

ENGINEERING TOMORROW

Datasheets

# Danfoss Reciprocating compressors **MT / MTZ / NTZ**



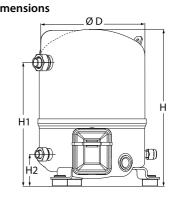
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### Datasheet, technical data

## Maneurop reciprocating compressor, MTZ032-5

### **General Characteristics**

Model number (on compressor nameplate)		MTZ32JF5AVE	
Code number for Singlepack*		MTZ32-5VI	
Code number for Industrial pack**		MTZ32-5VM	Dimension
Drawing number		8501020e	
Suction and discharge connections		Rotolock	7 r
Suction connection		1-1/4 " Rotolock	
Discharge connection		1 " Rotolock	t Q
Suction connection with supplied sleeve		5/8 " ODF	
Discharge connection with supplied sleeve		1/2 " ODF	
Oil sight glass		Threaded	
Oil equalisation connection		3/8" flare SAE	H1 🗧
Oil drain connection		None	
LP gauge port		Schrader	
IPR valve		None	
Cylinders	1		
Swept volume	53.86 cn	n3/rev	
Displacement @ Nominal speed	9.4 m3/h @	2900 rpm	D=224 mm
Net weight	24	g	H=356 mm
Oil charge	0.95 litre, PC	DE - 175PZ	H1=263 mm
Maximum system test pressure Low Side / High side	25 bar(g) /	30 bar(g)	H2=68 mm
Maximum differential test pressure	30 b	ar	H3=- mm
Maximum number of starts per hour	12		
Refrigerant charge limit	2.5	٨g	
Approved refrigerants	R404A,R134a,R407A/C/F,R4	48A,R449A,R452A,R513A	
-			 Terminal b



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### **Electrical Characteristics**

Nominal voltage	220-240V/1/50Hz
Voltage range	220-240 V
Winding resistance (main / start) at 25°C	0.8 Ω / 4.22 Ω
Run capacitors A + C	25 μF + 10 μF
Start capacitor B	135 µF
Start relay	RVA-6AMKL
Maximum Continuous Current (MCC)	20 A
Locked Rotor Amps (LRA)	70 A
Motor protection	Internal overload protector

## 1 2 4 3

Spade connectors 1/4"

Hole Ø 21 mm (0.83'')

Knock-out Ø 21 mm (0.83")

#### **Recommended Installation torques**

Oil sight glass	50 Nm	IP55 (	with cable gland)	
Power connections / Earth connection	2 Nm / 2 Nm	1:	Spade connecto	
Mounting bolts	15 Nm	2:	Earth M4-12	
		3:	Knock-out Ø 21	

### 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, -, CCC certified

\*Singlepack: Compressor in cardboard box

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



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### Datasheet, accessories and spare parts

Maneurop reciprocating compressor, MTZ032-5

Rotolock accessories, suction side	Code no.	
Solder sleeve, P09 (1-1/4" Rotolock, 5/8" ODF)	8153011	
Rotolock valve, V09 (1-1/4" Rotolock, 5/8" ODF)	8168033	
Gasket, 1-1/4"	8156131	Gaskets, sleeves and nuts
Rotolock accessories, discharge side	Code no.	
Solder sleeve, P06 (1" Rotolock, 1/2" ODF)	8153007	
Rotolock valve, V06 (1" Rotolock, 1/2" ODF)	8168031	
Gasket, 1"	8156130	
Rotolock accessories, sets	Code no.	
Valve set, V09 (1-1/4"~5/8"), V06 (1"~1/2")	7703005	
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	Code no.	
PTC heater 27W,CE mark, UL	120Z0459	
Belt type crankcase heater, 54 W, 230 V, CE mark, UL	7773106	
		Mounting kit
Miscellaneous accessories	Code no.	
PSC starting kit, 25 μF, 10 μF	7701024	1
CSR starting kit, 25 μF, 10 μF, 140 μF	7701023	
CSR starting kit, prewired box, 25 $\mu F$ , 10 $\mu F$ , 140 $\mu F$	7701029	
Acoustic hood for 1 cylinder compressor	120Z0575	
Oil equalisation nut	8153127	
		5
Spare parts	Code no.	
Mounting kit for 1 and 2 cylinder compressor, including 3 grommets, 3 bolts	8156001	
Oil sight glass with gaskets (black & white)	8156019	
Gasket for oil sight glass (black chloroprene)	8156145	1. 0. 1. (2.)
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)
		5: Grommet (3x)

6: Nut (3x)



### Maneurop reciprocating compressor. MTZ032-5

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R407C

### Performance data at 50 Hz, EN 12900 rating conditions

Cond. temp. in	Evaporating temperature in °C (to)								
°C (tc)	-15	-10	-5	0	5	10	15		
ooling capacity	in W								
35	3 058	4 162	5 461	6 979	8 741	10 770	13 090	-	-
40	2 719	3 767	4 992	6 419	8 071	9 973	12 147	-	-
45	2 376	3 369	4 521	5 857	7 401	9 176	11 206	-	
50	-	2 967	4 048	5 295	6 731	8 380	10 267	-	-
55	-	-	3 574	4 732	6 062	7 587	9 332	-	-
60	-	-	-	4 170	5 394	6 797	8 401	-	-
65	-	-	-	3 609	4 730	6 010	7 474	-	-
ower input in W		4.000	4.040	4.020	2 020	2.007	2,400		
35	1 495	1 668	1 816	1 938	2 029	2 087	2 109	-	-
40	1 525	1 726	1 904	2 058	2 182	2 276	2 335	-	-
45	1 539	1 771	1 982	2 170	2 331	2 462	2 561	-	-
50	-	1 806	2 053	2 277	2 477	2 649	2 791	-	-
55	-	-	2 120	2 384	2 625	2 841	3 027	-	-
60 65	-	-	-	2 493	2 778	3 040	3 274	-	-
65	-	-	-	2 608	2 940	3 250	3 534	-	-
urrent consum	otion in A								
35	8.25	8.80	9.29	9.73	10.11	10.43	10.69	-	-
40	8.32	9.01	9.62	10.17	10.63	11.02	11.32	-	-
45	8.28	9.14	9.92	10.60	11.19	11.68	12.07	-	-
50	-	9.21	10.18	11.04	11.79	12.42	12.94	-	-
55	-	-	10.44	11.51	12.46	13.27	13.95	-	-
60	-	-	-	12.02	13.20	14.23	15.11	-	-
65	-	-	-	12.57	14.03	15.32	16.43	-	-
lass flow in kg/l		90	115	144	170	216	250		
35	66	89	115	144	178	216	259	-	-
40 45	62 57	84 80	110 105	139 134	172 166	210 203	252 244	-	-
	- 57	74	105		160	196	244 236		-
50	-	-	94	128 122			236	-	-
55 60	-	-	- 94	122	153	188 180	227	-	-
65	-	-	-	115	146 138	180	218	-	-
00	-	-	1 -	107	150	1/1	203	-	
Coefficient of per	formance (C.O	).P.)							
35	2.04	2.49	3.01	3.60	4.31	5.16	6.21	-	-
40	1.78	2.18	2.62	3.12	3.70	4.38	5.20	-	-
45	1.54	1.90	2.28	2.70	3.18	3.73	4.38	-	-
50	-	1.64	1.97	2.33	2.72	3.16	3.68	-	-
55	-	-	1.69	1.98	2.31	2.67	3.08	-	-
60	-	-	-	1.67	1.94	2.24	2.57	-	-
65	-	-	-	1.38	1.61	1.85	2.11	-	-

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

Cooling capacity	6 731	W
Power input	2 477	W
Current consumption	11.79	A
Mass flow	160	kg/h
C.O.P.	2.72	



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)

74

67

dB(A)

dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN1290	0

Sound power data

Sound power level

With accoustic hood



### Maneurop reciprocating compressor. MTZ032-5

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R407C

### Performance data at 50 Hz, ARI rating conditions

Cond. temp. in	Evaporating temperature in °C (to)									
°C (tc)	-15	-10	-5	0	5	10	15			
Cooling capacity	y in W									
35	3 291	4 474	5 864	7 486	9 365	11 527	13 996	-	-	
40	2 943	4 071	5 388	6 920	8 690	10 725	13 049	-	-	
45	2 588	3 663	4 909	6 351	8 014	9 923	12 104	-	-	
50	-	3 250	4 427	5 781	7 338	9 123	11 162	-	-	
55	-	-	3 942	5 209	6 662	8 324	10 223	-	-	
60	-	-	-	4 638	5 988	7 530	9 290	-	-	
65	-	-	-	4 067	5 317	6 741	8 365	-	-	

#### Power input in W

35	1 495	1 668	1 816	1 938	2 029	2 087	2 109	-	-
40	1 525	1 726	1 904	2 058	2 182	2 276	2 335	-	-
45	1 539	1 771	1 982	2 170	2 331	2 462	2 561	-	-
50	-	1 806	2 053	2 277	2 477	2 649	2 791	-	-
55	-	-	2 120	2 384	2 625	2 841	3 027	-	-
60	-	-	-	2 493	2 778	3 040	3 274	-	-
65	-	-	-	2 608	2 940	3 250	3 534	-	-

#### Current consumption in A

35	8.25	8.80	9.29	9.73	10.11	10.43	10.69	-	-
40	8.32	9.01	9.62	10.17	10.63	11.02	11.32	-	-
45	8.28	9.14	9.92	10.60	11.19	11.68	12.07	-	-
50	-	9.21	10.18	11.04	11.79	12.42	12.94	-	-
55	-	-	10.44	11.51	12.46	13.27	13.95	-	-
60	-	-	-	12.02	13.20	14.23	15.11	-	-
65	-	-	-	12.57	14.03	15.32	16.43	-	-

#### Mass flow in kg/h

35	66	88	114	143	177	215	258	-	-
40	62	84	109	138	171	208	250	-	-
45	57	79	104	133	165	202	243	-	-
50	-	74	99	127	159	194	234	-	-
55	-	-	93	121	152	187	226	-	-
60	-	-	-	114	145	179	217	-	-
65	-	-	-	107	137	170	208	-	-

#### Coefficient of performance (C.O.P.)

35	2.20	2.68	3.23	3.86	4.62	5.52	6.64	-	-
40	1.93	2.36	2.83	3.36	3.98	4.71	5.59	-	-
45	1.68	2.07	2.48	2.93	3.44	4.03	4.73	-	-
50	-	1.80	2.16	2.54	2.96	3.44	4.00	-	-
55	-	-	1.86	2.19	2.54	2.93	3.38	-	-
60	-	-	-	1.86	2.16	2.48	2.84	-	-
65	-	-	-	1.56	1.81	2.07	2.37	-	-

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

Cooling capacity	7 453	W
Power input	2 703	W
Current consumption	12.74	A
Mass flow	168	kg/h
C.O.P.	2.76	

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	74	dB(A)
With accoustic hood	67	dB(A)

Tolerance according EN12900



### Maneurop reciprocating compressor. MTZ032-5

### Performance data at 50 Hz, EN 12900 rating conditions

		<u> </u>		-	ting temperatur			<u>г . г</u>	
°C (tc)	-25	-20	-10	-5	0	5	10	15	20
Cooling capacity		1 1			1				
35	941	1 350	2 530	3 357	4 379	5 623	7 118	8 891	10 969
40	806	1 196	2 306	3 082	4 041	5 212	6 622	8 299	10 271
45	669	1 039	2 076	2 799	3 694	4 790	6 115	7 695	9 560
50	534	882	1 843	2 511	3 341	4 361	5 599	7 081	8 836
55	-	-	1 611	2 223	2 986	3 929	5 077	6 460	8 105
60	-	-	-	1 937	2 632	3 495	4 554	5 836	7 369
65	-	-	-	-	2 282	3 064	4 032	5 211	6 631
75	-	-	-	-	-	-	3 004	3 975	5 163
ower input in W	V								
35	773	925	1 220	1 351	1 465	1 554	1 613	1 637	1 619
40	793	950	1 262	1 407	1 535	1 642	1 721	1 767	1 774
45	801	964	1 298	1 456	1 601	1 727	1 828	1 898	1 932
50	795	967	1 325	1 499	1 663	1 809	1 933	2 029	2 091
55	-	-	1 344	1 535	1 718	1 887	2 036	2 160	2 251
60	-	-	-	1 564	1 768	1 961	2 137	2 289	2 412
65	-	-	-	-	1 812	2 031	2 234	2 417	2 572
75	-	-	-	-	-	_	2 417	2 665	2 892
		1							
urrent consum	ption in A								
35	7.58	7.89	8.50	8.77	9.00	9.18	9.30	9.35	9.30
40	7.62	7.95	8.62	8.93	9.20	9.44	9.62	9.73	9.77
45	7.63	7.99	8.71	9.07	9.40	9.69	9.94	10.13	10.24
50	7.61	7.98	8.79	9.19	9.57	9.93	10.25	10.52	10.24
55	-	-	8.83	9.28	9.73	10.16	10.25	10.90	11.20
60			-	9.28	9.73	10.18	10.55	11.27	11.20
	-	-						1	
65 75	-	-	-	-	9.95	10.53	11.09	11.63	12.12
75	-	-	-	-	-	-	11.52	12.25	12.96
looo flow in kall	-								
lass flow in kg/l		24	60	70	00	125	156	101	222
35	24	34	60	78	99	125	156	191	233
40	22	31	58	75	96	122	152	187	228
45	19	29	55	72	93	118	147	182	222
50	16	26	52	68	89	113	142	176	216
55	-	-	48	64	84	108	137	170	209
60	-	-	-	60	80	103	131	163	202
	-	-	-	-	74	97	124	156	194
65		-	-	-	-	-	109	139	175
65 75	-	-							
75		11							
75 Coefficient of pe	rformance (C.C	).P.)			I		1	,	
75		11	2.07	2.48	2.99	3.62	4.41	5.43	6.78
75 Coefficient of pe	rformance (C.C	).P.)	2.07 1.83	2.48 2.19	2.99 2.63	3.62 3.17	4.41 3.85	5.43 4.70	6.78 5.79
75 Coefficient of pe 35	rformance (C.C 1.22	<b>D.P.)</b>							
75 Coefficient of pe 35 40	rformance (C.C 1.22 1.02	<b>D.P.)</b> 1.46 1.26	1.83	2.19	2.63	3.17	3.85	4.70	5.79
75 Coefficient of pe 35 40 45	rformance (C.C 1.22 1.02 0.84	<b>D.P.)</b> 1.46 1.26 1.08	1.83 1.60	2.19 1.92	2.63 2.31	3.17 2.77	3.85 3.34	4.70 4.05	5.79 4.95
75 Coefficient of pe 35 40 45 50	rformance (C.C 1.22 1.02 0.84 0.67	<b>D.P.)</b> 1.46 1.26 1.08 0.91	1.83 1.60 1.39	2.19 1.92 1.68	2.63 2.31 2.01	3.17 2.77 2.41	3.85 3.34 2.90	4.70 4.05 3.49	5.79 4.95 4.23
75 coefficient of pe 35 40 45 50 55	rformance (C.C 1.22 1.02 0.84 0.67 -	<b>D.P.)</b> 1.46 1.26 1.08 0.91 -	1.83 1.60 1.39 1.20	2.19 1.92 1.68 1.45	2.63 2.31 2.01 1.74	3.17 2.77 2.41 2.08	3.85 3.34 2.90 2.49	4.70 4.05 3.49 2.99	5.79 4.95 4.23 3.60
75           oefficient of pe           35           40           45           50           55           60	rformance (C.C 1.22 1.02 0.84 0.67 - -	<b>D.P.)</b> 1.46 1.26 1.08 0.91	1.83 1.60 1.39 1.20	2.19 1.92 1.68 1.45 1.24	2.63 2.31 2.01 1.74 1.49	3.17           2.77           2.41           2.08           1.78	3.85 3.34 2.90 2.49 2.13	4.70 4.05 3.49 2.99 2.55	5.79 4.95 4.23 3.60 3.06
75       coefficient of pe       35       40       45       50       55       60       65	rformance (C.C 1.22 1.02 0.84 0.67 - - -	D.P.) 1.46 1.26 1.08 0.91	1.83 1.60 1.39 1.20 - -	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17           2.77           2.41           2.08           1.78           1.51	3.85 3.34 2.90 2.49 2.13 1.80	4.70 4.05 3.49 2.99 2.55 2.16	5.79 4.95 4.23 3.60 3.06 2.58
75       coefficient of pe       35       40       45       50       55       60       65       75	rformance (C.C 1.22 1.02 0.84 0.67 - - - - - -	D.P.) 1.46 1.26 1.08 0.91	1.83 1.60 1.39 1.20 - -	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17           2.77           2.41           2.08           1.78           1.51	3.85 3.34 2.90 2.49 2.13 1.80 1.24	4.70 4.05 3.49 2.99 2.55 2.16	5.79 4.95 4.23 3.60 3.06 2.58
75 Coefficient of pe 35 40 45 50 55 60 65	rformance (C.C 1.22 1.02 0.84 0.67 - - - - - -	D.P.) 1.46 1.26 1.08 0.91	1.83 1.60 1.39 1.20 - -	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17           2.77           2.41           2.08           1.78           1.51	3.85 3.34 2.90 2.49 2.13 1.80 1.24 settings	4.70 4.05 3.49 2.99 2.55 2.16	5.79 4.95 4.23 3.60 3.06 2.58
75           Coefficient of pe           35           40           45           50           55           60           65           75           Iominal perform           Cooling capacity	rformance (C.C 1.22 1.02 0.84 0.67 - - - - - -	D.P.) 1.46 1.26 1.08 0.91 - - - - - - - - - - - - -	1.83 1.60 1.39 1.20 - - -	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17 2.77 2.41 2.08 1.78 1.51 - Pressure switch s	3.85 3.34 2.90 2.49 2.13 1.80 1.24 settings ch setting	4.70 4.05 3.49 2.99 2.55 2.16 1.49	5.79 4.95 4.23 3.60 3.06 2.58 1.79
75       Coefficient of pe       35       40       45       50       55       60       65       75       Cooling capacity       Power input       Current consumption	rformance (C.C 1.22 1.02 0.84 0.67 - - - - - - - - - - - - -	D.P.) 1.46 1.26 1.08 0.91 - - - - - - - - - - - - -	1.83 1.60 1.39 1.20 - - - - W W W A	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17 2.77 2.41 2.08 1.78 1.51 - <b>Pressure switch</b> 5 Maximum HP swit	3.85 3.34 2.90 2.49 2.13 1.80 1.24 settings ch setting h setting	4.70 4.05 3.49 2.99 2.55 2.16 1.49 20.2	5.79 4.95 4.23 3.60 3.06 2.58 1.79 bar(g)
75       Coefficient of pe       35       40       45       50       55       60       65       75       Iominal perform       Cooling capacity       Yower input       Current consump       Aass flow	rformance (C.C 1.22 1.02 0.84 0.67 - - - - - - - - - - - - -	<b>D.P.)</b> 1.46 1.26 1.08 0.91 - - - - - - - - -	1.83 1.60 1.39 1.20 - - - - W W	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17           2.77           2.41           2.08           1.78           1.51           -           Pressure switch 1           Maximum HP switt           Minimum LP switt           LP pump down se	3.85 3.34 2.90 2.49 2.13 1.80 1.24 settings ch setting h setting tting	4.70 4.05 3.49 2.99 2.55 2.16 1.49 20.2 0.1	5.79 4.95 4.23 3.60 3.06 2.58 1.79 bar(g) bar(g)
75       Coefficient of pe       35       40       45       50       55       60       65       75       Cooling capacity       Power input       Current consumption	rformance (C.C 1.22 1.02 0.84 0.67 - - - - - - - - - - - - -	D.P.) 1.46 1.26 1.08 0.91 - - - - - - - - - - - - -	1.83 1.60 1.39 1.20 - - - - W W W A	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17           2.77           2.41           2.08           1.78           1.51           -           Pressure switch a	3.85 3.34 2.90 2.49 2.13 1.80 1.24 settings ch setting h setting h setting a	4.70 4.05 3.49 2.99 2.55 2.16 1.49 20.2 0.1	5.79 4.95 4.23 3.60 3.06 2.58 1.79 bar(g) bar(g)

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

Tolerance according EN12900

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Danfoss

R134a

### Maneurop reciprocating compressor. MTZ032-5

<u>Danfoss</u>

R134a

2 572

2 892

### Performance data at 50 Hz, ARI rating conditions

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-25	-20	-10	-5	0	5	10	15	20
Cooling capacity	in W								
35	1 023	1 465	2 736	3 624	4 720	6 052	7 650	9 541	11 756
40	882	1 305	2 507	3 344	4 377	5 636	7 149	8 947	11 056
45	737	1 141	2 270	3 054	4 023	5 207	6 636	8 337	10 340
50	-	976	2 029	2 759	3 662	4 770	6 112	7 715	9 611
55	-	-	1 788	2 461	3 298	4 328	5 581	7 086	8 872
60	-	-	-	2 164	2 932	3 883	5 046	6 451	8 127
65	-	-	-	-	-	3 440	4 512	5 816	7 380
75	-	-	-	-	-	-	3 457	4 555	5 896
Power input in W									T
35	773	925	1 220	1 351	1 465	1 554	1 613	1 637	1 619
40	793	950	1 262	1 407	1 535	1 642	1 721	1 767	1 774
45	801	964	1 298	1 456	1 601	1 727	1 828	1 898	1 932
50	-	967	1 325	1 499	1 663	1 809	1 933	2 029	2 091
55	-	-	1 344	1 535	1 718	1 887	2 036	2 160	2 251
60			_	1 564	1 768	1 961	2 137	2 289	2 412

#### Current consumption in A

65 75

35	7.58	7.89	8.50	8.77	9.00	9.18	9.30	9.35	9.30
40	7.62	7.95	8.62	8.93	9.20	9.44	9.62	9.73	9.77
45	7.63	7.99	8.71	9.07	9.40	9.69	9.94	10.13	10.24
50	-	7.98	8.79	9.19	9.57	9.93	10.25	10.52	10.72
55	-	-	8.83	9.28	9.73	10.16	10.55	10.90	11.20
60	-	-	-	9.35	9.86	10.36	10.83	11.27	11.67
65	-	-	-	-	-	10.53	11.09	11.63	12.12
75	-	-	-	-	-	-	11.52	12.25	12.96

2 031

2 234

2 417

2 4 1 7

2 665

#### Mass flow in kg/h

35	24	34	60	78	99	125	155	190	232
40	22	31	57	75	96	121	151	186	227
45	19	29	55	72	92	117	147	181	221
50	-	26	51	68	88	113	142	176	215
55	-	-	48	64	84	108	136	169	208
60	-	-	-	60	79	102	130	163	201
65	-	-	-	-	-	96	123	155	192
75	-	-	-	-	-	-	108	139	174

### Coefficient of performance (C.O.P.)

35	1.32	1.58	2.24	2.68	3.22	3.90	4.74	5.83	7.26
40	1.11	1.37	1.99	2.38	2.85	3.43	4.15	5.06	6.23
45	0.92	1.18	1.75	2.10	2.51	3.02	3.63	4.39	5.35
50	-	1.01	1.53	1.84	2.20	2.64	3.16	3.80	4.60
55	-	-	1.33	1.60	1.92	2.29	2.74	3.28	3.94
60	-	-	-	1.38	1.66	1.98	2.36	2.82	3.37
65	-	-	-	-	-	1.69	2.02	2.41	2.87
75	-	-	-	-	-	-	1.43	1.71	2.04

Nominal performance at to = 7.2 °C	C, tc = 54.4 °C		
Cooling capacity	4 908	W	
Power input	1 945	W	
Current consumption	10.30	А	
Mass flow	120	kg/h	
C.O.P.	2.52		

Maximum HP switch setting	20.2	ba
Minimum LP switch setting	0.1	ba
LP pump down setting	0.4	bar
2. pamp down coung	0.1	
Sound power data		
Sound power data Sound power level	0	dB

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900



### Maneurop reciprocating compressor. MTZ032-5

Danfoss

**R404A** 

### Performance data at 50 Hz, EN 12900 rating conditions

				Evapora	ating temperature	in <sup>-</sup> C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
oling capacity in	n W								
30	1 757	2 453	3 305	4 335	5 561	7 003	8 682	10 616	12 826
35	1 510	2 155	2 945	3 899	5 036	6 376	7 940	9 747	11 816
40	1 271	1 864	2 589	3 464	4 509	5 745	7 191	8 867	10 793
45	1 044	1 582	2 238	3 031	3 983	5 111	6 437	7 980	9 759
50	828	1 308	1 893	2 603	3 457	4 476	5 679	7 085	8 715
55	-	1 046	1 557	2 180	2 935	3 841	4 917	6 185	7 663
60	-	796	1 231	1 764	2 417	3 207	4 155	5 281	6 605
I		1				•	1		
wer input in W									
30	1 246	1 436	1 610	1 767	1 904	2 021	2 115	2 187	2 234
35	1 243	1 456	1 653	1 834	1 997	2 141	2 265	2 367	2 445
40	1 227	1 463	1 685	1 892	2 083	2 256	2 409	2 542	2 654
45	1 198	1 458	1 706	1 941	2 160	2 363	2 548	2 714	2 860
50	1 154	1 441	1 716	1 980	2 229	2 464	2 682	2 882	3 063
55	-	1 410	1 715	2 008	2 289	2 557	2 809	3 045	3 263
60	-	1 367	1 701	2 026	2 340	2 642	2 930	3 203	3 460
rrent consumpt	tion in A 8.57	9.14	9.75	10.36	10.92	11.39	11.74	11.92	11.89
35	8.60	9.22	9.88	10.56	11.19	11.76	12.21	12.50	12.59
40	8.61	9.29	10.03	10.79	11.52	12.20	12.76	13.19	13.42
45	8.55	9.31	10.15	11.01	11.87	12.67	13.38	13.95	14.35
50	8.39	9.25	10.21	11.20	12.19	13.14	14.02	14.76	15.35
55	-	9.07	10.16	11.30	12.46	13.58	14.64	15.58	16.37
60	-	8.74	9.98	11.29	12.63	13.95	15.20	16.36	17.38
ss flow in kg/h									
30	55	76	99	127	159	195	237	284	337
35	51	71	95	122	153	189	230	277	329
40	47	66	90	116	147	183	224	269	321
45	42	62	84	111	141	176	216	261	312
50	37	56	79	104	134	169	208	253	303
55	-	51	73	98	127	161	199	243	292
60	-	45	66	91	119	152	190	233	281
ficient of word									
afficient of perfo	1.41	1.71	2.05	2.45	2.92	3.47	4.10	4.85	5.74
35	1.41	1.48	1.78	2.45	2.92	2.98	3.51	4.05	4.83
40	1.21	1.40	1.78	1.83	2.52	2.96	2.98	3.49	4.03
40	0.87	1.08	1.34	1.65	1.84	2.55	2.98	2.94	3.41
45 50	0.72	0.91	1.10	1.30	1.64	1.82	2.55	2.94	2.85
55	-	0.91		1.09				2.46	
33	-	0.74	0.91	0.87	1.28	1.50	1.75 1.42	2.03	2.35 1.91

Nominal performance at to = -10 °	C, tc = 45 °C		
Cooling capacity	3 983	W	
Power input	2 160	W	
Current consumption	11.87	Α	
Mass flow	141	kg/h	
C.O.P.	1.84		

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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		

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

Tolerance according EN12900



### Maneurop reciprocating compressor. MTZ032-5

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
ooling capacity	in 10/								
30	1 956	2 723	3 660	4 788	6 128	7 701	9 527	11 627	14 021
35	1 699	2 417	3 293	4 347	5 600	7 073	8 787	10 762	13 019
40	1 449	2 117	2 930	3 907	5 070	6 441	8 040	9 888	12 006
45	1 210	1 825	2 570	3 468	4 540	5 806	7 288	9 007	10 984
50	981	1 541	2 218	3 034	4 011	5 171	6 535	8 123	9 957
55	-	1 267	1 874	2 607	3 488	4 540	5 784	7 242	8 935
60	-	1 006	1 541	2 190	2 976	3 921	5 047	6 375	7 929
				1					
Power input in W									
30	1 246	1 436	1 610	1 767	1 904	2 021	2 115	2 187	2 234
35	1 243	1 456	1 653	1 834	1 997	2 141	2 265	2 367	2 445
40	1 227	1 463	1 685	1 892	2 083	2 256	2 409	2 542	2 654
45	1 198	1 458	1 706	1 941	2 160	2 363	2 548	2 714	2 860
50	1 154	1 441	1 716	1 980	2 229	2 464	2 682	2 882	3 063
55	-	1 410	1 715	2 008	2 289	2 557	2 809	3 045	3 263
60	-	1 367	1 701	2 026	2 340	2 642	2 930	3 203	3 460
Current consump	tion in A	T	T	T	1	1	1	1	
30	8.57	9.14	9.75	10.36	10.92	11.39	11.74	11.92	11.89
35	8.60	9.22	9.88	10.56	11.19	11.76	12.21	12.50	12.59
40	8.61	9.29	10.03	10.79	11.52	12.20	12.76	13.19	13.42
45	8.55	9.31	10.15	11.01	11.87	12.67	13.38	13.95	14.35
50	8.39	9.25	10.21	11.20	12.19	13.14	14.02	14.76	15.35
55	-	9.07	10.16	11.30	12.46	13.58	14.64	15.58	16.37
60	-	8.74	9.98	11.29	12.63	13.95	15.20	16.36	17.38
Mass flow in kg/h									
30	55	75	99	126	158	194	235	282	335
35	51	71	94	121	152	188	229	275	327
40	46	66	89	116	147	182	222	268	319
45	42	61	84	110	140	175	215	260	310
50	37	56	78	104	134	168	207	251	301
55	-	50	72	97	126	160	198	242	290
60	-	45	66	90	119	152	189	231	280
Coefficient of per	formance (C.O	).P.)							
30	1.57	1.90	2.27	2.71	3.22	3.81	4.50	5.32	6.28
35	1.37	1.66	1.99	2.37	2.80	3.30	3.88	4.55	5.33
40	1.18	1.45	1.74	2.06	2.43	2.86	3.34	3.89	4.52
45	1.01	1.25	1.51	1.79	2.10	2.46	2.86	3.32	3.84
50	0.85	1.07	1.29	1.53	1.80	2.10	2.44	2.82	3.25
55	-	0.90	1.09	1.30	1.52	1.78	2.06	2.38	2.74
		0.74	0.91	1.08	1.27	1.48	1.72	1.99	2.29

Nominal performance at to = -10	C, IC = 45 C		
Cooling capacity	4 540	W	
Power input	2 160	W	
Current consumption	11.87	А	
Mass flow	140	kg/h	
C.O.P.	2.10		

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	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)

Tolerance according EN12900



### Maneurop reciprocating compressor. MTZ032-5

Danfoss

R407A

### Performance data at 50 Hz, EN 12900 rating conditions

ond. temp. in				Evapora	ting temperature	n °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
ooling conscitu	in W								
ooling capacity 30	1 276	1 918	2 708	3 668	4 817	6 175	7 762	9 598	11 704
35	1 087	1 697	2 446	3 353	4 438	5 722	7 225	8 966	10 966
40	895	1 470	2 173	3 024	4 043	5 249	6 664	8 307	10 198
45	703	1 240	1 894	2 686	3 635	4 761	6 085	7 626	9 404
50	-	1 012	1 615	2 344	3 219	4 262	5 492	6 928	8 591
55	-	-	1 339	2 002	2 802	3 757	4 889	6 217	7 762
60	-	-	-	1 666	2 386	3 251	4 282	5 499	6 922
				1					
ower input in W			1	1	1	1	-	1	1
30	980	1 184	1 372	1 542	1 694	1 827	1 939	2 028	2 095
35	962	1 189	1 401	1 597	1 776	1 937	2 078	2 198	2 297
40	929	1 180	1 418	1 642	1 849	2 040	2 212	2 364	2 496
45	880	1 158	1 423	1 676	1 913	2 135	2 340	2 527	2 694
50	-	1 122	1 417	1 699	1 969	2 224	2 463	2 685	2 889
55	-	-	1 398	1 713	2 016	2 305	2 580	2 840	3 082
60	-	-	-	1 716	2 054	2 380	2 692	2 991	3 274
Current consump	otion in A	1			1	1	1	1	T
30	7.17	7.69	8.25	8.82	9.35	9.81	10.15	10.35	10.34
35	7.19	7.72	8.32	8.93	9.53	10.06	10.50	10.81	10.94
40	7.19	7.76	8.40	9.07	9.75	10.39	10.94	11.38	11.67
45	7.14	7.75	8.46	9.22	9.99	10.75	11.44	12.03	12.48
50	-	7.67	8.46	9.32	10.21	11.10	11.94	12.70	13.34
55	-	-	8.36	9.34	10.37	11.41	12.43	13.38	14.22
60	-	-	-	9.25	10.43	11.65	12.85	14.01	15.08
/lass flow in kg/h	ı								
30	30	45	62	83	106	134	166	202	243
35	27	42	59	79	103	130	162	198	239
40	24	38	55	76	99	126	157	193	234
45	20	34	51	71	94	121	152	187	227
50	-	30	47	66	89	116	146	181	220
55	-	-	42	61	83	109	139	173	212
60	-	-	-	55	77	102	132	165	203
Coefficient of per	formance (C.C	D.P.)							
30	1.30	1.62	1.97	2.38	2.84	3.38	4.00	4.73	5.59
35	1.13	1.43	1.75	2.10	2.50	2.95	3.48	4.08	4.77
40	0.96	1.25	1.53	1.84	2.19	2.57	3.01	3.51	4.08
45	0.80	1.07	1.33	1.60	1.90	2.23	2.60	3.02	3.49
50	-	0.90	1.14	1.38	1.64	1.92	2.23	2.58	2.97
55	-	-	0.96	1.17	1.39	1.63	1.89	2.19	2.52
60	-	-	-	0.97	1.16	1.37	1.59	1.84	2.11

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

Cooling capacity	3 635	W
Power input	1 913	W
Current consumption	9.99	A
Mass flow	94	kg/h
C.O.P.	1.90	

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(g)

Sound power data

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

Tolerance according EN12900



### Maneurop reciprocating compressor. MTZ032-5

Danfoss

R407A

### 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 i	n W								
30	1 380	2 071	2 921	3 951	5 181	6 634	8 329	10 287	12 530
35	1 183	1 843	2 652	3 630	4 799	6 179	7 791	9 656	11 796
40	980	1 607	2 372	3 295	4 398	5 702	7 228	8 997	11 030
45	776	1 367	2 083	2 948	3 982	5 207	6 644	8 314	10 237
50	-	1 127	1 793	2 596	3 558	4 701	6 045	7 613	9 424
55	-	-	1 504	2 243	3 130	4 188	5 437	6 899	8 596
60	-	-	-	1 893	2 703	3 673	4 825	6 180	7 760
<b>I</b>								1	
ower input in W									
30	980	1 184	1 372	1 542	1 694	1 827	1 939	2 028	2 095
35	962	1 189	1 401	1 597	1 776	1 937	2 078	2 198	2 297
40	929	1 180	1 418	1 642	1 849	2 040	2 212	2 364	2 496
45	880	1 158	1 423	1 676	1 913	2 135	2 340	2 527	2 694
50	-	1 122	1 417	1 699	1 969	2 224	2 463	2 685	2 889
55	-	-	1 398	1 713	2 016	2 305	2 580	2 840	3 082
60	-	-	-	1 716	2 054	2 380	2 692	2 991	3 274
urrent consumpt	tion in A								
30	7.17	7.69	8.25	8.82	9.35	9.81	10.15	10.35	10.34
35	7.19	7.72	8.32	8.93	9.53	10.06	10.50	10.81	10.94
40	7.19	7.76	8.40	9.07	9.75	10.39	10.94	11.38	11.67
45	7.14	7.75	8.46	9.22	9.99	10.75	11.44	12.03	12.48
50	-	7.67	8.46	9.32	10.21	11.10	11.94	12.70	13.34
55	-	-	8.36	9.34	10.37	11.41	12.43	13.38	14.22
60	-	-	-	9.25	10.43	11.65	12.85	14.01	15.08
lass flow in kg/h									
30	30	45	62	82	106	133	165	201	242
35	27	42	59	79	102	130	161	197	237
40	24	38	55	75	98	125	157	192	232
45	20	34	51	71	94	121	151	186	226
50	-	30	46	66	89	115	145	180	219
55	-	-	41	61	83	109	138	172	211
60	-	-	-	55	77	102	131	164	202
a afficient of south					1	1		•	
30		1.75	2.13	2.56	3.06	3.63	4.30	5.07	5.98
30	1.41	1.75	1.89	2.56	2.70	3.63	4.30 3.75	4.39	5.98
40	1.23	1.36	1.69	2.27	2.70	2.80	3.75	3.80	4.42
40	0.88	1.36	1.46	1.76	2.08	2.60	2.84	3.29	3.80
45 50	-	1.10	1.46	1.53	1.81	2.44	2.64	2.84	3.26
50			1.27			1.82		2.84	
55	-	-	-	1.31 1.10	1.55 1.32	1.82	2.11 1.79	2.43	2.79 2.37

Nominal performance at to = -10	C, IC = 45 C		
Cooling capacity	3 982	W	
Power input	1 913	W	
Current consumption	9.99	A	
Mass flow	94	kg/h	
C.O.P.	2.08		

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. MTZ032-5

Danfoss

R407F

### Performance data at 50 Hz, EN 12900 rating conditions

ond. temp. in			•	Evapora	ating temperatur	re in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
ooling capacity i	n W								
30	-	2 117	3 013	4 096	5 390	6 918	8 704	10 770	13 140
35	-	1 808	2 628	3 620	4 807	6 212	7 858	9 769	11 968
40	-	1 543	2 298	3 209	4 299	5 591	7 109	8 875	10 914
45	-	1 314	2 2 3 0	2 855	3 858	5 048	6 448	8 081	9 969
50		-	1 769	2 549	3 477	4 575	5 868	7 377	9 126
55	-	-	-	2 349	3 147	4 164	5 359	6 756	8 376
60	-		-	-	-	-	-	-	
00			-	-	_		-	-	-
ower input in W			•					•	
30	-	1 260	1 457	1 638	1 797	1 924	2 011	2 052	2 036
35	-	1 262	1 479	1 688	1 881	2 048	2 183	2 276	2 320
40	-	1 262	1 496	1 729	1 952	2 156	2 334	2 477	2 577
45	-	1 269	1 517	1 769	2 018	2 256	2 473	2 661	2 813
50	-	-	1 548	1 817	2 088	2 354	2 606	2 837	3 037
55	-	-	-	1 879	2 169	2 460	2 744	3 012	3 257
60	-	-	-	-	-	-	-	-	-
urrent consumpt 30	ion in A	7.70	8.31	8.92	9.49	9.97	10.30	10.44	10.33
35		7.83	8.46	9.11	9.75	10.32	10.36	11.04	11.08
40	-	7.89	8.56	9.28	10.01	10.68	11.26	11.68	11.91
45	-	7.90	8.63	9.44	10.01	11.07	11.80	12.39	12.81
45 50	-	-	8.67	9.58	10.27	11.49	12.38	13.17	12.81
55 60	-	-	-	9.73	- 10.83	- 11.94	- 13.03	- 14.03	- 14.90
60	-	-	-	-	-	-	-	-	-
ass flow in kg/h									
30	-	44	61	82	107	135	168	205	247
35	-	39	56	76	99	127	158	194	235
40	-	35	51	71	93	120	150	185	224
45	-	32	48	66	88	114	143	177	215
50	-	-	44	63	84	109	138	171	208
55	-	-	-	60	81	106	134	166	202
60	-	-	-	-	-	-	-	-	-
oefficient of perf 30	ormance (C.		2.07	2.50	3.00	2.60	4.33	5.25	6.45
30	-	1.68	1.78	2.50		3.60		5.25	5.16
		1.43			2.56		3.60	4.29	
40	-	-	1.54	1.86	2.20	2.59	3.05	3.58	4.24
45	-	1.04	1.33	1.61	1.91	2.24	2.61	3.04	3.54
50	-	-	1.14	1.40	1.67	1.94	2.25	2.60	3.00
55 60	-	-	-	1.22	1.45 -	1.69	1.95 -	2.24	2.57
00	-	1 -	-	1 -	1 -		L -	1 -	-
ominal performa	nce at to = -1					Pressure switch			
ooling capacity		3 858	W			Maximum HP swi		24	bar(g
Power input	n	2 018	W	1		Minimum LP swite		1 1 26	bar(g)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

10.27

88

1.91

А

kg/h

Minimum LP switch setting	1	bar(g)
LP pump down setting	1.26	bar(g)
Sound power data		

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

Tolerance according EN12900

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Current consumption

Mass flow

C.O.P.

### Maneurop reciprocating compressor. MTZ032-5

<u>Danfoss</u>

R407F

### Performance data at 50 Hz, ARI rating conditions

Cond. temp. in		Evaporating temperature in °C (to)											
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10				
Cooling capacity	in W												
30	-	2 269	3 225	4 381	5 760	7 386	9 284	11 478	13 992				
35	-	1 947	2 827	3 889	5 158	6 659	8 416	10 453	12 795				
40	-	1 671	2 485	3 465	4 636	6 024	7 650	9 542	11 722				
45	-	1 432	2 191	3 101	4 186	5 470	6 979	8 736	10 765				
50	-	-	1 939	2 790	3 800	4 993	6 394	8 028	9 920				
55	-	-	-	2 523	3 470	4 584	5 891	7 415	9 180				
60	-	-	-	-	-	-	-	-	-				
Power input in W													
30	-	1 260	1 457	1 638	1 797	1 924	2 011	2 052	2 036				
35	-	1 262	1 479	1 688	1 881	2 048	2 183	2 276	2 320				

35	-	1 262	1 479	1 688	1 881	2 048	2 183	2 276	2 320
40	-	1 262	1 496	1 729	1 952	2 156	2 334	2 477	2 577
45	-	1 269	1 517	1 769	2 018	2 256	2 473	2 661	2 813
50	-	-	1 548	1 817	2 088	2 354	2 606	2 837	3 037
55	-	-	-	1 879	2 169	2 460	2 744	3 012	3 257
60	-	-	-	-	-	-	-	-	-

### Current consumption in A

30	-	7.70	8.31	8.92	9.49	9.97	10.30	10.44	10.33
35	-	7.83	8.46	9.11	9.75	10.32	10.76	11.04	11.08
40	-	7.89	8.56	9.28	10.01	10.68	11.26	11.68	11.91
45	-	7.90	8.63	9.44	10.27	11.07	11.80	12.39	12.81
50	-	-	8.67	9.58	10.54	11.49	12.38	13.17	13.81
55	-	-	-	9.73	10.83	11.94	13.03	14.03	14.90
60	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	43	61	82	106	134	167	204	246
35	-	39	56	76	99	126	157	193	233
40	-	35	51	70	93	119	149	183	223
45	-	31	47	66	88	113	142	176	214
50	-	-	44	62	84	109	137	170	207
55	-	-	-	60	81	105	133	165	201
60	-	-	-	-	-	-	-	-	-

#### Coefficient of performance (C.O.P.)

		,							
30	-	1.80	2.21	2.67	3.21	3.84	4.62	5.59	6.87
35	-	1.54	1.91	2.30	2.74	3.25	3.86	4.59	5.51
40	-	1.32	1.66	2.00	2.38	2.79	3.28	3.85	4.55
45	-	1.13	1.44	1.75	2.07	2.43	2.82	3.28	3.83
50	-	-	1.25	1.54	1.82	2.12	2.45	2.83	3.27
55	-	-	-	1.34	1.60	1.86	2.15	2.46	2.82
60	-	-	-	-	-	-	-	-	-

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

Cooling capacity	4 186	W	
Power input	2 018	W	
Current consumption	10.27	А	
Mass flow	88	kg/h	
C.O.P.	2.07		

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(g)

### Sound power data

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

Tolerance according EN12900



### Maneurop reciprocating compressor. MTZ032-5

### Performance data at 50 Hz, EN 12900 rating conditions

		<u> </u>		-	ting temperatur			<u>г . г</u>	
°C (tc)	-25	-20	-10	-5	0	5	10	15	20
Cooling capacity		1 1			1				
35	941	1 350	2 530	3 357	4 379	5 623	7 118	8 891	10 969
40	806	1 196	2 306	3 082	4 041	5 212	6 622	8 299	10 271
45	669	1 039	2 076	2 799	3 694	4 790	6 115	7 695	9 560
50	534	882	1 843	2 511	3 341	4 361	5 599	7 081	8 836
55	-	-	1 611	2 223	2 986	3 929	5 077	6 460	8 105
60	-	-	-	1 937	2 632	3 495	4 554	5 836	7 369
65	-	-	-	-	2 282	3 064	4 032	5 211	6 631
75	-	-	-	-	-	-	3 004	3 975	5 163
ower input in W	V								
35	773	925	1 220	1 351	1 465	1 554	1 613	1 637	1 619
40	793	950	1 262	1 407	1 535	1 642	1 721	1 767	1 774
45	801	964	1 298	1 456	1 601	1 727	1 828	1 898	1 932
50	795	967	1 325	1 499	1 663	1 809	1 933	2 029	2 091
55	-	-	1 344	1 535	1 718	1 887	2 036	2 160	2 251
60	-	-	-	1 564	1 768	1 961	2 137	2 289	2 412
65	-	-	-	-	1 812	2 031	2 234	2 417	2 572
75	-	-	-	-	-	_	2 417	2 665	2 892
		1							
urrent consum	ption in A								
35	7.58	7.89	8.50	8.77	9.00	9.18	9.30	9.35	9.30
40	7.62	7.95	8.62	8.93	9.20	9.44	9.62	9.73	9.77
45	7.63	7.99	8.71	9.07	9.40	9.69	9.94	10.13	10.24
50	7.61	7.98	8.79	9.19	9.57	9.93	10.25	10.52	10.24
55	-	-	8.83	9.28	9.73	10.16	10.25	10.90	11.20
60			-	9.28	9.73	10.18	10.55	11.27	11.20
	-	-							
65 75	-	-	-	-	9.95	10.53	11.09	11.63	12.12
75	-	-	-	-	-	-	11.52	12.25	12.96
looo flow in kall	-								
lass flow in kg/l		24	60	70	00	125	156	101	222
35	24	34	60	78	99	125	156	191	233
40	22	31	58	75	96	122	152	187	228
45	19	29	55	72	93	118	147	182	222
50	16	26	52	68	89	113	142	176	216
55	-	-	48	64	84	108	137	170	209
60	-	-	-	60	80	103	131	163	202
	-	-	-	-	74	97	124	156	194
65		-	-	-	-	-	109	139	175
65 75	-	-							
75		11							
75 Coefficient of pe	rformance (C.C	).P.)			I		1	,	
75		11	2.07	2.48	2.99	3.62	4.41	5.43	6.78
75 Coefficient of pe	rformance (C.C	).P.)	2.07 1.83	2.48 2.19	2.99 2.63	3.62 3.17	4.41 3.85	5.43 4.70	6.78 5.79
75 Coefficient of pe 35	rformance (C.C 1.22	<b>D.P.)</b>							
75 Coefficient of pe 35 40	rformance (C.C 1.22 1.02	<b>D.P.)</b> 1.46 1.26	1.83	2.19	2.63	3.17	3.85	4.70	5.79
75 Coefficient of pe 35 40 45	rformance (C.C 1.22 1.02 0.84	<b>D.P.)</b> 1.46 1.26 1.08	1.83 1.60	2.19 1.92	2.63 2.31	3.17 2.77	3.85 3.34	4.70 4.05	5.79 4.95
75 Coefficient of pe 35 40 45 50	rformance (C.C 1.22 1.02 0.84 0.67	<b>D.P.)</b> 1.46 1.26 1.08 0.91	1.83 1.60 1.39	2.19 1.92 1.68	2.63 2.31 2.01	3.17 2.77 2.41	3.85 3.34 2.90	4.70 4.05 3.49	5.79 4.95 4.23
75 coefficient of pe 35 40 45 50 55	rformance (C.C 1.22 1.02 0.84 0.67 -	<b>D.P.)</b> 1.46 1.26 1.08 0.91 -	1.83 1.60 1.39 1.20	2.19 1.92 1.68 1.45	2.63 2.31 2.01 1.74	3.17 2.77 2.41 2.08	3.85 3.34 2.90 2.49	4.70 4.05 3.49 2.99	5.79 4.95 4.23 3.60
75           oefficient of pe           35           40           45           50           55           60	rformance (C.C 1.22 1.02 0.84 0.67 - -	<b>D.P.)</b> 1.46 1.26 1.08 0.91	1.83 1.60 1.39 1.20	2.19 1.92 1.68 1.45 1.24	2.63 2.31 2.01 1.74 1.49	3.17           2.77           2.41           2.08           1.78	3.85 3.34 2.90 2.49 2.13	4.70 4.05 3.49 2.99 2.55	5.79 4.95 4.23 3.60 3.06
75       coefficient of pe       35       40       45       50       55       60       65	rformance (C.C 1.22 1.02 0.84 0.67 - - -	D.P.) 1.46 1.26 1.08 0.91	1.83 1.60 1.39 1.20 - -	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17           2.77           2.41           2.08           1.78           1.51	3.85 3.34 2.90 2.49 2.13 1.80	4.70 4.05 3.49 2.99 2.55 2.16	5.79 4.95 4.23 3.60 3.06 2.58
75       coefficient of pe       35       40       45       50       55       60       65       75	rformance (C.C 1.22 1.02 0.84 0.67 - - - - - -	D.P.) 1.46 1.26 1.08 0.91	1.83 1.60 1.39 1.20 - -	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17           2.77           2.41           2.08           1.78           1.51	3.85 3.34 2.90 2.49 2.13 1.80 1.24	4.70 4.05 3.49 2.99 2.55 2.16	5.79 4.95 4.23 3.60 3.06 2.58
75 Coefficient of pe 35 40 45 50 55 60 65	rformance (C.C 1.22 1.02 0.84 0.67 - - - - - -	D.P.) 1.46 1.26 1.08 0.91	1.83 1.60 1.39 1.20 - -	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17           2.77           2.41           2.08           1.78           1.51	3.85 3.34 2.90 2.49 2.13 1.80 1.24 settings	4.70 4.05 3.49 2.99 2.55 2.16	5.79 4.95 4.23 3.60 3.06 2.58
75           coefficient of pe           35           40           45           50           55           60           65           75           lominal perform           Cooling capacity	rformance (C.C 1.22 1.02 0.84 0.67 - - - - - -	D.P.) 1.46 1.26 1.08 0.91 - - - - - - - - - - - - -	1.83 1.60 1.39 1.20 - - -	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17 2.77 2.41 2.08 1.78 1.51 - Pressure switch s	3.85 3.34 2.90 2.49 2.13 1.80 1.24 settings ch setting	4.70 4.05 3.49 2.99 2.55 2.16 1.49	5.79 4.95 4.23 3.60 3.06 2.58 1.79
75       Coefficient of pe       35       40       45       50       55       60       65       75       Cooling capacity       Power input       Current consumption	rformance (C.C 1.22 1.02 0.84 0.67 - - - - - - - - - - - - -	D.P.) 1.46 1.26 1.08 0.91 - - - - - - - - - - - - -	1.83 1.60 1.39 1.20 - - - - W W W A	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17 2.77 2.41 2.08 1.78 1.51 - <b>Pressure switch</b> 5 Maximum HP swit	3.85 3.34 2.90 2.49 2.13 1.80 1.24 settings ch setting h setting	4.70 4.05 3.49 2.99 2.55 2.16 1.49 20.2	5.79 4.95 4.23 3.60 3.06 2.58 1.79 bar(g)
75       Coefficient of pe       35       40       45       50       55       60       65       75       Iominal perform       Cooling capacity       Yower input       Current consump       Aass flow	rformance (C.C 1.22 1.02 0.84 0.67 - - - - - - - - - - - - -	<b>D.P.)</b> 1.46 1.26 1.08 0.91 - - - - - - - - -	1.83 1.60 1.39 1.20 - - - - W W	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17           2.77           2.41           2.08           1.78           1.51           -           Pressure switch 1           Maximum HP switt           Minimum LP switt           LP pump down se	3.85 3.34 2.90 2.49 2.13 1.80 1.24 settings ch setting h setting tting	4.70 4.05 3.49 2.99 2.55 2.16 1.49 20.2 0.1	5.79 4.95 4.23 3.60 3.06 2.58 1.79 bar(g) bar(g)
75       Coefficient of pe       35       40       45       50       55       60       65       75       Cooling capacity       Power input       Current consumption	rformance (C.C 1.22 1.02 0.84 0.67 - - - - - - - - - - - - -	D.P.) 1.46 1.26 1.08 0.91 - - - - - - - - - - - - -	1.83 1.60 1.39 1.20 - - - - W W W A	2.19 1.92 1.68 1.45 1.24 -	2.63 2.31 2.01 1.74 1.49 1.26	3.17           2.77           2.41           2.08           1.78           1.51           -           Pressure switch a	3.85 3.34 2.90 2.49 2.13 1.80 1.24 settings ch setting h setting h setting a	4.70 4.05 3.49 2.99 2.55 2.16 1.49 20.2 0.1	5.79 4.95 4.23 3.60 3.06 2.58 1.79 bar(g) bar(g)

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

Tolerance according EN12900

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Danfoss

R134a

### Maneurop reciprocating compressor. MTZ032-5

<u>Danfoss</u>

R134a

2 572

2 892

### Performance data at 50 Hz, ARI rating conditions

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-25	-20	-10	-5	0	5	10	15	20
Cooling capacity	in W								
35	1 023	1 465	2 736	3 624	4 720	6 052	7 650	9 541	11 756
40	882	1 305	2 507	3 344	4 377	5 636	7 149	8 947	11 056
45	737	1 141	2 270	3 054	4 023	5 207	6 636	8 337	10 340
50	-	976	2 029	2 759	3 662	4 770	6 112	7 715	9 611
55	-	-	1 788	2 461	3 298	4 328	5 581	7 086	8 872
60	-	-	-	2 164	2 932	3 883	5 046	6 451	8 127
65	-	-	-	-	-	3 440	4 512	5 816	7 380
75	-	-	-	-	-	-	3 457	4 555	5 896
Power input in W									T
35	773	925	1 220	1 351	1 465	1 554	1 613	1 637	1 619
40	793	950	1 262	1 407	1 535	1 642	1 721	1 767	1 774
45	801	964	1 298	1 456	1 601	1 727	1 828	1 898	1 932
50	-	967	1 325	1 499	1 663	1 809	1 933	2 029	2 091
55	-	-	1 344	1 535	1 718	1 887	2 036	2 160	2 251
60			_	1 564	1 768	1 961	2 137	2 289	2 412

#### Current consumption in A

65 75

35	7.58	7.89	8.50	8.77	9.00	9.18	9.30	9.35	9.30
40	7.62	7.95	8.62	8.93	9.20	9.44	9.62	9.73	9.77
45	7.63	7.99	8.71	9.07	9.40	9.69	9.94	10.13	10.24
50	-	7.98	8.79	9.19	9.57	9.93	10.25	10.52	10.72
55	-	-	8.83	9.28	9.73	10.16	10.55	10.90	11.20
60	-	-	-	9.35	9.86	10.36	10.83	11.27	11.67
65	-	-	-	-	-	10.53	11.09	11.63	12.12
75	-	-	-	-	-	-	11.52	12.25	12.96

2 031

2 234

2 417

2 4 1 7

2 665

#### Mass flow in kg/h

35	24	34	60	78	99	125	155	190	232
40	22	31	57	75	96	121	151	186	227
45	19	29	55	72	92	117	147	181	221
50	-	26	51	68	88	113	142	176	215
55	-	-	48	64	84	108	136	169	208
60	-	-	-	60	79	102	130	163	201
65	-	-	-	-	-	96	123	155	192
75	-	-	-	-	-	-	108	139	174

### Coefficient of performance (C.O.P.)

35	1.32	1.58	2.24	2.68	3.22	3.90	4.74	5.83	7.26
40	1.11	1.37	1.99	2.38	2.85	3.43	4.15	5.06	6.23
45	0.92	1.18	1.75	2.10	2.51	3.02	3.63	4.39	5.35
50	-	1.01	1.53	1.84	2.20	2.64	3.16	3.80	4.60
55	-	-	1.33	1.60	1.92	2.29	2.74	3.28	3.94
60	-	-	-	1.38	1.66	1.98	2.36	2.82	3.37
65	-	-	-	-	-	1.69	2.02	2.41	2.87
75	-	-	-	-	-	-	1.43	1.71	2.04

Nominal performance at to = 7.2 °C, tc = 54.4 °C						
Cooling capacity	4 908	W				
Power input	1 945	W				
Current consumption	10.30	А				
Mass flow	120	kg/h				
C.O.P.	2.52					

Maximum HP switch setting	20.2	ba
Minimum LP switch setting	0.1	ba
LP pump down setting	0.4	bar
2. pamp down coung	0.1	
Sound power data		
Sound power data Sound power level	0	dB

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900



### Maneurop reciprocating compressor. MTZ032-5

Danfoss

R407C

### Performance data at 50 Hz, EN 12900 rating conditions

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-15	-10	-5	0	5	10	15		
ooling capacity	in W								
35	3 058	4 162	5 461	6 979	8 741	10 770	13 090	-	-
40	2 719	3 767	4 992	6 419	8 071	9 973	12 147	-	-
45	2 376	3 369	4 521	5 857	7 401	9 176	11 206	-	
50	-	2 967	4 048	5 295	6 731	8 380	10 267	-	-
55	-	-	3 574	4 732	6 062	7 587	9 332	-	-
60	-	-	-	4 170	5 394	6 797	8 401	-	-
65	-	-	-	3 609	4 730	6 010	7 474	-	-
ower input in W		4.000	4.040	4.020	2 020	2.007	2,400		
35	1 495	1 668	1 816	1 938	2 029	2 087	2 109	-	-
40	1 525	1 726	1 904	2 058	2 182	2 276	2 335	-	-
45	1 539	1 771	1 982	2 170	2 331	2 462	2 561	-	-
50	-	1 806	2 053	2 277	2 477	2 649	2 791	-	-
55	-	-	2 120	2 384	2 625	2 841	3 027	-	-
60 65	-	-	-	2 493	2 778	3 040	3 274	-	-
65	-	-	-	2 608	2 940	3 250	3 534	-	-
urrent consum	otion in A								
35	8.25	8.80	9.29	9.73	10.11	10.43	10.69	-	-
40	8.32	9.01	9.62	10.17	10.63	11.02	11.32	-	-
45	8.28	9.14	9.92	10.60	11.19	11.68	12.07	-	-
50	-	9.21	10.18	11.04	11.79	12.42	12.94	-	-
55	-	-	10.44	11.51	12.46	13.27	13.95	-	-
60	-	-	-	12.02	13.20	14.23	15.11	-	-
65	-	-	-	12.57	14.03	15.32	16.43	-	-
lass flow in kg/l		90	115	144	170	216	250		
35	66	89	115	144	178	216	259	-	-
40 45	62 57	84 80	110 105	139 134	172 166	210 203	252 244	-	-
	- 57	74	105		160	196	244 236		-
50	-	-	94	128 122			236	-	-
55 60	-	-	- 94	122	153	188 180	227	-	-
65	-	-	-	115	146 138	180	218	-	-
00	-	-	1 -	107	150	1/1	203	-	
Coefficient of per	formance (C.O	).P.)							
35	2.04	2.49	3.01	3.60	4.31	5.16	6.21	-	-
40	1.78	2.18	2.62	3.12	3.70	4.38	5.20	-	-
45	1.54	1.90	2.28	2.70	3.18	3.73	4.38	-	-
50	-	1.64	1.97	2.33	2.72	3.16	3.68	-	-
55	-	-	1.69	1.98	2.31	2.67	3.08	-	-
60	-	-	-	1.67	1.94	2.24	2.57	-	-
65	-	-	-	1.38	1.61	1.85	2.11	-	-

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

Cooling capacity	6 731	W
Power input	2 477	W
Current consumption	11.79	A
Mass flow	160	kg/h
C.O.P.	2.72	



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)

74

67

dB(A)

dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN1290	0

Sound power data

Sound power level

With accoustic hood



### Maneurop reciprocating compressor. MTZ032-5

<u>Danfoss</u>

R407C

### Performance data at 50 Hz, ARI rating conditions

Cond. temp. in	Evaporating temperature in °C (to)									
°C (tc)	-15	-10	-5	0	5	10	15			
Cooling capacity	y in W									
35	3 291	4 474	5 864	7 486	9 365	11 527	13 996	-	-	
40	2 943	4 071	5 388	6 920	8 690	10 725	13 049	-	-	
45	2 588	3 663	4 909	6 351	8 014	9 923	12 104	-	-	
50	-	3 250	4 427	5 781	7 338	9 123	11 162	-	-	
55	-	-	3 942	5 209	6 662	8 324	10 223	-	-	
60	-	-	-	4 638	5 988	7 530	9 290	-	-	
65	-	-	-	4 067	5 317	6 741	8 365	-	-	

#### Power input in W

35	1 495	1 668	1 816	1 938	2 029	2 087	2 109	-	-
40	1 525	1 726	1 904	2 058	2 182	2 276	2 335	-	-
45	1 539	1 771	1 982	2 170	2 331	2 462	2 561	-	-
50	-	1 806	2 053	2 277	2 477	2 649	2 791	-	-
55	-	-	2 120	2 384	2 625	2 841	3 027	-	-
60	-	-	-	2 493	2 778	3 040	3 274	-	-
65	-	-	-	2 608	2 940	3 250	3 534	-	-

#### Current consumption in A

35	8.25	8.80	9.29	9.73	10.11	10.43	10.69	-	-
40	8.32	9.01	9.62	10.17	10.63	11.02	11.32	-	-
45	8.28	9.14	9.92	10.60	11.19	11.68	12.07	-	-
50	-	9.21	10.18	11.04	11.79	12.42	12.94	-	-
55	-	-	10.44	11.51	12.46	13.27	13.95	-	-
60	-	-	-	12.02	13.20	14.23	15.11	-	-
65	-	-	-	12.57	14.03	15.32	16.43	-	-

#### Mass flow in kg/h

35	66	88	114	143	177	215	258	-	-
40	62	84	109	138	171	208	250	-	-
45	57	79	104	133	165	202	243	-	-
50	-	74	99	127	159	194	234	-	-
55	-	-	93	121	152	187	226	-	-
60	-	-	-	114	145	179	217	-	-
65	-	-	-	107	137	170	208	-	-

#### Coefficient of performance (C.O.P.)

35	2.20	2.68	3.23	3.86	4.62	5.52	6.64	-	-
40	1.93	2.36	2.83	3.36	3.98	4.71	5.59	-	-
45	1.68	2.07	2.48	2.93	3.44	4.03	4.73	-	-
50	-	1.80	2.16	2.54	2.96	3.44	4.00	-	-
55	-	-	1.86	2.19	2.54	2.93	3.38	-	-
60	-	-	-	1.86	2.16	2.48	2.84	-	-
65	-	-	-	1.56	1.81	2.07	2.37	-	-

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

Cooling capacity	7 453	W
Power input	2 703	W
Current consumption	12.74	A
Mass flow	168	kg/h
C.O.P.	2.76	

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	74	dB(A)
With accoustic hood	67	dB(A)

Tolerance according EN12900



Danfoss

### Maneurop reciprocating compressor. MTZ032-5

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

R448A	
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Cond. temp. in		1	1	Evapora	ating temperatur	re in °C (to)	1		
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity i	in W								
10	-	2 707	3 513	4 485	5 640	-	-	-	-
20	-	2 444	3 217	4 135	5 216	6 480	7 947	-	-
30	-	2 099	2 830	3 687	4 687	5 847	7 186	8 726	10 492
40	-	-	2 372	3 160	4 070	5 118	6 323	7 703	9 280
50	-	_	-	2 572	3 385	4 314	5 376	6 588	7 968
60	-	-	-	-	2 649	3 453	4 365	5 402	6 577
					2010	0.00		0.02	0.011
Power input in W									
10	-	1 113	1 164	1 187	1 182	-	-	-	-
20	-	1 245	1 343	1 416	1 463	1 482	1 472	-	-
30	-	1 326	1 474	1 598	1 699	1 774	1 821	1 840	1 829
40	-	-	1 552	1 730	1 886	2 018	2 125	2 206	2 259
50	-	-	-	1 808	2 021	2 212	2 381	2 525	2 644
60	-	-	-	-	2 101	2 354	2 585	2 795	2 981
		·		-		·		· •	
Current consump	tion in A			-					
10	-	3.84	4.50	5.05	5.50	-	-	-	-
20	-	5.83	6.52	7.10	7.58	7.95	8.21	-	-
30	-	6.98	7.79	8.49	9.08	9.57	9.95	10.23	10.40
40	-	-	8.43	9.33	10.14	10.83	11.42	11.90	12.28
50	-	-	-	9.74	10.84	11.83	12.71	13.49	14.16
60	-	-	-	-	11.31	12.68	13.95	15.11	16.16
Mass flow in kg/h									
10	-	45	58	75	94	-	-	-	-
20	-	43	57	74	93	116	144	-	-
30	-	40	54	71	91	114	141	173	211
40	-	-	50	66	86	109	136	168	206
50	-	-	-	60	80	103	129	161	197
60	-	-	-	-	71	94	120	151	187
		-	•				•	<u> </u>	
Coefficient of peri			0.00	0.70	4 77		1		
10	-	2.43	3.02	3.78	4.77	-	-	-	-
20	-	1.96	2.39	2.92	3.56	4.37	5.40	-	-
30	-	1.58	1.92	2.31	2.76	3.30	3.95	4.74	5.74
40	-	-	1.53	1.83	2.16	2.54	2.97	3.49	4.11
50	-	-	-	1.42	1.67	1.95	2.26	2.61	3.01
60	-	-	-	-	1.26	1.47	1.69	1.93	2.21
Nominal performa	ance at to $= -1$	0 °C to = 45 °C				Pressure switch	sottings		
Cooling capacity		3 735	W			Maximum HP swit	-	27.7	bar(g)
Power input		1 960	Ŵ			Minimum LP swite	•	1	bar(g)
Current consumption	on	10.52	A			LP pump down se		1.3	bar(g)
Mass flow		83	kg/h			· · ·			
C.O.P.		1.91				Sound power dat			
_						Sound power leve		73	dB(A)
to: Evaporating ten						With accoustic ho	od	66	dB(A)
	nperature at de	ew point							



### Maneurop reciprocating compressor. MTZ032-5

Danfoss

**R448A** 

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

Cond. temp. in				Evapora	ting temperature in	n °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10

#### Cooling capacity in W

10	2 058	2 721	3 533	4 512	5 676	-	-	-	-
20	1 784	2 428	3 203	4 126	5 215	6 488	7 961	-	-
30	1 440	2 056	2 785	3 643	4 648	5 817	7 169	8 722	10 492
40	1 046	1 626	2 299	3 083	3 995	5 053	6 275	7 678	9 280
50	-	1 157	1 766	2 467	3 277	4 215	5 298	6 543	7 968
60	-	-	1 207	1 817	2 517	3 325	4 260	5 338	6 577

#### Power input in W

10	1 037	1 113	1 164	1 187	1 182	-	-	-	-
20	1 124	1 245	1 343	1 416	1 463	1 482	1 472	-	-
30	1 158	1 326	1 474	1 598	1 699	1 774	1 821	1 840	1 829
40	1 136	1 354	1 552	1 730	1 886	2 018	2 125	2 206	2 259
50	-	1 324	1 575	1 808	2 021	2 212	2 381	2 525	2 644
60	-	-	1 540	1 830	2 101	2 354	2 585	2 795	2 981

#### Current consumption in A

10	3.07	3.84	4.50	5.05	5.50	-	-	-	-
20	5.03	5.83	6.52	7.10	7.58	7.95	8.21	-	-
30	6.06	6.98	7.79	8.49	9.08	9.57	9.95	10.23	10.40
40	6.28	7.41	8.43	9.33	10.14	10.83	11.42	11.90	12.28
50	-	7.22	8.54	9.74	10.84	11.83	12.71	13.49	14.16
60	-	-	8.24	9.83	11.31	12.68	13.95	15.11	16.16

#### Mass flow in kg/h

10	40	52	67	84	104	-	-	-	-
20	37	50	65	82	102	125	152	-	-
30	33	46	62	79	99	122	148	178	211
40	27	41	57	74	95	117	143	173	206
50	-	33	49	67	88	110	136	165	197
60	-	-	40	58	78	101	127	155	187

#### Coefficient of performance (C.O.P.)

10	1.98	2.44	3.04	3.80	4.80	-	-	-	-
20	1.59	1.95	2.38	2.91	3.56	4.38	5.41	-	-
30	1.24	1.55	1.89	2.28	2.74	3.28	3.94	4.74	5.74
40	0.92	1.20	1.48	1.78	2.12	2.50	2.95	3.48	4.11
50	-	0.87	1.12	1.36	1.62	1.91	2.22	2.59	3.01
60	-	-	0.78	0.99	1.20	1.41	1.65	1.91	2.21

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

Cooling capacity	3 643	W
Power input	1 960	W
Current consumption	10.52	А
Mass flow	91	kg/h
C.O.P.	1.86	

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	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)

Tolerance according EN12900



Danfoss

### Maneurop reciprocating compressor. MTZ032-5

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

Cond. temp. in	Evaporating temperature in °C (to)										
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10		
ooling capacity i	n W										
10	-	2 712	3 519	4 490	5 645	-	-	-	_		
20	-	2 450	3 222	4 141	5 222	6 485	7 951	_	-		
30		2 430	2 836	3 693	4 693	5 852	7 191	8 729	10 492		
40	-	-	2 378	3 167	4 077	5 124	6 328	7 706	9 280		
50	_		-	2 579	3 392	4 320	5 381	6 591	7 968		
60	-	-	-	-	2 656	3 459	4 370	5 405	6 577		
00	-			_	2 030	5455	4 370	5405	0.511		
Power input in W											
10	-	1 113	1 164	1 187	1 182	-	-	-	-		
20	-	1 245	1 343	1 416	1 463	1 482	1 472	-	-		
30	-	1 326	1 474	1 598	1 699	1 774	1 821	1 840	1 829		
40	-	-	1 552	1 730	1 886	2 018	2 125	2 206	2 259		
50	-	-	-	1 808	2 021	2 212	2 381	2 525	2 644		
60	-	-	-	-	2 101	2 353	2 585	2 795	2 980		
			•	•				•			
Current consumpt	ion in A	1	1	1	1	ľ	1	1			
10	-	3.84	4.50	5.05	5.50	-	-	-	-		
20	-	5.83	6.52	7.10	7.58	7.95	8.21	-	-		
30	-	6.98	7.79	8.49	9.08	9.57	9.95	10.23	10.40		
40	-	-	8.42	9.33	10.13	10.83	11.42	11.90	12.28		
50	-	-	-	9.74	10.84	11.83	12.71	13.49	14.16		
60	-	-	-	-	11.31	12.68	13.95	15.11	16.16		
Mass flow in kg/h		10	00		07						
10	-	46	60	77	97	-	-	-	-		
20	-	44	58	75	95	119	147	-	-		
30	-	41	55	72	92	116	144	177	216		
40	-	-	51	68	88	111	139	171	209		
50	-	-	-	62	82	105	132	164	202		
60	-	-	-	-	73	96	123	155	191		
Coefficient of perf	ormanco (C (										
10	-	2.44	3.02	3.78	4.78	-	-	-	-		
20	-	1.97	2.40	2.92	3.57	4.38	5.40	_	-		
30		1.59	1.92	2.31	2.76	3.30	3.95	4.74	5.74		
40	-	-	1.52	1.83	2.16	2.54	2.98	3.49	4.11		
50	-	-	-	1.43	1.68	1.95	2.26	2.61	3.01		
60	-	_	-	-	1.26	1.47	1.69	1.93	2.21		
		1	1		1.20			1	2.21		
Nominal performa	nce at to = -1	10 °C, tc = 45 °C				Pressure switch	settings				
Cooling capacity		3 741	W	]		Maximum HP swi	•	27.7	bar(g)		
Power input		1 960	W			Minimum LP swite	-	1	bar(g)		
Current consumptio	n	10.52	A			LP pump down se	etting	1.3	bar(g)		
Mass flow C.O.P.		85	kg/h			Sound newer de	to				
J.U.F.		1.91				Sound power day		73	dB(A)		
							-1	15	uD(A)		



### Maneurop reciprocating compressor. MTZ032-5

Danfoss

**R449A** 

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

Cond. temp. in	Evaporating temperature in °C (to)										
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10		

#### Cooling capacity in W

10	2 058	2 721	3 533	4 512	5 676	-	-	-	-
20	1 784	2 428	3 203	4 126	5 215	6 488	7 961	-	-
30	1 440	2 056	2 785	3 643	4 648	5 817	7 169	8 722	10 492
40	1 046	1 626	2 299	3 083	3 995	5 053	6 275	7 678	9 280
50	-	1 157	1 766	2 467	3 277	4 215	5 298	6 543	7 968
60	-	-	1 207	1 817	2 517	3 325	4 260	5 338	6 577

#### Power input in W

10	1 037	1 113	1 164	1 187	1 182	-	-	-	-
20	1 124	1 245	1 343	1 416	1 463	1 482	1 472	-	-
30	1 158	1 326	1 474	1 598	1 699	1 774	1 821	1 840	1 829
40	1 136	1 354	1 552	1 730	1 886	2 018	2 125	2 206	2 259
50	-	1 324	1 575	1 808	2 021	2 212	2 381	2 525	2 644
60	-	-	1 540	1 829	2 101	2 353	2 585	2 795	2 980

#### Current consumption in A

10	3.07	3.84	4.50	5.05	5.50	-	-	-	-
20	5.03	5.83	6.52	7.10	7.58	7.95	8.21	-	-
30	6.06	6.98	7.79	8.49	9.08	9.57	9.95	10.23	10.40
40	6.28	7.41	8.42	9.33	10.13	10.83	11.42	11.90	12.28
50	-	7.22	8.54	9.74	10.84	11.83	12.71	13.49	14.16
60	-	-	8.24	9.83	11.31	12.68	13.95	15.11	16.16

#### Mass flow in kg/h

10	40	53	68	86	106	-	-	-	-
20	38	51	66	84	104	128	155	-	-
30	33	47	63	81	101	125	151	181	216
40	27	42	58	76	97	120	146	176	209
50	-	34	50	69	90	113	139	169	202
60	-	-	40	59	80	104	130	159	191

#### Coefficient of performance (C.O.P.)

10	1.98	2.44	3.04	3.80	4.80	-	-	-	-
20	1.59	1.95	2.38	2.91	3.56	4.38	5.41	-	-
30	1.24	1.55	1.89	2.28	2.74	3.28	3.94	4.74	5.74
40	0.92	1.20	1.48	1.78	2.12	2.50	2.95	3.48	4.11
50	-	0.87	1.12	1.36	1.62	1.91	2.23	2.59	3.01
60	-	-	0.78	0.99	1.20	1.41	1.65	1.91	2.21

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

Cooling capacity	3 643	W
Power input	1 960	W
Current consumption	10.52	А
Mass flow	93	kg/h
C.O.P.	1.86	

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

Sound	power	dat

Sound power data		
Sound power level	73	dB(A)
With accoustic hood	66	dB(A)
With accoustic hood	00	

Tolerance according EN12900



Danfoss

### Maneurop reciprocating compressor. MTZ032-5

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

R452A
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Cond. temp. in °C (tc)				Evapora	ting temperatu	re in °C (to)			0
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
ooling consoity i	n W								
200ling capacity i 10	-	3 446	4 474	5 703	7 155	-	-	-	-
	-			4 912		7 790		-	-
20 30		2 826 2 187	3 779	4 912	6 243		9 577		10.00
40	-	1 553	3 055 2 326	3 234	5 279 4 291	6 671 5 516	8 273 6 925	10 109 8 536	12 203 10 372
50		-	1 618	2 397	3 304	4 353	5 559	6 937	8 503
60	-	-	-	1 598	2 346	3 211	4 205	5 339	6 624
00	-	-	-	1 3 90	2 340	5211	4 205	5 339	0 024
Power input in W									
10	-	1 399	1 454	1 478	1 473	-	-	-	-
20	-	1 452	1 552	1 622	1 661	1 673	1 658	-	-
30	-	1 447	1 600	1 722	1 814	1 878	1 915	1 926	1 912
40	-	1 384	1 597	1 780	1 932	2 056	2 153	2 224	2 270
50	-	-	1 546	1 796	2 017	2 209	2 373	2 511	2 624
60	-	-	-	1 772	2 068	2 335	2 575	2 788	2 976
urront concurrent	ion in A								
10		7.47	8.17	8.64	8.88	-	-	_	-
20	-	7.35	8.01	8.49	8.79	8.92	8.89	-	-
30	-	7.64	8.33	8.88	9.30	9.59	9.75	9.80	9.74
40	-	7.92	8.69	9.37	9.96	10.46	10.89	11.24	11.53
50	-	-	8.64	9.50	10.32	11.10	11.84	12.56	13.25
60	-	-	-	8.83	9.94	11.05	12.17	13.31	14.47
Mass flow in kg/h 10		72	94	120	151	-	-	-	_
20	-	63	85	111	141	177	220	-	-
30	-	53	75	100	130	166	208	257	316
40	-	42	63	88	118	153	194	243	301
50	-	-	50	75	104	139	179	227	284
60	-	-	-	59	88	122	162	210	266
					-				
2000 2000 2000 2000 2000 2000 2000 200	ormance (C.C	2.46	3.08	3.86	4.86	-	-	_	-
20	-	1.95	2.43	3.03	3.76	4.66	5.78	_	-
30	-	1.50	1.91	2.37	2.91	3.55	4.32	5.25	6.38
40	-	1.12	1.46	1.82	2.22	2.68	3.22	3.84	4.57
50	-	-	1.05	1.33	1.64	1.97	2.34	2.76	3.24
60	-	_	-	0.90	1.13	1.37	1.63	1.92	2.23
I								-	
Nominal performa	nce at to = -1	-				Pressure switch	-		
Cooling capacity		3 796	W			Maximum HP swit	•	27.7	bar(g)
Power input Current consumptic	n	1 979 10.20	W A			Minimum LP swite LP pump down se	-	1 1.3	bar(g) bar(g)
Mass flow	/11	10.20	kg/h					1.5	bai(9)
C.O.P.		1.92				Sound power dat	a		
						Sound power leve		73	dB(A)
to: Evanorating tem	perature at de	ew point				With accoustic ho	od	66	dB(A)
tc: Condensing tem									



### Maneurop reciprocating compressor. MTZ032-5

<u>Danfoss</u>

R452A

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

Cond. temp. in	Evaporating temperature in °C (to)								
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10

#### Cooling capacity in W

<u> </u>									
10	2 518	3 354	4 380	5 615	7 079	-	-	-	-
20	1 931	2 705	3 647	4 778	6 117	7 685	9 503	-	-
30	1 351	2 049	2 895	3 909	5 110	6 520	8 158	10 046	12 203
40	804	1 415	2 152	3 036	4 087	5 326	6 773	8 448	10 372
50	321	831	1 447	2 189	3 077	4 133	5 375	6 825	8 503
60	-	325	807	1 394	2 108	2 967	3 993	5 205	6 624

#### Power input in W

10	1 313	1 399	1 454	1 478	1 473	-	-	-	-
20	1 320	1 452	1 552	1 622	1 661	1 673	1 658	-	-
30	1 261	1 447	1 600	1 722	1 814	1 878	1 915	1 926	1 912
40	1 137	1 384	1 597	1 780	1 932	2 056	2 153	2 224	2 270
50	949	1 263	1 546	1 796	2 017	2 209	2 373	2 511	2 624
60	-	1 087	1 445	1 772	2 068	2 335	2 575	2 788	2 976

#### Current consumption in A

10	6.55	7.47	8.17	8.64	8.88	-	-	-	-
20	6.49	7.35	8.01	8.49	8.79	8.92	8.89	-	-
30	6.81	7.64	8.33	8.88	9.30	9.59	9.75	9.80	9.74
40	7.05	7.92	8.69	9.37	9.96	10.46	10.89	11.24	11.53
50	6.77	7.73	8.64	9.50	10.32	11.10	11.84	12.56	13.25
60	-	6.62	7.73	8.83	9.94	11.05	12.17	13.31	14.47

#### Mass flow in kg/h

10	63	83	107	134	166	-	-	-	-
20	53	73	97	124	155	191	232	-	-
30	42	62	85	112	143	179	219	265	316
40	29	49	72	99	130	165	205	250	301
50	14	34	57	84	114	149	189	234	284
60	-	17	40	67	97	132	171	216	266

#### Coefficient of performance (C.O.P.)

10	1.92	2.40	3.01	3.80	4.81	-	-	-	-
20	1.46	1.86	2.35	2.95	3.68	4.59	5.73	-	-
30	1.07	1.42	1.81	2.27	2.82	3.47	4.26	5.22	6.38
40	0.71	1.02	1.35	1.71	2.12	2.59	3.15	3.80	4.57
50	0.34	0.66	0.94	1.22	1.53	1.87	2.27	2.72	3.24
60	-	0.30	0.56	0.79	1.02	1.27	1.55	1.87	2.23

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

Cooling capacity	3 579	W
Power input	1 979	W
Current consumption	10.20	А
Mass flow	122	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	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

Sound	power	dat

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

Tolerance according EN12900





