

## CENTRIFUGAL BACKWARD CURVED BLADE FAN LOW CAPACITIES AND HIGH PRESSURES



### FIELD OF APPLICATION

BWC fans are designed for installations requiring modest air deliveries with relatively high pressures, in duct mounted applications. For instance: exhausting and filtering of industrial plants, pneumatic conveyance, transport of solid material mixed with air, sawdust and woodchips).

### SERIES

This line consists of 12 sizes with impeller diameter from 350 up to 710 mm.

### ADVANTAGES

BWC line is characterized by the extreme sturdiness due to the rigid construction in enamelled sheet metal and the thickness of the materials. Another feature is the variety of models and versions composing the series.

### ADVANTAGES

- Volute in epoxy painted enamelled steel sheet. Fixing flanges according to UNI EN ISO 1335/Tab.1. standards.
- High efficiency backward curved blade impeller. Balancing according to UNI ISO 21940-11.
- Asynchronous three or single phase, electric motor, protection IP 55, insulation class F, service S1, mounting type B3 or B5, construction according to IEC/EEC (UNEL MEC).
- Arrangement 4 or 5 (impeller directly coupled to motor shaft); arrangement 1, 9, 12 (belt driven, with impeller coupled to the motor by mean of transmission).

### TECHNICAL DETAILS

BWC standard

- Conveyed air: very dusty, conveyence solid materials.
- Temperature of conveyed air: -20°C / +60°C.
- Voltage:
  - three-phase version (T) 400 - 415V - 3Ph - 50Hz
  - single-phase version (M) 230 - 240V - 1Ph - 50Hz

### ARRANGEMENTS

- BWC arrangement 4: impeller directly coupled to motor shaft, motor placed on the motor support.
- BWC arrangement 5: impeller directly coupled to motor shaft, motor flanged on the fan volute.

### OPTIONALS

- Inlet protection grid (IRP-BWC) (Necessary for use in free air).
- Outlet protection grid (ORP-BWC) (Necessary for use in free air).
- Inlet flexible joint (IFX-BWC).
- Outlet flexible joint (OFX-BWC).
- Inlet counter flange (ICF-BWC).
- Outlet counter flange (OCF-BWC).
- Inspection door (PI-BWC).
- AV mounts (AM).
- Condensation drain hole (TS-BWC).

### ON DEMAND

- Explosion proof versions (BWC Ex).
- Stainless steel version.
- High temperature version (150°C for direct coupling and 300°C for belt coupling version).

## BWC Discharge angles

### Standard discharge angle LG 90

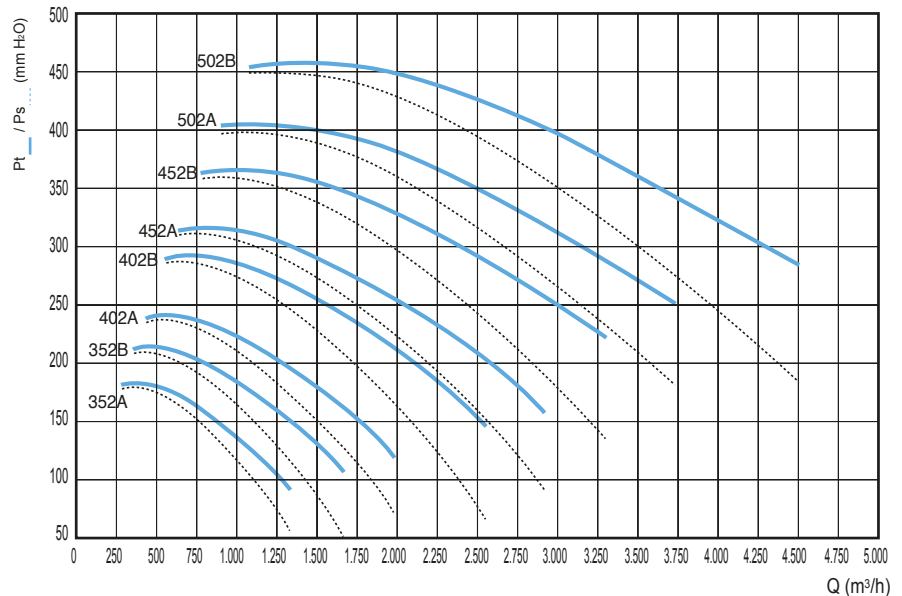
RD	RD 0	RD 45	RD 90	RD 135	RD 180	RD 225	RD 270	RD 315
LG	LG 0	LG 45	LG 90	LG 135	LG 180	LG 225	LG 270	LG 315

Discharge angles 180° - 225°: special arrangement

Performance shown in the selection diagrams refer to air at 15°C temperature and 0 mt a.s.l. altitude, and they were obtained in installation type "D" with no grid nor accessories.

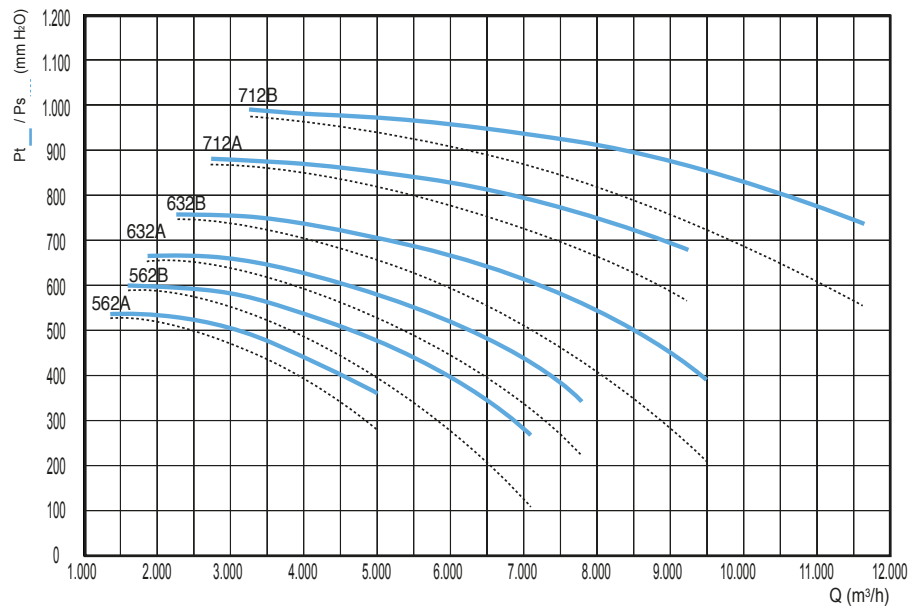
2 POLES (3000 rpm) - T: three-phase (400 - 415V - 3Ph - 50Hz)

Model	Pm (kW)	In max (A)	Mot (H)	Lp dB(A)
352/A T	0,75	1,9	80	60
352/B T	1,1	2,5	80	61
402/A T	1,5	3,2	90	63
402/B T	2,2	4,7	90	67
452/A T	3	6,1	100	67
452/B T	4	7,5	112	70
502/A T	4	7,5	112	70
502/B T	5,5	10,4	132	70



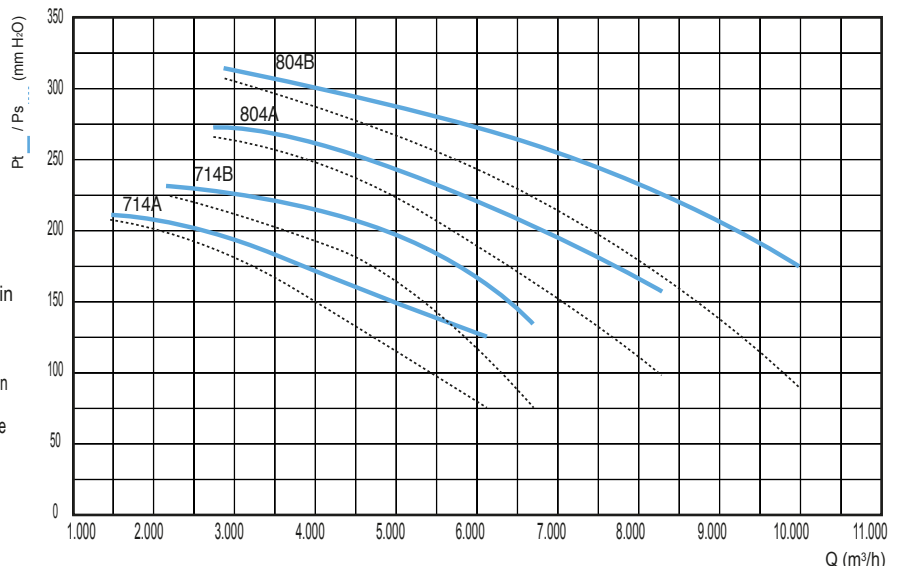
2 POLES (3000 rpm) - T: three-phase (400 - 415V - 3Ph - 50Hz)

Model	Pm (kW)	In max (A)	Mot (H)	Lp dB(A)
562/A T	7,5	13,9	132	74
562/B T	11	19,9	160	75
632/A T	15	26,2	160	76
632/B T	18,5	32,1	160	76
712/A T	22	40,4	180	77
712/B T	30	53,2	200	78



4 POLES (1500 rpm) - T: three-phase (400 - 415V - 3Ph - 50Hz)

Model	Pm (kW)	In max (A)	Mot (H)	Lp dB(A)
714/A T	4	8,3	112	64
714/B T	5,5	11	132	65
804/A T	7,5	14,6	132	67
804/B T	11	18	132	68



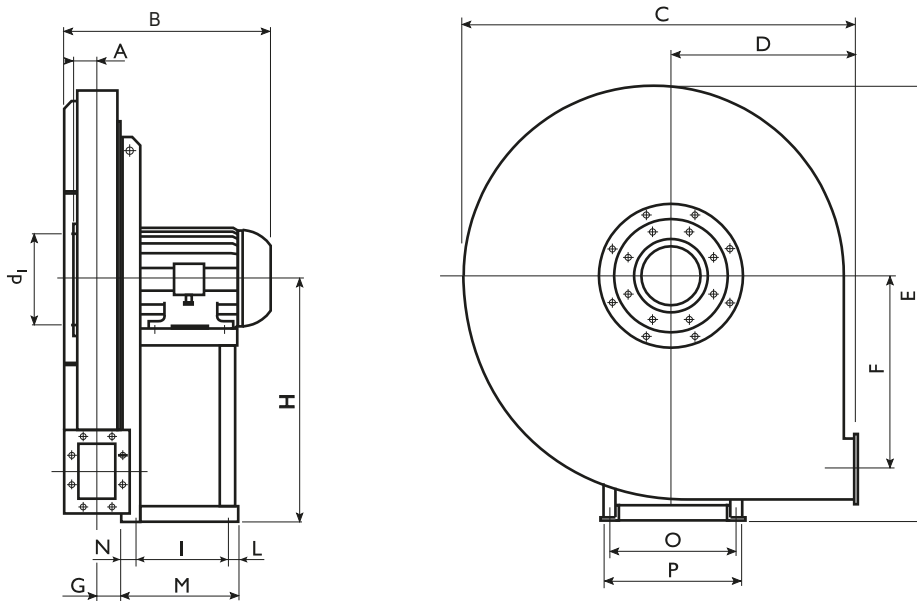
**Tolerances:** performances and sound power levels within the tolerances allowed by the DIN 24166 standard for Class 2.

**LpA [dB(A)]:** Measurement of the sound power level was carried out in compliance with UNI EN ISO 3746:1997. The sound pressure was measured on the surface of a parallelepiped that encloses the machine at a distance of 2 meters from its surface.

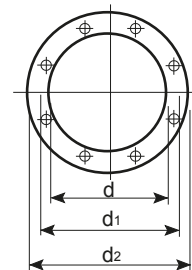
Model	Mot (H)	Pm (kW)	Kg	Fan										Base						
				A	B	C	D	E	F	G	H			I	L	M	N	O	P	Ø
											0° 135°	180° 225°	270° 315°							
352/A T	80	0,75	35	65	377	535	250	617	215	56	355	250	355	121	45	211	45	203	225	10
352/B T	80	1,1	36																	
402/A T	90	1,5	46	71	437	590	280	659	238	63	375	280	375	133	58	246	55	234	260	10
402/B T	90	2,2	50																	
452/A T	100	3	60	78	482	645	300	713	265	70	400	300	400	197	49	276	30	289	324	12
452/B T	112	4	80		503															
502/A T	112	4	92	86	520	715	335	795	297	78	450	335	450	197	49	276	30	289	324	12
502/B T	132	5,5	107		560									237	59	336	40	337	372	12
562/A T	132	7,5	122	95	579	805	375	893	337	88	500	375	500	237	40	336	40	337	372	12
562/B T	160	11	163		684									337	50	436	50	395	440	14
632/A T	160	15	175	105	703	910	425	1000	381	98	560	425	560	337	49	436	50	395	440	14
632/B T	160	18,5	193											337						
712/A T	180	22	300	115	809	1015	475	1123	426	108	630	475	630	357	33	460	70	434	488	17
712/B T	200	30	390		917									381	39	500	80	506	568	19
714/A T	112	4	194	115	583	1015	475	1123	426	108	630	475	630	197	49	276	30	289	324	12
714/B T	132	5,5	211		623									237	59	336	40	337	372	12
804/A T	132	7,5	255	127	648	1140	530	1265	481	121	710	530	710	237	59	336	40	337	372	12
804/B T	160	11	286		753									237	49	436	50	595	440	14

Dimensions in mm

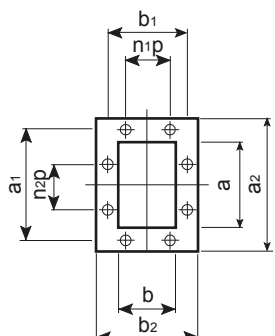
Weight of fan in kg (complete with motor)



(fig. 1)



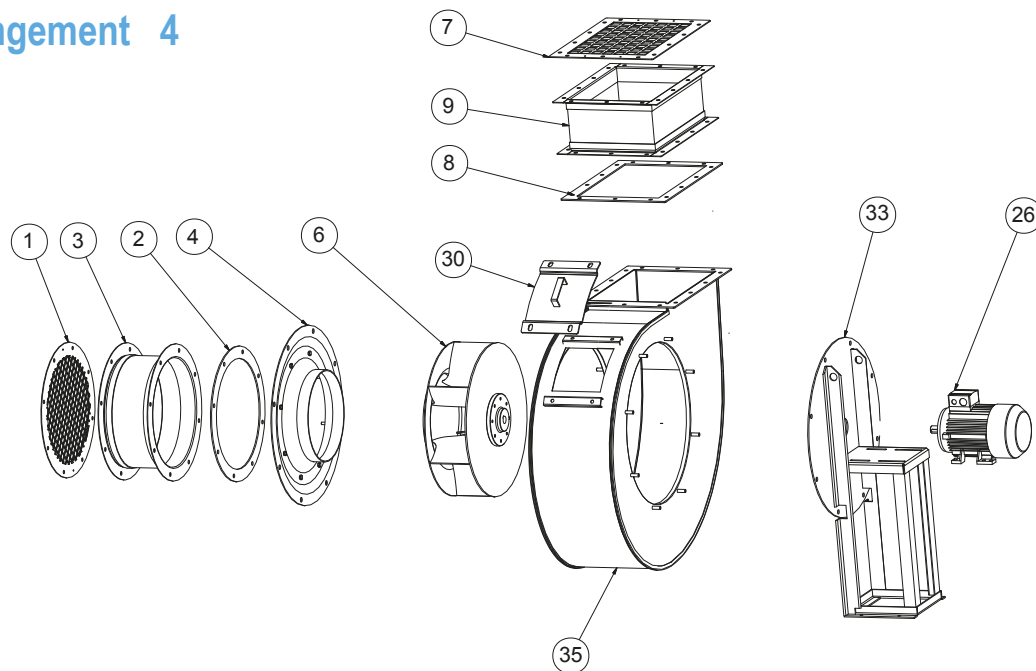
(fig. 2)



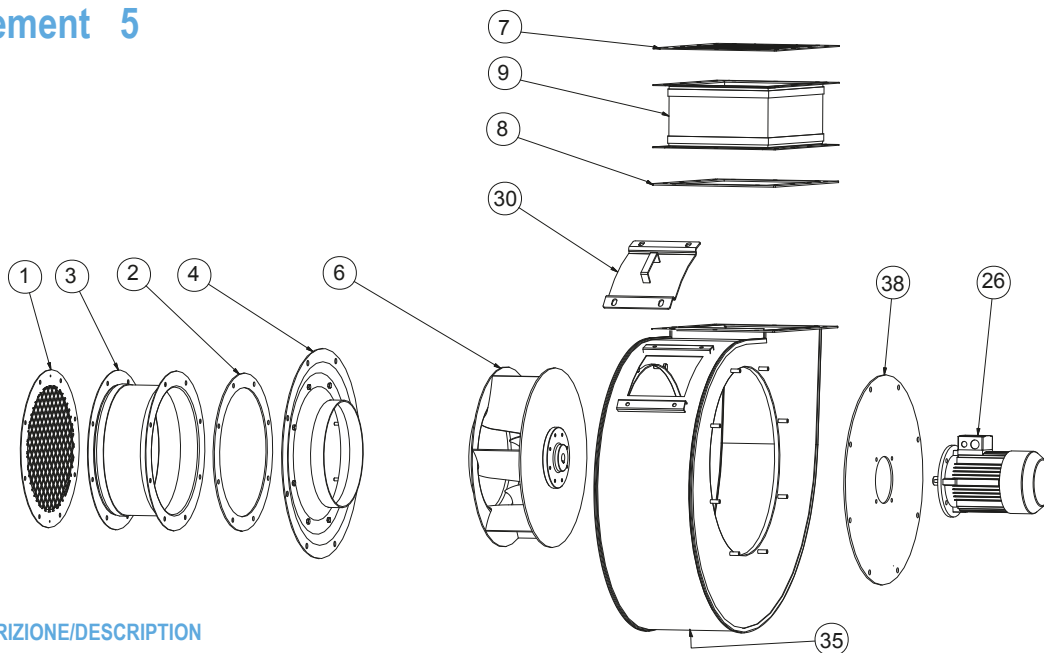
Model	Inlet flange (fig. 1)					Outlet flange (fig. 2)									
	d	d1	d2	n°	Ø	a	b	a1	b1	a2	b2	n1xp	n2xp	n°	Ø
350	185	219	250	8	8	146	105	182	139	216	175	-	1x112	6	12
400	205	241	275	8	8	166	117	200	151	236	187	-	1x112	6	12
450	228	265	298	8	8	185	131	219	165	255	201	-	1x112	6	12
500	255	292	325	8	10	207	148	241	182	277	218	1x112	1x112	8	12
560	285	332	365	8	12	231	166	265	200	301	236	1x112	1x112	8	12
630	320	366	400	8	12	258	185	292	219	328	255	1x112	2x112	10	12
710	360	405	440	8	12	288	205	332	249	368	285	1x125	2x125	10	12
800	405	448	485	12	12	322	229	366	273	402	309	1x125	2x125	10	12

Dimensions in mm

## Arrangement 4



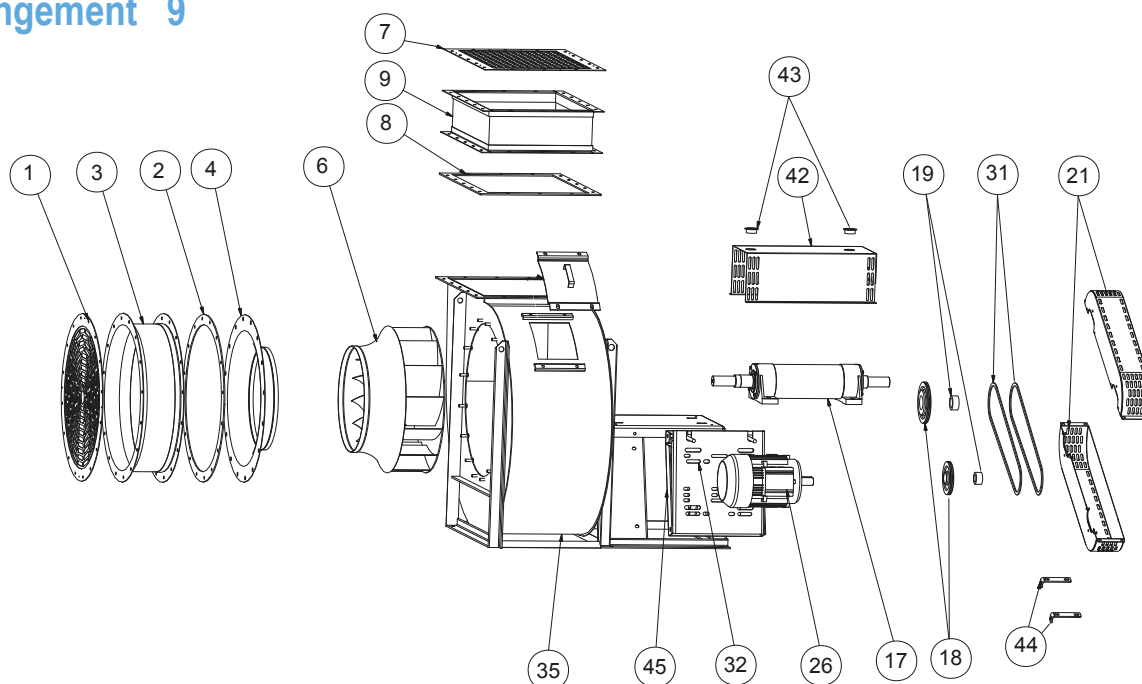
## Arrangement 5



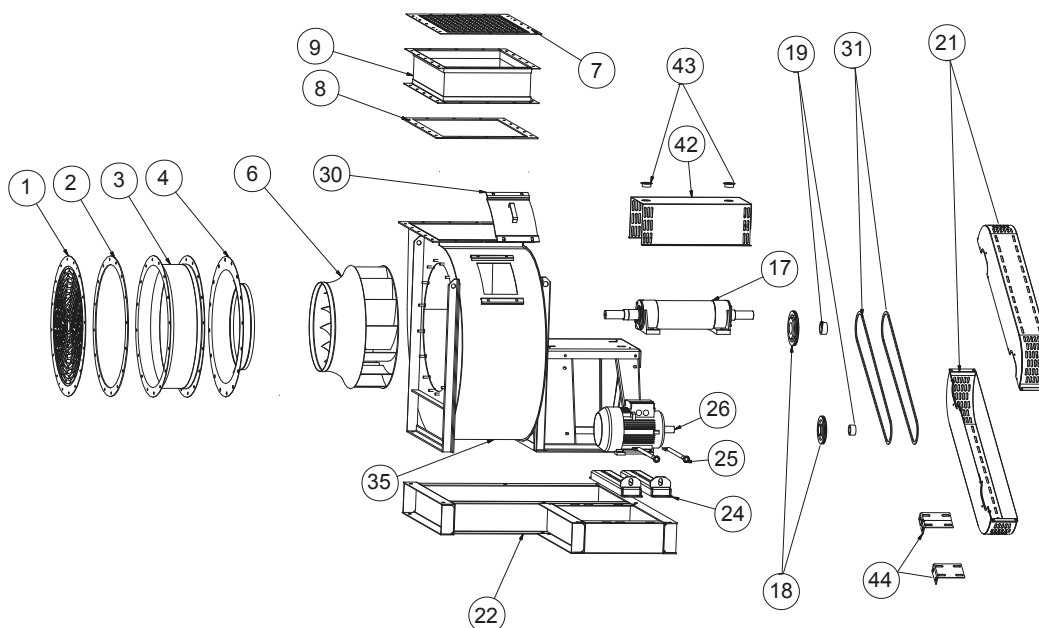
### POS - DESCRIZIONE/DESCRIPTION

- |                              |   |
|------------------------------|---|
| 1 - Inlet protection grid    | 25 - Threaded drawplates for tensioning |
| 2 - Inlet counter flange     | 26 - Electric Motor                     |
| 3 - Inlet flexible joint     | 30 - Inspection door                    |
| 4 - Inlet nozzle             | 31 - V-belts                            |
| 6 - Impeller                 | 32 - Tipper                             |
| 7 - Outlet protection grid   | 33 - Motor supporting base (pedestal)   |
| 8 - Outlet counter flange    | 35 - Fan frame                          |
| 9 - Outlet flexible joint    | 38 - Motor holding disc                 |
| 17 - Single-block support    | 42 - Single-block protecting guard      |
| 18 - Pulley                  | 43 - Tappi di scarico                   |
| 19 - Bush                    | 44 - Carter supporting brackets         |
| 21 - Belt transmission guard | 45 - Tipper support                     |
| 22 - Base                    | 49 - Joint-cover guard                  |
| 24 - Motor slides            |   |

## Arrangement 9



## Arrangement 12



### POS - DESCRIPTION

- |                              |   |
|------------------------------|---|
| 1 - Inlet protection grid    | 25 - Threaded drawplates for tensioning |
| 2 - Inlet counter flange     | 26 - Electric Motor                     |
| 3 - Inlet flexible joint     | 30 - Inspection door                    |
| 4 - Inlet nozzle             | 31 - V-belts                            |
| 6 - Impeller                 | 32 - Tipper                             |
| 7 - Outlet protection grid   | 33 - Motor supporting base (pedestal)   |
| 8 - Outlet counter flange    | 35 - Fan frame                          |
| 9 - Outlet flexible joint    | 38 - Motor holding disc                 |
| 17 - Single-block support    | 42 - Single-block protecting guard      |
| 18 - Pulley                  | 43 - Tappi di scarico                   |
| 19 - Bush                    | 44 - Carter supporting brackets         |
| 21 - Belt transmission guard | 45 - Tipper support                     |
| 22 - Base                    | 49 - Joint-cover guard                  |
| 24 - Motor slides            |   |

## BWC

model	$\eta_e$ [%]	category	N	VSD	Pe [kW]	Pt [mmH <sub>2</sub> O]	q [m <sup>3</sup> /s]	kps
352/A T	57,9	B-total	70,7	NO	0,61	160,4	0,22	1,02
352/B T	59,4	B-total	70,5	NO	0,87	186,1	0,28	1,02
402/A T	60,1	B-total	70,0	NO	1,15	209,7	0,34	1,02
402/B T	61,4	B-total	69,3	NO	1,77	255,9	0,43	1,02
452/A T	62,6	B-total	69,6	NO	2,15	276,4	0,50	1,03
452/B T	63,8	B-total	69,2	NO	3,03	320,4	0,61	1,03
502/A T	63,9	B-total	68,4	NO	3,77	356,4	0,69	1,03
502/B T	65,0	B-total	68,1	NO	5,06	405,6	0,83	1,04
562/A T	70,9	B-total	73,0	NO	6,29	495,3	0,92	1,05
562/B T	72,0	B-total	72,3	NO	8,06	556,2	1,06	1,05
632/A T	72,4	B-total	72,5	NO	10,15	622,0	1,21	1,06
632/B T	73,1	B-total	72,8	NO	13,92	710,8	1,46	1,07
712/A T	77,5	B-total	76,9	NO	19,28	817,7	1,86	1,08
712/B T	79,0	B-total	78,0	NO	25,77	919,0	2,26	1,09
714/A T	67,6	B-total	69,2	NO	2,54	1873,0	0,92	1,02
714/B T	71,6	B-total	72,8	NO	3,52	2104,0	1,20	1,02
804/A T	71,4	B-total	72,3	NO	4,45	258,0	1,25	1,02
804/B T	72,5	B-total	73,1	NO	6,15	282,5	1,61	1,03