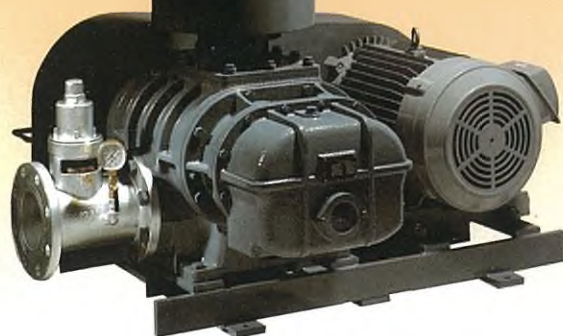


UNOZAWA

**THREE LOBE
ROTARY
BLOWER**



THREE LOBE ROTARY BLOWER

SILENT BLOWER

"ARK" SERIES



UNOZAWA-GUMI IRON WORKS, LTD.

"NEW PRODUCTS" CONCENTRATED NEW TECHNOLOGY QUALITY CONTROLLED, EXCELLENT SAFETY PROCEDURE

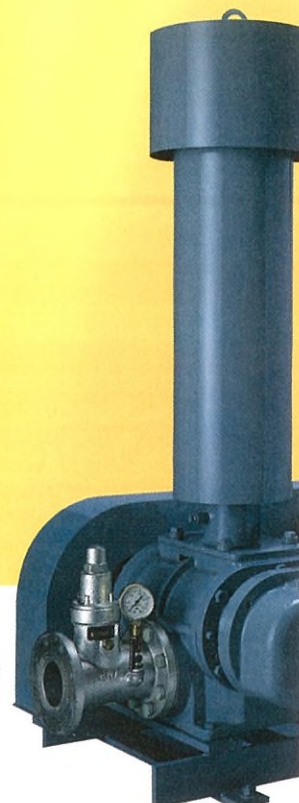
UNOZAWA ARK series are small sized and 3-lobes rotary blowers realizing high performance, low noise and low vibration. ARK series guarantee long continuous running with high stability by assembly of very precise parts and components manufactured under very high quality control. All users are assured safely running by totally enclosed driving unit.

UNOZAWA ARK series 3-lobes blowers are not required inside lubrication and are most suitable for applications of clean air handling for example waste water treatment, air source of pneumatic conveying system for powder and granule, humidity control system, mixing liquids, and air source for furnaces.

As ARK series blowers are highly standardized products, deliveries are available in short period.



Unozawa "ARK" three Lobe Rotary Blower



AND HIGH QUALITY, AS RESULTS OF HIGHLY AND DESIGNED FOR ALL USERS

Advantages

The new series of blower and vacuum pump, which are innovative three lobe, low noise and compact roots type units, guarantees an optimum air supply to meet any desired service conditions.

Specifications are as follows:

Blowers:

Piping size:	32~200mm
Suction pressure:	Atmospheric pressure
Discharge pressure:	1,000~6,000mm Aq G
Capacity:	0.4~50m ³ /min.

Vacuum pumps:

Piping size:	32~200mm
Suction pressure:	-1,000~-4,000mm Aq G
Discharge pressure:	Atmospheric pressure
Capacity:	0.4~50m ³ /min.

This catalogue details air capacities, noise characteristics and external dimensions of units so that a model can be selected in accordance with desired service conditions.

● Low noise, less vibration

For many years we have conducted noise and vibration researches. The new series features an ideal back-flow compression with three lobes. Consequently, pulsations of discharged air are greatly reduced, while noise and vibration also eliminated to a great degree.

● Compact

Design emphasis was put on unification of blower and accessories, suction silencer directly attached to the blower and motor & belt cover installed together with blower on the common base.

Further compactness is featured by the positioning of the pressure gauge and relief valve, both of which are installed on the discharge side, greatly facilitating installation in limited space. Simple piping and maintenance are ensured.

● Oil free/trouble free

Internal lubrication is eliminated by a design that allows adequate clearances between the rotors, and the rotors and the casing. The only mechanical parts that contact with each other are timing gears and bearings.

Since these parts are separated from the casing (rotor chamber) by a side cover (intermediate chamber), there is no fear of lubricating oil contaminating these parts.

Consequently, air discharged is free from oil or other foreign contaminants, ensuring a continuous safe and clean operation for a long period of time.



Unozawa "ARK" three Lobe Rotary Blower

NEW BLOWERS WITH HIGHLY PRECISE PARTS AND COMPONENTS ASSURE LONG CONTINUOUS RUNNING.



Construction

Casing

Rotor

Bearing

Timing gear

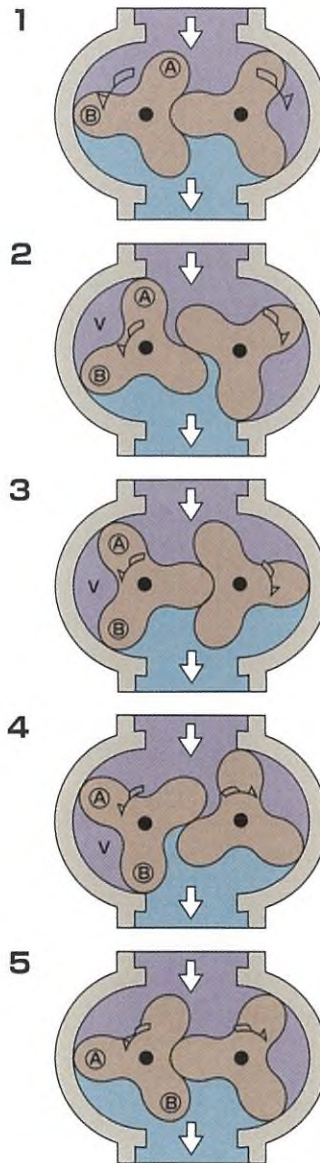
Lubrication

Belt guard

Principle

A pair of rotors turn in opposite directions inside the casing, maintaining a precision clearance between the inside wall of the casing and the two rotors. Air is taken into the blower as the lobe end of each rotor passes the suction port and transferred from the suction side to the discharge side. It is then discharged, forced towards the high pressure side. Air at the suction side is caught in volume "V" surrounded by lobe ends (A), (B) and the casing in process as shown in illustrations (1) and (2), and after steps (3) and (4), is discharged step (5).

With three lobes, this process is repeated six times per one rotation and constant volume of air proportional to the number of revolutions are discharged.



Advantages of the three lobe rotor

Compression takes place when the rotor's lobe end faces the discharge place and high pressure air at the discharge side flow back into the casing.

The main cause of blower noise lies in this pulsation of pressure that accompanies the back-flow compression.

In case of the three lobe rotor, the cycle of pulsation is $2/3$ that of the two lobe rotor. The pressure peak value also reduces. In addition, since the three lobe rotor is of specially designed construction so as to minimize the range of pulsations, pulsations at the discharge port have been conspicuously reduced, compared with the two lobe rotor. Consequently, the back-flow compression of blower is done smoothly and noise level greatly lowered.

Single piece body of cast iron, consisting of the upper suction and the lower horizontal discharge sections, ensures sufficient strength and durability. Internal inspections are facilitated by large suction port in the casing.

The three lobe rotor is built of cast iron of good quality subjected to high precision machining. The inside clearances are precision matched and optimum efficiency is guaranteed. In addition, as it is perfectly balanced by means of balancing machine, noise and vibration are minimized.

Maintenance is simple, as interchangeable ball bearings of same size are used for all of the four places. They are high precision ball bearings with a load capacity suited for working conditions. Stable performance and long service life are guaranteed.

Special considerations have been given to the timing gear, since it is as important a part of blower as the rotor. Made of chrome molybdenum steel, carburized, quenched and ground, it is excellent in durability. Since tooth profile precision is rated at JIS Class 1, noise emissions in operation are very low.

Lubricating oil is used for the timing gear as well as for the bearing on the gear side, while grease is used to lubricate the bearing on the pulley side. Since the gear case has an adequate oil basin and a wide outside radiation area, cooling water is not required over the range specified in the performance table. In addition, the oil level can be easily checked by using the attached circular oil level gauge.

Driving units are totally enclosed by steel cover with deep consideration of safety running. And open-close window helps checking of V-belt inside. Also, proper stickers indicate safety precautions.

Blower performance table

Model	Speed (rpm)	Air volume at suction state Qs (m³/min) and shaft horse power L (kw)											
		10 kPa		20 kPa		30 kPa		40 kPa		50 kPa		60 kPa	
		1020mmAq		2040mmAq		3060mmAq		4080mmAq		5100mmAq		6120mmAq	
		Qs	L	Qs	L	Qs	L	Qs	L	Qs	L	Qs	L
ARK 32	1390	0.44	0.2	0.36	0.3	0.30	0.4	0.24	0.5				
	1470	0.48	0.2	0.40	0.3	0.33	0.4	0.28	0.5	0.24	0.6		
	1560	0.52	0.2	0.44	0.3	0.38	0.4	0.32	0.6	0.28	0.7		
	1650	0.56	0.2	0.48	0.3	0.42	0.5	0.37	0.6	0.32	0.7		
	1750	0.61	0.2	0.53	0.4	0.46	0.5	0.41	0.6	0.37	0.8		
	1850	0.65	0.2	0.57	0.4	0.51	0.5	0.46	0.7	0.41	0.8		
	1950	0.70	0.3	0.62	0.4	0.56	0.6	0.50	0.7	0.46	0.9		
	2050	0.75	0.3	0.67	0.5	0.60	0.6	0.55	0.8	0.51	0.9		
	2160	0.80	0.3	0.72	0.5	0.65	0.7	0.60	0.8	0.56	1.0	0.52	1.2
	2240	0.84	0.3	0.75	0.5	0.69	0.7	0.64	0.9	0.59	1.0	0.55	1.2
ARK 40	1390	0.69	0.2	0.58	0.4	0.50	0.6	0.42	0.7				
	1470	0.75	0.3	0.63	0.4	0.55	0.6	0.48	0.8	0.42	0.9		
	1560	0.81	0.3	0.70	0.5	0.61	0.6	0.54	0.8	0.48	1.0		
	1650	0.87	0.3	0.76	0.5	0.68	0.7	0.61	0.9	0.54	1.1		
	1750	0.94	0.3	0.83	0.5	0.75	0.7	0.68	1.0	0.61	1.2		
	1850	1.01	0.4	0.90	0.6	0.82	0.8	0.75	1.0	0.68	1.2		
	1950	1.08	0.4	0.97	0.6	0.89	0.9	0.82	1.1	0.75	1.3		
	2050	1.15	0.4	1.04	0.7	0.96	0.9	0.89	1.2	0.82	1.4		
	2160	1.23	0.5	1.12	0.7	1.03	1.0	0.96	1.2	0.90	1.5	0.84	1.7
	2240	1.28	0.5	1.17	0.8	1.09	1.0	1.02	1.3	0.96	1.6	0.90	1.8
ARK 50	1390	1.12	0.3	0.96	0.6	0.84	0.8	0.74	1.1	0.66	1.3		
	1470	1.20	0.4	1.05	0.6	0.93	0.9	0.83	1.2	0.74	1.4		
	1560	1.30	0.4	1.14	0.7	1.03	1.0	0.93	1.3	0.84	1.5		
	1650	1.40	0.4	1.24	0.7	1.12	1.0	1.03	1.3	0.94	1.6		
	1750	1.51	0.5	1.35	0.8	1.23	1.1	1.13	1.4	1.05	1.7		
	1850	1.61	0.5	1.46	0.9	1.34	1.2	1.24	1.5	1.16	1.9		
	1950	1.72	0.6	1.57	0.9	1.45	1.3	1.35	1.6	1.27	2.0	1.19	2.3
	2050	1.83	0.6	1.68	1.0	1.56	1.4	1.46	1.7	1.37	2.1	1.30	2.5
	2160	1.95	0.7	1.80	1.1	1.68	1.5	1.58	1.8	1.49	2.2	1.42	2.6
	2240	2.04	0.7	1.88	1.1	1.76	1.5	1.67	1.9	1.58	2.3	1.50	2.7
ARK 65	1240	1.60	0.4	1.41	0.8	1.26	1.1	1.14	1.5	1.03	1.8		
	1310	1.72	0.5	1.53	0.9	1.38	1.2	1.25	1.6	1.14	2.0		
	1390	1.86	0.5	1.66	0.9	1.51	1.3	1.39	1.7	1.28	2.1		
	1470	1.99	0.6	1.80	1.0	1.65	1.4	1.52	1.8	1.42	2.2		
	1560	2.15	0.6	1.95	1.1	1.80	1.5	1.68	1.9	1.57	2.4		
	1650	2.30	0.7	2.10	1.1	1.95	1.6	1.83	2.1	1.72	2.5	1.62	3.0
	1750	2.47	0.7	2.27	1.2	2.12	1.7	2.00	2.2	1.89	2.7	1.79	3.2
	1850	2.64	0.8	2.44	1.3	2.29	1.8	2.17	2.4	2.06	2.9	1.96	3.4
	1950	2.81	0.9	2.61	1.4	2.46	2.0	2.34	2.5	2.23	3.1	2.13	3.6
	2050	2.98	0.9	2.78	1.5	2.63	2.1	2.51	2.7	2.40	3.2	2.30	3.8
ARK 80	2160	3.16	1.0	2.97	1.6	2.82	2.2	2.69	2.8	2.58	3.5	2.49	4.1
	1240	2.55	0.7	2.27	1.2	2.07	1.8	1.90	2.3	1.75	2.8		
	1310	2.73	0.7	2.46	1.3	2.25	1.9	2.08	2.4	1.93	3.0		
	1390	2.94	0.8	2.67	1.4	2.46	2.0	2.29	2.6	2.14	3.2		
	1470	3.14	0.9	2.87	1.5	2.67	2.1	2.50	2.8	2.35	3.4	2.21	4.1
	1560	3.38	0.9	3.11	1.6	2.90	2.3	2.73	3.0	2.58	3.7	2.44	4.3
	1650	3.61	1.0	3.34	1.7	3.14	2.5	2.97	3.2	2.81	3.9	2.68	4.6
	1750	3.87	1.1	3.60	1.9	3.40	2.6	3.23	3.4	3.07	4.2	2.94	4.9
	1850	4.14	1.2	3.86	2.0	3.66	2.8	3.49	3.6	3.34	4.4	3.20	5.2
	1950	4.40	1.3	4.12	2.2	3.92	3.0	3.75	3.9	3.60	4.7	3.46	5.6
	2050	4.66	1.4	4.39	2.3	4.18	3.2	4.01	4.1	3.86	5.0	3.72	5.9
	2160	4.94	1.6	4.67	2.5	4.47	3.4	4.29	4.4	4.14	5.3	4.01	6.3

Model	Speed (rpm)	Air volume at suction state Qs (m³/min) and shaft horse power L (kw)											
		10 kPa		20 kPa		30 kPa		40 kPa		50 kPa		60 kPa	
		1020mmAq		2040mmAq		3060mmAq		4080mmAq		5100mmAq		6120mmAq	
		Qs	L	Qs	L	Qs	L	Qs	L	Qs	L	Qs	L
ARK 100	1040	4.04	1.1	3.67	1.9	3.39	2.8	3.15	3.6	2.94	4.4		
	1100	4.33	1.2	3.96	2.1	3.67	3.0	3.44	3.8	3.23	4.7	3.04	5.6
	1170	4.67	1.3	4.29	2.2	4.01	3.2	3.77	4.1	3.56	5.1	3.38	6.0
	1240	5.00	1.4	4.63	2.4	4.35	3.4	4.11	4.4	3.90	5.4	3.71	6.4
	1310	5.34	1.6	4.97	2.6	4.68	3.6	4.44	4.7	4.24	5.7	4.05	6.8
	1390	5.72	1.7	5.35	2.8	5.07	3.9	4.83	5.0	4.62	6.2	4.43	7.3
	1470	6.11	1.9	5.73	3.0	5.45	4.2	5.21	5.4	5.00	6.6	4.82	7.7
	1560	6.54	2.0	6.17	3.3	5.88	4.5	5.64	5.8	5.44	7.0	5.25	8.3
	1650	6.97	2.2	6.60	3.6	6.31	4.9	6.08	6.2	5.87	7.5	5.68	8.8
	1750	7.45	2.5	7.08	3.9	6.79	5.3	6.56	6.7	6.35	8.1	6.16	9.5
	1850	7.93	2.7	7.56	4.2	7.27	5.7	7.04	7.2	6.83	8.6	6.64	10.1
ARK 100L	1100	6.64	1.6	6.14	3.0	5.75	4.3	5.43	5.6	5.15	6.9	4.90	8.2
	1170	7.14	1.8	6.64	3.2	6.26	4.6	5.94	6.0	5.65	7.4	5.40	8.8
	1240	7.65	1.9	7.14	3.4	6.76	4.9	6.44	6.4	6.16	7.9	5.90	9.4
	1310	8.15	2.1	7.65	3.6	7.26	5.2	6.94	6.8	6.66	8.4	6.41	9.9
	1390	8.73	2.3	8.22	3.9	7.84	5.6	7.52	7.3	7.24	8.9	6.98	10.6
	1470	9.30	2.4	8.80	4.2	8.42	6.0	8.10	7.7	7.81	9.5	7.56	11.3
	1560	9.95	2.7	9.45	4.5	9.06	6.4	8.74	8.3	8.46	10.2	8.21	12.0
	1650	10.6	2.9	10.1	4.9	9.71	6.9	9.39	8.8	9.11	10.8	8.86	12.8
	1750	11.3	3.2	10.8	5.3	10.4	7.4	10.1	9.5	9.83	11.6	9.58	13.7
ARK 125	1850	12.0	3.5	11.5	5.7	11.2	7.9	10.8	10.1	10.5	12.3	10.3	14.6
	980	9.85	2.7	9.17	4.7	8.67	6.7	8.27	8.7	7.92	10.7	7.62	12.6
	1040	10.6	2.9	9.90	5.0	9.40	7.1	9.00	9.3	8.65	11.4	8.35	13.5
	1100	11.3	3.1	10.6	5.4	10.1	7.6	9.73	9.9	9.39	12.1	9.08	14.3
	1170	12.2	3.4	11.5	5.8	11.0	8.2	10.6	10.6	10.2	13.0	9.94	15.4
	1240	13.0	3.8	12.3	6.3	11.8	8.8	11.4	11.3	11.1	13.9	10.8	16.4
	1310	13.9	4.1	13.2	6.8	12.7	9.4	12.3	12.1	12.0	14.8	11.6	17.4
	1390	14.9	4.5	14.2	7.3	13.7	10.2	13.3	13.0	12.9	15.8	12.6	18.6
	1470	15.8	4.9	15.2	7.9	14.7	10.9	14.3	13.9	13.9	16.9	13.6	19.9
ARK 150	1560	16.9	5.4	16.3	8.6	15.8	11.8	15.4	15.0	15.0	18.1	14.7	21
	980	14.7	3.7	13.8	6.6	13.1	9.5	12.6	12.4	12.1	15.3	11.7	18.2
	1040	15.7	4.0	14.8	7.0	14.2	10.1	13.6	13.2	13.2	16.3	12.8	19.4
	1100	16.8	4.3	15.9	7.5	15.3	10.8	14.7	14.1	14.3	17.4	13.9	21
	1170	18.1	4.6	17.2	8.1	16.5	11.6	16.0	15.1	15.5	18.6	15.1	22
	1240	19.3	5.0	18.4	8.7	17.8	12.4	17.2	16.1	16.8	19.8	16.4	24
	1310	20.6	5.5	19.7	9.4	19.0	13.3	18.5	17.2	18.0	21	17.6	25
	1390	22.0	6.0	21.1	10.1	20.4	14.2	19.9	18.4	19.4	23	19.0	27
	1470	23.4	6.5	22.5	10.9	21.9	15.2	21.3	19.6	20.9	24	20.5	28
ARK 150L	1560	25.0	7.1	24.1	11.7	23.5	16.4	22.9	21	22.5	26	22.1	30
	980	17.9	4.1	16.9	7.6	16.1	11.1	15.5	14.7	15.0	18.2	14.5	22
	1040	19.2	4.4	18.2	8.1	17.4	11.9	16.8	15.6	16.3	19.4	15.8	23
	1100	20.5	4.7	19.5	8.6	18.7	12.6	18.1	16.6	17.6	21	17.1	25
	1170	22.0	5.1	21.0	9.3	20.2	13.5	19.6	17.7	19.1	22	18.6	26
	1240	23.6	5.5	22.5	9.9	21.8	14.4	21.1	18.9	20.6	23	20.1	28
	1310	25.1	5.9	24.0	10.6	23.3	15.3	22.7	20	22.1	25	21.7	29
	1390	26.8	6.3	25.8	11.3	25.0	16.3	24.4	21	23.9	26	23.4	31
	1470	28.5	6.8	27.5	12.1	26.7	17.4	26.1	23	25.6	28	25.1	33
ARK 200	1560	30.5	7.4	29.4	13.0	28.7	18.6	28.1	24	27.5	30	27.1	36
	880	22.3	5.6	21.2	9.9	20.4	14.2	19.8	18.5	19.2	23	18.7	27
	930	23.8	6.1	22.7	10.6	21.9	15.2	21.2	19.7	20.7	24	20.2	29
	980	25.3	6.5	24.2	11.3	23.4	16.1	22.7	21	22.1	26	21.6	30
	1040	27.0	7.1	25.9	12.2	25.1	17.3	24.5	22	23.9	27	23.4	33
	1100	28.8	7.7	27.7	13.1	26.9	18.5	26.2	24	25.7	29	25.2	35
	1170	30.9	8.5	29.7	14.2	28.9	20	28.3	26	27.7	31	27.2	37
	1240	32.9	9.2	31.8	15.3	31.0	21	30.3	27	29.8	34	29.3	40
	1310	35.0	10.1	33.9	16.5	33.0	23	32.4	29	31.8	36	31.3	42
	1390	37.3	11.1	36.2	17.9	35.4	25	34.7	31	34.2	38	33.7	45

Model	Speed (rpm)	Air volume at suction state Qs (m ³ /min) and shaft horse power L (kw)											
		10 kPa		20 kPa		30 kPa		40 kPa		50 kPa		60 kPa	
		1020mmAq		2040mmAq		3060mmAq		4080mmAq		5100mmAq		6120mmAq	
		Qs	L	Qs	L	Qs	L	Qs	L	Qs	L	Qs	L
ARK 200L	880	31.6	7.1	30.2	13.2	29.1	19.2	28.2	25	27.5	31	26.8	37
	930	33.7	7.6	32.2	14.0	31.2	20	30.3	27	29.5	33	28.9	39
	980	35.7	8.2	34.3	14.9	33.2	22	32.3	28	31.6	35	30.9	42
	1040	38.2	8.8	36.7	15.9	35.7	23	34.8	30	34.1	37	33.4	44
	1100	40.7	9.5	39.2	17.0	38.1	25	37.3	32	36.5	40		
	1170	43.5	10.3	42.1	18.3	41.0	26	40.2	34	39.4	42		
	1240	46.4	11.2	45.0	19.7	43.9	28	43.0	37	42.3	45		
	1310	49.3	12.1	47.8	21	46.8	30	45.9	39				
	1390	52.6	13.1	51.1	23	50.1	32	49.2	42				

Note for the performance table

1. Air volume listed in the table (hereafter referred to as listed air volume) represents a suction air volume at the standard suction state (temperature 20°C, absolute pressure $1.01325 \times 10^5 \text{ Pa}$ (1013mbar), relative humidity 65%).

2. Air volume at standard conditions (0°C, 10332mmAq abs.) can be converted into listed air volume by the following formula:

$$Q_s = Q_N \times \frac{10332}{10332 + P_s} \times \frac{273 + t_s}{273}$$

Where:

Q_s: Listed air volume (m³/min)

Q_N: Air volume

at standard condition (m³/min)

P_s: Suction pressure (mmAq G)

t_s: Suction temperature (°C)

3. Between two adjacent blower models, air volumes at boundary level overlap. Either of the two models can be used, but from the economical standpoint it is recom-

mended that smaller model is used. Occasionally, however, a larger model is used at low speed in consideration of noise level. Please refer to noise data given in this catalogue, if this is being considered.

4. Shaft horse power listed in the performance table is a required horse power, including the power requirements for transmission (V Belt). Motor with an output corresponding to the listed shaft horse power can be used. However, it will be better to use motors, of which the outputs are 10% larger than shaft horse powers.

5. The number of revolutions of each type in the performance table is shown by the standard rpm (common to 50 Hz, 60 Hz) that can be obtained by combining a 4-pole motor and a JIS V-pulley. Use this standard rpm unless otherwise required.

6. This three lobe rotary blower can be used as a dry type vacuum pump for a vacuum up to -4000mmAq G.

Pressure conversion table

Pa	mmAq	kgf/cm ²	bar
1	0.10197	1.0197×10^{-5}	10^{-5}
9.8067	1	10^{-4}	9.8067×10^{-5}
9.8067×10^4	10^4	1	0.9807
10^5	1.0197×10^4	1.0197	1

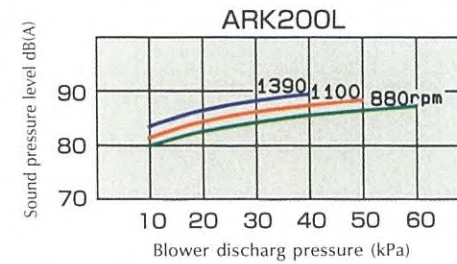
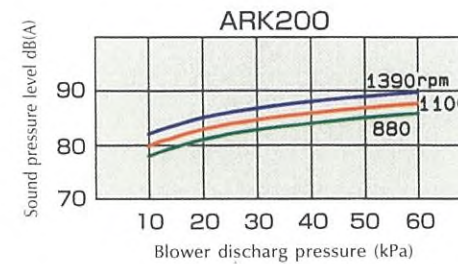
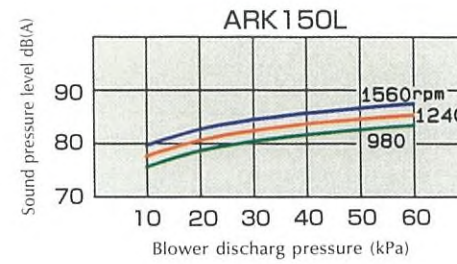
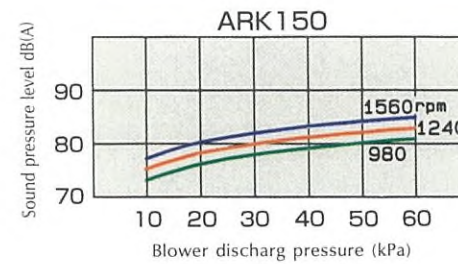
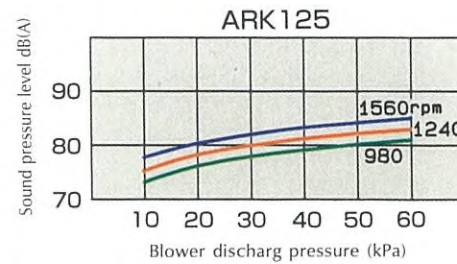
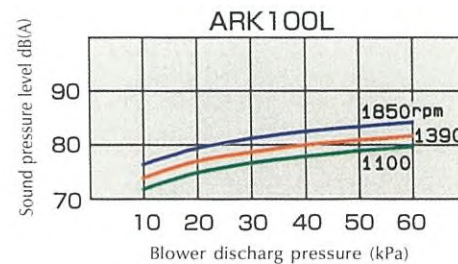
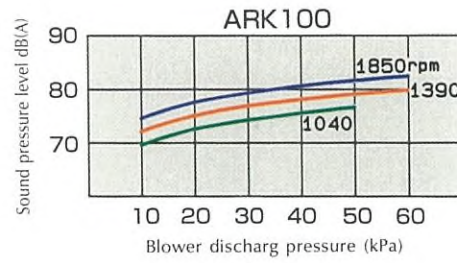
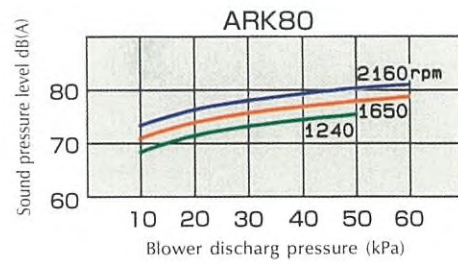
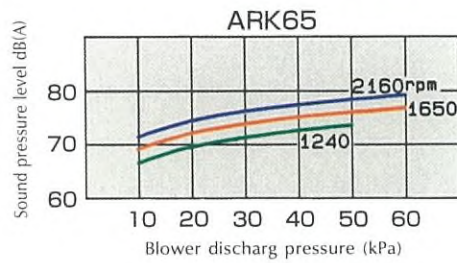
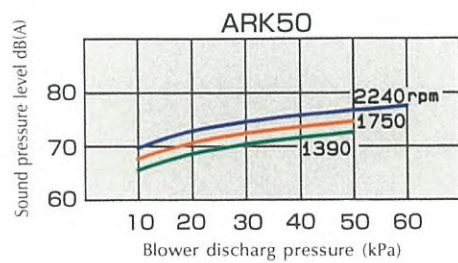
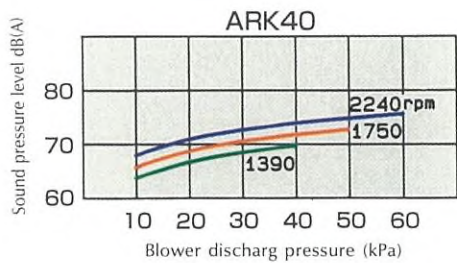
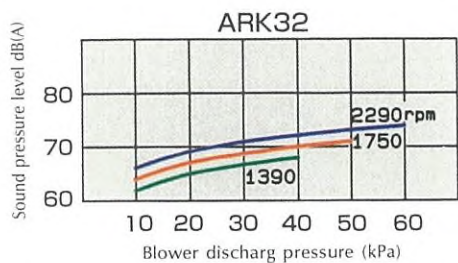
Vacuum pump performance table (Dry type)

Model	Speed (rpm)	Air volume at suction state Qs (m ³ /min) and shaft horse power L (kw)											
		- 10 kPa		- 20 kPa		- 25 kPa		- 30 kPa		- 35 kPa		- 40 kPa	
		- 1020mmHg		- 2040mmHg		- 2550mmHg		- 3060mmHg		- 3570mmHg		- 4080mmHg	
		Qs	L	Qs	L	Qs	L	Qs	L	Qs	L	Qs	L
ARK 50	1390	1.10	0.3	0.90	0.6	0.81	0.7	0.72	0.8				
	1470	1.18	0.4	0.99	0.6	0.90	0.8	0.81	0.9	0.72	1.0		
	1560	1.28	0.4	1.08	0.7	0.99	0.8	0.90	1.0	0.81	1.1		
	1650	1.38	0.4	1.18	0.7	1.09	0.9	1.00	1.0	0.91	1.2		
	1750	1.49	0.5	1.29	0.8	1.20	1.0	1.11	1.1	1.02	1.3		
	1850	1.59	0.5	1.40	0.9	1.31	1.0	1.22	1.2	1.13	1.4		
	1950	1.70	0.6	1.51	0.9	1.42	1.1	1.33	1.3	1.24	1.5		
	2050	1.81	0.6	1.62	1.0	1.53	1.2	1.44	1.4	1.35	1.5		
	2160	1.93	0.7	1.73	1.1	1.65	1.3	1.56	1.5	1.47	1.7		
	2240	2.02	0.7	1.82	1.1	1.73	1.3	1.64	1.5	1.55	1.7		
ARK 65	1240	1.58	0.4	1.33	0.8	1.22	1.0	1.11	1.1	0.99	1.3		
	1310	1.70	0.5	1.45	0.9	1.34	1.0	1.22	1.2	1.11	1.4		
	1390	1.83	0.5	1.59	0.9	1.47	1.1	1.36	1.3	1.25	1.5		
	1470	1.97	0.6	1.72	1.0	1.61	1.2	1.50	1.4	1.38	1.6		
	1560	2.12	0.6	1.87	1.1	1.76	1.3	1.65	1.5	1.53	1.7	1.41	1.9
	1650	2.27	0.7	2.03	1.1	1.91	1.4	1.80	1.6	1.69	1.8	1.57	2.1
	1750	2.44	0.7	2.20	1.2	2.08	1.5	1.97	1.7	1.85	2.0	1.74	2.2
	1850	2.61	0.8	2.36	1.3	2.25	1.6	2.14	1.8	2.02	2.1	1.91	2.4
	1950	2.78	0.9	2.53	1.4	2.42	1.7	2.31	2.0	2.19	2.2	2.07	2.5
	2050	2.95	0.9	2.70	1.5	2.59	1.8	2.48	2.1	2.36	2.4	2.24	2.7
ARK 80	2160	3.14	1.0	2.89	1.6	2.78	1.9	2.66	2.2	2.55	2.5	2.43	2.8
	1240	2.51	0.7	2.17	1.2	2.01	1.5	1.86	1.8	1.70	2.0		
	1310	2.69	0.7	2.35	1.3	2.19	1.6	2.04	1.9	1.88	2.2		
	1390	2.90	0.8	2.56	1.4	2.40	1.7	2.25	2.0	2.09	2.3		
	1470	3.11	0.9	2.77	1.5	2.61	1.8	2.45	2.1	2.30	2.5		
	1560	3.34	0.9	3.00	1.6	2.85	2.0	2.69	2.3	2.53	2.6	2.37	3.0
	1650	3.58	1.0	3.24	1.7	3.08	2.1	2.92	2.5	2.77	2.8	2.60	3.2
	1750	3.84	1.1	3.50	1.9	3.34	2.3	3.18	2.6	3.03	3.0	2.86	3.4
	1850	4.10	1.2	3.76	2.0	3.60	2.4	3.45	2.8	3.29	3.2	3.12	3.6
	1950	4.36	1.3	4.02	2.2	3.86	2.6	3.71	3.0	3.55	3.4	3.38	3.9
ARK 100	2050	4.62	1.4	4.28	2.3	4.12	2.8	3.97	3.2	3.81	3.7	3.64	4.1
	2160	4.91	1.6	4.57	2.5	4.41	3.0	4.25	3.4	4.09	3.9	3.93	4.4
	1040	4.00	1.1	3.52	1.9	3.31	2.4	3.09	2.8	2.87	3.2		
	1100	4.28	1.2	3.81	2.1	3.59	2.5	3.38	3.0	3.16	3.4		
	1170	4.62	1.3	4.15	2.2	3.93	2.7	3.72	3.2	3.50	3.7		
	1240	4.96	1.4	4.48	2.4	4.27	2.9	4.05	3.4	3.83	3.9		
	1310	5.29	1.6	4.82	2.6	4.60	3.1	4.39	3.6	4.17	4.2	3.94	4.7
	1390	5.68	1.7	5.20	2.8	4.99	3.4	4.77	3.9	4.55	4.5	4.33	5.0
	1470	6.06	1.9	5.59	3.0	5.37	3.6	5.16	4.2	4.94	4.8	4.71	5.4
	1560	6.49	2.0	6.02	3.3	5.80	3.9	5.59	4.5	5.37	5.2	5.14	5.8
ARK 100L	1650	6.92	2.2	6.45	3.6	6.23	4.2	6.02	4.9	5.80	5.5	5.57	6.2
	1750	7.40	2.5	6.93	3.9	6.71	4.6	6.50	5.3	6.28	6.0	6.05	6.7
	1850	7.88	2.7	7.41	4.2	7.19	4.9	6.98	5.7	6.76	6.4	6.53	7.2
	1100	6.58	1.6	5.94	3.0	5.64	3.6	5.35	4.3	5.06	4.9		
	1170	7.08	1.8	6.44	3.2	6.15	3.9	5.86	4.6	5.56	5.3	5.26	6.0
	1240	7.58	1.9	6.94	3.4	6.65	4.2	6.36	4.9	6.07	5.6	5.76	6.4
	1310	8.09	2.1	7.45	3.6	7.16	4.4	6.87	5.2	6.57	6.0	6.26	6.8
	1390	8.66	2.3	8.02	3.9	7.73	4.8	7.44	5.6	7.15	6.4	6.84	7.3
	1470	9.24	2.4	8.60	4.2	8.31	5.1	8.02	6.0	7.72	6.9	7.42	7.7
	1560	9.89	2.7	9.25	4.5	8.96	5.5	8.67	6.4	8.37	7.3	8.06	8.3
ARK 100L	1650	10.5	2.9	9.9	4.9	9.60	5.9	9.31	6.9	9.02	7.9	8.71	8.8
	1750	11.3	3.2	10.6	5.3	10.3	6.3	10.0	7.4	9.74	8.4	9.43	9.5
	1850	12.0	3.5	11.3	5.7	11.0	6.8	10.8	7.9	10.5	9.0	10.15	10.1

Model	Speed (rpm)	Air volume at suction state Qs (m³/min) and shaft horse power L (kw)											
		- 10 kPa		- 20 kPa		- 25 kPa		- 30 kPa		- 35 kPa		- 40 kPa	
		- 1020mmAq		- 2040mmAq		- 2550mmAq		- 3060mmAq		- 3570mmAq		- 4080mmAq	
		Qs	L	Qs	L	Qs	L	Qs	L	Qs	L	Qs	L
ARK 125	980	9.76	2.7	8.91	4.7	8.53	5.7	8.17	6.7	7.81	7.7	7.44	8.7
	1040	10.5	2.9	9.64	5.0	9.27	6.1	8.91	7.1	8.54	8.2	8.18	9.3
	1100	11.2	3.1	10.4	5.4	10.0	6.5	9.64	7.6	9.28	8.7	8.91	9.9
	1170	12.1	3.4	11.2	5.8	10.9	7.0	10.5	8.2	10.1	9.4	9.76	10.6
	1240	12.9	3.8	12.1	6.3	11.7	7.5	11.3	8.8	11.0	10.1	10.6	11.3
	1310	13.8	4.1	12.9	6.8	12.6	8.1	12.2	9.4	11.8	10.8	11.5	12.1
	1390	14.8	4.5	13.9	7.3	13.5	8.7	13.2	10.2	12.8	11.6	12.5	13.0
	1470	15.7	4.9	14.9	7.9	14.5	9.4	14.2	10.9	13.8	12.4	13.4	13.9
	1560	16.8	5.4	16.0	8.6	15.6	10.2	15.3	11.8	14.9	13.4	14.5	15.0
ARK 150	980	14.6	3.7	13.4	6.6	12.9	8.0	12.4	9.5	12.0	10.9	11.5	12.4
	1040	15.6	4.0	14.5	7.0	14.0	8.6	13.5	10.1	13.0	11.7	12.6	13.2
	1100	16.7	4.3	15.6	7.5	15.1	9.2	14.6	10.8	14.1	12.5	13.6	14.1
	1170	17.9	4.6	16.8	8.1	16.3	9.9	15.8	11.6	15.4	13.4	14.9	15.1
	1240	19.2	5.0	18.1	8.7	17.6	10.6	17.1	12.4	16.6	14.3	16.1	16.1
	1310	20.4	5.5	19.3	9.4	18.8	11.3	18.3	13.3	17.9	15.2	17.4	17.2
	1390	21.9	6.0	20.7	10.1	20.3	12.2	19.8	14.2	19.3	16.3	18.8	18.4
	1470	23.3	6.5	22.2	10.9	21.7	13.0	21.2	15.2	20.7	17.4	20.2	19.6
	1560	24.9	7.1	23.8	11.7	23.3	14.1	22.8	16.4	22.3	18.7	21.8	21
ARK 150L	980	17.8	4.1	16.5	7.6	15.9	9.4	15.4	11.1	14.8	12.9	14.3	14.7
	1040	19.1	4.4	17.8	8.1	17.2	10.0	16.7	11.9	16.1	13.7	15.6	15.6
	1100	20.4	4.7	19.1	8.6	18.5	10.6	18.0	12.6	17.4	14.6	16.9	16.6
	1170	21.9	5.1	20.6	9.3	20.0	11.4	19.5	13.5	18.9	15.6	18.4	17.7
	1240	23.4	5.5	22.1	9.9	21.6	12.2	21.0	14.4	20.4	16.6	19.9	18.9
	1310	24.9	5.9	23.6	10.6	23.1	12.9	22.5	15.3	22.0	17.7	21.4	20
	1390	26.7	6.3	25.4	11.3	24.8	13.8	24.2	16.3	23.7	18.9	23.1	21
	1470	28.4	6.8	27.1	12.1	26.5	14.8	26.0	17.4	25.4	20	24.9	23
	1560	30.3	7.4	29.0	13.0	28.5	15.8	27.9	18.6	27.4	21	26.8	24
ARK 200	880	22.2	5.6	20.8	9.9	20.2	12.1	19.6	14.2	19.0	16.4	18.4	18.5
	930	23.7	6.1	22.3	10.6	21.7	12.9	21.1	15.2	20.5	17.4	19.9	19.7
	980	25.1	6.5	23.7	11.3	23.1	13.7	22.5	16.1	22.0	18.5	21.3	21
	1040	26.9	7.1	25.5	12.2	24.9	14.7	24.3	17.3	23.7	19.8	23.1	22
	1100	28.7	7.7	27.3	13.1	26.7	15.8	26.1	18.5	25.5	21	24.9	24
	1170	30.7	8.5	29.3	14.2	28.7	17.0	28.1	19.9	27.5	23	26.9	26
	1240	32.8	9.2	31.4	15.3	30.8	18.3	30.2	21	29.6	24	29.0	27
	1310	34.8	10.1	33.4	16.5	32.8	19.7	32.2	23	31.6	26	31.0	29
	1390	37.2	11.1	35.8	17.9	35.2	21	34.6	25	34.0	28	33.4	31
ARK 200L	880	31.4	7.1	29.6	13.2	28.8	16.2	28.0	19.2	27.3	22	26.5	25
	930	33.5	7.6	31.7	14.0	30.9	17.2	30.1	20	29.3	24	28.5	27
	980	35.5	8.2	33.7	14.9	32.9	18.2	32.1	22	31.4	25	30.6	28
	1040	38.0	8.8	36.2	15.9	35.4	19.5	34.6	23	33.8	27	33.0	30
	1100	40.5	9.5	38.6	17.0	37.8	21	37.1	25	36.3	28	35.5	32
	1170	43.3	10.3	41.5	18.3	40.7	22	40.0	26	39.2	30	38.4	34
	1240	46.2	11.2	44.4	19.7	43.6	24	42.8	28	42.1	32	41.3	37
	1310	49.1	12.1	47.3	21	46.5	26	45.7	30	44.9	34	44.1	39
	1390	52.4	13.1	50.6	23	49.8	27	49.0	32	48.2	37	47.4	42

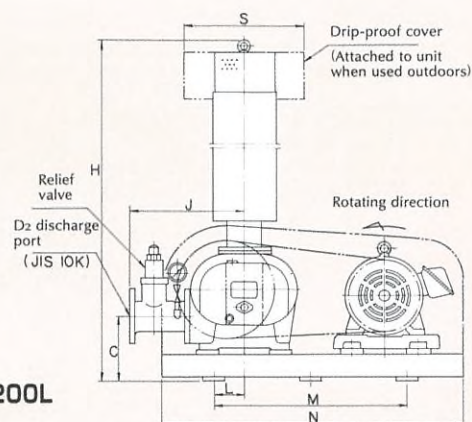
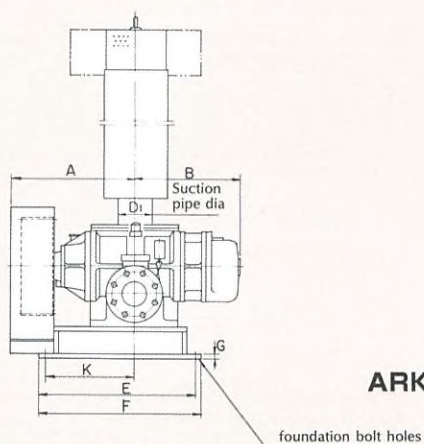
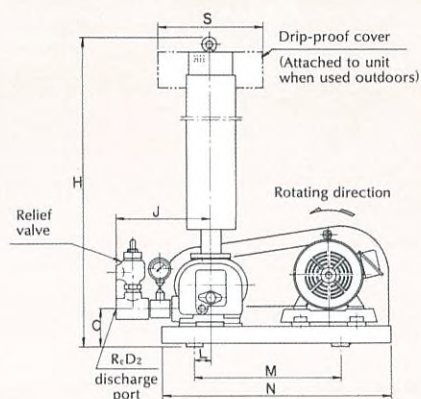
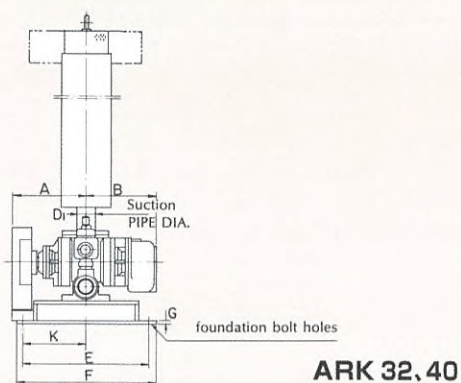
Noise.

Noise emissions from Unozawa ARK series three lobe rotary blower fluctuate depending upon blower size, discharge pressure and number of revolutions. These are average decibel (dB) values measured at 1. m of the blower. The supplementary use of sound absorbing box will further enhance sound dampening. Accessory sound proof equipment available on request.



Outline dimensions

● Three lobe rotary blower



Unit(mm)

Model	A	B	C	D ₁	D ₂	E	F	G	H	J	K	L	M	N	S	Motor (kw)
ARK 32	170	170	108	32	32	330	360	9	920	260	129	25	350	550	200	0.75~1.5
ARK 40	185	185	108	40	40	330	360	9	950	265	144	25	350	550	200	0.75~2.2
ARK 50	210	210	143	50	40	330	360	9	1025	300	169	25	350	550	200	1.5~3.7
ARK 65	300	270	189	65	50	430	470	12	1190	330	210	60	520	800	270	1.5~5.5
ARK 80	335	305	189	80	65	430	470	12	1245	330	245	60	520	800	270	2.2~7.5
ARK 100	372	320	217	100	80	560	600	16	1405	375	252	100	650	1000	340	3.7~15
ARK 100L	422	370	217	100	80	560	600	16	1480	390	302	100	650	1000	340	5.5~15
ARK 125	480	430	245	125	100	610	650	16	1935	465	310	100	700	1100	520	7.5~22
ARK 150	540	490	245	150	125	610	650	16	1960	500	370	100	700	1100	520	11~30
ARK 150L	580	530	260	150	150	700	740	16	1980	520	410	100	700 850 1300	1100 1300	520	11~30 37
ARK 200	580	515	308	200	150	650	700	19	2320	580	410	275	525×2	1300	670	15~45
ARK 200L	660	595	308	200	200	850	900	19	2340	610	490	275	525×2	1300	670	15~55

Note: Each dimension is subject to change without prior notice.

GD² & Weight

Model	Unit(mm)	
	Blower shaft GD ² (kg-m ²)	Approx. weight (kg)
ARK 32	0.03	90
ARK 40	0.04	100
ARK 50	0.05	125
ARK 65	0.20	180
ARK 80	0.80	220
ARK 100	1.10	350
ARK 100L	1.30	450
ARK 125	3.20	630
ARK 150	3.60	780
ARK 150L	4.20	830
ARK 200	7.00	1200
ARK 200L	8.00	1350

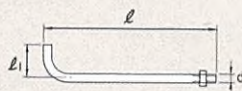
Note: Approx. weight represents that of the heaviest motor (largest output) applicable to each model.

● Accessories

As shown in the outline dimension drawings the blower will be supplied with the followings as standard accessories.

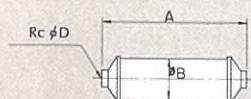
1. V-pulley, belt
2. Belt guard
3. Common base
4. Suction silencer
(Discharge silencer in case of vacuum pump)
5. Relief valve (w/short pipe)
6. Pressure gauge

Foundation bolt



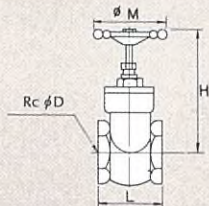
Model	d	l	l ₁
ARS 32~150	M12	250	50
ARS 200~200L	M16	315	63

Discharge silencer



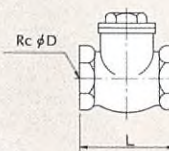
Unit(mm)				
Nominal	φD	A	B	Weight (kg)
32	1 1/4" B	480	120	3.3
40	1 1/2" B	480	140	4.3

Sluice valve



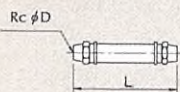
Unit(mm)					
Nominal	φD	L	H	M	Weight (kg)
32	1 1/4" B	60	117	70	0.8
40	1 1/2" B	63	129	80	1.2

Check valve



Unit(mm)				
Nominal	φD	L	H	Weight (kg)
32	1 1/4" B	92	63	1.3
40	1 1/2" B	102	70	2.0

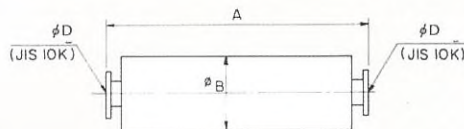
Flexible Joint



Unit(mm)			
Nominal	φD	L	Weight (kg)
32	1 1/4" B	250	1.1
40	1 1/2" B	250	1.4

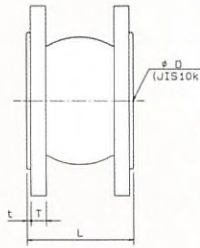
Outline dimensions

GLI Discharge silencer



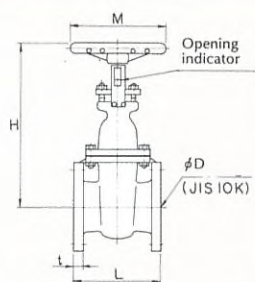
Nominal D	Unit(mm)			Weight (kg)
	A	B		
40	500	140		8
50	550	160		10
65	630	190		14
80	710	220		16
100	810	250		22
125	900	280		28
150	1100	330		45
200	1620	400		102

Flexible joint



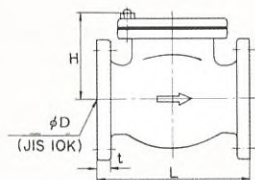
Nominal D	Unit(mm)				Weight (kg)
	L	T	t		
40	93	16	3.5		3.0
50	99	16	3		3.7
65	108	18	4		5.0
80	116	18	4.5		4.8
100	129	18	4.5		6.0
125	142	20	5.5		9.7
150	156	22	7		12.0
200	177	22	9.5		15.0

Sluice valve



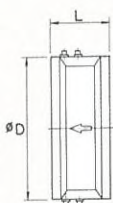
Nominal D	Unit(mm)					Weight (kg)
	L	t	M	H		
40	160	18	160	328		10
50	160	18	160	260		11.4
65	170	20	180	293		17
80	180	20	180	327		22
100	200	22	224	385		29
125	220	22	250	432		40
150	240	24	280	498		56
200	260	24	300	611		95

Check valve



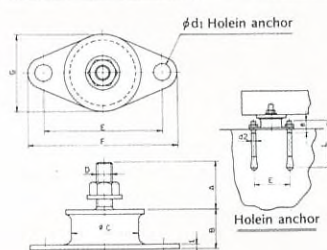
Nominal D	Unit (mm)				Weight (kg)
	L	t	H		
40	180	20	98		8.7
50	200	20	120		13
65	210	22	127		16
80	230	22	137		19
100	260	24	152		24
125	305	24	178		41
150	350	26	199		57
200	420	26	238		84

Check valve



Nominal	Unit(mm)	
	D	L
50	101	54
65	121	54
80	131	57
100	156	64
125	187	70
150	217	76
200	267	95

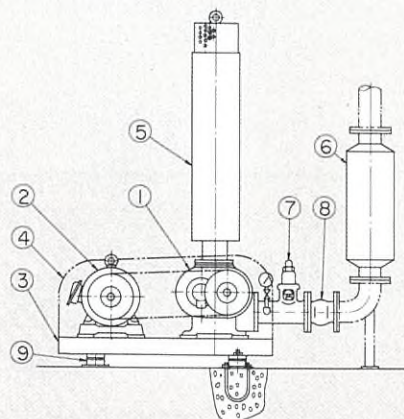
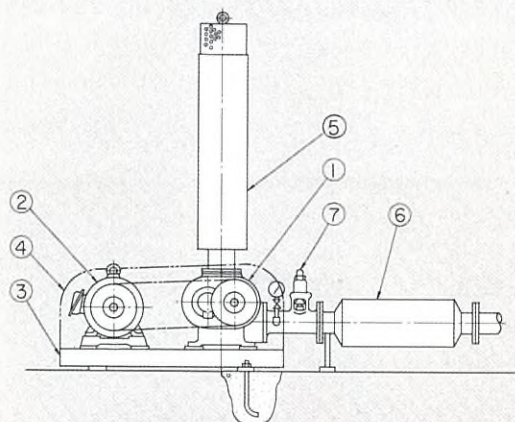
Vibration isolator



Unit(mm)												
Nominal	A	B	C	D	E	F	G	t	d1	d2	e	L
EMB 0400	30	25	34	M8	60	76	40	2.3	9	M8	25	70
EMB 0500	30	27	42	M10	73	93	50	3.2	11.5	M10	25	80
EMB 0600	35	30	52	M12	84	104	60	3.2	11.5	M10	25	80
EMB 0601	35	34	52	M12	84	104	60	3.2	11.5	M10	25	80
EMB 0800	45	40	70	M12	108	136	80	4.5	13.5	M12	30	90
EMB 1000	55	50	90	M16	134	166	100	4.5	13.5	M12	30	90

Note: Above dimensions are subject to change without prior notice.

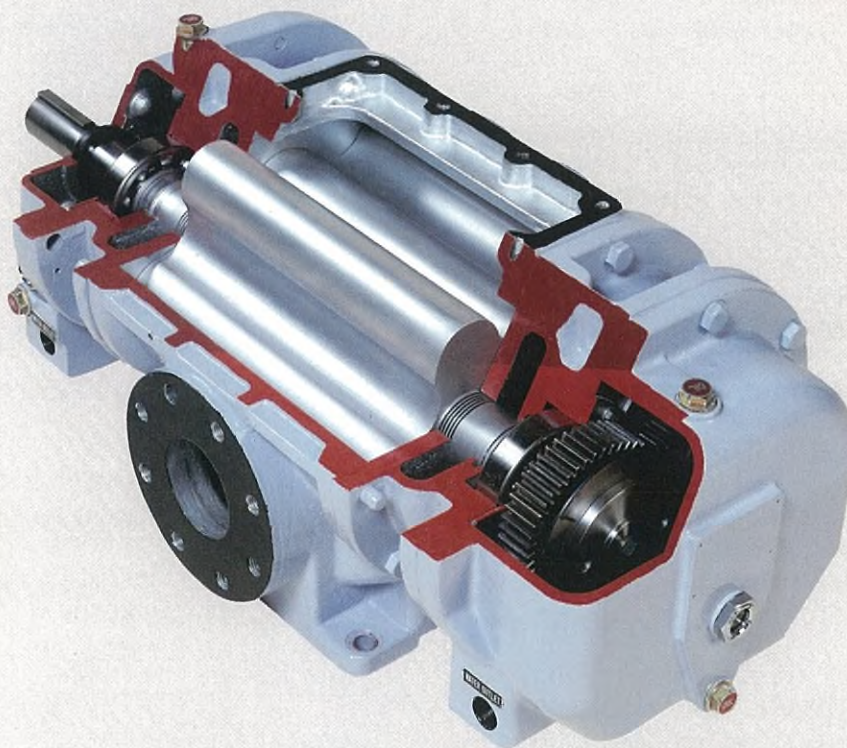
Installation examples



No.	Part name
1	Rotary blower
2	Motor
3	Common base
4	Belt guard
5	Suction silencer
6	Discharge silencer
7	Relief valve
8	Flexible joint
9	Vibration isolator

Note 1. The relief valve and discharge silencer should be installed to discharge port of blower directly.

2. When using a flexible joint, be sure to provide a support under the discharge silencer.



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Unozawa Products

1. Rotary blower(Roots type)
2. Rotary vacuum pump(Roots type)
3. Dry Vacuum pump
4. Mechanical booster
5. Water ring Vacuum pump
6. Deaerator

Inquiries

When inquiring about Unozawa three lobe rotary blowers,
please furnish the following information.

1. Application: water aeration, pneumatic conveying
filter, intra-furnace air blowing, etc...
2. Specification: Capacity, suction and discharge
conditions(Temperature, pressure)
3. Type of gas: Name of gas, gas constant,
corrosiveness, character and quantity
of liquid contained
4. Condition for installation: Whether Indoors or outdoors, ambient
temperature, condition of dust, etc...
5. Driver: Type, rpm and frequency of motor to be used
6. Accessories, spare parts: Required or not
7. Color of paint:

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