

MARINE WATER COOLED DECK UNIT



Marine Water-cooled Deck Unit

Description

The MDUK marine deck unit is specially designed for marine installations for air conditioning. Deck Unit type MDUK is combined with AHU and CU (Condensing Unit) mounting under or beside the AHU.

All operation of unit including start/stop and adjustment of set points can be done via the control panel and control equipment itself. The control panel is located on deck unit under AHU or beside the unit in AC room. After connection to cooling water and power supply, the unit is ready for operation.

Features

- Refrigerant: R404A, R407C, R134A, R22 etc.
- Compressor: open or semi-hermetic type; piston or screw type optional.
- Capacity control: step or stepless.
- Condenser: Bitzer (Germany), shell and tube type, with high efficiency and good corrosion protection.
- System valves: Danfoss (Denmark), reliable and durable.
- High-class painted for marine application.
- Control type: classical control or PLC.
- 50/60 Hz, 3 phase.



**Water-cooled deck unit type MDUK
Vertical type**



Water-cooled deck unit type MDUK Horizontal type

MARINE WATER COOLED DECK UNIT



Technical data

DU type Item MDUK			1006/Q*	1009/ Q*	1406/ Q*	1409/ Q*	1413/ Q*	1909/ Q*	1911/ Q*	1913/ Q*	1916/ Q*
Air flow	Min	m ³ /s	0.43	0.68	0.69	1.09	1.68	1.65	2.09	2.54	3.29
		m ³ /h	1548	2448	2484	3924	6048	5940	7524	9144	11844
	Max	m ³ /s	1.29	2.03	1.90	2.98	4.61	4.28	5.45	6.62	8.56
		m ³ /h	4644	7308	6840	10728	16596	15408	19620	23832	30816
Q [*] / Cooling capacity	Min	KW	12	18	18	29	45	44	56	68	88
	Max	KW	100	157	147	231	358	332	423	513	664
Heating capacity	Min	KW	12	18	19	29	45	45	56	69	89
	Max	KW	97	152	142	223	345	321	408	496	641
Humidifying Capacity	Max	kg/h	45	71	66	104	161	149	190	231	299
Max External Static pres.		Pa	1440	3180	1230	3190	3290	2930	3200	3100	2480
Centrifugal Fan	Max Fan size		250	315	280	355	450	400	500	560	630
	Max Motor Power KW		6.33	12.7	8.6	17.3	17.3	21.3	34.5	42.6	42.6
	Max Motor size		132S	160M	132S	160L	200L	180M	200L	200L	200L
Compressor	Type		Semi-hermetic or open type								
	Energy reg.		0, 50, 100% or 0, 33%, 66%, 100%								
	Motor Motor power KW		34.5	51.8	51.8	2x51.8	2x51.8	2x51.8	2x63.0	2x86	2x104
Condenser	Type		Water-cooled shell and tube								
	Water flow (Max)m ³ /h		29.2	63.3	42.1	2x42.1	2x63.3	2x63.3	2x83.5	2x83.5	2x106.9
	Max pres. drop Bar		0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
	Max Connection		G2	DN65	DN65	2xDN65	2xDN65	2xDN65	2xDN100	2xDN100	2xDN100
Cooling medium			R404A (R407C /R134A/R22/other second refrigerant)								
Heating medium			Steam, hot water, or electric								
Humidifying medium			Steam, fresh water + compressed air, or fresh water								
Power Supply			3Ph, 440/380 V, 60/50Hz								

MARINE WATER COOLED DECK UNIT



➤ Normal design condition:

Summer: Inside temperature 27°C, relative humidity 50%; outside temperature 35°C, relative humidity 70%;

Winter: Inside temperature 22°C, relative humidity 50%; outside temperature -20°C; Fresh air rate: 0~100%;

Room supply temperature 17°C for summer, and 40°C for winter;

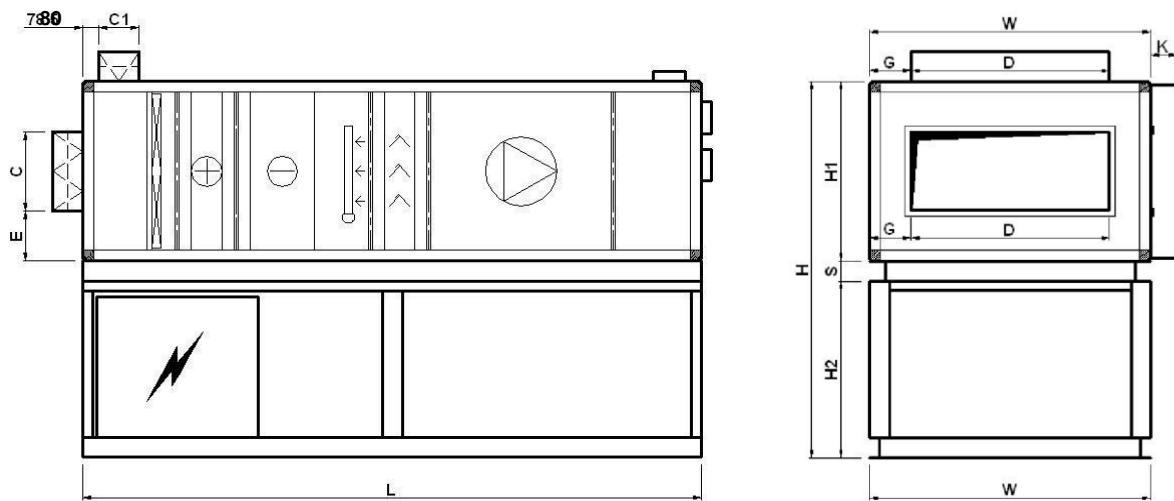
Evaporating temperature 5°C, condensing temperature 45°C for fresh water cooled type, and condensing temperature 42°C for sea water cooled type.

Sea water inlet temperature 32°C, fresh water inlet temperature 36°C.

➤ Other design is available on request (refrigerant, static pressure etc.).

➤ "Q" is defined as cooling capacity, and the detailed data of Q shall be attached at the end of DU Type.

Principal dimensions 1 (Vertical type)



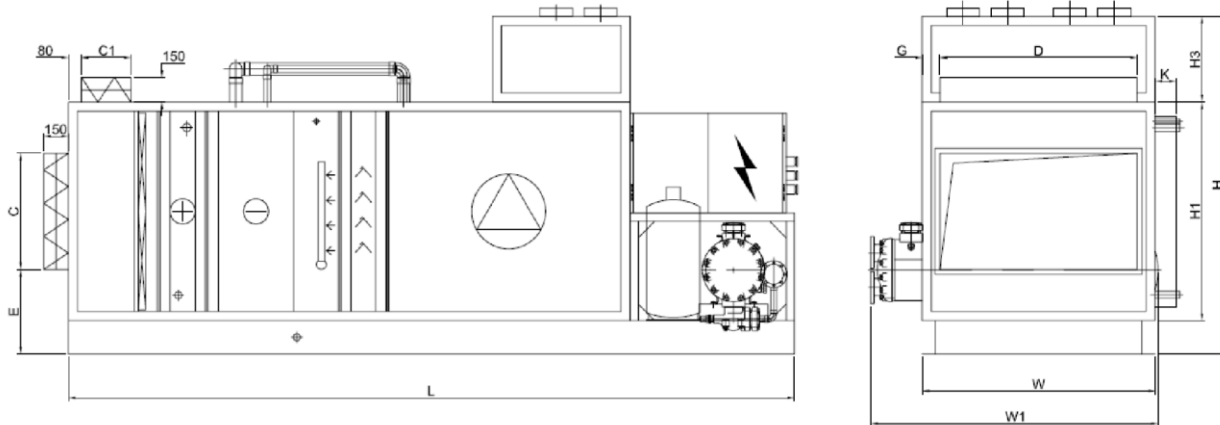
Unit (mm)

DU type MDUK	W	H	L _s	H1	H2	S	C	C1	D	G	E	K	Weight Approx kg
1006	1027	1547	2894	667	800	80	300	100	800	113.5	183.5	100	1900
1009	1027	1797	3374	917	800	80	400	200	800	113.5	258.5		2200
1406	1417	1667	3054	667	900	100	300	100	1200	108.5	183.5	100 ¹⁾	2500

MARINE WATER COOLED DECK UNIT



Principal dimensions 2 (Horizontal type)



Unit (mm)

DU type MDUK	W	H	L ₅₎	H1	H3	W1	C	C1	D	G	E	K	Weight Approx kg
1413	1417	2034	4257	1317	517	1750	700	300	1200	108.5	508.5		3300
1909	1947	1634	3857	917	517	1947	400	200	1700	123.5	458.5		3300
1911	1947	1834	3857	1117	517	1947	500	200	1700	123.5	508.5	130 ²⁾	3600
1913	1947	2194	4017	1317	677	1947	700	300	1700	123.5	508.5	130 ³⁾ /130	3900
1916	1947	2494	4177	1617	677	1947	900	300	1700	123.5	558.5	130 ₃₎ /250 ⁴⁾	4200

1) Extension, for AHU motor size 160M.

3) Extension, for AHU small fan.

2) Extension, for AHU motor size 200L and large fan.

4) Extension, for AHU large fan.

5) The length is just one solution from all possible arrangements for guidance, and other possibilities are available.