

DESCRIPTION

The Air Handling Unit (AHU) is the main component of the air treatment plant and it could be installed in the ship to provide cleaned, cooled or heated air to designated spaces in the ship's accommodation area or other areas where treatment of the supplied air is required. The AHU consists of different components according to the demands outlined for each specific installation. The components are mounted together on a sturdy steel frame, ready for duct connections at the air intake and air distribution ends. The AHU consist of following sections: air inlet, filter, cooling, heating, humidifying, fan and distribution. The AHU is available in 12 standard sizes. The casing is built to withstand high air pressure condition. Panels and inspection doors are made by sandwich construction. On the inside and outside is galvanized steel sheet 0.9mm. They are sound and heat insulated with 50mm mineral wool, 65kg/m³. Panels and inspections doors are sealed with EPDM-profile. Framework is made of closed galvanized steel profile, thickness 1.5mm, and corners in cast aluminum. The AHU can be executed in alternative way with frame work in stainless steel, panels inside and outside in aluminum or stainless steel and profiles inside insulated with mineral wool.

Air inlet section

The inlet section provides the connection between the AHU and a fresh air duct intake on the outside bulkhead or the return air ductwork when a mixing section is installed. The air inlet section for 100% fresh air consists of opposed type inlet damper mounted vertically in a sturdy frame fitting actual size of AHU. The air mixing section (recirculation) consists of two dampers. One damper is mounted as the fresh air intake damper with motor (or manually driven) and the other, for return air, is mounted horizontally on the top of the mixing section for manual operation.

Heating section

The heating section is mounted into the AHU for heating the entering air to a predetermined temperature according to specifications for the actual system installation. It is made in form of finned tubes.

Cooling section

The cooling section is mounted inside the AHU to cool the entering air to a predetermined temperature according to specifications for the actual system installation.

Humidifying section

Humidifiers are installed in the HVAC systems to minimize the generation of static electricity and to prevent air becoming dry in the accommodation or other special areas. Humidifying system can be based on a central steam supply system or local steam generation system.

Fan section

This section is installed in the AHU to transport the air through the unit and throughout the ductwork system. The fan and motor steel frame is fitted to AHU's casing by use of rubber vibration dampers and the outlet side of the fan is connected to the AHU's casing through flexible connection.

Distribution section

The air distribution section is the last part of the AHU – pressure chamber where ductworks are connected for distribution of the treated air to different areas.

TECHNICAL SPECIFICATION & DIMENSIONS
Static pressure: 1000Pa

AHU type	Air flow [m ³ /h]	Fan type	Fan speed [1/min]	El. motor speed [1/min]	El. motor nominal power [kW]	El. motor power consumption [kW]	Nom. current [A]
3x400V/50Hz							
CECE035	2400-4200	GXHB-025	4340	2925	3,0	2,5	6,2
CECE052	3500-6200	GXHB-028	4140	2910	5,5	3,7	10,4
CECE070	5400-9500	GXHB-031	3930	2910	7,5	6,1	14,0
CECE105	6800-12000	GXHB-040	2770	2910	11,0	6,7	20,1
CECE140	10000-18000	GXHB-045	2620	2930	15,0	10,7	27,2
CECE175	12000-21500	GXHB-050	2270	1470	15,0	12,0	28,5
CECE210	16000-28500	GXHB-056	2100	1480	22,0	16,5	40,8
CECE211	15000-26500	GXHB-056	2030	1480	18,5	15,0	34,5
CECE260	19000-33000	GXHB-063	1780	1480	22,0	18,9	40,8
CECE280	20000-36000	GXHB-063	1850	1480	30,0	21,5	55,1
CECE315	24000-41000	GXHB-071	1552	1480	30,0	23,0	55,1
CECE350	29000-51000	GXHB-080	1390	1480	37,0	28,0	65,9
3x440V/60Hz							
CECE035	2400-4200	GXHB-025	4340	3440	3,5	2,5	6,6
CECE052	3500-6200	GXHB-028	4140	3468	4,7	3,7	8,5
CECE070	5400-9500	GXHB-031	3930	3480	8,7	6,1	14,9
CECE105	6800-12000	GXHB-040	2770	3480	8,7	6,7	14,9
CECE140	10000-18000	GXHB-045	2620	3528	12,8	10,7	21,3
CECE175	12000-21500	GXHB-050	2270	1740	17,5	12,0	30,0
CECE210	16000-28500	GXHB-056	2100	1740	21,5	16,5	36,3
CECE211	15000-26500	GXHB-056	2030	1740	21,5	15,0	36,3
CECE260	19000-33000	GXHB-063	1780	1764	25,6	18,9	43,1
CECE280	20000-36000	GXHB-063	1850	1764	25,6	21,5	43,1
CECE315	24000-41000	GXHB-071	1552	1764	34,9	23,0	58,1
CECE350	29000-51000	GXHB-080	1390	1764	34,9	28,0	58,1

Static pressure: 1500Pa

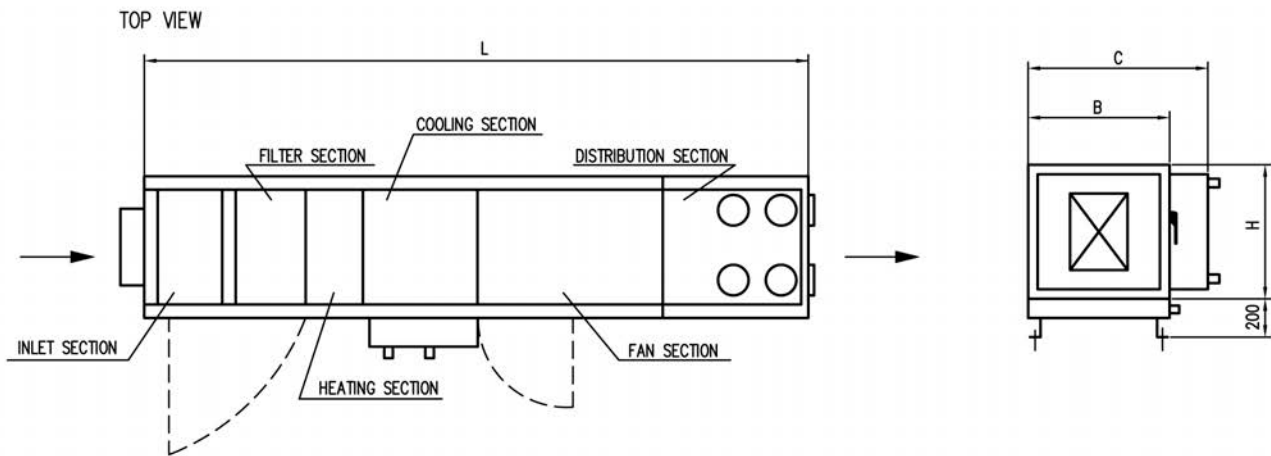
AHU type	Air flow [m ³ /h]	Fan type	Fan speed [1/min]	El. motor speed [1/min]	El. motor nominal power [kW]	El. motor power consumption [kW]	Nom. current [A]
3x400V/50Hz							
CECE035	2400-4200	GXHB-025	4790	2890	4,0	3,2	7,9
CECE052	3500-6200	GXHB-028	4500	2900	7,5	4,8	14,0
CECE070	5400-9500	GXHB-031	4220	2940	11,0	7,6	20,2
CECE105	6800-12000	GXHB-040	3030	2940	11,0	8,6	20,2
CECE140	10000-18000	GXHB-045	2830	2940	18,5	13,5	33,0
CECE175	12000-21500	GXHB-050	2470	2940	18,5	15,8	33,0
CECE210	16000-28500	GXHB-056	2270	1480	30,0	21,2	55,1
CECE211	15000-26500	GXHB-056	2210	1480	30,0	19,3	55,1
CECE260	19000-33000	GXHB-063	1930	1480	30,0	23,9	55,1
CECE280	20000-36000	GXHB-063	2000	1480	37,0	26,8	65,9
CECE315	24000-41000	GXHB-071	1686	1480	37,0	29,5	65,9
CECE350	29000-51000	GXHB-080	1507	1480	45,0	35,6	78,4
3x440V/60Hz							
CECE035	2400-4200	GXHB-025	4790	3468	4,7	3,2	8,5
CECE052	3500-6200	GXHB-028	4500	3490	6,4	4,8	11,2
CECE070	5400-9500	GXHB-031	4220	3500	11,0	7,6	21,3
CECE105	6800-12000	GXHB-040	3030	3500	11,0	8,6	21,3
CECE140	10000-18000	GXHB-045	2830	3528	17,5	13,5	28,7
CECE175	12000-21500	GXHB-050	2470	1764	21,5	15,8	36,3
CECE210	16000-28500	GXHB-056	2270	1764	25,5	21,2	43,1
CECE211	15000-26500	GXHB-056	2210	1764	25,5	19,3	43,1
CECE260	19000-33000	GXHB-063	1930	1764	34,9	23,9	58,1
CECE280	20000-36000	GXHB-063	2000	1764	34,9	26,8	58,1
CECE315	24000-41000	GXHB-071	1686	1764	34,9	29,5	58,1
CECE350	29000-51000	GXHB-080	1507	1770	43,1	35,6	69,4

Static pressure: 2000Pa

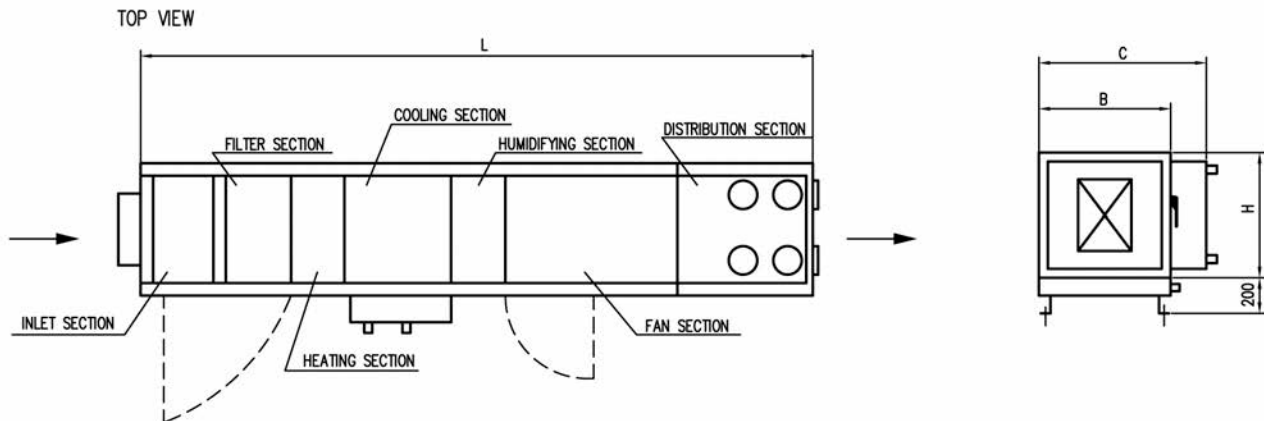
AHU type	Air flow [m ³ /h]	Fan type	Fan speed [1/min]	El. motor speed [1/min]	El. motor nominal power [kW]	El. motor power consumption [kW]	Nom. current [A]
3x400V/50Hz							
CECE035	2400-4200	GXHB-025	5220	2910	5,5	4,0	10,4
CECE052	3500-6200	GXHB-028	4860	2900	7,5	5,9	14,0
CECE070	5400-9500	GXHB-035	3698	2940	11,0	8,8	20,2
CECE105	6800-12000	GXHB-040	3275	2940	15,0	10,7	27,2
CECE140	10000-18000	GXHB-045	3030	2940	22,0	16,4	39,0
CECE175	12000-21500	GXHB-050	2650	2950	30,0	19,2	52,3
CECE210	16000-28500	GXHB-056	2435	2950	30,0	25,7	52,3
CECE211	15000-26500	GXHB-056	2380	2950	30,0	23,6	52,3
CECE260	19000-33000	GXHB-063	2070	1475	37,0	29,1	65,9
CECE280	20000-36000	GXHB-071	1760	1475	37,0	31,4	65,9
CECE315	24000-41000	GXHB-071	1815	1475	45,0	36,0	78,4
CECE350	29000-51000	GXHB-080	1620	1480	55,0	43,7	95,4
3x440V/60Hz							
CECE035	2400-4200	GXHB-025	5220	3492	6,4	4,0	11,2
CECE052	3500-6200	GXHB-028	4860	3480	8,7	5,9	14,9
CECE070	5400-9500	GXHB-035	3698	3528	12,8	8,8	21,3
CECE105	6800-12000	GXHB-040	3275	3528	12,8	10,7	21,3
CECE140	10000-18000	GXHB-045	3030	3528	21,5	16,4	34,6
CECE175	12000-21500	GXHB-050	2650	3528	25,6	19,2	41,0
CECE210	16000-28500	GXHB-056	2435	1764	34,9	25,7	58,1
CECE211	15000-26500	GXHB-056	2380	1764	34,9	23,6	58,1
CECE260	19000-33000	GXHB-063	2070	1764	34,9	29,1	58,1
CECE280	20000-36000	GXHB-071	1760	1770	43,1	31,4	69,4
CECE315	24000-41000	GXHB-071	1815	1770	43,1	36,0	69,4
CECE350	29000-51000	GXHB-080	1620	1770	52,4	43,7	83,1

Static pressure: 2500Pa

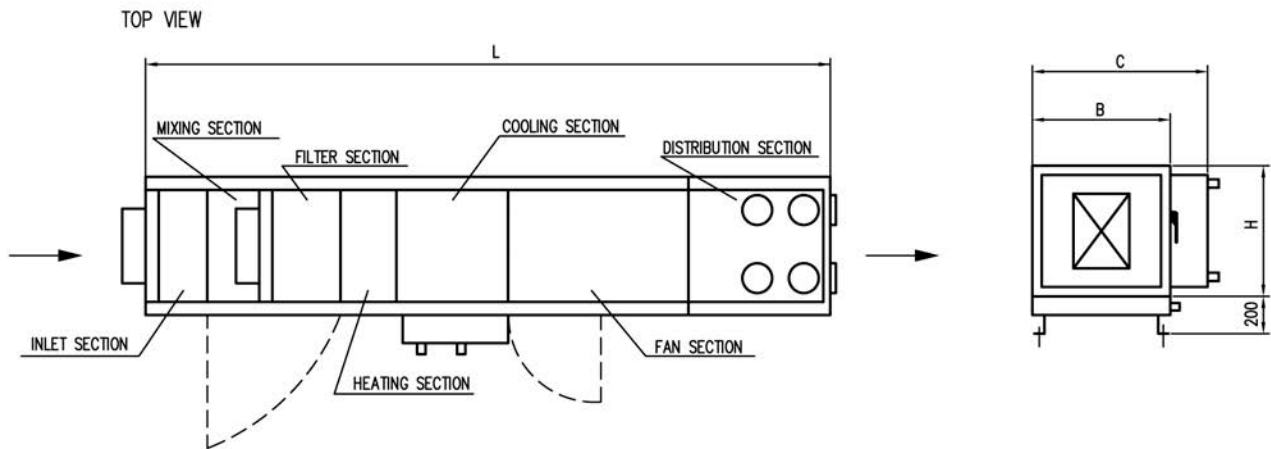
AHU type	Air flow [m ³ /h]	Fan type	Fan speed [1/min]	El. motor speed [1/min]	El. motor nominal power [kW]	El. motor power consumption [kW]	Nom. current [A]	
3x400V/50Hz								
CECE035	2400-4200	GXHB-025	5550	2910	5,5	4,6	10,4	
CECE052	3500-6200	GXHB-028	5185	2940	11,0	7,0	20,2	
CECE070	5400-9500	GXHB-035	3970	2940	15,0	10,5	27,2	
CECE105	6800-12000	GXHB-040	3460	2940	15,0	12,5	27,2	
CECE140	10000-18000	GXHB-045	3190	2940	22,0	18,8	39,0	
CECE175	12000-21500	GXHB-050	2790	2950	30,0	22,1	52,3	
CECE210	16000-28500	GXHB-063	2096	1475	37,0	28,0	65,9	
CECE211	15000-26500	GXHB-056	2480	2950	30,0	26,0	52,3	
CECE260	19000-33000	GXHB-063	is not available in this condition					
CECE280	20000-36000	GXHB-071	1880	1475	45,0	36,9	78,4	
CECE315 (max 2300Pa)	24000-41000	GXHB-071	1880	1475	45,0	36,9	78,4	
CECE350	29000-51000	GXHB-080	is not available in this condition					
3x440V/60Hz								
CECE035	2400-4200	GXHB-025	5550	3490	6,4	4,6	11,2	
CECE052	3500-6200	GXHB-028	5185	3480	8,7	7,0	14,9	
CECE070	5400-9500	GXHB-035	3970	3528	12,8	10,5	21,3	
CECE105	6800-12000	GXHB-040	3460	3528	17,5	12,5	28,7	
CECE140	10000-18000	GXHB-045	3190	3528	25,6	18,8	41,0	
CECE175	12000-21500	GXHB-050	2790	3528	25,6	22,1	41,0	
CECE210	16000-28500	GXHB-063	2096	1764	34,9	28,0	58,1	
CECE211	15000-26500	GXHB-056	2480	1764	34,9	26,0	58,1	
CECE260	19000-33000	GXHB-063	is not available in this condition					
CECE280	20000-36000	GXHB-071	1880	1770	43,1	36,9	69,4	
CECE315 (max 2300Pa)	24000-41000	GXHB-071	1880	1770	43,1	36,9	69,4	
CECE350	29000-51000	GXHB-080	is not available in this condition					

Single duct, without recirculation, without humidifier


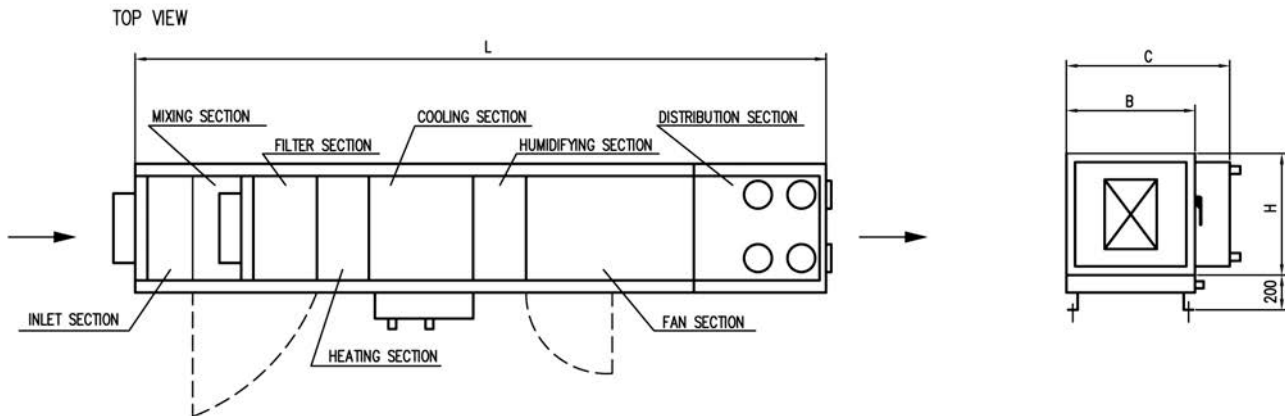
AHU type	Air flow [m ³ /h]	Dimensions [mm]				Weight Cooling coil 9R Heating coil 2R [kg]	
		L		B	H		
		1000/1500Pa	2000/2500Pa				
CECE035	2400-4200	2906	2906	740	700	940	550
CECE052	3500-6200	3006	3006	1050	700	1250	680
CECE070	5400-9500	3206	3206	1050	1010	1250	830
CECE105	6800-12000	3306	3306	1290	1010	1490	1020
CECE140	10000-18000	3406	3406	1440	1300	1640	1200
CECE175	12000-21500	3606	3606	1730	1300	1930	1400
CECE210	16000-28500	3906	3906	1730	1690	1930	1650
CECE211	15000-26500	3206	3206	1980	1400	2180	1480
CECE260	19000-33000	3906	3906	1980	1690	2180	1880
CECE280	20000-36000	3606	3606	2480	1500	2680	1980
CECE315	24000-41000	4406	4406	2180	1940	2380	2400
CECE350	29000-51000	4006	4006	3120	1690	3320	2600

Single duct, without recirculation, with humidifier


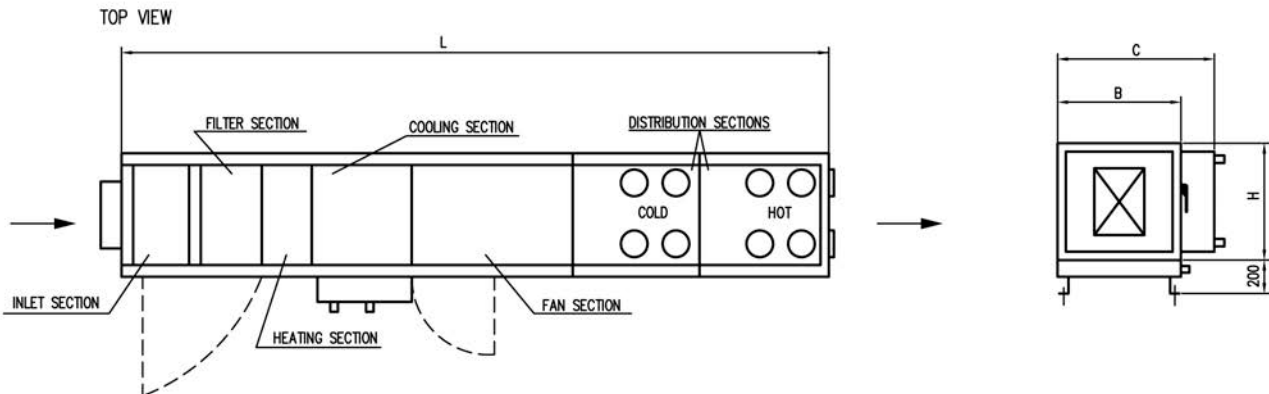
AHU type	Air flow [m ³ /h]	Dimensions [mm]				Weight Cooling coil 9R Heating coil 2R [kg]	
		L		B	H		C
		1000/1500Pa	2000/2500Pa				
CECE035	2400-4200	3206	3206	740	700	940	580
CECE052	3500-6200	3306	3306	1050	700	1250	730
CECE070	5400-9500	3506	3506	1050	1010	1250	980
CECE105	6800-12000	3606	3606	1290	1010	1490	1070
CECE140	10000-18000	3706	3706	1440	1300	1640	1260
CECE175	12000-21500	3906	3906	1730	1300	1930	1460
CECE210	16000-28500	4207	4207	1730	1690	1930	1720
CECE211	15000-26500	3506	3506	1980	1400	2180	1550
CECE260	19000-33000	4206	4206	1980	1690	2180	1990
CECE280	20000-36000	3906	3906	2480	1500	2680	2060
CECE315	24000-41000	4706	4706	2180	1940	2380	2480
CECE350	29000-51000	4306	4306	3120	1690	3320	2710

Single duct, with recirculation, without humidifier


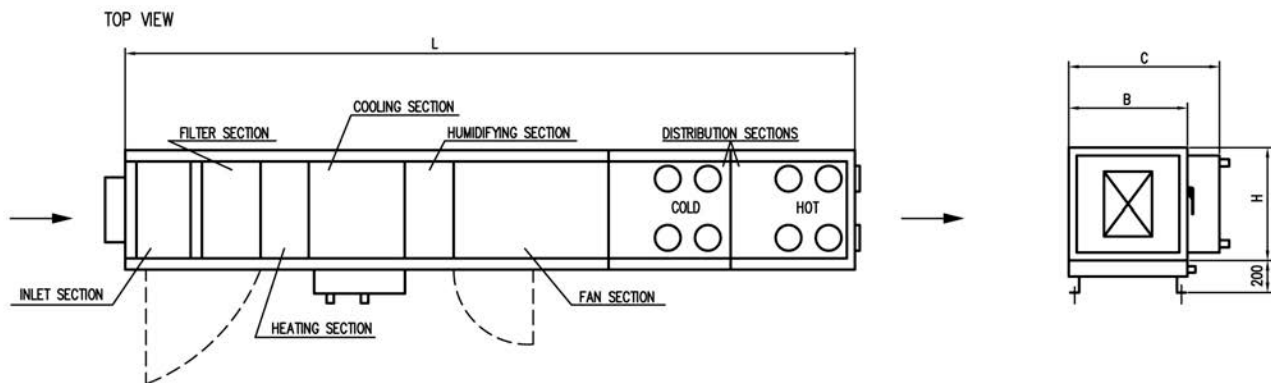
AHU type	Air flow [m ³ /h]	Dimensions [mm]					Weight Cooling coil 9R Heating coil 2R [kg]
		L		B	H	C	
		1000/1500Pa	2000/2500Pa				
CECE035	2400-4200	3206	3206	740	700	940	570
CECE052	3500-6200	3306	3306	1050	700	1250	700
CECE070	5400-9500	3606	3606	1050	1010	1250	850
CECE105	6800-12000	3706	3706	1290	1010	1490	1050
CECE140	10000-18000	3906	3906	1440	1300	1640	1250
CECE175	12000-21500	4106	4106	1730	1300	1930	1450
CECE210	16000-28500	4406	4406	1730	1690	1930	1700
CECE211	15000-26500	3706	3706	1980	1400	2180	1550
CECE260	19000-33000	4506	4506	1980	1690	2180	1950
CECE280	20000-36000	4106	4106	2480	1500	2680	2050
CECE315	24000-41000	5106	5106	2180	1940	2380	2500
CECE350	29000-51000	4506	4506	3120	1690	3320	2700

Single duct, with recirculation, with humidifier


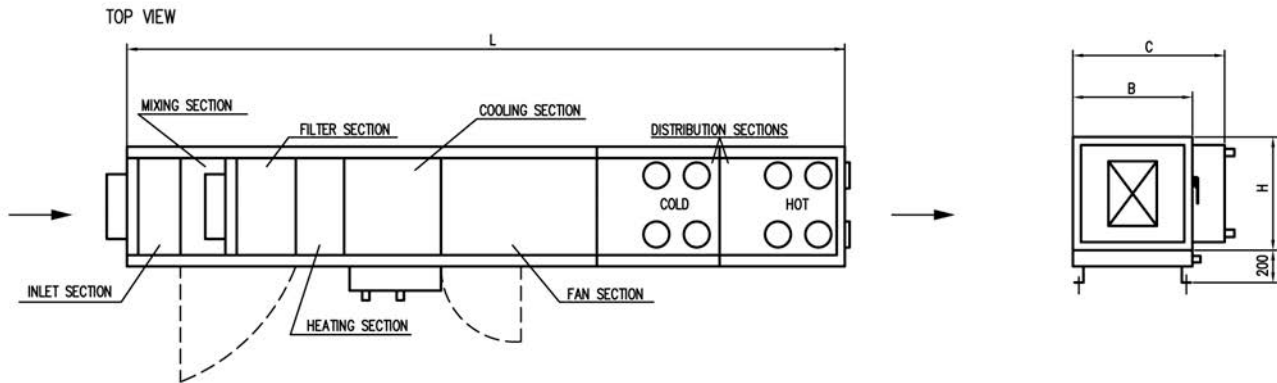
AHU type	Air flow [m ³ /h]	Dimensions [mm]					Weight Cooling coil 9R Heating coil 2R [kg]
		L		B	H	C	
		1000/1500Pa	2000/2500Pa				
CECE035	2400-4200	3506	3506	740	700	940	600
CECE052	3500-6200	3606	3606	1050	700	1250	750
CECE070	5400-9500	3906	3906	1050	1010	1250	900
CECE105	6800-12000	4006	4006	1290	1010	1490	1100
CECE140	10000-18000	4206	4206	1440	1300	1640	1310
CECE175	12000-21500	4406	4406	1730	1300	1930	1510
CECE210	16000-28500	4706	4706	1730	1690	1930	1770
CECE211	15000-26500	4006	4006	1980	1400	2180	1620
CECE260	19000-33000	4806	4806	1980	1690	2180	2060
CECE280	20000-36000	4406	4406	2480	1500	2680	2130
CECE315	24000-41000	5406	5406	2180	1940	2380	2580
CECE350	29000-51000	4806	4806	3120	1690	3320	2810

Dual duct, without recirculation, without humidifier


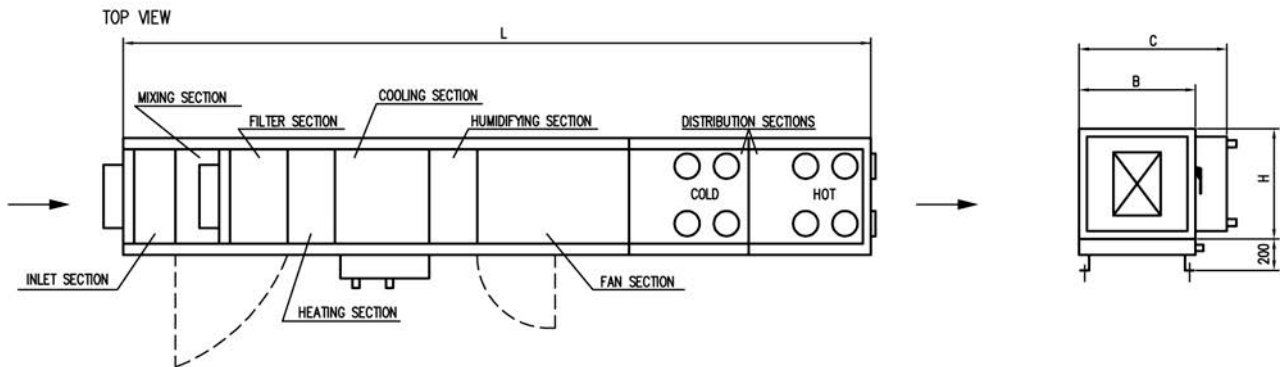
AHU type	Air flow [m ³ /h]	Dimensions [mm]					Weight Cooling coil 9R Heating coil 2R [kg]
		L		B	H	C	
		1000/1500Pa	2000/2500Pa				
CECE035	2400-4200	3506	3506	740	700	940	630
CECE052	3500-6200	3606	3606	1050	700	1250	770
CECE070	5400-9500	3806	3806	1050	1010	1250	940
CECE105	6800-12000	4006	4006	1290	1010	1490	1150
CECE140	10000-18000	4106	4106	1440	1300	1640	1340
CECE175	12000-21500	4406	4406	1730	1300	1930	1570
CECE210	16000-28500	4706	4706	1730	1690	1930	1850
CECE211	15000-26500	4006	4006	1980	1400	2180	1670
CECE260	19000-33000	4706	4706	1980	1690	2180	2120
CECE280	20000-36000	4406	4406	2480	1500	2680	2210
CECE315	24000-41000	5406	5406	2180	1940	2380	2700
CECE350	29000-51000	4806	4806	3120	1690	3320	2900

Dual duct, without recirculation, with humidifier


AHU type	Air flow [m ³ /h]	Dimensions [mm]					Weight Cooling coil 9R Heating coil 2R [kg]
		L		B	H	C	
		1000/1500Pa	2000/2500Pa				
CECE035	2400-4200	3806	3806	740	700	940	660
CECE052	3500-6200	3906	3906	1050	700	1250	820
CECE070	5400-9500	4106	4106	1050	1010	1250	990
CECE105	6800-12000	4306	4306	1290	1010	1490	1200
CECE140	10000-18000	4406	4406	1440	1300	1640	1400
CECE175	12000-21500	4706	4706	1730	1300	1930	1640
CECE210	16000-28500	5006	5006	1730	1690	1930	1910
CECE211	15000-26500	4306	4306	1980	1400	2180	1750
CECE260	19000-33000	5106	5106	1980	1690	2180	2190
CECE280	20000-36000	4706	4706	2480	1500	2680	2300
CECE315	24000-41000	5706	5706	2180	1940	2380	2800
CECE350	29000-51000	5206	5206	3120	1690	3320	3000

Dual duct, with recirculation, without humidifier


AHU type	Air flow [m ³ /h]	Dimensions [mm]					Weight Cooling coil 9R Heating coil 2R [kg]
		L		B	H	C	
		1000/1500Pa	2000/2500Pa				
CECE035	2400-4200	3806	3806	740	700	940	650
CECE052	3500-6200	3906	3906	1050	700	1250	790
CECE070	5400-9500	4206	4206	1050	1010	1250	960
CECE105	6800-12000	4406	4406	1290	1010	1490	1180
CECE140	10000-18000	4606	4606	1440	1300	1640	1390
CECE175	12000-21500	4906	4906	1730	1300	1930	1620
CECE210	16000-28500	5206	5206	1730	1690	1930	1900
CECE211	15000-26500	4506	4506	1980	1400	2180	1740
CECE260	19000-33000	5306	5306	1980	1690	2180	2190
CECE280	20000-36000	4906	4906	2480	1500	2680	2280
CECE315	24000-41000	6106	6106	2180	1940	2380	2800
CECE350	29000-51000	5306	5306	3120	1690	3320	3000

Dual duct, with recirculation, with humidifier


AHU type	Air flow [m ³ /h]	Dimensions [mm]					Weight Cooling coil 9R Heating coil 2R [kg]
		L		B	H	C	
		1000/1500Pa	2000/2500Pa				
CECE035	2400-4200	4106	4106	740	700	940	680
CECE052	3500-6200	4206	4206	1050	700	1250	840
CECE070	5400-9500	4506	4506	1050	1010	1250	1010
CECE105	6800-12000	4706	4706	1290	1010	1490	1230
CECE140	10000-18000	4906	4906	1440	1300	1640	1450
CECE175	12000-21500	5206	5206	1730	1300	1930	1690
CECE210	16000-28500	5506	5506	1730	1690	1930	1960
CECE211	15000-26500	4806	4806	1980	1400	2180	1820
CECE260	19000-33000	5606	5606	1980	1690	2180	2260
CECE280	20000-36000	5206	5206	2480	1500	2680	2370
CECE315	24000-41000	6406	6406	2180	1940	2380	2900
CECE350	29000-51000	5606	5606	3120	1690	3320	3100