Ring Blowers

VFZ/VFC

TERAL

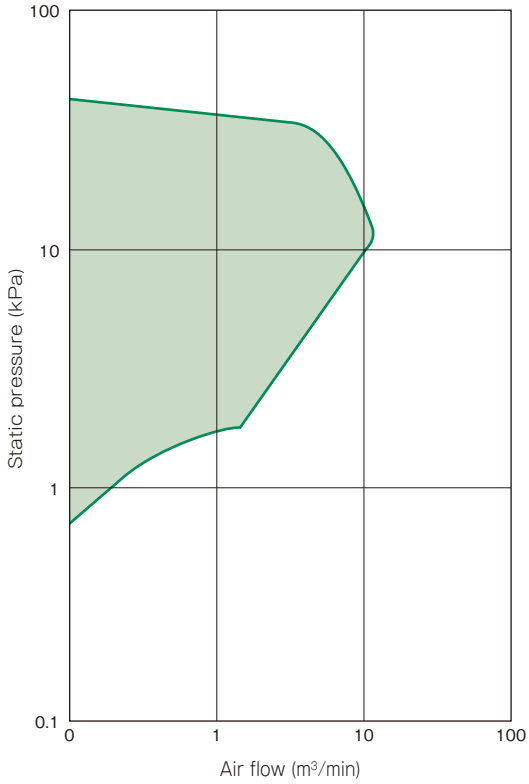
3e Triple e series

50Hz / 60Hz

TERAL INC.

INDEX

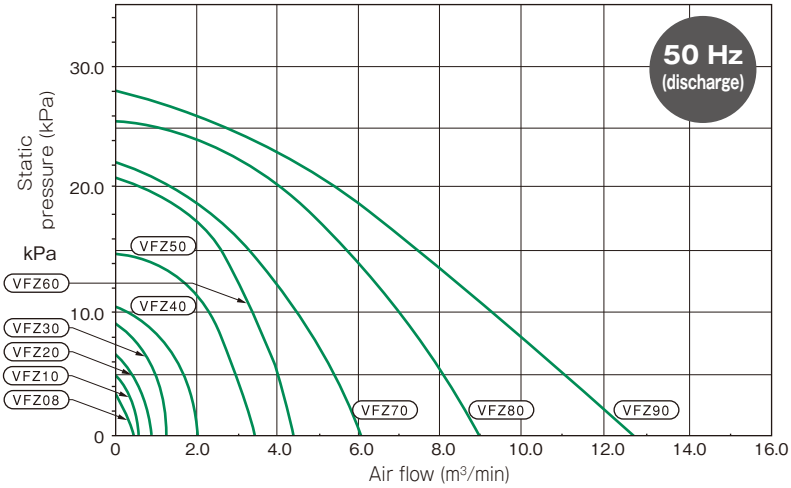
General selection chart

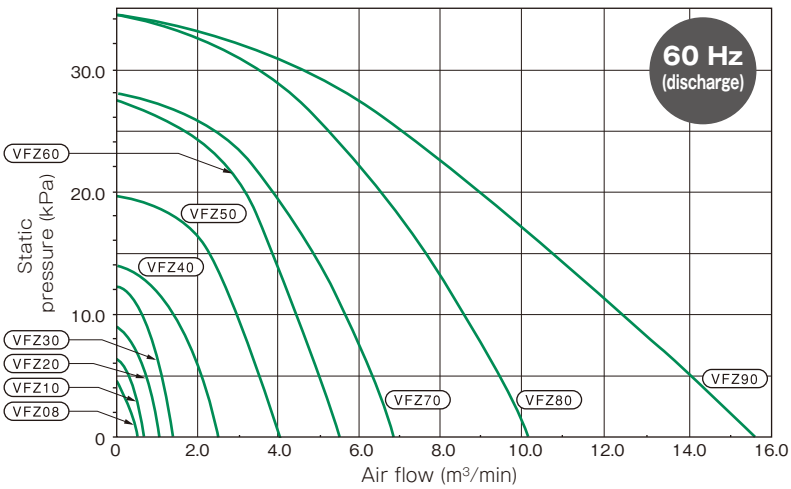


VFZ

VFC

Selection chart





Note: The above values are VFZ Series discharge characteristics. Check suction characteristics for each product.

	Model	Voltage (V)	Frequency (Hz)	Discharge characteristics					Suction characteristics		
				Maximum values			Rated values		Maximum values		
				*Output (kW)	*Current (A)	Static pressure (kPa)	*Static pressure (kPa)	*Flow (m³/min)	Output (kW)	Current (A)	Static pressure (kPa)
Single phase, standard type	VFZ081PN	1φ 100/100 110	50/60	0.06/0.08	1.3/1.4-1.3	3.73/4.85	1.96	0.25/0.35	0.05/0.07	1.2/1.3-1.3	3.43/4.6
	VFZ101PN			0.09/0.12	1.5/2.0-1.9	5.10/6.86	2.94	0.35/0.50	0.08/0.10	1.5/1.8-1.7	4.91/6.55
	VFZ201PN			0.17/0.28	4.5/4.4-4.2	6.67/8.63	2.94	0.64/0.84	0.17/0.25	4.3/4.2-4.1	6.05/7.85
	VFZ301PN			0.25/0.38	5.0/5.8-5.6	9.61/12.0	3.92	0.9/1.1	0.25/0.38	5.0/5.8-5.6	8.8/11.2
	VFZ401PN			0.50/0.75	7.0/11.0-10.0	9.81/13.2	4.9	1.45/1.95	0.48/0.70	7.0/11.0-10.0	9.36/12.3
3-phase, standard type	VFZ081A	3φ 200/200 220	50/60	0.06/0.08	0.40/0.42-0.45	3.73/4.85	1.96	0.25/0.35	0.06/0.08	0.40/0.42-0.45	3.43/4.60
	VFZ101A			0.09/0.12	0.55/0.70-0.62	5.15/6.37	2.94	0.35/0.50	0.09/0.12	0.55/0.70-0.62	4.90/6.21
	VFZ201A			0.17/0.28	1.4/1.4-1.4	6.67/9.02	2.94	0.64/0.84	0.17/0.28	1.4/1.4-1.4	6.27/8.19
	VFZ301A			0.28/0.42	2.0/2.4-2.2	9.32/12.4	3.92	0.9/1.1	0.28/0.42	2.0/2.4-2.2	8.73/11.4
	VFZ401A			0.55/0.85	3.1/3.7-3.6	10.4/14.1	4.90	1.45/1.95	0.53/0.83	3.0/3.5-3.4	9.4/12.9
	VFZ501A			1.3/1.9	6.0/8.0-7.5	14.7/19.6	6.86	2.4/3.0	1.3/1.9	6.0/8.0-7.5	13.7/17.3
	VFZ601A			2.3/3.4	12/14-13.7	21.1/27.5	9.81	3.1/4.2	2.3/3.4	12/14-13.7	18.2/23.6
	VFZ701A			3.3/5.0	16/20-19	21.6/28.4	9.81	4.4/5.7	3.1/5.4	14/19-18	18.3/22.9
	VFZ801A			5.0/7.0	21/28-26	25.5/33.3	9.81	6.3/8.5	5.2/7.6	20/30-28	21.6/26.6
	VFZ901A			7.0/11.0	31/40-38	25.5/31.4	14.7	7.5/10.8	7.0/13	30/41-40	21.4/27.6
3-phase, standard type (for companion flange)	VFZ101AF	3φ 200/200 220	50/60	0.09/0.12	0.55/0.70-0.62	5.15/6.37	2.94	0.35/0.50	0.09/0.12	0.55/0.70-0.62	4.90/6.21
	VFZ201AF			0.17/0.28	1.4/1.4-1.4	6.67/9.02	2.94	0.64/0.84	0.17/0.28	1.4/1.4-1.4	6.27/8.19
	VFZ301AF			0.28/0.42	2.0/2.4-2.2	9.32/12.4	3.92	0.9/1.1	0.28/0.42	2.0/2.4-2.2	8.73/11.4
	VFZ401AF			0.55/0.85	3.1/3.7-3.6	10.4/14.1	4.90	1.45/1.95	0.53/0.83	3.0/3.5-3.4	9.4/12.9
	VFZ501AF			1.3/1.9	6.0/8.0-7.5	14.7/19.6	6.86	2.4/3.0	1.3/1.9	6.0/8.0-7.5	13.7/17.3
	VFZ601AF			2.3/3.4	12/14-13.7	21.1/27.5	9.81	3.1/4.2	2.3/3.4	12/14-13.7	18.2/23.6
3-phase, low-noise type	VFZ101AN	3φ 200/200 220	50/60	0.09/0.12	0.55/0.70-0.62	5.15/6.37	2.94	0.35/0.50	0.09/0.12	0.55/0.70-0.62	4.90/6.21
	VFZ201AN			0.17/0.28	1.4/1.4-1.4	6.67/9.02	2.94	0.64/0.84	0.17/0.28	1.4/1.4-1.4	6.27/8.19
	VFZ301AN			0.28/0.42	2.0/2.4-2.2	9.32/12.4	3.92	0.9/1.1	0.28/0.42	2.0/2.4-2.2	8.73/11.4
	VFZ401AN			0.55/0.85	3.1/3.7-3.6	10.4/14.1	4.90	1.45/1.95	0.53/0.83	3.0/3.5-3.4	9.4/12.9
	VFZ501AN			1.3/1.9	6.0/8.0-7.5	14.7/19.6	6.86	2.4/3.0	1.3/1.9	6.0/8.0-7.5	13.7/17.3
	VFZ601AN			2.3/3.4	12/14-13.7	21.1/27.5	9.81	3.1/4.2	2.3/3.4	12/14-13.7	18.2/23.6
	VFZ701AN			3.3/5.0	16/20-19	21.6/28.4	9.81	4.4/5.7	3.1/5.4	14/19-18	18.3/22.9
	VFZ801AN			5.0/7.0	21/28-26	25.5/33.3	9.81	6.3/8.5	5.2/7.6	20/30-28	21.6/26.6
	VFZ901AN			7.0/11.0	31/40-38	25.5/31.4	14.7	7.5/10.8	7.0/13	30/41-40	21.4/27.6

	Model	Maximum discharge air flow (m³/min)	Thermal class	Noise level (dB(A))	Inlet and outlet diameters (mm, inches)	Approximate mass (kg)	Starting current (A)	Auto Breaker		Magnetic switch	Thermal relay	
								Model	Rated current (A)		Model	Rated current (A)
Single phase, standard type	VFZ081PN	0.47/0.56	B	53.0/55.5	32	6	4.0/3.8-4.2	-	-			0.95-1.45
	VFZ101PN	0.58/0.69	B	48.5/51.5	32	8.5	9.4/9.2-10.0	-	-			1.7-2.6
	VFZ201PN	0.86/1.05	B	55.0/59.5	32	12.0	14.5/13.0-14.5	BW32SAM-2P005	5	SW-03	TR-0N	4-6
	VFZ301PN	1.25/1.45	B	55.5/59.5	38	12.0	18.5/17.5-19.5	※BW32SAM-2P008	8			5-8
	VFZ401PN	2.05/2.45	B	62.5/66.5	50,R1½	22.0	37.0/33.0-37.0	※BW32SAM-2P016	16			7-11
3-phase, standard type	VFZ081A	0.47/0.56	B	53.0/55.5	32	5.5	2.0/2.0-2.2	-	-			0.36-0.54
	VFZ101A	0.58/0.69	B	52.5/56.5	32	7.5	4.2/3.9-4.2	-	-			0.48-0.72
	VFZ201A	0.90/1.09	B	57.5/62.0	32	9.0	9.0/8.1-9.0	BW32AAM-3P1P4	1.4	SW-03	TR-0N	1.4-2.2
	VFZ301A	1.28/1.40	B	58.0/62.0	38	11.0	13.0/12.0-13.5	BW32SAM-3P002	2			1.7-2.6
	VFZ401A	2.0/2.5	B	65.5/69.5	50,R1½	19.0	27.0/25.0-27.5	BW32AAM-3P004	4			2.8-4.2
	VFZ501A	3.4/4.0	F	70.5/74.5	50,R1½	27.5	49/46-51	※BW32AAM-3P008	8			5-8
	VFZ601A	4.2/5.5	F	70.0/74.5	63,R2	43	100/88-97	※BW32AAM-3P016	16	SW-5-1	TR-5-1N	12-18
	VFZ701A	6.2/7.2	F	75.0/79.5	Rp2	50	146/125-136	※BW32AAM-3P024	24	SW-N1	TR-N2	18-26
	VFZ801A	8.7/10.3	F	78.0/81.0	Rp2½	89	175/160-170	※BW32AAM-3P032	32	SW-N2		24-36
	VFZ901A	13/15.5	F	79.5/83.0	Rp3	107	310/280-300	※BW63EAM-3P063	63	SW-N2S	TR-N3	34-50
3-phase, standard type (for companion flange)	VFZ101AF	0.58/0.69	B	52.5/56.5	Rp1	7.5	4.2/3.9-4.2	-	-			0.48-0.72
	VFZ201AF	0.90/1.09	B	57.5/62.0	Rp1	9.0	9.0/8.1-9.0	BW32AAM-3P1P4	1.4			1.4-2.2
	VFZ301AF	1.28/1.40	B	58.0/62.0	Rp1¼	11.0	13.0/12.0-13.5	BW32SAM-3P002	2	SW-03	TR-0N	1.7-2.6
	VFZ401AF	2.0/2.5	B	65.5/69.5	Rp1½	19.0	27.0/25.0-27.5	BW32AAM-3P004	4			2.8-4.2
	VFZ501AF	3.4/4.0	F	70.5/74.5	Rp1½	27.5	49/46-51	※BW32AAM-3P008	8			5-8
	VFZ601AF	4.2/5.5	F	70.0/74.5	Rp2	43	100/88-97	※BW32AAM-3P016	16	SW-5-1	TR-5-1N	12-18
3-phase, low-noise type	VFZ101AN	0.58/0.69	B	49.5/51.5	32	9.0	4.2/3.9-4.2	-	-			0.48-0.72
	VFZ201AN	0.90/1.09	B	55.5/59.0	32	10.0	9.0/8.1-9.0	BW32AAM-3P1P4	1.4			1.4-2.2
	VFZ301AN	1.28/1.40	B	55.5/59.5	38	13.0	13.0/12.0-13.5	BW32SAM-3P002	2	SW-03	TR-0N	1.7-2.6
	VFZ401AN	2.0/2.5	B	62.0/66.0	50,R1½	22.0	27.0/25.0-27.5	BW32AAM-3P004	4			2.8-4.2
	VFZ501AN	3.4/4.0	F	66.0/69.5	50,R1½	34.0	49/46-51	※BW32AAM-3P008	8			5-8
	VFZ601AN	4.2/5.5	F	67.5/70.5	63,R2	45.0	100/88-97	※BW32AAM-3P016	16	SW-5-1	TR-5-1N	12-18
	VFZ701AN	6.2/7.2	F	70.5/74.5	Rp2	62	146/125-136	※BW32AAM-3P024	24	SW-N1	TR-N2	18-26
	VFZ801AN	8.7/10.3	F	74.0/75.0	Rp2½	98	175/160-170	※BW32AAM-3P032	32	SW-N2		24-36
	VFZ901AN	13/15.5	F	76.0/79.5	Rp3	140	310/280-300	※BW63EAM-3P063	63	SW-N2S	TR-N3	34-50

1) Noise values are measured at a distance of 1.5m with the fan released to the atmosphere.
2) Maximum values (output, power) and rated values (static pressure, flow) in Discharge characteristics are noted on the nameplate (marked with *).
3) VFZ80 and VFZ90 types employ Y-Δ (star delta) start.
4) The Auto Breaker (marked with ※) is not suitable for overcurrent protection by itself. Be sure to use it for motor protection.
5) After starting at the ambient temperature, the characteristics near shut-off (static pressure, current and output) will be 0-20%(depending on the model) higher than those in the specification table by the time the temperature reaches saturation in approximately 30 minutes. The thermal relays in the table are selected by load current (maximum current) immediately after starting at the limit for continuous use.

	Model	Voltage (V)	Frequency (Hz)	Discharge characteristics					Suction characteristics		
				Maximum values			Rated values		Maximum values		
				*Output (kW)	*Current (A)	Static pressure (kPa)	*Static pressure (kPa)	*Flow (m³/min)	Output (kW)	Current (A)	Static pressure (kPa)
different voltage	VFZ081A-4Z	3φ 380 400 415 / 400 440	50／60	0.06/0.08	0.2-0.2-0.21/0.22-0.25	3.73/4.85	1.96	0.25/0.35	0.06/0.08	0.2-0.2-0.21/0.22-0.25	3.43/4.60
	VFZ101A-4Z			0.09/0.12	0.26-0.26-0.27/0.31-0.3	5.15/6.37	2.94	0.35/0.50	0.09/0.12	0.26-0.26-0.27/0.31-0.3	4.90/6.21
	VFZ201A-4Z			0.17/0.28	0.6-0.63-0.66/0.7-0.68	6.67/9.02	2.94	0.64/0.84	0.17/0.28	0.6-0.63-0.66/0.7-0.68	6.27/8.19
	VFZ301A-4Z			0.28/0.42	0.86-0.9-0.95/1.1-1.1	9.32/12.4	3.92	0.9/1.1	0.28/0.42	0.86-0.9-0.95/1.1-1.1	8.73/11.4
	VFZ401A-4Z			0.55/0.85	1.7-1.6-1.5/1.9-1.8	10.4/14.1	4.90	1.45/1.95	0.53/0.83	1.4-1.4-1.5/1.7-1.6	9.4/12.9
	VFZ501A-4Z			1.3/1.9	2.6-2.7-2.8/4.0-3.8	14.7/19.6	6.86	2.4/3.0	1.3/1.9	2.6-2.7-2.8/4.0-3.8	13.7/17.3
	VFZ601A-4Z			2.3/3.4	6.3-6.3-6.3/7.0-6.8	21.1/27.5	9.81	3.1/4.2	2.3/3.4	6.3-6.3-6.3/7.0-6.8	18.2/23.6
	VFZ701A-4Z			3.3/5.0	8.1-8-8/10-9.5	21.6/28.4	9.81	4.4/5.7	3.1/5.4	7.6-7.5-7.5/10-9.5	18.3/22.9
	VFZ801A-4Z			5.0/7.0	11-10.5-10/14-13	25.5/33.3	9.81	6.3/8.5	5.2/7.6	11-10.5-10/14-13	21.6/26.6
UL/CSA approved	VFC080P-5T	1φ 115／230	60	0.08	1.2/0.6	4.85	max.4.9	max.0.56	0.07	1.2/0.6	3.43/4.6
	VFC100P-5T			0.12	1.5/0.75	6.86	max.6.8	max.0.7	0.10	1.5/0.75	4.91/6.55
	VFC200P-5T			0.24	3.6/1.8	8.63	max.8.5	max.1.05	0.25	3.6/1.8	6.05/7.85
	VFC300P-5T			0.38	5.0/2.5	12.0	max.10.9	max.1.45	0.38	5.0/2.5	8.8/11.2
	VFC400P-5T			0.75	8.6/4.3	13.2	max.13.2	max.2.45	0.70	8.6/4.3	9.36/12.3
	VFC080A-2T（4W）	3φ, 200 230／460		0.08-0.08	0.42-0.40(0.21-0.20)	4.85	max.4.9	max.0.56	0.08-0.08	0.42-0.40(0.21-0.20)	3.43/4.60
	VFC100A-7W	3φ 200 230／460		0.112-0.12/0.12	0.53-0.52/0.26	6.37	max.6.4	max.0.7	0.112-0.12/0.12	0.53-0.52/0.26	4.90/6.21
	VFC200A-7W			0.25-0.28/0.28	1.2-1.2/0.6	9.02	max.9.0	max.1.1	0.25-0.28/0.28	1.2-1.2/0.6	6.27/8.19
	VFC300A-7W			0.35-0.42/0.42	1.5-1.7/0.85	12.4	max.12.4	max.1.4	0.35-0.42/0.42	1.5-1.7/0.85	8.73/11.4
UL approved	VFZ401A-7W	3φ 208 230／460		0.95	3.8-3.5/1.8	14.1	4.9	1.95	0.85	3.3-3.2/1.6	12.9
	VFZ501A-7W			2.0	7.8-7.4/3.7	19.6	6.86	3.0	1.8	6.9-6.7/3.4	17.3
	VFZ601A-7W			3.7	13.2-12.1/6.1	27.5	9.81	4.4	3.3	11.2-10.8/5.4	23.6
	VFZ701A-7W			5.0	17.6-16.2/8.1	25.0	9.81	5.7	4.8	16.2-15.3/7.7	22.9
	VFZ801A-7W			8.0	27.8-25.2/12.6	25.0	9.81	8.5	7.8	23.0-22.1/11.0	26.6
	VFZ901A-7W			11.0	39.1-37.8/18.9	25.0	14.7	10.8	10.3	33.9-33.7/17.0	27.6
Water-resistant type	VFC308Z	3φ 200 / 200 220	50／60	0.28/0.42	1.8/1.9-1.8	9.32/12.4	3.92	0.90/1.10	0.28/0.42	1.8/1.9-1.8	8.73/11.4
	VFC408Z			0.55/0.85	3.1/3.7-3.6	10.4/14.1	4.90	1.45/1.95	0.53/0.83	3.1/3.7-3.6	9.4/12.9
	VFC508Z			1.3/1.9	5.4/7.4-6.8	14.7/19.6	6.86	2.4/3.0	1.3/1.9	5.1/6.8-6.5	13.7/17.3
	VFC608Z			2.3/3.4	10/13-12	21.1/27.5	9.81	3.2/4.4	2.3/3.4	9.0/11-10.8	18.2/23.6
Explosion-proof type	VFC406C	3φ 200 / 200 220	50／60	0.6/0.9	3.6/3.9-3.8	10.6/12.0	4.90	1.2/1.7	0.5/0.8	3.3/3.5-3.2	9.9/11.4
	VFC506C			1.2/1.5	4.6/5.9-5.4	13.6/14.2	6.86	2.0/2.7	1.1/1.4	4.2/5.3-5.1	13.1/13.3
	VFC606C			1.9/2.2	7.5/8.5-7.9	14.9/11.5	9.81	2.5/3.5	1.6/2.1	6.3/8.0-7.3	12.7/12.2

	Model	Maximum discharge air flow (m³/min)	Thermal class	Noise level (dB(A))	Inlet and outlet diameters (mm, inches)	Approximate mass (kg)	Starting current (A)	Auto Breaker		Magnetic switch	Thermal relay	
								Model	Rated current (A)		Model	Rated current (A)
different voltage	VFZ081A-4Z	0.47/0.56	B	53.0/55.5	32	5.5	1.0-1.1-1.1/1.0-1.1	-	-	SW-03	TR-0N	0.24-0.36
	VFZ101A-4Z	0.58/0.69	B	52.5/56.5	32	7.5	2.0-2.1-2.1/1.9-2.1	-	-			0.24-0.36
	VFZ201A-4Z	0.90/1.09	B	57.5/62.0	32	9.0	3.6-3.9-4.0/3.4-3.7	BW32SAM-3P0P7	0.7			0.48-0.72
	VFZ301A-4Z	1.28/1.40	B	58.0/62.0	38	11.0	5.9-6.5-6.7/6.1-6.7	※BW32SAM-3P1P4	1.4			0.8-1.2
	VFZ401A-4Z	2.0/2.5	B	65.5/69.5	50,R1½	19.0	13.0-13.5-14.0/12.5-14.0	BW32SAM-3P002	2			1.4-2.2
	VFZ501A-4Z	3.4/4.0	F	70.5/74.5	50,R1½	27.5	23.3-24.5-25.5/23.0-25.5	BW32SAM-3P004	4			2.8-4.2
	VFZ601A-4Z	4.2/5.5	F	70.0/74.5	63,R2	43	47.5-50.0-52.0/44.0-48.5	※BW32SAM-3P008	8			5-8
	VFZ701A-4Z	6.2/7.2	F	75.0/79.5	Rp2	50	67-73-77/63-68	※BW32SAM-3P012	12			7-11
	VFZ801A-4Z	8.7/10.3	F	78.0/81.0	Rp2½	89	83-88-92/80-85	※BW32SAM-3P016	16			9-13
UL/CSA approved	VFC080P-5T	0.56	B	55.5	32	6.0	3.2/1.6	-	-	-	-	-
	VFC100P-5T	0.69	B	56.5	NPSC1	8.5	8.4/4.2	-	-	-	-	-
	VFC200P-5T	1.05	B	62.0	NPSC1	10.0	11.0/5.5	-	-	-	-	-
	VFC300P-5T	1.45	B	62.0	NPSC1¼	12.3	17.0/8.5	-	-	-	-	-
	VFC400P-5T	2.45	B	69.5	NPSC1½	23	24/12	-	-	-	-	-
	VFC080A-2T（4W）	0.56	B	55.5	32	6.0	1.8-2.1(1.1)	-	-	-	-	-
	VFC100A-7W	0.69	B	56.5	NPSC1	8.6	2.0-2.4/1.2	-	-	-	-	-
	VFC200A-7W	1.09	B	62.0	NPSC1	10.0	5.2-6.0/3.0	-	-	-	-	-
	VFC300A-7W	1.4	B	62.0	NPSC1¼	11.5	7.2-8.0/4.0	-	-	-	-	-
UL approved	VFZ401A-7W	2.5	F	69.5	NPSC1½	21.0	33.3-36.0/18.0	-	-	-	-	-
	VFZ501A-7W	4	F	74.5	NPSC1½	35.0	69-76/38	-	-	-	-	-
	VFZ601A-7W	5.5	F	74.5	NPSC2	49.0	119-132/66	-	-	-	-	-
	VFZ701A-7W	7.2	F	79.5	NPSC2	61.0	189-210/105	-	-	-	-	-
	VFZ801A-7W	10.3	F	81	NPSC2½	95.5	252-270/135	-	-	-	-	-
	VFZ901A-7W	13	F	83	NPSC3	117.5	456-500/250	-	-	-	-	-
Water-resistant type	VFC308Z	1.28/1.40	E	65.0/68.0	38	12.5	13.0/12.0-13.5	BW32AAM-3P2P6	2.6	SW-03	TR-0N	1.7-2.6
	VFC408Z	2.0/2.5	B	74.0/79.0	50,R1½	21	27.0/25.0-27.5	BW32AAM-3P004	4			2.8-4.2
	VFC508Z	3.4/4.0	B	80.0/84.0	50,R1½	33	55/52-57	※BW32AAM-3P008	8			5-8
	VFC608Z	4.2/5.5	B	81.0/85.0	63,R2	50	98/89-98	※BW32AAM-3P016	16	SW-5-1	TR-5-1N	12-18
Explosion-proof type	VFC406C	1.95/2.4	F	63.0/66.0	Rp1 ½	25	27.0/25.0-28.0	BW32SAM-3P005	5	SW-03	TR-0N	2.8-4.2
	VFC506C	2.8/3.4	E	63.5/66.5	Rp1 ½	34	38.0/31.0-34.0	BW32AAM-3P008	8			5-8
	VFC606C	3.7/4.4	E	73.0/76.5	Rp2	46	70.0/56.0-61.0	BW32SAM-3P012	12			7-11

1) Noise values are measured at a distance of 1.5m with the fan released to the atmosphere.
2) Maximum values (output, power) and rated values (static pressure, flow) in discharge characteristics are noted on the nameplate (marked with *).
3) VFZ80 and VFZ90 types employ ㅅ-△(star delta) start. (Excluding UL/CSA approved and UL approved).
4) UL/CSA approved products are usable at 50Hz, however startup current increases by 30% at 60 Hz. Characteristics are also degraded at 50 Hz.
5) The Auto Breaker (marked with ※) is not suitable for overcurrent protection by itself. Be sure to use it for motor protection.
6) After starting at the ambient temperature, the characteristics near shut-off (static pressure, current and output) will be 0-20%(depending on the model) higher than those in the specification table by the time the temperature reaches saturation in approximately 30 minutes. The thermal relays in the table are selected by load current (maximum current) immediately after starting at the limit for continuous use.
7) Only the electric motor on the VFZ-7W is UL approved (UL/CSA standard).

	Model	Voltage (V)	Frequency (Hz)	Discharge characteristics					Suction characteristics		
				Maximum values			Rated values		Maximum values		
				*Output (kW)	*Current (A)	Static pressure (kPa)	*Static pressure (kPa)	*Flow (m³/min)	Output (kW)	Current (A)	Static pressure (kPa)
3-phase, standard type (with top runner motor)	VFZ401A-e	3Φ 200/200 220	50/60	0.60/0.95	3.0/3.8-3.6	10.4/14.1	4.90	1.45/1.95	0.50/0.82	2.7/3.3-3.1	9.4/12.9
	VFZ501A-e			1.4/2.0	6.5/7.9-7.5	14.7/19.6	6.86	2.4/3.0	1.2/1.8	6.1/7.0-6.7	13.7/17.3
	VFZ601A-e			2.5/3.4	10.6/12.7-11.9	21.1/27.5	9.81	3.2/4.4	2.3/3.3	10/12-11.5	18.2/23.6
	VFZ701A-e			3.3/5.0	13.4/18-16.8	21.6/28.4	9.81	4.4/5.7	3.1/4.8	13/17-16	18.3/22.9
	VFZ801A-e			5.5/8.0	20.5/28.6-26.6	25.5/33.3	9.81	6.3/8.5	5.2/7.8	21/28-25	21.6/26.6
	VFZ9015A-e		50	7.0	26.4	25.5	14.7	7.5	6.6	24.5	21.4
	VFZ9016A-e		60	11.0	39.7-38	31.4	14.7	10.8	10.3	36.5-35	27.6
3-phase, standard type (for companion flange)	VFZ401AF-e	3Φ 200/200 220	50/60	0.60/0.95	3.0/3.8-3.6	10.4/14.1	4.90	0.45/1.95	0.50/0.82	2.7/3.3-3.1	9.4/12.9
	VFZ501AF-e			1.4/2.0	6.5/7.9-7.5	14.7/19.6	6.86	2.4/3.0	1.2/1.8	6.1/7.0-6.7	13.7/17.3
	VFZ601AF-e			2.5/3.4	10.6/12.7-12.5	21.1/27.5	9.81	3.2/4.4	2.3/3.3	10/12-11.5	18.2/23.6
3-phase, low-noise type	VFZ401AN-e	3Φ 200/200 220	50/60	0.60/0.95	3.0/3.8-3.6	10.4/14.1	4.90	0.45/1.95	0.50/0.82	2.7/3.3-3.1	9.4/12.9
	VFZ501AN-e			1.4/2.0	6.5/7.9-7.5	14.7/19.6	6.86	2.4/3.0	1.2/1.8	6.1/7.0-6.7	13.7/17.3
	VFZ601AN-e			2.5/3.4	10.6/12.7-11.9	21.1/27.5	9.81	3.2/4.4	2.3/3.3	10/12-11.5	18.2/23.6
	VFZ701AN-e			3.3/5.0	13.4/18-16.8	21.6/28.4	9.81	4.4/5.7	3.1/4.8	13/17-16	18.3/22.9
	VFZ801AN-e			5.5/8.0	20.5/28.6-26.6	25.5/33.3	9.81	6.3/8.5	5.3/7.8	21/28-25	21.6/26.6
	VFZ9015AN-e		50	7.0	26.4	25.5	14.7	7.5	6.6	24.5	21.4
	VFZ9016AN-e		60	11.0	39.7-38	31.4	14.7	10.8	10.3	36.5-35	27.6

	Model	Maximum discharge air flow (m³/min)	Thermal class	Noise level (dB(A))	Inlet and outlet diameters (mm, inches)	Approximate mass (kg)	Starting current (A)	Maximum current (A)	Auto Breaker		Magnetic switch	Thermal relay	
									Model	Rated current (A)		Model	Rated current (A)
3-phase, standard type (with top runner motor)	VFZ401A-e	2.0/2.5	B	65.5/69.5	50, R1½	21	32.5/32.5-34.5	2.8/3.6-3.5	BW32AAM-3P008	8	SW-03/2L	TR-0NL	2.8-4.2
	VFZ501A-e	3.4/4.0	F	70.5/74.5	50, R1½	34	71/66-73	6.6/8.2-8.0	BW32AAM-3P016	16	SW-03/2L	TR-0NL	6-9
	VFZ601A-e	4.2/5.5	F	70.0/74.5	63, R2	49	120/115-126	10.6/14.0-13.5	BW32AAM-3P032	32	SW-5-1/2L	TR-5-1NL	12-18
	VFZ701A-e	6.2/7.2	F	75.0/79.5	Rp2	61	195/181-200	13.8/19.2-18.3	BW50EAM-3P045	45	SW-N1/2L	TR-N2L	12-18
	VFZ801A-e	8.7/10.3	F	78.0/81.0	Rp2½	95.5	268/ 241-268	21.4/29.7-27.3	BW63EAM-3P063	63	SW-N2/2L	TR-N2L	24-36
	VFZ9015A-e	13	F	79.5	Rp3	107.5	268	27.3	BW63EAM-3P063	63	SW-N2/2L	TR-N2L	24-36
	VFZ9016A-e	15.5	F	83.0	Rp3	117.5	438-482	41.4-39.8	BW100EAG-3P100	100	SW-N2S/2L	TR-N3L	34-50
3-phase, standard type (for companion flange)	VFZ401AF-e	2.0/2.5	B	65.5/69.5	Rp1½	21	32.5/32.5-34.5	2.8/3.6-3.5	BW32AAM-3P008	8	SW-03/2L	TR-0NL	2.8-4.2
	VFZ501AF-e	3.4/4.0	F	70.5/74.5	Rp1½	34	71/66-73	6.6/8.2-8.0	BW32AAM-3P016	16	SW-03/2L	TR-0NL	6-9
	VFZ601AF-e	4.2/5.5	F	70.0/74.5	Rp2	47	120/115-126	10.6/14.0-13.5	BW32AAM-3P032	32	SW-5-1/2L	TR-5-1NL	12-18
3-phase, low-noise type	VFZ401AN-e	2.0/2.5	B	62.0/66.0	50, R1½	24	32.5/32.5-34.5	2.8/3.6-3.5	BW32AAM-3P008	8	SW-03/2L	TR-0NL	2.8-4.2
	VFZ501AN-e	3.4/4.0	F	66.0/69.5	50, R1½	40.5	71/66-73	6.6/8.2-8.0	BW32AAM-3P016	16	SW-03/2L	TR-0NL	6-9
	VFZ601AN-e	4.2/5.5	F	67.5/70.5	63, R2	51	120/115-126	10.6/14.0-13.5	BW32AAM-3P032	32	SW-5-1/2L	TR-5-1NL	12-18
	VFZ701AN-e	6.2/7.2	F	70.5/74.5	Rp2	73	195/181-200	13.8/19.2-18.3	BW50EAM-3P045	45	SW-N1/2L	TR-N2L	12-18
	VFZ801AN-e	8.7/10.3	F	74.0/75.0	Rp2½	104.5	268/241-268	21.4/29.7-27.3	BW63EAM-3P063	63	SW-N2/2L	TR-N2L	24-36
	VFZ9015AN-e	13	F	76.0	Rp3	140.5	268	27.3	BW63EAM-3P063	63	SW-N2/2L	TR-N2L	24-36
	VFZ9016AN-e	15.5	F	79.5	Rp3	150.5	438-482	41.4-39.8	BW100EAG-3P100	100	SW-N2S/2L	TR-N3L	34-50

1) Noise values are measured at a distance of 1.5m with the fan released to the atmosphere.
2) Maximum values (output, power) and rated values (static pressure, flow) in Discharge characteristics are noted on the nameplate (marked with *).
3) It is difficult to use above Auto Breaker for over current protection by itself, so be sure to use it for restraint protection.
4) After starting at the ambient temperature, the characteristics near shut-off (static pressure, current and output) will be 0-10%(depending on the model) higher than those in the specification table by the time the temperature reaches saturation in approximately 30 minutes. The thermal relays in the table are selected by load current (maximum current) immediately after starting at the limit for continuous use.

List of obtained certifications

	Model	Cooling method	JAPAN	EU	CHINA	USA/CANADA	Others
Single phase, standard type	VFZ081PN	TEFC	●	–	–	–	Contact us
	VFZ101PN	Self-cooling	●	–	–	–	Contact us
	VFZ201PN	TEFC	●	–	–	–	Contact us
	VFZ301PN	TEFC	●	–	–	–	Contact us
	VFZ401PN	TEFC	●	–	–	–	Contact us
3-phase, standard type	VFZ081A	TEFC	●	●※1	●※1	–	Contact us
	VFZ101A	Self-cooling	●	●※1	●※1	–	Contact us
	VFZ201A	TEFC	●	●※1	●※1	–	Contact us
	VFZ301A	TEFC	●	●※1	●※1	–	Contact us
	VFZ401A	TEFC	●	–	–	–	Contact us
	VFZ501A	TEFC	●	–	–	–	Contact us
	VFZ601A	TEFC	●	–	–	–	Contact us
	VFZ701A	TEFC	●	–	–	–	Contact us
	VFZ801A	TEFC	●	–	–	–	Contact us
	VFZ901A	TEFC	●	–	–	–	Contact us
3-phase, standard type (for companion flange)	VFZ101AF	Self-cooling	●	●※1	●※1	–	Contact us
	VFZ201AF	TEFC	●	●※1	●※1	–	Contact us
	VFZ301AF	TEFC	●	●※1	●※1	–	Contact us
	VFZ401AF	TEFC	●	–	–	–	Contact us
	VFZ501AF	TEFC	●	–	–	–	Contact us
	VFZ601AF	TEFC	●	–	–	–	Contact us
3-phase, low-noise type	VFZ101AN	Self-cooling	●	●※1	●※1	–	Contact us
	VFZ201AN	TEFC	●	●※1	●※1	–	Contact us
	VFZ301AN	TEFC	●	●※1	●※1	–	Contact us
	VFZ401AN	TEFC	●	–	–	–	Contact us
	VFZ501AN	TEFC	●	–	–	–	Contact us
	VFZ601AN	TEFC	●	–	–	–	Contact us
	VFZ701AN	TEFC	●	–	–	–	Contact us
	VFZ801AN	TEFC	●	–	–	–	Contact us
	VFZ901AN	TEFC	●	–	–	–	Contact us
Different voltage	VFZ081A-4Z	TEFC	●	●※1	●※1	–	Contact us
	VFZ101A-4Z	Self-cooling	●	●※1	●※1	–	Contact us
	VFZ201A-4Z	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ301A-4Z	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ401A-4Z	TEFC	●	–	–	–	Contact us
	VFZ501A-4Z	TEFC	●	–	–	–	Contact us
	VFZ601A-4Z	TEFC	●	–	–	–	Contact us
	VFZ701A-4Z	TEFC	●	–	–	–	Contact us
	VFZ801A-4Z	TEFC	●	–	–	–	Contact us

≪ Explanation of symbols ≫

●	Standard specification
◎	Special specification
–	Not supported

※1 When exporting the ring blower to overseas, a parameter sheet is required. Please make sure to ask us to issue it.
※2 Exclusively for China

■ List of obtained certifications

	Model	Cooling method	JAPAN	EU	CHINA	USA/CANADA	Others
3-phase, standard type (Equipped with a Top runner motor)	VFZ401A-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ501A-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ601A-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ701A-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ801A-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ9015A-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ9016A-e	TEFC	●	●※1	–	–	Contact us
3-phase, standard type (for companion flange)	VFZ401AF-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ501AF-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ601AF-e	TEFC	●	●※1	◎※1※2	–	Contact us
3-phase, low-noise type	VFZ401AN-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ501AN-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ601AN-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ701AN-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ801AN-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ9015AN-e	TEFC	●	●※1	◎※1※2	–	Contact us
	VFZ9016AN-e	TEFC	●	●※1	–	–	Contact us
UL/CSA approved	VFC080P-5T	TEFC	●	–	–	●※1	Contact us
	VFC100P-5T	Self-cooling	●	–	–	●※1	Contact us
	VFC200P-5T	TEFC	●	–	–	●※1	Contact us
	VFC300P-5T	TEFC	●	–	–	●※1	Contact us
	VFC400P-5T	TEFC	●	–	–	●※1	Contact us
	VFC080A-2T	TEFC	●	–	–	●※1	Contact us
	VFC100A-7W	Self-cooling	●	–	–	●※1	Contact us
	VFC200A-7W	TEFC	●	–	–	●※1	Contact us
	VFC300A-7W	TEFC	●	–	–	●※1	Contact us
UL approved	VFZ401A-7W	TEFC	●	–	–	●※1	Contact us
	VFZ501A-7W	TEFC	●	–	–	●※1	Contact us
	VFZ601A-7W	TEFC	●	–	–	●※1	Contact us
	VFZ701A-7W	TEFC	●	–	–	●※1	Contact us
	VFZ801A-7W	TEFC	●	–	–	●※1	Contact us
	VFZ901A-7W	TEFC	●	–	–	●※1	Contact us
water-proof type	VFC308Z	TEFC	●	–	–	–	Contact us
	VFC408Z	TEFC	●	–	–	–	Contact us
	VFC508Z	TEFC	●	–	–	–	Contact us
	VFC608Z	TEFC	●	–	–	–	Contact us
Explosion-proof type	VFC406C	TEFC	●	–	–	–	Contact us
	VFC506C	TEFC	●	–	–	–	Contact us
	VFC606C	TEFC	●	–	–	–	Contact us

≪ Explanation of symbols ≫

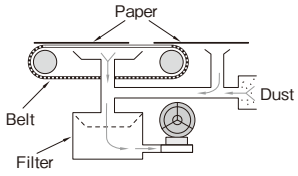
●	Standard specification
◎	Special specification
–	Not supported

※1 When exporting the ring blower to overseas, a parameter sheet is required. Please make sure to ask us to issue it.
※2 Exclusively for China

Printing machinery

For suction (negative pressure) For discharge (positive pressure)

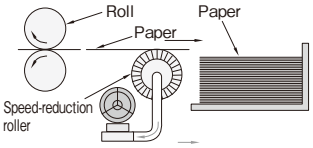
Dry copier



Gripping paper and collection of waste within machine.

Recommended size 40-60

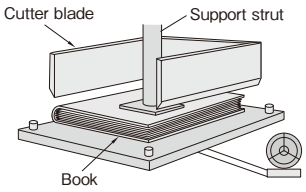
Roller gripping



Gripped and held by speed-reduction roller before stacking paper printed on high-speed copiers.

Recommended size 40-60

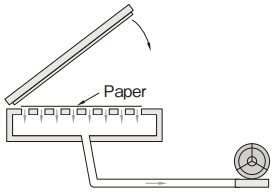
Bookbinding machine



Gripped while cutting.

Recommended size 20-60

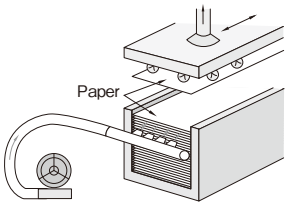
Gripping paper



Paper gripped and held to prevent slippage.

Recommended size 20-40

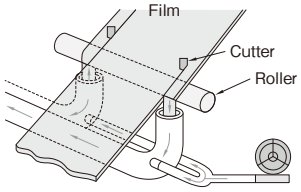
Paper feed



Air blown between sheets of paper to produce a gap, and paper then gripped for transport.

Recommended size 20-60

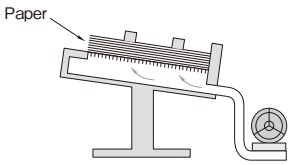
Recovery of cut-off edges



Recovery of cut-off edges of tape and paper.

Recommended size 40-60

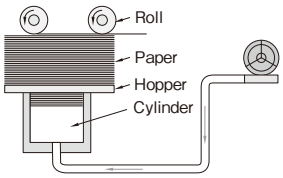
Paper aligned automatically



Positioning of printed paper and binding paper.

Recommended size 20-50

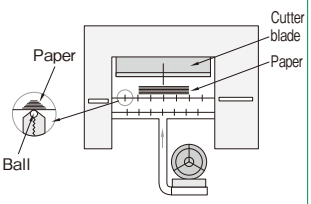
Positioning of paper (1)



Hopper pushed up to maintain height of paper.

Recommended size 08-30

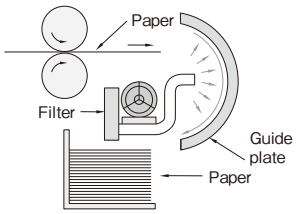
Positioning of paper (2)



Positioning of paper for cutting, and air cushion for movement.

Recommended size 20-40

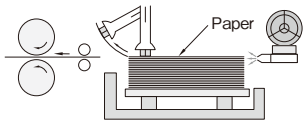
Drying of paper



Drying printed paper.

Recommended size 30-60

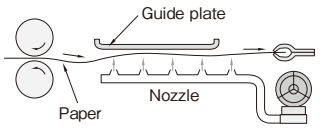
Paper feed (1)



Air blown between sheets of paper to prevent simultaneous feed of multiple sheets.

Recommended size 20-40

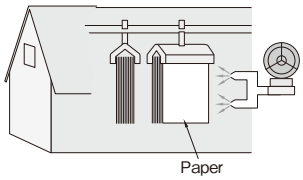
Paper feed (2)



Paper suspended on air blown from the nozzle, preventing contamination of the printed surface.

Recommended size 40·50

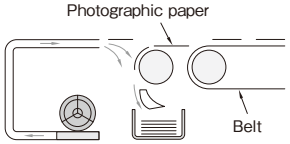
Drying of paper in storage



Drying of paper in storage chamber.

Recommended size 40-60

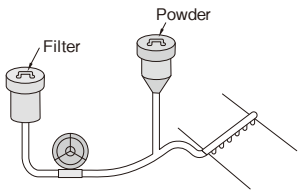
Drying of photographic paper



Drying of photographic paper.

Recommended size 10-40

Dry sprayer



Powder dispersed into wet printing unit, and dried to prevent adherence of dust, and to prevent scuffing of text.

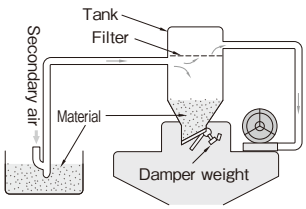
Recommended size 10·20

Note: The above recommended sizes are all based on examples delivered by the manufacturer.

Transport equipment

For suction (negative pressure) For discharge (positive pressure)

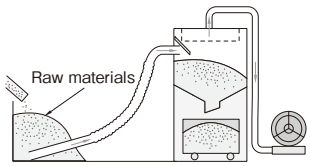
Hopper loader



Transport of material (e.g. PVC, polyethylene, plastic resin).

Recommended size 40-90

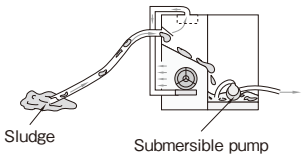
Transport of granular solids



Transport of raw materials (e.g. rice, wheat, soybeans, powder, bean curd refuse, almonds, senbei cracker materials).

Recommended size 40-60

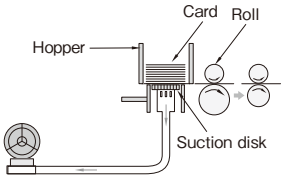
Sludge recovery equipment



Recovery of sludge with shield method.

Recommended size —

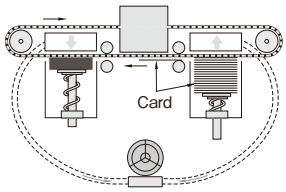
Card feed (1)



Card gripping feed.

Recommended size 08-30

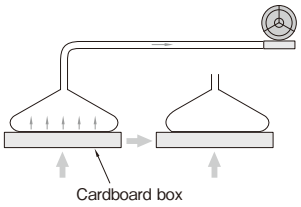
Card feed (2)



Cards gripped by suction through holes in belt during transport.

Recommended size 30·40

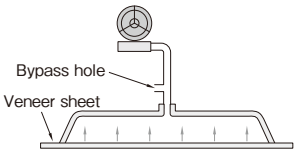
Air lift (1)



Gripping of items by suction for transport.

Recommended size 08-60

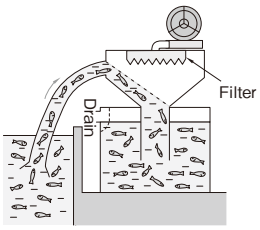
Air lift (2)



The large air flow allows stable gripping of large items.

Recommended size 40-60

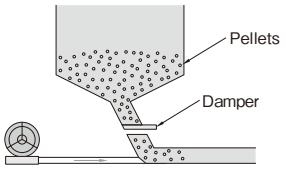
Transport of mixtures of water and granular material



Recovery of small fish etc.

Recommended size 40-90

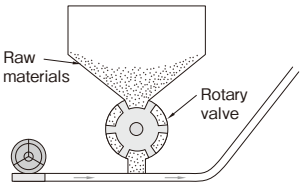
Transport of granular solids



Air conveyance of pellet-type raw materials (e.g. PVC and polyethylene pellets).

Recommended size 40-90

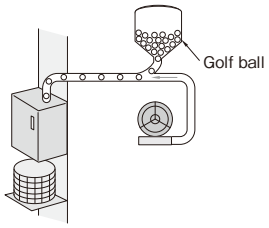
Transport of cereals



Air conveyance of raw materials (e.g. wheat) dropped in discrete amounts using a rotary valve.

Recommended size 40-70

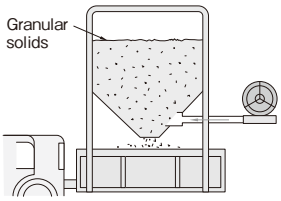
Golf ball feed



Feeding golf balls.

Recommended size 30-50

Mixing in hopper



Air forced into hopper to eliminate bridging with granular solids.

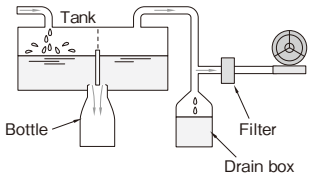
Recommended size 40-60

Note: The above recommended sizes are all based on examples delivered by the manufacturer.

Food machinery

For suction (negative pressure) For discharge (positive pressure)

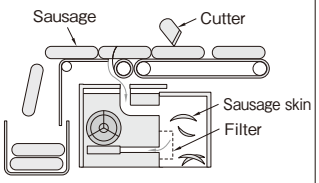
Automatic bottle filling machinery



Generates negative pressure during packing.

Recommended size 20-50

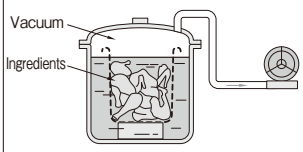
Sausage skin peeler



Grip by suction to ensure effective peeling, and collect peeled skins.

Recommended size 60

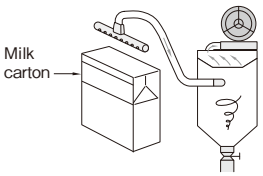
Food processing equipment



Vacuum impregnation for flavoring of ingredients.

Recommended size 40-60

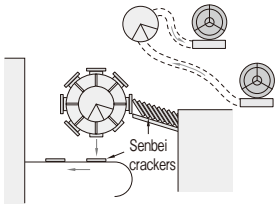
Filling cardboard milk cartons



Removal of bubbles by suction when filling milk cartons.

Recommended size 20

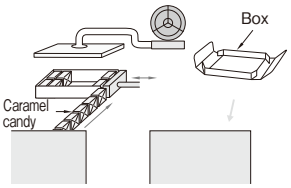
Automatic equipment for aligning senbei cracker materials



Automatic alignment in senbei cracker baking equipment.

Recommended size —

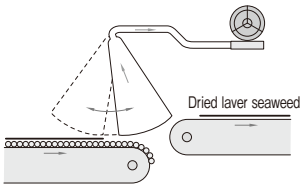
Caramel candy packing equipment



Caramel candy packing equipment.

Recommended size 40

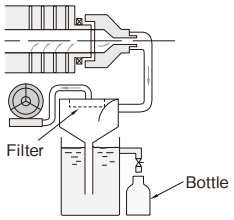
Dried laver seaweed peeling equipment



Suction for peeling dried laver seaweed from drainage slats.

Recommended size 40-60

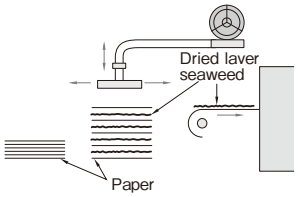
In combination with press



Suction removal of liquid during squeezing.

Recommended size 40·50

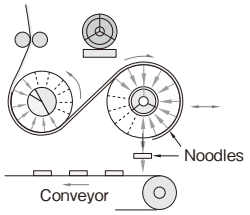
Dried laver seaweed pick-and-place



Source of suction for gripping dried laver seaweed.

Recommended size —

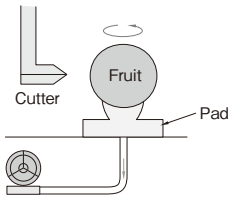
Ramen noodle manufacturing equipment



Suction and blowing of noodle raw materials.

Recommended size —

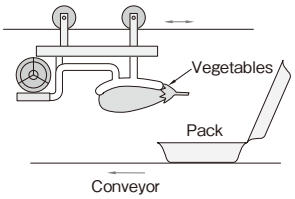
Fruit peeling equipment



Gripping and holding fruit.

Recommended size 20·30

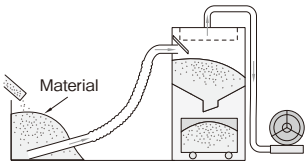
Filling vegetable packs



Filling vegetable packs.

Recommended size —

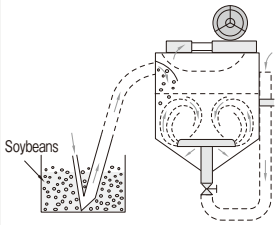
Transport of granular solids



Transport of raw materials (e.g. rice, wheat, soybeans, powder, bean curd refuse, almonds, senbei cracker materials).

Recommended size 40-60

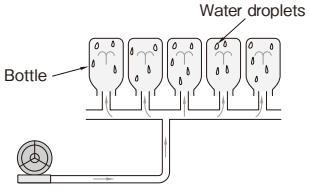
Tofu manufacturing equipment



Soybeans transported by suction. Switched to blowing for cleaning.

Recommended size —

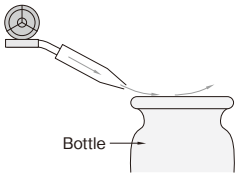
Bottle washing equipment



Removal of water droplets in bottles after washing.

Recommended size 40-60

Bottling and assembly lines



Blowing water droplets from bottles.

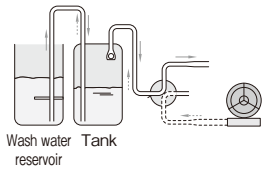
Recommended size —

Note: The above recommended sizes are all based on examples delivered by the manufacturer.

Food machinery

For suction (negative pressure) For discharge (positive pressure)

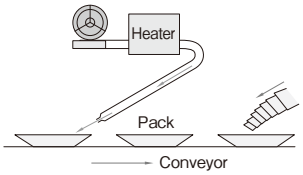
Automatic tank washing equipment



Automatic washing inside tank with air mixing.

Recommended size —

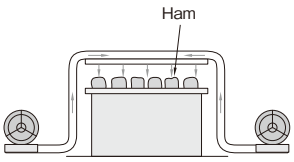
Pack drying



Drying packs with hot air.

Recommended size 40-60

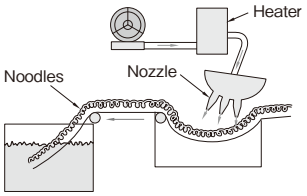
Ham processing equipment



Blowing water droplets off hams.

Recommended size 40-60

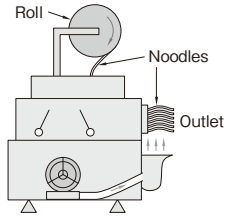
Ramen noodle processing line



Removal of oil from ramen noodles using hot air.

Recommended size —

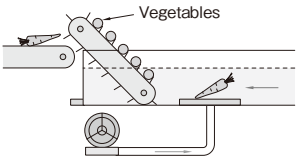
Spaghetti processing equipment



Preventing sticking of spaghetti.

Recommended size —

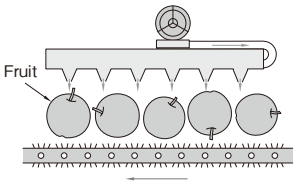
Vegetable washing equipment



Aeration when washing vegetables.

Recommended size 40·50

Fruit washing equipment



Removal of water droplets from washed fruit.

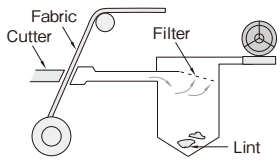
Recommended size —

Note: The above recommended sizes are all based on examples delivered by the manufacturer.

Textile equipment

For suction (negative pressure) For discharge (positive pressure)

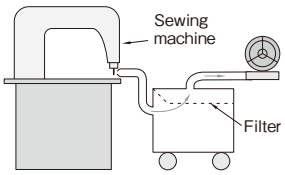
Lint recovery (1)



Recovery of fabric off-cuts and lint produced during trimming.

Recommended size 20-60

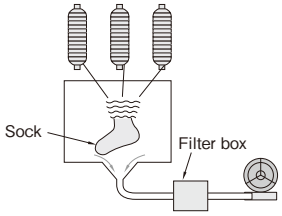
Lint recovery (2)



Recovery of lint produced during industrial sewing machine operation.

Recommended size 08-20

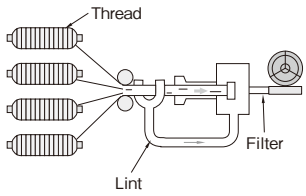
Sock knitting machine



Gripping of socks, and preventing sagging and non-uniform knitting.

Recommended size 20-40

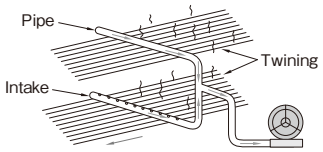
Automatic loom



Gripping thread before it reaches the weaving machinery, and removal of cotton and lint.

Recommended size 20-40

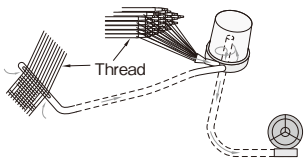
Twining



Removal of soot produced in the process of twining

Recommended size 30·40

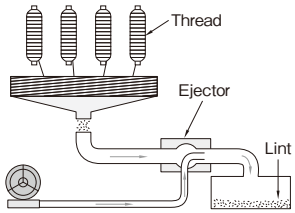
Loom



Woof air tensioning, and recovery of lint.

Recommended size 30

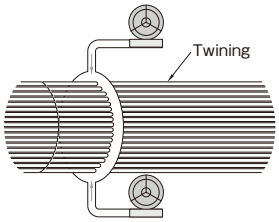
Automatic loom



Application of air tension to the woven product to facilitate weaving, and simultaneous waste collection.

Recommended size 20-40

Circular knitting machine



Pipes arrayed in a circle around the part through which twining is passed to blow cotton waste away during knitting.

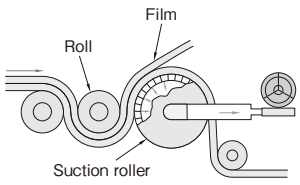
Recommended size 20-40

Note: The above recommended sizes are all based on examples delivered by the manufacturer.

Packaging equipment

For suction (negative pressure) For discharge (positive pressure)

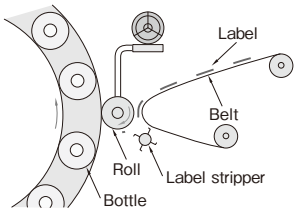
Plastic film processing



Gripping plastic film with suction roller.

Recommended size 20-60

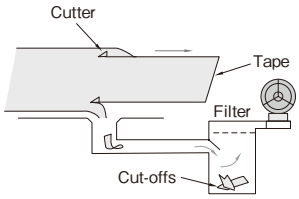
Label applicator equipment



Labels held on roll, and applied to bottles etc.

Recommended size 10-30

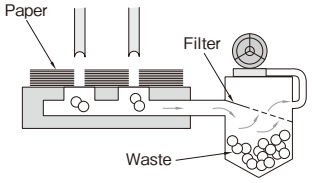
Automatic packaging equipment



Removal of tape cut-offs.

Recommended size 30・40

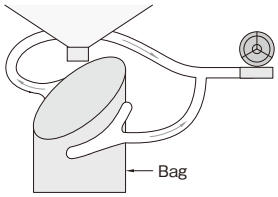
Hole puncher



Collection of waste from hole puncher in filter box.

Recommended size 08-30

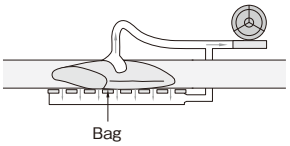
Vertical packaging equipment



Opening and gripping bags.

Recommended size 20-40

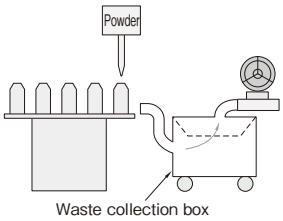
Horizontal packaging equipment



Opening and gripping bags.

Recommended size 20-40

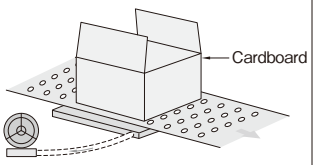
Automatic packaging equipment



Collection of waste (e.g. particles) from table of automatic packaging machine.

Recommended size 20-60

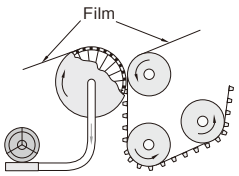
Cardboard packaging



Preventing displacement of, and gripping, cardboard.

Recommended size 40-60

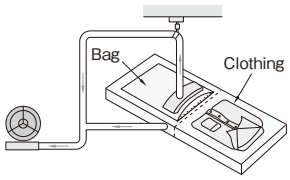
Vacuum forming equipment



Film formation.

Recommended size —

Dry cleaning packaging



Opening and gripping dry cleaning bags.

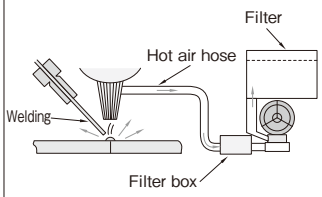
Recommended size 20-40

Note: The above recommended sizes are all based on examples delivered by the manufacturer.

Machine tools

For suction (negative pressure) For discharge (positive pressure)

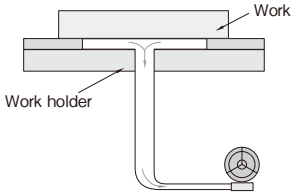
Welder



Removal of smoke, heat and fumes during welding work.

Recommended size 40

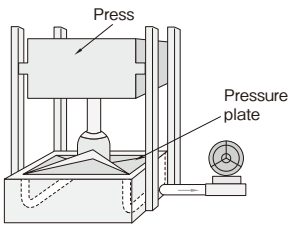
Gripping work



Gripping non-magnetic materials such as timber and plastic.

Recommended size 80·90

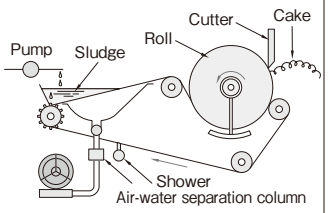
Laminating press



Removal of excess air on surface of pressure plate before lamination.

Recommended size 40-60

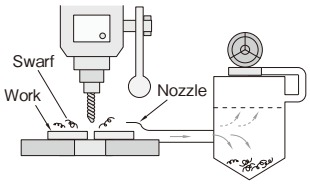
Dehydrator



Vacuum dehydration of sludge.

Recommended size 80·90

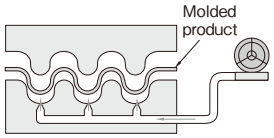
Swarf removal



Collection of swarf produced during machining operations.

Recommended size 30-60

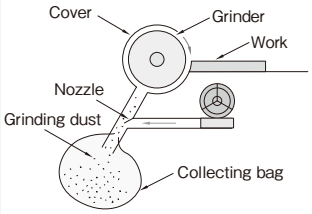
Press



Removal of molded products from mold.

Recommended size 40-60

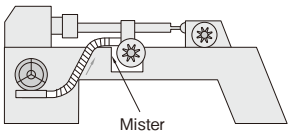
Grinder



Suction to collect grinding dust.

Recommended size 20-50

Cutting oil mister



Source of pressure to generate cutting oil mist.

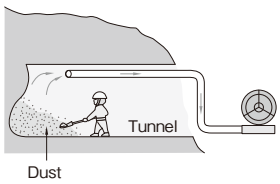
Recommended size 30-50

Note: The above recommended sizes are all based on examples delivered by the manufacturer.

Plant and machinery

For suction (negative pressure) For discharge (positive pressure)

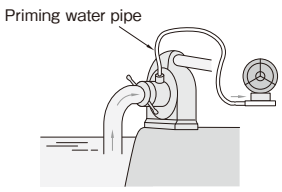
Construction site



Localized removal of dust and toxic gases from construction sites in restricted spaces such as tunnels.

Recommended size —

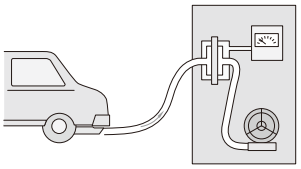
Water uptake pump



Priming water for water pump.

Recommended size —

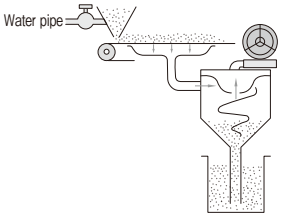
Automobile exhaust gas detection equipment



Testing of automobile exhaust gas.

Recommended size —

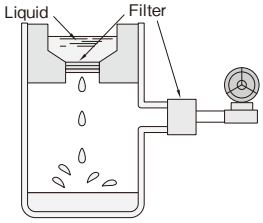
Vacuum dehydration



Vacuum dehydration of silica sand.

Recommended size 60-80

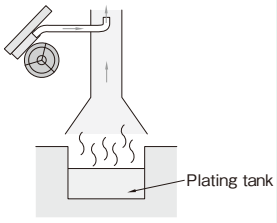
Filter



Reduce filtering time.

Recommended size 40-60

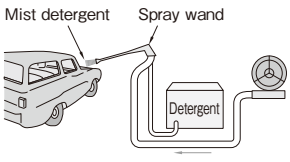
Extraction of plating gases



Extraction of plating gases.

Recommended size 50

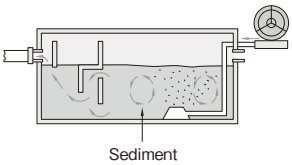
Car washing equipment



Produces a mist of water and detergent.

Recommended size —

Cleaning tank



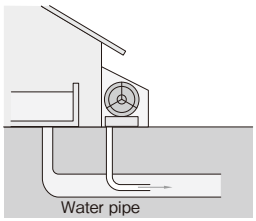
Mixing of sediment, and aeration of comparatively shallow water treatment plants.

Recommended size 50-90

Plant and machinery

For suction (negative pressure) For discharge (positive pressure)

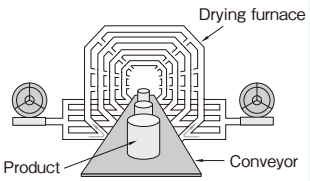
Freezing prevention



Prevention of freezing in water piping.

Recommended size 40-60

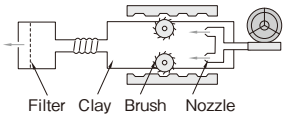
Drying line



Small-scale drying lines.

Recommended size —

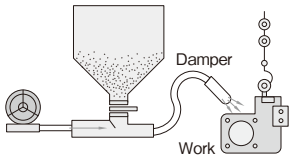
Mold cleaning equipment



Blows clay removed from surfaces of the tile mold by rotation of the brushes.

Recommended size 40-60

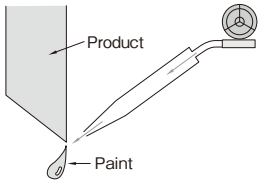
Sand blasting



Air source for blasting.

Recommended size 60-90

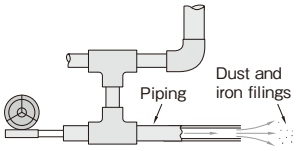
Painting line



Blowing to prevent paint drips on finished surfaces.

Recommended size —

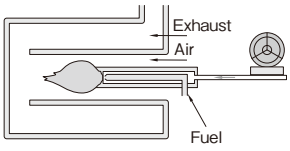
Cleaning piping



Removal of dust and iron filings produced during replacement and periodic inspection of piping.

Recommended size 40-60

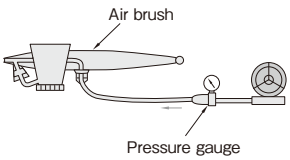
Gas burner



Atomization of fuel.

Recommended size 50·60

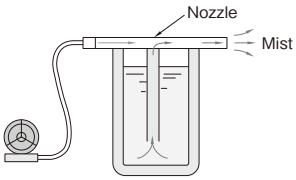
Air brush



High-pressure air free of oil is highly desirable for air-brushing.

Recommended size 60-80

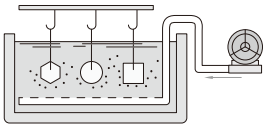
Spray



Source of high-pressure air free of oil for spraying.

Recommended size 40-60

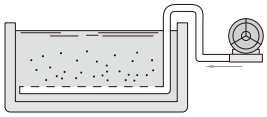
Plating tank



Air blown into the tank to remove bubbles from electrolyte and thus improve plating quality.

Recommended size 30-50

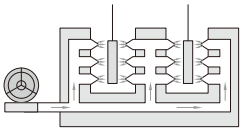
Plating tank



Maintains temperature of plating fluid, and prevents separation of cutting fluid.

Recommended size 20·30

Plating line



Blows away water droplets following plating, reducing energy consumption during drying.

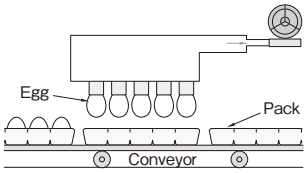
Recommended size 50·60

Note: The above recommended sizes are all based on examples delivered by the manufacturer.

Agricultural, livestock and fishing machinery

For suction (negative pressure) For discharge (positive pressure)

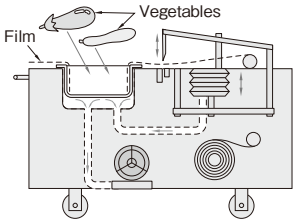
Egg packing



Gripping and placing eggs in packs.

Recommended size 20-40

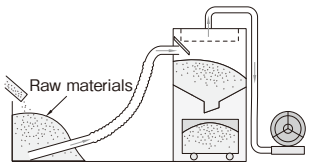
Vegetable packaging



Forming and cutting of vegetable packaging film.

Recommended size 20

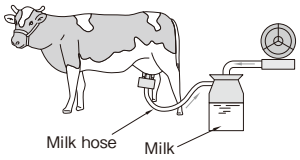
Transport of granular solids



Transport of raw materials (e.g. rice, wheat, soybeans, powder, bean curd refuse, almonds, senbei cracker materials).

Recommended size 40-60

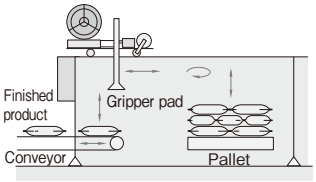
Milking machinery



Dairy milking.

Recommended size 30·40

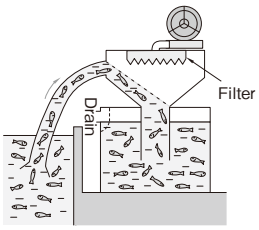
Gripping and transport for rice bagging



Gripping and transport for rice bagging and stacking.

Recommended size 60

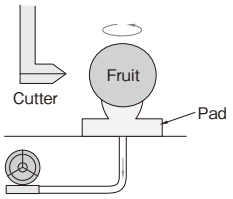
Transport of mixtures of water and granular material



Recovery of small fish etc.

Recommended size 40-90

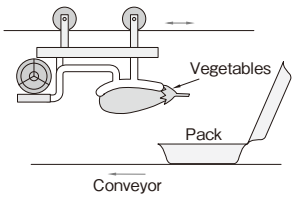
Fruit peeling equipment



Gripping and holding fruit.

Recommended size 20·30

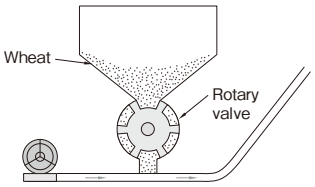
Filling vegetable packs



Gripping and packing vegetables.

Recommended size —

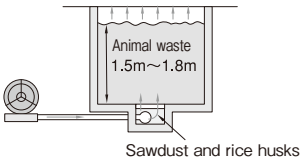
Transport of cereals



Air conveyance of wheat dropped in discrete amounts using a rotary valve.

Recommended size 40-70

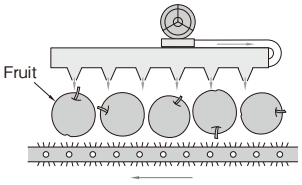
Fermentation of animal waste



Promotion of animal waste fermentation.

Recommended size —

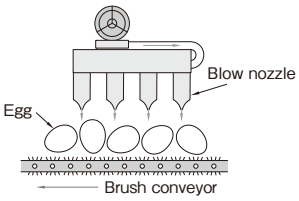
Fruit washing equipment



Removal of water droplets from washed fruit.

Recommended size —

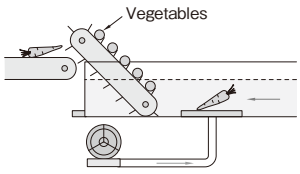
Egg washing equipment



Automatic egg washing.

Recommended size 80

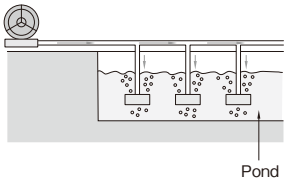
Vegetable washing equipment



Aeration when washing vegetables.

Recommended size 40·50

Supplementary oxygen for fish breeding ponds



Supplementary dissolved oxygen for fish breeding ponds.

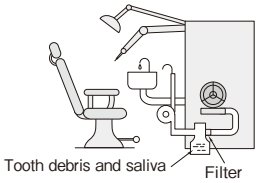
Recommended size 30-60

Note: The above recommended sizes are all based on examples delivered by the manufacturer.

Medical and welfare equipment

For suction (negative pressure) For discharge (positive pressure)

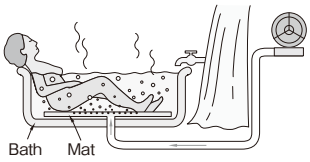
Dental equipment



Removal of tooth debris and saliva produced during dental work.

Recommended size 30·40

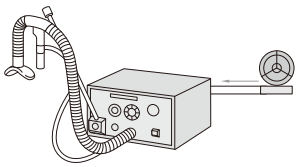
Therapeutic baths



Aeration in bath.

Recommended size 20-60

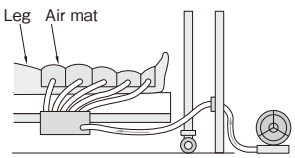
Respiration equipment



Prevention of irregular respiration, and assisting respiration.

Recommended size 08-20

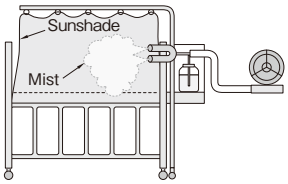
Massage equipment



Vibration of air mat promotes circulatory function within the skin.

Recommended size 30·40

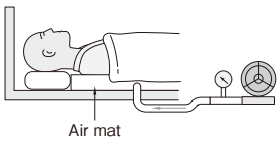
Humidifier (mist generated within enclosure)



Humidification of pediatric bed by misting within curtained enclosure.

Recommended size 30-60

Air bed



Body support and protection for burn patients and bedridden people.

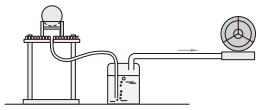
Recommended size 20-40

Note: The above recommended sizes are all based on examples delivered by the manufacturer.

Other

For suction (negative pressure) For discharge (positive pressure)

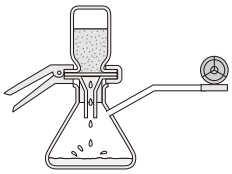
Leak tester



Seal testing.

Recommended size —

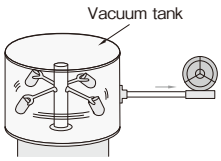
Vacuum filter



Rapid filtering by vacuum.

Recommended size —

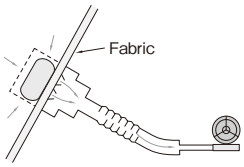
Chemical testing equipment



Vacuum tank for chemical testing equipment.

Recommended size —

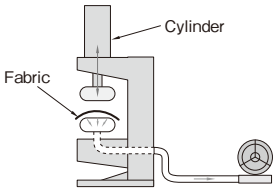
Stain remover



Removal of moisture in fabric.

Recommended size 08-30

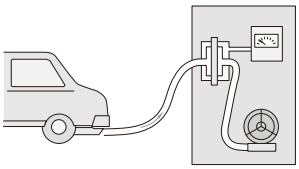
Clothing press



Removal of steam by suction.

Recommended size —

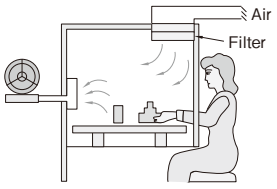
Exhaust gas detection equipment



Employed in automobile exhaust gas testing equipment.

Recommended size —

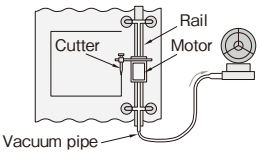
Clean room



Localized ventilation in clean rooms.

Recommended size 40-60

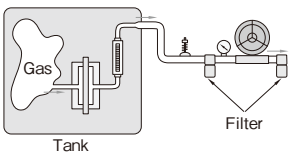
Flame cutter



Gripping and holding cutters for glass and plastic materials.

Recommended size —

Gas decomposition equipment



Suction source for gas spectrometer.

Recommended size —

Note: The above recommended sizes are all based on examples delivered by the manufacturer.

■Features

●RoHS Directive compliance (2011/65/EU), 10 restricted substances (excluding VFZ081PN)

●Fully enclosed intake operation

●Low-noise structure

※Please note that the above photo is a representative example and may differ partly from the actual device.

■Paint color

Munsell 2.5Y5/1

■Model description

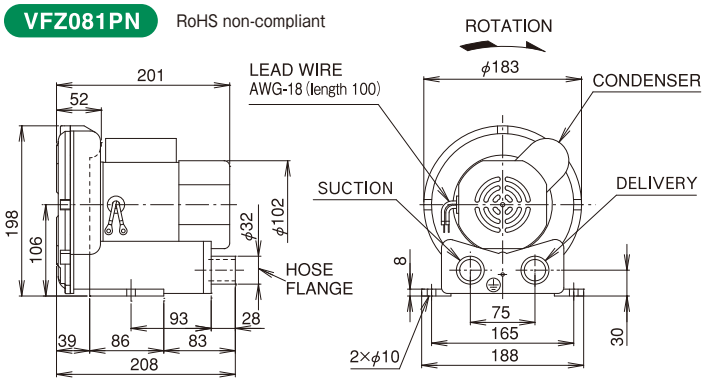
VFZ○○1PN

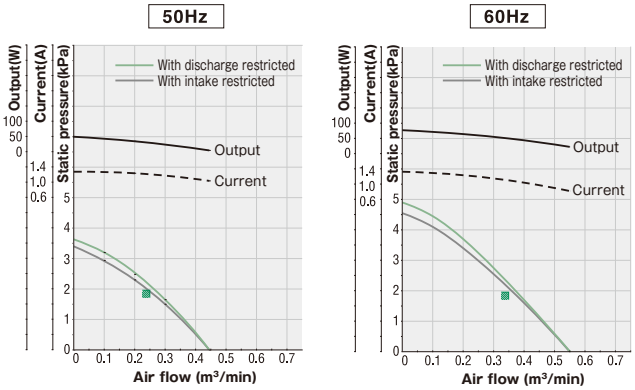
- Specifications (single phase standard type)
- Type
- Capacity (08~40)

■Assembly drawing and characteristics

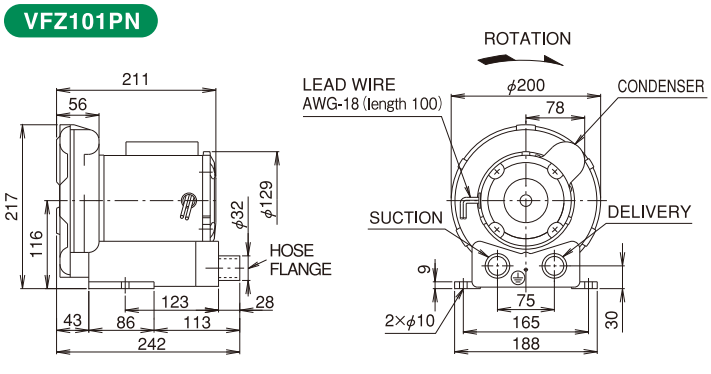
VFZ081PN

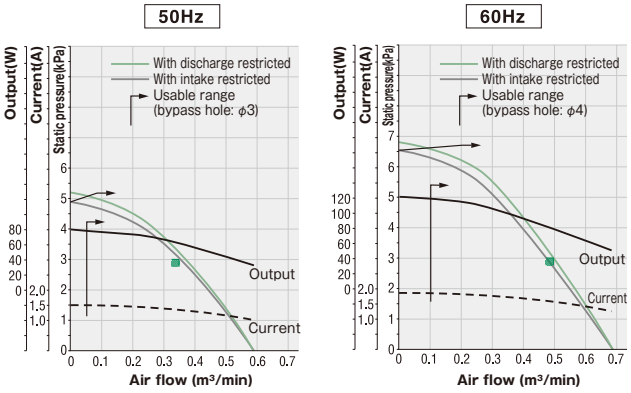
RoHS non-compliant





VFZ101PN



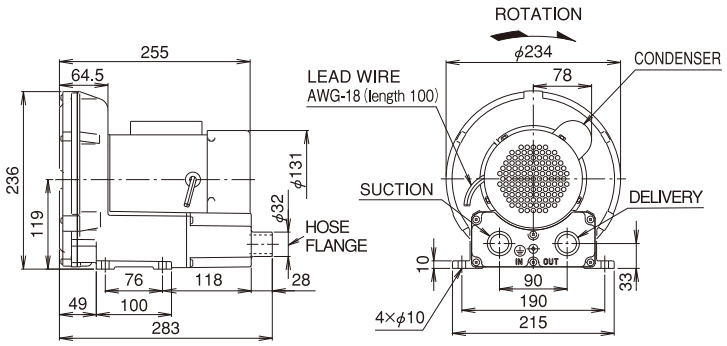


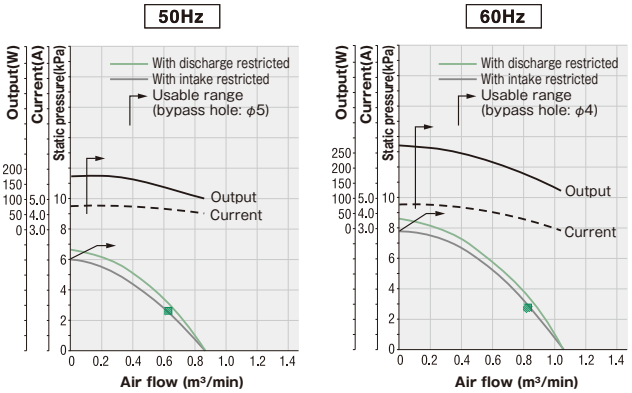
Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.

Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.

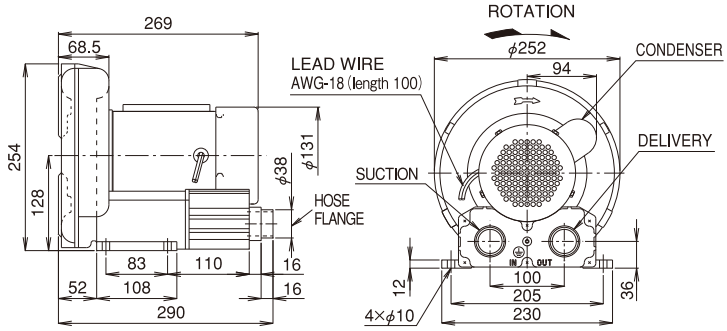
■Assembly drawing and characteristics

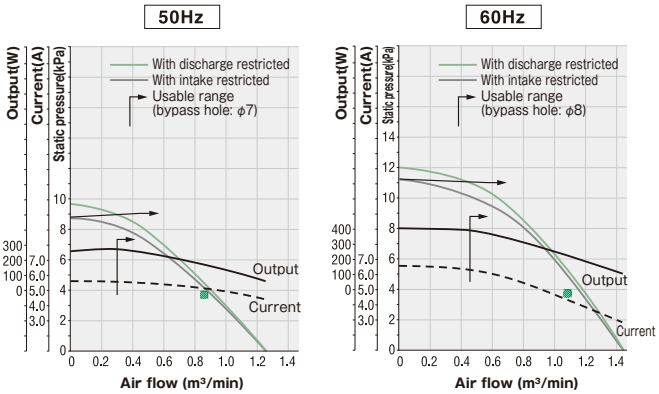
VFZ201PN



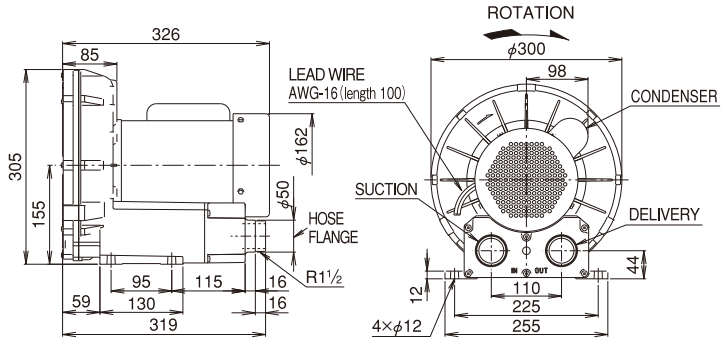


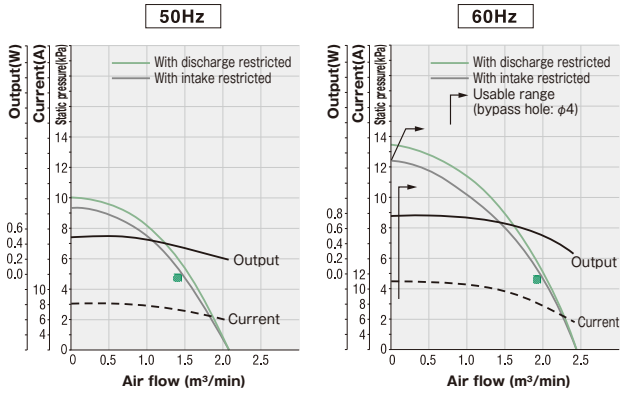
VFZ301PN





VFZ401PN





Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.

Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.

Features

●RoHS Directive compliance (2011/65/EU), 10 restricted substances

●For fully enclosed intake operation (50 and 60)

Caution:
Always remove the emblem on the main unit before installation with fully enclosed intake applications.
Operation without removing the emblem may result in deterioration of the motor insulation.

●Design eliminates oil seals in the blower (40 - 60)

●Protection method IP54 (for motor)

●Energy-saving blower equipped with top runner motor (equivalent to IE3) [40 - 60-e]

●Some models are not compatible with EU Directive for CE marking and China GB3.

※Please note that the above photo is a representative example and may differ partly from the actual device.

Paint color

Munsell 2.5Y5/1

Piping

A and A-4Z: Hose flange

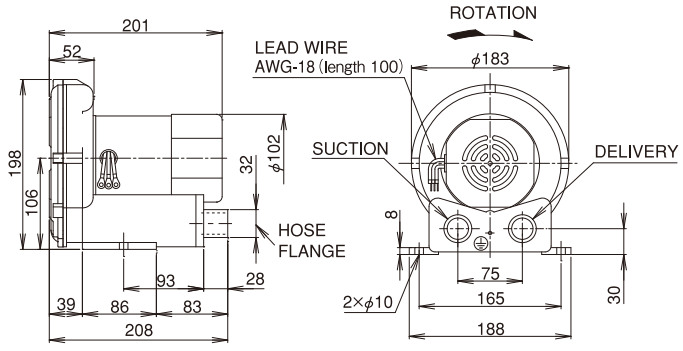
Model description

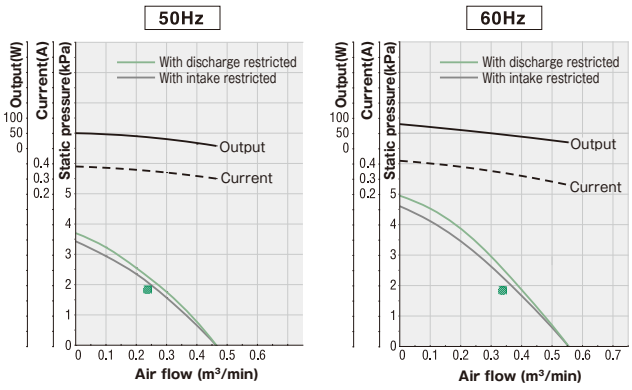
V F Z ○○ 1 □ - e

- Motor efficiency: None: Standard efficiency (equivalent to IE1); e: Top runner efficiency (equivalent to IE3)
- Specifications: A: 3-phase standard type (hose flange); A-4Z: 3-phase, different voltage
- Type
- Capacity (08～60)

Assembly drawing and characteristics

VFZ081A **VFZ081A-4Z**

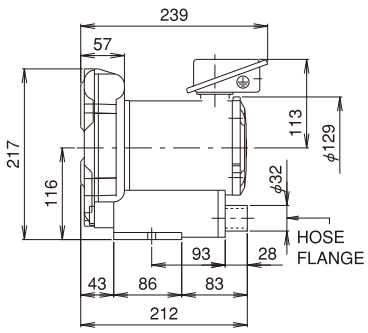


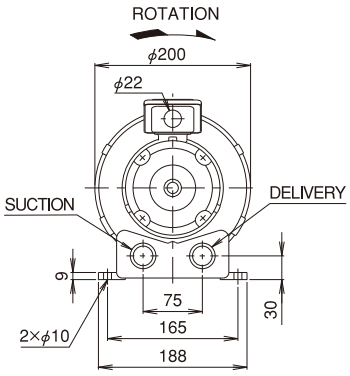


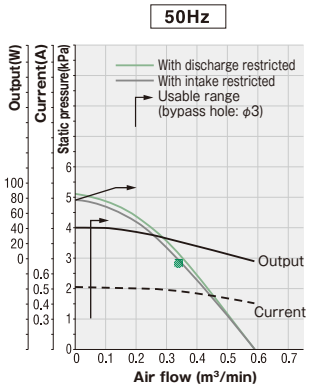
Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.
Note 3: Check 'Standard Specifications' for current values for different voltage products (-4Z).

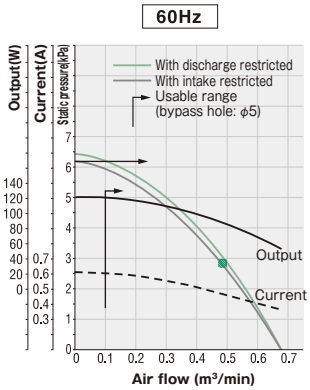
■Assembly drawing and characteristics

VFZ101A VFZ101A-4Z

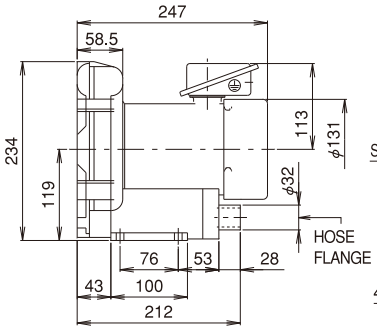


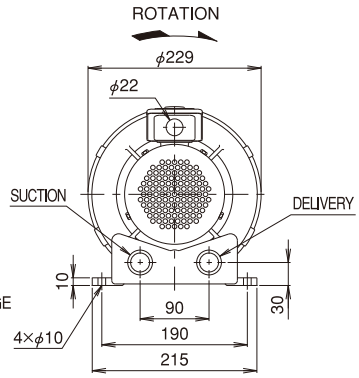


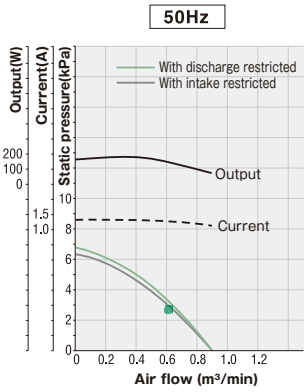


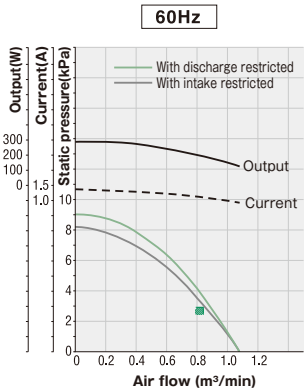


VFZ201A VFZ201A-4Z

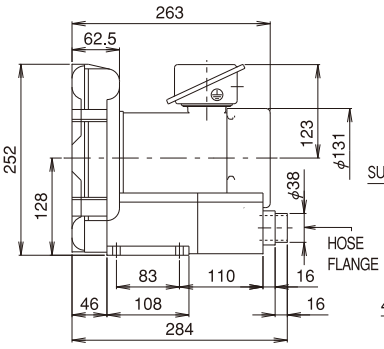


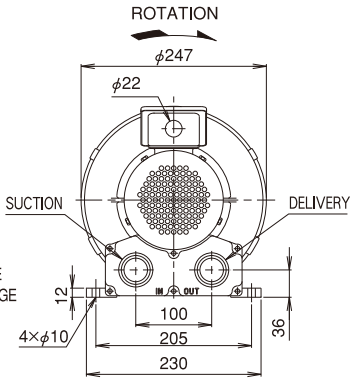


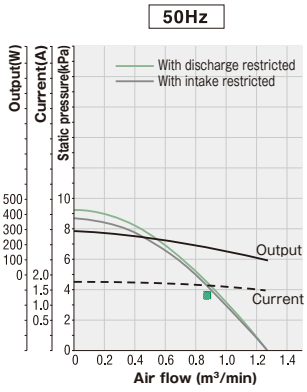


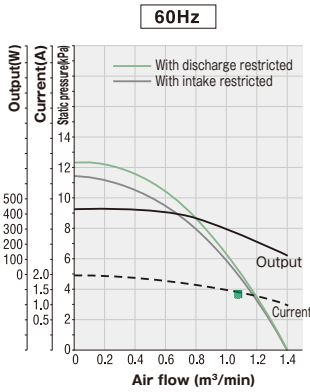


VFZ301A VFZ301A-4Z

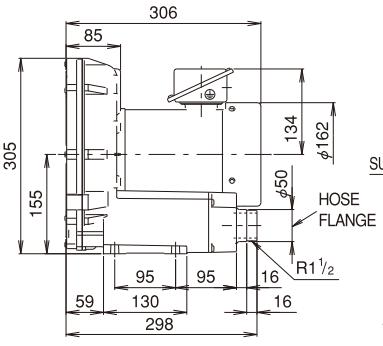


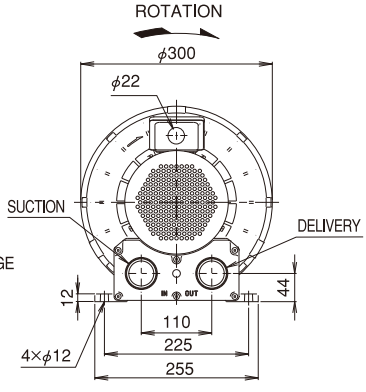


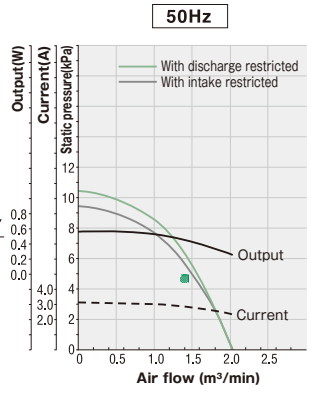


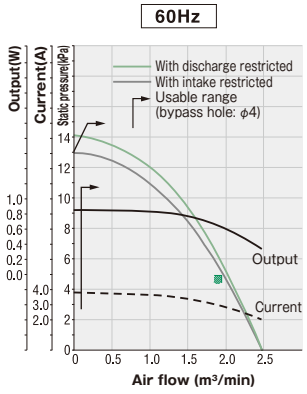


VFZ401A VFZ401A-4Z





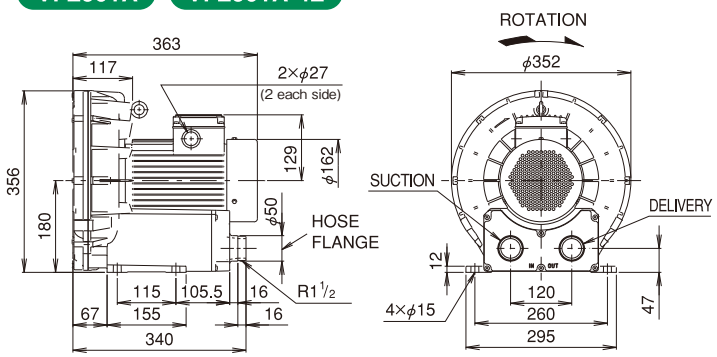


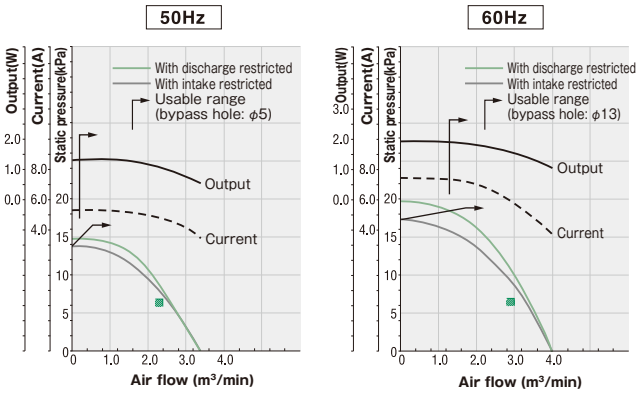


Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.
Note 3: Check 'Standard Specifications' for current values for different voltage products (-4Z).

■Assembly drawing and characteristics

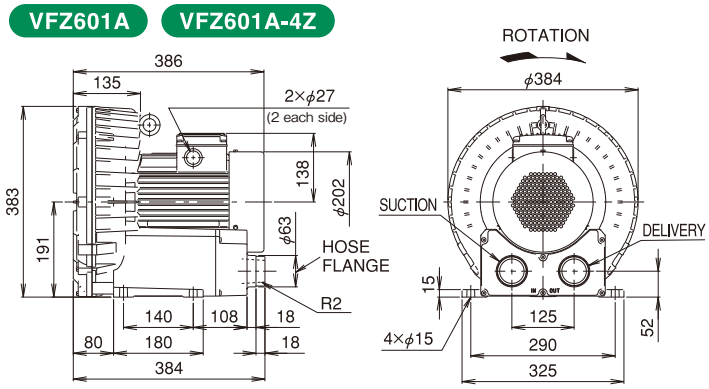
VFZ501A **VFZ501A-4Z**

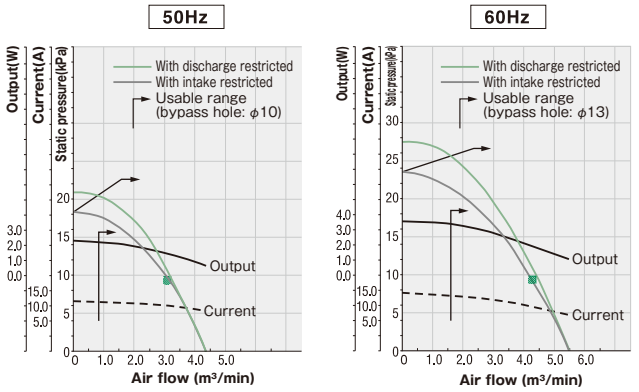




※Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

VFZ601A **VFZ601A-4Z**



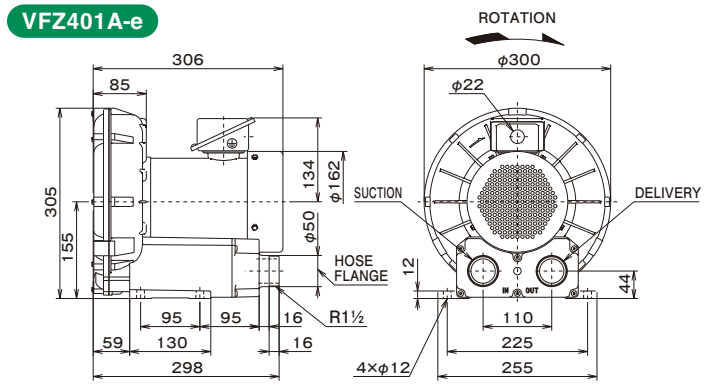


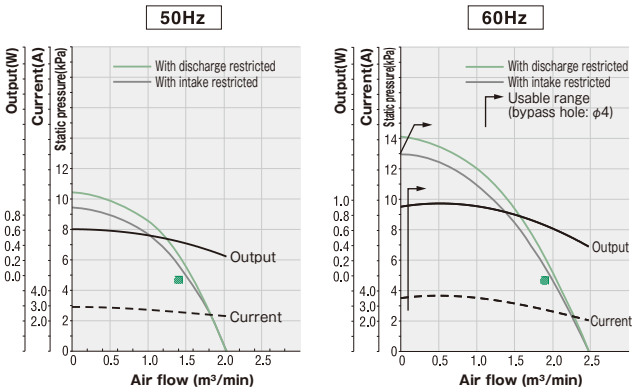
※Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.
Note 3: Check 'Standard Specifications' for current values for different voltage products (-4Z).

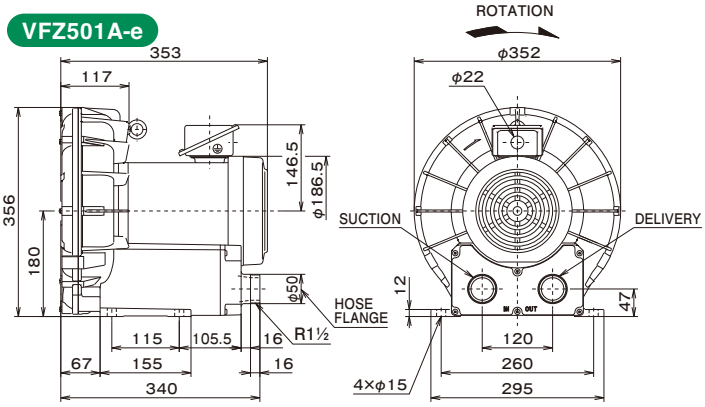
■Assembly drawing and characteristics

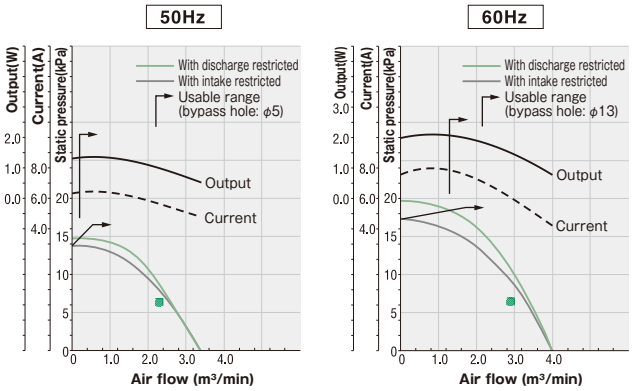
VFZ401A-e





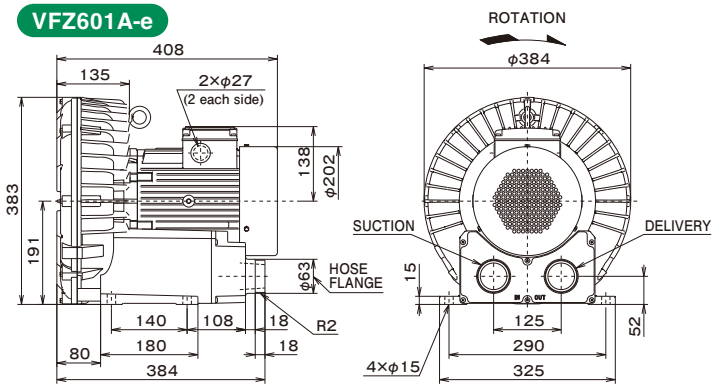
VFZ501A-e

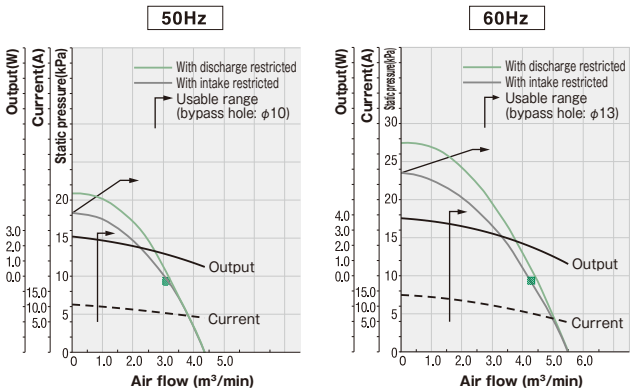




※Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

VFZ601A-e





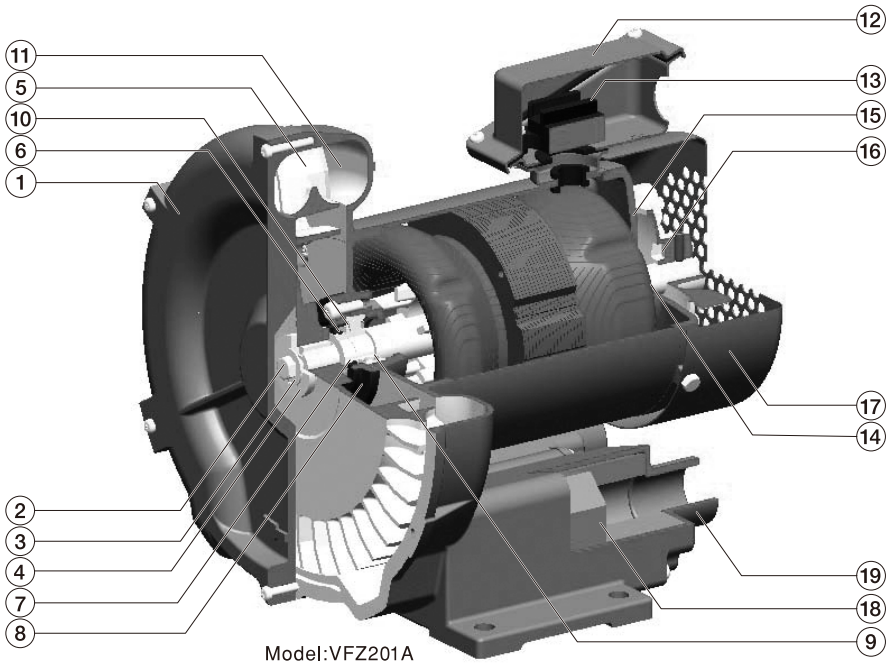
※Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.

Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.

■Internal structure

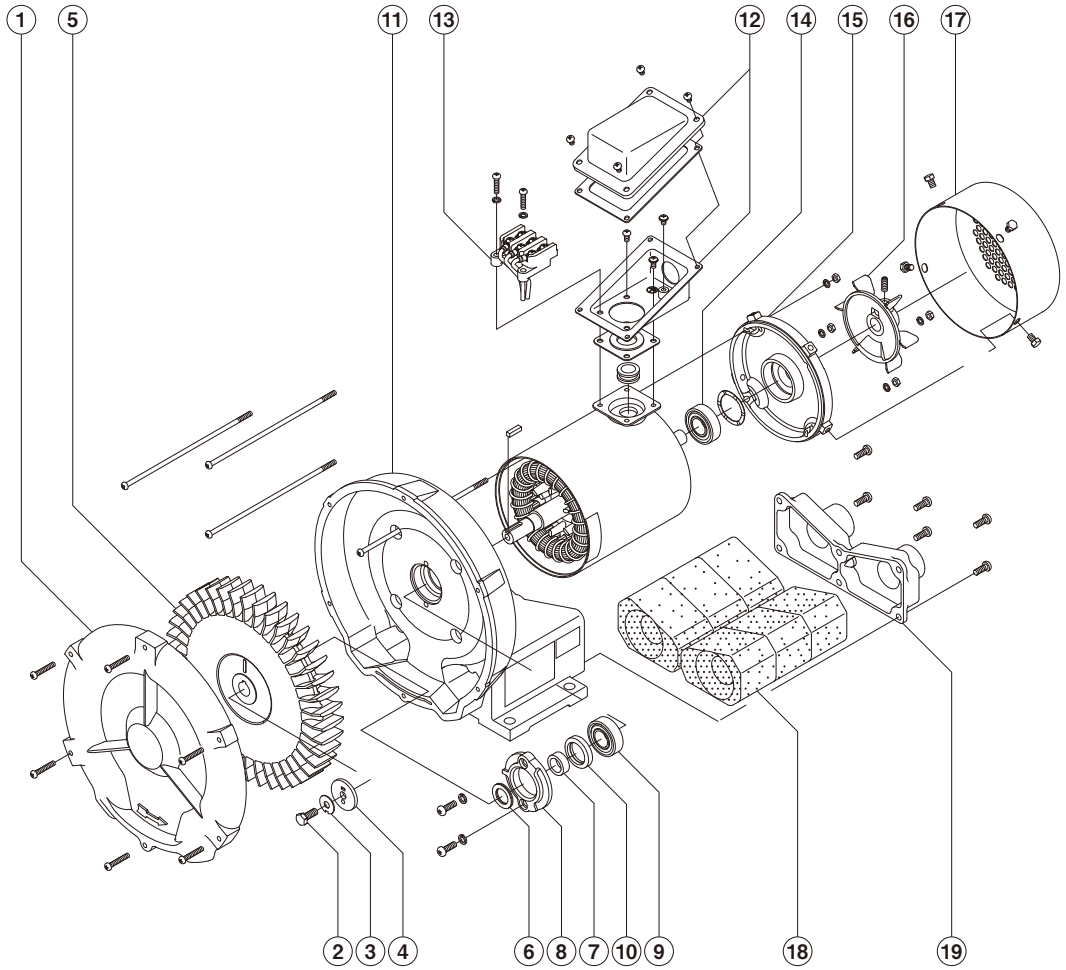
10~30



Model:VFZ201A

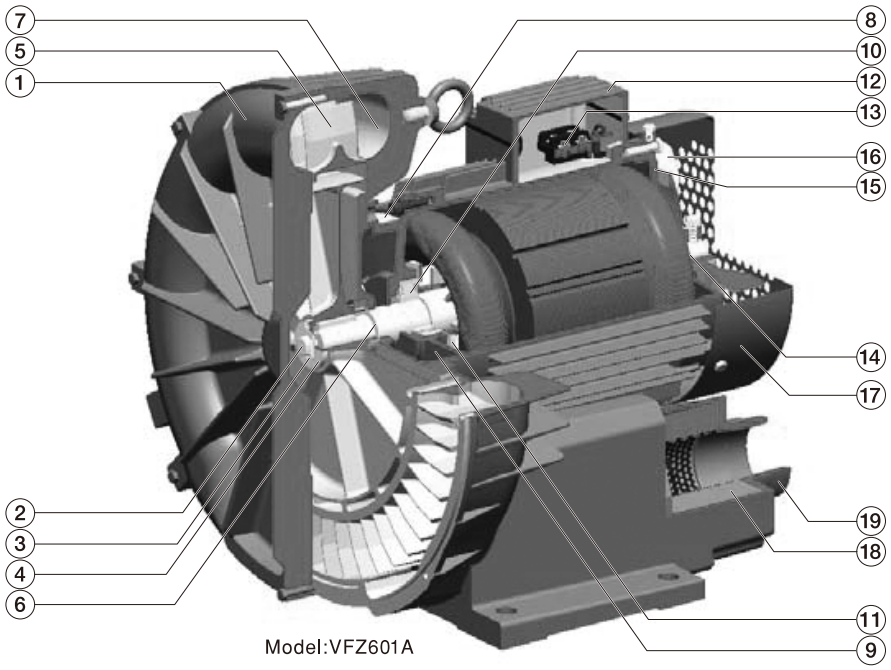
No	Part name	Material
1	Casing cover	ADC12 or FC150
2	Locking bolt	Steel
3	Claw washer	SPCC
4	Clamp plate	SPCC
5	Impeller	ADC12
6	Adjuster	BsP3-1/2
7	Collar	Brass
8	End cover	FC150
9	Deep groove ball bearing	
10	Oil seal	Nitrile rubber
11	Casing	ADC12
12	Terminal box	SPCC
13	Terminal block	Phenolic resin
14	Deep groove ball bearing	
15	Non-drive side shield	FC150
16	External fan	Plastic
17	Fan cover	SPCC
18	Sound insulation	Flexible urethane
19	Flange	ADC12

■Exploded diagram



■Internal structure

40~60



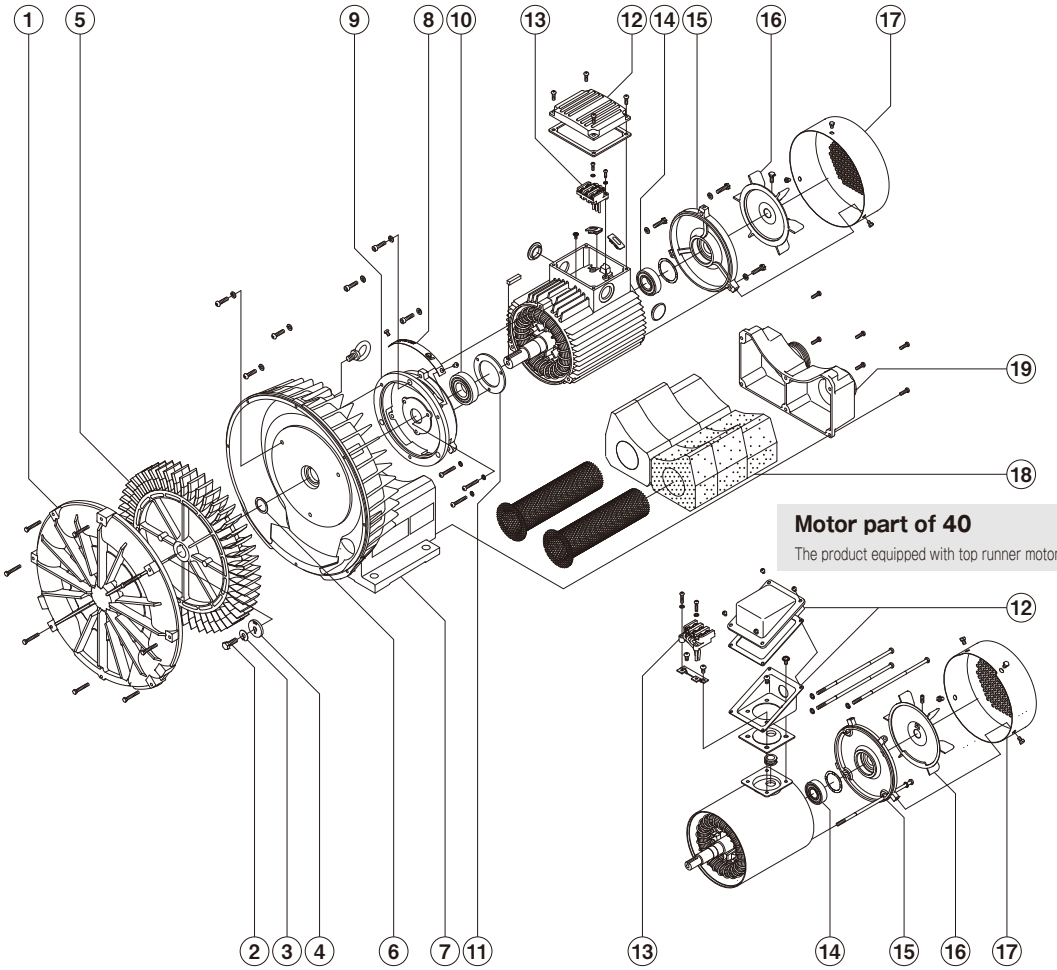
Model:VFZ601A

No	Part name	Material
1	Casing cover	ADC12 or FC150
2	Locking bolt	Steel
3	Claw washer	SPCC
4	Clamp plate	SPCC
5	Impeller	ADC12
6	Adjuster	BsP3-1/2
7	Casing	ADC12
8	Emblem	APCC
9	Intermediate shield	FC150
10	Deep groove ball bearing	
11	Inner end cover	SPHC
12	Terminal box	ADC12
13	Terminal block	Phenolic resin
14	Deep groove ball bearing	
15	Non-drive side shield	FC150
16	External fan	Plastic or ADC12
17	Fan cover	SPCC
18	Sound insulation	Flexible urethane or melamine foam
19	Flange	ADC12

■Exploded diagram

Motor part of 50 and 60

The product equipped with top runner motor (-e) is 60.



Motor part of 40

The product equipped with top runner motor (-e) is 40 and 50.

■Features

●**RoHS Directive compliance (2011/65/EU), 10 restricted substances**

●**For fully enclosed intake operation (50 and 60)**

Caution:
Always remove the emblem on the main unit before installation with fully enclosed intake applications.
Operation without removing the emblem may result in deterioration of the motor insulation.

●**Design eliminates oil seals in the blower (40 - 60)**

●**Protection method IP54 (for motor)**

●**Energy-saving blower equipped with top runner (equivalent to IE3) motor [40 - 60-e]**

●**Some models are not compatible with EU Directive for CE marking and China GB3.**

※Please note that the above photo is a representative example and may differ partly from the actual device.

■Paint color

Munsell 2.5Y5/1

■Piping

AF: Companion flange

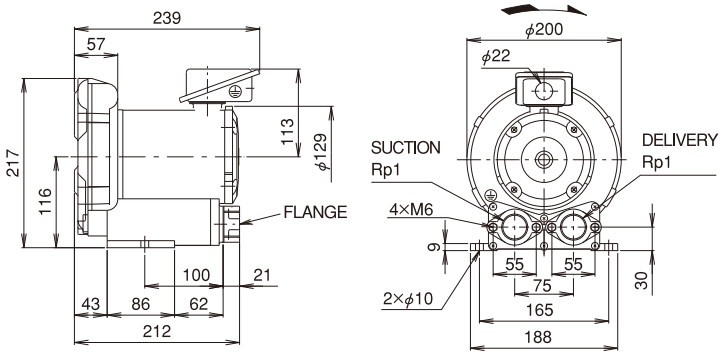
■Model description

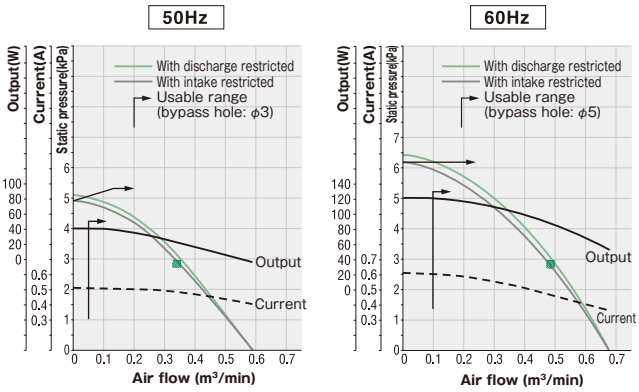
V F Z ○○1 □ - e

- Motor efficiency: None: Standard efficiency (equivalent to IE1); e: Top runner efficiency (equivalent to IE3)
- Specifications: AF: 3-phase standard type (companion flange)
- Type
- Capacity (10 - 60)

■Assembly drawing and characteristics

VFZ101AF

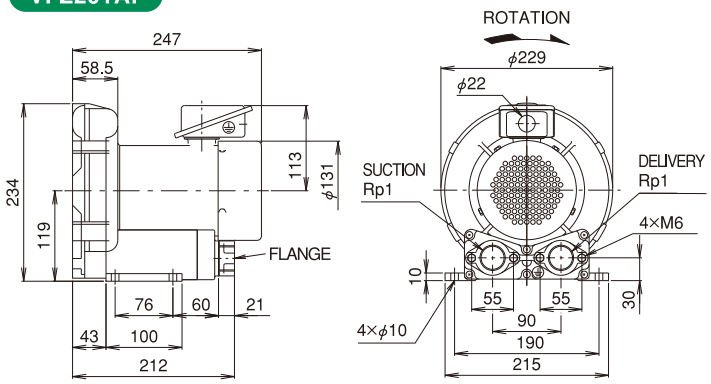


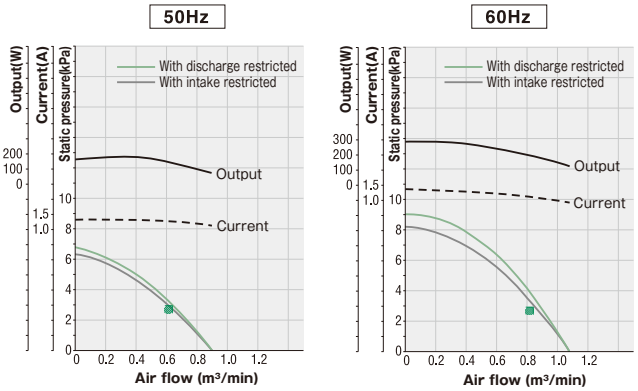


Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.

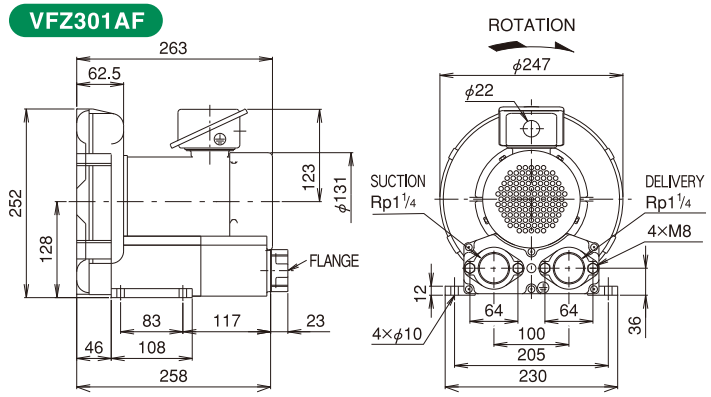
■Assembly drawing and characteristics

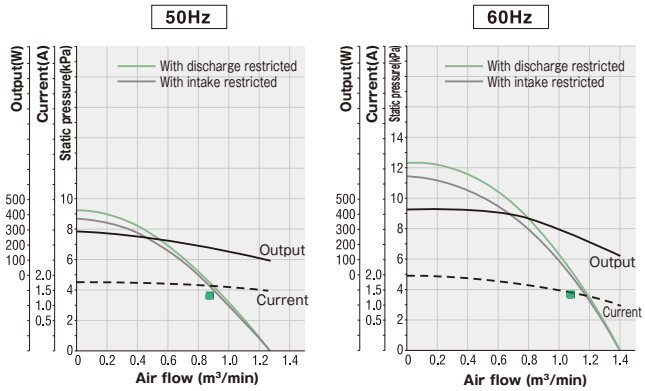
VFZ201AF



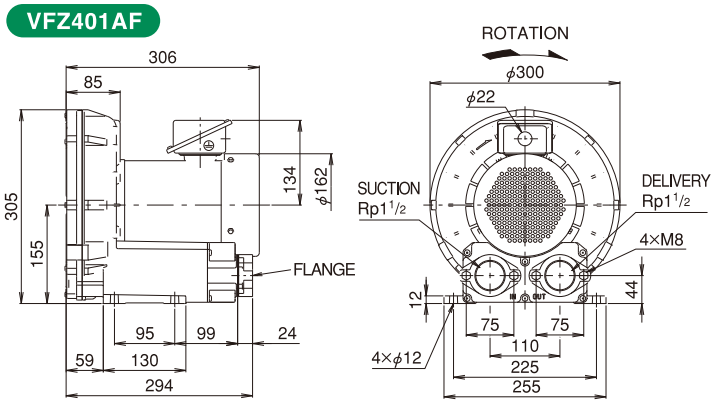


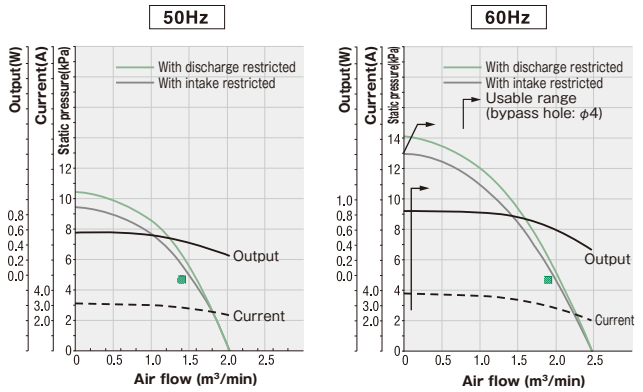
VFZ301AF



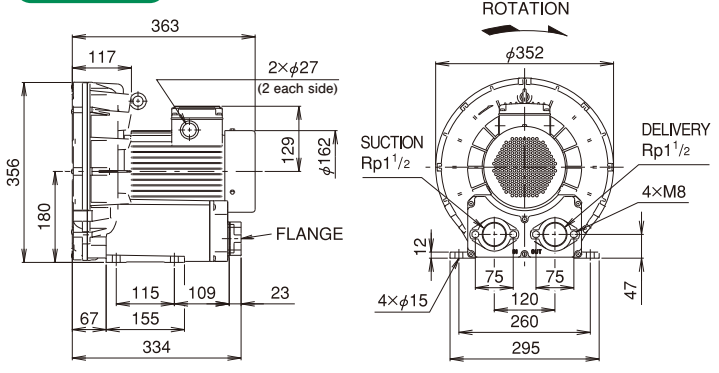


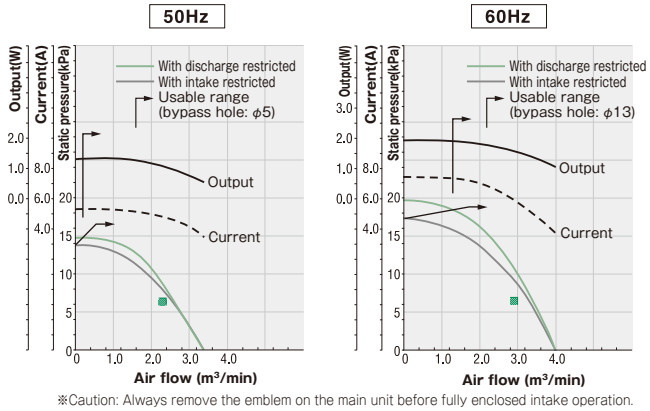
VFZ401AF





VFZ501AF





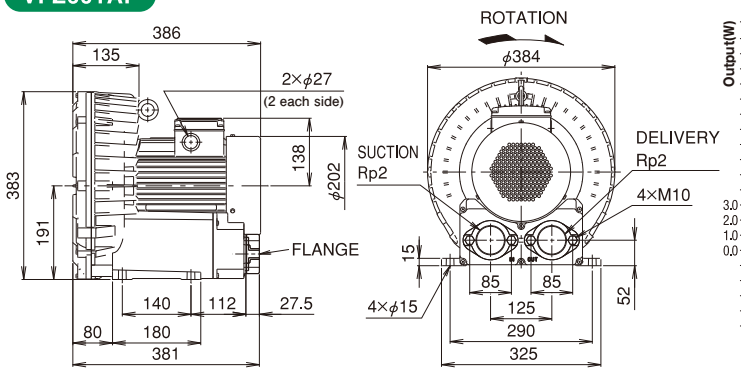
※Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

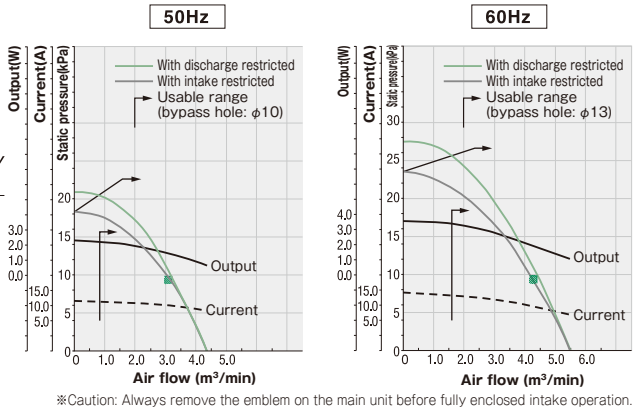
Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.

Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.

■Assembly drawing and characteristics

VFZ601AF





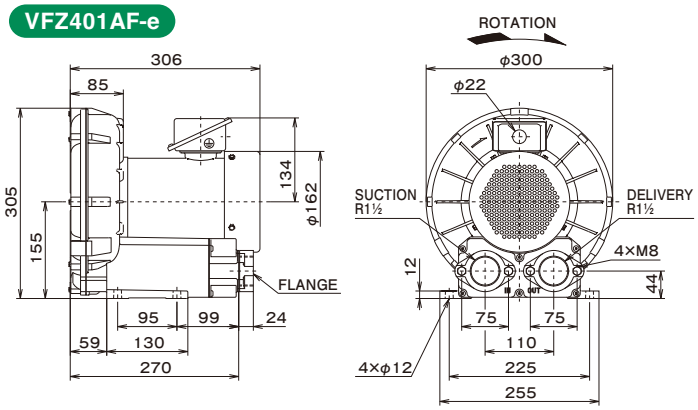
※Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

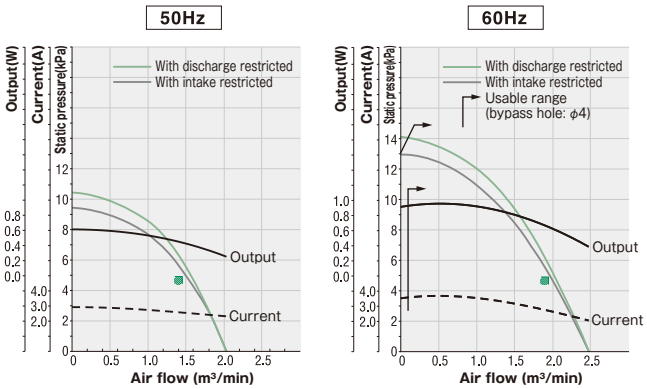
Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.

Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.

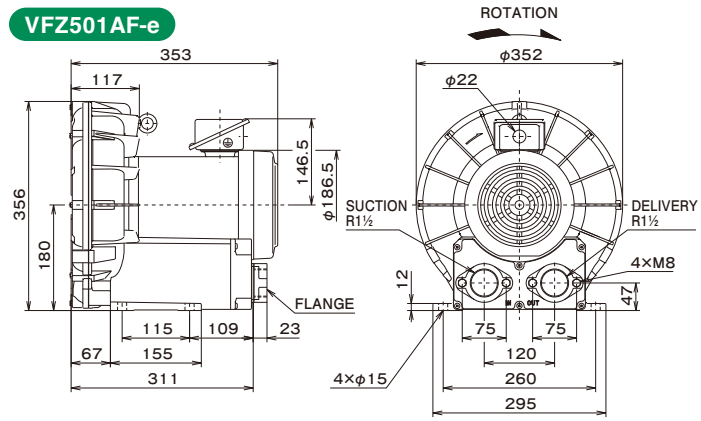
■Assembly drawing and characteristics

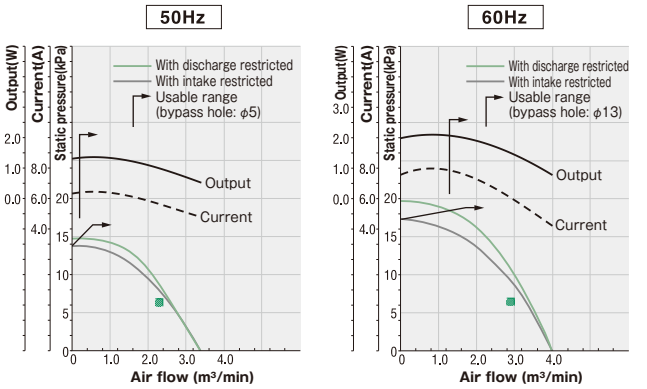
VFZ401AF-e





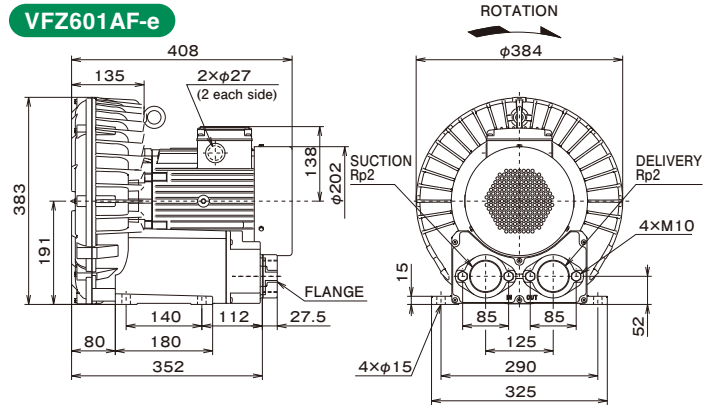
VFZ501AF-e

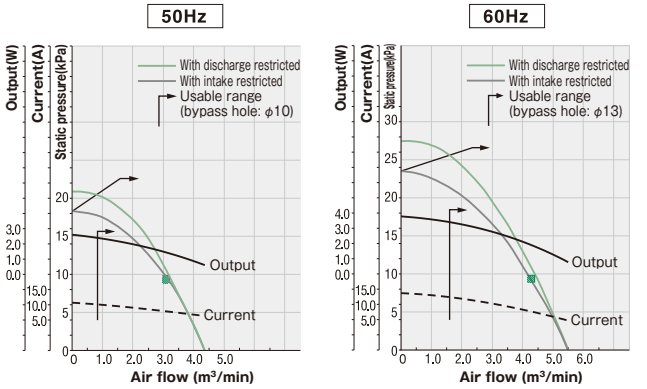




※Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

VFZ601AF-e





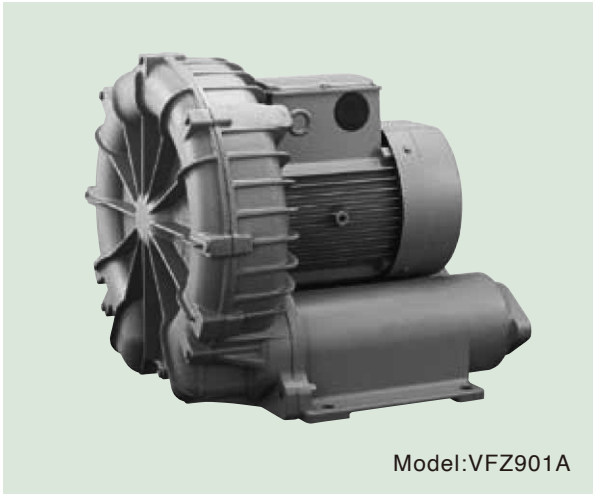
※Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.

Light & Small × High performance

■Features

- ●Compact and light weight
- ●Fully enclosed intake operation
- ●Design eliminates oil seals in the blower
- ●Reduction in harsh high frequency sounds (▲max 10 dB (A) compared to previous products)
- ●RoHS Directive compliance (2011/65/EU), 10 restricted substances
- ●Protection method IP54 (for motor)
- ●Companion flange is used for piping.
- ●Energy-saving blower equipped with top runner (equivalent to IE3) motor [70 - 90-e]
- ●Some models are not compatible with EU Directive for CE marking and China GB3.



Model:VFZ901A

※Please note that the above photo is a representative example and may differ partly from the actual device.

■Paint color

Munsell 2.5Y5/1

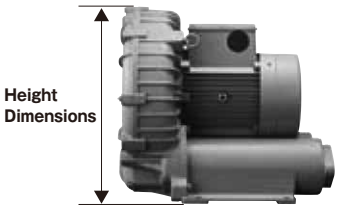
■Model description

V F Z ○○1 □ - e

- Motor efficiency: None: Standard efficiency (equivalent to IE1); e: Top runner efficiency (equivalent to IE3)
- Specifications: A: 3-phase standard type; A-4Z: 3-phase different voltage
- Type
- Capacity (70・80・90)

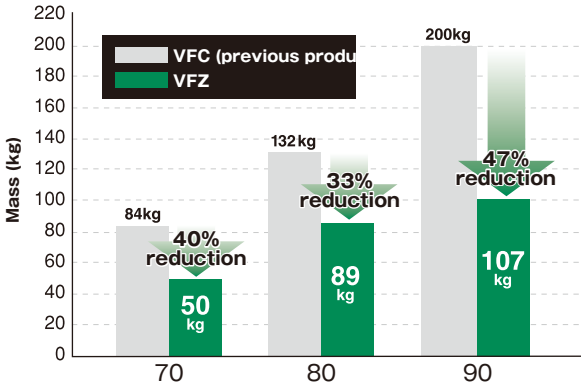
■Comparison with previous products

Blower height

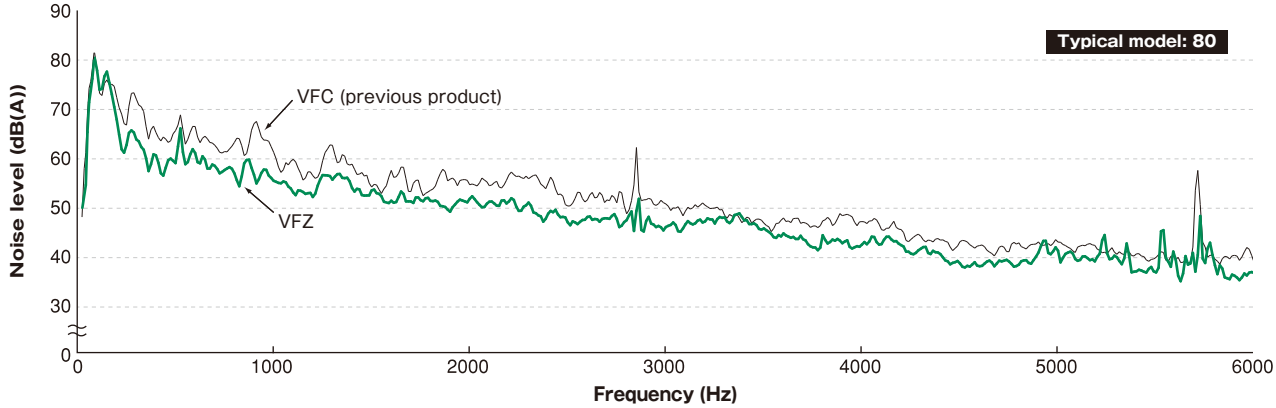


size	VFZ	VFC (previous product)
70	447mm	463mm
80	501mm	522mm
90	535mm	588mm

Mass comparison



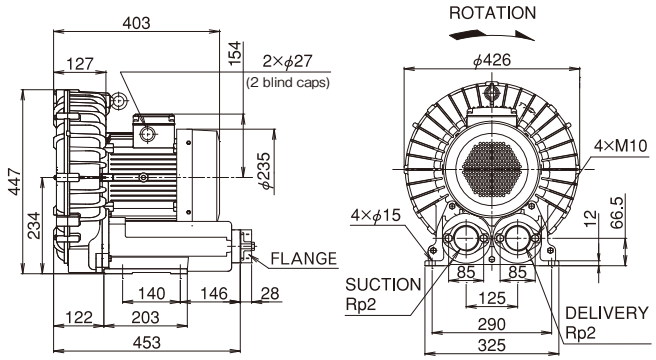
Noise comparison (high frequency)

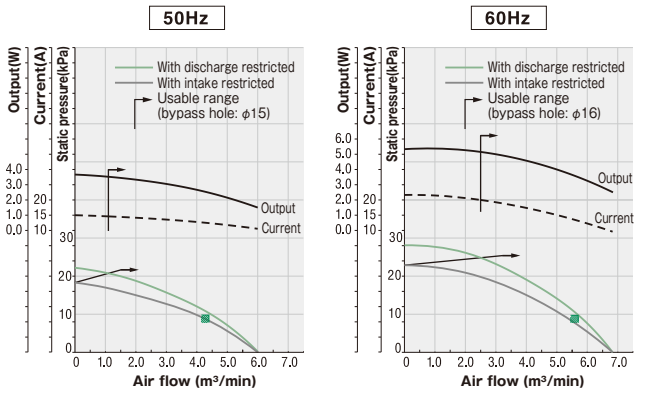


※Above noise comparison (high frequency) data were obtained from typical model at 200V, 60Hz at a distance of 1.5m with the fan released to the atmosphere.

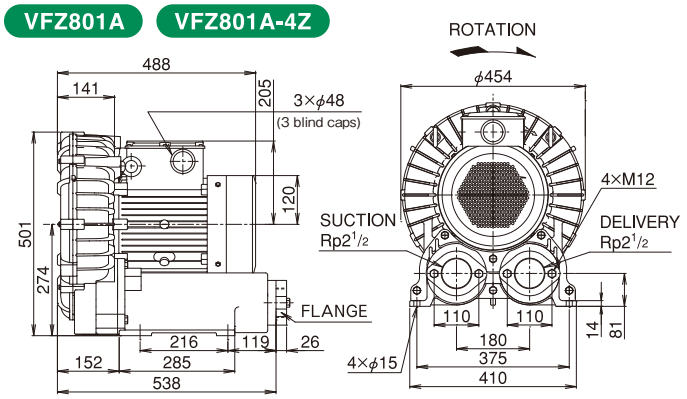
■Assembly drawing and characteristics

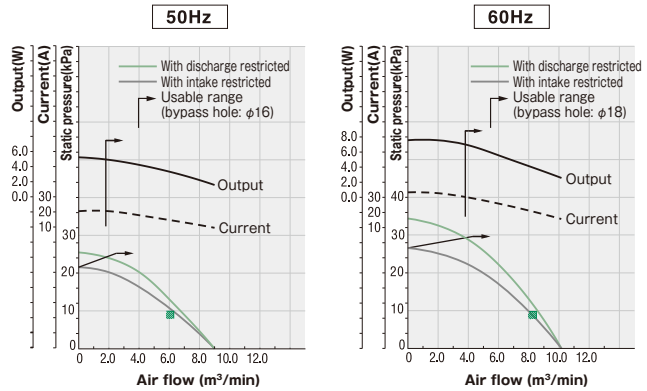
VFZ701A VFZ701A-4Z



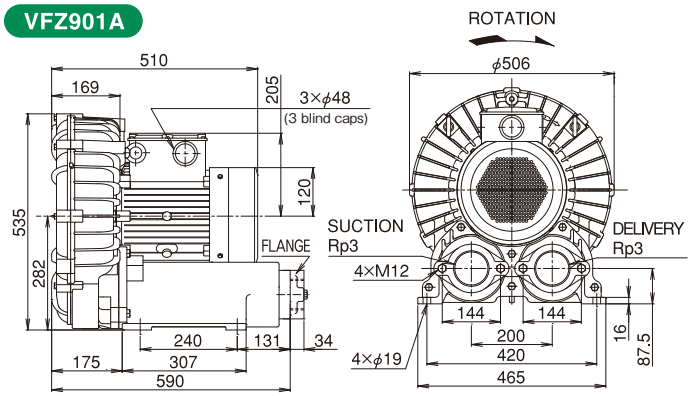


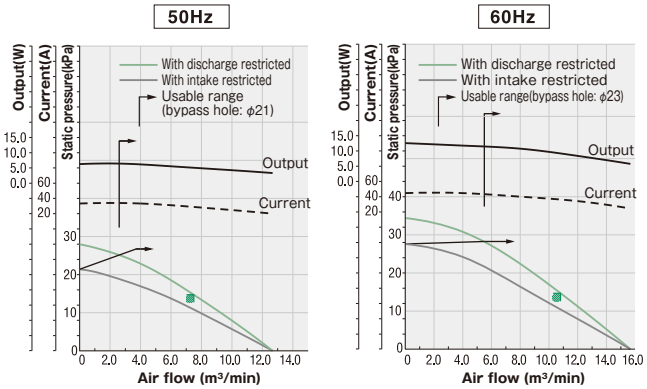
VFZ801A VFZ801A-4Z





VFZ901A

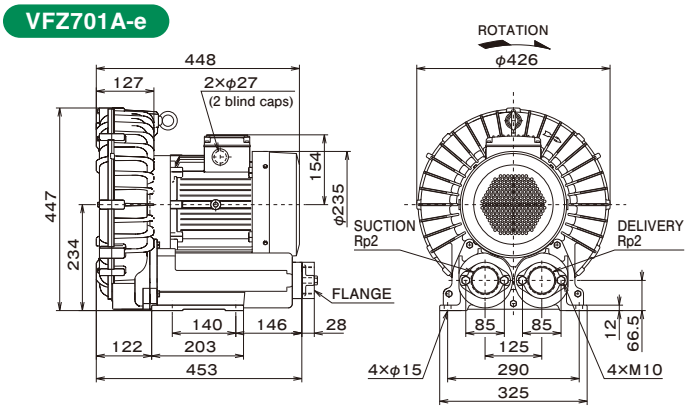


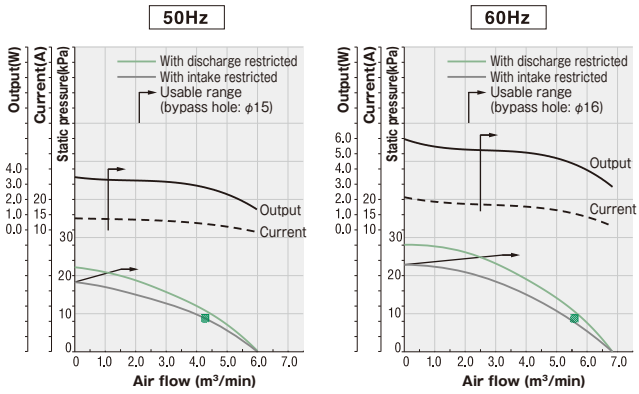


Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.
Note 3: Check 'Standard Specifications' for current values for different voltage products (-4Z).

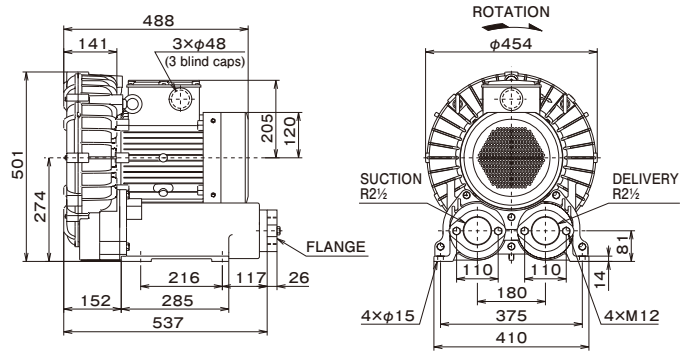
■Assembly drawing and characteristics

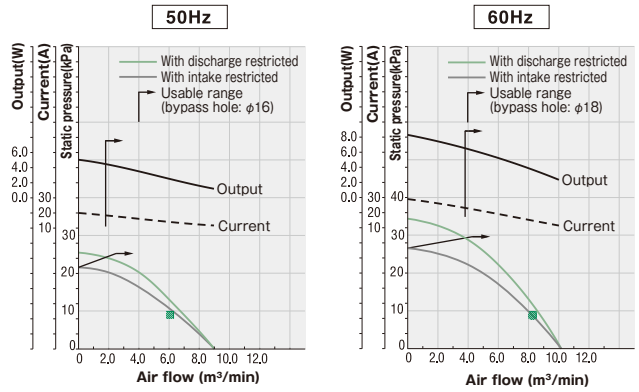
VFZ701A-e



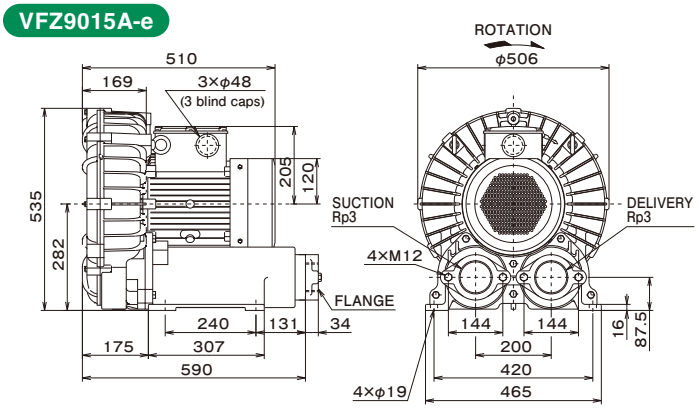


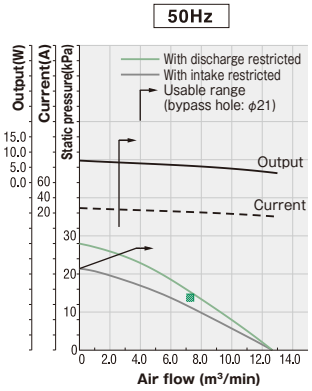
VFZ801A-e



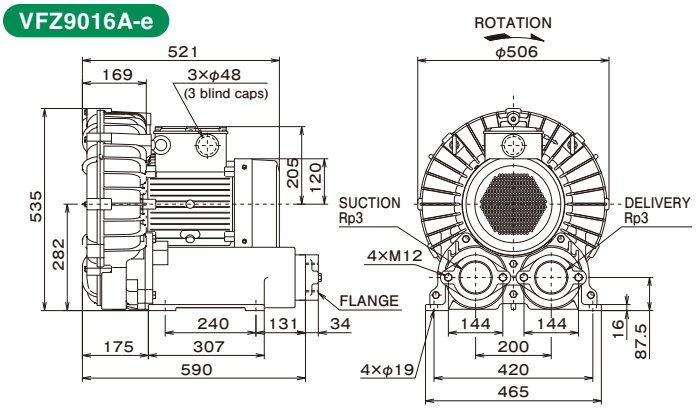


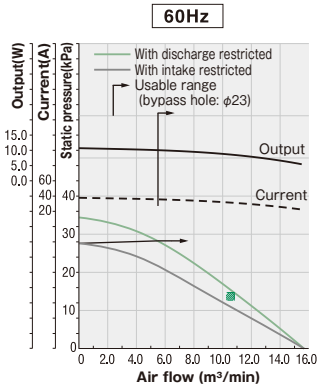
VFZ9015A-e





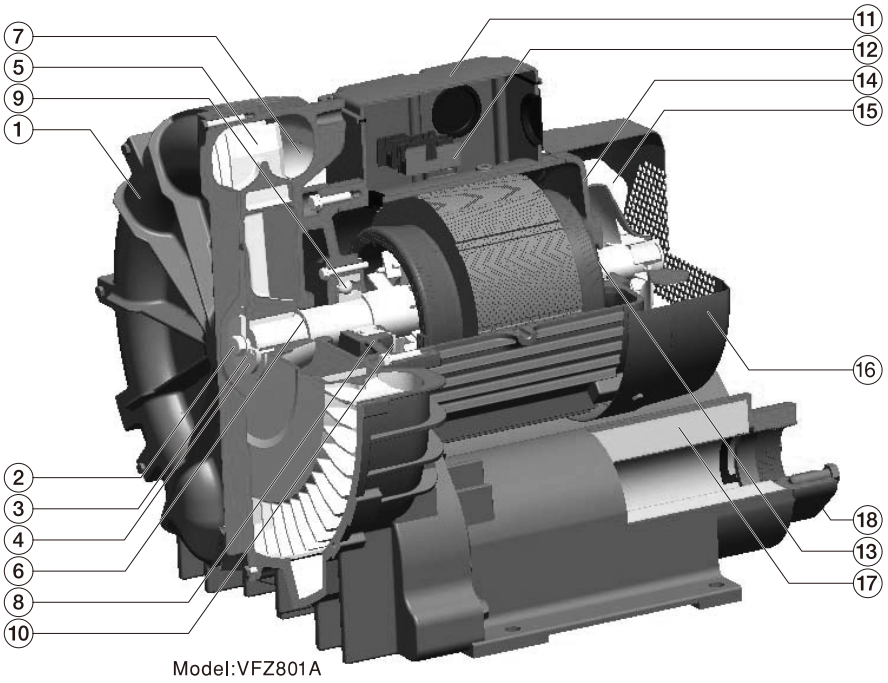
VFZ9016A-e





Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.
Note 3: Check 'Standard Specifications' for current values for different voltage products (-4Z).

■Internal structure

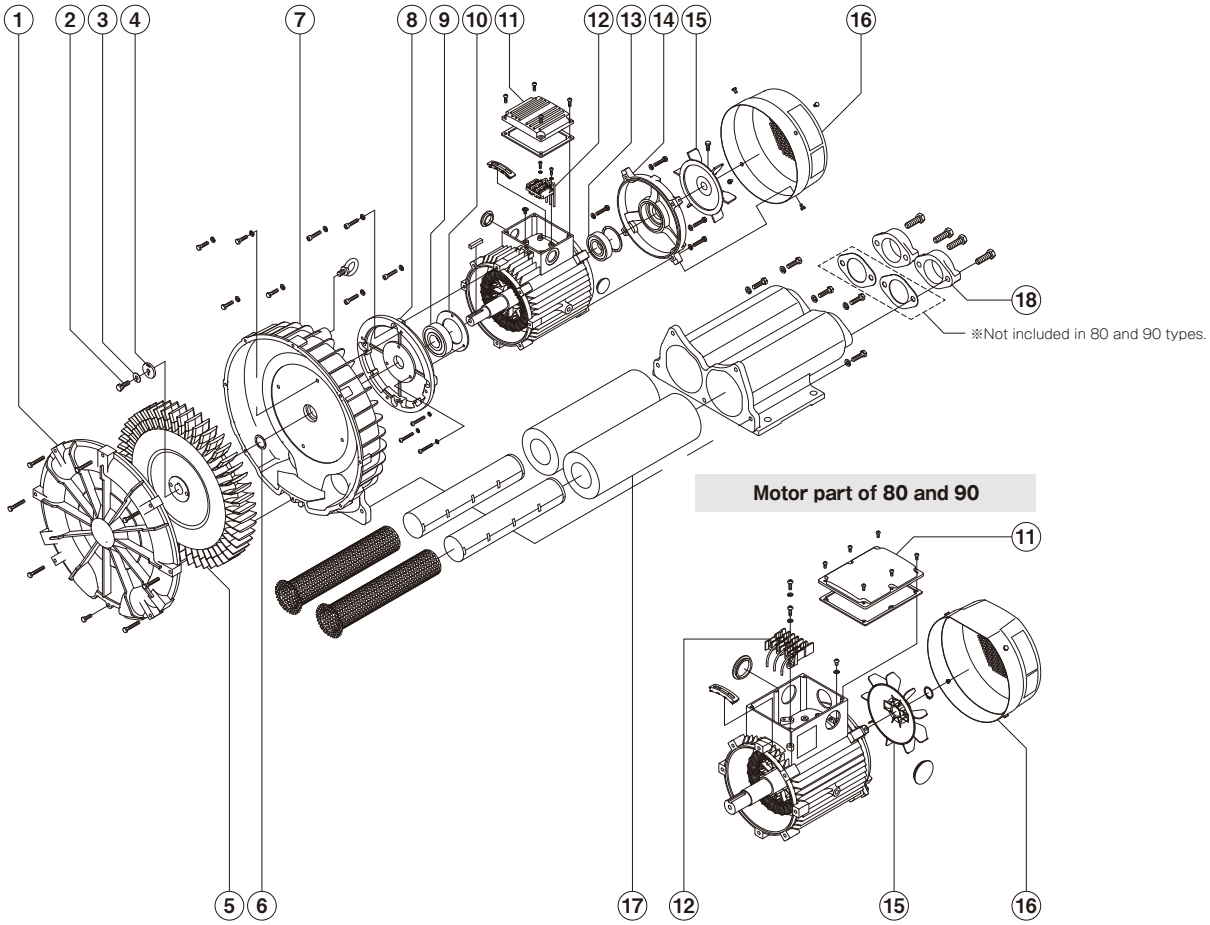


Model:VFZ801A

No	Part name	Material
1	Casing cover	FC150
2	Locking bolt	Steel
3	Claw washer	SPCC
4	Clamp plate	SPCC
5	Impeller	ADC12
6	Adjuster	BsP3-1/2
7	Casing	ADC12
8	Intermediate shield	FC150
9	Deep groove ball bearing	
10	Inner end cover	SPHC
11	Terminal box	ADC12
12	Terminal block	Phenolic resin
13	Deep groove ball bearing	
14	Non-drive side shield	FC150
15	External fan	Plastic or ADC12
16	Fan cover	SPCC
17	Sound insulation	Glass wool
18	Flange	FC150

■Exploded diagram

Motor part of 70



Motor part of 80 and 90

■Features

- ●Large reduction in harsh high frequency sounds (▲max 15 dB (A) compared to previous products)
- ●RoHS Directive compliance (2011/65/EU), 10 restricted substances
- ●For fully enclosed intake operation (50 and 60)
  Caution:
  Always remove the emblem before installation with fully enclosed intake applications.
  Operation without removing the emblem may result in deterioration of the motor insulation.
- ●Design eliminates oil seals in the blower (40 - 90)
- ●Employs an aerofoil section external fan to reduce fan noise (60 - 90)
- ●Compact and light and weight (70 - 90)
- ●Protection method IP54 (for motor)
- ●Energy-saving blower equipped with top runner (equivalent to IE3) motor [40 - 90-e]
- ●Some models are not compatible with EU Directive for CE marking and China GB3.

※Please note that the above photo is a representative example and may differ partly from the actual device.

■Paint color

Munsell 10YR4/1

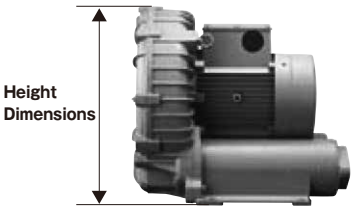
■Model description

V F Z ○○ 1 A N - e

- Motor efficiency — None: Standard efficiency (equivalent to IE1); e: Top runner efficiency (equivalent to IE3)
- Specifications (3-phase low-noise type)
- Type
- Capacity (10～90)

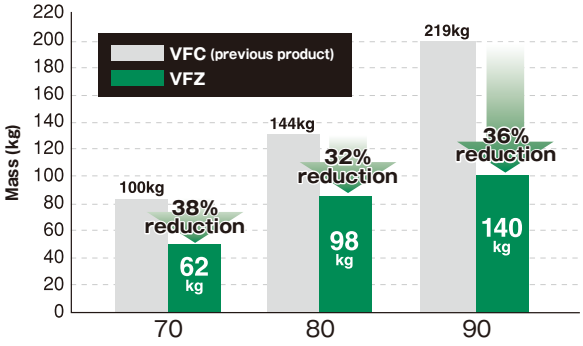
■Comparison with previous products

Blower height (70 size and above)

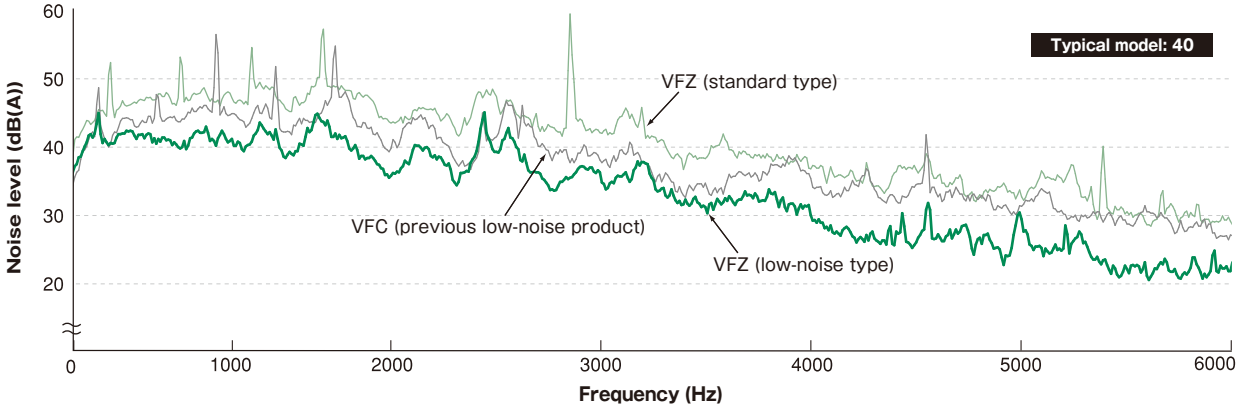


size	VFZ	VFC (previous product)
70	447mm	463mm
80	501mm	522mm
90	535mm	588mm

Mass comparison (70 size and above)



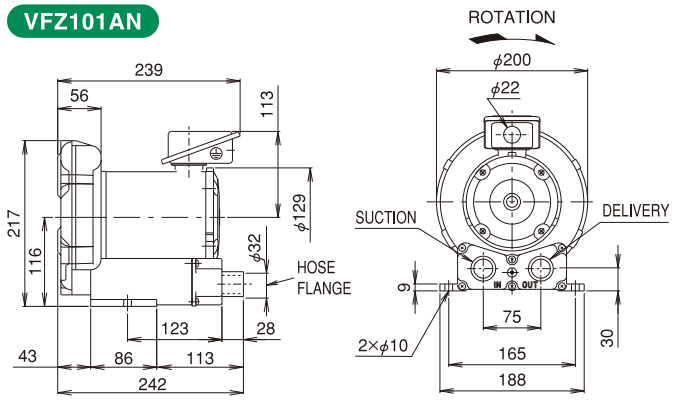
Noise comparison (high frequency)

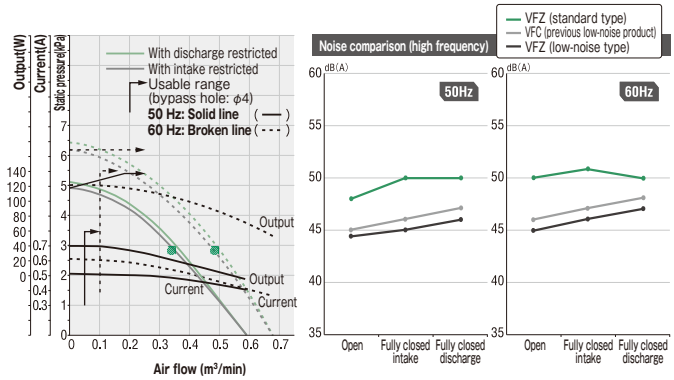


※Above noise comparison (high frequency) data were obtained from typical model at 200V, 60Hz at a distance of 1.5m with the fan released to the atmosphere.

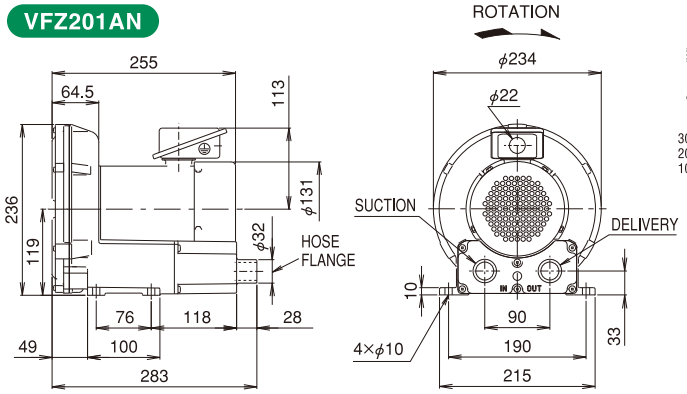
■Assembly drawing and characteristics

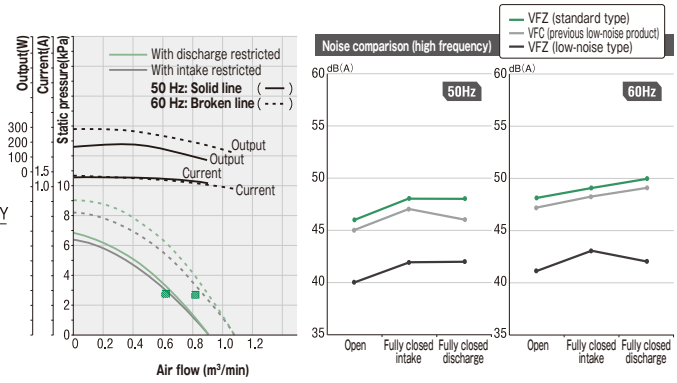
VFZ101AN



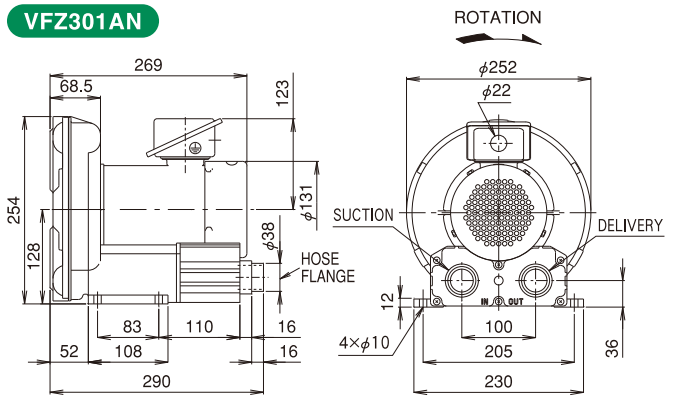


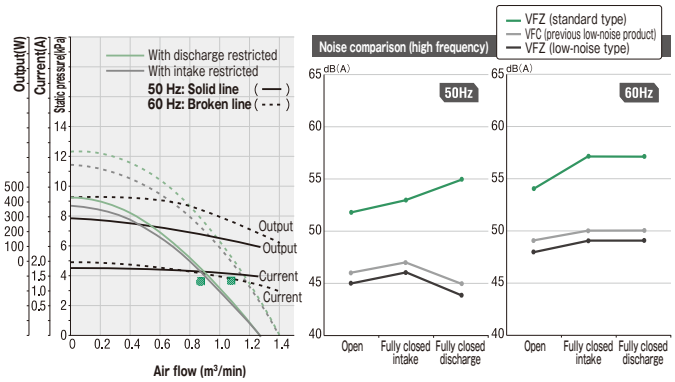
VFZ201AN



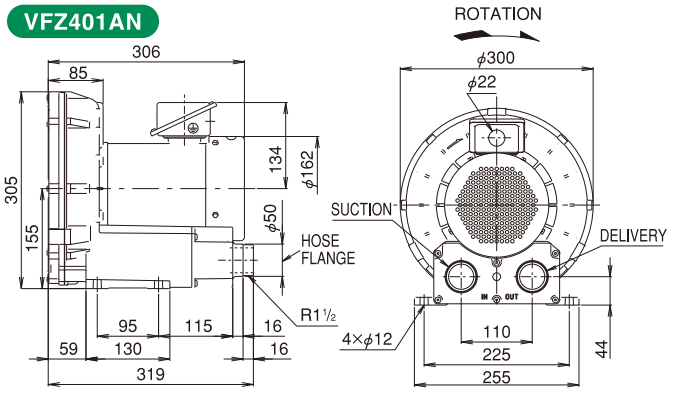


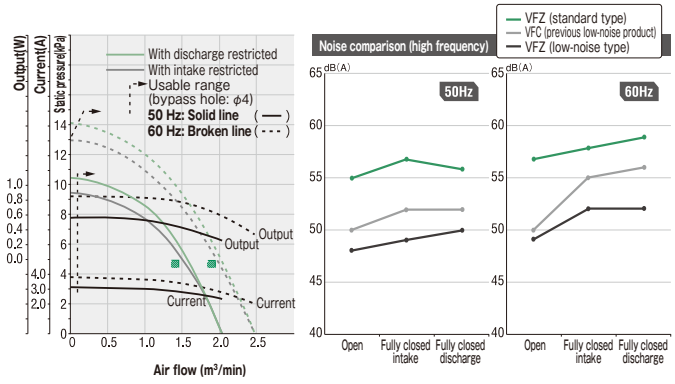
VFZ301AN





VFZ401AN

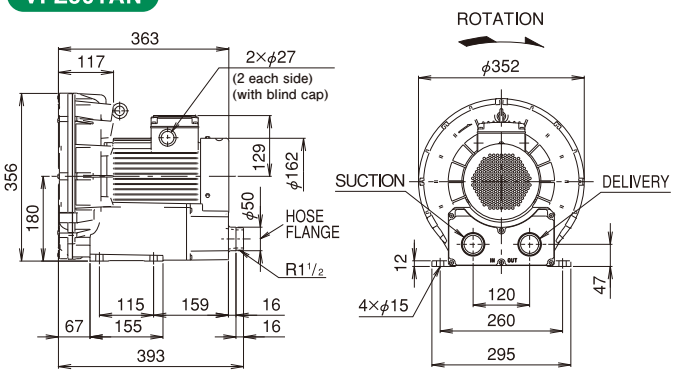


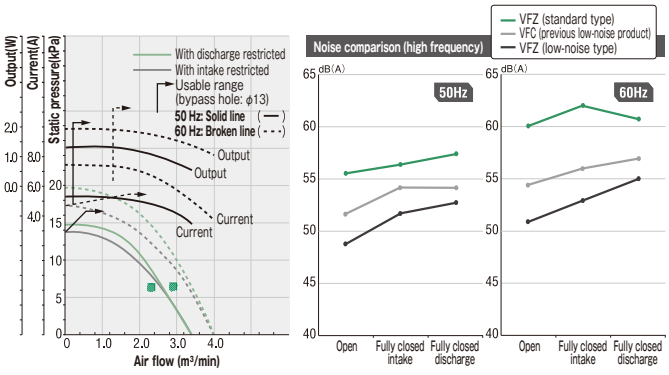


Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.
Note 3: Measurements for the above noise comparison (high frequency) graph were taken at a distance of 1.5m with the fan released to the atmosphere.

■Assembly drawing and characteristics

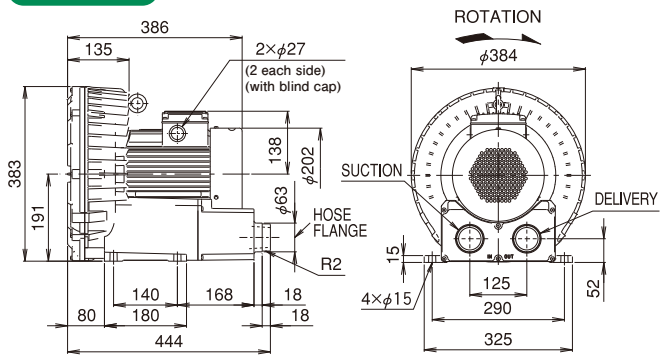
VFZ501AN

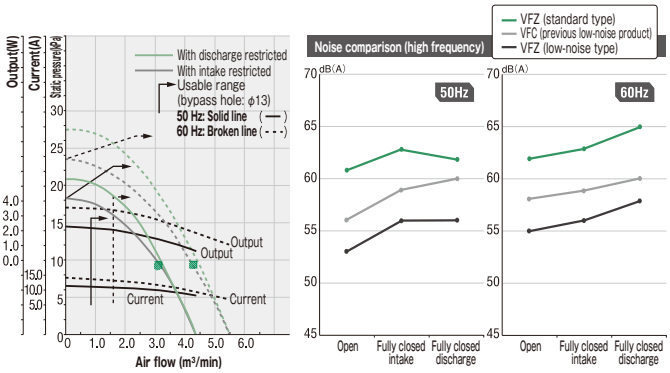




※Caution: Always remove the emblem on the main unit before fully closed intake operation.

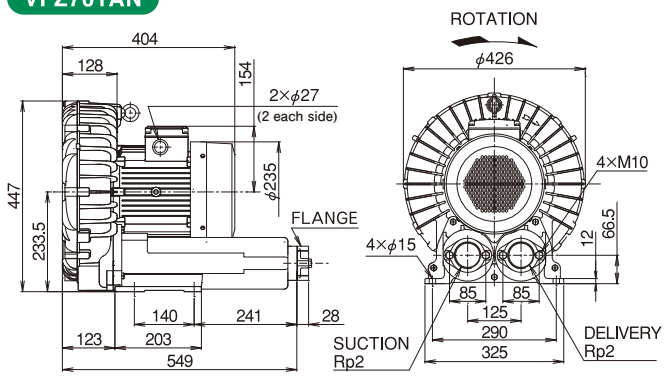
VFZ601AN

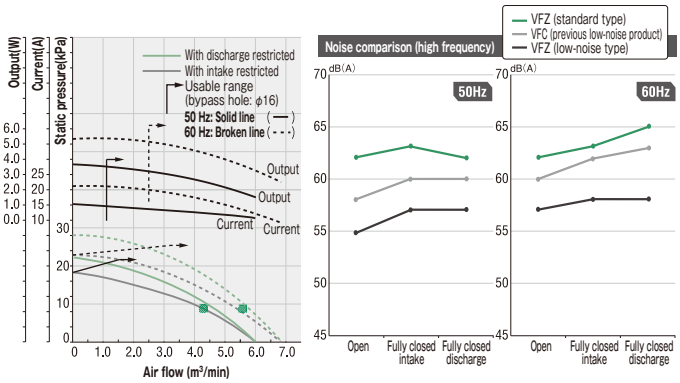




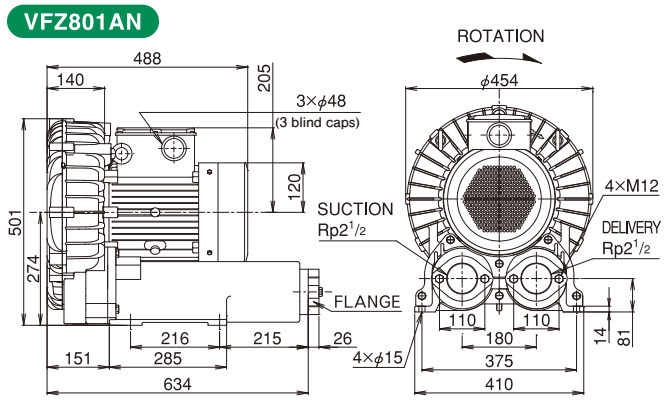
※Caution: Always remove the emblem on the main unit before fully closed intake operation.

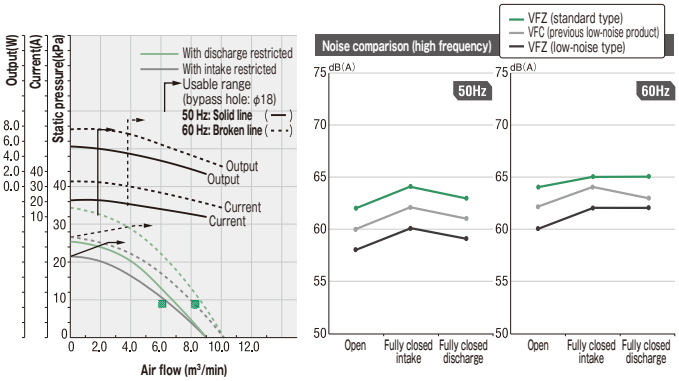
VFZ701AN





VFZ801AN

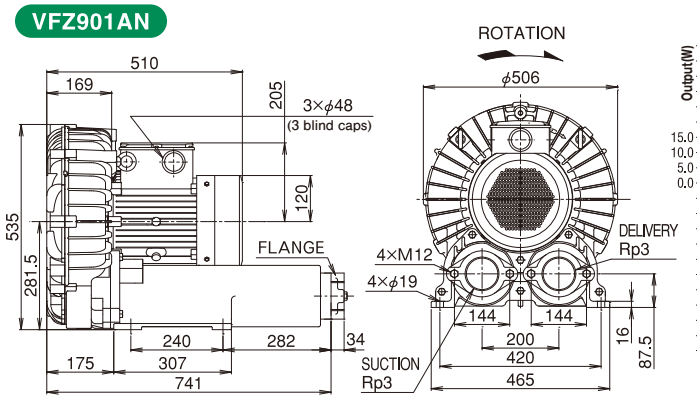


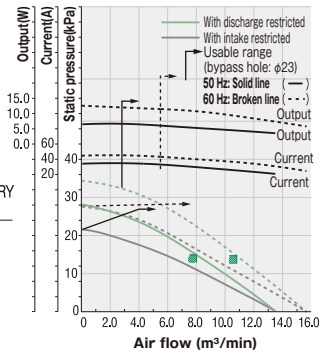


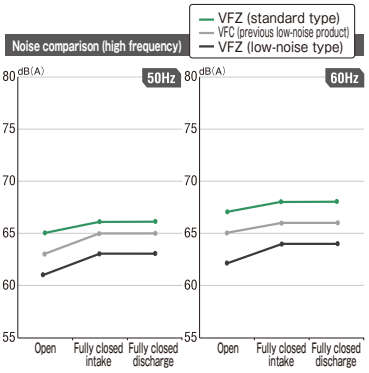
Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.
Note 3: Measurements for the above noise comparison (high frequency) graph were taken at a distance of 1.5m with the fan released to the atmosphere.

■Assembly drawing and characteristics

VFZ901AN



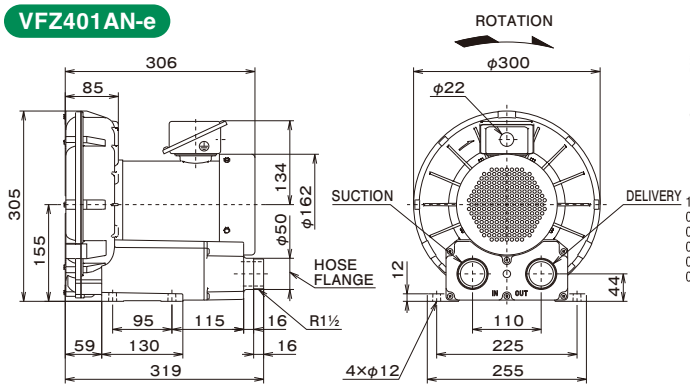


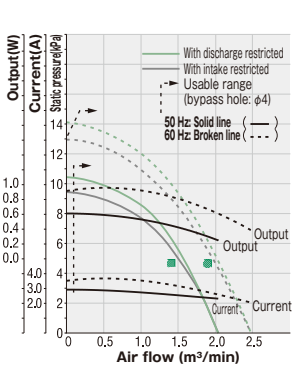


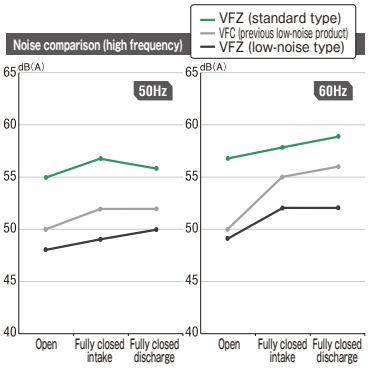
Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.
Note 3: Measurements for the above noise comparison (high frequency) graph were taken at a distance of 1.5m with the fan released to the atmosphere.

■Assembly drawing and characteristics

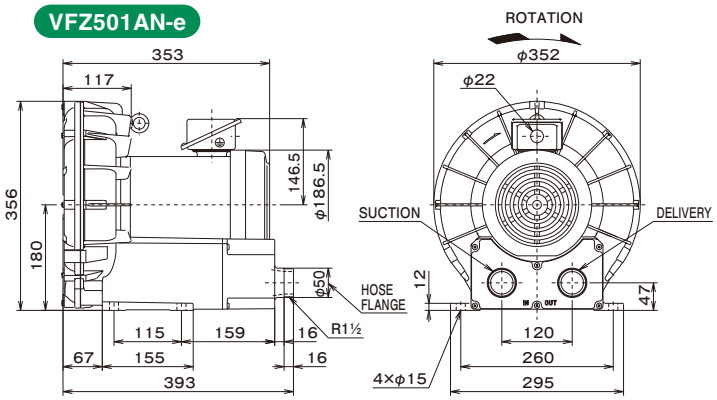
VFZ401AN-e

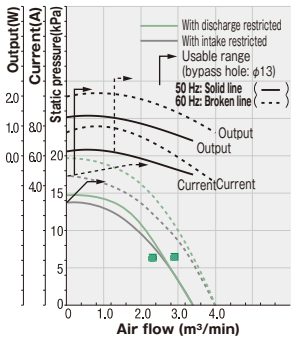


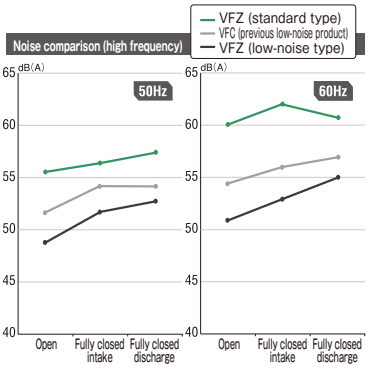




VFZ501AN-e

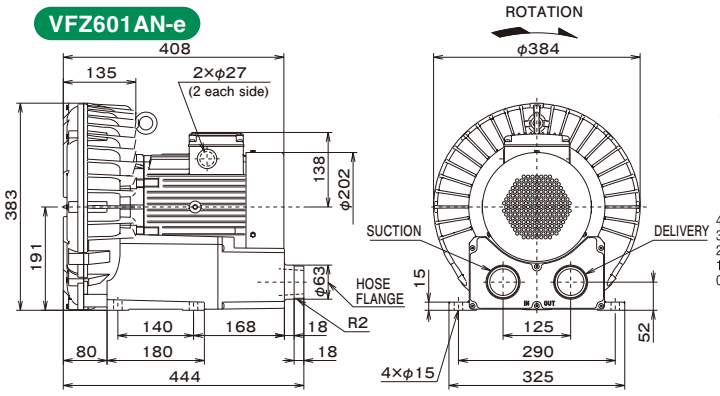


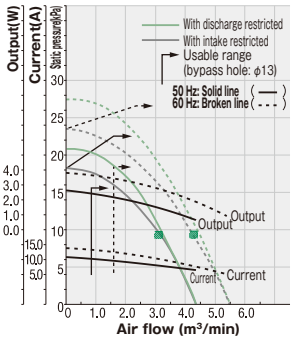


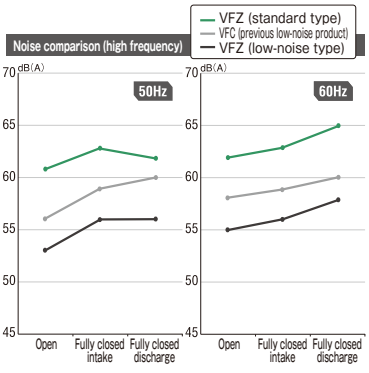


※Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

VFZ601AN-e

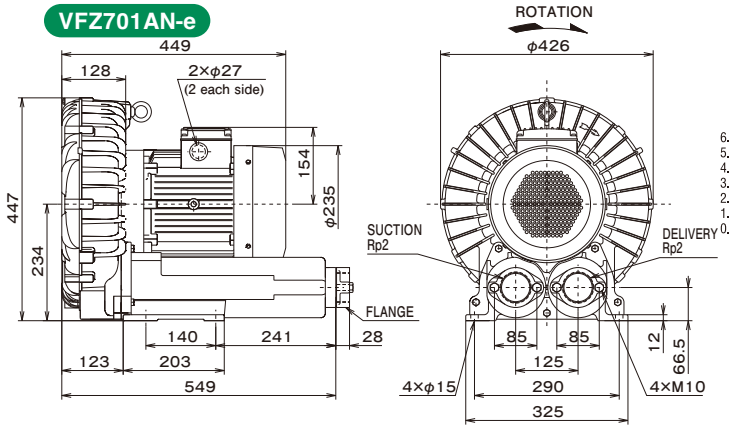


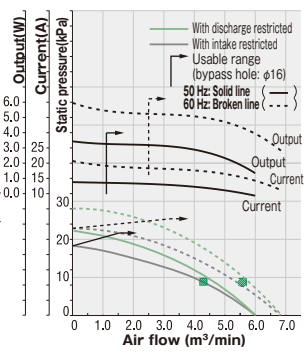


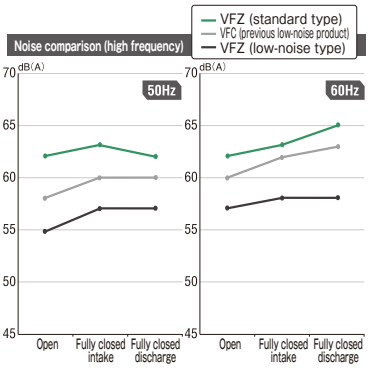


※Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

VFZ701AN-e



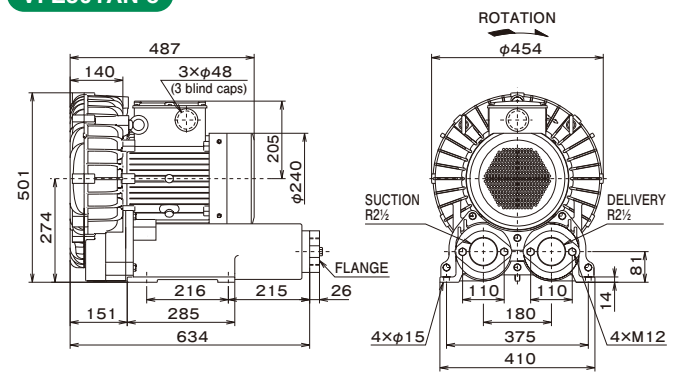


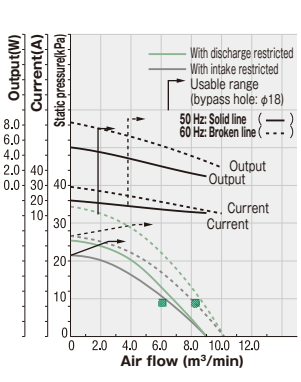


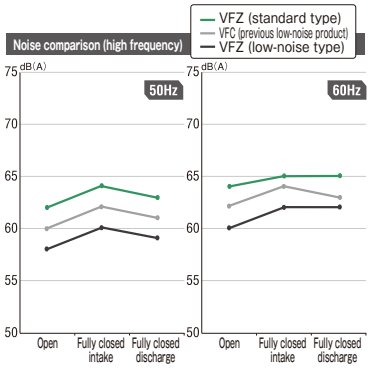
Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.
Note 3: Measurements for the above noise comparison (high frequency) graph were taken at a distance of 1.5m with the fan released to the atmosphere.

■Assembly drawing and characteristics

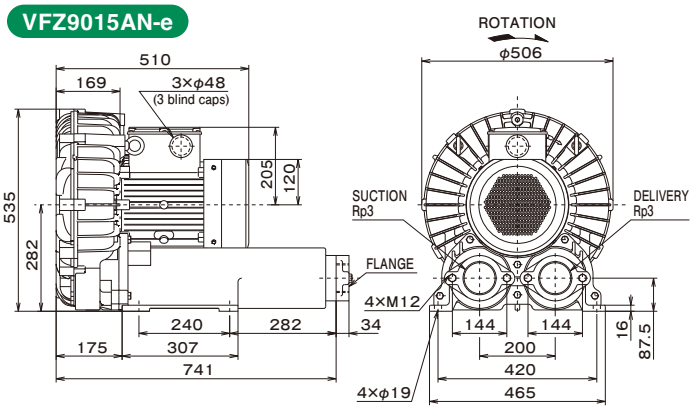
VFZ801AN-e

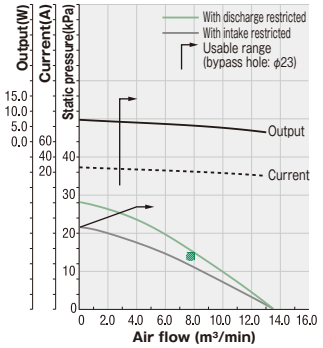


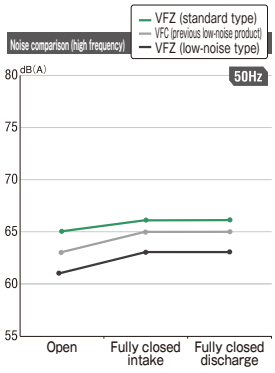




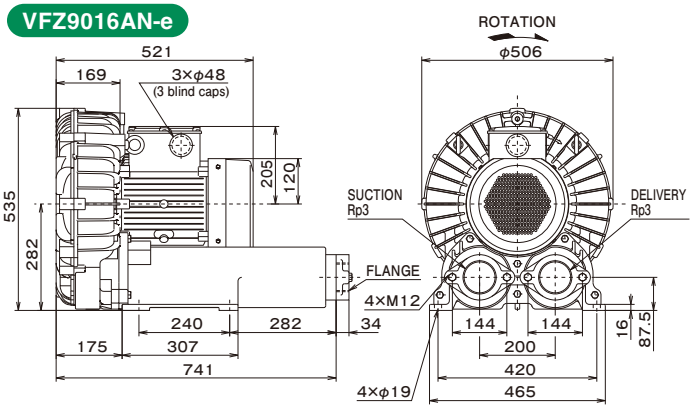
VFZ9015AN-e

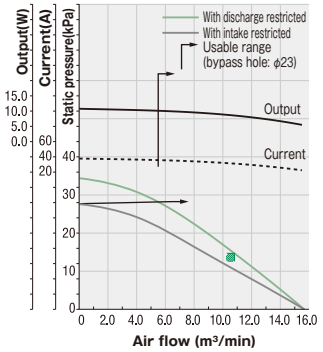


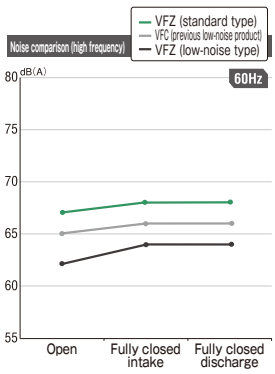




VFZ9016AN-e







Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.
Note 3: Measurements for the above noise comparison (high frequency) graph were taken at a distance of 1.5m with the fan released to the atmosphere.
Note 4: As the motor specifications for the VFZ90 model are different between 50 Hz and 60Hz, the model description is different.

■Features

●UL (File No.E343781), CSA (File No.LR48762) approved
●RoHS Directive compliance (2011/65/EU), 10 restricted substances
●US TSCA 5 PBT substances compliance

■Paint color

Munsell N5

■Model description

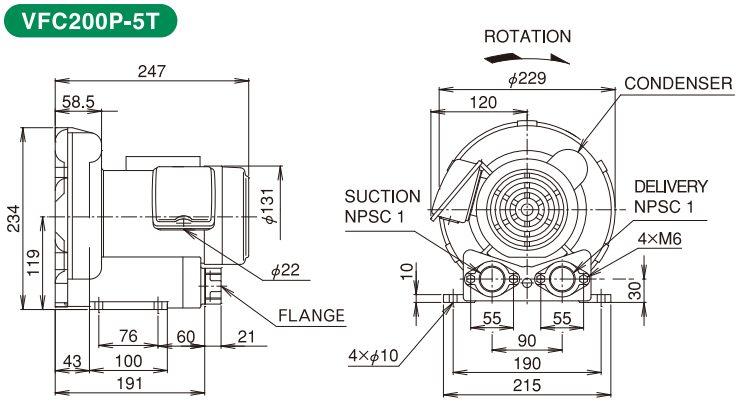
V F C ○○○□-□

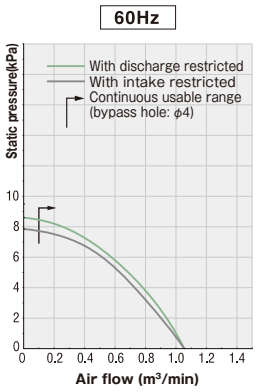
- Specifications: A-7W: 3-phase UL/CSA approved; P-5T: Single phase UL/CSA approved
- Type
- Capacity

※Please note that the above photo is a representative example and may differ partly from the actual device.

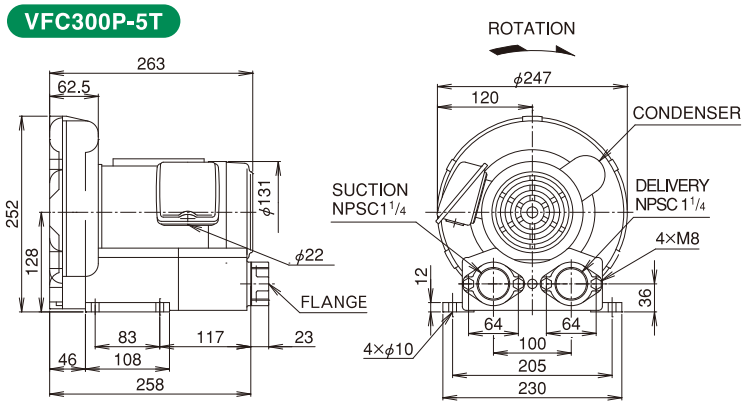
■Assembly drawing and characteristics

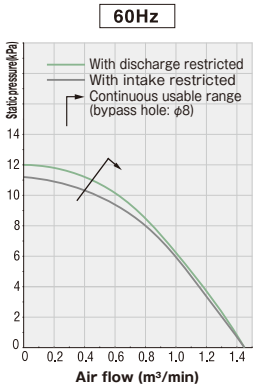
VFC200P-5T





VFC300P-5T

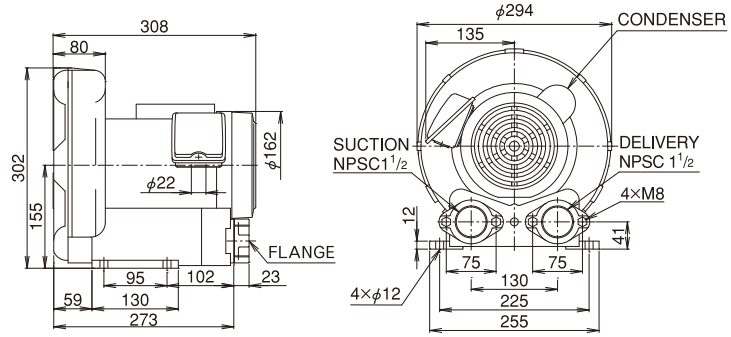


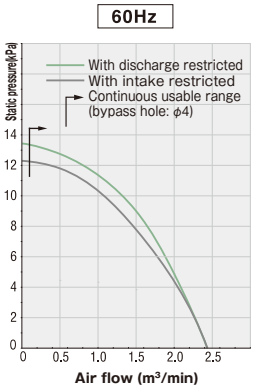


Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: Usable at 50 Hz, however characteristics deteriorate at this frequency.

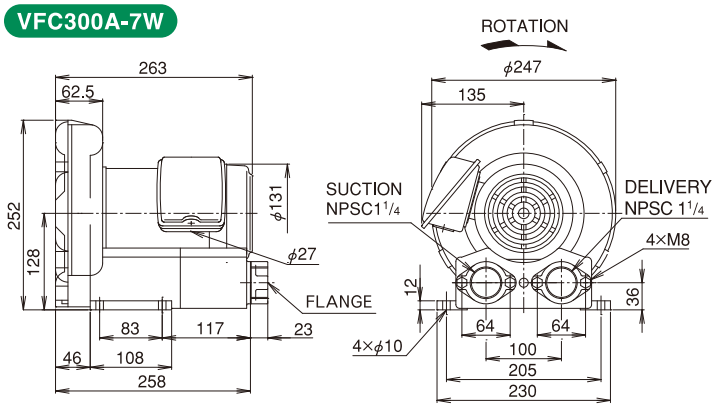
■Assembly drawing and characteristics

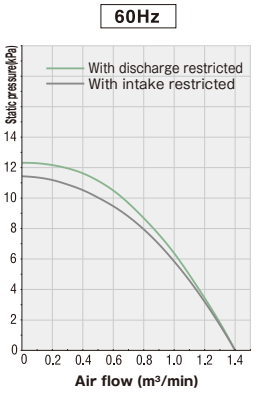
VFC400P-5T





VFC300A-7W





Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: Usable at 50 Hz, however characteristics deteriorate at this frequency.

■Features

- ●Equipped with UL approved motor (File No.E467788)
- ●RoHS Directive compliance (2011/65/EU), 10 restricted substances
- ●US TSCA 5 PBT substances compliance

■Paint color

Munsell 2.5Y5/1

■Model description

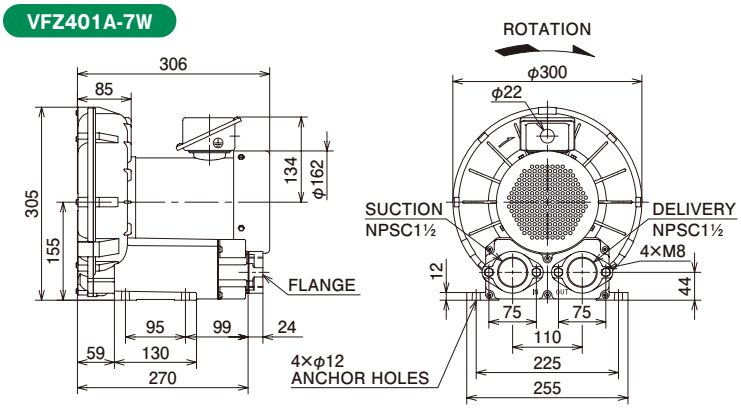
VFZ○○○□-□

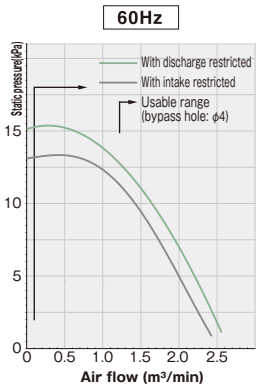
- Specifications A-7W: 3-phase
- Type
- Capacity

※Please note that the above photo is a representative example and may differ partly from the actual device.

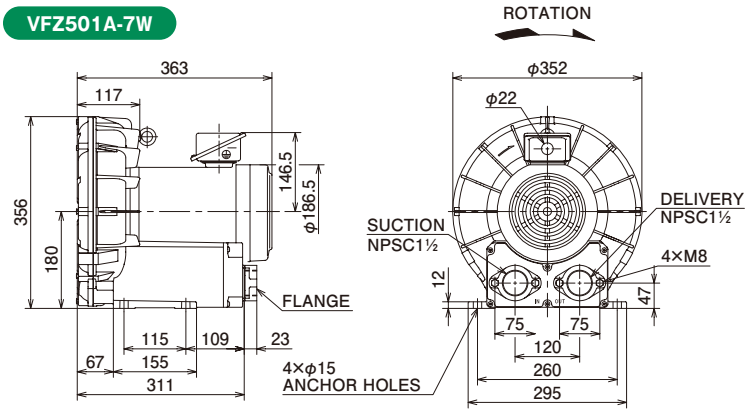
■Assembly drawing and characteristics

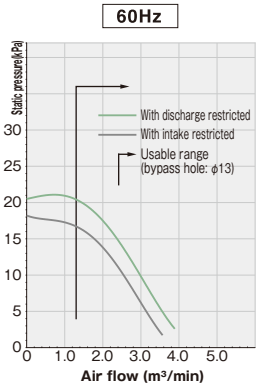
VFZ401A-7W





VFZ501A-7W

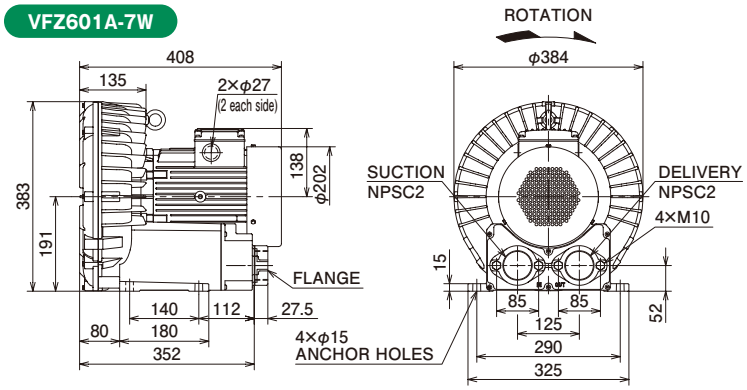


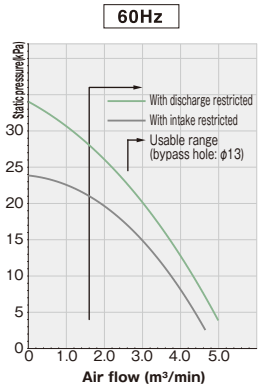


Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: Usable at 50 Hz, however characteristics deteriorate at this frequency.
Note 3: The above characteristics are obtained at 230V.
Note 4: Only the electric motor is UL approved.

■Assembly drawing and characteristics

VFZ601A-7W





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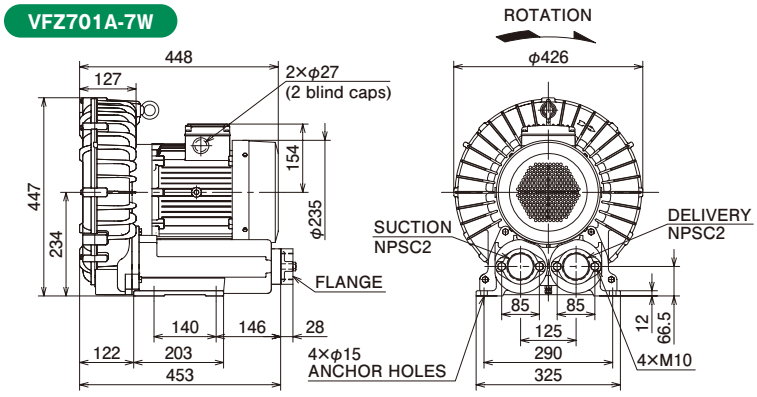
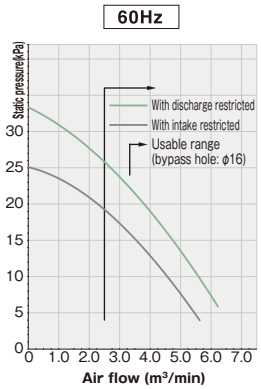
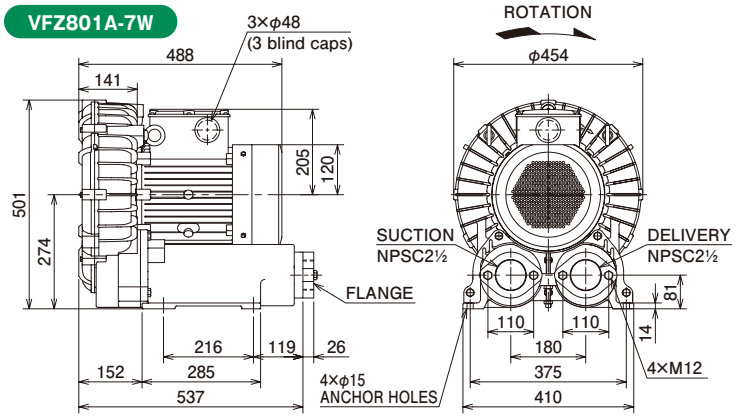
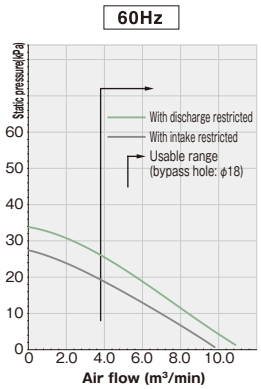


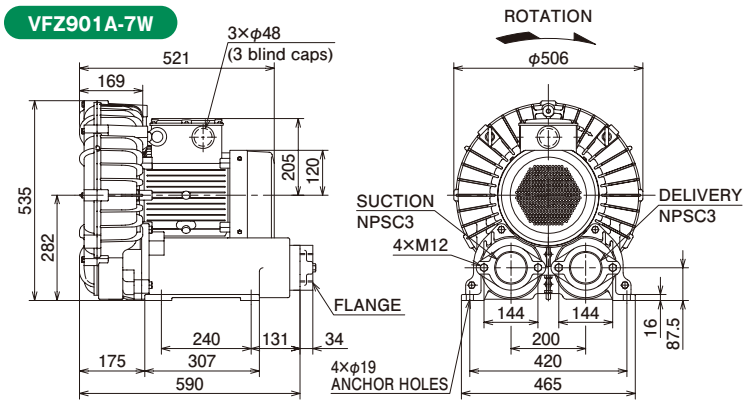


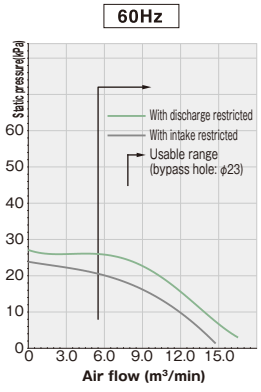
VFZ801A-7W





VFZ901A-7W





Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: Usable at 50 Hz, however characteristics deteriorate at this frequency.
Note 3: The above characteristics are obtained at 230V.
Note 4: Only the electric motor is UL approved.

■Features

●**Intake of air containing moisture (99% humidity) permitted.**

Caution
The blower is of water-resistant structure, however a water tank to separate air and water should be installed.

■Model description

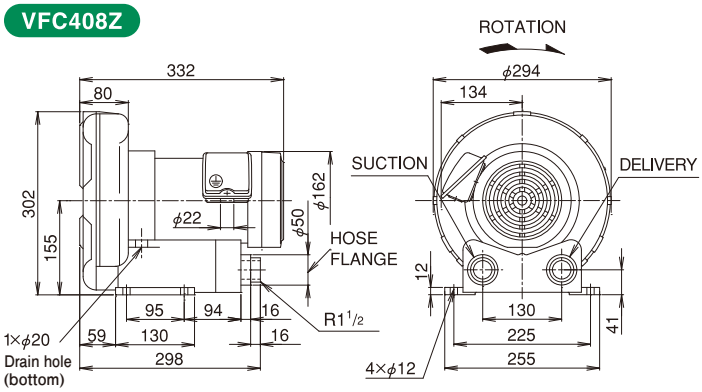
V F C ○○ 8 Z
- Z: Specifications (3-phase, water resistant)
- 8: Type
- ○○: Capacity

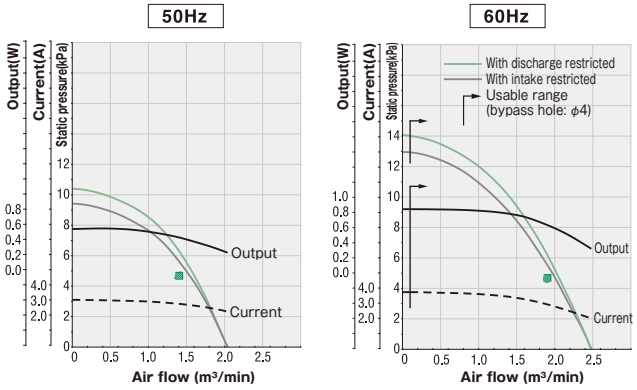
■Paint color

Munsell N5

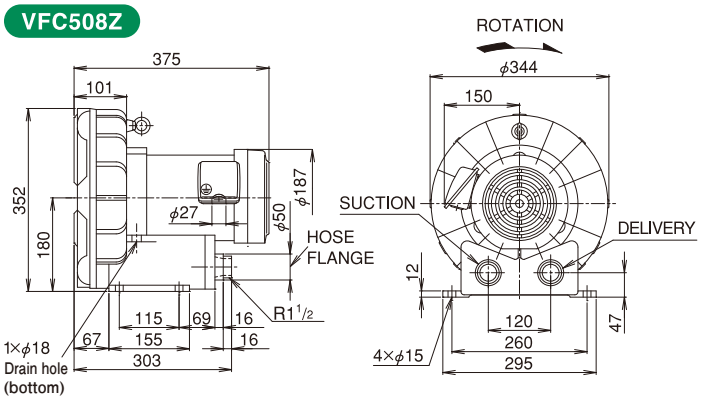
■Assembly drawing and characteristics

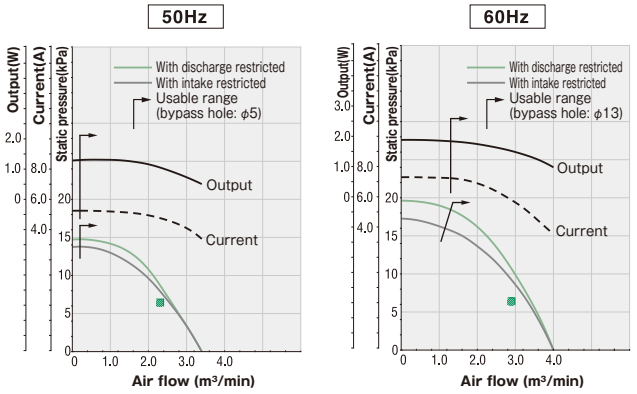
VFC408Z



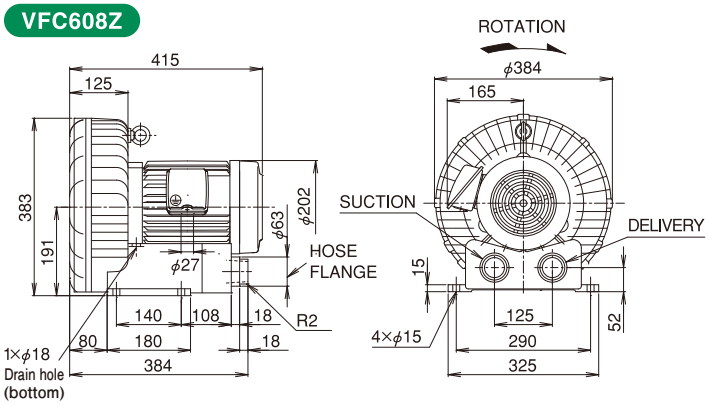


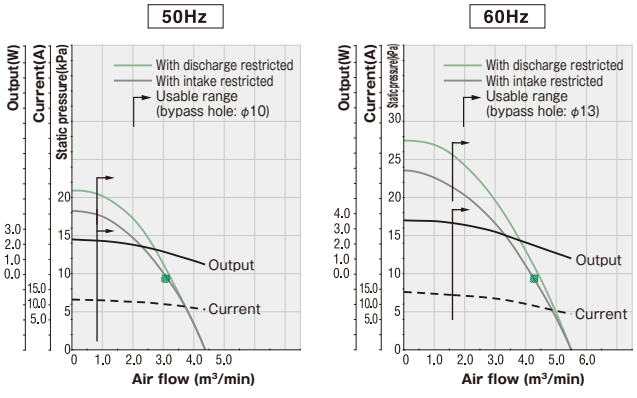
VFC508Z





VFC608Z



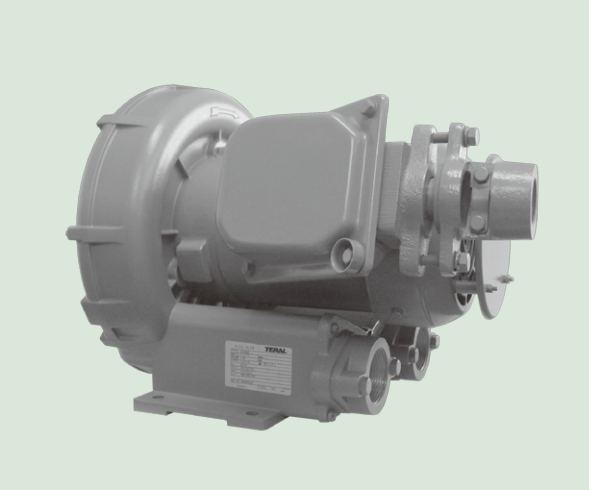


Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.
Note 3: Built-in silencer on discharge side.

■Features

- **Increased safety explosion-proof motor is used ("Recommended Practices for Explosion-protected Electrical Installations in General Industries" eG3)**

Note 1: The blower does employ a spark-proof design.
Do not use for transporting explosive or inflammable gases.
Note 2: Performance is lower than the standard 3-phase VFZ Series.



※Please note that the above photo is a representative example and may differ partly from the actual device.

■Paint color

Munsell N5

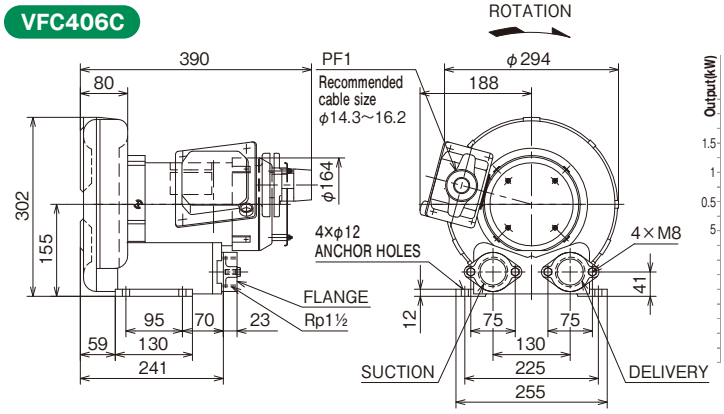
■Model description

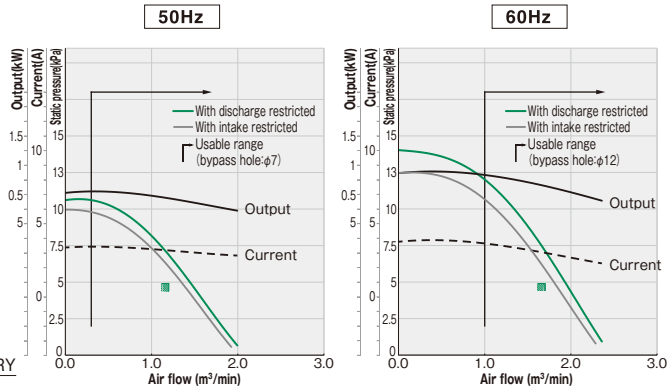
V F C ○○ 6 C

- Specifications (3-phase, Increased safety explosion-proof motor type)
- Type
- Capacity

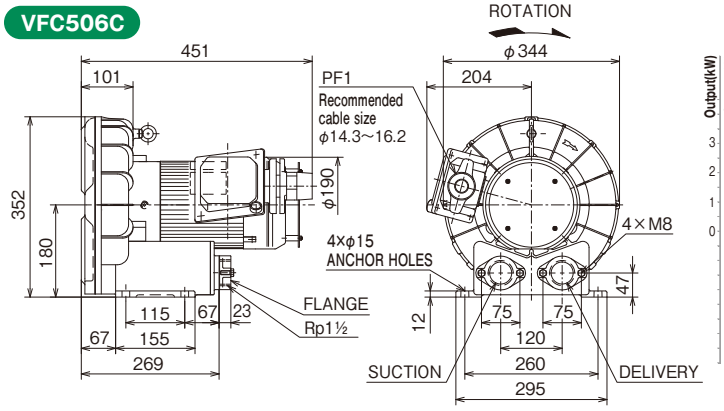
■Assembly drawing and characteristics

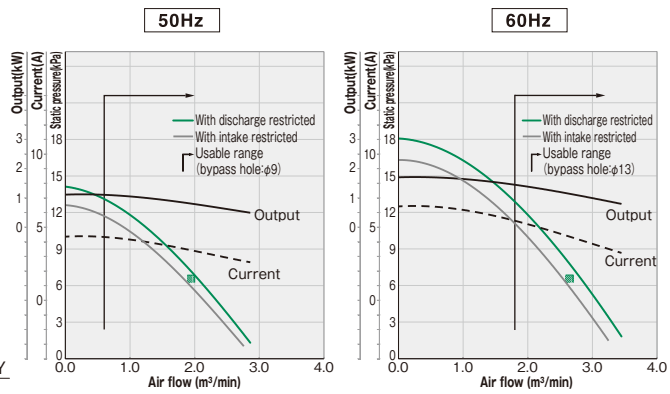
VFC406C



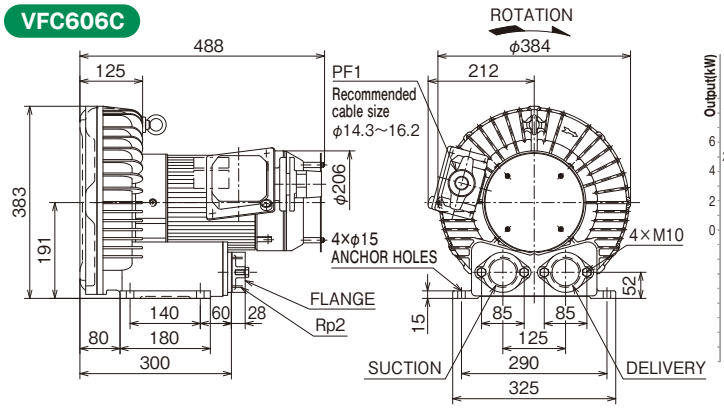


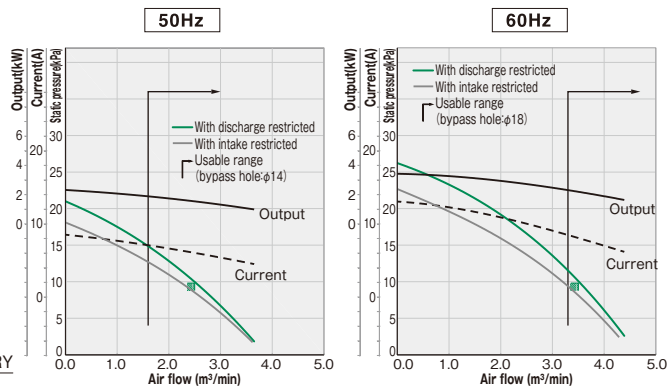
VFC506C





VFC606C





Note 1: The above characteristics are obtained in a thermally saturated state. Therefore, the characteristics near shut-off (static pressure, current and output) increase 0-20% (depending on the model) after starting at ambient temperature until the temperature is saturated in approximately 30 minutes.
Note 2: ▨ marked in characteristics above are the values indicated on the name plate (flow and static pressure only). Current and output are the values for continuous operation permitted.

■Applications

**The ring blower itself incorporates a very effective silencer, however it may be necessary to further reduce noise at the ends of the piping.
In such cases, use with the pipe silencer fitted either inside or at the end of the piping.**

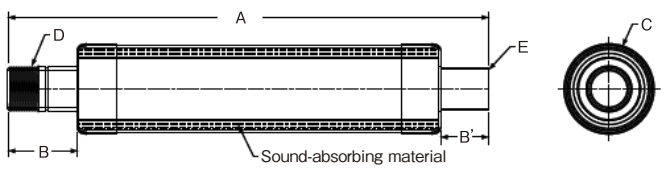
※Please note that the above photo is a representative example and may differ partly from the actual device.

■Features

- **Superior heat and water-resistant sound-absorbing material is used.**
- **Tapered or parallel-threaded connectors (VFY021S and VFY023S for hoses) used. Also usable with companion flanges.**
- **Compliant with EU RoHS Directive**

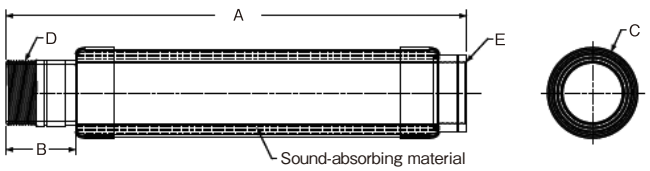
■Assembly drawing

Fig.1



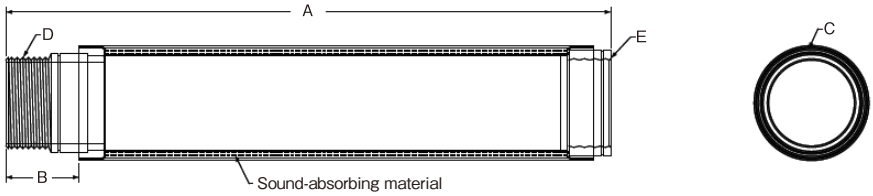
Model	A	B	B'	C	D	E	Mass	Suitable ring blower
VFY021S	345	51	28	ϕ66	R1	ϕ32	1.00kg	08, 10, and 20
VFY023S	348	51	31	ϕ66	R1¼	ϕ38	1.03kg	30

Fig.2



Model	A	B	C	D	E	Mass	Suitable ring blower
VFY024S	337	51	ϕ66	R1½	Rp1½	1.14kg	40 and 50

Fig.3



Model	A	B	C	D	E	Mass	Suitable ring blower
VFY026S	443	44	ϕ89	R2	Rp2	1.91kg	60 and 70
VFY028S	469	57	ϕ89	R2½	Rp2½	2.18kg	80
VFY029S	646	76	ϕ130	R3	Rp3	5.08kg	90

Note 1: Use commercially available hose connectors.
Note 2: Always tighten to a torque of no more than 29.4 N.m.
Note 3: Use sealing tape to ensure air-tight connections when fitting.
Note 4: Pipe-type auxiliary silencers, and thread pitch and diameter, may differ for improved UL/CSA-approved explosion-proofing, large capacity and high-pressure ring blowers. Use commercially available connectors in such cases.

When collecting waste with the ring blower, fit an air filter in the intake pipe to protect the unit from dust etc.

- **Very low electrical resistance**
- **Excellent air-tightness**
- **Simple maintenance, and elements easily replaced**

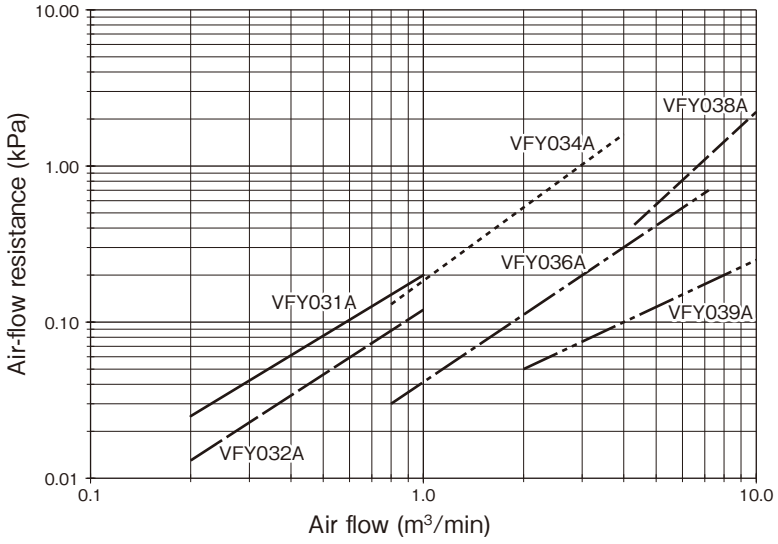
※Please note that the above photo is a representative example and may differ partly from the actual device.

■Specifications

Air filter					Suitable ring blower	
Model	Area of filter material	Pipe bore (nominal thread)	Mass	Built-in element	size	Inlet diameter
VFY031A	0.16m²	Rp1 1/4 (Parallel set screw)	1.0kg	VFY031A-E	08	※Always check bore size against Inlet and outlet diameters in standard specifications.
					10	
VFY032A	0.42m²	Rp1 1/4 (Parallel set screw)	1.8kg	VFY032A-E	20	
					30	
VFY034A	0.42m²	Rp1 1/2 (Parallel set screw)	1.8kg	VFY032A-E	40	
					50	
VFY036A	1.28m²	Rp2 (Parallel set screw)	4.6kg	VFY036A-E	60	
					70	
VFY038A (T style)	2.12m²	Rp3 (Parallel set screw)	11.5kg	VFY038A-E	80	
					90	
VFY039A	2.79m²	Rp3 (Parallel set screw)	12.5kg	VFY039A-E	80	
					90	

Caution: The above pipe bores (nominal thread) are in accordance with Tapered Pipe Threads JIS B 0203. Older terminology refers to 'PS□.

■Initial air-flow resistance



●Cautions for mounting air filters

The bore of the air filter outlet and the ring blower inlet diameter differ. Use a commercially available joint.

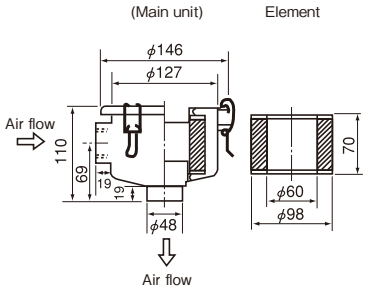
●Cautions for maintenance and checking of air filters

(1) Clogging of air filters differs with conditions of use. Check periodically.
(2) When cleaning and replacing the element, remove it to ensure that dust and particles do not fall into the ring blower. Remove dust and particles which have collected inside.
(3) If the element contains water, air-flow resistance will increase, with a consequent drop in efficiency, and its strength will deteriorate. Take care to ensure that moisture and water droplets do not enter the element.
(4) The element is a consumable, and spares should be kept available if conditions of use are bad.

■Assembly drawing

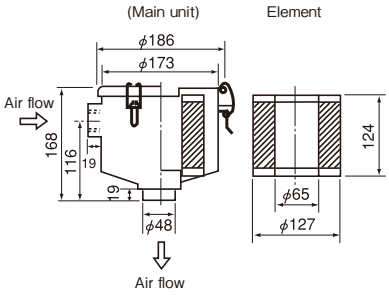
VFY031A

※Please note that the above photo is a representative example and may differ partly from the actual device.

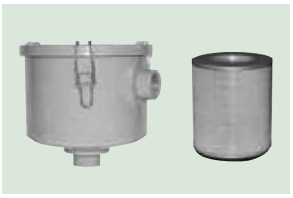


VFY032A

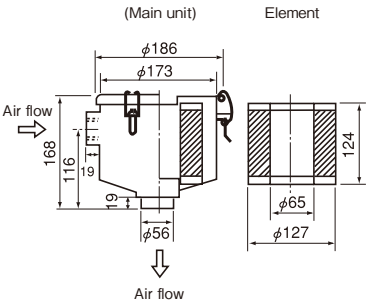
※Please note that the above photo is a representative example and may differ partly from the actual device.



VFY034A

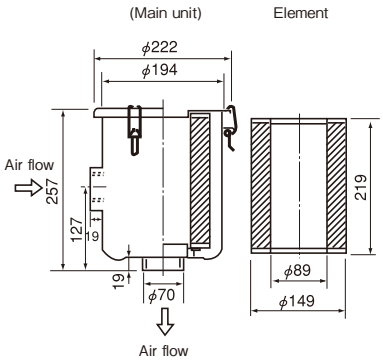


※Please note that the above photo is a representative example and may differ partly from the actual device.



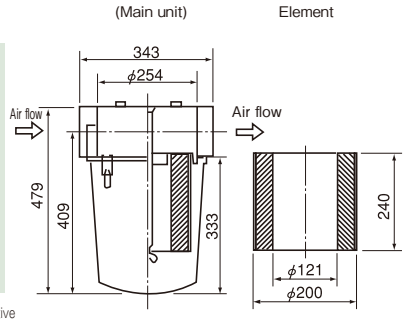
VFY036A

※Please note that the above photo is a representative example and may differ partly from the actual device.



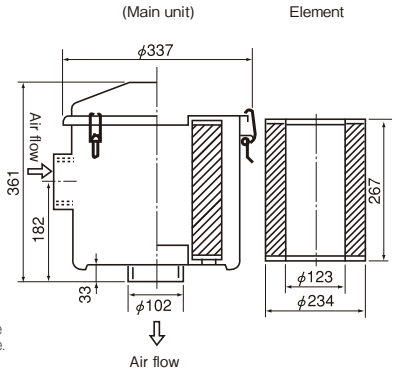
VFY038A

※Please note that the above photo is a representative example and may differ partly from the actual device.



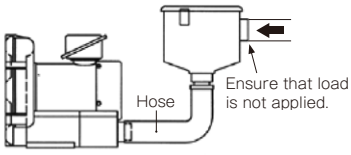
VFY039A

※Please note that the above photo is a representative example and may differ partly from the actual device.

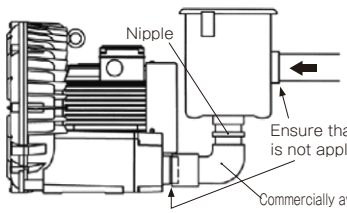


■Mounting diagram

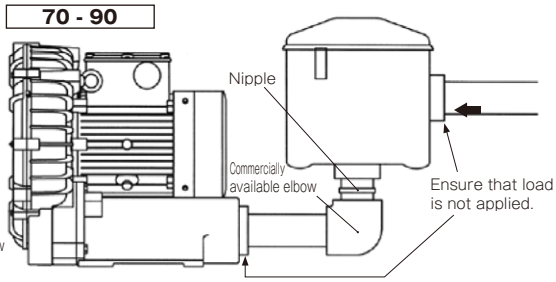
08 - 30



40 - 60



70 - 90



Caution: These special accessories are handled by Fuji Electric Technica Co., Ltd.

The structure of the sound-proof box is as shown in Fig.1. It consists of the main unit within which the sound insulation is attached, and two cooling air opening silencers.

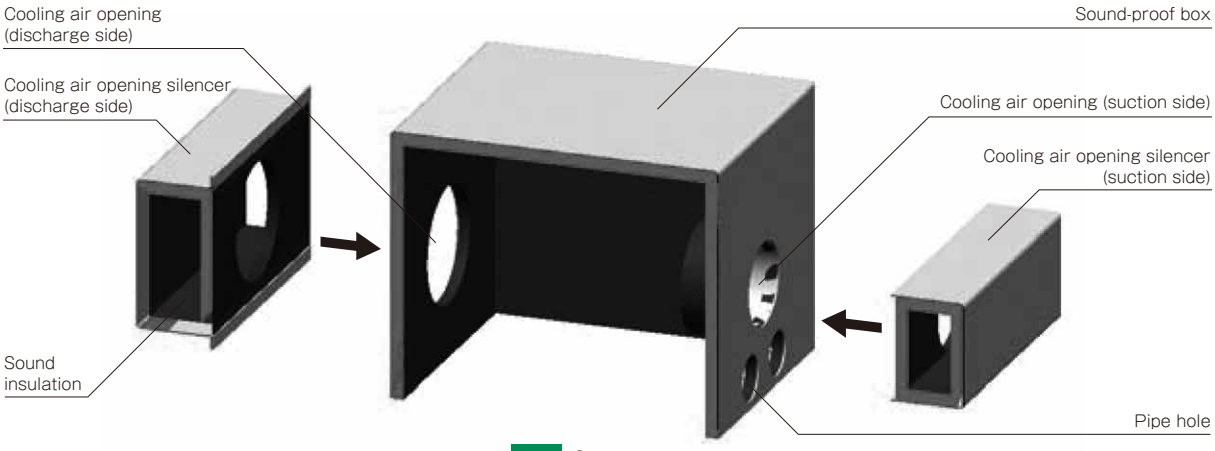


Fig.1 Structure

Caution: Cooling air opening silencer screwed or welded to main unit.

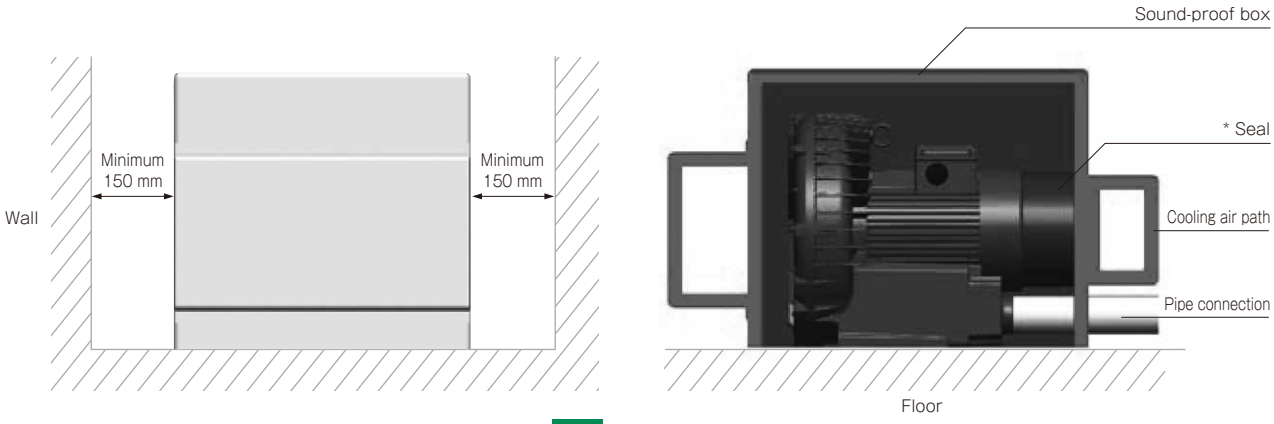


Fig.2 Installation

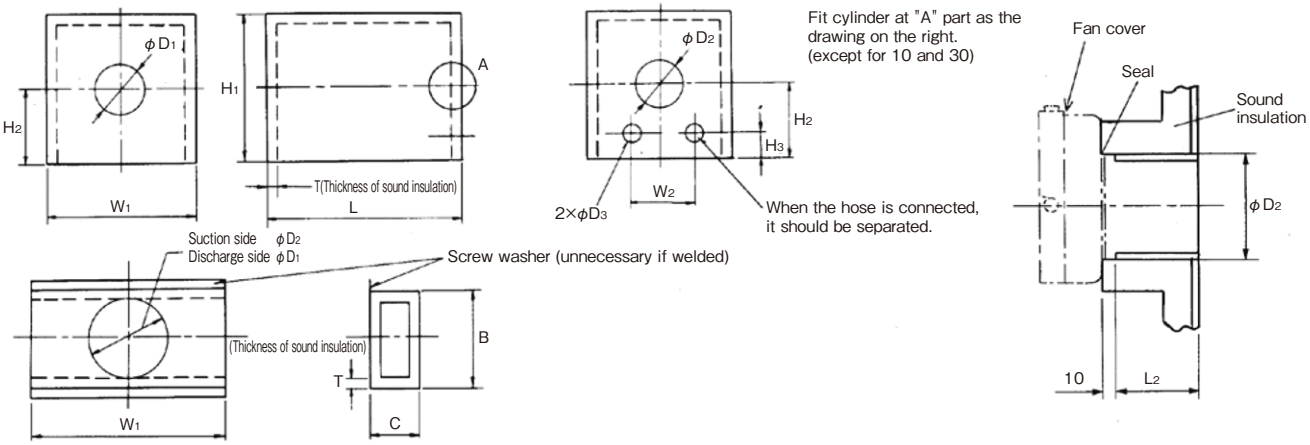
Installation procedure for sound-proof box

1. Install ring blower
2. Place sound-proof box over ring blower
3. Pass pipe connection through pipe hole and fix in place.
4. Fix sound-proof box supports in place.

Cautions for Use

(1) Ensure that the motor fan cover is properly sealed onto the cooling air opening location at * in Fig.2.
(2) Always fit pipe connections to the ring blower intake and outlet to connect through the sound-proof box.
(3) Ensure that there are no obstructions to cooling air (e.g. walls) within 150mm of the cooling air opening (intake, exhaust) silencer. See Fig.2.
(4) Ensure that the location at * in Fig.2 does not come off, allowing the sound-proof box to move.
(5) Fit a pipe silencer as well if necessary.

■Assembly drawing



(unit:mm)

Model	L	W1	W2	H1	H2	H3	T	D1	D2	D3	B Suction side Discharge side	C Suction side Discharge side	L2
VFZ101A、AN	295	261	75	249	116	30	20	110	68	40	111／153	82／87	—
VFZ201A、AN	367	289	90	266	119	30	20	130	104	40	138／173	82／92	45
VFZ301A、AN	340	307	100	304	128	36	20	130	104	46	138／193	82／97	—
VFZ401A、AN	430	357	110	354	155	44	20	150	130	63	153／193	87／102	37
VFZ501A、AN	520	437	120	419	180	47	20	200	142	63	173／243	112／122	90
VFZ601A、AN	550	477	125	450	191	52	20	200	142	76	173／243	112／127	97
VFZ701A、AN	662 (708)	519	125	504	234	66.5	20	210	175	64	208／253	112／142	163 (213)
VFZ801A、AN	760 (804)	539	180	576	274	81	20	245	204	80	235／288	117／152	161 (211)
VFZ901A、AN	772.5 (929)	597	200	619	282	87.5	20	280	240	93	268／323	132／167	164 (309)

Note 1: The sound-proof box is not supplied. Dimensions are provided for use in building the box if further sound-proofing is necessary.
Note 2: All dimensions internal
Note 3: Install small ventilation fan at D1 in VFZ-10.
Note 4: Fill the gap of D3 after piping. In case of special piping, reconsider the D3 dimension.
Note 5: Dimensions in brackets for the above 70, 80, and 90 are for the AN Series.
Note 6: T=20 is for reference only. Since the recommended thickness varies depending on the material, decide the thickness based on JIS A 6301.

■Material

(1) Main unit and cool air silencer box

Use 1 – 2 mm thick steel sheet.
Special sound-proofing material need not be used.

(2) Sound insulation

Sound insulation in the table at right is also available.

[Sound insulation]

Sound insulation		Manufacturer	Remarks
Glass wool		Asahi Fiber Glass Co., Ltd., Paramount Glass MFG. Co., Ltd. etc.	Slightly higher price Good sound absorption
MG Board		Nichias Corporation	
Moltprene (Colorform)	SC	Inoac Corporation	Recommended items
	ESC		Slightly inferior sound absorption, with lower price

Cautions for trial manufacture

(1) If welding the cooling air opening silencer into the main unit, attach the sound insulation after welding to prevent damage to it.
(2) Minimize all holes and gaps outside the cooling air path (e.g. cooling air opening).
(3) Ensure that sound insulation is at least 20 mm thick. Thin sound insulation reduces effectiveness.
(4) Ensure that the inside dimensions of the box are sufficient. If the dimensions are too small, the cooling effect, and sound-absorption, will be reduced. When fitting thick sound insulation, the internal dimensions of the box must be increased accordingly.
(5) The D3 dimension above assumes an SGP pipe connection. Ensure that dimensions are adjusted accordingly if other piping is used.
(6) Shape and position of wiring holes are determined by the user.

Selection of blower and structure

01 Technological material — Characteristic curves

(1) Characteristic curves in this catalog are in accordance with JIS B 8330 and Z8762, and show an air volume-static pressure characteristic at an intake air density of 101kPa (at 20℃). Variation in air volume at intake is ±10% from the resistance curve.

(2) Solid line characteristic curves indicate that continuous operation is possible. This range of use extends up to shut-off pressure for intake operation, and to near the shut-off pressure for discharge operation. When used in high-pressure discharge operation, care is required to ensure that the range of use is not exceeded. A bypass hole may be required in the pipe when used at the shut-off pressure.

02 Technological material — Bypass holes for discharge operation

Always ensure that a bypass hole is provided in the pipe for safety reasons, when using near the shut-off pressure in discharge operation. Refer to the table at right (VFZ Series) for bypass hole diameter.

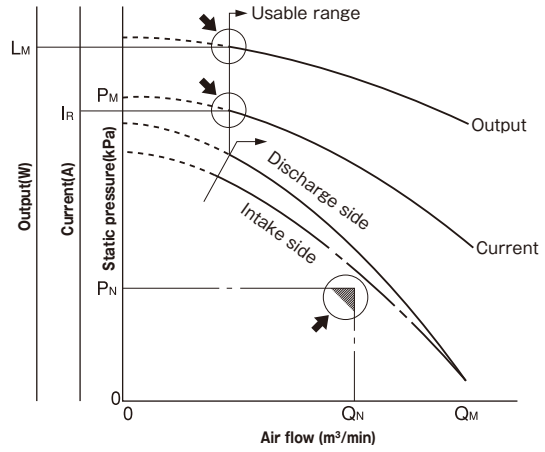
(unit:mm)

Model	50Hz	60Hz
VFZ081PN	—	—
VFZ101PN	φ3	φ4
VFZ201PN	φ5	φ4
VFZ301PN	φ7	φ8
VFZ401PN	—	φ4
VFZ081A(AN)	—	—
VFZ101A(AN)	φ3	φ5
VFZ201A(AN)	—	—
VFZ301A(AN)	—	—
VFZ401A(AN/AF)	—	φ4
VFZ401A(AN/AF)-e	—	φ4
VFZ401A-7W		φ4
VFZ501A(AN/AF)	φ5	φ13
VFZ501A(AN/AF)-e	φ5	φ13
VFZ501A-7W		φ13
VFZ601A(AN/AF)	φ10	φ13
VFZ601A(AN/AF)-e	φ10	φ13
VFZ601A-7W		φ13
VFZ701A(AN)	φ15	φ16
VFZ701A(AN)-e	φ15	φ16
VFZ701A-7W		φ16
VFZ801A(AN)	φ16	φ18
VFZ801A(AN)-e	φ16	φ18
VFZ801A-7W		φ18
VFZ901A(AN)	φ21	φ23
VFZ9015A(AN)-e	φ21	φ23
VFZ9016A(AN)-e	φ21	φ23
VFZ901A-7W		φ23

Note: Check the relevant characteristic curves for models other than those above.

03 Technological material — Nameplates

To ensure a margin for safety, values on the nameplates are discharge characteristics.
Airflow volume and static pressure are the QN and PN optimum use characteristic points, and output and current are the LM and IR usable discharge characteristic points (see diagram below).



Airflow volume: Q_N / Static pressure: P_N } Optimum use characteristic point
Output: L_M / Current: I_R } Usable discharge point

Supplement

●Maximum values

Maximum discharge static pressure (PM) occurs at an airflow volume of 0.
Maximum air volume (QM) occurs at a static pressure of 0.

●Intake characteristics

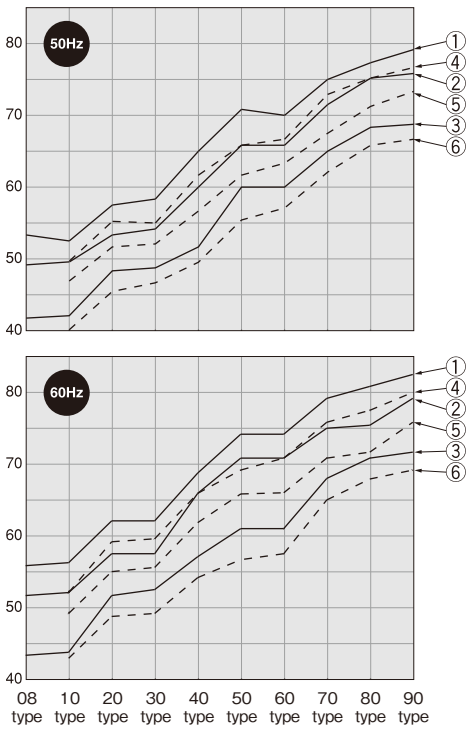
Since air density with intake restricted is low, characteristic values are slightly lower relative to the case with discharge side restricted.

●Thermal settings

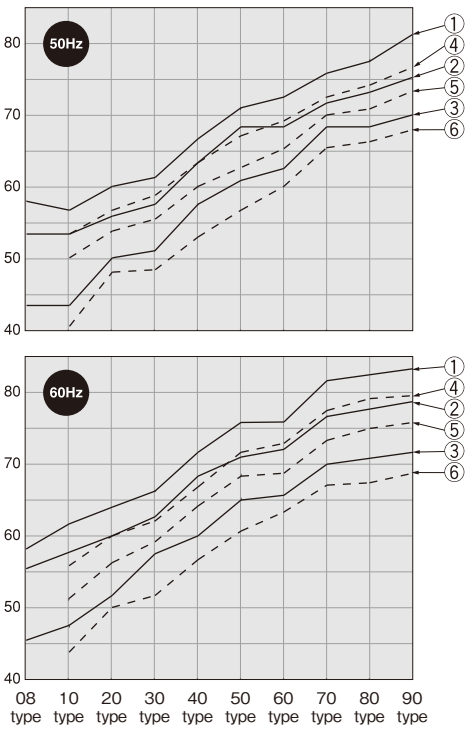
After starting at the ambient temperature, the characteristics near shut-off (static pressure, current and output) will be 0-20% (depending on the model) higher by the time the temperature reaches saturation in approximately 30 minutes. For thermal settings, select thermal relays by load current (maximum current) immediately after starting at the limit for continuous use.
When using at both 50Hz and 60Hz, adjust settings to 60Hz.

04 Technological material — Noise data

Unrestricted operation



Fully closed discharge operation



Note: The above noise data is for the 3-phase VFZ Series.

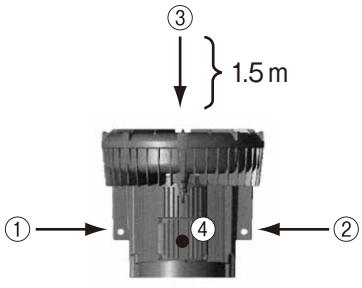
Standard type Solid line (——)

①When used alone
②With pipe silencer fitted
③With pipe silencer and sound-proof box fitted

Low-noise type Broken line (- - -)

④When used alone
⑤With pipe silencer fitted
⑥With pipe silencer and sound-proof box fitted

Measurement method

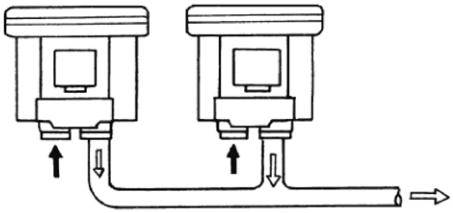


Average of values measured with (1) - (4).

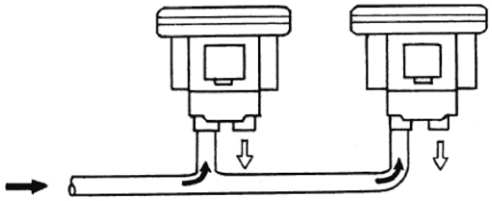
05 Technological material Parallel operation

Parallel operation with two or more units is possible (see below).

Discharge parallel operation

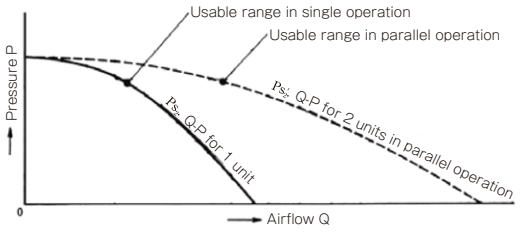


Intake parallel operation

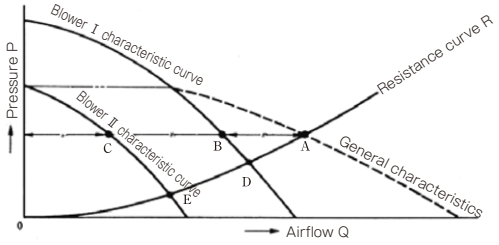


When ring blowers are operated in parallel, pressure characteristics remain unchanged, and airflow increases by the number of units (see below). Since airflow increases, the load on the ring blower also increases, and the usable range is displaced on the graph. Care is required to ensure that operation does not exceed the usable range.

Characteristic curves with the same ring blower in parallel operation.



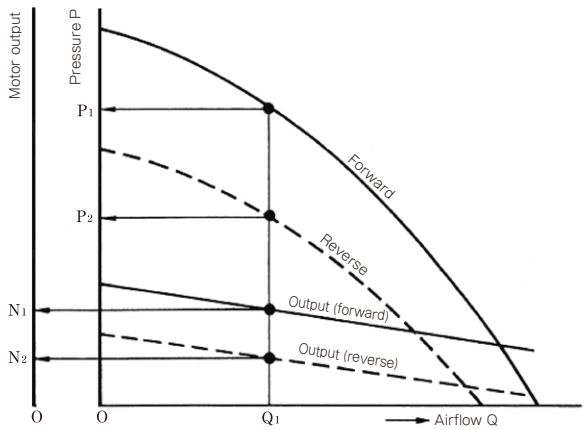
Characteristic curves with different ring blower in parallel operation.



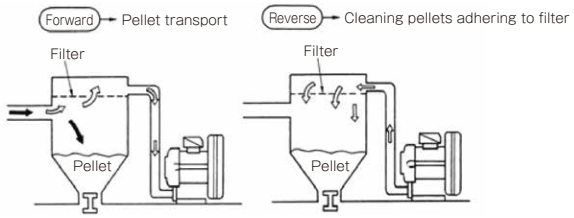
06 Technological material Reverse operation

Intake and discharge can be switched by running in reverse.
Note that in reverse operation, pressure characteristics and shaft power are approximately 60% of that in forward operation (see below).
Furthermore, reverse operation allows use in cleaning of a variety of air transport equipment.

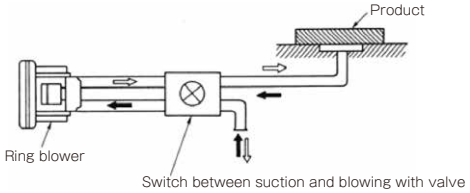
Characteristics with reverse operation



Application examples 1 **Filter cleaning**



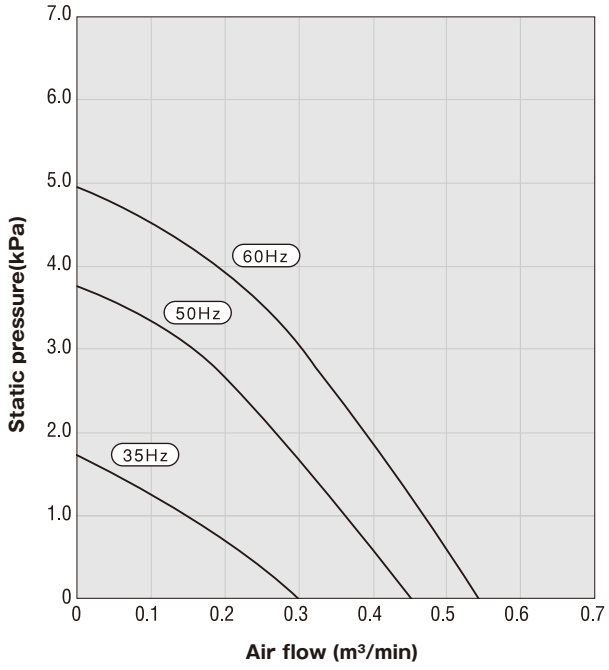
Application examples 2 **Repeated intake and discharge**



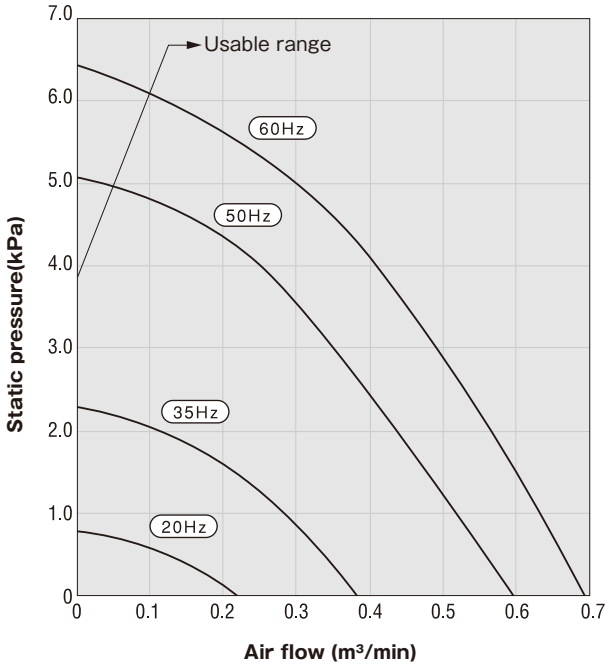
07 Technological material

Variable speed operation with inverter

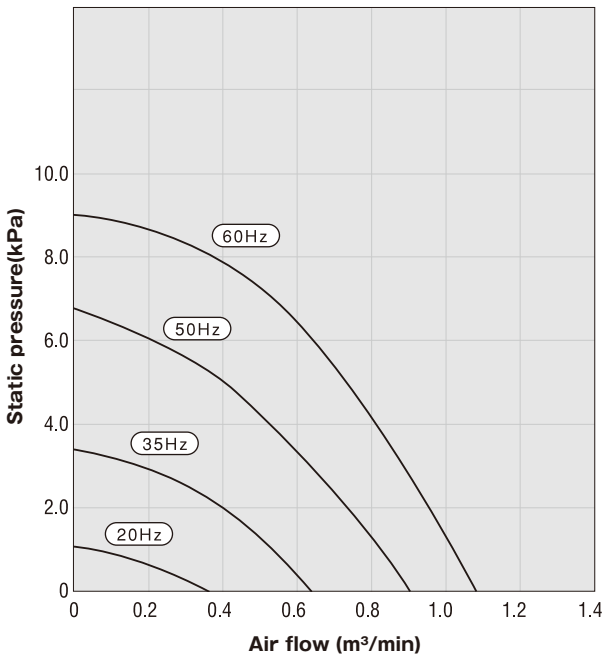
VFZ081



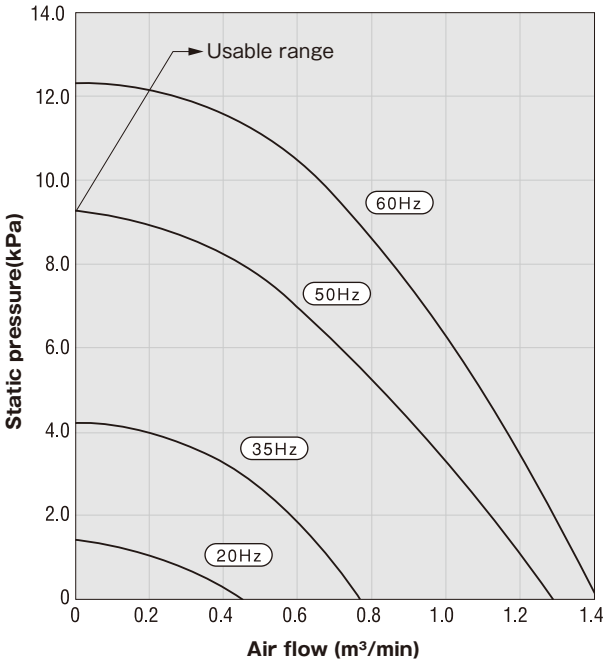
VFZ101



VFZ201

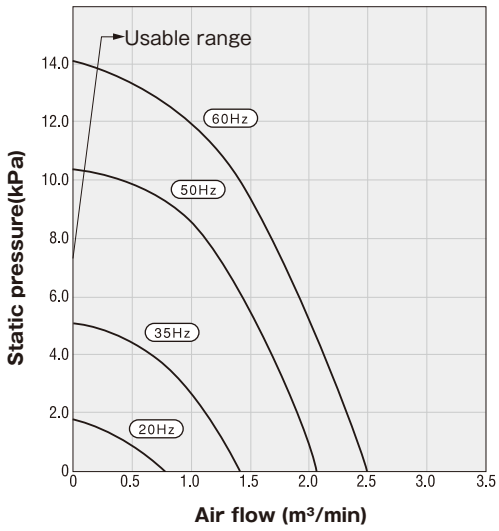


VFZ301

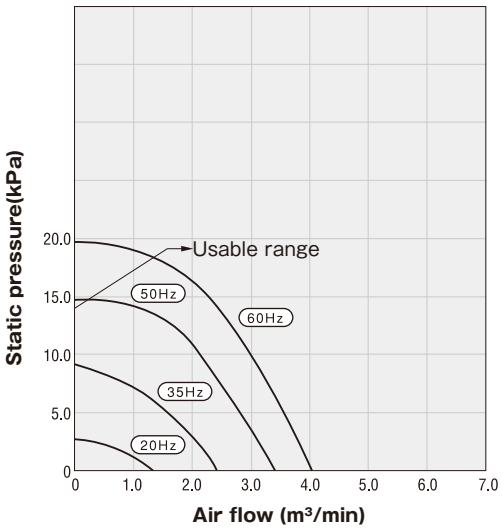


Note: These characteristic curves are for the 3-phase VFZ Series run with the Fuji Electric inverter (FRENIC Series).

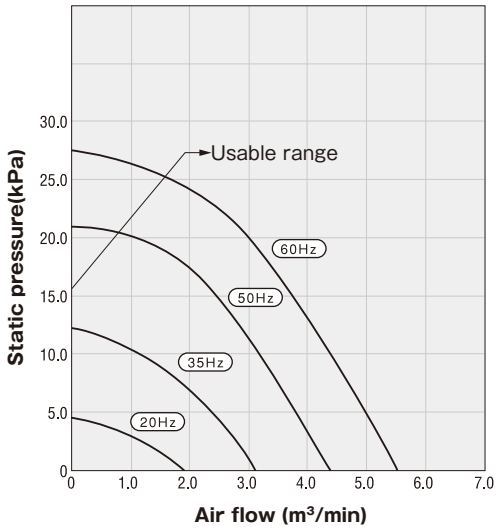
VFZ401



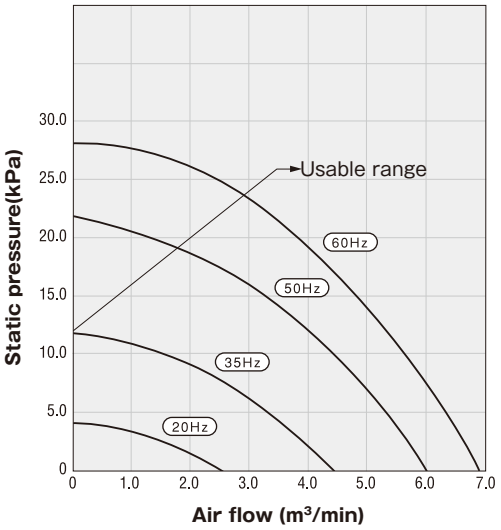
VFZ501



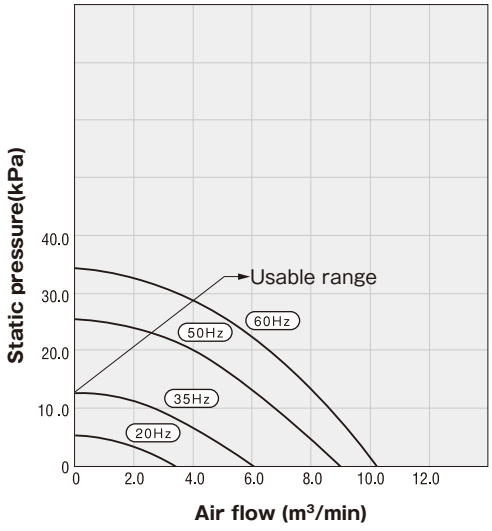
VFZ601



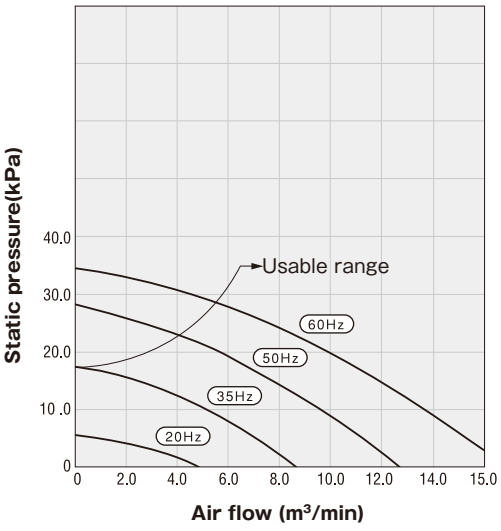
VFZ701



VFZ801



VFZ901



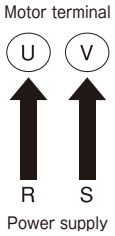
Note: These characteristic curves are for the 3-phase VFZ Series run with the Fuji Electric inverter (FRENIC Series).

08 Technological material | Terminal connections

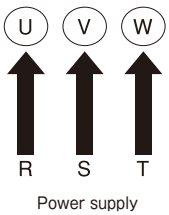
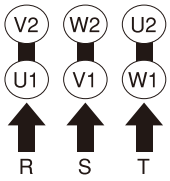
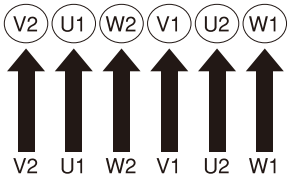
Make secure terminal connections in accordance with the wiring diagram (inside the terminal box) for the product, the users manual, and the diagrams below.

Note: The VFZ801 and 901 are wired for line start as factory default. Refer to the following diagram before changing to star-delta start.

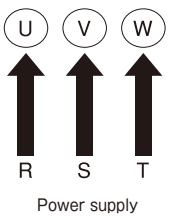
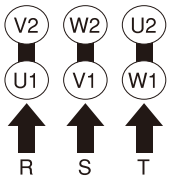
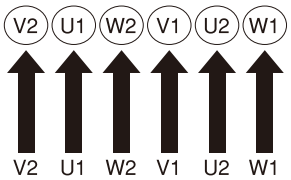
1 Single phase (PN, P)

Model	VFZ081～VFZ401
Lead wire	2-wire
Connection	

2 3-phase (A, AN, AF)

Model	VFZ081～VFZ701	VFZ801,VFZ901	
Lead wire	3-wire	6-wire	
Connection		Direct-on-line start (factory default) 	Star-delta start 

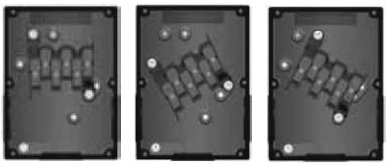
3 different voltage (-4Z)

Model	VFZ081～VFZ701	VFZ801	
Lead wire	3-wire	6-wire	
Connection		Direct-on-line start (factory default) 	Star-delta start 

【Reference】

VFZ70 - 90 terminal blocks

Orientation of terminal blocks may be changed to suit conditions of use.



Front (Factory default) | To right | To left

09 Technological material

Bearings and oil seals

[Ring blower]

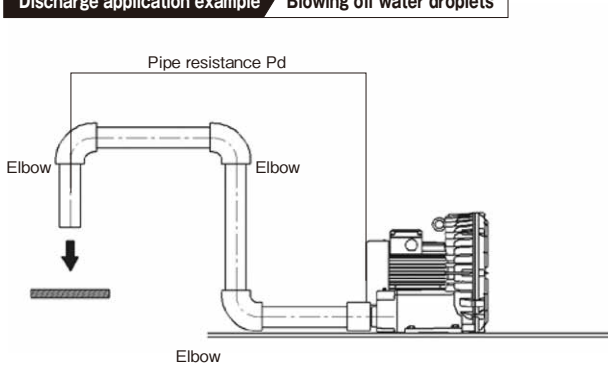
Model	Bearing		Grease type	Oil seal	
	Load side	Unload side		Model No.	Material
VFZ081PN	6201ZZ	6201ZZ	Urea	—	—
VFZ101PN	6202ZZ	6202ZZ	Urea	MHS20-30-5	Nitrile rubber
VFZ201PN	6202ZZ	6202ZZ	Urea	SC20-30-7	Nitrile rubber
VFZ301PN	6202ZZ	6202ZZ	Urea	SC20-30-7	Nitrile rubber
VFZ401PN	6204ZZ	6203ZZ	Urea	—	—
VFZ081A	6201ZZ	6201ZZ	Urea	—	—
VFZ101A	6202ZZ	6202ZZ	Urea	VCH20-30-5	Nitrile rubber
VFZ201A	6202ZZ	6202ZZ	Urea	SC20-30-7	Nitrile rubber
VFZ301A	6202ZZ	6202ZZ	Urea	SC20-30-7	Nitrile rubber
VFZ401A	6204ZZ	6203ZZ	Urea	—	—
VFZ501A	6206ZZ C3	6303ZZ	Urea	—	—
VFZ601A	6206ZZ C3	6205ZZ	Urea	—	—
VFZ701A	6306ZZ C3	6206ZZ	Urea	—	—
VFZ801A	6308ZZ C3	6207ZZ	Urea	—	—
VFZ901A	6308ZZ C3	6306ZZ	Urea	—	—
VFZ101AF	6202ZZ	6202ZZ	Urea	VCH20-30-5	Nitrile rubber
VFZ201AF	6202ZZ	6202ZZ	Urea	SC20-30-7	Nitrile rubber
VFZ301AF	6202ZZ	6202ZZ	Urea	SC20-30-7	Nitrile rubber
VFZ401AF	6204ZZ	6203ZZ	Urea	—	—
VFZ501AF	6206ZZ C3	6303ZZ	Urea	—	—
VFZ601AF	6206ZZ C3	6205ZZ	Urea	—	—
VFZ101AN	6202ZZ	6202ZZ	Urea	VCH20-30-5	Nitrile rubber
VFZ201AN	6202ZZ	6202ZZ	Urea	SC20-30-7	Nitrile rubber
VFZ301AN	6202ZZ	6202ZZ	Urea	SC20-30-7	Nitrile rubber
VFZ401AN	6204ZZ	6203ZZ	Urea	—	—
VFZ501AN	6206ZZ C3	6303ZZ	Urea	—	—
VFZ601AN	6206ZZ C3	6205ZZ	Urea	—	—
VFZ701AN	6306ZZ C3	6206ZZ	Urea	—	—
VFZ801AN	6308ZZ C3	6207ZZ	Urea	—	—
VFZ901AN	6308ZZ C3	6306ZZ	Urea	—	—
VFZ081A-4Z	6201ZZ	6201ZZ	Urea	—	—
VFZ101A-4Z	6202ZZ	6202ZZ	Urea	VCH20-30-5	Nitrile rubber
VFZ201A-4Z	6202ZZ	6202ZZ	Urea	SC20-30-7	Nitrile rubber
VFZ301A-4Z	6202ZZ	6202ZZ	Urea	SC20-30-7	Nitrile rubber
VFZ401A-4Z	6204ZZ	6203ZZ	Urea	—	—
VFZ501A-4Z	6206ZZ C3	6303ZZ	Urea	—	—
VFZ601A-4Z	6206ZZ C3	6205ZZ	Urea	—	—
VFZ701A-4Z	6306ZZ C3	6206ZZ	Urea	—	—
VFZ801A-4Z	6308ZZ C3	6207ZZ	Urea	—	—
VFC406C	6204ZZC3	6203ZZC3	Urea	SC22-35-7	Nitrile rubber
VFC506C	6206ZZ C3	6205ZZ	Urea	SBX2-305011	Nitrile rubber
VFC606C	6206ZZ C3	6205ZZ	Urea	SBX2-305011	Nitrile rubber
VFC080P-5T	6201ZZ	6201ZZ	Lithium	—	—
VFC100P-5T	6202ZZ	6202ZZ	Lithium	MHS20-30-5	Nitrile rubber
VFC200P-5T	6202ZZ	6202ZZ	Lithium	SC20-30-7	Nitrile rubber
VFC300P-5T	6202ZZ	6202ZZ	Lithium	SC20-30-7	Nitrile rubber
VFC400P-5T	6203ZZ	6203ZZ	Lithium	SC22-35-7	Nitrile rubber
VFC080A-2T(4W)	6201ZZ	6201ZZ	Lithium	—	—
VFC100A-7W	6202ZZ	6202ZZ	Lithium	MHS20-30-5	Nitrile rubber
VFC200A-7W	6202ZZ	6202ZZ	Lithium	SC20-30-7	Nitrile rubber
VFC300A-7W	6202ZZ	6202ZZ	Lithium	SC20-30-7	Nitrile rubber
VFZ401A-7W	6204ZZCM	6203ZZCM	Urea	—	—
VFZ501A-7W	6206ZZC3	6205ZZCM	Urea	—	—
VFZ601A-7W	6206ZZC3	6205ZZCM	Urea	—	—
VFZ701A-7W	6306ZZC3	6206ZZCM	Urea	—	—
VFZ801A-7W	6308ZZC3	6207ZZCM	Urea	—	—
VFZ901A-7W	6308ZZC3	6306ZZCM	Urea	—	—

Model	Bearing		Grease type	Oil seal	
	Load side	Unload side		Model No.	Material
VFC208Z	6204ZZ	6202ZZ	Urea	SC20-30-7	Nitrile rubber
VFC308Z	6204ZZ	6202ZZ	Urea	SC20-30-7	Nitrile rubber
VFC408Z	6204ZZ	6203ZZ	Urea	SC19-35-8	Nitrile rubber
VFC508Z	6206ZZ	6205ZZ	Urea	SC28-45-8	Nitrile rubber
				MHS35-47-7	Nitrile rubber
				MHSA30-45-8	Nitrile rubber
				HM25-38-5	Nitrile rubber
VFC608Z	6206ZZ	6205ZZ	Urea	SC28-45-8	Nitrile rubber
				MHS35-47-7	Nitrile rubber
				MHSA30-45-8	Nitrile rubber
				HM25-38-5	Nitrile rubber
VFZ401A-e	6204ZZ	6203ZZ	Urea	—	—
VFZ501A-e	6206ZZC3	6205ZZ	Urea	—	—
VFZ601A-e	6206ZZC3	6205ZZ	Urea	—	—
VFZ701A-e	6306ZZC3	6206ZZ	Urea	—	—
VFZ801A-e	6308ZZC3	6207ZZ	Urea	—	—
VFZ9015A-e	6308ZZC3	6306ZZ	Urea	—	—
VFZ9016A-e	6308ZZC3	6306ZZ	Urea	—	—
VFZ401AF-e	6204ZZ	6203ZZ	Urea	—	—
VFZ501AF-e	6206ZZC3	6205ZZ	Urea	—	—
VFZ601AF-e	6206ZZC3	6205ZZ	Urea	—	—
VFZ401AN-e	6204ZZ	6203ZZ	Urea	—	—
VFZ501AN-e	6206ZZC3	6205ZZ	Urea	—	—
VFZ601AN-e	6206ZZC3	6205ZZ	Urea	—	—
VFZ701AN-e	6306ZZC3	6206ZZ	Urea	—	—
VFZ801AN-e	6308ZZC3	6207ZZ	Urea	—	—
VFZ9015AN-e	6308ZZC3	6306ZZ	Urea	—	—
VFZ9016AN-e	6308ZZC3	6306ZZ	Urea	—	—

10 Technological material | Model selection

These ring blower characteristics vary considerably depending on piping conditions. Losses due to pipe length and joints are greater than initially apparent, and piping should therefore be designed for minimum length, and minimum number of curves (e.g. elbows), joins, and valves. Pipe diameter should be as close to the ring blower discharge diameter as possible. A number of model selection examples are provided below.

Discharge application example Blowing off water droplets



Conditions	Remarks	
1. Required airflow speed: V1[m/s]	λ: Pipe friction coefficient	0.02
2. Slit cross-section area: S[m²]	γ: Specific gravity of air	1.2
3. Pipe diameter: φd[m] Pipe cross-section area: D[m²]		
4. Pipe length: L[m]		

Step 1 Required airflow calculation

$$Q = 60 \times S \times V_1 \quad [m^3/min]$$

Step 2-1 Pressure loss calculation (slit loss Pd_m)

・Slit loss $Pd_m = \frac{\gamma V_1^2}{2}$ [Pa]

Step 2-2 Pressure loss calculation (pipe resistance Pd_p)

・Airflow speed in pipe $V_2 = \frac{Q}{60 \times D}$ [m/s]

・Pipe resistance $Pd_p = \lambda \times \frac{L}{d} \times \frac{\gamma V_2^2}{2}$ [Pa]

Step 3 Required static pressure calculation

$$Pd_t = Pd_m + Pd_p \text{ [Pa]}$$

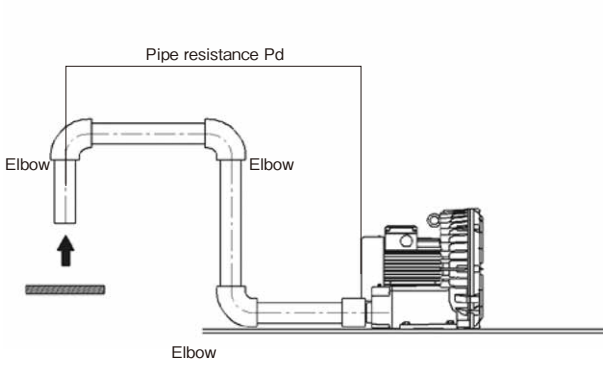
Model selection

From the above

Required airflow: Q[m³/min] Required static pressure: Pdt[Pa]

Select a ring blower satisfying the above requirements.

Intake application Gripping and holding objects



Conditions

1. Work mass: W[kg]
2. Gripping area: Ss[m²]
   Open area: So[m²]
3. Pipe diameter: ϕd[m]
   Pipe cross-section area: D[m²]
4. Pipe length: L[m]

Remarks

λ: Pipe friction coefficient 0.02
γ: Specific gravity of air 1.2

Step 1 Required dynamic pressure calculation (Pd_m)

$$Pd_m = \frac{W}{S_s} \times 9.8 \ [\mathrm{Pa}]$$

Step 2 Required airflow calculation

$$V_1 = \sqrt{\frac{2Pd_m}{\gamma}} \ [\mathrm{m/s}]$$

Step 3 Required airflow calculation

$$Q = 60 \times S_0 \times V_1 \ [\mathrm{m^3/min}]$$

Step 4 Pipe loss calculation (pipe resistance Pd_p)

- Airflow speed in pipe $V_2 = \dfrac{Q}{60 \times D}$ [m/s]
- Pipe resistance $Pd_p = \lambda \times \dfrac{L}{d} \times \dfrac{\gamma V_2^2}{2}$ [Pa]

Step 5 Required static pressure calculation

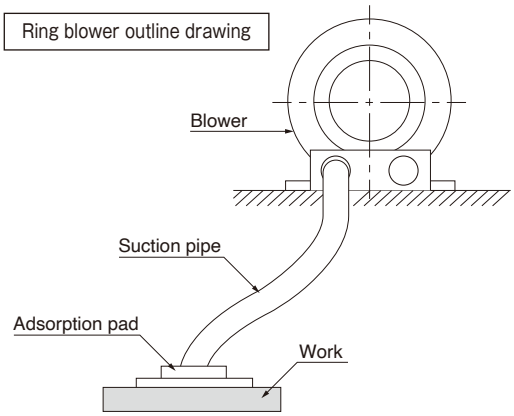
$$Pd_t = Pd_m + Pd_p \ [\mathrm{Pa}]$$

Model selection

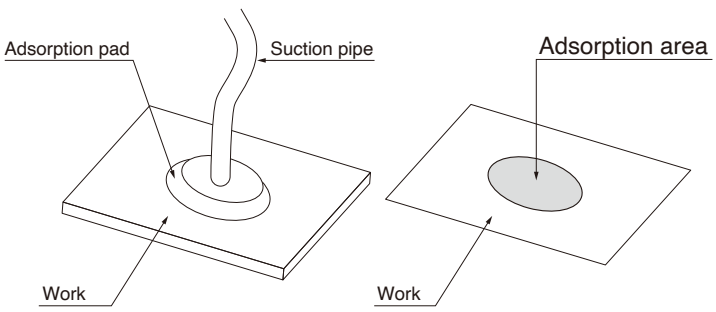
From the above
Required airflow: Q[m³/min] Required static pressure: Pdt[Pa]
Select a ring blower satisfying the above requirements.

Explanation about the adsorption area and open area

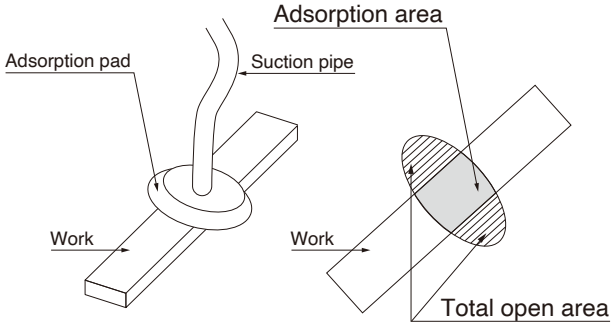
When using the adsorption pad



Example 1 When the adsorption pad is completely blocked, the adsorption area is as shown in the figure below. There is no open area.



Example 2 When there is an open area, the adsorption area and the total open area are as shown in the figure below.



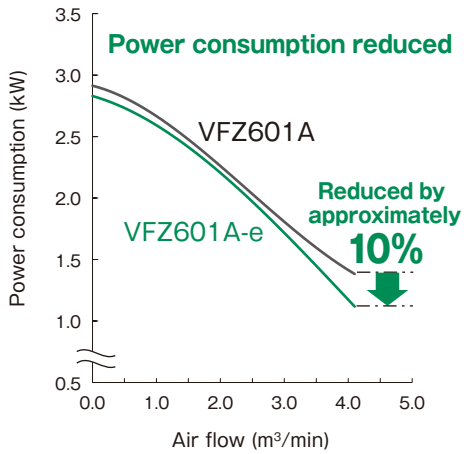
11 Technological material

Models equipped with top runner motors (VFZ-e)

■Power consumption

The models equipped with high efficiency top runner motors are energy efficient as their power consumption is reduced by approximately 10% compared to our conventional models. (See the table below.)

Comparison of power consumption (*1)



Example of energy-saving effect (*1)

	[1] Conventional model	[2] Model equipped with top runner motor
Operating condition	Open operation	
Ring blower model	VFZ601A	VFZ601A-e
a. Power consumption [kW]	1.38	1.11
b. Annual power consumption [kWh] (= a × 8760h) (*2)	12,089	9,724
c. Annual electricity charge (*3)	About ¥193,000	About ¥156,000
Annual electricity charge savings (= [1] - [2]) (*3)	**About ¥37,000**	

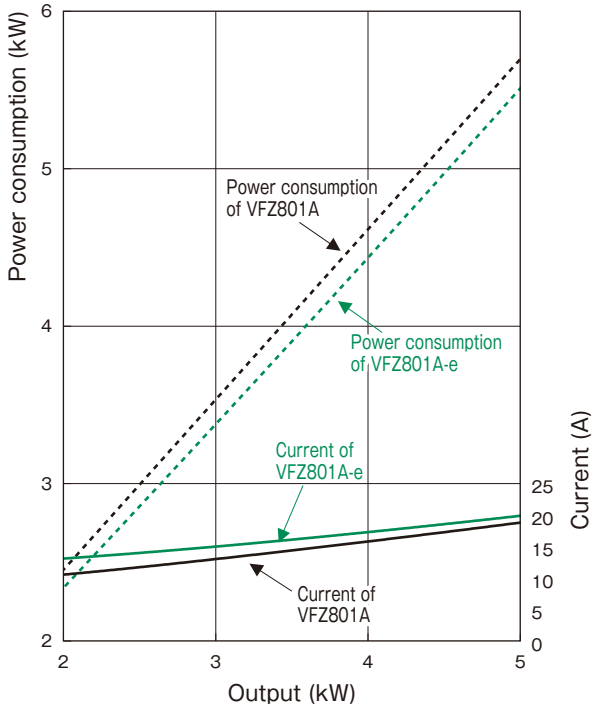
(*1) Comparison between VFZ60 models at 200V, 50Hz and discharge characteristics.
(*2) Annual operating hours = 365 days/year × 24 hours/day = 8,760 hours/year.
(*3) Electricity charge = \16/kWh (Varies according to the power contract).

■Operating current value

Although power consumption of top runner efficiency motors is lower than that of standard efficiency motors, there are cases where their operating current value will increase. (Representative example in the figure on the right)

Concerning electric characteristics of the top runner efficiency motor, if they are designed with an emphasis on reduction in secondary copper loss (rotor conductor loss) and iron loss, exciting current, which generates magnetic flux inside the motors, may increase. As a result, there is a possibility their operating current value will increase.

Representative example Comparison of power consumption and current of VFZ80



(*4) Comparison between VFZ80 models at 200V, 50Hz and discharge characteristics.

Cautions for using the blower

01 Installation

Attention when using it

Item	Conditions
Indoors/outdoors	This ring blower is for indoor use. Install in a location away from rain and wind.
Ambient temperature	-10℃ to 40℃ (without freezing)
Relative humidity	80% or less
Environment	Do not use in, or transport through, locations where corrosive liquids (alkali acids, acids) and gases (inflammable, explosive) are present.
Dust etc.	Avoid use in locations where dust and lint etc. are present. If such locations cannot be avoided, fit a filter to ensure that the material does not enter the ring blower. (Periodically remove dust etc. adhering to the ring blower.)
Ventilation	Always select a location with good ventilation. Do not use in closed rooms or cases.
Peripheral area	Install in a spacious area to facilitate checks and maintenance.
Vibration	Install the ring blower in a manner which ensures that it is free from external vibration. If such vibration cannot be avoided, implement anti-vibration measures to ensure that the vibration is not transmitted to the ring blower.

02 Operation and gases handled

Attention when using it

Item	Conditions
Voltage and frequency	Use at the voltage and frequency noted on the nameplate.
Ratings	Usable in continuous operation.
Allowable range of variation in voltage and frequency	Rated voltage on nameplate (Voltage (V)) ±10% Rated frequency on nameplate (Frequency (Hz))±5% Note: Avoid operating the ring blower for a long time while exceeding voltage ±5% and frequency ±2%. Even if the ring blower is operated within the allowable range of variation, values may vary from those indicated by ring blower characteristics, motor characteristics, rated voltage and rated frequency. ※Applies when operating current is equal to or less than the rated current on the nameplate.
Temperature of gas	-10℃ to 40℃
Humidity of gas	80% or less
Specific gravity of gas	Same or less than air
Type of gas	Do not use with corrosive liquids (alkali acids, acids) and gases (inflammable, explosive).
Foreign matter	Ensure that foreign matter (e.g. dust, lint, swarf) is not ingested into the ring blower under any circumstances.
Water droplets and liquids	The blower cannot be used to move water droplets or liquids.
Rotation	The normal direction of rotation is displayed on the ring blower. (The prescribed characteristics are not achieved in reverse rotation. Intake and discharge are reversed with reverse rotation.)

03 Inverter operation

Attention when using it

Operating frequency is between 5 Hz (rotating) and 60 Hz.
Never operate the blower with the frequency exceeding 60Hz. As resonance may occur depending on the ring blower installation conditions, make sure that resonance frequency points are avoided in operation. Set the frequency of ring blower start and stop with inverter (including acceleration and deceleration) in accordance with the guidelines from the table below.

04 Frequency of use

Attention when using it

Frequent use may have a negative effect on the ring blower and may result in motor burnout or damage to the ring blower body. Set the operation frequency in accordance with the guidelines in the table on the right. If the frequency is to be exceeded, a method of switching valves, etc., (with continuous operation) is recommended. Furthermore, when operating in forward and reverse, make sure to start operation in the new direction after the ring blower has completely stopped.

Permissible start/stop frequency [Sw/Hr]

Model	Sw/Hr (at 50/60Hz)
VFZ081～VFZ301	30/20 or less
VFZ401～VFZ601	20/15 or less
VFZ701～VFZ901	15/10 or less

05 Cleanliness

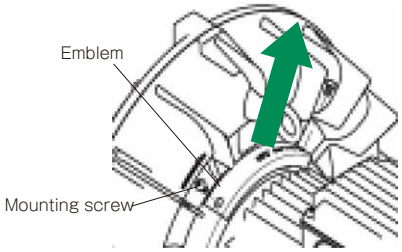
Attention when using it

These ring blowers are manufactured for general industrial use, and discharge air is not in accordance with cleanliness classes.
Please note that in applications in which adherence of foreign matter is not permitted, or when a high cleanliness class is required, it will be necessary to fit filters etc.

06 Range of use

Attention when using it

As the airflow through the ring blower is reduced, internal temperature increases, and care is required to ensure that the range of use does not exceed the characteristic curves. Furthermore, when using VFZ50 and 60 in intake fully closed applications, always ensure that the emblem on the unit (top of intermediate bracket) is removed before installation.
Operation without removing the emblem may result in deterioration of the motor insulation and burnout.



07 Characteristics

Attention when using it

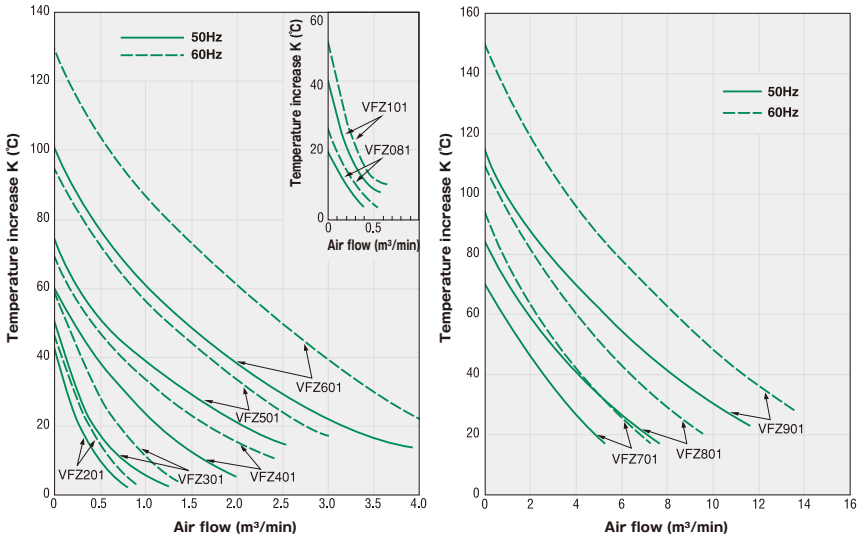
Characteristics differ between intake and discharge application. Check the individual characteristic curves.

08 Exhaust temperature (VFZ)

Attention when using it

As shown at right, the temperature of the air passing through the blower increases. Particularly with near-closed operation, care is required since temperature is increased considerably. (Contact the manufacturer before running in near shut-off.)

Note 1: Exhaust temperature is added to intake air temperature.
Note 2: The actual temperature may differ slightly from the temperature increase curve above. These values are for reference only.



Exhaust temperature increase curve (at discharge outlet)

09 Serial operation

Attention when using it

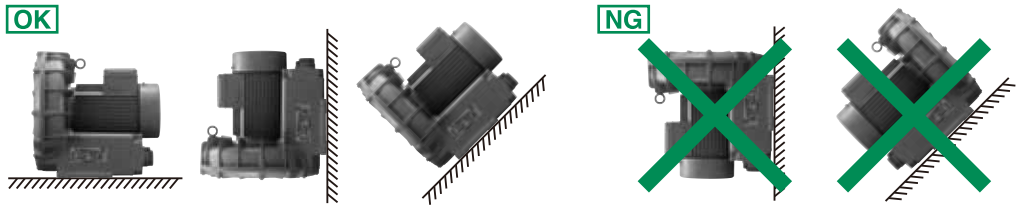
Pressure and temperature are very high with this ring blower, and serial operation should therefore be avoided (parallel operation permitted).

10 Mounting direction

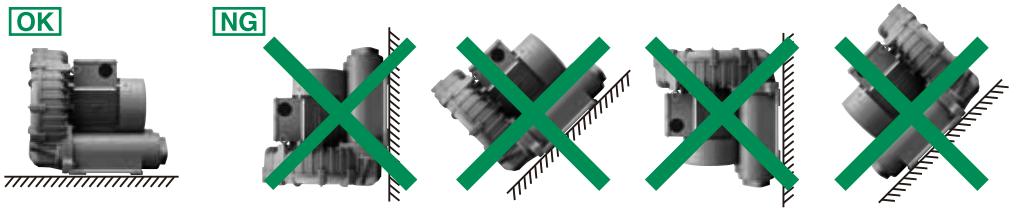
Attention when using it

Standard mounting (installation) is horizontal. Mounting in other orientations differs with size etc. Refer to the figure below.

08 - 60



70 - 90
Water-resistant type



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