

ShinMaywa

Three-Lobe Blower

(Roots-Type) ARS/ARS-E Series

ARS Series
With IE1/IE2 Motor

ARS-E Series
With Premium Efficiency IE3 Motor

ARS
ARS-E
Series

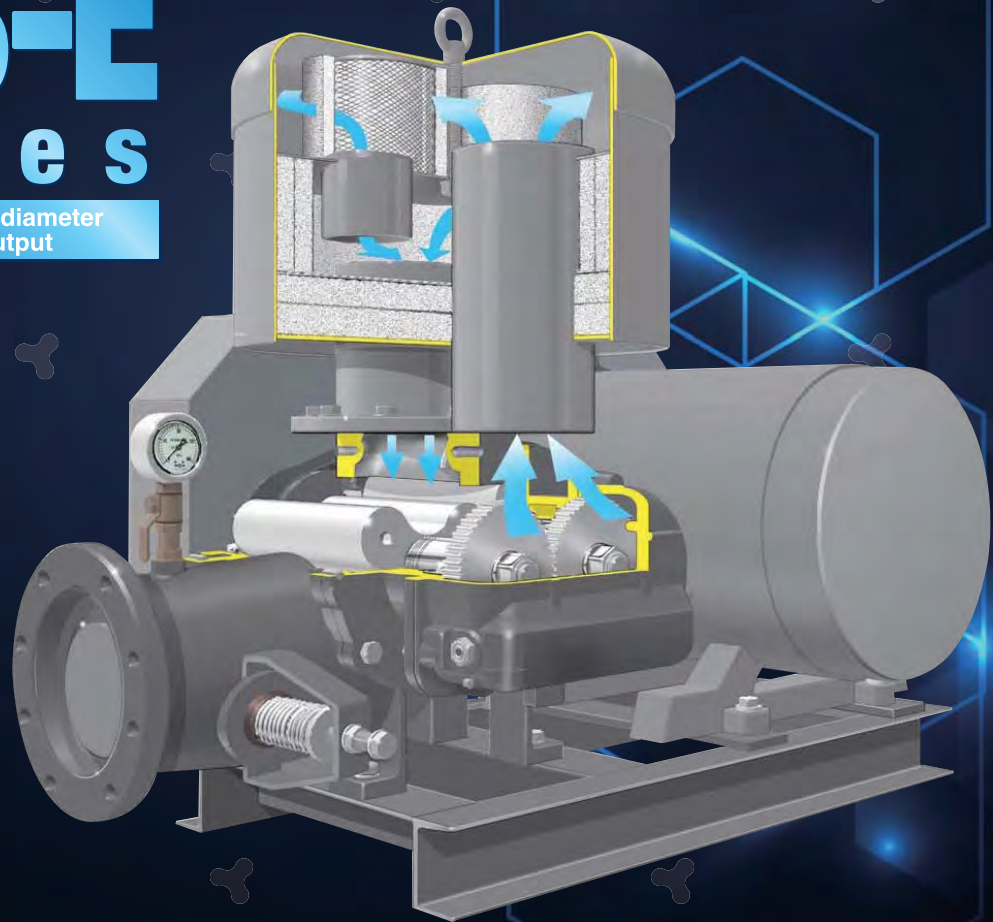


Introducing ShinMaywa Energy-Efficient, Low Inspired by the Innovative **Cooling Silencer**

ARS ARS-E Series

50 ~ 250 mm outlet diameter
1.5 ~ 132 kW output

The ARS Series of high-efficiency blowers feature innovations such as the Cooling Silencer and spur-type rotors. The features enhance energy efficiency, lower maintenance and improve durability across a wide range of applications.

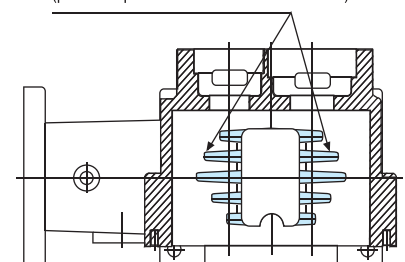


Now featuring a Pulse Eraser (pressure pulsation reduction mechanism) to reduce noise and pressure pulsation.

Spur-type rotors, which discharge air rhythmically, tend to generate more noise and pressure pulsations than do helical rotors. Our new ARS Series features specially designed nozzle-shaped grooves of varying lengths on the inner wall of the rotor housing. They absorb the abrupt backflow of compressed air, resulting in less noise and pressure pulsations.



Pulse Eraser
(pressure pulsation reduction mechanism)

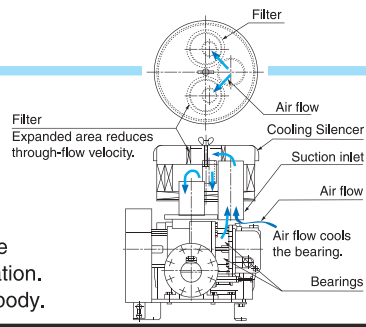


ARS80, ARS80E rotor housing (sectional view)

-Maintenance Blowers

The Benefits of the Cooling Silencer

The ARS Series incorporates our innovative Cooling Silencer. Air is drawn in over the gear-side bearing to significantly cool the bearing, resulting in improved durability and higher-speed operation. This feature is effectively integrated into a compact, low-profile body.



With a significant bearing-cooling effect

Higher-speed operation

Greatly improved isentropic efficiency

Advanced spur-type rotors—a recent innovation—contribute to high-speed operation for greatly improved isentropic efficiency.

Estimated annual energy savings:

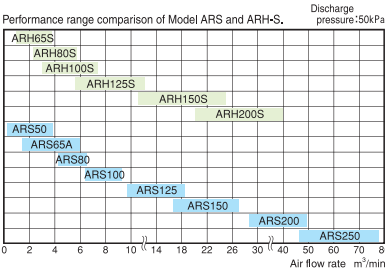
	Conventional model	ARS
Air flow rate (m ³ /min)		5.74
Discharge pressure (kPa)		50
Power requirement (kW)	8.5	7.1
Isentropic efficiency (%)	48.5	58.1
Motor output (kW)	11	7.5
Energy cost (¥)	1,266,000	1,057,000

[Operating period: 24 hrs/day (8,760 hrs/year) ¥17/ kWh]
The energy savings are estimated as follows:
Difference in electricity cost:
1,266,000—1,057,000 = ¥209,000/year

What's more,
You can reduce your annual power consumption even more by selecting the next size smaller motor for your application.

Extended air flow range

The bearing-cooling effect extends air flow range by enabling high-speed operations. This allows you to use the next-size-smaller outlet diameter model for your application.



You can reduce your annual power consumption even more by selecting the next size smaller outlet diameter model for your application.

Standard models develop pressure up to 80 kPa.

For the first time in the industry, the bearing cooling effect achieved pressures as high as 80 kPa without forced cooling. Our new standard models correspond pressure of over 60 kPa which conventional models require a water-cooled system or air cooling fan. (Outdoor type and suction pipe-connection type are only available up to discharge pressure of 60 kPa.)

An Industry First
This blower requires no cooling water or air cooling fan.

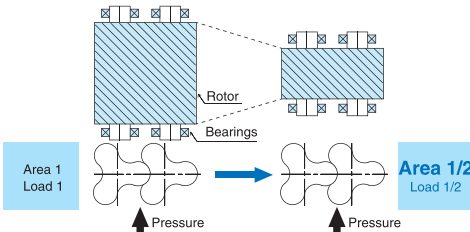
Extended maintenance interval

The combination of an enhanced-efficiency blower with the bearing-cooling function of the cooling silencer significantly lowers the bearing temperature. This improved bearing reliability and greatly extended maintenance intervals of grease and oil. (The grease and oil maintenance interval is three months when the discharge pressure exceeds 60 kPa.)

Double the grease and oil maintenance intervals to six months.

Compact rotors

The high-speed capability allows for smaller rotors. Compact rotors reduce the load on the bearings, resulting in equal or better reliability.



Count on extended bearing life through improved durability.

Lower maintenance and reduced energy costs

Greater Selection & Enhanced Space Efficiency

Our ARS Series cover a wide range of needs. They offer highly compact designs, outlet diameters ranging from 50 to 250 mm, and outputs from 1.5 to 132 kW. (Installation space for Model ARS50/65A is equivalent to our Helical Blower ARH50S, and Model ARS80/100 is equivalent to ARH65S/80S.)

ARS Series With IE1/IE2 Motor

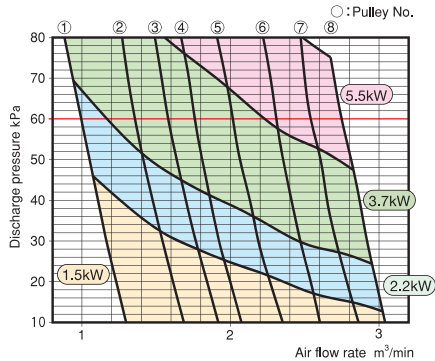
Specifications

Q : Air flow rate (m³/min) P : Power requirements(kW)

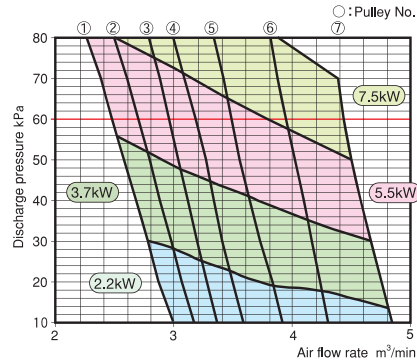
Outlet dia. mm	Model	Pulley No.	Rotor speed (min ⁻¹)	10kPa		15kPa		20kPa		25kPa		30kPa		35kPa		40kPa		45kPa		50kPa		55kPa		60kPa		65kPa		70kPa		75kPa		80kPa		Motor output at standard setting (kW)
				Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	
50	ARS50	1	1,900	1.30	0.60	1.26	0.71	1.23	0.8	1.20	0.94	1.17	1.1	1.14	1.2	1.11	1.3	1.08	1.5	1.05	1.6	1.02	1.8	1.00	1.9	0.97	2.1	0.94	2.2	0.91	2.3	0.88	2.5	1.5
		2	2,400	1.69	0.72	1.65	0.88	1.61	1.0	1.58	1.2	1.54	1.4	1.51	1.6	1.48	1.8	1.44	2.0	1.41	2.1	1.39	2.3	1.36	2.5	1.33	2.7	1.31	2.9	1.29	3.0	1.27	3.2	
		3	2,710	1.92	0.80	1.88	0.98	1.84	1.2	1.80	1.4	1.77	1.6	1.73	1.8	1.70	2.0	1.67	2.2	1.64	2.4	1.61	2.6	1.58	2.8	1.56	3.0	1.54	3.2	1.51	3.4	1.49	3.6	2.2
		4	2,940	2.07	0.86	2.04	1.1	2.00	1.3	1.96	1.5	1.92	1.7	1.89	1.9	1.87	2.1	1.84	2.4	1.81	2.6	1.78	2.8	1.76	3.0	1.74	3.2	1.72	3.4	1.69	3.6	1.67	3.8	
		5	3,290	2.35	1.0	2.31	1.2	2.27	1.4	2.23	1.7	2.19	1.9	2.16	2.1	2.13	2.4	2.10	2.6	2.06	2.9	2.04	3.1	2.02	3.3	1.99	3.6	1.97	3.8	1.94	4.0	1.91	4.3	3.7
		6	3,660	2.60	1.1	2.57	1.4	2.54	1.7	2.51	1.9	2.47	2.2	2.44	2.4	2.41	2.7	2.38	3.0	2.35	3.3	2.33	3.5	2.31	3.8	2.29	4.1	2.27	4.4	2.25	4.6	2.22	4.9	
		7	3,880	2.86	1.2	2.82	1.5	2.78	1.8	2.75	2.1	2.71	2.4	2.68	2.7	2.65	2.9	2.63	3.2	2.61	3.5	2.57	3.8	2.54	4.1	2.52	4.4	2.50	4.7	2.49	5.0	2.47	5.3	5.5
		8	4,330	3.04	1.3	3.01	1.6	2.98	1.9	2.95	2.2	2.92	2.6	2.89	2.9	2.87	3.2	2.84	3.5	2.81	3.8	2.78	4.2	2.75	4.5	2.72	4.8	2.70	5.1	2.67	5.4	—	—	
65	ARS65A	1	2,580	2.98	1.1	2.92	1.4	2.86	1.7	2.82	1.9	2.77	2.2	2.72	2.5	2.67	2.8	2.62	3.1	2.57	3.4	2.52	3.6	2.47	4.0	2.42	4.3	2.37	4.6	2.31	4.9	2.25	5.2	2.2
		2	2,740	3.16	1.3	3.11	1.5	3.05	1.8	3.01	2.0	2.97	2.3	2.92	2.6	2.88	2.9	2.83	3.2	2.78	3.6	2.74	3.9	2.69	4.2	2.64	4.5	2.60	4.9	2.54	5.2	2.49	5.5	
		3	2,920	3.36	1.4	3.31	1.6	3.27	1.9	3.23	2.2	3.19	2.4	3.15	2.8	3.11	3.2	3.07	3.6	3.03	3.8	2.99	4.1	2.95	4.5	2.91	4.9	2.87	5.2	2.82	5.5	2.78	5.8	3.7
		4	3,100	3.58	1.5	3.53	1.7	3.49	2.0	3.44	2.4	3.40	2.7	3.36	3.0	3.33	3.3	3.29	3.8	3.26	4.1	3.21	4.4	3.17	4.8	3.12	5.2	3.08	5.4	3.03	5.8	2.99	6.1	
		5	3,280	3.91	1.6	3.86	1.8	3.82	2.3	3.77	2.6	3.72	3.0	3.67	3.3	3.63	3.6	3.59	4.1	3.55	4.4	3.51	4.7	3.48	5.0	3.44	5.5	3.41	5.8	3.37	6.2	3.33	6.5	5.5
		6	3,670	4.30	1.7	4.26	2.0	4.23	2.4	4.19	2.8	4.16	3.3	4.12	3.7	4.09	4.1	4.05	4.5	4.02	4.9	3.98	5.4	3.94	5.8	3.90	6.2	3.87	6.6	3.84	7.0	3.81	7.4	
		7	4,100	4.84	1.8	4.79	2.4	4.75	2.9	4.70	3.3	4.66	3.7	4.61	4.2	4.57	4.6	4.53	5.1	4.50	5.5	4.46	6.0	4.43	6.4	4.40	7.0	4.38	7.5	—	—	—	—	
80	ARS80	1	2,790	4.51	1.8	4.46	2.2	4.41	2.6	4.37	3.0	4.34	3.4	4.30	3.9	4.26	4.3	4.23	4.8	4.21	5.3	4.17	5.7	4.13	6.0	4.09	6.5	4.05	7.0	4.01	7.5	3.97	7.9	3.7
		2	2,940	4.84	1.9	4.80	2.3	4.76	2.7	4.73	3.2	4.70	3.6	4.67	4.2	4.63	4.6	4.61	5.1	4.59	5.6	4.55	6.0	4.52	6.5	4.48	7.0	4.44	7.5	4.40	8.0	4.37	8.5	
		3	3,100	5.23	2.1	5.18	2.5	5.13	2.9	5.09	3.4	5.06	3.8	5.03	4.3	4.99	5.0	4.97	5.4	4.94	5.9	4.91	6.4	4.88	6.9	4.85	7.5	4.83	8.2	4.80	8.6	4.76	9.2	5.5
		4	3,480	5.79	2.2	5.72	2.6	5.66	3.1	5.61	3.7	5.57	4.3	5.53	4.9	5.49	5.5	5.46	6.1	5.43	6.6	5.40	7.2	5.37	7.7	5.34	8.2	5.32	8.8	5.30	9.4	5.27	9.9	
		5	3,670	6.14	2.3	6.07	2.8	6.01	3.3	5.95	4.0	5.90	4.6	5.85	5.2	5.81	5.8	5.77	6.4	5.74	7.1	5.70	7.7	5.67	8.3	5.64	8.9	5.62	9.4	5.60	10.0	5.58	10.7	7.5
		6	3,910	6.52	2.4	6.44	3.0	6.36	3.6	6.30	4.2	6.24	4.8	6.18	5.5	6.13	6.2	6.10	6.8	6.06	7.5	6.02	8.1	5.97	8.7	5.94	9.3	5.91	9.9	5.89	10.5	—	—	
		7	4,120	6.87	2.6	6.78	3.3	6.70	3.9	6.64	4.5	6.59	5.2	6.53	6.0	6.48	6.7	6.45	7.5	6.41	8.2	6.37	8.8	6.33	9.5	6.29	10.1	6.25	10.7	—	—	—	—	
100	ARS100	1	2,840	7.01	2.5	6.91	3.2	6.82	3.8	6.74	4.4	6.65	5.1	6.60	5.7	6.54	6.3	6.48	7.0	6.42	7.7	6.37	8.6	6.31	9.3	6.27	10.1	6.22	10.7	6.18	11.4	6.15	12.2	5.5
		2	3,170	8.01	2.7	7.92	3.4	7.83	4.2	7.73	5.0	7.63	5.7	7.56	6.3	7.49	7.3	7.43	8.0	7.37	8.8	7.31	9.7	7.24	10.4	7.19	11.4	7.14	12.2	7.08	12.9	7.01	13.7	
		3	3,350	8.46	2.9	8.36	3.6	8.27	4.3	8.17	5.2	8.08	5.9	8.00	6.7	7.92	7.7	7.87	8.5	7.81	9.4	7.75	10.2	7.68	11.1	7.62	12.0	7.57	12.8	7.49	13.6	7.42	14.5	7.5
		4	3,530	8.95	3.1	8.85	3.9	8.76	4.7	8.66	5.6	8.57	6.3	8.49	7.3	8.40	8.1	8.34	9.0	8.27	9.8	8.21	10.8	8.15	11.7	8.09	12.5	8.03	13.3	7.97	14.2	7.90	15.0	
		5	3,770	9.44	3.3	9.34	4.1	9.25	5.0	9.15	6.0	9.06	6.9	8.97	7.7	8.88	8.6	8.80	9.8	8.73	10.7	8.68	11.4	8.63	12.4	8.56	13.2	8.49	14.1	8.44	15.0	—	—	
		6	3,970	10.0	3.5	9.94	4.4	9.84	5.3	9.73	6.4	9.62	7.4	9.53	8.4	9.45	9.2	9.37	10.3	9.30	11.3	9.23	12.2	9.16	13.2	9.09	14.1	9.02	15.0	—	—	—	—	
125	ARS125	1	2,150	10.6	4.0	10.5	4.8	10.4	5.6	10.3	6.5	10.2	7.3	10.1	8.2	10.0	9.1	9.92	10.1	9.84	11.2	9.77	12.2	9.69	13.3	9.62	14.3	9.55	15.3	9.45	16.3	9.35	17.3	11
		2	2,430	12.2	4.6	12.0	5.5	11.9	6.4	11.9	7.4	11.8	8.4	11.7	9.5	11.6	11.1	11.5	11.8	11.5	13.0	11.4	14.2	11.3	15.4	11.3	16.5	11.2	17.6	11.1	18.9	11.0	20.1	
		3	2,710	13.9	5.1	13.8	6.2	13.8	7.2	13.7	8.5	13.7	9.8	13.6	11.1	13.5	12.5	13.4	13.8	13.4	15.2	13.3	16.5	13.2	17.8	13.2	19.2	13.1	20.6	13.0	22.1	12.9	23.4	15
		4	3,050	15.0	5.4	14.9	6.6	14.9	7.8	14.8	9.2	14.7	11.1	14.6	12.1	14.6	13.5	14.5	15.1	14.4	16.5	14.3	17.9	14.3	19.3	14.2	20.8	14.1	22.3	14.0	23.8	13.9	25.3	
		5	3,340	16.9	6.2	16.8	7.6	16.7	9.1	16.6	11.1	16.5	12.3	16.5	13.9	16.4	15.5	16.3	17.2	16.3	18.9	16.2	20.5	16.1	22.2	16.0	23.8	16.0	25.5	15.9	27.2	15.8	28.9	
		6	3,510	17.9	6.6	17.8	8.2	17.7	9.9	17.6	11.5	17.6	13.2	17.5	15.1	17.4	16.7	17.4	18.6	17.3	20.2	17.3	22.1	17.2	23.8	17.2	25.5	17.1	27.3	17.0	29.1	—	—	
		7	3,760	18.9	6.8	18.8	8.6	18.7	10.4	18.6	12.1	18.5	13.8	18.5	15.6	18.4	17.5	18.3	19.3	18.3	21.2	18.2	23.1	18.1	25.0	18.0	26.9	18.0	28.8	—	—	—	—	
150	ARS150	1	2,070	18.5	5.2	18.2	6.7	17.9	8.1	17.7	10.2	17.5	12.3	17.3	13.8	17.1	15.3	16.9	17.0	16.7	18.8	16.5	20.7	16.4	22.5	16.2	24.1	16.1	25.8	15.9	27.6	15.8	30.1	15
		2	2,360	21.4																														

Performance Curve

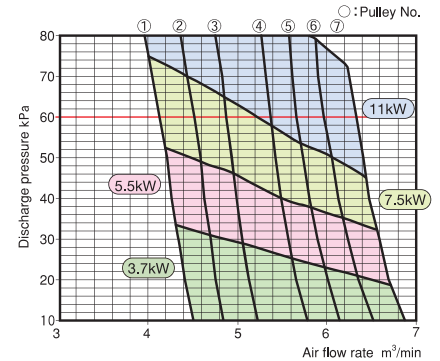
ARS50



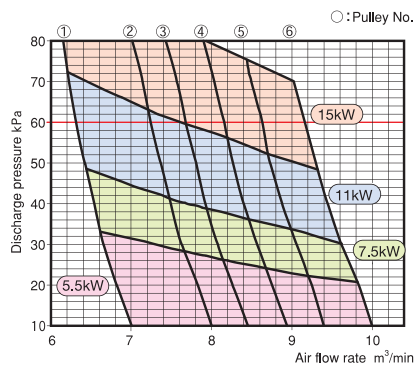
ARS65A



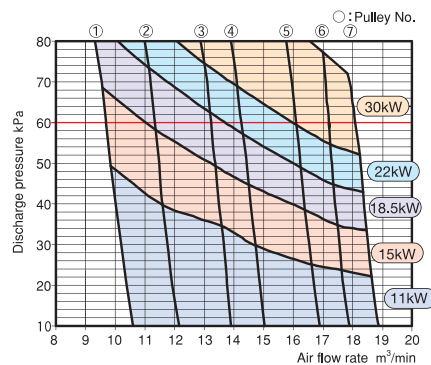
ARS80



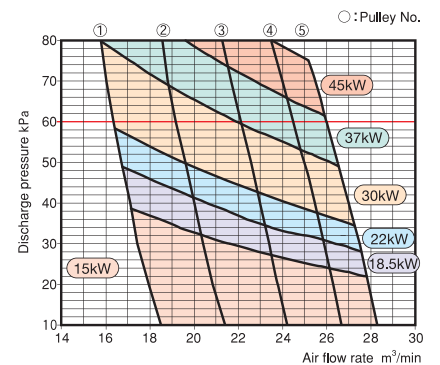
ARS100



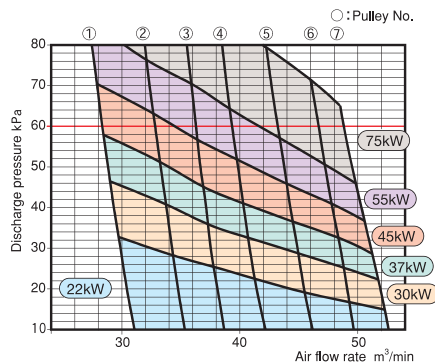
ARS125



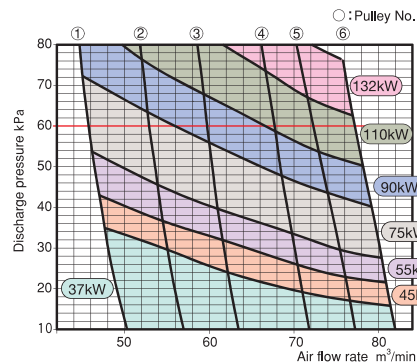
ARS150



ARS200



ARS250·ARS250A



ARS 250A
(110, 132kW)

ARS 250
(37~90kW)

Notes:

- (1) The air flow rate indicates the volume of air on the suction side.
- (2) Air flow rate tolerance: $\pm 5\%$
- (3) Consult us for any requirements not included in the table.
- (4) For indoor use only. Consult us for outdoor applications.
- (5) Specifications are subject to change without notice.
- (6) Please prepare IE1 / IE2 motor by yourself.
Since ShinMaywa cannot supply IE1 / IE2 motor due to Japanese regulation.
- (7) Outdoor type and suction pipe-connection type are only available up to discharge pressure of 60 kPa.

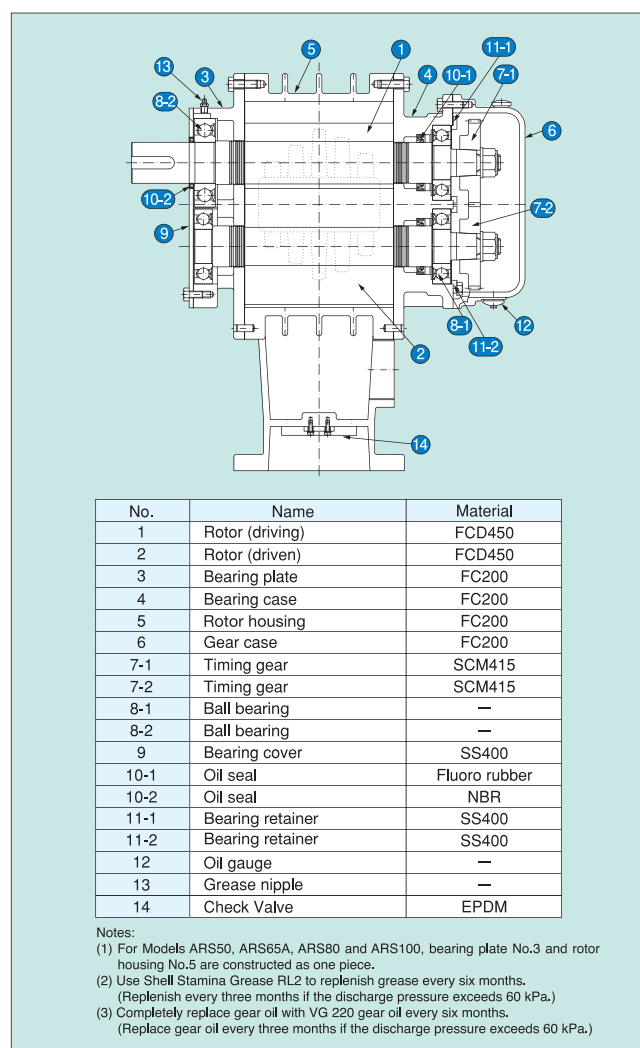
Sound Levels

[dB(A)]

Model	Pulley No.	Rotor Speed (min ⁻¹)	Discharge Pressure (kPa)							
			10	20	30	40	50	60	70	80
ARS50	1	1,900	67	68	69	70	71	71	72	72
	2	2,400	69	70	71	71	72	72	73	73
	3	2,710	70	71	72	72	73	73	74	74
	4	2,940	71	72	73	73	74	74	75	75
	5	3,290	72	73	74	74	75	75	76	76
	6	3,660	73	74	75	75	76	76	77	77
	7	3,880	74	75	76	76	77	77	78	78
	8	4,330	75	76	77	77	78	78	79	—
ARS65A	1	2,580	71	72	72	72	73	73	74	75
	2	2,740	72	73	73	73	74	74	75	76
	3	2,920	73	74	74	74	75	75	76	77
	4	3,100	74	75	75	75	76	76	77	78
	5	3,280	75	76	76	76	77	77	78	79
	6	3,670	76	77	78	78	79	79	80	81
	7	4,100	78	79	80	80	81	81	82	—
ARS80	1	2,790	73	74	75	75	76	77	78	79
	2	2,940	74	75	76	76	77	78	79	80
	3	3,100	75	76	77	77	79	80	81	82
	4	3,480	76	77	78	79	80	81	82	83
	5	3,670	77	78	79	80	81	82	83	84
	6	3,910	78	79	80	81	82	83	84	—
	7	4,120	79	80	81	82	83	84	85	—
ARS100	1	2,840	76	77	78	79	80	80	81	82
	2	3,170	77	78	79	80	81	81	82	83
	3	3,350	78	79	80	81	82	82	83	84
	4	3,530	79	80	81	81	82	83	84	85
	5	3,770	80	81	82	82	83	84	85	—
	6	3,970	81	82	83	83	84	85	86	—
ARS125	1	2,150	77	78	79	80	81	81	82	83
	2	2,430	78	79	80	81	82	82	83	84
	3	2,710	79	80	81	82	83	83	84	85
	4	3,050	80	81	82	83	84	84	85	86
	5	3,340	82	83	84	84	85	86	87	87
	6	3,510	83	84	85	85	86	87	88	—
	7	3,760	85	86	87	87	88	88	89	—
ARS150	1	2,070	79	80	81	82	83	83	84	84
	2	2,360	80	81	82	83	84	84	85	85
	3	2,670	82	83	84	84	85	85	86	86
	4	2,960	83	84	85	85	86	86	87	87
	5	3,160	84	85	86	86	87	87	88	—
ARS200	1	1,510	81	82	84	85	86	87	88	89
	2	1,710	82	83	85	86	87	88	89	90
	3	1,860	83	84	86	87	88	89	90	91
	4	2,020	84	85	87	88	89	90	91	92
	5	2,210	85	86	87	88	90	92	93	—
	6	2,400	86	87	88	89	91	93	95	—
	7	2,540	86	87	89	90	92	94	—	—
ARS250 ARS250A	1	1,560	84	85	86	86	87	88	90	92
	2	1,760	85	86	87	87	88	89	91	93
	3	1,970	86	87	88	88	89	90	92	94
	4	2,220	87	88	89	89	91	92	94	96
	5	2,350	88	89	90	90	92	93	95	97
	6	2,490	89	90	91	91	93	94	96	—

(1) Typical sound levels [±3dB(A)] are measured at a distance of one meter from the blower side.
Provided for reference only.
(2) Sound levels vary depending on the base (foundation) condition and piping configuration.

Sectional View



Standard Accessories

- Common Base..... 1
- V-pulley, V-belt, Belt Cover..... 1
- Pressure Gauge (160 kPa, with gauge cock and R1/4 setscrew)..... 1
- Cooling Silencer (with filter) 1
- Safety Valve (with check valve)..... 1

Standard Motors (TEFC indoor type, IE1/IE2)

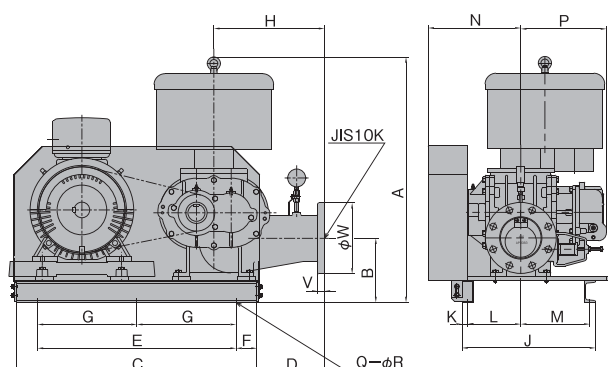
Model	Applicable Motor Output (kW)																
	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132
ARS50	○	○	○	○													
ARS65A		○	○	○	○												
ARS80			○	○	○	○											
ARS100				○	○	○	○										
ARS125						○	○	○	○	○							
ARS150							○	○	○	○	○	○					
ARS200									○	○	○	○	○	○			
ARS250											○	○	○	○	○		
ARS250A																○	○

• Star-delta starting is available for motors 5.5kW and over.
• Please prepare IE1/IE2 motor by yourself.

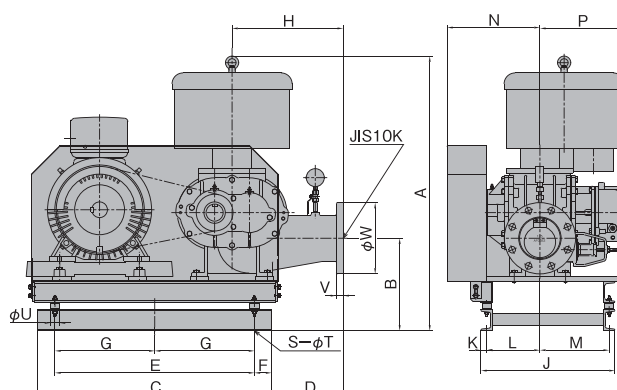
Dimensions

(mm)

Standard Dimensions



Dimensions with anti-vibration base



Model	Outlet dia. (mm)	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	Weight (kg)
ARS50	50	489 (588)	152 (251)	556 (548)	105 (109)	400	78 (74)	—	220			105	195	173	197						20	155	58 (67)
ARS65A	65	518 (617)	162 (261)		115 (119)			—	230	330	15	140	160	208	233	4	13	4	13	35	22	175	78 (87)
ARS80	80	624 (723)	170 (269)	650 (628)	143 (154)	460	95 (84)	—	280			119	181	229	234							185	112 (123)
ARS100	100	660 (759)	182 (281)		148 (159)			—	285			157	143	267	272							210	139 (150)
ARS125	125	892 (991)	226 (325)	859 (847)	232 (238)	700	80 (74)	350	390	470		187	243	332	312		14		14	40	24	250	241 (256)
ARS150	150	930 (1,029)	241 (340)		312 (318)				470		20	266	164	411	448							280	312 (327)
ARS200	200	1,203 (1,335)	273 (405)	1,100 (1,240)		800		400		640		290	310		452	510	6		6		26	330	622 (645)
ARS250		1,248 (1,430)	318 (500)		258 (188)		150 (220)		510			280	325										699 (793)
ARS250A	250	1,335 (1,517)	353 (535)	1,200 (1,340)		900		450		830	30	405	365	596	622		15		15	65	30	400	939 (1,046)
										850		441	349	660 (645)	625								978 (1,095)

Notes:

- (1) Bolt hole diameter and pitch of the discharge flange comply with JIS B2239 : 10K flange.
 - (2) For indoor use only. Consult us regarding outdoor applications.
 - (3) Dimensions of the blower with the anti-vibration base are shown in parentheses. * The weight excludes the weight of the motor and motor base.
 - (4) Dimensions are when Japanese-brand motor (previous IE1/IE2) is mounted.
- Call us for CAD-compatible electronic catalogs.

ARS-E Series With Premium Efficiency IE3 Motor

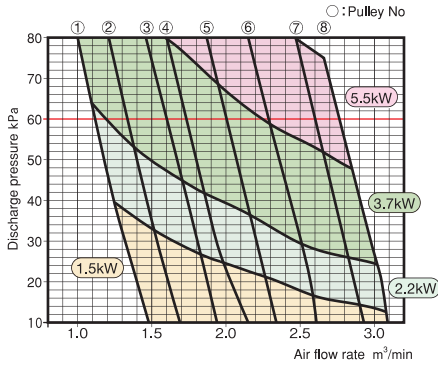
Specifications

Q : Air flow rate (m³/min) P : Power requirements(kW)

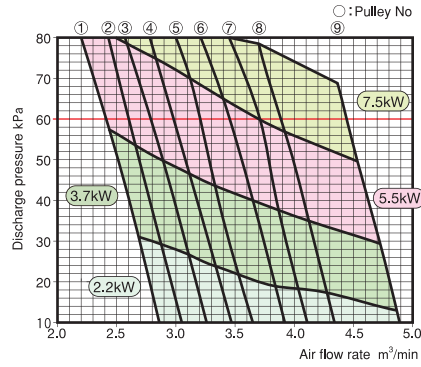
Outlet dia. mm	Model	Pulley No.	Rotor speed (min ⁻¹)	10kPa		15kPa		20kPa		25kPa		30kPa		35kPa		40kPa		45kPa		50kPa		55kPa		60kPa		65kPa		70kPa		75kPa		80kPa		Motor output at standard setting (kW)
				Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	
50	ARS50E	1	2,200	1.48	0.68	1.44	0.83	1.40	1.0	1.36	1.1	1.32	1.3	1.28	1.4	1.27	1.6	1.24	1.7	1.20	1.9	1.17	2.1	1.13	2.2	1.11	2.4	1.07	2.5	1.03	2.7	1.00	2.8	1.5
		2	2,450	1.69	0.76	1.65	0.92	1.61	1.1	1.58	1.3	1.54	1.4	1.50	1.6	1.48	1.8	1.45	2.0	1.42	2.1	1.38	2.3	1.35	2.5	1.31	2.6	1.28	2.8	1.24	3.0	1.21	3.1	
		3	2,770	1.94	0.87	1.90	1.1	1.86	1.2	1.81	1.4	1.80	1.7	1.76	1.8	1.74	2.0	1.70	2.2	1.66	2.4	1.63	2.6	1.59	2.8	1.56	3.0	1.53	3.2	1.49	3.4	1.46	3.6	2.2
		4	2,980	2.15	1.0	2.10	1.2	2.05	1.4	1.98	1.6	1.94	1.8	1.90	2.0	1.87	2.2	1.84	2.4	1.81	2.6	1.78	2.8	1.73	3.0	1.70	3.2	1.66	3.4	1.63	3.6	1.60	3.9	
		5	3,300	2.34	1.1	2.30	1.3	2.25	1.5	2.25	1.8	2.21	2.0	2.17	2.2	2.15	2.5	2.11	2.7	2.07	2.9	2.04	3.2	2.00	3.4	1.97	3.6	1.94	3.9	1.91	4.1	1.87	4.3	3.7
		6	3,700	2.61	1.2	2.57	1.4	2.57	1.7	2.53	2.0	2.51	2.3	2.47	2.5	2.43	2.8	2.40	3.1	2.36	3.3	2.32	3.6	2.30	3.8	2.26	4.1	2.23	4.4	2.19	4.6	2.15	4.9	
		7	4,140	2.93	1.3	2.93	1.7	2.89	2.0	2.87	2.2	2.83	2.6	2.79	2.8	2.75	3.1	2.72	3.4	2.68	3.7	2.66	4.0	2.62	4.3	2.58	4.6	2.55	4.9	2.51	5.2	2.47	5.5	5.5
		8	4,370	3.09	1.4	3.08	1.8	3.05	2.1	3.03	2.4	2.99	2.7	2.95	3.0	2.90	3.3	2.87	3.6	2.85	4.0	2.81	4.3	2.77	4.6	2.74	4.9	2.70	5.2	2.66	5.5	—	—	
65	ARS65E	1	2,500	2.86	1.0	2.81	1.3	2.75	1.6	2.70	1.9	2.65	2.2	2.62	2.5	2.59	2.8	2.56	3.0	2.47	3.3	2.42	3.6	2.38	3.9	2.34	4.2	2.29	4.5	2.24	4.8	2.20	5.0	2.2
		2	2,650	3.05	1.1	3.00	1.4	2.94	1.7	2.89	2.0	2.86	2.3	2.81	2.6	2.76	2.9	2.71	3.2	2.69	3.5	2.62	3.9	2.57	4.2	2.53	4.5	2.47	4.8	2.46	5.1	2.43	5.4	
		3	2,790	3.26	1.2	3.18	1.5	3.13	1.8	3.07	2.1	3.04	2.5	2.99	2.8	2.95	3.1	2.92	3.4	2.89	3.7	2.80	4.1	2.75	4.4	2.71	4.7	2.66	5.0	2.61	5.3	2.57	5.7	3.7
		4	2,940	3.47	1.3	3.37	1.6	3.31	1.9	3.28	2.3	3.23	2.6	3.18	2.9	3.15	3.3	3.13	3.6	3.07	4.0	3.00	4.3	2.95	4.6	2.91	5.0	2.87	5.3	2.82	5.6	2.78	6.0	
		5	3,120	3.65	1.4	3.59	1.7	3.55	2.1	3.51	2.4	3.46	2.8	3.41	3.2	3.36	3.5	3.34	3.9	3.28	4.2	3.22	4.6	3.18	5.0	3.14	5.3	3.12	5.6	3.06	6.0	3.00	6.4	5.5
		6	3,310	3.92	1.5	3.87	1.8	3.83	2.2	3.78	2.6	3.73	3.0	3.68	3.4	3.64	3.8	3.58	4.1	3.53	4.5	3.48	4.9	3.43	5.3	3.40	5.6	3.31	6.0	3.26	6.4	3.21	6.8	
		7	3,500	4.11	1.6	4.05	2.0	4.02	2.4	3.97	2.8	3.91	3.2	3.86	3.6	3.85	4.0	3.80	4.4	3.75	4.8	3.72	5.2	3.71	5.6	3.60	6.0	3.54	6.4	3.50	6.8	3.45	7.2	7.5
		8	3,690	4.34	1.7	4.28	2.1	4.25	2.5	4.21	3.0	4.17	3.4	4.12	3.8	4.08	4.2	4.05	4.7	4.02	5.1	3.94	5.5	3.90	5.9	3.85	6.3	3.79	6.8	3.73	7.2	—	—	
		9	4,130	4.89	1.9	4.86	2.4	4.82	2.9	4.77	3.4	4.72	3.8	4.65	4.3	4.61	4.8	4.57	5.3	4.53	5.6	4.49	6.2	4.44	6.7	4.40	7.1	—	—	—	—	—	—	
80	ARS80E	1	2,800	4.71	1.7	4.65	2.2	4.59	2.6	4.53	3.1	4.47	3.5	4.43	4.0	4.38	4.5	4.32	4.9	4.26	5.4	4.22	5.8	4.16	6.3	4.11	6.7	4.05	7.2	4.01	7.7	3.98	8.2	3.7
		2	2,930	4.99	1.8	4.95	2.3	4.89	2.8	4.82	3.2	4.74	3.7	4.70	4.2	4.66	4.7	4.61	5.1	4.56	5.6	4.50	6.1	4.44	6.6	4.39	7.0	4.33	7.5	4.30	8.1	4.26	8.6	
		3	3,110	5.29	1.9	5.22	2.5	5.17	3.0	5.11	3.5	5.06	4.0	5.00	4.5	4.96	5.0	4.90	5.4	4.86	6.0	4.81	6.5	4.75	7.0	4.69	7.4	4.67	8.1	4.62	8.6	4.57	9.1	5.5
		4	3,290	5.60	2.1	5.53	2.6	5.47	3.2	5.43	3.7	5.37	4.3	5.31	4.8	5.26	5.3	5.21	5.9	5.15	6.4	5.11	6.9	5.07	7.4	5.03	8.1	4.99	8.6	4.95	9.2	4.91	9.7	
		5	3,520	5.99	2.3	5.90	2.9	5.85	3.4	5.80	4.0	5.75	4.6	5.70	5.2	5.65	5.8	5.59	6.4	5.54	6.9	5.48	7.5	5.46	8.2	5.42	8.8	5.38	9.4	5.33	9.9	5.29	10.5	7.5
		6	3,720	6.28	2.5	6.23	3.1	6.17	3.6	6.12	4.3	6.08	4.9	6.03	5.5	5.99	6.2	5.93	6.8	5.91	7.4	5.85	8.1	5.80	8.8	5.75	9.4	5.70	10.0	5.65	10.6	—	—	
		7	3,930	6.72	2.6	6.65	3.3	6.58	4.0	6.52	4.6	6.48	5.3	6.42	5.9	6.36	6.6	6.30	7.2	6.26	8.0	6.24	8.7	6.19	9.3	6.14	10.0	6.09	10.6	—	—	—	—	11
		8	4,150	7.04	2.8	6.96	3.5	6.93	4.2	6.86	4.9	6.81	5.7	6.74	6.3	6.68	7.0	6.66	7.8	6.64	8.5	6.59	9.2	6.54	9.9	6.48	10.7	—	—	—	—	—	—	
100	ARS100E	1	2,780	7.20	2.3	7.11	3.0	7.01	3.7	6.91	4.4	6.82	5.1	6.75	5.8	6.66	6.5	6.60	7.2	6.58	8.0	6.50	8.7	6.42	9.5	6.34	10.2	6.30	10.9	6.23	11.6	6.16	12.3	5.5
		2	3,110	8.14	2.7	8.04	3.5	7.94	4.3	7.90	5.0	7.80	5.9	7.74	6.6	7.62	7.4	7.60	8.3	7.52	9.1	7.44	9.9	7.36	10.7	7.30	11.5	7.21	12.3	7.14	13.1	7.06	13.9	
		3	3,290	8.60	2.9	8.51	3.7	8.41	4.5	8.34	5.4	8.27	6.2	8.20	7.1	8.14	8.0	8.06	8.9	8.00	9.7	7.92	10.5	7.85	11.4	7.76	12.2	7.69	13.1	7.60	13.9	7.54	15.0	11
		4	3,530	9.19	3.1	9.09	4.0	9.05	4.9	8.98	5.9	8.88	6.7	8.84	7.7	8.74	8.7	8.65	9.6	8.57	10.5	8.50	11.4	8.42	12.3	8.34	13.2	8.25	14.1	8.18	15.0	—	—	
		5	3,700	9.61	3.4	9.51	4.3	9.42	5.2	9.36	6.2	9.29	7.1	9.24	8.2	9.16	9.2	9.08	10.1	9.00	11.0	8.92	12.0	8.84	13.0	8.76	13.9	8.68	15.0	—	—	—	—	15
		6	3,940	10.2	3.7	10.1	4.7	10.0	5.7	9.90	6.7	9.85	7.8	9.78	8.8	9.69	9.8	9.61	10.8	9.54	11.9	9.46	12.9	9.38	13.9	9.28	14.9	—	—	—	—	—	—	
125	ARS125E	1	2,210	10.6	3.7	10.5	4.7	10.4	5.8	10.3	6.8	10.2	7.9	10.1	8.9	10.0	9.5	9.92	10.2	9.84	11.5	9.77	12.5	9.69	13.5	9.62	14.3	9.55	16.3	9.45	17.4	9.35	18.4	11
		2	2,530	12.2	4.4	12.0	5.7	11.9	6.9	11.9	8.1	11.8	9.3	11.7	10.0	11.6	11.1	11.5	12.9	11.5	13.5	11.4	14.4	11.3	16.5	11.3	17.4	11.2	18.0	11.1	20.1	11.0	21.3	
		3	2,870	14.0	5.3	13.9	6.6	13.8	8.0	13.7	9.3	13.6	9.7	13.6	11.1	13.5	13.4	13.4	13.7	13.4	15.1	13.3	16.6	13.2	17.8	13.2	19.5	13.1	20.7	13.0	22.1	12.9	24.3	18.5
		4	3,100	15.2	5.8	15.1	7.3	15.0	8.8	14.9	9.7	14.7	11.1	14.6	13.1	14.6	13.7	14.5	15.1	14.4	17.1	14.3	18.0	14.3	19.5	14.2	20.9	14.1	23.4	14.0	24.9	13.9	26.4	
		5	3,470	17.0	6.9	16.9	8.5	16.8	9.6	16.7	11.1	16.6	13.0	16.5	13.9	16.4	16.0	16.3	17.3	16.3	19.1	16.2	20.6	16.1	22.5	16.0	24.9	16.0	26.6	15.9	28.2			

Performance Curve

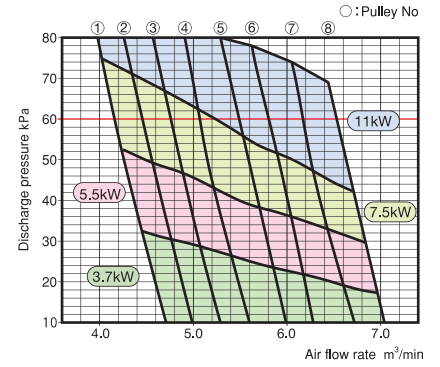
ARS50E



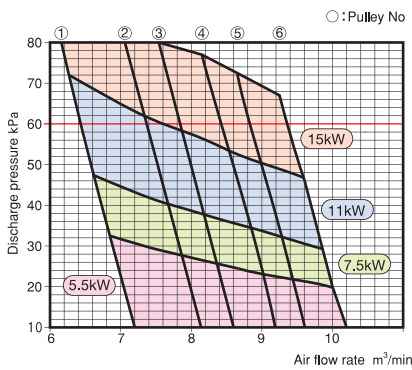
ARS65E



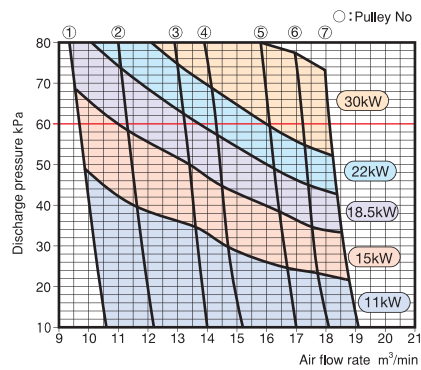
ARS80E



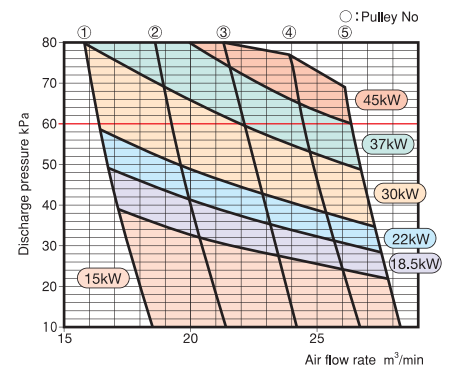
ARS100E



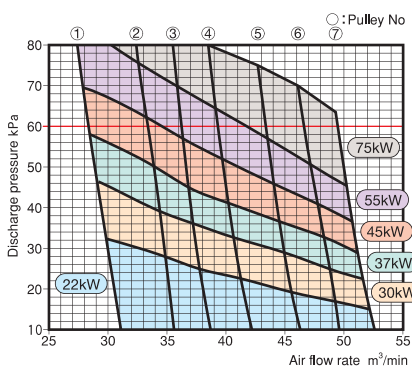
ARS125E



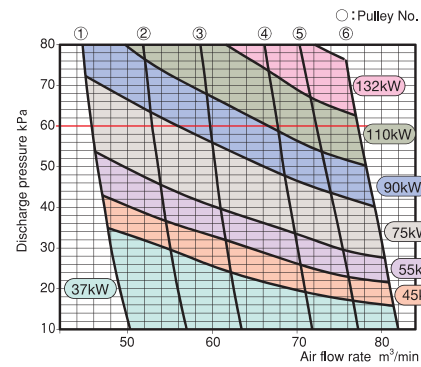
ARS150E



ARS200E



ARS250E·ARS250EA



ARS 250EA

ARS 250E

Notes:

- (1) The air flow rate indicates the volume of air on the suction side.
- (2) Air flow rate tolerance: $\pm 5\%$
- (3) Consult us for any requirements not included in the table.
- (4) For indoor use only. Consult us for outdoor applications.
- (5) Specifications are subject to change without notice.
- (6) Outdoor type and inhalation pipe-connection type are only available up to discharge pressure of 60 kPa.

Sound Levels

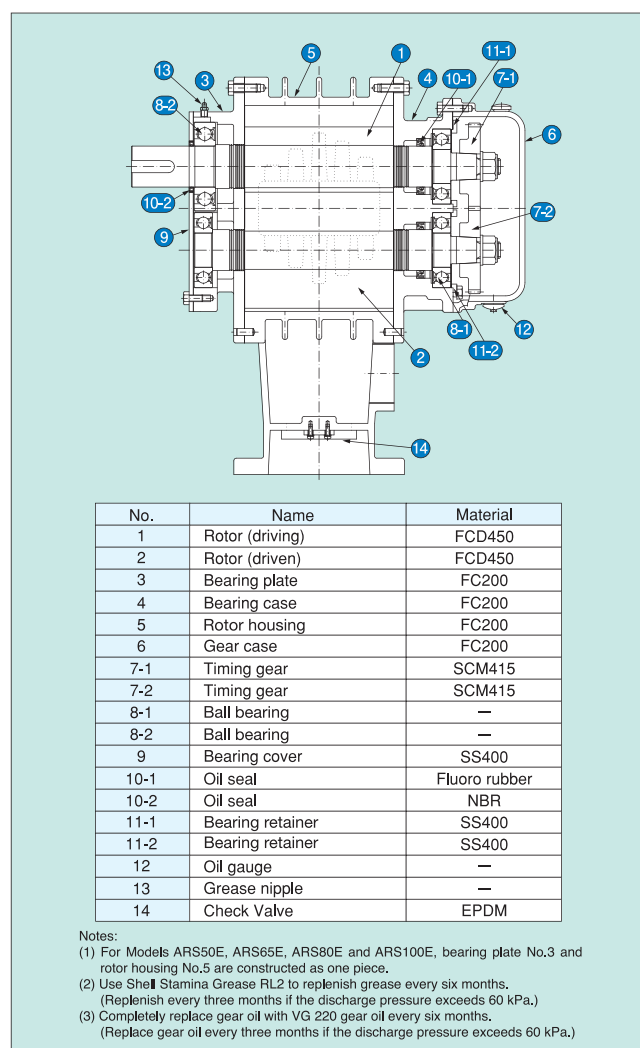
[dB(A)]

Model	Pulley No.	Rotor Speed (min ⁻¹)	Discharge Pressure (kPa)							
			10	20	30	40	50	60	70	80
ARS50E	1	2,200	68	69	70	71	72	72	73	73
	2	2,450	69	70	71	71	72	72	73	73
	3	2,770	70	71	72	72	73	73	74	74
	4	2,980	71	72	73	73	74	74	75	75
	5	3,300	72	73	74	74	75	75	76	76
	6	3,700	73	74	75	75	76	76	77	77
	7	4,140	75	76	76	76	77	77	78	78
	8	4,370	75	76	77	77	78	78	79	—
ARS65E	1	2,500	71	72	72	72	73	73	74	73
	2	2,650	72	73	73	73	74	74	75	75
	3	2,790	73	74	74	74	75	75	76	76
	4	2,940	74	75	75	75	76	76	77	77
	5	3,120	74	75	75	75	76	76	77	78
	6	3,310	75	76	76	76	77	77	78	79
	7	3,500	76	77	77	77	78	78	79	80
	8	3,690	76	77	78	78	79	79	80	81
	9	4,130	78	79	80	80	81	81	—	—
ARS80E	1	2,800	73	74	75	75	76	77	78	79
	2	2,930	74	75	76	76	77	78	79	80
	3	3,110	75	76	77	77	79	80	81	82
	4	3,290	76	77	78	79	80	81	82	83
	5	3,520	76	77	78	79	80	81	82	83
	6	3,720	77	78	79	80	81	82	83	—
	7	3,930	78	79	80	81	82	83	84	—
	8	4,150	79	80	81	82	83	84	—	—
ARS100E	1	2,780	76	77	78	79	80	80	81	82
	2	3,110	77	78	79	80	81	81	82	83
	3	3,290	78	79	80	81	82	82	83	84
	4	3,530	79	80	81	81	82	83	84	85
	5	3,700	80	81	82	82	83	84	85	—
	6	3,940	81	82	83	83	84	85	86	—
ARS125E	1	2,210	77	78	79	80	81	81	82	83
	2	2,530	79	80	81	82	83	83	84	85
	3	2,870	80	81	82	83	84	84	85	86
	4	3,100	82	83	84	84	85	86	87	87
	5	3,470	83	84	85	85	86	87	88	—
	6	3,700	85	86	87	87	88	88	89	—
	7	3,920	86	87	88	88	89	89	90	—
ARS150E	1	2,170	79	80	81	82	83	83	84	84
	2	2,440	81	82	83	84	85	85	86	86
	3	2,760	83	84	85	85	86	86	87	87
	4	3,100	84	85	86	86	87	87	88	88
	5	3,310	85	86	87	87	88	88	89	—
ARS200E	1	1,580	82	82	84	86	87	88	88	89
	2	1,850	83	84	86	87	88	89	90	91
	3	1,980	84	85	87	88	89	90	91	92
	4	2,150	85	86	87	88	90	92	93	82
	5	2,360	86	87	88	88	91	93	95	—
	6	2,510	86	87	88	89	92	94	95	—
	7	2,650	87	88	89	90	93	95	—	—
ARS250E ARS250EA	1	1,560	84	85	86	86	87	88	90	92
	2	1,760	85	86	87	87	88	89	91	93
	3	1,970	86	87	88	88	89	90	92	94
	4	2,220	87	88	89	89	91	92	94	96
	5	2,350	88	89	90	90	92	93	95	97
	6	2,490	89	90	91	91	93	94	96	—

(1) Typical sound levels [±3dB(A)] are measured at a distance of one meter from the blower side.
Provided for reference only.

(2) Sound levels vary depending on the base (foundation) condition and piping configuration.

Sectional View



Standard Accessories

- Common Base..... 1
- V-pulley, V-belt, Belt Cover..... 1
- Pressure Gauge (160 kPa, with gauge cock and R1/4 setscrew)..... 1
- Cooling Silencer (with filter) 1
- Safety Valve (with check valve)..... 1
- IP44-compliant TEFC Motor (indoor type) with base..... 1

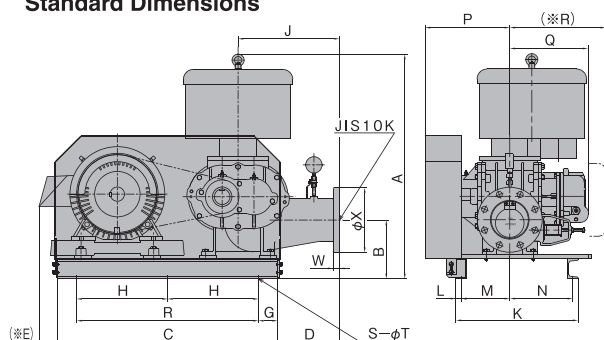
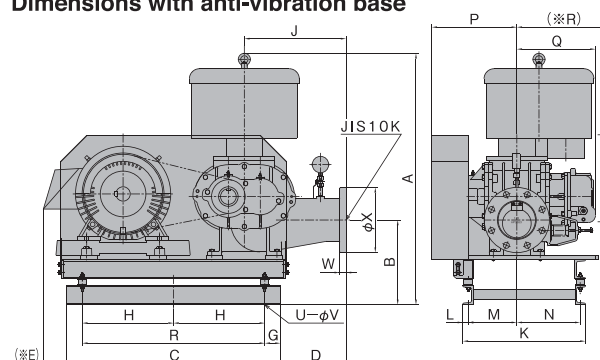
Standard Motors (TEFC indoor type)

Model	Applicable Motor Output (kW)														
	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90
ARS50E	○	○	○	○											
ARS65E		○	○	○	○										
ARS80E			○	○	○	○									
ARS100E				○	○	○	○								
ARS125E						○	○	○	○	○					
ARS150E							○	○	○	○	○	○			
ARS200E								○	○	○	○	○	○	○	
ARS250E										○	○	○	○	○	○
ARS250EA															○

Star-delta starting is available for motors 5.5kW and over.

Dimensions

(mm)

Standard Dimensions

Dimensions with anti-vibration base


Model	Outlet dia (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Weight (kg)
ARS50E	50	489 (588)	152 (251)	556 (548)	105 (109)	99 (103)		78 (74)	—	220				105	195	173	197	285					20	155	58 (67)
ARS65E	65	518 (617)	162 (261)	556 (548)	115 (119)		400		—	230			330	140	160	208	233	288	4	13	4	13	22	175	78 (87)
ARS80E	80	624 (723)	170 (269)	650 (628)	143 (154)	108 (119)		95 (84)	—	280				119	181	229	234	404						185	112 (123)
ARS100E	100	660 (759)	182 (281)		148 (159)		460		—	285				157	143	269	272	366					24	210	139 (150)
ARS125E	125	892 (991)	226 (325)	859 (847)	232 (238)	162 (168)		80 (74)	350	390				187	243	332	312	440						250	241 (256)
ARS150E	150	935 (1,034)	241 (340)	859 (847)	312 (318)	161 (167)	700			470			20	266	164	411	448	452		14		14		280	312 (327)
ARS200E	22~55kW	1,203 (1,335)	273 (405)	1,100 (1,240)		267 (197)	800		400					290	310				6				26		656 (677)
	75kW	1,248 (1,430)	318 (500)		258 (188)	96 (26)		150 (220)						665	325	452	510			15	6	15	330		733 (827)
ARS250E	37~90kW	1,335 (1,517)	353 (535)	1,200 (1,340)		78 (8)	900		450				30	830	405	365	596	622					30	400	950 (1,065)
ARS250EA	110~132kW														441	349	660 (645)	625							990 (1,100)

Notes:

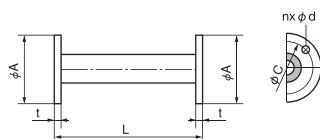
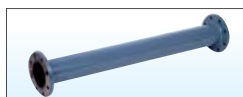
- (1) Bolt hole diameter and pitch of the discharge flange comply with JIS B2239: 10K flange.
- (2) This standard motor is Japanese-brand totally enclosed fan cooled motor (indoor type IP44). Use of a special motor or non-Japanese brand may require a different base size.
- (3) For indoor use only. Consult us regarding outdoor applications.
- (4) Dimensions of the blower with the anti-vibration base are shown in parentheses. * The weight excludes the weight of the motor and motor base.
- (5) *E and *R dimensions are the maximum dimensions when equipped with the largest size of standard motor.
- (6) For details on the ARS250E and ARS250EA, contact your nearest ShinMaywa sales office.

* Call us for CAD-compatible electronic catalogs.

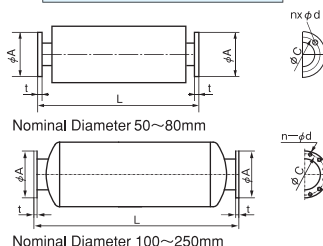
Optional Accessories

● Outlet Silencer

● Type AS Outlet Silencer



● Type BS Outlet Silencer



Nominal Diameter 100~250mm

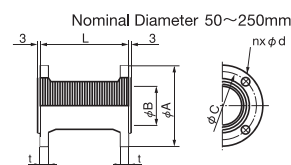
Nominal Diameter (mm)	L	A	C	n	d	t	Weight (kg)
50	560	155	120	4	19	16	6.5
65	610	175	140			18	9.0
80	770	185	150			20	11
100	1,060	210	175	8	23	22	18
125	1,160	250	210			22	27
150	1,110	280	240			22	36
200	1,440	330	290	12	25	24	80
250	1,800	400	355			24	147

*Use the blower under discharge pressure less than 60 kPa.
*Outer diameter, hole pitch and hole diameter of discharge flange comply with JIS B2239: 10K flange.

Nominal Diameter (mm)	L	A	C	n	d	t	Weight (kg)
50	560	155	120	4	19	16	11
65	610	175	140			18	15
80	770	185	150			20	22
100	1,060	210	175	8	23	22	39
125	1,160	250	210			22	59
150	1,110	280	240			22	69
200	1,440	330	290	12	25	24	95
250	1,800	400	355			24	172

*Outer diameter, hole pitch and hole diameter of discharge flange comply with JIS B2239: 10K flange.

● Flexible joint



Nominal Diameter 50~250mm

Nominal Diameter (mm)	L	A	B	C	n	d	t	Weight (kg)
50	300	155	54	120	4	19	16	5
65		175	67	140			18	6
80	230	185	79	150			20	8
100		210	104	175	8	23	22	12
125		250	129	210			22	15
150	300	280	152	240			22	18
200		330	203	290	12	25	24	28
250	350	400	251	335			24	28

*Outer diameter, hole pitch and hole diameter of discharge flange comply with JIS B2239: 10K flange.

● Other Options

Motor

- Totally enclosed fan-cooled outdoor type
- Tropical climate specification

Belt Cover

- V-belt inspection window

Pressure Gauge

- Pressure gauge stand

Rubber Vibration Isolator

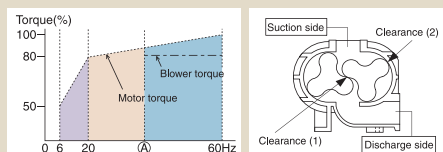
Gate Valve

Vertical Outlet Silencer

Selecting a VFD-Controlled Model

VFD control is available for all models. This feature allows precise control of the air flow rate to accommodate water treatment volumes that vary over season and time.

Operation at excessively slow speeds with the VFD may allow high-temperature compressed air to leak into the suction side through Clearance (1) between rotors and Clearance (2) between rotors and housing wall as illustrated below. This may result in a temperature rise that exceeds the bearing temperature limit, resulting in a blower failure.



Notes: (A) indicates the lower limit of the frequency control range based on the blower temperature rise.

- 1) Blower torque remains constant when the motor speed is reduced because of the blower's constant-torque characteristic.
- 2) When selecting a VFD, ensure the rated output of the VFD is equal to or greater than the rated output of the motor.
- 3) The control range of the VFD starts at 60 Hz regardless of the frequency of the power source. The control range depends on several factors including the application, motor output, and model.

Combination 1

General-purpose motor and VFD (V/F control)

Blower application (a) (Fig. 1)

The blower is usable within the frequency range from (A) to 60 Hz because the blower torque is less than the motor torque. The blower is not usable if the frequency falls below (A) because the blower temperature will rise.

Blower application (b) (Fig. 2)

The blower torque exceeds the motor torque when the frequency is below (B). The blower is usable within the frequency range from (B) to 60 Hz.

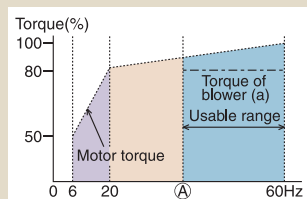


Figure 1 Blower (a)

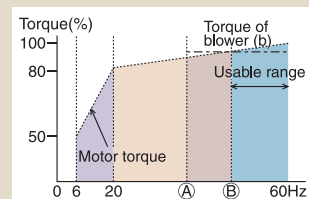


Figure 2 Blower (b)

Combination 2

General-purpose motor and VFD (Vector control)

Both blowers (a) and (b) are usable within the range from (A) to 60 Hz. The blowers are not usable below (A) because the blower temperature will rise.

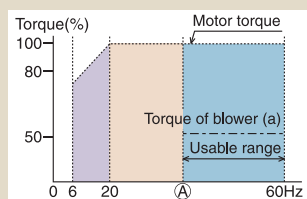


Figure 3 Blower (a)

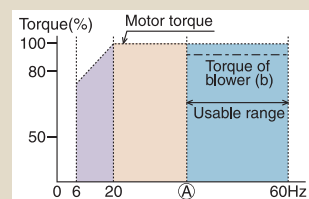


Figure 4 Blower (b)

Consult us if you require VFD control. We can provide an VFD calculation sheet.

Differences between ARS-E type equipped with IE3 motor and type equipped with IE1 motor (Points to note if replacing your previous model with the IE3 motor)

Significant differences in motor size and weight

- Motor outer dimensions: The frame size of IE3 motor does not differ from the IE1 motor, so it can be installed to the blower with IE1 motor. However, with the IE3 motor, the diameter and length of motor both tend to be larger. Because of this, the outer dimensions will be larger for some models, and so check the matching dimensions for cables, etc. and make sure that there is no interference with surrounding equipment during installation.
- Motor weight: As mentioned above, the motor size is larger, and so the weight of the motor has also increased as a result. (However, there is no need to reselect the anti vibration rubbers for ShinMaywa blowers as a result of this weight increase.)

Starting current increased

- With the IE3 motor, the starting current tends to be larger. As a result of this, it will be necessary to inspect equipment such as circuit protector to make sure they are appropriate. In addition, it is also possible that the capacity of the electromagnetic switch may need to be changed when replacing the motor.

Increase in rated operating speed of motors

- With the IE3 motor, the rated operating speed will increase. When replacing an IE1 motor with an IE3 motor, the air volume and output power increase as a result of the increased operating speed. Customers using the motor at around the maximum rated current (95% or more of the rated current), and looking into replacing their motors should notify ShinMaywa, as there is a possibility that excessive power may be generated as a result of the increased air volume.

Comparison of starting current values between ShinMaywa typical IE1 and IE3 motors

5.5kW (50Hz/60Hz)	150/131 → 203/167
7.5kW (50Hz/60Hz)	206/180 → 261/217

* For details, contact to your dealer or ShinMaywa.

Specifications and dimensions are subject to change without notice.

ShinMaywa Industries, Ltd.

International Business Group
Sales & Marketing Dept., Fluid Div.

3-2-43, Shitte, Tsurumi-ku, Yokohama, 230-0003, Japan
Phone : +81-45-584-1322 Fax : +81-45-575-2286
E-mail : sales.eisui@shinmaywa.co.jp

ShinMaywa (America), Ltd.

10737 Gateway West, Suite 240,
El Paso, Texas 79935, U.S.A.
Phone : +1-915-594-9862
Fax : +1-915-594-9866
E-mail : info@shinmaywaamerica.com

ShinMaywa (Asia) Pte. Ltd.

8 Burn Road, #14-10 Trivex,
Singapore 369977
Phone : +65-6224-0728
Fax : +65-6224-9678
E-mail : asia.ad@shinmaywa.com.sg

ShinMaywa (Shanghai) Trading Co., Ltd.

201107 Building 6, Lane 333, Zhujian Road,
Minhang District, Shanghai, China
Phone : +86-21-5296-2966
Fax : +86-21-5296-2970
E-mail : shanghai@shinmaywa.co.jp



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