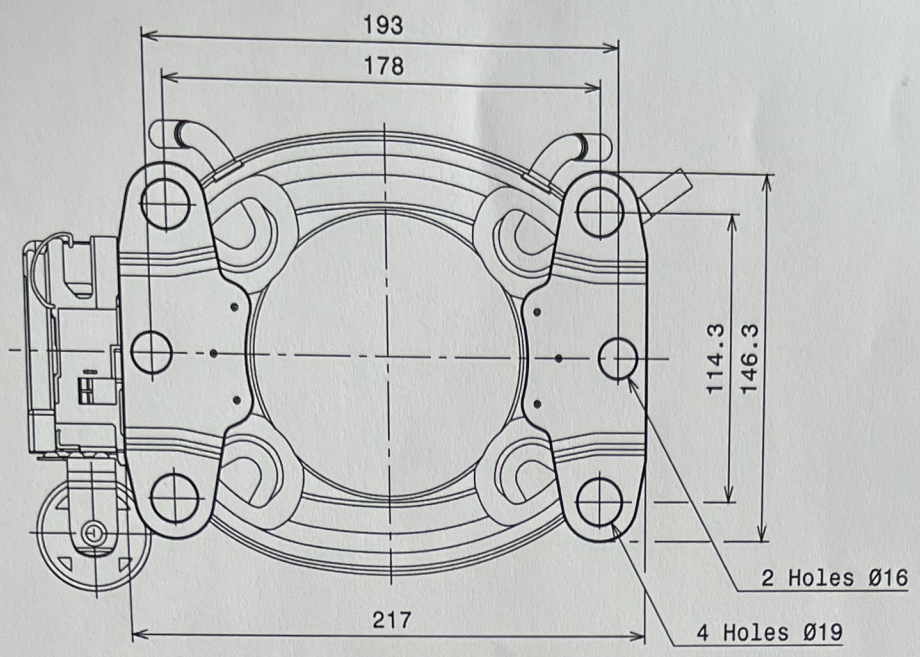
echnical Data Sheet

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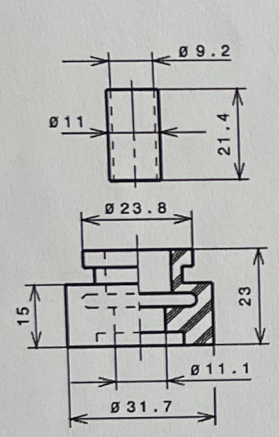
FIXINGS



SILENT BLOCKS (MOUNTING ACCESSORIES)

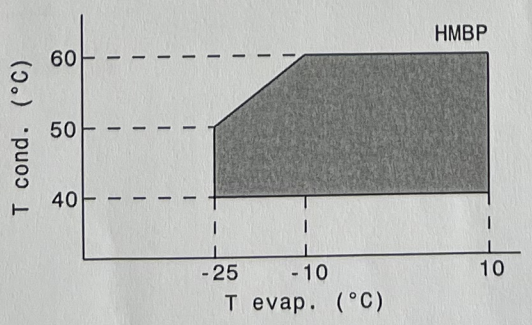
STANDARD

Ø19 holes (178x114.3 net)



SOA

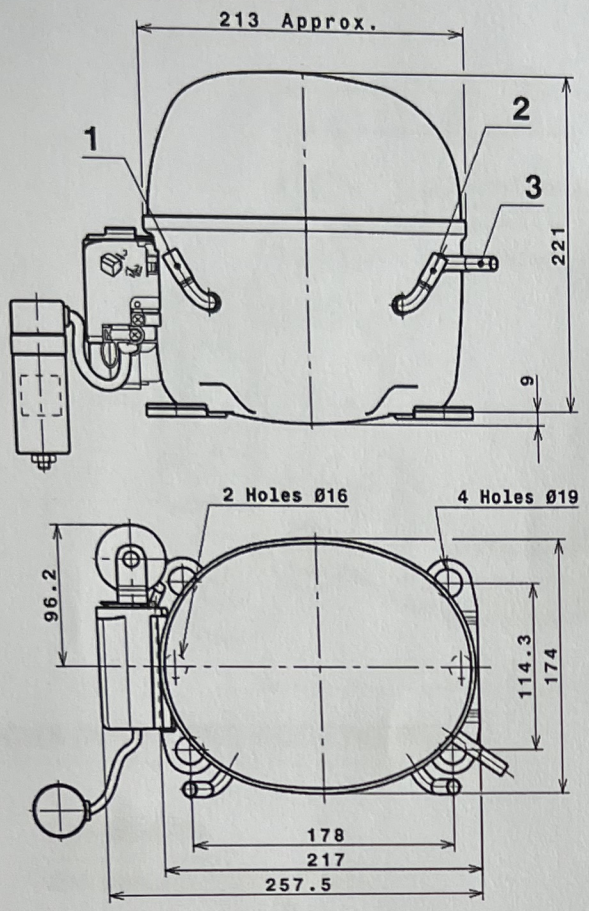
SOA R404A HMBP



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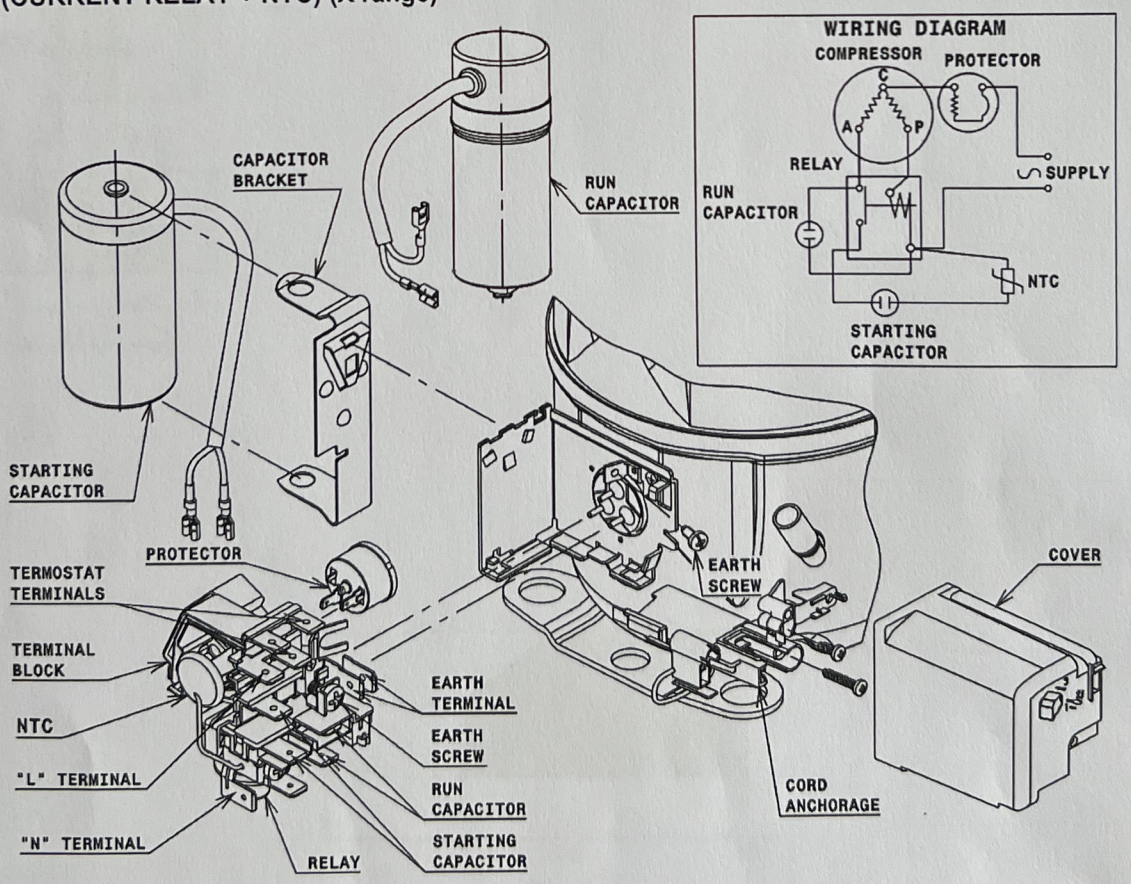
COMPRESSOR DIMENSIONS



	DESIGNATION	INTERNAL DIAM.
1	Service	9,7 mm
2	Suction	9,7 mm
3	Discharge	6,5 mm

WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

CSR CONNECTION (CURRENT RELAY + NTC) (X range)



chnical Data Sheet

ENGINEERING TOMORROW

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EN12900

X	Cooling Capacity (W)	Consumption (W)	Current (A)	Mass Flow (kg/h)
1	4.220,8136392240	801,5486945211	4,2920427539	81,678773219533
2	127,1818913887	1,5668344883	0,0061832816	2,8345588078294
3	-45,9665169863	6,7171431916	0,0335289331	-0,35204857527005
4	0,7093589286	-0,0475990012	0,0001456453	0,032939649402571
5	-1,1394065704	0,2975172059	0,0014519012	-0,0043231014209744

Equation	$x_1 + x_2Te + x_3Tc + x_4Te^2 + x_5TeTc$

chnical Data Sheet

ENGINEERING TOMORROW

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ASHRAE

Tc °C	Te °C	Cooling Capacity kCal/h	Consumption W	Current A	COP W/W	EER kCal/Wh
40	-25	775	684	4,04	1,32	1,13
40	-20	1.009	759	4,33	1,55	1,33
40	-15	1.282	832	4,63	1,79	1,54
40	-10	1.594	901	4,92	2,06	1,77
40	-5	1.944	968	5,21	2,34	2,01
40	0	2.332	1.031	5,49	2,63	2,26
40	5	2.760	1.092	5,77	2,94	2,53
40	7,2	2.960	1.118	5,89	3,08	2,65
40	10	3.226	1.149	6,04	3,26	2,81
45	-25	700	680	4,03	1,20	1,03
45	-20	913	763	4,35	1,39	1,20
45	-15	1.165	842	4,67	1,61	1,38
45	-10	1.456	919	4,99	1,84	1,58
45	-5	1.785	993	5,32	2,09	1,80
45	0	2.153	1.064	5,64	2,35	2,02
45	5	2.559	1.131	5,95	2,63	2,26
45	7,2	2.750	1.160	6,09	2,76	2,37
45	10	3.004	1.196	6,26	2,92	2,51
50	-25	625	677	4,01	1,07	0,92
50	-20	817	766	4,36	1,24	1,07
50	-15	1.048	853	4,72	1,43	1,23
50	-10	1.318	937	5,07	1,64	1,41
50	-5	1.626	1.018	5,43	1,86	1,60
50	0	1.973	1.096	5,78	2,09	1,80
50	5	2.358	1.171	6,14	2,34	2,01
50	7,2	2.540	1.203	6,29	2,46	2,11
50	10	2.782	1.242	6,49	2,60	2,24
55	-25	550	673	4,00	0,95	0,82
55	-20	721	770	4,38	1,09	0,94
55	-15	931	864	4,76	1,25	1,08
55	-10	1.180	955	5,15	1,44	1,24
55	-5	1.467	1.043	5,54	1,64	1,41
55	0	1.793	1.128	5,93	1,85	1,59
55	5	2.157	1.210	6,33	2,07	1,78
55	7,2	2.330	1.245	6,50	2,18	1,87
55	10	2.560	1.289	6,72	2,31	1,99
60	-25	475	670	3,99	0,83	0,71
60	-20	625	774	4,39	0,94	0,81
60	-15	814	875	4,81	1,08	0,93
60	-10	1.042	973	5,23	1,25	1,07
60	-5	1.308	1.068	5,66	1,42	1,22
60	0	1.613	1.160	6,09	1,62	1,39
60	5	1.957	1.249	6,52	1,82	1,57
60	7,2	2.120	1.288	6,71	1,92	1,65
60	10	2.339	1.335	6,96	2,04	1,75

CECOMAF

Tc °C	Te °C	Cooling Capacity W	Consumption W	Current A	COP W/W	EER kCal/Wh
40	-25	812	687	4,05	1,18	1,02
40	-20	1.064	763	4,35	1,39	1,20
40	-15	1.353	837	4,65	1,62	1,40
40	-10	1.681	907	4,94	1,85	1,60
40	-5	2.045	974	5,23	2,10	1,81
40	0	2.447	1.038	5,52	2,36	2,04
40	5	2.887	1.100	5,80	2,62	2,27
40	7,2	3.092	1.126	5,93	2,75	2,37
40	10	3.364	1.159	6,08	2,90	2,51
45	-25	725	684	4,04	1,06	0,92
45	-20	950	767	4,37	1,24	1,07
45	-15	1.213	847	4,69	1,43	1,24
45	-10	1.513	925	5,02	1,64	1,41
45	-5	1.851	999	5,35	1,85	1,60
45	0	2.226	1.071	5,67	2,08	1,80
45	5	2.639	1.140	5,99	2,32	2,00
45	7,2	2.832	1.169	6,13	2,42	2,09
45	10	3.089	1.205	6,31	2,56	2,21
50	-25	638	680	4,03	0,94	0,81
50	-20	836	771	4,38	1,09	0,94
50	-15	1.072	858	4,74	1,25	1,08
50	-10	1.346	943	5,10	1,43	1,23
50	-5	1.657	1.025	5,46	1,62	1,40
50	0	2.005	1.103	5,82	1,82	1,57
50	5	2.391	1.179	6,18	2,03	1,75
50	7,2	2.573	1.212	6,34	2,12	1,83
50	10	2.814	1.252	6,54	2,25	1,94
55	-25	551	677	4,01	0,81	0,70
55	-20	723	774	4,40	0,93	0,81
55	-15	932	869	4,78	1,07	0,93
55	-10	1.178	961	5,18	1,23	1,06
55	-5	1.463	1.050	5,57	1,39	1,20
55	0	1.784	1.136	5,97	1,57	1,36
55	5	2.143	1.219	6,37	1,76	1,52
55	7,2	2.313	1.255	6,55	1,84	1,59
55	10	2.540	1.299	6,77	1,96	1,69
60	-25	464	673	4,00	0,69	0,60
60	-20	609	778	4,41	0,78	0,68
60	-15	791	880	4,83	0,90	0,78
60	-10	1.011	979	5,26	1,03	0,89
60	-5	1.268	1.075	5,69	1,18	1,02
60	0	1.563	1.168	6,13	1,34	1,16
60	5	1.896	1.259	6,57	1,51	1,30
60	7,2	2.054	1.297	6,76	1,58	1,37
60	10	2.265	1.346	7,01	1,68	1,45

KD HERMETIC RECIPROCATING Condensing units

R452A MT Reciprocating -20°C to +5°C, also suitable for R448A/R449A*

Code	Model	Capacity (Watts) - Evaporating Temperature						Supply	Noise Level
		5	0	-5	-10	-15	-20		
KDU021	PAD005M1	1372	1271	1040	859	701	564	230.1	33
KDU031	PAD008M1	2002	1691	1442	1191	987	805	230.1	33
KDU036	PAD010M1	2486	2127	1767	1475	1215	983	230.1	33
KDU041	PAD012M1	3736	3159	2689	2218	1827	1473	230.1	33

*There is a capacity loss of when using R449A with these units,this is around 10-12% at -10°C.

R452A LT Reciprocating -20°C to -45°C

Code	Model	Capacity (Watts) - Evaporating Temperature						Supply	Noise Level
		-20	-25	-30	-35	-40	-45		
KDU411	PAD016L1	1888	1528	1207	931	688	491	230.1	33
KDU431	1PAD018L1	2406	1876	1401	1007	675	403	230.1	38
KDU433	1PAD018L3	2406	1876	1401	1007	675	403	400.3	38
KDU436	1PAD023L1	3494	2811	2197	1640	1182	793	230.1	40
KDU438	1PAD023L3	3494	2811	2197	1640	1182	793	400.3	40

Please note that the above hermetic low temperature units are not approved for use with R407A/R407F/R448A/R449A.

Electrical data

Model	Compressor model*	Current		Power supply voltage
		LRA	FLA	
PAD005M1	MLY90RA	18.4	3.85	230.1.50
PAD008M1	MPT14RA	23.5	5.74	230.1.50
PAD010M1	MX18TB	23.4	5.58	230.1.50
PAD012M1	MS26TB-T	34.6	7.71	230.1.50
PAD016L1	MS34FB-T	40	8.85	230.1.50
1PAD018L1	NTZ048-5	37	11.00	230.1.50
1PAD018L3	NTZ048-4	16	4.80	400.3.50
1PAD023L1	NTZ068-5	53	17.00	230.1.50
1PAD023L3	NTZ068-4	25	8.40	400.3.50

Nominal data

Model	Dimensions (mm)			Weight (kg)	Connections (inch)*		Receiver Volume (l)	No of fans & wattage	Noise level dB (a)
	Width	Depth	Height		Suct	Liq			
PAD005M1	791	343	655	55	3/8	3/8	1.9	1 x 16	33
PAD008M1	791	343	655	55	1/2	3/8	1.9	1 x 16	33
PAD010M1	831	343	655	56	1/2	3/8	2.3	1 x 25	33
PAD012M1	881	373	705	68	5/8	3/8	2.3	1 x 40	33
PAD016L1	881	373	705	68	1/2	3/8	2.3	1 x 40	33
1PAD018L1	1000	400	815	89	5/8	3/8	2.8	1 x 110	38
1PAD018L3	1000	400	815	89	5/8	3/8	2.8	1 x 110	38
1PAD023L1	1000	400	815	94	5/8	3/8	2.8	1 x 110	40
1PAD023L3	1000	400	815	94	5/8	3/8	2.8	1 x 110	40

Technical Data Sheet

ENGINEERING TOMORROW

Danfoss

Compressor model **MX18TBa**

Voltage **220-240V 50Hz ~1**

Refrigerant **R404A**

APPLICATION

Application	High-Medium Back Pressure
Refrigerant	R404A
Evaporating Temp.	-25,0 °C to 10,0 °C
Expansion	Capillar/Valve
Comp. Cooling	Fan cooled
Max. ambient temp.	43,0 °C

COMPRESSOR

Displacement	18,40 cm³
Diameter	34,93 mm
Stroke	19,20 mm
Net Weight	16,33 Kg
Oil type	ISO VG 32 ESTER
Oil charge	500 cm³

MOTOR

Nominal Power	7/8 hp
Voltage/Frequency	220-240V 50Hz
Voltage range	187-255 V
Type	CSR
Phase number	1 PH
Locked Rotor Amps (LRA)	34,50 A
Max. Cont. Current (MCC)	9,00 A
Main W. resist. at 25°C	2,34 Ω
Start W. resist. at 25°C	7,22 Ω

NOMINAL PERFORMANCE

	ASHRAE	CECOMAF
Cooling Capacity	2.330 kCal/h	2.143 W
COP	2,18 W/W	1,76 W/W
EER	1,87 kCal/Wh	1,52 kCal/Wh
Input Power	1.245 W	1.219 W
Current	6,50 A	6,37 A

APPROVALS

VDE

TEST CYCLE CONDITIONS

	ASHRAE HMBP (D)	CECOMAF HMBP (C)
Evaporating temp. (T_e)	7,2 °C	5,0 °C
Condensing temp. (T_c)	55,0 °C	55,0 °C
Liquid temp. ($T_{liq.}$)	46,0 °C	55,0 °C
Ambient temp. ($T_{amb.}$)	35,0 °C	32,0 °C
Suction temp. ($T_{suction}$)	35,0 °C	32,0 °C
Voltage/Frequency	220 V 50 Hz	220 V 50 Hz

ELECTRICAL COMPONENTS

Starting capacitor	88-108 µF 330 V			
Run capacitor	16 µF 420 V			
Relay	Option 1	Option 2		
Reference	2014 180. + NTC15Ω	QLZ 16.7A + NTC15Ω		
Pick-Up	16.70 A	16.70 A		
Drop-Out	14.00 A	14.00 A		
Protector	Option 1			
Reference	T0260			
Current	22,00 A			
Time check	7,5-14 seg			
Disc temp. (Open/Close)	105,00 / 52,00 °C			

KD RECIP



HERMETIC RECIP. CONDENSING UNITS

Duty range: 859 - 2,218 W @ -10°C

Refrigerants: R452A, R448A and R449A

Medium temperature -20 to +5 °C / Low temperature -20 to -45 °C

Product description:

KD Hermetic reciprocating condensing units are ideally suited for commercial applications, cellar cooling, petrol forecourts and freezer rooms.

Product features:

- High efficiency internally grooved copper tube.
- Corrosion resistant blue fin coating.
- Service valves for easy and quick installation.
- Liquid line drier and sight glass.
- Fan speed controller.
- Adjustable HP/LP switch.
- Liquid receiver with blanking plug, liquid shut off valve and charging port.
- Factory fitted oil separator included on low temp.models.
- Fully pre-wired and electrical isolator fitted.
- Fitted with Cubigel compressors (PAD) and Maneurop NTZ compressors (1PAD, 2PAD).

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