



GOL PUMP RING BLOWER ***OPERATION MANUAL***



Installation and Operating Instructions **Side Channel Blowers** **"GAS PUMP"** **HEAVY DUTY**



GBS
RING BLOWER
NEW DESIGN



VERSATILE CAPABILITIES FOR VACUUM OR PRESSURE OPERATION

GENERAL:

GOL PUMP RING BLOWERS, known also as REGENERATIVE BLOWER, are directly driven by TEFC IP54 Grade F insulation electric motors of Showfou's own make.

As standard equipment, silencers are mounted on the discharge and suction side, thereby reducing noise level considerably. All blower and motor parts are cast aluminum and therefore highly resistant to corrosion. The ribs on the blower housing provide for good heat dissipation, further assisted by the air flow of the motor fan.

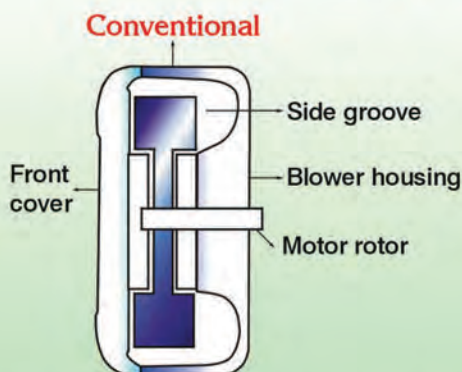
GOL PUMP RING BLOWERS are designed for the conveying of air as well as for generating pressure or vacuum. The use of the units for aggressive and toxic media, air of high humidity and medium temperature exceeding 40°C is subject to a detailed clarification. The conveying explosive gases are prohibited. If the medium to be conveyed contains solid particles or other pollutions, they are to be removed before entering the blower by installing a filter, or similar device on the suction side.

An increase of the volumetric flow or the pressure may be achieved by connecting two blowers either in series or in parallel.

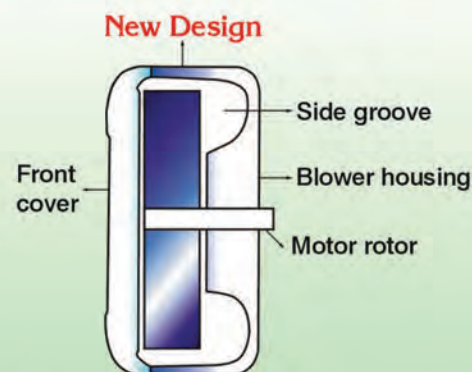
If connected in series, the pressures are added whereas the volumetric flow remains the same. If connected in parallel, the volumetric flow rates are added whereas the pressure remains the same.



ADVANTAGES OF OUR NEW DESIGN IMPELLER



(Fig.1) Impeller easily clogged by foreign objects



(Fig. 2) Durable and rugged construction, free from maintenance

GBS RING BLOWER



FEATURES

- Aluminum blower housing, impeller and cover
- Continuous duty, Non-pulsating operation.
- Low Noise and Vibration, Inlet and outlet have internal silencer
- Can be mounted in any plane
- Oil Free design eliminates contamination of downstream components
- TEFC enclosure eliminates atmospheric contamination of motor windings and bearings



GBS SPECIFICATION

Hz	Type	Motor				Bore		Max. Continuous Duty Point				Maximum		Noise	L x W x H	Weight
		Discharge		Suction				Discharge								
		HP	KW	PH	V	inch	mm	mmAq	m ³ /min	mmAq	m ³ /min	mmAq	m ³ /min	dB(A)	mm	kG
50	GBS-0212	1/4	0.2	1	220	1	25	450	0.14	450	0.09	500	0.76	52	220x200x215	7
	GBS-0512	1/2	0.37	1	220	1-1/4	32	1000	0.13	800	0.02	1100	1.4	61	253x250x250	12
	GBS-0532			3	220~440											
	GBS-112	1	0.75	1	220	1-1/2	40	1400	0.15	1200	0.1	1500	2.3	68	290x290x310	17
	GBS-132			3	220~440											
	GBS-212	2	1.5	1	220	2	50	2250	0.14	1750	0.38	2250	3.5	75	340x340x350	27
	GBS-232			3	220~440											
	GBS-332	3	2.2	3	220~440	2	50	2750	0.25	2250	0.37	3000	5.5	75	345x390x425	35
	GBS-532	5	3.7	3	220~440	2	50	3000	0.13	2250	0.37	3000	5.5	75	385x390x425	36
	GBS-732	7-1/2	5.5	3	220~440	2-1/2	65	1500	5.64	1750	3.72	3450	9	76	490x470x505	76
	GBS-1032	10	7.5	3	220~440	2-1/2	65	2750	3.51	2500	1.66	3450	9	76	490x470x505	76
	GBS-1532	15	11	3	220~440	4	100	1800	19.14	2200	6.38	3600	14	82	730x550x575	123
60	GBS-0212	1/4	0.2	1	220	1	25	650	0.07	600	0.06	700	0.9	55	220x200x215	7
	GBS-0512	1/2	0.37	1	220	1-1/4	32	1200	0.14	1100	0.02	1400	1.5	63	253x250x250	12
	GBS-0532			3	220~440											
	GBS-112	1	0.75	1	220	1-1/2	40	1600	0.43	1600	0.12	2050	2.7	69	290x290x310	17
	GBS-132			3	220~440											
	GBS-212	2	1.5	1	220	2	50	2000	0.64	1750	1.01	3000	4	78	340x340x350	27
	GBS-232			3	220~440											
	GBS-332	3	2.2	3	220~440	2	50	2250	2.4	2000	2.09	4000	6	80	345x390x425	35
	GBS-532	5	3.7	3	220~440	2	50	2500	2.36	2250	1.54	4000	6	80	385x390x425	36
	GBS-732	7-1/2	5.5	3	220~440	2-1/2	65	2250	6.67	2550	4.74	4750	10.5	86	490x470x505	76
	GBS-1032	10	7.5	3	220~440	2-1/2	65	3000	4.89	3250	17.33	4750	10.5	86	490x470x505	76
	GBS-1532	15	11	3	220~440	4	100	2200	9.65	2600	8.63	4800	17	87	730x550x575	123

*Motor-TEFC IP54 Grade F insulation

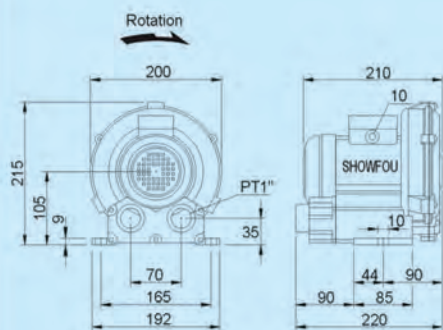
*Permitted maximum ambient temperature is 40°C



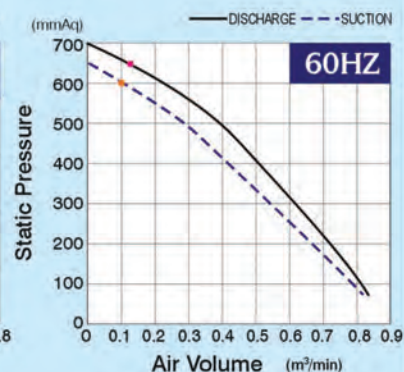
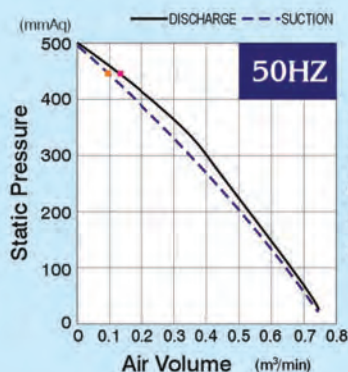
DIMENSIONS / PERFORMANCE CURVES

GBS

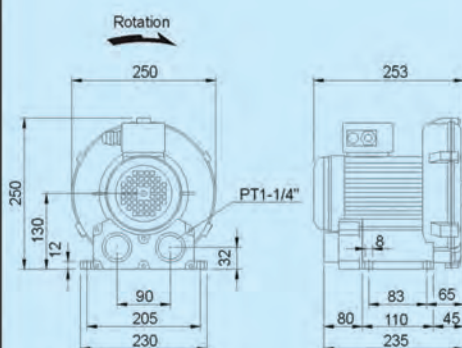
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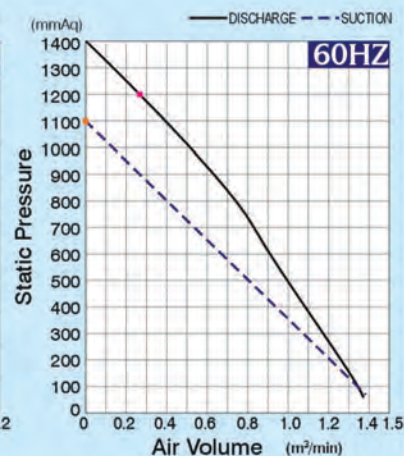
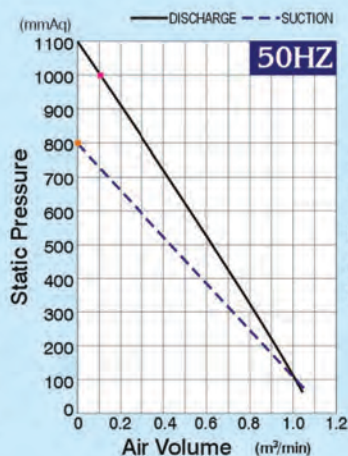
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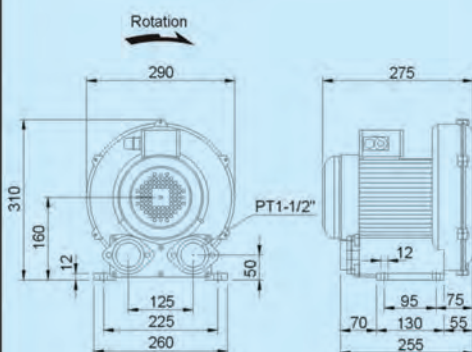
GBS-0512 / 0532



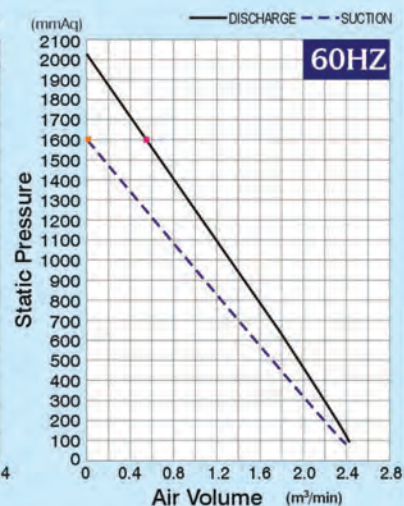
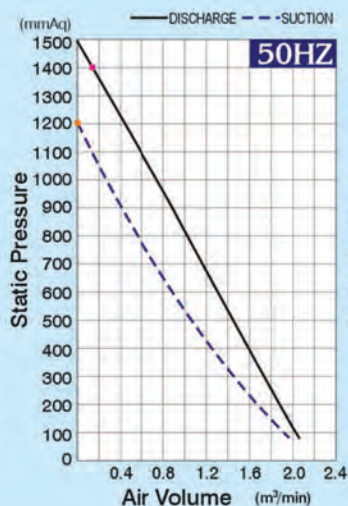
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GBS-112 / 132



unit:mm

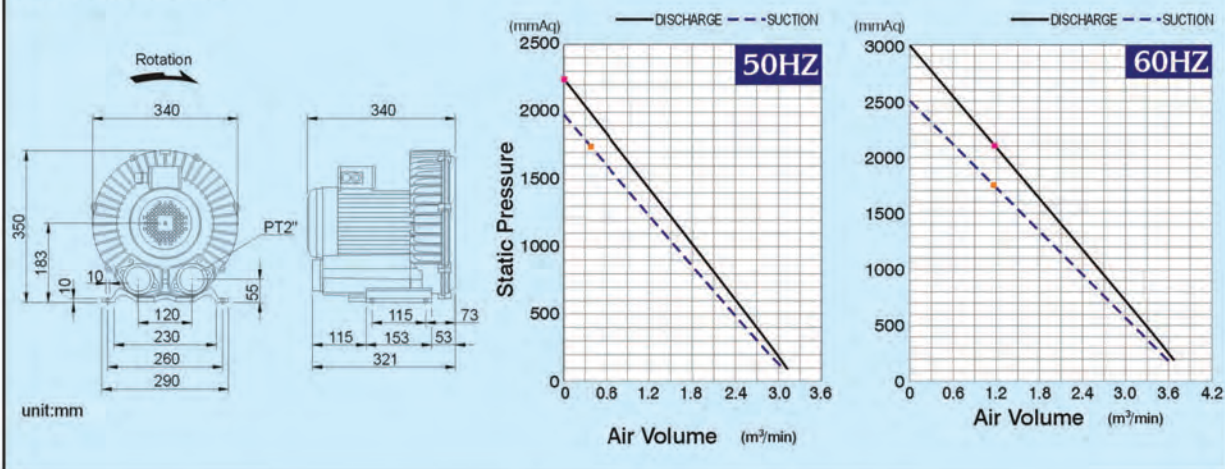




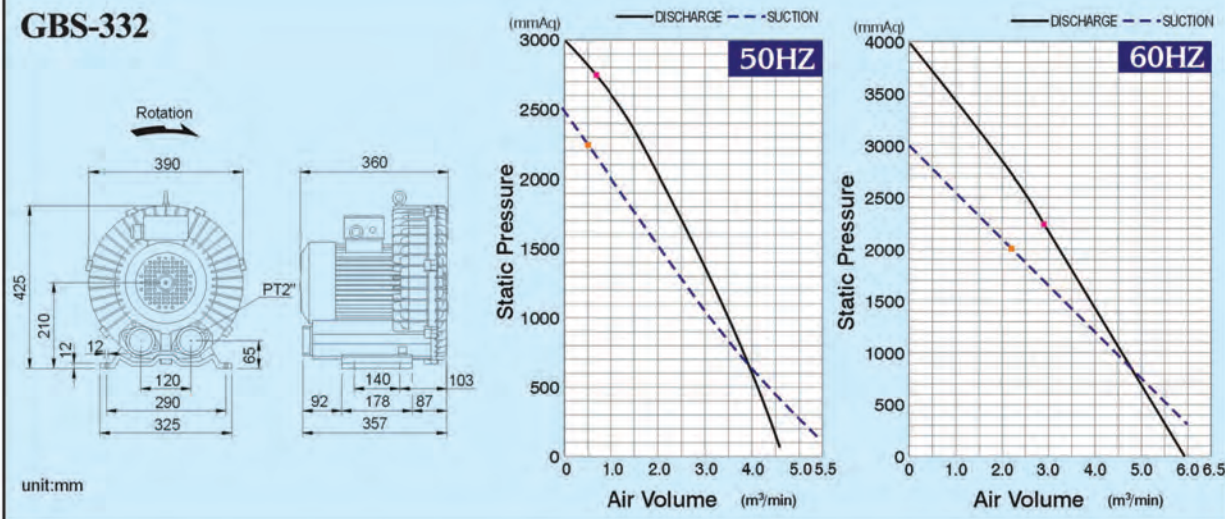
DIMENSIONS / PERFORMANCE CURVES

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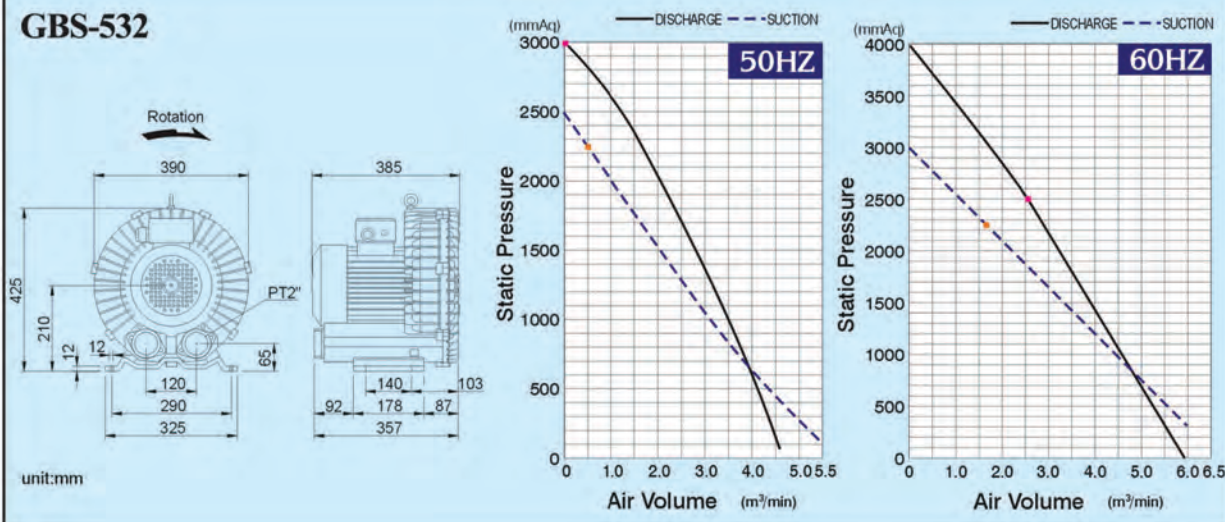
GBS-212 / 232



GBS-332



GBS-532

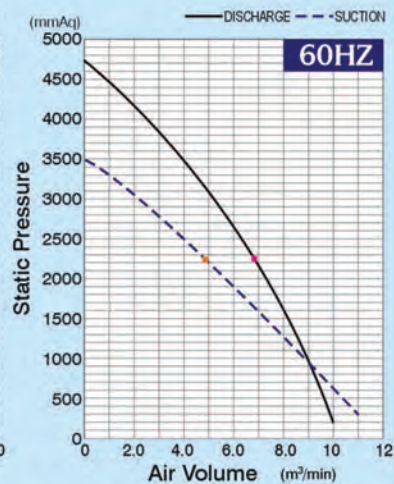
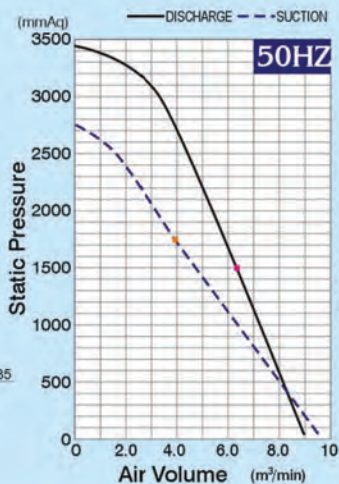
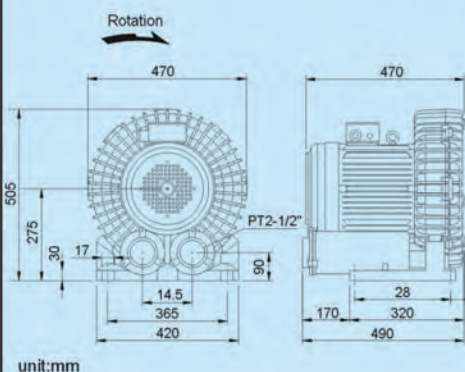




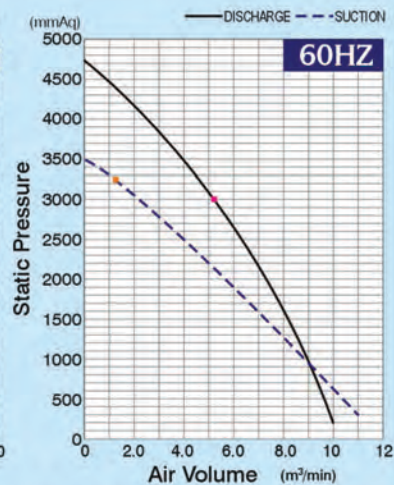
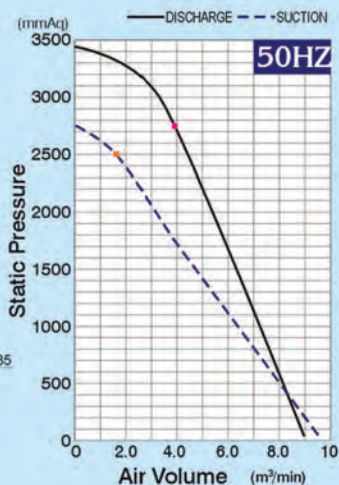
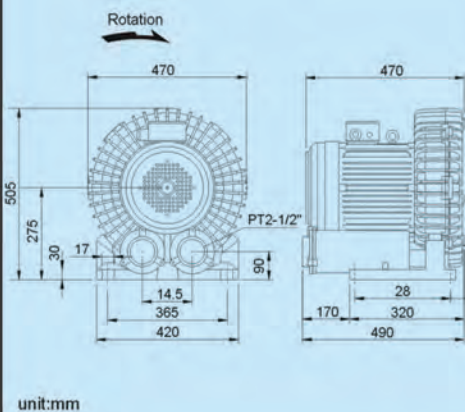
DIMENSIONS / PERFORMANCE CURVES

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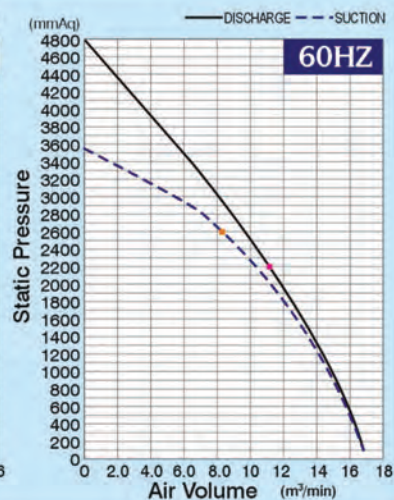
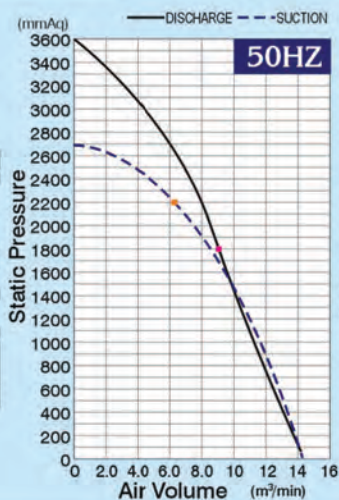
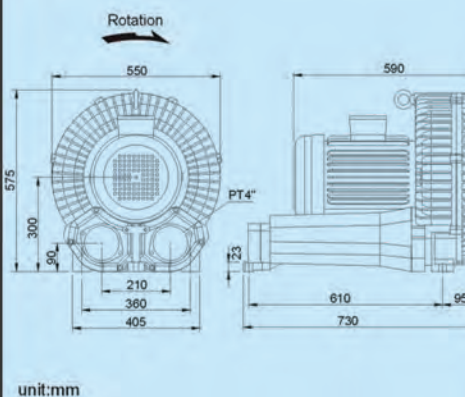
GBS-732



GBS-1032



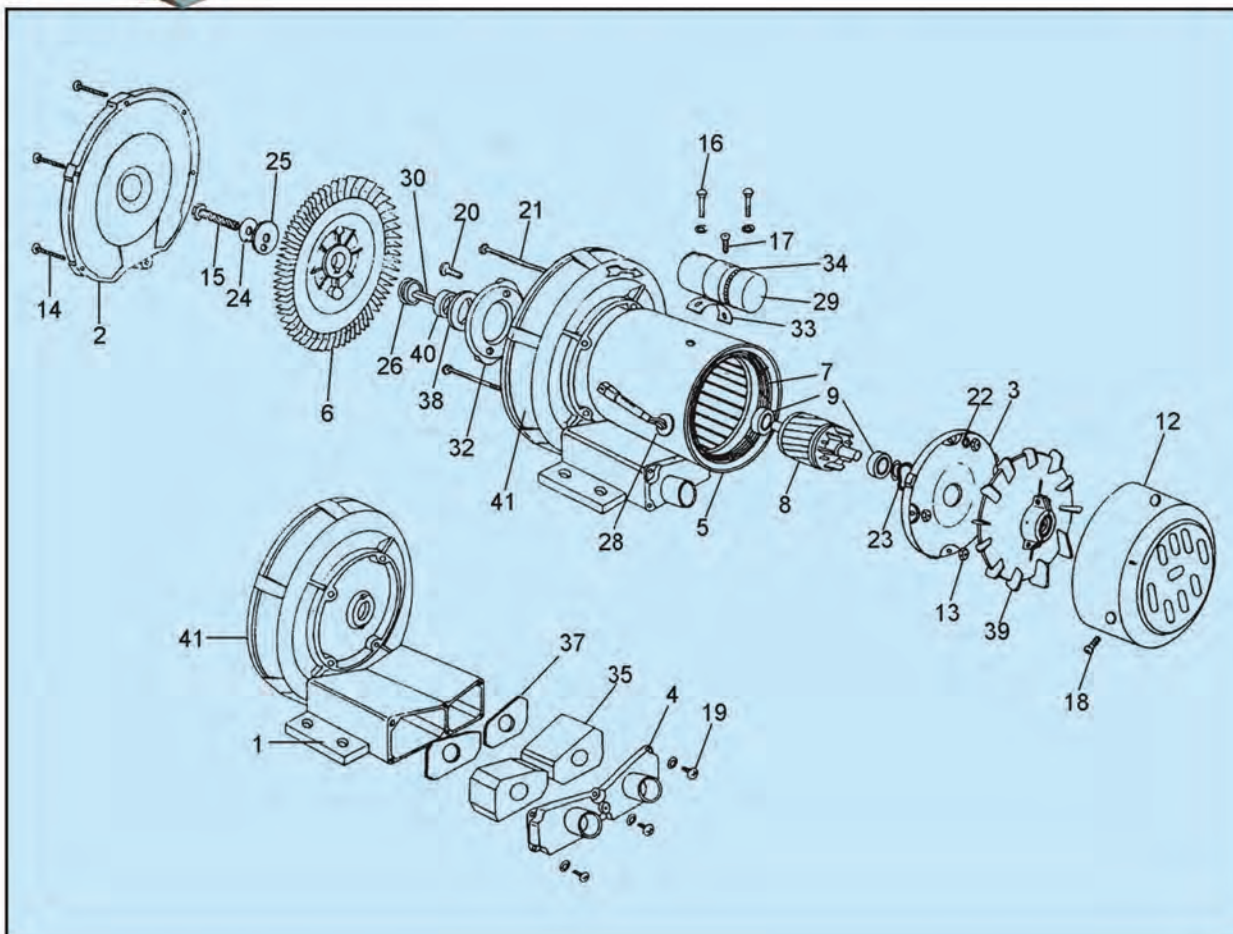
GBS-1532





EXPLODED DIAGRAM

GBS



■ GBS PARTS LIST

REF NO.	NAME OF PARTS	QTY.	REMARK	REF NO.	NAME OF PARTS	QTY.	REMARK
1	BASE	1		21	SCREW FOR NO. 5	1	
2	FRONT COVER	1		22	WASHER FOR NO. 21	1	
3	FRAME REAR COVER	1		23	WAVE WASHER	1	
4	FLANGE	1		24	RETAINING WASHER	1	
5	FRAME / STATOR	1		25	WASHER FOR NO. 6	1	
6	IMPELLER	1		26	GAP ADJUSTING SLICE	1	
8	ROTOR	1		28	WIRE BUSHING	1	
9	BEARING	2		29	CAPACITOR CAP	2	
10	CAPACITOR	1	for Single Phase Only	30	KEY	1	
12	FAN COVER	1		32	BEARING COVER	1	
13	NUT FOR NO. 21	4		33	BRACKET	4	
14	SCREW FOR NO. 2	6		34	BAND	6	
15	SCREW FOR NO. 6	1		35	SPONGE	1	
16	SCREW FOR NO. 33	2		37	SPACER	2	
17	SCREW FOR NO. 10	1		38	SHAFT SEAL	1	
18	SCREW FOR NO. 12	3		39	COOLING	3	
19	SCREW FOR NO. 4	6		40	SLEEVE	6	
20	SCREW FOR NO. 32	2		41	HOUSING	1	



Operating and Installation

The Gas pump blower is intended for, suction or compression of air and other dry, non-aggressive, non-toxic and non-explosive Gases.

1. The vortex blower should be placed in a relatively stable place, and the surrounding environment should be lean, dry and ventilated.
2. To install the pump, make sure that it is tightly fastened to the foundation with special bolts on a flat surface.
3. To install to the network Power, be sure to pay attention to the type of pump output wires inside the alternator terminal box and connect it to a starter and protection control panel according to the wiring diagram that show in this manual.
4. When connecting pumps designed for dual voltages, pay special attention to adjusting and connecting the wires according to the Voltage of your network.

5. All electrical and mechanical installation conditions of this device must be done by experts

The direction of rotation of the vortex fan impeller must be the same as the direction of the arrow on the fan casing.

6. The filter net and silencer at both ends of the vortex air pump should be cleaned according to the situation to avoid the influence of blockage

7. The outer connection of the inlet and outlet of the vortex air pump must be connected by a hose (such as rubber tube or plastic spring tube).

8. The outer connection of the inlet and outlet of the vortex air pump must be connected by a hose (such as rubber tube or plastic spring tube).

9. Repair of Blower: Repair of pump and specially the replacement of the bearing must be performed by a person familiar with the repair work.

10. For repair loosen the screws on the pump cover and then remove the parts one by one in the order shown.

The removed parts should be cleaned and assembled in reverse order.

11. These Gas Pump Design for regular Air and non-explosion Gas If used for pumping of higher density than air leads to an increased thermal and/or mechanical load on the side channel blower you can talk to service of Gol pumps Department before installation,

12. The gas shall be free from vapors that would condensate under the temperature and pressure conditions inside the Blower.

13. These blowers are suitable for continuous operation, provided that they are installed in an environment that has a suitable ventilation to transfer the generated heat.

14. Excessive switching on and off of this pump leads to an increase in coil temperature. Therefore, due to the fact that these pumps have thermo guard, if a suitable control panel is used, the safety of the pump is guaranteed.

15. The maximum allowable pressure inside the pump and transmission connections should not exceed 2 bars.

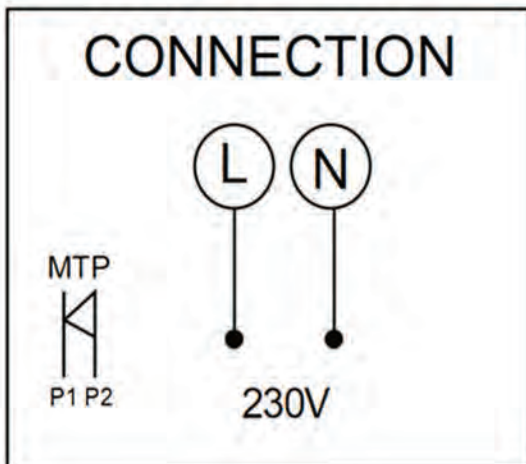
16. Store the Blower : if possible in original packaging, indoors, dust free and vibration free and dry

Repairing this pump requires sufficient experience, avoid repairs by ordinary people

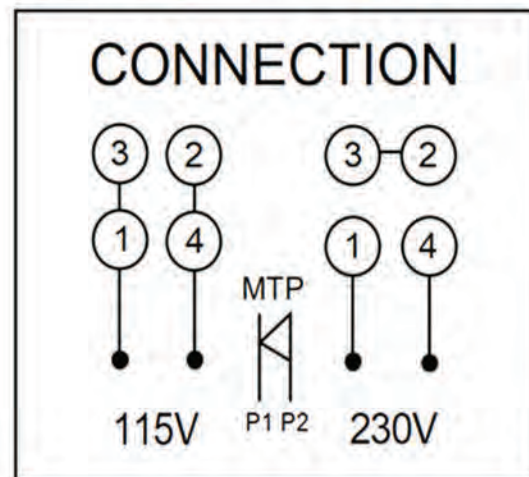


TERMINAL WIRING DIAGRAMS

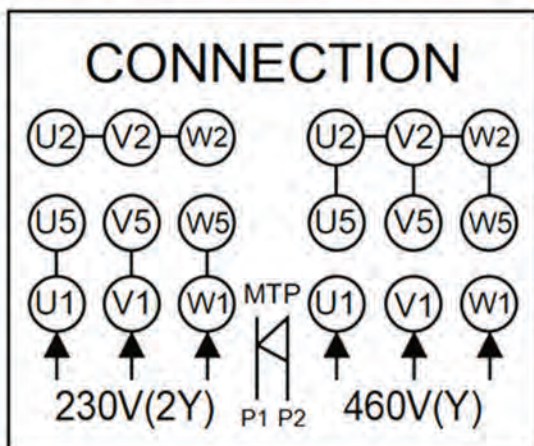
**Blower pump: Single Phase
230V/3hp (with MTP) GTB-C-01**



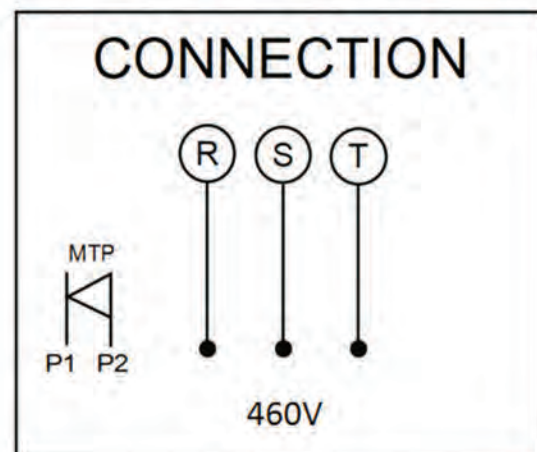
**Blower pump: Single Phase 115V/230V
(Dual Voltage with MTP) GTB-C-02**



**Blower pump: Three Phase, 230V/460V
(Dual Voltage with MTP) GTB-C-03**



**Blower pump: Three Phase, 460V
(Single Voltage with MTP) GTB-C-04**





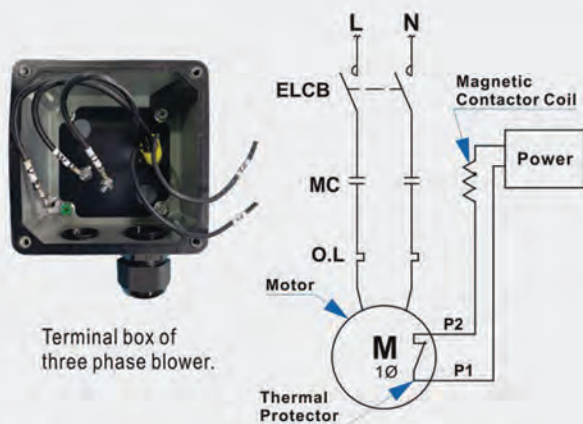
Thermal Protection Device:

- For Models rated **single phase, 1/4hp (200W) and 1/2hp (370w):**

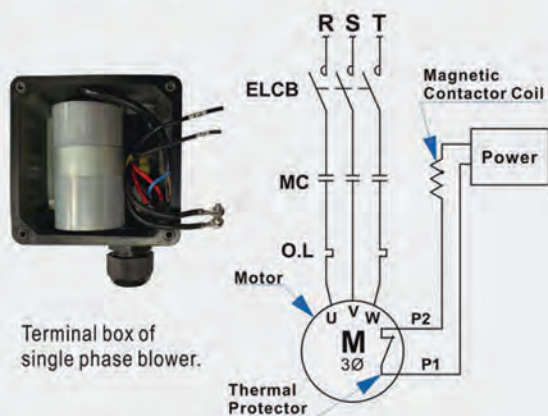
The integral thermal overload protector is built-in and connected to the motor winding. Therefore, the motor has been thermally protected.

- For Models rated **single phase, over 1/2hp (370w) motor, and all three phase motors:**

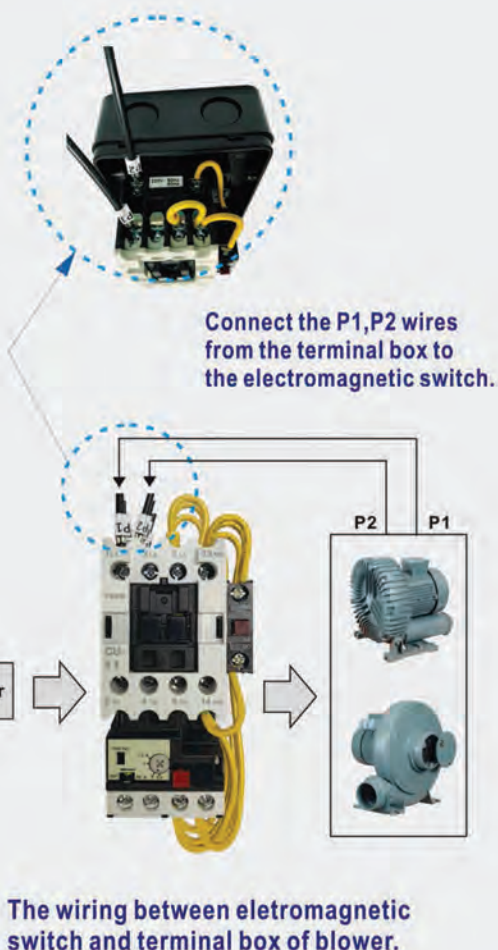
1. The thermal protector is pre-installed inside the motor winding, yet the two wires endpoints (P1 and P2) of the protector inside the terminal box are NOT connected to motor winding. Please do connect two wires endpoints (P1 and P2) to an external electromagnetic switch that matches the rated current printed on the blower's nameplate.
2. Under certain circumstances, if P1 and P2 are not connected to an external electromagnetic switch, the motor could still operate normally, but without thermal overload protection.
3. The followings are the illustrations of the wiring for thermal overload protection.



P1,P2 wiring diagram for single phase blower.



P1,P2 wiring diagram for three phase blower.

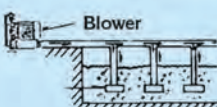
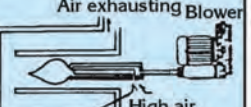
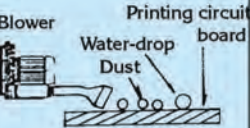
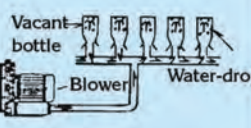
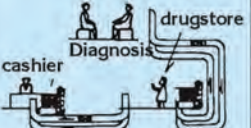
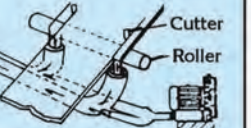




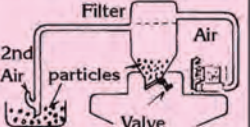
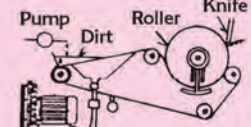
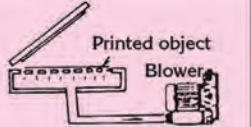
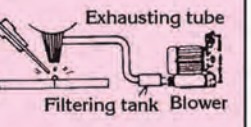
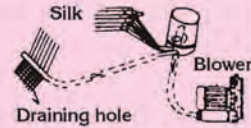
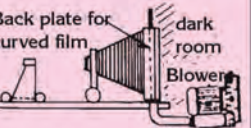
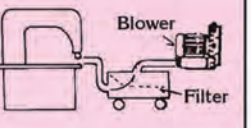
APPLICATIONS

GBS

■ GBS RING BLOWERS FOR PRESSURE OPERATION

SUPPLY OF OXYGEN IN RAISING POND	STIRRING OF ELECTRO-LIQUID	FERMENTATION TREATMENT OF DOMESTIC ANIMALS' EXCREMENT	HEAVY-DUTY OIL BURNING
 Blower To increase raising density and raising existence rate of fishes and shrimps. The use of blower for increasing solved oxygen amount is necessary.	 Electro-tank Blower Stir electro-tank with air to make electro-particle flow and get rid of attached bubble. By thus, electro-plating will be quicker and efficiency even.	 Blower Excrement cave Blow into excrement cave high pressure air to increase the contacting area of excrement and air. It's also suitable for being used in treating polluted water.	 Air exhausting Blower Fuel High air pressure High air pressure (4000mmAq) and enough amount of wind can reduce you the reliability on air compressor.
ANTI-DUST DEVICE	BOTTLE WASHER	TRANSPORTATION OF DOCUMENTS	COLLECTION OF PAPER EDGE
 Blower Printing circuit board Water-drop Dust Electronic PC can use blower to get rid of mini dust and water drop.	 Vacant bottle Blower Water-drop Vacant bottle can be blown dried after washing. Suitable for to be used in food industry.	 cashier Diagnosis drugstore Air is the driven force, and will make prompt and assuring delivery of documents.	 Cutter Roller The tailored edge of plastic, cloth and paper can be automatically collected.

■ GBS RING BLOWERS FOR VACUUM OPERATION

TRANSPORTATION OF POEDER PARTICLES	VACUUM DRAINAGE	NET PLATE PRINTING MACHINE	WELDING POLLUTED AIR COLLECTION
 Filter 2nd Air particles Valve Air Transportation of particles such as plastic raw material, etc. can be done by air pressure (blowing) or vacuum absorption.	 Pump Dirt Roller Knife Drainage of paste, dirt and cloth etc.	 Printed object Blower By use of absorption pressure for fixing to make printing work smooth.	 Exhausting tube Filtering tank Blower Smoke and dust produced in welding can be driven to another place by way of vacuum type for protecting operators' health.
AUTOMATIC ARRANGER FOR CAKES	WEAVING MACHINE	PHOTO PLATING	COLLECTION OF INDUSTRY DUST
 Roller Blower cake Conveyor Cakes won't be hurt. Every piece is evenly arranged by absorption.	 Silk Blower Draining hole Moisture and thread head is absorbed to raise product's quality and efficiency.	 Back plate for curved film dark room Blower By way of vacuum absorption to keep film even for photo-plating industry.	 Blower Filter Industry dust remaining in the machine can be cleaned with the method of above drawing shows.