

Reciprocating Compressors

Datasheets

Maneurop[®] Reciprocating compressors MT / MTZ / MPZ / NTZ



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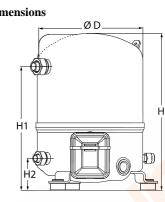
Datasheet, technical data

Danfoss

Maneurop reciprocating compressor, MTZ028-4

General Characteristics

Model number (on compressor nameplate)		MTZ28JE4AVE
Code number for Singlepack*		MTZ28-4VI
Code number for Industrial pack**		MTZ28-4VM
Drawing number		8501024e
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		30 bar / 8 bar
Cylinders		1
Swept volume	48,06 0	cm3/rev
Displacement @ Nominal speed	8.4 m3/h @ 2900 rpm -	10.1 m3/h @ 3500 rpm
Net weight	23	kg
Oil charge	0,95 litre, P	OE - 160PZ
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	1	2
Refrigerant charge limit	2,5	kg
Approved refrigerants	R404A, R507A	, R134a, R407C
•• •		



mm mm 3 mm mm

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Electrical Characteristics

Nominal voltage	380-400V/3/50Hz - 460V/3/60Hz
Voltage range	340-440 V @ 50Hz - 414-506 V @ 60Hz
Winding resistance (between phases) +/- 7% at 25°C	7.11 #
Maximum Continuous Current (MCC)	7.5 A
Locked Rotor Amps (LRA)	23 A
Motor protection	Internal overload protector

1 2 (4) 3

Recommended Installation torques

Oil sight glass	50 Nm	
Power connections / Earth connection	Nm / 2 Nm	
Mounting bolts	15 Nm	IP5
		1:

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

Approvals : CE certified, UL certified (file SA6873), CCC certified

*Singlepack: Compressor in cardboard box

**Industrial pack: 12 Unboxed compressors on pallet (order per multiples of 12)

P55 (with cable gland)

- Spade connectors 1/4"
- Earth M4-12

2:

- Knock-out Ø 21 mm (0.83") 3:
- 4: Hole Ø 21 mm (0.83")



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Datasheet, accessories and spare parts

Maneurop reciprocating compressor, MTZ028-4

Rotolock accessories, suction side	Code no.	
Solder sleeve, P06 (1" Rotolock, 1/2" ODF)	8153007	
Angle adapter, C06 (1" Rotolock, 1/2" ODF)	8168007	
Rotolock valve, V06 (1" Rotolock, 1/2" ODF)	8168031	Gaskets, sleeves and nuts
Gasket, 1"	8156130	
Rotolock accessories, discharge side	Code no.	
Solder sleeve, P01 (1" Rotolock, 3/8" ODF)	8153010	
Angle adapter, C01 (1" Rotolock, 3/8" ODF)	8168004	
Rotolock valve, V01 (1" Rotolock, 3/8" ODF)	8168027	
Gasket, 1"	8156130	1 2 3
Rotolock accessories, sets	Code no.	1: Gasket
Angle adapter set, C06 (1"~1/2"), C01 (1"~3/8")	7703011	2: Solder sleeve
Valve set, V06 (1"~1/2"), V01 (1"~3/8")	7703004	3: Rotolock nut
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009	
Oil / lubricants	Code no.	
POE lubricant, 160PZ, 1 litre can	7754019	
POE lubricant, 160PZ, 2 litre can	7754020	
Crankcase heaters	Code no.	Mounting kit
PTC heater 27W,CE mark, UL	120Z0459	
Belt type crankcase heater, 54 W, 230 V, CE mark, UL	7773106	1
Belt type crankcase heater, 54 W, 400 V, UL	7773013	
Miscellaneous accessories	Code no.	
Electronic soft start kit, MCI 15 C	7705006	
Acoustic hood for 1 cylinder compressor	120Z0471	
Oil equalisation nut	8153127	
Spare parts	Code no.	6
Mounting kit for 1 and 2 cylinder compressor, including 3 grommets, 3 bolts	8156001	
Oil sight glass with gaskets (black & white)	8156019	1: Bolt (3x)
Gasket for oil sight glass (black chloroprene)	8156145	2: Lock washer (3x)
Service kit for terminal box 80 x 96 mm, including 1 cover, 1 clamp	8156134	3: Flat washer (3x)
	0100101	4: Sleeve (3x)
		5: Grommet (3x)

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



Maneurop reciprocating compressor. MTZ028-4

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R407C

Performance data at 50 Hz, EN 12900 rating conditions

15 -10 -5 0 5 10 544 3518 4673 6032 7616 9449 262 3187 4278 5558 7049 8772 275 2849 3875 5075 6470 8084 $ 2509$ 3467 4585 5885 7387 $ 3058$ 4093 5294 6684 $ 3601$ 4703 5978 $ 3112$ 4113 5273 262 1422 1555 1660 1735 1778 289 1480 1644 1779 1883 1956 297 1523 1721 1890 2028 2133 $ 1830$ 2077 2294 2477 $ 2148$ 2409 2636 $ 2199$ 2508 2784 nA 22	B 4 673 6 032 7 616 9 7 4 278 5 558 7 049 8 9 3 875 5 075 6 470 8 9 3 467 4 585 5 885 7 3 058 4 093 5 294 6 - 3 601 4 703 5 - 3 601 4 703 5 - 3 112 4 113 5 2 1 555 1 660 1 735 1 0 1 644 1 779 1 883 1 3 1 721 1 890 2 028 2 8 1 784 1 990 2 165 2 - 2 148 2 409 2 - 2 199 2 508 2 - 2 199 2 508 2 - 2 199 3.92 4 3.74 3.94 4.11 4	9 449 11 55 8 772 10 75 8 084 9 93 7 387 9 11 6 684 8 28 5 978 7 450 5 273 6 61 1 778 1 78 1 956 1 99 2 133 2 200 2 308 2 411 2 477 2 62 2 636 2 822 2 784 3 02 3.82 3.82 4.02 4.10	550 - 751 - 938 - 115 - 284 - 450 - 614 - 789 - 995 - 206 - 417 - 626 - 829 -	
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- - 2 199 2 508 2 784 nA 22 3.38 3.53 3.65 3.74 3.82 25 3.46 3.64 3.79 3.92 4.02 25 3.51 3.74 3.94 4.11 4.25 - 3.54 3.83 4.08 4.30 4.48	- 2 199 2 508 2 3 3.53 3.65 3.74 3 3 3.64 3.79 3.92 4 3.74 3.94 4.11 4	2 784 3 02 3.82 3.88 4.02 4.10		-
A 22 3.38 3.53 3.65 3.74 3.82 25 3.46 3.64 3.79 3.92 4.02 25 3.51 3.74 3.94 4.11 4.25 - 3.54 3.83 4.08 4.30 4.48	3.53 3.65 3.74 3 3.64 3.79 3.92 4 3.74 3.94 4.11 4	3.82 3.88 4.02 4.10	025 -	-
22 3.38 3.53 3.65 3.74 3.82 25 3.46 3.64 3.79 3.92 4.02 25 3.51 3.74 3.94 4.11 4.25 - 3.54 3.83 4.08 4.30 4.48	3.64 3.79 3.92 4 3.74 3.94 4.11 4	4.02 4.10		-
25 3.46 3.64 3.79 3.92 4.02 25 3.51 3.74 3.94 4.11 4.25 - 3.54 3.83 4.08 4.30 4.48	3.64 3.79 3.92 4 3.74 3.94 4.11 4	4.02 4.10	88 -	
25 3.51 3.74 3.94 4.11 4.25 - 3.54 3.83 4.08 4.30 4.48	3.74 3.94 4.11 4			
- 3.54 3.83 4.08 4.30 4.48				-
	3.83 4.08 4.30 4			-
				-
				-
4.39 4.82 5.20	- 4.39 4.82 5	5.20 5.55	.55 -	-
			- 29	-
5 75 98 125 155 190	98 125 155	190 229		-
55 75 98 125 155 190 52 71 94 120 150 184			- 23	-
	94 120 150	184 223		
2 71 94 120 150 184	94 120 150 2 90 116 145 2	184 223 179 216	.16 -	-
12 71 94 120 150 184 18 67 90 116 145 179	94 120 150 150 90 116 145 145 85 111 140 140	184 223 179 216 172 209		-
12 71 94 120 150 184 .8 .67 .90 .116 .145 .179 - .63 .85 .111 .140 .172	94 120 150 150 90 116 145 145 145 85 111 140 140 145 80 105 134 145 145	184 223 179 216 172 209 166 202		
-		- <u>3.89</u> <u>4.21</u> <u>4.49</u> - <u>-</u> <u>4.31</u> <u>4.66</u>	- 3.89 4.21 4.49 4.73 4.73 - - 4.31 4.66 4.97 5. - - 4.39 4.82 5.20 5.	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

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

Cooling capacity	5 885	W
Power input	2 165	W
Current consumption	4.30	A
Mass flow	140	kg/h
C.O.P.	2.72	



1.95

1.64

1.68

1.42

Pressure switch settings		
Maximum HP switch setting	29.4	bar(g)
Minimum LP switch setting	0.2	bar(g)
LP pump down setting	1.3	bar(g)

2.63

2.19

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Sound power data	3
Sound power level	

2.27

1.89

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

All performance data +/- 5%

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Maneurop reciprocating compressor. MTZ028-4

Danfoss

Performance	e data at 50	Hz, ARI ratii	ng conditio	ns				Г	R4070
Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-15	-10	-5	0	5	10	15		
ooling capacity		0.700	5.0.0	0.470	0.400	10.110	10.050	1	
35	2 738	3 782	5 018	6 470	8 160	10 112	12 350	-	-
40	2 448	3 444	4 617	5 991	7 589	9 434	11 549	-	-
45	2 151	3 098	4 208	5 502	7 006	8 742	10 734	-	-
50	-	2 748	3 792	5 006	6 415	8 041	9 909	-	-
55	-	-	3 373	4 506	5 818	7 334	9 075	-	-
60	-	-	-	4 005	5 220	6 623	8 238	-	-
65	-	-	-	3 506	4 623	5 914	7 402	-	-
ower input in W	,								
35	1 262	1 422	1 555	1 660	1 735	1 778	1 789	- 1	
40	1 289	1 480	1 644	1 779	1 883	1 956	1 995	-	-
45	1 203	1 523	1 721	1 890	2 028	2 133	2 206		
50	-	1 548	1 784	1 990	2 165	2 308	2 417	-	
55	-	-	1 830	2 077	2 294	2 477	2 626		
60	-	_	-	2 148	2 409	2 636	2 829		_
65	-	-	_	2 199	2 508	2 784	3 025		_
00		1		2100	2 000	2701	0.020		
urrent consump	otion in A								
35	3.22	3.38	3.53	3.65	3.74	3.82	3.88	-	-
40	3.25	3.46	3.64	3.79	3.92	4.02	4.10		-
45	3.25	3.51	3.74	3.94	4.11	4.25	4.36	-	-
50	-	3.54	3.83	4.08	4.30	4.48	4.64	-	-
55	-	-	3.89	4.21	4.49	4.73	4.94	-	-
60	-	-	-	4.31	4.66	4.97	5.24	-	-
65	-	-	-	4.39	4.82	5.20	5.55	-	-
lass flow in kg/h	1						•		
35	55	75	98	124	154	188	227	-	-
40	51	71	94	120	150	183	222	-	-
45	47	67	89	115	144	178	215	-	-
50	-	63	85	110	139	171	208	-	-
55		-	80	105	133	165	201	-	-
60	-	-	-	99	126	157	193	-	-
65	-	-	-	92	119	150	184	-	-
oefficient of per				L	·			<u>г т</u>	
35	2.17	2.66	3.23	3.90	4.70	5.69	6.90	-	-
40	1.90	2.33	2.81	3.37	4.03	4.82	5.79	-	-
45	1.66	2.03	2.44	2.91	3.46	4.10	4.87	-	-
50	-	1.78	2.13	2.52	2.96	3.48	4.10	-	-
55	-	-	1.84	2.17	2.54	2.96	3.46	-	-
60	-	-	-	1.86	2.17	2.51	2.91	-	-
65	-	-	-	1.59	1.84	2.12	2.45	-	-
ominal perform	ance at to = 7 3	2 °C, tc = 54.4 °C				Pressure switch	settings		
ooling capacity		6 536	W		ſ	Maximum HP swit	-	29.4	bar(g)
ower input		2 361	W			Minimum LP swite		0.2	bar(g)
urrent consumpt	ion	4.57	А			LP pump down se	-	1.3	bar(g)
ass flow		147	kg/h		-				
.O.P.		2.77			г	Sound power dat Sound power leve		0	dB(A)

tc: Condensing temperature at dew point

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

All performance data +/- 5%



Maneurop reciprocating compressor. MTZ028-4

Danfoss

R134a

Performance data at 50 Hz, EN 12900 rating conditions

Cond. temp. in				Evapora	ting temperatur	e in °C (to)	1		
°C (tc)	-15	-10	-5	0	5	10	15	20	
cooling capacity	in W	1	r	T	1	T	1		
35	1 522	2 090	2 811	3 708	4 805	6 125	7 692	9 527	-
40	1 369	1 899	2 574	3 417	4 450	5 696	7 179	8 923	-
45	1 234	1 723	2 346	3 128	4 091	5 259	6 654	8 299	-
50	1 120	1 560	2 127	2 844	3 732	4 815	6 116	7 658	-
55	1 026	1 414	1 919	2 564	3 372	4 366	5 568	7 001	-
60	-	1 284	1 722	2 292	3 014	3 913	5 010	6 329	-
65	-	-	-	2 027	2 659	3 458	4 445	5 645	-
70	-	-	-	-	-	3 002	3 874	4 949	-
ower input in W	1								
35	850	942	1 030	1 112	1 185	1 246	1 293	1 323 🧹	-
40	883	983	1 081	1 174	1 260	1 336	1 400	1 449	-
45	911	1 020	1 129	1 235	1 335	1 428	1 510	1 579	-
50	935	1 054	1 174	1 294	1 410	1 520	1 622	1 712	-
55	951	1 081	1 215	1 350	1 483	1 612	1 734	1 847	-
60	-	1 102	1 251	1 402	1 553	1 702	1 846	1 982	-
65	-	-	-	1 448	1 619	1 789	1 956	2 117	-
70	-	-	-	-	-	1 871	2 063	2 250	-
				-		·			
urrent consum	ption in A								
35	2.70	2.76	2.82	2.88	2.94	2.99	3.04	3.08	-
40	2.73	2.80	2.87	2.95	3.02	3.09	3.16	3.23	-
45	2.75	2.83	2.92	3.01	3.10	3.19	3.28	3.38	-
50	2.76	2.85	2.96	3.06	3.18	3.29	3.41	3.53	-
55	2.76	2.87	2.99	3.12	3.25	3.39	3.53	3.68	-
60	-	2.88	3.02	3.17	3.32	3.48	3.66	3.83	-
65	-	-	-	3.21	3.39	3.58	3.78	3.99	-
70	-	-	-		-	3.67	3.90	4.14	-
							1	11	
lass flow in kg/l	h								
35	37	50	65	84	107	134	165	202	-
40	35	47	63	81	104	131	162	198	-
45	33	45	60	79	100	127	157	192	-
50	32	43	58	75	97	122	152	187	-
55	31	42	56	72	93	117	146	180	-
60	-	41	53	69	89	112	140	173	-
65		-		66	85	107	133	165	-
70			-	-	-	101	126	156	_
10			_	_	_	101	120	100	_
	formance (C.C	(P)							
coefficient of pe	Tormance (0.c	,,	2.73	3.33	4.05	4.92	5.95	7.20	-
· · · ·	1 79	2.22			3.53	4.92	5.95	6.16	-
35	1.79	2.22		2 01		4.20	0.10	5.26	-
35 40	1.55	1.93	2.38	2.91			1 11		-
35 40 45	1.55 1.35	1.93 1.69	2.38 2.08	2.53	3.06	3.68	4.41	1	
35 40 45 50	1.55 1.35 1.20	1.93 1.69 1.48	2.38 2.08 1.81	2.53 2.20	3.06 2.65	3.68 3.17	3.77	4.47	-
35 40 45 50 55	1.55 1.35 1.20 1.08	1.93 1.69 1.48 1.31	2.38 2.08 1.81 1.58	2.53 2.20 1.90	3.06 2.65 2.27	3.68 3.17 2.71	3.77 3.21	4.47 3.79	-
35 40 45 50 55 60	1.55 1.35 1.20 1.08	1.93 1.69 1.48 1.31 1.16	2.38 2.08 1.81 1.58 1.38	2.53 2.20 1.90 1.63	3.06 2.65 2.27 1.94	3.68 3.17 2.71 2.30	3.77 3.21 2.71	4.47 3.79 3.19	-
35 40 45 50 55 60 65 55	1.55 1.35 1.20 1.08 - -	1.93 1.69 1.48 1.31 1.16 -	2.38 2.08 1.81 1.58 1.38 -	2.53 2.20 1.90 1.63 1.40	3.06 2.65 2.27 1.94 1.64	3.68 3.17 2.71 2.30 1.93	3.77 3.21 2.71 2.27	4.47 3.79 3.19 2.67	-
35 40 45 50 55 60	1.55 1.35 1.20 1.08	1.93 1.69 1.48 1.31 1.16	2.38 2.08 1.81 1.58 1.38	2.53 2.20 1.90 1.63	3.06 2.65 2.27 1.94	3.68 3.17 2.71 2.30	3.77 3.21 2.71	4.47 3.79 3.19	-
35 40 45 50 55 60 65 70	1.55 1.35 1.20 1.08 - - -	1.93 1.69 1.48 1.31 1.16 - -	2.38 2.08 1.81 1.58 1.38 -	2.53 2.20 1.90 1.63 1.40	3.06 2.65 2.27 1.94 1.64	3.68 3.17 2.71 2.30 1.93 1.60	3.77 3.21 2.71 2.27 1.88	4.47 3.79 3.19 2.67	-
35 40 45 50 55 60 65 70 Iominal perform	1.55 1.35 1.20 1.08 - - -	1.93 1.69 1.48 1.31 1.16 - - C, tc = 50 °C	2.38 2.08 1.81 1.58 1.38 - -	2.53 2.20 1.90 1.63 1.40	3.06 2.65 2.27 1.94 1.64	3.68 3.17 2.71 2.30 1.93 1.60 Pressure switch	3.77 3.21 2.71 2.27 1.88 settings	4.47 3.79 3.19 2.67 2.20	
35 40 45 50 55 60 65 70 Iominal perform Cooling capacity	1.55 1.35 1.20 1.08 - - -	1.93 1.69 1.48 1.31 1.16 - - C, tc = 50 °C 3 732	2.38 2.08 1.81 1.58 1.38 - -	2.53 2.20 1.90 1.63 1.40	3.06 2.65 2.27 1.94 1.64	3.68 3.17 2.71 2.30 1.93 1.60 Pressure switch Maximum HP swit	3.77 3.21 2.71 2.27 1.88 settings ch setting	4.47 3.79 3.19 2.67 2.20 22.6	- - - bar(g)
35 40 45 50 55 60 65 70 Iominal perform Cooling capacity Power input Power input	1.55 1.35 1.20 1.08 - - - - - - - - - - - - -	1.93 1.69 1.48 1.31 1.16 - - °C, tc = 50 °C 3 732 1 410	2.38 2.08 1.81 1.58 1.38 - - - W W	2.53 2.20 1.90 1.63 1.40	3.06 2.65 2.27 1.94 1.64	3.68 3.17 2.71 2.30 1.93 1.60 Pressure switch Maximum HP swit Minimum LP switch	3.77 3.21 2.71 2.27 1.88 settings ch setting	4.47 3.79 3.19 2.67 2.20 22.6 0.2	- - - bar(g) bar(g)
35 40 45 50 55 60 65 70 ominal perform cooling capacity ower input current consumpt	1.55 1.35 1.20 1.08 - - - - - - - - - - - - -	1.93 1.69 1.48 1.31 1.16 - - C, tc = 50 °C 3 732	2.38 2.08 1.81 1.58 1.38 - -	2.53 2.20 1.90 1.63 1.40	3.06 2.65 2.27 1.94 1.64	3.68 3.17 2.71 2.30 1.93 1.60 Pressure switch Maximum HP swit	3.77 3.21 2.71 2.27 1.88 settings ch setting	4.47 3.79 3.19 2.67 2.20 22.6	- - - bar(g)
35 40 45 50 55 60 65 70	1.55 1.35 1.20 1.08 - - - - - - - - - - - - -	1.93 1.69 1.48 1.31 1.16 - - - - - - - - - - - - -	2.38 2.08 1.81 1.58 1.38 - - - W W W A	2.53 2.20 1.90 1.63 1.40	3.06 2.65 2.27 1.94 1.64	3.68 3.17 2.71 2.30 1.93 1.60 Pressure switch Maximum HP swit Minimum LP switch	3.77 3.21 2.71 1.88 settings ch setting th setting thing	4.47 3.79 3.19 2.67 2.20 22.6 0.2	- - - bar(g) bar(g)
40 45 50 55 60 65	1.55 1.35 1.20 1.08 - - - - - - - - - - - - -	1.93 1.69 1.48 1.31 1.16 - - °C, tc = 50 °C 3 732 1 410 3.18 97 2.65	2.38 2.08 1.81 1.58 1.38 - - - W W W A	2.53 2.20 1.90 1.63 1.40	3.06 2.65 2.27 1.94 1.64	3.68 3.17 2.71 2.30 1.93 1.60 Pressure switch Maximum HP swit Minimum LP switc LP pump down set	3.77 3.21 2.71 2.27 1.88 settings ch setting thing ta 4	4.47 3.79 3.19 2.67 2.20 22.6 0.2	- - - bar(g) bar(g)

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

All performance data +/- 5%



Maneurop reciprocating compressor. MTZ028-4

Danfoss

R134a

Performance data at 50 Hz, ARI rating conditions

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-15	-10	-5	0	5	10	15	20	
ooling capacity			1	T	T	1		Γ	1
35	1 649	2 260	3 034	3 997	5 172	6 583	8 255	10 212	-
40	1 491	2 065	2 793	3 701	4 812	6 150	7 740	9 605	-
45	1 353	1 884	2 560	3 407	4 448	5 707	7 209	8 978	-
50	1 236	1 718	2 337	3 117	4 082	5 257	6 665	8 330	-
55	1 142	1 569	2 125	2 832	3 715	4 799	6 108	7 665	-
60	-	1 439	1 925	2 553	3 349	4 337	5 539	6 982	-
65	-	-	-	2 283	2 985	3 870	4 961	6 283	-
70	-	-	-	-	-	3 401	4 375	5 571	-
ower input in W	I								
35	850	942	1 030	1 112	1 185	1 246	1 293	1 323 🧹	-
40	883	983	1 081	1 174	1 260	1 336	1 400	1 449	-
45	911	1 020	1 129	1 235	1 335	1 428	1 510	1 579	
50	935	1 054	1 174	1 294	1 410	1 520	1 622	1 712	-
55	951	1 081	1 215	1 350	1 483	1 612	1 734	1 847	-
60	-	1 102	1 251	1 402	1 553	1 702	1 846	1 982	-
65	-	-	-	1 448	1 619	1 789	1 956	2 117	-
70	-	-	-	-	-	1 871	2 063	2 250	-
urrent consum 35	2.70	2.76	2.82	2.88	2.94	2.99	3.04	3.08	
									-
40	2.73	2.80	2.87	2.95	3.02	3.09	3.16	3.23	-
45	2.75	2.83	2.92	3.01	3.10	3.19	3.28	3.38	-
50	2.76	2.85	2.96	3.06	3.18	3.29	3.41	3.53	-
55	2.76	2.87	2.99	3.12	3.25	3.39	3.53	3.68	-
60	-	2.88	3.02	3.17	3.32	3.48	3.66	3.83	-
65 70	-	-		3.21	3.39	3.58	3.78	3.99	-
70	-	-	-		-	3.67	3.90	4.14	-
lass flow in kg/l							1	1	1
35	37	49	65	84	107	133	164	201	-
40	35	47	62	81	103	130	161	196	-
45	33	45	60	78	100	126	156	191	-
50	32	43	57	75	96	121	151	186	-
55	31	42	55	72	92	117	145	179	-
60	-	41	53	69	88	112	139	172	-
65	-	- 1	-	66	84	106	133	164	-
70		-	-	-	-	101	126	155	-
oefficient of pe	rformance (C.C	D.P.)							
35	1.94	2.40	2.94	3.59	4.36	5.28	6.38	7.72	-
40	1.69	2.10	2.58	3.15	3.82	4.60	5.53	6.63	-
45	1.48	1.85	2.27	2.76	3.33	4.00	4.77	5.69	-
50	1.32	1.63	1.99	2.41	2.89	3.46	4.11	4.87	-
55	1.20	1.45	1.75	2.10	2.50	2.98	3.52	4.15	-
60	-	1.31	1.54	1.82	2.16	2.55	3.00	3.52	-
65	-	-	-	1.58	1.84	2.16	2.54	2.97	-
70	-	-	-	-	-	1.82	2.12	2.48	-
	ance at to = 7.	2 °C, tc = 54.4 °C		_	г	Pressure switch	-	00.0	hor(a)
Cooling capacity		4 215				Maximum HP swit		22.6	bar(g)

Nominal performance at to = 7.2 °C, tc = 54.4 °C					
	Cooling capacity	4 215	W		
	Power input	1 531	W		
	Current consumption	3.30	А		
	Mass flow	103	kg/h		
	C.O.P.	2.75			

		····(3)
Minimum LP switch setting	0.2	bar(g)
LP pump down setting	0.5	bar(g)
Cound newer data		
Sound power data		
Sound power data Sound power level	0	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%



Maneurop reciprocating compressor. MTZ028-4

Danfoss

R404A

Performance data at 50 Hz, EN 12900 rating conditions

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
ooling capacity			1		1			1	1
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	963	1 503	2 159	2 951	3 896	5 011	6 315	7 826	9 562
45	759	1 250	1 846	2 566	3 427	4 447	5 644	7 037	8 642
50	570	1 012	1 546	2 193	2 969	3 892	4 982	6 254	7 728
55	-	787	1 260	1 832	2 522	3 348	4 328	5 480	6 821
60	-	578	986	1 483	2 086	2 813	3 682	4 712	5 920
ower input in W		1 201	1 462	1 614	1 747	1 956	1.040	1 996	2 020
30	1 106	1 291		1 614	1 747	1 856	1 940	1	
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
urrent consum	ntion in A								
30	3.07	3.24	3.42	3.60	3.77	3.92	4.05	4.13	4.17
35	3.08	3.26	3.46	3.65	3.84	4.02	4.16	4.27	4.33
40	3.07	3.28	3.50	3.72	3.94	4.14	4.31	4.45	4.54
45	3.04	3.28	3.53	3.79	4.04	4.28	4.49	4.67	4.80
50	2.97	3.25	3.54	3.84	4.14	4.42	4.68	4.91	5.09
55	-	3.18	3.52	3.87	4.22	4.56	4.87	5.16	5.39
60		3.05	3.46	3.87	4.28	4.68	5.05	5.40	5.70
00		0.00	0.10	0.07	1.20	1.00	0.00	0.10	0.10
ass flow in kg/	h								
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	159	196	238	285
45	31	49	70	94	121	153	189	230	277
50	26	43	64	88	115	147	182	223	268
55		38	59	82	109	140	176	215	260
60	-	33	53	76	103	134	168	208	252
				•	•			1	1
oefficient of pe	rformance (C.C	D.P.)		1	1				1
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	<u> </u>	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	4.04	A
Mass flow	121	kg/h
C.O.P.	1.75	



Pressure switch settings		
Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	0.2	bar(g)
LP pump down setting	0.9	bar(g)

71

64

dB(A)

dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

Sound power data

Sound power level

With accoustic hood



Maneurop reciprocating compressor. MTZ028-4

Danfoss

R404A

Performance data at 50 Hz, ARI rating conditions

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	1 577	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	7 170	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	7 106
Power input in W 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 consump	3.07	3.24	3.42	3.60	3.77	3.92	4.05	4.13	4.17
35	3.07	3.24	3.42	3.65	3.84	4.02	4.05	4.13	4.17
40	3.08	3.28	3.40	3.05	3.84	4.02	4.10	4.27	4.53
40	3.07	3.28	3.53	3.72	4.04	4.14	4.31	4.43	4.80
50	2.97	3.25	3.54	3.84	4.14	4.42	4.68	4.91	5.09
55	-	3.18	3.54	3.87	4.22	4.56	4.87	5.16	5.39
60	-	3.05	3.46	3.87	4.28	4.68	5.05	5.40	5.70
00	_	0.00	0.40	0.01	4.20	4.00	0.00	0.40	5.70
lass 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	25	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 per	formance (C.C).P.)							
30	1.43	1.76	2.14	2.57	3.07	3.65	4.35	5.17	6.18
35	1.10	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
60		0.59	0.80	1.00	1.21	1.43	1.68	1.96	2.29

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

Cooling capacity	3 906	W
Power input	1 955	W
Current consumption	4.04	А
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

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	0.2	bar(g)
LP pump down setting	0.9	bar(g)

71

64

dB(A)

dB(A)

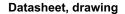
Sound power level
With accoustic hood

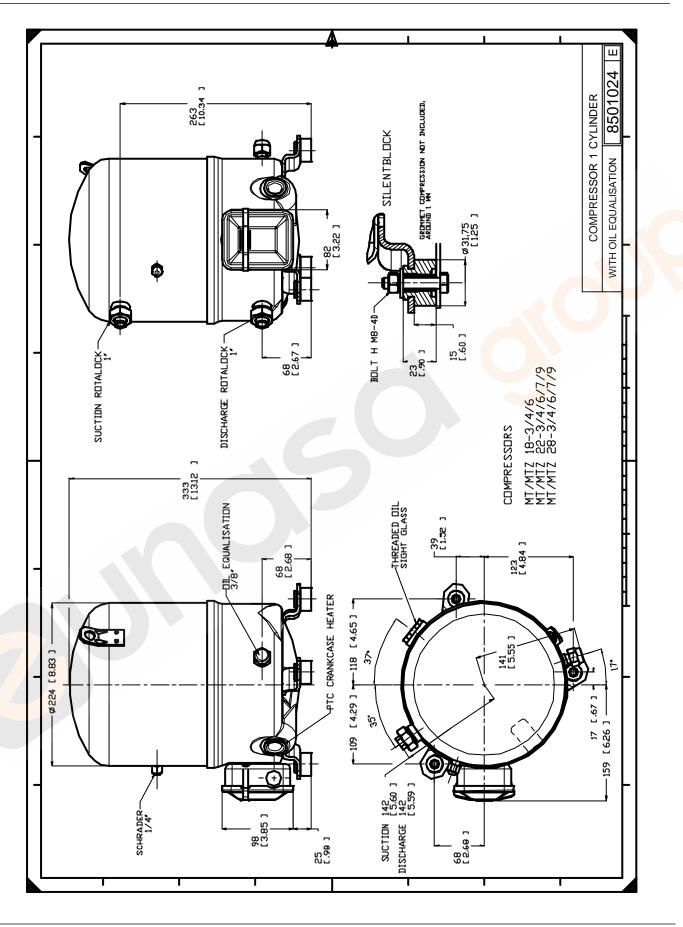
All performance data +/- 5%



Danfoss

Maneurop scroll compressor





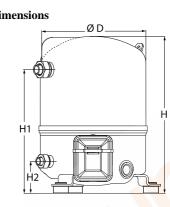
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Datasheet, technical data

Maneurop reciprocating compressor, MTZ028-4

General Characteristics

Model number (on compressor nameplate)	MTZ28JE4A
Code number for Industrial pack**	MTZ28-4M
Drawing number	8501031e
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	None
Oil equalisation connection	None
Oil drain connection	None
LP gauge port	Schrader
IPR valve	30 bar / 8 bar
Cylinders	1
Swept volume	48,06 cm3/rev
Displacement @ Nominal speed	8.4 m3/h @ 2900 rpm - 10.1 m3/h @ 3500 rpm
Net weight	23 kg
Oil charge	0,95 litre, POE - 160PZ
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, R507A, R134a, R407C



=224 mm 333 mm =263 mm =68 mm

Electrical Characteristics

Nominal voltage	380-400V/3/50Hz - 460V/3/60Hz
Voltage range	340-440 V @ 50Hz - 414-506 V @ 60Hz
Winding resistance (between phases) +/- 7% at 25°C	7.11 #
Maximum Continuous Current (MCC)	7.5 A
Locked Rotor Amps (LRA)	23 A
Motor protection	Internal overload protector

Recommended Installation torques

Oil sight glass	0 Nm
Power connections / Earth connection	Nm / 2 Nm
Mounting bolts	15 Nm

Parts shipped with compressor

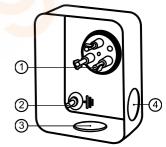
Mounting kit with grommets, bolts, nuts, sleeves and washers Initial oil charge Installation instructions

Approvals : CE certified, UL certified (file SA6873), -

*Singlepack: Compressor in cardboard box

**Industrial pack: 12 Unboxed compressors on pallet (order per multiples of 12)

Terminal box



IP55 (with cable gland)

1: Spade connectors 1/4"

Earth M4-12

- 2: 3: Knock-out Ø 21 mm (0.83")
- 4: Hole Ø 21 mm (0.83")



Danfoss

Datasheet, accessories and spare parts

Maneurop reciprocating compressor, MTZ028-4

Rotolock accessories, suction side	Code no.	
Solder sleeve, P06 (1" Rotolock, 1/2" ODF)	8153007	
Angle adapter, C06 (1" Rotolock, 1/2" ODF)	8168007	
Rotolock valve, V06 (1" Rotolock, 1/2" ODF)	8168031	Gaskets, sleeves and nuts
Gasket, 1"	8156130	
Rotolock accessories, discharge side	Code no.	
Solder sleeve, P01 (1" Rotolock, 3/8" ODF)	8153010	
Angle adapter, C01 (1" Rotolock, 3/8" ODF)	8168004	
Rotolock valve, V01 (1" Rotolock, 3/8" ODF)	8168027	
Gasket, 1"	8156130	1 2 3
Rotolock accessories, sets	Code no.	1: Gasket
Angle adapter set, C06 (1"~1/2"), C01 (1"~3/8")	7703011	2: Solder sleeve
Valve set, V06 (1"~1/2"), V01 (1"~3/8")	7703004	3: Rotolock nut
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009	
Oil / lubricants	Cadana	
	Code no.	/
POE lubricant, 160PZ, 1 litre can	7754019	
POE lubricant, 160PZ, 2 litre can	7754020	
Crankcase heaters	Code no.	Mounting kit
PTC heater 27W,CE mark, UL	120Z0459	
Belt type crankcase heater, 54 W, 230 V, CE mark, UL	7773106	1
Belt type crankcase heater, 54 W, 400 V, UL	7773013	
Miscellaneous accessories	Code no.	
Electronic soft start kit. MCI 15 C	7705006	
Acoustic hood for 1 cylinder compressor	120Z0471	
Spare parts	Code no.	
Mounting kit for 1 and 2 cylinder compressor, including 3 grommets, 3 bolts	8156001	
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)
		5: Flat washer (5x)

4: Sleeve (3x)

5: Grommet (3x)

6: Nut (3x)



Maneurop reciprocating compressor. MTZ028-4

Danfoss

R407C

Performance data at 50 Hz, EN 12900 rating conditions

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

Cooling capacity	5 885	W
Power input	2 165	W
Current consumption	4.30	А
Mass flow	140	kg/h
C.O.P.	2.72	



1.95

1.64

1.68

1.42

Pressure switch settings		
Maximum HP switch setting	29.4	bar(g)
Minimum LP switch setting	0.2	bar(g)
LP pump down setting	1.3	bar(g)

2.63

2.19

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Sound	power data
Sound	power level

2.27

1.89

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

All performance data +/- 5%

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Maneurop reciprocating compressor. MTZ028-4

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Performance	e data at 50	Hz, ARI ratii	ng conditio	ns				Г	R4070
Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-15	-10	-5	0	5	10	15		
ooling capacity		0.700	5.0.0	0.470	0.400	10.110	10.050	1	
35	2 738	3 782	5 018	6 470	8 160	10 112	12 350	-	-
40	2 448	3 444	4 617	5 991	7 589	9 434	11 549	-	-
45	2 151	3 098	4 208	5 502	7 006	8 742	10 734	-	-
50	-	2 748	3 792	5 006	6 415	8 041	9 909	-	-
55	-	-	3 373	4 506	5 818	7 334	9 075	-	-
60	-	-	-	4 005	5 220	6 623	8 238	-	-
65	-	-	-	3 506	4 623	5 914	7 402	-	-
ower input in W	,								
35	1 262	1 422	1 555	1 660	1 735	1 778	1 789	- 1	
40	1 289	1 480	1 644	1 779	1 883	1 956	1 995	-	-
45	1 203	1 523	1 721	1 890	2 028	2 133	2 206		
50	-	1 548	1 784	1 990	2 165	2 308	2 417	-	
55	-	-	1 830	2 077	2 294	2 477	2 626		
60	-	_	-	2 148	2 409	2 636	2 829		_
65	-	-	_	2 199	2 508	2 784	3 025		_
00		1		2100	2 000	2701	0.020		
urrent consump	otion in A								
35	3.22	3.38	3.53	3.65	3.74	3.82	3.88	-	-
40	3.25	3.46	3.64	3.79	3.92	4.02	4.10		-
45	3.25	3.51	3.74	3.94	4.11	4.25	4.36	-	-
50	-	3.54	3.83	4.08	4.30	4.48	4.64	-	-
55	-	-	3.89	4.21	4.49	4.73	4.94	-	-
60	-	-	-	4.31	4.66	4.97	5.24	-	-
65	-	-	-	4.39	4.82	5.20	5.55	-	-
lass flow in kg/h	1						•		
35	55	75	98	124	154	188	227	-	-
40	51	71	94	120	150	183	222	-	-
45	47	67	89	115	144	178	215	-	-
50	-	63	85	110	139	171	208	-	-
55		-	80	105	133	165	201	-	-
60	-	-	-	99	126	157	193	-	-
65	-	-	-	92	119	150	184	-	-
oefficient of per				L	·			<u>г т</u>	
35	2.17	2.66	3.23	3.90	4.70	5.69	6.90	-	-
40	1.90	2.33	2.81	3.37	4.03	4.82	5.79	-	-
45	1.66	2.03	2.44	2.91	3.46	4.10	4.87	-	-
50	-	1.78	2.13	2.52	2.96	3.48	4.10	-	-
55	-	-	1.84	2.17	2.54	2.96	3.46	-	-
60	-	-	-	1.86	2.17	2.51	2.91	-	-
65	-	-	-	1.59	1.84	2.12	2.45	-	-
ominal perform	ance at to = 7 3	2 °C, tc = 54.4 °C				Pressure switch	settings		
ooling capacity		6 536	W		ſ	Maximum HP swit	-	29.4	bar(g)
ower input		2 361	W			Minimum LP swite		0.2	bar(g)
urrent consumpt	ion	4.57	А			LP pump down se	-	1.3	bar(g)
ass flow		147	kg/h		-				
.O.P.		2.77			г	Sound power dat Sound power leve		0	dB(A)

tc: Condensing temperature at dew point

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

All performance data +/- 5%



Maneurop reciprocating compressor. MTZ028-4

Danfoss

R134a

Performance data at 50 Hz, EN 12900 rating conditions

Cond. temp. in				Evapora	ting temperatu	re in °C (to)			
°C (tc)	-15	-10	-5	0	5	10	15	20	
-				·					
ooling capacity	in W	-		-			-		
35	1 522	2 090	2 811	3 708	4 805	6 125	7 692	9 527	-
40	1 369	1 899	2 574	3 417	4 450	5 696	7 179	8 923	-
45	1 234	1 723	2 346	3 128	4 091	5 259	6 654	8 299	-
50	1 120	1 560	2 127	2 844	3 732	4 815	6 116	7 658	-
55	1 026	1 414	1 919	2 564	3 372	4 366	5 568	7 001	-
60	-	1 284	1 722	2 292	3 014	3 913	5 010	6 329	-
65	-	-	-	2 027	2 659	3 458	4 445	5 645	-
70	-	-	-	-	-	3 002	3 874	4 949	-
ower input in W	1	1			-			· · · · · · · · · · · · · · · · · · ·	
35	850	942	1 030	1 112	1 185	1 246	1 293	1 323 🧹	-
40	883	983	1 081	1 174	1 260	1 336	1 400	1 449	-
45	911	1 020	1 129	1 235	1 335	1 428	1 510	1 579	/
50	935	1 054	1 174	1 294	1 410	1 520	1 622	1 712	-
55	951	1 081	1 215	1 350	1 483	1 612	1 734	1 847	-
60	-	1 102	1 251	1 402	1 553	1 702	1 846	1 982	-
65	-	-	-	1 448	1 619	1 789	<mark>1 956</mark>	2 117	-
70	-	-	-	-	-	1 871	2 063	2 250	-
urrent consum		T	1	1					
35	2.70	2.76	2.82	2.88	2.94	2.99	3.04	3.08	-
40	2.73	2.80	2.87	2.95	3.02	3.09	3.16	3.23	-
45	2.75	2.83	2.92	3.01	3.10	3.19	3.28	3.38	-
50	2.76	2.85	2.96	3.06	3.18	3.29	3.41	3.53	-
55	2.76	2.87	2.99	3.12	3.25	3.39	3.53	3.68	-
60	-	2.88	3.02	3.17	3.32	3.48	3.66	3.83	-
65	-	-	-	3.21	3.39	3.58	3.78	3.99	-
70	-	-	-		-	3.67	3.90	4.14	-
lass flow in kg/l				1					
35	37	50	65	84	107	134	165	202	-
40	35	47	63	81	104	131	162	198	-
45	33	45	60	79	100	127	157	192	-
50	32	43	58	75	97	122	152	187	-
55	31	42	56	72	93	117	146	180	-
60	-	41	53	69	89	112	140	173	-
65		-	-	66	85	107	133	165	-
70	-	· ·	-	-	-	101	126	156	-
oefficient of per			0.70	0.00	4.05	1.00	5.05		
35	1.79	2.22	2.73	3.33	4.05	4.92	5.95	7.20	-
40	1.55	1.93	2.38	2.91	3.53	4.26	5.13	6.16	-
45	1.35	1.69	2.08	2.53	3.06	3.68	4.41	5.26	-
50	1.20	1.48	1.81	2.20	2.65	3.17	3.77	4.47	-
	1.08	1.31	1.58	1.90	2.27	2.71	3.21	3.79	-
55	-	1.16	1.38	1.63	1.94	2.30	2.71	3.19	-
60	-	-	-	1.40	1.64	1.93	2.27	2.67	-
60 65		-	-	-	-	1.60	1.88	2.20	-
60	-					Drocours and to b	cottinge		
60 65 70	-	$P_{\rm C}$ to $- 50 ^{\circ}{\rm C}$				Pressure switch	ระแบบร		
60 65 70 ominal perform	-		W					22 E	har(a)
60 65 70 Iominal perform	-	3 732	W			Maximum HP swi	tch setting	22.6 0.2	bar(g) bar(g)
60 65 70 Cominal perform Cooling capacity Yower input	- nance at to = 5 °		W W A				tch setting ch setting	22.6 0.2 0.5	bar(g) bar(g) bar(g)
60 65 70 Cominal perform Cooling capacity lower input current consumpt	- nance at to = 5 °	3 732 1 410	W			Maximum HP swi Minimum LP swite	tch setting ch setting	0.2	bar(g)
60 65 70 cooling capacity ower input current consumpl tass flow	- nance at to = 5 °	3 732 1 410 3.18	W A			Maximum HP swite Minimum LP swite LP pump down se Sound power da	tch setting ch setting etting ta	0.2 0.5	bar(g)
60 65 70 Iominal perform	- nance at to = 5 °	3 732 1 410 3.18 97 2.65	W A			Maximum HP swite Minimum LP swite LP pump down se	tch setting ch setting etting ta	0.2	bar(g)

tc: Condensing temperature at dew point Rating conditions : Superheat = 10 K , Subcooling = 0 K

All performance data +/- 5%



Maneurop reciprocating compressor. MTZ028-4

Danfoss

Performance data at 50 Hz, ARI rating conditions

Performance	e data at 50	0 Hz, ARI rat	ing conditio	ns					R134a	
Cond. temp. in	Evaporating temperature in °C (to)									
°C (tc)	-15	-10	-5	0	5	10	15	20		
35	1 649	2 260	3 034	3 997	5 172	6 583	8 255	10 212	-	
40	1 491	2 065	2 793	3 701	4 812	6 150	7 740	9 605		
45	1 353	1 884	2 560	3 407	4 448	5 707	7 209	8 978		
50	1 236	1 718	2 337	3 117	4 082	5 257	6 665	8 330	-	
55	1 142	1 569	2 125	2 832	3 715	4 799	6 108	7 665	-	
60	-	1 439	1 925	2 553	3 349	4 337	5 539	6 982	-	
65	-	-	-	2 283	2 985	3 870	4 961	6 283	-	
70	-	-	-	-	-	3 401	4 375	5 571	-	
ower input in W 35	850	942	1 030	1 112	1 185	1 246	1 293	1 323	- 1	
40	883	942	1 030	1 174	1 185	1 246	1 293	1 323		
40	911	1 020	1 129	1 235	1 335	1 428	1 400	1 579		
45 50	935	1 020	1 129	1 235	1 410	1 420	1 622	1 712		
55	955	1 081	1 215	1 350	1 483	1 612	1 734	1 847		
60	-	1 102	1 251	1 402	1 553	1 702	1 846	1 982		
65	-	-	-	1 448	1 619	1 789	1 956	2 117	_	
70	-	-	-	-	-	1 871	2 063	2 250	-	
			1	1						
urrent consump		2.76	2.82	2.88	2.94	2.99	3.04	2.09	-	
35 40	2.70	2.76 2.80	2.87	2.00	3.02	3.09	3.16	3.08 3.23	-	
40	2.75	2.83	2.92	3.01	3.10	3.19	3.28	3.38		
50	2.75	2.85	2.92	3.06	3.18	3.29	3.41	3.53		
55	2.76	2.87	2.99	3.12	3.25	3.39	3.53	3.68		
60	-	2.88	3.02	3.17	3.32	3.48	3.66	3.83	_	
65	-	-	-	3.21	3.39	3.58	3.78	3.99	-	
70	-	-	-	-	-	3.67	3.90	4.14	-	
•						•			•	
ass flow in kg/h		10	1 05		107	100		001		
35	37	49	65	84	107	133	164	201	-	
40	35	47	62	81	103	130	161	196	-	
45	33	45	60	78	100	126	156	191	-	
50	32	43	57	75	96	121	151	186	-	
55	31	42	55	72	92	117	145	179	-	
60 65	-	41	- 53	69 66	88 84	112 106	139 133	172 164	-	
70			-	-	-	100	135	155		
10				I		101	120	100		
oefficient of per										
35	1.94	2.40	2.94	3.59	4.36	5.28	6.38	7.72	-	
40	1.69	2.10	2.58	3.15	3.82	4.60	5.53	6.63	-	
45	1.48	1.85	2.27	2.76	3.33	4.00	4.77	5.69	-	
50	1.32	1.63	1.99	2.41	2.89	3.46	4.11	4.87	-	
55	1.20	1.45	1.75	2.10	2.50	2.98	3.52	4.15	-	
60 65	-	1.31	1.54	1.82	2.16	2.55	3.00	3.52	-	
70	-	-	-	1.58 -	1.84	2.16	2.54 2.12	2.97 2.48	-	
				1	I			1.10	1	
	ance at to = 7.	2 °C, tc = 54.4 °C			г	Pressure switch	-			
cooling capacity		4 215	W			Maximum HP swit		22.6	bar(g)	

Nominal performance at to = 7.2 °C	C, tc = 54.4 °C		
Cooling capacity	4 215	W	
Power input	1 531	W	
Current consumption	3.30	А	
Mass flow	103	kg/h	
C.O.P.	2.75		

Maximum HP switch setting	22.6	bar(g)	
Minimum LP switch setting	0.2	bar(g)	
LP pump down setting	0.5	bar(g)	
0			
Sound power data			
Sound power data Sound power level	0	dB(A)	

All performance data +/- 5%

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alternations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss, the Danfoss logotype and Maneurop are trademarks of Danfoss A/S. All rights reserved.



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

Maneurop reciprocating compressor. MTZ028-4

Danfoss

R404A

Performance data at 50 Hz, EN 12900 rating conditions

ond. temp. in	Evaporating temperature in °C (to)										
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10		
ooling capacity	' in W		T		T	1	1	1	I		
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	963	1 503	2 159	2 951	3 896	5 011	6 315	7 826	9 562		
45	759	1 250	1 846	2 566	3 427	4 447	5 644	7 037	8 642		
50	570	1 012	1 546	2 193	2 969	3 892	4 982	6 254	7 728		
55	-	787	1 260	1 832	2 522	3 348	4 328	5 480	6 821		
60	-	578	986	1 483	2 086	2 813	3 682	4 712	5 920		
ower input in W				1		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		
urrent consum			0.40	0.00	0.77	0.00	1.05	1 1 10			
30	3.07	3.24	3.42	3.60	3.77	3.92	4.05	4.13	4.17		
35	3.08	3.26	3.46	3.65	3.84	4.02	4.16	4.27	4.33		
40	3.07	3.28	3.50	3.72	3.94	4.14	4.31	4.45	4.54		
45	3.04	3.28	3.53	3.79	4.04	4.28	4.49	4.67	4.80		
50	2.97	3.25	3.54	3.84	4.14	4.42	4.68	4.91	5.09		
55	-	3.18	3.52	3.87	4.22	4.56	4.87	5.16	5.39		
60	-	3.05	3.46	3.87	4.28	4.68	5.05	5.40	5.70		
ass flow in kg/	h										
30	45	63	85	110	139	172	210	252	300		
35	40	58	80	105	139	166	203	245	292		
40	35	54	75	99	133	159	196	243	285		
40	31	49	70	99	127	159	190	238	277		
45 50	26	49	64	88	121	155	182	230	268		
55	20	38	59	82	109	147	176	223	260		
60		33	53	76	103	134	168	208	252		
00			55	70	105	134	108	208	202		
oefficient of pe	rformance (C.C).P.)									
30	1.28	1.59	1.93	2.33	2.79	3.32	3.96	4.72	5.65		
35	1.20	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	2.41	2.45	2.89	3.41	4.02		
40	0.90	0.97	1.43	1.73	1.75	2.45	2.69	2.88	3.38		
	0.56	0.97	1.21	1.47	1.47	1.74	2.45	2.00	2.82		
50		0.19	1.00	1.20	1.47	1./4	2.00	2.41	2.02		
50 55		0.62	0.81	1.01	1.21	1.44	1.70	1.99	2.33		

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

Cooling capacity	3 427	W
Power input	1 955	W
Current consumption	4.04	A
Mass flow	121	kg/h
C.O.P.	1.75	



Pressure switch settings		
Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	0.2	bar(g)
LP pump down setting	0.9	bar(g)

71

64

dB(A)

dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Sound power level
With accoustic hood

Sound power data

All performance data +/- 5%



Maneurop reciprocating compressor. MTZ028-4

Danfoss

R404A

Performance data at 50 Hz, ARI rating conditions

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
ooling capacity	in W								
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	7 170	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	7 106
ower input in W			1	T					
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
urrent consump	tion in A								
30	3.07	3.24	3.42	3.60	3.77	3.92	4.05	4.13	4.17
35	3.08	3.26	3.46	3.65	3.84	4.02	4.16	4.27	4.33
40	3.07	3.28	3.50	3.72	3.94	4.14	4.31	4.45	4.54
45	3.04	3.28	3.53	3.79	4.04	4.28	4.49	4.67	4.80
50	2.97	3.25	3.54	3.84	4.14	4.42	4.68	4.91	5.09
55	-	3.18	3.52	3.87	4.22	4.56	4.87	5.16	5.39
60	-	3.05	3.46	3.87	4.28	4.68	5.05	5.40	5.70
lass 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	25	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
				1					
Coefficient of per			1	<u> </u>	_	1 -	[_	1
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	4.04	Α
Mass flow	121	kg/h
C.O.P.	2.00	

0.59

0.80

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	0.2	bar(g)
LP pump down setting	0.9	bar(g)

1.68

1.96

2.29

oounu	power	uutu
Sound	noworl	aval

1.43

1.21

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

All performance data +/- 5%

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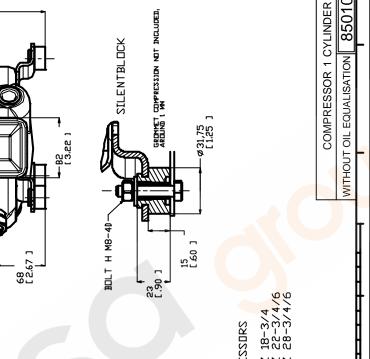
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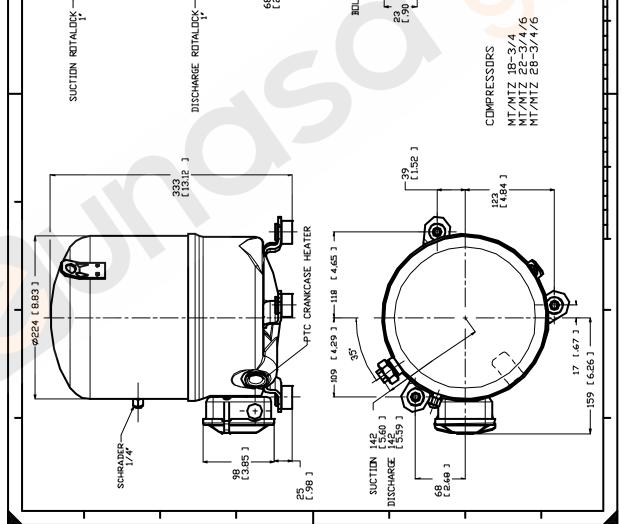
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