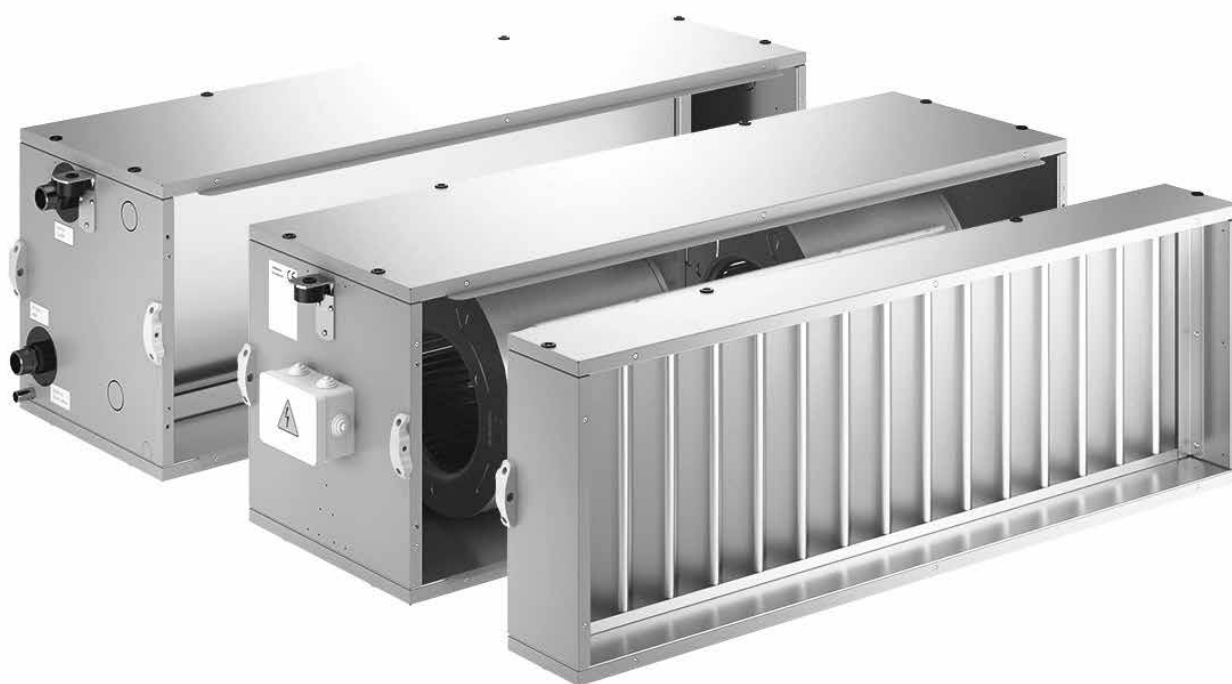




Double insulated panel fan coils Ocean ECM



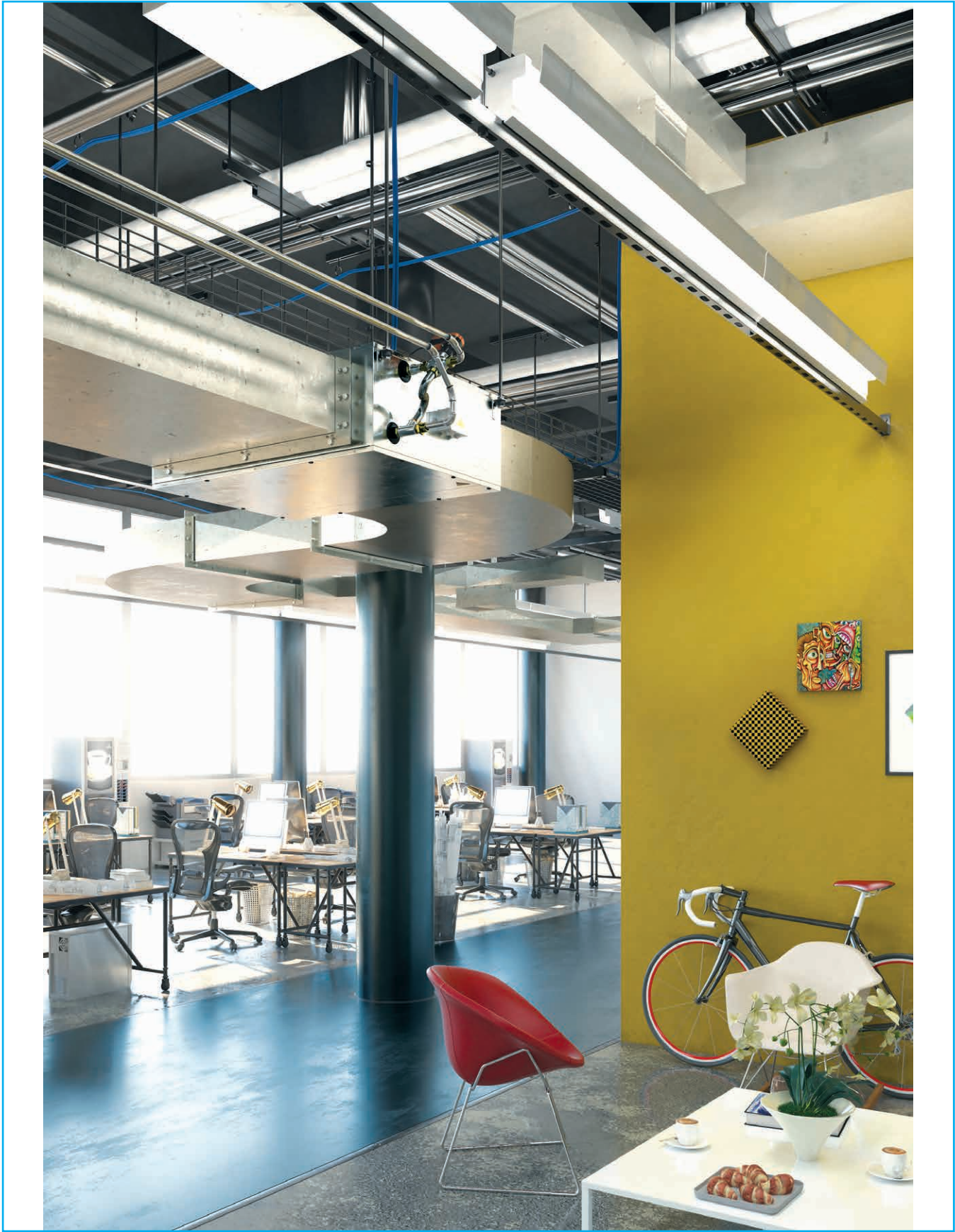


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INTRODUCTION

INTRODUCTION

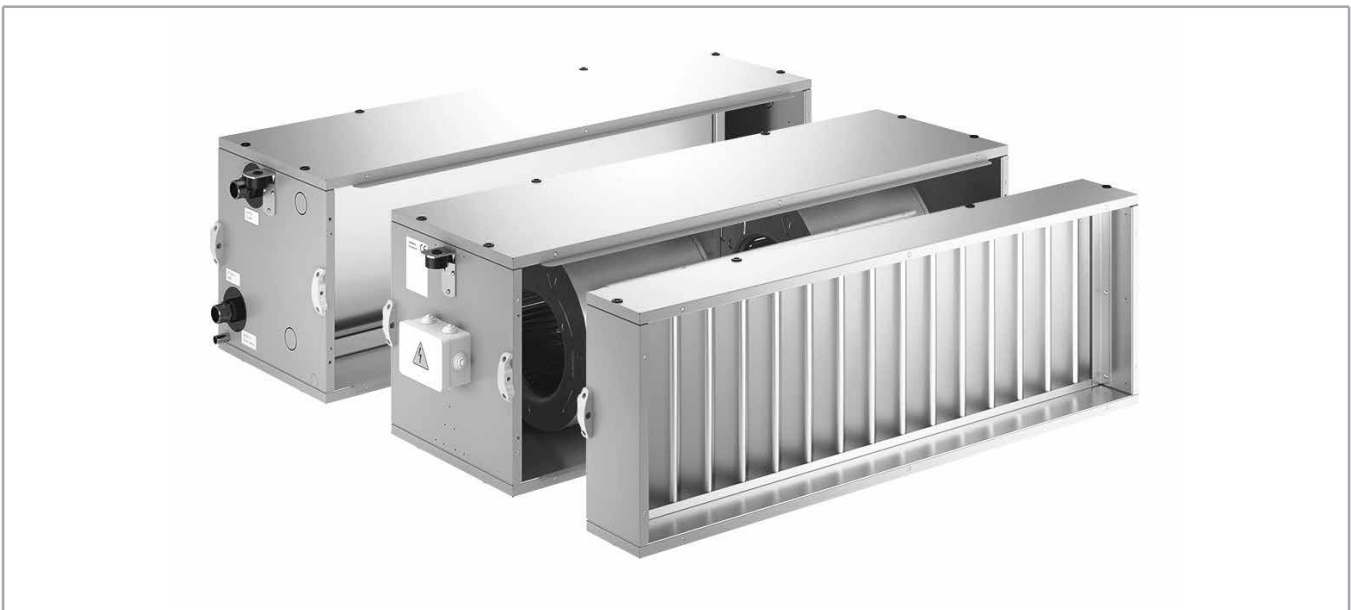
Ultra-flat ceiling double insulated panel fan coil units made in 5 sizes with single sections that can be easily assembled to satisfy any installation need.

The single sections available are:

- the fan-deck section
- the main coil section
- the filter section

All the units are suitable for installation at full recirculation, that means to function with max. 10% fresh air.

- Double insulated panels made of internal galvanized steel plate, of external RAL 9006 prepainted steel plate and internal insulation with 30 kg/m³ thick expanded polystyrene
- Horizontal on sight installation or into false ceiling
- Vertical installation on sight
- Heating coil section with 2 or 3 rows for 2 pipe system
- Cooling coil section with 3, 4 or 6 rows for 2 pipe system
- Heating + cooling coil section for 4 pipe system with 1 or 2 rows for heating and with 3, 4 or 6 rows for cooling
- 230 Volt 50/60 Hz power supply



CONSTRUCTION FEATURES

The range includes 5 sizes (from 600 to 4600 m³/h) made of single modules among which the coil section for 2 pipe systems and the coil section for 4 pipe systems.

The range is perfect to meet all air-conditioning requirements of residential and work environments like offices, shops, restaurants and hotel rooms where it is necessary to canalize the unit with elevated pressure drop.

Compliant with Regulation (EU) No. 327/2011.

Casing

Casing built with self-supporting double insulated panels with an interposed 30 kg/m³ and 22 mm thick insulating panel of expanded polystyrene.

The panels are made of internal galvanized steel plate and of galvanized and prepainted RAL 9006 steel plate on sight.

Fixing block

The sections can be easily assembled by means of fixing blocks that, quickly and precisely, hold together the different sections.

All the sections are equipped with fixing blocks preassembled on the casing.

Fan assembly

Fan assembly made of centrifugal fans with plastic forward blades directly keyed on the motor with double aspiration.

Electronic motor

Synchronous three phase brushless electronic motor with permanent magnet controlled with BLAC technology. The inverter board that controls the motor generates a frequency modulated, wave form power supply. Requested power supply 230 V.

Electrical connections

The electric connections are placed within a plastic box that is fitted on the lateral panel of the SVE-DP fan section.

Coil

The heat exchange coil is made with copper tubes and aluminium fins mechanically bonded onto the tube with an expansion process.

The units are available with:

- Heating coil section with 2 or 3 rows for 2 pipe system
 - Cooling coil section with 3, 4 or 6 rows for 2 pipe system
 - Heating + cooling coil section for 4 pipe system with 1 or 2 rows for heating and with 3, 4 or 6 rows for cooling
- Male gas threaded coil supply connections.

Filter

Air filter available in the following versions:

- G0
- ePM₁₀ 50% (ex M5)
- ePM₁ 55% (ex F7)

Condensate collection tray

Condensate collection tray made of steel painted with epoxy polyester coat, dried in a furnace at 180 °C.

The diameter of the condensate discharge pipe is 15 mm.

Available modules

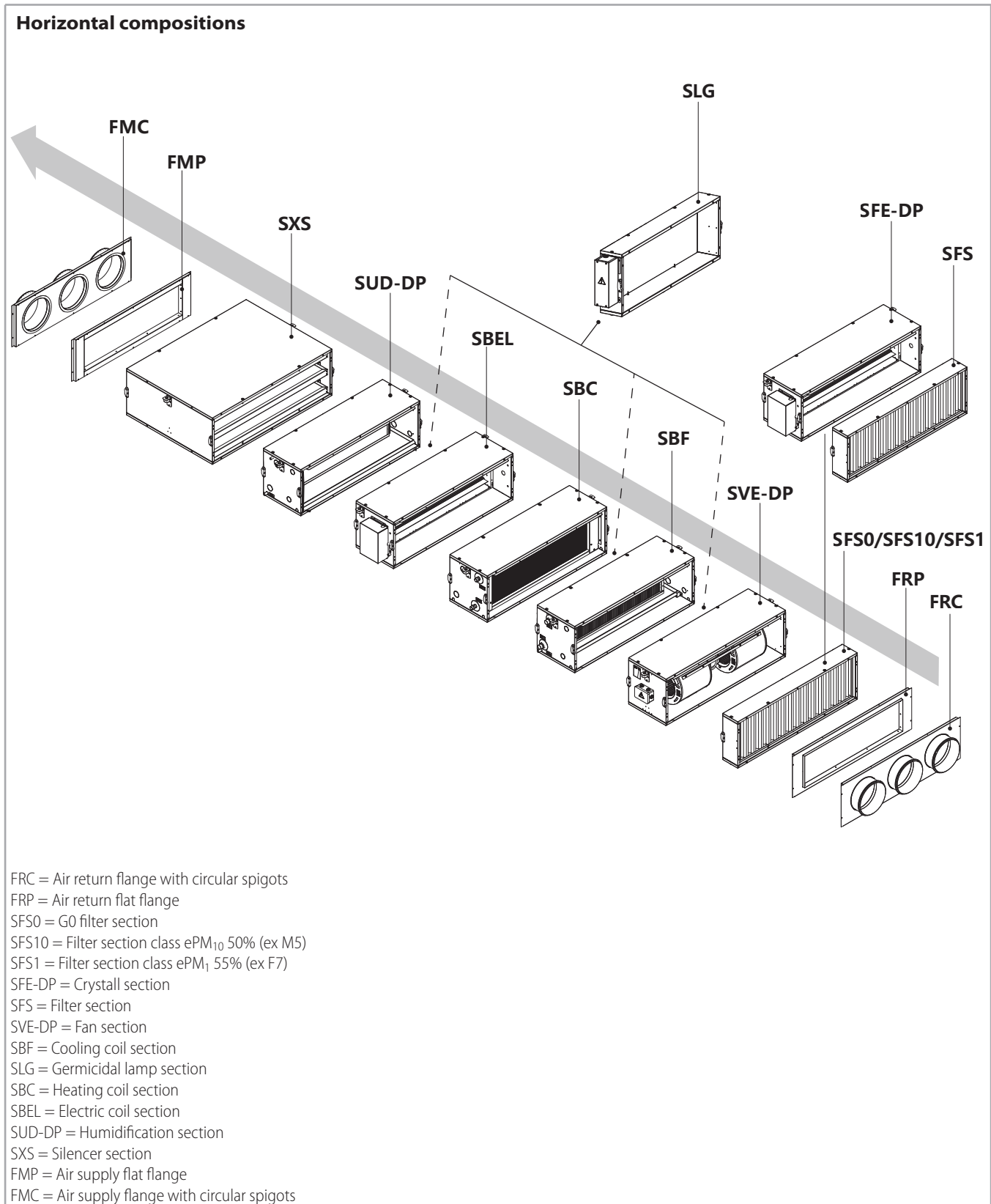
- Fan section
- Single section or double coils
- G0 filter section
- Class ePM10 50% (ex M5) filter section
- Class ePM1 55% (ex F7) filter section
- Additional coil section for 4 pipe system
- Heating electric coil section
- Disposable pad humidification section
- Steam pad humidification section with fitted steam nozzle (steam generator not supplied).
- Section with damper

Packaging

Each section is provided with own packaging.

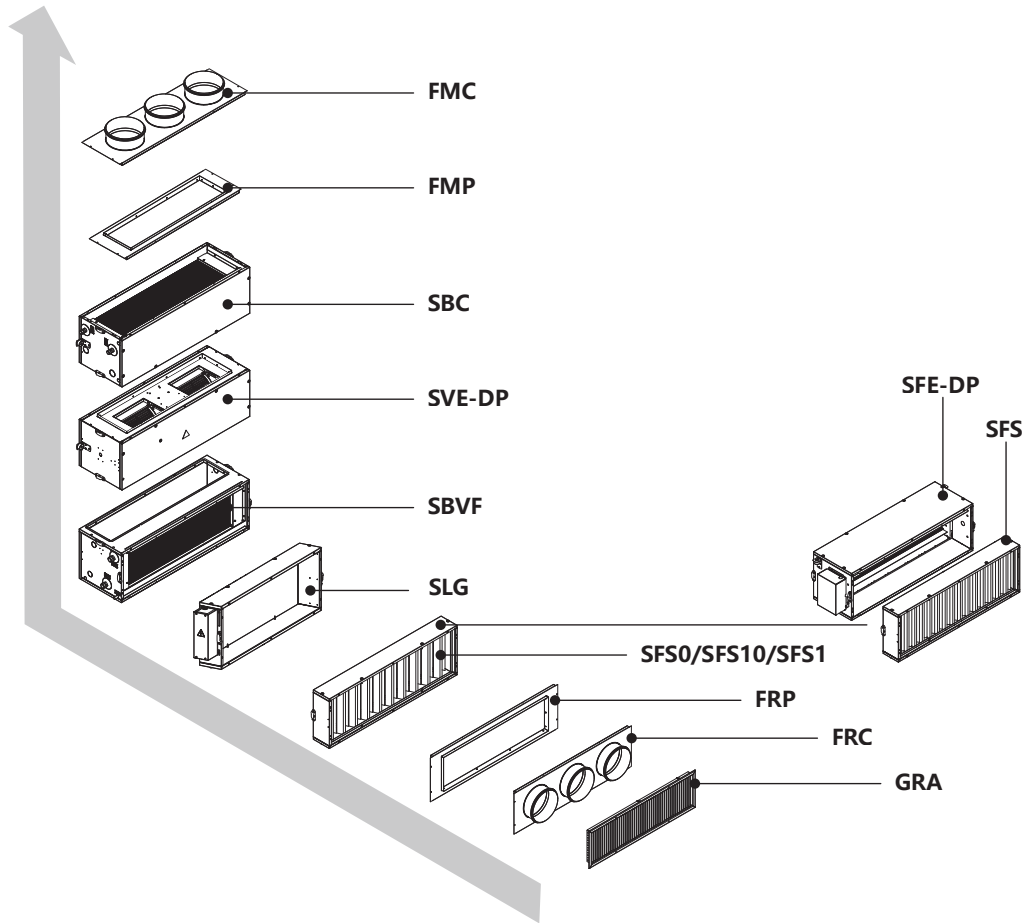
MODULARITY

Together with the standard modularity (fan-motor section, coil section and filter section), it is possible to build an unspecified quantity of further combinations, all of them with the possibility of choice between 5 different types of coil.



⚠ SUD-DP humidification section always downstream of the SBC heating coil or SBEL electric coil.

Vertical compositions



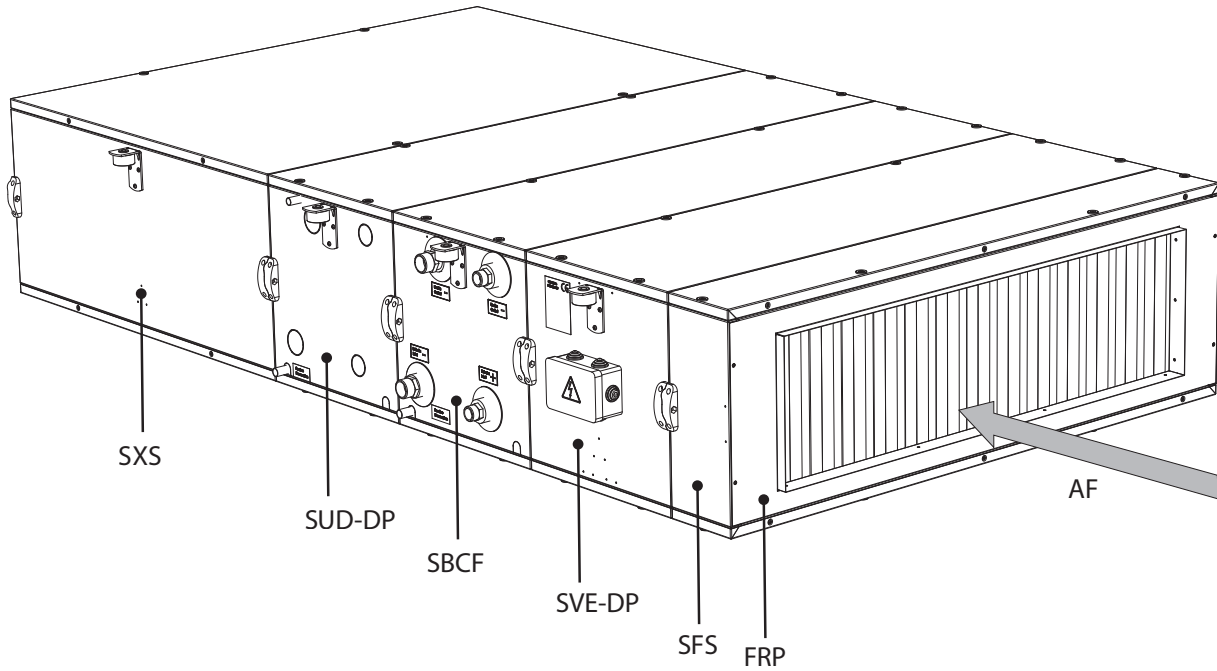
- GRA = Air inlet grid
- FRC = Air return flange with circular spigots
- FRP = Air return flat flange
- SFS0 = G0 filter section
- SFS10 = Filter section class ePM₁₀ 50% (ex M5)
- SFS1 = Filter section class ePM₁ 55% (ex F7)
- SFS = Filter section
- SFE-DP = Crystall section
- SLG = Germicidal lamp section
- SBVF = Coil section for vertical installation
- SVE-DP = Fan section
- SBC = Heating coil section
- FMP = Air supply flat flange
- FMC = Air supply flange with circular spigots

⚠ In the vertical composition neither the SUD-DP humidification section nor the SBEL electric coil can be installed.

MODULARITY EXAMPLE

The Ocean ECM units can be composed selecting the single sections.

Modular Ocean ECM



- AF = Air flow
- SXS = Silencer section
- SUD-DP = Humidification section
- SBCF = Heating + cooling coil section
- SVE-DP = Fan section
- SFS = Filter section
- FRP = Air return flat flange

MAIN PERFORMANCES AND TECHNICAL CHARACTERISTICS

Range and capacity

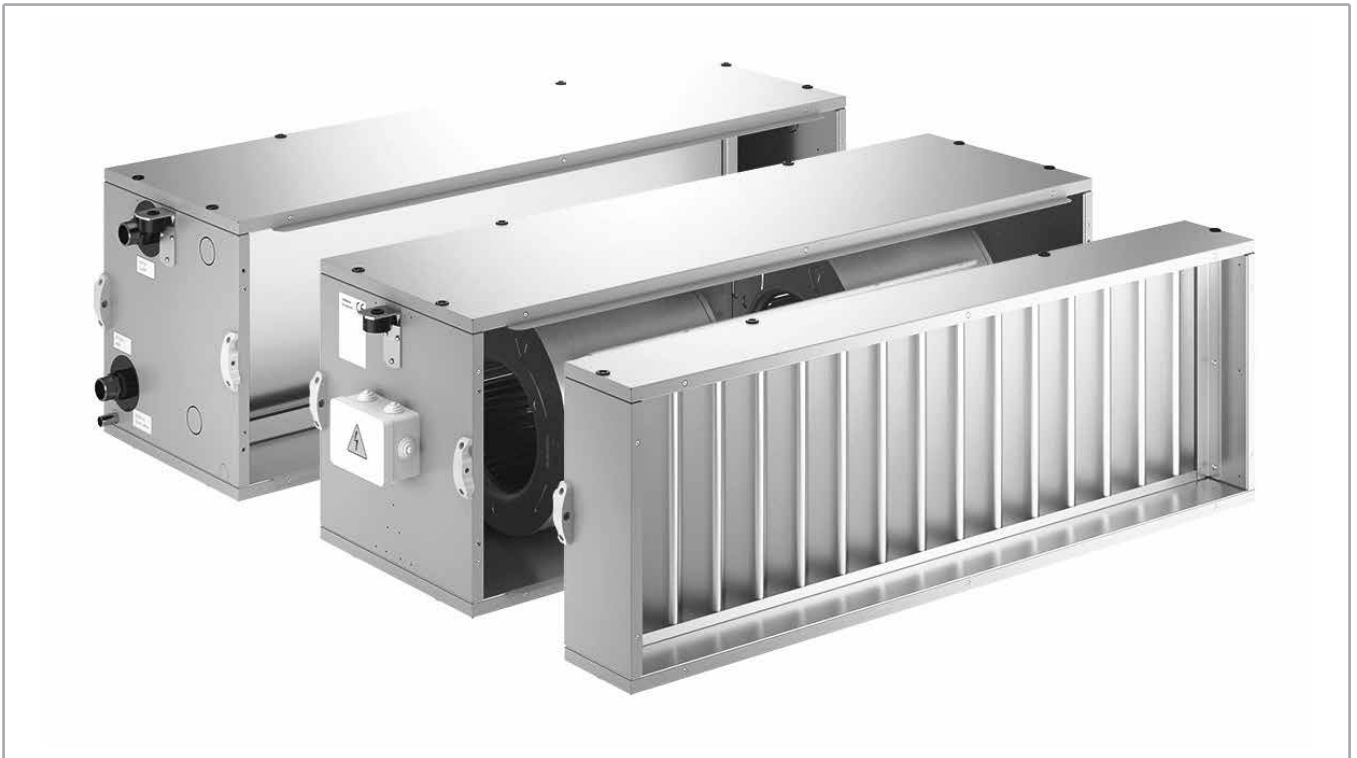
Model		1	2	3	4	5
L x H dimensions	mm	1165 x 325		1165 x 390	1485 x 390	1485 x 450
Flow rate range	m ³ /h	600 - 1400	1000 - 2200	1200 - 2800	1600 - 3200	2200 - 4600
Available static pressure range fan section	Pa	80 - 210	80 - 220	90 - 360	100 - 370	100 - 300
Sound pressure level radiated range ⁽¹⁾	dB(A)	33 - 48	36 - 53	39 - 56	42 - 59	44 - 63
Cooling capacity range ⁽²⁾	kW	2,96 - 8,08	4,76 - 11,87	5,89 - 15,56	7,80 - 19,51	10,67 - 27,94
Heating capacity range (3-4 row coils) ⁽³⁾	kW	4,32 - 10,06	6,87 - 15,27	8,29 - 18,00	11,73 - 22,84	16,14 - 32,50
Heating capacity range (1-2 row coils) ⁽⁴⁾	kW	2,57 - 9,54	3,94 - 14,32	4,73 - 17,79	6,46 - 21,97	8,68 - 29,65
Power input current range	W	8 - 186	10 - 380	10 - 550	15 - 530	40 - 1045

⁽¹⁾ The sound pressure level is referred to a room volume of 100 m³ Sabine, directional factor Q=2 (hemisphere sound emission) and measurement performed at 3 meters from the source; the data are related to the typical curves of a system with medium external pressure. According to the external pressure and to the selected speed, the values can vary of ± 4 dB(A) with regard to the declared values.

⁽²⁾ Cooling capacity referred to the following standard rating conditions : entering air temperature 26 °C, 50% relative humidity, water 7 / 12 °C, 3 - 6 row coils.

⁽³⁾ Heating capacity referred to the following standard rating conditions : entering air temperature 20 °C, water 50 / 45 °C, 3 - 4 row coils.

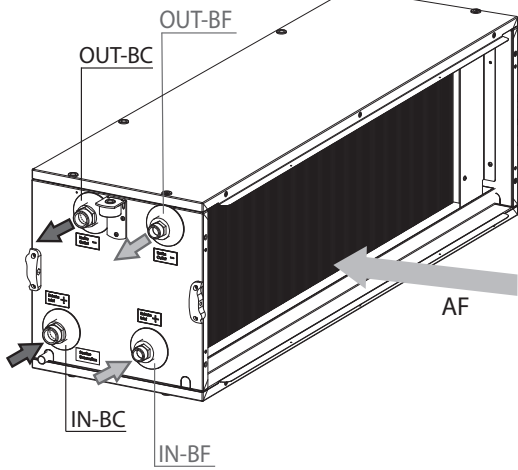
⁽⁴⁾ Heating capacity referred to the following standard rating conditions : entering air temperature 20 °C, water 60 / 50 °C, 1 - 2 row coils.



POSITION OF THE HYDRAULIC CONNECTIONS WITH REGARD TO THE AIR FLOW

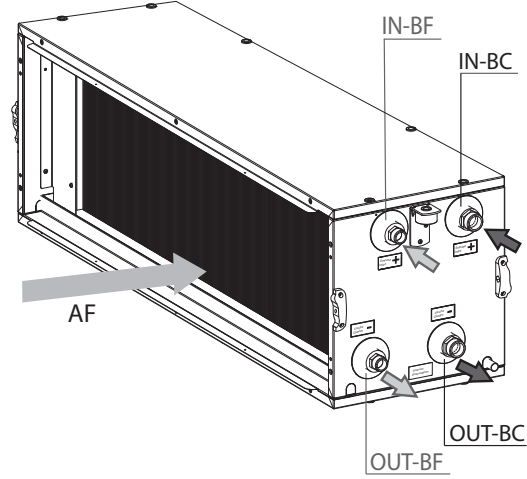
It must be specified on the order

Left side connections (standard)



AF = air flow
 IN-BF = cold water inlet
 OUT-BF = cold water outlet
 IN-BC = hot water inlet
 OUT-BC = hot water outlet

Right side connections (on demand)



AF = air flow
 IN-BF = cold water inlet
 OUT-BF = cold water outlet
 IN-BC = hot water inlet
 OUT-BC = hot water outlet

COOLING CAPACITY

3 row coil units

Entering air temperature: 27 °C – R.H.: 50%

Model	WT: 7 / 12 °C					WT: 8 / 13 °C					WT: 10 / 15 °C					WT: 12 / 17 °C				
	Qv m ³ /h	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa			
Ocean ECM 13	1400	5,56	4,48	956	13,2	5,03	4,40	866	10,8	4,02	4,02	691	7,0	3,17	3,17	545	4,4			
	1200	5,10	4,00	878	11,4	4,58	3,90	788	9,3	3,63	3,63	624	6,0	2,84	2,84	488	3,7			
	1000	4,58	3,50	789	9,5	4,10	3,39	706	7,7	3,23	3,23	556	4,9	2,50	2,50	430	3,0			
	800	4,00	2,96	689	7,5	3,58	2,85	615	6,1	2,79	2,65	480	3,8	2,13	2,09	367	2,3			
	600	3,35	2,39	576	5,4	2,98	2,29	513	4,4	2,31	2,09	397	2,7	1,74	1,71	300	1,6			
Ocean ECM 23	2200	8,60	6,83	1480	27,3	7,80	6,73	1341	22,5	6,30	6,30	1084	14,8	5,03	5,03	865	9,5			
	1900	7,83	6,06	1347	23,8	7,07	5,94	1216	19,5	5,65	5,65	972	12,8	4,46	4,46	766	8,1			
	1600	7,05	5,30	1212	20,1	6,33	5,16	1089	16,4	5,02	4,90	864	10,7	3,91	3,91	672	6,7			
	1300	6,26	4,57	1077	16,3	5,61	4,42	965	13,3	4,41	4,15	758	8,5	3,40	3,33	584	5,2			
	1000	5,35	3,80	921	12,4	4,78	3,64	822	10,0	3,73	3,37	641	6,3	2,84	2,78	489	3,8			
Ocean ECM 33	2800	11,09	8,77	1908	30,5	10,06	8,64	1731	25,1	8,15	8,15	1402	16,6	6,52	6,52	1122	10,6			
	2400	10,00	7,68	1720	26,4	9,05	7,54	1556	21,7	7,24	7,24	1245	14,2	5,72	5,72	983	9,0			
	2000	8,95	6,67	1540	22,1	8,03	6,49	1382	18,1	6,37	6,16	1096	11,7	4,96	4,96	853	7,3			
	1600	7,87	5,70	1354	17,7	7,04	5,50	1211	14,4	5,54	5,15	952	9,2	4,26	4,18	733	5,7			
	1200	6,62	4,66	1139	13,0	5,92	4,45	1018	10,5	4,62	4,10	794	6,7	3,51	3,44	604	4,0			
Ocean ECM 43	3200	13,40	10,27	2305	29,8	12,10	10,07	2082	24,4	9,74	9,74	1675	16,0	7,73	7,73	1329	10,2			
	2800	12,27	9,20	2110	26,2	11,04	8,96	1899	21,5	8,79	8,55	1511	14,0	6,89	6,89	1185	8,8			
	2400	11,17	8,20	1922	22,5	10,01	7,92	1721	18,4	7,92	7,49	1362	11,9	6,13	6,13	1055	7,4			
	2000	10,04	7,21	1726	18,7	8,99	6,92	1546	15,2	7,06	6,48	1214	9,7	5,42	5,31	931	5,9			
	1600	8,76	6,16	1507	14,7	7,85	5,88	1350	11,9	6,12	5,43	1052	7,6	4,66	4,57	801	4,6			
Ocean ECM 53	4600	19,00	15,25	3268	33,6	17,27	14,98	2971	27,6	13,97	13,97	2403	18,2	11,17	11,17	1922	11,5			
	4000	17,40	13,60	2993	29,4	15,71	13,28	2702	24,1	12,60	12,60	2167	15,7	9,95	9,95	1712	9,9			
	3400	15,72	11,95	2704	25,1	14,13	11,59	2430	20,5	11,22	10,94	1929	13,2	8,76	8,76	1507	8,2			
	2800	13,95	10,29	2399	20,6	12,48	9,91	2147	16,8	9,83	9,26	1691	10,7	7,58	7,43	1303	6,6			
	2200	12,02	8,59	2068	15,9	10,72	8,22	1845	12,9	8,38	7,58	1441	8,2	6,38	6,25	1098	4,9			

WT: Water temperature
 Qv: Air flow
 Pc: Cooling total capacity
 Ps: Cooling sensible capacity
 Qw: Water flow rate
 Dp(c): Dp Cooling

3 row coil units

Entering air temperature: 26 °C – R.H.: 50%

Model	WT: 7 / 12 °C					WT: 8 / 13 °C					WT: 10 / 15 °C					WT: 12 / 17 °C				
	Qv m³/h	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa			
Ocean ECM 13	1400	5,00	4,38	860	10,8	4,49	4,28	772	8,8	3,57	3,57	615	5,6	3,06	3,06	526	4,2			
	1200	4,56	3,88	784	9,3	4,08	3,78	701	7,5	3,21	3,21	553	4,8	2,62	2,62	451	3,3			
	1000	4,08	3,38	703	7,7	3,64	3,27	625	6,2	2,85	2,85	490	3,9	2,20	2,20	378	2,4			
	800	3,55	2,85	611	6,0	3,16	2,74	543	4,8	2,45	2,40	421	3,0	1,86	1,82	320	1,8			
	600	2,96	2,29	510	4,4	2,62	2,18	451	3,5	2,01	1,97	346	2,1	1,51	1,48	260	1,3			
Ocean ECM 23	2200	7,77	6,71	1337	22,4	7,00	6,59	1204	18,3	5,64	5,64	970	11,9	4,49	4,49	772	7,6			
	1900	7,03	5,92	1209	19,4	6,32	5,79	1086	15,8	5,03	5,03	865	10,2	3,95	3,95	679	6,4			
	1600	6,30	5,15	1084	16,4	5,63	5,01	969	13,3	4,43	4,43	762	8,5	3,44	3,44	591	5,2			
	1300	5,57	4,41	958	13,3	4,97	4,27	855	10,7	3,87	3,80	666	6,7	2,97	2,91	511	4,1			
	1000	4,76	3,64	818	10,0	4,22	3,49	726	8,0	3,27	3,20	562	5,0	2,47	2,42	425	3,0			
Ocean ECM 33	2800	10,03	8,61	1724	25,0	9,04	8,46	1555	20,5	7,30	7,30	1256	13,4	5,83	5,83	1002	8,5			
	2400	9,00	7,52	1548	21,6	8,08	7,35	1390	17,6	6,45	6,45	1109	11,4	5,06	5,06	871	7,1			
	2000	8,00	6,48	1376	18,1	7,15	6,30	1230	14,6	5,64	5,64	969	9,3	4,36	4,36	750	5,8			
	1600	7,01	5,49	1206	14,4	6,24	5,31	1074	11,6	4,87	4,77	838	7,3	3,73	3,65	641	4,4			
	1200	5,89	4,45	1012	10,5	5,22	4,26	899	8,4	4,04	3,93	694	5,2	3,05	2,99	525	3,1			
Ocean ECM 43	3200	12,06	10,06	2074	24,4	10,87	9,86	1870	19,9	8,69	8,69	1494	12,9	6,86	6,86	1181	8,1			
	2800	10,98	8,94	1889	21,4	9,84	8,72	1693	17,4	7,80	7,80	1341	11,1	6,08	6,08	1046	6,9			
	2400	9,97	7,91	1714	18,3	8,89	7,68	1529	14,8	6,98	6,98	1200	9,4	5,38	5,38	926	5,8			
	2000	8,94	6,92	1538	15,1	7,96	6,68	1369	12,2	6,20	6,07	1066	7,7	4,73	4,64	814	4,7			
	1600	7,80	5,88	1342	11,9	6,93	5,64	1192	9,5	5,36	5,21	921	5,9	4,05	3,97	697	3,5			
Ocean ECM 53	4600	17,20	14,94	2958	27,5	15,52	14,62	2670	22,4	12,50	12,50	2151	14,6	10,07	10,07	1732	9,5			
	4000	15,63	13,23	2688	24,0	14,06	12,91	2418	19,5	11,22	11,22	1930	12,6	8,83	8,83	1518	7,8			
	3400	14,06	11,57	2418	20,4	12,58	11,22	2163	16,5	9,94	9,94	1710	10,5	7,72	7,72	1328	6,5			
	2800	12,42	9,90	2136	16,7	11,08	9,56	1907	13,5	8,65	8,48	1487	8,5	6,64	6,51	1141	5,1			
	2200	10,67	8,22	1836	12,9	9,49	7,88	1632	10,3	7,33	7,18	1260	6,4	5,55	5,44	955	3,8			

WT: Water temperature
 Qv: Air flow
 Pc: Cooling total capacity
 Ps: Cooling sensible capacity
 Qw: Water flow rate
 Dp(c): Dp Cooling

3 row coil units

Entering air temperature: 25 °C – R.H.: 50%

Model	WT: 7 / 12 °C					WT: 8 / 13 °C					WT: 10 / 15 °C					WT: 12 / 17 °C				
	Qv m³/h	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa			
Ocean ECM 13	1400	4,48	4,26	770	8,7	4,00	4,00	689	7,1	3,17	3,17	546	4,5	2,79	2,79	481	3,5			
	1200	4,06	3,77	699	7,5	3,62	3,62	622	6,0	2,85	2,85	490	3,8	2,49	2,49	428	3,0			
	1000	3,63	3,26	624	6,2	3,22	3,22	554	4,9	2,51	2,51	431	3,1	2,18	2,18	375	2,4			
	800	3,15	2,74	541	4,8	2,78	2,63	478	3,8	2,14	2,10	369	2,4	1,85	1,81	318	1,8			
	600	2,61	2,18	450	3,5	2,30	2,08	395	2,7	1,75	1,71	301	1,7	1,50	1,47	258	1,2			
Ocean ECM 23	2200	6,98	6,56	1200	18,2	6,28	6,28	1080	14,8	5,04	5,04	867	9,6	4,43	4,43	762	7,5			
	1900	6,30	5,77	1084	15,8	5,64	5,64	969	12,8	4,47	4,47	769	8,2	3,89	3,89	669	6,3			
	1600	5,61	4,99	965	13,3	4,99	4,85	859	10,7	3,91	3,91	673	6,8	3,37	3,37	580	5,1			
	1300	4,96	4,27	853	10,7	4,39	4,12	755	8,5	3,40	3,34	585	5,3	2,91	2,85	500	4,0			
	1000	4,21	3,49	724	8,0	3,71	3,35	639	6,3	2,85	2,80	491	3,9	2,41	2,37	415	2,9			
Ocean ECM 33	2800	9,01	8,42	1550	20,4	8,12	8,12	1396	16,6	6,54	6,54	1125	10,8	5,74	5,74	987	8,3			
	2400	8,05	7,32	1384	17,6	7,22	7,22	1241	14,2	5,73	5,73	986	9,1	4,98	4,98	857	7,0			
	2000	7,13	6,28	1227	14,6	6,36	6,11	1094	11,8	4,97	4,97	855	7,4	4,28	4,28	736	5,6			
	1600	6,23	5,30	1071	11,6	5,52	5,11	949	9,3	4,28	4,19	736	5,8	3,64	3,57	627	4,3			
	1200	5,20	4,26	895	8,4	4,59	4,08	790	6,7	3,52	3,45	605	4,1	2,87	2,81	493	2,8			
Ocean ECM 43	3200	10,82	9,81	1861	19,9	9,70	9,70	1669	16,1	7,74	7,74	1332	10,3	6,74	6,74	1159	7,9			
	2800	9,80	8,69	1686	17,4	8,76	8,47	1507	14,0	6,91	6,91	1188	8,9	5,95	5,95	1023	6,7			
	2400	8,86	7,66	1524	14,8	7,89	7,43	1356	11,9	6,15	6,15	1058	7,5	5,25	5,25	903	5,6			
	2000	7,93	6,67	1364	12,2	7,03	6,43	1209	9,7	5,44	5,33	935	6,0	4,61	4,51	792	4,5			
	1600	6,90	5,63	1187	9,5	6,10	5,40	1049	7,6	4,67	4,58	804	4,6	3,75	3,68	646	3,1			
Ocean ECM 53	4600	15,47	14,56	2661	22,5	13,93	13,93	2396	18,2	11,20	11,20	1926	11,7	9,94	9,94	1710	9,2			
	4000	13,99	12,85	2406	19,5	12,56	12,56	2160	15,8	9,98	9,98	1717	10,1	8,81	8,81	1515	7,9			
	3400	12,55	11,19	2158	16,5	11,17	10,84	1922	13,3	8,78	8,78	1511	8,4	7,69	7,69	1322	6,5			
	2800	11,03	9,53	1897	13,4	9,78	9,18	1682	10,8	7,60	7,45	1307	6,7	6,58	6,45	1132	5,1			
	2200	9,45	7,87	1625	10,3	8,33	7,53	1432	8,2	6,41	6,28	1102	5,0	5,49	5,38	945	3,8			

WT: Water temperature
 Qv: Air flow
 Pc: Cooling total capacity
 Ps: Cooling sensible capacity
 Qw: Water flow rate
 Dp(c): Dp Cooling

4 row coil units

Entering air temperature: 27 °C – R.H.: 50%

Model	Qv m³/h	WT: 7 / 12 °C				WT: 8 / 13 °C				WT: 10 / 15 °C				WT: 12 / 17 °C			
		Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa
Ocean ECM 14	1400	6,61	5,09	1137	10,7	5,92	4,92	1018	8,6	4,67	4,67	804	5,5	3,62	3,62	623	3,4
	1200	6,02	4,54	1036	9,1	5,38	4,36	925	7,4	4,22	4,05	725	4,7	3,25	3,25	559	2,8
	1000	5,37	3,94	924	7,5	4,79	3,77	824	6,1	3,73	3,47	641	3,8	2,84	2,84	488	2,3
	800	4,65	3,32	799	5,8	4,14	3,16	712	4,7	3,19	2,87	549	2,9	2,41	2,37	415	1,7
	600	3,83	2,66	659	4,1	3,41	2,51	586	3,3	2,62	2,25	450	2,0	1,95	1,92	336	1,2
Ocean ECM 24	2200	10,27	7,84	1766	22,4	9,24	7,62	1590	18,3	7,37	7,20	1267	11,9	5,79	5,79	996	7,4
	1900	9,32	6,94	1603	19,4	8,36	6,70	1437	15,8	6,61	6,28	1136	10,1	5,12	5,12	881	6,2
	1600	8,37	6,06	1439	16,3	7,47	5,82	1285	13,2	5,87	5,41	1010	8,4	4,49	4,49	772	5,1
	1300	7,36	5,20	1267	13,0	6,58	4,98	1132	10,5	5,12	4,56	880	6,6	3,89	3,81	668	4,0
	1000	6,22	4,28	1069	9,6	5,55	4,07	954	7,8	4,30	3,68	739	4,8	3,23	3,16	555	2,9
Ocean ECM 34	2800	13,66	10,35	2350	29,1	12,31	10,03	2117	23,7	9,83	9,45	1690	15,3	7,71	7,71	1327	9,5
	2400	12,31	9,08	2117	24,9	11,07	8,76	1903	20,4	8,73	8,16	1501	13,0	6,77	6,77	1164	8,0
	2000	10,94	7,85	1882	20,6	9,79	7,52	1684	16,8	7,67	6,94	1320	10,7	5,86	5,86	1009	6,4
	1600	9,54	6,66	1640	16,2	8,52	6,34	1465	13,1	6,62	5,77	1139	8,3	5,01	4,91	862	4,9
	1200	7,88	5,36	1355	11,5	7,03	5,07	1210	9,3	5,45	4,56	937	5,8	4,08	4,00	702	3,4
Ocean ECM 44	3200	16,53	12,25	2843	25,9	14,86	11,82	2556	21,1	11,77	11,03	2025	13,5	9,15	9,15	1574	8,3
	2800	15,08	10,92	2593	22,6	13,51	10,49	2323	18,4	10,60	9,70	1824	11,7	8,16	8,16	1403	7,1
	2400	13,65	9,67	2348	19,2	12,19	9,24	2097	15,6	9,53	8,48	1639	9,8	7,25	7,25	1247	5,9
	2000	12,15	8,44	2090	15,6	10,85	8,02	1866	12,7	8,43	7,29	1449	7,9	6,37	6,24	1095	4,7
	1600	10,47	7,12	1800	11,9	9,36	6,75	1609	9,7	7,24	6,06	1245	6,0	5,42	5,31	933	3,5
Ocean ECM 54	4600	23,32	17,92	4011	29,0	21,04	17,32	3618	23,7	16,73	16,17	2877	15,2	13,11	13,11	2254	9,4
	4000	21,23	15,93	3652	25,2	19,06	15,31	3279	20,5	15,04	14,18	2588	13,1	11,69	11,69	2010	8,0
	3400	19,10	13,96	3285	21,2	17,10	13,35	2940	17,2	13,40	12,25	2305	10,9	10,28	10,28	1768	6,6
	2800	16,82	11,96	2892	17,1	15,01	11,37	2582	13,9	11,69	10,33	2011	8,7	8,87	8,69	1525	5,2
	2200	14,28	9,88	2456	12,9	12,76	9,35	2195	10,4	9,88	8,40	1699	6,5	7,40	7,25	1273	3,8

WT: Water temperature
 Qv: Air flow
 Pc: Cooling total capacity
 Ps: Cooling sensible capacity
 Qw: Water flow rate
 Dp(c): Dp Cooling

4 row coil units

Entering air temperature: 26 °C – R.H.: 50%

Model	WT: 7 / 12 °C					WT: 8 / 13 °C					WT: 10 / 15 °C					WT: 12 / 17 °C				
	Qv m³/h	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa			
Ocean ECM 14	1400	5,90	4,92	1014	8,6	5,25	4,75	904	6,9	4,12	4,12	709	4,4	3,26	3,26	562	2,8			
	1200	5,36	4,36	922	7,3	4,76	4,19	819	5,9	3,71	3,71	638	3,7	2,84	2,84	488	2,2			
	1000	4,76	3,77	820	6,0	4,23	3,61	727	4,8	3,26	3,26	561	3,0	2,48	2,48	426	1,8			
	800	4,11	3,16	707	4,7	3,64	3,01	626	3,7	2,79	2,73	479	2,3	2,09	2,05	359	1,3			
	600	3,38	2,51	582	3,3	2,99	2,38	514	2,6	2,27	2,14	390	1,6	1,68	1,65	289	0,9			
Ocean ECM 24	2200	9,21	7,60	1583	18,2	8,26	7,38	1420	14,8	6,55	6,55	1126	9,4	5,12	5,12	881	5,8			
	1900	8,33	6,70	1433	15,7	7,43	6,47	1277	12,7	5,83	5,83	1003	8,0	4,51	4,51	775	4,9			
	1600	7,43	5,82	1278	13,2	6,62	5,60	1139	10,5	5,14	5,14	884	6,6	3,92	3,92	674	4,0			
	1300	6,54	4,98	1125	10,5	5,81	4,76	999	8,4	4,47	4,36	769	5,2	3,37	3,31	580	3,1			
	1000	5,52	4,07	949	7,7	4,88	3,86	839	6,2	3,74	3,50	643	3,8	2,79	2,73	479	2,2			
Ocean ECM 34	2800	12,26	10,02	2108	23,7	10,99	9,71	1891	19,2	8,72	8,72	1500	12,2	6,82	6,82	1173	7,5			
	2400	11,00	8,75	1892	20,3	9,82	8,43	1689	16,4	7,70	7,70	1324	10,3	5,94	5,94	1022	6,2			
	2000	9,74	7,52	1675	16,7	8,66	7,21	1490	13,4	6,72	6,72	1155	8,4	5,11	5,11	879	5,0			
	1600	8,46	6,34	1456	13,0	7,51	6,04	1292	10,5	5,78	5,51	994	6,4	4,35	4,26	747	3,8			
	1200	6,99	5,08	1203	9,3	6,19	4,80	1065	7,4	4,73	4,32	813	4,5	3,52	3,45	605	2,6			
Ocean ECM 44	3200	14,79	11,81	2544	21,1	13,20	11,38	2271	17,0	10,40	10,40	1789	10,7	8,06	8,06	1387	6,5			
	2800	13,44	10,48	2311	18,3	11,98	10,07	2060	14,7	9,32	9,32	1604	9,2	7,14	7,14	1228	5,5			
	2400	12,13	9,25	2087	15,5	10,77	8,83	1853	12,4	8,33	8,11	1432	7,7	6,30	6,30	1084	4,6			
	2000	10,80	8,04	1857	12,6	9,56	7,64	1645	10,1	7,35	6,94	1263	6,2	5,51	5,40	948	3,6			
	1600	9,31	6,76	1601	9,6	8,24	6,40	1416	7,7	6,29	5,75	1082	4,7	4,68	4,58	804	2,7			
Ocean ECM 54	4600	20,86	17,26	3588	23,6	18,72	16,66	3220	19,1	14,83	14,83	2551	12,0	11,60	11,60	1995	7,4			
	4000	19,00	15,31	3268	20,4	16,95	14,71	2916	16,5	13,31	13,31	2289	10,3	10,27	10,27	1767	6,2			
	3400	17,00	13,34	2925	17,1	15,15	12,76	2606	13,8	11,76	11,76	2023	8,6	8,98	8,98	1544	5,1			
	2800	14,95	11,38	2571	13,8	13,26	10,82	2280	11,1	10,20	9,84	1755	6,8	7,69	7,54	1323	4,0			
	2200	12,68	9,37	2181	10,4	11,23	8,86	1931	8,3	8,58	7,96	1475	5,0	6,38	6,25	1097	2,9			

WT: Water temperature
 Qv: Air flow
 Pc: Cooling total capacity
 Ps: Cooling sensible capacity
 Qw: Water flow rate
 Dp(c): Dp Cooling

4 row coil units

Entering air temperature: 25 °C – R.H.: 50%

Model	Qv m ³ /h	WT: 7 / 12 °C				WT: 8 / 13 °C				WT: 10 / 15 °C				WT: 12 / 17 °C			
		Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa
Ocean ECM 14	1400	5,23	4,73	900	6,9	4,66	4,66	801	5,5	3,64	3,64	626	3,4	3,20	3,20	550	2,7
	1200	4,74	4,18	816	5,9	4,21	4,02	723	4,7	3,25	3,25	560	2,9	2,84	2,84	489	2,2
	1000	4,21	3,60	725	4,8	3,72	3,45	640	3,8	2,85	2,85	490	2,3	2,47	2,47	425	1,8
	800	3,62	3,00	623	3,7	3,19	2,86	548	2,9	2,42	2,37	417	1,8	2,08	2,04	358	1,3
	600	2,98	2,38	512	2,6	2,61	2,25	449	2,0	1,96	1,92	338	1,2	1,65	1,61	283	0,9
Ocean ECM 24	2200	8,22	7,36	1414	14,7	7,35	7,14	1265	11,8	5,81	5,81	999	7,5	5,09	5,09	875	5,8
	1900	7,40	6,46	1273	12,7	6,59	6,24	1133	10,1	5,14	5,14	885	6,3	4,46	4,46	767	4,8
	1600	6,59	5,59	1134	10,5	5,83	5,37	1003	8,4	4,51	4,51	775	5,2	3,86	3,86	665	3,9
	1300	5,78	4,75	995	8,4	5,10	4,54	877	6,6	3,90	3,82	670	4,0	3,29	3,22	566	2,9
	1000	4,86	3,86	836	6,1	4,27	3,67	735	4,8	3,24	3,18	557	2,9	2,56	2,51	440	1,9
Ocean ECM 34	2800	10,96	9,68	1885	19,1	9,80	9,38	1685	15,4	7,73	7,73	1330	9,7	6,79	6,79	1168	7,5
	2400	9,78	8,41	1683	16,3	8,70	8,11	1496	13,1	6,79	6,79	1167	8,1	5,90	5,90	1014	6,2
	2000	8,64	7,20	1485	13,4	7,63	6,90	1313	10,7	5,88	5,88	1012	6,5	5,04	5,04	866	4,9
	1600	7,48	6,04	1287	10,4	6,59	5,75	1134	8,3	5,03	4,93	865	5,0	4,05	3,97	696	3,3
	1200	6,17	4,81	1061	7,4	5,42	4,55	932	5,8	4,10	4,02	705	3,5	3,07	3,01	528	2,0
Ocean ECM 44	3200	13,17	11,36	2265	17,0	11,72	10,95	2016	13,5	9,19	9,19	1580	8,4	8,00	8,00	1376	6,5
	2800	11,93	10,05	2051	14,7	10,58	9,66	1820	11,7	8,19	8,19	1409	7,2	7,06	7,06	1214	5,5
	2400	10,74	8,83	1847	12,4	9,48	8,44	1631	9,9	7,27	7,27	1250	6,0	6,07	6,07	1043	4,3
	2000	9,54	7,64	1640	10,1	8,40	7,27	1444	8,0	6,39	6,27	1100	4,8	5,08	4,97	873	3,1
	1600	8,20	6,40	1410	7,7	7,21	6,05	1240	6,0	5,45	5,34	937	3,6	4,09	4,01	704	2,1
Ocean ECM 54	4600	18,66	16,62	3210	19,1	16,68	16,05	2869	15,2	13,15	13,15	2262	9,5	11,73	11,73	2018	7,6
	4000	16,89	14,67	2905	16,4	15,04	14,11	2586	13,1	11,73	11,73	2018	8,1	10,37	10,37	1784	6,4
	3400	15,08	12,74	2593	13,7	13,36	12,19	2298	10,9	10,32	10,32	1774	6,7	9,03	9,03	1553	5,2
	2800	13,21	10,82	2272	11,0	11,65	10,29	2004	8,7	8,89	8,72	1530	5,3	7,56	7,42	1301	3,9
	2200	11,18	8,86	1923	8,3	9,84	8,38	1692	6,5	7,43	7,28	1277	3,9	5,94	5,82	1022	2,6

WT: Water temperature
 Qv: Air flow
 Pc: Cooling total capacity
 Ps: Cooling sensible capacity
 Qw: Water flow rate
 Dp(c): Dp Cooling

6 row coil units

Entering air temperature: 27 °C – R.H.: 50%

Model	WT: 7 / 12 °C					WT: 8 / 13 °C					WT: 10 / 15 °C					WT: 12 / 17 °C				
	Qv m ³ /h	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa			
Ocean ECM 16	1400	9,07	6,34	1559	22,9	8,12	6,02	1397	18,6	6,33	5,43	1089	11,7	4,80	4,80	825	6,9			
	1200	8,17	5,61	1405	19,1	7,31	5,31	1257	15,5	5,68	4,75	977	9,7	4,27	4,27	735	5,7			
	1000	7,18	4,84	1235	15,2	6,43	4,56	1105	12,4	4,98	4,06	857	7,7	3,72	3,63	640	4,5			
	800	6,09	4,03	1048	11,4	5,46	3,79	939	9,3	4,22	3,34	726	5,8	3,13	2,96	538	3,3			
	600	4,89	3,17	841	7,6	4,39	2,97	755	6,3	3,39	2,60	584	3,9	2,50	2,28	430	2,2			
Ocean ECM 26	2200	13,31	9,60	2289	21,3	11,92	9,15	2051	17,3	9,36	8,35	1610	10,9	7,17	7,17	1233	6,5			
	1900	12,00	8,46	2064	18,1	10,74	8,04	1847	14,7	8,36	7,26	1438	9,2	6,34	6,34	1091	5,4			
	1600	10,64	7,34	1830	14,8	9,50	6,94	1634	12,0	7,37	6,22	1267	7,5	5,53	5,53	951	4,4			
	1300	9,22	6,23	1586	11,4	8,23	5,86	1416	9,3	6,37	5,21	1096	5,8	4,74	4,65	816	3,4			
	1000	7,61	5,04	1310	8,1	6,82	4,73	1172	6,6	5,26	4,16	905	4,1	3,89	3,68	669	2,4			
Ocean ECM 36	2800	17,43	12,53	2998	24,1	15,63	11,93	2689	19,5	12,30	10,86	2115	12,3	9,43	9,43	1621	7,4			
	2400	15,61	10,96	2684	20,1	13,97	10,39	2403	16,4	10,89	9,36	1873	10,3	8,25	8,25	1419	6,1			
	2000	13,69	9,39	2355	16,2	12,24	8,86	2105	13,2	9,50	7,92	1635	8,2	7,12	7,12	1225	4,8			
	1600	11,70	7,85	2013	12,3	10,47	7,38	1800	10,0	8,10	6,53	1393	6,2	6,02	5,82	1035	3,6			
	1200	9,45	6,20	1626	8,3	8,47	5,81	1457	6,8	6,55	5,10	1127	4,3	4,83	4,49	832	2,4			
Ocean ECM 46	3200	21,84	15,07	3757	45,6	19,61	14,28	3374	37,2	15,39	12,87	2647	23,5	11,70	11,70	2012	13,9			
	2800	19,75	13,39	3397	38,8	17,74	12,66	3052	31,7	13,85	11,31	2382	20,0	10,42	10,18	1792	11,7			
	2400	17,65	11,77	3037	32,0	15,85	11,09	2726	26,2	12,33	9,84	2120	16,5	9,21	8,78	1584	9,6			
	2000	15,46	10,16	2658	25,3	13,91	9,55	2392	20,7	10,80	8,41	1857	13,1	8,03	7,45	1381	7,6			
	1600	13,03	8,45	2242	18,6	11,77	7,93	2024	15,4	9,14	6,94	1573	9,7	6,76	6,09	1163	5,6			
Ocean ECM 56	4600	31,26	21,93	5377	62,6	28,08	20,80	4830	51,0	22,14	18,78	3808	32,3	16,94	16,94	2914	19,2			
	4000	28,24	19,44	4858	53,0	25,37	18,39	4363	43,3	19,89	16,47	3422	27,4	15,08	15,08	2594	16,1			
	3400	25,08	16,92	4313	43,4	22,50	15,95	3870	35,6	17,59	14,18	3025	22,4	13,22	12,69	2273	13,1			
	2800	21,71	14,36	3734	33,9	19,51	13,50	3355	27,8	15,19	11,90	2612	17,5	11,32	10,55	1947	10,2			
	2200	18,05	11,72	3105	24,4	16,23	10,98	2791	20,1	12,65	9,61	2175	12,7	9,36	8,43	1610	7,3			

WT: Water temperature
 Qv: Air flow
 Pc: Cooling total capacity
 Ps: Cooling sensible capacity
 Qw: Water flow rate
 Dp(c): Dp Cooling

6 row coil units

Entering air temperature: 26 °C – R.H.: 50%

Model	Qv m ³ /h	WT: 7 / 12 °C				WT: 8 / 13 °C				WT: 10 / 15 °C				WT: 12 / 17 °C			
		Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa
Ocean ECM 16	1400	8,08	6,03	1389	18,5	7,18	5,72	1234	14,8	5,53	5,16	951	9,1	4,16	4,16	716	5,3
	1200	7,26	5,32	1249	15,4	6,45	5,03	1109	12,3	4,95	4,51	851	7,5	3,70	3,70	636	4,3
	1000	6,38	4,58	1098	12,3	5,66	4,30	973	9,9	4,32	3,83	743	6,0	3,20	3,20	550	3,4
	800	5,42	3,80	932	9,2	4,80	3,56	826	7,4	3,65	3,14	627	4,4	2,68	2,62	461	2,5
	600	4,35	2,98	748	6,2	3,87	2,79	665	5,0	2,93	2,43	504	3,0	2,13	2,09	366	1,7
Ocean ECM 26	2200	11,87	9,16	2041	17,2	10,58	8,73	1819	13,8	8,22	7,97	1414	8,5	6,27	6,27	1078	5,0
	1900	10,67	8,04	1835	14,6	9,48	7,63	1630	11,7	7,31	6,91	1257	7,2	5,50	5,50	946	4,2
	1600	9,44	6,95	1624	11,9	8,38	6,57	1441	9,5	6,41	5,89	1102	5,8	4,77	4,77	821	3,3
	1300	8,18	5,88	1407	9,2	7,25	5,53	1247	7,4	5,52	4,91	949	4,5	4,07	3,99	700	2,5
	1000	6,76	4,74	1163	6,6	6,00	4,44	1031	5,3	4,54	3,91	781	3,2	3,32	3,26	571	1,8
Ocean ECM 36	2800	15,56	11,94	2676	19,4	13,86	11,37	2384	15,6	10,79	10,36	1856	9,6	8,23	8,23	1415	5,7
	2400	13,87	10,39	2386	16,3	12,35	9,86	2124	13,0	9,51	8,89	1635	8,0	7,16	7,16	1232	4,7
	2000	12,17	8,88	2094	13,1	10,79	8,38	1856	10,5	8,25	7,49	1419	6,4	6,13	6,13	1055	3,7
	1600	10,40	7,40	1789	9,9	9,22	6,95	1586	8,0	7,02	6,15	1207	4,8	5,17	5,06	889	2,7
	1200	8,40	5,83	1445	6,8	7,46	5,46	1283	5,4	5,66	4,78	973	3,3	4,13	4,04	710	1,8
Ocean ECM 46	3200	19,51	14,31	3356	37,0	17,39	13,56	2991	29,7	13,45	12,22	2314	18,3	10,16	10,16	1748	10,6
	2800	17,63	12,68	3032	31,5	15,68	11,97	2697	25,3	12,05	10,70	2073	15,5	9,00	9,00	1548	8,9
	2400	15,75	11,12	2708	26,0	14,00	10,46	2407	20,9	10,70	9,28	1841	12,8	7,92	7,92	1362	7,3
	2000	13,81	9,58	2376	20,6	12,27	8,98	2111	16,6	9,36	7,91	1609	10,1	6,87	6,73	1181	5,7
	1600	11,68	7,96	2009	15,2	10,39	7,44	1787	12,3	7,90	6,50	1359	7,4	5,77	5,65	992	4,2
Ocean ECM 56	4600	27,94	20,84	4807	50,8	24,94	19,77	4290	40,9	19,42	17,86	3341	25,3	14,78	14,78	2541	14,7
	4000	25,22	18,43	4339	43,0	22,48	17,42	3866	34,7	17,38	15,61	2989	21,3	13,09	13,09	2251	12,3
	3400	22,37	16,00	3848	35,3	19,90	15,06	3423	28,4	15,29	13,38	2631	17,3	11,40	11,40	1961	9,9
	2800	19,37	13,54	3331	27,6	17,24	12,71	2965	22,2	13,17	11,19	2265	13,5	9,72	9,53	1672	7,7
	2200	16,10	11,02	2770	19,9	14,34	10,31	2467	16,1	10,93	9,00	1880	9,8	7,98	7,82	1373	5,5

WT: Water temperature
 Qv: Air flow
 Pc: Cooling total capacity
 Ps: Cooling sensible capacity
 Qw: Water flow rate
 Dp(c): Dp Cooling

6 row coil units

Entering air temperature: 25 °C – R.H.: 50%

Model	WT: 7 / 12 °C					WT: 8 / 13 °C					WT: 10 / 15 °C					WT: 12 / 17 °C				
	Qv m³/h	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa			
Ocean ECM 16	1400	7,14	5,71	1228	14,8	6,31	5,42	1085	11,7	4,81	4,81	828	7,0	3,80	3,80	653	4,5			
	1200	6,42	5,03	1104	12,3	5,65	4,75	972	9,7	4,29	4,29	738	5,8	3,26	3,26	560	3,4			
	1000	5,64	4,31	970	9,8	4,95	4,06	852	7,7	3,73	3,62	642	4,6	2,75	2,75	472	2,6			
	800	4,78	3,57	822	7,3	4,20	3,35	722	5,8	3,14	2,95	541	3,4	2,29	2,24	394	1,9			
	600	3,84	2,80	661	5,0	3,37	2,61	580	3,9	2,51	2,28	432	2,3	1,81	1,78	312	1,2			
Ocean ECM 26	2200	10,53	8,72	1811	13,8	9,33	8,32	1604	10,9	7,20	7,20	1238	6,6	6,10	6,10	1049	4,8			
	1900	9,44	7,63	1624	11,6	8,34	7,25	1434	9,2	6,37	6,37	1095	5,5	5,17	5,17	889	3,7			
	1600	8,34	6,57	1434	9,5	7,34	6,21	1262	7,5	5,55	5,55	955	4,5	4,31	4,31	741	2,8			
	1300	7,21	5,54	1241	7,4	6,33	5,21	1090	5,8	4,76	4,64	819	3,4	3,52	3,45	605	2,0			
	1000	5,96	4,45	1026	5,2	5,24	4,17	901	4,1	3,91	3,67	672	2,4	2,84	2,78	488	1,3			
Ocean ECM 36	2800	13,81	11,36	2375	15,5	12,25	10,83	2108	12,4	9,45	9,45	1625	7,5	7,89	7,89	1357	5,2			
	2400	12,29	9,86	2114	13,0	10,84	9,34	1865	10,3	8,29	8,29	1425	6,2	6,62	6,62	1138	4,0			
	2000	10,74	8,39	1847	10,4	9,45	7,91	1625	8,2	7,15	7,15	1230	4,9	5,44	5,44	935	3,0			
	1600	9,17	6,96	1578	7,9	8,06	6,54	1387	6,2	6,05	5,80	1040	3,7	4,42	4,34	761	2,1			
	1200	7,42	5,47	1276	5,4	6,52	5,11	1121	4,3	4,86	4,48	835	2,5	3,52	3,45	605	1,4			
Ocean ECM 46	3200	17,31	13,57	2978	29,6	15,32	12,86	2635	23,5	11,74	11,74	2019	14,1	8,83	8,83	1518	8,1			
	2800	15,60	11,98	2683	25,2	13,78	11,31	2370	20,0	10,46	10,13	1799	11,9	7,77	7,77	1336	6,8			
	2400	13,92	10,48	2395	20,9	12,27	9,85	2110	16,5	9,25	8,75	1591	9,8	6,80	6,80	1169	5,5			
	2000	12,20	9,00	2099	16,5	10,74	8,43	1848	13,0	8,06	7,43	1387	7,7	5,87	5,76	1010	4,3			
	1600	10,33	7,47	1776	12,2	9,09	6,97	1563	9,6	6,79	6,09	1168	5,7	4,91	4,81	845	3,1			
Ocean ECM 56	4600	24,87	19,79	4278	40,8	22,06	18,77	3794	32,4	17,01	17,01	2926	19,6	12,91	12,91	2221	11,4			
	4000	22,39	17,44	3851	34,6	19,79	16,47	3404	27,4	15,14	14,80	2604	16,4	11,35	11,35	1952	9,4			
	3400	19,82	15,09	3409	28,3	17,49	14,20	3008	22,4	13,27	12,65	2282	13,3	9,83	9,83	1690	7,5			
	2800	17,14	12,74	2948	22,1	15,11	11,94	2599	17,5	11,37	10,53	1955	10,3	8,33	8,16	1432	5,8			
	2200	14,26	10,34	2453	16,0	12,57	9,65	2161	12,7	9,40	8,43	1617	7,4	6,80	6,67	1170	4,1			

WT: Water temperature
 Qv: Air flow
 Pc: Cooling total capacity
 Ps: Cooling sensible capacity
 Qw: Water flow rate
 Dp(c): Dp Cooling

HEATING CAPACITY

3 row coil units

Entering air temperature: 10 °C

Model	Qv m ³ /h	WT: 60 / 50 °C			WT: 55 / 45 °C			WT: 50 / 40 °C			WT: 50 / 45 °C			WT: 45 / 40 °C			WT: 40 / 35 °C		
		Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
Ocean ECM 13	1400	13,37	1149	13,7	11,75	1011	11,1	10,16	874	8,7	*	*	*	9,71	1671	28,1	8,56	736	6,5
	1200	12,03	1034	11,3	10,59	910	9,2	9,15	787	7,2	*	*	*	8,73	1502	23,2	7,72	664	5,4
	1000	10,58	910	9,0	9,33	802	7,3	8,07	694	5,7	*	*	*	7,67	1319	18,3	6,81	586	4,3
	800	9,00	774	6,7	7,94	683	5,5	6,88	592	4,3	*	*	*	6,52	1121	13,6	5,82	501	3,2
	600	7,26	624	4,5	6,41	551	3,7	5,57	479	2,9	*	*	*	5,24	901	9,2	4,72	406	2,2
Ocean ECM 23	2200	20,07	1726	27,6	17,69	1522	22,4	15,32	1318	17,6	*	*	*	14,57	2506	56,4	12,22	2102	41,9
	1900	18,20	1566	23,1	16,06	1381	18,8	13,92	1197	14,8	*	*	*	13,19	2269	47,2	11,08	1905	35,2
	1600	16,17	1391	18,7	14,29	1229	15,2	12,39	1066	12,0	*	*	*	11,72	2016	38,1	9,85	1694	28,4
	1300	13,98	1202	14,3	12,35	1062	11,7	10,72	922	9,2	*	*	*	10,11	1739	29,1	8,51	1463	21,8
	1000	11,54	993	10,1	10,21	878	8,3	8,87	763	6,5	*	*	*	8,34	1434	20,5	7,01	1206	15,3
Ocean ECM 33	2800	25,28	2174	29,8	22,30	1918	24,2	19,33	1662	19,1	*	*	*	18,35	3155	61,0	15,40	2648	45,4
	2400	22,81	1962	24,8	20,14	1732	20,2	17,45	1501	15,9	*	*	*	16,54	2845	50,6	13,89	2390	37,7
	2000	20,15	1733	19,8	17,80	1530	16,1	15,44	1328	12,7	*	*	*	14,58	2508	40,3	12,25	2107	30,0
	1600	17,22	1481	14,9	15,22	1308	12,1	13,22	1137	9,6	*	*	*	12,44	2140	30,2	10,47	1801	22,6
	1200	13,94	1199	10,2	12,35	1062	8,3	10,75	924	6,6	*	*	*	10,06	1730	20,6	8,48	1458	15,4
Ocean ECM 43	3200	32,64	2807	24,9	28,82	2478	20,3	24,96	2147	16,0	*	*	*	23,67	4071	50,9	19,86	3416	37,9
	2800	29,78	2561	21,1	26,28	2260	17,2	22,79	1960	13,5	*	*	*	21,54	3705	43,0	18,11	3115	32,0
	2400	26,68	2295	17,3	23,59	2029	14,1	20,48	1762	11,2	*	*	*	19,29	3318	35,2	16,22	2790	26,3
	2000	23,37	2010	13,6	20,67	1778	11,1	17,97	1545	8,8	*	*	*	16,87	2902	27,6	14,21	2444	20,6
	1600	19,76	1699	10,0	17,49	1504	8,2	15,22	1309	6,5	*	*	*	14,23	2448	20,3	12,00	2064	15,2
Ocean ECM 53	4600	45,99	3955	40,3	40,58	3490	32,8	35,16	3024	25,8	*	*	*	*	*	*	27,99	4814	61,3
	4000	41,86	3600	34,0	36,94	3177	27,7	32,02	2754	21,8	*	*	*	*	*	*	25,44	4376	51,5
	3400	37,37	3214	27,7	33,01	2839	22,6	28,65	2464	17,8	*	*	*	*	*	*	22,73	3910	42,0
	2800	32,51	2796	21,5	28,75	2472	17,6	24,96	2147	13,9	*	*	*	*	*	*	19,75	3397	32,6
	2200	27,17	2337	15,5	24,05	2068	12,7	20,93	1800	10,1	*	*	*	*	*	*	16,48	2835	23,5

WT: Water temperature

Qv: Air flow

Ph: Heating capacity

Qw: Water flow rate

Dp(h): Dp Heating

* Operating points outside the range of application of the electric motor.

3 row coil units

Entering air temperature: 15 °C

Model	WT: 60 / 50 °C				WT: 55 / 45 °C			WT: 50 / 40 °C			WT: 50 / 45 °C			WT: 45 / 40 °C			WT: 40 / 35 °C		
	Qv m³/h	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
Ocean ECM 13	1400	11,67	1004	10,7	10,09	867	8,4	8,51	732	6,3	9,63	1656	27,1	8,06	1387	20,1	6,51	1119	13,9
	1200	10,50	903	8,9	9,09	781	7,0	7,67	660	5,2	8,65	1488	22,4	7,25	1248	16,6	5,86	1008	11,5
	1000	9,25	795	7,0	8,01	689	5,5	6,77	582	4,2	7,60	1306	17,7	6,38	1097	13,2	5,16	887	9,2
	800	7,87	677	5,3	6,83	587	4,2	5,78	497	3,1	6,45	1109	13,1	5,42	932	9,8	4,39	755	6,8
	600	6,35	546	3,6	5,51	474	2,8	4,68	402	2,1	5,18	891	8,8	4,36	750	6,6	3,54	609	4,6
Ocean ECM 23	2200	17,55	1509	21,7	15,22	1309	17,1	12,87	1106	12,9	14,43	2483	54,5	12,12	2084	40,6	9,81	1686	28,2
	1900	15,93	1370	18,2	13,80	1187	14,3	11,68	1004	10,8	13,08	2249	45,6	10,98	1889	34,0	8,90	1530	23,7
	1600	14,16	1218	14,7	12,29	1057	11,6	10,41	896	8,8	11,60	1995	36,7	9,76	1679	27,4	7,91	1360	19,1
	1300	12,24	1052	11,3	10,62	914	8,9	9,02	776	6,8	10,01	1722	28,1	8,42	1449	21,0	6,84	1176	14,7
	1000	10,11	870	8,0	8,79	756	6,3	7,48	643	4,8	8,24	1417	19,8	6,94	1194	14,8	5,64	970	10,4
Ocean ECM 33	2800	22,13	1903	23,5	19,18	1650	18,5	16,23	1396	14,0	18,16	3123	58,9	15,26	2624	43,9	12,36	2126	30,6
	2400	19,97	1718	19,5	17,32	1490	15,4	14,67	1261	11,6	16,38	2817	48,8	13,77	2369	36,4	11,16	1919	25,4
	2000	17,64	1517	15,6	15,30	1316	12,3	12,98	1116	9,3	14,44	2484	38,8	12,14	2088	29,0	9,85	1694	20,3
	1600	15,07	1296	11,7	13,10	1126	9,3	11,12	957	7,0	12,32	2119	29,1	10,37	1783	21,8	8,41	1447	15,3
	1200	12,22	1051	8,0	10,64	915	6,4	9,05	778	4,8	9,95	1711	19,7	8,39	1443	14,8	6,82	1173	10,4
Ocean ECM 43	3200	28,56	2456	19,6	24,78	2132	15,5	20,98	1804	11,7	23,43	4029	49,1	19,68	3385	36,5	15,94	2742	25,5
	2800	26,04	2239	16,6	22,62	1945	13,1	19,17	1649	9,9	21,33	3669	41,4	17,95	3087	30,9	14,54	2500	21,6
	2400	23,36	2009	13,6	20,29	1745	10,8	17,22	1481	8,2	19,10	3285	33,9	16,07	2764	25,3	13,04	2243	17,7
	2000	20,46	1760	10,7	17,79	1530	8,5	15,12	1300	6,4	16,69	2870	26,5	14,06	2419	19,8	11,42	1964	13,9
	1600	17,31	1488	7,9	15,06	1295	6,3	12,82	1103	4,8	14,08	2421	19,5	11,87	2041	14,6	9,65	1661	10,3
Ocean ECM 53	4600	40,22	3459	31,7	34,89	3001	25,0	29,54	2540	18,9	33,00	5676	79,5	27,73	4770	59,2	22,46	3863	41,3
	4000	36,60	3147	26,7	31,78	2733	21,1	26,92	2315	15,9	30,01	5161	66,7	25,22	4338	49,8	20,43	3514	34,8
	3400	32,74	2816	21,8	28,42	2444	17,2	24,11	2074	13,0	26,76	4602	54,3	22,51	3871	40,5	18,26	3141	28,3
	2800	28,48	2449	16,9	24,75	2129	13,4	21,02	1808	10,2	23,23	3995	41,9	19,55	3362	31,4	15,89	2733	22,0
	2200	23,80	2047	12,2	20,71	1781	9,7	17,62	1515	7,4	19,34	3327	30,1	16,31	2804	22,6	13,28	2283	15,9

WT: Water temperature
 Qv: Air flow
 Ph: Heating capacity
 Qw: Water flow rate
 Dp(h): Dp Heating

3 row coil units

Entering air temperature: 20 °C

Model	WT: 60 / 50 °C				WT: 55 / 45 °C				WT: 50 / 40 °C				WT: 50 / 45 °C				WT: 45 / 40 °C				WT: 40 / 35 °C																																																																													
	Qv m³/h	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa																																																																												
Ocean ECM 13	1400	10,02	861	8,2	8,46	727	6,1	6,89	593	4,3	8,00	1376	19,5	6,46	1111	13,5	4,92	847	8,4	1200	9,03	776	6,8	7,62	655	5,1	6,21	534	3,6	7,19	1237	16,1	5,81	1000	11,2	4,43	763	7,0	1000	7,94	683	5,4	6,72	578	4,0	5,49	472	2,9	6,32	1087	12,7	5,12	880	8,8	3,91	672	5,6	800	6,77	582	4,0	5,73	493	3,0	4,69	404	2,2	5,37	923	9,5	4,35	748	6,6	3,33	573	4,2	600	5,47	470	2,7	4,64	399	2,1	3,81	328	1,5	4,32	743	6,4	3,50	603	4,5	2,69	463	2,8			
	Ocean ECM 23	2200	15,10	1299	16,6	12,79	1100	12,5	10,46	900	8,9	12,02	2067	39,2	9,73	1673	27,3	7,44	1279	17,2	1900	13,69	1178	13,9	11,61	998	10,5	9,50	817	7,5	10,89	1872	32,8	8,82	1517	22,9	6,75	1161	14,4	1600	12,18	1048	11,2	10,33	888	8,5	8,47	729	6,1	9,66	1662	26,4	7,84	1348	18,5	6,01	1033	11,7	1300	10,54	906	8,6	8,94	769	6,5	7,35	632	4,7	8,34	1434	20,2	6,77	1165	14,2	5,20	894	9,0	1000	8,71	749	6,1	7,41	637	4,6	6,10	525	3,3	6,87	1182	14,2	5,59	961	10,0	4,30	740	6,4		
		Ocean ECM 33	2800	19,04	1637	17,9	16,11	1386	13,5	13,20	1136	9,6	15,13	2603	42,4	12,27	2110	29,6	9,39	1615	18,6	2400	17,18	1478	14,9	14,57	1253	11,3	11,94	1027	8,0	13,63	2345	35,1	11,07	1903	24,5	8,47	1458	15,5	2000	15,17	1305	11,9	12,89	1108	9,0	10,57	909	6,4	12,03	2069	27,9	9,76	1679	19,6	7,50	1289	12,4	1600	12,98	1116	9,0	11,04	950	6,8	9,08	781	4,9	10,26	1765	21,0	8,34	1435	14,7	6,42	1104	9,4	1200	10,54	906	6,1	8,97	772	4,7	7,40	636	3,4	8,29	1426	14,3	6,75	1162	10,0	5,21	895	6,4	
			Ocean ECM 43	3200	24,57	2113	15,0	20,84	1792	11,3	17,07	1468	8,1	19,50	3354	35,3	15,82	2721	24,7	12,12	2084	15,6	2800	22,42	1928	12,7	19,02	1636	9,6	15,60	1342	6,9	17,78	3058	29,8	14,43	2481	20,9	11,06	1903	13,2	2400	20,11	1730	10,4	17,09	1470	7,9	14,03	1207	5,7	15,90	2735	24,4	12,92	2222	17,1	9,92	1707	10,8	2000	17,63	1516	8,2	14,99	1289	6,2	12,34	1061	4,5	13,91	2393	19,1	11,30	1944	13,4	8,70	1497	8,5	1600	14,92	1283	6,1	12,71	1093	4,6	10,47	901	3,3	11,73	2018	14,0	9,56	1644	9,9	7,37	1268	6,3
				Ocean ECM 53	4600	34,63	2978	24,2	29,32	2522	18,3	24,05	2068	13,0	27,49	4728	57,1	22,28	3833	39,9	17,06	2934	25,2	4000	31,50	2709	20,4	26,74	2299	15,4	21,93	1886	11,0	25,01	4301	48,1	20,28	3488	33,6	15,54	2673	21,2	3400	28,18	2424	16,7	23,94	2059	12,6	19,65	1690	9,0	22,29	3834	39,0	18,10	3114	27,4	13,90	2391	17,4	2800	24,51	2108	13,0	20,84	1792	9,8	17,15	1474	7,1	19,35	3328	30,3	15,73	2706	21,2	12,11	2083	13,5	2200	20,50	1763	9,4	17,46	1502	7,1	14,40	1239	5,2	16,14	2775	21,7	13,14	2260	15,3	10,14	1743

WT: Water temperature
 Qv: Air flow
 Ph: Heating capacity
 Qw: Water flow rate
 Dp(h): Dp Heating

4 row coil units

Entering air temperature: 10 °C

Model	WT: 60 / 50 °C				WT: 55 / 45 °C			WT: 50 / 40 °C			WT: 50 / 45 °C			WT: 45 / 40 °C			WT: 40 / 35 °C		
	Qv m³/h	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
Ocean ECM 14	1400	16,89	1452	12,3	14,90	1281	10,0	12,92	1111	7,9	*	*	*	12,22	2102	25,0	10,26	1765	18,6
	1200	15,04	1294	10,0	13,29	1143	8,1	11,53	992	6,4	*	*	*	10,87	1869	20,2	9,14	1571	15,1
	1000	13,07	1124	7,7	11,56	994	6,3	10,04	864	5,0	*	*	*	9,42	1621	15,6	7,93	1364	11,7
	800	10,95	941	5,6	9,69	834	4,6	8,43	725	3,6	*	*	*	7,87	1354	11,3	6,64	1142	8,4
	600	8,64	743	3,6	7,66	659	3,0	6,68	575	2,4	*	*	*	6,20	1066	7,3	5,23	900	5,5
Ocean ECM 24	2200	25,64	2205	25,2	22,64	1947	20,6	19,67	1692	16,3	*	*	*	18,51	3183	51,2	15,56	2677	38,2
	1900	23,03	1980	20,8	20,36	1751	17,0	17,71	1523	13,4	*	*	*	16,62	2858	42,1	13,98	2405	31,5
	1600	20,25	1741	16,5	17,93	1542	13,5	15,59	1341	10,7	*	*	*	14,59	2510	33,2	12,30	2115	24,9
	1300	17,25	1483	12,3	15,28	1314	10,1	13,31	1145	8,0	*	*	*	12,40	2132	24,7	10,45	1798	18,6
	1000	13,96	1201	8,4	12,40	1066	6,9	10,82	930	5,5	*	*	*	10,02	1723	16,8	8,46	1456	12,6
Ocean ECM 34	2800	30,20	2597	26,6	26,69	2295	21,7	23,17	1993	17,1	*	*	*	21,84	3757	54,0	18,36	3159	40,4
	2400	27,05	2326	21,8	23,92	2057	17,8	20,81	1790	14,1	*	*	*	19,53	3360	44,2	16,44	2827	33,1
	2000	23,68	2037	17,2	20,95	1801	14,0	18,24	1568	11,1	*	*	*	17,08	2937	34,7	14,38	2474	25,9
	1600	20,00	1720	12,6	17,73	1525	10,3	15,44	1328	8,2	*	*	*	14,40	2477	25,4	12,15	2090	19,1
	1200	15,98	1374	8,4	14,18	1220	6,9	12,37	1064	5,5	*	*	*	11,47	1973	16,8	9,69	1666	12,7
Ocean ECM 44	3200	38,38	3300	25,5	34,00	2924	20,8	29,57	2543	16,5	*	*	*	27,70	4765	51,5	23,32	4011	38,6
	2800	34,77	2990	21,3	30,78	2647	17,4	26,81	2305	13,8	*	*	*	25,04	4307	43,0	21,12	3632	32,2
	2400	30,90	2658	17,2	27,41	2357	14,1	23,87	2053	11,2	*	*	*	22,23	3824	34,7	18,76	3227	26,0
	2000	26,81	2305	13,3	23,79	2046	10,9	20,74	1783	8,7	*	*	*	19,25	3311	26,7	16,26	2796	20,1
	1600	22,40	1926	9,6	19,89	1710	7,9	17,37	1494	6,3	*	*	*	16,05	2760	19,1	13,57	2334	14,4
Ocean ECM 54	4600	54,00	4644	31,8	47,75	4107	26,0	41,45	3564	20,5	*	*	*	39,00	6708	64,6	32,82	5645	48,2
	4000	48,75	4193	26,5	43,11	3708	21,6	37,51	3226	17,1	*	*	*	35,17	6050	53,6	29,60	5091	40,1
	3400	43,20	3715	21,3	38,23	3288	17,4	33,27	2861	13,8	*	*	*	31,09	5348	42,8	26,20	4506	32,1
	2800	37,17	3197	16,2	32,94	2833	13,3	28,69	2467	10,5	*	*	*	26,72	4596	32,5	22,55	3878	24,5
	2200	30,64	2635	11,4	27,21	2340	9,4	23,74	2042	7,5	*	*	*	21,99	3782	22,8	18,57	3193	17,2

WT: Water temperature
 Qv: Air flow
 Ph: Heating capacity
 Qw: Water flow rate
 Dp(h): Dp Heating
 * Operating points outside the range of application of the electric motor.

4 row coil units

Entering air temperature: 15 °C

Model	WT: 60 / 50 °C				WT: 55 / 45 °C			WT: 50 / 40 °C			WT: 50 / 45 °C			WT: 45 / 40 °C			WT: 40 / 35 °C		
	Qv m³/h	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
Ocean ECM 14	1400	14,76	1270	9,7	12,81	1101	7,6	10,85	933	5,8	12,09	2079	24,1	10,17	1749	18,0	8,23	1415	12,5
	1200	13,16	1132	7,9	11,43	983	6,2	9,69	833	4,7	10,75	1849	19,5	9,04	1555	14,5	7,33	1261	10,2
	1000	11,44	984	6,1	9,95	856	4,8	8,45	727	3,7	9,31	1602	15,0	7,85	1350	11,2	6,37	1096	7,9
	800	9,59	825	4,4	8,35	718	3,5	7,10	611	2,7	7,78	1338	10,8	6,56	1129	8,1	5,34	918	5,7
	600	7,57	651	2,9	6,61	568	2,3	5,64	485	1,8	6,12	1052	7,0	5,17	889	5,3	4,22	725	3,7
Ocean ECM 24	2200	22,44	1930	19,9	19,51	1678	15,7	16,55	1424	11,9	18,32	3150	49,3	15,42	2653	36,9	12,51	2152	25,8
	1900	20,18	1736	16,4	17,55	1509	13,0	14,91	1282	9,9	16,43	2826	40,5	13,84	2381	30,3	11,25	1935	21,3
	1600	17,74	1526	13,0	15,45	1328	10,3	13,14	1130	7,8	14,41	2479	32,0	12,16	2092	23,9	9,90	1702	16,8
	1300	15,12	1300	9,7	13,18	1133	7,7	11,23	965	5,9	12,24	2106	23,7	10,34	1778	17,8	8,43	1449	12,6
	1000	12,25	1054	6,6	10,70	920	5,3	9,14	786	4,1	9,89	1701	16,1	8,36	1438	12,1	6,83	1174	8,6
Ocean ECM 34	2800	26,44	2274	21,0	22,98	1976	16,6	19,50	1677	12,6	21,59	3714	52,1	18,19	3128	38,9	14,77	2540	27,3
	2400	23,69	2037	17,2	20,61	1772	13,6	17,51	1506	10,4	19,32	3323	42,6	16,27	2799	31,9	13,22	2274	22,4
	2000	20,73	1783	13,5	18,05	1553	10,7	15,37	1321	8,2	16,87	2902	33,3	14,23	2448	25,0	11,58	1991	17,6
	1600	17,55	1509	10,0	15,29	1315	7,9	13,03	1121	6,1	14,24	2449	24,4	12,02	2067	18,3	9,79	1684	13,0
	1200	14,02	1205	6,6	12,23	1052	5,3	10,45	898	4,1	11,33	1949	16,2	9,58	1648	12,2	7,82	1345	8,6
Ocean ECM 44	3200	33,65	2894	20,1	29,27	2517	16,0	24,90	2142	12,1	27,39	4711	49,6	23,08	3969	37,2	18,78	3229	26,1
	2800	30,48	2621	16,8	26,55	2283	13,3	22,61	1944	10,2	24,77	4260	41,3	20,89	3593	31,0	17,00	2924	21,8
	2400	27,11	2332	13,6	23,62	2031	10,8	20,14	1732	8,3	21,97	3779	33,3	18,56	3192	25,0	15,11	2600	17,6
	2000	23,51	2022	10,5	20,51	1764	8,4	17,52	1506	6,4	19,01	3270	25,6	16,06	2763	19,3	13,10	2254	13,6
	1600	19,65	1690	7,6	17,18	1477	6,1	14,69	1263	4,7	15,83	2724	18,4	13,40	2304	13,9	10,95	1883	9,8
Ocean ECM 54	4600	47,27	4065	25,1	41,10	3534	19,8	34,88	3000	15,1	38,59	6638	62,1	32,48	5587	46,5	26,38	4537	32,6
	4000	42,73	3674	20,9	37,15	3195	16,5	31,57	2715	12,6	34,77	5981	51,6	29,31	5040	38,6	23,82	4097	27,1
	3400	37,85	3255	16,8	32,96	2835	13,3	28,05	2412	10,1	30,75	5289	41,2	25,93	4460	30,9	21,10	3629	21,7
	2800	32,58	2802	12,8	28,42	2444	10,2	24,21	2082	7,8	26,40	4541	31,3	22,29	3835	23,5	18,16	3123	16,6
	2200	26,89	2312	9,0	23,47	2019	7,2	20,05	1724	5,5	21,71	3734	21,9	18,35	3157	16,5	14,98	2577	11,7

WT: Water temperature
 Qv: Air flow
 Ph: Heating capacity
 Qw: Water flow rate
 Dp(h): Dp Heating

4 row coil units

Entering air temperature: 20 °C

Model	WT: 60 / 50 °C				WT: 55 / 45 °C			WT: 50 / 40 °C			WT: 50 / 45 °C			WT: 45 / 40 °C			WT: 40 / 35 °C		
	Qv m³/h	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
Ocean ECM 14	1400	12,70	1092	7,4	10,77	926	5,6	8,82	759	4,0	10,06	1731	17,3	8,15	1403	12,1	6,25	1075	7,6
	1200	11,33	974	6,0	9,61	826	4,5	7,89	678	3,2	8,95	1539	14,0	7,27	1250	9,8	5,58	959	6,2
	1000	9,85	847	4,7	8,37	720	3,5	6,88	592	2,5	7,76	1335	10,8	6,31	1085	7,6	4,85	835	4,8
	800	8,26	711	3,4	7,04	605	2,6	5,80	499	1,9	6,49	1116	7,8	5,28	909	5,5	4,07	701	3,5
	600	6,54	562	2,2	5,58	480	1,7	4,62	397	1,2	5,10	878	5,1	4,17	717	3,6	3,23	555	2,3
Ocean ECM 24	2200	19,32	1661	15,2	16,42	1412	11,5	13,49	1160	8,3	15,27	2626	35,5	12,40	2133	24,9	9,53	1639	15,8
	1900	17,38	1495	12,5	14,78	1271	9,6	12,17	1046	6,9	13,70	2357	29,2	11,14	1917	20,5	8,58	1476	13,1
	1600	15,29	1315	10,0	13,03	1120	7,6	10,74	924	5,5	12,03	2068	23,0	9,79	1684	16,2	7,55	1299	10,4
	1300	13,04	1121	7,4	11,12	957	5,7	9,19	790	4,1	10,22	1758	17,2	8,33	1434	12,1	6,44	1108	7,8
	1000	10,58	910	5,1	9,04	778	3,9	7,50	645	2,8	8,26	1421	11,7	6,75	1161	8,3	5,23	900	5,3
Ocean ECM 34	2800	22,79	1960	16,0	19,36	1665	12,2	15,90	1368	8,7	18,00	3096	37,5	14,63	2517	26,3	11,25	1934	16,7
	2400	20,41	1756	13,2	17,37	1493	10,0	14,29	1229	7,2	16,11	2772	30,7	13,10	2254	21,6	10,08	1734	13,7
	2000	17,88	1537	10,4	15,23	1310	7,9	12,56	1080	5,7	14,08	2421	24,0	11,47	1973	16,9	8,84	1521	10,8
	1600	15,13	1301	7,6	12,90	1109	5,8	10,66	917	4,2	11,88	2043	17,7	9,69	1666	12,5	7,49	1288	8,0
	1200	12,10	1040	5,1	10,34	890	3,9	8,57	737	2,8	9,46	1628	11,7	7,73	1329	8,3	5,99	1030	5,3
Ocean ECM 44	3200	29,02	2496	15,4	24,70	2124	11,7	20,35	1750	8,4	22,84	3928	35,8	18,59	3197	25,2	14,32	2464	16,1
	2800	26,28	2260	12,9	22,38	1925	9,8	18,48	1589	7,1	20,66	3553	29,8	16,84	2896	21,0	12,99	2235	13,5
	2400	23,38	2010	10,4	19,96	1716	8,0	16,49	1418	5,8	18,33	3154	24,0	14,96	2574	17,0	11,56	1989	10,9
	2000	20,29	1745	8,1	17,34	1491	6,2	14,35	1234	4,5	15,88	2731	18,5	12,96	2229	13,1	10,04	1727	8,4
	1600	16,97	1459	5,8	14,53	1249	4,5	12,07	1038	3,3	13,23	2276	13,3	10,83	1863	9,4	8,41	1446	6,1
Ocean ECM 54	4600	40,73	3502	19,2	34,61	2976	14,6	28,44	2446	10,4	32,15	5530	44,9	26,13	4495	31,5	20,09	3456	20,0
	4000	36,81	3165	16,0	31,31	2693	12,2	25,79	2218	8,7	29,02	4992	37,2	23,59	4058	26,1	18,17	3125	16,6
	3400	32,62	2806	12,8	27,80	2391	9,8	22,93	1972	7,1	25,66	4413	29,7	20,89	3593	20,9	16,11	2771	13,4
	2800	28,12	2418	9,8	23,99	2063	7,5	19,82	1704	5,4	22,04	3791	22,6	17,97	3092	15,9	13,89	2390	10,2
	2200	23,22	1997	6,9	19,84	1706	5,3	16,44	1414	3,9	18,13	3118	15,8	14,82	2549	11,2	11,48	1974	7,3

WT: Water temperature
 Qv: Air flow
 Ph: Heating capacity
 Qw: Water flow rate
 Dp(h): Dp Heating

1 row additional coil units

For 3, 4 and 6 row versions

Entering air temperature: 10 °C

Model	Qv m ³ /h	WT: 80 / 65 °C			WT: 75 / 60 °C			WT: 70 / 60 °C			WT: 65 / 55 °C			WT: 60 / 50 °C			WT: 55 / 45 °C		
		Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
Ocean ECM 1+1	1400	7,91	453	19,5	7,20	413	16,7	7,05	606	33,7	6,36	547	28,3	5,66	487	23,4	4,96	427	18,8
	1200	7,28	417	16,8	6,64	381	14,4	6,48	557	28,9	5,84	502	24,4	5,21	448	20,1	4,57	393	16,2
	1000	6,59	378	14,0	6,01	344	12,1	5,86	504	24,1	5,29	455	20,4	4,71	405	16,9	4,14	356	13,6
	800	5,76	331	11,0	5,26	302	9,5	5,13	441	19,0	4,63	398	16,0	4,12	355	13,3	3,62	311	10,7
	600	4,81	276	7,9	4,39	251	6,8	4,27	367	13,6	3,86	332	11,5	3,44	296	9,6	3,02	260	7,7
Ocean ECM 2+1	2200	11,30	648	35,5	10,30	591	30,5	10,07	866	61,1	9,07	780	51,7	8,09	696	42,7	7,10	610	34,4
	1900	10,49	602	31,0	9,57	548	26,7	9,33	803	53,5	8,43	725	45,2	7,51	646	37,3	6,59	567	30,1
	1600	9,59	550	26,4	8,74	501	22,8	8,53	733	45,4	7,70	662	38,4	6,86	590	31,8	6,03	519	25,6
	1300	8,58	492	21,6	7,82	449	18,6	7,62	655	37,1	6,87	591	31,4	6,14	528	26,0	5,40	464	21,0
	1000	7,34	421	16,3	6,70	384	14,1	6,52	561	28,0	5,89	506	23,7	5,26	452	19,6	4,62	398	15,9
Ocean ECM 3+1	2800	14,10	808	22,1	12,85	737	19,0	12,59	1082	38,3	11,33	974	32,2	10,08	867	26,6	8,84	760	21,3
	2400	13,04	748	19,2	11,89	681	16,5	11,62	999	33,2	10,47	901	28,1	9,34	803	23,2	8,18	704	18,6
	2000	11,84	679	16,2	10,80	619	14,0	10,56	908	28,0	9,51	818	23,6	8,48	729	19,5	7,43	639	15,7
	1600	10,50	602	13,0	9,58	549	11,2	9,36	805	22,5	8,43	725	19,0	7,52	646	15,7	6,59	567	12,6
	1200	8,85	507	9,6	8,07	463	8,2	7,86	676	16,5	7,10	610	13,9	6,33	544	11,5	5,56	478	9,3
Ocean ECM 4+1	3200	17,73	1017	37,6	16,18	928	32,4	15,77	1356	64,6	14,23	1224	54,7	12,69	1092	45,3	11,18	961	36,6
	2800	16,55	949	33,2	15,09	865	28,6	14,70	1264	57,1	13,26	1141	48,3	11,84	1019	40,0	10,42	896	32,3
	2400	15,21	872	28,6	13,91	798	24,7	13,53	1163	49,1	12,22	1051	41,5	10,91	938	34,4	9,60	825	27,9
	2000	13,77	789	23,9	12,59	722	20,6	12,23	1052	41,0	11,04	950	34,7	9,87	849	28,8	8,68	747	23,3
	1600	12,02	689	18,6	10,99	630	16,1	10,67	917	32,0	9,63	828	27,1	8,60	740	22,5	7,58	652	18,2
Ocean ECM 5+1	4600	24,29	1392	38,4	22,15	1270	33,1	21,57	1855	66,1	19,47	1674	55,9	17,39	1495	46,3	15,30	1315	37,3
	4000	22,55	1293	33,6	20,58	1180	29,0	20,06	1725	57,9	18,09	1556	49,0	16,14	1388	40,6	14,20	1221	32,7
	3400	20,66	1184	28,8	18,88	1083	24,8	18,37	1580	49,4	16,58	1426	41,8	14,81	1274	34,6	13,02	1120	28,0
	2800	18,58	1065	23,7	16,97	973	20,5	16,50	1419	40,7	14,91	1282	34,5	13,32	1145	28,6	11,71	1007	23,1
	2200	16,14	925	18,4	14,75	845	15,9	14,33	1232	31,6	12,95	1114	26,7	11,57	995	22,2	10,17	875	18,0

WT: Water temperature
 Qv: Air flow
 Ph: Heating capacity
 Qw: Water flow rate
 Dp(h): Dp Heating

1 row additional coil units

For 3, 4 and 6 row versions

Entering air temperature: 15 °C

Model	Qv m ³ /h	WT: 80 / 65 °C			WT: 75 / 60 °C			WT: 70 / 60 °C			WT: 65 / 55 °C			WT: 60 / 50 °C			WT: 55 / 45 °C		
		Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
Ocean ECM 1+1	1400	7,17	411	16,3	6,47	371	13,8	6,31	543	27,6	5,62	483	22,8	4,93	424	18,3	4,25	365	14,2
	1200	6,60	378	14,0	5,96	342	11,9	5,81	499	23,7	5,18	445	19,6	4,54	391	15,8	3,91	336	12,3
	1000	5,97	342	11,7	5,40	310	9,9	5,25	452	19,8	4,68	403	16,4	4,12	354	13,2	3,55	305	10,3
	800	5,22	299	9,2	4,72	271	7,8	4,59	395	15,5	4,09	352	12,8	3,60	310	10,4	3,10	267	8,1
	600	4,35	249	6,6	3,94	226	5,6	3,82	329	11,2	3,41	293	9,3	3,00	258	7,5	2,59	223	5,8
Ocean ECM 2+1	2200	10,24	587	29,7	9,27	531	25,2	9,02	776	50,2	8,04	692	41,5	7,07	608	33,4	6,10	524	26,1
	1900	9,52	546	26,0	8,60	493	22,1	8,37	720	43,8	7,47	642	36,3	6,57	565	29,3	5,66	487	22,8
	1600	8,70	499	22,2	7,87	451	18,8	7,65	658	37,4	6,82	587	30,9	6,00	516	25,0	5,17	445	19,4
	1300	7,77	446	18,1	7,03	403	15,3	6,83	587	30,4	6,10	524	25,3	5,36	461	20,4	4,63	398	15,9
	1000	6,65	381	13,6	6,02	345	11,6	5,84	502	23,0	5,22	449	19,0	4,59	395	15,4	3,97	341	12,0
Ocean ECM 3+1	2800	12,77	732	18,5	11,53	661	15,7	11,26	968	31,5	10,03	862	25,9	8,80	757	20,8	7,57	651	16,2
	2400	11,82	678	16,1	10,67	612	13,6	10,42	896	27,3	9,27	798	22,6	8,15	701	18,1	7,00	602	14,1
	2000	10,74	616	13,6	9,70	556	11,5	9,46	813	23,0	8,43	725	19,0	7,40	636	15,3	6,37	548	11,9
	1600	9,51	545	10,9	8,61	493	9,2	8,37	720	18,5	7,46	642	15,2	6,56	564	12,3	5,65	486	9,6
	1200	8,01	459	8,0	7,25	416	6,8	7,04	605	13,5	6,28	540	11,2	5,52	474	9,0	4,76	409	7,0
Ocean ECM 4+1	3200	16,09	923	31,6	14,57	835	26,8	14,13	1215	53,1	12,63	1086	44,1	11,11	955	35,6	9,59	825	27,8
	2800	15,01	860	27,9	13,57	778	23,7	13,19	1134	46,8	11,77	1012	38,9	10,35	890	31,4	8,94	769	24,6
	2400	13,80	791	24,0	12,50	717	20,4	12,12	1042	40,3	10,84	932	33,4	9,54	820	27,1	8,24	708	21,2
	2000	12,50	717	20,1	11,32	649	17,0	10,96	943	33,7	9,80	843	27,9	8,62	742	22,6	7,46	642	17,7
	1600	10,88	624	15,6	9,87	566	13,3	9,55	821	26,2	8,53	734	21,8	7,52	647	17,6	6,51	560	13,8
Ocean ECM 5+1	4600	22,01	1262	32,2	19,93	1142	27,3	19,34	1663	54,3	17,28	1486	44,9	15,20	1307	36,4	13,11	1128	28,4
	4000	20,44	1172	28,2	18,51	1061	24,0	17,98	1546	47,5	16,06	1381	39,4	14,12	1214	31,8	12,21	1050	24,9
	3400	18,74	1074	24,2	16,99	974	20,5	16,48	1417	40,6	14,70	1264	33,7	12,95	1114	27,2	11,19	963	21,3
	2800	16,86	967	19,9	15,28	876	16,9	14,81	1273	33,4	13,23	1138	27,8	11,65	1002	22,5	10,06	865	17,6
	2200	14,63	839	15,4	13,26	760	13,1	12,83	1103	25,9	11,48	987	21,5	10,10	868	17,4	8,74	752	13,6

WT: Water temperature
 Qv: Air flow
 Ph: Heating capacity
 Qw: Water flow rate
 Dp(h): Dp Heating

1 row additional coil units

For 3, 4 and 6 row versions

Entering air temperature: 20 °C

Model	Qv m ³ /h	WT: 80 / 65 °C				WT: 75 / 60 °C				WT: 70 / 60 °C				WT: 65 / 55 °C				WT: 60 / 50 °C				WT: 55 / 45 °C			
		Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa			
Ocean ECM 1+1	1400	6,44	369	13,4	5,75	330	11,2	5,59	481	22,2	4,91	422	17,8	4,23	363	13,9	3,55	305	10,3						
	1200	5,93	340	11,6	5,30	304	9,6	5,15	443	19,1	4,52	389	15,4	3,90	335	12,0	3,27	281	8,9						
	1000	5,37	308	9,7	4,79	275	8,0	4,65	400	15,9	4,09	352	12,8	3,52	303	10,0	2,96	255	7,4						
	800	4,69	269	7,6	4,19	240	6,3	4,06	349	12,5	3,57	307	10,1	3,08	265	7,8	2,59	223	5,8						
	600	3,91	224	5,5	3,50	201	4,6	3,39	291	9,0	2,98	256	7,2	2,57	221	5,7	2,16	186	4,2						
Ocean ECM 2+1	2200	9,22	528	24,5	8,24	472	20,4	8,00	688	40,4	7,03	605	32,6	6,06	522	25,4	5,10	438	18,9						
	1900	8,56	491	21,5	7,66	439	17,9	7,42	638	35,4	6,53	562	28,5	5,64	485	22,2	4,74	407	16,6						
	1600	7,81	448	18,3	7,00	401	15,2	6,78	583	30,1	5,97	513	24,3	5,15	443	19,0	4,34	373	14,1						
	1300	6,99	401	15,0	6,26	359	12,4	6,06	521	24,6	5,34	459	19,8	4,61	396	15,5	3,88	334	11,6						
	1000	5,98	343	11,3	5,35	307	9,4	5,17	444	18,4	4,56	392	14,9	3,94	339	11,7	3,32	285	8,7						
Ocean ECM 3+1	2800	11,48	658	15,3	10,26	588	12,7	9,98	858	25,3	8,77	754	20,3	7,53	648	15,8	6,32	543	11,7						
	2400	10,61	608	13,3	9,49	544	11,0	9,23	794	21,9	8,10	696	17,7	6,98	600	13,7	5,85	503	10,2						
	2000	9,65	553	11,2	8,63	495	9,3	8,38	721	18,5	7,35	632	14,8	6,34	545	11,5	5,32	457	8,6						
	1600	8,55	490	9,0	7,65	439	7,5	7,43	639	14,9	6,52	561	12,0	5,63	484	9,3	4,72	406	6,9						
	1200	7,19	412	6,6	6,43	369	5,5	6,23	536	10,8	5,48	472	8,7	4,73	407	6,8	3,98	342	5,1						
Ocean ECM 4+1	3200	14,49	831	26,1	12,97	743	21,7	12,55	1079	42,9	11,05	950	34,6	9,53	820	27,1	8,04	691	20,2						
	2800	13,51	774	23,0	12,09	693	19,2	11,69	1006	37,7	10,30	885	30,5	8,89	765	23,9	7,49	644	17,9						
	2400	12,43	713	19,8	11,13	638	16,6	10,75	925	32,5	9,48	815	26,3	8,19	704	20,6	6,91	594	15,4						
	2000	11,24	645	16,5	10,07	577	13,8	9,71	835	27,1	8,56	737	21,9	7,40	637	17,2	6,25	537	12,9						
	1600	9,80	562	12,9	8,78	503	10,8	8,47	728	21,1	7,47	642	17,1	6,46	555	13,4	5,46	469	10,1						
Ocean ECM 5+1	4600	19,79	1135	26,6	17,73	1016	22,2	17,17	1477	43,8	15,11	1300	35,4	13,04	1122	27,6	10,99	945	20,6						
	4000	18,39	1054	23,3	16,50	946	19,4	15,95	1372	38,4	14,03	1206	31,0	12,13	1043	24,2	10,22	879	18,1						
	3400	16,87	967	19,9	15,13	867	16,7	14,62	1257	32,8	12,87	1106	26,5	11,11	956	20,8	9,37	806	15,5						
	2800	15,16	869	16,5	13,59	779	13,8	13,14	1130	27,0	11,58	996	21,9	10,00	860	17,1	8,44	726	12,8						
	2200	13,15	754	12,7	11,79	676	10,6	11,37	978	20,9	10,02	862	16,9	8,68	746	13,2	7,33	630	9,9						

WT: Water temperature
 Qv: Air flow
 Ph: Heating capacity
 Qw: Water flow rate
 Dp(h): Dp Heating

2 row additional coil units

For 3, 4 and 6 row versions

Entering air temperature: 10 °C

Model	Qv m ³ /h	WT: 65 / 55 °C			WT: 60 / 50 °C			WT: 55 / 45 °C			WT: 50 / 40 °C			WT: 45 / 40 °C			WT: 45 / 35 °C		
		Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
Ocean ECM 1+2	1400	14,28	1228	25,8	12,75	1096	21,4	11,19	963	17,2	9,67	831	13,4	*	*	*	8,11	697	10,0
	1200	12,90	1110	21,4	11,52	990	17,8	10,14	872	14,4	8,75	752	11,3	*	*	*	7,36	633	8,4
	1000	11,42	982	17,2	10,20	877	14,3	8,98	772	11,6	7,76	667	9,0	*	*	*	6,53	562	6,8
	800	9,77	840	13,0	8,74	751	10,8	7,70	662	8,7	6,66	573	6,9	*	*	*	5,62	483	5,2
	600	7,91	680	8,8	7,08	609	7,4	6,25	537	6,0	5,41	466	4,7	*	*	*	4,58	394	3,6
Ocean ECM 2+2	2200	21,32	1833	62,6	19,06	1639	52,1	16,78	1443	42,2	14,50	1247	33,1	*	*	*	12,23	1052	24,8
	1900	19,42	1670	52,8	17,36	1493	44,0	15,31	1317	35,7	13,25	1139	28,0	*	*	*	11,17	961	21,0
	1600	17,34	1491	43,1	15,52	1335	35,9	13,69	1177	29,2	11,85	1019	22,9	*	*	*	10,01	861	17,2
	1300	15,09	1297	33,5	13,49	1160	27,9	11,92	1025	22,7	10,34	889	17,9	*	*	*	8,73	751	13,5
	1000	12,53	1078	23,9	11,23	966	20,0	9,92	853	16,3	8,62	741	12,9	*	*	*	7,30	628	9,7
Ocean ECM 3+2	2800	26,61	2288	35,7	23,73	2041	29,6	20,89	1797	23,9	18,00	1548	18,6	*	*	*	15,12	1300	13,9
	2400	24,13	2075	29,9	21,55	1853	24,9	18,95	1630	20,1	16,36	1407	15,7	*	*	*	13,76	1183	11,7
	2000	21,43	1843	24,1	19,14	1646	20,1	16,85	1449	16,2	14,57	1253	12,7	*	*	*	12,27	1055	9,5
	1600	18,45	1586	18,4	16,50	1419	15,3	14,53	1250	12,4	12,57	1081	9,7	*	*	*	10,60	911	7,3
	1200	15,05	1294	12,7	13,47	1159	10,6	11,89	1022	8,6	10,29	885	6,8	*	*	*	8,70	749	5,1
Ocean ECM 4+2	3200	32,62	2805	65,7	29,19	2510	54,7	25,73	2213	44,5	22,31	1919	35,0	*	*	*	18,85	1621	26,3
	2800	29,93	2574	56,1	26,78	2303	46,8	23,63	2032	38,1	20,47	1761	29,9	*	*	*	17,31	1489	22,6
	2400	27,00	2322	46,6	24,18	2079	38,9	21,36	1837	31,6	18,51	1592	24,9	*	*	*	15,67	1347	18,8
	2000	23,81	2047	37,1	21,34	1835	31,0	18,87	1622	25,3	16,38	1408	20,0	*	*	*	13,89	1194	15,1
	1600	20,30	1746	27,8	18,21	1566	23,3	16,11	1385	19,0	14,00	1204	15,0	*	*	*	11,89	1023	11,4
Ocean ECM 5+2	4600	44,14	3796	64,2	39,46	3394	53,5	34,74	2988	43,3	30,07	2586	33,9	*	*	*	25,35	2180	25,5
	4000	40,40	3474	54,7	36,11	3106	45,6	31,86	2740	37,0	27,56	2370	29,0	*	*	*	23,26	2000	21,8
	3400	36,34	3125	45,2	32,52	2796	37,6	28,69	2468	30,5	24,84	2136	24,1	*	*	*	20,98	1805	18,1
	2800	31,92	2745	35,7	28,59	2458	29,8	25,21	2168	24,2	21,86	1880	19,1	*	*	*	18,50	1591	14,4
	2200	26,99	2321	26,4	24,18	2079	22,0	21,36	1837	17,9	18,54	1594	14,1	*	*	*	15,71	1351	10,7

WT: Water temperature

Qv: Air flow

Ph: Heating capacity

Qw: Water flow rate

Dp(h): Dp Heating

* Operating points outside the range of application of the electric motor.

2 row additional coil units

For 3, 4 and 6 row versions

Entering air temperature: 15 °C

Model	WT: 65 / 55 °C				WT: 60 / 50 °C				WT: 55 / 45 °C				WT: 50 / 40 °C				WT: 45 / 40 °C				WT: 45 / 35 °C			
	Qv m ³ /h	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa		
Ocean ECM 1+2	1400	12,64	1087	20,7	11,13	957	16,7	9,60	826	13,1	8,08	695	9,8	*	*	*	6,55	563	6,8					
	1200	11,44	984	17,2	10,06	865	14,0	8,69	748	10,9	7,32	629	8,2	*	*	*	5,95	512	5,7					
	1000	10,12	870	13,8	8,91	766	11,2	7,71	663	8,8	6,50	559	6,6	*	*	*	5,29	455	4,6					
	800	8,65	744	10,4	7,63	656	8,5	6,61	569	6,7	5,58	480	5,0	*	*	*	4,55	391	3,5					
	600	7,01	603	7,1	6,19	533	5,8	5,37	462	4,6	4,55	391	3,4	*	*	*	3,72	320	2,4					
Ocean ECM 2+2	2200	18,89	1625	50,4	16,66	1433	40,9	14,42	1241	32,1	12,17	1047	24,1	*	*	*	9,92	853	17,0					
	1900	17,22	1481	42,6	15,19	1306	34,6	13,14	1130	27,2	11,10	955	20,4	*	*	*	9,06	779	14,4					
	1600	15,38	1323	34,8	13,58	1168	28,2	11,77	1012	22,2	9,95	855	16,7	*	*	*	8,13	699	11,9					
	1300	13,37	1150	26,9	11,82	1016	21,9	10,25	882	17,3	8,68	747	13,1	*	*	*	7,11	611	9,3					
	1000	11,12	956	19,3	9,83	845	15,7	8,53	734	12,4	7,24	623	9,4	*	*	*	5,94	511	6,7					
Ocean ECM 3+2	2800	23,56	2026	28,7	20,74	1783	23,2	17,91	1540	18,1	15,07	1296	13,5	*	*	*	12,21	1050	9,5					
	2400	21,37	1838	24,1	18,82	1619	19,5	16,27	1399	15,2	13,69	1177	11,4	*	*	*	11,13	957	8,0					
	2000	19,00	1634	19,4	16,74	1439	15,7	14,48	1245	12,3	12,20	1049	9,3	*	*	*	9,93	854	6,5					
	1600	16,35	1406	14,8	14,42	1240	12,0	12,48	1073	9,4	10,54	907	7,1	*	*	*	8,59	739	5,0					
	1200	13,34	1147	10,2	11,77	1012	8,3	10,21	878	6,6	8,64	743	5,0	*	*	*	7,07	608	3,5					
Ocean ECM 4+2	3200	28,95	2490	52,9	25,53	2195	43,1	22,14	1904	33,9	18,73	1611	25,6	*	*	*	15,32	1317	18,1					
	2800	26,55	2283	45,3	23,43	2015	36,8	20,32	1748	29,0	17,21	1480	21,9	*	*	*	14,08	1211	15,6					
	2400	23,96	2060	37,6	21,16	1820	30,6	18,36	1579	24,2	15,56	1339	18,2	*	*	*	12,75	1097	13,0					
	2000	21,13	1817	29,9	18,69	1607	24,4	16,24	1397	19,3	13,78	1185	14,6	*	*	*	11,31	972	10,5					
	1600	18,03	1550	22,4	15,95	1372	18,3	13,87	1193	14,5	11,79	1014	11,1	*	*	*	9,69	834	7,9					
Ocean ECM 5+2	4600	39,16	3368	51,8	34,48	2966	42,0	29,85	2567	33,0	25,21	2168	24,7	*	*	*	20,55	1767	17,5					
	4000	35,82	3081	44,1	31,61	2718	35,8	27,35	2352	28,1	23,14	1990	21,1	*	*	*	18,87	1623	15,0					
	3400	32,24	2772	36,4	28,45	2447	29,6	24,65	2120	23,3	20,86	1794	17,6	*	*	*	17,03	1464	12,4					
	2800	28,32	2436	28,8	24,99	2149	23,4	21,69	1865	18,5	18,37	1580	14,0	*	*	*	15,03	1293	9,9					
	2200	23,94	2059	21,2	21,15	1819	17,3	18,39	1582	13,7	15,59	1341	10,4	*	*	*	12,79	1100	7,4					

WT: Water temperature

Qv: Air flow

Ph: Heating capacity

Qw: Water flow rate

Dp(h): Dp Heating

* Operating points outside the range of application of the electric motor.

2 row additional coil units

For 3, 4 and 6 row versions

Entering air temperature: 20 °C

Model	Qv m ³ /h	WT: 65 / 55 °C			WT: 60 / 50 °C			WT: 55 / 45 °C			WT: 50 / 40 °C			WT: 45 / 40 °C			WT: 45 / 35 °C		
		Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
Ocean ECM 1+2	1400	11,04	949	16,2	9,54	820	12,7	8,04	691	9,5	6,53	562	6,7	6,17	1061	21,1	5,01	431	4,2
	1200	9,99	859	13,5	8,64	743	10,6	7,28	626	7,9	5,92	509	5,6	5,57	958	17,6	4,56	392	3,5
	1000	8,85	761	10,8	7,65	658	8,5	6,46	556	6,4	5,27	453	4,5	4,93	848	14,1	4,06	349	2,9
	800	7,57	651	8,2	6,56	564	6,4	5,55	477	4,8	4,53	389	3,4	4,22	726	10,6	3,50	301	2,2
	600	6,13	527	5,6	5,32	458	4,4	4,51	388	3,3	3,70	318	2,4	3,42	588	7,2	2,87	247	1,5
Ocean ECM 2+2	2200	16,54	1422	39,7	14,32	1232	31,1	12,10	1041	23,4	9,88	849	16,6	9,24	1589	51,6	7,63	657	10,6
	1900	15,07	1296	33,5	13,06	1123	26,3	11,04	950	19,9	9,02	775	14,1	8,42	1448	43,5	6,99	601	9,1
	1600	13,47	1158	27,3	11,68	1004	21,5	9,89	850	16,2	8,10	696	11,5	7,52	1294	35,6	6,29	541	7,5
	1300	11,71	1007	21,2	10,17	875	16,7	8,62	741	12,7	7,06	608	9,0	6,54	1124	27,5	5,50	473	5,9
	1000	9,73	837	15,2	8,47	728	12,0	7,19	618	9,1	5,91	508	6,5	5,44	935	19,7	4,61	397	4,3
Ocean ECM 3+2	2800	20,59	1771	22,6	17,79	1530	17,6	14,99	1289	13,2	12,18	1048	9,2	11,51	1979	29,3	9,36	805	5,9
	2400	18,68	1606	18,9	16,16	1390	14,8	13,62	1171	11,1	11,08	953	7,8	10,44	1795	24,5	8,54	734	5,0
	2000	16,60	1427	15,2	14,36	1235	12,0	12,13	1043	9,0	9,88	850	6,3	9,27	1595	19,8	7,63	656	4,0
	1600	14,29	1229	11,6	12,39	1066	9,1	10,47	901	6,9	8,55	736	4,9	7,98	1373	15,1	6,62	569	3,1
	1200	11,67	1004	8,1	10,13	871	6,3	8,59	738	4,8	7,03	604	3,4	6,51	1119	10,5	5,46	470	2,2
Ocean ECM 4+2	3200	25,33	2178	41,7	21,97	1889	32,9	18,62	1601	24,8	15,25	1311	17,6	14,16	2436	54,3	11,84	1018	11,4
	2800	23,24	1998	35,6	20,18	1735	28,1	17,09	1470	21,3	14,00	1204	15,1	12,98	2232	46,4	10,90	937	9,8
	2400	20,98	1804	29,6	18,21	1566	23,4	15,46	1330	17,7	12,69	1091	12,6	11,72	2015	38,5	9,88	850	8,2
	2000	18,52	1593	23,6	16,09	1384	18,7	13,67	1175	14,2	11,24	967	10,1	10,35	1779	30,7	8,78	755	6,6
	1600	15,78	1357	17,7	13,74	1181	14,0	11,69	1005	10,7	9,62	828	7,7	8,82	1517	23,0	7,54	649	5,0
Ocean ECM 5+2	4600	34,24	2944	40,7	29,65	2550	32,0	25,07	2156	24,1	20,47	1760	17,0	19,13	3291	52,9	15,85	1363	10,9
	4000	31,36	2697	34,7	27,17	2337	27,3	22,97	1975	20,6	18,78	1615	14,6	17,52	3014	45,1	14,55	1252	9,4
	3400	28,22	2427	28,6	24,46	2103	22,6	20,74	1783	17,1	16,95	1458	12,1	15,76	2711	37,3	13,17	1132	7,8
	2800	24,79	2132	22,6	21,52	1851	17,9	18,23	1568	13,5	14,95	1286	9,6	13,85	2382	29,5	11,65	1002	6,3
	2200	20,95	1802	16,7	18,22	1567	13,2	15,46	1330	10,0	12,71	1093	7,2	11,70	2013	21,7	9,93	854	4,7

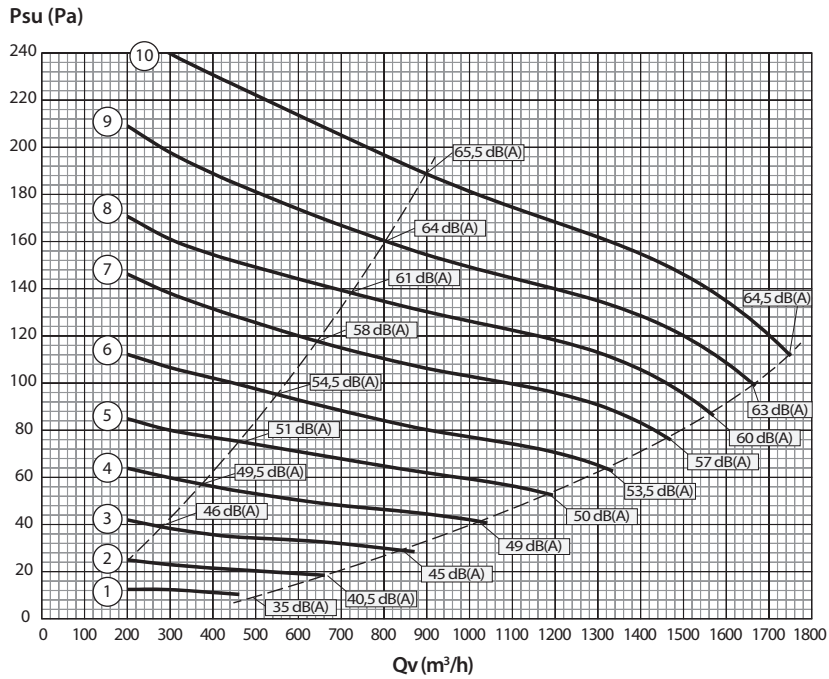
WT: Water temperature
 Qv: Air flow
 Ph: Heating capacity
 Qw: Water flow rate
 Dp(h): Dp Heating

AERAUIC PERFORMANCE

Ocean ECM - Model 1

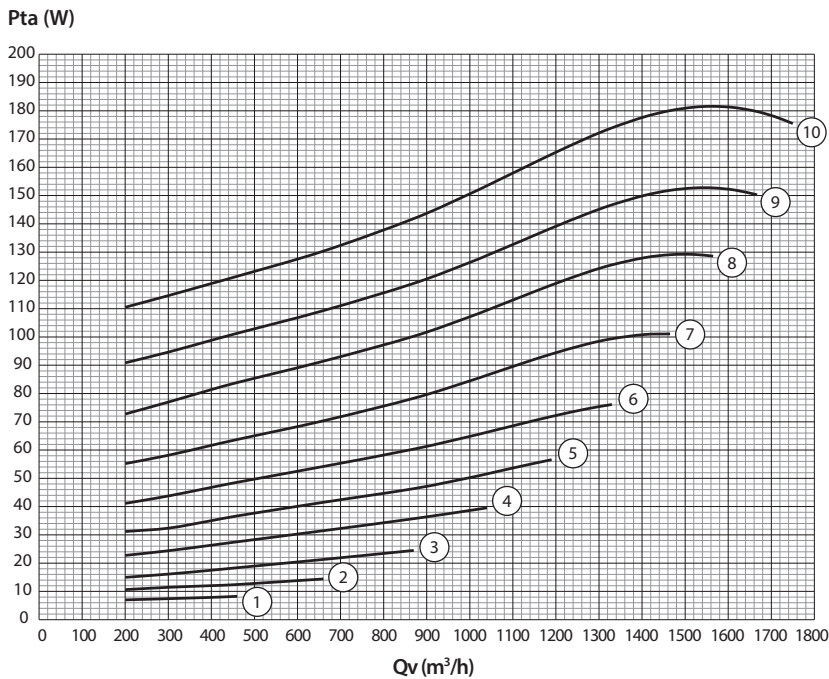
Typical fan curves related to the various voltage supplies of the inverter board.

Flow rate / Available static pressure



ⓧ = control voltage
 Psu = available static pressure
 Qv = air flow
 dB(A) = global sound power

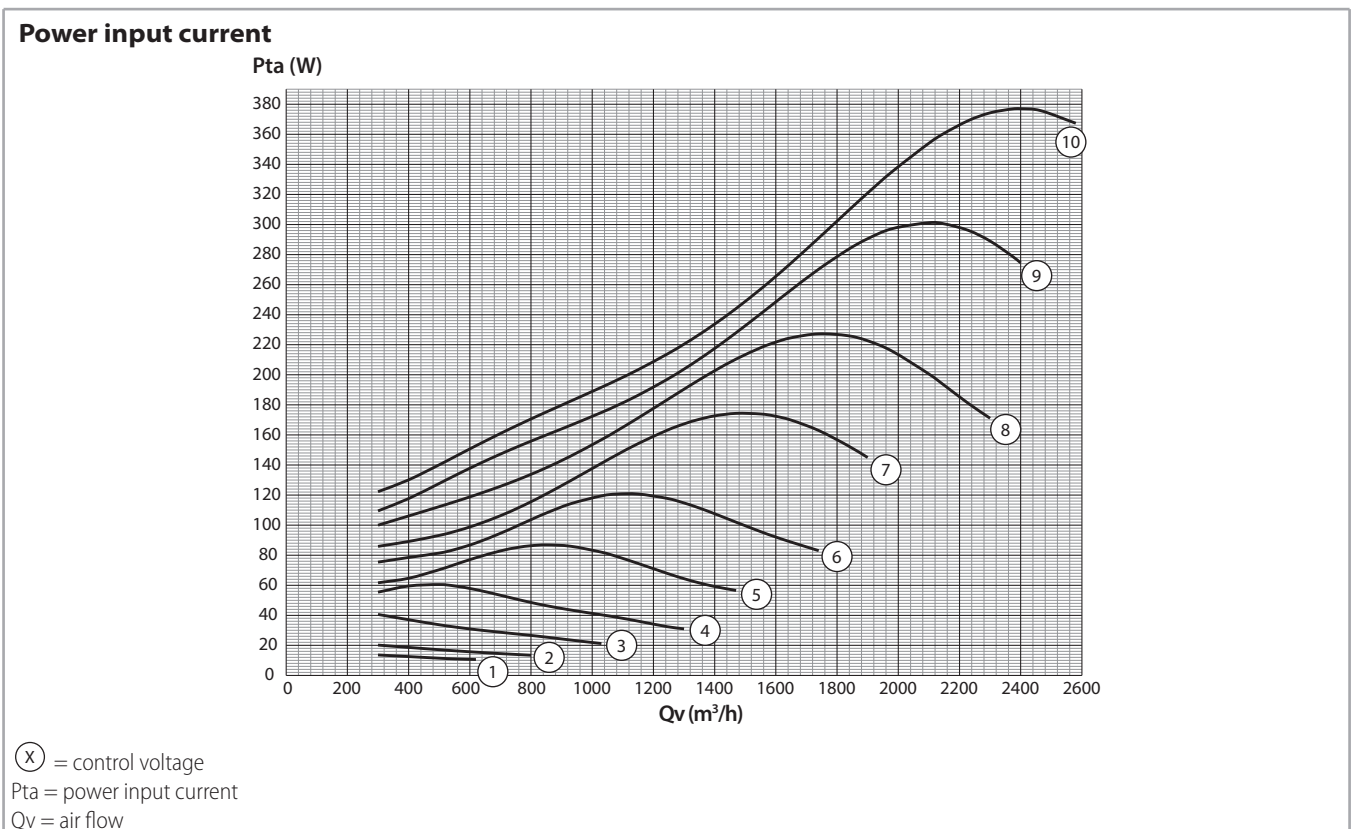
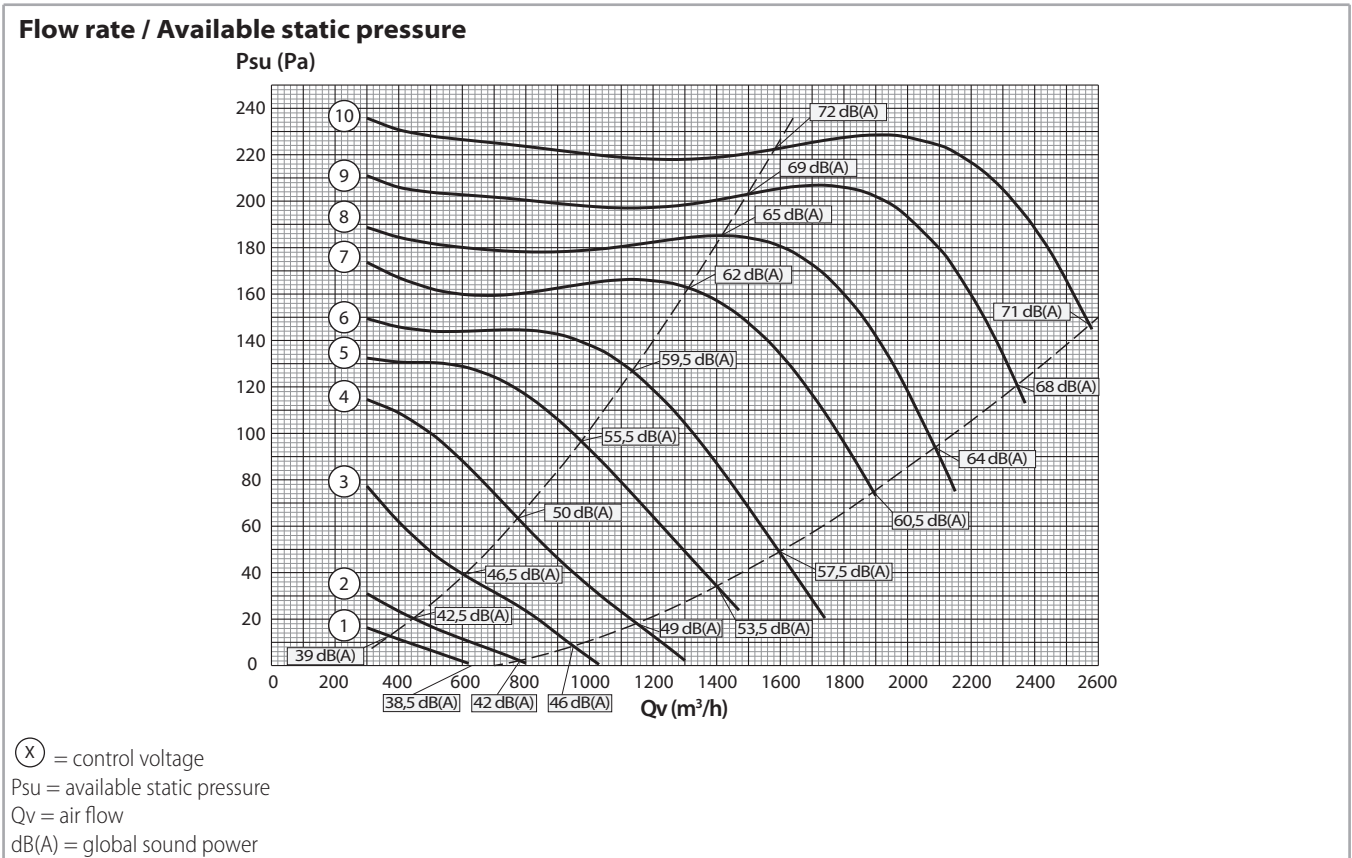
Power input current



ⓧ = control voltage
 Pta = power input current
 Qv = air flow

Ocean ECM - Model 2

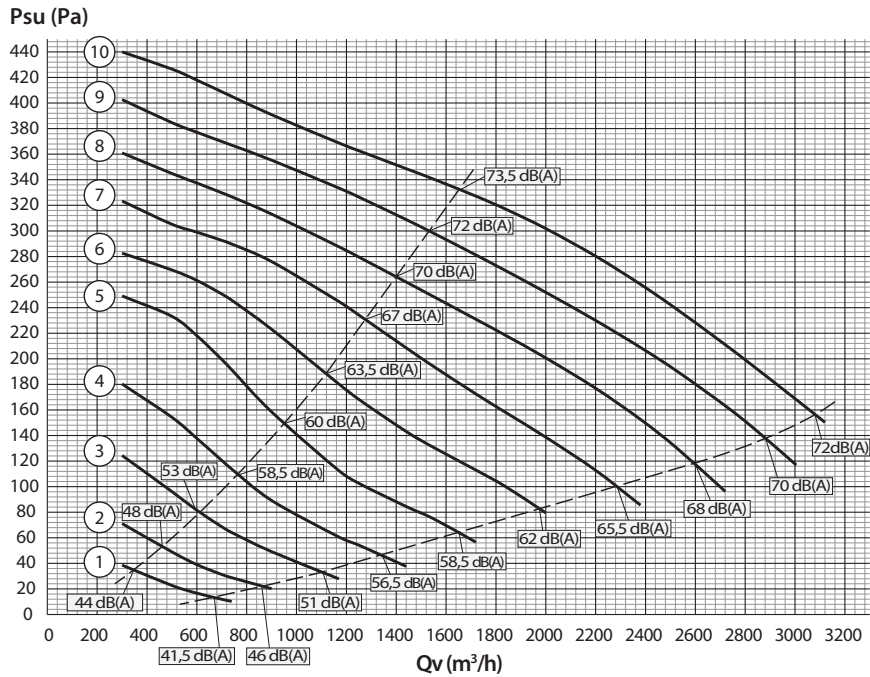
Typical fan curves related to the various voltage supplies of the inverter board.



Ocean ECM - Model 3

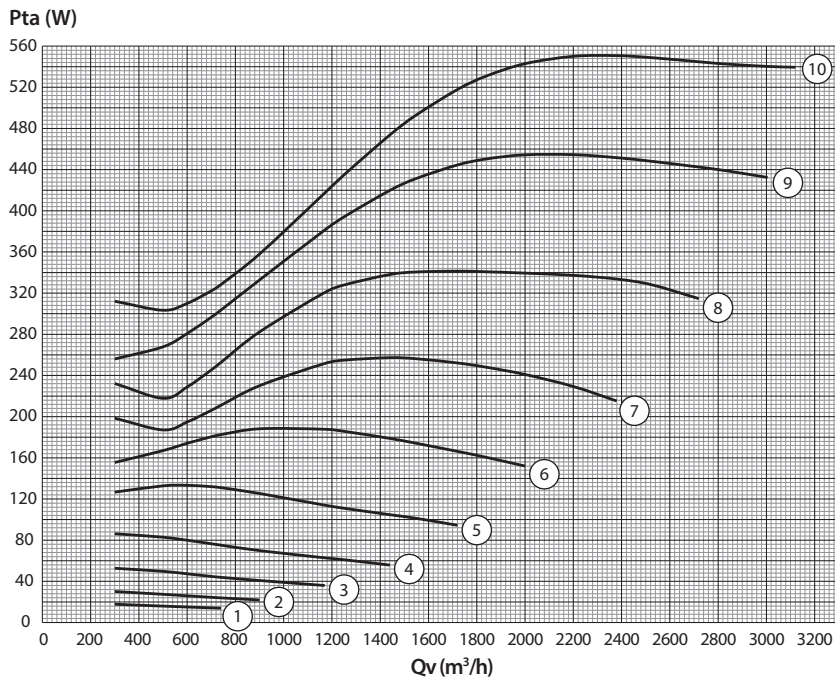
Typical fan curves related to the various voltage supplies of the inverter board.

Flow rate / Available static pressure



(X) = control voltage
 Psu = available static pressure
 Qv = air flow
 dB(A) = global sound power

Power input current

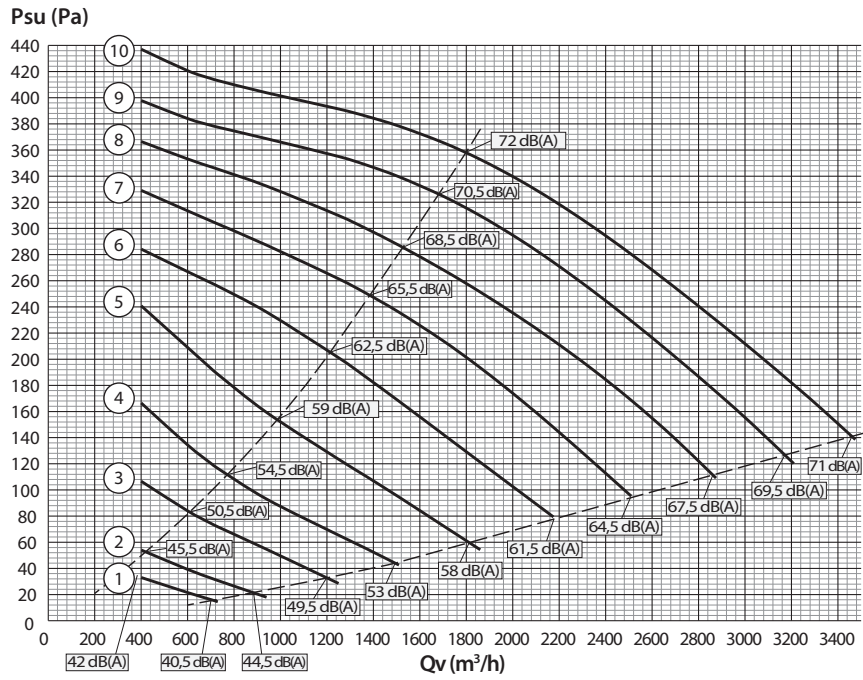


(X) = control voltage
 Pta = power input current
 Qv = air flow

Ocean ECM - Model 4

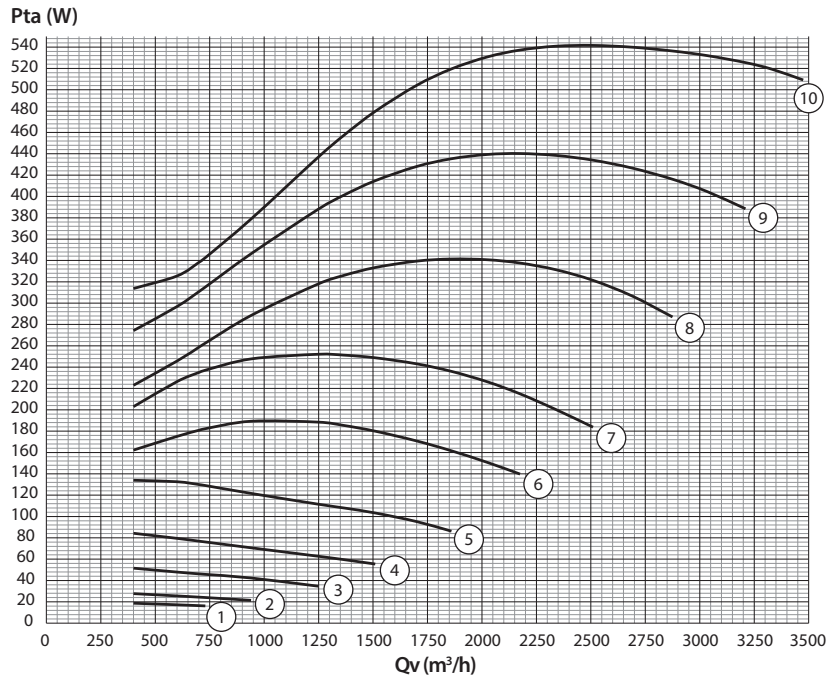
Typical fan curves related to the various voltage supplies of the inverter board.

Flow rate / Available static pressure



⊗ = control voltage
 Psu = available static pressure
 Qv = air flow
 dB(A) = global sound power

Power input current

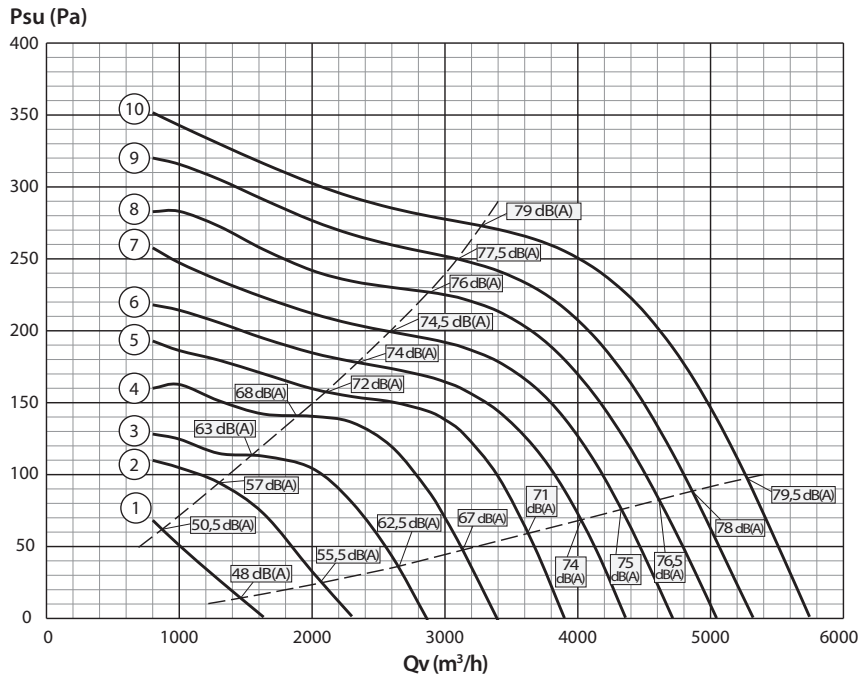


⊗ = control voltage
 Pta = power input current
 Qv = air flow

Ocean ECM - Model 5

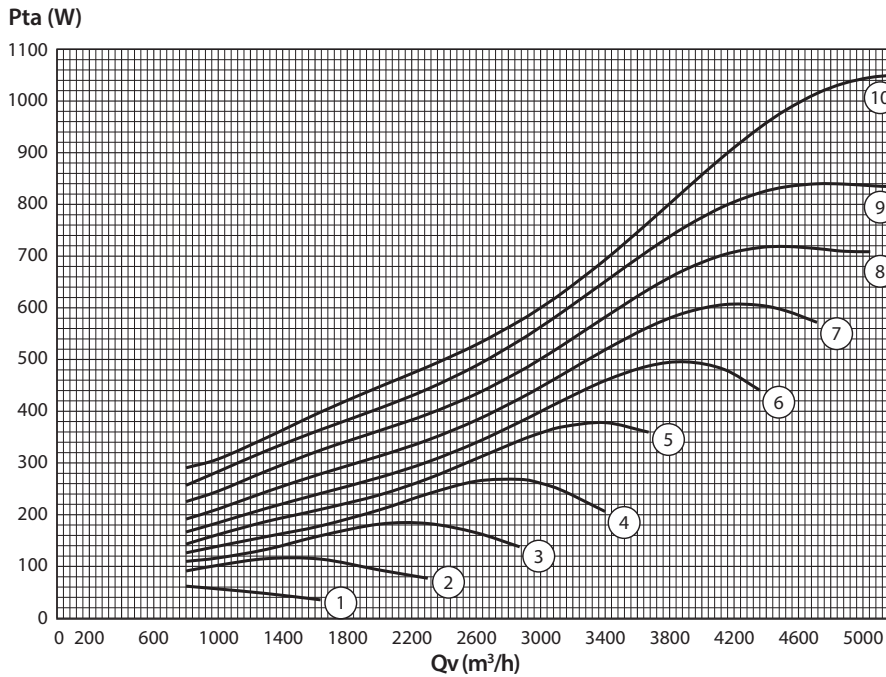
Typical fan curves related to the various voltage supplies of the inverter board.

Flow rate / Available static pressure



⊗ = control voltage
 Psu = available static pressure
 Qv = air flow
 dB(A) = global sound power

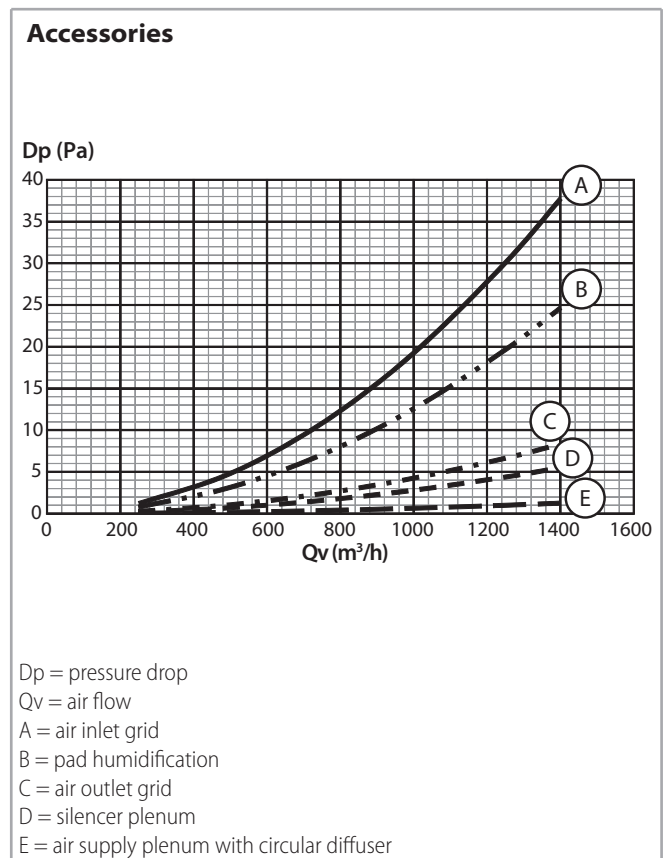
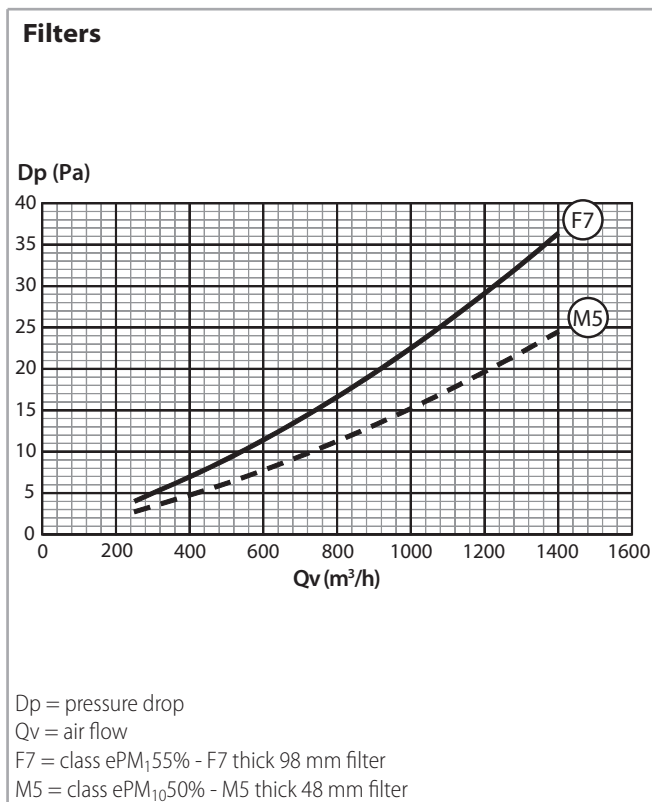
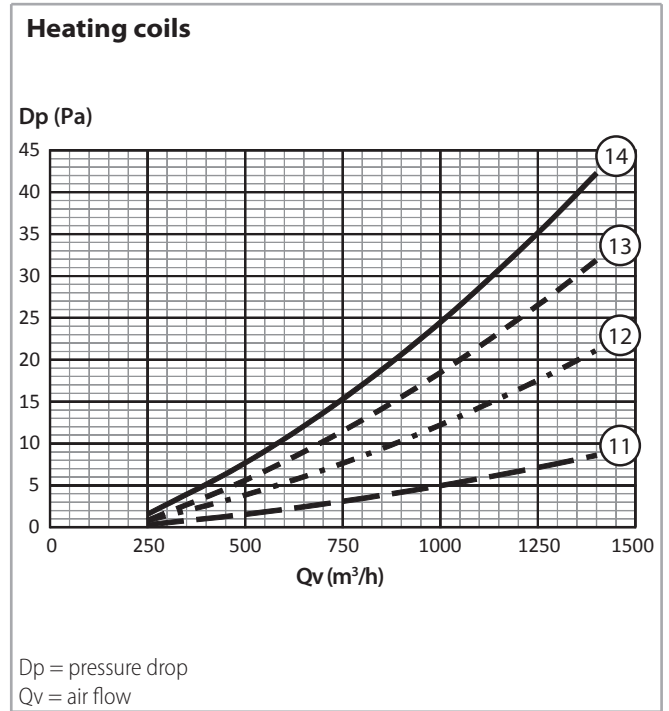
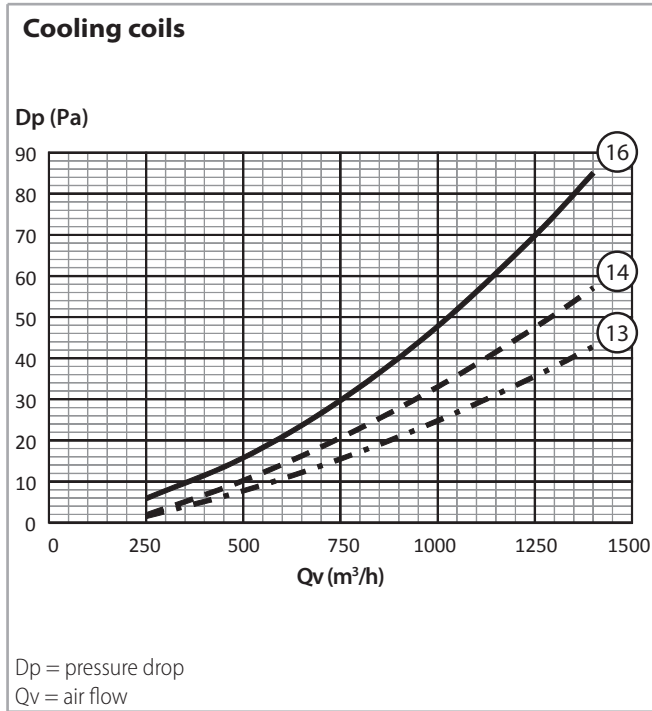
Power input current



⊗ = control voltage
 Pta = power input current
 Qv = air flow

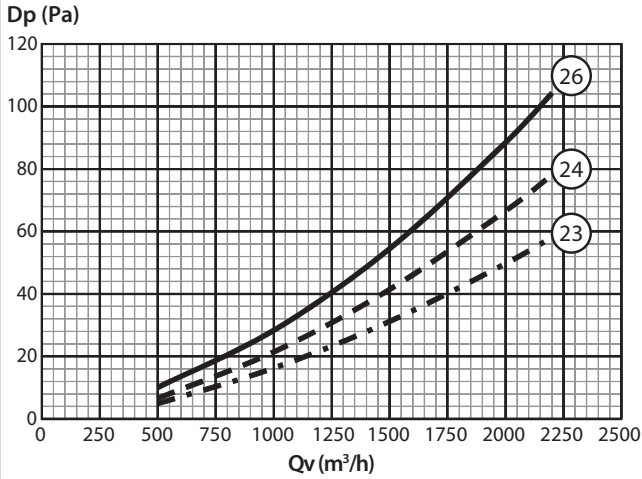
AIR PRESSURE DROP

Ocean ECM 1



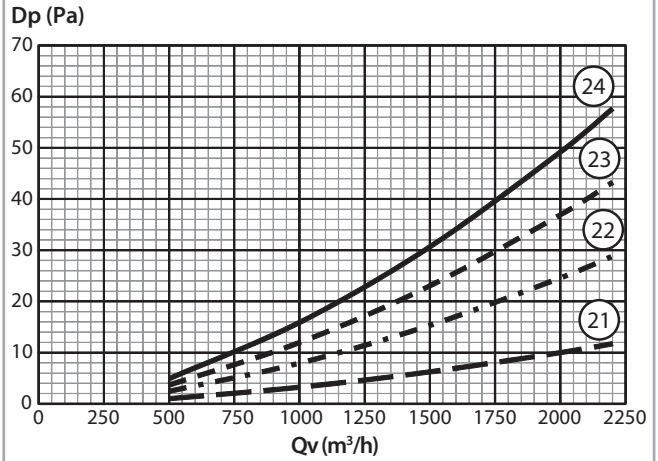
Ocean ECM 2

Cooling coils



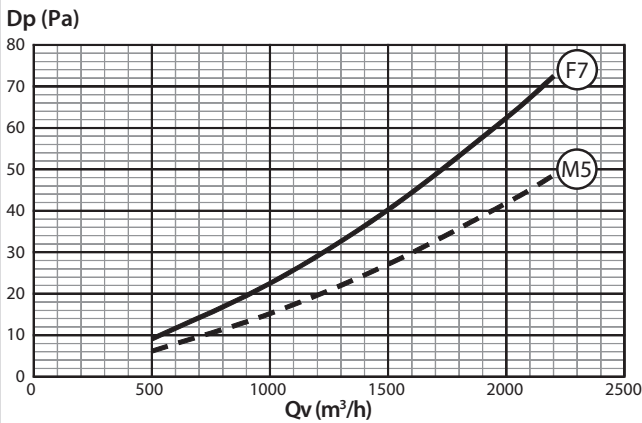
Dp = pressure drop
Qv = air flow

Heating coils



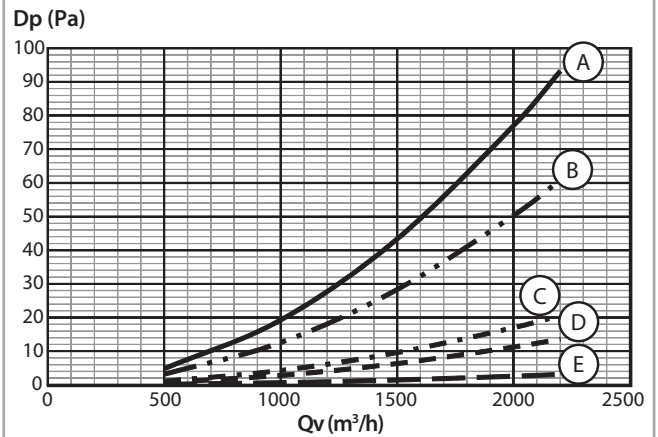
Dp = pressure drop
Qv = air flow

Filters



Dp = pressure drop
Qv = air flow
F7 = class ePM₁55% - F7 thick 98 mm filter
M5 = class ePM₁₀50% - M5 thick 48 mm filter

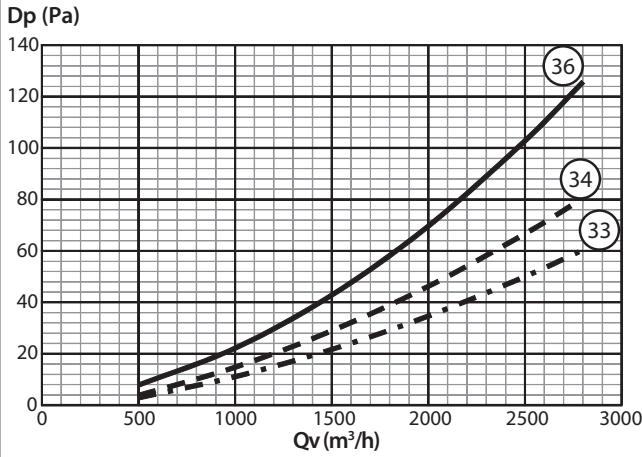
Accessories



Dp = pressure drop
Qv = air flow
A = air inlet grid
B = pad humidification
C = air outlet grid
D = silencer plenum
E = air supply plenum with circular diffuser

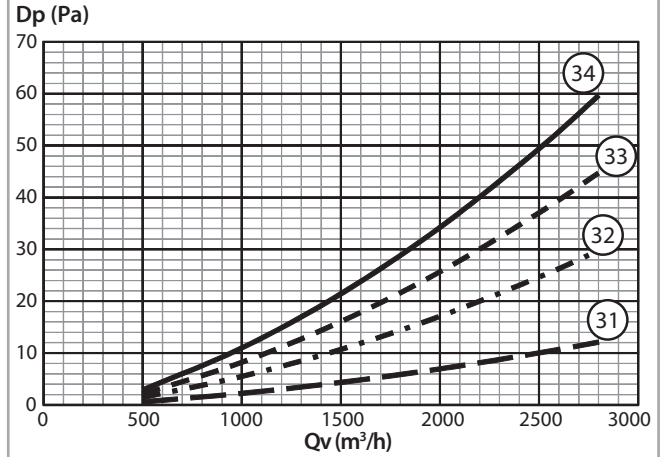
Ocean ECM 3

Cooling coils



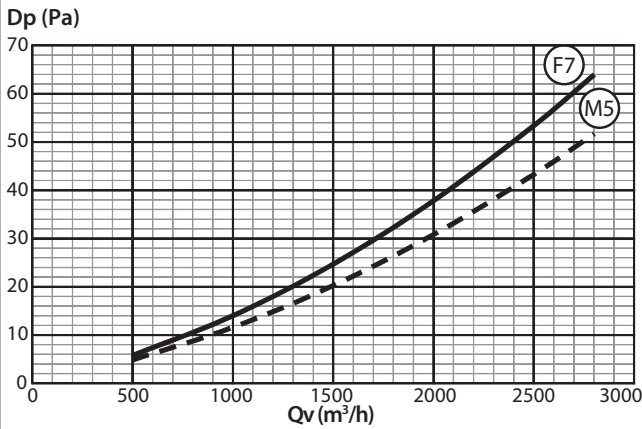
Dp = pressure drop
Qv = air flow

Heating coils



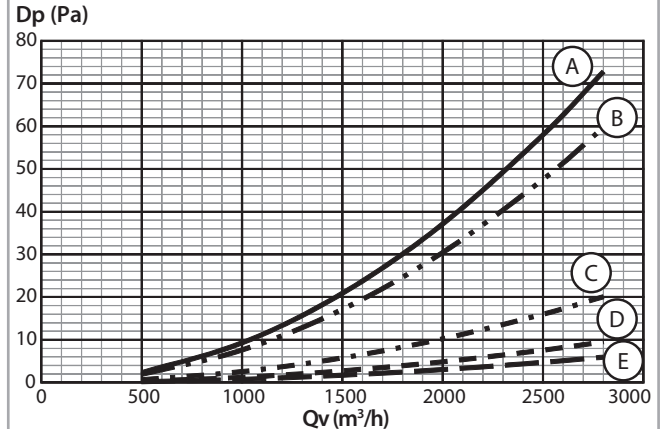
Dp = pressure drop
Qv = air flow

Filters



Dp = pressure drop
Qv = air flow
F7 = class ePM₁55% - F7 thick 98 mm filter
M5 = class ePM₁₀50% - M5 thick 48 mm filter

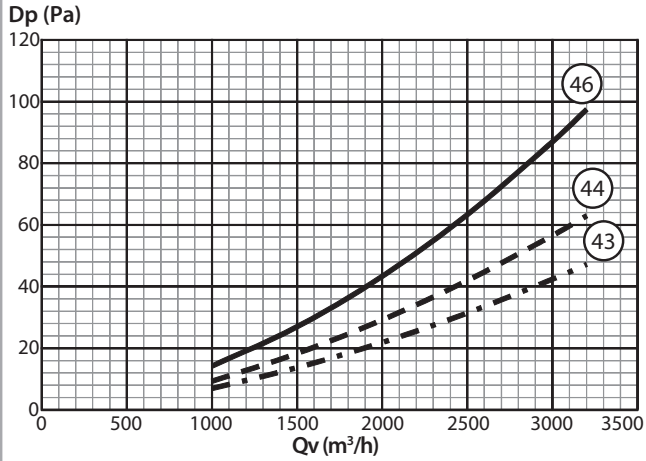
Accessories



Dp = pressure drop
Qv = air flow
A = air inlet grid
B = pad humidification
C = air outlet grid
D = silencer plenum
E = air supply plenum with circular diffuser

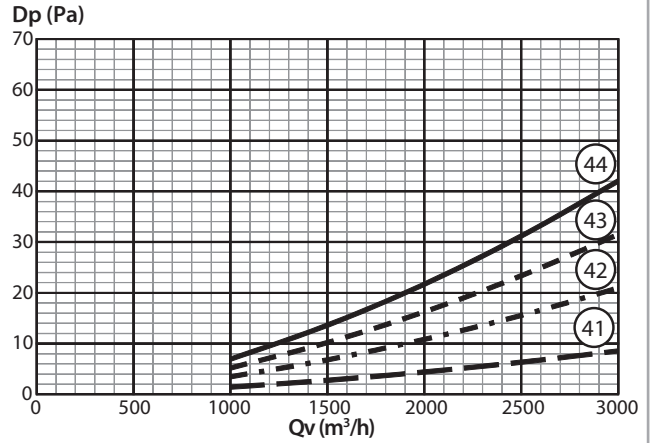
Ocean ECM 4

Cooling coils



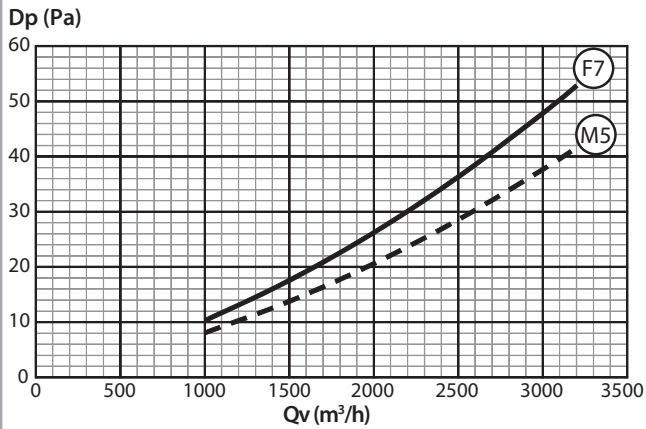
Dp = pressure drop
Qv = air flow

Heating coils



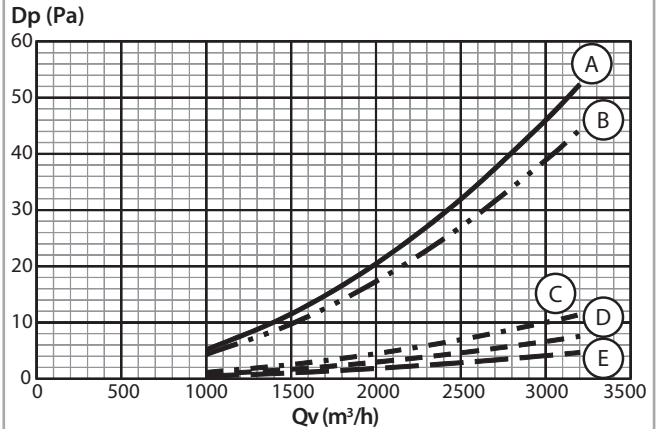
Dp = pressure drop
Qv = air flow

Filters



Dp = pressure drop
Qv = air flow
F7 = class ePM₁55% - F7 thick 98 mm filter
M5 = class ePM₁₀50% - M5 thick 48 mm filter

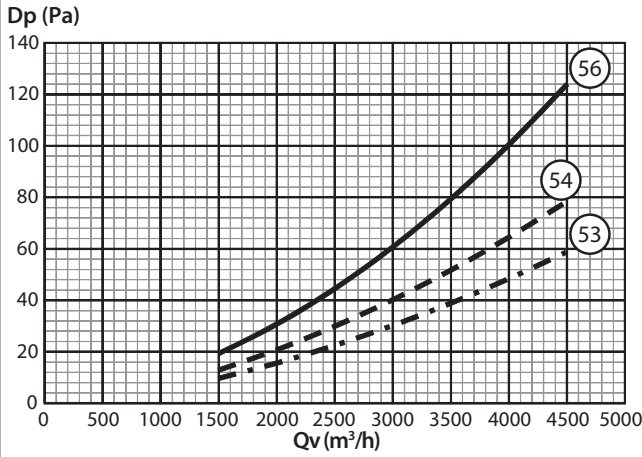
Accessories



Dp = pressure drop
Qv = air flow
A = air inlet grid
B = pad humidification
C = air outlet grid
D = silencer plenum
E = air supply plenum with circular diffuser

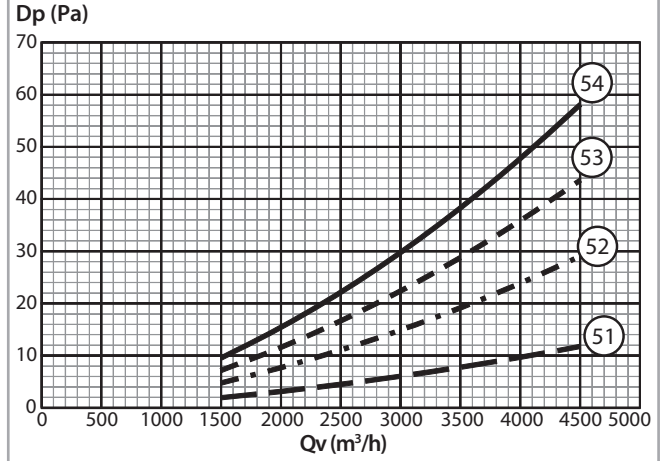
Ocean ECM 5

Cooling coil



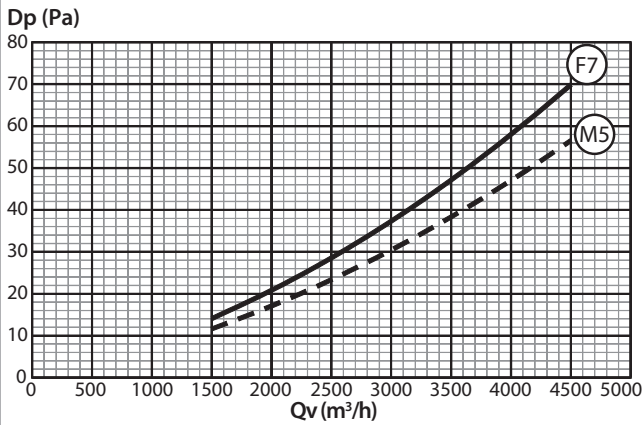
Dp = pressure drop
Qv = air flow

Heating coils



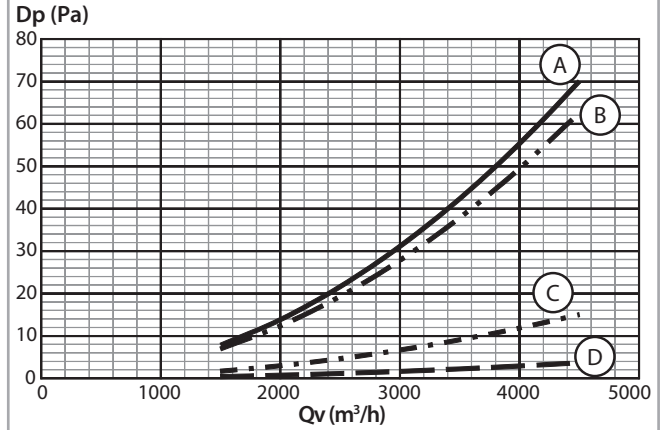
Dp = pressure drop
Qv = air flow

Filters



Dp = pressure drop
Qv = air flow
F7 = class ePM₁55% - F7 thick 98 mm filter
M5 = class ePM₁₀50% - M5 thick 48 mm filter

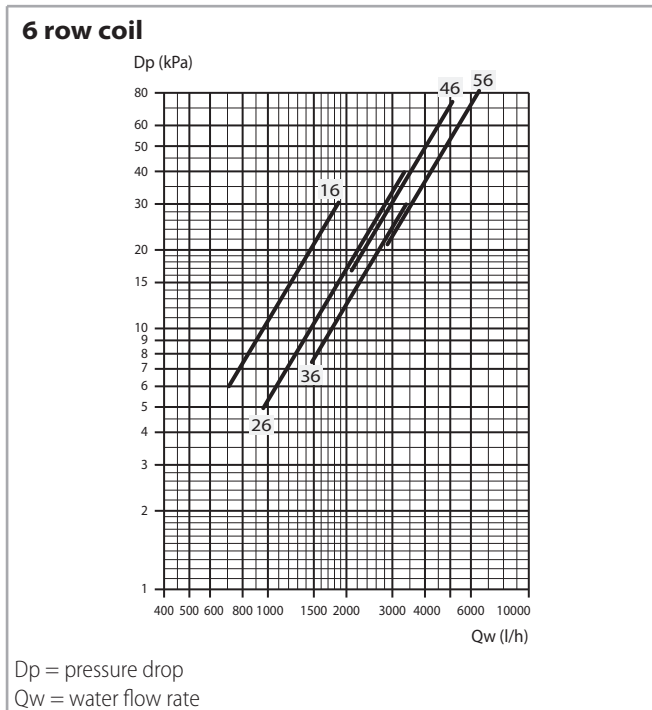
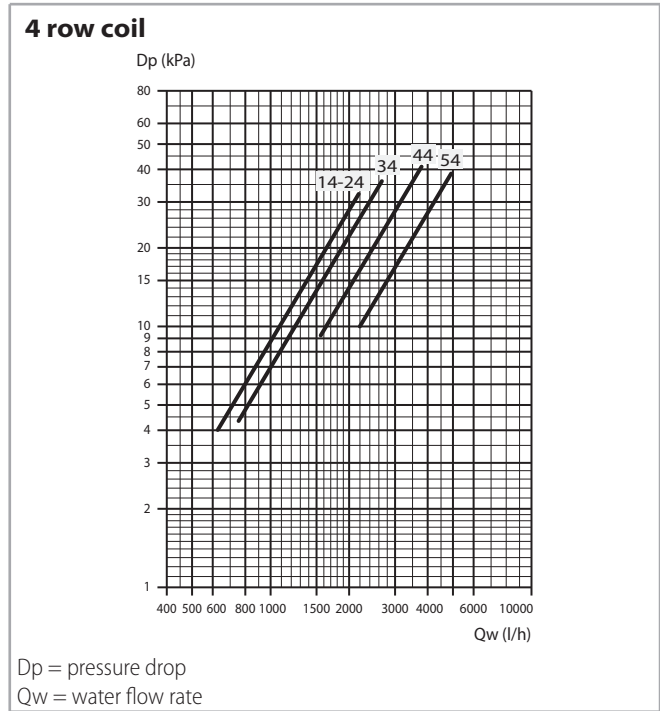
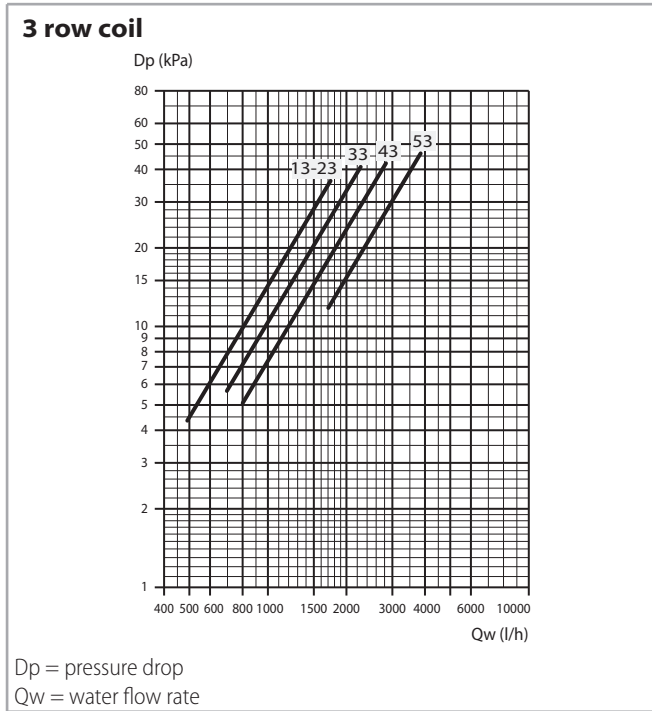
Accessories



Dp = pressure drop
Qv = air flow
A = air inlet grid
B = pad humidification
C = air outlet grid / silencer plenum
D = outlet box with circular diffusers

WATER SIDE PRESSURE DROP

Main coil

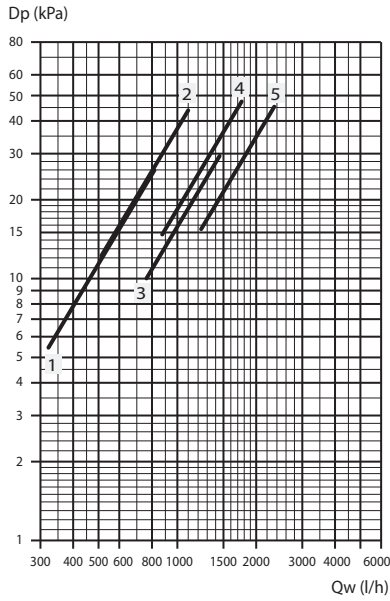


K correction factor	Mean water temperature (°C)						
	20	30	40	50	60	70	80
	0,94	0,90	0,86	0,82	0,78	0,74	0,70

The water pressure drop figures refer to a mean water temperature of 10 °C; for different temperatures, multiply the pressure drop figures by the correction factors K.

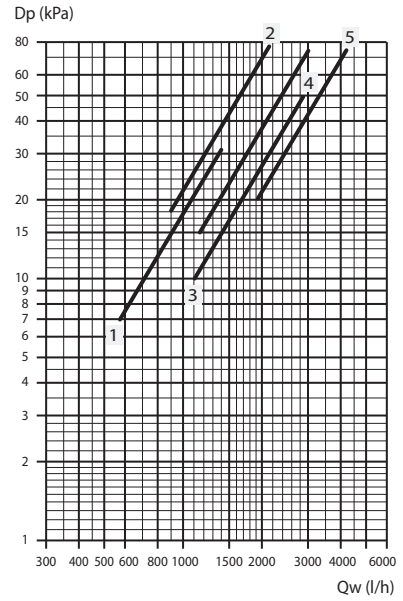
Additional coil

1 row additional coil



Dp = pressure drop
Qw = water flow rate

2 row additional coil



Dp = pressure drop
Qw = water flow rate

	Mean water temperature (°C)			
	40	50	70	80
K correction factor	1,12	1,06	0,94	0,88

The water pressure drop figures refer to a mean water temperature of 60 °C; for different temperatures, multiply the pressure drop figures by the correction factors K.

SELECTION EXAMPLE

The following example is referred to an ambient of approx. 80 m² placed into a building equipped with :

- a centralised installation for the exchange and handling of the primary air
- installation with chilled water at 7 °C
- installation with hot water at 60 °C.

The indoor ambients have two wings exposed to East and West respectively with wide glass windows. As a result, the main thermal cooling load is the summer one. The two zones experience receive the maximum solar gain at different moments along the day, hence the installation of two dedicated conditioning units.

The designer calculates a sensible cooling load of about 5.5 kW per each area and decides, together with the architect, to install some helical diffusers which intake the cooled air at a minimum temperature of 15 °C compared to the setpoint temperature of 26 °C.

Thus, the design conditioning flow rate per each unit is of about 1500 m³/h.

For each unit, a distribution ductwork of supply air is provided towards the different spaces and a simple grid for the return is placed in the false ceiling.

It is planned that each supply air circuit, including the ductable silencers will lose about 65 Pa of static pressure. By using the device for the quick selection **“Range and capacity”** on page p. 9, the Ocean ECM mod. 2 unit is selected.

Model		1	2
L x H dimensions	mm	1165 x 325	
Flow rate range	m ³ /h	600 - 1400	1000 - 2200
Available static pressure range fan section	Pa	80 - 210	80 - 220
Sound pressure level radiated range ⁽¹⁾	dB(A)	33 - 48	36 - 53
Cooling capacity range ⁽²⁾	kW	2,96 - 8,08	4,76 - 11,87
Heating capacity range (3-4 row coils) ⁽³⁾	kW	4,32 - 10,06	6,87 - 15,27
Heating capacity range (1-2 row coils) ⁽⁴⁾	kW	2,57 - 9,54	3,94 - 14,32
Power input current range	W	8 - 186	10 - 380

⁽¹⁾ The sound pressure level is referred to a room volume of 100 m³ Sabine, directional factor Q=2 (hemisphere sound emission) and measurement performed at 3 meters from the source; the data are related to the typical curves of a system with medium external pressure. According to the external pressure and to the selected speed, the values can vary of ± 4 dB(A) with regard to the declared values.

⁽²⁾ Cooling capacity referred to the following standard rating conditions : entering air temperature 26 °C, 50% relative humidity, water 7 / 12 °C, 3 - 6 row coils.

⁽³⁾ Heating capacity referred to the following standard rating conditions : entering air temperature 20 °C, water 50 / 45 °C, 3 - 4 row coils.

⁽⁴⁾ Heating capacity referred to the following standard rating conditions : entering air temperature 20 °C, water 60 / 50 °C, 1 - 2 row coils.

By using the emission tables of page p. 15 it can be decided to provide the units with a 4 row cooling coil.

Model	Qv m ³ /h	WT: 7 / 12 °C				WT: 8 / 13 °C			
		Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa
Ocean ECM 14	1400	5,90	4,92	1014	8,6	5,25	4,75	904	6,9
	1200	5,36	4,36	922	7,3	4,76	4,19	819	5,9
	1000	4,76	3,77	820	6,0	4,23	3,61	727	4,8
	800	4,11	3,16	707	4,7	3,64	3,01	626	3,7
	600	3,38	2,51	582	3,3	2,99	2,38	514	2,6
Ocean ECM 24	2200	9,21	7,60	1583	18,2	8,26	7,38	1420	14,8
	1900	8,33	6,70	1433	15,7	7,43	6,47	1277	12,7
	1600	7,43	5,82	1278	13,2	6,62	5,60	1139	10,5
	1300	6,54	4,98	1125	10,5	5,81	4,76	999	8,4
	1000	5,52	4,07	949	7,7	4,88	3,86	839	6,2

WT: Water temperature
 Qv: Air flow
 Pc: Cooling total capacity
 Ps: Cooling sensible capacity
 Qw: Water flow rate
 Dp(c): Dp Cooling

Given the reduced winter load, the designer believes that it is necessary to provide an independent 2 row coil for heating purposes.

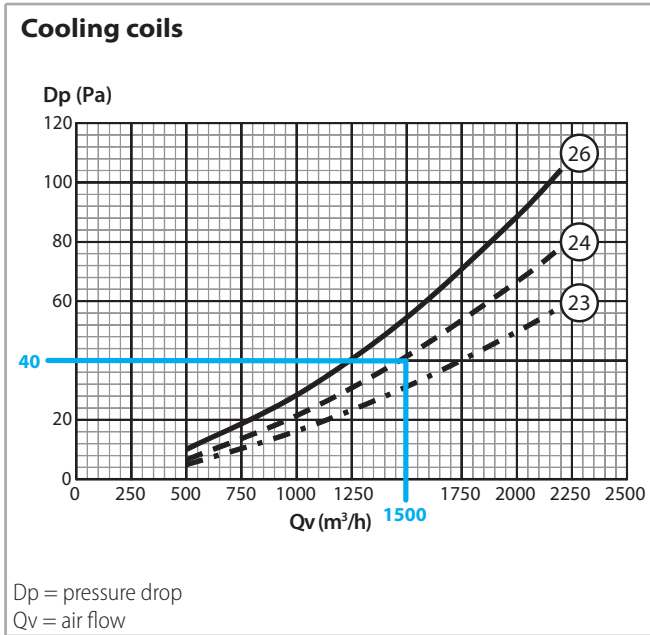
Model	Qv m ³ /h	WT: 65 / 55 °C			WT: 60 / 50 °C		
		Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
Ocean ECM 1+2	1400	12,64	1087	20,7	11,13	957	16,7
	1200	11,44	984	17,2	10,06	865	14,0
	1000	10,12	870	13,8	8,91	766	11,2
	800	8,65	744	10,4	7,63	656	8,5
	600	7,01	603	7,1	6,19	533	5,8
Ocean ECM 2+2	2200	18,89	1625	50,4	16,66	1433	40,9
	1900	17,22	1481	42,6	15,19	1306	34,6
	1600	15,38	1323	34,8	13,58	1168	28,2
	1300	13,37	1150	26,9	11,82	1016	21,9
	1000	11,12	956	19,3	9,83	845	15,7

WT: Water temperature
 Qv: Air flow
 Ph: Heating capacity
 Qw: Water flow rate
 Dp(h): Dp Heating

Together with the two coil sections, the Ocean ECM unit will be also equipped with air inlet grid, of air supply plenum with circular diffuser and of a synthetic filter of ePM₁₀ 50% - M5 class.

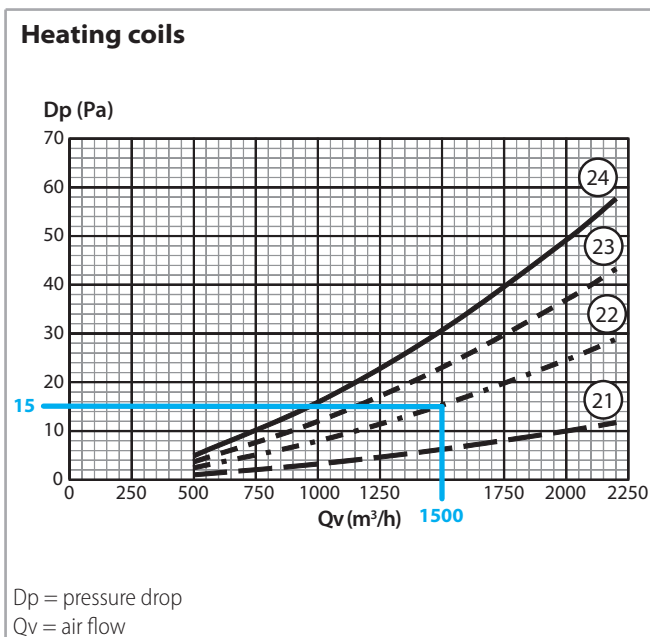
By using the performance curves, those related to the coil pressure drop and to the additional sections, the calculation of the unit air pressure drop can be carried forward.

Cooling coil pressure drop



Cooling coil pressure drop = **40 Pa**

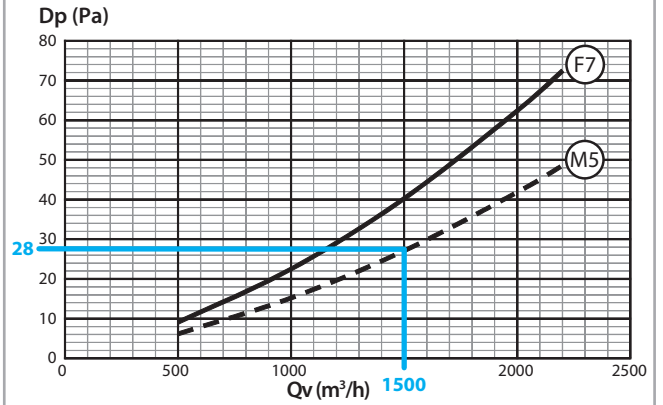
Heating coil pressure drop



Heating coil pressure drop = **15 Pa**

Filter pressure drop

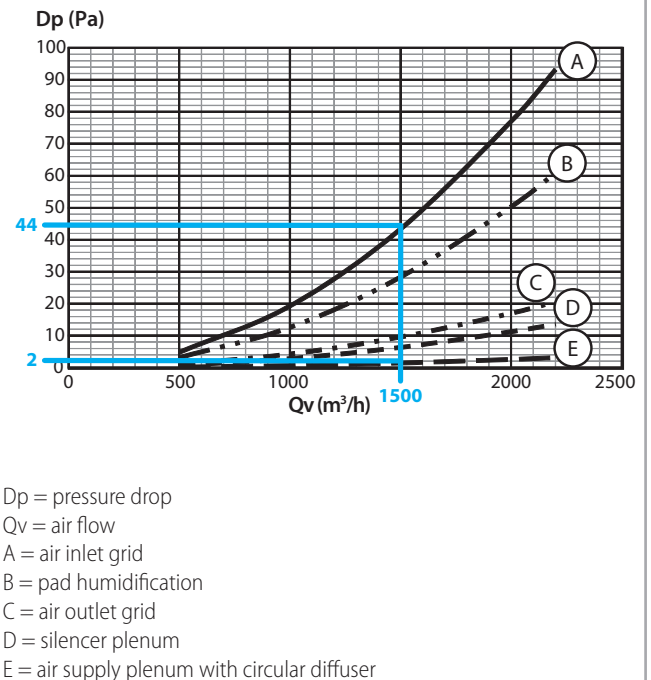
Filters



M5 air filter pressure drop = **28 Pa**

Accessories pressure drop

Accessories



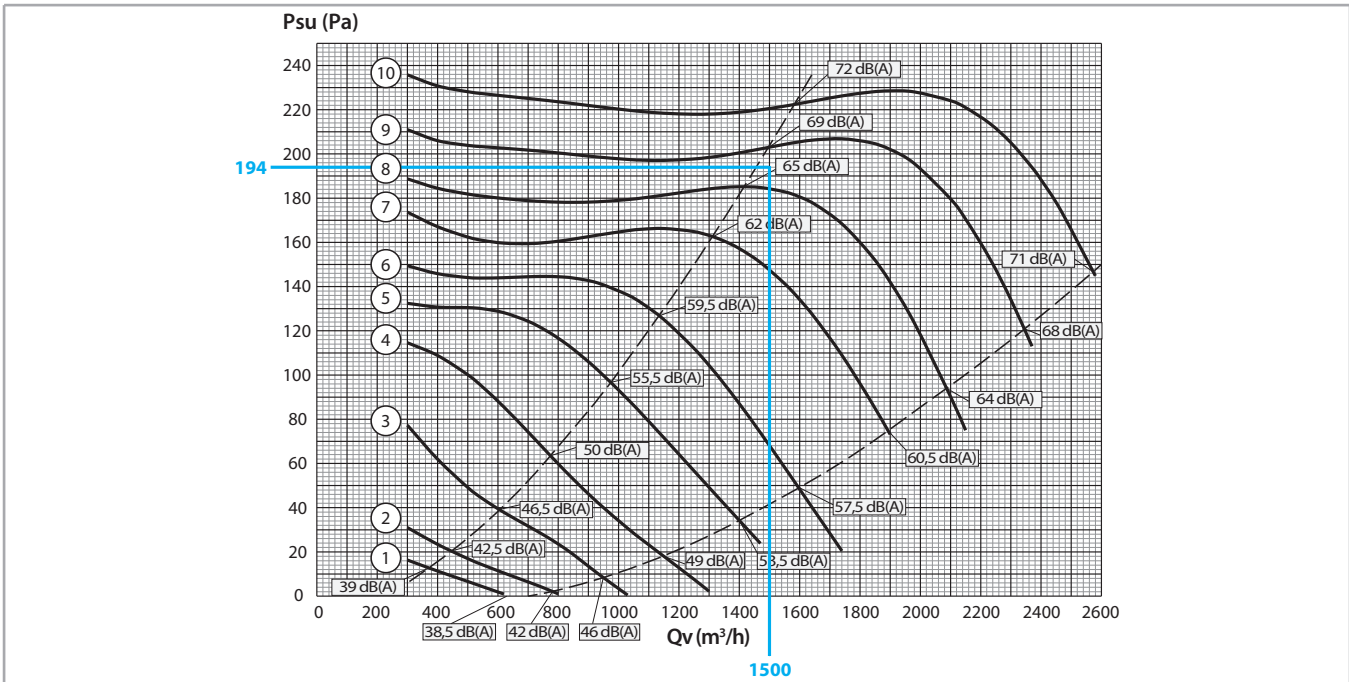
Air inlet grid pressure drop = **44 Pa**

Air pressure drop of the air supply plenum with M5 circular diffuser = **2 Pa**

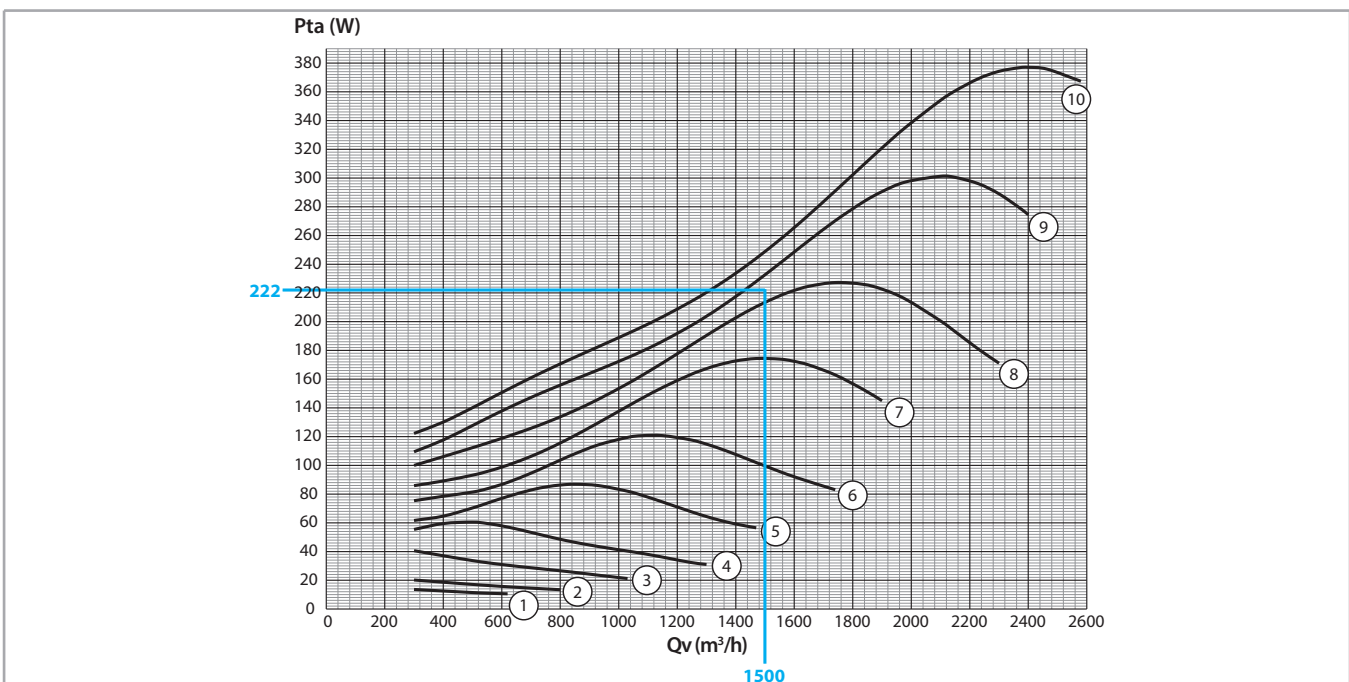
The internal pressure drops are therefore :
 $40 + 15 + 28 + 44 + 2 = \mathbf{129 Pa}$

The internal pressure drops must be added to the external design pressure drops to obtain the total approximate pressure drops
 $65 Pa + 129 Pa = \mathbf{194 Pa}$

Once the wished design flow rate and the total approximate pressure drops are available, the operating voltage and the power input current can be obtained from the Flow rate / Pressure diagram.



Operating voltage = **8,5 V**
 Global sound power = **67 dB(A)**



Power input current = **222 W**

TECHNICAL DATA AND OPERATION LIMITS

Description		UoM	Value
Water flow	Coil maximum working pressure	bars	10
		kPa	1000
	Lowest water inlet temperature	°C	+6
	Highest water inlet temperature	°C	+85
Power supply	Power supply voltage	V/Hz	230/50

Water content

Model		1	2	3	4	5
3 rows	I	2	2,9	3,5	4,7	5,7
4 rows	I	2,6	3,7	4,6	6	7,1
6 rows	I	3,6	4,8	6	8,2	9,8
+1 row	I	0,9	1,1	1,4	2	2,7
+2 rows	I	1,5	1,8	2,4	3,2	4,1

Coils

The coils are tested to a pressure of 30 bar. In normal operation the water temperature should not exceed 95 °C and the maximum working pressure 10 bar.

Where a cooling coil is fitted the coil should always be fitted in a vertical position.

The coil is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion.

Motor electrical data

Fan section operating field between -10 °C and 55 °C.

The air speed through the cooling coils must not exceed 2,6 m/s in order to avoid the condensate entrainment.

Motor max. absorption

Model		Ocean ECM 1	Ocean ECM 2	Ocean ECM 3	Ocean ECM 4	Ocean ECM 5
Motor power input current	W	186	380	550	530	1045
Power input current_	A	1,30	1,70	2,40	2,36	4,63

Electric heater operation limits

Description		UoM	Value
Ambient air	Maximum temperature ⁽¹⁾	°C	+25
Power supply	Power supply voltage	Vac/Ph/Hz	230/1/50

⁽¹⁾ with electric heating coil

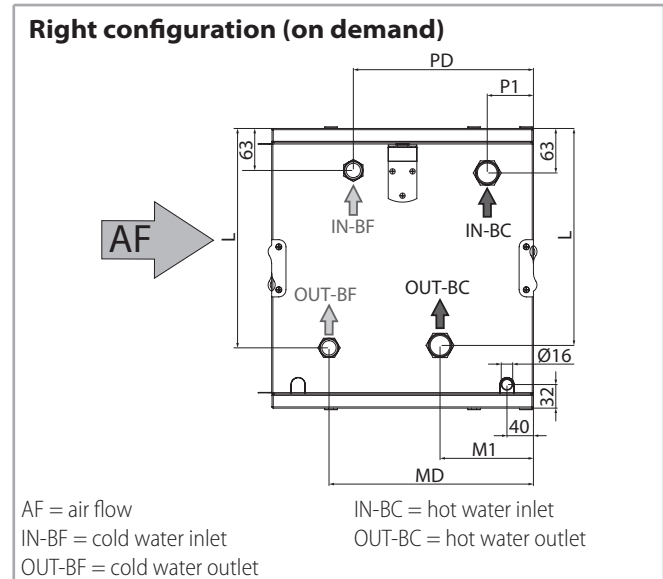
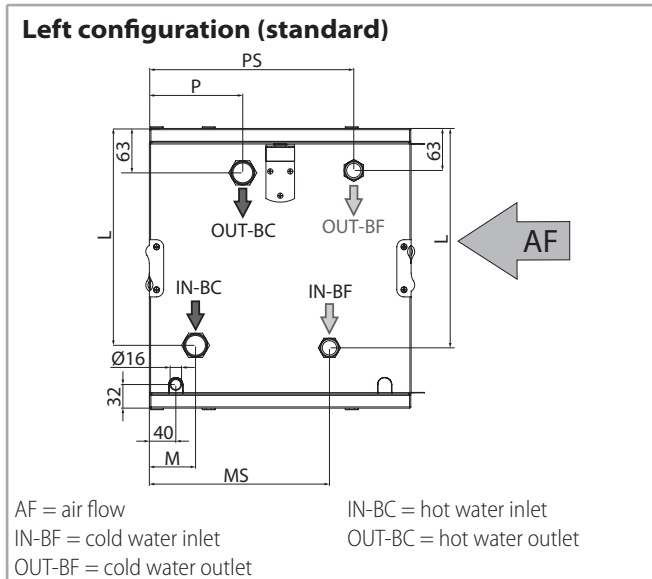
CONSTRUCTION, DIMENSION AND WEIGHT

The sections are always without flanges.

The first and the last sections must be completed with the flange that can be both into the FMP/FRP flat version or with circular FMC/FRC spigots (see p. 67).

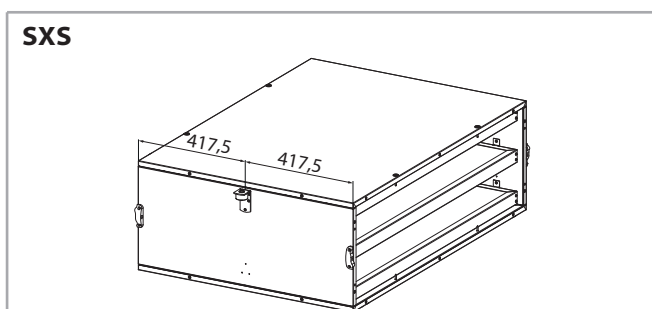
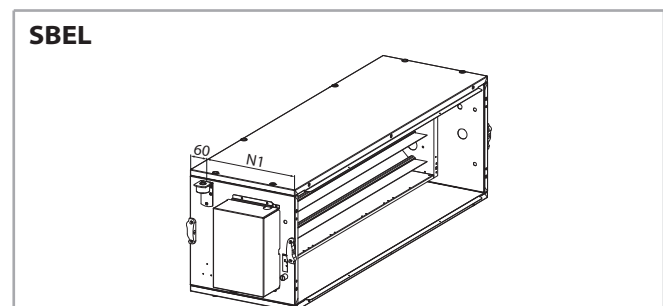
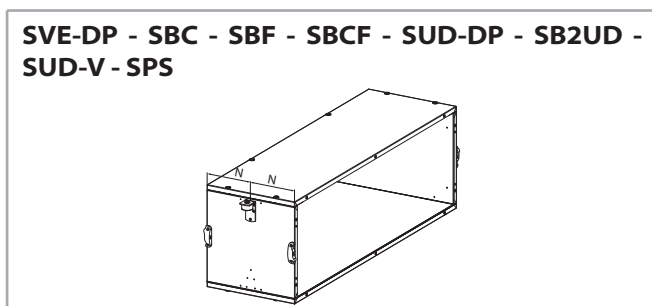
The flat flange must be always selected when the combination with the air return grid (GRA) or with the air supply grid (BMA-DP) accessories is requested.

Hydraulic connections



Model	L mm	M mm	M1 mm	MS mm	MD mm	P mm	P1 mm	PS mm	PD mm
1-2	253	65	130	250	285	130	65	285	250
3	303	65	130	250	285	130	65	285	250
4	303	75	140	280	315	140	75	315	280
5	373	75	140	280	315	140	75	315	280

Hanging system position

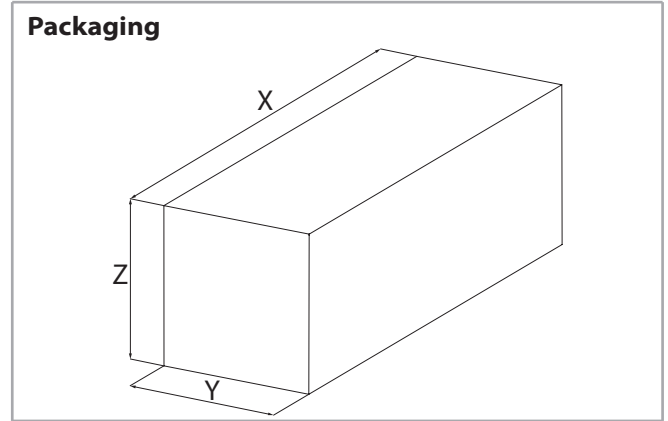
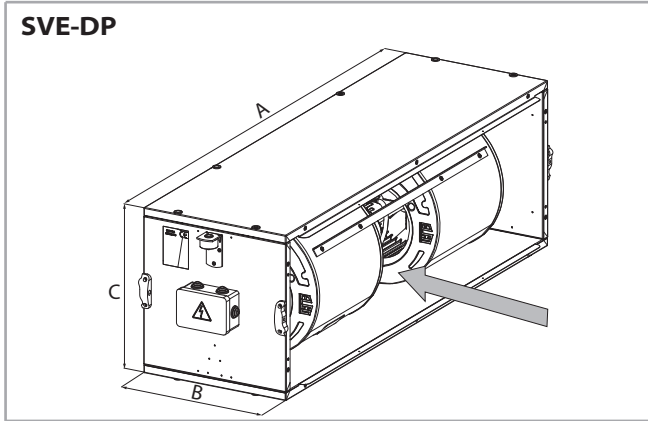


Model	N mm	N1 mm
1-2-3	185	310
4-5	220	380

Fan section - SVE-DP

The fan section consists of a sandwich panel support structure and fan-deck unit with electric fan and brushless motor.

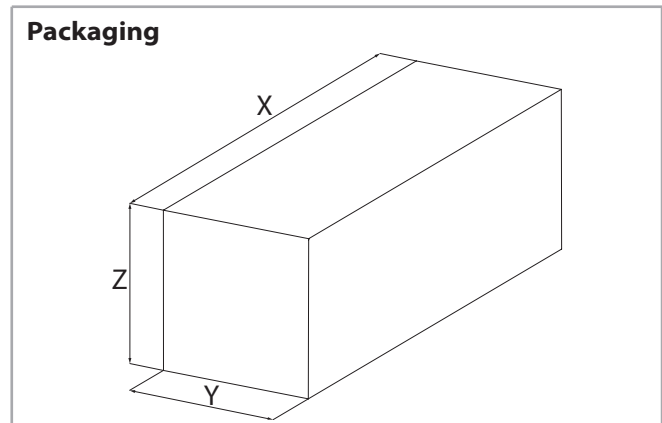
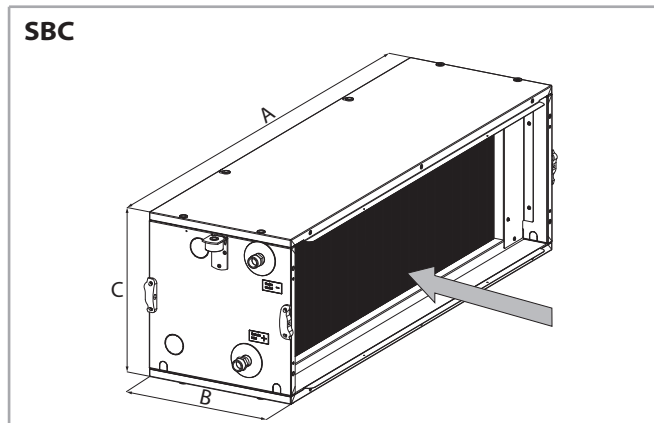
The electrical connection is located inside the electrical box fixed onto the section side.



Model	ID	Code	A mm	B mm	C mm	X mm	Y mm	Z mm	Weight without packaging kg	Weight with packaging kg
1	SVE-DP-1	0035321	1165	370	325	1300	425	340	29,0	30,2
2	SVE-DP-2	0035322	1165	370	325	1300	425	340	30,6	31,8
3	SVE-DP-3	0035323	1165	370	390	1300	425	410	37,8	39,1
4	SVE-DP-4	0035324	1485	440	390	1620	495	410	44,0	45,7
5	SVE-DP-5	0035325	1485	440	450	1620	495	465	51,0	52,8

Heating coil section - SBC

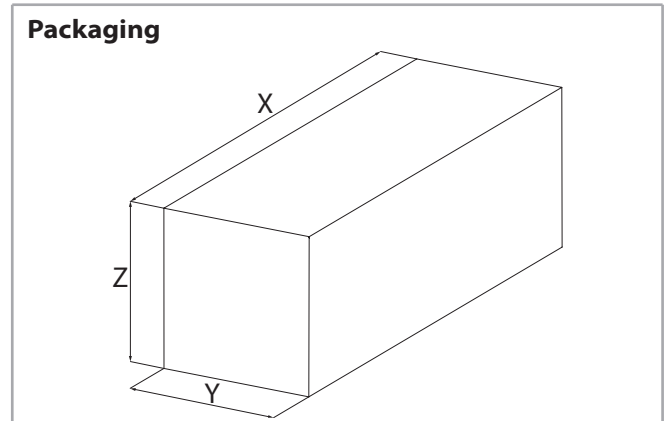
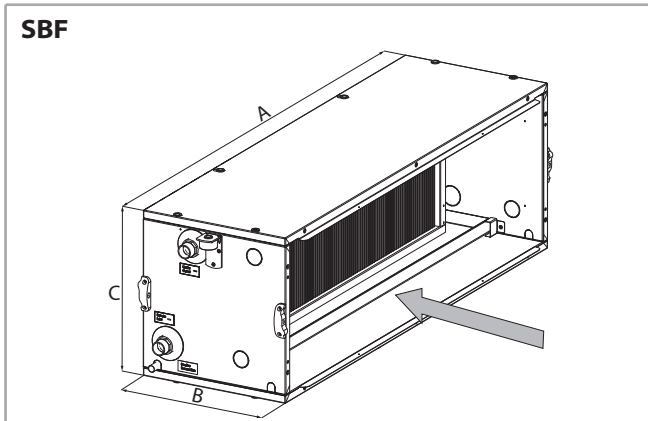
The SBC section is suitable only for heating and is available with 2 or 3 row coil.



Model	ID	Code	A	B	C	X	Y	Z	Coil connections	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	mm	mm		kg	kg
12	SBC-12	0035351	1165	370	325	1300	425	340	3/4"	21,4	22,6
13	SBC-13	0035361	1165	370	325	1300	425	340	3/4"	22,5	23,7
22	SBC-22	0035352	1165	370	325	1300	425	340	3/4"	22,3	23,5
23	SBC-23	0035362	1165	370	325	1300	425	340	1"	24,1	25,3
32	SBC-32	0035353	1165	370	390	1300	425	410	3/4"	25,2	26,5
33	SBC-33	0035363	1165	370	390	1300	425	410	1"	27,5	28,8
42	SBC-42	0035354	1485	440	390	1620	495	410	1"	31,3	33,0
43	SBC-43	0035364	1482	440	390	1620	495	410	1 1/4"	35,1	36,8
52	SBC-52	0035355	1485	440	450	1620	495	465	1"	34,7	36,5
53	SBC-53	0035365	1482	440	450	1620	495	465	1 1/4"	38,4	40,2

Cooling coil section - SBF

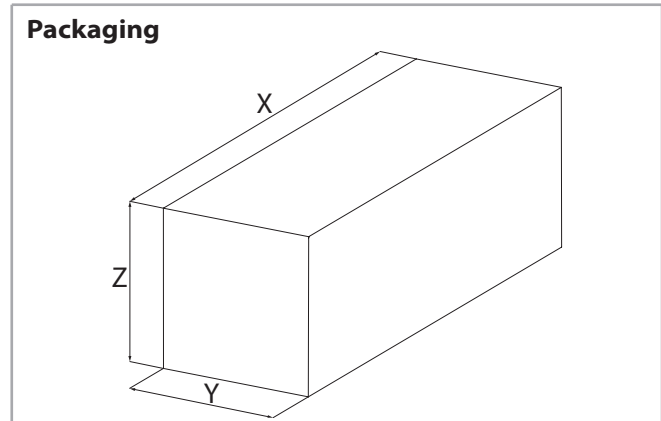
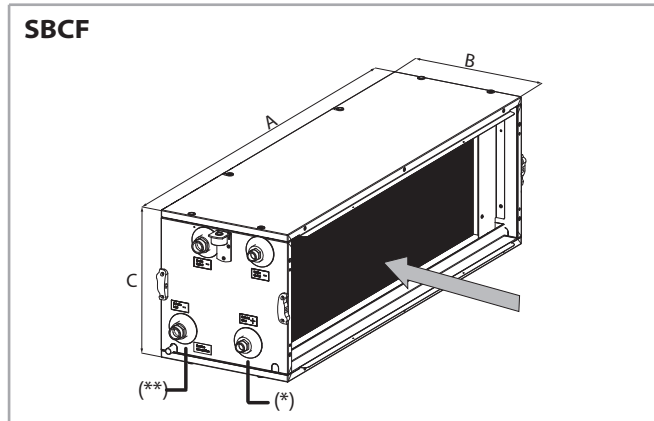
The section includes the condensate collection tray.



Model	ID	Code	A	B	C	X	Y	Z	Coil connections	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	mm	mm		kg	kg
13	SBF-13	0035491	1165	370	325	1300	425	340	3/4"	22,5	23,7
14	SBF-14	0035371	1165	370	325	1300	425	340	3/4"	24,5	25,7
16	SBF-16	0035381	1165	370	325	1300	425	340	3/4"	26,5	27,7
23	SBF-23	0035492	1165	370	325	1300	425	340	1"	24,1	25,3
24	SBF-24	0035372	1165	370	325	1300	425	340	1"	26,0	27,2
26	SBF-26	0035382	1165	370	325	1300	425	340	1"	28,8	30,0
33	SBF-33	0035493	1165	370	390	1300	425	410	1"	27,5	28,8
34	SBF-34	0035373	1165	370	390	1300	425	410	1"	30,0	31,3
36	SBF-36	0035383	1165	370	390	1300	425	410	1"	33,5	34,8
43	SBF-43	0035494	1485	440	390	1620	495	410	1 1/4"	35,1	36,8
44	SBF-44	0035374	1485	440	390	1620	495	410	1 1/4"	38,0	39,7
46	SBF-46	0035384	1485	440	390	1620	495	410	1 1/4"	43,0	44,7
53	SBF-53	0035495	1485	440	450	1620	495	465	1 1/4"	38,4	40,2
54	SBF-54	0035375	1485	440	450	1620	495	465	1 1/4"	42,4	44,2
56	SBF-54	0035385	1485	440	450	1620	495	465	1 1/4"	49,0	50,8

Heating + cooling coil section - SBCF

The section includes the condensate collection tray.



1 row additional coil units

Model	ID	Code	A	B	C	X	Y	Z	Main coil connections	Additional coil connections	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	mm	mm	mm	(*)	(**)	kg
13	SBCF-13+1	0035391	1165	370	325	1300	425	340	3/4"	3/4"	24,4	25,6
14	SBCF-14+1	0035401	1165	370	325	1300	425	340	3/4"	3/4"	26,4	27,6
16	SBCF-16+1	0035411	1165	370	325	1300	425	340	3/4"	3/4"	28,4	29,6
23	SBCF-23+1	0035392	1165	370	325	1300	425	340	1"	1"	26,6	27,8
24	SBCF-24+1	0035402	1165	370	325	1300	425	340	1"	1"	28,5	29,7
26	SBCF-26+1	0035412	1165	370	325	1300	425	340	1"	1"	31,3	32,5
33	SBCF-33+1	0035393	1165	370	391	1300	425	410	1"	1"	30,9	32,2
34	SBCF-34+1	0035403	1165	370	391	1300	425	410	1"	1"	33,4	34,7
36	SBCF-36+1	0035413	1165	370	391	1300	425	410	1"	1"	36,9	38,2
43	SBCF-43+1	0035394	1485	440	390	1620	495	410	1 1/4"	1 1/4"	31,1	32,8
44	SBCF-44+1	0035404	1485	440	390	1620	495	410	1 1/4"	1 1/4"	42,0	43,7
46	SBCF-46+1	0035414	1485	440	390	1620	495	410	1 1/4"	1 1/4"	47,0	48,7
53	SBCF-53+1	0035395	1485	440	450	1620	495	465	1 1/4"	1 1/4"	33,4	35,2
54	SBCF-54+1	0035405	1485	440	450	1620	495	465	1 1/4"	1 1/4"	47,4	49,2
56	SBCF-56+1	0035415	1485	440	450	1620	495	465	1 1/4"	1 1/4"	54,0	55,8

2 row additional coil units

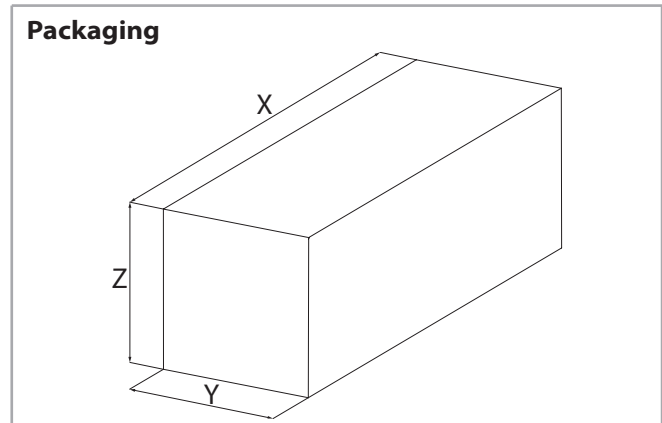
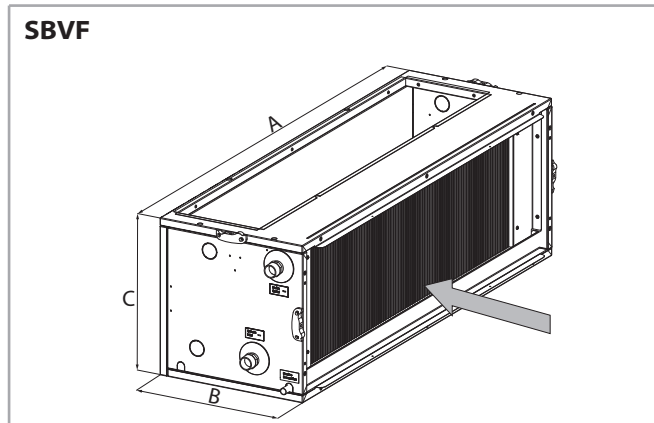
Model	ID	Code	A	B	C	X	Y	Z	Main coil connections	Additional coil connections	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	mm	mm	(*)	(**)	kg	kg
13	SBCF-13+2	0035421	1165	370	325	1300	425	340	3/4"	3/4"	25,9	27,1
14	SBCF-14+2	0035431	1165	370	325	1300	425	340	3/4"	3/4"	27,9	29,1
16	SBCF-16+2	0035441	1165	370	325	1300	425	340	3/4"	3/4"	29,9	31,1
23	SBCF-23+2	0035422	1165	370	325	1300	425	340	1"	1"	28,4	29,6
24	SBCF-24+2	0035432	1165	370	325	1300	425	340	1"	1"	30,3	31,5
26	SBCF-26+2	0035442	1165	370	325	1300	425	340	1"	1"	33,1	34,3
33	SBCF-33+2	0035423	1165	370	391	1300	425	410	1"	1"	32,7	34,0
34	SBCF-34+2	0035433	1165	370	391	1300	425	410	1"	1"	35,2	36,5
36	SBCF-36+2	0035443	1165	370	391	1300	425	410	1"	1"	38,7	40,0
43	SBCF-43+2	0035424	1485	440	390	1620	495	410	1 1/4"	1 1/4"	41,4	43,1
44	SBCF-44+2	0035434	1485	440	390	1620	495	410	1 1/4"	1 1/4"	44,3	46,0
46	SBCF-46+2	0035444	1485	440	390	1620	495	410	1 1/4"	1 1/4"	49,3	51,0
53	SBCF-53+2	0035425	1485	440	450	1620	495	465	1 1/4"	1 1/4"	46,1	47,9
54	SBCF-54+2	0035435	1485	440	450	1620	495	465	1 1/4"	1 1/4"	50,1	51,9
56	SBCF-56+2	0035445	1485	440	450	1620	495	465	1 1/4"	1 1/4"	56,7	58,5

Coil section for vertical installation - SBVF

The SBVF coil section must be always installed upstream of the SVE-DP fan section (with regard to the air flow).
The coil section for the vertical installation is suitable for the following use:

- Cooling/heating coil with 3 or 4 rows for 2 pipe system
- Only cooling coil with 6 rows for 2 pipe system

The section includes the condensate collection tray.



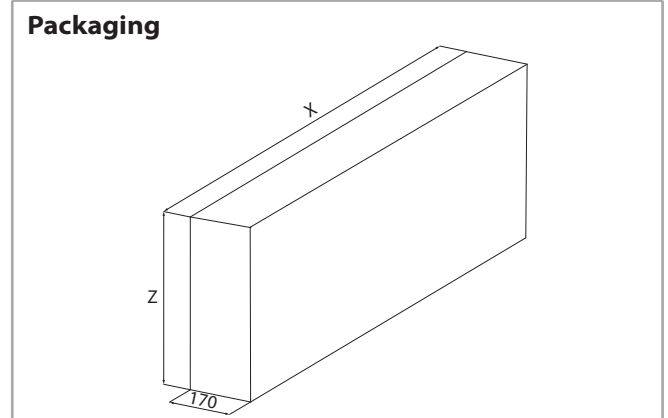
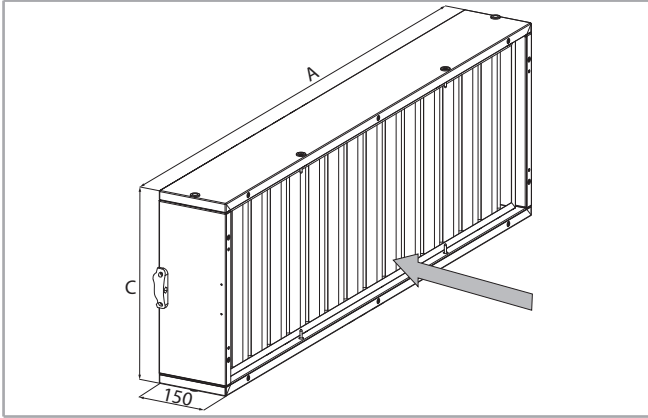
Model	ID	Code	A	B	C	X	Y	Z	Coil connections	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	mm	mm		kg	kg
13	SBVF-13	0035541	1165	390	325	1300	425	340	3/4"	25,0	26,2
14	SBVF-14	0035551	1165	390	325	1300	425	340	3/4"	27,0	28,2
16	SBVF-16	0035561	1165	390	325	1300	425	340	3/4"	29,0	30,2
23	SBVF-23	0035542	1165	390	325	1300	425	340	1"	27,0	28,2
24	SBVF-24	0035552	1165	390	325	1300	425	340	1"	29,0	30,2
26	SBVF-26	0035562	1165	390	325	1300	425	340	1"	31,0	32,2
33	SBVF-33	0035543	1165	390	390	1300	425	410	1"	30,0	31,3
34	SBVF-34	0035553	1165	390	390	1300	425	410	1"	33,0	34,3
36	SBVF-36	0035563	1165	390	390	1300	425	410	1"	36,0	37,3
43	SBVF-43	0035544	1485	460	390	1620	495	410	1 1/4"	38,0	39,7
44	SBVF-44	0035554	1485	460	390	1620	495	410	1 1/4"	41,0	42,7
46	SBVF-46	0035564	1485	460	390	1620	495	410	1 1/4"	46,0	47,7
53	SBVF-53	0035545	1485	460	450	1620	495	465	1 1/4"	41,0	42,8
54	SBVF-54	0035555	1485	460	450	1620	495	465	1 1/4"	45,0	46,8
56	SBVF-56	0035565	1485	460	450	1620	495	465	1 1/4"	52,0	53,8

Filter section - SFS

The filter section is available in three variants:

- with G0 filter
- with class ePM₁₀ 50% (ex M5) filter
- with class ePM₁ 55% (ex F7) filter

For spare filters, see p. 70.



G0 filter

Model	ID	Code	A mm	C mm	X mm	Z mm	Weight without packaging kg	Weight with packaging kg
1-2	SFS0-1-2	0035721	1165	325	1300	340	7,6	8,3
3	SFS0-3	0035723	1165	390	1300	410	8,2	9,0
4	SFS0-4	0035724	1485	390	1620	410	9,8	10,4
5	SFS0-5	0035725	1485	450	1620	465	10,1	11,1

Class ePM₁₀ 50% (ex M5) filter

Model	ID	Code	A mm	C mm	X mm	Z mm	Weight without packaging kg	Weight with packaging kg
1-2	SFS10-1-2	0035451	1165	325	1300	340	8,4	9,1
3	SFS10-3	0035453	1165	390	1300	410	9,0	9,8
4	SFS10-4	0035454	1485	390	1620	410	10,9	11,5
5	SFS10-5	0035455	1485	450	1620	465	11,3	12,3

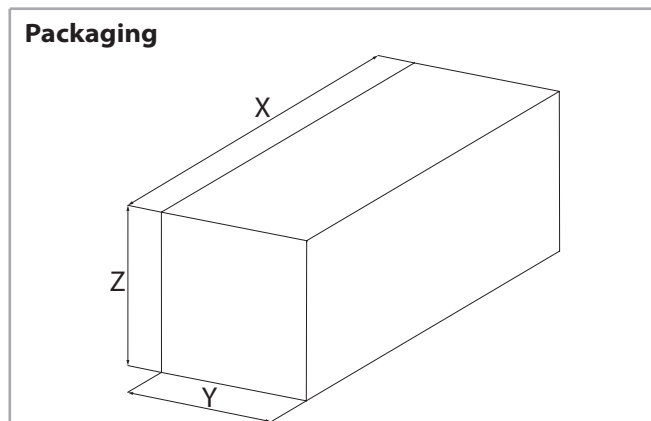
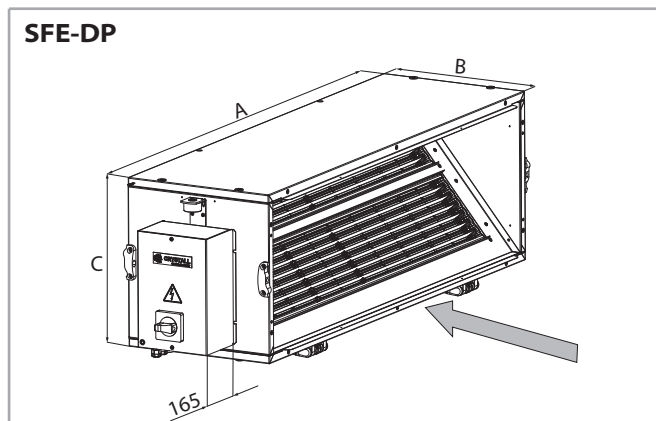
Class ePM₁ 55% (ex F7) filter

Model	ID	Code	A mm	C mm	X mm	Z mm	Weight without packaging kg	Weight with packaging kg
1-2	SFS1-1-2	0035461	1165	325	1300	340	10,7	11,4
3	SFS1-3	0035463	1165	390	1300	410	11,5	12,3
4	SFS1-4	0035464	1485	390	1620	410	14,6	15,2
5	SFS1-5	0035465	1485	450	1620	465	15,6	16,6

In case the filter section is used as first module, it must be completed with air return flange that can be of FRP flat type or with FRC circular spigots (see p. 67).

Crystall Section - SFE-DP

Section with Crystall electrostatic filter.



Model	ID	Code	A mm	B mm	C mm	X mm	Y mm	Z mm	Weight without packaging kg	Weight with packaging kg
1-2	SFE-DP-1-2	0035741	1165	370	325	1300	425	340	23,7	24,9
3	SFE-DP-3	0035743	1165	370	390	1300	425	410	26,8	28,1
4	SFE-DP-4	0035744	1485	440	390	1620	495	410	33,1	34,8
5	SFE-DP-5	0035745	1485	440	450	1620	495	465	36,8	38,6

SFE-DP is the modular section with Crystall filter to be used with the Ocean-ECM sections.

The filtering element is composed of three elements:

1. Active electrostatic Crystall 50 filtering assembly made of ionizing frame and filter pack
2. Casing containing the filtering assembly
3. Wired control and power box fitted on the unit

Technical characteristics

The SFE-DP Ocean ECM section equipped with Sabiana Crystall active electrostatic filter allows a consistent reduction of the fine particles existing in the environment thanks to the high efficiency filtration, performance certified in accordance to the Standard in force EN ISO 16890:2016.

It is also recalled that the WHO (World Health Organization) classified the PM (Particulate Matter) as certainly carcinogenic of group 1 as well as a vector of biological substances pathogenic to humans.

The particulate matters can be both solid and liquid : above all the liquid aerosols (droplets), like the ones produced during breathing and during other anthropomorphic activities, are the main vector of pathogenic Viruses and Bacteria and in some cases lethal to humans. It is now recognised by the world scientific community that all biological contaminants such as viruses and bacteria are mainly spread by the aerosol produced in the environment by infected people through breathing, coughing, sneezing or even simply speaking, with greater risk of spread indoors where we normally spend more than 80% of our time.

The most recent recommendations from WHO (Roadmap to improve and ensure good indoor ventilation in the context of COVID-19, March 1st, 2021) and the Prime Ministerial Decrees issued by the Italian Government (Guide Lines on Re-Opening Manufacturing) require, where possible, increasing the filtering efficiency of the equipment that handles indoor air and especially on air conditioning units in order to remove the smallest potentially infected particles from the air (containing pathogenic agents).

It is therefore suitable for different types of buildings, for example schools, hospitals and care homes, (hallways, waiting rooms, hospital ward rooms), doctor's offices, hotels and everywhere it is necessary to improve the quality of the indoor air.

Benefits

- No impact over the thermal and aeraulic balance system
- Negligible pressure drop (also with dirty filter)
- Demonstrated bactericidal action (sustainable IAQ)
- Easy and chip maintenance
- Very low power consumption
- Efficiency performances certified according to the Product Standard EN ISO 16890:2016
- In accordance with the Standards in force for electromagnetic compatibility and safety (by accredited institutions)
- Solution technologically sustainable and patented

Tests and Certifications

The Crystall solution has gone through numerous tests and efficiency and efficacy testing to assess its function and performance level in real conditions of use.

At various accredited agencies, efficiency and pressure drop tests were conducted, according to product standards EN ISO 16890:2016 and that are able to classify performance.

Sabiana's Crystall active electrostatic filter is able to guarantee a Most Penetrating Particle Size filtering efficiency level (MPPS - i.e. with an aerodynamic diameter between 0.2 and 0.4 µm) equal to semi-absolute filter E11 (MPPS ≥ 95% - E11 @ EN 1822-1).

Also, the University of Ancona (the online scientific publication "Bacteria Removal and Viability Attenuation by Means of an Electrostatic Barrier" can be consulted by purchasing the Indoor and Built Environment magazine from the web-site) conducted more than 180 laboratory tests on microbiological substances (total airborne microbiological load), which include bacteria, mould, fungi, etc. and that confirmed, through the statistical processing of the data carried out with the specific Fischer test, the efficacy of the Crystall active electrostatic filter in reducing the bacterial load.

Main components of the Crystall filtering assembly

The first element is the Crystall active electrostatic assembly with aluminium modular cells which is composed of two separate and distinct sections, one of which is active (polarisation section) attached to the load-bearing structure and the other is passive, with induced anode (collection or header section) that can be removed for maintenance.

The first section composed of electrodes and insulating parts does not require maintenance, while the second section, intended for the collection of organic and inorganic particulate, requires periodic cleaning.

Its extremely contained depth (just 50 mm) combined with its great dimensional flexibility, makes it suitable for satisfying the most diverse construction requirements, that have the aim of obtaining a high filtering level of the recirculation/secondary air (according to the definition provided by standard EN 16798.3).

The second component is the wired control and power box, available "fitted on the unit" or at a distance, that allows the management and the inspection of the Crystall filtering assembly operating status.

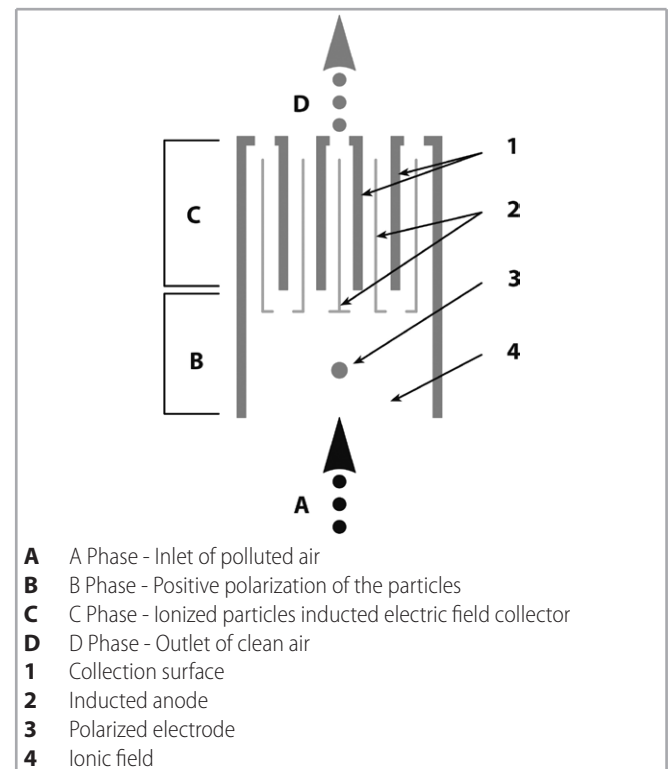
Active plate electrostatic filter of Femec type

The Crystall active electrostatic filter is based on the principle of separation of the particles contained in the air through electrical polarisation and their subsequent

treatment on counterposed metal surfaces, with opposite polarity.

It is built with thin metal blades tapered together, forming numerous and intense electrical fields. The polluting particles that transit there, charged by a special electrode, are attracted and captured, as though by small magnets, on the counterposed surfaces of the blades. The power required for this process is low, approximately 4/7 W for every 1000 m³/h of handled air.

Sabiana's patented Crystall solution makes it possible to achieve electrical fields on opposing surfaces without the need for additional electrical power supply, making every zone of the header (collection section) independent, there-by preventing the accidental short circuit of one section from compromising the operation of the entire filter.



Wired control and power box

The main element is the high voltage electronic power board required to feed the Crystall active electrostatic filter, an on/off disconnecting switch and a LED light to locally monitor the correct operating status.

The correct operation is possible at a distance also with a SPDT relay contact. The power supply is 230 Vca 50/60 Hz.

Filtration efficiencies

Model	Flow rate (m ³ /h)	Δpi Filter (***) Electrostatic (Pa)	Efficiency class (*)
Size 1	1100	3	ePM ₁ 95% - ePM _{2,5} 95% - ePM ₁₀ 95% - MPPS 96% (E11 @ EN 1822-1)
	1440	4	ePM ₁ 90% - ePM _{2,5} 90% - ePM ₁₀ 90% - MPPS 85% (E10 @ EN 1822-1)
Size 2	1100	3	ePM ₁ 95% - ePM _{2,5} 95% - ePM ₁₀ 95% - MPPS 96% (E11 @ EN 1822-1)
	1440	4	ePM ₁ 90% - ePM _{2,5} 90% - ePM ₁₀ 90% - MPPS 85% (E10 @ EN 1822-1)
	1900	6	ePM ₁ 80% - ePM _{2,5} 85% - ePM ₁₀ 85% - MPPS 69%
	2160	7	ePM ₁ 80% - ePM _{2,5} 80% - ePM ₁₀ 85% - MPPS 63%
Size 3	1460	3	ePM ₁ 95% - ePM _{2,5} 95% - ePM ₁₀ 95% - MPPS 96% (E11 @ EN 1822-1)
	1910	4	ePM ₁ 90% - ePM _{2,5} 90% - ePM ₁₀ 90% - MPPS 85% (E10 @ EN 1822-1)
	2530	6	ePM ₁ 80% - ePM _{2,5} 85% - ePM ₁₀ 85% - MPPS 69%
	2870	7	ePM ₁ 80% - ePM _{2,5} 80% - ePM ₁₀ 85% - MPPS 63%
Size 4	1730	3	ePM ₁ 95% - ePM _{2,5} 95% - ePM ₁₀ 95% - MPPS 96% (E11 @ EN 1822-1)
	2260	4	ePM ₁ 90% - ePM _{2,5} 90% - ePM ₁₀ 90% - MPPS 85% (E10 @ EN 1822-1)
	3000	6	ePM ₁ 80% - ePM _{2,5} 85% - ePM ₁₀ 85% - MPPS 69%
	3400	7	ePM ₁ 80% - ePM _{2,5} 80% - ePM ₁₀ 85% - MPPS 63%
Size 5	1940	3	ePM ₁ 95% - ePM _{2,5} 95% - ePM ₁₀ 95% - MPPS 96% (E11 @ EN 1822-1)
	2540	4	ePM ₁ 90% - ePM _{2,5} 90% - ePM ₁₀ 90% - MPPS 85% (E10 @ EN 1822-1)
	3360	6	ePM ₁ 80% - ePM _{2,5} 85% - ePM ₁₀ 85% - MPPS 69%
	3810	7	ePM ₁ 80% - ePM _{2,5} 80% - ePM ₁₀ 85% - MPPS 63%
	5090	11	ePM ₁ 70% - ePM _{2,5} 75% - ePM ₁₀ 80% - MPPS 60%

(*) Performant test according to EN ISO 16890:2016

(**) Pressure drop evaluated on the basis of the efficiency performant test according to EN ISO 16890:2016

ADDITIONAL SECTIONS

Humidification section - SUD-DP

Made of cellulose honeycomb pad imbued with waterproof resins, frame and distributor that is linear on the upper part. The pad is 100 mm thick and it is of disposable type.

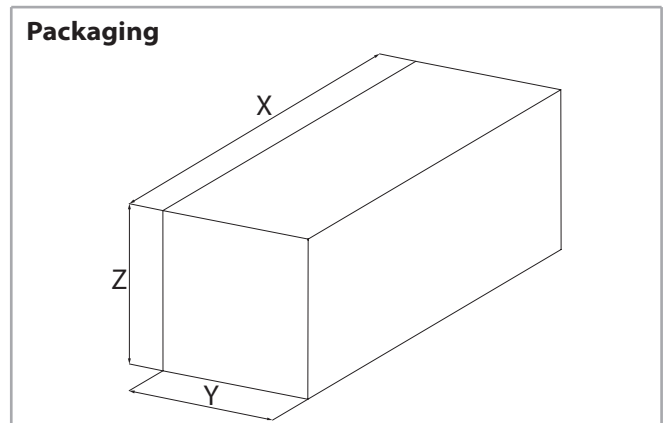
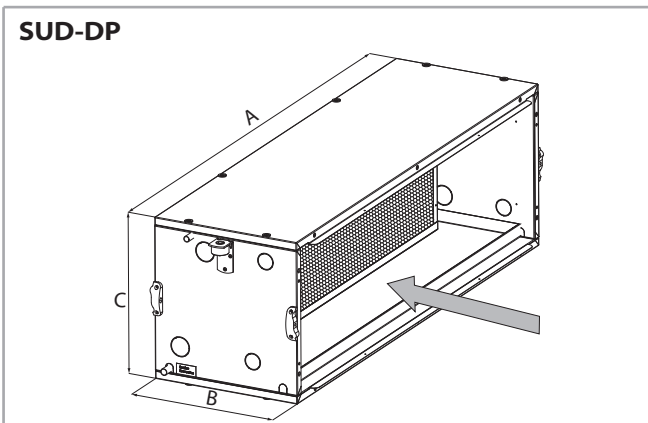
The section includes the condensate collection tray.

The nominal efficiency of saturation depends from the unit operating rate with efficiency until 70%.

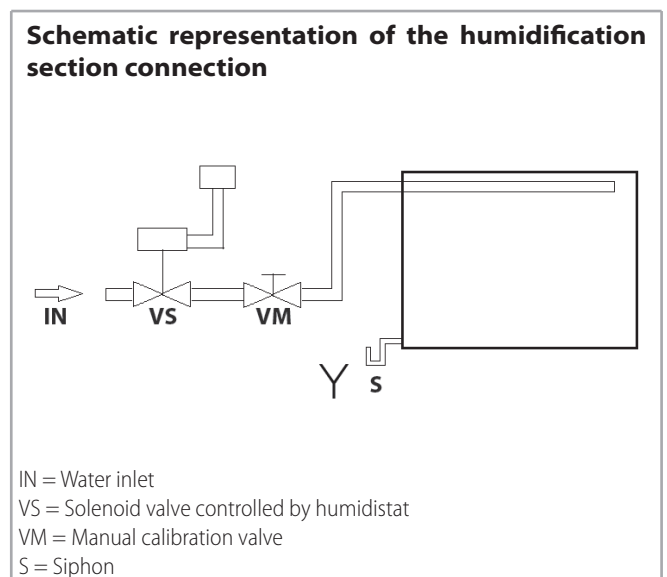
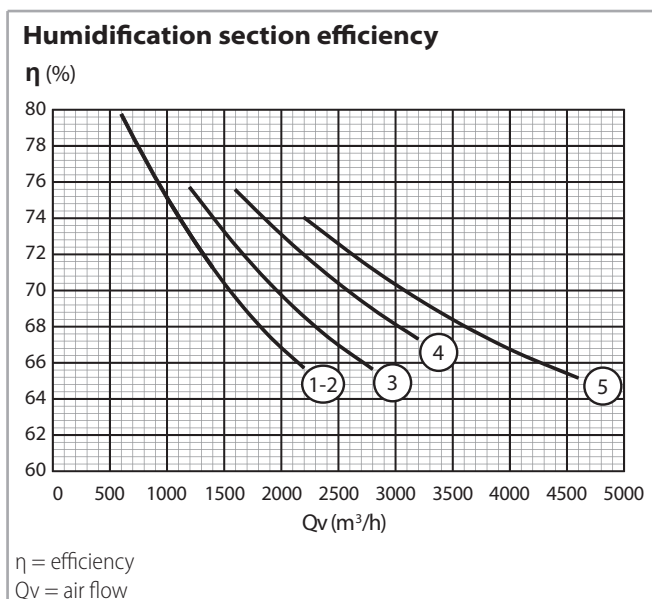
The valve tap for flow rate regulation and the interception solenoid valve to connect to a room humidistat are outside from the supply system.

Not to be used in vertical compositions.

For horizontal compositions, it is to be installed always downstream of the SBC heating coil section or of the SBEL heating coil



Model	ID	Code	A	B	C	X	Y	Z	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	mm	mm	kg	kg
1-2	SUD-DP-1-2	0035571	1165	370	325	1300	425	340	21,0	22,2
3	SUD-DP-3	0035573	1165	370	390	1300	425	410	23,0	24,3
4	SUD-DP-4	0035574	1485	440	390	1620	495	410	28,0	29,7
5	SUD-DP-5	0035575	1485	440	450	1620	495	465	30,0	31,8



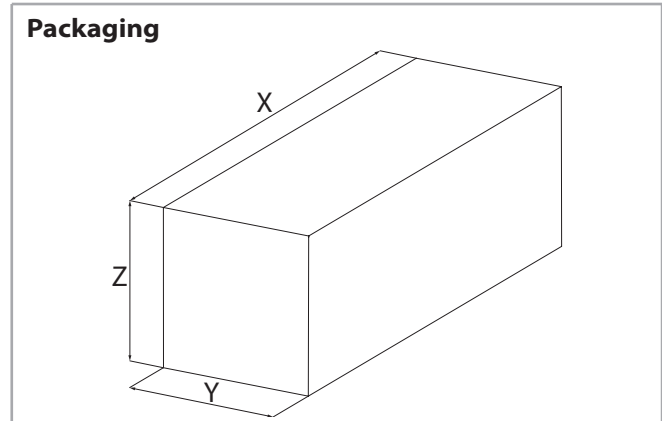
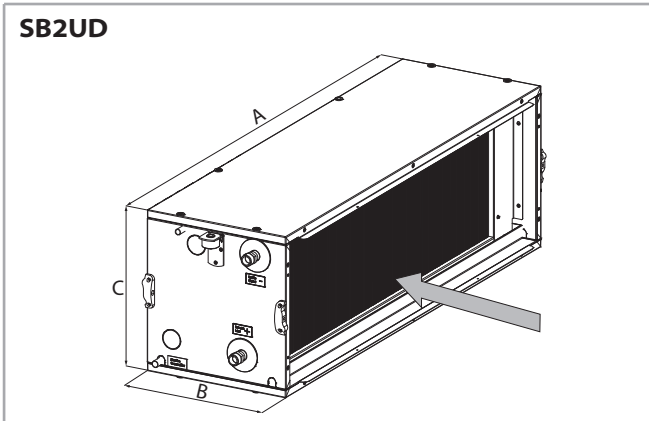
2R heating coil section + humidifier - SB2UD

The 2 row heating coil section + humidifier includes, within a single module, a 2 row coil and a humidification pad. The section includes the condensate collection tray.

The 2 row coil must be used for heating only and the performances are those shown from p. 29.

The supply and technical characteristics of the humidifier are the same as the ones of the SUD-DP Humidification section of p. 59

The valve tap for flow rate regulation and the interception solenoid valve to connect to a room humidistat are outside from the supply system.



Model	ID	Code	A	B	C	X	Y	Z	Coil connections	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	mm	mm		kg	kg
12	SB2UD-1	0035581	1165	370	325	1300	425	340	3/4"	22,0	23,2
22	SB2UD-2	0035582	1165	370	325	1300	425	340	3/4"	22,0	23,2
32	SB2UD-3	0035583	1165	370	390	1300	425	410	3/4"	23,0	24,3
42	SB2UD-4	0035584	1485	440	390	1620	495	410	1"	25,0	26,7
52	SB2UD-5	0035585	1485	440	450	1620	495	465	1"	35,0	36,8

Steam humidification section - SUD-V

Built on demand; for the delivery time please contact the Sabiana Technical Dept.

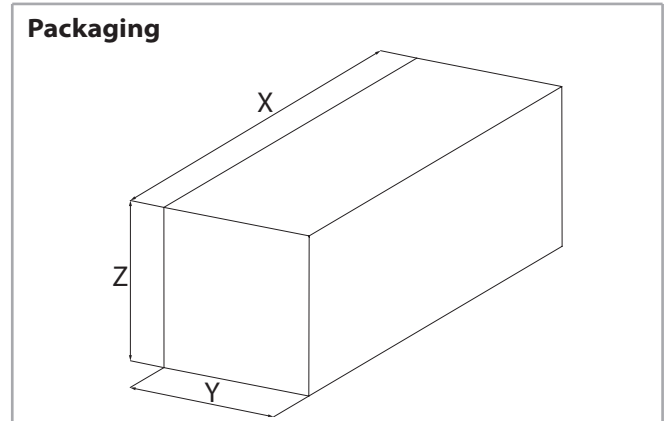
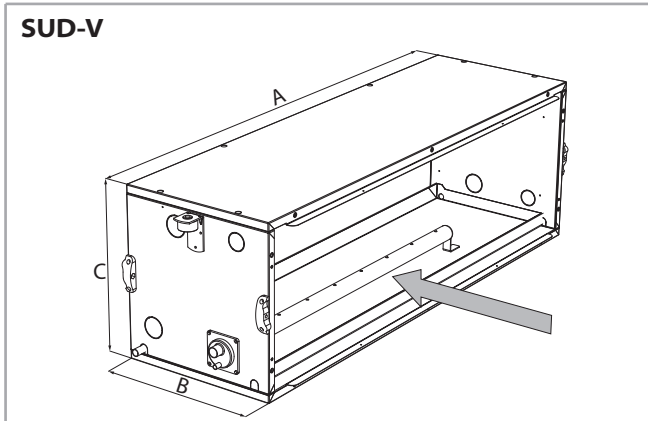
The steam humidification section includes a module with steam nozzle fitted on the unit, to be used only with stand-alone steam generators (not to be used with steam network).

The section includes the condensate collection tray.

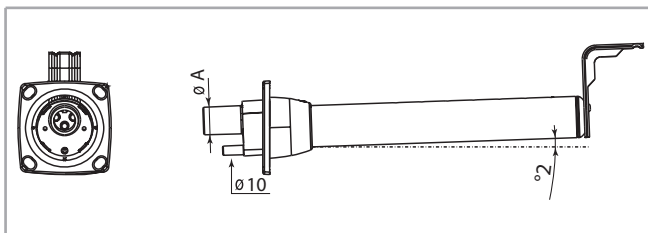
The steam nozzle is made of stainless steel-plastic with :

- upper steam outlets and condensate inlets
- 22 mm diameter for the sizes 1 - 2 and 30 mm for the sizes 3 - 4 - 5

The steam generator is not supplied.



Model	ID	Code	A mm	B mm	C mm	X mm	Y mm	Z mm	Weight without packaging kg	Weight with packaging kg
1-2	SUD-V-1-2	0035731	1165	370	325	1300	425	340	18,0	19,2
3	SUD-V-3	0035733	1165	370	390	1300	425	410	20,0	21,3
4	SUD-V-4	0035734	1485	440	390	1620	495	410	25,0	26,7
5	SUD-V-5	0035735	1485	440	450	1620	495	465	27,0	28,8



Model	ØA mm	Steam flow rate kg/h
1	22	1,6
2	22	3,2
3	30	4,8
4-5	30	6,5

Electric coil section - SBEL

It consists of a series of armoured electric heaters with an aluminium "Y"-shaped form with a high exchange surface, with a safety thermostat with automatic reset and a second one with manual reset.

The complete section is provided with a control panel including the contactors for power supply control on two different stages and a relay of intervention detection belonging to the safety thermostat.

Not to be used in vertical compositions.

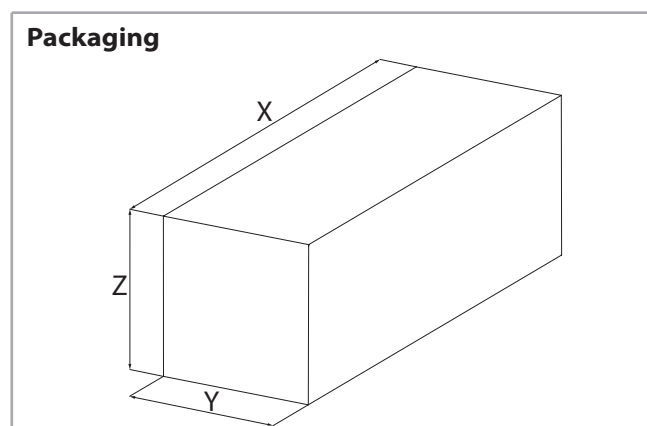
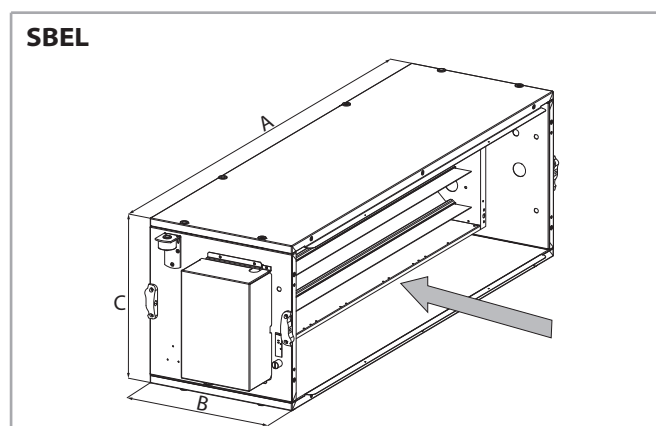
The BEL electric coil sections power supplies are:

230 Vac/1Ph /50 Hz single-phase version

Model	1st section W	Total W
1	2000	3000
2	3000	4500

400Vac/3Ph/50Hz three-phase version

Model	1st section W	Total W
1	2000	3000
2	3000	4500
3-4	5000	7500
5	7500	15000



230 Vac/1Ph /50 Hz single-phase version

Model	ID	Code	A	B	C	X	Y	Z	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	mm	mm	kg	kg
1	SBEL-1-3-230	0035471	1165	370	325	1300	425	340	26,0	27,2
2	SBEL-2-4-5-230	0035472	1165	370	325	1300	425	340	26,0	27,2

400Vac/3Ph/50Hz three-phase version

Model	ID	Code	A	B	C	X	Y	Z	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	mm	mm	kg	kg
1	SBEL-1-3-400	0035481	1165	370	325	1300	425	340	26,0	27,2
2	SBEL-2-4-5-400	0035482	1165	370	325	1300	425	340	26,0	27,2
3	SBEL-3-7-5-400	0035483	1165	370	390	1300	425	410	27,0	28,3
4	SBEL-4-7-5-400	0035484	1485	440	390	1620	495	410	33,0	34,7
5	SBEL-5-15-400	0035485	1485	440	450	1620	495	465	45,0	46,8

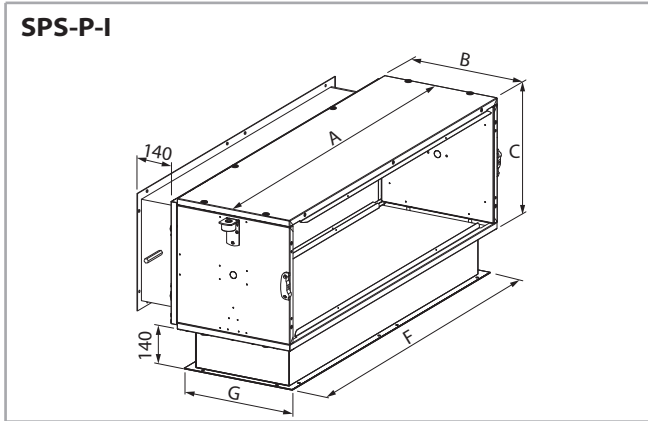
Plenum section with dampers - SPS

It allows to calibrate and mix the exhausted air and the fresh air flows properly.

The fresh air must not overcome 10% of the total rate. On the contrary, it must be previously handled by means of suitable recovery units according with the current Regulations.

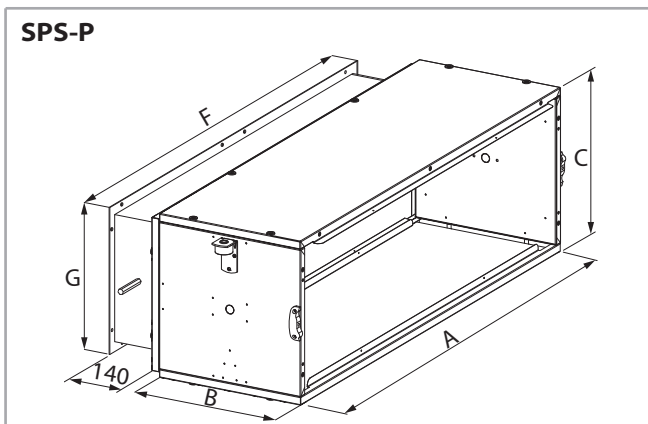
The plenum section is provided without packaging.

Plenum with back and lower dampers



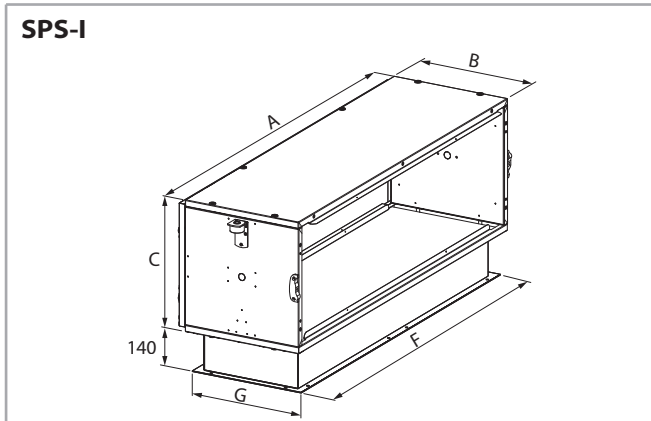
Model	ID	Code	A	B	C	F	G	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	mm	kg	kg
1-2	SPS-P-I-1-2	0035531	1165	370	325	1110	295	39,1	40,3
3	SPS-P-I-3	0035533	1165	370	390	1110	350	42,2	43,5
4	SPS-P-I-4	0035534	1485	440	390	1425	350	46,0	47,7
5	SPS-P-I-5	0035535	1485	440	450	1425	420	46,6	48,4

Plenum with back damper



Model	ID	Code	A	B	C	F	G	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	mm	kg	kg
1-2	SPS-P-1-2	0035511	1165	370	325	1110	295	39,1	40,3
3	SPS-P-3	0035513	1165	370	390	1110	350	42,2	43,5
4	SPS-P-4	0035514	1485	440	390	1425	350	46,0	47,7
5	SPS-P-5	0035515	1485	440	450	1425	420	46,6	48,4

Plenum with lower damper

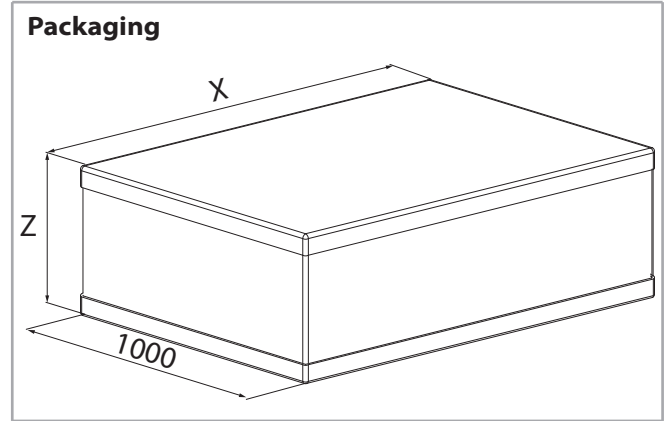
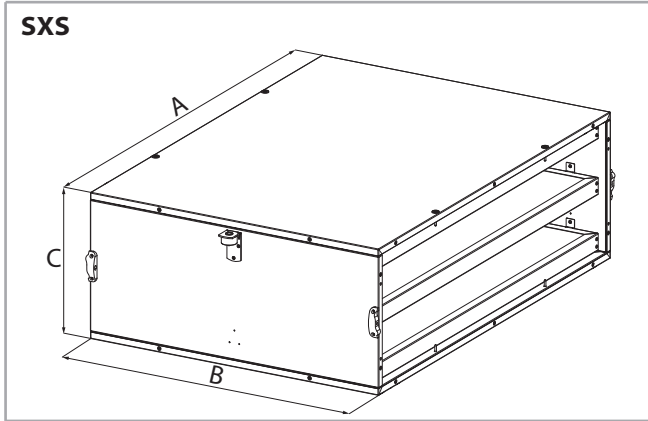


Model	ID	Code	A mm	B mm	C mm	F mm	G mm	Weight without packaging kg	Weight with packaging kg
1-2	SPS-I-1-2	0035521	1165	370	325	1110	295	39,1	40,3
3	SPS-I-3	0035523	1165	370	390	1110	350	42,2	43,5
4	SPS-I-4	0035524	1485	440	390	1425	350	46,0	47,7
5	SPS-I-5	0035525	1485	440	450	1425	420	46,6	48,4

Silencer section - SXS

The silencer section can be installed either for the air inlet and the air outlet.

It allows a sensible reduction of the noise generated by the unit by means of sound-absorbing materials made of 30 kg/m³ and of 50 mm thick reinforced glass fibre on both sides, with a black thin layer against the exfoliation.



Model	ID	Code	A mm	B mm	C mm	X mm	Z mm	Weight without packaging kg	Weight with packaging kg
1-2	SXS-1-2	0035501	1165	835	325	1345	355	31,0	34,8
3	SXS-3	0035503	1165	835	390	1345	425	33,0	37,0
4	SXS-4	0035504	1485	835	390	1660	425	49,0	53,6
5	SXS-5	0035505	1485	835	450	1660	480	51,0	55,9

The following table shows the sound attenuation values (in dB) obtainable at different frequencies (Hz)

Frequency	Hz	125	250	500	1000	2000	4000	8000
Sound attenuation	dB	4	10	18	16	12	12	11

Germicidal lamp section - SLG

Built on demand; for the delivery time please contact the Sabiana Technical Dept.

The germicidal lamp section is useful for the sanitization of the surfaces potentially wet, like the cooling coils with dehumidification and humidification sections; the germicidal lamp sections, when provided, must be coupled to the cooling coil sections and to the sections for humidification.

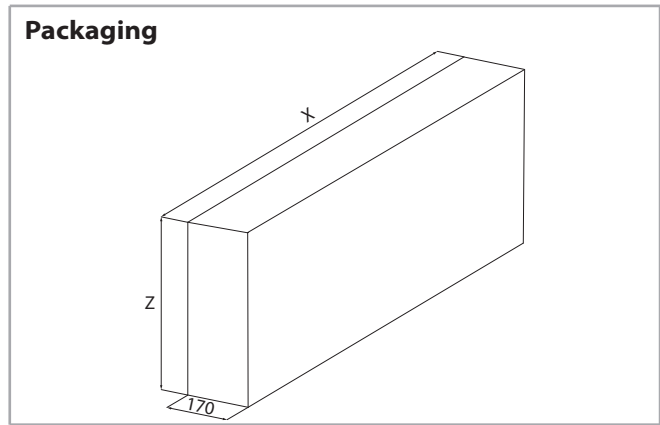
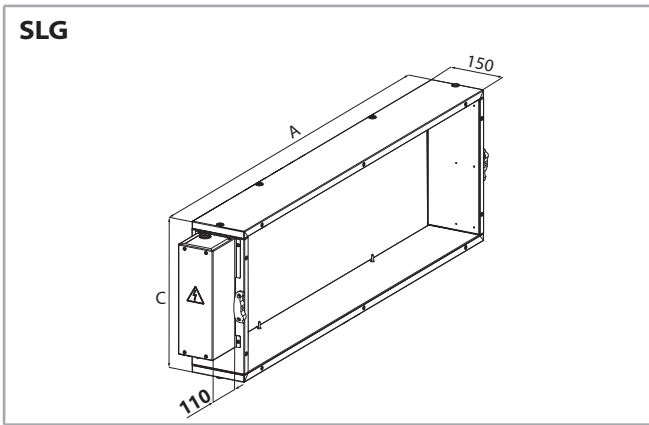
The germicidal lamp section must be provided after the cold coil section or after the humidification section (taking the air flow as reference).

The lamps are mounted inside the section and have the following characteristics:

- 78 W power for size 1-3 sections
- 105 W power for size 4-5 sections
- protection with Uvlon Pipe sheathing, making it IP 44 and capable of retaining glass fragments in the event of breakage

The section is equipped with a power supply unit.

The lower panel of the section is equipped with a microswitch that cuts the lamp off in case of improper opening of the lower inspection panel.



Model	ID	Code	A mm	C mm	X mm	Z mm	Weight without packaging kg	Weight with packaging kg
1-2	SLG-1-2	0035591	1165	325	1300	340	9,2	10,1
3	SLG-3	0035593	1165	390	1300	410	9,9	10,9
4	SLG-4	0035594	1485	390	1620	410	11,1	12,3
5	SLG-5	0035595	1485	450	1620	465	12,3	13,6

ACCESSORIES

Flanges

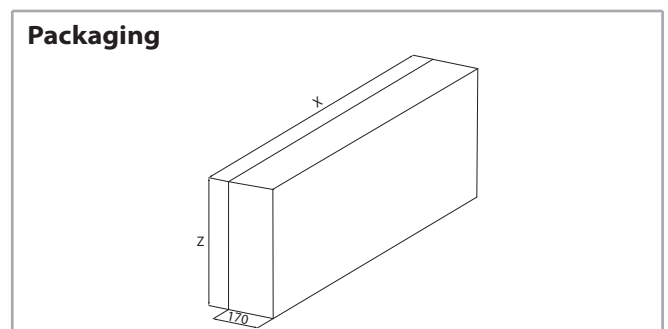
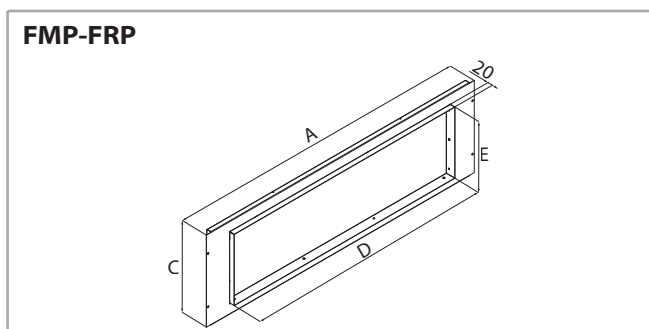
The flange accessory allows the canalization of the installation. The flanges are of two different types:

- air return and air supply flat flange prearranged for rectangular ducts
- air return and supply flange with spigots, prearranged for flexible circular pipes

The first and the last sections must be completed with a flange that allows (and make easier) the connection between the unit and the ducts; the flanges must be therefore considered as mandatory and necessary and can be used in different combination with air inlet and outlet.

Supply and return air flat flange with FMP/FRP rectangular opening

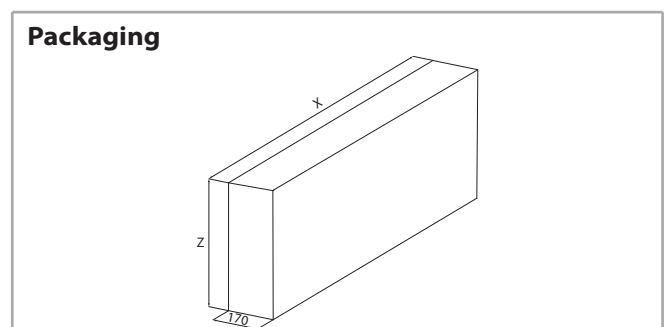
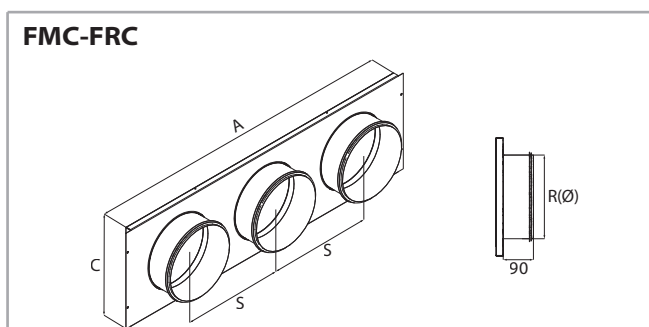
To be used with the first and/or the last section that builds the unit; the flat flange must be selected when the combination with rectangular ducts or with air return or supply grids is requested.



Model	ID	Code	A mm	C mm	D mm	E mm	X mm	Z mm	Weight without packaging kg	Weight with packaging kg
1-2	FMP/FRP-1-2	9035221	1165	285	955	198	1300	340	2,5	3,4
3	FMP/FRP-3	9035223	1165	350	955	266	1300	410	2,8	3,8
4	FMP/FRP-4	9035224	1485	350	1273	266	1620	410	3,4	4,6
5	FMP/FRP-5	9035225	1485	410	1273	323	1620	465	3,5	4,8

Air supply and air return flange with FMC/FRC circular spigots

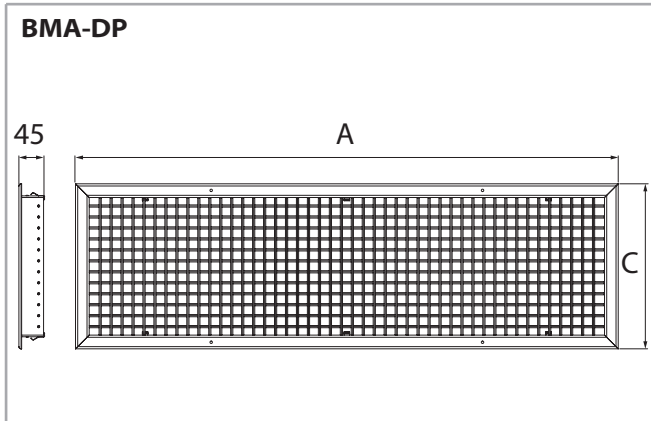
To be used with the first and/or the last section that builds the unit; the flange with spigots must be selected in case of flexible circular pipes; the quantity of spigots is shown in the table.



Model	ID	Code	A mm	C mm	R (∅) mm	Spigots number	S mm	X mm	Z mm	Weight without packaging kg	Weight with packaging kg
1-2	FMC/FRC-1-2	9035231	1165	285	200	3	360	1300	340	4,5	5,4
3	FMC/FRC-3	9035233	1165	350	250	3	360	1300	410	4,9	5,9
4	FMC/FRC-4	9035234	1485	350	250	4	345	1620	410	6,2	7,4
5	FMC/FRC-5	9035235	1485	410	250	4	345	1620	465	6,5	7,8

Air outlet grid - BMA-DP

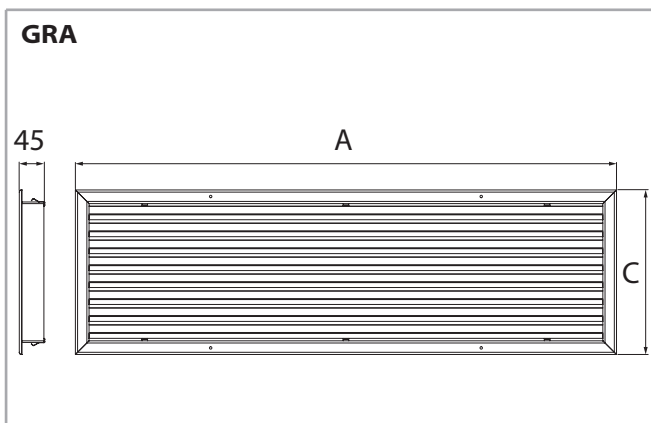
Doubled louvre row separately adjustable, anodised aluminium material.
it is to be used with the flat flange with rectangular opening.
The section is delivered with protective casing made of plastic.



Model	ID	Code	A	C	X	Z	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	kg	kg
1-2	BMA-DP-1-2	6035701	990	233	1300	340	2,10	2,50
3	BMA-DP-3	6035703	990	301	1300	410	2,95	3,45
4	BMA-DP-4	6035704	1307	301	1620	410	4,50	5,10
5	BMA-DP-5	6035705	1307	356	1620	465	5,50	6,20

Air inlet grid - GRA

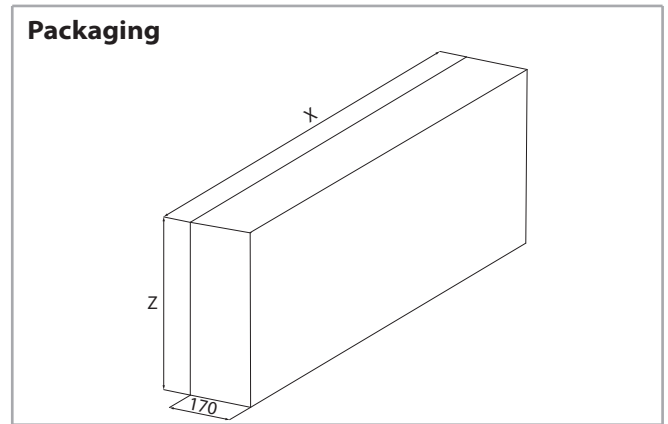
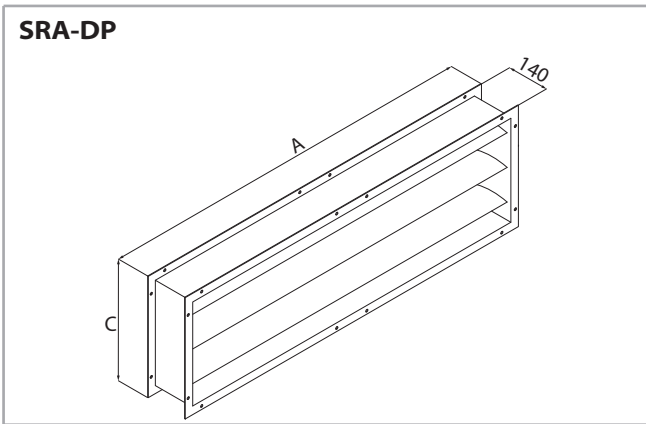
It is made of fixed horizontal louvres, anodised aluminium material.
it is to be used with the flat flange with rectangular opening.
The section is delivered with protective casing made of plastic.



Model	ID	Code	A	C	X	Z	Weight without packaging	Weight with packaging
			mm	mm	mm	mm	kg	kg
1-2	GRA-1-2	6035711	990	233	1300	340	1,90	2,30
3	GRA-3	6035713	990	301	1300	410	2,30	2,80
4	GRA-4	6035714	1307	301	1620	410	3,10	3,70
5	GRA-5	6035715	1307	356	1620	465	3,50	4,20

Interception damper - SRA-DP

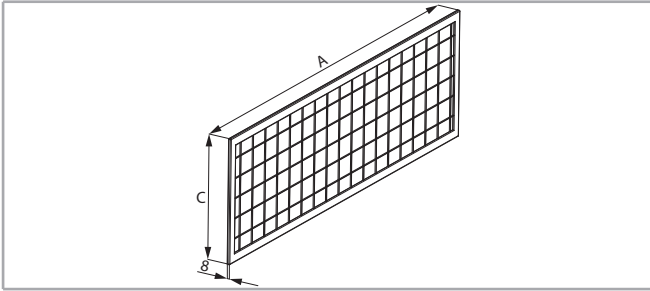
It allows to detect the air flow, made of galvanised steel plate with juxtaposed louvres moved by mechanical linkage. The pivot allows the use of a manual switch or of a suitable electric servo control.



Model	ID	Code	A mm	C mm	X mm	Z mm	Weight without packaging kg	Weight with packaging kg
1-2	SRA-DP-1-2	6034304	1110	295	1300	340	11,0	12,0
3	SRA-DP-3	6034305	1110	350	1300	410	13,0	14,0
4	SRA-DP-4	6034307	1425	350	1620	410	17,0	18,0
5	SRA-DP-5	6034308	1425	420	1620	465	17,0	18,0

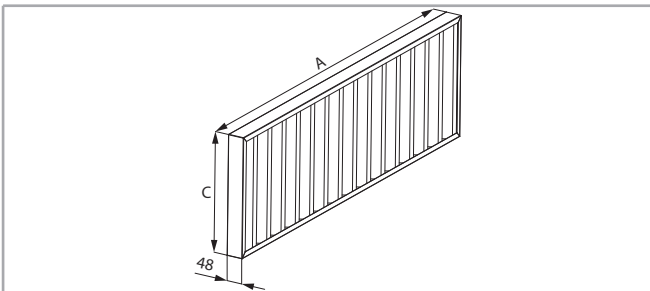
Spare filters

G0 spare filter



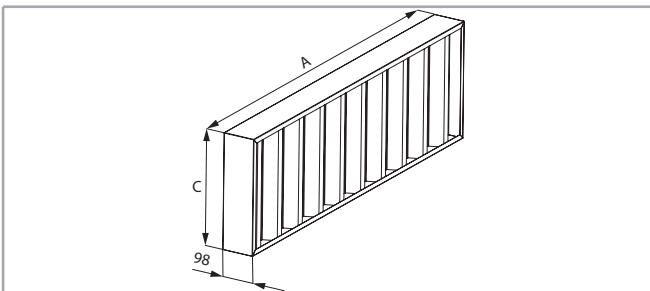
Model	ID	Code	A mm	C mm	Weight without packaging kg
1-2	SFS0R-1-2	6035691	1110	282	0,7
3	SFS0R-3	6035693	1110	345	0,8
4	SFS0R-4	6035694	1430	350	1,0
5	SFS0R-5	6035695	1430	405	1,2

Class ePM10 50% (ex M5) spare filter



Model	ID	Code	A mm	C mm	Weight without packaging kg
1-2	SFS10R-1-2	6035511	1165	282	1,5
3	SFS10R-3	6035513	1165	345	1,7
4	SFS10R-4	6035514	1430	350	2,1
5	SFS10R-5	6035515	1430	405	2,2

Class ePM1 55% (ex F7) spare filter



Model	ID	Code	A mm	C mm	Weight without packaging kg
1-2	SFS1R-1-2	6035611	1110	282	3,8
3	SFS1R-3	6035613	1110	345	4,2
4	SFS1R-4	6035614	1430	350	5,8
5	SFS1R-5	6035615	1430	405	6,5

Valves

230 V 3 way valves kit - To be used with 230 V ON-OFF (QCV-MB2, WM-T and WM-TQR) controls

3/4" ON-OFF valve:

230 V valve kit for main coil

- "Cooling coil section - SBF"
- Main coil for "Heating + cooling coil section - SBCF"

Model	ID	Code	Valve connection ∅	Kvs m ³ /h	Actuator V
1	V0-230-A	9035145	3/4"	6,3	230
2-3	V0-230-B	9035146	1"	6,3	230
4-5	V0-230-C	9035147	1 1/4"	10,0	230

230 V valve kit for additional coil

- "Heating coil section - SBC"
- Additional coil for "Heating + cooling coil section - SBCF"

Model	ID	Code	Valve connection ∅	Kvs m ³ /h	Actuator V
1-2-3	V0-230-A	9035145	3/4"	6,3	230
4-5	V0-230-D	9035148	1"	10,0	230

24V 3 way valves kit - To be used only with QCV-MB2 control board

The valves can't be used with WM-T and WM-TQR controls.

1" valve with 24 VAC 3 points modulating actuators

24V valve kit for main coil

- "Cooling coil section - SBF"
- Main coil for "Heating + cooling coil section - SBCF"

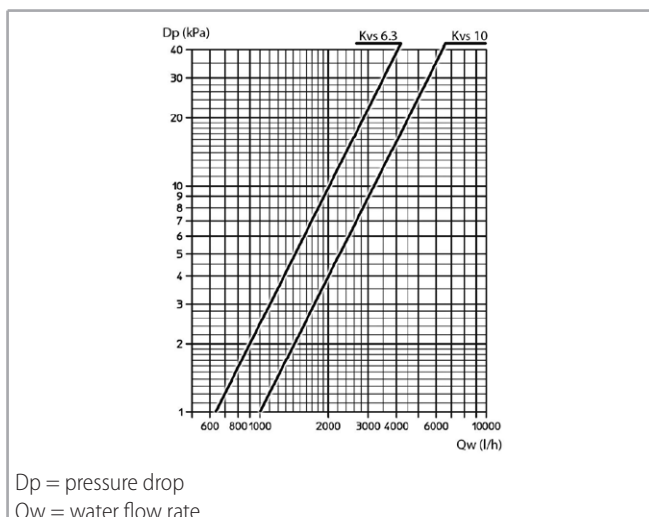
Model	ID	Code	Valve connection ∅	Kvs m ³ /h	Actuator V
1	V0-24-A	9035145C	3/4"	6,3	24
2-3	V0-24-B	9035146C	1"	6,3	24
4-5	V0-24-C	9035147C	1 1/4"	10,0	24

24V valve kit for additional coil

- "Heating coil section - SBC"
- Additional coil for "Heating + cooling coil section - SBCF"

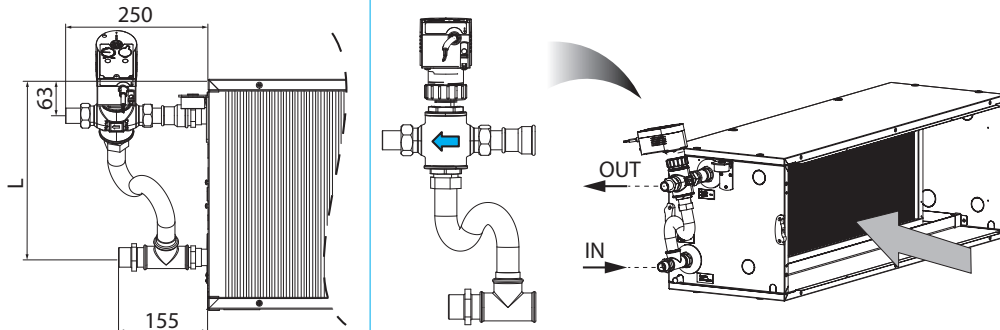
Model	ID	Code	Valve connection ∅	Kvs m ³ /h	Actuator V
1-2-3	V0-24-A	9035145C	3/4"	6,3	24
4-5	V0-24-D	9035148C	1"	10,0	24

Valve water flow rate diagram



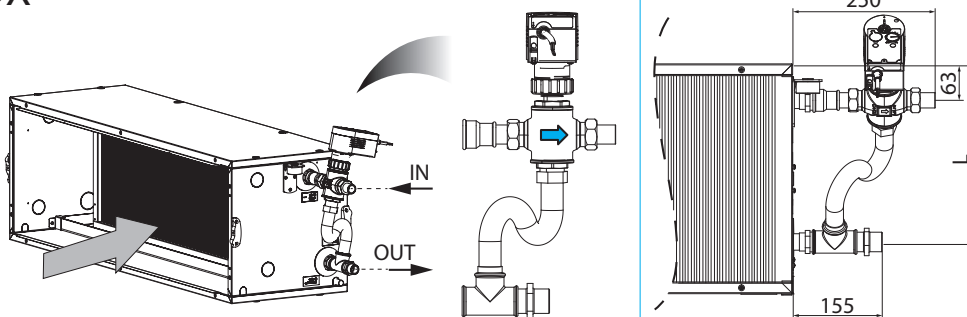
Dimensions

**Valves for SBF Cooling coil section
SX (standard)**

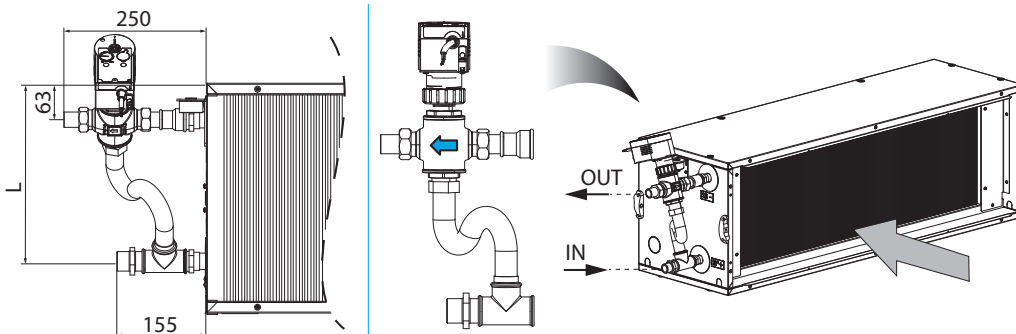


Mod. 1-2: L = 253 mm
Mod. 3-4: L = 303 mm
Mod. 5: L = 373 mm

DX

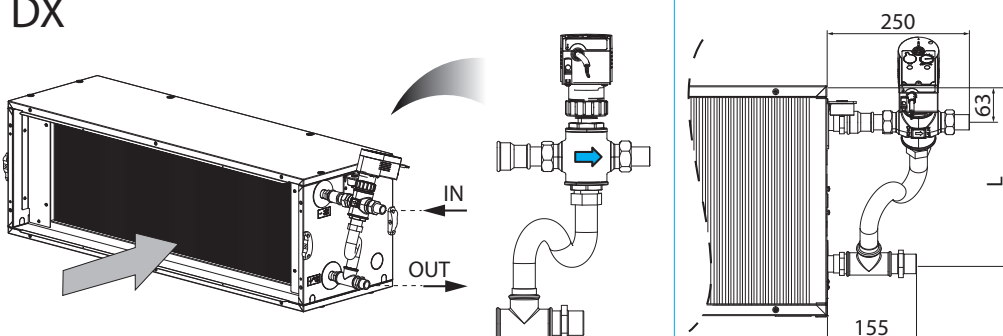


**Valves for SBC Heating coil section
SX (standard)**



Mod. 1-2: L = 253 mm
Mod. 3-4: L = 303 mm
Mod. 5: L = 373 mm

DX



ELECTRONIC WALL CONTROLS

All the Ocean ECM units can be supplied with a wide range of controls that allows managing one single unit or several units (with the use of the power units).

The WM-AU and T-MB2 electronic thermostats control the room temperature precisely and are suitable when the user wants to set the fan speed.

Controls

WM-AU wall control

Model	ID	Code
1-2-3-4-5	WM-AU	9066632



The control must always be connected with UPO-AU power unit (separately delivered).

The main characteristics are:

- ON/OFF switch
- Manual/automatic 3 speed switch.
- Manual, automatic or centralized Summer/Winter switch.
- Summer/Winter/Fan/Auto mode switch.
- Electric heater/IAQ filter activation switch.
- Electronic room thermostat for fan and water valves control (ON-OFF).
- Simultaneous thermostatic control of the valves and fan.
- It allows to use the low temperature cut-out thermostat NTC mounted on the power unit.
- It allows to control the water valves (ON-OFF) and the electric heater managed as main heating element or as an integration element.
- Energy saving function.
- Presence of a LED signal when the thermostat is on.

N.B.: with 4 pipe installations and continuous chilled and hot water supply, it allows the automatic summer winter change-over in accordance to the room temperature (-1 °C = Winter, +1 °C = Summer, Neutral Zone 2 °C).

Control power input current: see the UP-AU power unit
Dimensions: 135x86x24 mm

T-MB2 wall control

Model	ID	Code
1-2-3-4-5	T-MB2	9066994E



The control must always be connected with UP-OM-AU power unit (fitted on the unit) or with UPO-AU power unit (with separate packaging).

Control with TFT 2,4" coloured graphic display for wall installation, equipped with WiFi module and BLE for the management of the connected unit via Sabiana APP.

The main characteristics are:

- Management by keyboard or via Sabiana APP
- Management of one single unit or of several units in Master/Slave mode
- ON/OFF switch
- Operation mode setting
- Setpoint configuration or setpoint variation by supervisory program (+/- 3°C of the set)
- Room temperature internal sensor, which can be defined as a priority compared to the return air sensor on the fan coil
- Fan speed switch
- Advanced daily/weekly ON/OFF programming with 3 pre-settable weekly programs
- Viewing and editing of the unit operating parameters, alarm diagnostics and information about the unit (the viewable parameters depend from the control board model to which the T-MB2 control is connected)
- Activation/deactivation of the room temperature display
- Electric heater or electrostatic filter management
- Possibility to use the T1 sensor which allows the return air control (fitted on the power unit)

Control power input current: see the UPO-AU power unit

Dimensions: 115x72x20 mm

UPO-AU power unit

Model	FITTED		NOT FITTED	
	ID	Code	ID	Code
1-2-3-4-5	UPOM1-AU	9034170	UPO1-AU	9034169



Power unit to be installed on the fan coil (double insulated panel fan coil interface).

- It controls the fan and the valves of the double insulated panel fan coils.
- It is connected to the electric supply.
- It receives the information required from the remote control.
- Possibility to use the NTC low temperature cut-out thermostat (optional) for the T1 function which allows the return air control.
- Possibility to use the NTC probe (optional) for the T2 function which controls the summer/winter switch (change-over).
- Possibility to use the NTC low temperature cut-out thermostat (optional) for the T3 function as low temperature cut-out thermostat.
- It allows to control up to 10 units (1 master and 9 slaves).
- Max. network length: 100 meters.
- Max cable length between control and first connected power unit: 20 meters.

Power input current: 2,3 VA

Wall electronic controls accessories

T2

Model	ID	Code
1-2-3-4-5	T2	9025310

For UPO-AU power unit.

NTC probe type, to be placed on the water supply pipe upstream of the valves (not to be used with 2 way valves).



The T2 probe must be used as described below:

- Change-Over for the automatic switch of the operating mode. If water temperature is lower than 20 °C, cooling mode is set; on the other hand, if water temperature exceeds 30 °C, heating mode is set
- it can be used on units with electric heater and hot water supply (EXCEPT SkyStar). The T2 priority probe activates the electric heater or water valve, depending on the water temperature detected. If water temperature exceeds 34 °C, the water valve ON-OFF control is activated; on the other hand, if water temperature is lower than 30 °C, the electric heater is activated

CONTROLS AND UNITS MB VERSION

All the units Ocean ECM can be supplied in a wide range of controls, which allow managing one single unit or one or more groups of units by using the Modbus RTU - RS 485 communication protocol.

The groups of units can be managed according to the Master/Slave logic (up to 20 units) or by supervisory components.

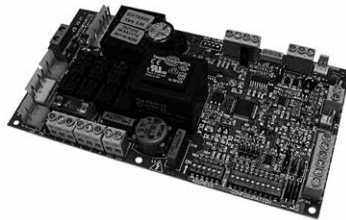
The system includes a single **MB power board** and a range of technical devices to be used with:

- The **T-MB2** wall control for the management of the single units;
- the **PSM-DI** multifunctional panel, the **Sabianet** supervisory system, the **T-DI** Touch screen multifunction control pane and the **SabWeb** Web gateway for "Sabiana Cloud", to manage one single unit or several units.

Controls

MB electronic board

Model	FITTED		NOT FITTED	
	ID	Code	ID	Code
1-2-3-4-5	QCV-MB2-M 1-6	9034521	QCV-MB2-S 1-6	9034511



To be mounted on the fan section side or at a distance.

The MB electronic board is set to carry out different functions and adjustment modes, in order to meet the installation requirements. These modes are selected by setting the configuration dip switches on the board.

- 2/4 pipe system.
- Fan ON/OFF thermostatic control.
- Valve ON/OFF thermostatic control and continuous ventilation.
- Valve and simultaneous ventilation ON/OFF thermostatic control.
- Fan operation control depending on the coil temperature (fitted T3 low temperature cut-out thermostat), which can be activated only in heating mode or heating and cooling mode.
- Automatic switch of the operating mode by means of T2 water probe (optional) applied on the 2 pipe system.
- Summer/Winter switch by means of remote contact.
- ON/OFF of the fan coil by means of the remote contact (window or clock contact).
- Electric heater control.

By activating the T3 low temperature cut-out thermostat function, the fan is stopped in winter when the coil temperature is lower than 32 °C and started when the temperature reaches 36 °C. In summer mode, the fan stops when the temperature inside the coil exceeds 22 °C and starts when it drops below 18 °C.

The following connections are located on the power board:

- T-MB2 wall control
- RS 485 serial connection to manage several fan coils in Master/Slave configuration or to create a supervisory network

NTC probe included for T1 function (return air control).
NTC probe included for T3 function (low temperature cut-out thermostat).

Possibility to use the NTC low temperature cut-out thermostat (optional) for the T2 function which controls the summer/winter switch.

Ocean ECM controls | CONTROLS AND UNITS MB VERSION

T-MB2 wall control

Model	ID	Code
1-2-3-4-5	T-MB2	9066994E



Included with the QCV-MB2 control panel

Control with TFT 2,4" coloured graphic display for wall installation, equipped with WiFi module and BLE for the management of the connected unit via Sabiana APP.

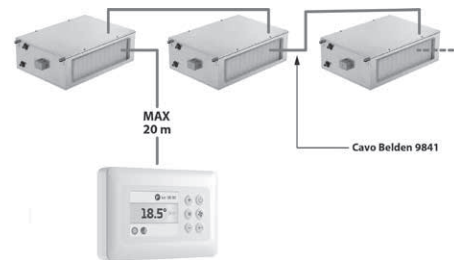
The main characteristics are:

- Management by keyboard or via Sabiana APP
- Management of one single unit or of several units in Master/Slave mode
- ON/OFF switch

One control for each unit
(Maximum length of the connection cable = 20 m)



One control for more units (20 units max.)
(Maximum total length of the connection cable = 800 m)



- Operation mode setting
- Setpoint configuration or setpoint variation by supervisory program (+/- 3°C of the set)
- Room temperature internal sensor, which can be defined as a priority compared to the return air sensor on the fan coil
- Fan speed switch
- Advanced daily/weekly ON/OFF programming with 3 pre-settable weekly programs
- Viewing and editing of the unit operating parameters, alarm diagnostics and information about the unit (the viewable parameters depend from the control board model to which the T-MB2 control is connected)
- Activation/deactivation of the room temperature display
- Electric heater or electrostatic filter management

Dimensions: 115x72x20 mm

More fan coils with QCV-MB2 control panel can be connected via a serial link and can consequently be managed at the same time by just one T-MB2 wall control.

T2 probe

Model	ID	Code
1-2-3-4-5	T2	9025310



NTC probe type, to be placed on the water supply pipe upstream of the valves (not to be used with 2 way valves).

The T2 probe must be used as described below:

- Change-Over for 2 pipe systems, for the automatic switch of the operating mode. If water temperature is lower than 20 °C, cooling mode is set; on the other hand, if water temperature exceeds 30 °C, heating mode is set

- it can be used on units with electric heater and hot water supply (EXCEPT SkyStar). The T2 priority probe activates the electric heater or water valve, depending on the water temperature detected. If water temperature exceeds 34 °C, the water valve ON-OFF control is activated; on the other hand, if water temperature is lower than 30 °C, the electric heater is activated

PSM-DI multifunction control panel

Model	ID	Code
1-2-3-4-5	PSM-DI	3021293

Multifunction control panel (to be used with MB board or MB versions only).



Another option available for the serial communication between the units is the possibility to connect up to 60 units in series and manage them with just one multifunction control panel. The control panel can be used to set the operating mode for each individual unit connected, display the operating conditions of each individual unit, and set the ON/OFF time sets for each day of the week (the program can be set for all the units and for a maximum of ten groups of units).

If more than 60 units need to be connected, two or more PSM-DI control panels must be used.

Each unit must have a MB board.

The PSM-DI control is used to manage a series of fan coils, up to a maximum of 60 units (the maximum length of the RS 485 connection cable must not exceed 800 m), from one single control point.

The PSM-DI control communicates via a serial line with all the units connected, with the possibility of controlling them all together or individually. In fact, the unique address of each individual fan coil means that all the units can be called at the same time, or the individual unit called, to perform the following functions:

- display the current operating mode, the fan speed, the set point
- display the room temperature measured on the individual unit
- turn all the units ON and OFF at the same time or alternatively each unit individually
- change the operating mode (fan only, heating, cooling, automatic change-over)
- change the set point and modify the values and operation parameters of the fan speed

Each function can then be sent to all the units connected, or alternatively to each individual unit.

Different set points or operating modes can be set for each individual unit.

The PSM-DI panel can also be used for the time management of the units over the week. Four ON times and four OFF times can be set on the units for each day of the week. A different temperature set that will be considered as Operation set for all connected appliances, can be set for each event. If the temperature set is not entered for the individual event, it must be set during programming for each individual unit or for the entire network.

The PSM-DI panel cannot be used together with the Sabianet management program.

Notes:

- *only one SIOS board is allowed to be used per each PSM-DI control panel*
- *about "Priority pump function": when just one unit calls for, the relay RL1 on the SIOS board is automatically activated to connect a hot water pump*
- *the RS 485 network's overall length must not exceed 700/800 metres*

T-DI Touch screen multifunction control panel

The T-DI multifunction control panel lets supervise and control more units with MB or SIOS boards; the panel is equipped with a 7 inches touch screen display and a serie of graphical pages that allows an easy reading of the data sent by the fan coils and the management of up to 60 units (max. 60 units: SIOS + MB).

With the T-DI multifunction control panel it is also possible to control the units at a distance with the specific Sabiana Cloud App for Android and iOS.

The Sabiana Cloud application is simple to use and lets have complete control of all the connected units.

T-DI Touch screen multifunction control panel



Web gateway for Cloud

With the Web gateway for "Sabiana Cloud" it is possible to control at a distance up to 60 units, equipped with MB or SIOS boards (max. 60 units: SIOS + MB), with the specific APP for Android and iOS.

The "Sabiana Cloud" APP is simple to use and lets have complete control of all the connected units.

SabWeb gateway for Sabiana Cloud



SABIANET SOFTWARE

Sabianet program for managing a network of Sabiana MBE fan coils

Model	ID	Code
1-2-3-4-5	Sabianet	9079118



Sabianet is a centralised control system for networks of Sabiana **MBE** fan coils, based on software that runs on LINUX™ operating system (the program is provided pre-installed on a PC) and it works in a "stand alone" way, as an ordinary computer, so that it can be connected to a monitor, to a mouse and to a keyboard. By connecting an Ethernet cable is instead possible to work at a distance and visualize the entire program setting-up through whatever browsers. The **Sabianet** software offers a practical and economical solution for managing the units, with the simple click of the mouse.

The main characteristics are:

- simplicity of use
- an extremely complete and functional weekly program
- possibility to access the historical operating data for each individual unit connected
- possibility of data saving on USB key
- visualization of the saved configuration on a new ASUS PC

The program takes advantage from all features of our units with fitted MBE board.

The program can be used to:

- create uniform groups (groups of units on individual floors, in offices or rooms)

- save weekly programs configured for different types of operation (summer, winter, mid seasons, closing periods etc.); these can then be recalled and activated with a simple click of the mouse. Weekly on/off cycles can be set for individual units or groups of units
- set the operating conditions for each individual unit or groups of units (operating mode, fan speed, temperature setting)
- set the set point limits for each individual unit or groups of units
- switch each individual unit or groups of units ON or OFF

With the Sabianet multifunction control panel it is also possible to control the units at a distance with the specific Sabiana Cloud App for Android and iOS.

The Sabiana Cloud APP is simple to use and lets have complete control of all the connected units.

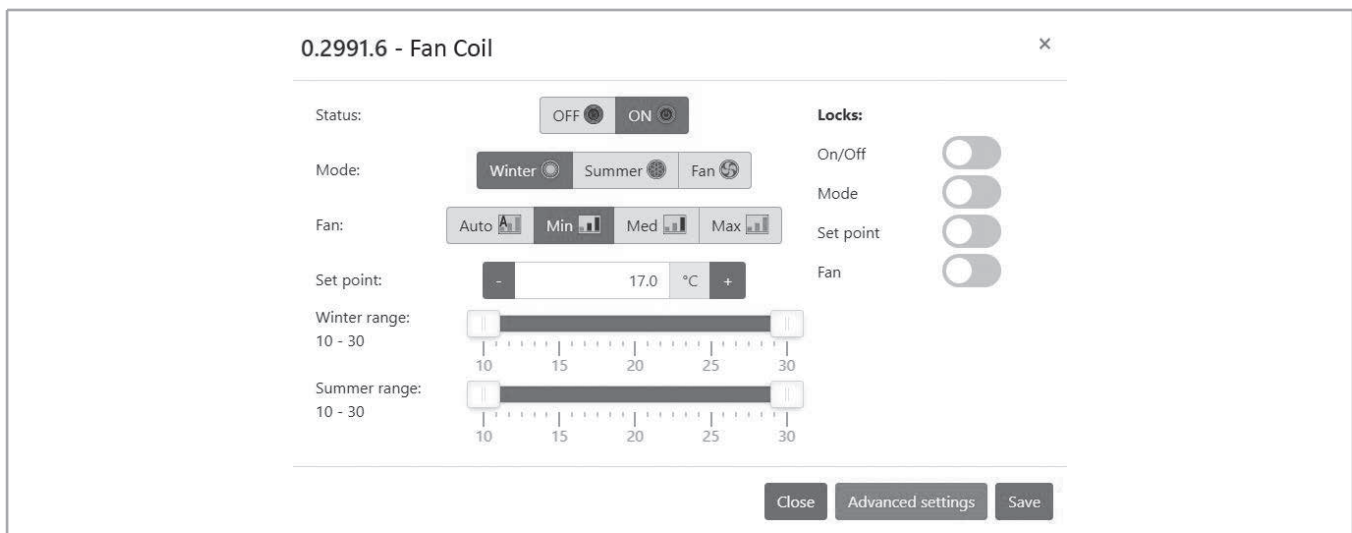
Graphical pages

The main program screen can display and interact with the entire network of units.

An individual unit, a group of units or the entire network can be called so as to make modifications to the operating mode and the set point.

The user can then check the operating status of each individual unit, read the room temperature, the coil temperature and the operating status of the condensate drain pump or any alarms.

The **"Monitoring"** Screen shows the units that are connected to the network and scanned by the program.



The icon of the terminal unit provides the following information:

- unit name (0.2766.8)
- set temperature (SETP)
- room temperature (AT)
- unit status:



ON (GREEN)



OFF (RED)

- mode:



Summer



Winter



Auto



Fan only

- fan speed:



Low



Medium



High



Auto Fan

The **“Programs”** Screen, can be used to set the unit operating parameters for each day of the week. Several weekly programs can be set.

Time bands are available for each day of the week. The time and the type of operation to be performed by the unit can be set for each band.

The time and the operating parameters can then be displayed before being sent to the unit and implemented.

Programs / Edit

Program name: **prova 12** Program type: **Weekly** Unit type: **Units**

Edit program name Copy day

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
0:00							
1:00							
2:00							
3:00							
4:00	17°C	17°C	17°C	17°C	17°C		
5:00							
6:00							
7:00							
8:00							
9:00							
10:00							

Every time that the reading of the set up Dip Switches results not easy (as for example by the false ceiling installations), it is always possible to display them directly through the Sabianet program.

0.2991.6 - Fan Coil

Unit status Configuration Parameters

ON

1 2 3 4 5 6 7 8 9 10

Dip	OFF option	ON option
1: OFF	2 pipe units	4 pipe units
2: OFF	Thermal power station with valves	Thermal power station with Fan
3: OFF	T3 disabled	T3 enabled
4: OFF	T3 only Winter when enabled	T3 Winter and Summer when enabled
5: OFF	Continuous ventilation	Simultaneous ventilation of valves
6: OFF	Unit without electrical heater	Resistance-coils Management
7: OFF	T2 as CH Change-Over (resistance phase II)	Resistance-coils with T2
8: OFF	RL7 (D0-D0) according to the state of the controller	RL7 (D0-D0) according to the pump
9: OFF	CA - Remote ON/OFF	CA = Remote Summer/Winter
10: OFF	Master	Slave

0.2991.6 - Fan Coil

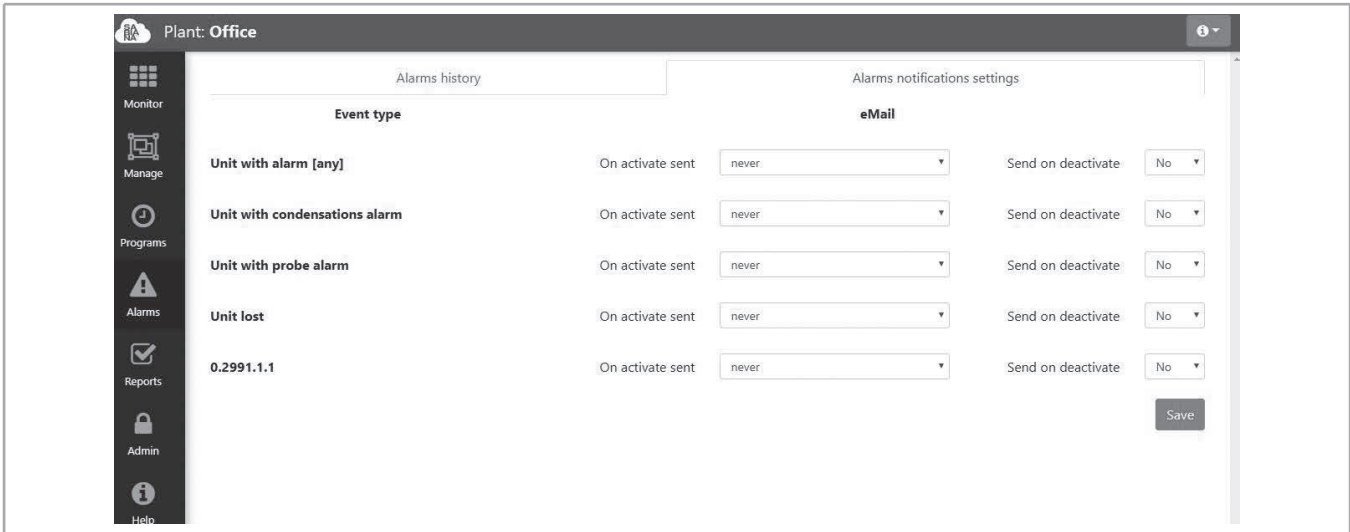
Unit status Configuration Parameters

T3 fan on heating	34.0 °C	T3 fan on cooling	22.0 °C
T3 fan control hysteresis	5.0 °C	Fan maximum off time for antistratification	10 min.
Antistratification on time	60 sec.	Post-ventilation time	180 sec.
ECM voltage MIN speed	1.0 V	ECM voltage MED speed	5.0 V
ECM voltage MAX speed	10.0 V	Pump, delay time	150 sec.

< 1 2 3 4 >

Close Set TMB time Save

In addition to the alarm set on the **"Alarms"** Screen, it is possible to send the ON-OFF alarm notification via E-mail and sms.



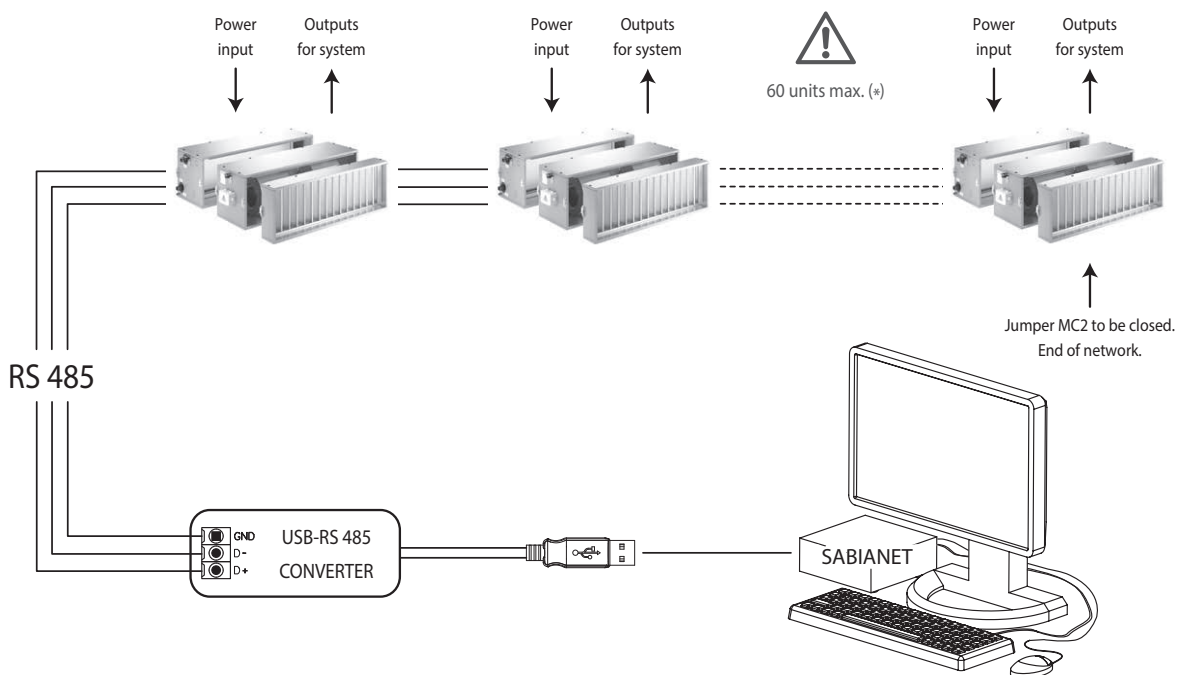
RS 485 serial connection cable

Shielded cable to be used : 9841, RS-485, 1x2x24 AWG SFTP, 120 Ohm.



PC Sabianet Software

Installation example with a Ocean ECM network with MB board.



(*) In the event of more than 60 units, add one or more Router-S (see next page).

PSM-DI and SABIANET accessories

SIOS

Model	ID	Code
1-2-3-4	SIOS	3021292

IO board



The SIOS is a board equipped with 8 relays with potential free contact to control the activation or deactivation of remote electric utilities. Moreover, the board has 8 digital inlets to display the actuators or external consents, such as motor or other.

The SIOS boards can be connected:

- inside a network managed by Sabianet
- to a PSM-DI panel (one SIOS for each PSM-DI panel)

Router-S

Model	ID	Code
1-2-3-4	Router-S	3021290

Router for Sabianet (default) or for BMS Systems not supplied by Sabiana.



The Router-S is an electronic board that allows to control several units inside a network managed by Sabianet (default) or within a sub-network managed by BMS systems, that are not provided by Sabiana (it is necessary to refit a Dip Switch on the board).

Managed by Sabianet

The Router-S in the standard version is an electronic board that:

- allows creating networks with more than 60 units (minimum 2 Router-S are required) or to divide the network (per floor, building, ecc.)
- allows creating a Master/Slave sub-network to be controlled as an independent group

The number of Router-S to be used is:

- up to 60 units: no Router-S
- from 61 to 120 units: 2 Router-S
- every 60 subsequent units: 1 additional Router-S

Managed by BMS Systems which are not provided by Sabiana

The Router-S becomes an electronic board to use with BMS systems (not by Sabiana), only after having set the Dip Switch on the board and so creating a Master/Slave sub-network to be controlled as an independent group.

The number of Router-S to be used is:

- max 14 Router-S
- max. 15 units for each Router-S

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Sabiana 2 and Sabiana 3 - Operative unit "via Virgilio 2 - Magenta (MI)"

Sabiana 4 - Operative unit "via Zanella 27 - Corbetta (MI)"