AREO

Air conditioning fan heater TECHNICAL MANUAL

GB

CE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
=ISO 9001/2000=

Galletti
AIR CONDITIONING

INDEX

DECLARATION OF CONFORMITY CE

Galletti S.p.A. whose main office is located at 12/a via Romagnoli, 40010 Bentivoglio (BO) - Italy, hereby declares, under its own responsibility, that the fan heaters belonging to the AREO series, indoor units for air-conditioning systems, conform to the specifications of EEC Directives 73/23, 89/392, 91/368, /93/44, 93/68, 89/336, 98/37 and subsequent modifications.

Bologna 01/11/2002

Luigi Galletti
President

OPERATING LIMITS

- **Thermal carrier fluid:** water
- **Water temperature:** min + 7°C, max +95°C
- **Air temperature:** min -10°C, max + 40°C
- **Supply voltage:** rated voltage +/- 10%
- **Max water pressure during operation:** 10 bars

To prevent phenomena of condensate dripping, it is advisable to select indoor units capable of maintaining, when operating at full capacity, an air temperature below 35 °C and relative humidity of less than 60%.

1 MAIN FEATURES

GALLETTI'S HISTORICAL PRODUCT IN AN UPDATED FORM

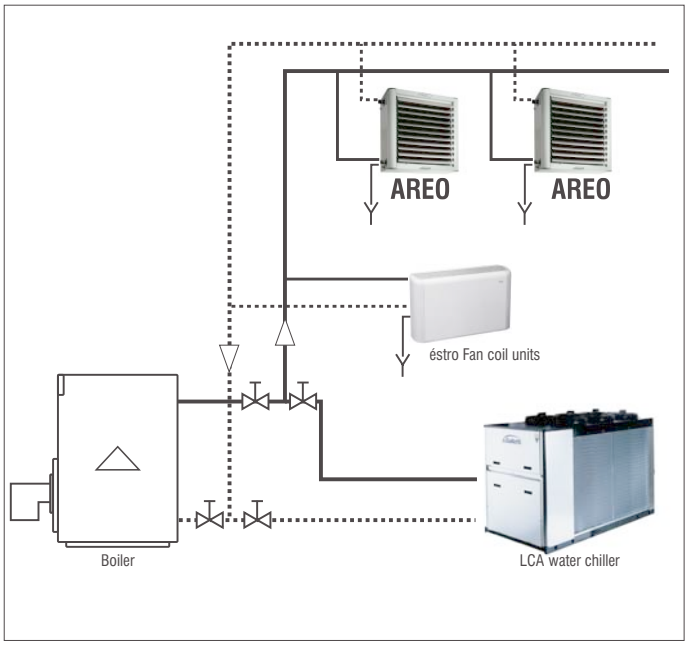
In line with recent HVAC trends, Galletti offers a versatile unit for medium-sized and large industrial and commercial buildings which combines year-round heating and air-conditioning functions.

Distinguishable by its original rounded shape, AREO stands out above all for its technical features (all models are equipped with three-speed motors and configured for operation with chilled water) and one of the lowest noise levels you will find in the market.

The AREO series comprises 18 models, all designed to be wall mounted (horizontal air flow) and to operate with hot water and chilled water, thanks to an innovative condensate collection and drainage system.

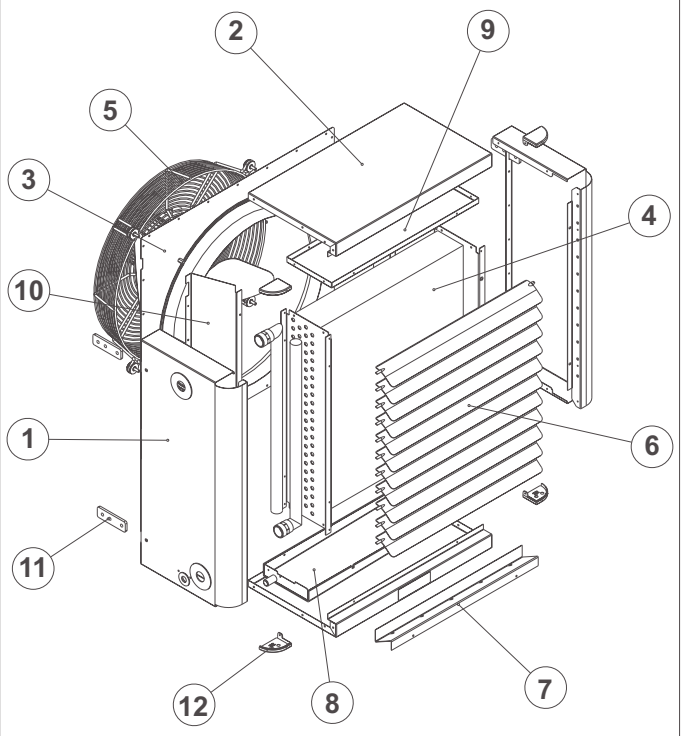
If used for heating only, AREO can also be ceiling mounted (vertical air flow).

The units are available in 6 sizes with 2-, 3- or 4-row heat exchangers ensuring an efficient performance with hot water supplied by a boiler or heat pump (4-row models).



The technical and dimensional data reported in this manual may be modified in view of any product improvement.

2 UNIT DESCRIPTION



(1) Cabinet: side panel
(2) Cabinet: upper/lower panel
(3) Rear panel/fan compartment
(4) Finned block heat exchanger (heat exchanger coil)
(5) Safety grille (fan) supporting motor
(6) Adjustable louvers
(7) Auxiliary drip tray
(8) Main drip tray
(9) Top cover of heat exchanger
(10) Conveyor duct
(11) Wall/ceiling mounting brackets
(12) Plastic corner trim on cabinet (left and right)

3 CONSTRUCTIVE FEATURES

The AREO are mainly made of the components listed below.
Prepainted sheet steel cabinet complete with ABS corner trim, internally insulated to prevent condensate from forming on the cabinet during operation with chilled water.
The cabinet is complete with adjustable aluminium louvers (spring operated) placed on the air outlet which allow an optimal distribution of the air within the air conditioned room.
AREO is supplied with brackets for suspending the fan heater to the ceiling or joining it to the mounting board for installation on the wall (accessory).
High conductivity heat exchanger made with copper tubes and aluminium fins assuring higher heat exchange than standard iron tubes exchangers.
The heat exchanger is set back in relation to the air outlet; an auxiliary drip tray is fitted into the front to guarantee complete collection of condensate.
Galvanised sheet steel drip tray insulated with closed cells polyurethane, connected to the auxiliary tray.
All motors are standard equipped with:
- internal thermal protection (klixon)
- windings in class F
- protection degree IP55
  Two Speeds, 4/6 poles or 6/8 poles, in the three - phase 400V version.
  3 speeds in the single - phase 230V (1400, 900 e 700 rpm), available for the complete range

Upon request, the following equipment is available:
- Polarity different from standard ones (example 4/8 poles)

Axial fan with statically balanced sickle blades housed in a specially designed compartment that enhances ventilation and reduces noise emissions.
Safety grille made of electrogalvanised steel wire: it supports the motor and is fixed to the cabinet by means of vibration damping supports.

4 AVAILABLE OPTIONS

AREO is complete with a wide range of accessories as control panels usually associaded with fan coils, thanks to the use of 230V single-phase three speed motors, a standard arrangement for all models and the operation system with chilled water.

230V SINGLE-PHASE CONTROL PANEL

CD	flush mounted speed control panel
CDE	wall mounted speed control panel
TD	wall mounted speed control panel, electromechanical thermostat and summer winter selector
TDC	wall mounted speed control panel and electromechanical thermostat
MICROD	microprocessor control panle for the automatic control of the unit
MICRONET	Microprocessor control ERGO solution
SW	electronic probe for the water temperature, for MICRO D control panel
IPM	electric control board for the connection to the control panels
KP	power interface for connecting up to 4 units to a single control panels

400 V THREE-PHASE CONTROL PANEL

CST	delta/star selector for installation in electric panels
CSTP	delta/star selector with box for wall installation

ROOM THERMOSTAT

TA	electromechanical room thermostat
TA2	electromechanical room thermostat with summer winter selector

MOUNTING BOARDS

DFP	wall mounting board
DFC	column mounting board
DFO	adjustable wall/column mounting board

FRESH AIR INTAKE LOUVERS

PAE	fresh air intake louver
PAE M	manual mixing fresh air intake louver
PAE MM	motor driven mixing air intake louver, modulating motor, 24V IP 54, with spring return
CSD	wall mounted control panel for opening and closing of the motor driven air inteake louver PAEMM
GR	fresh air intake grille

AIR DIFFUSER

DO	Additional row of louvers
R	Protection grill for gymnasium (against ball impact)
LA	Air curtain diffuser

5 RATED TECHNICAL DATA

Model	Fan speed	Air flow	Heating capacity	Total cooling capacity	Sensible cooling capacity	Max installation height	Sound power	Sound Pressure	Weight	Standard coil water content
		m^3/h	kW	kW	kW	m	dB A	dB A	kg	dm^3
AREO 12	4P	1260	8,89	-	-	3,0	66	44	19,4	0,88
	6P	788	6,77	3,08	1,77	3,0	62	40		
	8P	630	5,92	2,68	1,55	3,0	56	34		
AREO 13	4P	1208	11,81	-	-	3,0	66	44	19,8	1,18
	6P	735	8,62	3,92	2,25	3,0	62	40		
	8P	599	7,53	3,40	1,97	3,0	56	34		
AREO 14	4P	1155	13,93	-	-	3,0	66	44	20,4	1,47
	6P	683	9,72	4,41	2,55	3,0	62	40		
	8P	578	8,62	3,92	2,29	2,5	56	34		
AREO 22	4P	2835	17,62	-	-	3,5	69	47	25,1	1,33
	6P	1785	13,57	5,88	3,48	3,5	63	41		
	8P	1418	11,85	5,12	3,02	3,5	57	35		
AREO 23	4P	2730	23,98	-	-	3,5	69	47	26,0	1,81
	6P	1733	18,15	8,33	4,82	3,5	63	41		
	8P	1365	15,59	7,12	4,12	3,5	57	35		
AREO 24	4P	2678	27,03	-	-	3,5	69	47	27,0	2,29
	6P	1701	20,22	9,11	5,23	3,5	63	41		
	8P	1334	17,19	7,70	4,43	3,5	57	35		
AREO 32	4P	4620	33,14	-	-	4,5	74	52	33,7	2,15
	6P	2940	25,46	10,64	6,42	4,0	65	43		
	8P	2310	22,02	9,08	5,49	3,5	59	37		
AREO 33	4P	4463	37,83	-	-	4,5	74	52	34,5	2,86
	6P	2835	28,72	12,56	7,45	4,0	65	43		
	8P	2231	24,69	10,71	6,39	3,5	59	37		
AREO 34	4P	4358	43,28	-	-	4,0	74	52	36,1	3,58
	6P	2783	32,54	15,31	8,66	3,5	65	43		
	8P	2174	27,63	12,96	7,30	3,0	59	37		
AREO 42	4P	6510	47,45	-	-	4,5	77	55	39,1	2,84
	6P	4095	36,17	-	-	4,0	69	47		
	8P	3255	31,48	14,10	8,15	3,5	62	40		
AREO 43	4P	6195	53,61	-	-	4,5	77	55	40,8	3,83
	6P	3938	40,67	-	-	3,5	69	47		
	8P	3098	34,91	16,23	9,29	3,5	62	40		
AREO 44	4P	6090	60,59	-	-	4,0	77	55	43,1	4,82
	6P	3885	45,52	-	-	3,5	69	47		
	8P	3045	38,72	17,69	10,25	3,0	62	40		
AREO 52	4P	9450	55,49	-	-	5,0	84	62	49,6	4,16
	6P	5985	42,99	-	-	4,0	73	51		
	8P	4620	37,02	16,22	9,48	4,0	67	45		
AREO 53	4P	9240	70,64	-	-	4,0	84	62	52,0	5,48
	6P	5880	54,09	-	-	4,0	73	51		
	8P	4515	45,98	21,08	12,10	4,0	67	45		
AREO 54	4P	9083	79,16	-	-	4,5	84	62	55,0	6,80
	6P	5775	60,01	-	-	4,0	73	51		
	8P	4463	50,93	24,11	13,73	3,5	67	45		
AREO 62	6P	8820	79,74	-	-	5,5	77	55	57,8	5,09
	8P	6930	68,83	28,89	16,99	5,0	71	49		
AREO 63	6P	8505	94,34	-	-	5,5	77	55	61,0	6,79
	8P	6563	79,67	37,30	21,25	5,0	71	49		
AREO 64	6P	8295	97,62	-	-	5,0	77	55	63,2	8,48
	8P	6405	82,18	39,69	22,48	4,5	71	49		

NOTES

Rated capacity determined at the following conditions:
Cooling mode:water temperature 7/12°C, air temperature 28°C dry bulb, 55% relative humidity
Heating mode: water temperature 85 / 75°C, inlet air temperature 20°C
Sound pressure: distance of 5 meters, directional factor equal to 2

Fan speed:
4 p = 4 poles, 1400 rpm
6 p = 6 poles, 900 rpm
8 p = 8 poles, 700 rpm

To prevent phenomena of condensate dripping, it is advisable to select indoor units capable of maintaining, when operating at full capacity, an air temperature below 35 °C and relative humidity of less than 60%.

6 HEATING CAPACITY

Legend:

- **Δpw** Pressure drop on water side
- **PT** Heating capacity
- **Qw** Water flow rate
- **Tbs_1** Inlet air temperature
- **Tbs_2** Outlet air temperature
- **Tw_1** Inlet water temperature
- **Tw_2** Outlet water temperature
- **Vr** Fan speed:
  - **4 p** = 4 poles, 1400 rpm
  - **6 p** = 6 poles, 900 rpm
  - **8 p** = 8 poles, 700 rpm

Tw_1 / Tw_2	°C	45 / 40															
Tbs_1	°C	0				10				15				20			
AREO	Vr	PT	Qw	Δpw	Tbs_2	PT	Qw	Δpw	Tbs_2	PT	Qw	Δpw	Tbs_2	PT	Qw	Δpw	Tbs_2
		kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
AREO 12	4p	6,36	1105	52	14	4,76	828	31	20,8	3,98	691	23	24,2	3,19	555	15	27,5
	6p	4,85	844	32	17,1	3,64	632	19	23,2	3,04	528	14	26,2	2,44	425	10	29,2
	8p	4,25	739	26	18,7	3,18	553	15	24,5	2,66	462	11	27,3	2,14	372	8	30,1
AREO 13	4p	8,49	1475	42	19,4	6,35	1104	25	25,1	5,3	921	18	27,8	4,26	740	13	30,5
	6p	6,21	1081	24	23,4	4,65	808	15	28,1	3,88	675	11	30,4	3,12	543	7	32,6
	8p	5,44	945	19	25,1	4,06	707	12	29,5	3,39	590	8	31,5	2,73	475	6	33,5
AREO 14	4p	10,05	1748	34	24,1	7,51	1306	21	28,7	6,27	1090	15	30,8	5,04	877	10	33
	6p	7,05	1225	18	28,6	5,26	915	11	32,1	4,4	764	8	33,8	3,53	615	5	35,4
	8p	6,26	1089	15	30	4,68	813	9	33,2	3,9	679	7	34,7	3,14	545	4	36,1
AREO 22	4p	12,57	2187	39	12,3	9,4	1633	23	19,5	7,83	1362	17	23,1	6,27	1091	11	26,6
	6p	9,71	1688	25	15,1	7,26	1261	15	21,7	6,05	1052	11	24,9	4,85	843	7	28,1
	8p	8,49	1476	19	16,6	6,35	1104	12	22,8	5,29	920	8	25,9	4,25	738	6	28,9
AREO 23	4p	17,2	2990	54	17,4	12,87	2238	33	23,5	10,74	1867	24	26,5	8,63	1501	16	29,4
	6p	13,06	2270	33	20,9	9,77	1698	20	26,2	8,15	1418	15	28,7	6,56	1140	10	31,2
	8p	11,23	1954	26	22,8	8,4	1461	15	27,7	7,02	1220	11	30	5,65	982	8	32,3
AREO 24	4p	19,43	3378	35	20,1	14,53	2525	21	25,6	12,12	2107	15	28,2	9,74	1693	11	30,8
	6p	14,58	2536	21	23,7	10,9	1896	13	28,4	9,1	1582	9	30,6	7,32	1273	6	32,8
	8p	12,43	2160	16	25,8	9,29	1615	10	30	7,75	1348	7	32	6,23	1083	5	33,9
AREO 32	4p	23,68	4118	36	14,2	17,63	3066	21	21	14,65	2546	16	24,3	11,7	2034	10	27,5
	6p	18,25	3172	23	17,2	13,59	2362	14	23,3	11,3	1965	10	26,2	9,03	1570	7	29,1
	8p	15,8	2748	18	18,9	11,77	2047	11	24,6	9,79	1702	8	27,4	7,83	1362	5	30,1
AREO 33	4p	27,1	4713	34	16,8	20,24	3519	20	23	16,86	2932	15	26	13,51	2349	10	29
	6p	20,64	3589	21	20,2	15,41	2680	13	25,6	12,84	2234	9	28,2	10,31	1792	6	30,8
	8p	17,78	3091	16	22,1	13,27	2308	10	27,1	11,06	1924	7	29,5	8,88	1545	5	31,8
AREO 34	4p	31,1	5408	57	19,8	23,31	4052	34	25,3	19,47	3387	25	28	15,68	2726	17	30,7
	6p	23,46	4079	35	23,3	17,57	3055	21	28,1	14,69	2552	15	30,4	11,83	2058	11	32,6
	8p	19,96	3471	26	25,4	14,95	2599	16	29,7	12,49	2172	12	31,8	10,08	1752	8	33,8
AREO 42	4p	33,93	5900	63	14,4	25,35	4409	38	21,2	21,12	3673	27	24,5	16,93	2942	19	27,7
	6p	25,93	4510	39	17,5	19,38	3369	24	23,6	16,15	2809	17	26,5	12,96	2254	12	29,4
	8p	22,61	3930	31	19,2	16,89	2938	19	24,9	14,08	2449	13	27,6	11,3	1966	9	30,3
AREO 43	4p	38,43	6685	63	17,2	28,79	5006	38	23,3	24,04	4182	28	26,3	19,34	3363	19	29,3
	6p	29,25	5084	39	20,6	21,9	3808	23	26	18,3	3181	17	28,6	14,73	2562	12	31,1
	8p	25,15	4371	30	22,5	18,83	3273	18	27,4	15,73	2735	13	29,8	12,67	2203	9	32,2
AREO 44	4p	43,54	7570	41	19,8	32,59	5665	25	25,4	27,21	4730	18	28	21,88	3805	12	30,7
	6p	32,82	5707	25	23,4	24,56	4271	15	28,1	20,51	3566	11	30,4	16,52	2871	8	32,6
	8p	27,98	4864	19	25,4	20,93	3640	11	29,7	17,49	3039	8	31,8	14,09	2449	6	33,7
AREO 52	4p	39,59	6881	45	11,6	29,61	5150	27	19	24,68	4292	20	22,6	19,78	3441	13	26,2
	6p	30,74	5343	29	14,2	22,99	3999	17	21	19,17	3334	13	24,4	15,38	2674	9	27,6
	8p	26,51	4608	22	15,9	19,83	3447	13	22,3	16,54	2875	10	25,5	13,28	2308	7	28,5
AREO 53	4p	50,56	8792	53	15,1	37,89	6588	32	21,8	31,63	5498	23	25	25,43	4423	16	28,2
	6p	38,81	6749	33	18,3	29,08	5056	20	24,2	24,29	4222	15	27,1	19,54	3398	10	29,9
	8p	33,05	5749	25	20,3	24,76	4307	15	25,7	20,69	3596	11	28,4	16,65	2897	8	31
AREO 54	4p	56,77	9868	59	17,3	42,6	7408	36	23,5	35,63	6193	26	26,5	28,71	4993	18	29,4
	6p	43,17	7506	36	20,7	32,39	5631	22	26,1	27,09	4709	16	28,7	21,85	3798	11	31,2
	8p	36,7	6382	27	22,8	27,53	4787	17	27,7	23,03	4003	12	30,1	18,58	3231	8	32,4
AREO 62	6p	57,17	9939	39	17,9	42,59	7402	23	23,9	35,41	6155	17	26,7	28,32	4924	11	29,5
	8p	49,44	8595	30	19,7	36,83	6402	18	25,2	30,63	5327	13	27,9	24,52	4261	9	30,5
AREO 63	6p	67,93	11811	56	22,1	50,79	8832	34	27,1	42,38	7370	25	29,5	34,08	5924	17	31,9
	8p	57,49	9996	42	24,2	42,98	7472	25	28,8	35,87	6237	18	31	28,87	5019	13	33,1
AREO 64	6p	70,41	12242	59	23,5	52,77	9173	35	28,3	44,11	7670	26	30,5	35,57	6187	18	32,7
	8p	59,39	10325	44	25,7	44,49	7737	26	29,9	37,21	6468	19	32	30,02	5221	13	33,9

6 HEATING CAPACITY

Legend:

- **Δpw** Pressure drop on water side
- **PT** Heating capacity
- **Qw** Water flow rate
- **Tbs_1** Inlet air temperature
- **Tbs_2** Outlet air temperature
- **Tw_1** Inlet water temperature
- **Tw_2** Outlet water temperature
- **Vr** Fan speed:
  - **4 p** = 4 poles, 1400 rpm
  - **6 p** = 6 poles, 900 rpm
  - **8 p** = 8 poles, 700 rpm

Tw_1 / Tw_2	°C	70 / 60															
Tbs_1	°C	0				10				15				20			
AREO	Vr	**PT**	**Qw**	**Δpw**	**Tbs_2**	**PT**	**Qw**	**Δpw**	**Tbs_2**	**PT**	**Qw**	**Δpw**	**Tbs_2**	**PT**	**Qw**	**Δpw**	**Tbs_2**
		kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
AREO 12	4p	9,74	854	30	21,4	8,11	712	22	28,5	7,31	642	18	31,9	6,52	572	15	35,4
	6p	7,44	653	19	26,1	6,2	544	14	32,6	5,58	490	11	35,7	4,98	436	9	38,8
	8p	6,51	571	15	28,6	5,42	476	11	34,7	4,89	429	9	37,6	4,36	382	7	40,5
AREO 13	4p	13,01	1141	25	29,8	10,82	949	18	35,7	9,75	856	15	38,6	8,68	762	12	41,4
	6p	9,54	836	14	35,9	7,93	695	10	40,9	7,14	626	9	43,4	6,36	558	7	45,7
	8p	8,34	732	11	38,6	6,93	608	8	43,2	6,24	548	7	45,4	5,56	488	6	47,6
AREO 14	4p	15,42	1354	20	37	12,81	1124	14	41,8	11,54	1012	12	44,2	10,27	901	10	46,4
	6p	10,83	950	11	43,9	8,98	789	8	47,7	8,09	709	6	49,6	7,2	632	5	51,3
	8p	9,62	844	9	46,1	7,98	700	6	49,6	7,18	630	5	51,3	6,4	561	4	52,9
AREO 22	4p	19,24	1688	22	18,8	16,02	1405	16	26,2	14,43	1266	14	29,9	12,85	1128	11	33,5
	6p	14,86	1304	14	23	12,37	1085	10	29,9	11,14	977	9	33,2	9,92	870	7	36,5
	8p	13,01	1141	11	25,4	10,82	950	8	31,9	9,75	855	7	35,1	8,68	761	6	38,2
AREO 23	4p	26,35	2311	32	26,7	21,94	1924	23	33,1	19,76	1733	19	36,1	17,61	1545	16	39,2
	6p	20,02	1756	19	32	16,65	1461	14	37,6	15	1316	12	40,3	13,36	1173	10	42,9
	8p	17,23	1513	15	34,9	14,33	1257	11	40,1	12,91	1132	9	42,6	11,5	1009	7	45
AREO 24	4p	29,78	2613	21	30,8	24,77	2173	15	36,5	22,31	1956	12	39,3	19,87	1743	10	42
	6p	22,38	1963	13	36,4	18,6	1631	9	41,4	16,74	1469	8	43,7	14,91	1308	6	46
	8p	19,08	1673	9	39,6	15,84	1390	7	44,1	14,26	1251	6	46,2	12,7	1114	5	48,3
AREO 32	4p	36,26	3181	21	21,7	30,11	2642	15	28,7	27,07	2375	13	32,1	24,06	2112	10	35,5
	6p	27,95	2453	13	26,3	23,2	2036	10	32,6	20,86	1831	8	35,7	18,55	1627	6	38,7
	8p	24,22	2124	10	29	20,1	1764	7	35	18,07	1586	6	37,8	16,07	1410	5	40,7
AREO 33	4p	41,52	3642	20	25,8	34,52	3030	14	32,2	31,08	2726	12	35,3	27,66	2426	10	38,4
	6p	31,64	2775	12	30,9	26,29	2307	9	36,6	23,67	2076	7	39,4	21,06	1849	6	42,1
	8p	27,27	2391	9	33,8	22,65	1986	7	39,1	20,38	1789	6	41,7	18,14	1592	5	44,2
AREO 34	4p	47,69	4182	33	30,3	39,71	3485	24	36,1	35,79	3140	20	39	31,91	2799	16	41,7
	6p	35,99	3158	20	35,8	29,95	2627	15	40,9	26,98	2368	12	43,3	24,05	2110	10	45,7
	8p	30,65	2689	15	39	25,48	2236	11	43,6	22,96	2014	9	45,8	20,46	1796	8	48
AREO 42	4p	51,94	4558	37	22,1	43,23	3792	26	29,1	38,93	3414	22	32,5	34,65	3040	18	35,8
	6p	39,73	3486	23	26,9	33,05	2899	17	33,2	29,75	2611	14	36,2	26,49	2325	11	39,2
	8p	34,65	3040	18	29,5	28,81	2528	13	35,4	25,94	2276	11	38,3	23,09	2026	9	41,1
AREO 43	4p	58,89	5165	37	26,3	49,06	4304	27	32,7	44,21	3879	22	35,8	39,41	3458	18	38,9
	6p	44,84	3935	23	31,5	37,33	3275	16	37,2	33,63	2951	14	39,9	29,98	2631	11	42,6
	8p	38,58	3385	17	34,5	32,1	2815	13	39,7	28,92	2538	11	42,3	25,78	2261	9	44,7
AREO 44	4p	66,74	5857	24	30,3	55,54	4875	18	36,2	50,04	4390	15	39	44,59	3911	12	41,7
	6p	50,36	4419	15	35,9	41,88	3674	11	40,9	37,72	3309	9	43,3	33,61	2948	7	45,7
	8p	42,96	3768	11	39	35,69	3132	8	43,6	32,14	2820	7	45,8	28,64	2513	5	47,9
AREO 52	4p	60,58	5315	26	17,7	50,47	4430	19	25,3	45,47	3990	16	29	40,5	3552	13	32,7
	6p	47,06	4130	17	21,8	39,2	3438	12	28,8	35,31	3098	10	32,2	31,45	2759	8	35,6
	8p	40,6	3560	13	24,3	33,8	2966	9	31	30,45	2672	8	34,2	27,12	2379	6	37,4
AREO 53	4p	77,42	6795	31	23,2	64,54	5663	22	30	58,18	5102	19	33,4	51,86	4550	15	36,7
	6p	59,47	5219	19	28	49,54	4347	14	34,2	44,65	3917	12	37,2	39,8	3492	10	40,1
	8p	50,68	4446	15	31,1	42,2	3702	11	36,8	38,02	3337	9	39,6	33,9	2973	7	42,3
AREO 54	4p	86,97	7630	34	26,5	72,53	6366	25	32,9	65,42	5742	21	36	58,37	5121	17	39,1
	6p	66,19	5807	21	31,7	55,16	4839	15	37,4	49,73	4365	13	40,1	44,36	3893	11	42,8
	8p	56,3	4941	16	34,9	46,89	4115	12	40,1	42,27	3709	10	42,7	37,71	3308	8	45,1
AREO 62	6p	87,6	7683	23	27,5	72,71	6380	16	33,7	65,38	5736	14	36,6	58,13	5101	11	39,6
	8p	75,77	6651	18	30,3	62,88	5517	13	36	56,54	4960	11	38,8	50,27	4412	9	41,5
AREO 63	6p	104,18	9143	33	33,9	86,61	7602	24	39,2	77,99	6842	20	41,8	69,47	6093	16	44,3
	8p	88,23	7742	24	37,2	73,31	6433	18	42,1	65,99	5792	15	44,4	58,79	5157	12	46,6
AREO 64	6p	108,03	9480	34	36,1	89,91	7889	25	41,1	81,02	7110	21	43,5	72,25	6339	17	45,9
	8p	91,19	8000	25	39,4	75,83	6656	18	44	68,33	5995	15	46,2	60,93	5345	13	48,3

6 HEATING CAPACITY

Legend:

- **Δpw** Pressure drop on water side
- **PT** Heating capacity
- **Qw** Water flow rate
- **Tbs_1** Inlet air temperature
- **Tbs_2** Outlet air temperature
- **Tw_1** Inlet water temperature
- **Tw_2** Outlet water temperature
- **Vr** Fan speed:
  - **4 p** = 4 poles, 1400 rpm
  - **6 p** = 6 poles, 900 rpm
  - **8 p** = 8 poles, 700 rpm

Tw_1 / Tw_2	°C	80 / 65															
Tbs_1	°C	0				10				15				20			
AREO	Vr	PT	Qw	Δpw	Tbs_2	PT	Qw	Δpw	Tbs_2	PT	Qw	Δpw	Tbs_2	PT	Qw	Δpw	Tbs_2
		kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
AREO 12	4p	10,74	630	17	23,6	9,11	534	13	30,7	8,31	487	11	34,3	7,51	441	9	37,7
	6p	8,22	482	11	28,9	6,97	409	8	35,4	6,35	373	7	38,5	5,74	337	6	41,6
	8p	7,2	422	9	31,6	6,11	358	6	37,8	5,57	327	5	40,8	5,03	295	5	43,7
AREO 13	4p	14,38	843	14	32,9	12,18	715	11	38,9	11,1	651	9	41,8	10,03	588	8	44,7
	6p	10,56	620	8	39,8	8,94	525	6	44,9	8,15	478	5	47,4	7,36	432	4	49,8
	8p	9,25	543	7	42,8	7,83	460	5	47,5	7,14	419	4	49,8	6,45	378	3	52
AREO 14	4p	17,09	1003	12	40,9	14,46	848	9	45,9	13,17	772	7	48,3	11,9	698	6	50,6
	6p	12,03	706	6	48,8	10,17	597	5	52,7	9,27	543	4	54,6	8,37	491	3	56,4
	8p	10,71	628	5	51,3	9,05	531	4	54,9	8,24	483	3	56,6	7,44	437	3	58,3
AREO 22	4p	21,16	1241	13	20,7	17,94	1052	10	28,2	16,34	959	8	31,8	14,75	866	7	35,5
	6p	16,37	960	8	25,4	13,87	814	6	32,3	12,64	741	5	35,7	11,41	670	4	39
	8p	14,34	842	6	28	12,15	713	5	34,6	11,07	650	4	37,8	10	586	3	40,9
AREO 23	4p	29,09	1707	18	29,5	24,66	1448	14	35,9	22,48	1319	12	39	20,31	1192	10	42,1
	6p	22,15	1299	11	35,4	18,77	1101	8	41,1	17,1	1003	7	43,8	15,45	907	6	46,5
	8p	19,09	1120	9	38,7	16,17	949	6	44	14,73	864	6	46,5	13,32	781	5	49
AREO 24	4p	32,91	1931	12	34	27,87	1636	9	39,9	25,4	1490	8	42,7	22,94	1346	6	45,4
	6p	24,79	1455	7	40,3	20,98	1231	5	45,4	19,11	1122	5	47,8	17,27	1013	4	50,2
	8p	21,16	1241	5	43,9	17,9	1050	4	48,5	16,31	957	3	50,7	14,73	864	3	52,8
AREO 32	4p	39,79	2334	12	23,8	33,63	1974	9	30,9	30,59	1794	8	34,3	27,57	1617	6	37,7
	6p	30,74	1803	8	28,9	25,97	1524	6	35,3	23,63	1386	5	38,5	21,3	1249	4	41,5
	8p	26,66	1564	6	32	22,53	1322	4	38	20,49	1202	4	40,9	18,48	1084	3	43,8
AREO 33	4p	45,75	2684	11	28,4	38,73	2273	8	34,9	35,26	2070	7	38,1	31,83	1868	6	41,2
	6p	34,94	2049	7	34,1	29,56	1735	5	39,9	26,92	1579	4	42,7	24,3	1426	4	45,5
	8p	30,14	1768	5	37,4	25,49	1496	4	42,8	23,21	1362	3	45,4	20,96	1230	3	47,9
AREO 34	4p	52,78	3096	19	33,5	44,76	2626	14	39,5	40,82	2394	12	42,3	36,91	2165	10	45,2
	6p	39,92	2342	12	39,7	33,83	1986	9	44,9	30,85	1810	8	47,4	27,89	1637	6	49,8
	8p	34,04	1997	9	43,3	28,83	1692	7	48,1	26,28	1542	6	50,3	23,76	1394	5	52,5
AREO 42	4p	57,18	3356	21	24,3	48,45	2842	16	31,4	44,13	2590	13	34,8	39,84	2338	11	38,2
	6p	43,82	2571	13	29,6	37,11	2177	10	36	33,8	1983	8	39,1	30,52	1791	7	42,1
	8p	38,25	2245	10	32,5	32,38	1901	8	38,5	29,5	1731	7	41,5	26,64	1563	5	44,3
AREO 43	4p	65,06	3819	21	29,1	55,2	3238	16	35,6	50,33	2953	13	38,7	45,5	2669	11	41,8
	6p	49,64	2914	13	34,9	42,09	2469	10	40,7	38,37	2252	8	43,4	34,69	2035	7	46,2
	8p	42,76	2509	10	38,2	36,23	2126	8	43,6	33,03	1938	6	46,1	29,87	1752	5	48,6
AREO 44	4p	73,81	4332	14	33,5	62,56	3670	10	39,5	57,02	3346	9	42,3	51,53	3024	7	45,1
	6p	55,82	3275	9	39,8	47,27	2775	6	44,9	43,08	2527	5	47,4	38,93	2285	5	49,8
	8p	47,67	2797	6	43,3	40,35	2368	5	48	36,77	2157	4	50,3	33,24	1950	3	52,4
AREO 52	4p	66,64	3909	15	19,5	56,52	3315	11	27,2	51,5	3022	9	30,9	46,52	2730	8	34,6
	6p	51,85	3043	10	24	43,96	2580	7	31,1	40,06	2351	6	34,5	36,19	2124	5	38
	8p	44,77	2627	7	26,8	37,95	2227	6	33,6	34,59	2029	5	36,9	31,25	1833	4	40,1
AREO 53	4p	85,47	5016	18	25,6	72,54	4257	13	32,5	66,15	3882	11	35,9	59,81	3508	9	39,2
	6p	65,76	3860	11	31	55,78	3274	8	37,2	50,87	2983	7	40,3	45,99	2699	6	43,2
	8p	56,1	3293	8	34,4	47,57	2791	6	40,2	43,37	2545	5	43	39,21	2301	4	45,8
AREO 54	4p	96,25	5647	20	29,3	81,75	4797	15	35,8	74,59	4377	13	39	67,5	3960	11	42,1
	6p	73,38	4306	12	35,2	62,28	3655	9	40,9	56,83	3333	8	43,7	51,42	3016	7	46,4
	8p	62,5	3667	9	38,8	53,02	3111	7	44,1	48,36	2838	6	46,6	43,77	2567	5	49,1
AREO 62	6p	96,38	5653	13	30,2	81,44	4780	10	36,5	74,09	4348	8	39,5	66,8	3918	7	42,5
	8p	83,48	4898	10	33,3	70,53	4138	8	39,2	64,16	3764	6	42	57,85	3394	5	44,8
AREO 63	6p	115,3	6766	19	37,5	97,62	5728	14	42,9	88,94	5218	12	45,5	80,36	4713	10	48,1
	8p	97,79	5736	14	41,2	82,75	4855	11	46,2	75,39	4422	9	48,5	68,11	3995	8	50,8
AREO 64	6p	119,91	7033	20	40	101,64	5964	15	45,2	92,68	5438	13	47,6	83,84	4917	11	50
	8p	101,35	5944	15	43,8	85,86	5038	11	48,5	78,28	4593	9	50,7	70,81	4154	8	52,8

6 HEATING CAPACITY

Legend:

- **Δpw** Pressure drop on water side
- **PT** Heating capacity
- **Qw** Water flow rate
- **Tbs_1** Inlet air temperature
- **Tbs_2** Outlet air temperature
- **Tw_1** Inlet water temperature
- **Tw_2** Outlet water temperature
- **Vr** Fan speed:
  - **4 p** = 4 poles, 1400 rpm
  - **6 p** = 6 poles, 900 rpm
  - **8 p** = 8 poles, 700 rpm

Tw_1 / Tw_2	°C	85 / 70															
Tbs_1	°C	0				10				15				20			
AREO	Vr	**PT**	**Qw**	**Δpw**	**Tbs_2**	**PT**	**Qw**	**Δpw**	**Tbs_2**	**PT**	**Qw**	**Δpw**	**Tbs_2**	**PT**	**Qw**	**Δpw**	**Tbs_2**
		kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
AREO 12	4p	11,55	679	19	25,4	9,92	583	15	32,6	9,11	536	13	36,1	8,31	488	11	39,6
	6p	8,83	519	12	31	7,58	446	9	37,6	6,96	409	8	40,8	6,35	373	7	43,9
	8p	7,74	455	10	34	6,64	390	7	40,2	6,09	358	6	43,2	5,56	327	5	46,2
AREO 13	4p	15,45	909	16	35,4	13,24	779	12	41,5	12,16	715	10	44,4	11,08	652	9	47,2
	6p	11,35	667	9	42,7	9,71	571	7	47,9	8,91	524	6	50,4	8,12	478	5	52,8
	8p	9,94	584	7	45,9	8,5	500	6	50,7	7,8	459	5	53	7,11	418	4	55,3
AREO 14	4p	18,36	1079	13	44	15,71	923	10	49	14,41	847	8	51,4	13,13	772	7	53,8
	6p	12,91	759	7	52,3	11,04	649	5	56,4	10,12	595	5	58,3	9,22	542	4	60,1
	8p	11,48	675	6	55	9,81	577	4	58,7	9	529	4	60,4	8,2	482	3	62,1
AREO 22	4p	22,79	1340	14	22,3	19,55	1150	11	29,8	17,95	1055	10	33,5	16,35	962	8	37,1
	6p	17,62	1036	9	27,3	15,11	888	7	34,3	13,87	816	6	37,7	12,64	743	5	41
	8p	15,43	907	7	30,1	13,23	778	6	36,8	12,14	714	5	40	11,06	650	4	43,2
AREO 23	4p	31,28	1839	20	31,7	26,82	1578	16	38,2	24,63	1448	13	41,3	22,46	1321	11	44,4
	6p	23,8	1399	13	38	20,39	1199	10	43,8	18,72	1101	8	46,5	17,06	1003	7	49,2
	8p	20,51	1205	10	41,6	17,56	1033	7	46,9	16,12	948	6	49,5	14,69	864	5	52
AREO 24	4p	35,38	2080	13	36,6	30,31	1782	10	42,5	27,82	1635	9	45,3	25,35	1491	7	48,1
	6p	26,63	1565	8	43,3	22,8	1340	6	48,5	20,91	1230	5	50,9	19,05	1121	5	53,3
	8p	22,72	1336	6	47,1	19,44	1142	5	51,8	17,83	1048	4	54	16,25	955	3	56,2
AREO 32	4p	42,9	2523	13	25,7	36,71	2159	10	32,8	33,66	1978	9	36,3	30,62	1800	7	39,7
	6p	33,11	1948	9	31,2	28,33	1666	6	37,6	25,96	1527	6	40,8	23,63	1389	5	43,9
	8p	28,71	1688	7	34,4	24,55	1444	5	40,5	22,5	1324	4	43,4	20,48	1205	4	46,3
AREO 33	4p	49,24	2894	13	30,5	42,18	2480	10	37,1	38,7	2276	8	40,3	35,25	2073	7	43,5
	6p	37,57	2209	8	36,7	32,17	1891	6	42,6	29,51	1735	5	45,4	26,88	1580	4	48,2
	8p	32,4	1906	6	40,2	27,73	1630	5	45,7	25,43	1495	4	48,3	23,16	1362	3	50,8
AREO 34	4p	56,69	3333	22	36	48,63	2859	16	42	44,66	2626	14	44,9	40,73	2395	12	47,8
	6p	42,85	2520	13	42,6	36,72	2159	10	47,9	33,72	1982	9	50,4	30,74	1808	7	52,8
	8p	36,52	2147	10	46,5	31,27	1839	8	51,3	28,71	1688	7	53,6	26,18	1539	6	55,8
AREO 42	4p	61,56	3621	24	26,2	52,79	3102	18	33,3	48,45	2847	15	36,7	44,14	2595	13	40,1
	6p	47,14	2772	15	31,9	40,39	2376	11	38,3	37,07	2180	10	41,4	33,78	1986	8	44,5
	8p	41,14	2419	12	35	35,24	2072	9	41,1	32,34	1901	8	44	29,46	1732	6	46,9
AREO 43	4p	69,93	4112	24	31,2	60,02	3528	18	37,8	55,12	3241	16	41	50,27	2956	13	44,1
	6p	53,32	3135	15	37,5	45,72	2687	11	43,3	41,98	2468	10	46,1	38,28	2251	8	48,9
	8p	45,91	2699	11	41	39,34	2314	9	46,4	36,12	2124	7	49	32,93	1936	6	51,6
AREO 44	4p	79,32	4663	16	36,1	68	3998	12	42	62,42	3672	10	44,9	56,92	3345	9	47,8
	6p	59,93	3525	10	42,7	51,33	3019	7	47,9	47,12	2769	6	50,4	42,94	2526	5	52,8
	8p	51,16	3008	7	46,5	43,79	2575	6	51,3	40,19	2363	5	53,5	36,63	2153	4	55,7
AREO 52	4p	71,76	4218	17	21	61,59	3622	13	28,7	56,56	3325	11	32,5	51,56	3031	9	36,2
	6p	55,79	3282	11	25,8	47,88	2815	8	33	43,96	2585	7	36,4	40,07	2356	6	39,9
	8p	48,16	2831	8	28,9	41,31	2429	6	35,7	37,93	2231	5	39	34,58	2032	5	42,2
AREO 53	4p	91,89	5405	20	27,5	78,9	4640	15	34,5	72,49	4261	13	37,9	66,12	3887	11	41,3
	6p	70,66	4156	12	33,3	60,64	3564	10	39,6	55,69	3274	8	42,7	50,79	2986	7	45,7
	8p	60,27	3542	9	36,9	51,68	3038	7	42,8	47,46	2789	6	45,7	43,28	2544	5	48,5
AREO 54	4p	103,37	6076	22	31,5	88,79	5223	17	38	81,61	4798	15	41,2	74,48	4380	13	44,4
	6p	78,76	4631	14	37,8	67,6	3975	11	43,6	62,11	3652	9	46,4	56,67	3333	8	49,1
	8p	67,06	3942	10	41,6	57,51	3383	8	47	52,84	3106	7	49,6	48,21	2834	6	52,1
AREO 62	6p	103,82	6104	15	32,6	88,79	5222	11	38,9	81,4	4785	10	41,9	74,07	4354	8	44,9
	8p	89,87	5285	11	35,9	76,85	4519	9	41,8	70,44	4140	7	44,7	64,1	3768	6	47,5
AREO 63	6p	123,87	7286	21	40,3	106,09	6238	16	45,8	97,36	5722	14	48,4	88,72	5216	12	51
	8p	105	6174	16	44,3	89,86	5285	12	49,3	82,46	4847	10	51,7	75,14	4417	9	54
AREO 64	6p	128,67	7562	22	42,9	110,29	6483	17	48,2	101,28	5952	15	50,7	92,36	5431	12	53,1
	8p	108,68	6391	17	47	93,09	5476	13	51,7	85,47	5026	11	54	77,94	4584	9	56,1

6 HEATING CAPACITY

Legend:

- **Δpw** Pressure drop on water side
- **PT** Heating capacity
- **Qw** Water flow rate
- **Tbs_1** Inlet air temperature
- **Tbs_2** Outlet air temperature
- **Tw_1** Inlet water temperature
- **Tw_2** Outlet water temperature
- **Vr** Fan speed:
  - **4 p** = 4 poles, 1400 rpm
  - **6 p** = 6 poles, 900 rpm
  - **8 p** = 8 poles, 700 rpm

Tw_1 / Tw_2	°C	85 / 75															
Tbs_1	°C	0				10				15				20			
AREO	Vr	PT	Qw	Δpw	Tbs_2	PT	Qw	Δpw	Tbs_2	PT	Qw	Δpw	Tbs_2	PT	Qw	Δpw	Tbs_2
		kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
AREO 12	4p	12,15	1073	43	26,7	10,51	928	33	33,9	9,70	856	29	37,5	8,89	785	25	41,0
	6p	9,27	818	27	32,6	8,01	707	21	39,2	7,39	652	18	42,4	6,77	598	15	45,5
	8p	8,11	716	21	35,6	7,00	618	16	41,9	6,46	570	14	44,9	5,92	523	12	47,9
AREO 13	4p	16,21	1431	35	37,2	13,99	1235	27	43,2	12,90	1139	23	46,2	11,81	1043	20	49,0
	6p	11,86	1047	20	44,7	10,22	902	16	49,9	9,42	831	13	52,4	8,62	761	12	54,8
	8p	10,37	916	16	47,9	8,93	788	12	52,8	8,22	726	11	55,1	7,53	664	9	57,3
AREO 14	4p	19,20	1694	28	46,0	16,53	1460	22	51,1	15,22	1344	19	53,5	13,93	1231	16	55,8
	6p	13,44	1187	15	54,5	11,55	1020	12	58,5	10,63	938	10	60,4	9,72	858	9	62,3
	8p	11,94	1054	12	57,2	10,25	905	9	60,9	9,43	832	8	62,6	8,62	761	7	64,3
AREO 22	4p	24,09	2126	32	23,5	20,83	1840	25	31,1	19,22	1697	22	34,8	17,62	1555	19	38,5
	6p	18,58	1640	20	28,8	16,05	1417	16	35,8	14,80	1307	14	39,2	13,57	1198	12	42,6
	8p	16,25	1435	16	31,7	14,03	1239	13	38,4	12,94	1142	11	41,6	11,85	1046	9	44,8
AREO 23	4p	32,85	2901	45	33,3	28,38	2506	35	39,8	26,17	2310	30	43,0	23,98	2117	26	46,1
	6p	24,93	2200	28	39,8	21,50	1898	21	45,6	19,82	1749	19	48,4	18,15	1602	16	51,1
	8p	21,44	1893	21	43,5	18,48	1631	16	48,8	17,03	1503	14	51,4	15,59	1377	12	53,9
AREO 24	4p	37,12	3277	29	38,4	32,02	2827	23	44,3	29,51	2604	20	47,2	27,03	2385	17	50,0
	6p	27,85	2457	18	45,3	23,98	2117	14	50,5	22,09	1951	12	52,9	20,22	1785	10	55,3
	8p	23,71	2093	13	49,2	20,40	1801	10	53,9	18,78	1659	9	56,1	17,19	1518	8	58,3
AREO 32	4p	45,51	4018	30	27,3	39,28	3468	23	34,4	36,19	3196	20	37,9	33,14	2927	17	41,3
	6p	35,02	3092	19	33,0	30,20	2666	15	39,5	27,82	2456	13	42,6	25,46	2247	11	45,7
	8p	30,32	2676	15	36,3	26,12	2305	11	42,5	24,06	2124	10	45,4	22,02	1944	8	48,3
AREO 33	4p	51,90	4582	28	32,2	44,80	3955	22	38,8	41,30	3645	19	42,0	37,83	3339	16	45,2
	6p	39,49	3486	18	38,6	34,04	3006	14	44,5	31,37	2769	12	47,3	28,72	2536	10	50,1
	8p	33,99	3001	14	42,2	29,28	2585	10	47,7	26,97	2381	9	50,3	24,69	2180	8	52,9
AREO 34	4p	59,32	5239	47	37,7	51,21	4524	37	43,7	47,23	4169	32	46,6	43,28	3821	27	49,5
	6p	44,71	3948	29	44,5	38,55	3402	22	49,7	35,52	3136	19	52,3	32,54	2872	16	54,7
	8p	38,04	3357	22	48,4	32,75	2892	17	53,2	30,18	2664	14	55,5	27,63	2439	12	57,8
AREO 42	4p	64,98	5735	52	27,6	56,15	4955	40	34,7	51,78	4570	35	38,2	47,45	4190	30	41,6
	6p	49,62	4381	33	33,5	42,83	3782	25	40,0	39,48	3486	22	43,2	36,17	3193	19	46,2
	8p	43,24	3817	26	36,8	37,30	3292	20	42,9	34,37	3035	17	45,8	31,48	2778	15	48,7
AREO 43	4p	73,37	6478	52	32,8	63,40	5597	40	39,4	58,48	5163	35	42,6	53,61	4733	30	45,7
	6p	55,78	4927	32	39,2	48,15	4250	25	45,1	44,39	3918	22	47,9	40,67	3590	19	50,7
	8p	47,96	4233	25	42,9	41,36	3650	19	48,3	38,11	3365	17	50,9	34,91	3082	14	53,5
AREO 44	4p	83,12	7340	34	37,8	71,73	6335	26	43,8	66,14	5839	23	46,7	60,59	5351	20	49,5
	6p	62,63	5526	21	44,6	53,97	4763	16	49,9	49,72	4388	14	52,4	45,52	4020	12	54,8
	8p	53,35	4710	16	48,5	45,93	4054	12	53,3	42,31	3734	11	55,6	38,72	3419	9	57,8
AREO 52	4p	75,80	6693	37	22,2	65,58	5791	29	29,9	60,52	5345	25	33,7	55,49	4898	22	37,4
	6p	58,80	5194	24	27,2	50,84	4489	19	34,4	46,90	4141	16	37,9	42,99	3797	14	41,3
	8p	50,69	4475	18	30,4	43,80	3866	14	37,2	40,39	3566	12	40,5	37,02	3268	11	43,8
AREO 53	4p	96,56	8526	44	28,9	83,50	7372	34	35,9	77,05	6802	29	39,3	70,64	6239	25	42,7
	6p	74,06	6541	27	34,9	63,98	5649	21	41,2	59,01	5209	18	44,3	54,09	4773	16	47,3
	8p	63,06	5566	21	38,7	54,43	4805	16	44,6	50,18	4430	14	47,5	45,98	4059	12	50,2
AREO 54	4p	108,18	9552	49	33,0	93,54	8257	38	39,5	86,31	7621	33	42,7	79,16	6985	28	45,9
	6p	82,21	7259	30	39,4	70,99	6267	23	45,3	65,47	5781	20	48,1	60,01	5300	17	50,9
	8p	69,88	6168	23	43,3	60,28	5322	17	48,8	55,58	4906	15	51,4	50,93	4496	13	53,9
AREO 62	6p	109,71	9685	33	34,4	94,56	8351	25	40,8	87,12	7688	22	43,8	79,74	7037	19	46,9
	8p	94,81	8371	25	37,9	81,68	7209	20	43,8	75,22	6641	17	46,7	68,83	6076	14	49,5
AREO 63	6p	129,73	11453	46	42,2	111,83	9868	36	47,7	103,03	9094	31	50,4	94,34	8326	27	52,9
	8p	109,74	9688	35	46,3	94,49	8345	27	51,3	87,03	7686	23	53,7	79,67	7035	20	56,1
AREO 64	6p	134,11	11843	48	44,8	115,63	10210	37	50,0	106,57	9411	32	52,5	97,62	8622	28	55,0
	8p	113,10	9982	36	48,9	97,41	8600	28	53,6	89,74	7922	24	55,9	82,18	7255	21	58,1

6 HEATING CAPACITY

Legend:

- **Δpw** Pressure drop on water side
- **PT** Heating capacity
- **Qw** Water flow rate
- **Tbs_1** Inlet air temperature
- **Tbs_2** Outlet air temperature
- **Tw_1** Inlet water temperature
- **Tw_2** Outlet water temperature
- **Vr** Fan speed:
  - **4 p** = 4 poles, 1400 rpm
  - **6 p** = 6 poles, 900 rpm
  - **8 p** = 8 poles, 700 rpm

Tw_1 / Tw_2	°C	90 / 70															
Tbs_1	°C	0				10				15				20			
AREO	Vr	PT	Qw	Δpw	Tbs_2	PT	Qw	Δpw	Tbs_2	PT	Qw	Δpw	Tbs_2	PT	Qw	Δpw	Tbs_2
		kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
AREO 12	4p	11,76	519	12	25,8	10,13	447	9	33,1	9,32	411	8	36,6	8,52	376	7	40,1
	6p	9,01	398	8	31,6	7,76	342	6	38,2	7,14	315	5	41,4	6,52	288	4	44,6
	8p	7,90	349	6	34,7	6,80	300	5	41,0	6,26	276	4	44,0	5,72	253	3	47,0
AREO 13	4p	15,77	696	10	36,1	13,56	599	8	42,2	12,47	551	7	45,1	11,40	503	6	48,0
	6p	11,61	512	6	43,7	9,98	441	4	48,9	9,17	405	4	51,4	8,38	370	3	53,9
	8p	10,18	449	5	47,0	8,74	386	4	51,9	8,04	355	3	54,2	7,35	324	3	56,4
AREO 14	4p	18,78	829	8	45,0	16,13	712	6	50,1	14,83	654	5	52,5	13,54	598	5	54,8
	6p	13,25	585	4	53,7	11,37	502	3	57,8	10,46	461	3	59,7	9,55	422	2	61,5
	8p	11,80	521	4	56,5	10,12	447	3	60,3	9,31	411	2	62,0	8,49	375	2	63,6
AREO 22	4p	23,13	1021	9	22,6	19,90	878	7	30,1	18,29	808	6	33,8	16,70	737	5	37,5
	6p	17,92	791	6	27,8	15,41	680	4	34,8	14,17	626	4	38,2	12,94	571	3	41,5
	8p	15,71	693	5	30,7	13,50	596	3	37,3	12,42	548	3	40,6	11,34	500	3	43,8
AREO 23	4p	31,89	1408	13	32,3	27,44	1212	10	38,8	25,24	1114	8	42,0	23,07	1018	7	45,1
	6p	24,31	1074	8	38,8	20,91	923	6	44,6	19,24	849	5	47,4	17,57	776	4	50,1
	8p	20,98	926	6	42,5	18,03	796	5	47,9	16,59	732	4	50,5	15,16	669	3	53,0
AREO 24	4p	36,11	1594	8	37,3	31,04	1370	6	43,3	28,54	1260	6	46,1	26,07	1151	5	48,9
	6p	27,24	1202	5	44,3	23,40	1033	4	49,5	21,52	950	3	51,9	19,66	868	3	54,3
	8p	23,28	1027	4	48,3	19,99	882	3	53,0	18,38	811	3	55,2	16,79	741	2	57,4
AREO 32	4p	43,44	1918	8	26,0	37,26	1645	6	33,1	34,21	1510	5	36,6	31,18	1376	5	40,0
	6p	33,60	1483	5	31,6	28,82	1272	4	38,1	26,46	1168	3	41,3	24,12	1065	3	44,4
	8p	29,17	1288	4	35,0	25,02	1104	3	41,1	22,97	1014	3	44,0	20,94	924	2	46,9
AREO 33	4p	50,08	2210	8	31,1	43,03	1899	6	37,7	39,54	1746	5	40,9	36,09	1594	4	44,0
	6p	38,30	1691	5	37,4	32,89	1452	4	43,3	30,23	1334	3	46,1	27,60	1218	3	48,9
	8p	33,07	1460	4	41,0	28,39	1254	3	46,5	26,09	1152	3	49,2	23,82	1052	2	51,7
AREO 34	4p	57,95	2558	13	36,8	49,89	2202	10	42,8	45,91	2027	9	45,8	41,98	1853	8	48,6
	6p	43,90	1938	8	43,7	37,77	1667	6	48,9	34,75	1534	6	51,5	31,77	1403	5	53,9
	8p	37,46	1654	6	47,7	32,22	1422	5	52,5	29,64	1308	4	54,8	27,10	1196	4	57,0
AREO 42	4p	62,55	2761	15	26,6	53,78	2374	11	33,7	49,45	2182	10	37,2	45,14	1992	8	40,6
	6p	48,00	2119	9	32,4	41,26	1821	7	38,9	37,93	1675	6	42,0	34,63	1529	5	45,1
	8p	41,93	1851	7	35,7	36,03	1591	6	41,8	33,12	1463	5	44,7	30,25	1335	4	47,6
AREO 43	4p	71,36	3149	15	31,9	61,43	2713	11	38,5	56,54	2496	10	41,6	51,68	2282	8	44,8
	6p	54,52	2407	9	38,3	46,92	2070	7	44,2	43,17	1905	6	47,0	39,46	1742	5	49,8
	8p	47,00	2074	7	42,0	40,42	1785	5	47,4	37,19	1642	5	50,1	34,00	1501	4	52,6
AREO 44	4p	81,02	3575	10	36,8	69,69	3075	7	42,8	64,11	2830	6	45,7	58,58	2586	6	48,6
	6p	61,36	2709	6	43,7	52,74	2328	5	49,0	48,52	2142	4	51,5	44,34	1957	3	53,9
	8p	52,45	2315	5	47,7	45,06	1989	3	52,5	41,45	1829	3	54,8	37,88	1672	3	57,0
AREO 52	4p	72,86	3216	10	21,3	62,71	2767	8	29,0	57,68	2546	7	32,8	52,67	2324	6	36,6
	6p	56,75	2505	7	26,2	48,83	2156	5	33,4	44,92	1983	4	36,9	41,03	1811	4	40,4
	8p	49,04	2164	5	29,4	42,19	1863	4	36,2	38,81	1713	3	39,5	35,45	1565	3	42,8
AREO 53	4p	93,67	4134	12	28,1	80,68	3561	9	35,1	74,25	3279	8	38,5	67,88	2996	7	41,8
	6p	72,16	3187	8	34,0	62,13	2742	6	40,3	57,18	2524	5	43,4	52,27	2307	4	46,4
	8p	61,62	2719	6	37,8	53,03	2340	5	43,7	48,80	2154	4	46,6	44,61	1968	3	49,3
AREO 54	4p	105,67	4664	14	32,2	91,09	4021	11	38,8	83,90	3702	9	42,0	76,76	3387	8	45,1
	6p	80,67	3562	9	38,7	69,50	3067	7	44,5	63,99	2826	6	47,4	58,54	2584	5	50,1
	8p	68,76	3036	7	42,6	59,21	2614	5	48,1	54,51	2407	4	50,7	49,87	2202	4	53,2
AREO 62	6p	105,42	4652	9	33,1	90,40	3991	7	39,4	83,00	3665	6	42,5	75,67	3342	5	45,5
	8p	91,37	4034	7	36,5	78,36	3458	5	42,4	71,95	3175	5	45,3	65,60	2896	4	48,1
AREO 63	6p	126,62	5588	13	41,2	108,79	4805	10	46,7	100,05	4417	9	49,3	91,38	4036	7	51,9
	8p	107,47	4744	10	45,3	92,32	4076	8	50,4	84,89	3747	7	52,8	77,55	3423	6	55,1
AREO 64	6p	131,90	5823	14	44,0	113,50	5011	11	49,3	104,47	4611	9	51,8	95,52	4218	8	54,2
	8p	111,58	4927	10	48,2	95,96	4238	8	53,0	88,31	3900	7	55,3	80,77	3565	6	57,5

7 COOLING CAPACITY

To prevent phenomena of condensate dripping, it is advisable to select indoor units capable of maintaining, when operating at full capacity, an air temperature below 35 °C and relative humidity of less than 60%.

ATTENTION!

TO PREVENT PHENOMENA OF CONDENSATE DRIPPING, IT IS RECOMMENDED TO USE AREO FAN HEATERS DURING THE COOLING PHASE ONLY AT THE SPEEDS SHOWN ON THE TABLE (6-8 POLES FOR SIZES FROM AREO 12 TO AREO 34; 8 POLES FOR SIZES FROM AREO 42 TO AREO 64)

Legend:

- **Δpw** Pressure drop on water side
- **PFS** Sensible cooling capacity
- **PFT** Total cooling capacity
- **Qw** Water flow rate
- **Tbs_1** Inlet air temperature dry bulb
- **Tbu_1** Inlet air temperature wet bulb
- **Tw_1** Inlet water temperature
- **Tw_2** Outlet water temperature
- **Vr** Fan speed:
  - **6 p** = 6 poles, 900 rpm
  - **8 p** = 8 poles, 700 rpm

Tbs_1 / Tbu_1 (UR_1)	°C	27 / 50% (19)															
Tw_1 / Tw_2	°C	7/12				9/14				10/15				11/15			
AREO	**VR**	**PFT**	**PFS**	**Qw**	**Δpw**	**PFT**	**PFS**	**Qw**	**Δpw**	**PFT**	**PFS**	**Qw**	**Δpw**	**PFT**	**PFS**	**Qw**	**Δpw**
		kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
AREO 12	6p	2,13	1,68	370	9	1,51	1,51	259	5	1,40	1,40	241	4	1,43	1,43	307	6
	8p	1,83	1,45	313	7	1,29	1,29	222	4	1,20	1,20	207	3	1,22	1,22	262	5
AREO 13	6p	2,71	2,12	467	7	1,87	1,87	321	3	1,74	1,74	298	3	1,77	1,77	380	5
	8p	2,33	1,82	397	5	1,65	1,65	284	3	1,49	1,49	256	2	1,55	1,55	333	4
AREO 14	6p	3,03	2,34	509	5	2,12	2,12	364	3	1,97	1,97	338	2	2,01	2,01	431	3
	8p	2,69	2,10	463	4	1,88	1,88	322	2	1,74	1,74	299	2	1,80	1,80	387	3
AREO 22	6p	3,87	3,25	666	6	2,79	2,79	479	3	2,60	2,60	446	3	2,71	2,71	583	5
	8p	3,36	2,85	587	5	2,42	2,42	415	3	2,25	2,25	386	2	2,41	2,41	517	4
AREO 23	6p	5,79	4,52	1005	10	4,05	4,05	695	5	3,64	3,64	626	4	3,76	3,76	808	6
	8p	4,89	3,80	829	7	3,48	3,48	597	4	3,14	3,14	539	3	3,29	3,29	706	5
AREO 24	6p	6,21	4,95	1081	6	4,33	4,33	744	3	4,02	4,02	690	3	4,10	4,10	880	4
	8p	5,16	4,13	884	4	3,58	3,58	615	2	3,32	3,32	571	2	3,53	3,53	758	3
AREO 32	6p	6,63	5,92	1137	5	5,22	5,22	896	3	4,66	4,66	801	2	4,99	4,99	1072	4
	8p	5,54	5,04	957	3	4,26	4,26	732	2	3,96	3,96	680	2	4,20	4,20	901	3
AREO 33	6p	8,20	6,83	1409	5	6,02	6,02	1035	3	5,59	5,59	961	2	5,82	5,82	1250	4
	8p	6,83	5,78	1171	4	5,05	5,05	868	2	4,55	4,55	781	2	4,84	4,84	1040	3
AREO 34	6p	10,81	8,14	1845	10	7,56	6,99	1284	5	6,75	6,75	1160	5	6,86	6,86	1475	7
	8p	9,10	6,89	1561	8	6,34	5,94	1108	4	5,70	5,70	979	3	5,75	5,75	1235	5
AREO 42	8p	9,49	7,63	1618	8	6,92	6,92	1188	5	6,21	6,21	1067	4	6,49	6,49	1394	6
AREO 43	8p	11,34	8,72	1968	9	7,89	7,89	1355	5	7,12	7,12	1223	4	7,28	7,28	1563	6
AREO 44	8p	12,08	9,51	2103	5	8,18	8,18	1405	3	7,59	7,59	1303	2	8,05	8,05	1730	4
AREO 52	8p	10,51	8,76	1786	5	7,87	7,87	1352	3	7,02	7,02	1207	3	7,30	7,30	1568	4
AREO 53	8p	14,45	11,32	2494	7	9,91	9,91	1702	4	9,20	9,20	1581	3	9,54	9,54	2048	5
AREO 54	8p	17,04	12,87	2958	9	11,86	11,02	2059	5	10,54	10,54	1811	4	10,75	10,75	2308	5
AREO 62	8p	18,82	15,96	3254	7	13,75	13,75	2362	4	12,78	12,78	2195	3	13,41	13,41	2880	5
AREO 63	8p	26,23	20,03	4532	13	17,93	16,93	3028	6	16,35	16,35	2809	5	16,97	16,97	3644	8
AREO 64	8p	28,57	21,14	4953	14	20,71	18,23	3572	8	17,61	17,61	3026	6	17,69	17,69	3801	9

7 COOLING CAPACITY

To prevent phenomena of condensate dripping, it is advisable to select indoor units capable of maintaining, when operating at full capacity, an air temperature below 35 °C and relative humidity of less than 60%.

ATTENTION!

TO PREVENT PHENOMENA OF CONDENSATE DRIPPING, IT IS RECOMMENDED TO USE AREO FAN HEATERS DURING THE COOLING PHASE ONLY AT THE SPEEDS SHOWN ON THE TABLE (6-8 POLES FOR SIZES FROM AREO 12 TO AREO 34; 8 POLES FOR SIZES FROM AREO 42 TO AREO 64)

Legend:

- **Δpw** Pressure drop on water side
- **PFS** Sensible cooling capacity
- **PFT** Total cooling capacity
- **Qw** Water flow rate
- **Tbs_1** Inlet air temperature dry bulb
- **Tbu_1** Inlet air temperature wet bulb
- **Tw_1** Inlet water temperature
- **Tw_2** Outlet water temperature
- **Vr** Fan speed:
  - **6 p** = 6 poles, 900 rpm
  - **8 p** = 8 poles, 700 rpm

Tbs_1 / Tbu_1 (UR_1)	°C	28 / 55% (19)															
Tw_1 / Tw_2	°C	7/12				9/14				10/15				11/15			
AREO	VR	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw
		kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
AREO 12	6p	3,08	1,77	529	17	2,46	1,58	429	12	2,11	1,45	359	9	2,20	1,49	473	14
	8p	2,68	1,55	465	14	2,13	1,35	362	9	1,85	1,28	323	7	1,91	1,29	410	11
AREO 13	6p	3,92	2,25	668	13	3,13	1,98	534	8	2,70	1,84	461	6	2,81	1,90	613	11
	8p	3,40	1,97	585	10	2,71	1,74	471	7	2,32	1,58	393	5	2,43	1,63	519	8
AREO 14	6p	4,41	2,55	759	10	3,53	2,22	600	6	3,05	2,07	526	5	3,17	2,12	683	8
	8p	3,92	2,29	682	8	3,14	2,00	543	5	2,70	1,83	461	4	2,82	1,86	597	6
AREO 22	6p	5,88	3,48	1016	12	4,56	3,04	781	8	3,85	2,82	660	6	4,14	2,92	893	9
	8p	5,12	3,02	880	9	3,97	2,66	685	6	3,30	2,44	565	4	3,58	2,52	757	7
AREO 23	6p	8,33	4,82	1457	18	6,68	4,23	1153	12	5,77	3,92	988	9	5,96	3,97	1271	14
	8p	7,12	4,12	1240	14	5,70	3,63	991	9	4,92	3,37	856	7	5,10	3,41	1092	11
AREO 24	6p	9,11	5,23	1545	11	7,23	4,62	1235	7	6,20	4,29	1066	6	6,51	4,42	1418	9
	8p	7,70	4,43	1302	8	6,10	3,92	1050	5	5,16	3,58	874	4	5,51	3,75	1201	7
AREO 32	6p	10,64	6,42	1824	10	8,14	5,67	1421	7	6,46	5,07	1088	4	7,38	5,37	1569	8
	8p	9,08	5,49	1550	8	6,86	4,81	1186	5	5,41	4,33	921	3	6,36	4,67	1387	6
AREO 33	6p	12,56	7,45	2191	11	9,81	6,53	1714	7	8,11	5,90	1373	5	8,85	6,15	1891	8
	8p	10,71	6,39	1875	8	8,26	5,50	1417	5	6,93	5,11	1208	4	7,56	5,29	1637	6
AREO 34	6p	15,31	8,66	2622	19	12,41	7,62	2106	13	10,81	7,08	1824	10	11,05	7,28	2412	16
	8p	12,96	7,30	2196	14	10,48	6,45	1777	10	9,11	6,00	1549	8	9,35	6,14	2029	12
AREO 42	8p	14,10	8,15	2405	16	11,09	7,13	1869	10	9,57	6,76	1669	8	10,05	6,88	2171	13
AREO 43	8p	16,23	9,29	2814	17	13,08	8,17	2250	11	11,34	7,58	1942	9	11,68	7,66	2479	13
AREO 44	8p	17,69	10,25	3075	10	14,09	8,88	2397	7	12,10	8,27	2083	5	12,71	8,48	2741	8
AREO 52	8p	16,22	9,48	2787	11	12,61	8,32	2162	7	10,64	7,74	1841	5	11,46	7,98	2466	9
AREO 53	8p	21,08	12,10	3642	14	16,80	10,59	2868	9	14,40	9,80	2444	7	15,13	10,18	3312	11
AREO 54	8p	24,11	13,73	4205	16	19,59	12,07	3377	11	17,08	11,20	2925	8	17,46	11,30	3720	13
AREO 62	8p	28,89	16,99	4886	14	22,25	14,87	3770	9	18,54	13,75	3158	6	20,39	14,40	4392	11
AREO 63	8p	37,30	21,25	6406	23	30,18	18,75	5165	16	26,24	17,44	4489	12	26,93	17,56	5689	18
AREO 64	8p	39,69	22,48	6903	26	32,58	19,84	5625	18	28,68	18,46	4930	14	28,92	18,51	6192	21

8 SOUND LEVELS

Legend:

Lp_A A - weighted sound pressure level (5m distance, 2 directional factor)
Lw Octave band sound power level
Lw_A A - weighted sound power level
Vr Fan speed:
4 p = 4 poles, 1400 rpm
6 p = 6 poles, 900 rpm
8 p = 8 poles, 700 rpm

AREO	Lw								
		125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	LwA	LpA
	Vr	dB	dB	dB	dB	dB	dB	dB	dB/A	dB/A
12 - 13 - 14	4p	61,9	63,1	61,8	61,3	59,1	56,2	49,6	66	44
	6p	62,0	58,5	59,3	56,5	55,2	51,1	43,6	62	40
	8p	56,0	52,5	53,3	50,5	49,2	45,1	37,6	56	34
22 - 23 - 24	4p	64,9	66,1	64,8	64,3	62,1	59,2	52,6	69	47
	6p	63,0	59,5	60,3	57,5	56,2	52,1	44,6	63	41
	8p	57,0	53,5	54,3	51,5	50,2	46,1	38,6	57	35
32 - 33 - 34	4p	69,9	71,1	69,8	69,3	67,1	64,2	57,6	74	52
	6p	65,0	61,5	62,3	59,5	58,2	54,1	46,6	65	43
	8p	59,0	55,5	56,3	53,5	52,2	48,1	40,6	59	37
42 - 43 - 44	4p	72,9	74,1	72,8	72,3	70,1	67,2	60,6	77	55
	6p	69,0	65,5	66,3	63,5	62,2	58,1	50,6	69	47
	8p	62,0	58,5	59,3	56,5	55,2	51,1	43,6	62	40
52 - 53 - 54	4p	80,7	83,2	78,2	78,7	77,8	74,1	66,6	84	62
	6p	69,7	72,2	67,2	67,7	66,8	63,1	55,6	73	51
	8p	63,7	62,9	61,5	61,7	61,3	57,8	48,5	67	45
62 - 63 - 64	6p	73,7	76,2	71,2	71,7	70,8	67,1	59,6	77	55
	8p	67,7	66,9	65,5	65,7	65,3	61,8	52,5	71	49

9 VENTILATION FEATURES

The correction factors refer to models without adjustable fins on the air outlet. Multiply the air flow rate by factor F_1 and the capacity by factor F_2.

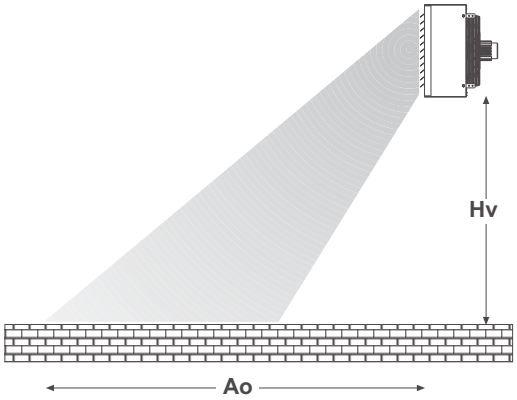
Legend:

Psu Available static pressure
Vr Fan speed:
4 p = 4 poles, 1400 rpm
6 p = 6 poles, 900 rpm
F_1 Air flow correction factor
F_2 Capacity correction factor

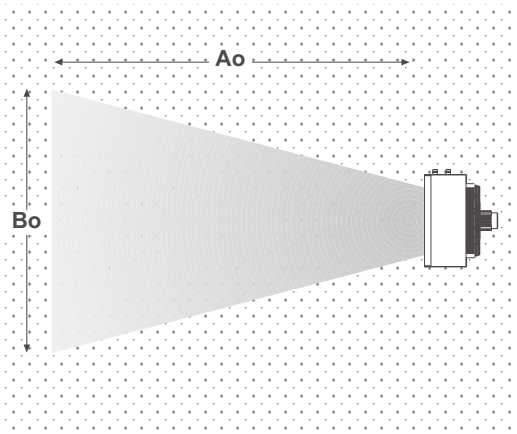
Model	Psu	10 Pa		20 Pa		30 Pa		40 Pa		50 Pa	
	Vr	F_1	F_2	F_1	F_2	F_1	F_2	F_1	F_2	F_1	F_2
AREO 12-13-14	4P	0,81	0,87	0,72	0,87	-	-	-	-	-	-
	6P	0,59	0,79	-	-	-	-	-	-	-	-
AREO 22-23-24	4P	0,92	0,95	0,86	0,91	0,78	0,86	0,67	0,78	-	-
	6P	0,84	0,91	0,56	0,76	-	-	-	-	-	-
AREO 32-33-34	4P	0,98	0,98	0,93	0,95	0,89	0,93	0,85	0,90	0,77	85,00
	6P	0,89	0,94	0,78	0,88	-	-	-	-	-	-
AREO 42-43-44	4P	0,97	0,98	0,95	0,97	0,91	0,94	0,88	0,92	0,84	0,90
	6P	0,87	0,93	0,82	0,90	0,67	0,81	-	-	-	-
AREO 52-53-54	4P	0,99	0,99	0,97	0,98	0,96	0,97	0,92	0,95	0,89	0,93
	6P	0,95	0,97	0,89	0,94	0,84	0,91	-	-	-	-
AREO 62-63-64	6P	0,94	0,96	0,89	0,92	0,83	0,88	0,69	0,79	-	-

10 HEIGHT OF INSTALLATION WALL MOUNTING

Legend:
4 p 4 poles, 1400 rpm
6 p 6 poles, 900 rpm
8 p 8 poles, 700 rpm
Hv maximum installation height
Ao throw distance
Bo floor influence area

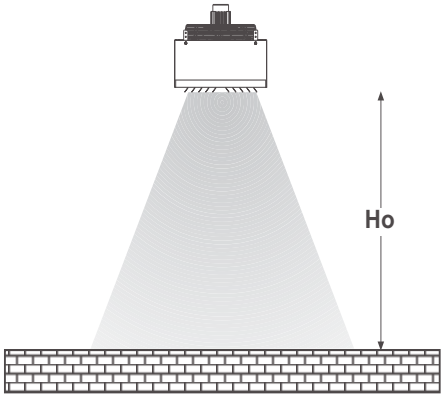


	4p			6p			8p		
	Hv	Ao	Bo	Hv	Ao	Bo	Hv	Ao	Bo
	m	m	m	m	m	m	m	m	m
AREO 12	3,0	7,0	5,5	3,0	5,0	3,0	3,0	4,0	4,0
AREO 13	3,0	6,5	5,5	3,0	4,5	3,0	3,0	3,5	4,0
AREO 14	3,0	6,5	5,5	3,0	4,5	3,0	2,5	3,0	4,0
AREO 22	3,5	11,0	7,0	3,5	7,5	5,0	3,5	5,5	4,0
AREO 23	3,5	10,0	7,0	3,5	7,0	5,0	3,5	5,0	4,0
AREO 24	3,5	9,5	7,0	3,5	6,5	5,0	3,5	4,5	4,0
AREO 32	4,5	15,5	8,0	4,0	9,5	6,0	3,5	8,0	5,0
AREO 33	4,5	15,0	8,0	4,0	9,0	6,0	3,5	7,5	5,0
AREO 34	4,0	14,5	8,0	3,5	8,5	6,0	3,0	7,0	4,5
AREO 42	4,5	19,0	8,0	4,0	11,5	6,5	3,5	9,5	5,5
AREO 43	4,5	18,0	8,0	3,5	10,5	6,5	3,5	9,0	5,5
AREO 44	4,0	18,0	8,0	3,5	10,0	6,5	3,0	9,0	5,0
AREO 52	5,0	19,0	10,0	4,5	12,0	8,0	4,0	9,5	6,0
AREO 53	5,0	18,0	10,0	4,0	11,0	8,0	4,0	9,0	6,0
AREO 54	4,5	18,0	10,0	4,0	10,0	8,0	3,5	9,0	6,0
AREO 62	-	-	-	5,5	12,5	8,0	5,0	10,0	7,0
AREO 63	-	-	-	5,5	11,5	8,0	5,0	9,5	7,0
AREO 64	-	-	-	5,0	10,5	8,0	4,5	9,0	7,0

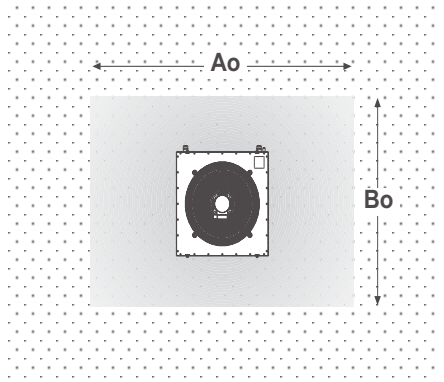


11 HEIGHT OF INSTALLATION CEILING MOUNTING

Legend:
4 p 4 poles, 1400 rpm
6 p 6 poles, 900 rpm
8 p 8 poles, 700 rpm
Ho maximum installation height
Ao floor influence area
Bo floor influence area



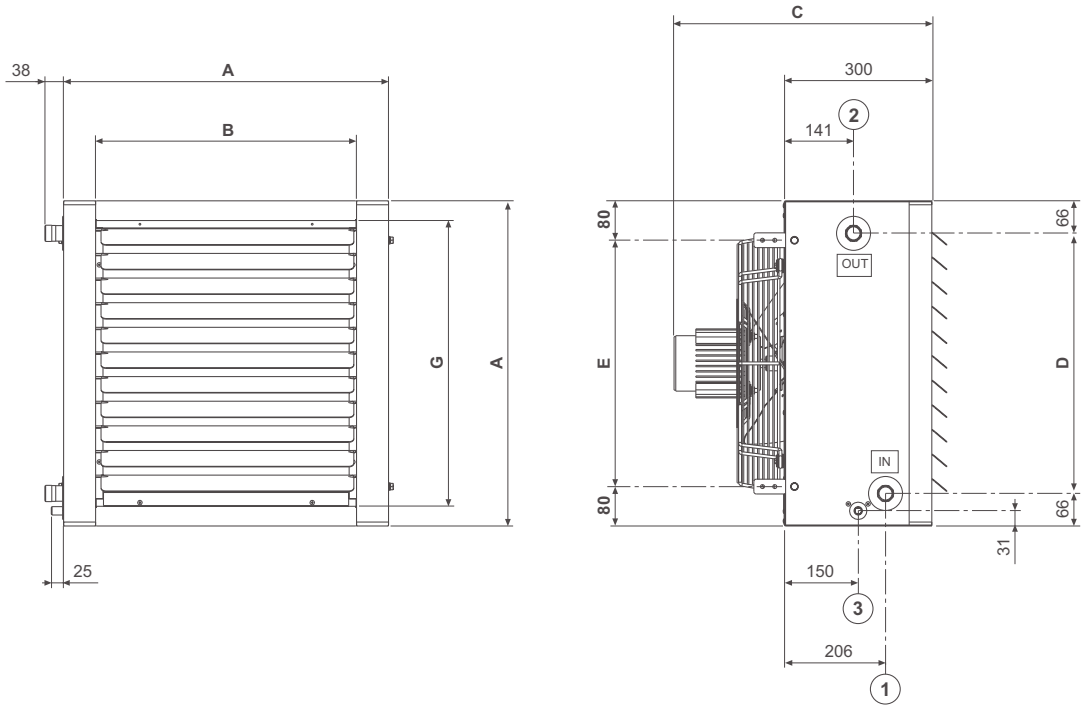
	4p			6p			8p		
	Ho	Ao	Bo	Ho	Ao	Bo	Ho	Ao	Bo
	m	m	m	m	m	m	m	m	m
AREO 12	3,5	7,5	4,0	2,5	4,0	2,5	-	-	-
AREO 13	3,5	7,5	4,0	2,5	4,0	2,5	-	-	-
AREO 14	3,5	7,0	4,0	2,5	4,0	2,5	-	-	-
AREO 22	4,0	8,5	5,0	3,5	6,0	3,5	3,0	5,0	2,5
AREO 23	4,0	8,5	5,0	3,5	6,0	3,5	3,0	5,0	2,5
AREO 24	4,0	8,5	5,0	3,5	6,0	3,5	3,0	5,0	2,5
AREO 32	5,0	10,5	6,0	4,0	7,5	5,0	3,5	6,5	3,5
AREO 33	5,0	10,5	6,0	4,0	7,5	5,0	3,5	6,5	3,5
AREO 34	5,0	10,0	6,0	4,0	7,5	5,0	3,5	6,5	3,5
AREO 42	5,5	12,0	7,0	4,0	8,5	5,5	3,5	7,0	4,5
AREO 43	5,5	12,0	7,0	4,0	8,5	5,5	3,5	7,0	4,5
AREO 44	5,5	12,0	7,0	4,0	8,5	5,5	3,5	7,0	4,0
AREO 52	6,0	14,0	9,0	5,5	10,0	6,5	5,0	8,5	5,0
AREO 53	6,0	14,0	9,0	5,5	10,0	6,5	5,0	8,5	5,0
AREO 54	6,0	14,0	9,0	5,5	10,0	6,5	5,0	8,5	5,0
AREO 62	-	-	-	6,0	11,0	7,0	5,0	9,5	6,0
AREO 63	-	-	-	6,0	11,0	7,0	5,0	9,5	6,0
AREO 64	-	-	-	6,0	11,0	7,0	5,0	9,5	6,0



12 OVERALL DIMENSIONS

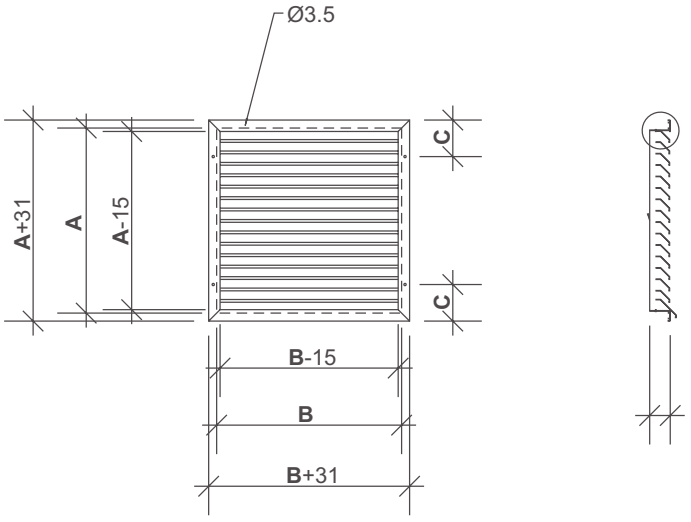
AREO Basic unit

Legend:
(1) Water inlet connection (male gas coupling)
(2) Water outlet connection (male gas co upling)
(3) Condensate drainage connection



AREO	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	G (mm)	Φ 1	Φ 2	Φ 3 (mm)
12 - 13 - 14	460	330	500	328	300	380	3/4"	3/4"	17
22 - 23 - 24	560	430	500	428	400	480	3/4"	3/4"	17
32 - 33 - 34	660	530	525	528	500	580	1"	1"	17
42 - 43 - 44	760	630	515	628	600	680	1"	1"	17
52 - 53 - 54	860	730	535	728	700	780	1"1/4	1"1/4	17
62 - 63 - 64	960	830	535	828	800	880	1"1/4	1"1/4	17

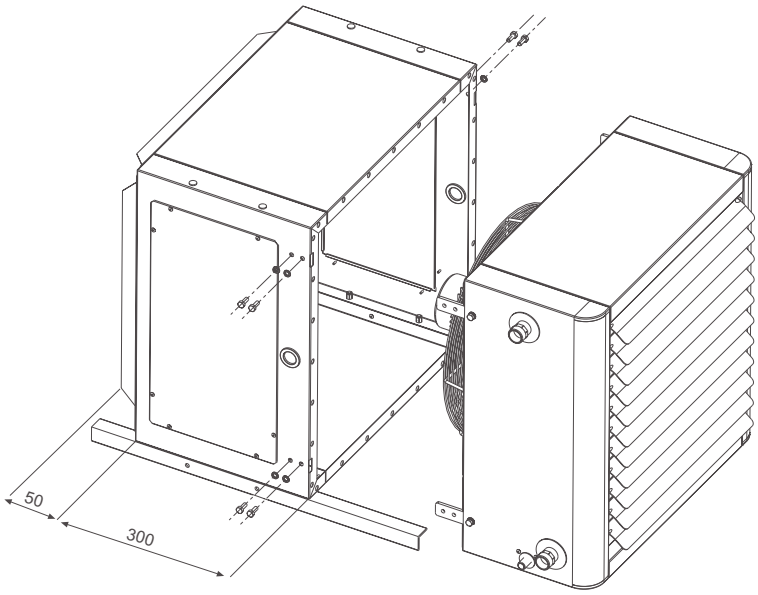
GR Rain-protected air inlet grill



GR	Model	A (mm)	B (mm)	C (mm)
AYGR1	**AREO 12 - 13 - 14**	400	400	80
AYGR2	**AREO 22 - 23 - 24**	500	500	80
AYGR3	**AREO 32 - 33 - 34**	600	600	80
AYGR4	**AREO 42 - 43 - 44**	700	700	80
AYGR5	**AREO 52 - 53 - 54**	800	800	80
AYGR6	**AREO 62 - 63 - 64**	900	900	80

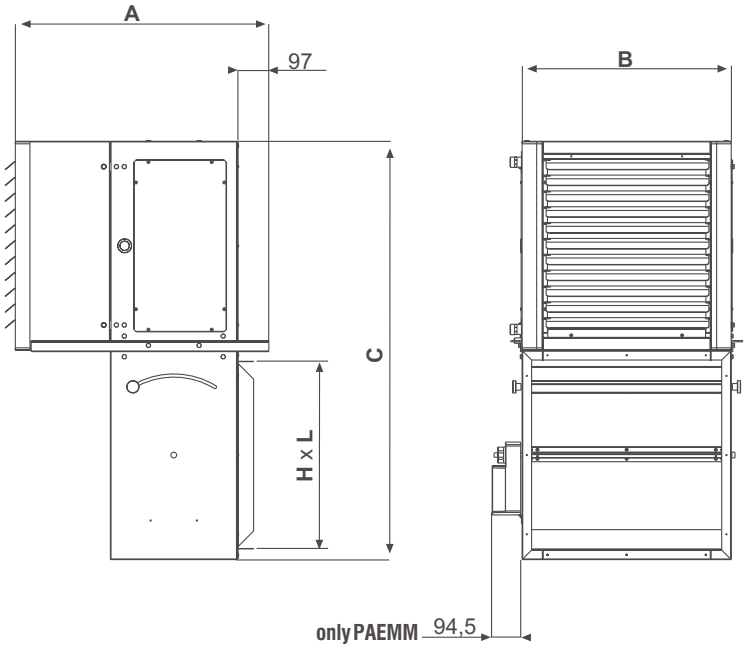
12 OVERALL DIMENSIONS

PAE Fresh air intake



PAE	Model	air inlet	hole in the wall
AYPAE1	AREO 12 - 13 - 14	392 X 392	400 x 400
AYPAE2	AREO 22 - 23 - 24	492 x 492	500 x 500
AYPAE3	AREO 32 - 33 - 34	592 x 592	600 x 600
AYPAE4	AREO 42 - 43 - 44	692 x 692	700 x 700
AYPAE5	AREO 52 - 53 - 54	792 x 792	800 x 800
AYPAE6	AREO 62 - 63 - 64	892 x 892	900 x 900

PAE M - PAE MM Manual external air intake mixing louvers



PAE M	PAEMM	Model	A	B	C	air inlet	hole in the wall
AYPAEM1	AYPAEMM1	AREO 12 - 13 - 14	700	460	920	392 X 392	400 x 400
AYPAEM2	AYPAEMM2	AREO 22 - 23 - 24	700	560	1120	492 x 492	500 x 500
AYPAEM3	AYPAEMM3	AREO 32 - 33 - 34	800	660	1320	592 x 592	600 x 600
AYPAEM4	AYPAEMM4	AREO 42 - 43 - 44	800	760	1520	692 x 692	700 x 700
AYPAEM5	AYPAEMM5	AREO 52 - 53 - 54	900	860	1720	792 x 792	800 x 800
AYPAEM6	AYPAEMM6	AREO 62 - 63 - 64	900	960	1920	892 x 892	900 x 900

13 ELECTRICAL DATA

Features of the standard motor:
- tropicalised
- equipped internally with a thermal cutout
- IP 55 protection degree
- class F winding
- closed type: asynchronous three-phase 2-speed motors (400/400 V star-delta connection) or single-phase 3-speed motors.

400/400 V - YΔ motors are equipped internally with a thermal cutout and speeds are selected by means of a normal star-delta switch (accessory CST).

The terminals of the cutouts are connected to the terminal block so that they can be used as protection in series with the coil of a contactor.
If the internal cutout is not used to protect the motor, it will be necessary to provide a motor overload cutout set at a current that is 10-15% higher than the current indicated on the unit rating plate.
Special 4/8 pole motors are available on request (single-voltage, dual polarity).

The single-phase motor has an internal thermal cutout that acts directly on the windings: therefore, NO EXTERNAL THERMAL OVERLOAD PROTECTION IS NECESSARY.

Make the electrical connections with the power supply disconnected, in accordance with current safety regulations. All the wiring must be done by qualified personnel.

Check that the mains electricity supply is compatible with the voltage shown on the unit rating plate.
Scrupulously follow the wiring diagram provided, according to the type of installation.

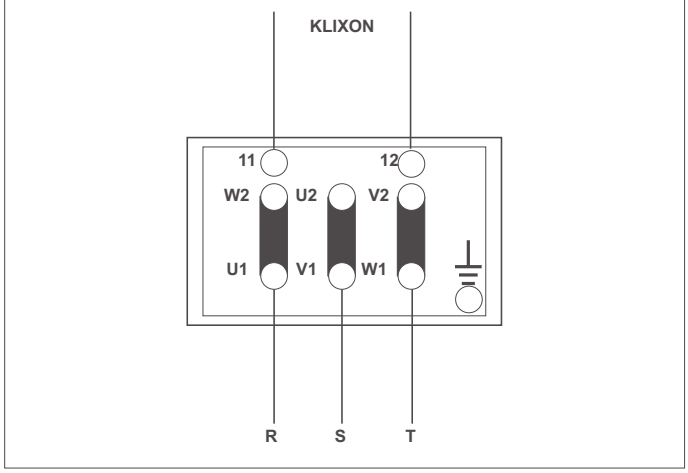
Each unit requires a switch (**IL**) on the feeder line with a distance of at least 3 mm between the opening contacts, and a suitable safety fuse (**F**).

If, in case of single-phase motors with microprocessor control, power input is higher than the values specified in the following figures (for controls), use the IPM power interface.

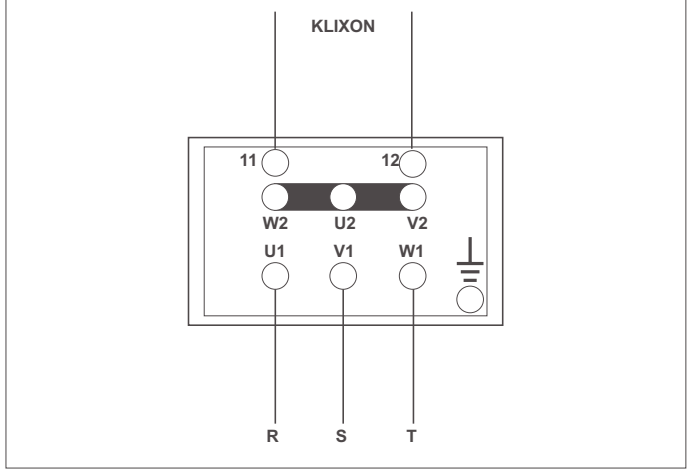
Model	Number of poles	Fan revolution	Voltage	Power input	Current absorbed
		r.p.min	V	W	A
AREO 12-13-14	4 / 6	1400 / 900	400	67 / 46	0,209 / 0,118
	6 / 8	900 / 700	400	55 / 27	0,140 / 0,056
	4 / 6 / 8	1400 / 900 / 700	230	105 / 62 / 48	0,48 / 0,38 / 0,31
AREO 22-23-24	4 / 6	1400 / 900	400	277 / 172	0,61 / 0,32
	6 / 8	900 / 700	400	178 / 90	0,40 / 0,16
	4 / 6 / 8	1400 / 900 / 700	230	311 / 217 / 170	1,52 / 1,32 / 1,00
AREO 32-33-34	4 / 6	1400 / 900	400	394 / 294	0,85 / 0,58
	6 / 8	900 / 700	400	176 / 118	0,48 / 0,23
	4 / 6 / 8	1400 / 900 / 700	230	439 / 370 / 300	1,93 / 2,02 / 1,53
AREO 42-43-44	4 / 6	1400 / 900	400	703 / 471	1,49 / 0,85
	6 / 8	900 / 700	400	304 / 191	0,88 / 0,39
	4 / 6 / 8	1400 / 900 / 700	230	750 / 450 / 360	3,50 / 2,50 / 1,90
AREO 52-53-54	4 / 6	1400 / 900	400	1300 / 860	2,49 / 1,37
	6 / 8	900 / 700	400	488 / 340	0,90 / 0,58
	6 / 8 / 10	900 / 700 / 550	230	540 / 440 / 370	2,60 / 2,30 / 2,00
AREO 62-63-64	6 / 8	900 / 700	400	540 / 417	1,18 / 0,69
	6 / 8 / 10	900 / 700 / 550	230	620 / 470 / 380	2,80 / 2,30 / 2,00

14 WIRING DIAGRAMS

Delta connection to terminal block of 400/400 V - YΔ motors, high speed



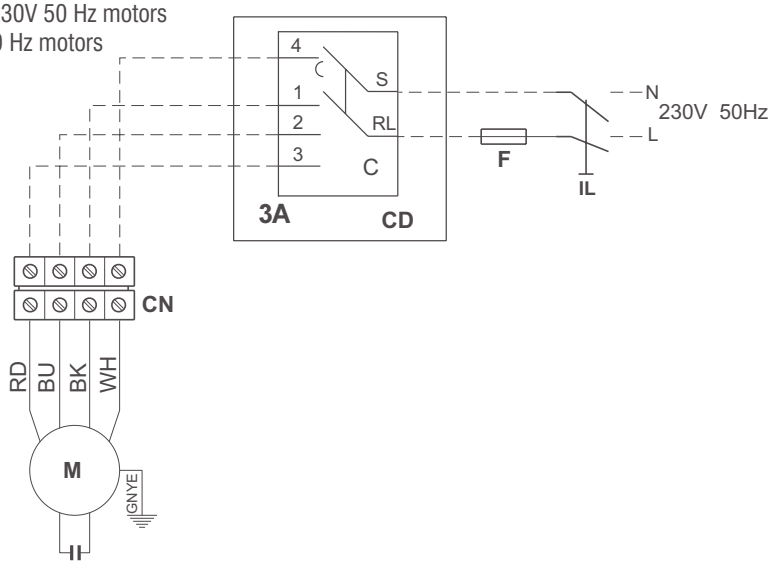
Star connection to terminal block of 400/400 V - YΔ motors, low speed



14 WIRING DIAGRAMS

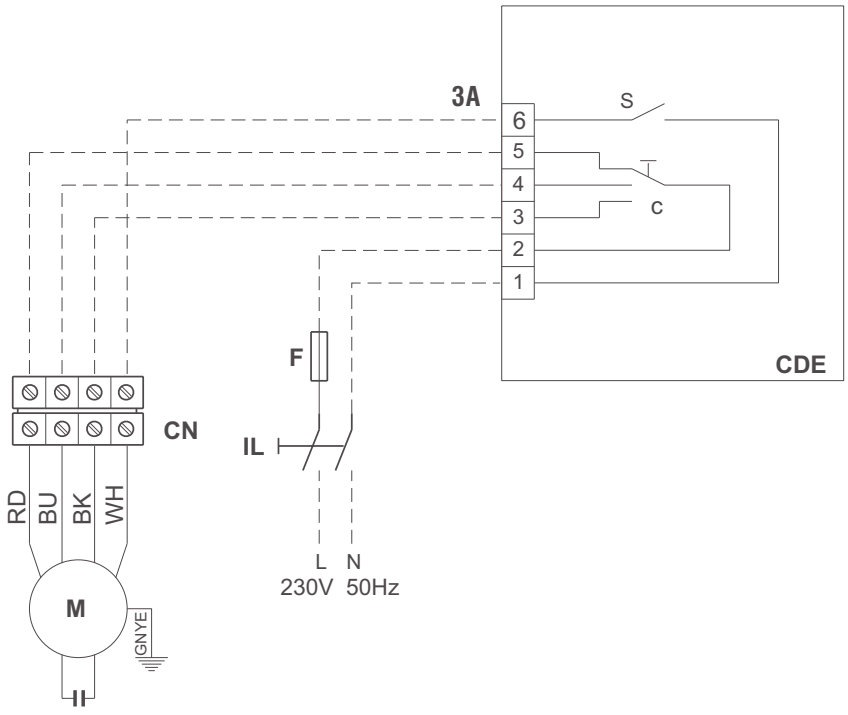
Wiring diagram showing connection of single-phase 3-speed motors, with CD wall-mounted control.

BK Black, maximum speed of 230V 50 Hz motors
BU Blue, medium speed of 230V 50 Hz motors
CD Recess wall-mounted speed switch
CN Connecting terminal block
F Protective fuse (NOT SUPPLIED)
IL Switch (NOT SUPPLIED)
M Motor
RD Red, minimum speed of 230V 50 Hz motors
WH White, shared by 230V 50 Hz motors



Wiring diagram showing connection of single-phase 3-speed motors, with CDE wall-mounted control.

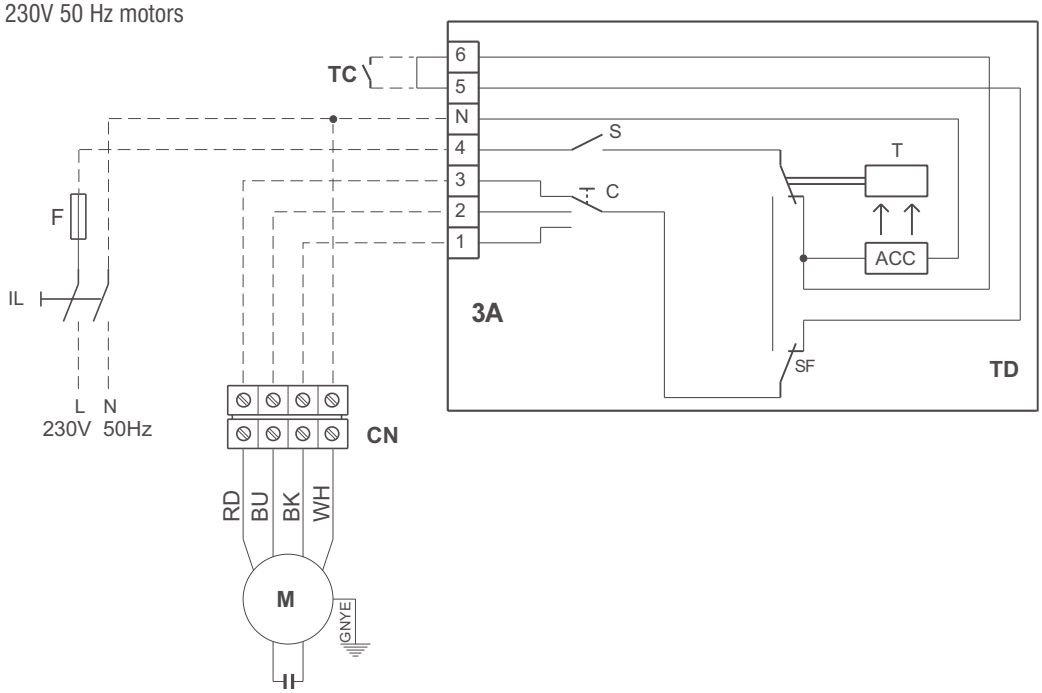
BK Black, maximum speed of 230V 50 Hz motors
BU Blue, medium speed of 230V 50 Hz motors
CDE wall-mounted speed switch
CN Connecting terminal block
F Protective fuse (NOT SUPPLIED)
IL Switch (NOT SUPPLIED)
M Motor
RD Red, minimum speed of 230V 50 Hz motors
WH White, shared by 230V 50 Hz motors



14 WIRING DIAGRAMS

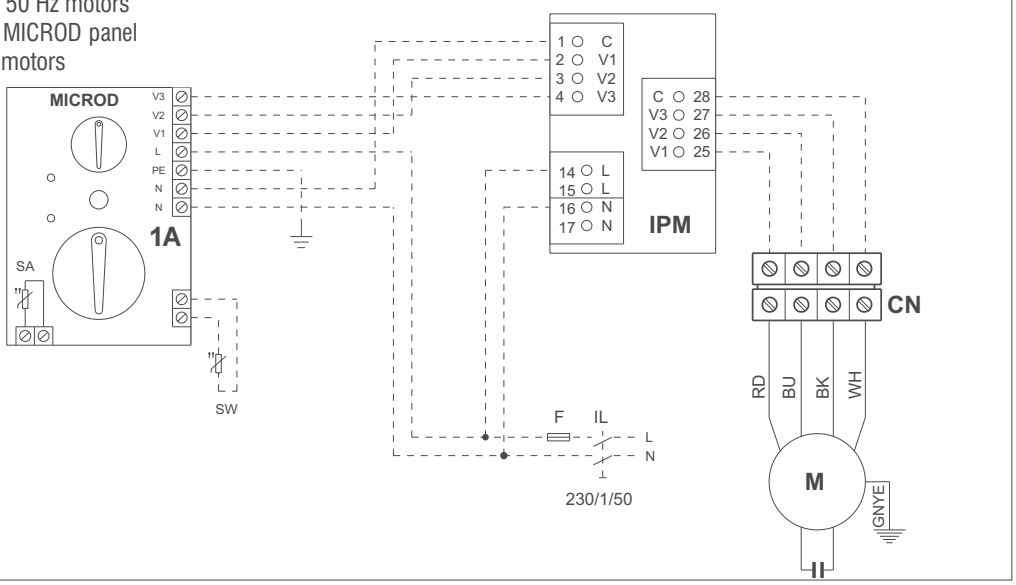
Wiring diagram showing connection of single-phase 3-speed motors, with TD wall-mounted control.

BK Black, maximum speed of 230V 50 Hz motors
BU Blue, medium speed of 230V 50 Hz motors
CN Connecting terminal block
F Protective fuse (NOT SUPPLIED)
IL Switch (NOT SUPPLIED)
M Motor
RD Red, minimum speed of 230V 50 Hz motors
TD remote control panel (accessory)
TC Winter fan stop thermostat for electromechanical control
WH White, shared by 230V 50 Hz motors



Wiring diagram showing connection of single-phase 3-speed motors, with MICROD wall-mounted control and IPM power interface

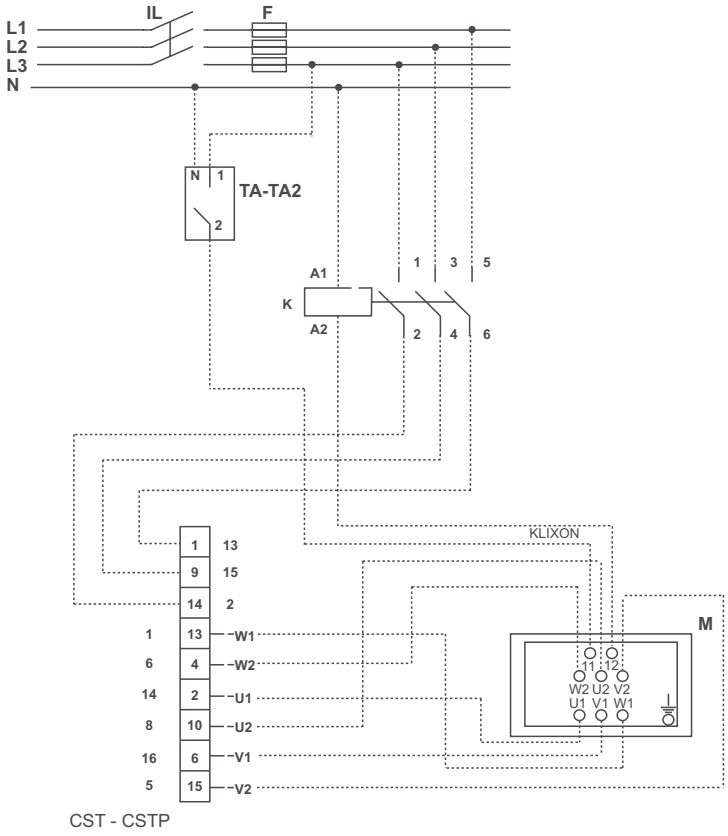
BK Black, maximum speed of 230V 50 Hz motors
BU Blue, medium speed of 230V 50 Hz motors
CN Connecting terminal block
F Protective fuse (NOT SUPPLIED)
IL Switch (NOT SUPPLIED)
IPM Power interface
M Motor
MICROD wall-mounted microprocessor control panel
RD Red, minimum speed of 230V 50 Hz motors
SW Water temperature sensor for MICROD panel
WH White, shared by 230V 50 Hz motors



14 WIRING DIAGRAMS

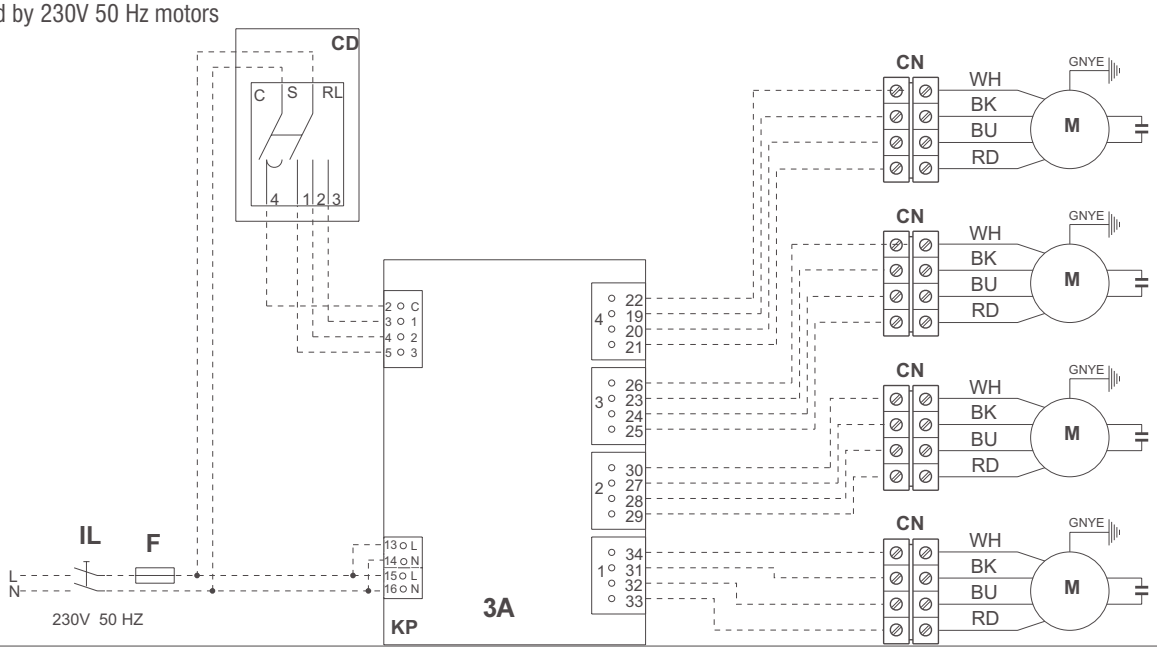
Wiring diagram showing connection of 400/400 V motor, with star-delta selector (YD).

CST Star-triangle switch
M Motor



Wiring diagram showing parallel connection of 2 single-phase 3-speed motors, with wall-mounted control (CD + KP).

BK Black, maximum speed of 230V 50 Hz motors
BU Blue, medium speed of 230V 50 Hz motors
CD Recess wall-mounted speed switch
CN Connecting terminal block
F Protective fuse (NOT SUPPLIED)
KP Power interface
IL Switch (NOT SUPPLIED)
M Motor
RD Red, minimum speed of 230V 50 Hz motors
WH White, shared by 230V 50 Hz motors



15 ACCESSORIES

CD - Flush wall-mounted speed selector

Flush wall mounted control panel is provided with a 4 positions (3 speed + stop) rotation selector.
This control panel, that can be matched with all the AREO 230V single phase models, allows the ON/OFF and fan speed selection of the fan coil unit.

CDE - Wall-mounted speed selector

Wall mounted control panel is provided with a 3 positions (3 speed) and switch ON/OFF .
This control panel, that can be matched with all the AREO 230V single phase models, allows the ON/OFF and fan speed selection of the fan coil unit.

TD - Wall mounted control with speed selector,thermostat and summer-winter selector

Wall mounted control panel complete with fan speed selector, electromechanical thermostat and cooling / heating mode selector.
This control panel, that can be matched with all the AREO 230V single phase models, allows the fan speed control, regulation of the room temperature and cooling / heating mode selection:
- manual setting of the fan speed;
- room temperature regulation both in cooling / heating mode, by means of fan start/stop, at a manually set temperature.

TDC - Wall mounted control with speed selector and thermostat

Wall mounted control panel complete with fan speed selector, and electromechanical thermostat .
This control panel, that can be matched with all the AREO 230V single phase models, allows the fanan speed control, regulation of the room temperature:
- manual setting of the fan speed;
- room temperature regulation in heating mode, by means of fan start/stop, at a manually set temperature.
- regulation of the room temperature both in heating and cooling mode when connected to a remote centralised summer-winter selector

MICROD - Wall mounted microprocessor control - automatic control of the unit

Microprocessor control panel for wall installation, complete with fan speed selector, electronic thermostat and heating / cooling mode selector.
This control panel, that can be matched with all the AREO 230V single phase models, allows the fan speed control, regulation of the room temperature and cooling/ heating mode selection.
- Regulation of the room temperature both in the cooling and heating mode, by means of fan start /stop, at a manually set temperature;
- Regulation of the room temperature both in the cooling and in the heating mode, by means of the automatic regulation of the fan speed;
- Cooling/heating mode selection in the following ways:
  - manual in built;
  - automatic according to the water temperature (with the SW water probe, option).

MICRONET- Advanced microprocessor control panels for ergo solution

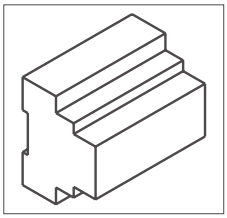
MICRONET is the control panel suitable for the connection to the ERGO SOLUTION. Microprocessor control panels for wall installation complete with fan speed selector, electronic thermostat and cooling / heating mode selector; for the automatic control of the fan working on the valves and electric heater, if installed.
Fan speed control, room temperature regulation and cooling / heating mode selection:
- room temperature regulation both in the cooling and heating mode, by means of fan start/stop, at a manually set speed;
- room temperature regulation both in the cooling and heating mode, by means of the automatic regulation of the fan speed;
- timer function (not available for MICROPRO-D);
- cooling / heating mode selection in the following way:
- manual in built;
- automatic according to the water temperature;
- automatic according to the room temperature;
- control of the ON/OFF valves for 2 or 4 pipe system;
- control of the electric heater as integration or replacement of the hot water heat exchanger with delayed stop of the fan (2 min.).

The MICRONET control panels are provided also with contacts for external signals in order to enable or disable the unit operation.
- terminals for the connections with external signals in order to enable or disable the unit operation;
- terminals for the connections with external signals in order to enable or disable the ECONOMY set point (only if combined with ERGO software)
- air temperature probe
- water temperature probe
- RS485
- built-in MODBUS communication protocol
- Built-in Polarity and termination resistance

SW - water temperature electronic probe for MICROD controls

Water probe for the MICRO-D control panel: automatic selection of the cooling/heating operation mode.
Connected directly to the microprocessor control panel, this probe measures the water temperature inside the heat exchanger.
If the temperature registered is lower than 17°C the unit works in cooling mode and the temperature range of the control panel will be referred to the cooling mode (19 / 31°C); if the temperature registered is higher than 37°C the unit works in heating mode and the temperature range of the control panel will be referred to the heating mode (14 / 26°C).
If the temperature registered is between 17°C e 37°C the control panel will disable the unit operation.

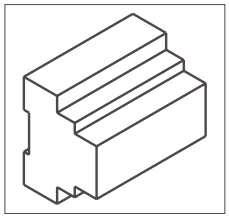
IPM - Power interface for the connections to the control panels



The IPM power board permits to use the control panels on the whole range of AREO 230V single-phase, even for models with current consumation greayer than 1A.
The capacity of the IPM contacts is 16A, IP30 rating.
This accessory is designed for installation on a DIN drive, usually placed on electric board.

15 ACCESSORIES

KP - Power interface for connection of up to 4 units to a single control panel
The KP master sleeve can be installed to control with a single control panel up to 4 units (connected in parallel).
This accessory is designed for installation on a DIN drive, usually placed on electric board.



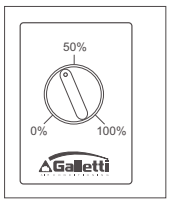
CST -Delta/star selector for installation in electric panels
Allows the rotational speed switching (off / low-speed / high-speed). It can be used only on 400 V (3-phase) models. For electrical box installation.

CSTP - Delta/star selector with box for wall installation
Allows the rotational speed switching (off / low-speed / high-speed). It can be used only on 400 V (3-phase) models. Supplied with plastic box for wall installation.

TA - Wall mounted room thermostat
Automatic regulation of the the room temperature:
- only in the heating mode working on the fan motor assembly;
- only in the cooling mode working on the fan motor assembly;
- both in cooling and heating mode, with remote mode selection working on the fan motor assembly.

TA2 - Wall mounted room thermostat with summer-winter selector
Wall mounted room thermostat with cooling/heating mode selector.
Automatic regulation of the room temperature both in heating and cooling mode, working on the fan motor assembly.

CSD - Wall mounted control panel for opening and closing of the motor driven air intake louver PAEMM
Designed for wall installation, it allows the proportional opening and closing from 0 to 100% of thePAE MM motor driven fresh air intake louver.

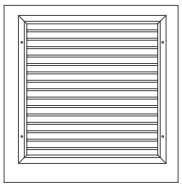


PAE - Fresh air intake louver
Allows the fresh air intake from the outside. Usually installed together with the outdoor fresh-air intake grill (GR option)

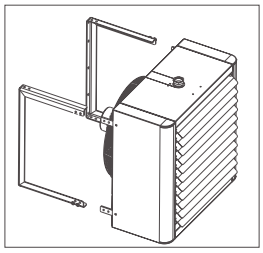
PAE M - Manual mixing fresh air intakelouver
Allows the mixing of return and fresh air. The amount of fresh air can be adjusted (manual louver) within the range 0-100%. The option is supplied with wall-supports and is usually installed together with the outdoor fresh-air intake grill (GR option)

PAE MM - Motor-driven mixing air intake louver
Allows the mixing of return and fresh air. The amount of fresh air can be adjusted (motorized louver) within the range 0-100%. The proportional drive motor (24 V power supply, voltage transformer included) is equipped with a shaft-return spring that forces the louver to close (avoiding the fresh air intake) in case of blackout. The drive motor can be connected to external auxiliary contacts in order to force the automatic opening and closing (air extractors, antifreeze thermostats, etc…). The motor driven fresh air intake louver must be used together with the dedicated control panel, for proportional opening-closing (CSD option)
The option is supplied with wall-supports and is usually installed together with the outdoor fresh-air intake grill (GR option)

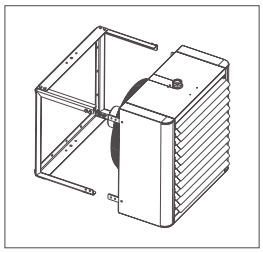
GR - Outdoor air intake grille
Galvanised aluminium outdoor fresh-air intake grill. Equipped with anti-intrusion grill, in order to avoid the intrusion of dangerous objects from the outside.



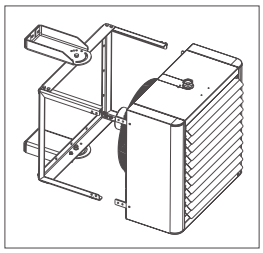
DFP - wall mounting board
The DFP option (made in steel of adequate thickness) allows the installation on indoor walls. The fan heater is connected to the wall mounting board by mean of the four tongues in the back panel of the unit (connection screws supplied).



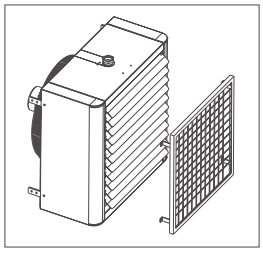
DFC - column mounting board
The DFP option (made in steel of adequate thickness) allows the installation on indoor columns or walls . The fan heater is connected to the wall mounting board by mean of the four tongues in the back panel of the unit (connection and option mounting screws supplied).



DFO - Adjustable wall/column mounting board
The DFO option (made in steel of adequate thickness) allows to orient the fan heater as needed (towards left or right), during the installation on indoor columns or walls. The fan heater is connected to the wall mounting board by mean of the four brackets in the back panel of the unit (connection and option mounting screws supplied).



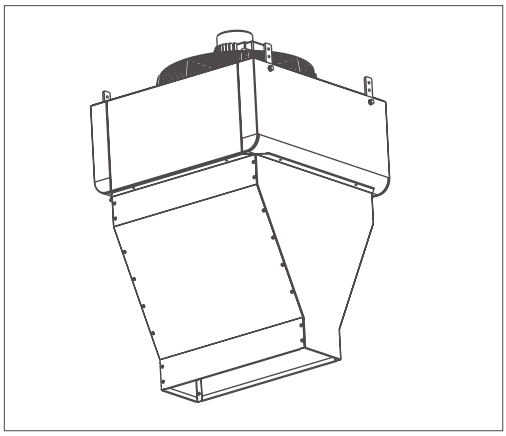
R - Protection grill for gymnasium
Protection grill for gymnasium (against ball impact on adjustable louvers). Option mounting screws supplied.



D0 -Additional row of louvers
The additional row of louvers air diffuser allows to orient the air flow on the horizontal plane, towards left or right. Option mounting screws supplied.

15 ACCESSORIES

LA - Air curtain diffuser
In order to create warm air curtains in proximity of doors and apertures, the fan heater AREO can be equipped with the air curtain diffuser (option LA). Available in different sizes (models) as indicated in the table below, it must be chosen depending on installation height and door width.
CAUTION!
The fan heater equipped with air curtain diffuser must be installed in horizontal position: it is not possible to use it in cooling mode (no possible condensate removal).
During the installation, take to orient the air curtain towards the inner side of the door (floor level).



AREO LA TECHNICAL DATA

Model	Fan Speed	Air Flow	Heating Capacity	Water Flow	Water Pressure drop	Installation Height	Door Lenght	Sound Power
		m^3/h	kW	l/h	kPa	m	m	dB A
AREO 32 Air curtain	6P	2700	23,70	2095	10,5	2,5 - 3,0	1	66
	8P	2130	20,60	1815	8,1	2,0 - 2,5	1	60
AREO 33 Air curtain	6P	2650	27,00	2388	9,7	2,5 - 3,0	1	66
	8P	2100	23,30	2060	7,5	2,0 - 2,5	1	60
AREO 42 Air curtain	6P	3750	33,65	2971	17,5	3,0 - 4,0	2	70
	8P	3110	30,00	2652	14,3	2,5 - 3,0	1	63
AREO 43 Air curtain	6P	3700	38,40	3390	18,0	3,0 - 4,0	2	70
	8P	3070	34,10	3012	14,3	2,5 - 3,0	1	63
AREO 52 Air curtain	6P	5600	40,53	3579	13,1	3,5 - 4,5	2	74
	8P	4300	34,80	3071	10,0	3,0 - 3,5	2	68
AREO 53 Air curtain	6P	5500	50,95	4498	14,7	3,5 - 4,5	2	74
	8P	4220	43,30	3822	11,1	3,0 - 3,5	2	68
AREO 62 Air curtain	6P	8100	74,30	6561	17,1	4,5 - 5,5	3	78
	8P	6500	64,90	5732	13,4	3,5 - 4,5	2	72
AREO 63 Air curtain	6P	8000	89,14	7869	24,6	4,5 - 5,5	3	78
	8P	6420	77,20	6820	19,1	3,5 - 4,5	2	72

Rated capacity determined at the following conditions:

Heating mode:
water temperature 85 / 75°C, inlet air temperature 20°C
Fan speed:
6 p = 6 poles, 900 rpm
8 p = 8 poles, 700 rpm

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