

WASTEWATER



DISSOLVED AIR FLOTATION PLANTS

IDROFLO dissolved air flotation plants are designed to treat industrial waste water, water clarification, primary waters with silt or suspension, oil separation.

Dissolved air flotation (DAF) is a water treatment process that clarifies waste waters (or other waters) by the removal of suspended matter such as oil or solids. The removal is achieved by dissolving air in the water or waste water under pressure and then releasing the air at atmospheric pressure in a flotation tank or basin. The released air forms tiny bubbles which adhere to the suspended matter causing the suspended matter to float to the surface of the water where it may then be removed by a skimming device

With DAF technology (dissolved air flotation), we obtain performance not achievable with traditional physical-chemical systems:

- necessary volumes reduced thanks to air forced separation system;
- optimal separation of small size suspended solids;
- high rate sludge thickening.

The float tank is made entirely of stainless steel (AISI 304), the clarified flow is collected from the bottom of the tank, while the sludge is removed from the surface of the water and sent to the next treatment. The ability to adjust the height of free surface water overflow, allows you to adjust the degree of thickening of the sludge removed.

The device has a flash mixer for the conditioning of the waste water in line and 3 metering pumps for the dosing of reagents.

The management is completely automated and is carried out by a Siemens electronic programmer. Metering pumps are not included in the supply (available separately).



HIGH CONCENTRATION OF SEPARATED MUD

OPTIMUM EFFICIENCY EVEN WITH A HIGHER OR LOWER FLOW THAN THAT PLANNED FOR

PERFECT CLARIFICATION OF THE WASTEWATER

QUICK AND EASY INSTALLATION AND START-UP

LOW CONSUMPTION OF CHEMICALS

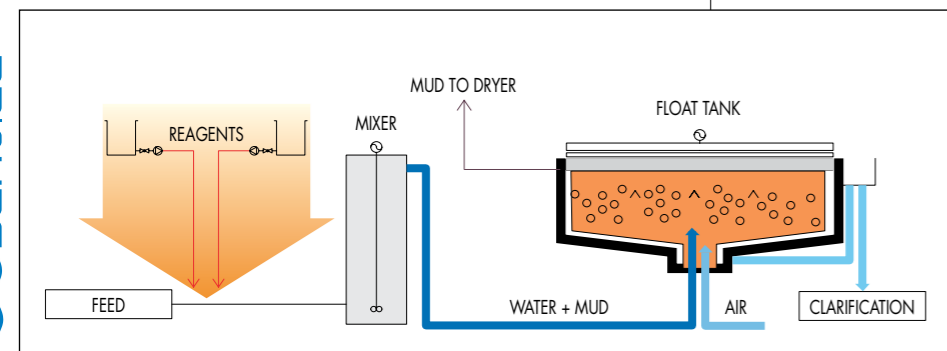
REDUCED SIZE COMPARED TO OTHER CHEMICAL-PHYSICAL SYSTEMS

STAINLESS STEEL CONSTRUCTION

PROCESS AUTOMATION CONTROLLED BY PLC



MUD - The smallest models (IDROFLO80 -110) may be accompanied by a system of bags for the sludge. In the larger models or at least where there is a high sludge production it is necessary to provide a suitable system in support of dehydration/drying (belt presses, filter press or other).



DIMENSIONS

Model	Flow rate m ³ /h	Dimensions (mm)			Electric power Kw	Weight Kg
		L	W	H		
IDROFLO80	0,5 - 1,5	1100	880	1700	1,5	122
IDROFLO110	2,0 - 3,0	1500	1210	1800	1,5-2,2	170
IDROFLO130	3,5 - 6	1800	1430	1800	2,2-3,0	222
IDROFLO150	7 - 12	2100	1650	1950	3,0-4,0	308
IDROFLO200	15 - 20	2700	2200	2000	5,5	524
IDROFLO230	25 - 30	3100	2530	2000	7,5	644
IDROFLO250	35 - 40	3450	2750	2300	7,5-11,0	867
IDROFLO-SDF S.S. frame for drainage bags					Optional	

Note

1. The table lists the average flow rates. Choosing the most appropriate model should be performed case by case by our technical department based on data from the customer.
2. We recommend the use of an automatic preparation of polyelectrolyte in the larger flotation plants.

CF 500 - Chemical/physical plants



The CF 500 is a Phys./Chem. system designed to treat waste water of industries with small or medium potential such as: car washes, service stations, repair shops, laundries, etc.

The main feature of the system is the one-piece construction that allows easy and quick installation, while the side doors allow easy access for periodic maintenance and inspections.

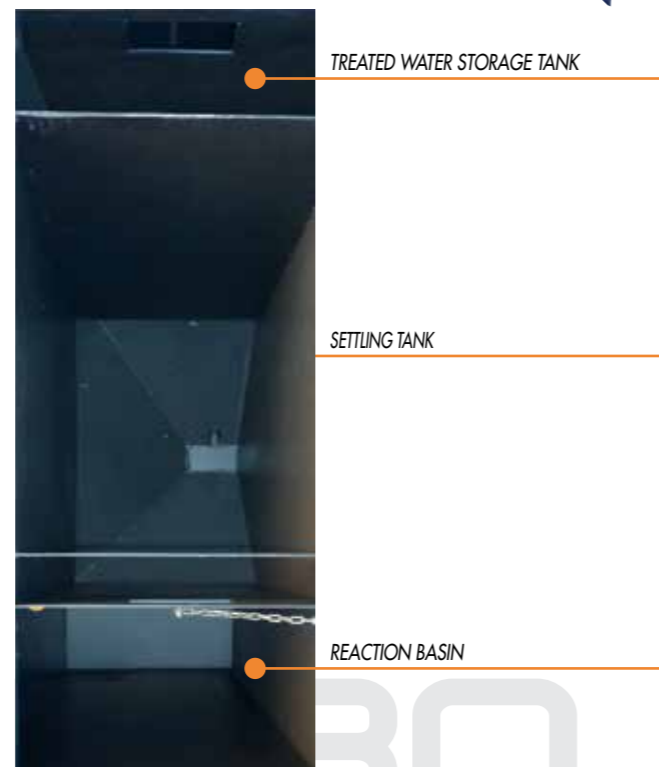
DEPURATION SYSTEM

The water to be treated flows into the reaction basin, where chemicals are dosed. The mixture obtained, by means of a slow agitator, ensures intimate contact within the mass and the rapid formation of sludge flakes.

The liquid mixture overflows into a settling tank, where the separation of flakes in suspension takes place. These flakes are collected by the conical bottom of the tank in the form of semi-thickened sludge, which is periodically sent to the dehydration stage by means of drainage bags.

The clarified water flows into the final collection tank and is re-launched onto the next stage of treatment, using a pump controlled by a float.

TOP VIEW



FEATURES

It is manufactured with:

- n. 1 reaction basin;
 - n. 1 settling tank;
 - n. 1 collection tank;
 - n. 1 mud dehydration compartment
 - n. 3 dosing pumps;
 - n. 1 slow mixer;
 - n. 1 pump for treated water recovery;
 - n. 1 minimum and maximum floater;
 - n. 1 drying system with drainage bag;
 - n. 1 electric panel.
- Power supply 230 V-50 Hz single-phase.

OPTIONALS:

- Quartz sand filter: model FVM 35 or FVA 35 FVA
- Activated carbon filter: model KVM 75 or KVA 35



MUD DEHYDRATION COMPARTMENT

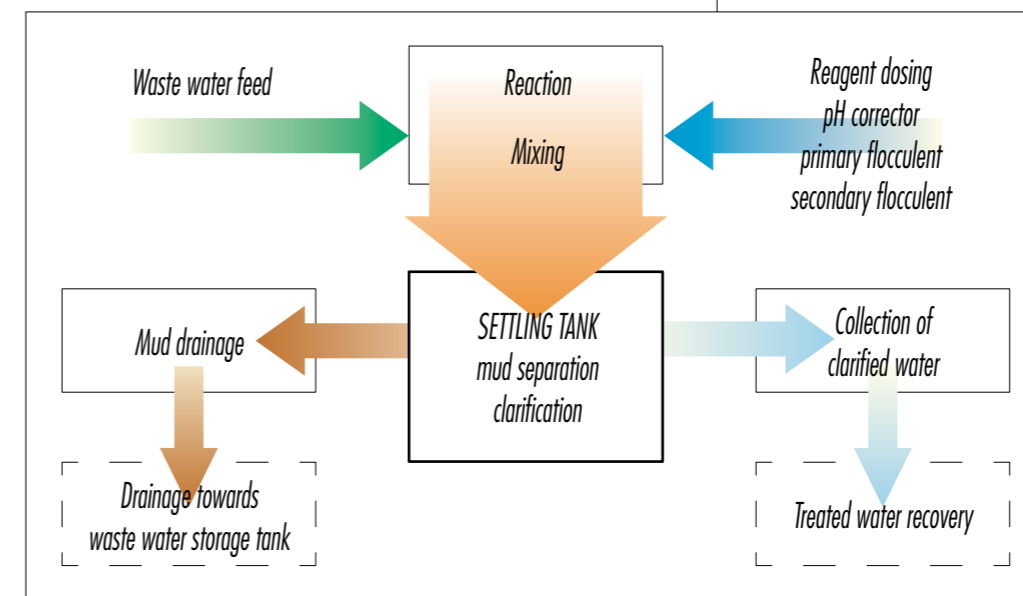
TECHNICAL DATA

Model	Flow (l/h)	Flow (l/giorno)	Electric power (kW)	I/O connections
CF 500	500	11000	0,60	2"

Electric power 230V - 50Hz

DIMENSIONS

Model	Dimensions (mm) L W H	Weight (kg)
CF 500	2000x1000x1500	690



Note: It's a good idea to provide an equalization tank upstream in order to normalize the flow parameters over 24 hours. Moreover, depending on the origin of the discharge, we recommend the installation of an oil trap.

Code	Euro
CF 500	
SDF (TNT Drainage bag)	

BIOLOGICAL SEWAGE PLANTS



The biological activated sludge reactors BIOSERVICE are designed for the treatment of urban wastewater coming from hotels, houses, offices, restaurants, residential areas etc..

They are built in two versions, for underground installations or for installation above ground with a ladder to access the grid and pedestrian guardrails. This equipment is provided with a protective railing.

BIOSERVICE plants have a single stage unit of oxidation and sedimentation of sludge in order to significantly reduce installation time and simplify the management of the purification process. The provision includes air diffusers and air blower (the latter delivered separately).

The structure is an horizontal cylinder, made of carbon steel coated internally and externally with non-toxic anti-corrosive paint. A removable walkway allows visual verification of the quality of the flow, it also allows you to easily perform the sampling and analysis and ensures accessibility for maintenance operations on the structure.

The air distribution pipes are made of galvanized iron and are easily removable

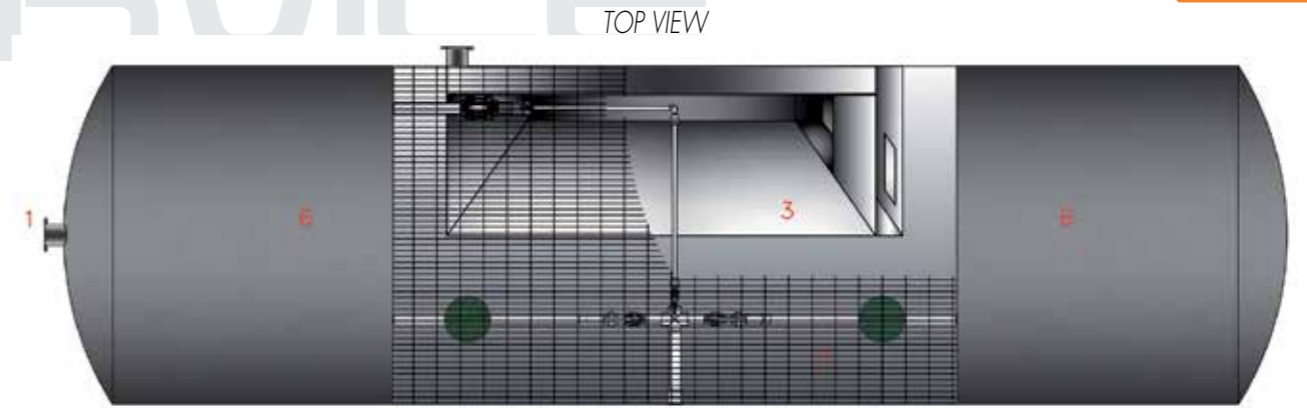
for inspection or replacement of the air distributor. Standard distributors supplied with the plant are elastomeric disc type.

For the recycling of thickened sludge the plant has an air-lift system located within the sedimentation basin. The same system is used for the operation of clearing excess sludge.

The supply does not include the electrical panel. Power supply 380 V three-phase (blower).

CIVIL WORKS RELATED.

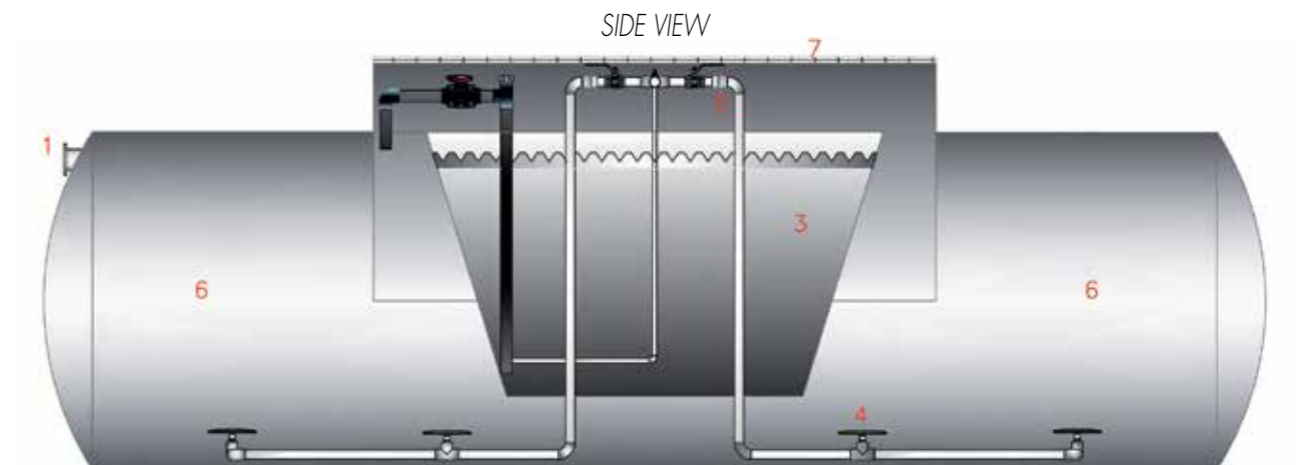
The system needs a continuous flow of waste water for 24 hours a day to function optimally. For this purpose, you must place an equalization basin upstream of the machine provided in order to fairly distribute hydraulic loads throughout the day. It is advisable to also include a section of screening for coarse materials in general and a trap for any oil and grease from kitchens.



TOP VIEW



TOP VIEW WITHOUT WALKWAY GRATE



SIDE VIEW

TECHNICAL DATA

Description	Unit of measure	MODEL									
		BIO 14	BIO 28	BIO 42	BIO 70	BIO 95	BIO 140	BIO 180	BIO 220	BIO 260	BIO 350
EQUIVALENT INHABITANTS	n°	14	28	42	70	95	140	180	220	260	350
DAILY FLOW	m³	2,8	5,6	8,4	14	19	28	36	44	52	70
ORGANIC LOAD	kg BOD/g	0,84	1,68	2,52	4,20	5,70	8,40	10,80	13,20	15,6	21
ELECTRIC POWER	kW	0,55	0,55	0,55	0,55	1,10	1,10	1,50	1,50	2,2	3,0
IN CONNECTIONS	DN	100	100	100	100	125	150	150	150	150	200
OUT CONNECTIONS	DN	125	125	125	125	150	200	200	200	200	250
DIMENSIONS AND WEIGHT											
LENGTH	mm	1850	3350	3400	4900	6400	6500	8000	9500	9550	11600
HEIGHT	mm	1800	1800	2200	2200	2200	2600	2600	2600	2800	2900
WIDTH	mm	1400	1400	1800	1800	1800	2200	2200	2200	2400	2500
WEIGHT AT DISPATCH	kg	690	1120	1510	2180	2450	2800	3250	3700	5100	6400

Information

- 1. WASTE INPUT
- 2. OUTPUT TREATED WASTE
- 3. SETTLER
- 4. AIR DIFFUSER

- 5. PIPES FOR AIR DIFFUSERS
- 6. OXIDATION BASIN
- 7. WALKWAY GRATE

Codice	Euro
BIO 14	
BIO 28	
BIO 42	
BIO 70	
BIO 95	

Codice	Euro
BIO 140	
BIO 180	
BIO 220	
BIO 260	
BIO 350	

The BIOSERVICE system, when properly installed and maintained, can reduce 90 to 95% of BOD coming from urban waste water characterized by the following benchmarks:

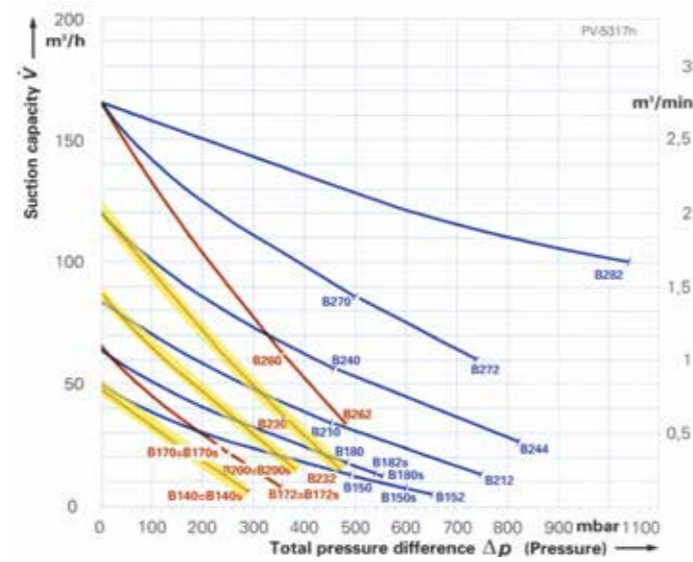
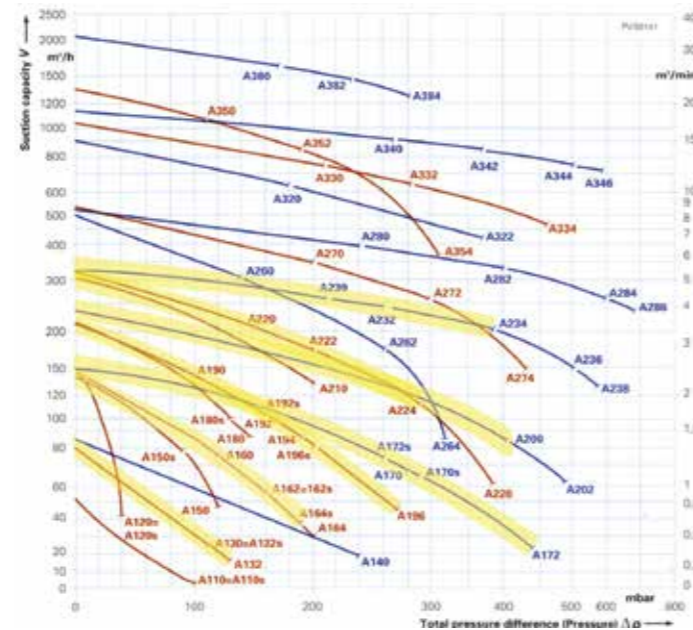
Daily water per capita: 250 l;
 Flow co-efficiency: 0.80;
 BOD5 per capita: 60 g/day;



SIDE CHANNEL BLOWERS

The Elmo Rietschle side channel blowers are the result of the merger between the technology of Elmo Rietschle and the American Gardner Denver. The constructive features guarantee a high yield and reliability combined with low noise thanks to the built in silencers.

Elmo Rietschle Blowers are used for all the needs of air suction and compression and find particular use in the field of water treatment plants for the oxygenation of biological oxidation of drinking water and air injection systems in Spas.



Code	Curve index	Power (kW)	Power supply	I/O conn.	Flanges	Euro
2BH1300-7AV15	A132s	0,37	220V/50Hz	1"1/4	-	
2BH1400-7AV25	A164s	1,10	220V/50Hz	1"1/2	-	
2BH1300-7AH16	A132	0,40	380V/50Hz	1"1/4	-	
2BH7210-0AH16-7	B140	0,55	380V/50Hz	1"1/4	-	
2BH7410-0AH16-7	B200	1,10	380V/50Hz	1"1/4	-	
2BH1400-7AH26	A164	1,30	380V/50Hz	1"1/2	-	
2BH7510-0AH16-8	B230	1,50	380V/50Hz	1"1/4	-	
2BH1410-7HH46	A172	2,20	380V/50Hz	1"1/2	-	
2BH7510-0AH26-8	B232	2,20	380V/50Hz	1"1/4	-	
2BH1510-7HH46	A200	3,00	380V/50Hz	DN 55	2BX1041	
2BH1600-7AH26	A224	3,00	380V/50Hz	DN 55	2BX1041	
2BH1610-7HH37	A234	4,30	380V/50Hz	DN 55	2BX1041	

* Models usually in stock



BLOWERS G200

G200 THREEPHASE SINGLE STAGE

Code	Curve index	Power (kW)	I/O conn.	Flanges	Euro
2BH1690-7AH26	A210	2,2	DN 55	2BX1041	
2BH1800-7AH07	A270	4	2"1/2 G	-	
2BH1800-7AH17	A272	5,5	2"1/2 G	-	
2BH1800-7AH27	A274	7,5	2"1/2 G	-	
2BH1900-7AH07	A330	8,5	DN 100	2BX1042	
2BH1900-7AH17	A332	12,5	DN 100	2BX1042	
2BH1900-7AH37	A334	18,5	DN 100	2BX1042	
2BH1930-7AH07	A350	8,5	DN 100	2BX1042	
2BH1930-7AH17	A352	12,5	DN 100	2BX1042	
2BH1930-7AH37	A354	18,5	DN 100	2BX1042	
2BH1400-7AH06	A160	0,7	1"1/2 G	-	
2BH1400-7AH16	A162	0,85	1"1/2 G	-	
2BH1490-7AH16	A150	0,6	1"1/2 G	-	
2BH1500-7AH06	A190	0,85	DN 55	2BX1041	
2BH1500-7AH16	A192	1,3	DN 55	2BX1041	
2BH1500-7AH26	A194	1,6	DN 55	2BX1041	
2BH1500-7AH36	A196	2,2	DN 55	2BX1041	
2BH1590-7AH26	A180	1,1	DN 55	2BX1041	
2BH1600-7AH06	A220	1,6	DN 55	2BX1041	
2BH1600-7AH16	A222	2,2	DN 55	2BX1041	

G200 THREEPHASE DOUBLE STAGE PARALLEL

Code	Curve index	Power (kW)	I/O conn.	Flanges	Euro
2BH1310-7HH26	A140	0,7	1"1/4 G	-	
2BH1410-7HH36	A170	1,6	1"1/2 G	-	
2BH1510-7HH57	A202	4	DN 55	2BX1041	
2BH1610-7HH16	A230	2,2	DN 55	2BX1041	
2BH1610-7HH26	A232	3	DN 55	2BX1041	
2BH1610-7HH47	A236	5,5	DN 55	2BX1041	
2BH1610-7HH57	A238	7,5	DN 55	2BX1041	
2BH1810-7HH17	A280	5,5	DN 55	2BX1041	
2BH1810-7HH27	A282	7,5	DN 55	2BX1041	
2BH1810-7HH37	A284	11	DN 55	2BX1041	
2BH1810-7HH47	A286	15	2"1/2 G	-	
2BH1910-7HH17	A340	12,5	DN 100	2BX1042	
2BH1910-7HH27	A342	16,5	DN 100	2BX1042	
2BH1910-7HH37	A344	20	DN 100	2BX1042	



G200 MONOPHASE

Code	Curve index	Power (kW)	I/O conn.	Flanges	Euro
2BH1200-7AA01	A120s	0,25	1"1/2 G	-	
2BH1300-7AV14	A132s	0,37	1"1/4 G	-	
2BH1400-7AA11	A162s	0,8	1"1/2 G	-	
2BH1400-7AV24	A164s	1,1	1"1/2 G	-	
2BH1490-7AA11	A150s	0,5	1"1/2 G	-	
2BH1410-7HA31	A170s	1,5	1"1/2 G	-	
2BH1410-7HV44	A172s	1,5	1"1/2 G	-	
2BH1410-7HV45	A172s	1,5	1"1/2 G	-	
2BH1500-7AA11	A192s	1,1	DN 55	2BX1041	
2BH1500-7AV34	A196s	1,5	DN 55	2BX1041	
2BH1500-7AV35	A196s	1,5	DN 55	2BX1041	
2BH1590-7AA21	A180s	1,2	DN 55	2BX1041	

G200 THREEPHASE DOUBLE STAGE

Code	Curve index	Power (kW)	I/O conn.	Flanges	Euro
2BH1640-7GH37	A260	4	DN 55	2BX1041	
2BH1640-7GH47	A262	5,5	DN 55	2BX1041	
2BH1640-7GH57	A264	7,5	DN 55	2BX1041	
2BH1840-7JH27	A320	7,5	2"1/2 G	-	
2BH1840-7JH37	A322	11	2"1/2 G	-	
2BH1943-7GH27	A380	15	DN 130	2BX1043	
2BH1943-7GH37	A382	20	DN 130	2BX1043	
2BH1943-7GH47	A384	25	DN 130	2BX1043	

BLOWERS G400



G400 THREEPHASE SINGLE STAGE

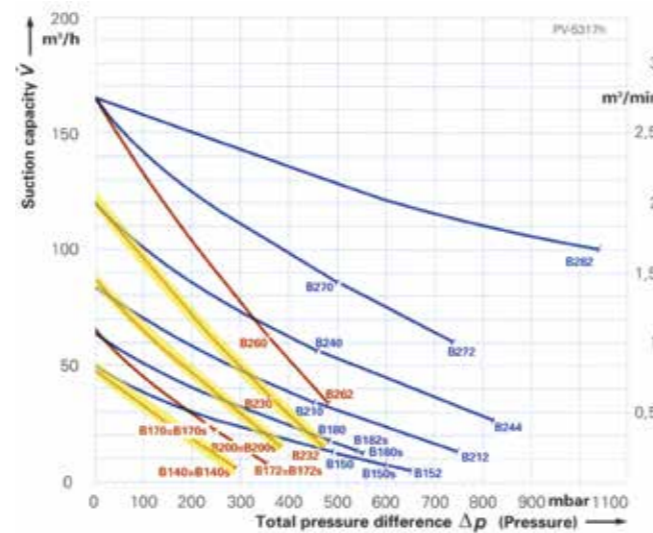
Code	Curve index	Power (kW)	I/O conn.	Flanges	Euro
2BH7310-0AH16-7	B170	0,55	1"1/4 G	-	
2BH7310-0AH26-7	B172	0,8	1"1/4 G	-	
2BH7610-0AH16-8	B260	2,2	1"1/4 G	-	
2BH7610-0AH36-8	B262	3,3	1"1/4 G	-	

G400 THREEPHASE DOUBLE STAGE

Code	Curve index	Power (kW)	I/O conn.	Flanges	Euro
2BH7220-0AH26-7	B150	0,81	1"1/4 G	-	
2BH7220-0AH56-7	B152	1,1	1"1/4 G	-	
2BH7320-0AH56-7	B182	1,5	1"1/4 G	-	
2BH7420-0AH26-7	B210	1,5	1"1/4 G	-	
2BH7420-0AH56-7	B212	3,3	1"1/4 G	-	
2BH7520-0AH26-8	B240	2,2	1"1/4 G	-	
2BH7520-0AH77-8	B244	4	1"1/4 G	-	
2BH7620-0AH36-8	B270	3,3	1"1/4 G	-	
2BH7620-0AH57-8	B272	5,7	1"1/4 G	-	

G400 THREEPHASE THREE STAGES

Code	Curve index	Power (kW)	I/O conn.	Flanges	Euro
2BH7630-0AH67-8	B282	7,5	1"1/4	-	



THREADED FLANGES

(order 2 pieces per blower)

Code	Ref. blower code Gardner	Description	Euro
2BX1037	2BH11.../2BH13.../2BH7...	FLANGE 1"1/4 GAS	
2BX1038	2BH12.../2BH140.../2BH143.../2BH149...	FLANGE 1"1/2 GAS	
2BX1040	2BH141...	FLANGE 1"1/2 GAS	
2BX1041	2BH15.../2BH16...	FLANGE DN55 - 2" GAS	
2BX1042	2BH190.../2BH191.../2BH193.../2BH1940...	FLANGE DN 100 - 4" GAS	
2BX1043	2BH1943...	FLANGE DN 130 - 5" GAS	



THREADED FLANGES

SUCTION FILTER WITH PAPER FILTER CARTRIDGE

(order depending on blower connections and operative flow rate)

Code	Ref. blower code Gardner Denver	Flow Nm³/h (*)	Description	Euro
2BX2100	2BH11.../2BH13.../2BH7...	125	Suction filter 1"1/4 M	
2BX2101	2BH12.../2BH14...	150	Suction filter 1"1/2 M	
2BX2102	2BH15.../2BH16...	300	Suction filter 2" M	
2BX2104	2BH18...	500	Suction filter 2"1/2 M	
2BX2109	-	900	Suction filter 3" M	
2BX2065	2BH190.../2BH191...	1800	Suction filter 4" M	

(*) with 200mm H2O pressure loss



SUCTION FILTER WITH PAPER FILTER CARTRIDGE

PAPER FILTER CARTRIDGES

Code	Ref. blower code	Description (out Ø in Ø x h)	Euro
2BXF-902658	2BX2100 da 1"1/4	Cartridge 98x60x72mm	
2BXF-904705	2BX2101 da 1"1/2	Cartridge 98x60x103mm	
2BXF-902657	2BX2102 da 2"	Cartridge 126x65x123mm	
2BXF-904706	2BX2104 da 2"1/2	Cartridge 152x88x125mm	
2BXF-904707	2BX2109 da 3"	Cartridge 201x146x156mm	
2BXF-904708	2BX2065 da 4"	Cartridge 254x195x192mm	



PAPER FILTER CARTRIDGES

GALVANIZED FITTINGS



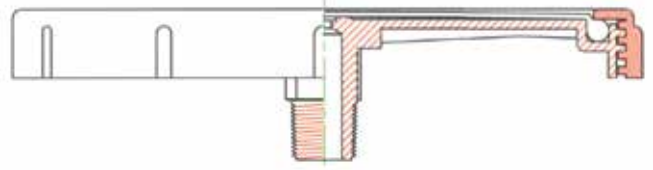
GALVANIZED FITTINGS

Code	Description (out Ø in Ø x h)	Euro
RZ-1000207	LONG RADIUS ELBOW 1"1/4 FF	
RZ-1000208	LONG RADIUS ELBOW 1"1/2 FF	
RZ-1000209	LONG RADIUS ELBOW 2" FF	
RZ-1000210	LONG RADIUS ELBOW 2"1/2 FF	
RZ-1000211	LONG RADIUS ELBOW 3" FF	
RZ-040100	STRAIGHT THREAD FITTING 1"1/4x100mm	
RZ-050100	STRAIGHT THREAD FITTING 1"1/2x100mm	
RZ-063100	STRAIGHT THREAD FITTING 2"x100mm	
RZ-075100	STRAIGHT THREAD FITTING 2"1/2x100mm	
RZ-090100	STRAIGHT THREAD FITTING 3"x100mm	

DISK DECK DISTRIBUTOR

FINE BUBBLE DECK DISTRIBUTOR.

Self-cleaning disc deck distributor suitable for biological systems. Aquaflex deck distributor are state of art in micro-bubbles diffusion for biological plants and in applications where is necessary a proper oxygenation of water. Aquaflex deck distributors are built in order to obtain great efficiency, flow rate and durability. Membranes are made of EPDM and silicone. the body is made of PP.



TECHNICAL DATA

Air flow rate	2 - 10 Nm ³ /h
Average oxygenation in clean water and aeration from bottom	22,9 g O ₂ /Nm ³ for every meter
Opening membrane pressure	240 mmH ₂ O with 1 Nm ³ /h
Weight	900g
Body material	PP
Membrane material	EPDM

Code	Height (mm)	Outer diameter (mm)	Effective diameter (mm)	Flow rate (m ³ /h)	Perforated area (m ²)	Connection
FME260	61	270	230	2 - 10	0,039	1" M

Code	Euro
FME260	

