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WATER
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COMPONENTS



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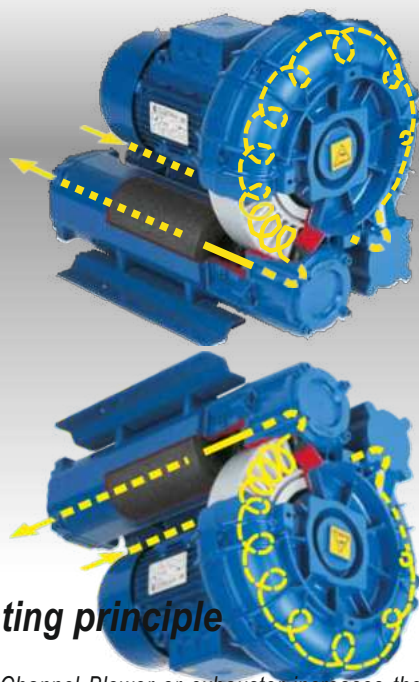
WASTEWATER
TREATMENT
COMPONENTS

SIDE CHANNEL BLOWERS

AVENTURA
EVOLVING WATER COMPONENTS



Side channel BLOWERS



Operating principle

The Side Channel Blower or exhauster increases the pressure of the aspirated gas by the creation, in the peripheral toroidal channel, of a series of vortex caused by the centrifugal thrust of the impeller.

While the impeller is rotating, the vanes force the gas forward and, because of the centrifugal thrust, outwards, producing a helical motion. During this motion, the gas is recompressed repeatedly with a consequent linear pressure increase along the length of the channel.

Applications and advantages

The Side Channel Blower are suitable for all those applications requiring considerably higher pressures than that which can be achieved using centrifugal fans. Side channel exhausters are used in all those applications requiring an operating vacuum higher than the achievable by a fan, but not as high as to require the use of a vacuum pump.

The rotating parts are not in contact with the casing. There is therefore no friction during operation and thus no internal lubrication is necessary. The gas moving through the machine therefore remains uncontaminated and completely oil-free. The other main advantages of using side channel machines are:

- easy installation
- low noise level
- non vibration and therefore complete dynamic stability
- pulsation free discharge
- minimal maintenance

Accessories

A complete range of accessories is available for all machines: cartridge type filters for blowers / in-line filters for exhausters / flexible hoses / non return valves / pressure relief valves for blowers / vacuum relief valves for exhausters / pressure and vacuum gauges / acoustic enclosures.

Operating principle

- Casing and impellers are made of aluminium alloy.
- The standard machines for air are manufactured in the so-called «CLOSE COUPLED» version; i.e. a flange mounted electric motor is bolted to the machine casing. The impeller, which is dynamically balanced, is fitted directly onto the motor shaft extension.
- The two-pole electric motors, designed for continuous operation, are available in three phase for all the powers shown in the catalogue and in single phase up to 2,2 kW. They are manufactured according to IEC Specifications with the following standard features:

- for machines with BLxxx010/020 suffix

degree of protection: - IP55

insulation class: - F for powers up to 3 kW
- H for powers 4 kW and above

line voltage:

- three phase motors, at 50 Hz
230 V / 400 V for powers up to 3 kW
400 V / 690 V for powers $\geq$ 4 kW
- three phase motors, at 60 Hz
265 V / 460 V for powers up to 3,6 kW
460 V / 795 V for powers $\geq$ 4,8 kW
- single phase motors, at 50 Hz
230 V

For 50 Hz supply, the allowed voltage variation is $\pm 10\%$ according to IEC 38 Specification.

For 60 Hz supply, as well as for motors specifically requested, for any other voltage at 50 Hz or at 60 Hz, a 5% tolerance on supply voltage is allowed, in accordance with IEC 34 Specification.

- for machines with BLxxx001/002 suffix

degree of protection: - IP54

insulation class: - F

line voltage:

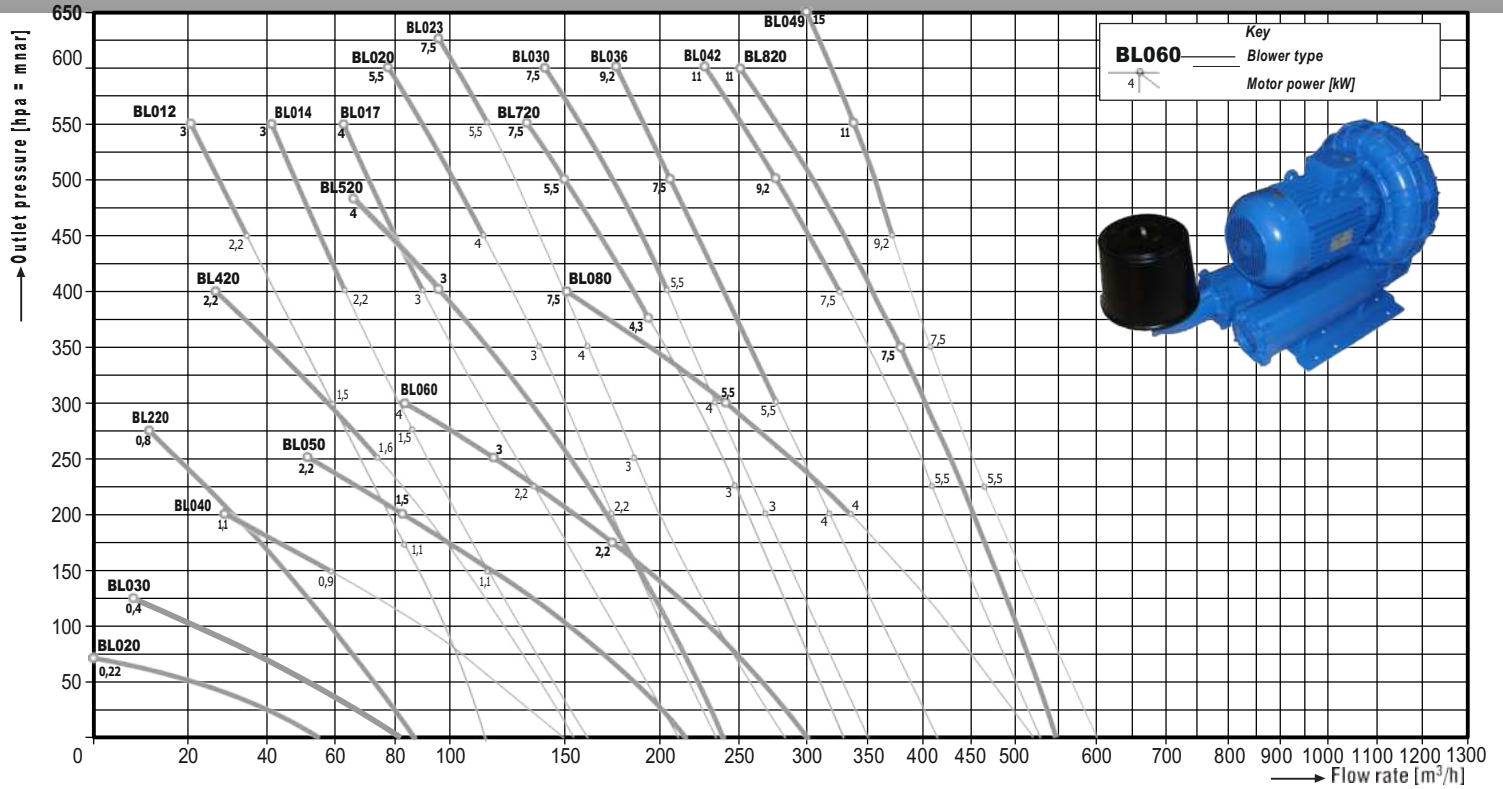
- three phase motors, at 50 Hz
200~240 V / 345~416 V for powers up to 4 kW
345~415 V / 600~720 V for powers > 4 kW
- three phase motors, at 60 Hz
208~275 V / 380~480 V for powers up to 4,6 kW
380~480 V / 660~720 V for powers > 4,6 kW
- single phase motors, at 50 Hz and 60 Hz
104~127 V / 208~254 V

- The machines meet the requirements of the European Directives 2006/42 (Machines), 2006/95 (Low Voltage), 2004/108 (Electromagnetic Compatibility) and the applicable harmonised Standards.
- For the handling of gases other than air, e.g. steam, industrial gases and mixture of explosive gases, special gas tight units can be manufactured.
- In case of corrosive gases, all the internal parts can be treated or lined with protecting coatings.

Side channel BLOWERS

Flow rate-Pressure diagram

50 Hz 2900 rpm



Performance table

Outlet pressure hPa = mbar		0	50	100	150	200	250	300	350	400	450	500	550	600	650
Flow rate		m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h
Motor power			kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
BLOWER Single Stage Single Channel Single Impeller	BL020	54	22	0,22	[0 m³/h at 70 mbar]										
	BL030	84	54	0,4	24	0,4	[6 m³/h at 130 mbar]								
	BL040	150	118	0,9	89	0,9	59	0,9	30	1,1					
	BL050	212	182	1,5	151	1,5	116	1,5	82	1,5	50	2,2			
	BL060	300	268	2,2	230	2,2	192	2,2	155	3	117	3	82	4	
	BL080	518	472	4	426	4	380	4	334	4	288	5,5	242	5,5	196
BLOWER Double Stage Double Channel Double Impeller	BL220	86	72	0,8	58	0,8	44	0,8	31	0,8	16	0,8			
	BL420	154	138	1,6	122	0,6	106	0,6	90	0,6	74	1,6	58	2,2	42
	BL520	236	220	3	203	3	185	3	167	3	149	3	131	3	113
	BL720	324	306	3	288	3	270	3	252	3	234	4,3	216	4,3	198
	BL820	548	520	7,5	499	7,5	474	7,5	451	7,5	428	7,5	403	7,5	378
BLOWER Double Stage Single Channel Single Impeller	BL012	130	114	1,1	100	1,1	87	1,1	75	1,5	65	1,5	57	1,5	49
	BL014	160	142	1,1	127	1,1	114	1,1	102	1,5	91	1,5	81	2,2	72
	BL017	205	189	2,2	173	2,2	158	2,2	143	2,2	127	3	112	3	100
	BL020	235	216	2,2	200	2,2	186	2,2	174	2,2	162	3	150	3	138
	BL023	280	254	3	233	3	215	3	200	3	186	3	174	4	162
	BL030	350	328	3	306	3	285	3	268	3	252	4	236	4	220
	BL036	410	387	4	363	4	340	4	317	4	294	5,5	273	5,5	255
	BL042	525	496	5,5	470	5,5	445	5,5	420	5,5	395	7,5	370	7,5	346
	BL049	600	560	5,5	530	5,5	504	5,5	478	5,5	454	7,5	430	7,5	408
	BL049	600	560	5,5	530	5,5	504	5,5	478	5,5	454	7,5	430	7,5	408

TOLERANCE ON FLOW RATE VALUES: ±10%

[•] BL040 THREE PHASES MOTOR: 0,9 KW - SINGLE PHASE MOTOR: 0,8 KW

[•] BL420 THREE PHASES MOTOR: 1,6 KW - SINGLE PHASE MOTOR: 1,5 KW

Models available upon request

Flow rates refer to air at the suction conditions of 20°C and 1013 mbar abs.

Dimensions

Blower Type	Reference figure	A	B	C	D	E	F Ø	G	H	I	L	M	N	O	P	Q	R	S	Connection ("Gas)		Weight (kg)	
																			inlet Ø ₁	outlet Ø ₂		
BL020	Fig. 1	250	228	235	90	35	10	12	76	190	210	45	210	40	2,5					1"	1"	10,7
BL030	Fig. 1	263	246	247	90	39	10	13	83	205	219	54	310	20	2,5					1" ¼	1" ¼	11,7
BL040	Fig. 1	270	286	305	115	45	12	17,5	95	225	255	48	240	30	3					1" ½	1" ½	18
BL050	Fig. 1	315	333	335	120	48	14	20	115	260	295	125	345	30	4					2"	2"	26
BL060	Fig. 1	395	382	385	125	48	15	20	140	290	325	110	380	30	4,5					2"	2"	41,5
BL080	Fig. 1	477	451	509	152	65	15	23,5	170	356	394	114	462	35	6					2" ½	2" ½	68
BL220	Fig. 2	320	315	270	90	39	10	12,5	83	205	230	63	289	30	2,5	53	106	540		1" ¼	1" ¼	14
BL420	Fig. 2	400	355	315	116	46	12	16,5	95	225	256	51	314	30	3	45	154	570		1" ½	1" ½	27
BL520	Fig. 2	500	410	371	120	48	14	20	115	260	295	97	404	30	4	56	144	645		2"	2"	27
BL720	Fig. 3	590	435	424	154	94	14	20	140	290	325	225	595	45	4,5	76	164	685		2"	2"	77
BL820 (7,5 KW)	Fig. 2	532	435	424	126	50	14	20	140	290	325	86	451	45	4,5	76	164	685		2" ½	2" ½	89
BL820 (11 KW)	Fig. 3	590	435	424	154	94	14	20	140	290	325	225	595	45	4,5	76	164	685		2" ½	2" ½	107
BL012	Fig. 4	445	370	440	130	79	9	100	160	288	328	-	19	35	5	6	40			1" ½	1" ½	42
BL014	Fig. 4	445	370	440	130	79	9	100	160	288	328	-	19	35	5	6	40			2"	2"	42
BL017	Fig. 4	560	400	470	160	90	9	100	160	347	387	70	22	35	5					2" ½	2" ½	54
BL020	Fig. 4	550	416	490	160	90	9	100	160	347	387	70	22	35	5					2" ½	2" ½	66
BL023	Fig. 4	590	440	515	160	90	9	100	160	347	387	70	22	35	5					2" ½	2" ½	82
BL030	Fig. 4	700	440	520	180	97	11	60	330	400	450	120	22	45	5					3"	3"	88
BL036	Fig. 4	675	466	550	180	97	11	60	330	400	450	120	22	45	5					3"	3"	90
BL042	Fig. 4	765	505	615	180	107	11	60	330	420	470	185	17	45	5					3"	3"	106
BL049	Fig. 4	750	532	640	180	107	11	60	330	420	470	185	17	45	5					4"	4"	112

Dimension [mm]
 Weights shown are for the machines fitted with the largest motor power

fig. 1 Single STAGE - Single CHANNEL - Single IMPELLER

BL020 BL030
BL040 BL050
BL060 BL080

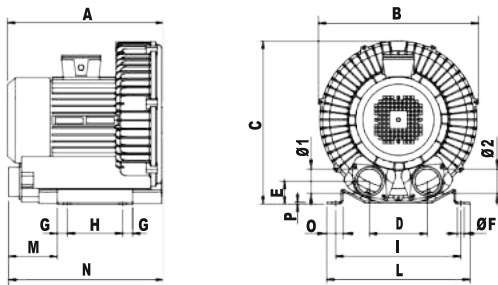


fig. 2 Double STAGE - Double CHANNEL - Double IMPELLER

BL220
BL420
BL520
BL820 (7.5 kW)

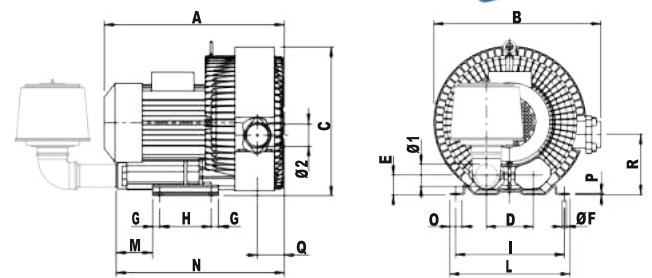


fig. 3 Double STAGE - Double CHANNEL - Double IMPELLER

BL720
BL820 (11 kW)

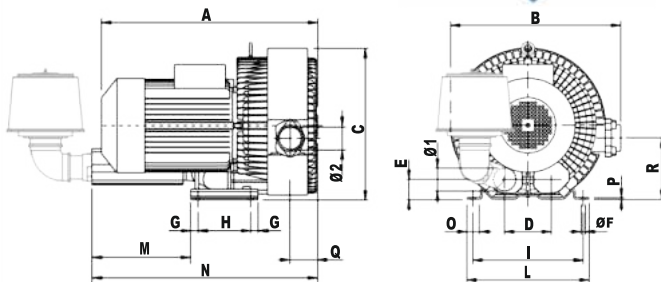
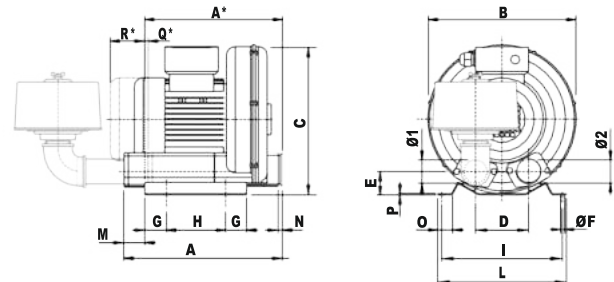
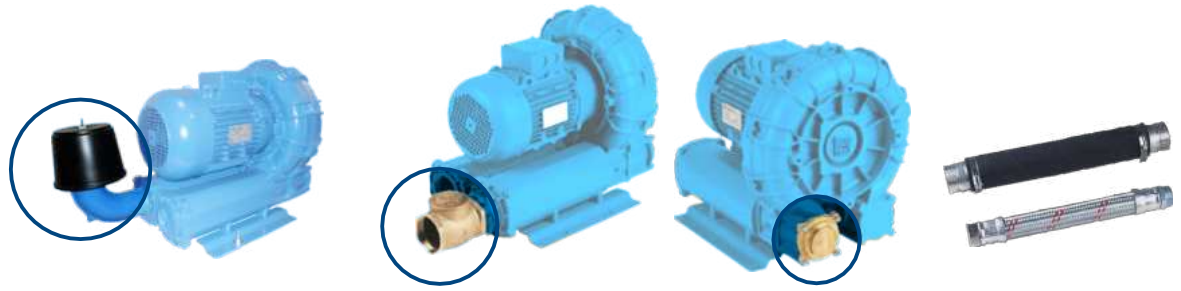


fig. 4 Double STAGE - Double CHANNEL - Single IMPELLER

BL012 BL014
BL017 BL020
BL023 BL030
BL036 BL042
BL049



Accessories



Blower		Filters				Non Return Valves			Pressure Relief Valves			Flexible hoses		
	Model	Model	Cartridge	Ø	Weight	Model	Ø	Weight	Model	Ø	Weight	Model	Ø	Weight
Single Stage Single Channel Single Impeller	BL020	SF4NG	C4			SVR4	1"	0,6	unavailable			SM4	1"	
	BL030	SF5NG	C6	1" ¹ / ₄	0,8	SVR5	1" ¹ / ₄	0,85	SVS5/6T	1" ¹ / ₄	1,6	SM5	1" ¹ / ₄	
	BL040	SF6NG	C6	1" ¹ / ₂	1,3	SVR6	1" ¹ / ₂	1,15	SVS6T	1" ¹ / ₂	1,5	SM6	1" ¹ / ₂	
	BL050	SF7NG	C8	2"	2,0	SVR7	2"	1,7	SVS7T	2"	2,3	SM7	2"	
	BL060	SF7NG	C8	2"	2,0	SVR7	2"	1,7	SVS7T	2"	2,3	SM7	2"	
	BL080	SF10NGR	C10	2" ¹ / ₂	3,5	SVR8	2" ¹ / ₂	2,5	SVS8T	2" ¹ / ₂	3,5	SM8	2" ¹ / ₂	
Double Stage Double Channel Double Impeller	BL220	SF5NG	C6	1" ¹ / ₄	0,8	SVR5	1" ¹ / ₄	0,85	SVS5/6T	1" ¹ / ₄	1,6	SM5	1" ¹ / ₄	
	BL420	SF7NGR	C8	1" ¹ / ₂	2,0	SVR6	1" ¹ / ₂	1,15	SVS6T	1" ¹ / ₂	1,5	SM6	1" ¹ / ₂	
	BL520	SF8NGR	C8	2"	3,1	SVR7	2"	1,7	SVS7T	2"	2,3	SM7	2"	
	BL720	SF10NGR	C10	2"	3,9	SVR7	2"	1,7	SVS7T	2"	2,3	SM7	2"	
	BL820	SF10NG	C10			SVR8	2" ¹ / ₂	2,5	SVS8T			SM8	2" ¹ / ₂	
Double Stage Double Channel Single Impeller	BL012	SF8/1G	C8		2,0	SVR6	1" ¹ / ₂	1,15	SVS6	1" ¹ / ₂	1,5	SM6	1" ¹ / ₂	
	BL014	SF8/1G	C8		2,0	SVR7	2"	1,7	SVS6	1" ¹ / ₂	1,5	SM7	2"	
	BL017	SF8/1G	C8		2,2	SVR8	2" ¹ / ₂	2,5	SVS8	2" ¹ / ₂	3,5	SM8	2" ¹ / ₂	
	BL020	SF8/1G	C8		2,2	SVR8	2" ¹ / ₂	2,5	SVS8	2" ¹ / ₂	3,5	SM8	2" ¹ / ₂	
	BL023	SF8/1G	C8		2,2	SVR8	2" ¹ / ₂	2,5	SVS8	2" ¹ / ₂	3,5	SM8	2" ¹ / ₂	
	BL030	SF10/1G	C10		2,4	SVR10	3"	3,5	SVS10	3"	4,5	SM10	3"	
	BL036	SF10/1G	C10		2,4	SVR10	3"	3,5	SVS10	3"	4,5	SM10	3"	
	BL042	SF14G	C14		7,5	SVR10	3"	3,5	SVS10	3"	4,5	SM10	3"	
	BL049	SF14G	C14		7,5	SVR15	4"	6,0	SVS15	4"	8,3	SM15	4"	



MENA

region

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