SHOWFOU PUMP

SINCE 1976

修附鼓風機

ISO-9002 CERTIFIED 國際標準品保認證

榮獲經濟部商檢局
ISO-9002/CNS12682
國際標準品保認証

SHOWFOU

ROOTS BLOWERS

修附電機股份有限公司 SHOWFOU ELECTRIC MACHINE CO.,LTD.

CAT.NO. : A03980303

GENERAL

SHOWFOU 3 LOBES ROOTS BLOWERS , know also as POSITIVE DISPLACEMENT ROTARY LOBE PUMPS , are used in conditions ranging from strong vacuum to high pressure in all branches of industry , especially in waste water treatment plant .

The simple design , easy handling , and stable performance make possible a wide range of applications . Their main characteristic is to produce a constant flow of gas at different pressure and efficiencies are normally high .

Another important feature is that the pumped gas does not get contaminated because there are no lubricants in the area in which the compression occurs .

The blowers consist of a cast-iron casing in which two rotors with conjugate shape rotate and are synchronized by a set of timing gears . During the rotation , there is no contact either between the lobes or between the lobes and the casing .

Two front and rear side covers close each casing : the bearing of the shafts and the sealing devices to avoid gas leakage are located there .

OPERATING PRINCIPLE

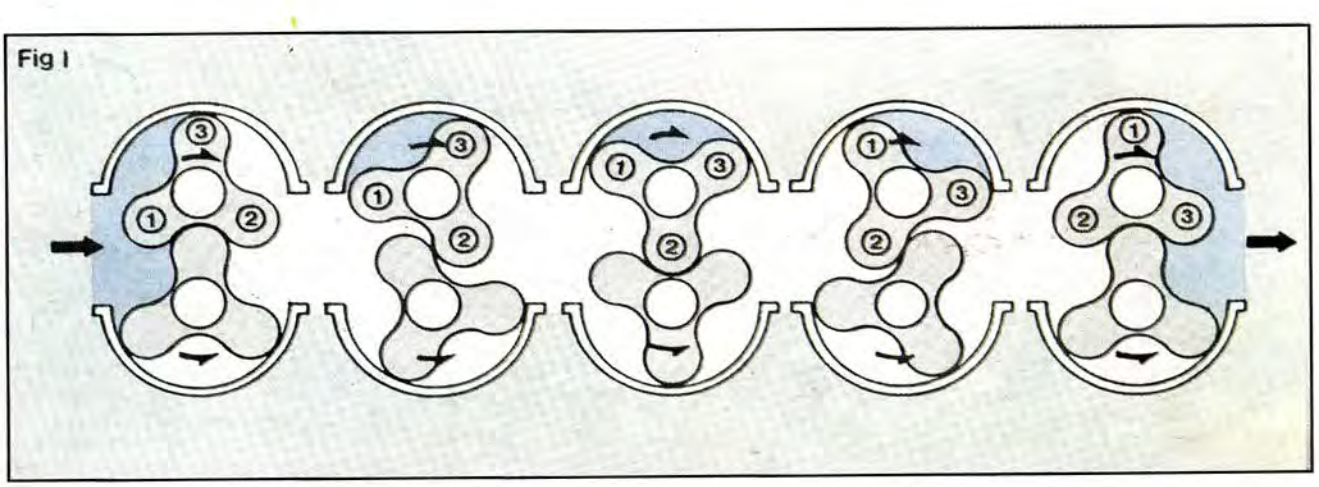
The two three-lobe rotors rotate one opposite to the other : their movement is synchronized by a set of timing gears .

The geometric configuration of the lobes allows them to have , at any moment , a generatrix in common : due to very low machine tolerance , this common generatrix acts also as a seal device for both rotors . During the operation , one or two lobes of each rotor come into contact with the internal surface of the casing : this create a chamber in which the gas is trapped .

As the rotation continues , the trapped gas moves along until it reaches the position of discharging port .

The two rotors make six intake and exhaust cycles per revolution : therefore the capacity of the SHOWFOU roots blower is determined by its operating speed and increase proportionally with the speed , but is independent from the pressure differential between inlet and outlet ports .

Fig I



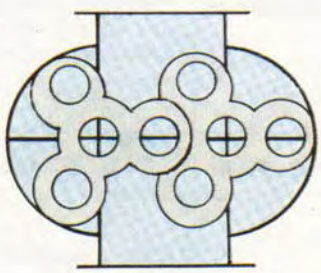
ADVANTAGES OF 3 LOBES DESIGN

Owing to new 3 lobes' rotor design , the reverse flow pressure variation period is only 2/3 of that of a conventional 2 lobes' rotor , the peak pressure value is also lower . So the noise and pressure pulsation are greatly limited .

Advantages of SHOWFOU 3 LOBES ROOTS BLOWER are as follows :

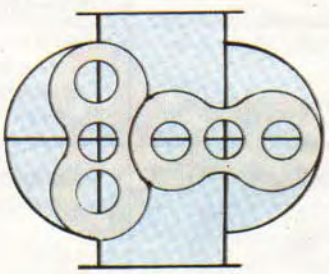
1. Less back flow , steady air flow rate , lower vibration and noise .
2. Discharge pressure pulsation are reduced , so lighter loading of bearings and timing gears ensures the long servicing life .
3. Running on the same operating speed , the 3 lobes blower can deliver large air flow and volume than conventional 2 lobes type .
4. Adequate clearance between the rotors and the rotors with the casing ensure no contact during operation , and this make the efficiency even higher .
5. The precision of rotors is fully controlled and variation of precision between blowers is almost nil because the rotors are produced by utilizing a precision NC machine .
6. The rotors are dynamically balanced in the fabrication stage already , so these rotors are almost free from vibrations .

3-Lobes Cylinder



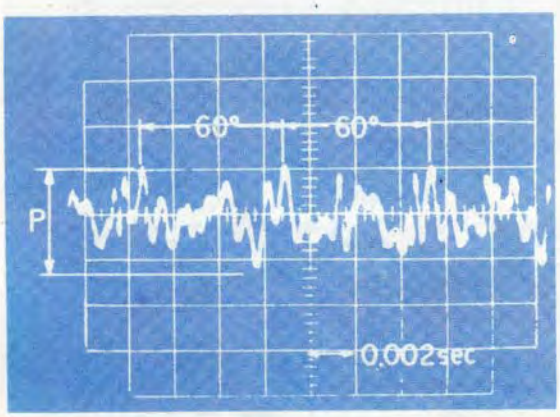
(Fig.1)

2-Lobes Cylinder

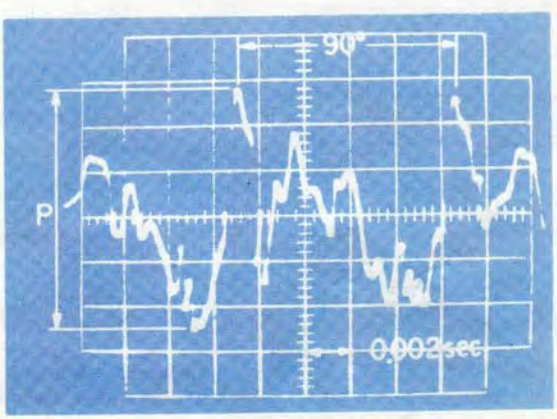


(Fig.2)

Discharge Pressure Variation in a 3-Lobes Rotor



Discharge Pressure Variation in a 2-Lobes Rotor

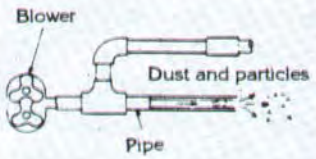


Note: Under the condition of Discharge Pressure at 5000 mmAq and Revolution of 1560 r.p.m. for both blowers.

APPLICATIONS

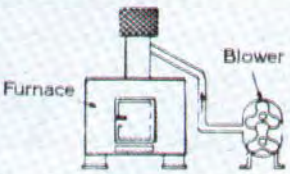
FOR PRESSURE OPERATION

PIPE CLEANING



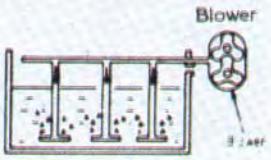
Used to remove dust and rust when replacing piping or conducting periodic inspections.

FURNACE



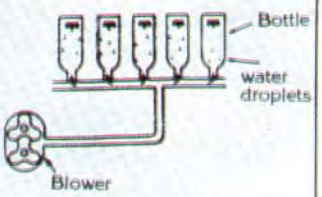
The blower can help boost burn performance and promote exhaust gas removal.

PURIFICATION TANK



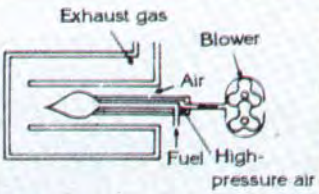
Used to agitate sediment and for purification at water treatment plants.

BOTTLE WASHER



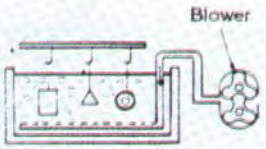
Used to remove water droplets remaining inside bottles after washing.

GAS BURNER



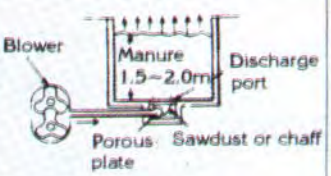
High-pressure discharge air can be used to disperse the fuel.

PLATING TANK



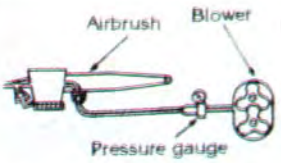
To improve the quality of plating, air is fed into the tank to recirculate the electrolyte. The Roots blower is used as the air source.

FERTILIZER PRODUCTION USING MANURE FERMENTATION



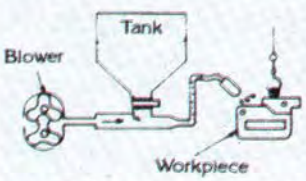
Used to hasten fermentation by feeding air.

AIRBRUSH



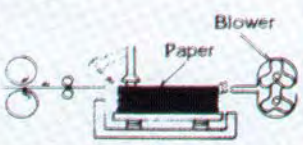
High-pressure discharge air containing no oil is extremely well-received for airbrush applications.

SANDBLASTING



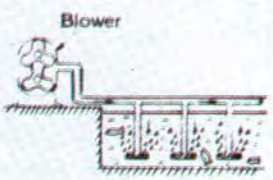
Used as the air source for sandblasting.

PRINTING PRESS PAPER FEED



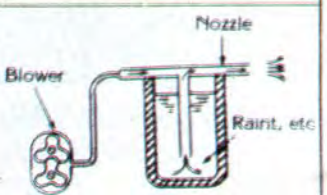
Operations are simplified by using discharge air to separate, align, and feed the paper.

FISHERY POND ENZYME SUPPLY



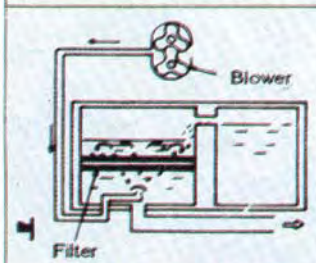
Used for underwater enzyme supply in comparatively shallow ponds.

SPRAYING



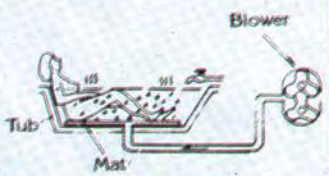
Used to supply high-pressure discharge air containing no oil to the sprayer.

BACKWASH



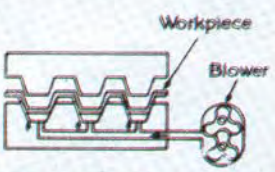
Used as a backwash for filters.

THERAPEUTIC BATH



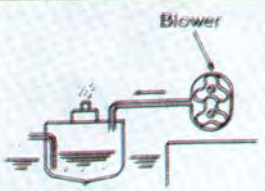
Widely used in hospitals and hotels for healthy bath aeration.

STAMPING DIE



Used to remove the stamped workpiece from the die.

BALLAST PUMP



Used for liquid chemical ship lowering and other types of ballast pumping.

APPLICATION GUIDE

The following applications are typical of many uses for SHOWFOU blowers. This is a general listing and does not include all type of applications.

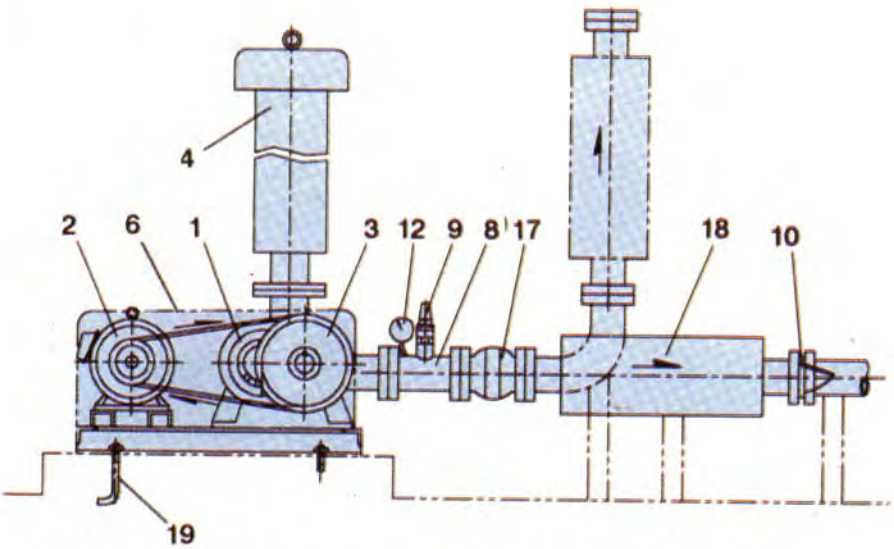
PRESSURE OPERATION

- Combustion air for burners, gas burners, coke-fired forges, small foundry cupolas in:
  - iron & steel industries
  - food processing
  - chemical plants
  - non-ferrous metal refineries
  - smelters & foundries
  - bakeries
  - glass, ceramics, brick
  - oil, tar & asphalt heaters
  - on road machinery
  - pipe, wrapping machines
- Drying:
  - air and sand blasting
  - grain conditioning in elevator storage
  - supercharging
  - dusting and spraying
  - washing, drying and cleaning drums
  - blending and mixing
  - sand filter regeneration
  - dust blowing
  - cake blowing
  - pressurizing paper mill headboxes
- Aerating and agitating liquids in :
  - waste treatment plants
  - waste treatment
  - electrotyping & engraving
  - oyster washing
  - oil blending
  - ice manufacture
  - chemical processes
  - preventing ice formation in power plants
  - fish ponds, lakes
  - flotation
  - blending vinegars
  - asphalt refining
  - food washing
- Pneumatic conveying:
  - granular materials
  - insulation blowing
  - liquid transfer
  - fluidizing
  - pulp conveying
  - wood and metal chip conveying
  - rock dusting
  - flour and powder

VACUUM OPERATION

- industrial and commercial vacuum cleaning
- paper folding machinery
- garment presses
- bottle and tube filling machines
- drying
- mat formers
- pump priming
- dust collecting

REFERENCE DRAWING FOR PIPING (EXAMPLE)



NO	ACCESSORIES
1	Blower body
2	Motor
3	Blower pulley
4	Suction silencer set
6	Belt cover
8	T-type reducer
9	Pressure safety valve
10	Check valve
12	Pressure gauge
17	Expansion joint
18	Discharge silencer
19	Anchor bolt

Note : Make sure that the piping check valve is horizontal .

An example of piping arrangement around the blower is shown . Make the most suitable installation from the viewpoint of space · piping schedule · vibration prevention · etc. . It is effective to use rubber vibration isolator and to provide an expansion joint to the blower outlet for the prevention of vibration . A silencer may be used to either laterally or vertically .

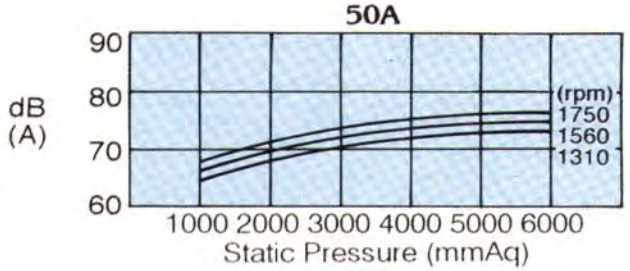
Install the check valve on the horizontal piping . Use a suitable support to the piping to avoid applying a piping load to the blower nozzle .

NOISE LEVEL — RL · RW TYPE

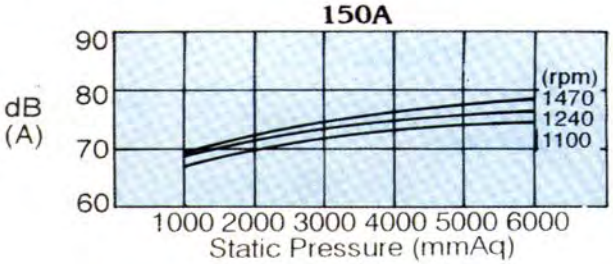
1. **Measure method (1.0m On Machine Side)**
   For your information · the following noise reading are the average valve measured at a distance 1m from the SHOWFOU blowers under standard condition ◦

2. **Noise prevention method**
   The noise of SHOWFOU blowers has direct relationship with the factors such as blower size · discharge pressure and R.P.M ◦ To get even greater effectiveness in noise reduction · please refer to some methods as follows :
   1. Establish the silencer to inlet and outlet to prevent the noise of air flow ◦
   2. Decrease the revolution of blower to reduce the noise of it ◦
   3. Use the expansion joint or the rubber vibration isolator to prevent the surging and vibration ◦

50A



150A



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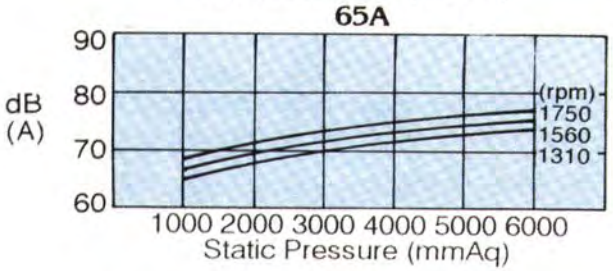
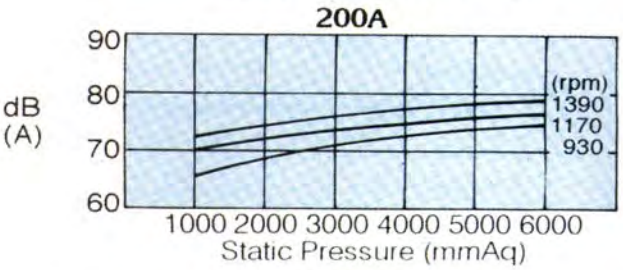
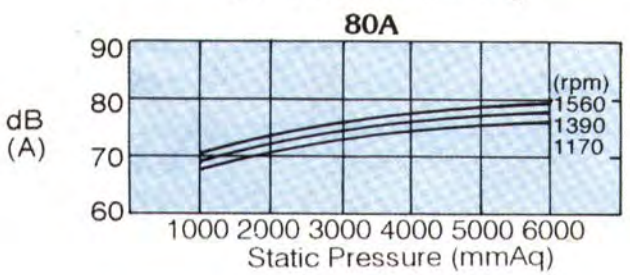


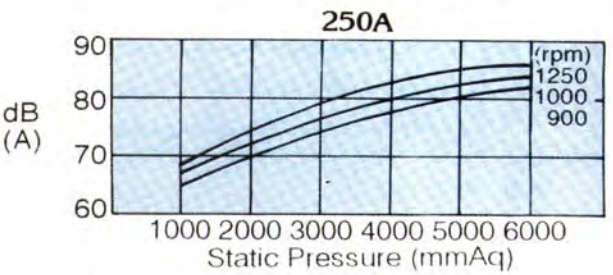
200A



80A



250A



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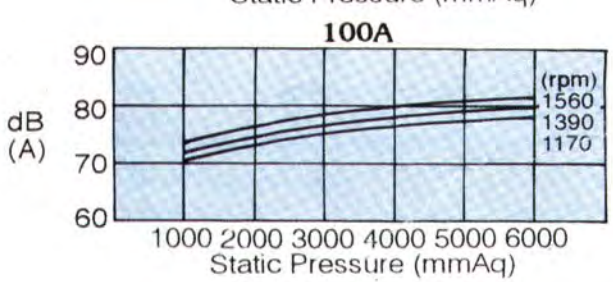
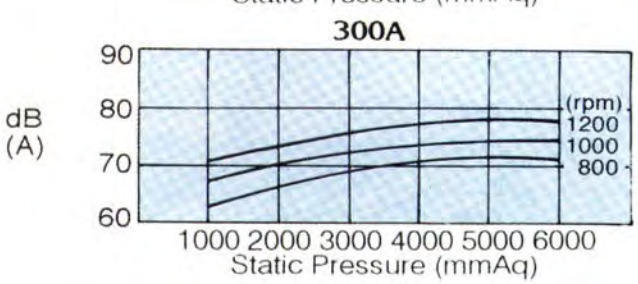
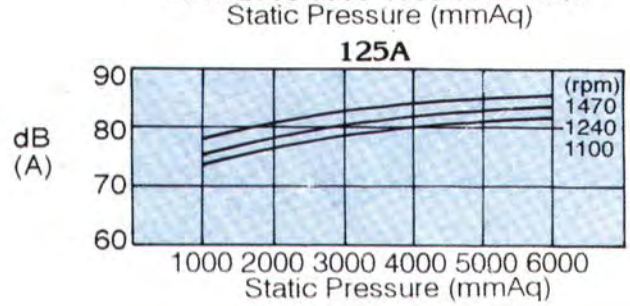


300A



125A



COMPLETE SET ROOTS BLOWER INSTALLATION :
with standard accessories

■ PRESSURE OPERATION (RLC · RWC)

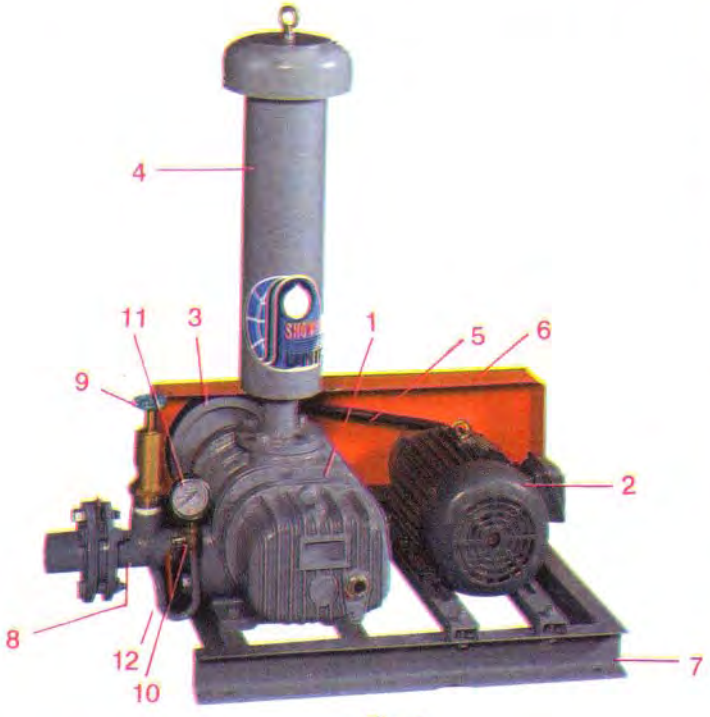


Fig 1

STANDARD ACCESSORIES

NO	NAME
1	BLOWER BODY
2	MOTOR
3	BLOWER PULLEY
4	SUCTION SILENCER SET (WITH AIR FILTER &COVER)
5	V-BELT
6	BELT COVER
7	BASE PLATE
8	T-TYPE REDUCER
9	PRESSURE SAFETY VALVE
10	BALL VALVE
11	PRESSURE GAUGE
12	GAUGE PIPE

■ VACUUM OPERATION (RLV · RWV)

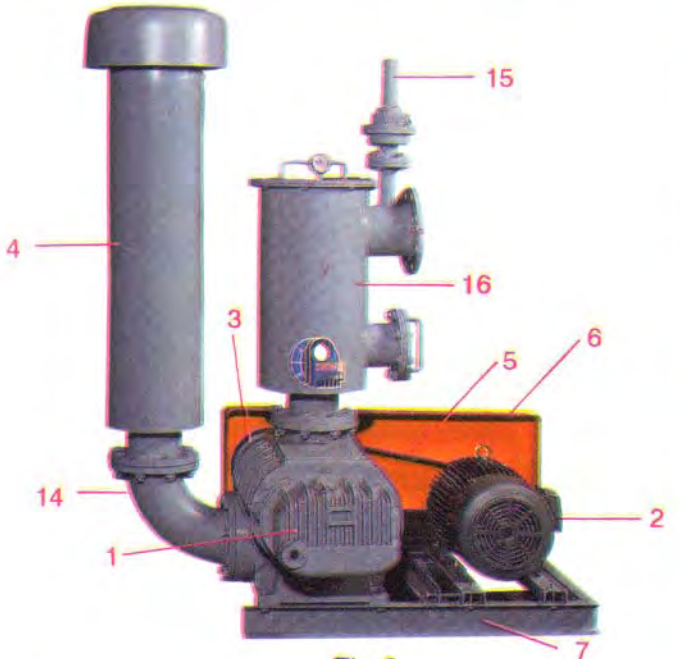


Fig 2

STANDARD ACCESSORIES

NO	NAME
1	BLOWER BODY
2	MOTOR
3	BLOWER PULLEY
4	DISCHARGE SILENCER SET (with AIR FILTER & COVER)
5	V-BELT
6	BELT COVER
7	BASE PLATE
14	90° ELBOW
15	VACUUM SAFETY VALVE
16	SUCTION FILTER TANK (with VACUUM GAUGE)

Note :

Suction silencer set(in Fig 1) and discherage silencer set(in Fig 2) are the same .

RL PERFORMANCE TABLE
FOR PRESSURE OPERATION

TYPE	Bore	Revolution	1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
			9.8kpa		19.6kpa		29.4kpa		39.4kpa		49.0kpa		58.8kpa		68.kpa		78.4kpa	
	inch(mm)	rpm	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw
RL-50	2 (50)	1000	1.51	1.10	1.32	1.15	1.20	1.5	1.10	1.6	0.90	2.0	0.80	2.7	0.70	3.1	0.60	3.5
		1100	1.72	1.15	1.52	1.22	1.40	1.6	1.27	1.8	1.12	2.2	1.02	2.9	0.90	3.3	0.80	3.7
		1200	1.85	1.20	1.75	1.29	1.63	1.7	1.51	2.0	1.33	2.3	1.27	3.1	1.20	3.5	1.10	3.9
		1300	2.05	1.23	1.90	1.36	1.80	1.8	1.70	2.2	1.62	2.5	1.50	3.3	1.40	3.7	1.30	4.1
		1400	2.25	1.27	2.12	1.43	2.00	1.9	1.88	2.4	1.80	2.7	1.70	3.5	1.60	3.9	1.52	4.3
		1500	2.41	1.31	2.31	1.50	2.21	2.0	2.10	2.6	2.00	2.9	1.88	3.7	1.80	4.1	1.75	4.5
		1600	2.60	1.36	2.50	1.60	2.38	2.1	2.28	2.8	2.20	3.1	2.12	3.9	2.06	4.3	2.00	4.7
		1700	2.75	1.41	2.66	1.68	2.55	2.2	2.48	3.0	2.38	3.3	2.31	4.1	2.25	4.5	2.32	4.9
		1800	2.90	1.46	2.80	1.76	2.73	2.3	2.67	3.2	2.60	3.5	2.56	4.3	2.45	4.7	2.38	5.1
		1900	3.12	1.50	3.02	1.84	2.90	2.4	2.85	3.4	2.78	3.7	2.75	4.5	2.70	4.9	2.65	5.3
RL-65	2 ½ (65)	900	2.20	1.5	2.00	1.90	1.85	1.74	1.70	2.68	1.55	3.26	1.40	3.90	1.30	4.24	1.20	4.9
		1000	2.55	1.56	2.35	1.96	2.20	2.02	2.06	2.96	1.95	3.58	1.80	4.22	1.65	4.58	1.53	5.2
		1100	2.90	1.60	2.71	2.02	2.60	2.30	2.40	3.24	2.25	3.9	2.12	4.54	2.00	4.92	1.89	5.5
		1200	3.23	1.65	3.03	2.08	2.90	2.58	2.78	3.52	2.63	4.22	2.50	4.86	2.41	5.26	2.31	5.8
		1300	3.60	1.70	3.42	2.16	3.31	2.86	3.13	3.80	3.01	4.54	2.88	5.18	2.78	5.60	2.70	6.1
		1400	3.98	1.76	3.80	2.24	3.63	3.14	3.50	4.08	3.33	4.86	3.20	5.50	3.06	5.93	3.00	6.4
		1500	4.32	1.80	4.12	2.33	4.0	3.42	3.85	4.36	3.7	5.18	3.6	5.82	3.48	6.25	3.4	6.7
		1600	4.7	1.85	4.51	2.41	4.41	3.7	4.25	4.64	4.1	5.5	3.97	6.14	3.85	6.58	3.75	7.0
		1700	5.01	1.9	4.9	2.5	4.73	3.98	4.6	4.92	4.45	5.82	4.35	6.46	4.21	6.91	4.13	7.25
		1800	5.4	1.95	5.25	2.58	5.12	4.26	5.0	5.2	4.9	6.14	4.78	6.78	4.7	7.25	4.55	7.5
RL-80	3 (80)	900	4.0	2.6	3.7	3.1	3.4	3.6	3.1	4.1	2.85	5.0	2.66	6.1	2.45	6.8	2.25	10.1
		1000	4.5	2.7	4.2	3.2	3.9	3.7	3.59	4.3	3.34	5.2	3.14	6.3	2.93	7.4	2.73	10.4
		1100	5.0	2.8	4.7	3.3	4.38	3.8	4.07	4.5	3.82	5.4	3.62	6.6	3.41	7.9	3.21	10.7
		1200	5.5	2.9	5.2	3.4	4.87	3.9	4.56	4.7	4.31	5.7	4.1	6.8	3.89	8.5	3.69	11
		1300	6.0	3.0	5.7	3.5	5.35	4.0	5.04	4.9	4.79	5.9	4.59	7.1	4.38	9.1	4.17	11.3
		1400	6.5	3.1	6.2	3.6	5.84	4.1	5.53	5.1	5.28	6.2	5.07	7.3	4.86	9.7	4.65	11.6
		1500	7.0	3.2	6.7	3.7	6.32	4.2	6.03	5.3	5.76	6.4	5.55	7.6	5.35	10.3	5.14	11.9
		1600	7.5	3.3	7.2	3.8	6.81	4.3	6.52	5.5	6.25	6.7	6.03	7.8	5.83	10.9	5.62	12.2
		1700	8.0	3.4	7.7	3.9	7.3	4.4	7.01	5.7	6.74	7.0	6.51	8.1	6.32	11.5	6.11	12.5
		1800	8.5	3.5	8.2	4.0	7.8	4.5	7.5	5.9	7.25	7.3	7.0	8.3	6.81	12.0	6.6	12.8
RL-100	4 (100)	800	4.7	3.8	4.1	4.7	3.7	4.9	3.15	5.7	2.83	6.8	2.35	7.8	2.0	9.0	1.7	11.0
		900	5.48	3.9	4.9	4.8	4.5	5.2	3.95	6.1	3.63	7.5	3.19	8.6	2.85	10	2.56	12.0
		1000	6.27	4.0	5.7	4.9	5.3	5.5	4.75	6.5	4.43	8.2	4.03	9.4	3.7	11	3.42	13.0
		1100	7.06	4.1	6.5	5.0	6.1	5.7	5.56	6.9	5.23	8.8	4.87	10.2	4.55	12.0	4.28	14.0
		1200	7.85	4.2	7.30	5.1	6.9	6.0	6.36	7.3	6.03	9.5	5.71	11.0	5.4	13.0	5.14	15.0
		1300	8.63	4.3	8.10	5.2	7.7	6.2	7.16	7.8	6.84	10.1	6.55	11.8	6.25	14.0	6.0	16.0
		1400	9.42	4.4	8.90	5.3	8.5	6.5	7.96	8.2	7.64	10.8	7.39	12.6	7.1	15.0	6.86	17.0
		1500	10.2	4.5	9.7	5.4	9.3	6.8	8.77	8.6	8.50	11.5	8.23	13.4	7.95	16.0	7.72	18.0
		1600	11.0	4.6	10.5	5.5	10.08	7.1	9.75	9.0	9.4	12.1	9.1	14.2	8.8	17.0	8.6	19.0

Note:

The values are expressed as **required power** including drive power for the transmission unit .
The rated range for the air volume at specified ± 5% .
When the design pressure is 8000 mmAq and above , shall be applied RW type(water-cooling design)

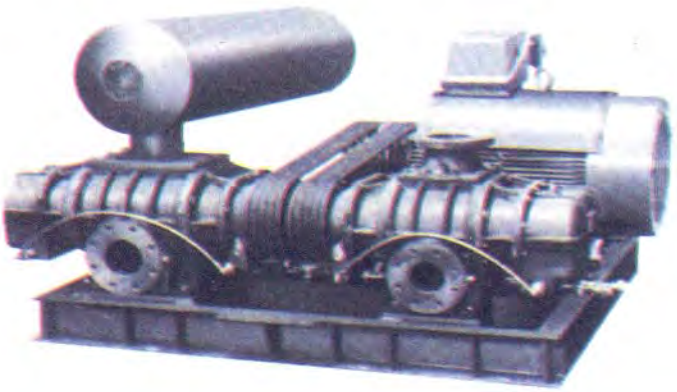
RL PERFORMANCE TABLE
FOR PRESSURE OPERATION

TYPE	Bore	Revolution	1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
			9.8kpa		19.6kpa		29.4kpa		39.4kpa		49.0kpa		58.8kpa		68.kpa		78.4kpa	
	inch(mm)	rpm	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw
RL-125	5 (125)	800	11.0	5.3	10.1	5.5	9.3	7.6	8.5	10.0	7.8	14.1	7.2	17.1	6.5	20.8	6.0	25.2
		900	12.5	5.6	11.6	6.0	10.8	8.3	10.1	11.0	9.4	15.0	8.8	18.0	8.2	22.0	7.7	26.4
		1000	13.9	5.9	13.1	6.5	12.4	8.9	11.7	12.0	11.0	15.8	10.5	18.8	9.9	23.2	9.4	27.6
		1100	15.4	6.2	14.6	7.0	13.9	9.7	13.2	13.0	12.6	16.7	12.1	19.7	11.6	24.3	11.1	28.8
		1200	16.9	6.5	16.1	7.5	15.5	10.3	14.8	14.0	14.3	17.6	13.8	20.6	13.3	25.4	12.8	30.0
		1300	18.4	6.8	17.7	8.0	17.0	11.0	6.5	15.0	15.9	18.5	15.4	21.5	15	26.6	14.5	31.2
		1400	19.8	7.0	19.3	8.5	18.6	11.7	18.0	16.0	17.5	19.3	17.1	22.3	16.7	27.7	16.2	32.4
		1500	21.4	7.3	20.8	9.0	20.1	12.3	19.6	17.0	19.1	20.2	18.7	23.2	18.4	28.9	17.9	33.6
		1600	22.8	7.5	22.2	9.5	21.7	13.1	21.2	18.0	20.8	21.1	20.4	24.1	20.1	30.0	19.7	34.8
RL-150	6 (150)	800	17.0	7.6	16.0	9.0	15.1	12.2	14.0	15.3	13.4	19.0	12.7	25.0	12.3	28.5	11.8	30.0
		900	19.7	8.2	18.7	10.5	17.8	14.0	16.7	17.0	16.1	21.0	15.5	27.5	15.0	32.0	14.5	34.0
		1000	22.5	8.7	21.5	12.0	20.5	15.8	19.5	19.5	18.9	24.5	18.3	30.0	17.8	35.5	17.3	38.0
		1100	25.2	9.3	24.2	13.5	23.2	17.7	22.2	22.0	21.7	28.0	21.1	32.5	20.5	39.0	20.0	43.0
		1200	28.0	9.8	27.0	15.0	25.9	19.5	25.0	24.3	24.5	31.5	23.9	35.0	23.2	42.5	22.7	47.0
		1300	30.7	10.4	29.7	16.0	28.6	21.2	22.7	26.7	27.2	23.3	26.7	37.0	26.0	46.0	25.5	50.0
		1400	33.4	11.0	32.4	17.0	31.3	23.0	30.5	29.0	30.0	35.2	29.5	40.0	28.7	49.5	28.2	53.0
		1500	36.2	11.6	35.2	18.0	34.1	24.8	33.3	31.3	32.8	37.0	32.3	43.0	31.5	53.0	31.0	56.0
RL-200	8 (200)	700	25.2	15.5	24.3	16.0	23.2	16.9	22.5	25.0	21.8	31.0	22.3	35.0	21.1	40.5	20.5	52.0
		800	30.1	16.0	29.2	17.0	28.1	20.2	27.4	28.0	26.8	34.5	27.0	40.5	26.0	47.5	25.4	59.0
		900	35.1	16.5	34.2	18.0	33.1	23.4	32.4	31.0	31.8	38.0	31.8	46.0	30.9	54.5	30.3	66.0
		1000	40.0	17.0	39.1	19.0	38.0	26.7	37.4	34.0	36.8	42.5	36.6	50.0	35.8	61.5	35.2	73.0
		1100	45.0	17.5	44.1	20.5	43.0	30.0	42.4	37.0	41.8	47.0	41.4	54.0	40.7	68.5	40.1	80.0
		1200	50.0	18.0	49.0	22.0	48.0	33.2	47.4	40.0	46.8	51.0	46.2	58.0	45.6	75.0	45.0	87.0
		1300	55.0	18.5	54.0	23.5	53.0	36.5	52.4	43.0	51.8	55	51.0	62.0	50.5	82.5	50.0	93.0
RL-250	10 (250)	700	49.3	19.0	47.7	19.6	46.0	29.5	44.3	40.0	42.7	50.0	41.1	61.4	40.0	72.0	39.0	76.4
		800	56.4	19.3	54.7	22.0	53.1	32.2	51.4	45.0	49.9	56.0	48.3	70.0	47.2	81.0	46.3	90.0
		900	63.5	19.6	61.8	24.3	60.2	34.9	58.5	49.5	57.1	65.0	55.6	78.6	54.4	90.0	53.6	103.6
		1000	70.7	20.0	68.8	26.6	67.3	37.6	65.7	54.0	64.3	74.0	62.9	87.3	61.7	99.0	60.9	117.2
		1100	77.8	20.3	75.9	29.0	74.4	40.3	72.8	58.5	71.5	79.3	70.2	96.0	68.9	108.0	68.2	131.0
		1200	85.0	20.6	83.0	31.3	81.5	43.0	80.0	63.0	78.7	84.6	77.5	102.0	76.2	117.0	75.5	144.6
		1300	92.1	21.0	90.0	33.6	88.6	45.7	87.1	68.0	85.9	90.0	84.7	108.0	83.4	126.0	82.8	157.6
RL-300	12 (300)	700	82.0	39.6	80.0	45.0	78.0	70.0	76.0	79.0	74.5	97.0	73.0	122.3	72.0	178.6	71.0	190.0
		800	95.3	42.3	93.0	52.0	91.08	74.0	89.1	86.0	87.5	107.0	86.1	135.0	85.1	186.0	84.2	200.0
		900	108.6	45.0	106	59.0	104.1	78.0	102.3	93.0	100.6	117.0	99.3	147.7	98.3	193.4	97.5	210.0
		1000	122.0	48.0	119	66.0	117.1	82.0	115.4	100.0	113.7	127.0	112.4	160.5	111.4	203.0	110.7	220.0
		1100	135.3	50.6	132	73.0	130.2	86.0	128.6	107.0	126.8	137.0	125.6	173.2	124.6	208.2	124.0	230.0
		1200	148.6	53.3	145	80.0	143.3	90.0	141.8	114.0	139.9	145.0	138.8	186.0	137.8	215.6		
		1300	162.0	56.0	158.0	87.0	156.5	94.0	155.0	121.0	153.0	153.0	152.0	198.7	151.0	223.0		

RW TYPE(water-cooling design) / PERFORMANCE TABLE FOR PRESSURE OPERATION

FEATURES :

1. Equipped with water-jacket passing through gear box and bearing .
2. Applied for high pressure 8,000~10,000 mmAq and high vacuum -500 ~-600 mmHg on single stage installation .
3. The pressure can be reached 20,000 mmAq and the vacuum can be reached -650 mmHg on two stage installation .



TYPE	Bore	Revolution	8000mmAq		9000mmAq		10000mmAq		Cooling Water Volume
	inch(mm)	rpm	m³/min	kw	m³/min	kw	m³/min	kw	ℓ /min
RW-50	2 (50)	1000	0.60	3.5	0.51	3.9	0.42	4.3	4
		1200	1.10	3.9	1.01	4.3	0.92	4.7	
		1400	1.52	4.3	1.43	4.7	1.35	5.1	
RW-65	2½ (65)	1000	1.53	5.2	1.41	5.8	1.29	6.5	6
		1200	2.31	5.8	2.22	6.3	2.13	6.9	
		1400	3.0	6.4	2.94	6.9	2.88	7.4	
RW-80	3 (80)	900	2.25	10.1	2.05	11.6	1.86	13.1	8
		1100	3.21	10.7	3.01	12.3	2.81	13.9	
		1300	4.17	11.3	3.96	12.9	3.76	14.5	
RW-100	4 (100)	900	2.56	12.0	2.27	13.7	2.00	15.4	10
		1100	4.28	14.0	4.01	15.7	3.75	17.4	
		1300	6.00	16.0	5.75	17.7	5.50	19.4	
RW-125	5 (125)	800	6.00	25.2	5.60	27.7	6.20	30.2	12
		1000	9.40	27.2	9.00	30.1	8.60	32.6	
		1200	12.80	30.0	12.4	32.5	12.0	35.0	
RW-150	6 (150)	800	11.80	30.0	11.30	34.0	10.80	38.0	15
		1000	17.3	38.0	16.8	42.0	16.30	46.0	
		1200	22.7	47.0	22.2	51.0	21.7	55.0	
RW-200	8 (200)	800	25.4	59.0	24.8	65.0	24.2	71.0	20
		900	30.3	66.0	29.7	72.0	29.1	78.0	
		1000	35.2	73.0	34.6	79.0	34.0	85.0	
RW-250	10 (250)	800	46.3	90.0	45.3	101.0	44.5	112.0	25
		900	53.6	103.6	52.7	105.6	51.8	117.6	
		1000	60.9	117.2	60.1	129.2	59.3	141.2	
RW-300	12 (300)	800	84.2	200.2	83.7	215.0	83.2	230.0	30
		900	97.5	210.0	97.0	226.0	96.5	242.0	
		1000	112.7	220.0	110.2	236.0	109.8	252.0	

RLV PERFORMANCE TABLE
FOR VACUUM OPERATION

TYPE	Bore	Revolution	-1000mmAq		-2000mmAq		-3000mmAq		-4000mmAq		-5000mmAq		-6000mmAq		-7000mmAq			
			-9.8kpa		-19.6kpa		-29.4kpa		-39.4kpa		-49.0kpa		-58.8kpa		-68.kpa			
	inch(mm)	rpm	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw		
RLV-50	2 (50)	900	1.50	1.2	1.37	1.3	1.25	1.5	1.11	1.7	0.93	1.9	0.80	2.1				
		1000	1.71	1.3	1.58	1.4	1.46	1.6	1.32	1.8	1.14	2.0	1.00	2.2				
		1100	1.93	1.4	1.79	1.6	1.67	1.8	1.53	2.0	1.35	2.2	1.20	2.4				
		1200	2.14	1.5	2.00	1.7	1.88	2.0	1.74	2.2	1.56	2.4						
		1300	2.36	1.6	2.22	1.9	2.09	2.2	1.95	2.4	1.77	2.6						
		1400	2.58	1.7	2.43	2.1	2.3	2.4	2.16	2.5	1.98	2.8						
		1500	2.8	1.8	2.65	2.3	2.51	2.6	2.37	2.7	2.2	3.0						
RLV-65	2 ½ (65)	900	2.2	1.1	2.1	1.6	1.95	1.7	1.8	2.3	1.63	2.5	1.4	2.6				
		1000	2.55	1.3	2.45	1.7	2.3	1.9	2.15	2.5	1.98	2.8	1.76	2.9				
		1100	2.9	1.5	2.8	1.9	2.66	2.3	2.51	2.8	2.33	3.1	2.13	3.3				
		1200	3.25	1.6	3.15	2.1	3.02	2.6	2.86	3.0	2.68	3.5	2.5	3.7				
		1300	3.6	1.8	3.5	2.3	3.38	2.9	3.22	3.3	3.04	3.7						
		1400	3.95	2.0	3.85	2.4	3.74	3.2	3.57	3.6	3.39	4.0						
		1500	4.30	2.2	4.2	2.6	4.1	3.6	3.93	3.8	3.75	4.3						
RLV-80	3 (80)	900	3.81	2.3	3.62	2.4	3.42	3.4	3.18	4.5	2.86	5.3	2.52	6.3				
		1000	4.25	2.4	4.05	2.6	3.84	3.7	3.6	4.7	3.28	5.7	2.95	6.7				
		1100	4.69	2.6	4.49	2.8	4.27	3.9	4.02	5.0	3.71	6.1	3.38	7.1				
		1200	5.13	2.7	4.92	3.0	4.69	4.1	4.44	5.3	4.14	6.6	3.81	7.5				
		1300	5.57	2.9	5.36	3.2	5.12	4.3	4.86	5.6	4.57	7.0						
		1400	6.01	3.0	5.79	3.4	5.55	4.5	5.28	5.8	5.0	7.5						
		1500	6.45	3.2	6.23	3.6	5.98	4.7	5.7	6.1	5.42	7.9						
RLV-100	4 (100)	800	5.0	3.8	4.2	4.0	3.4	4.7	2.7	5.5	1.8	7.5	1.0	8.3				
		900	6.11	4.0	5.34	4.3	4.53	5.1	3.82	6.2	2.95	8.0	2.23	9.2	1.5	11.0		
		1000	7.22	4.2	6.48	4.6	5.67	5.5	4.95	6.9	4.1	8.6	3.46	10.1				
		1100	8.34	4.4	7.62	4.9	6.8	5.8	6.08	7.6	5.25	9.2	4.7	11.0				
		1200	9.45	4.6	8.76	5.2	7.94	6.2	7.21	8.3	6.4	9.8						
		1300	10.57	4.8	9.9	5.5	9.07	6.5	8.34	9.0	7.55	10.4						
		1400	11.68	5.0	11.04	5.8	10.21	6.9	9.46	9.7	8.75	11.0						
		1500	12.8	5.2	12.18	6.1	11.35	7.3	10.6	10.4	9.8	11.6						

Note:

The values are expressed as **required power** including drive power for the transmission unit。

The rated range for the air volume at specified ± 5%。

When the design pressure is -8000 mmAq and below，shall be applied RWV type(water-cooling design)。

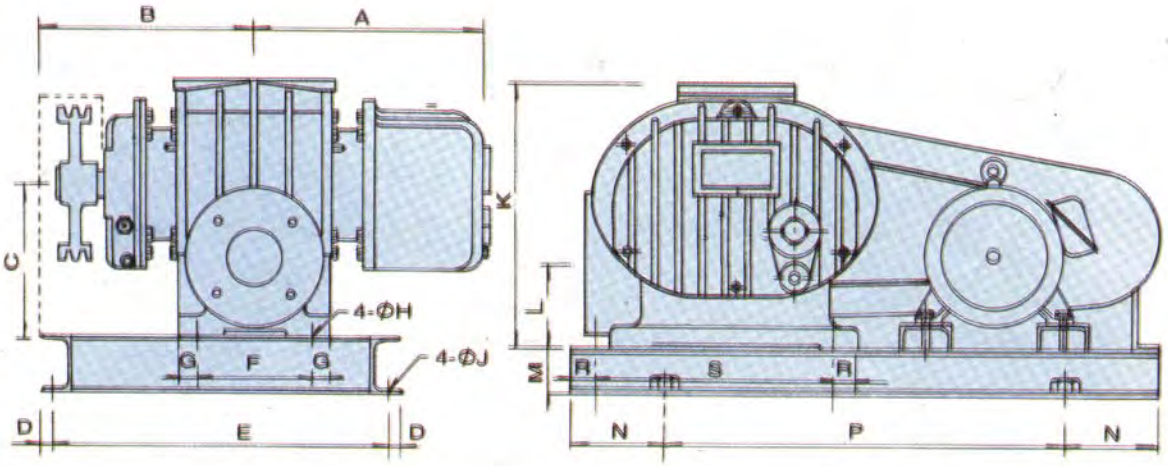
RLV PERFORMANCE TABLE FOR VACUUM OPERATION

TYPE	Bore	Revolution	-1000mmAq		-2000mmAq		-3000mmAq		-4000mmAq		-5000mmAq		-6000mmAq		-7000mmAQ	
			-9.8kpa		-19.6kpa		-29.4kpa		-39.4kpa		-49.0kpa		-58.8kpa		-68.kpa	
	inch(mm)	rpm	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw	m³/min	kw
RLV-125	5 (125)	800	10.9	5.8	10.3	6.2	9.6	8.2	9.0	9.9	8.2	13.0	7.4	16.0	6.6	17.7
		900	12.4	6.0	11.8	6.7	11.1	8.7	10.5	11.0	9.6	13.8	8.8	16.6	8.0	18.5
		1000	13.9	6.3	13.3	7.3	12.6	9.3	12.0	12.1	11.1	14.7	10.2	17.2		
		1100	15.4	6.6	14.8	8.0	14.1	9.7	13.5	13.2	12.6	15.5	11.6	17.8		
		1200	16.9	6.9	16.3	8.6	15.6	10.5	15.0	14.3	14.1	16.3	13.0	18.5		
		1300	18.5	7.2	17.9	9.2	17.2	11.2	16.5	15.3	15.6	17.1				
		1400	20.0	7.5	19.4	9.8	18.7	11.8	18.0	16.4	17.3	18.0				
		1500	21.6	7.8	21.0	10.5	20.3	12.3	19.5	17.5	18.7	18.8				
RLV-150	6 (150)	800	17.0	8.0	16.2	9.3	15.0	11.3	14.0	15.0	13.1	19.0	12.4	29.4	11.7	33.0
		900	19.6	8.7	18.8	10.5	17.7	12.7	16.7	17.0	15.8	22.0	15.1	31.2	14.6	35.0
		1000	22.3	9.5	21.5	11.6	20.4	14.3	19.4	19.1	18.6	26.0	17.9	33.0	17.5	37.0
		1100	25.0	10.2	24.2	12.7	23.1	15.8	22.1	21.8	21.4	30.0	20.7	34.7		
		1200	27.7	11.0	26.9	13.9	25.8	17.3	24.9	24.5	24.1	31.7	23.5	36.5		
		1300	30.4	11.7	29.6	15.0	28.5	18.9	27.6	27.2	26.9	33.5				
		1400	33.0	12.5	32.2	16.2	31.2	20.4	30.3	30.0	29.7	35.2				
		1500	35.8	13.2	35.0	17.3	34.0	22.0	33.1	32.7	32.5	37.0				
RLV-200	8 (200)	700	25.7	11.1	24.8	11.6	24.0	15.0	23.0	19.0	22.5	26.8	21.8	31.5	21.2	45.0
		800	30.6	11.5	29.7	12.4	28.8	16.3	27.9	21.0	27.4	30.0	26.8	37.0	26.0	53.0
		900	35.5	11.9	34.6	13.6	33.7	17.6	32.8	24.3	32.3	33.2	31.9	43.0		
		1000	40.4	12.3	39.5	14.8	38.6	19.0	37.8	27.6	37.2	36.5	36.9	50.0		
		1100	45.3	12.7	44.4	16.0	43.5	21.5	42.7	31.0	42.1	42.6	42.0	57.0		
		1200	50.2	13.1	49.3	17.2	48.4	24.0	47.6	34.3	47.0	48.8				
		1300	55.1	13.5	54.2	18.5	53.3	26.5	52.6	38.0	52.0	55.0				
RLV-250	10 (250)	700	50.0	23.0	48.3	26.0	47.0	29.5	45.0	31.0	43.4	46.0	42.0	55.0	40.0	68.0
		800	57.0	24.2	55.2	27.3	53.8	32.0	51.8	37.0	50.2	50.0	48.8	61.6	46.5	75.0
		900	64.0	25.4	62.1	28.6	60.6	34.3	58.6	43.0	57.0	54.0	55.6	68.3	53.1	82.0
		1000	71.0	26.6	69.1	30.0	67.4	36.6	65.5	49.0	63.8	61.0	62.5	75.0		
		1100	78.0	27.8	76.0	31.3	74.2	39.0	72.3	55.0	70.6	68.0				
		1200	85.0	29.0	83.0	32.6	81.1	41.3	79.2	61.0	77.5	75.0				
		1300	92.0	30.2	89.9	34.0	87.9	43.6	86.0	67.0	84.3	82.0				
RLV-300	12 (300)	700	80.0	38.0	77.5	40.0	75.0	49.5	72.0	50.0	102.0	62.7	120	70.0	140	81.0
		800	94.0	39.4	91.0	43.0	88.3	58.0	85.1	63.3	118.4	76.5	140	93.0	155	106
		900	108	40.8	104.6	47.0	101.6	66.5	98.3	80.5	135	93.5	160	106	170	122
		1000	122	42.2	118.2	51.0	114.9	75.0	111.4	110.0	151.6	104	180	136		
		1100	136	43.6	131.8	55.0	128.2	80.0	126.0	117.3	168.2	118				
		1200	150	45.0	145.4	59.0	141.5	85.0	137.8	124.6	185.0	132				
		1300	164	46.4	159	63.0	155	90.0	151	132	201.0	146				

OUTLINE DIMENSIONS

RL TYPE

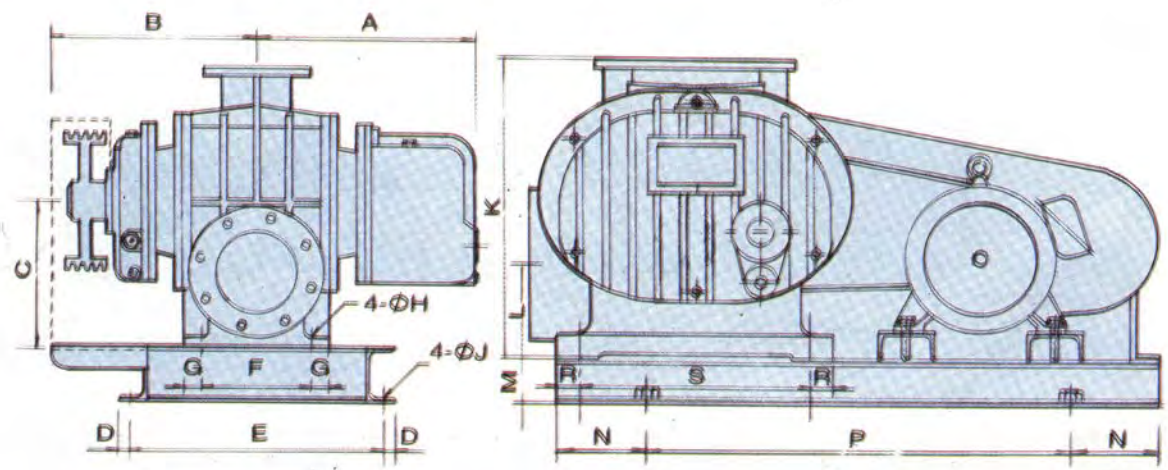
◆ DIMENSIONS OF RL-50,65



UNIT: mm.

TYPE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	Wt. (kG.)
RL-50	300	260	170	20	405	165	20	14	15	270	90	75	50	620	30	190	85
RL-65	320	280	170	20	405	195	20	14	15	270	90	75	50	620	30	190	100

◆ DIMENSIONS OF RL-80,100,125,150

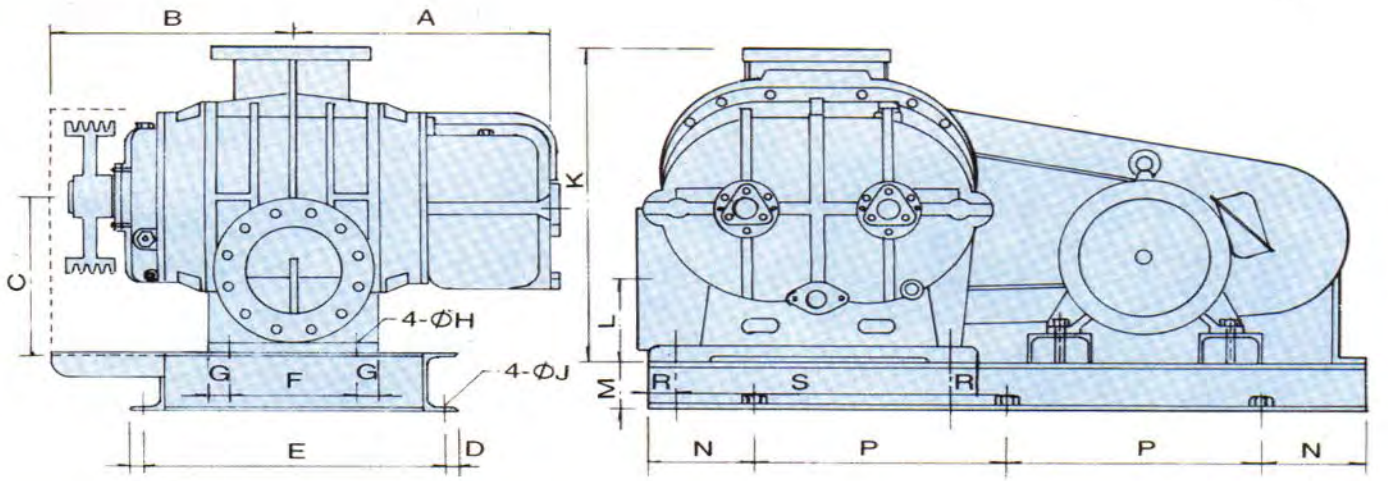


UNIT: mm.

TYPE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	Wt. (kG.)
RL-80	335	335	225	20	510	195	20	16	15	400	106	75	100	670	20	195	170
RL-100	400	370	225	20	560	275	25	16	15	400	108	75	100	760	25	230	190
RL-125	380	320	260	25	550	310	20	19	19	500	160	100	100	900	20	360	280
RL-150	485	445	285	25	550	430	20	19	19	530	160	100	100	900	20	360	380

OUTLINE DIMENSIONS

◆ DIMENSIONS OF RL-200,250,300

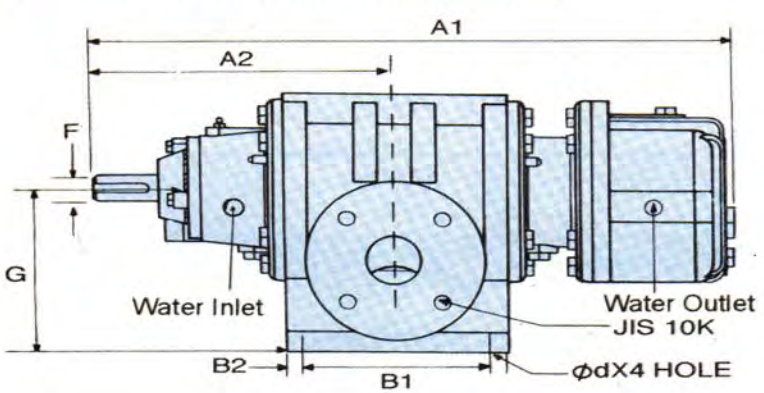


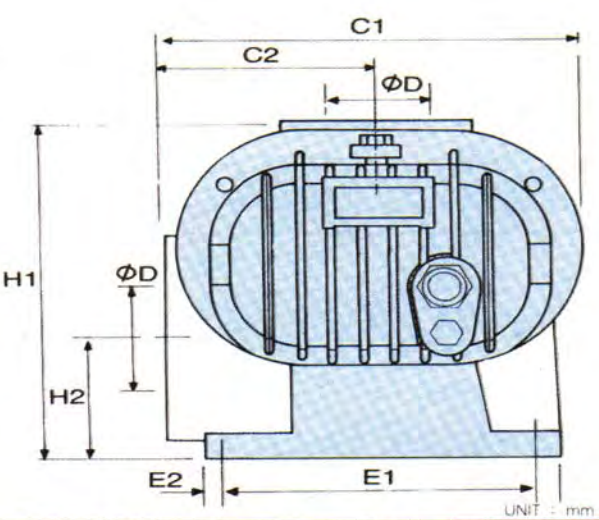
UNIT : mm.

TYPE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	Wt. (kG.)
RL-200	580	570	400	30	940	400	40	23	24	710	190	125	100	750	35	550	800
RL-250	680	660	430	30	940	525	42	23	24	790	210	125	100	750	35	550	1050
RL-300	780	810	550	35	1030	500	60	34	24	1080	300	150	235	1000	50	700	2550

RW TYPE

◆ DIMENSIONS OF Blower body

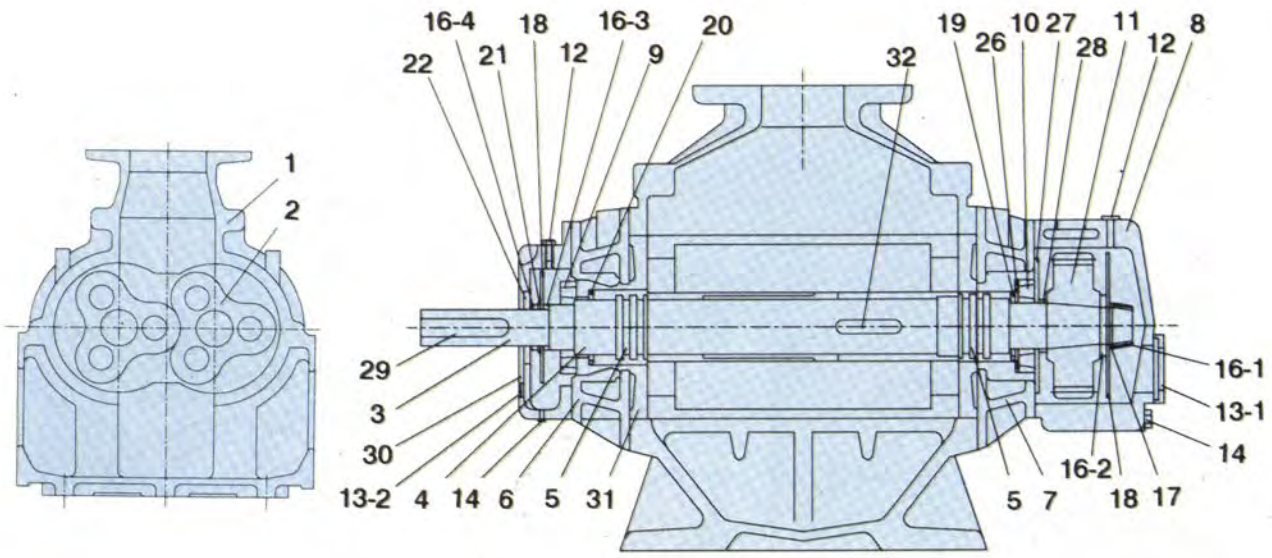




UNIT : mm

TYPE	A_1	A_2	B_1	B_2	C_1	C_2	ϕD	ϕd	E_1	E_2	F	G	H_1	H_2	WEIGHT (kg)
RW-50	580	280	165	20	285	150	50	14	190	30	28	170	355	90	85
RW-65	640	300	195	20	285	150	65	14	190	30	28	170	355	90	100
RW-80	700	350	195	20	365	190	80	16	195	20	38	225	430	106	170
RW-100	800	385	275	25	365	190	100	16	230	25	38	225	430	118	190
RW-125	790	365	200	20	500	255	125	19	360	20	48	260	530	160	280
RW-150	1020	490	430	20	500	260	150	19	360	20	48	285	540	160	380
RW-200	1160	520	400	40	750	370	200	23	550	35	65	400	710	190	800
RW-250	1310	600	525	42	750	370	250	23	550	35	65	430	781	210	1050
RW-300	1540	830	500	60	1170	620	300	33	700	50	120	540	1060	300	1750

RL STRUCTURAL DRAWING

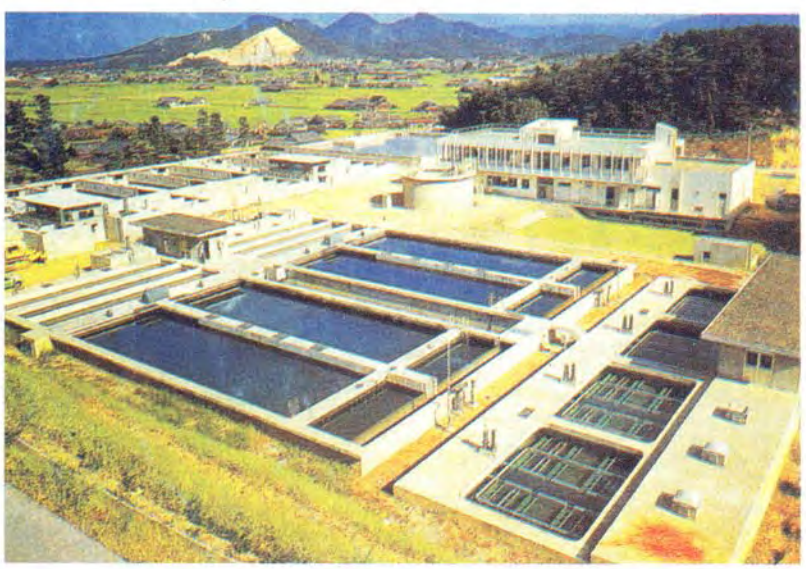


PARTS LIST

NO.	NAME	MATERIAL	Q'TY
1	CASING	FC25	1
2	ROTOR	FC25	2
3	DRIVE SHAFT	SCM440	1
4	DRIVEN SHAFT	SCM440	1
5	LABYRINTH SEAL	SCM440	1
6	FRONT SIDE OVER	FC-25	1
7	REAR SIDE COVER	FC-25	1
8	GEAR BOX	FC-25	1
9	FRONT BEARING	SUJ2	2
10	REAR BEARING	SUJ2	2
11	TIMING GEAR	SNCM220	2
12	LUBRICATION PLUG	S45C	2
13-1	REAR OIL GAUGE	GLASS	1
13-2	FRONT OIL GAUGE	GLASS	1
14	DRAIN PLUG	S45C	2
16-1	LOCK NUT	S45C	1

NO.	NAME	MATERIAL	Q'TY
16-2	LOCK NUT	S45C	2
16-3	LOCK NUT	S45C	1
16-4	LOCK NUT	S45C	2
17	WASHER	SS41	1
18	OIL SPLASH	SS41	2
19	O-RING	NBR	4
21	LOCK WASHER	SS41	2
22	OIL SEAL	NBR	1
26	BEARING CASE	FC25	4
27	BEARING COVER	SPCC	4
28	GEAR SLEEVE	S45C	2
29	PARALLEL KEY	S50C	2
30	BEARING HOLDER	FC25	1
31	SIDE PLATE	FC25	4
32	KEY	S45C	2

http : //www.showfou.com.tw



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