)

# Sound power data

Sound power level	0	dB(A)
With accoustic hood	0	dB(A)

Tolerance according EN12900



tc: Condensing temperature at dew point  $% \left( 1\right) =\left( 1\right) \left( 1\right)$ 



# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, ARI rating conditions

R134a

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-25	-20	-10	-5	0	5	10	15	20
<u> </u>							l .		ı
Cooling capacit	y in W								
35	921	1 305	2 391	3 147	4 079	5 214	6 578	8 196	10 095
40	794	1 166	2 197	2 908	3 786	4 856	6 145	7 678	9 481
45	661	1 021	1 993	2 660	3 483	4 487	5 700	7 146	8 853
50	-	871	1 784	2 405	3 172	4 110	5 245	6 605	8 215
55	-	-	1 572	2 147	2 856	3 727	4 785	6 057	7 569
60	-	-	-	1 886	2 538	3 340	4 320	5 504	6 919
65	-	-	-	-	-	2 954	3 855	4 950	6 266
75	-	-	-	-	-	-	2 931	3 848	4 967
Power input in \	N								,
35	690	786	980	1 072	1 157	1 233	1 296	1 345	1 376
40	714	814	1 022	1 124	1 221	1 310	1 390	1 456	1 507
45	731	837	1 061	1 174	1 284	1 389	1 485	1 570	1 642
50	-	853	1 096	1 221	1 346	1 467	1 581	1 687	1 780
55	-	-	1 125	1 264	1 404	1 543	1 677	1 804	1 921
60	-	-	-	1 301	1 458	1 615	1 770	1 920	2 062
65	-	-	-	-	-	1 683	1 860	2 034	2 202
75	-	-	-	-	-	-	2 026	2 251	2 475
Current consun	nption in A								,
35	6.75	6.90	7.22	7.38	7.54	7.69	7.83	7.95	8.07
40	6.78	6.95	7.32	7.51	7.71	7.90	8.09	8.27	8.45
45	6.79	6.98	7.40	7.63	7.86	8.11	8.35	8.59	8.83
50	-	6.99	7.47	7.73	8.01	8.31	8.61	8.92	9.23
55	-	-	7.51	7.82	8.15	8.50	8.86	9.24	9.63
60	-	-	-	7.90	8.28	8.69	9.12	9.57	10.03
65	-	-	-	-	-	8.87	9.37	9.89	10.44
75	-	-	-	-	-	-	9.84	10.53	11.25
Mass flow in kg	/h	1	ľ	1	T	1	T		1
35	21	30	52	67	86	107	133	164	199
40	19	28	50	65	83	104	130	160	194
45	17	26	48	62	80	101	126	155	189
50	-	23	45	59	77	97	122	150	184
55	-	-	42	56	73	93	117	145	177
60	-	-	-	52	68	88	111	139	171
65	-	-	-	-	-	83	105	132	163
75	-	-	-	-	-	-	92	117	147
-	erformance (C.C	1	_	T	1	1	1		1
35	1.33	1.66	2.44	2.94	3.53	4.23	5.08	6.10	7.34
40	1.11	1.43	2.15	2.59	3.10	3.71	4.42	5.27	6.29
45	0.90	1.22	1.88	2.27	2.71	3.23	3.84	4.55	5.39
50	-	1.02	1.63	1.97	2.36	2.80	3.32	3.92	4.61
55	-	-	1.40	1.70	2.03	2.42	2.85	3.36	3.94
60	-	-	-	1.45	1.74	2.07	2.44	2.87	3.36
65	-	-	-	-	-	1.75	2.07	2.43	2.85
75	-	-	-	-	-	-	1.45	1.71	2.01

#### Nominal performance at to = 7.2 °C, tc = 54.4 °C

rionniai poriornianos at to	0,	U-1		
Cooling capacity		4 218	W	
Power input		1 592	W	
Current consumption		8.63	Α	
Mass flow		103	kg/h	
C.O.P.		2.65		

to: Evaporating temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

Maximum HP switch setting	20.2	bar(g)
Minimum LP switch setting	0.1	bar(g)
LP pump down setting	0.4	bar(g)

# Sound power data

Sound power level	0	dB(A)
With accoustic hood	0	dB(A)

Tolerance according EN12900



tc: Condensing temperature at dew point



# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions

**R404A** 

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity		2.050	2.025	2.757	4.000	0.400	7.000	0.400	44.404
30	1 417	2 050	2 825	3 757	4 866	6 168	7 683	9 428	11 421
35	1 182	1 769	2 485	3 348	4 375	5 585	6 995	8 624	10 488
40 45	963 759	1 503 1 250	2 159	2 951 2 566	3 896 3 427	5 011 4 447	6 315 5 644	7 826 7 037	9 562
+		+	1 846		1	+	1		8 642
50	570 -	1 012 787	1 546	2 193 1 832	2 969 2 522	3 892	4 982 4 328	6 254	7 728
55 60	-	578	1 260 986	1 483	2 086	3 348 2 813	3 682	5 480 4 712	6 821 5 920
60	-	5/8	980	1 483	2 086	2813	3 082	4 / 12	5 920
Power input in W	ı								
30	1 106	1 291	1 462	1 614	1 747	1 856	1 940	1 996	2 020
35	1 094	1 298	1 488	1 663	1 818	1 952	2 062	2 144	2 197
40	1 076	1 300	1 511	1 708	1 888	2 047	2 184	2 295	2 378
45	1 050	1 295	1 529	1 750	1 955	2 141	2 306	2 446	2 560
50	1 016	1 283	1 541	1 787	2 019	2 232	2 426	2 598	2 743
55	-	1 263	1 546	1 818	2 077	2 320	2 545	2 748	2 927
60	-	1 234	1 543	1 842	2 130	2 403	2 659	2 895	3 109
Current consum	otion in A								
30	8.42	8.88	9.37	9.86	10.33	10.75	11.09	11.33	11.42
35	8.44	8.94	9.47	10.01	10.54	11.01	11.41	11.70	11.86
40	8.43	8.99	9.59	10.20	10.80	11.35	11.83	12.20	12.45
45	8.35	8.99	9.68	10.39	11.08	11.73	12.32	12.80	13.16
50	8.16	8.91	9.72	10.54	11.35	12.13	12.84	13.45	13.95
55	-	8.72	9.66	10.62	11.58	12.51	13.37	14.14	14.78
60	-	8.38	9.48	10.61	11.73	12.83	13.86	14.81	15.64
Mass flow in kg/l	•								
30	45	63	85	110	139	172	210	252	300
35	40	58	80	105	133	166	203	245	292
40	35	54	75	99	127	160	196	238	285
45	31	49	70	94	121	153	189	230	277
50	26	44	64	88	115	147	182	223	268
55	-	38	59	82	109	140	175	215	260
60	-	33	53	76	103	134	168	208	252
•									
Coefficient of per	· · · · · · · · · · · · · · · · · · ·	1	4.00	0.00	0.70	0.00	1 000	1.70	5.05
30	1.28	1.59	1.93	2.33	2.79	3.32	3.96	4.72	5.65
35	1.08	1.36	1.67	2.01	2.41	2.86	3.39	4.02	4.77
40	0.90	1.16	1.43	1.73	2.06	2.45	2.89	3.41	4.02
45	0.72	0.97	1.21	1.47	1.75	2.08	2.45	2.88	3.38
50	0.56	0.79	1.00	1.23	1.47	1.74	2.05	2.41	2.82
55	-	0.62	0.81	1.01	1.21	1.44	1.70	1.99	2.33
60	-	0.47	0.64	0.80	0.98	1.17	1.38	1.63	1.90

Nominal performance at to = -10 °C, tc = 45 °C
------------------------------------------------

Cooling capacity	3 427	W
Power input	1 955	W
Current consumption	11.08	Α
Mass flow	121	kg/h
C.O.P.	1.75	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

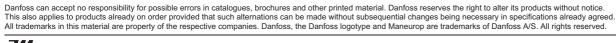
Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setti	ng 27.7	bar(g)
Minimum LP switch setting	ıg 1	bar(g)
LP pump down setting	1.3	bar(g)

Sound power data

Sound power level	71	dB(A)
With accoustic hood	64	dB(A)







# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, ARI rating conditions

# **R404A**

Cond. temp. in				Evapora	iting temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacit		0.070	2.420	4.450	F 202	0.702	0.424	40.220	40.405
30	1 577	2 276	3 128	4 150	5 362	6 783	8 431	10 326	12 485
35	1 330	1 984	2 779	3 733	4 866	6 195	7 741	9 522	11 557
40	1 098	1 706	2 444	3 328	4 380	5 618	7 061	8 727	10 637
45	880	1 442	2 121	2 936	3 906	5 051	6 390	7 943	9 727
50	676	1 191	1 811	2 556	3 445	4 497	5 733	7 171	8 830
55	-	954	1 516	2 190	2 997	3 958	5 091	6 416	7 952
60	-	730	1 235	1 840	2 569	3 439	4 472	5 688	7 107
Power input in \	N	_	_	1					
30	1 106	1 291	1 462	1 614	1 747	1 856	1 940	1 996	2 020
35	1 094	1 298	1 488	1 663	1 818	1 952	2 062	2 144	2 197
40	1 076	1 300	1 511	1 708	1 888	2 047	2 184	2 295	2 378
45	1 050	1 295	1 529	1 750	1 955	2 141	2 306	2 446	2 560
50	1 016	1 283	1 541	1 787	2 019	2 232	2 426	2 598	2 743
55	-	1 263	1 546	1 818	2 077	2 320	2 545	2 748	2 927
60	-	1 234	1 543	1 842	2 130	2 403	2 659	2 895	3 109
Current consum	nption in A								
30	8.42	8.88	9.37	9.86	10.33	10.75	11.09	11.33	11.42
35	8.44	8.94	9.47	10.01	10.54	11.01	11.41	11.70	11.86
40	8.43	8.99	9.59	10.20	10.80	11.35	11.83	12.20	12.45
45	8.35	8.99	9.68	10.39	11.08	11.73	12.32	12.80	13.16
50	8.16	8.91	9.72	10.54	11.35	12.13	12.84	13.45	13.95
55	-	8.72	9.66	10.62	11.58	12.51	13.37	14.14	14.78
60	-	8.38	9.48	10.61	11.73	12.83	13.86	14.81	15.64
Mass flow in kg	/h								
30	44	63	84	109	138	171	208	251	298
35	40	58	79	104	132	165	202	243	290
40	35	53	74	99	127	159	195	236	283
45	30	48	69	93	121	152	188	229	275
50	26	43	64	88	115	146	181	221	267
55	-	38	58	82	109	139	174	214	259
60	-	32	53	76	102	133	167	206	250
Coefficient of pe	erformance (C.C	D.P.)							
30	1.43	1.76	2.14	2.57	3.07	3.65	4.35	5.17	6.18
35	1.22	1.53	1.87	2.25	2.68	3.17	3.75	4.44	5.26
40	1.02	1.31	1.62	1.95	2.32	2.74	3.23	3.80	4.47
45	0.84	1.11	1.39	1.68	2.00	2.36	2.77	3.25	3.80
50	0.67	0.93	1.18	1.43	1.71	2.01	2.36	2.76	3.22
55	-	0.76	0.98	1.20	1.44	1.71	2.00	2.34	2.72
			+						

Nominal performance at to = -10 °C, tc = 45 °C

Cooling capacity	3 906	W
Power input	1 955	W
Current consumption	11.08	Α
Mass flow	121	kg/h
C.O.P.	2.00	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

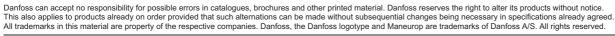
Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

27.7	bar(g)
1	bar(g)
1.3	bar(g)
	27.7 1 1.3

Sound power data

Sound power level	71	dB(A)
With accoustic hood	64	dB(A)







# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions

**R407A** 

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity		4.500	2.205	2.450	4.400	F 40F	0.000	0.500	40.455
30	1 014	1 586	2 295	3 158	4 196	5 425	6 866	8 536	10 455
35	845	1 386	2 054	2 866	3 842	4 999	6 357	7 935	9 751
40	677	1 187	1 813	2 572	3 485	4 570	5 845	7 330	9 042
45	513	990	1 573	2 280	3 129	4 140	5 332	6 722	8 329
50	-	798	1 337	1 990	2 775	3 712	4 818	6 113	7 615
55	-	-	1 107	1 705	2 425	3 287	4 307	5 507	6 903
60	-	-	-	1 427	2 081	2 866	3 801	4 903	6 192
Power input in W	ı								
30	865	1 059	1 238	1 400	1 545	1 668	1 770	1 847	1 898
35	845	1 059	1 260	1 445	1 613	1 761	1 887	1 990	2 068
40	813	1 050	1 274	1 483	1 675	1 849	2 002	2 132	2 238
45	770	1 031	1 280	1 515	1 734	1 934	2 115	2 275	2 410
50	-	1 003	1 279	1 541	1 787	2 017	2 228	2 417	2 584
55	-	-	1 270	1 560	1 837	2 097	2 339	2 560	2 760
60	-	-	-	1 575	1 882	2 175	2 449	2 704	2 938
Current consump		T	T	T	T	T	T	T	T
30	7.19	7.62	8.09	8.56	9.03	9.44	9.78	10.02	10.13
35	7.20	7.64	8.13	8.64	9.14	9.61	10.01	10.32	10.51
40	7.18	7.65	8.18	8.75	9.31	9.85	10.34	10.74	11.03
45	7.10	7.63	8.22	8.86	9.51	10.14	10.73	11.25	11.66
50	-	7.53	8.21	8.94	9.69	10.44	11.15	11.80	12.36
55	-	-	8.11	8.95	9.83	10.71	11.56	12.37	13.09
60	-	-	-	8.86	9.88	10.91	11.94	12.91	13.82
Mass flow in kg/h	n								
30	24	37	53	71	93	118	147	180	217
35	21	34	50	68	89	114	143	175	212
40	18	31	46	64	85	110	138	170	207
45	14	27	43	60	81	105	133	165	201
50	-	24	39	56	77	101	128	160	195
55	-	-	34	52	72	96	123	154	189
60	-	-	-	47	67	90	117	147	182
Coefficient of per	rformance (C.C.	).P.)							
30	1.17	1.50	1.85	2.26	2.72	3.25	3.88	4.62	5.51
35	1.00	1.31	1.63	1.98	2.38	2.84	3.37	3.99	4.72
40	0.83	1.13	1.42	1.73	2.08	2.47	2.92	3.44	4.04
45	0.67	0.96	1.23	1.50	1.81	2.14	2.52	2.96	3.46
	-	0.80	1.05	1.29	1.55	1.84	2.16	2.53	2.95
50		0.00			1	+	1	1	1
50 55	_	_	0.87	1.09	1.32	1.57	1.84	2.15	2.50

Nominal performance at to = -10 °C, tc = 45 °C

Cooling capacity	3 129	W
Power input	1 734	W
Current consumption	9.51	Α
Mass flow	81	kg/h
C.O.P.	1.81	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

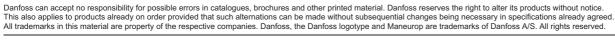
Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	25.8	bar(g)	
Minimum LP switch setting	0.9	bar(g)	
LP pump down setting	1.2	bar(q)	

Sound power data

Sound power level	70	dB(A)
With accoustic hood	63	dB(A)







# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, ARI rating conditions

# **R407A**

Cond. temp. in					ting temperature			ı	1
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	r in W								
30	1 096	1 713	2 475	3 401	4 513	5 828	7 367	9 149	11 193
35	919	1 506	2 227	3 103	4 154	5 398	6 855	8 546	10 489
40	742	1 298	1 978	2 803	3 792	4 964	6 340	7 938	9 779
45	567	1 091	1 730	2 503	3 429	4 529	5 822	7 328	9 067
50	-	888	1 484	2 204	3 067	4 094	5 304	6 718	8 354
55	-	-	1 243	1 910	2 710	3 663	4 790	6 111	7 645
60	-	-	-	1 621	2 358	3 238	4 282	5 510	6 942
Power input in V	ı								
30	865	1 059	1 238	1 400	1 545	1 668	1 770	1 847	1 898
35	845	1 059	1 260	1 445	1 613	1 761	1 887	1 990	2 068
40	813	1 050	1 274	1 483	1 675	1 849	2 002	2 132	2 238
45	770	1 031	1 280	1 515	1 734	1 934	2 115	2 275	2 410
50	-	1 003	1 279	1 541	1 787	2 017	2 228	2 417	2 584
55	-	-	1 270	1 560	1 837	2 097	2 339	2 560	2 760
60	-	-	-	1 575	1 882	2 175	2 449	2 704	2 938
Current consum	ption in A								
30	7.19	7.62	8.09	8.56	9.03	9.44	9.78	10.02	10.13
35	7.20	7.64	8.13	8.64	9.14	9.61	10.01	10.32	10.51
40	7.18	7.65	8.18	8.75	9.31	9.85	10.34	10.74	11.03
45	7.10	7.63	8.22	8.86	9.51	10.14	10.73	11.25	11.66
50	-	7.53	8.21	8.94	9.69	10.44	11.15	11.80	12.36
55	-	-	8.11	8.95	9.83	10.71	11.56	12.37	13.09
60	-	-	-	8.86	9.88	10.91	11.94	12.91	13.82
Mass flow in kg/	h								
30	24	37	52	71	92	117	146	179	216
35	21	34	49	67	89	113	142	174	211
40	18	31	46	64	85	109	137	169	206
45	14	27	42	60	81	105	133	164	200
50	-	23	38	56	76	100	127	159	194
55	-	-	34	52	72	95	122	153	188
60	-	-	-	47	67	90	116	146	181
Coefficient of pe	rformance (C.C	).P.)							
30	1.27	1.62	2.00	2.43	2.92	3.49	4.16	4.95	5.90
35	1.09	1.42	1.77	2.15	2.58	3.07	3.63	4.29	5.07
40	0.91	1.24	1.55	1.89	2.26	2.68	3.17	3.72	4.37
45	0.74	1.06	1.35	1.65	1.98	2.34	2.75	3.22	3.76
50	-	0.88	1.16	1.43	1.72	2.03	2.38	2.78	3.23
55	-	-	0.98	1.22	1.48	1.75	2.05	2.39	2.77
		•							

Nominal performance at to = -10 °C, tc = 45 °C

Cooling capacity	3 429	W
Power input	1 734	W
Current consumption	9.51	Α
Mass flow	81	kg/h
C.O.P.	1.98	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

Maximum HP switch setting	25.8	bar(g)	
Minimum LP switch setting	0.9	bar(g)	
LP pump down setting	1.2	bar(g)	

Sound power data

Sound power level	70	dB(A)
With accoustic hood	63	dB(A)

Tolerance according EN12900





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions

**R407F** 

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	in W								
30	-	1 692	2 337	3 154	4 172	5 421	6 930	8 730	10 850
35	-	1 542	2 144	2 899	3 838	4 991	6 386	8 055	10 026
40	_	1 393	1 954	2 653	3 517	4 577	5 863	7 405	9 231
45	-	1 240	1 766	2 411	3 205	4 177	5 358	6 776	8 463
50	-	-	1 575	2 171	2 898	3 787	4 866	6 166	7 716
55	-	-	-	1 928	2 593	3 402	4 384	5 569	6 987
60	-	-	-	-	_	-	_	-	-
Power input in W		•	•	ı	•	1	1	•	ı
30		1 133	1 262	1 379	1 481	1 566	1 632	1 676	1 697
35	-	1 168	1 317	1 454	1 578	1 687	1 778	1 849	1 898
40		1 194	1 363	1 522	1 670	1 804	1 922	2 021	2 100
45		1 210	1 402	1 585	1 758	1 918	2 064	2 193	2 304
50	-	-	1 434	1 642	1 841	2 030	2 206	2 366	2 509
55		-	-	1 694	1 922	2 140	2 347	2 540	2 717
60	_	-	-	-	-	-	-	-	-
00				_	_	_	_	_	
Current consump	tion in A	<b>.</b>	T	T	T			T	1
30	-	8.18	8.46	8.75	9.03	9.28	9.46	9.55	9.53
35	-	8.23	8.59	8.98	9.37	9.74	10.05	10.29	10.42
40	-	8.26	8.70	9.18	9.68	10.16	10.60	10.98	11.27
45	-	8.28	8.80	9.38	9.97	10.57	11.14	11.66	12.11
50	-	-	8.92	9.58	10.28	10.99	11.69	12.35	12.94
55	-	-	-	9.83	10.62	11.45	12.27	13.06	13.80
60	-	-	-	-	-	-	-	-	-
Mass flow in kg/h	ı								
30	-	35	48	63	82	106	133	166	204
35	-	33	46	61	79	102	128	160	197
40	-	32	44	58	76	98	124	154	190
45	-	30	42	56	73	94	119	148	183
50	-	-	39	53	70	90	114	143	176
55	-	-	-	51	67	86	110	137	169
60	-	-	-	-	-	-	-	-	-
Coefficient of per		T '			1			T	
30	-	1.49	1.85	2.29	2.82	3.46	4.25	5.21	6.40
35	-	1.32	1.63	1.99	2.43	2.96	3.59	4.36	5.28
40	-	1.17	1.43	1.74	2.11	2.54	3.05	3.66	4.40
45	-	1.02	1.26	1.52	1.82	2.18	2.60	3.09	3.67
50	-	-	1.10	1.32	1.57	1.87	2.21	2.61	3.08
55	-	-	-	1.14	1.35	1.59	1.87	2.19	2.57
60	-	-	-	-	-	-	_	_	-

Nominal performance at to = -10 °C, tc = 45 °C	;
------------------------------------------------	---

Cooling capacity	3 205	W
Power input	1 758	W
Current consumption	9.97	Α
Mass flow	73	kg/h
C.O.P.	1.82	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	24	bar(g)	
Minimum LP switch setting	1	bar(g)	
LP pump down setting	1.26	bar(q)	

Sound power data

Sound power level	70	dB(A)
With accoustic hood	63	dB(A)





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, ARI rating conditions

**R407F** 

Cond. temp. in				Evapora	iting temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
		1				•			•
Cooling capacity	in W								1
30	-	1 813	2 503	3 374	4 458	5 787	7 392	9 304	11 553
35	-	1 661	2 306	3 115	4 119	5 350	6 840	8 619	10 719
40	-	1 508	2 113	2 864	3 793	4 931	6 310	7 961	9 915
45	-	1 351	1 921	2 619	3 477	4 526	5 799	7 326	9 138
50	-	-	1 726	2 376	3 167	4 132	5 303	6 710	8 387
55	-	-	-	2 130	2 860	3 746	4 819	6 113	7 658
60	-	-	-	-	-	-	-	-	-
Power input in V	ı								
30	<u>.</u>	1 133	1 262	1 379	1 481	1 566	1 632	1 676	1 697
35	-	1 168	1 317	1 454	1 578	1 687	1 778	1 849	1 898
40	-	1 194	1 363	1 522	1 670	1 804	1 922	2 021	2 100
45	-	1 210	1 402	1 585	1 758	1 918	2 064	2 193	2 304
50	-	-	1 434	1 642	1 841	2 030	2 206	2 366	2 509
55	-	-	-	1 694	1 922	2 140	2 347	2 540	2 717
60	_	-	_	-	-	-	-	-	-
						1		I.	I
Current consum	ption in A								
30	-	8.18	8.46	8.75	9.03	9.28	9.46	9.55	9.53
35	-	8.23	8.59	8.98	9.37	9.74	10.05	10.29	10.42
40	-	8.26	8.70	9.18	9.68	10.16	10.60	10.98	11.27
45	-	8.28	8.80	9.38	9.97	10.57	11.14	11.66	12.11
50	-	-	8.92	9.58	10.28	10.99	11.69	12.35	12.94
55	-	-	-	9.83	10.62	11.45	12.27	13.06	13.80
60	-	-	-	-	-	-	-	-	-
Mass flow in kg/l	h								
30	<u>.</u>	35	47	63	82	105	132	165	203
35	-	33	45	61	79	101	128	159	196
40	-	31	43	58	76	97	123	153	189
45	-	30	41	56	73	94	118	147	182
50	-	-	39	53	70	90	114	142	175
55	-	-	-	50	67	86	109	136	168
60	-	-	-	-	-	-	-	-	-
<u>'</u>		•	•	•	•	•	•	•	•
Coefficient of pe			1	1	1	T	T	T	1
30	-	1.60	1.98	2.45	3.01	3.70	4.53	5.55	6.81
35	-	1.42	1.75	2.14	2.61	3.17	3.85	4.66	5.65
40	-	1.26	1.55	1.88	2.27	2.73	3.28	3.94	4.72
45	-	1.12	1.37	1.65	1.98	2.36	2.81	3.34	3.97
50	-	-	1.20	1.45	1.72	2.04	2.40	2.84	3.34
55	-	-	-	1.26	1.49	1.75	2.05	2.41	2.82
60	-	-	-	-	-	_	_	_	-

Nominal performance at to = -10 °C, tc = 45 °C	3
------------------------------------------------	---

Cooling capacity	3 477	W
Power input	1 758	W
Current consumption	9.97	Α
Mass flow	73	kg/h
C.O.P.	1.98	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

Maximum HP switch setting	24	bar(g)	
Minimum LP switch setting	1	bar(g)	
LP pump down setting	1.26	bar(q)	

Sound power data

Sound power level	70	dB(A)
With accoustic hood	63	dB(A)

Tolerance according EN12900





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions

R134a

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-25	-20	-10	-5	0	5	10	15	20
Cooling consoit	ı in M								
Cooling capacity 35	847	1 202	2 211	2 915	3 785	4 845	6 121	7 637	9 419
40	727	1 069	2 021	2 680	3 496	4 491	5 692	7 122	8 808
45	601	929	1 823	2 438	3 198	4 128	5 252	6 596	8 185
50	473	787	1 621	2 190	2 894	3 757	4 805	6 062	7 553
55	-	-	1 416	1 939	2 586	3 383	4 353	5 522	6 915
60	-	-	-	1 688	2 278	3 007	3 899	4 979	6 273
65	-	-	_	-	1 971	2 631	3 445	4 436	5 630
75	_	_	_	_	-	-	2 547	3 357	4 350
		1	1						
Power input in V		1	,		ı	1	1	1	ı
35	690	786	980	1 072	1 157	1 233	1 296	1 345	1 376
40	714	814	1 022	1 124	1 221	1 310	1 390	1 456	1 507
45	731	837	1 061	1 174	1 284	1 389	1 485	1 570	1 642
50	740	853	1 096	1 221	1 346	1 467	1 581	1 687	1 780
55	-	-	1 125	1 264	1 404	1 543	1 677	1 804	1 921
60	-	-	-	1 301	1 458	1 615	1 770	1 920	2 062
65	-	-	-	-	1 506	1 683	1 860	2 034	2 202
75	-	-	-	-	-	-	2 026	2 251	2 475
Current consum	ption in A								
35	6.75	6.90	7.22	7.38	7.54	7.69	7.83	7.95	8.07
40	6.78	6.95	7.32	7.51	7.71	7.90	8.09	8.27	8.45
45	6.79	6.98	7.40	7.63	7.86	8.11	8.35	8.59	8.83
50	6.77	6.99	7.47	7.73	8.01	8.31	8.61	8.92	9.23
55	-	-	7.51	7.82	8.15	8.50	8.86	9.24	9.63
60	-	-	-	7.90	8.28	8.69	9.12	9.57	10.03
65	-	-	-	-	8.40	8.87	9.37	9.89	10.44
75	-	-	-	-	-	-	9.84	10.53	11.25
Mana flam in len	L								
Mass flow in kg/		30	F2	60	96	100	124	164	200
35 40	21 19	30 28	53 51	68 65	86 83	108 105	134 130	164 160	200 196
45	17	26	48	63	80	105	127	156	190
50	17	23	48	60	77	98	127	151	185
55	-	-	45	56	73	93	117	146	178
60		-	- 42	52	69	89	117	139	170
65		-	-	-	64	83	106	133	164
75	-	-	-	-	-	-	92	118	147
. •		L	ı	1	I.	1	, <u>~-</u>		1 117
Coefficient of pe	•	1	1	1	T	T	1	T	ı
35	1.23	1.53	2.26	2.72	3.27	3.93	4.72	5.68	6.85
40	1.02	1.31	1.98	2.39	2.86	3.43	4.10	4.89	5.85
45	0.82	1.11	1.72	2.08	2.49	2.97	3.54	4.20	4.99
50	0.64	0.92	1.48	1.79	2.15	2.56	3.04	3.59	4.24
55	-	-	1.26	1.53	1.84	2.19	2.60	3.06	3.60
60	-	-	-	1.30	1.56	1.86	2.20	2.59	3.04
65	-	-	-	-	1.31	1.56	1.85	2.18	2.56
75	-	-	-	-	-	-	1.26	1.49	1.76

#### Nominal performance at to = 5 °C, tc = 50 °C

	•• •		
Cooling capacity	3 757	W	
Power input	1 467	W	
Current consumption	8.31	Α	
Mass flow	98	kg/h	
C.O.P.	2.56		

to: Evaporating temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	20.2	bar(g)
Minimum LP switch setting	0.1	bar(g)
LP pump down setting	0.4	bar(g)

# Sound power data

Sound power level	0	dB(A)
With accoustic hood	0	dB(A)

Tolerance according EN12900



tc: Condensing temperature at dew point  $% \left( 1\right) =\left( 1\right) \left( 1\right)$ 



# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, ARI rating conditions

R134a

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-25	-20	-10	-5	0	5	10	15	20
<u> </u>							l .		ı
Cooling capacit	y in W								
35	921	1 305	2 391	3 147	4 079	5 214	6 578	8 196	10 095
40	794	1 166	2 197	2 908	3 786	4 856	6 145	7 678	9 481
45	661	1 021	1 993	2 660	3 483	4 487	5 700	7 146	8 853
50	-	871	1 784	2 405	3 172	4 110	5 245	6 605	8 215
55	-	-	1 572	2 147	2 856	3 727	4 785	6 057	7 569
60	-	-	-	1 886	2 538	3 340	4 320	5 504	6 919
65	-	-	-	-	-	2 954	3 855	4 950	6 266
75	-	-	-	-	-	-	2 931	3 848	4 967
Power input in \	N								,
35	690	786	980	1 072	1 157	1 233	1 296	1 345	1 376
40	714	814	1 022	1 124	1 221	1 310	1 390	1 456	1 507
45	731	837	1 061	1 174	1 284	1 389	1 485	1 570	1 642
50	-	853	1 096	1 221	1 346	1 467	1 581	1 687	1 780
55	-	-	1 125	1 264	1 404	1 543	1 677	1 804	1 921
60	-	-	-	1 301	1 458	1 615	1 770	1 920	2 062
65	-	-	-	-	-	1 683	1 860	2 034	2 202
75	-	-	-	-	-	-	2 026	2 251	2 475
Current consun	nption in A								,
35	6.75	6.90	7.22	7.38	7.54	7.69	7.83	7.95	8.07
40	6.78	6.95	7.32	7.51	7.71	7.90	8.09	8.27	8.45
45	6.79	6.98	7.40	7.63	7.86	8.11	8.35	8.59	8.83
50	-	6.99	7.47	7.73	8.01	8.31	8.61	8.92	9.23
55	-	-	7.51	7.82	8.15	8.50	8.86	9.24	9.63
60	-	-	-	7.90	8.28	8.69	9.12	9.57	10.03
65	-	-	-	-	-	8.87	9.37	9.89	10.44
75	-	-	-	-	-	-	9.84	10.53	11.25
Mass flow in kg	/h	1	ľ	1	T	1	T		1
35	21	30	52	67	86	107	133	164	199
40	19	28	50	65	83	104	130	160	194
45	17	26	48	62	80	101	126	155	189
50	-	23	45	59	77	97	122	150	184
55	-	-	42	56	73	93	117	145	177
60	-	-	-	52	68	88	111	139	171
65	-	-	-	-	-	83	105	132	163
75	-	-	-	-	-	-	92	117	147
-	erformance (C.C	1	_	T	1	1	1		1
35	1.33	1.66	2.44	2.94	3.53	4.23	5.08	6.10	7.34
40	1.11	1.43	2.15	2.59	3.10	3.71	4.42	5.27	6.29
45	0.90	1.22	1.88	2.27	2.71	3.23	3.84	4.55	5.39
50	-	1.02	1.63	1.97	2.36	2.80	3.32	3.92	4.61
55	-	-	1.40	1.70	2.03	2.42	2.85	3.36	3.94
60	-	-	-	1.45	1.74	2.07	2.44	2.87	3.36
65	-	-	-	-	-	1.75	2.07	2.43	2.85
75	-	-	-	-	-	-	1.45	1.71	2.01

#### Nominal performance at to = 7.2 °C, tc = 54.4 °C

rionniai poriornianos at to	0,	U-1		
Cooling capacity		4 218	W	
Power input		1 592	W	
Current consumption		8.63	Α	
Mass flow		103	kg/h	
C.O.P.		2.65		

to: Evaporating temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

Maximum HP switch setting	20.2	bar(g)
Minimum LP switch setting	0.1	bar(g)
LP pump down setting	0.4	bar(g)

# Sound power data

Sound power level	0	dB(A)
With accoustic hood	0	dB(A)

Tolerance according EN12900



tc: Condensing temperature at dew point



# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions

**R407C** 

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-15	-10	-5	0	5	10	15		
•		•	•	•	•	•	•	•	•
Cooling capacity	y in W								
35	2 485	3 478	4 654	6 036	7 643	9 497	11 616	-	-
40	2 217	3 156	4 258	5 544	7 034	8 749	10 708	-	-
45	1 939	2 831	3 864	5 060	6 438	8 020	9 824	-	-
50	-	2 497	3 468	4 579	5 851	7 305	8 961	-	-
55	-	-	3 064	4 097	5 268	6 600	8 113	-	-
60	-	-	-	3 609	4 686	5 902	7 277	-	-
65	-	-	-	3 113	4 101	5 206	6 449	-	-
Power input in \	N					•			
35	1 308	1 461	1 590	1 693	1 771	1 824	1 850	-	-
40	1 335	1 515	1 671	1 802	1 907	1 988	2 043	-	-
45	1 355	1 563	1 748	1 908	2 044	2 155	2 240	-	-
50	-	1 605	1 821	2 013	2 181	2 324	2 443	-	-
55	-	-	1 889	2 115	2 318	2 496	2 649	-	-
60	-	-	-	2 215	2 454	2 669	2 860	-	-
65	-	-	-	2 312	2 589	2 844	3 074	-	-
Current consum	nption in A								
35	8.47	8.77	9.11	9.45	9.75	9.99	10.11	-	-
40	8.55	8.94	9.36	9.78	10.18	10.50	10.72	-	-
45	8.61	9.09	9.62	10.15	10.65	11.08	11.41	-	-
50	-	9.23	9.88	10.53	11.16	11.72	12.18	-	-
55	-	-	10.12	10.92	11.69	12.40	13.01	-	-
60	-	-	-	11.30	12.23	13.10	13.88	-	-
65	-	-	-	11.66	12.77	13.83	14.79	-	-
Mass flow in kg	/h	T	•	ı	•	1	T	T	1
35	54	74	98	125	156	191	230	-	-
40	51	71	94	120	150	184	222	-	-
45	47	67	90	116	145	177	214	-	-
50	-	63	85	111	139	171	206	-	-
55	-	-	80	105	133	164	198	-	-
60	-	-	-	99	126	156	189	-	-
65	-	-	-	93	119	149	181	-	-
0 - 15 - 1 1 - 1									
Coefficient of pe			2.00	2.50	4.04	F 04	0.00	I	1
35	1.90	2.38	2.93	3.56	4.31	5.21	6.28	-	-
40	1.66	2.08	2.55	3.08	3.69	4.40	5.24	-	-
45	1.43	1.81	2.21	2.65	3.15	3.72	4.39	-	-
50	-	1.56	1.90	2.27	2.68	3.14	3.67	-	-
55	-	-	1.62	1.94	2.27	2.64	3.06	-	-
60	-	-	-	1.63	1.91	2.21	2.54	-	-
65	-	-	-	1.35	1.58	1.83	2.10	-	-

Nominal performance at to = 5 °C, tc = 50 °C

Cooling capacity	5 851	W	
Power input	2 181	W	
Current consumption	11.16	Α	
Mass flow	139	kg/h	
C.O.P.	2.68		

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K



Pressure switch settings

Maximum HP switch setting	29.4	bar(g)	ı
Minimum LP switch setting	1.4	bar(g)	ı
LP pump down setting	1.7	bar(g)	

Sound power data

Sound power level	73	dB(A)
With accoustic hood	66	dB(A)

Tolerance according EN12900





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, ARI rating conditions

**R407C** 

Cond. temp. in				Evapora	iting temperature	in °C (to)			
°C (tc)	-15	-10	-5	0	5	10	15		
•		•	•	•	•	•	•		l .
Cooling capacity	/ in W								
35	2 675	3 738	4 998	6 474	8 189	10 164	12 420	-	-
40	2 399	3 411	4 596	5 977	7 574	9 409	11 503	-	-
45	2 111	3 078	4 196	5 487	6 972	8 673	10 612	-	-
50	-	2 735	3 792	4 999	6 379	7 952	9 741	-	-
55	-	-	3 380	4 510	5 790	7 242	8 887	-	-
60	-	-	-	4 014	5 202	6 539	8 047	-	-
65	-	-	-	3 508	4 610	5 839	7 217	-	-
Power input in V			,	,	,	1		T	1
35	1 308	1 461	1 590	1 693	1 771	1 824	1 850	-	-
40	1 335	1 515	1 671	1 802	1 907	1 988	2 043	-	-
45	1 355	1 563	1 748	1 908	2 044	2 155	2 240	-	-
50	-	1 605	1 821	2 013	2 181	2 324	2 443	-	-
55	-	-	1 889	2 115	2 318	2 496	2 649	-	-
60	-	-	-	2 215	2 454	2 669	2 860	-	-
65	-	-	-	2 312	2 589	2 844	3 074	-	-
Current consum			T	T	Т	T	1	Γ	ı
35	8.47	8.77	9.11	9.45	9.75	9.99	10.11	-	-
40	8.55	8.94	9.36	9.78	10.18	10.50	10.72	-	-
45	8.61	9.09	9.62	10.15	10.65	11.08	11.41	-	-
50	-	9.23	9.88	10.53	11.16	11.72	12.18	-	-
55	-	-	10.12	10.92	11.69	12.40	13.01	-	-
60	-	-	-	11.30	12.23	13.10	13.88	-	-
65	-	-	-	11.66	12.77	13.83	14.79	-	-
	_								
Mass flow in kg/				101	155	100	000		I
35	54	74 70	97	124	155	190	229	-	-
40	50		93	120	149	183	221	-	-
45	46	67	89	115	144	176	213	-	-
50	-	62	85	110	138	170	205	-	-
55	-	-	80	105	132	163	197	-	-
60	-	-	-	99	126	155	188	-	-
65	-	-	-	92	119	148	179	-	-
O		<b>.</b>							
Coefficient of pe	2.05	2.56	3.14	3.82	4.62	5.57	6.71	-	_
35 40	1.80	2.56	2.75	3.82	3.97	4.73	5.63	-	-
		+	2.75	1	1	+	1		-
45	1.56	1.97	1	2.87	3.41	4.02	4.74	-	-
50	-	1.70	2.08	2.48	2.92	3.42	3.99	-	-
55	-	-	1.79	2.13	2.50	2.90	3.35	-	-
60	-	-	-	1.81	2.12	2.45	2.81	-	-
65	-	-	-	1.52	1.78	2.05	2.35	-	-

Nominal performance at to = 7.2 °C, tc = 54.4 °C

Cooling capacity	6 483	W
Power input	2 381	W
Current consumption	11.94	Α
Mass flow	146	kg/h
C.O.P.	2.72	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

Maximum HP switch setting	29.4	bar(g)	
Minimum LP switch setting	1.4	bar(g)	
LP pump down setting	1.7	bar(g)	

Sound power data

Sound power level	73	dB(A)
With accoustic hood	66	dB(A)

Tolerance according EN12900





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions, Suction temp. = 20 °C

**R448A** 

Cond. temp. in	Evaporating temperature in °C (to)									
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10	
Cooling capacity	in W									
10	-	2 704	3 581	4 644	5 912	-	-	-	-	
20	-	2 359	3 172	4 151	5 313	6 676	8 260	-	-	
30	-	1 996	2 742	3 631	4 682	5 910	7 334	8 976	10 860	
40	-	-	2 296	3 091	4 025	5 113	6 373	7 824	9 486	
50	-	-	-	2 537	3 349	4 292	5 383	6 637	8 073	
60	-	-	-	-	2 660	3 455	4 371	5 425	6 629	
Power input in W										
10	-	989	1 054	1 100	1 126	-	-	-	-	
20	-	1 098	1 200	1 282	1 345	1 389	1 412	-	-	
30	-	1 177	1 318	1 441	1 545	1 629	1 695	1 740	1 766	
40	-	-	1 405	1 571	1 719	1 848	1 958	2 049	2 121	
50	-	-	-	1 669	1 863	2 040	2 198	2 338	2 459	
60	-	-	-	-	1 974	2 201	2 411	2 603	2 777	
Current consump		T 440	1.55	4.07	5.00	T	-	1	1	
10	-	4.19	4.55	4.87	5.09	- 7.07		-	-	
20	-	5.63	6.13	6.60	6.99	7.27	7.36	-	-	
30	-	6.37	7.01	7.65	8.23	8.71	9.04	9.15	9.02	
40		1	7.42	8.24	9.02	9.72	10.28	10.66	10.80	
50	-	-	-	8.58	9.57	10.50	11.32	11.97	12.40	
60	-	-	-	-	10.10	11.27	12.35	13.28	14.01	
Mass flow in kg/h	1									
10	-	44	59	77	98	-	-	-	-	
20	-	42	56	74	95	120	149	-	-	
30	-	38	52	70	90	115	144	178	219	
40	-	-	48	65	85	109	137	171	210	
50	-	-	-	59	79	102	130	162	200	
60	-	-	-	-	72	94	121	152	189	
Coefficient of per	formance (C.C	D.P.)								
10	-	2.73	3.40	4.22	5.25	-	-	-	-	
20	-	2.15	2.64	3.24	3.95	4.81	5.85	-	-	
30	-	1.70	2.08	2.52	3.03	3.63	4.33	5.16	6.15	
40	-	-	1.63	1.97	2.34	2.77	3.26	3.82	4.47	
	-	-	-	1.52	1.80	2.10	2.45	2.84	3.28	
50	-									

Nominal perf	ormance at to	= -10 °C	, tc = 45 °C

Cooling capacity	3 689	W
Power input	1 795	W
Current consumption	9.31	Α
Mass flow	82	kg/h
C.O.P.	2.06	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Suction gas temp. = 20  $^{\circ}\text{C}$  , Subcooling = 0 K

Pressure switch settings

Maximum HP switch	setting	27.7	bar(g)
Minimum LP switch	setting	1	bar(g)
LP pump down setti	ng	1.3	bar(g)

Sound power data

Sound power level	72	dB(A)	Ī
With accoustic hood	65	dB(A)	





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions, Superheat = 10 K

**R448A** 

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	in W	•		•					
10	2 005	2 717	3 601	4 672	5 950	-	-	-	-
20	1 679	2 343	3 159	4 143	5 312	6 683	8 275	-	-
30	1 344	1 956	2 698	3 588	4 643	5 880	7 317	8 972	10 860
40	1 010	1 562	2 225	3 015	3 951	5 048	6 325	7 798	9 486
50	-	1 170	1 748	2 433	3 243	4 194	5 305	6 592	8 073
60	-	-	1 275	1 849	2 527	3 327	4 265	5 360	6 629
Power input in V	ı								
10	905	989	1 054	1 100	1 126	-	-	_	-
20	978	1 098	1 200	1 282	1 345	1 389	1 412	-	-
30	1 018	1 177	1 318	1 441	1 545	1 629	1 695	1 740	1 766
40	1 021	1 222	1 405	1 571	1 719	1 848	1 958	2 049	2 121
50	-	1 227	1 456	1 669	1 863	2 040	2 198	2 338	2 459
60	-	-	1 467	1 729	1 974	2 201	2 411	2 603	2 777
•		•	· L	•	1	1		•	
Current consum	ption in A								
10	3.84	4.19	4.55	4.87	5.09	-	-	-	-
20	5.16	5.63	6.13	6.60	6.99	7.27	7.36	_	-
30	5.77	6.37	7.01	7.65	8.23	8.71	9.04	9.15	9.02
40	5.88	6.62	7.42	8.24	9.02	9.72	10.28	10.66	10.80
50	-	6.59	7.57	8.58	9.57	10.50	11.32	11.97	12.40
60	-	-	7.67	8.88	10.10	11.27	12.35	13.28	14.01
Mass flow in kg/						1	1	T	
10	39	52	67	86	108	-	-	-	-
20	35	48	64	82	104	129	157	-	-
30	31	44	60	78	99	124	151	183	219
40	26	39	55	73	93	117	144	175	210
50	-	33	49	66	87	110	136	166	200
60	-	-	42	59	79	101	127	156	189
Coefficient of pe	rformance (C.0	O.P.)							
10	2.22	2.75	3.42	4.25	5.29	-	-	-	-
20	1.72	2.13	2.63	3.23	3.95	4.81	5.86	-	-
30	1.32	1.66	2.05	2.49	3.01	3.61	4.32	5.16	6.15
40	0.99	1.28	1.58	1.92	2.30	2.73	3.23	3.81	4.47
50	-	0.95	1.20	1.46	1.74	2.06	2.41	2.82	3.28
60	-	-	0.87	1.07	1.28	1.51	1.77	2.06	2.39
		1	·	1			·		•
Nominal perform	nance at to = -1	0 °C, tc = 45 °C				Pressure switch	settings		
					Г				

Cooling capacity

Current consumption

Power input

Mass flow

to: Evaporating temperature at dew point tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

3 598

1 795

9.31

90 2.00 W

W

Maximum HP switch	setting	27.7	bar(g)
Minimum LP switch	setting	1	bar(g)
LP pump down setti	ng	1.3	bar(g)

Sound power data

Sound power level	72	dB(A)
With accoustic hood	65	dB(A)





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions, Suction temp. = 20 °C

**R449A** 

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	in W								
10	-	2 709	3 586	4 649	5 917	-	-	-	-
20	-	2 364	3 178	4 157	5 319	6 681	8 264	-	-
30	-	2 001	2 748	3 638	4 688	5 916	7 339	8 979	10 860
40	-	-	2 302	3 098	4 031	5 119	6 378	7 827	9 486
50	-	-	-	2 543	3 356	4 299	5 388	6 640	8 073
60	-	-	-	-	2 667	3 461	4 376	5 428	6 629
Power input in W									
10	-	989	1 054	1 100	1 126	-	-	-	-
20	-	1 098	1 200	1 282	1 345	1 389	1 412	-	-
30	-	1 177	1 318	1 441	1 545	1 629	1 695	1 740	1 766
40	-	-	1 405	1 571	1 719	1 848	1 958	2 049	2 121
50	-	-	-	1 669	1 863	2 040	2 198	2 338	2 459
60	-	-	-	-	1 974	2 201	2 411	2 603	2 777
Current consump	otion in A			T-		T-		T	1
10	-	4.19	4.55	4.87	5.09	-	-	-	-
20	-	5.63	6.13	6.60	6.99	7.27	7.36	-	-
30	-	6.37	7.01	7.65	8.23	8.71	9.04	9.15	9.02
40	-	-	7.42	8.24	9.02	9.72	10.28	10.66	10.80
50	-	-	-	8.58	9.57	10.50	11.32	11.97	12.40
60	-	-	-	-	10.10	11.27	12.35	13.28	14.01
Mass flow in kg/h	ı								
10	-	45	60	78	100	-	-	-	-
20	-	42	57	75	96	122	152	-	-
30	-	39	54	71	92	117	147	182	223
40	-	-	49	66	87	111	140	174	214
50	-	-	-	61	81	105	132	165	204
60	-	-	-	-	74	96	123	155	193
Coefficient of per	formance (C.C	D.P.)							
10	-	2.74	3.40	4.23	5.26	-	-	-	-
20	-	2.15	2.65	3.24	3.95	4.81	5.85	-	-
30	-	1.70	2.08	2.52	3.04	3.63	4.33	5.16	6.15
40	-	-	1.64	1.97	2.35	2.77	3.26	3.82	4.47
		-	-	1.52	1.80	2.11	2.45	2.84	3.28
50	-	_	_						

Nominal performan	ce at to = -10 °C, tc = 45 °C

Cooling capacity	3 696	W
Power input	1 795	W
Current consumption	9.31	Α
Mass flow	84	kg/h
C.O.P.	2.06	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Suction gas temp. = 20  $^{\circ}\text{C}$  , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

Sound power data

Sound power level	73	dB(A)
With accoustic hood	66	dB(A)





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions, Superheat = 10 K

**R449A** 

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	y in W			•					
10	2 005	2 717	3 601	4 672	5 950	-	-	-	-
20	1 679	2 343	3 159	4 143	5 312	6 683	8 275	-	-
30	1 344	1 956	2 698	3 588	4 643	5 880	7 317	8 972	10 860
40	1 010	1 562	2 225	3 015	3 951	5 048	6 325	7 798	9 486
50	-	1 170	1 748	2 433	3 243	4 194	5 305	6 592	8 073
60	-	-	1 275	1 849	2 527	3 327	4 265	5 360	6 629
Power input in V	v								
10	905	989	1 054	1 100	1 126	_	-	_	-
20	978	1 098	1 200	1 282	1 345	1 389	1 412	-	-
30	1 018	1 177	1 318	1 441	1 545	1 629	1 695	1 740	1 766
40	1 021	1 222	1 405	1 571	1 719	1 848	1 958	2 049	2 121
50	-	1 227	1 456	1 669	1 863	2 040	2 198	2 338	2 459
60	-	-	1 467	1 729	1 974	2 201	2 411	2 603	2 777
1				•	1			•	
Current consum	ption in A								
10	3.84	4.19	4.55	4.87	5.09	-	-	-	-
20	5.16	5.63	6.13	6.60	6.99	7.27	7.36	-	-
30	5.77	6.37	7.01	7.65	8.23	8.71	9.04	9.15	9.02
40	5.88	6.62	7.42	8.24	9.02	9.72	10.28	10.66	10.80
50	-	6.59	7.57	8.58	9.57	10.50	11.32	11.97	12.40
60	-	-	7.67	8.88	10.10	11.27	12.35	13.28	14.01
Mass flow in kg/	h								
10	39	53	69	88	110	-	-	-	-
20	36	49	65	84	106	131	160	-	-
30	32	45	61	80	101	126	154	187	223
40	26	40	56	74	95	120	147	179	214
50	-	34	50	68	89	112	139	170	204
60	-	-	43	60	81	104	130	159	193
Coefficient of pe	•	1	T	1			1		
10	2.22	2.75	3.42	4.25	5.29	-	-	-	-
20	1.72	2.13	2.63	3.23	3.95	4.81	5.86	-	-
30	1.32	1.66	2.05	2.49	3.01	3.61	4.32	5.16	6.15
40	0.99	1.28	1.58	1.92	2.30	2.73	3.23	3.81	4.47
50	-	0.95	1.20	1.46	1.74	2.06	2.41	2.82	3.28
60	-	-	0.87	1.07	1.28	1.51	1.77	2.06	2.39
Nominal perforn	nance at to = -1	0 °C, tc = 45 °C			_	Pressure switch	settings		

Cooling capacity

Current consumption

Power input

Mass flow

to: Evaporating temperature at dew point tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

3 598

1 795

9.31

92

W

W

Max	imum HP switch setting	27.7	bar(g)
Mini	mum LP switch setting	1	bar(g)
LPp	oump down setting	1.3	bar(g)

Sound power data

Sound power level	73	dB(A)
With accoustic hood	66	dB(A)





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions, Suction temp. = 20 °C

**R452A** 

Cond. temp. in				Evapora	iting temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	in W	_							
10	-	2 796	3 620	4 645	5 888	-	-	-	-
20	-	2 359	3 163	4 139	5 306	6 680	8 284	-	-
30	-	1 870	2 634	3 543	4 613	5 861	7 306	8 968	10 872
40	-	1 351	2 057	2 878	3 832	4 933	6 200	7 651	9 304
50	-	-	1 451	2 167	2 985	3 922	4 992	6 211	7 595
60	-	-	-	1 431	2 097	2 850	3 706	4 676	5 772
Power input in W				_					
10	-	1 087	1 144	1 176	1 189	-	-	-	-
20	-	1 185	1 283	1 353	1 399	1 423	1 430	-	-
30	-	1 230	1 379	1 496	1 584	1 648	1 689	1 711	1 718
40	-	1 209	1 418	1 591	1 731	1 842	1 928	1 990	2 033
50	-	-	1 384	1 622	1 824	1 993	2 131	2 243	2 331
60	-	-	-	1 576	1 849	2 084	2 285	2 456	2 598
Current consump	tion in A								
10	-	6.66	7.28	7.70	7.92	-	-	-	-
20	-	6.55	7.14	7.57	7.84	7.96	7.93	-	-
30	-	6.82	7.43	7.92	8.29	8.55	8.70	8.75	8.69
40	-	7.07	7.75	8.36	8.88	9.33	9.71	10.03	10.29
50	-	-	7.71	8.48	9.21	9.90	10.57	11.21	11.83
60	-	-	-	7.88	8.87	9.86	10.86	11.87	12.91
Mass flow in kg/h									
10	-	56	74	96	123	-	-	-	-
20	-	51	70	93	119	152	190	-	-
30	-	45	64	87	114	146	184	228	281
40	-	36	56	79	106	137	174	218	270
50	-	-	45	68	94	125	161	203	254
60	-	-	-	53	79	109	143	184	232
•			•		•	•	•	•	•
Coefficient of per	formance (C.0	O.P.)							
10	-	2.57	3.17	3.95	4.95	-	-	-	-
20	-	1.99	2.47	3.06	3.79	4.69	5.79	-	-
30	-	1.52	1.91	2.37	2.91	3.56	4.33	5.24	6.33
40	-	1.12	1.45	1.81	2.21	2.68	3.22	3.84	4.58
50	-	-	1.05	1.34	1.64	1.97	2.34	2.77	3.26
		_	-	0.91	1.13	1.37	1.62	1.90	2.22

Mass flow	
C.O.P.	

Cooling capacity

Current consumption

Power input

Nominal performance at to = -10 °C, tc = 45 °C

to: Evaporating temperature at dew point tc: Condensing temperature at dew point

Rating conditions : Suction gas temp. = 20  $^{\circ}\text{C}$  , Subcooling = 0 K

3 415

1 785

9.10

100 1.91 W

W

Pressure switch settings

Max	imum HP switch setting	27.7	bar(g)
Mini	mum LP switch setting	1	bar(g)
LPp	oump down setting	1.3	bar(g)

Sound power data

Sound power level	73	dB(A)
With accoustic hood	66	dB(A)





# Maneurop reciprocating compressor. MTZ028-5

# Performance data at 50 Hz, EN 12900 rating conditions, Superheat = 10 K

**R452A** 

Cond. temp. in	Evaporating temperature in °C (to)								
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	y in W		•						
10	2 084	2 721	3 544	4 573	5 826	-	-	-	-
20	1 623	2 258	3 052	4 026	5 199	6 590	8 220	-	-
30	1 142	1 752	2 496	3 394	4 465	5 728	7 204	8 912	10 872
40	666	1 230	1 902	2 702	3 650	4 764	6 064	7 571	9 304
50	222	719	1 298	1 979	2 781	3 724	4 827	6 111	7 595
60	-	245	709	1 248	1 884	2 634	3 519	4 558	5 772
Power input in V	v								
10	1 004	1 087	1 144	1 176	1 189	-	-	_	-
20	1 056	1 185	1 283	1 353	1 399	1 423	1 430	-	-
30	1 046	1 230	1 379	1 496	1 584	1 648	1 689	1 711	1 718
40	961	1 209	1 418	1 591	1 731	1 842	1 928	1 990	2 033
50	784	1 106	1 384	1 622	1 824	1 993	2 131	2 243	2 331
60	-	906	1 263	1 576	1 849	2 084	2 285	2 456	2 598
1						1		•	
Current consum	ption in A								
10	5.83	6.66	7.28	7.70	7.92	-	-	-	-
20	5.79	6.55	7.14	7.57	7.84	7.96	7.93	-	-
30	6.08	6.82	7.43	7.92	8.29	8.55	8.70	8.75	8.69
40	6.29	7.07	7.75	8.36	8.88	9.33	9.71	10.03	10.29
50	6.04	6.90	7.71	8.48	9.21	9.90	10.57	11.21	11.83
60	-	5.91	6.90	7.88	8.87	9.86	10.86	11.87	12.91
Mass flow in kg/	h								
10	49	66	85	108	135	-	-	-	-
20	42	60	80	104	131	163	200	-	-
30	34	52	73	98	125	157	193	235	281
40	23	42	64	88	116	148	184	224	270
50	10	29	51	76	103	134	170	209	254
60	-	13	35	60	87	117	151	189	232
Coefficient of pe	erformance (C.C	D.P.)	_	_			<b>T</b>		
10	2.08	2.50	3.10	3.89	4.90	-	-	-	-
20	1.54	1.91	2.38	2.98	3.72	4.63	5.75	-	-
30	1.09	1.42	1.81	2.27	2.82	3.48	4.27	5.21	6.33
40	0.69	1.02	1.34	1.70	2.11	2.59	3.15	3.81	4.58
50	0.28	0.65	0.94	1.22	1.52	1.87	2.26	2.72	3.26
60	-	0.27	0.56	0.79	1.02	1.26	1.54	1.86	2.22
Nominal perforn	nance at to = -1	0 °C, tc = 45 °C				Pressure switch	settings		

Cooling capacity

Current consumption

Power input

Mass flow

to: Evaporating temperature at dew point tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

3 220

1 785

9.10

110

1.80

W

W

kg/h

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

Sound power data

Sound power level	73	dB(A)
With accoustic hood	66	dB(A)





