Pool air handling units

Aquair BCP

Dehumidification capacity: *21,7 to 74,7 kg/h*

Electronic Control

Optimized energy consumption

Heating and dehumidification of covered pools

Description

Aquair BCP Series are dehumidification units by cooling circuit, with total recuperation of the heat of condensation, especially designed for covered pools and other dehumidification applications.

These units have been designed for indoor installations; optionally for outdoor installations.

Consult specific applications (marine atmospheres, high concentrations of salts or chemical agents, high temperatures, etc.)

Range

Aquair BCP: 2 cooling circuits, 2 compressors, 5 models:

- 110 / 140 / 180 / 230 / 265

Aquair BCP: 3 cooling circuits, 3 compressors, 2 models:

- 315 / 355

Operating limits

Air inlet dry temperature

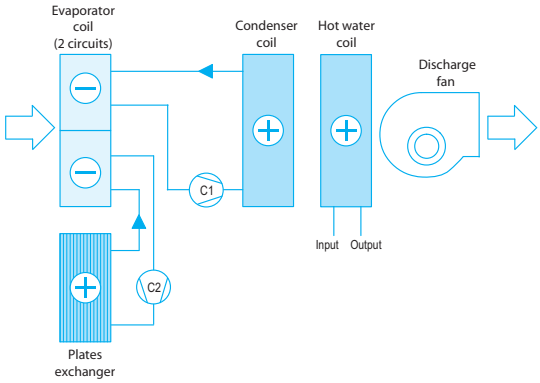
Maximum:	35ºC (65% RH - 29ºC WB)
Minimum:	18ºC (90% RH - 17ºC WB)

Condenser water inlet temperature

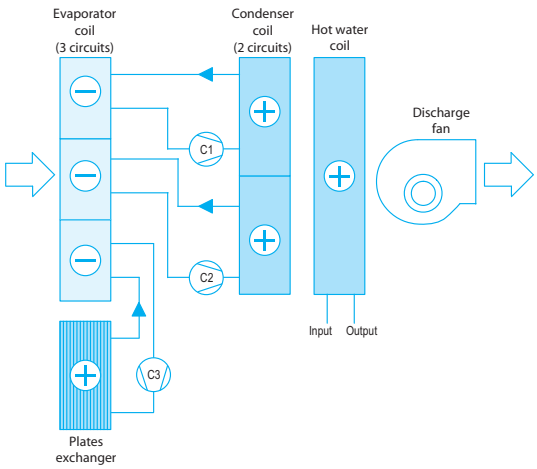
Maximum:	50ºC
Minimum:	20ºC

Principle schemes

■ Aquair BCP 110 / 140 / 180 / 230 / 265



■ Aquair BCP 315 / 355



UNITS COMPOSITION

Casing

- Sandwich-panel casing made up in galvanized steel plate of 1 mm covered with polyester paint outside and inside, with glass fiber insulation of 25 mm.
- Support frame and hinged doors to access to the sections of the unit. Panels and doors with rubber joints to ensure watertightness.

Internal air circuit

- G3 filter renewable mounted on frame.
- Direct expansion chiller coil with copper tubes and aluminium fins, with polyurethane coating.
- Condenser coil with copper tubes and aluminium fins, with polyurethane protection.
- Stainless steel condensates drain pan with drainage outlet. This pan is inclinated towards the drainage outlet so that the water does not stagnate in the pan, avoiding sanitary problems.
- Centrifugal fan of galvanized plate driven by belts and pulleys.
- Air by-pass damper, manual setting.

Refrigeration circuit

- Units with two or three cooling circuits:
  - All the circuits participate in the air dehumidification process, evaporating on 2/3 circuits coil.
  - One of the circuits is condensed over a special SMO-254 welded with copper, filled with pool water, recovering part of the energy from the evaporation process.
  - The other circuit(s) is condensed over an air coil located at the evaporator air outlet, heating the cold and dry air, before discharge over the optional hot water coil.
- Two or three Scroll hermetic compressors, depending on the model, with thermal insulation, motor temperature integral protection, installed over anti-vibratory supports.
- Thermostatic expansion valve with external equalization.
- Antiacid dryer filter.

Protections

- High and low pressure pressostats.
- Main switch of electrical cabinet door.
- Magnetothermic protection switches for the compressor(s) and motorfan(s) power supply.
- Automatic control circuit switch.
- Double access door to the fan.

Electric panel

- Complete and fully wired electric panel.
- Power supply with neutral and main ground connection.
- Compressor(s) and fan motor(s) contacts.

CIATpool electronic control

CIATpool control is basically composed of a µPC MEDIUM control board, a pGD1 graphical terminal, a TCO user terminal (optional) and sensors.

The control can connect to a centralised technical management system through a BMS communication card

The control also manages a local connection between units through a pLAN (µPC MEDIUM Local Area Network), thus allowing for a maximum of 15 units to communicate data and information.

Main functions:

- Dehumidification control during operating modes: COOLING / HEATING / AUTO and selection of setpoints.
- Permanent control of the operating parameters.
- View of the values measured by the sensors.
- Timing of the compressors.
- Daily and weekly programming.
- Anti-fire safety device.
- Operating fault diagnosis and main alarm.

Optional functions:

This control allows controlling optional elements such as:

- Outdoor air damper for refreshing air.
- Mixing box for thermal or thermoenthalpic free-cooling.
- Auxiliary electrical heaters.
- Hot water auxiliary coil.
- Air-cooled condenser for DUAL operation.
- Management of the AERO version.
- Clogged filter detector.

Opcionales

- AERO remote aerocondenser: replaces the water recovery circuit that condenses over the plate exchanger with an air split-system in which the condensation is done on the outside in a remote air condenser.
- DUAL remote aerocondenser: makes it possible to select, based on needs for comfort, for the condensation to be done in the indoor air circuit or in the remote outdoor condenser.
- Copper tubes and copper fins coils.
- 1 or 2 stages of auxiliary electrical heaters.
- 2-rows hot water coil with 3-ways proportional valve, with polyurethane coating or in copper-copper.
- High flow in discharge and return air (except for upper discharge and return).
- Clogged filter detector.
- G4 gravimetric filter and F7 opacimetric filter.
- Protection roof for outdoor installation.
- Protection roof for outdoor installation.
- Manual damper for outdoor air intake.
- Mixing box with two motorized dampers.
- Mixing box with three motorized dampers and centrifugal return fan.
- Flexible connections for water condenser and for hot water coil.
- Rubber antivibration mounts.

Pool air handling units

TECHNICAL CHARACTERISTICS

Aquair BCP		110	140	180	230	265	315	355
Air circuit	Dehumidification capacity ① (kg/h)	21,7	27,3	36,1	44,6	53,4	65,5	74,4
	Heating capacity (kW)	27,5	30,1	42,0	55,0	63,4	69,5	85,2
	Cooling capacity ② (kW)	31,6	39,7	53,3	67,3	77,1	95,2	108,2
	Power input ③ (kW)	7,0	8,8	12,4	15,6	18,5	22,9	25,6
	Nominal air flow(m3/h)	5.500	7.000	9.000	11.500	13.250	16.000	16.000
	Maximum air flow (m3/h)	6.600	8.400	10.800	13.800	15.900	19.200	19.200
	Avail. static pressure (mm.w.c.)	15	15	15	15	15	15	15
	Fan type / Number	Centrifugal / 1						
	Power (kW)	1,1	1,5	2,2	3,0	4,0	5,5	5,5
High flow air circuit (optional)	Nominal air flow (m³/h)	10.500	10.500	17.250	17.250	24.000	24.000	24.000
	Available static pressure (mm.w.c)	15	15	15	15	15	15	15
	Fan type / Number	Centrifugal / 1						
	Power(kW)	3,0	3,0	5,5	5,5	7,5	7,5	7,5
Water condenser	Heating capacity ④ (kW)	10	16,9	20,7	24,9	28,2	43,1	43,1
	Nominal water flow (m3/h)	1,73	2,92	3,57	4,30	4,86	7,45	7,45
	Pressure drop (m.w.c.)	4,4	3,2	4,7	3,9	5,0	4,6	4,6
	Hydraulic connections	1”	1 1/4”	1 1/4”	1 1/2”	1 1/2”	1 1/2”	1 1/2”
Hot water coil (optional)	Heating capacity ⑤ (kW)	61,5	71,5	90,0	105,0	129,0	145,0	145,0
	Nominal water flow (m3/h)	3,2	3,7	4,7	5,5	6,7	7,5	7,5
	Pressure drop (m.w.c.)	2,3	3,1	1,4	1,8	2,1	2,6	2,6
	Hydraulic connections	1 1/4”	1 1/4”	1 1/2”	1 1/2”	1 1/2”	1 1/2”	1 1/2”
Compressor	Type	Scroll						
	Compresors / stages number	2					3	
	Air circuit / recovery circuit number	1 / 1					2 / 1	
	Oil volume (l)	1,7 / 1,0	3,3 / 1,4	3,3 / 1,7	4 / 1,7	6,2 / 1,7	3,3+1,7 / 3,3	3,3 x 2 / 3,3
Power supply	400 V / III ph / 50 Hz (±10%)	3 Wires + Ground + Neutral						
Maximum absorbed current (A)		37,7	31,6	48,0	55,9	61,0	86,6	98,6
Refrigerant	Type	R-407C						
	Global warming potential (GWP) ⑥	1774						
	Charge (kg)	7,4	8,6	14,7	15,5	17,8	16,9	18,2
	Environment impact (tCO2eq)	13,1	15,3	26,1	27,5	31,6	30,0	32,3
Dimensions	Length (mm)	2.070	2.070	2.282	2.282	2.450	2.450	2.450
	Width (mm)	1.248	1.248	1.498	1.498	1.498	1.498	1.498
	Height (mm)	1.315	1.315	1.613	1.613	1.813	1.813	1.813
Weight	(kg)	630	665	895	920	1080	1155	1175
Condensate outlet Ø		3/4” adaptor						

① Unit cooling dehumidification capacity. For unit selection, it should be taken into account the dehumidification which provides fresh air of ventilation (UNE 100011).

② Cooling capacity for air inlet temperature conditions of 28ºC and 65% RH

③ Total power input by compressor and motorfans under nominal conditions.

④ Heating capacity for recovery circuit water 28 / 33ºC.

⑤ Water from boiler for hot water coil 82 / 65ºC and air inlet at 20ºC.

⑥ Climate warming potential of one kg of greenhouse-effect fluored gas relative to one kilogram of carbon dioxide over a period of 100 years.

Return fan technical characteristics (optional)

Aquair BCP	110	140	180	230	265	315	355
Nominal flow							
Available static pressure (mm.w.c)	10	10	10	10	10	10	10
Fan type / Number	Centrifugal / 1						
Power(kW)	0,55	0,75	1,5	2,2	2,2	3	3
High flow (optional)							
Available static pressure (mm.w.c)	10	10	10	10	10	10	10
Fan type / Number	Centrifugal / 1						
Power(kW)	2,2	2,2	3,0	3,0	4,0	4,0	4,0

Weights by modules (kg)

Aquair BCP	110	140	180	230	265	315	355
Nominal flow							
Standard unit (no optionals)	630	665	895	920	1080	1155	1175
Hot water coil	40	40	45	45	55	55	55
Bags filter module	270	270	350	350	400	400	400
2 dampers mixing box module	380	380	470	470	520	520	520
Mixing box module 3 dampers+ return fan	438	444	602	609	697	700	700
High flow (optional)							
Standard unit (no optionals)	645	675	975	995	1175	1230	1230
Hot water coil	40	40	45	45	55	55	55
Bags filter module	270	270	350	350	400	400	400
2 dampers mixing box module	380	380	470	470	520	520	520
Mixing box module 3 dampers+ return fan	456	456	737	737	815	743	743

Maximum currents (A)

Aquair BCP		110	140	180	230	265	315	355
Compressor	**400V / III ph / 50Hz (±10%)**	18 + 17	17 + 11	29 + 14	35 + 14	35 + 17	(29 x 2) + 17	29 x 3
Discharge fan	**230V / III ph / 50Hz (±10%)**	4,7	6,1	8,7	11,9	15,5	20,1	20,1
	400V / III ph / 50Hz (±10%)	2,7	3,6	5,0	6,9	9,0	11,6	11,6
High flow discharge fan (optional)	**230V / III ph / 50Hz (±10%)**	11,9	11,9	20,1	20,1	--	--	--
	400V / III ph / 50Hz (±10%)	6,9	6,9	11,6	11,6	14,7	14,7	14,7
Return fan (optional)	**230V / III ph / 50Hz (±10%)**	2,8	3,6	6,1	8,7	8,7	11,9	11,9
	400V / III ph / 50Hz (±10%)	1,6	2,1	3,6	5,0	5,0	6,9	6,9
High flow return fan (optional)	**230V / III ph / 50Hz (±10%)**	8,9	8,9	11,9	11,9	15,5	15,5	15,5
	400V / III ph / 50Hz (±10%)	5,0	5,0	6,9	6,9	9,0	9,0	9,0

Sound levels dB(A)

■ Sound power level

Sound power level in the discharge fan outlet and in the return fan intake (optional), to take into account for the silencer calculation:

Aquair BCP			110	140	180	230	265	315	355
Nominal flow	Discharge fan	dB(A)	75,0	77,8	81,3	85,9	87,2	91,1	91,1
	Return fan (optional)	dB(A)	75,8	80,9	77,4	83,0	81,3	86,0	86,0
High flow (optional)	Discharge fan	dB(A)	86,3	86,3	85,5	85,5	85,7	85,3	
	Return fan (optional)	dB(A)	80,7	80,7	80,7	80,7	83,2	83,2	

■ Sound pressure level

Measurement conditions: in a clear field, measured at a distance of 5 metres, directivity 2 and at 1,5 metres from the ground.

Aquair BCP		110	140	180	230	265	315	355
Standard unit	dB(A)	63,2	66,9	69,8	73,6	74,8	77,7	77,6

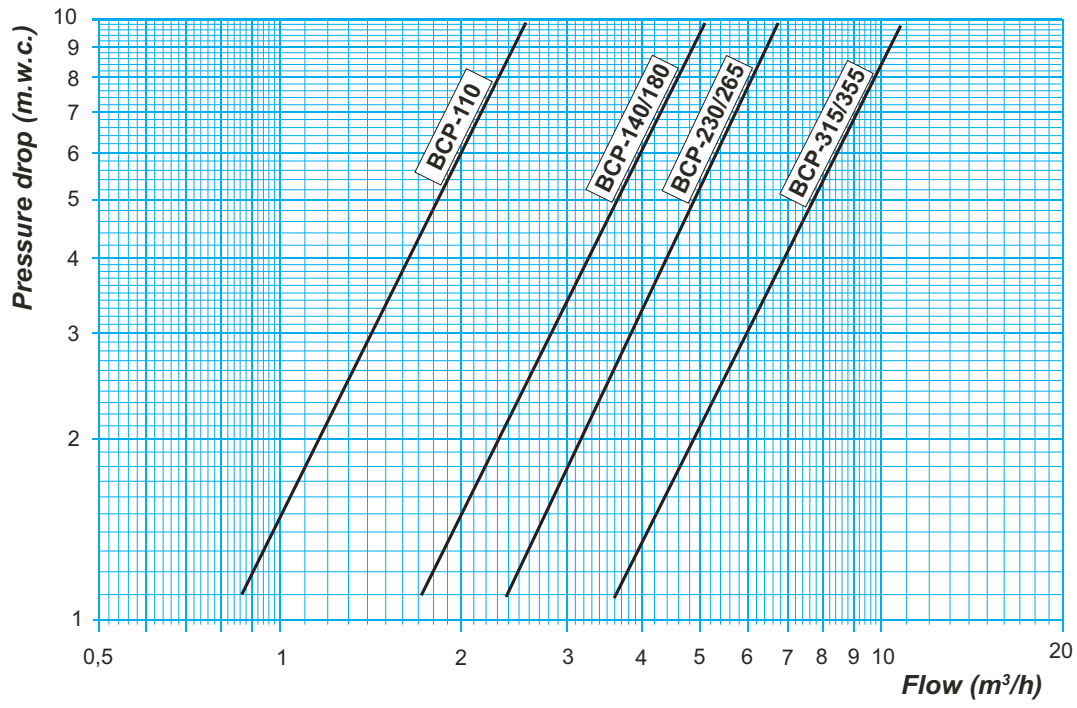
NOTE: The sound pressure level depends on the installation conditions and it is given only as an approximate guid

Electrical heater (optional)

Auxiliary 2-stage electrical heaters for assembly and connection inside the unit.

Voltage	400 V / III ph / 50 Hz									
Power (kW)	3	6	9	12	15	18	24	27	36	54
Current (A)	4,3	8,7	13,0	17,3	21,7	26,0	34,6	39,0	52,0	77,9

Water pressure drops in the condenser



CORROSION BEHAVIOUR

Water content	Concentration (mg/l or ppm)	Time limits (analyze before)	SMO-254
Alkalinity (HCO_3^-)	< 70	Within 24h	+
	70 - 300		+
	> 300		+
Sulphate ① (SO_4^{2-})	< 70	No limit	+
	70 - 300		+
	> 300		+
HCO_3^- / SO_4^{2-}	> 1.0	No limit	+
	< 1.0		+
Electrical conductivity	< 10 μS/cm	No limit	+
	10-500 μS/cm		+
	> 500 μS/cm		+
pH ②	< 6.0	Within 24h	0
	6.0 - 7.5		+
	7.5 - 9.0		+
	> 9.0		+
Ammonium (NH_4^+)	< 2	Within 24h	+
	2 - 20		+
	> 20		+
Chlorides (Cl^-)	< 100	No limit	+
	100 - 200		+
	200 - 300		+
	> 300		+
Free chlorine (Cl_2)	< 1	Within 5 horas	+
	1 - 5		0
	> 5		-
Hydrogen sulfide (H_2S)	< 0.05	No limit	+
	> 0.05		+
Free (aggressive) carbon dioxide (CO_2)	< 5	No limit	+
	5 - 20		+
	> 20		+
Total hardness (ºdH)	4.0 - 8.5	No limit	+
Nitrate ① (NO_3^-)	< 100	No limit	+
	> 100		+
Iron ③ (Fe)	< 0.2	No limit	+
	> 0.2		+
Aluminium (Al)	< 0.2	No limit	+
	> 0.2		+
Manganese ③ (Mn)	< 0.1	No limit	+
	> 0.1		+

The plates exchangers of Aquair BCP units are made up of SMO-254 stainless steel, and the material used for the plates welding is pure copper.

The attached table indicates the behaviour to corrosion for stainless steel SMO-254 with respect to different compositions of water. Values outside these ranges may suppose corrosion problems.

Important recommendations:

- If the pool water is introduced directly into the unit water condenser, the addition of chlorine should **never** be carried out before the inlet to this condenser.
- These exchangers should **never** be used in swimming pools with electrolysis efficiency treatment. In these cases it is necessary to install intermediate titanium exchanger, otherwise serious corrosion problems may occur.
- In the case of a longer standstill, leave the exchanger full of water pool without flowing or empty may cause corrosion problems. During periods of inactivity it is **mandatory** to fill up the hydraulic circuit of the exchanger completely with demineralised water. To isolate the hydraulic circuit of the rest of the installation, the installer must have shut-off valves at the input and output, and a drain for emptying.

Note: Consult “Assembly recommendations” included on page 54 of this brochure.

① Sulfates and nitrates works as inhibitors for piping corrosion caused by chlorides in pH neutral environments.

② In general, low pH (below 6) increases corrosion risk and high pH (above 7.5) decreases the corrosion risk.

③ Fe^{3+} and Mn^{4+} are strong oxidants and may increase the risk for localised corrosion on stalinless steels.

SiO_2 above 150 ppm increase the rink of scaling.

Legend:

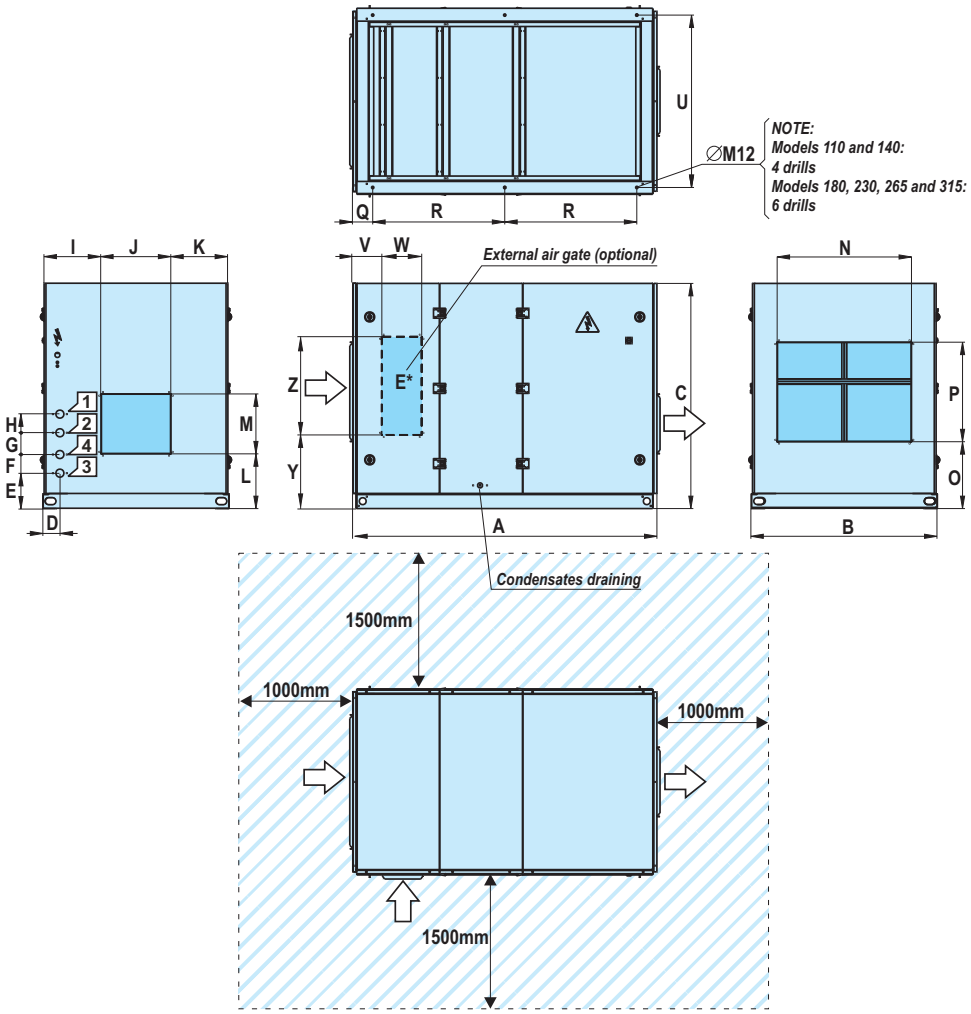
+ Good resistance under normal conditions.

0 Corrosion problems may ocurr specially when more factors are value 0.

- Use is not recommended.

DIMENSION DIAGRAMS

Aquair BCP with lateral discharge and return (mm)



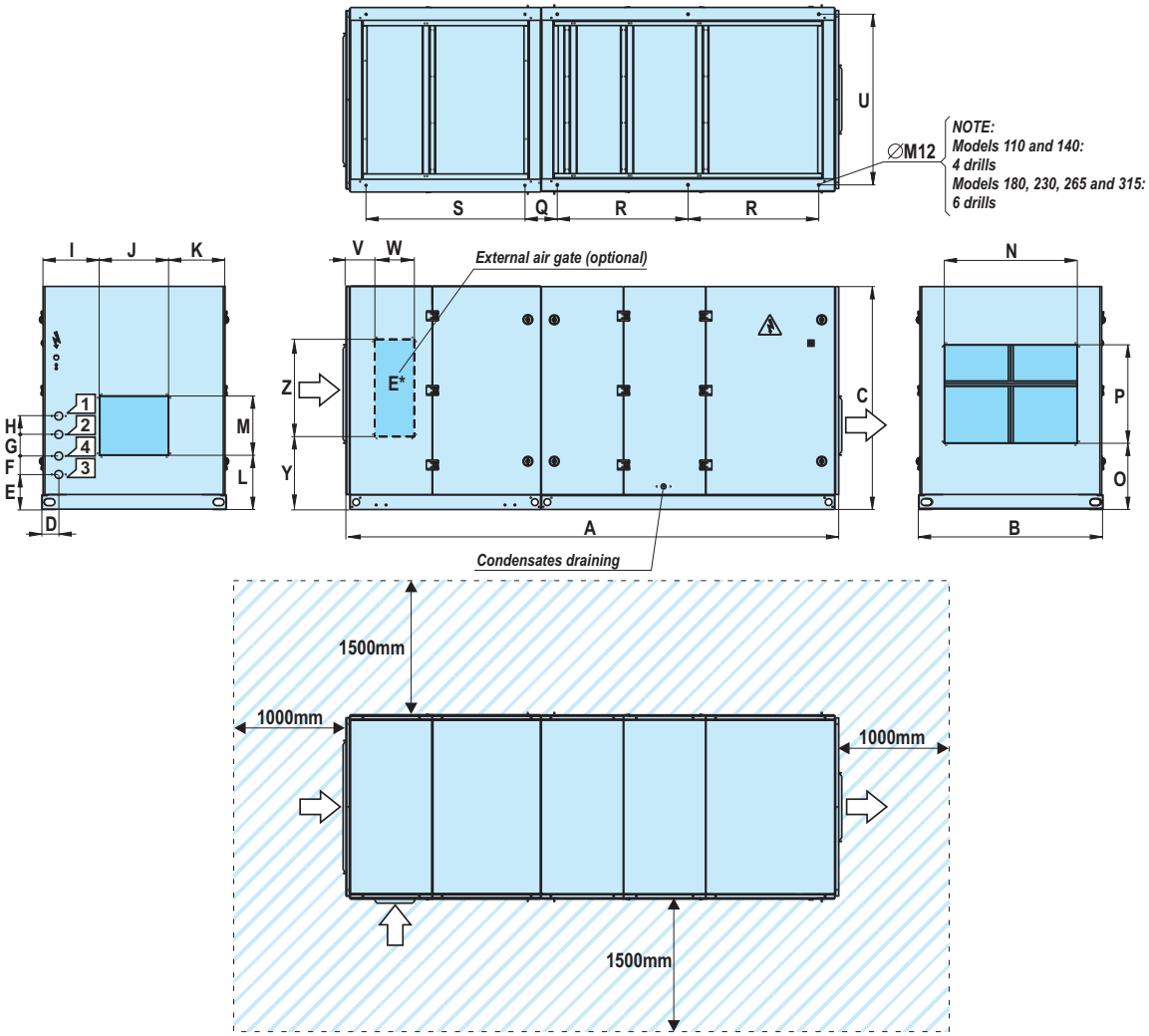
Aquair BCP		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	U	V	W	Y	Z
Nominal flow	110 / 140	2070	1248	1315	134	288	100	130	120	477	474	278	386	406	828	432	708	159	1752	1138	241	307	429	700
	180 / 230	2282	1498	1613	134	288	100	134	130	460	558	460	443	479	1078	540	608	162	979	1388	241	307	507	700
	265 / 315 / 355	2450	1498	1813	137	285	150	175	150	460	558	460	443	479	1078	540	798	162	1063	1388	241	307	763	900
High flow	110 / 140	2070	1248	1315	134	288	100	130	120	478	472	278	387	405	828	432	708	159	1752	1138	241	307	429	700
	180 / 230	2282	1498	1613	134	288	100	134	130	551	639	288	453	639	1078	540	908	162	979	1388	241	307	507	700
	265 / 315 / 355	2450	1498	1813	137	285	150	175	150	470	716	292	496	716	1078	488	1150	162	1063	1388	241	307	763	900

LEGEND:

- 1 *Water inlet to hot water coil*
- 2 *Water outlet to hot water coil*
- 3 *Water inlet to recovery circuit*
- 4 *Water outlet of recovery circuit*
- *Air flow*
- *Power supply and electrical panel*
- *Door switch*
- *Keep this space free for installation and maintenance operations*

NOTE: The roof for outside installation (optional) exceeds 75mm above 2 frontals

Aquair BCP with lateral discharge and return and bags filter (mm)



Aquair BCP		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	U	V	W	Y	Z
Nominal flow	110 / 140	3621	1248	1315	134	288	100	130	120	477	474	278	386	406	828	432	708	259	1752	1290	1138	241	307	429	700
	180 / 230	3833	1498	1613	134	288	100	134	130	460	558	460	443	479	1078	540	608	262	979	1290	1388	241	307	507	700
	265 / 315 / 355	4168	1498	1813	137	285	150	175	150	460	558	460	443	479	1078	540	798	262	1063	1290	1388	241	307	763	900
High flow	110 / 140	3621	1248	1315	134	288	100	130	120	478	472	278	387	405	828	432	708	259	1752	1290	1138	241	307	429	700
	180 / 230	3833	1498	1613	134	288	100	134	130	551	639	288	453	639	1078	540	908	262	979	1290	1388	241	307	507	700
	265 / 315 / 355	4168	1498	1813	137	285	150	175	150	470	716	292	496	716	1078	488	1150	262	1063	1290	1388	241	307	763	900

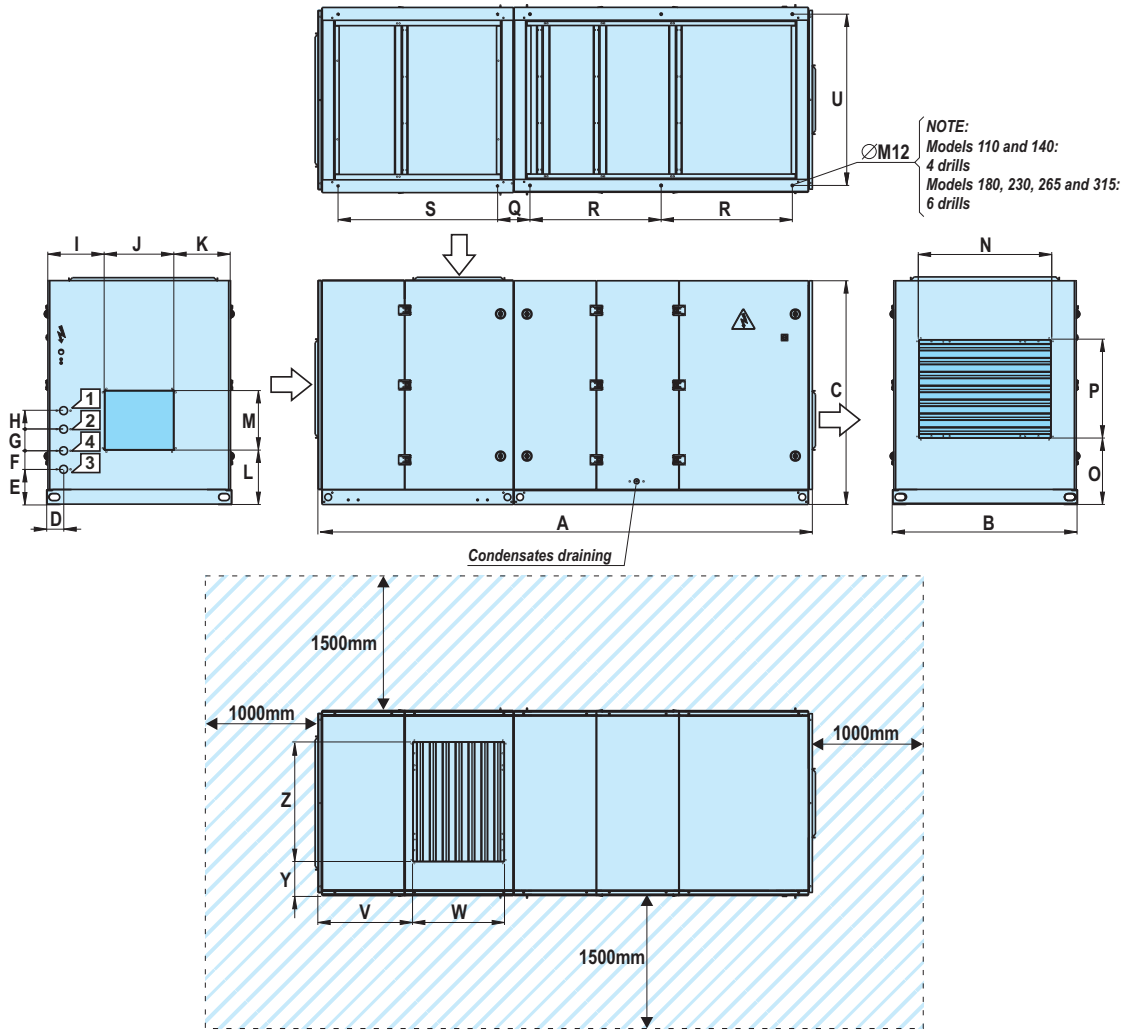
LEGEND:

1. *Water inlet to hot water coil*
2. *Water outlet to hot water coil*
3. *Water inlet to recovery circuit*
4. *Water outlet of recovery circuit*
- *Air flow*
- *Power supply and electrical panel*
- *Door switch*
- *Keep this space free for installation and maintenance operations*

NOTE: The roof for outside installation (optional) exceeds 75mm above 2 frontals

Pool air handling units

Aquair BCP with lateral discharge and return and mixing box with 2 dampers (mm)



Aquair BCP		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	U	V	W	Y	Z
Nominal flow	110 / 140	3621	1248	1315	134	288	100	130	120	477	474	278	386	406	798	415	497	259	1752	1290	1138	892	497	225	798
	180 / 230	3833	1498	1613	134	288	100	134	130	460	558	460	443	479	998	560	497	262	979	1290	1388	892	497	250	998
	265 / 315 / 355	4168	1498	1813	137	285	150	175	150	460	558	460	443	479	998	510	619	262	1063	1290	1388	914	619	250	998
High flow	110 / 140	3621	1248	1315	134	288	100	130	120	478	472	278	387	405	798	415	497	259	1752	1290	1138	892	497	225	798
	180 / 230	3833	1498	1613	134	288	100	134	130	551	639	288	453	639	998	500	619	262	979	1290	1388	831	619	250	998
	265 / 315 / 355	4168	1498	1813	137	285	150	175	150	470	716	292	496	716	998	632	861	262	1063	1290	1388	793	861	250	998

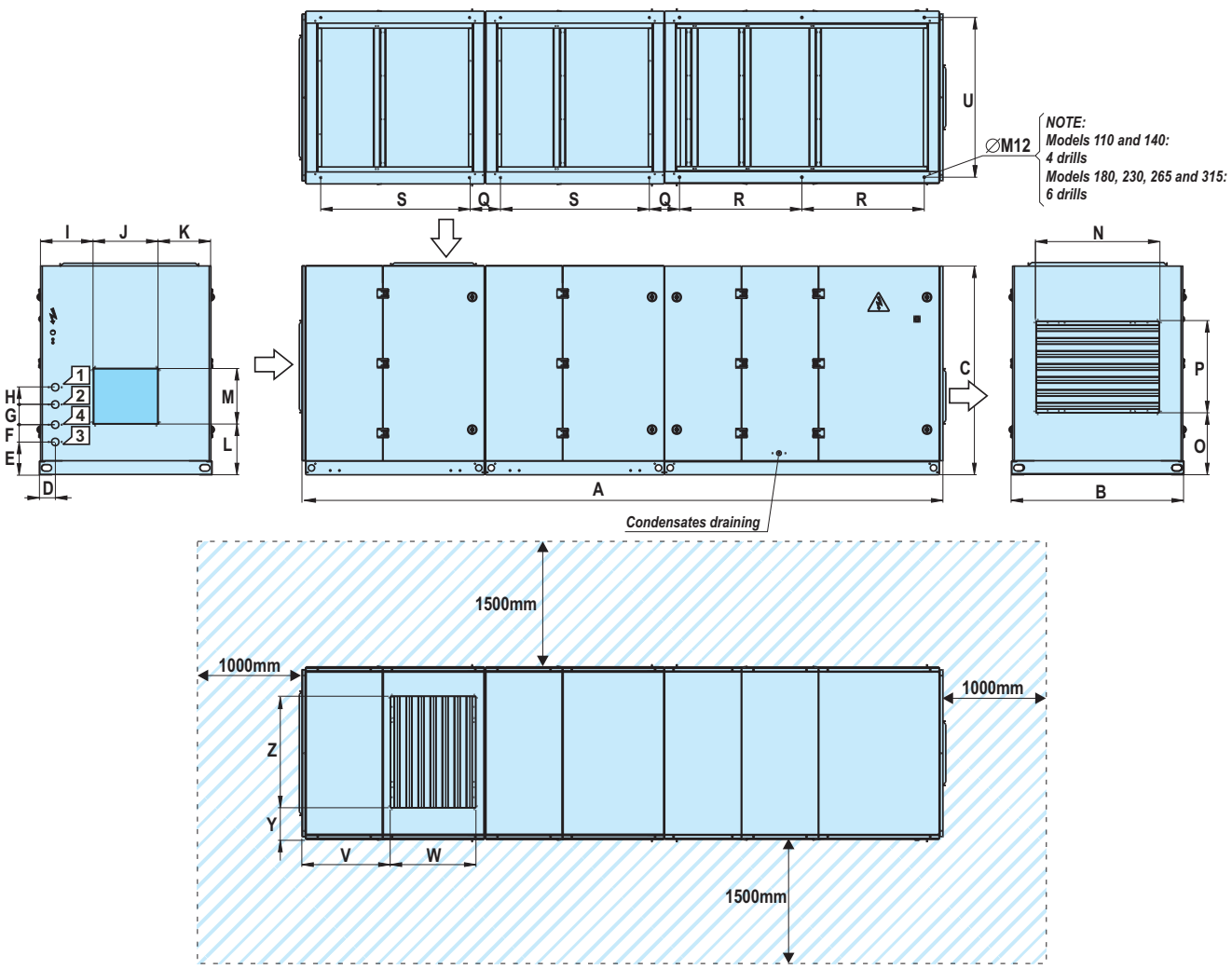
LEGEND:

1 *Water inlet to hot water coil*
2 *Water outlet to hot water coil*
3 *Water inlet to recovery circuit*
4 *Water outlet of recovery circuit*
Air flow
Power supply and electrical panel
Door switch
Keep this space free for installation and maintenance operations

NOTE: The roof for outside installation (optional) exceeds 75mm above 2 frontals

Aquair BCP

Aquair BCP with lateral discharge and return, bags filter and mixing box with 2 dampers (mm)



Aquair BCP		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	U	V	W	Y	Z
Nominal flow	110 / 140	5173	1248	1315	134	288	100	130	120	477	474	278	386	406	798	415	497	259	1752	1290	1138	892	497	225	798
	180 / 230	5382	1498	1613	134	288	100	134	130	460	558	460	443	479	998	560	497	262	979	1290	1388	892	497	250	998
	265 / 315 / 355	5887	1498	1813	137	285	150	175	150	460	558	460	443	479	998	510	619	262	1063	1290	1388	914	619	250	998
High flow	110 / 140	5173	1248	1315	134	288	100	130	120	478	472	278	387	405	798	415	497	259	1752	1290	1138	892	497	225	798
	180 / 230	5382	1498	1613	134	288	100	134	130	551	639	288	453	639	998	500	619	262	979	1290	1388	831	619	250	998
	265 / 315 / 355	5887	1498	1813	137	285	150	175	150	470	716	292	496	716	998	632	861	262	1063	1290	1388	793	861	250	998

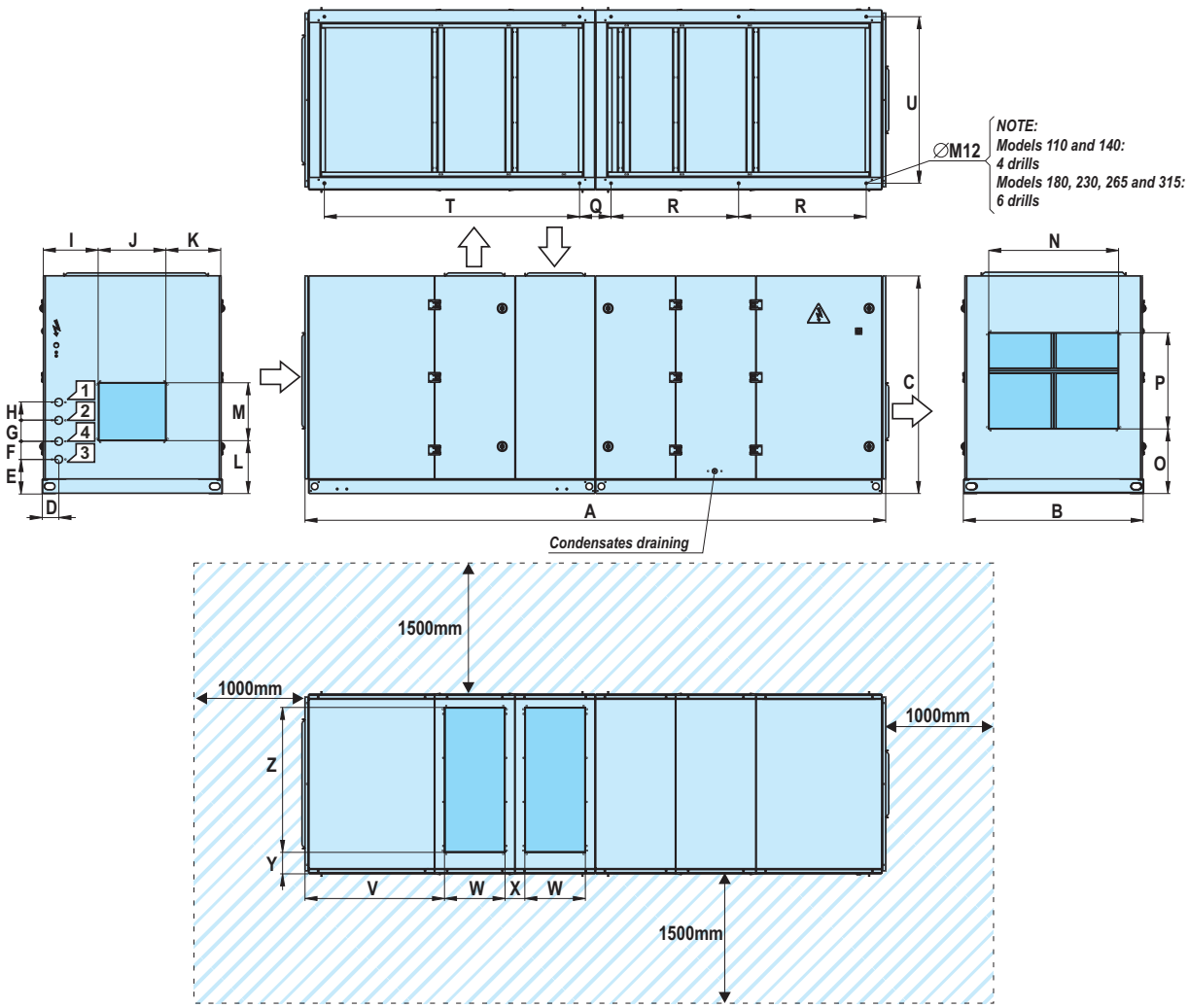
LEGEND:

1 *Water inlet to hot water coil*
2 *Water outlet to hot water coil*
3 *Water inlet to recovery circuit*
4 *Water outlet of recovery circuit*
Air flow
Power supply and electrical panel
Door switch
Keep this space free for installation and maintenance operations

NOTE: The roof for outside installation (optional) exceeds 75mm above 2 frontals

Pool air handling units

Aquair BCP with lateral discharge and return and mixing box with 3 dampers and return fan (mm)



Aquair BCP		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	T	U	V	W	X	Y	Z
Nominal flow	110 / 140	4078	1248	1315	134	288	100	130	120	477	474	278	386	406	828	432	708	259	1752	1752	1138	783	501	168	222	804
	180 / 230	4502	1498	1613	134	288	100	134	130	460	558	460	443	479	1078	540	608	262	979	1958	1388	1056	379	290	181	1204
	265 / 315 / 355	4838	1498	1813	137	285	150	175	150	460	558	460	443	479	1078	540	798	262	1063	2126	1388	1163	501	168	181	1204
High flow	110 / 140	4078	1248	1315	134	288	100	130	120	478	472	278	387	405	828	432	708	259	1752	1752	1138	783	501	168	222	804
	180 / 230	4502	1498	1613	134	288	100	134	130	551	639	288	453	639	1078	540	908	262	979	1958	1388	995	501	168	181	1204
	265 / 315 / 355	4838	1498	1813	137	285	150	175	150	470	716	292	496	716	1078	488	1150	262	1063	2126	1388	1163	501	168	181	1204

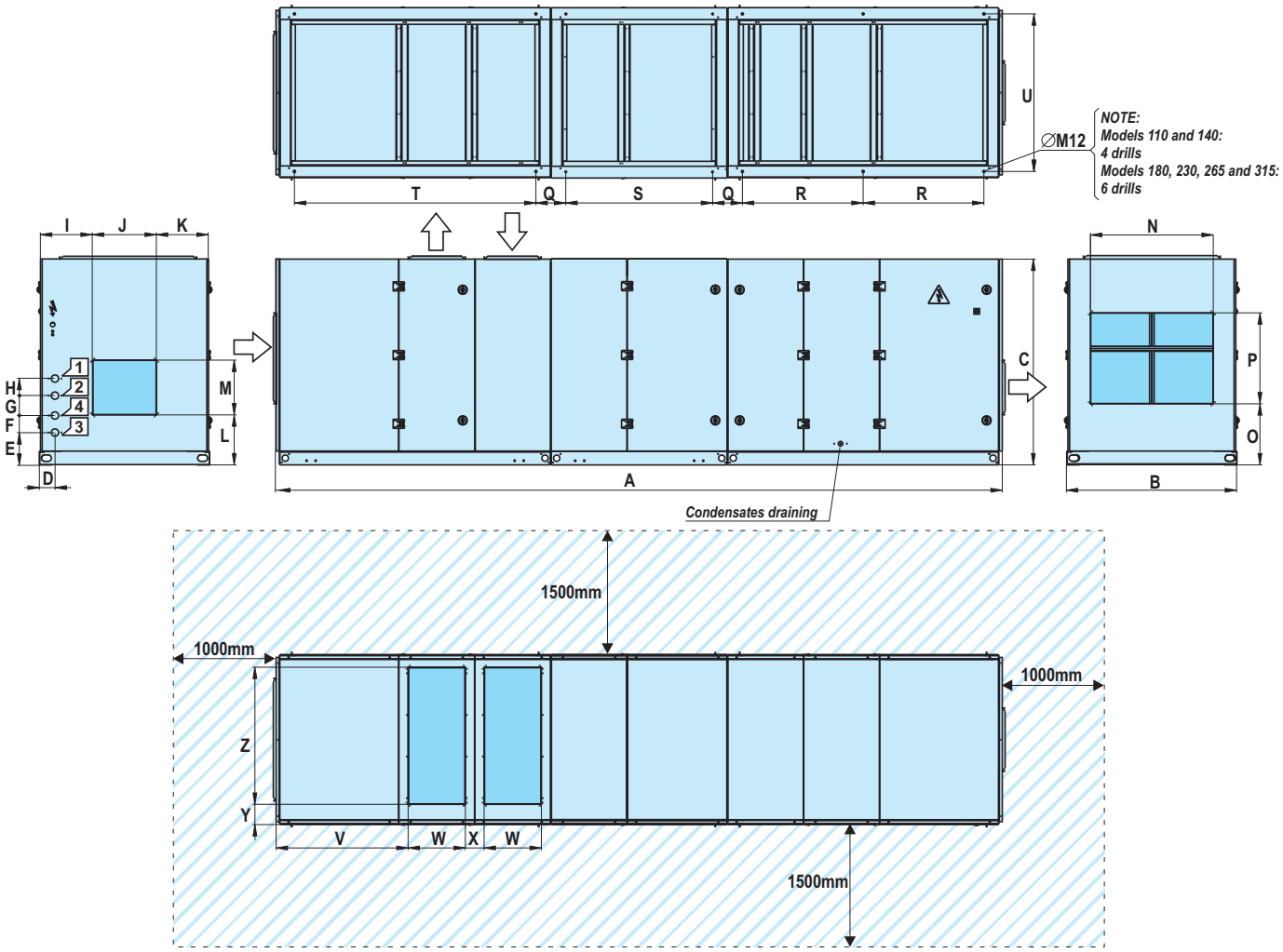
LEGEND:

1. *Water inlet to hot water coil*
2. *Water outlet to hot water coil*
3. *Water inlet to recovery circuit*
4. *Water outlet of recovery circuit*
- *Air flow*
- *Power supply and electrical panel*
- *Door switch*
- *Keep this space free for installation and maintenance operations*

NOTE: The roof for outside installation (optional) exceeds 75mm above 2 frontals

Aquair BCP

Aquair BCP with lateral discharge and return and mixing box with 3 dampers and return fan (mm)



Aquair BCP		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Nominal flow	110 / 140	5635	1248	1315	134	288	100	130	120	477	474	278	386	406	828	432	708	259	1752	1290	1752	1138	783	501	168	222	804
	180 / 230	6059	1498	1613	134	288	100	134	130	460	558	460	443	479	1078	540	608	262	979	1290	1958	1388	1056	379	290	181	1204
	265 / 315 / 355	6395	1498	1813	137	285	150	175	150	460	558	460	443	479	1078	540	798	798	1063	1290	2126	1388	1163	501	168	181	1204
High flow	110 / 140	5635	1248	1315	134	288	100	130	120	478	472	278	387	405	828	432	708	259	1752	1290	1752	1138	783	501	168	222	804
	180 / 230	6059	1498	1613	134	288	100	134	130	551	639	288	453	639	1078	540	908	262	979	1290	1958	1388	995	501	168	181	1204
	265 / 315 / 355	6395	1498	1813	137	285	150	175	150	470	716	292	496	716	1078	488	1150	798	1063	1290	2126	1388	1163	501	168	181	1204

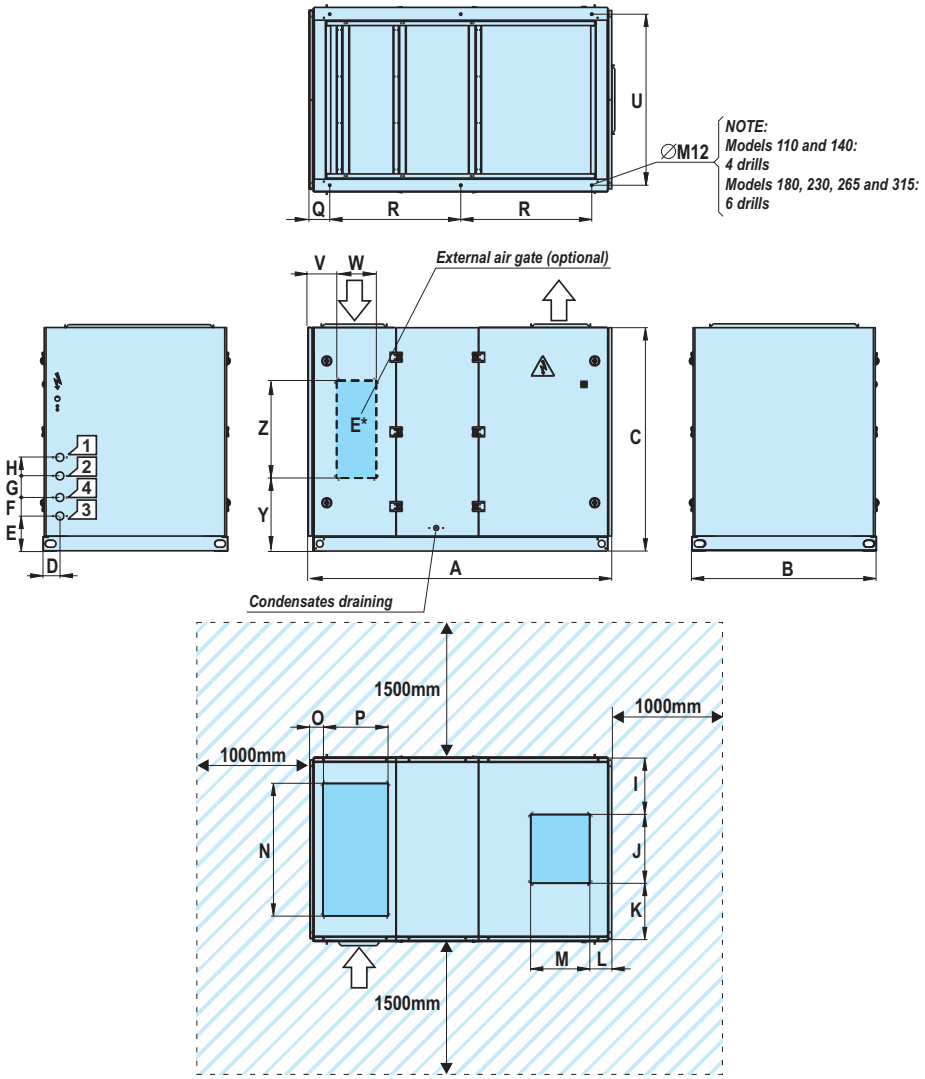
LEGEND:

1. *Water inlet to hot water coil*
2. *Water outlet to hot water coil*
3. *Water inlet to recovery circuit*
4. *Water outlet of recovery circuit*
- *Air flow*
- *Power supply and electrical panel*
- *Door switch*
- *Keep this space free for installation and maintenance operations*

NOTE: The roof for outside installation (optional) exceeds 75mm above 2 frontals

Pool air handling units

Aquair BCP with discharge and upper return (mm)



Aquair BCP		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	U	V	W	Y	Z
Nominal flow	110 / 140	2070	1248	1315	134	288	100	130	120	287	474	487	83	406	1022	88	555	159	1752	1138	241	307	429	700
	180 / 230	2282	1498	1613	134	288	100	134	130	470	558	470	88	479	1272	88	555	162	979	1388	241	307	507	700
	265 / 315 / 355	2450	1498	1813	137	285	150	175	150	470	558	470	104	479	1272	88	555	162	1063	1388	241	307	763	900

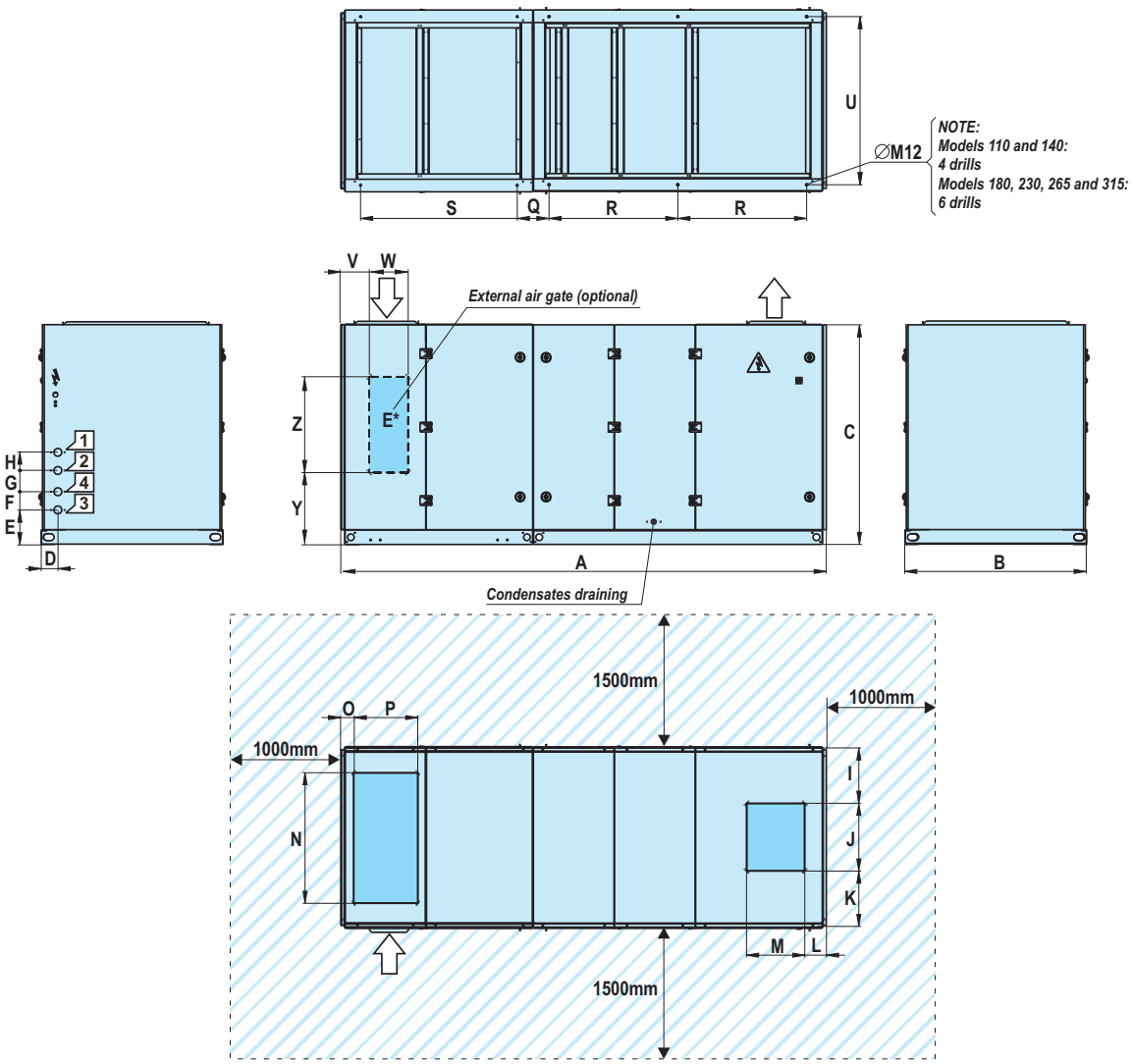
LEGEND:

1 *Water inlet to hot water coil*
2 *Water outlet to hot water coil*
3 *Water inlet to recovery circuit*
4 *Water outlet of recovery circuit*
Air flow

Power supply and electrical panel
Door switch
Keep this space free for installation and maintenance operations

NOTE: The roof for outside installation (optional) exceeds 75mm above 2 frontals

Aquair BCP with upper discharge and return and bags filter (mm)



Aquair BCP		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	U	V	W	Y	Z
Nominal flow	110 / 140	3621	1248	1315	134	288	100	130	120	287	474	487	83	406	1022	88	555	259	1752	1290	1138	241	307	429	700
	180 / 230	3833	1498	1613	134	288	100	134	130	470	558	470	88	479	1272	88	555	262	979	1290	1388	241	307	507	700
	265 / 315 / 355	4168	1498	1813	137	285	150	175	150	470	558	470	104	479	1272	88	555	262	1063	1290	1388	241	307	763	900

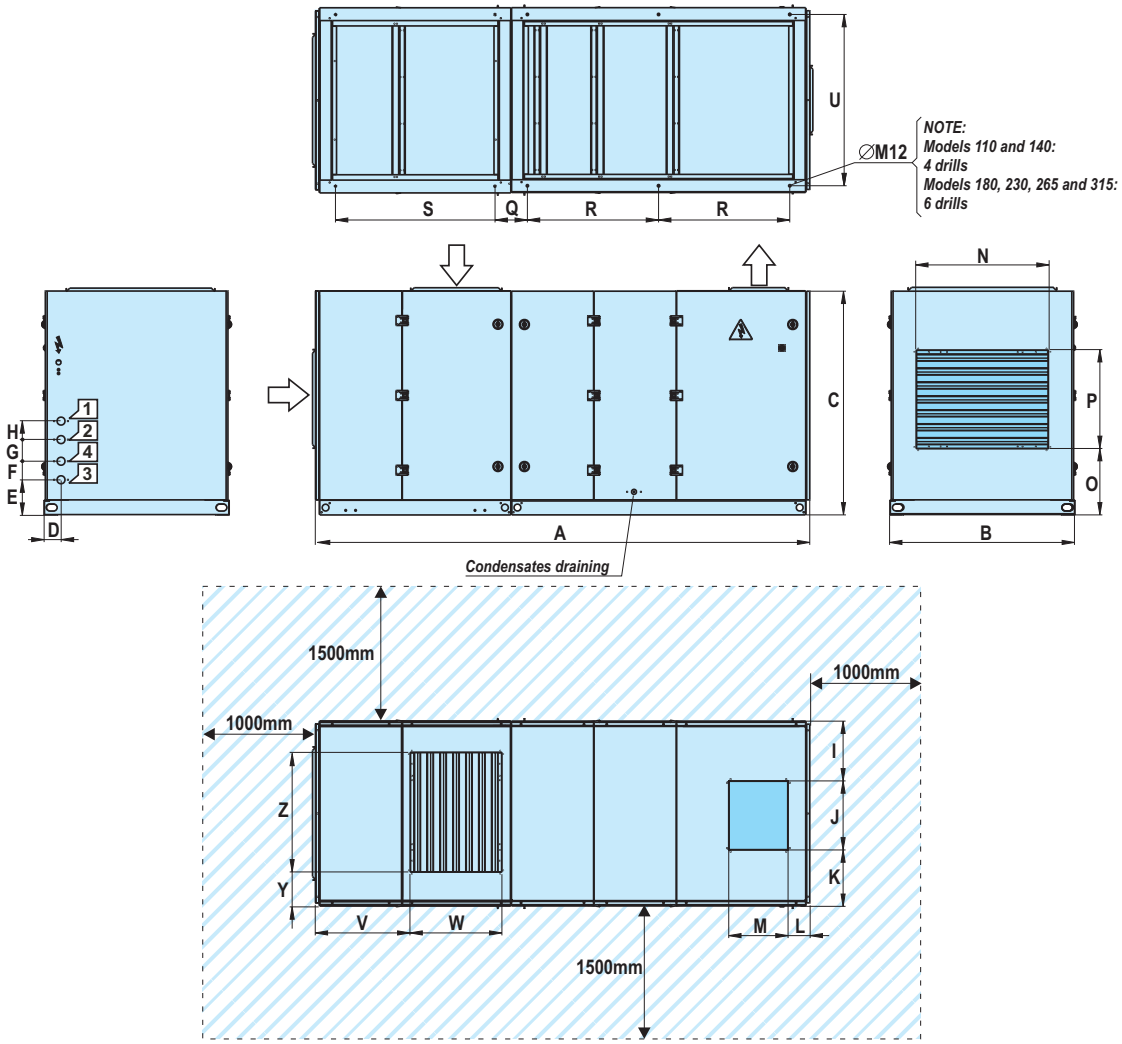
LEGEND:

1. *Water inlet to hot water coil*
2. *Water outlet to hot water coil*
3. *Water inlet to recovery circuit*
4. *Water outlet of recovery circuit*
- *Air flow*
- *Power supply and electrical panel*
- *Door switch*
- *Keep this space free for installation and maintenance operations*

NOTE: The roof for outside installation (optional) exceeds 75mm above 2 frontals

Pool air handling units

Aquair BCP with upper discharge and return, and mixing box with 2 dampers (mm)



Aquair BCP		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	U	V	W	Y	Z
Nominal flow	110 / 140	3621	1248	1315	134	288	100	130	120	287	474	487	83	406	798	415	497	259	1752	1290	1138	892	497	225	798
	180 / 230	3833	1498	1613	134	288	100	134	130	470	558	470	88	479	998	560	497	262	979	1290	1388	892	497	250	998
	265 / 315 / 355	4168	1498	1813	137	285	150	175	150	470	558	470	104	479	998	510	619	262	1063	1290	1388	914	619	250	998

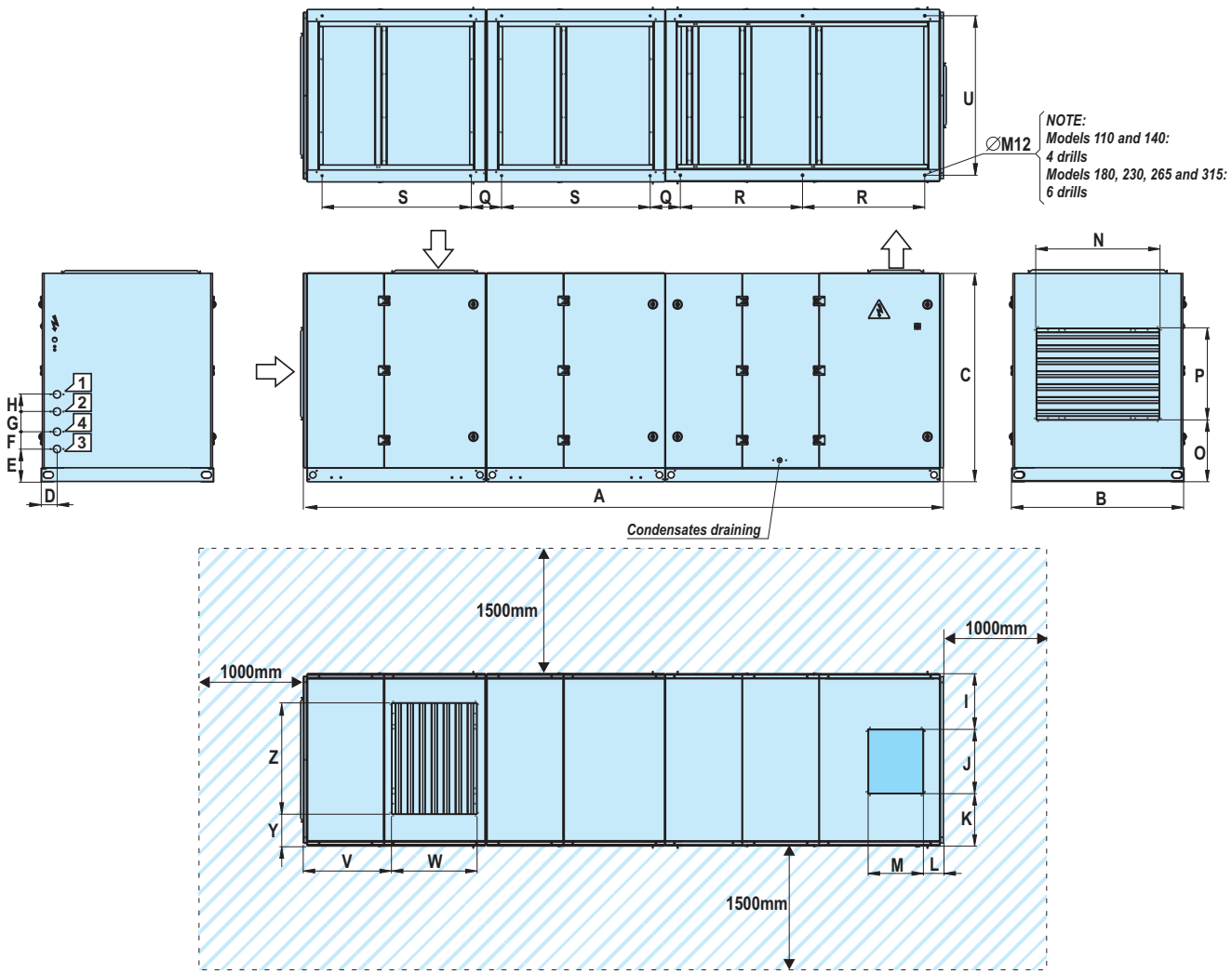
LEGEND:

1 *Water inlet to hot water coil*
2 *Water outlet to hot water coil*
3 *Water inlet to recovery circuit*
4 *Water outlet of recovery circuit*
Air flow
Power supply and electrical panel
Door switch
Keep this space free for installation and maintenance operations

NOTE: The roof for outside installation (optional) exceeds 75mm above 2 frontals

Aquair BCP

Aquair BCP with upper discharge and return, bags filter and mixing box with 2 dampers (mm)



Aquair BCP		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	U	V	W	Y	Z
Nominal flow	110 / 140	5173	1248	1315	134	288	100	130	120	287	474	487	83	406	798	415	497	259	1752	1290	1138	892	497	225	798
	180 / 230	5382	1498	1613	134	288	100	134	130	470	558	470	88	479	998	560	497	262	979	1290	1388	892	497	250	998
	265 / 315 / 355	5887	1498	1813	137	285	150	175	150	470	558	470	104	479	998	510	619	262	1063	1290	1388	914	619	250	998

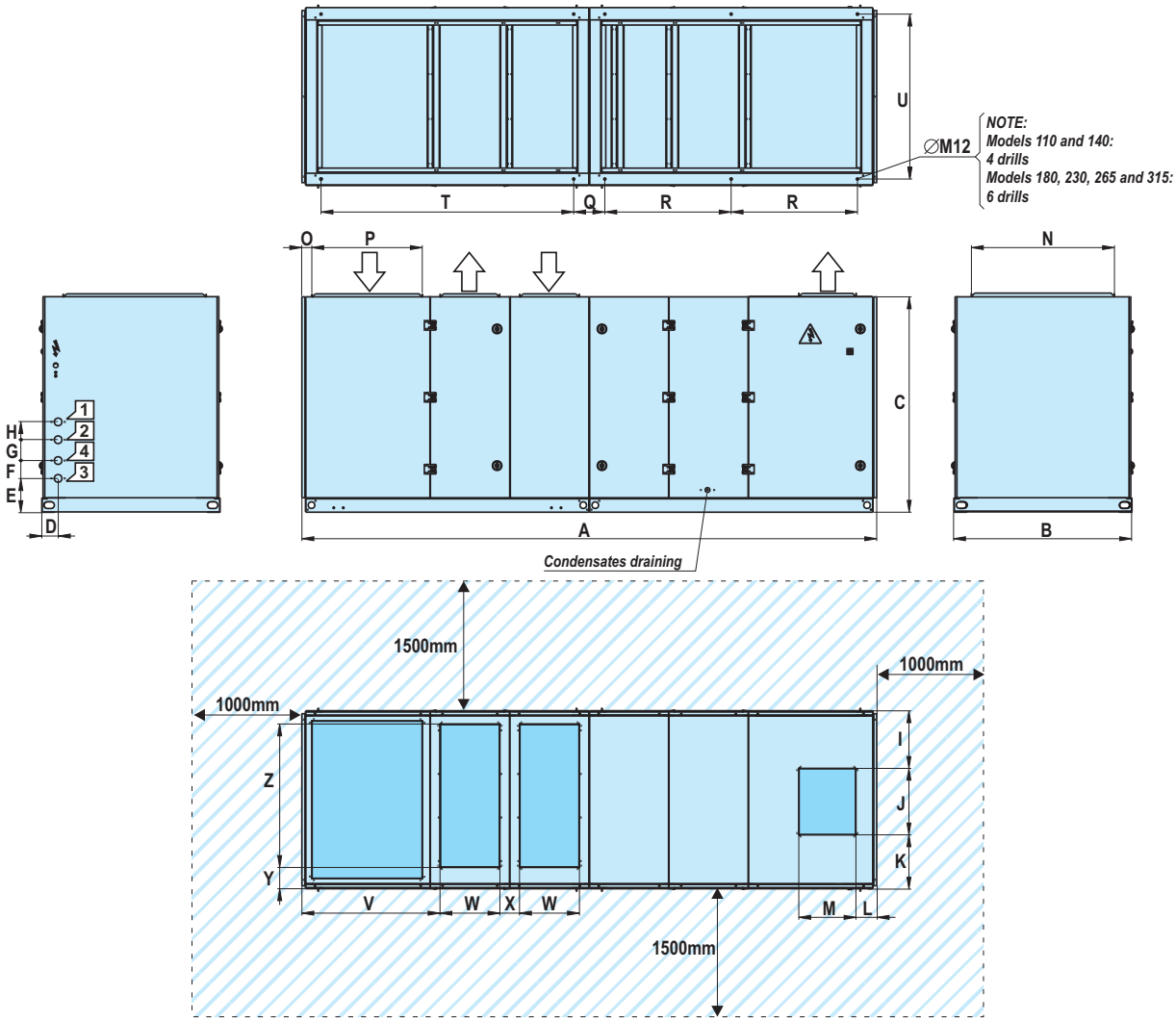
LEGEND:

1. *Water inlet to hot water coil*
2. *Water outlet to hot water coil*
3. *Water inlet to recovery circuit*
4. *Water outlet of recovery circuit*
- *Air flow*
- *Power supply and electrical panel*
- *Door switch*
- *Keep this space free for installation and maintenance operations*

NOTE: The roof for outside installation (optional) exceeds 75mm above 2 frontals

Pool air handling units

Aquair BCP with upper discharge and return, mixing box with 3 dampers and return fan (mm)



Aquair BCP		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	T	U	V	W	X	Y	Z
Nominal flow	110 / 140	4078	1248	1315	134	288	100	130	120	287	474	487	83	406	1022	88	555	259	1752	1752	1138	783	501	168	222	804
	180 / 230	4502	1498	1613	134	288	100	134	130	470	558	470	88	479	1344	82	777	262	979	1958	1388	1056	379	290	181	1204
	265 / 315 / 355	4838	1498	1813	137	285	150	175	150	470	558	470	104	479	1344	82	945	262	1063	2126	1388	1163	501	168	181	1204

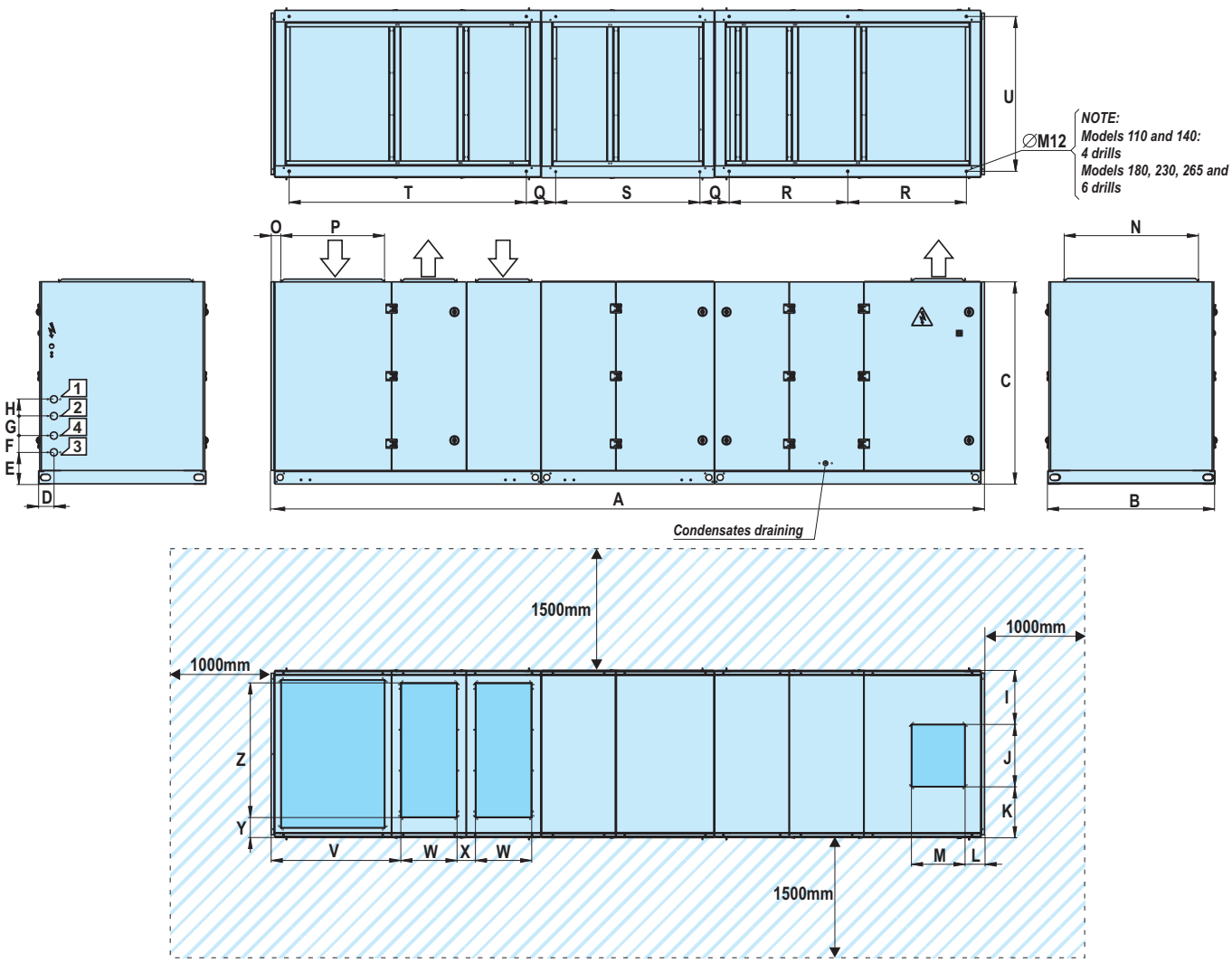
LEGEND:

1. *Water inlet to hot water coil*
2. *Water outlet to hot water coil*
3. *Water inlet to recovery circuit*
4. *Water outlet of recovery circuit*
- *Air flow*
- *Power supply and electrical panel*
- *Door switch*
- *Keep this space free for installation and maintenance operations*

NOTE: The roof for outside installation (optional) exceeds 75mm above 2 frontals

Aquair BCP

Aquair BCP with upper discharge & return, bags filter, mixing box with 3 dampers and return fan (mm)



Aquair BCP		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Nominal flow	110 / 140	5635	1248	1315	134	288	100	130	120	287	474	487	83	406	1022	88	555	259	1752	1290	1752	1138	783	501	168	222	804
	180 / 230	6059	1498	1613	134	288	100	134	130	470	558	470	88	479	1344	82	777	262	979	1290	1958	1388	1056	379	290	181	1204
	265 / 315 / 355	6395	1498	1813	137	285	150	175	150	470	558	470	104	479	1344	82	945	798	1063	1290	2126	1388	1163	501	168	181	1204

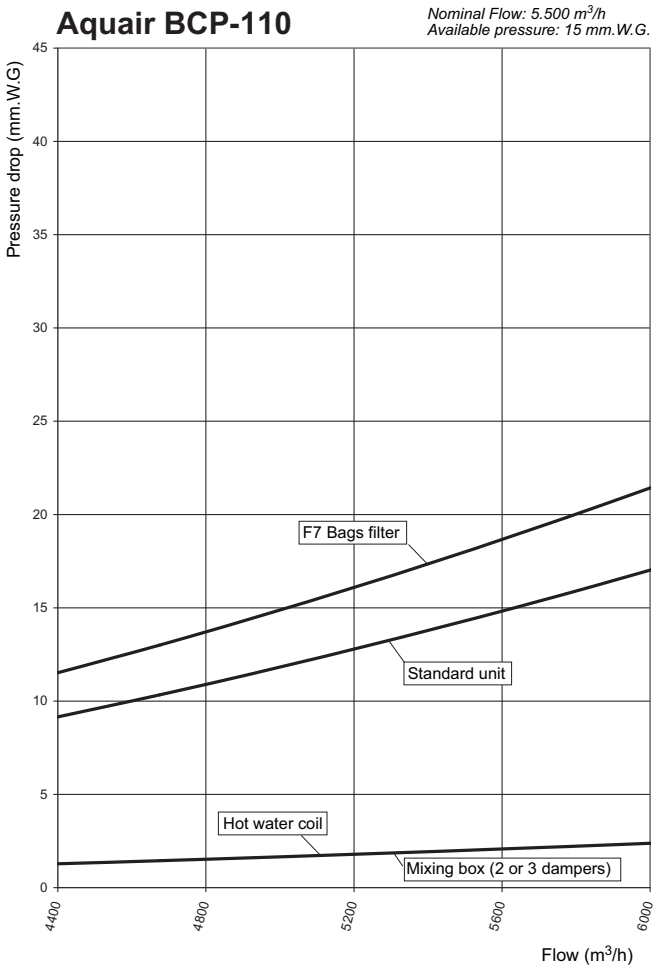
LEGEND:

1. *Water inlet to hot water coil*
2. *Water outlet to hot water coil*
3. *Water inlet to recovery circuit*
4. *Water outlet of recovery circuit*
- *Air flow*
- *Power supply and electrical panel*
- *Door switch*
- *Keep this space free for installation and maintenance operations*

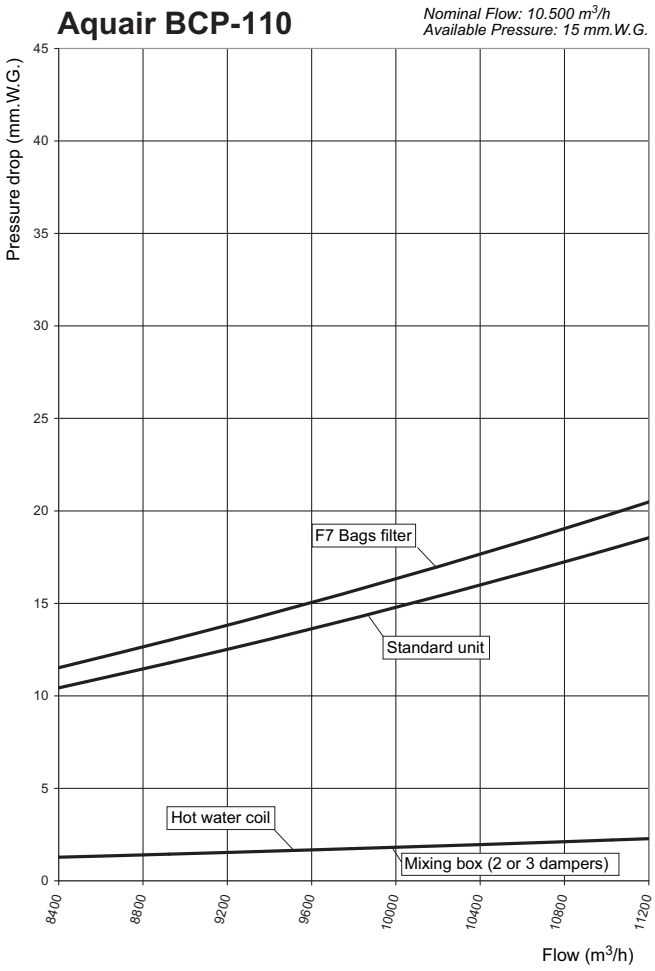
NOTE: The roof for outside installation (optional) exceeds 75mm above 2 frontals

PRESSURRE DROPS

■ Discharge with nominal flow

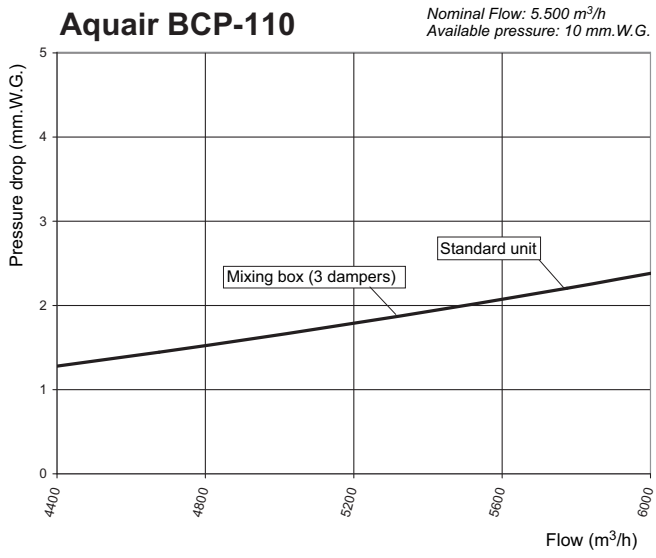


■ Discharge with high flow

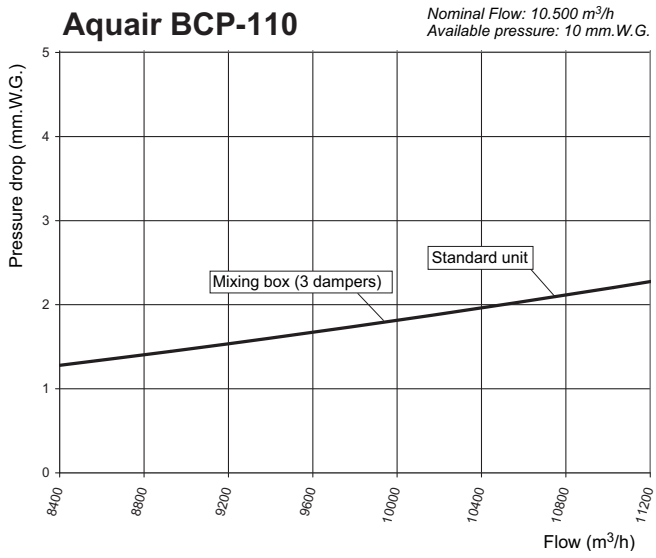


N.B: The pressure drops in the hot water coil and in gravimetric filters have been considered as drops of the standard unit. If the unit includes some of the other optionals, its corresponding drops should be added to those of the standard unit.

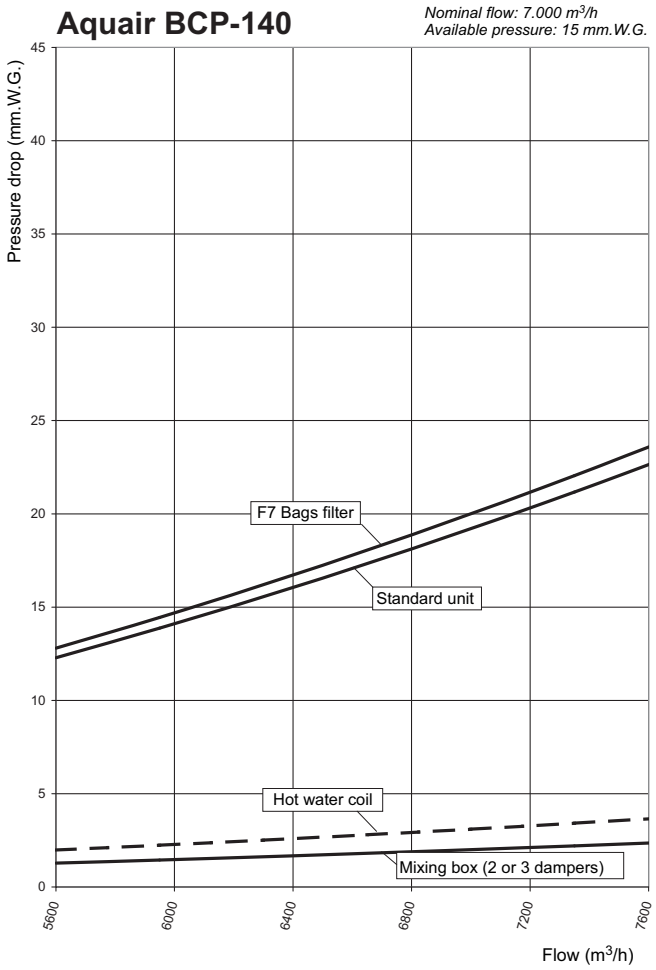
■ Return with nominal flow (optional)



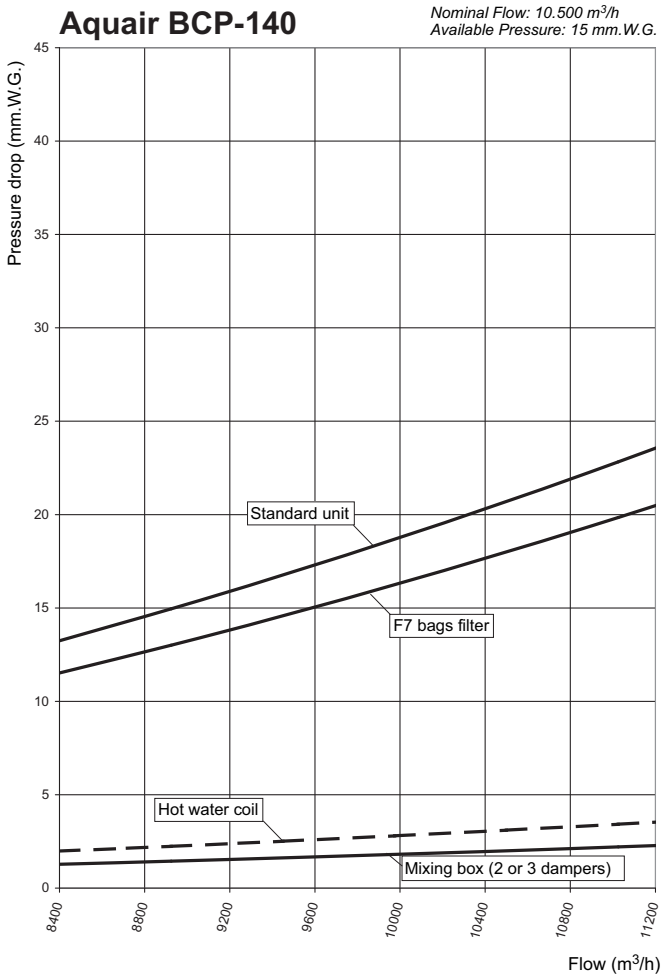
■ Return with high flow (optional)



■ Discharge with nominal flow

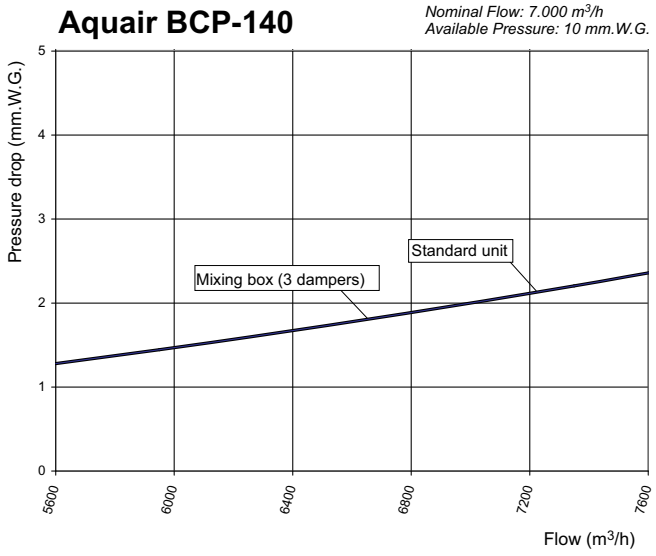


■ Discharge with high flow

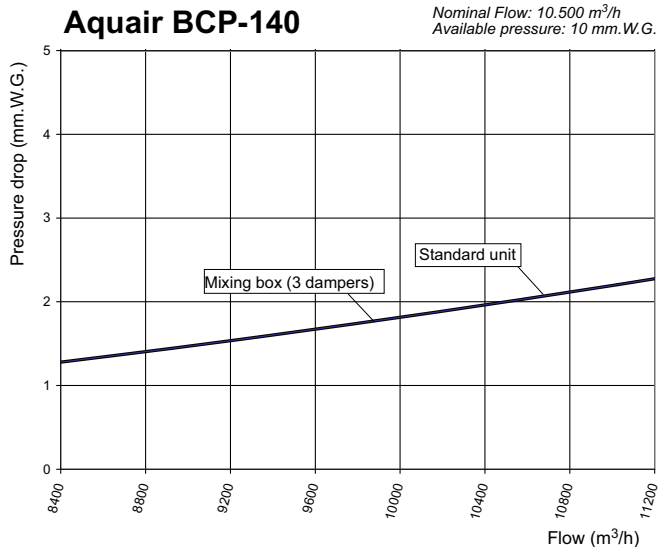


N.B: The pressure drops in the hot water coil and in gravimetric filters have been considered as drops of the standard unit. If the unit includes some of the other optionals, its corresponding drops should be added to those of the standard unit.

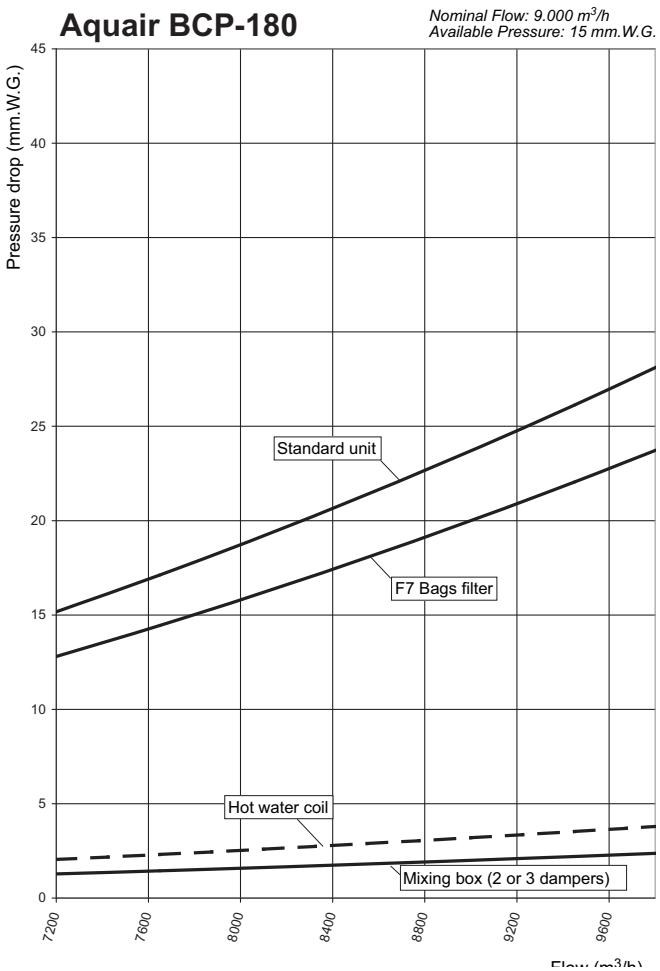
■ Return with nominal flow (optional)



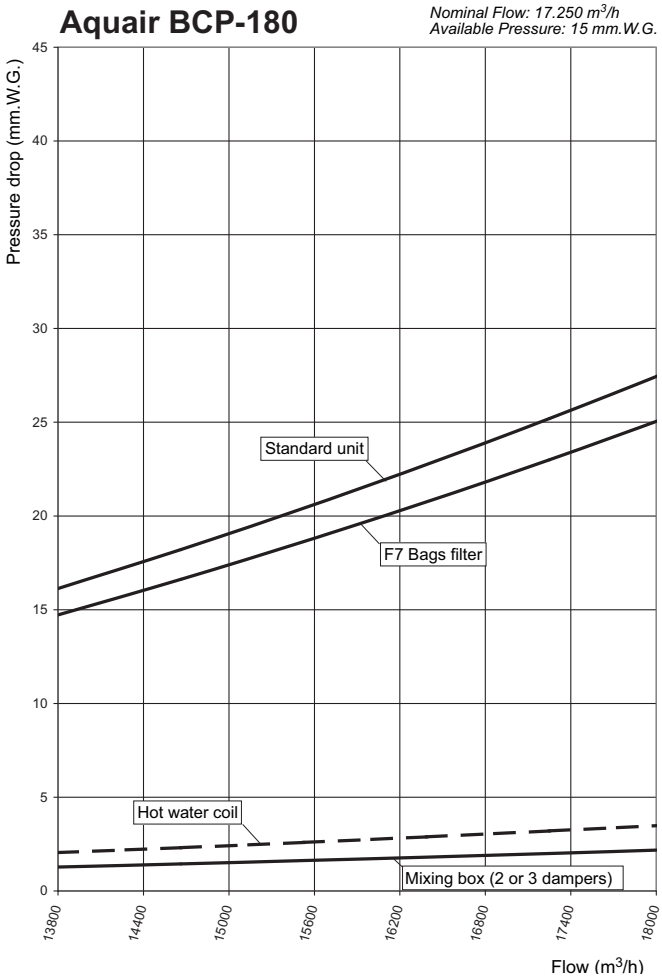
■ Return with high flow (optional)



■ Discharge with nominal flow

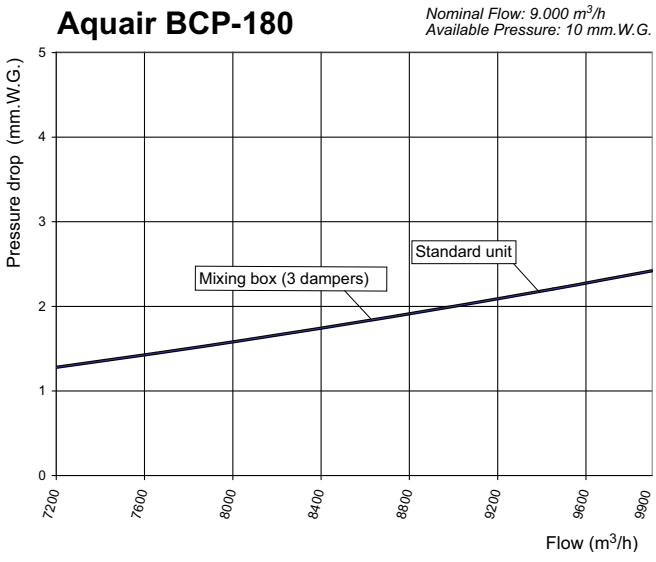


■ Discharge with high flow

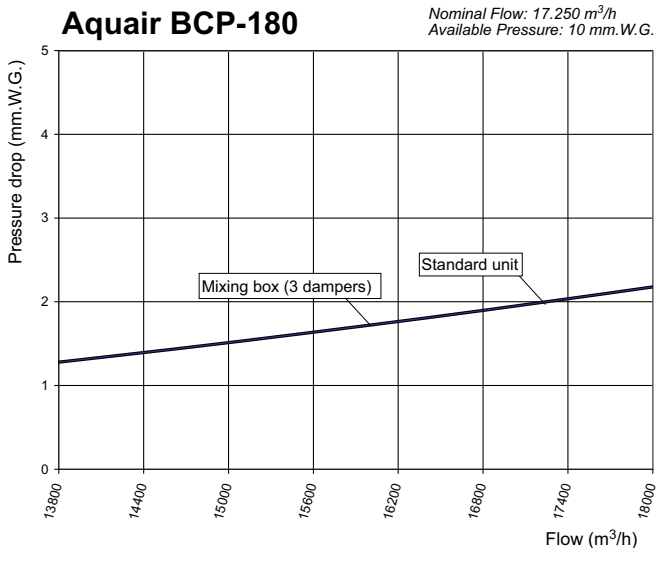


N.B: The pressure drops in the hot water coil and in gravimetric filters have been considered as drops of the standard unit. If the unit includes some of the other optionals, its corresponding drops should be added to those of the standard unit.

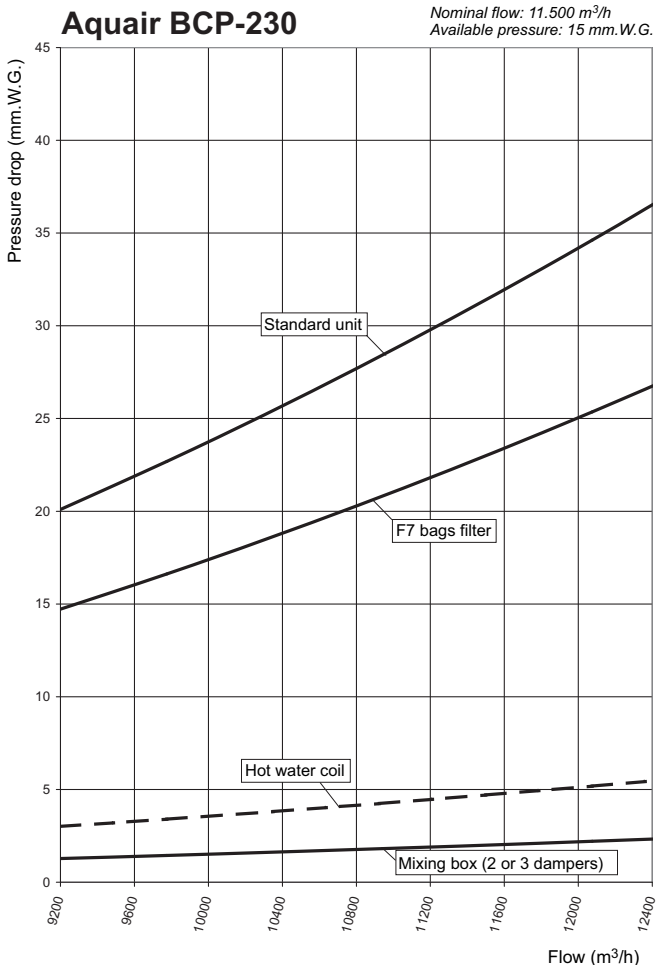
■ Return with nominal flow (optional)



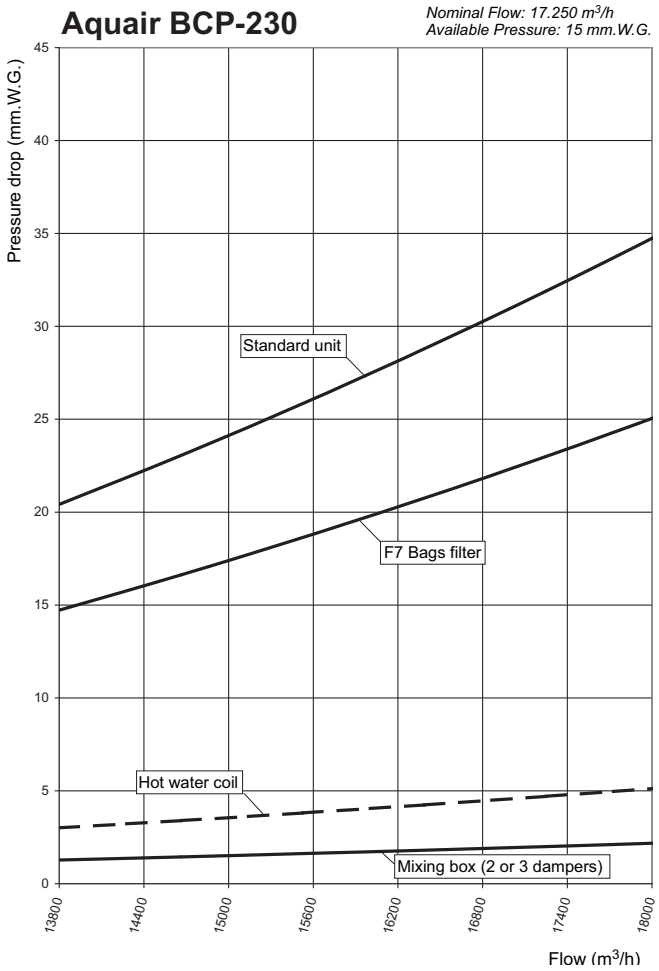
■ Return with high flow (optional)



Discharge with nominal flow

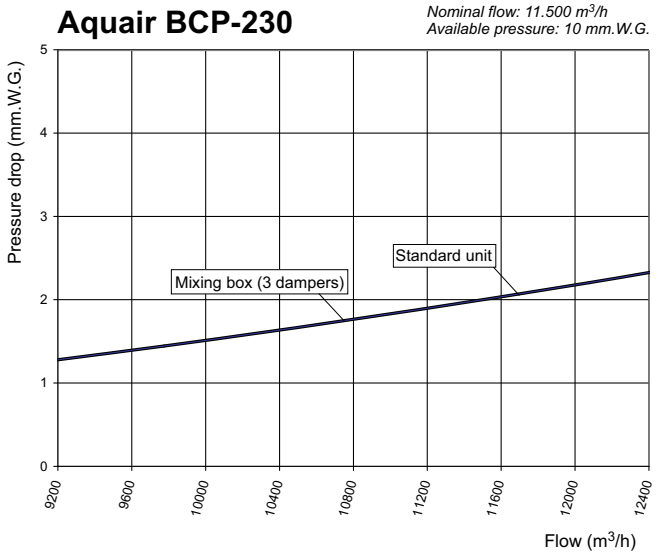


Discharge with high flow

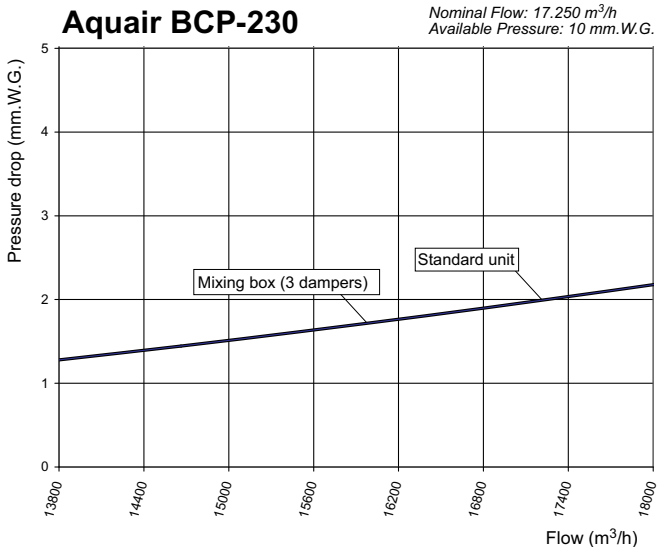


N.B: The pressure drops in the hot water coil and in gravimetric filters have been considered as drops of the standard unit. If the unit includes some of the other optionals, its corresponding drops should be added to those of the standard unit.

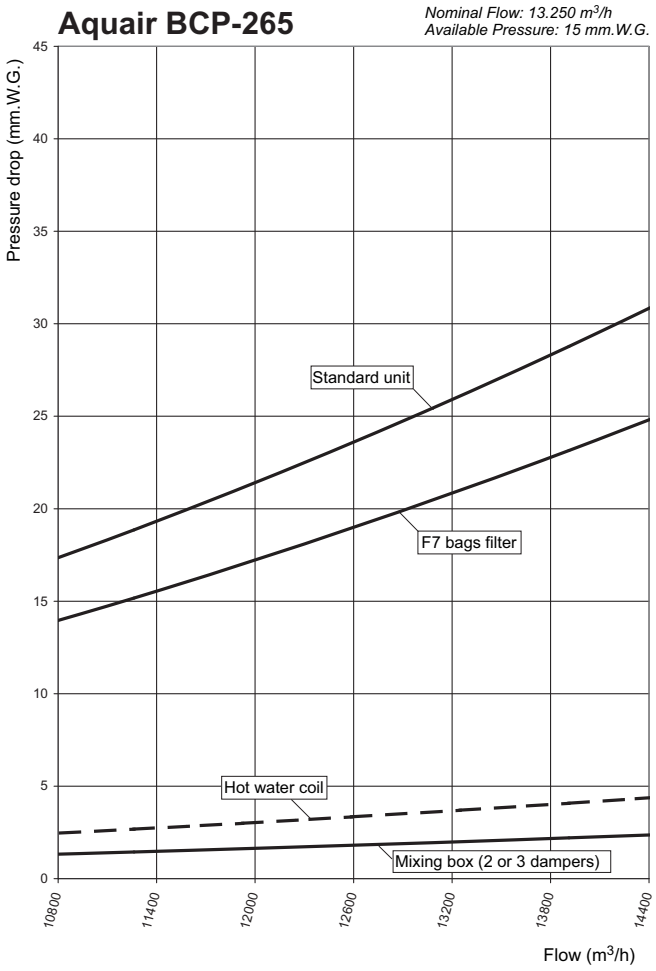
Return with nominal flow (optional)



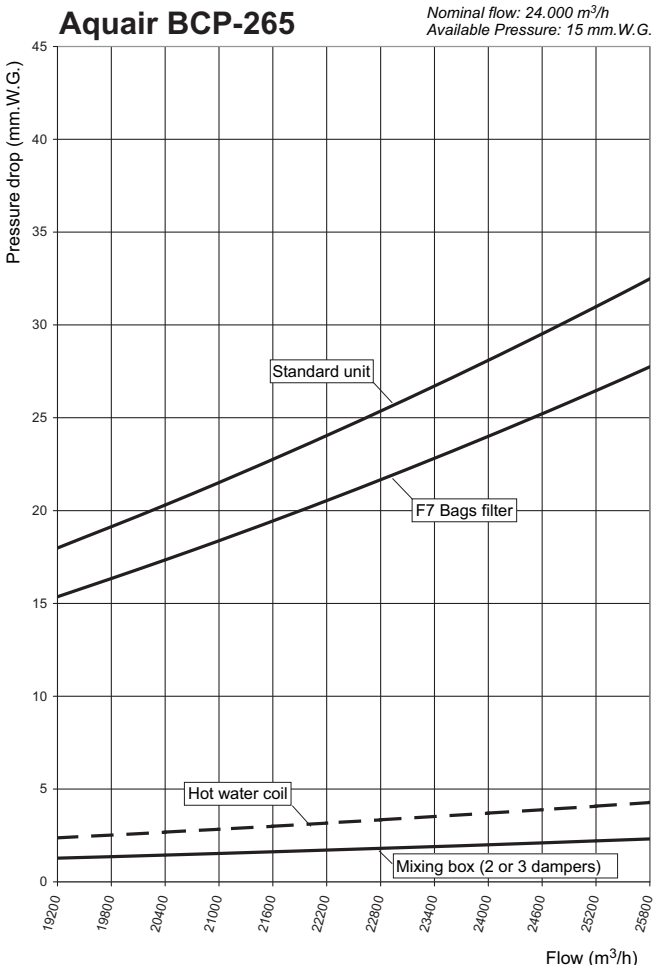
Return with high flow (optional)



■ Discharge with nominal flow

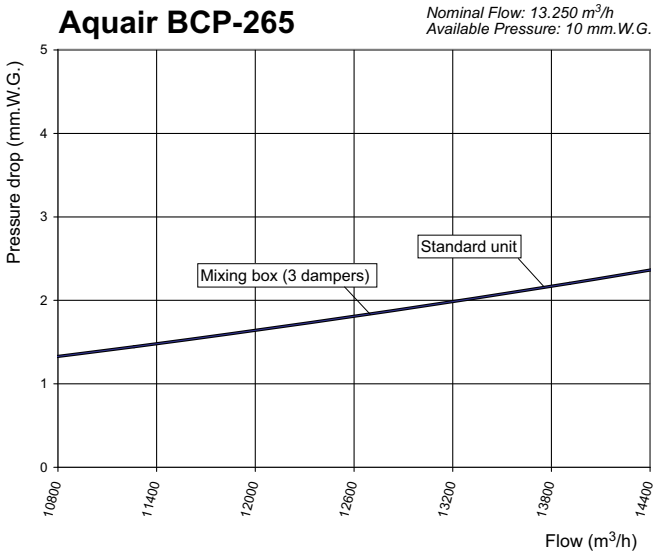


■ Discharge with high flow

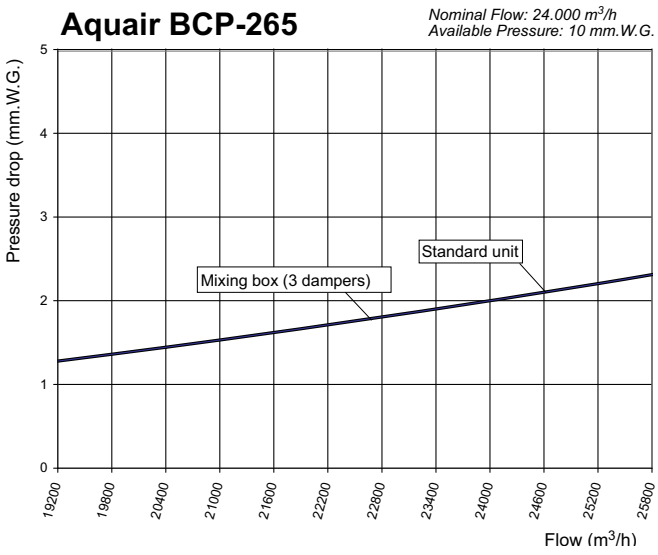


N.B: The pressure drops in the hot water coil and in gravimetric filters have been considered as drops of the standard unit. If the unit includes some of the other optionals, its corresponding drops should be added to those of the standard unit.

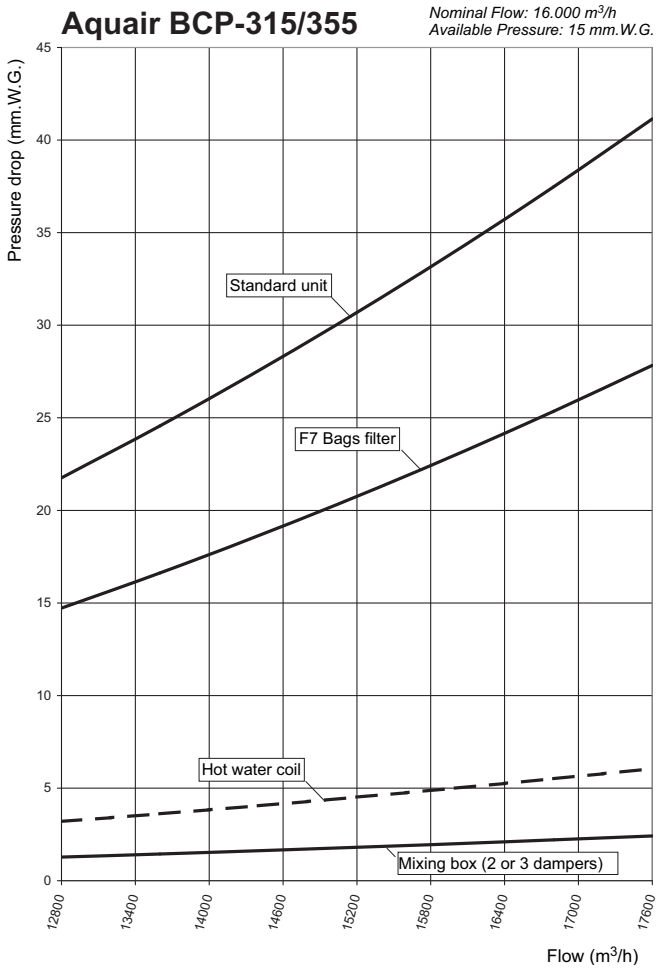
■ Return with nominal flow (optional)



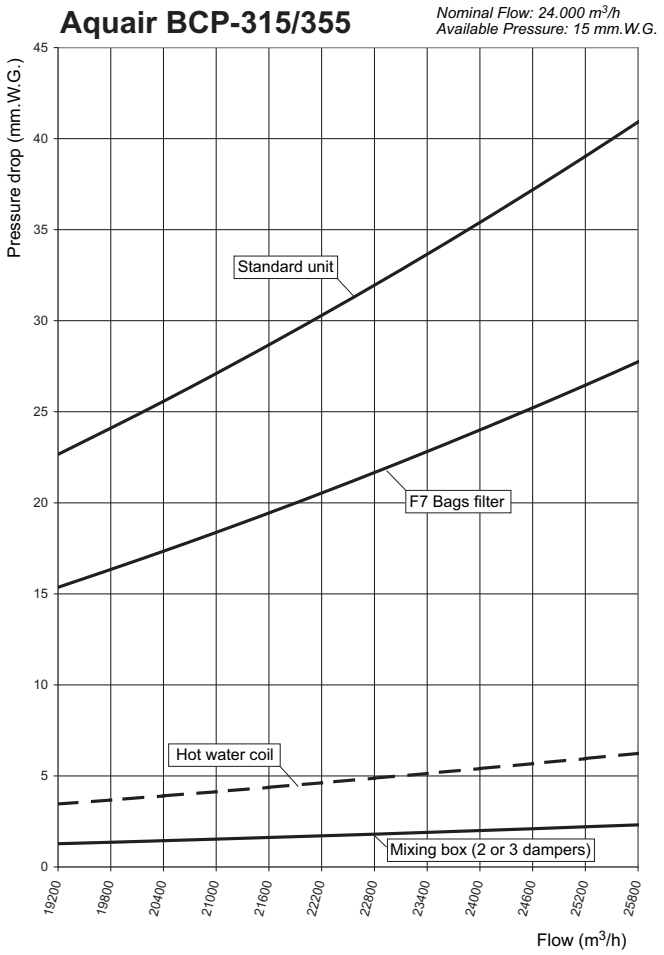
■ Return with high flow (optional)



■ Discharge with nominal flow

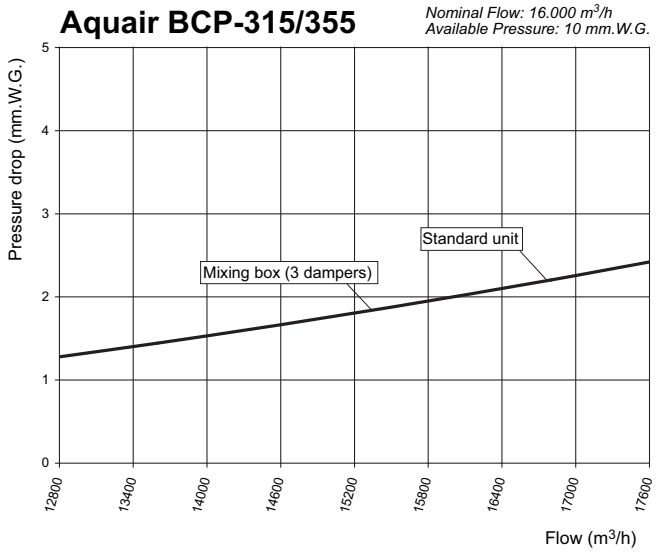


■ Discharge with high flow

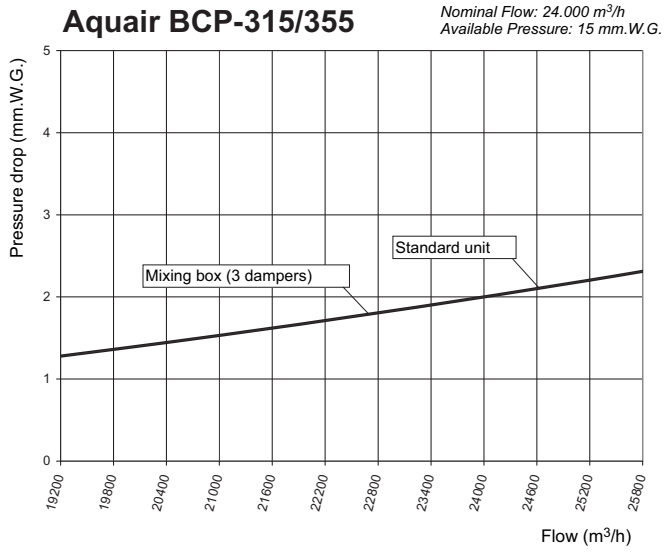


N.B: The pressure drops in the hot water coil and in gravimetric filters have been considered as drops of the standard unit. If the unit includes some of the other optionals, its corresponding drops should be added to those of the standard unit.

■ Return with nominal flow (optional)



■ Return with high flow (optional)

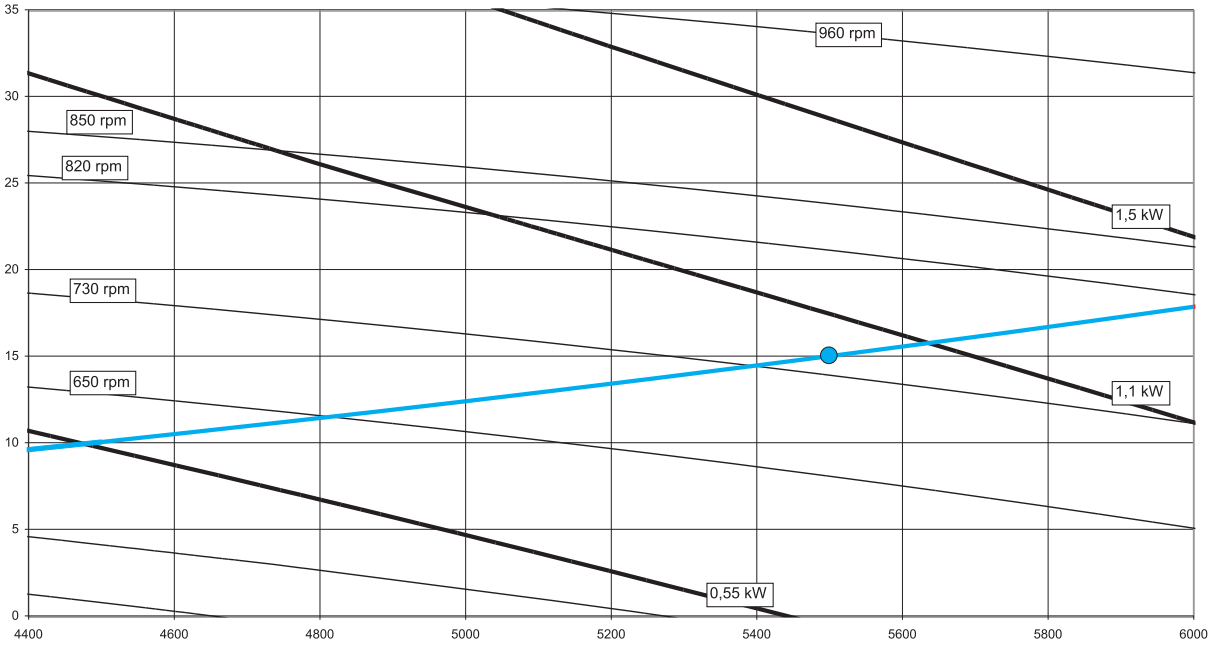


FANS CHARACTERISTICS

■ Discharge fan with nominal flow

Avail. Press. (mm.W.G.) **Aquair BCP-110**

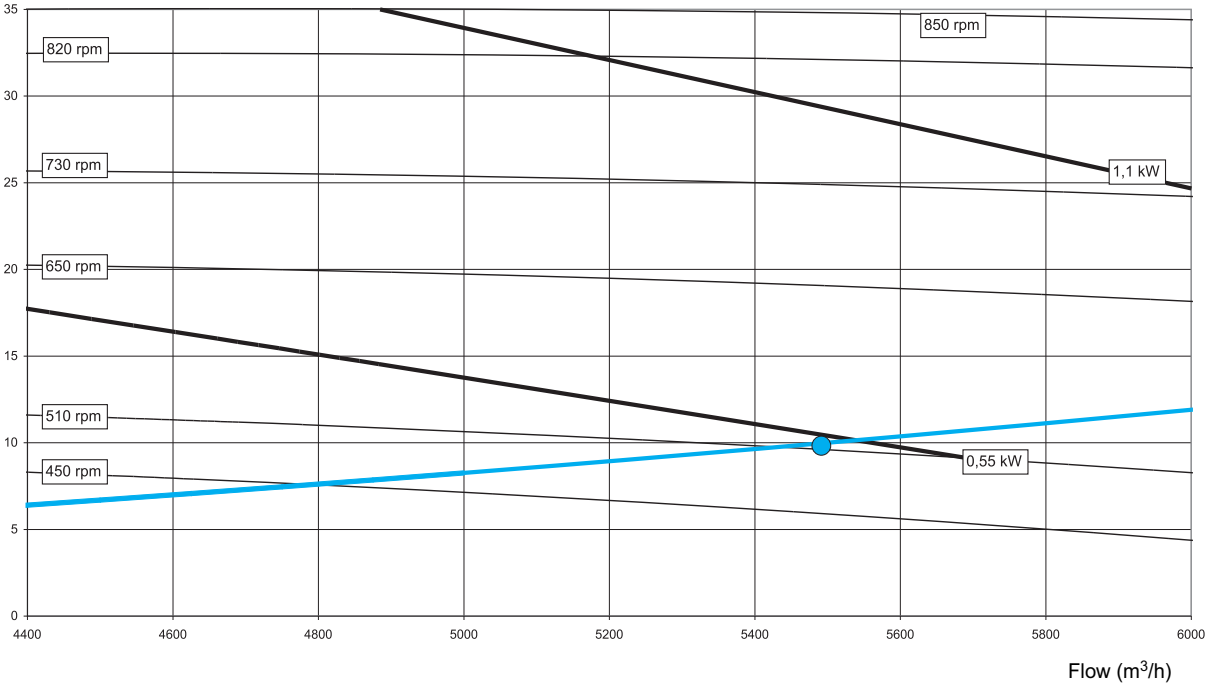
Nominal Flow: 5.500 m³/h
Available Pressure: 15 mm.W.G.



■ Return fan with nominal flow (optional)

Avail. Press. (mm.W.G.) **Aquair BCP-110**

Nominal Flow: 5.500 m³/h
Available Pressure: 10 mm.W.G.



N.B: The graphic point indicates the operating nominal point. The curve which passes through this point is the curve of nominal installation (this curve shows the aspect of other possible curves of installation).

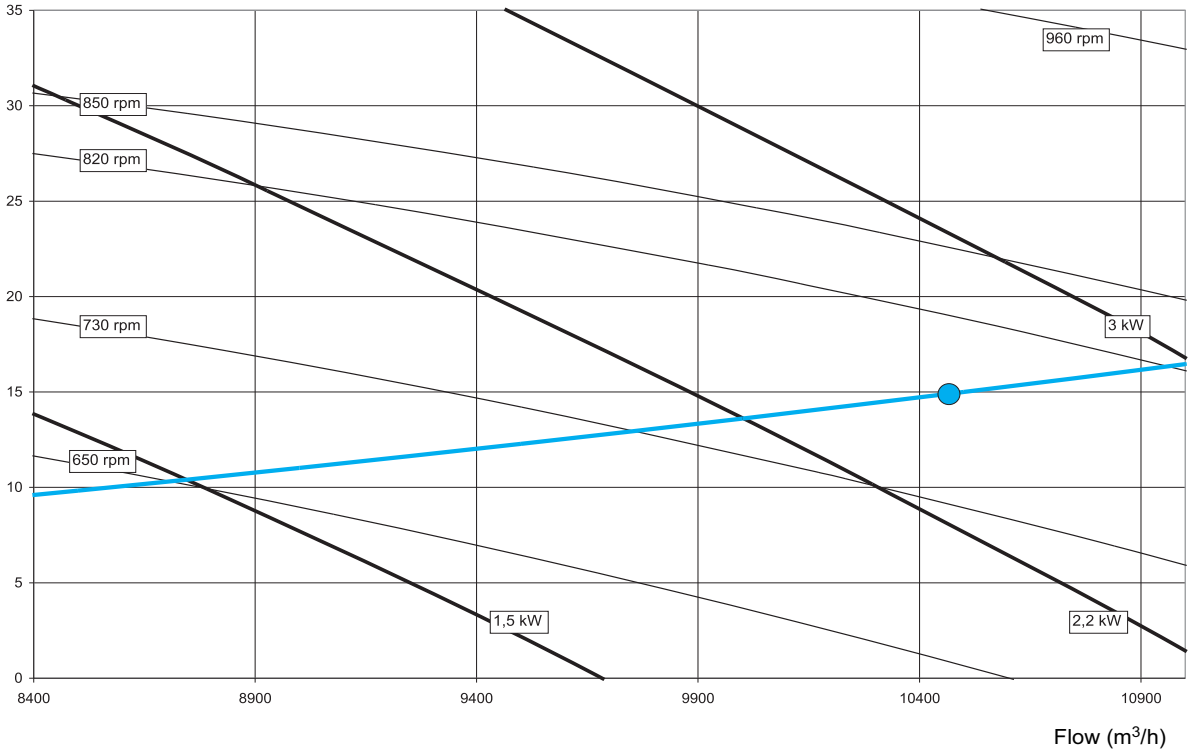
The motor to select is that whose curve is above the operating point.

If there is a motor change, consult the price supplement.

■ Discharge fan with high flow

Avail. Press. (mm.W.G.) **Aquair BCP-110**

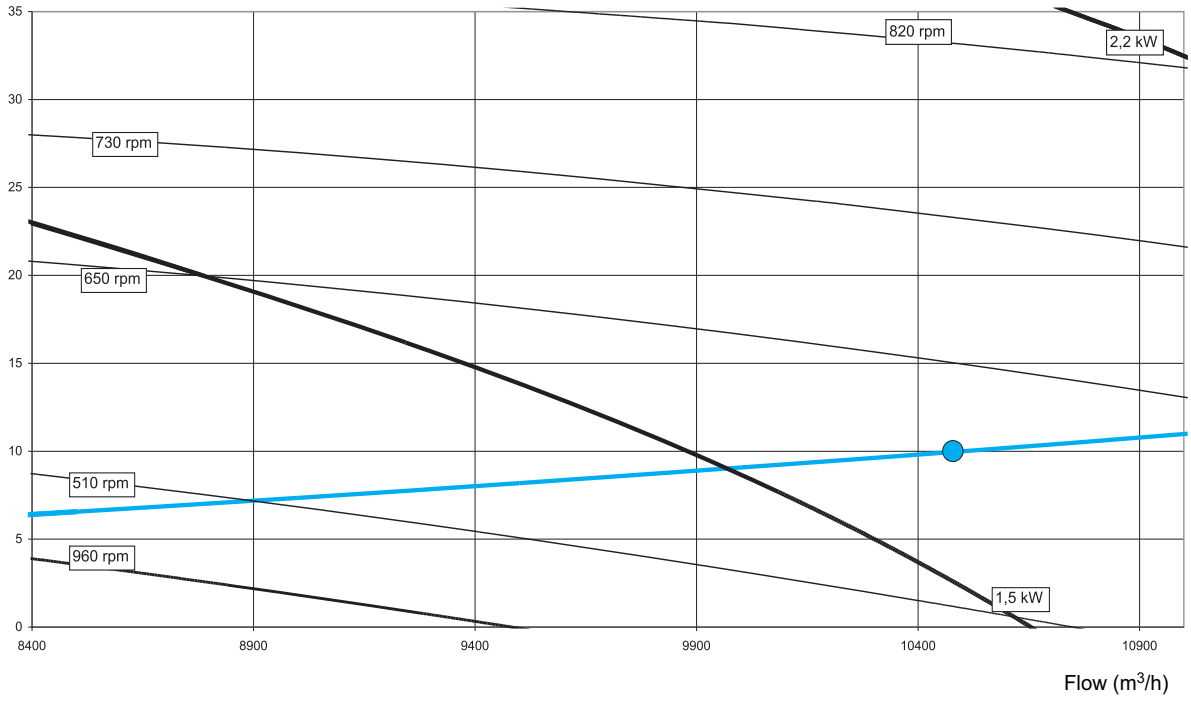
Nominal Flow: 10.500 m³/h
Available Pressure: 15 mm.W.G.



■ Return fan with high flow (optional)

Avail. Press. (mm.W.G.) **Aquair BCP-110**

Nominal Flow: 10.500 m³/h
Available Pressure: 10 mm.W.G.



N.B: The graphic point indicates the operating nominal point. The curve which passes through this point is the curve of nominal installation (this curve shows the aspect of other possible curves of installation).

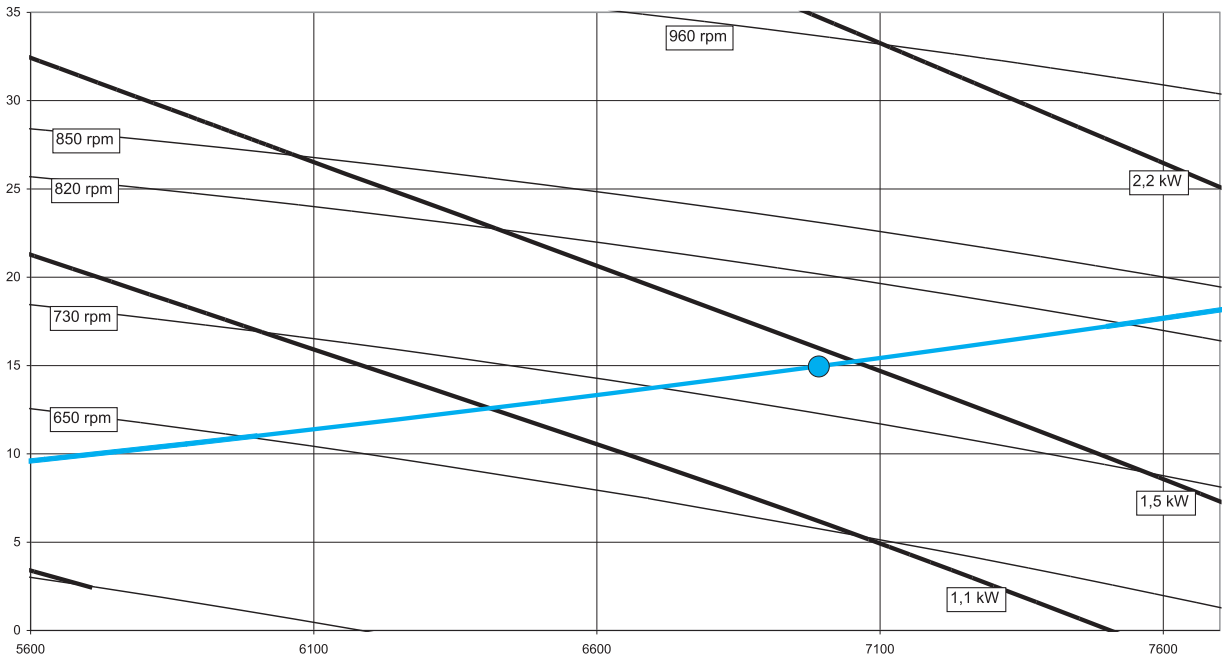
The motor to select is that whose curve is above the operating point.

If there is a motor change, consult the price supplement.

■ Discharge fan with nominal flow

Avail. Press. (mm.W.G.) **Aquair BCP-140**

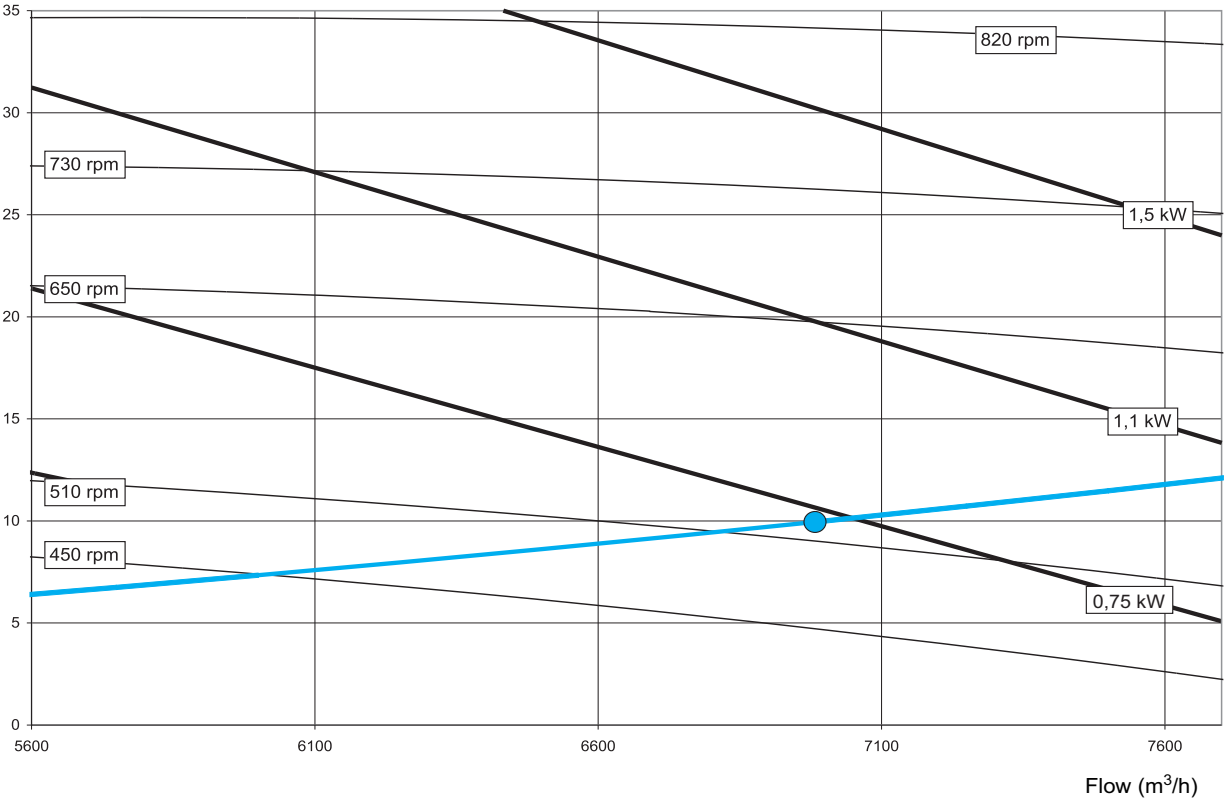
Nominal Flow: 7.000 m³/h
Available Pressure: 15 mm.W.G.



■ Return fan with nominal flow (optional)

Avail. press. (mm.W.G.) **Aquair BCP-140**

Nominal Flow: 7.000 m³/h
Available Pressure: 10 mm.W.G.



N.B: The graphic point indicates the operating nominal point. The curve which passes through this point is the curve of nominal installation (this curve shows the aspect of other possible curves of installation).

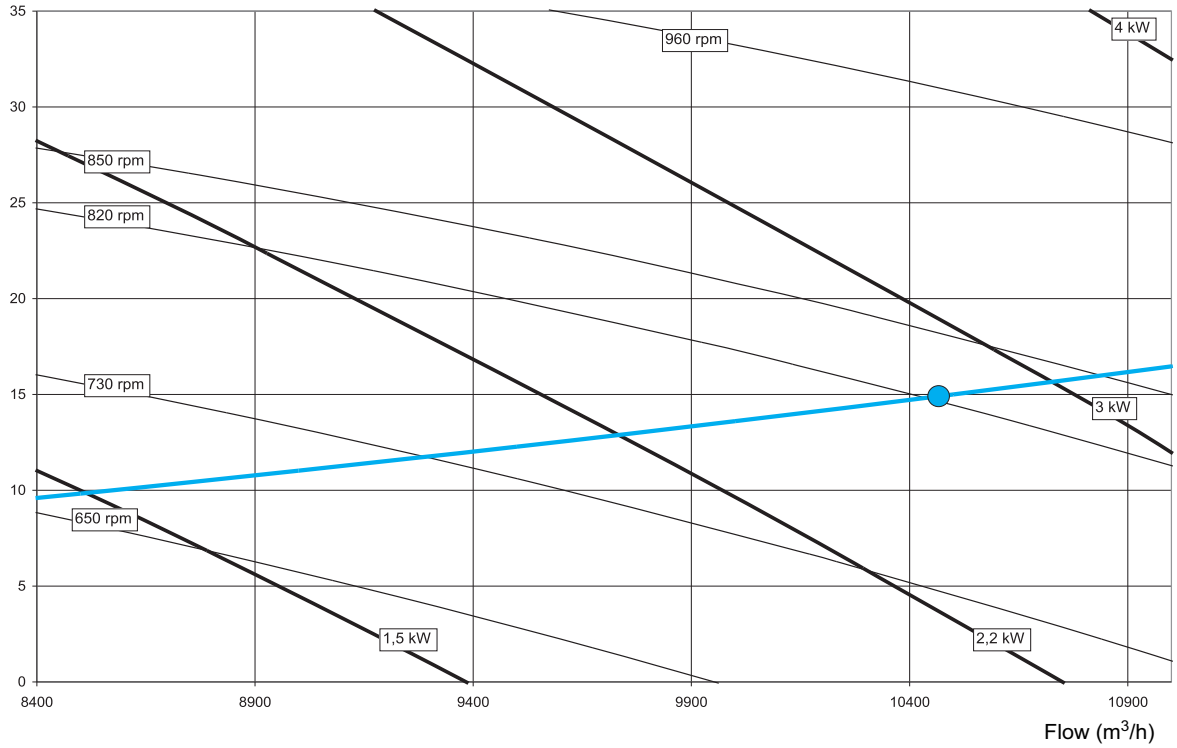
The motor to select is that whose curve is above the operating point.

If there is a motor change, consult the price supplement.

■ Discharge fan with high flow

Avail. Press. (mm.W.G.) **Aquair BCP-140**

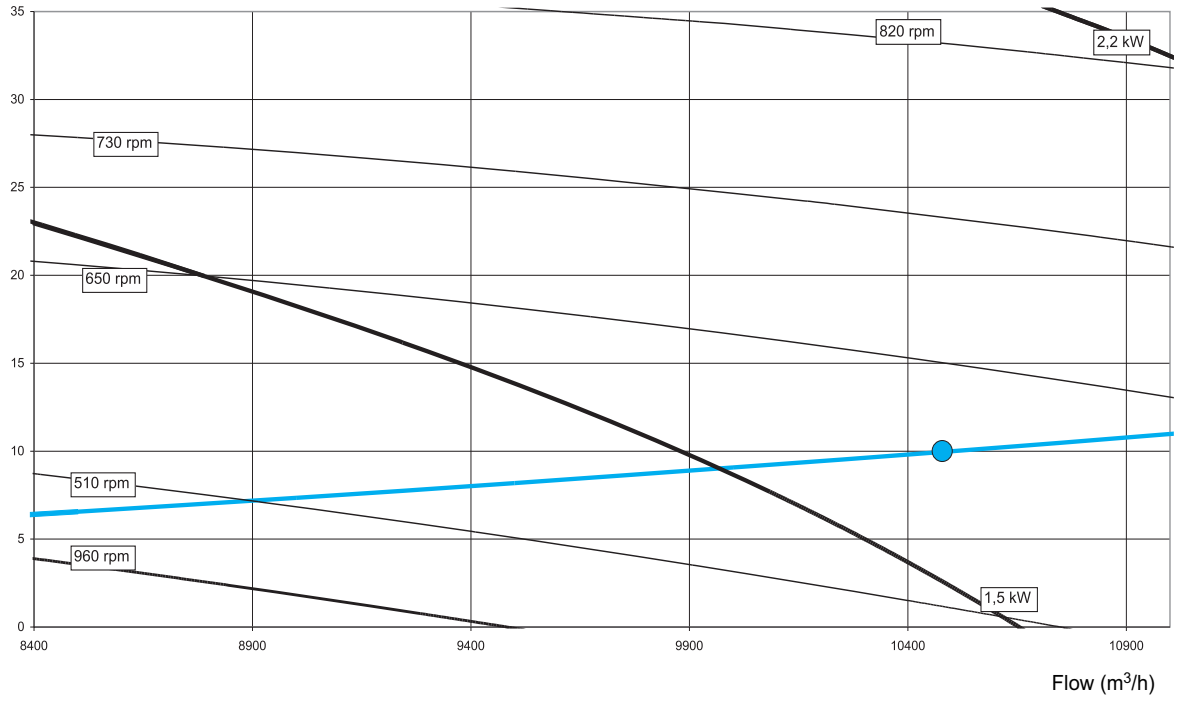
Nominal Flow: 10.500 m³/h
Available Pressure: 15 mm.W.G.



■ Return fan with high flow (optional)

Avail. Press. (mm.W.G.) **Aquair BCP-140**

Nominal Flow: 10.500 m³/h
Available Pressure: 10 mm.W.G.



N.B: The graphic point indicates the operating nominal point. The curve which passes through this point is the curve of nominal installation (this curve shows the aspect of other possible curves of installation).

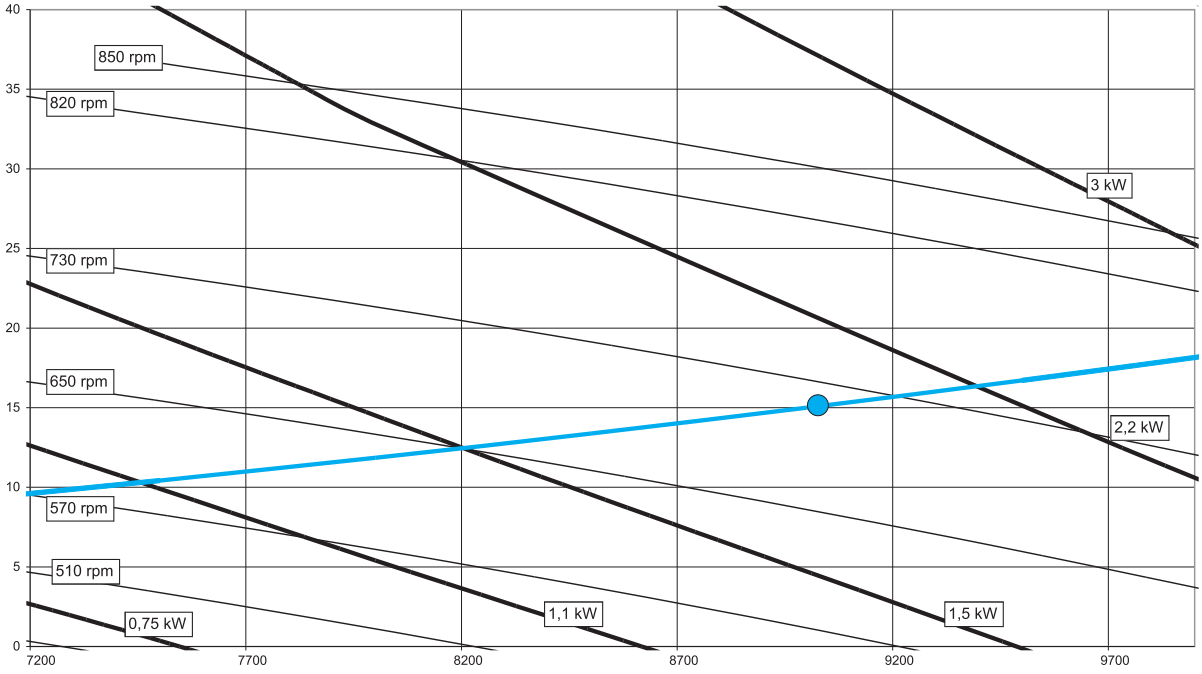
The motor to select is that whose curve is above the operating point.

If there is a motor change, consult the price supplement.

■ Discharge fan with nominal flow

Avail. Press. (mm.W.G.) **Aquair BCP-180**

Nominal Flow: 9.000 m³/h
Available Pressure: 15 mm.W.G.

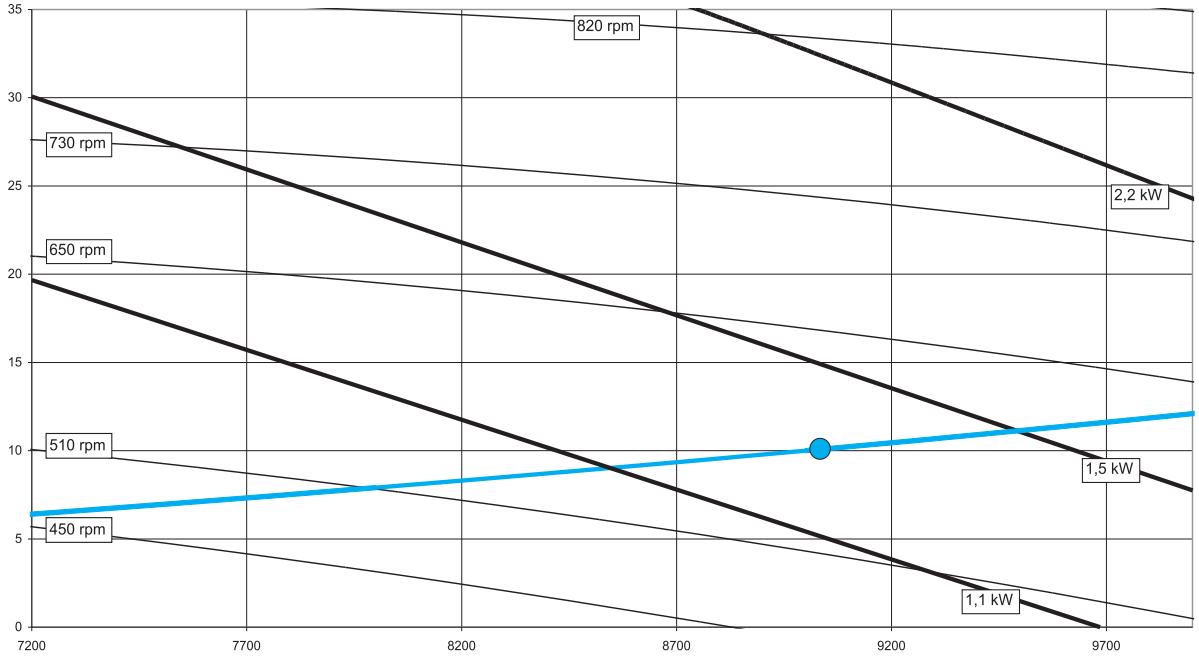


Flow (m^3/h)

■ Return fan with nominal flow (optional)

Avail. Press. (mm.W.G.) **Aquair BCP-180**

Nominal Flow: 9.000 m³/h
Available Pressure: 10 mm.W.G.



Flow (m^3/h)

N.B: The graphic point indicates the operating nominal point. The curve which passes through this point is the curve of nominal installation (this curve shows the aspect of other possible curves of installation).

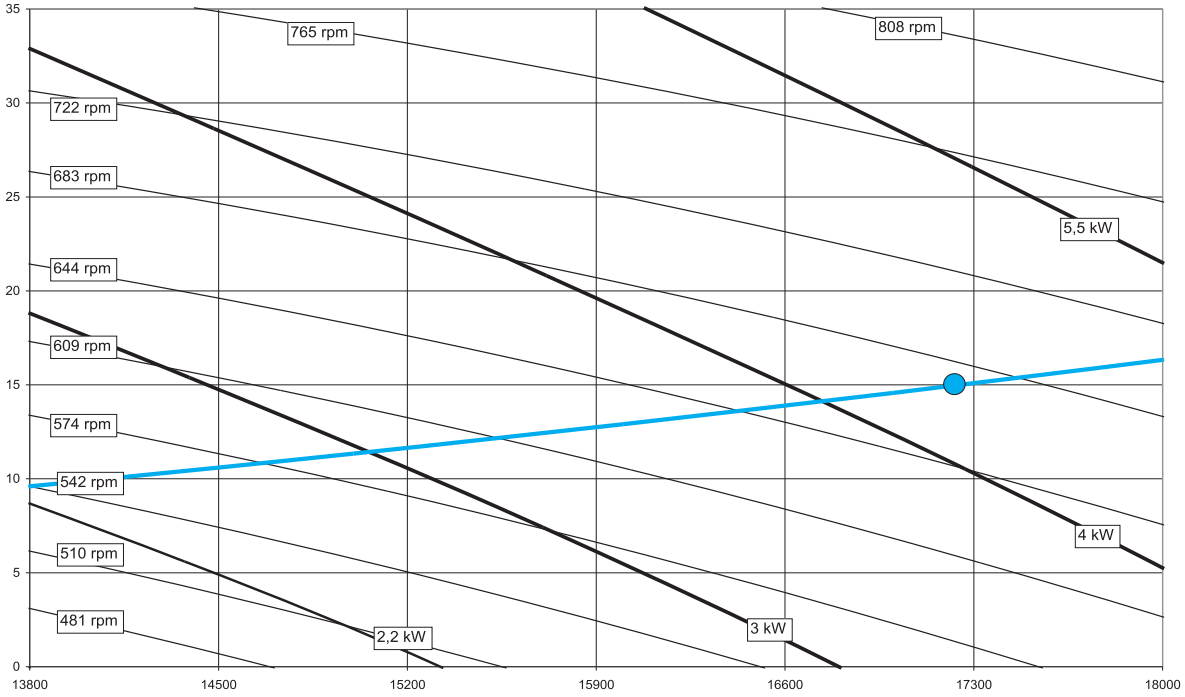
The motor to select is that whose curve is above the operating point.

If there is a motor change, consult the price supplement.

■ Discharge fan with high flow

Avail. Press. (mm.W.G.) **Aquair BCP-180**

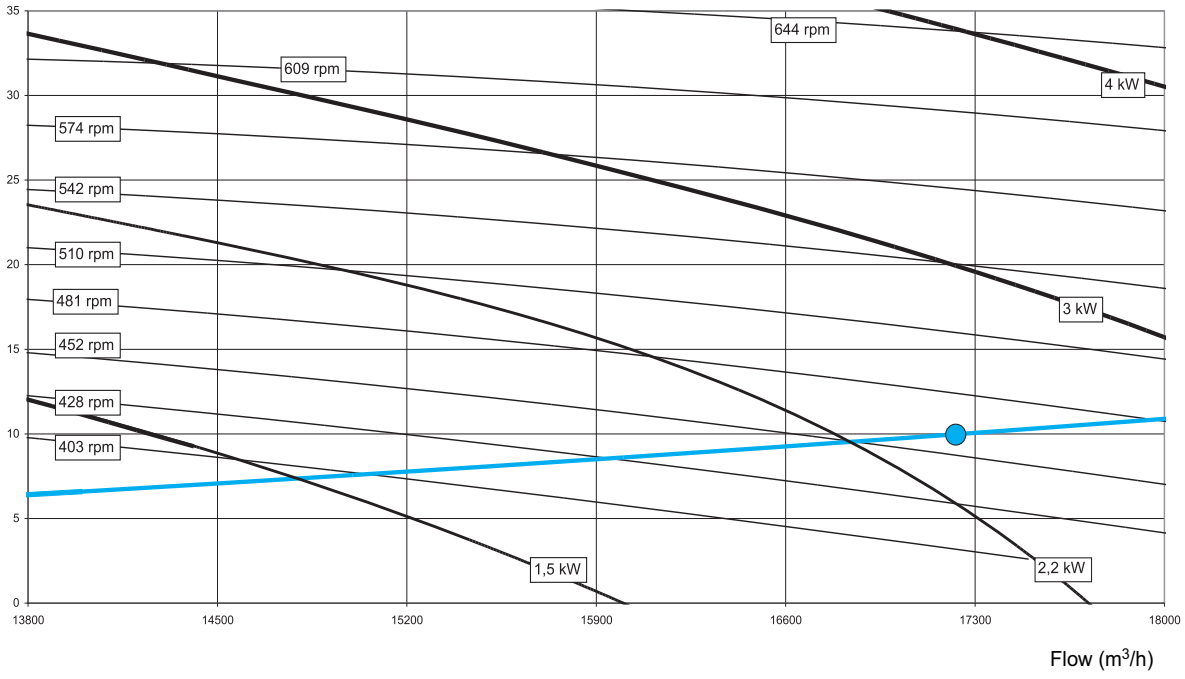
Nominal Flow: 17.250 m³/h
Available Pressure: 15 mm.W.G.



■ Return fan with high flow (optional)

Avail. Press. (mm.W.G.) **Aquair BCP-180**

Nominal Flow: 17.250 m³/h
Available Pressure: 10 mm.W.G.



N.B: The graphic point indicates the operating nominal point. The curve which passes through this point is the curve of nominal installation (this curve shows the aspect of other possible curves of installation).

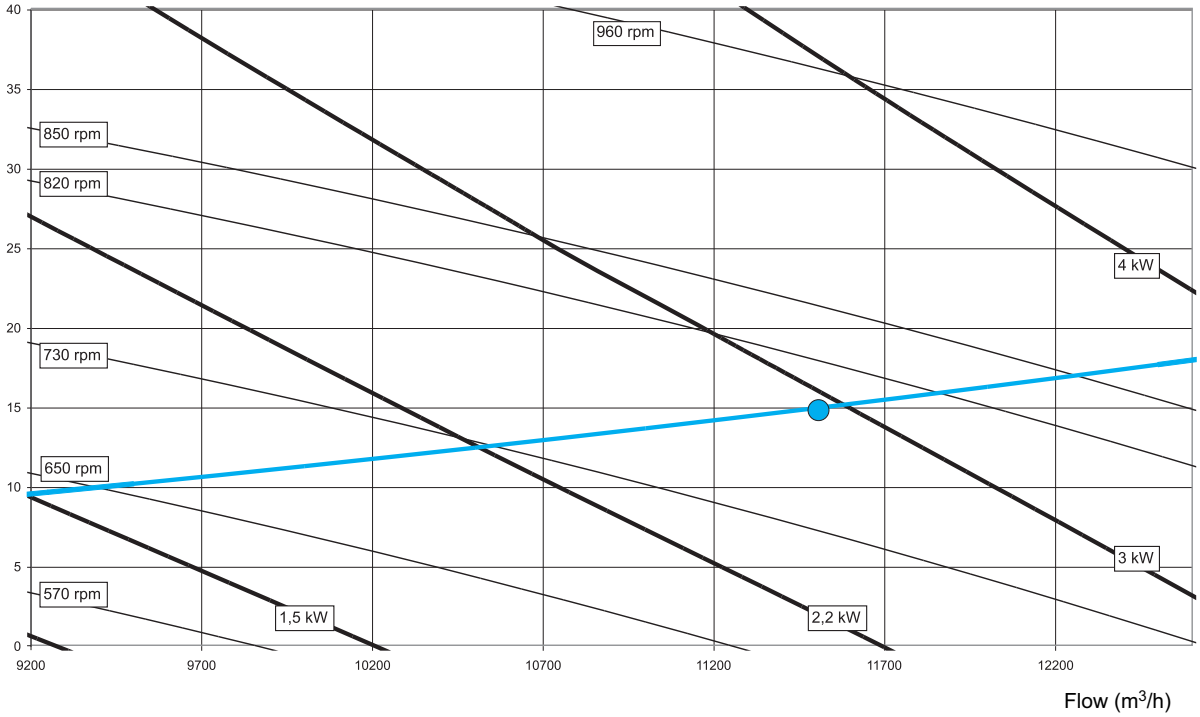
The motor to select is that whose curve is above the operating point.

If there is a motor change, consult the price supplement.

■ Discharge fan with nominal flow

Avail. Press. (mm.W.G.) **Aquair BCP-230**

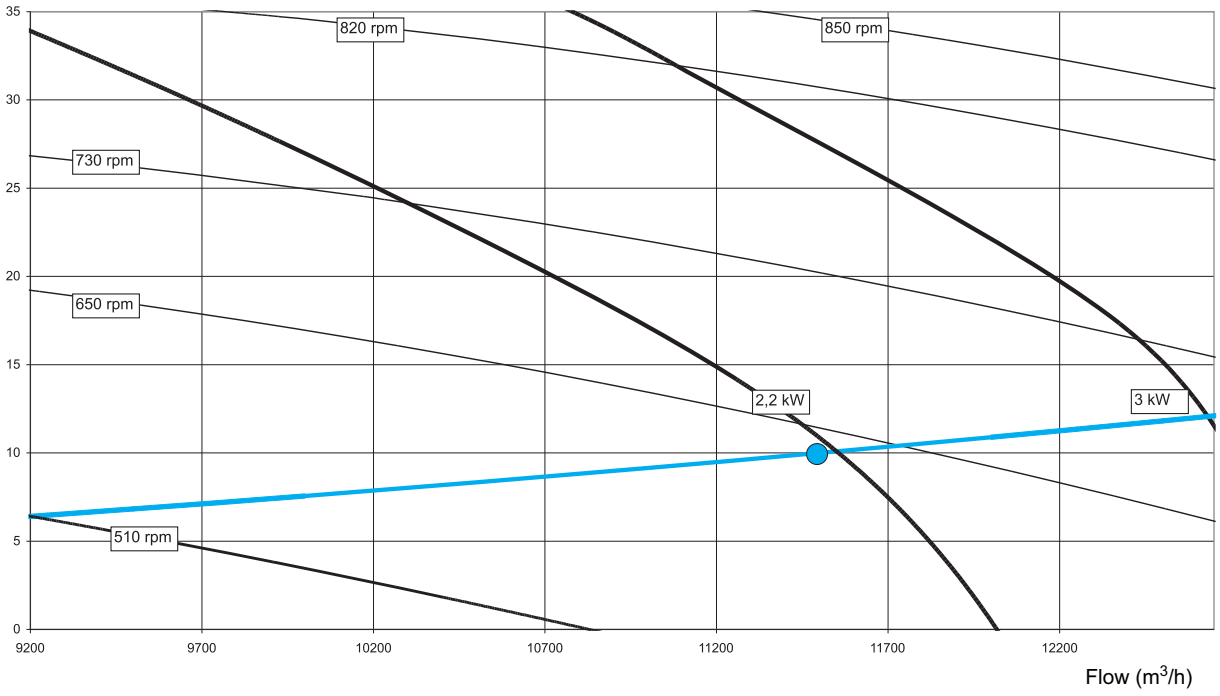
Nominal Flow: 11.500 m³/h
Available Pressure: 15 mm.W.G.



■ Return fan with nominal flow (optional)

Avail. Press. (mm.W.G.) **Aquair BCP-230**

Nominal Flow: 11.500 m³/h
Available Pressure: 10 mm.W.G.



N.B: The graphic point indicates the operating nominal point. The curve which passes through this point is the curve of nominal installation (this curve shows the aspect of other possible curves of installation).

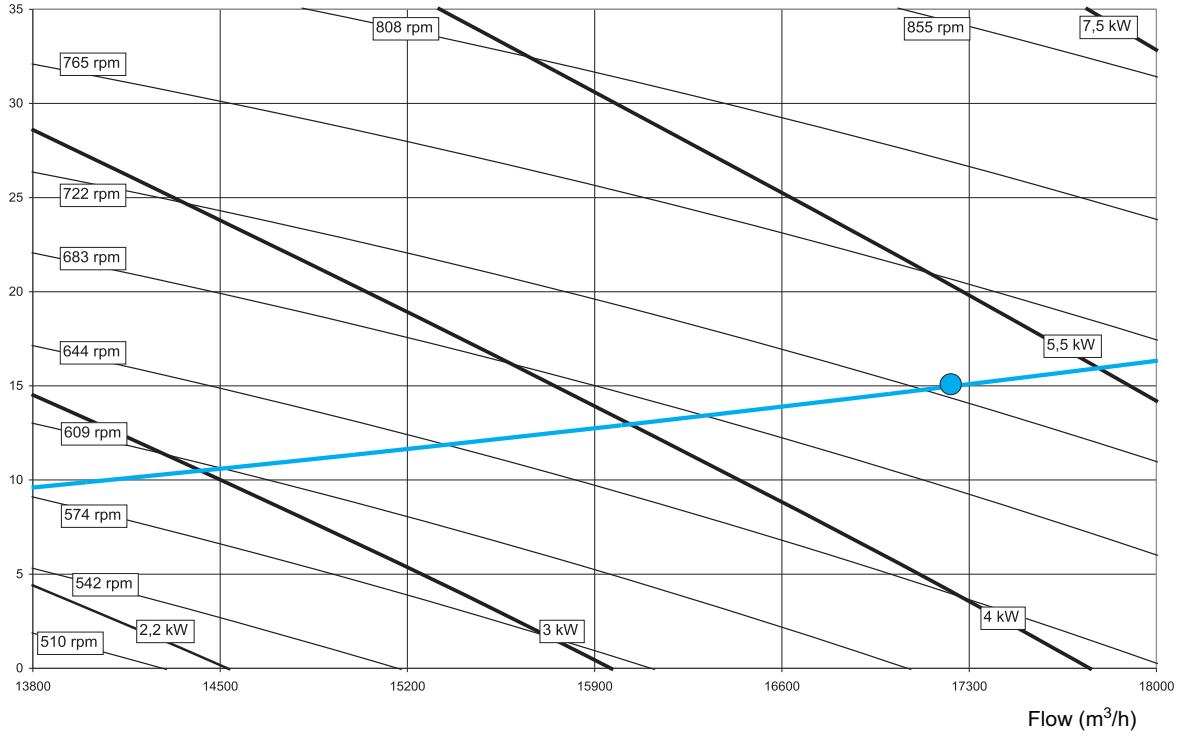
The motor to select is that whose curve is above the operating point.

If there is a motor change, consult the price supplement.

■ Discharge fan with high flow

Avail. Press. (mm.W.G.) **Aquair BCP-230**

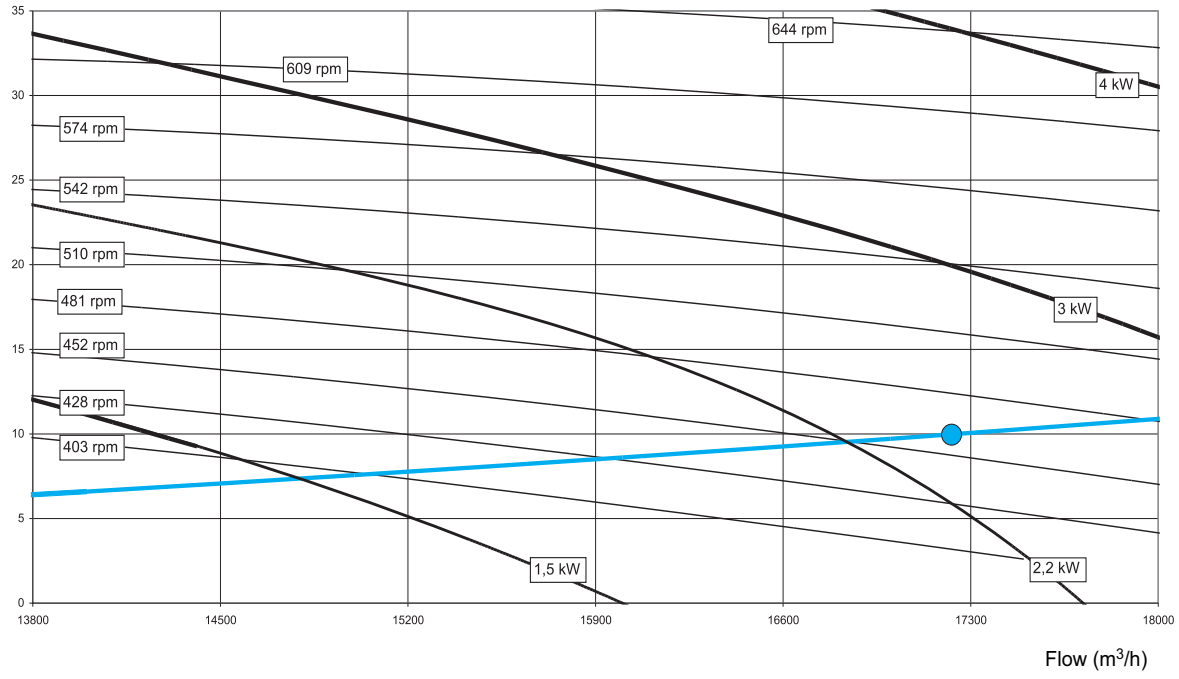
Nominal Flow: 17.250 m³/h
Available Pressure: 15 mm.W.G.



■ Return fan with high flow (optional)

Avail. Press. (mm.W.G.) **Aquair BCP-230**

Nominal Flow: 17.250 m³/h
Available Pressure: 10 mm.W.G.



N.B: The graphic point indicates the operating nominal point. The curve which passes through this point is the curve of nominal installation (this curve shows the aspect of other possible curves of installation).

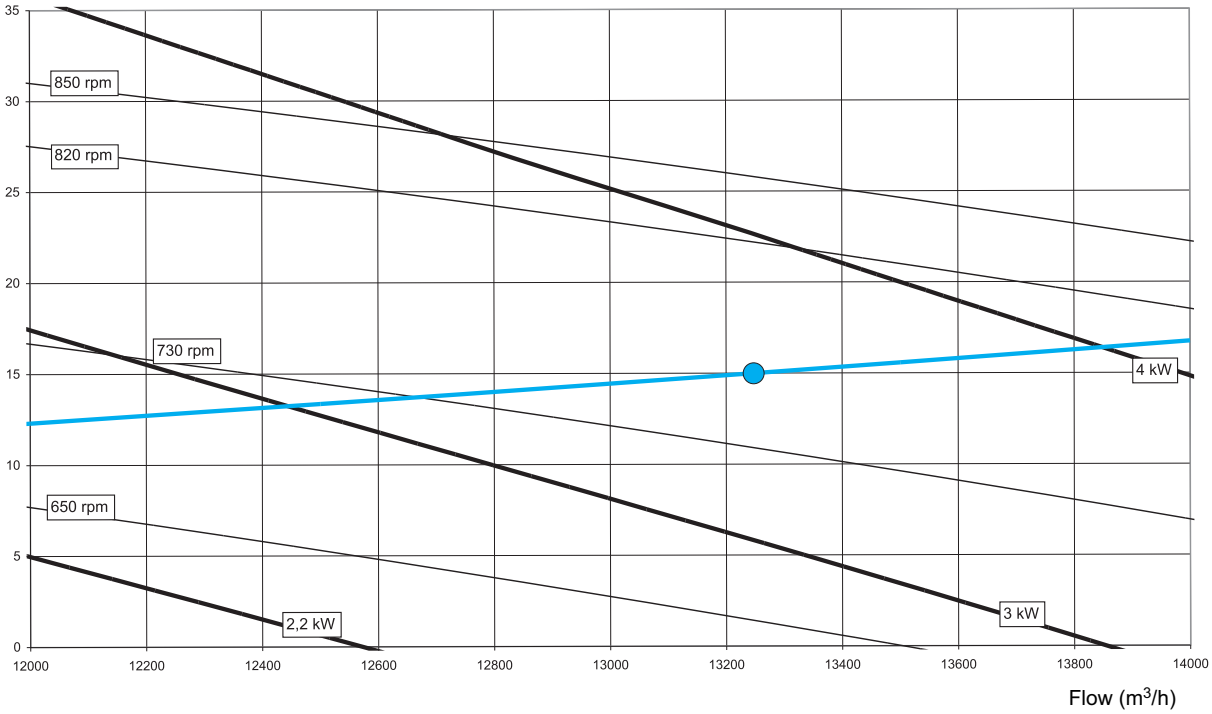
The motor to select is that whose curve is above the operating point.

If there is a motor change, consult the price supplement.

■ Discharge fan with nominal flow

Avail. Press. (mm.W.G.) **Aquair BCP-265**

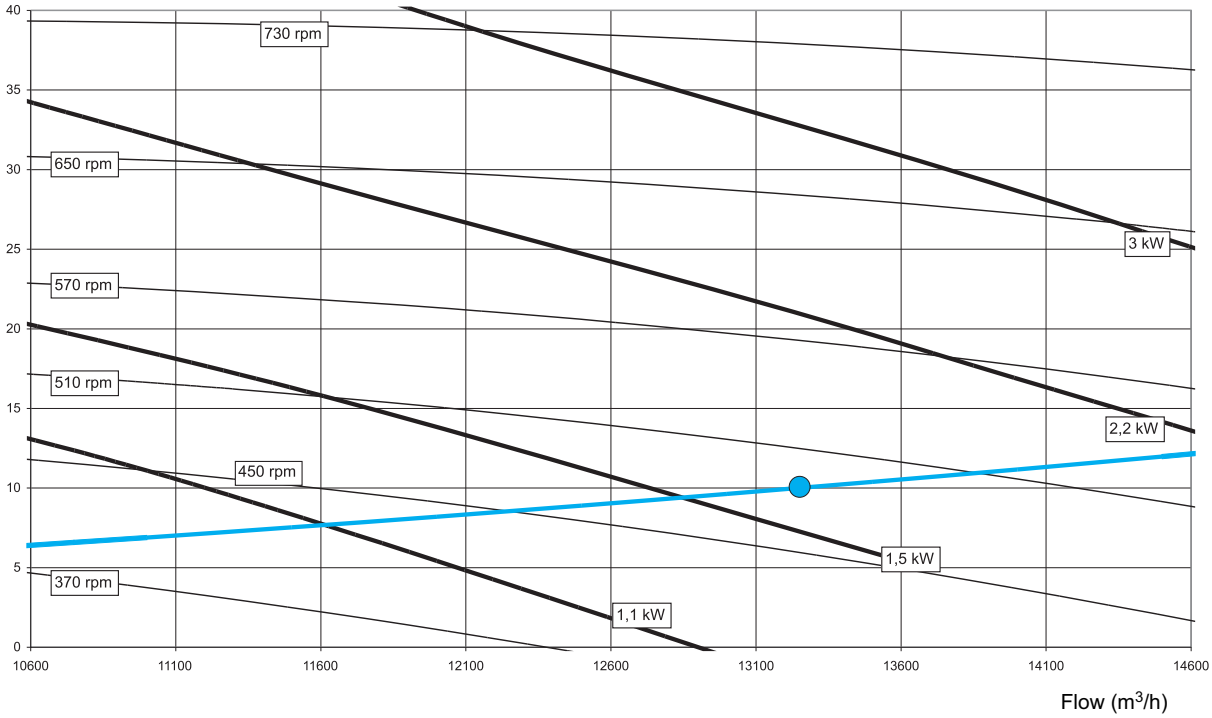
Nominal Flow: 13.250 m³/h
Available Pressure: 15 mm.W.G.



■ Return fan with nominal flow (optional)

Avail. Press. (mm.W.G.) **Aquair BCP-265**

Nominal Flow: 13.250 m³/h
Available Pressure: 10 mm.W.G.

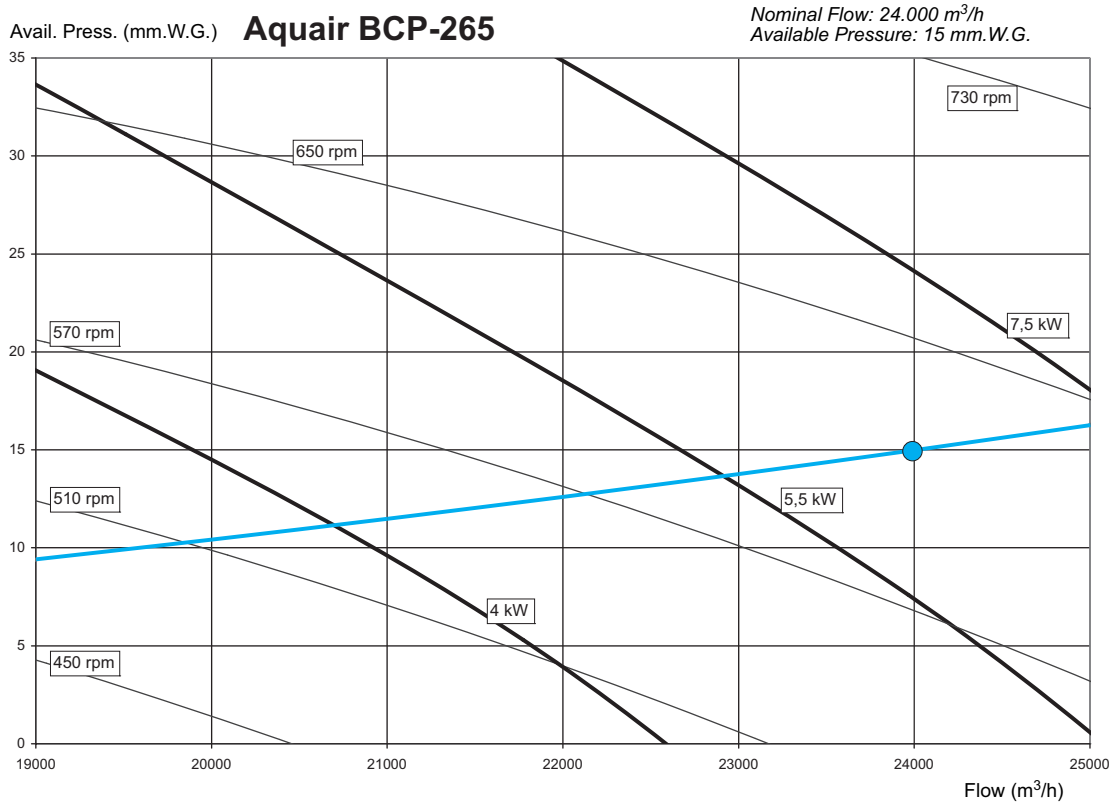


N.B: The graphic point indicates the operating nominal point. The curve which passes through this point is the curve of nominal installation (this curve shows the aspect of other possible curves of installation).

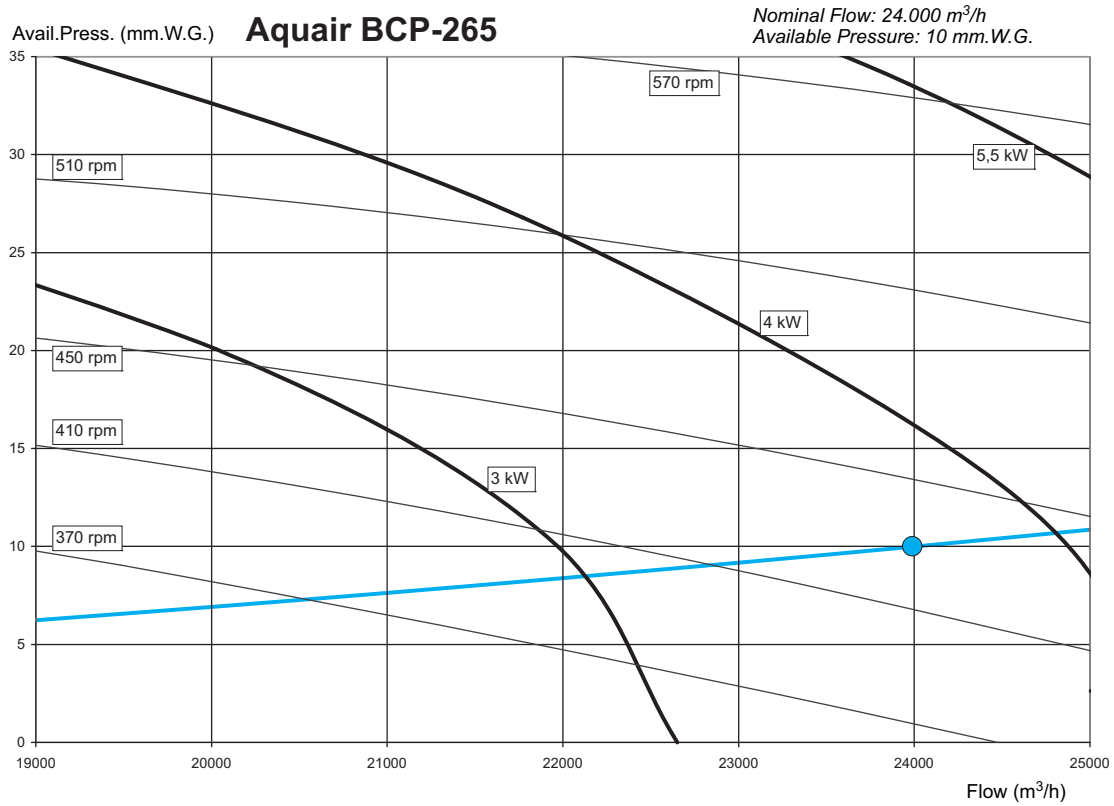
The motor to select is that whose curve is above the operating point.

If there is a motor change, consult the price supplement.

■ Discharge fan with high flow



■ Return fan with high flow (optional)



N.B: The graphic point indicates the operating nominal point. The curve which passes through this point is the curve of nominal installation (this curve shows the aspect of other possible curves of installation).

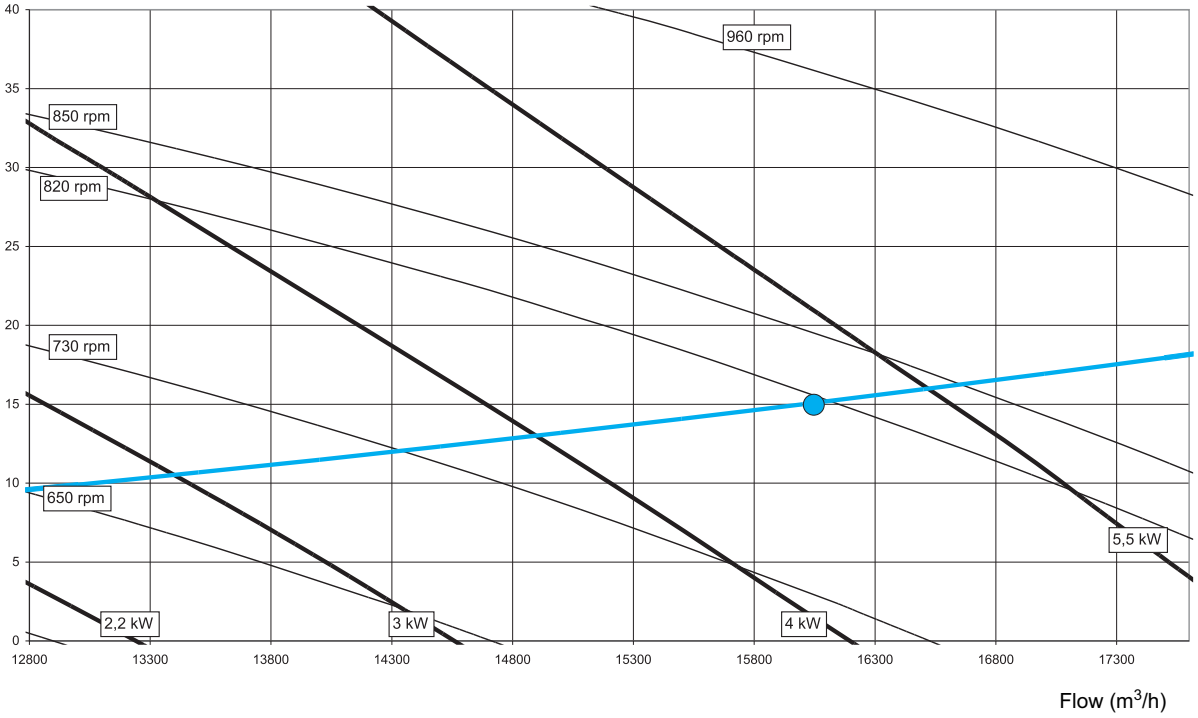
The motor to select is that whose curve is above the operating point.

If there is a motor change, consult the price supplement.

■ Discharge fan with nominal flow

Avail. Press. (mm.W.G.) **Aquair BCP-315/355**

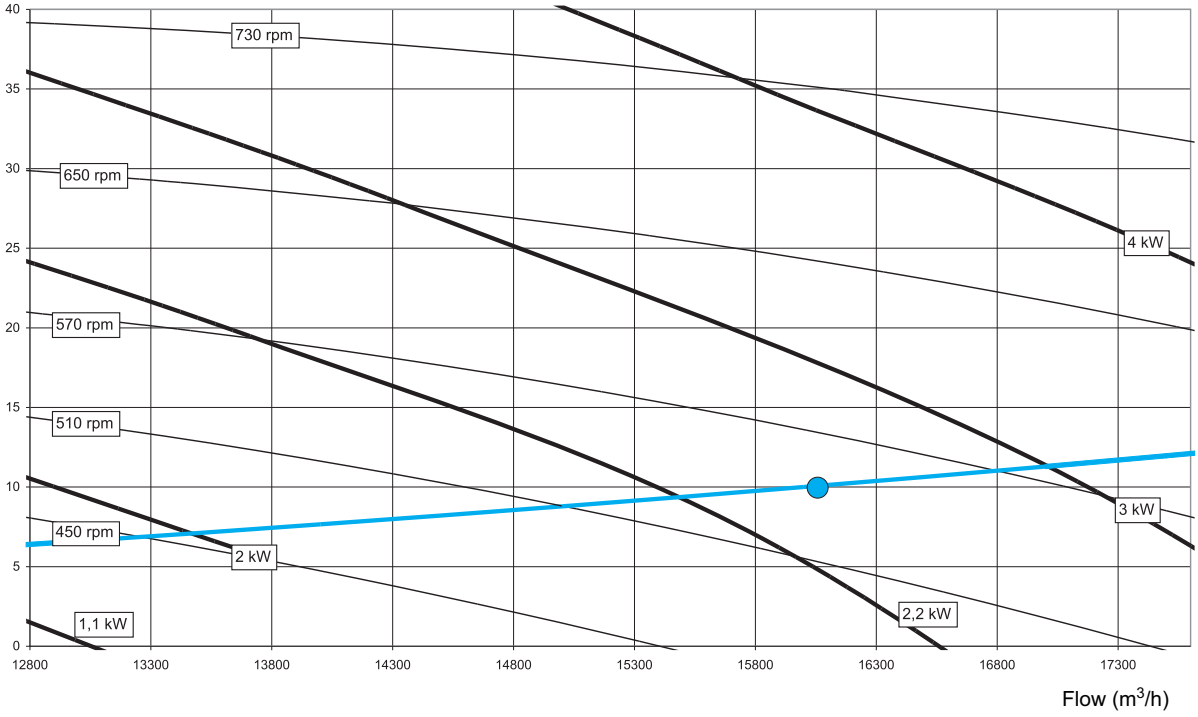
Nominal Flow: 16.000 m³/h
Available Pressure: 15 mm.W.G.



■ Return fan with nominal flow (optional)

Avail. Press. (mm.W.G.) **Aquair BCP-315/355**

Nominal Flow: 16.000 m³/h
Available Pressure: 10 mm.W.G.

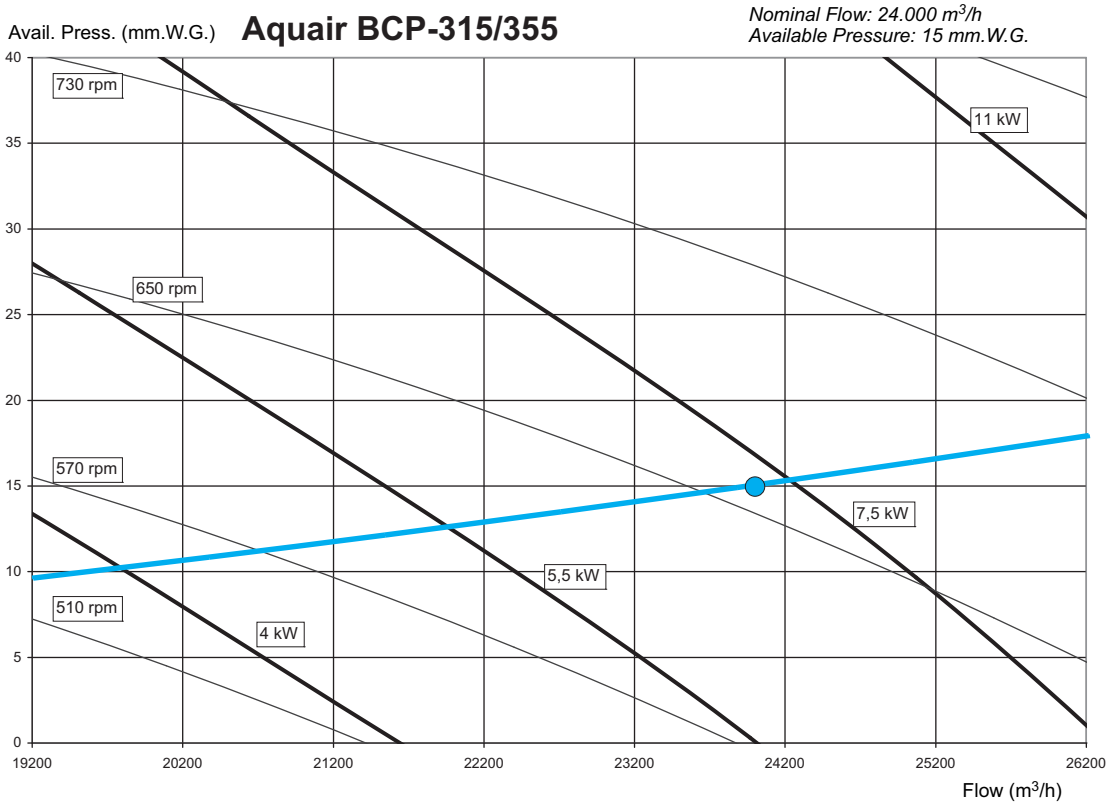


N.B: The graphic point indicates the operating nominal point. The curve which passes through this point is the curve of nominal installation (this curve shows the aspect of other possible curves of installation).

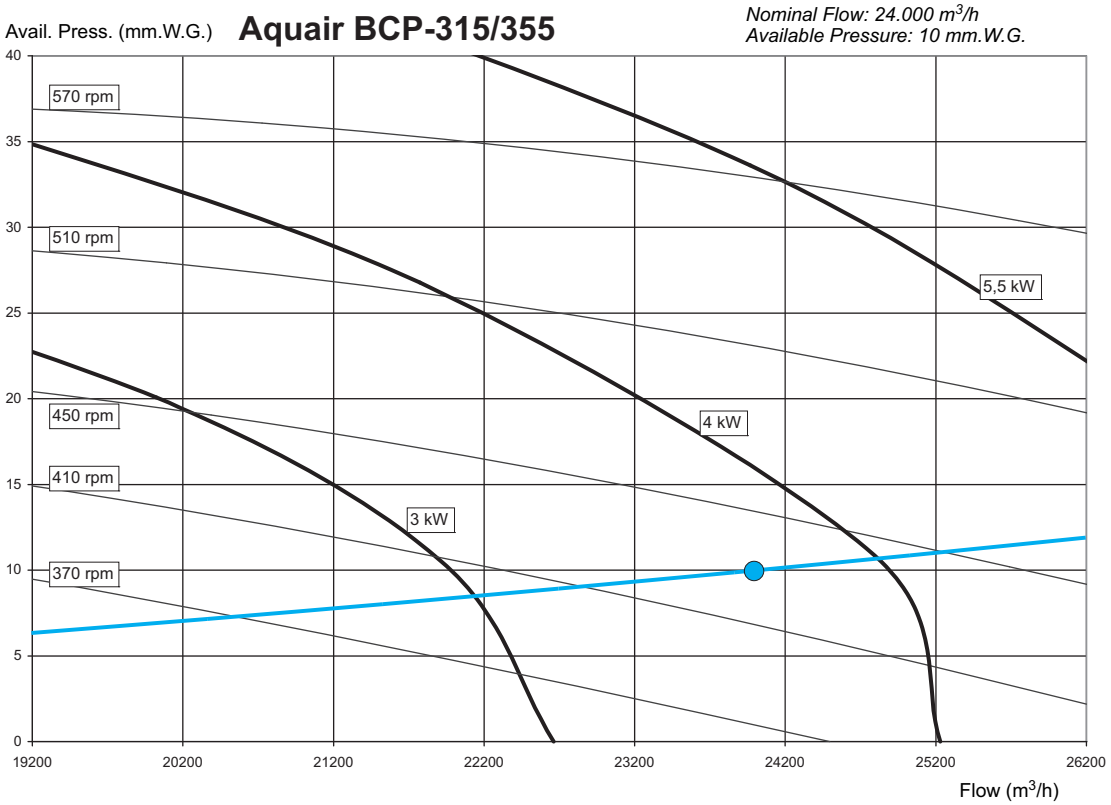
The motor to select is that whose curve is above the operating point.

If there is a motor change, consult the price supplement.

■ Discharge fan with high flow



■ Return fan with high flow (optional)



N.B: The graphic point indicates the operating nominal point. The curve which passes through this point is the curve of nominal installation (this curve shows the aspect of other possible curves of installation).

The motor to select is that whose curve is above the operating point.

If there is a motor change, consult the price supplement.

REMOTE CONDENSATION (OPTIONAL)

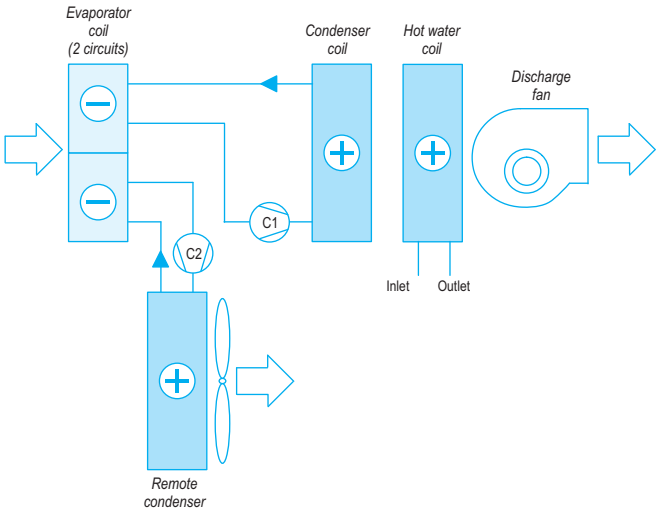
Aquair BCP AERO

This optional replaces the recovery water circuit which condensates on the plate exchanger by a split air circuit in which the condensation is carried out outside by a remote aerocondenser.

This is a solution for covered pools applications that do not need heat recovery on the pool water vessel.

The aerocondenser external unit, basically composed by fan(s) and coil, can be selected with centrifugal fan from ASN and ASM series, or with axial fan from ASJ and ASW series.

IMPORTANT: These aerocondenser units have to include the optional of condensing pressure control.



■ ASJ Aerocondenser characteristics

- Casing of galvanized steel plate with polyester paint, oven cured.
- Axial motorfan(s), direct drive, with internal protection, monophasic 230V.
- Copper tubes and aluminium fins coil.
- Condensates drain pan.
- Maximum length of cooling line 15m.

Options

- Condensing pressure control (obligatory selection).
- Coils of copper tubes and copper fins, or aluminium fins with polyurethane coating.
- Service and gas charge valves.
- Preloaded pipes and quick cooling connections (model 45).

■ ASN Aerocondenser characteristics

- Casing of galvanized steel plate with polyester paint, oven cured. Chassis support.
- Easy access by removable panels.
- Centrifugal fan driven directly and internal protection, monophasic 230V.
- Fan protection grille.
- Copper tubes and aluminium fins coil.
- Maximum length of cooling line 15m.

Options

- Condensing pressure control (obligatory selection).
- Discharge and/or air return position.
- Coils of copper tubes and copper fins, or aluminium fins with polyurethane coating.
- Service and gas charge valves.
- Preloaded pipes and quick cooling connections (model 45).
- Air filter.

■ ASW Aerocondenser characteristics

- Casing of galvanized steel plate with polyester paint, oven cured.
- Axial motorfans, driven directly, with thermal protection.
- Coil of copper tubes and aluminium fins.
- Maximum length of cooling line 40m (it is necessary to use siphons).

Options

- Condensing pressure control (obligatory selection).
- Copper tubes and copper fins coils, or aluminium fins with polyurethane coating
- Rubber anti-vibratory supports.

■ ASM Aerocondenser characteristics

- Casing of galvanized steel plate with polyester paint, oven cured. Chassis support.
- Easy access by removable panels.
- Centrifugal fan driven by belts and pulleys.
- Return protection grille.
- Copper tubes and aluminium fins coil.
- Maximum length of cooling line 15m.

Options

- Condensing pressure control (obligatory selection).
- Air discharge position.
- Copper tubes and copper fins coils, or aluminium fins with polyurethane coating
- Rubber anti-vibratory supports.

Aquair BCP AERO		110	140	180	230	265	315	355
Axial aerocondenser model		ASJ-45	ASJ-55	ASJ-70	ASJ-70	ASW-100	ASW-120	ASW-120
Total dehumidification capacity (kg/h) ①		20,8	25,6	33,9	42,2	51,1	60,3	70,4
Remote condensation circuit dissipated capacity (kW)		10	16,9	20,7	24,9	28,2	43,1	43,1
Fan	Nominal air flow (m^3/h)	4.500	6.500	6.500	6.500	10.000	14.500	14.500
	Available static pressure (mm.w.c)	--						
	Fan type / Number	2 / 360	2 / 450	2 / 450	2 / 450	1 / 630	1 / 800	1 / 800
	Power(kW)	0,12	0,15	0,15	0,15	0,7	1,05	1,05
	Speed (r.p.m.)	1.300	870	870	870	900	680	680
Maximum absorbed current	230 V / I ph / 50 Hz (A)	1,1	1,3	1,3	1,3	--	--	--
	400 V / III ph / 50 Hz (A)	--	--	--	--	1,3	2,4	2,4
Refrigerant	Type	R-407c						
	Total load (kg)	10,3	15,2	17,2	16,9	19,4	18,3	21,8
Cooling connections	Liquid line	3/8"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"
	Gas line	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"
Dimensions	Length (mm)	1.114	1.114	1.114	1.114	1.288	1.288	1.288
	Width (mm)	744	744	744	744	1.000	1.000	1.000
	Height (mm)	980	980	980	980	1.223	1.223	1.223
Weight	(kg)	96	104	172	172	164	159	159
Sound pressure level dB(A) ②		37	45	45	45	52	50,7	50,7

Aquair BCP AERO		110	140	180	230	265	315	355
Centrifugal aerocondenser model		ASN-45	ASN-45	ASN-65	ASN-65	ASM-80	ASM-120	ASM-120
Total dehumidification capacity (kg/h) ①		21,0	26,3	34,8	42,5	52,4	62,1	71,3
Remote condensation circuit dissipated capacity (kW)		10	16,9	20,7	24,9	28,2	43,1	43,1
Fan	Nominal air flow (m^3/h)	3.500	3.500	4.500	4.500	6.500	10.000	10.000
	Available static pressure (mm.w.c)	4	4	5	5	7	13	13
	Fan type / Number	1	1	1	1	1	1	1
	Power(kW)	0,51	0,51	0,6	0,6	1,1	1,5	1,5
	Speed (r.p.m.)	890	890	1.100	1.100	630	543	543
Maximum absorbed current	230 V / I ph / 50 Hz (A)	3,8	3,8	8,2	8,2	--	--	--
	400 V / III ph / 50 Hz (A)	--	--	--	--	2,7	3,6	3,6
Cooling connections	Liquid line	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"	5/8"
	Gas line	5/8"	5/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"
Refrigerant	Type	R-407c						
	Total load (kg)	8,9	13,2	16,2	16,0	19,7	16,8	20,7
Dimensions	Length (mm)	1.428	1.428	1.428	1.428	1.680	2.088	2.088
	Width (mm)	804	804	804	804	937	1.220	1.220
	Height (mm)	460	460	460	460	670	810	810
Weight	(kg)	108	108	120	120	214	324	324
Sound pressure level dB(A) ②		44,4	44,4	50	50	56,7	60,9	60,9

① Cooling dehumidification capacity of Aquair BCP AERO unit with remote aerocondenser for outdoor temperature conditions of 35ºC.

② The sound pressure level depends on the installation conditions and, therefore, it is only a reference. Measure conditions: in free field, measured at 5 meters of length, directivity 2 and at 1,5 meters from floor.

Pool air handling units

■ Dimensions of cooling lines at different distances

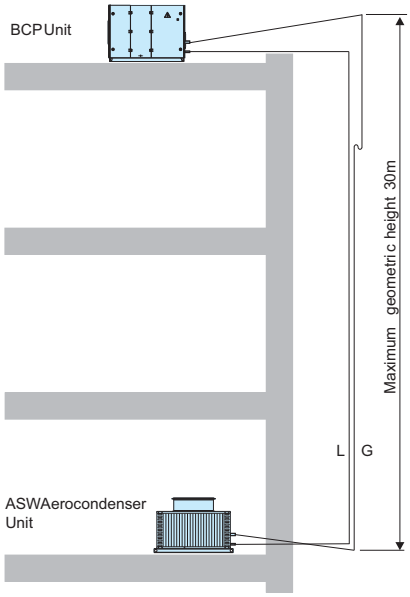
Aquair BCP AERO		110	140	180	230	265	315	355
Axial aerocondenser model		ASJ-45	ASJ-55	ASJ-70	ASJ-70	ASW-100	ASW-120	ASW-120
From 6 m	Liquid line	3/8”	1/2”	5/8”	5/8”	5/8”	5/8”	5/8”
	Gas line	7/8”	7/8”	1 1/8”	1 1/8”	1 1/8”	1 1/8”	1 1/8”
From 10 m	Liquid line	3/8”	1/2”	5/8”	5/8”	5/8”	5/8”	5/8”
	Gas line	7/8”	7/8”	1 1/8”	1 1/8”	1 1/8”	1 1/8”	1 1/8”
15 m	Liquid line	1/2”	1/2”	5/8”	5/8”	5/8”	5/8”	5/8”
	Gas line	7/8”	1 1/8”	1 1/8”	1 1/8”	1 3/8”	1 5/8”	1 5/8”

Aquair BCP AERO		110	140	180	230	265	315	355
Centrifugal aerocondenser model		ASN-45	ASN-45	ASN-65	ASN-65	ASM-80	ASM-120	ASM-120
A partir de 6 m	Liquid line	3/8”	3/8”	5/8”	5/8”	5/8”	5/8”	5/8”
	Gas line	7/8”	7/8”	1 1/8”	1 1/8”	1 1/8”	1 1/8”	1 1/8”
A partir de 10 m	Liquid line	3/8”	3/8”	5/8”	5/8”	5/8”	5/8”	5/8”
	Gas line	7/8”	7/8”	1 1/8”	1 1/8”	1 1/8”	1 1/8”	1 1/8”
15 m	Liquid line	1/2”	1/2”	5/8”	5/8”	5/8”	5/8”	5/8”
	Gas line	7/8”	7/8”	1 1/8”	1 1/8”	1 1/8”	1 5/8”	1 5/8”

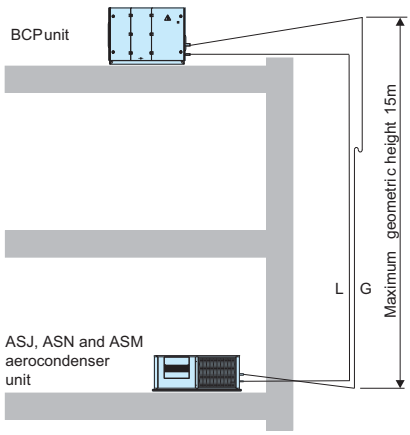
■ R-407C refrigerant by pipeline meter

Nominal diameter	1/4”	3/8”	1/2”	5/8”	3/4”	7/8”	1”	1 1/8”	1 3/8”	1 5/8”
Internal section (cm²)	0,149	0,444	0,900	1,505	2,282	3,120	4,290	5,346	7,850	10,100
Liquid line load (g/m)	18	53	107	180	272	376	512	638	937	1325
Gas line load (g/m)	--	0,19	0,38	0,64	0,97	1,33	1,83	2,30	3,30	4,00

■ Cooling wiring recommendations

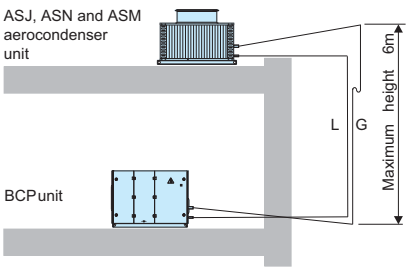


Maximum length of cooling line:
ASW = 40m



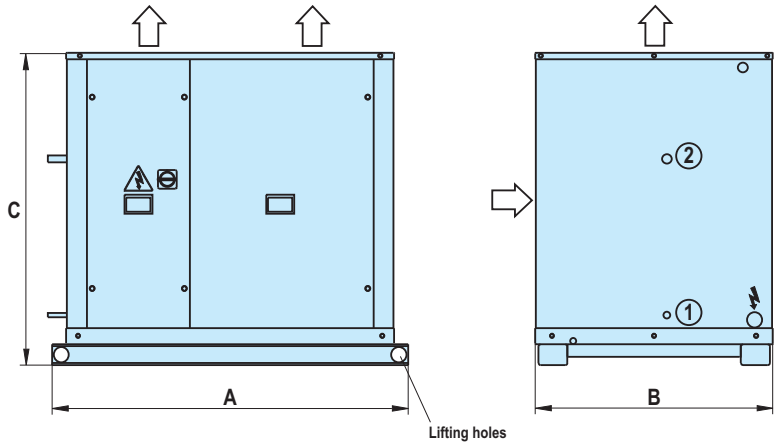
Maximum length of cooling line:
ASJ, ASN and ASM = 15m

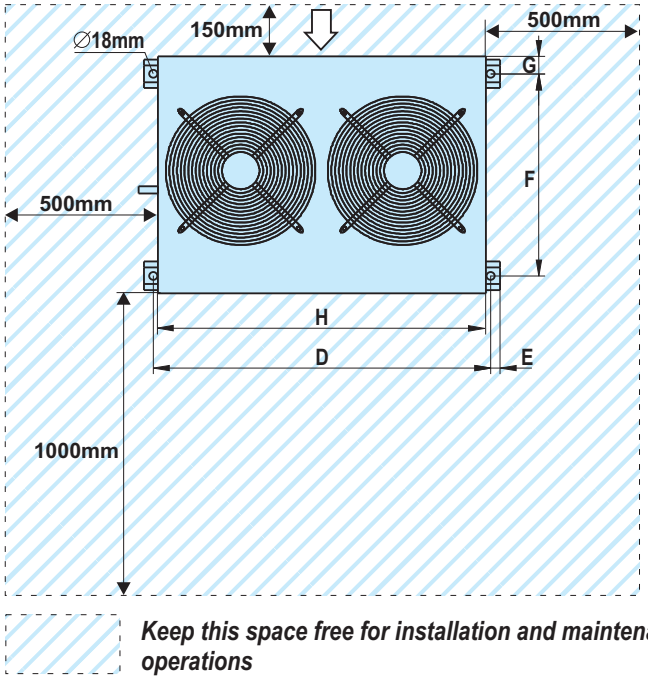
L liquid line
G gas line
Siphon in gas line every 3m of fall



Maximum length of cooling line:
ASW, ASJ, ASN and ASM = 7m

■ ASJ - 45 / 55 / 70 aerocondensers dimensions





Keep this space free for installation and maintenance operations

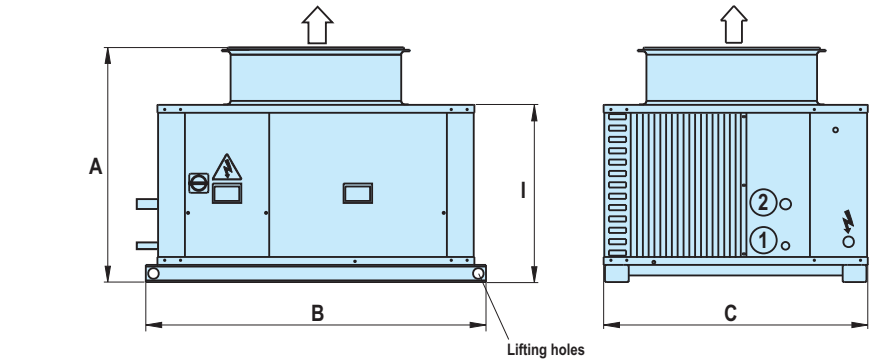
MODEL	A	B	C	D	E	F	G	H
ASJ - 45 / 55 / 70	1.114	744	980	1.056	29	634	55	1.026

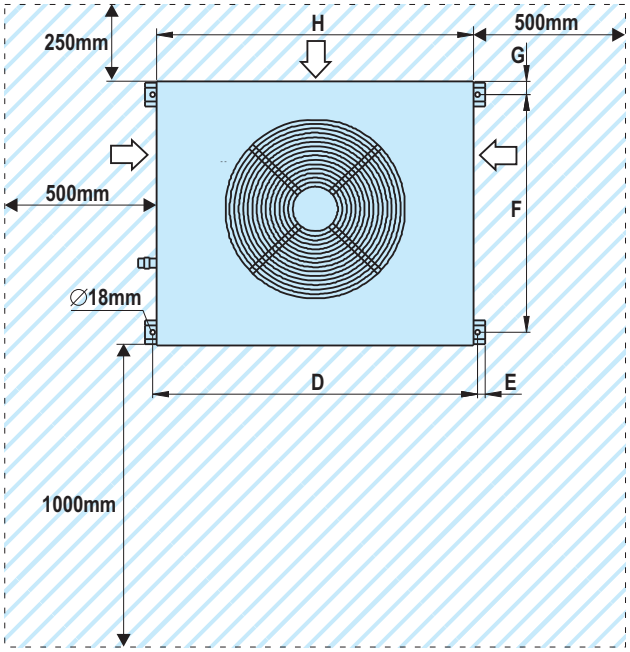
LEGEND:

- EXTERNAL AIR FLOW
- POWER SUPPLY AND ELECTRICAL PANEL
- DOOR SWITCH
- (1) LIQUID LINE
- (2) GAS LINE

Pool air handling units

■ ASW - 100 / 120 aerocondensers dimensions





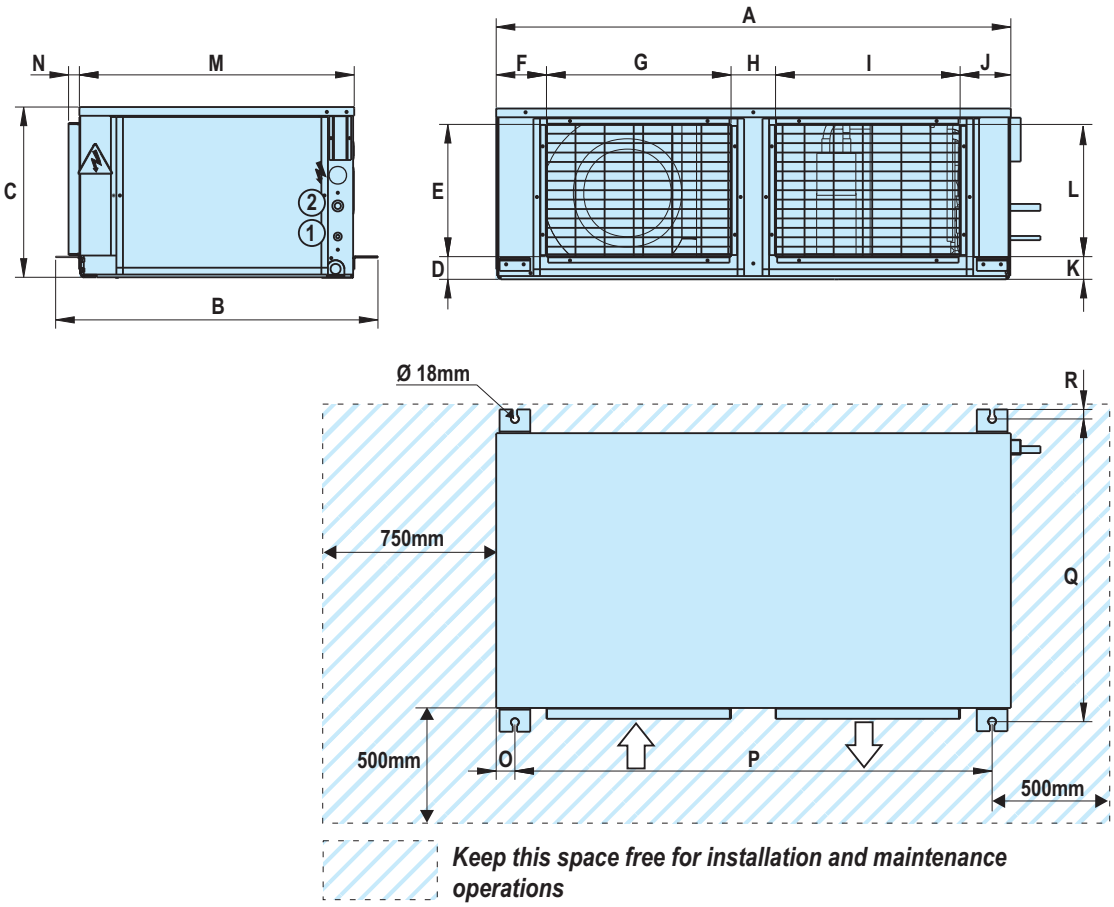
Keep this space free for installation and maintenance operations

MODEL	A	B	C	D	E	F	G	H	I
ASW - 100 / 120	1.223	1.288	1.000	1.230	29	900	50	1.200	971

LEGEND:

- EXTERNAL AIR FLOW
- POWER SUPPLY AND ELECTRICAL PANEL
- DOOR SWITCH
- (1) LIQUID LINE
- (2) GAS LINE

■ ASN - 45 / 65 aerocondensers dimensions



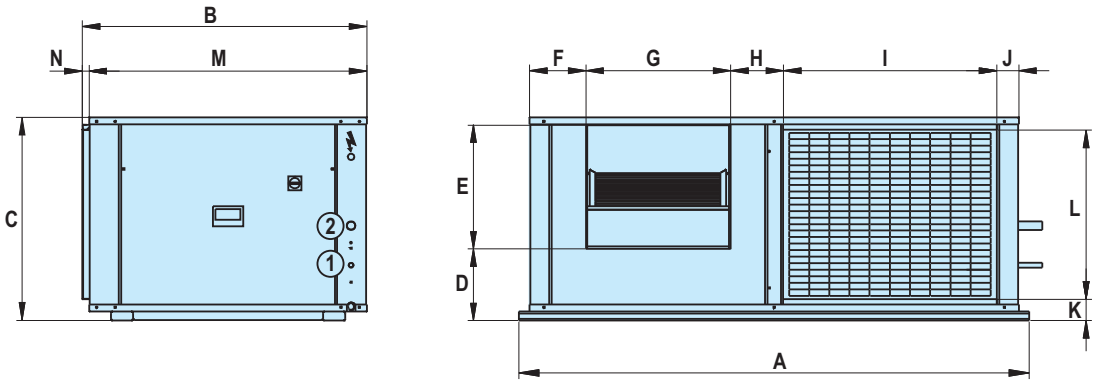
MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
ASN - 45 / 65	1.428	804	460	52	372	174	490	101	490	174	52	372	696	25	43	1.342	760	22

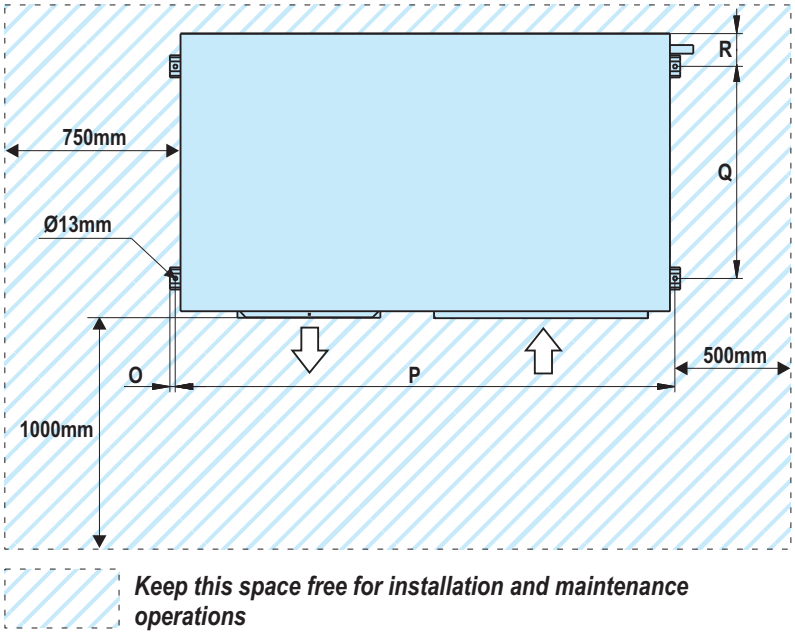
LEGEND:

- EXTERNAL AIR FLOW
- POWER SUPPLY AND ELECTRICAL PANEL
- (1) LIQUID LINE
- (2) GAS LINE

Pool air handling units

■ ASM - 80 / 120 aerocondensers dimensions





Keep this space free for installation and maintenance operations

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
ASM - 80	1680	937	670	236	409	185,5	477	174	701,5	73	71,5	556	915	22	17,5	1645	698	108,5
ASM - 120	2088	1220	810	293	484	244,5	563,5	231,5	907	73	79	687	1198	22	17,5	2053	944	127

LEGEND:

- EXTERNAL AIR FLOW
- POWER SUPPLY AND ELECTRICAL PANEL
- DOOR SWITCH
- (1) LIQUID LINE
- (2) GAS LINE

REMOTE CONDENSATION (OPTIONAL)

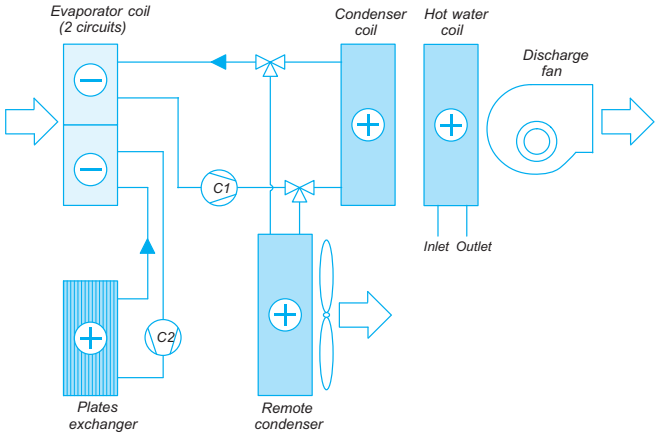
Aquair BCP DUAL

This optional enables to select the condensation process on the internal air circuit or by remote external condenser, depending on the comfort needs.

In models with two air circuits, the circuit with greater capacity can be switched with the aerocondenser. The condenser exchange is done by the electronic control based on the ambient temperature.

The aerocondenser external unit, basically composed by fan(s) and coil, can be selected with centrifugal fan from ASM series,or with axial fan from ASW series.

IMPORTANT: These aero-condenser units have to include the condensing pressure control optional.



■ ASW Aerocondenser characteristics

- Casing of galvanized steel plate with polyester paint, oven cured.
- Axial motorfans, driven directly, with thermal protection.
- Coil of copper tubes and aluminium fins.
- Boiler included in Aquair BCP unit.
- Maximum length of cooling line 40m (it is necessary to use siphons).

Options

- Condensing pressure control (obligatory selection).
- Copper tubes and copper fins coils, or aluminium fins with polyurethane coating
- Rubber anti-vibratory supports.

■ ASM Aerocondenser characteristics

- Casing of galvanized steel plate with polyester paint, oven cured. Chassis support.
- Easy access by removable panels.
- Centrifugal fan driven by belts and pulleys.
- Return protection grille.
- Boiler included in Aquair BCP unit.
- Copper tubes and aluminium fins coil.
- Maximum length of cooling line 15m.

Options

- Condensing pressure control (obligatory selection).
- Air discharge position.
- Copper tubes and copper fins coils, or aluminium fins with polyurethane coating
- Rubber anti-vibratory supports.

Pool air handling units

Aquair BCP DUAL		110	140	180	230	265	315	355
Axial aerocondenser model		ASW-100	ASW-100	ASW-120	ASW-185	ASW-315	ASW-120	ASW-120
Total dehumidification capacity (kg/h) ①		21,1	26,0	32,6	40,1	47,2	62,7	72,6
Remote condensation circuit dissipated capacity (kW)		27,5	30,1	42,0	55,0	63,4	42,6	42,6
Fan	Nominal air flow (m^3/h)	10.000	10.000	14.500	22.000	28.000	14.500	14.500
	Available static pressure (mm.w.c)	--						
	Fan type / Number	1 x 630	1 x 630	1 x 800	1 x 800	800 + 630	1 x 800	1 x 800
	Power(kW)	0,7	0,7	1,05	2,0	2,0 / 1,25 + 0,7 / 0,5	1,05	1,05
	Speed (r.p.m.)	900	900	680	880	880 / 660 900 / 690	680	680
Maximum absorbed current	400 V / III ph / 50 Hz (A)	1,3	1,3	2,4	4,0	4,0 + 1,3	2,4	2,4
Refrigerant	Type	R-407c						
	Total load (kg)	7,4	8,6	14,7	15,5	17,8	16,9	18,2
Cooling connections	Liquid line	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
	Gas line	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 1/8"	1 1/8"
Dimensions	Length (mm)	1.288	1.288	1.288	1.288	1.991	1.288	1.288
	Width (mm)	1.000	1.000	1.000	1.000	1.018	1.000	1.000
	Height (mm)	1.223	1.223	1.223	1.523	1.380	1.223	1.223
Weight	(kg)	164	164	159	233	442	159	159
Sound pressure level dB(A) ②		52	52	50,7	58,7	61,9	50,7	50,7

Aquair BCP DUAL		110	140	180	230	265	315	355
Centrifugal aerocondenser model		ASM-80	ASM-80	ASM-120	ASM-155	--	ASM-120	ASM-120
Total dehumidification capacity (kg/h) ①		21,0	25,7	30,3	38,8	--	60,6	70,8
Remote condensation circuit dissipated capacity (kW)		27,5	30,1	42,0	55,0	--	42,6	42,6
Fan	Nominal air flow (m^3/h)	6.500	6.500	10.000	12.200	--	10.000	10.000
	Available static pressure (mm.w.c)	7	7	13	14	--	13	13
	Fan type / Number	1	1	1	1	--	1	1
	Power(kW)	1,1	1,1	1,5	3	--	1,5	1,5
	Speed (r.p.m.)	630	630	543	626	--	543	543
Maximum absorbed current	400 V / III ph / 50 Hz (A)	2,7	2,7	3,6	6,9	--	3,6	3,6
Cooling connections	Liquid line	5/8"	5/8"	5/8"	5/8"	--	5/8"	5/8"
	Gas line	1 1/8"	1 1/8"	1 1/8"	1 3/8"	--	1 1/8"	1 1/8"
Refrigerant	Type	R-407c						
	Total load (kg)	7,4	8,6	14,7	15,5	--	16,9	18,2
Dimensions	Length (mm)	1.680	1.680	2.088	2088	--	2.088	2.088
	Width (mm)	937	937	1.220	1220	--	1.220	1.220
	Height (mm)	670	670	810	810	--	810	810
Weight	(kg)	214	214	324	350	--	324	324
Sound pressure level dB(A) ②		56,7	56,7	60,9	65,6	--	60,9	60,9

① Cooling dehumidification capacity of Aquair BCP DUAL unit with remote aerocondenser for outdoor temperature conditions of 35ºC.

② The sound pressure level depends on the installation conditions and, therefore, it is only a reference. Measure conditions: in free field, measured at 5 meters of length, directivity 2 and at 1,5 meters from floor.

Dimensions of cooling lines at different distances

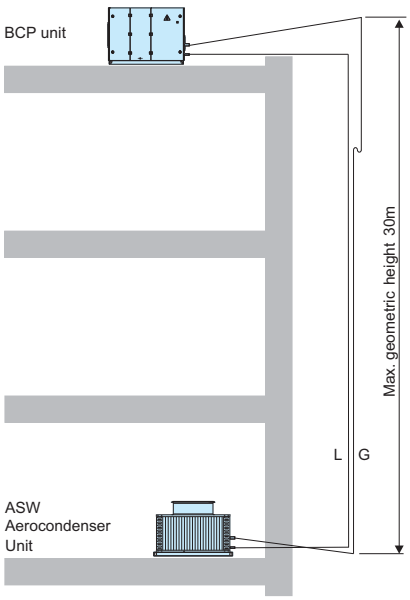
Aquair BCP DUAL		110	140	180	230	265	315	355
Axial aerocondenser model		ASW-100	ASW-100	ASW-120	ASW-185	ASW-315	ASW-120	ASW-120
From 6 m	Liquid line	5/8”	5/8”	5/8”	5/8”	5/8”	5/8”	5/8”
	Gas line	1 1/8”	1 1/8”	1 1/8”	1 3/8”	1 3/8”	1 1/8”	1 1/8”
From 10 m	Liquid line	5/8”	5/8”	5/8”	5/8”	5/8”	5/8”	5/8”
	Gas line	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 1/8"	1 1/8"
15 m	Liquid line	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
	Gas line	1 3/8"	1 3/8"	1 5/8"	1 5/8"	1 5/8"	1 5/8"	1 5/8"

Aquair BCP DUAL		110	140	180	230	265	315	355
Centrifugal aerocondenser model		ASM-80	ASM-80	ASM-120	ASM-155	--	ASM-120	ASM-120
A partir de 6 m	Liquid line	5/8”	5/8”	5/8”	5/8”	--	5/8”	5/8”
	Gas line	1 1/8”	1 1/8”	1 1/8”	1 3/8”	--	1 1/8”	1 1/8”
A partir de 10 m	Liquid line	5/8”	5/8”	5/8”	5/8”	--	5/8”	5/8”
	Gas line	1 1/8”	1 1/8”	1 1/8”	1 3/8”	--	1 1/8”	1 1/8”
15 m	Liquid line	5/8”	5/8”	5/8”	5/8”	--	5/8”	5/8”
	Gas line	1 1/8”	1 1/8”	1 5/8”	1 5/8”	--	1 5/8”	1 5/8”

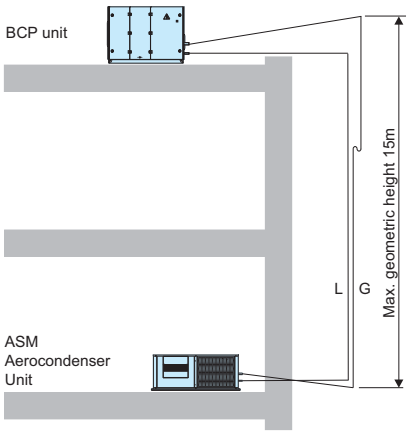
R-407C refrigerant by pipeline meter

Nominal diameter	1/4”	3/8”	1/2”	5/8”	3/4”	7/8”	1”	1 1/8”	1 3/8”	1 5/8”
Internal section (cm²)	0,149	0,444	0,900	1,505	2,282	3,120	4,290	5,346	7,850	10,100
Liquid line load (g/m)	18	53	107	180	272	376	512	638	937	1325
Gas line load (g/m)	--	0,19	0,38	0,64	0,97	1,33	1,83	2,30	3,30	4,00

Cooling wiring recommendations

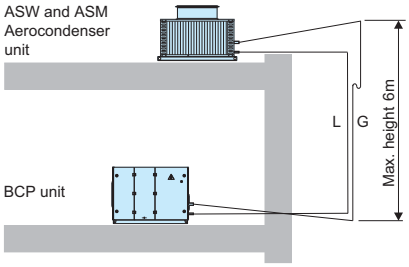


Max. equivalent length of cooling line: ASW = 40m



Max. equivalent length of cooling line: ASM = 15m

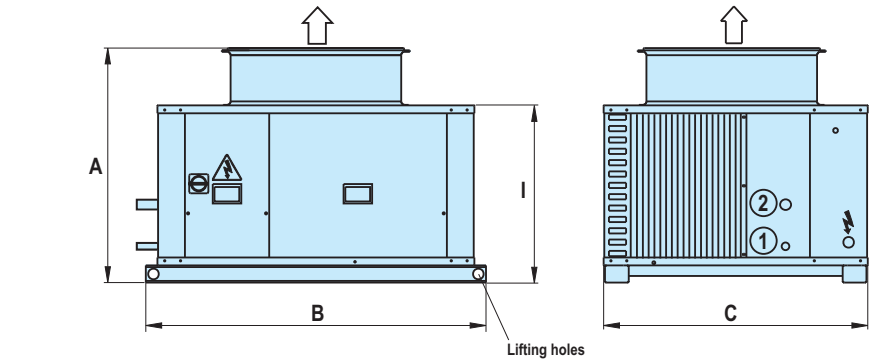
L liquid line
G gas line
Siphon in gas line every 3 m off all

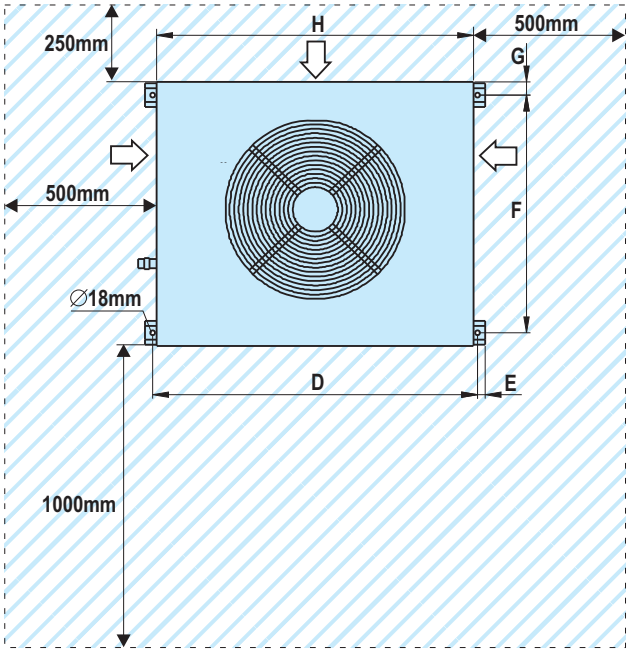


Max. equivalent lenght of cooling line: ASW and ASM = 7m

Pool air handling units

■ ASW - 100 / 120 / 185 aerocondensers dimensions





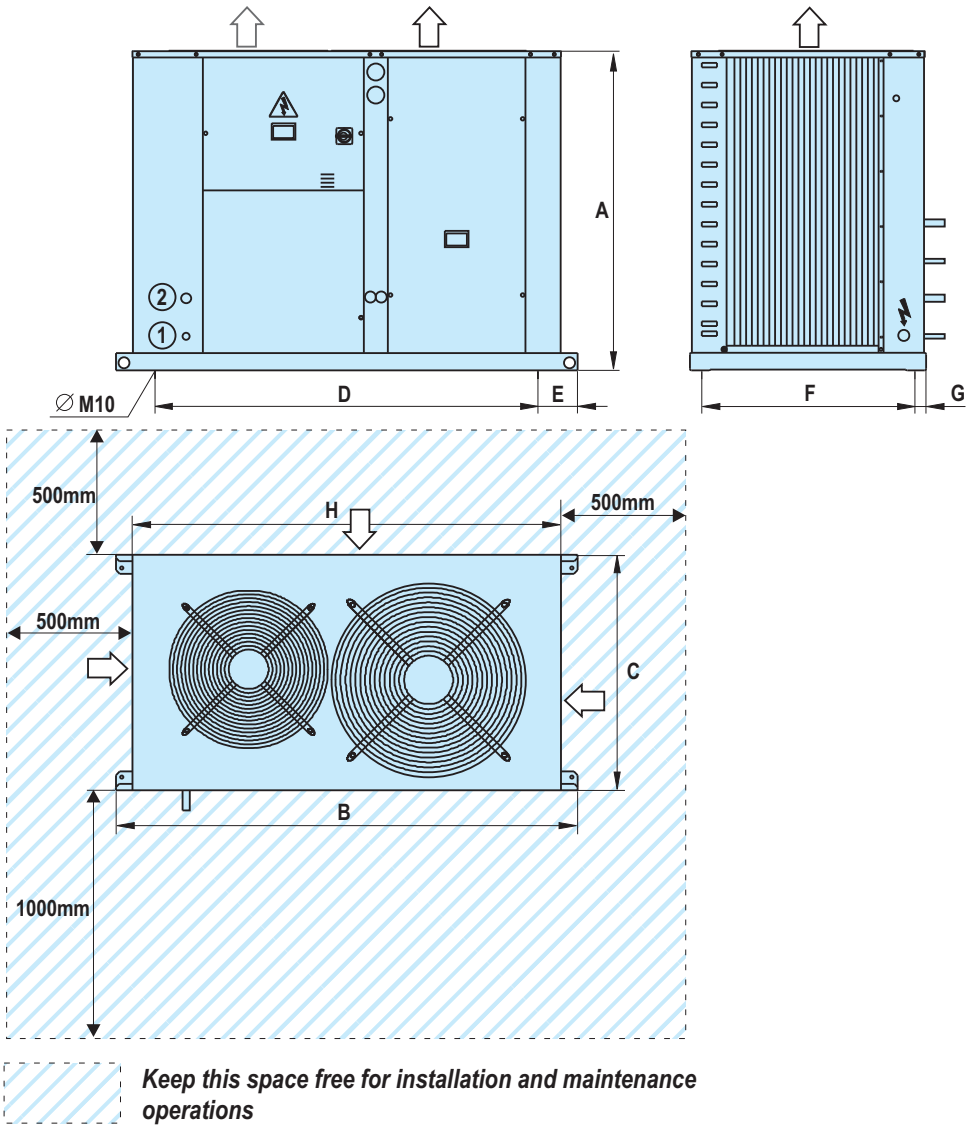
Keep this space free for installation and maintenance operations

MODEL	A	B	C	D	E	F	G	H	I
ASW - 100 / 120	1.223	1.288	1.000	1.230	29	900	50	1.200	971
SW - 185	1.523	1.288	1.000	1.230	29	900	50	1.200	1.271

LEGEND:

- EXTERNAL AIR FLOW
- POWER SUPPLY AND ELECTRICAL PANEL
- DOOR SWITCH
- (1) LIQUID LINE
- (2) GAS LINE

■ ASW - 315 aerocondensers dimensions



Keep this space free for installation and maintenance operations

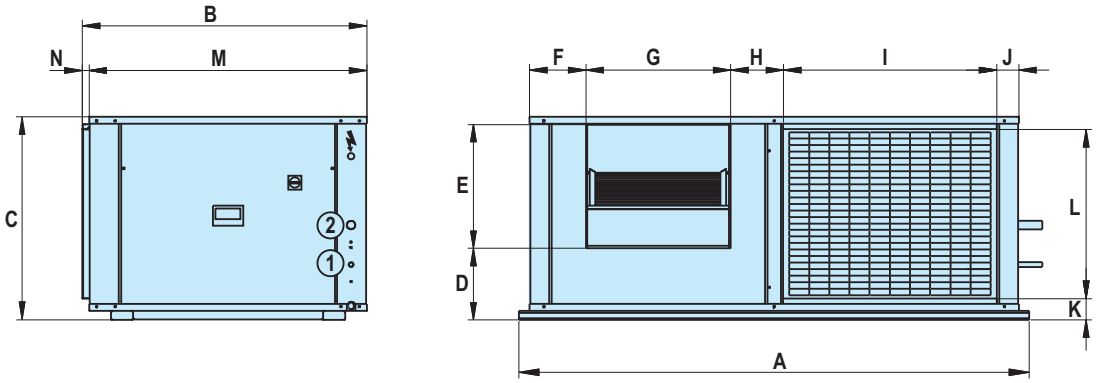
MODEL	A	B	C	D	E	F	G	H
ASW - 315	1.380	1.991	1.018	1.651	170	920	49	1.849

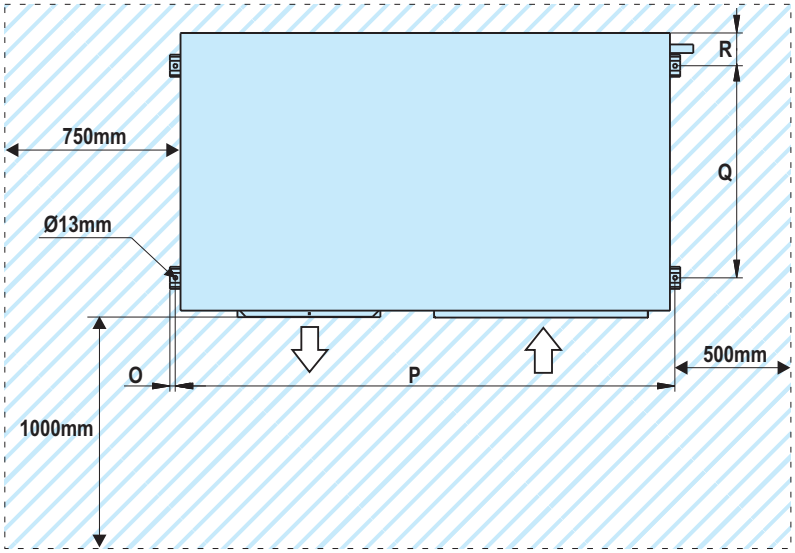
LEGEND:

- EXTERNAL AIR FLOW
- POWER SUPPLY AND ELECTRICAL PANEL
- DOOR SWITCH
- (1) LIQUID LINE
- (2) GAS LINE

Pool air handling units

■ ASM - 80 / 120 / 155 aerocondensers dimensions





Keep this space free for installation and maintenance operations

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
ASM - 80	1680	937	670	236	409	185,5	477	174	701,5	73	71,5	556	915	22	17,5	1645	698	108,5
ASM - 120 / 155	2088	1220	810	293	484	244,5	563,5	231,5	907	73	79	687	1198	22	17,5	2053	944	127

LEGEND:

- EXTERNAL AIR FLOW
- POWER SUPPLY AND ELECTRICAL PANEL
- DOOR SWITCH
- (1) LIQUID LINE
- (2) GAS LINE

ASSEMBLY RECOMMENDATIONS

Location

Air handling units **Aquair BCP** Series are indoor or outdoor units (optional).

A free space all around the unit should be kept (consult dimensions schemes), for maintenance and normal operation.

Mind special care on the location of the unit, selecting a suitable place according to the environment requirements (place, noise projection, etc.) and only accessible for authorized persons.

Avoid specially the location of units in those places frequented by under 14 years old people. If needed a barrier should be placed in order to protect the equipment from unathorized personnel.

All the units are tested when manufactured and have complete refrigerant load.

Electrical connections

Required electrical connections are indicated in the electrical diagram included within the unit.

These connections follow the current regulations. The equipment has a complete electrical panel, only the main power supply should be installed (protections should be provided by the installer: main switch, differential, etc.).

Check that the power supply corresponds to the voltage listed on the name plate and that it keeps constant.

Hydraulic connections

Provide the accessories necessary on each hydraulic circuit (expansion vessel, air vents, safety valves, shut-off valves next to components which need maintenance, etc.).

Flexible couplings are recommended between the unit for connecting pipework to the unit, in order to avoid possible transmission of vibrations or stress in the unit and the lines. These couplings are compulsory when the unit is mounted on a frame or on antivibratory supports.

Respect the water flow direction mentioned on the unit or on dimensions schemes.

A water mesh filter is compulsory to be placed at the inlet of pool pump (for particles of Ø > 1 mm), in order to avoid the soiling of the unit hydraulic circuit. A good maintenance of this filter will avoid corrosion problems in the plates exchanger, and it will improve the heat efficiency of the unit. Not fulfill this recommendation could make useless the plates exchanger of the unit.

In the case of a longer standstill, leave the exchanger full of water pool without flowing or empty may cause corrosion problems. During periods of inactivity it is **mandatory** to fill up the hydraulic circuit of the exchanger completely with demineralised water. To isolate the hydraulic circuit of the rest of the installation, the installer must have shut-off valves at the input and output, and a drain for emptying

Start-up

Some problems can appear when starting-up the units, many of them due to the starting-up conditions:

- Insufficient water flow. Too high temperature differences between water inlet and outlet, due to:
  - Insufficient trap.
  - Small water circulation pump or function on the wrong direction.
  - Other situations that block the right water flow.
- Recirculation of air caused by any obstacle in the intake or in the discharge of this.

Before starting-up the unit, to avoid these problems, check the electrical and hydraulic connections, verify the right operation of the pool water circulation pump, the filling and purging of hydraulic circuit, etc.