

Ring Blowers

VFZ/VFC

TERAL

50Hz/60Hz

*Small-scale &
High wind pressure*
BLOWERS



TERAL INC.

Ring Blower General selection diagrams

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Ring Blower VFZ-PN model

Single phase standard type
(low-noise model)

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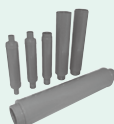
Ring Blower VFZ-AN model

3-phase low-noise type



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Special accessories Auxiliary pipe silencer



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Ring Blower Cautions for Use

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Ring Blower Selection diagrams

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Ring Blower VFZ-A model (08~60type)

3-phase standard type,
non-standard voltage product

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Ring Blower VFC model

UL/CSA approved



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Special accessories Air filter



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Ring Blower Specifications

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Ring Blower VFZ-AF model (10~60type)

3-phase standard type
(with companion flange)

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Ring Blower VFC-Z model

Water-resistant type

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Recommended items products Sound-proof box

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Ring Blower Application examples

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Ring Blower VFZ-A model (70~90type)

3-phase large capacity standard type,
non-standard voltage product

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Ring Blower VFC-C model

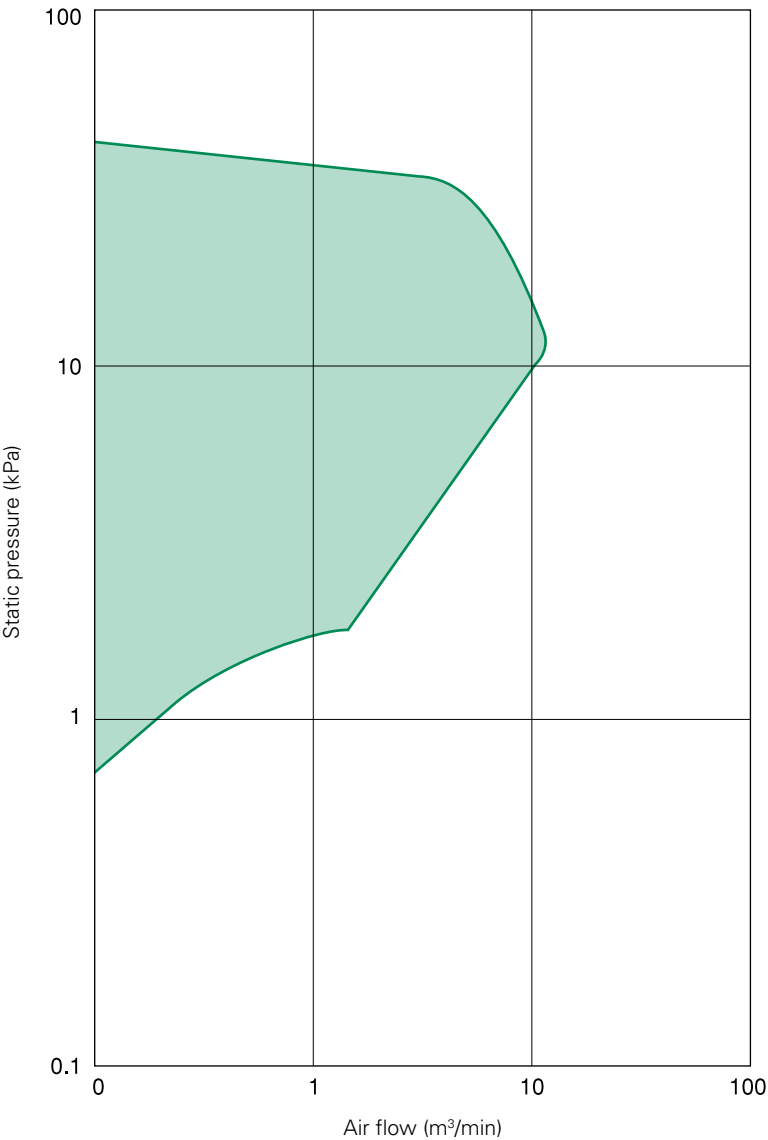
Improved
explosion-proofing type

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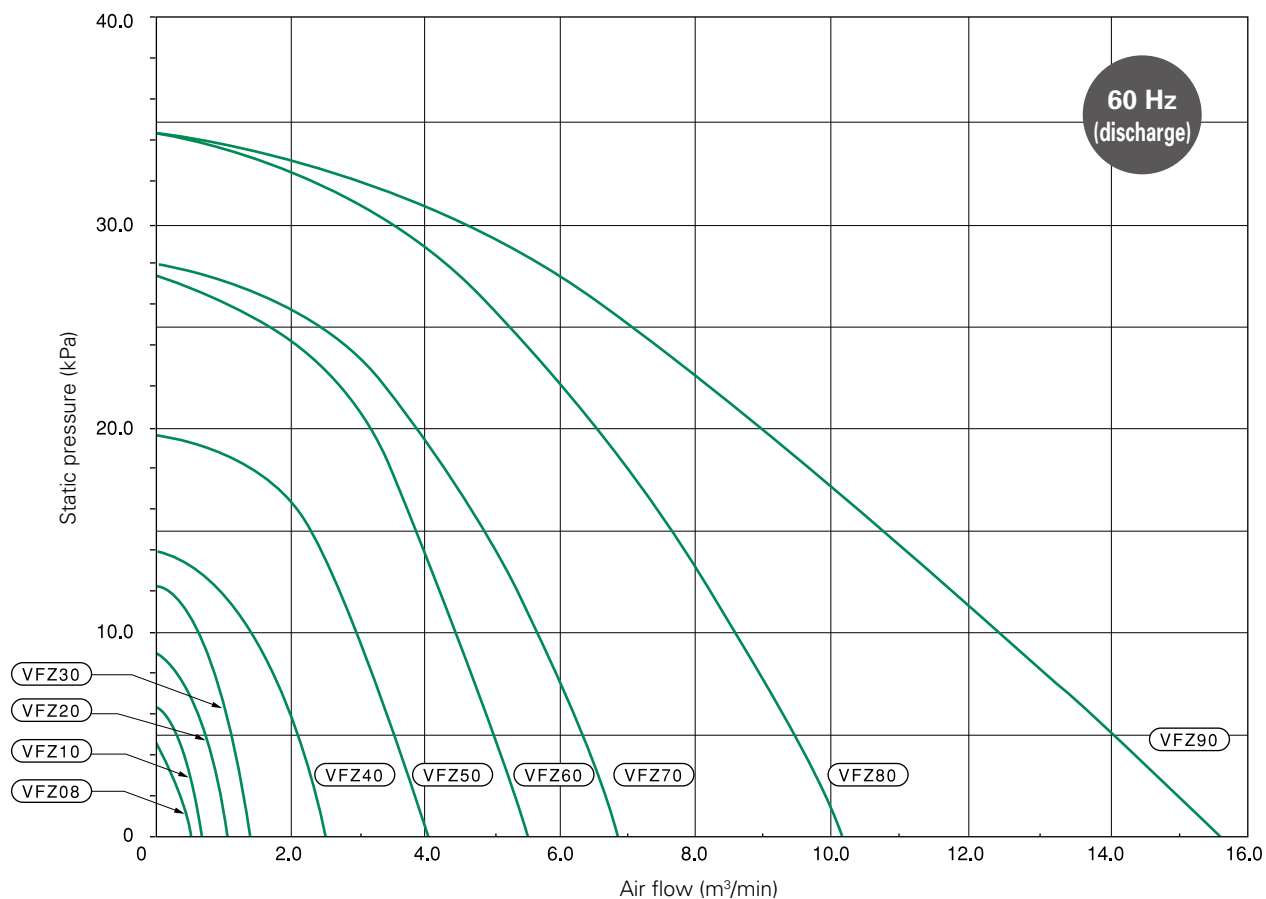
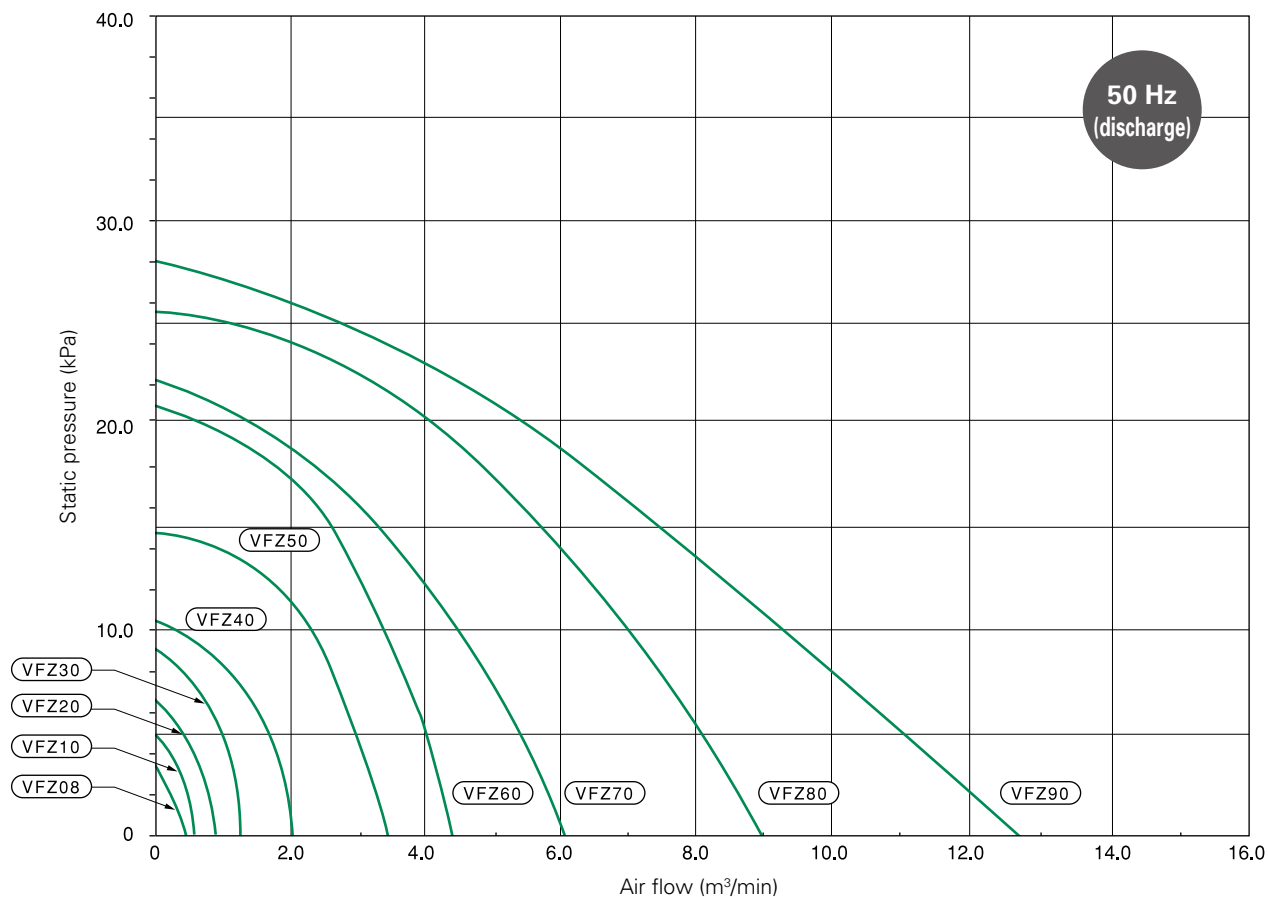
Ring Blower Technical documentation

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General selection diagram



Selection diagrams



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

	Model	Teral part number	Voltage (V)	Frequency (Hz)	Discharge characteristics					Intake 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	512897	1φ 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	512898			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	512899			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	512900			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	512901			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	512865	3φ 200 220	50/60	0.06/0.08	0.37/0.42-0.40	3.73/4.85	1.96	0.25/0.35	0.06/0.08	0.37/0.42-0.40	3.43/4.60
	VFZ101A	512866			0.09/0.12	0.52/0.64-0.62	5.15/6.37	2.94	0.35/0.50	0.09/0.12	0.52/0.64-0.62	4.90/6.21
	VFZ201A	512867			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	512868			0.28/0.42	1.8/1.9-1.8	9.32/12.4	3.92	0.9/1.1	0.28/0.42	1.8/1.9-1.8	8.73/11.4
	VFZ401A	512869			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	512870			1.3/1.9	5.4/7.4-6.8	14.7/19.6	6.86	2.4/3.0	1.3/1.9	5.4/7.4-6.8	13.7/17.3
	VFZ601A	512871			2.3/3.4	11.5/13-12.5	21.1/27.5	9.81	3.2/4.4	2.3/3.4	11.5/13-12.5	18.2/23.6
	VFZ701A	512878			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	512879			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	512880			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
	VFZ101AF	512891			0.09/0.12	0.52/0.64-0.62	5.15/6.37	2.94	0.35/0.50	0.09/0.12	0.52/0.64-0.62	4.90/6.21
3-phase, standard type (for companion flange)	VFZ201AF	512892	3φ 200 220	50/60	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	512893			0.28/0.42	1.8/1.9-1.8	9.32/12.4	3.92	0.9/1.1	0.28/0.42	1.8/1.9-1.8	8.73/11.4
	VFZ401AF	512894			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	512895			1.3/1.9	5.4/7.4-6.8	14.7/19.6	6.86	2.4/3.0	1.3/1.9	5.4/7.4-6.8	13.7/17.3
	VFZ601AF	512896			2.3/3.4	11.5/13-12.5	21.1/27.5	9.81	3.2/4.4	2.3/3.4	11.5/13-12.5	18.2/23.6
	VFZ101AN	512881	3φ 200 220	50/60	0.09/0.12	0.52/0.64-0.62	5.15/6.37	2.94	0.35/0.50	0.09/0.12	0.52/0.64-0.62	4.90/6.21
	VFZ201AN	512882			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	512883			0.28/0.42	1.8/1.9-1.8	9.32/12.4	3.92	0.9/1.1	0.28/0.42	1.8/1.9-1.8	8.73/11.4
	VFZ401AN	512884			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	512885			1.3/1.9	5.4/7.4-6.8	14.7/19.6	6.86	2.4/3.0	1.3/1.9	5.4/7.4-6.8	13.7/17.3
	VFZ601AN	512886			2.3/3.4	11.5/13-12.5	21.1/27.5	9.81	3.2/4.4	2.3/3.4	11.5/13-12.5	18.2/23.6
	VFZ701AN	512887			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	512888			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	512889			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)	Heat-resistance class	Noise level (dB(A))	Inlet and outlet diameters (mm, inches)	Approximate mass (kg)	Starting current (A)	Auto-breaker		Solenoid 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	5.5	4.0/3.8-4.2	-	-	SW-03	TR-0N	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			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	-	-	SW-03	TR-0N	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			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	-	-	SW-03	TR-0N	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			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
3-phase, low-noise type	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
	VFZ101AN	0.58/0.69	B	49.5/51.5	32	9.0	4.2/3.9-4.2	-	-	SW-03	TR-0N	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			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 measured in an unrestricted state at 1.5m.

2) Maximum values (output, power) and rated values (static pressure, flow) in Discharge characteristics are noted on the nameplate (stamped with *).

3) VFZ80 and VFZ90 types employ Δ (star delta) start.

4) Over-current protection for the auto-breaker (indicated by ※) is difficult for the breaker alone. Always use it as a restraint device.

	Model	Teral part number	Voltage (V)	Frequency (Hz)	Discharge characteristics					Intake 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)
Non-standard voltage product	VFZ081A-4Z	512890	3φ 380 400 415 400 440	50/60	0.06/0.08	0.2-0.2-0.21/0.22-0.21	3.73/4.85	1.96	0.25/0.35	0.06/0.08	0.2-0.2-0.21/0.22-0.21	3.43/4.60
	VFZ101A-4Z	512872			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	512873			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	512874			0.28/0.42	0.86-0.9-0.95/0.95-0.9	9.32/12.4	3.92	0.9/1.1	0.28/0.42	0.86-0.9-0.95/0.95-0.9	8.73/11.4
	VFZ401A-4Z	512875			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	512876			1.3/1.9	2.6-2.7-2.8/3.7-3.4	14.7/19.6	6.86	2.4/3.0	1.3/1.9	2.6-2.7-2.8/3.7-3.4	13.7/17.3
	VFZ601A-4Z	512877			2.3/3.4	5.6-5.8-6/6.5-6.3	21.1/27.5	9.81	3.2/4.4	2.3/3.4	5.6-5.8-6/6.5-6.3	18.2/23.6
	VFZ701A-4Z	512902			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	512903			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	513988	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	513989			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	512856			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	512857			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	512858			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)	513990(533745)	3φ 200 230/460	60	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	513991			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	513992			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	512859			0.35-0.42/0.42	1.5-1.7/0.85	12.4	max-12.4	max-1.45	0.35-0.42/0.42	1.5-1.7/0.85	8.73/11.4
	VFC400A-7W	512860			0.75-0.82/0.82	3.3-2.8/1.4	14.1	max-14.0	max-2.5	0.75-0.82/0.82	3.3-2.8/1.4	9.4/12.9
	VFC500A-7W	512861			1.9-1.9/1.9	6.9-6.2/3.1	19.6	max-18.4	max-4.0	1.9-1.9/1.9	6.9-6.2/3.1	13.7/17.3
	VFC600A-7W	512862			3.1-3.4/3.4	12-11/5.5	27.5	max-25.5	max-5.5	3.1-3.4/3.4	12-11/5.5	18.2/23.6
	VFC700A-7W	512855			4.1-5.0/5.0	15.6-16/8	28.4	max-25.1	max-7.2	4.1-5.0/5.0	15.6-16/8	18.3/22.9
	VFC804A-7W	513993			6.5-7.5/7.5	26-23/11.5	33.3	max-29.0	max-10.3	6.5-7.5/7.5	26-23/11.5	21.6/26.6
	VFC904A-7W	513994			13-15/15	48-44/22	31.4	max-27.9	max-15.5	13-15/15	48-44/22	21.4/27.6
Water-resistant type	VFC308Z	513996	3φ 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	512863			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	512864			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	512904			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
Improved explosion-proofing type	VFC405C	512802	3φ 200 220	50/60	0.5/0.75	2.5/3.0-2.8	9.61/12.1	4.90	1.2/1.7	0.5/0.7	2.4/3.0-2.8	8.83/11.1
	VFC505C	512803			1.0/1.5	4.2/5.7-5.2	12.5/16.3	6.86	2.0/2.7	1.0/1.5	4.0/5.0-4.5	11.8/14.7
	VFC605C	512804			1.5/2.2	6.4/8.0-7.2	18.3/23.1	9.81	2.5/3.5	1.5/2.0	5.6/7.0-6.2	16.7/20.6

	Model	Maximum discharge air flow (m³/min)	Heat-resistance class	Noise level (dB(A))	Inlet and outlet diameters (mm, inches)	Approximate mass (kg)	Starting current (A)	Auto-breaker		Solenoid switch	Thermal relay	
								Model	Rated current (A)		Model	Rated current (A)
Non-standard voltage product	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	8.6	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	-	-	-	-	-
	VFC400A-7W	2.5	B	69.5	NPSC1½	21.5	15.0-16.5/9.2	-	-	-	-	-
	VFC500A-7W	4.0	B	74.5	NPSC1½	32	44-52/26	-	-	-	-	-
	VFC600A-7W	5.5	B	74.5	NPSC2	52	78-90/45	-	-	-	-	-
Water-resistant type	VFC700A-7W	7.2	F	79.5	NPSC2	82	110-115/58	-	-	-	-	-
	VFC804A-7W	10.3	B	81.0	NPSC2½	130	144-160/80	-	-	-	-	-
	VFC904A-7W	15.5	B	83.0	NPSC3	205	290-330/165	-	-	-	-	-
Improved explosion-proofing 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
	VFC405C	1.95/2.4	E	67.0/70.5	Rp1½	18.5	24.0/21.5-23.0	BW32AAM-3P004	4			2.2-3.4
	VFC505C	3.04/3.58	E	68.0/72.0	Rp1½	27.5	36.0/35.0-37.0	BW32AAM-3P008	8	SW-03	TR-0N	4-6
	VFC605C	4.2/5.0	E	72.0/76.0	Rp2	42.5	49.0/44.5-49.0	BW32AAM-3P010	10			5-8

1) Noise values measured in an unrestricted state at 1.5m.

2) Maximum values (output, power) and rated values (static pressure, flow) in Discharge characteristics are noted on the nameplate (stamped with *).

3) VFZ80 and VFZ90 types employ Δ (star delta) start.

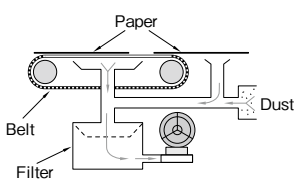
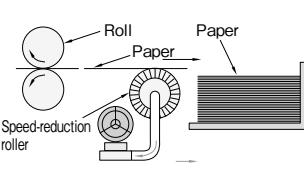
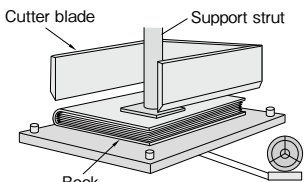
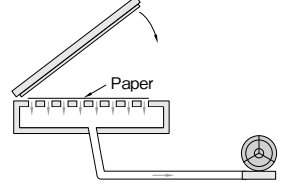
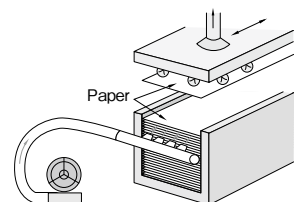
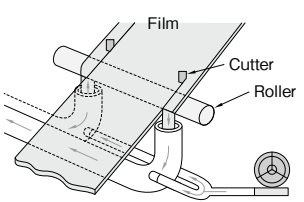
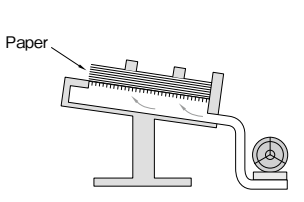
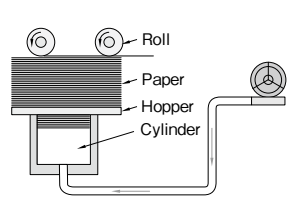
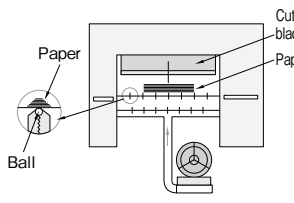
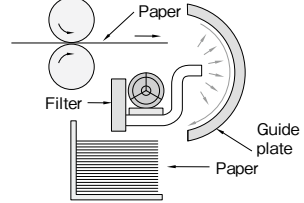
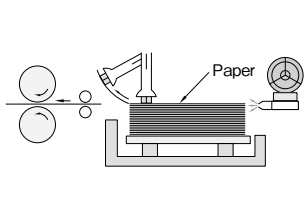
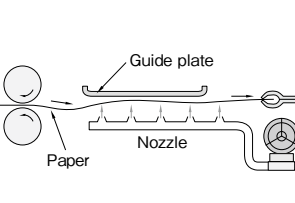
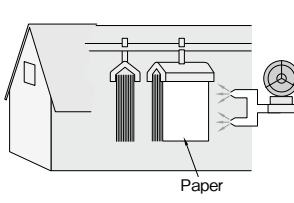
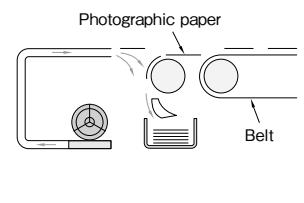
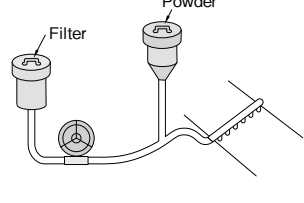
4) UL/CSA approved products are usable at 50Hz, however startup current increases by 30% at 60 Hz. Characteristics are also degraded at 50 Hz.

5) Over-current protection for the auto-breaker (indicated by ※) is difficult for the breaker alone. Always use it as a restraint device.

Printing machinery


For gripping (negative pressure)


For discharge (positive pressure)

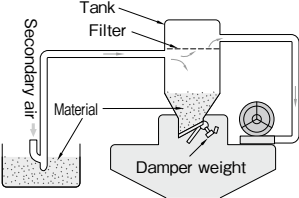
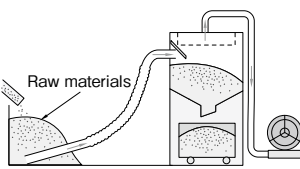
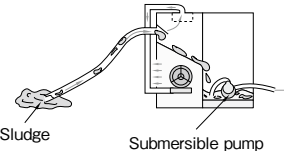
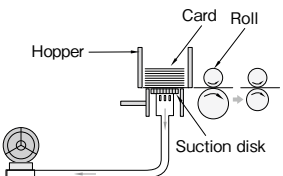
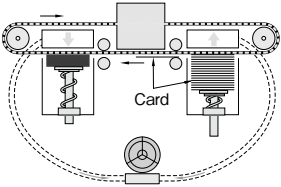
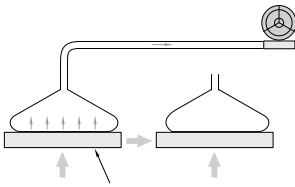
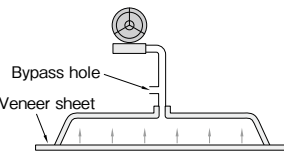
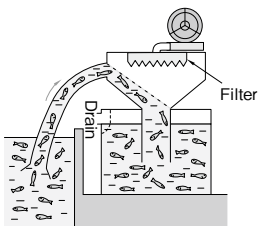
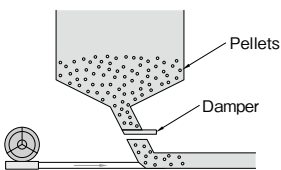
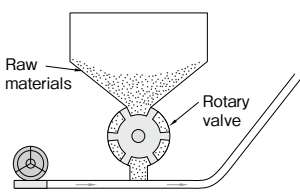
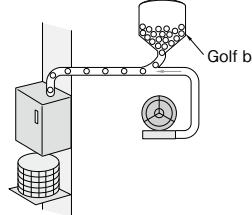
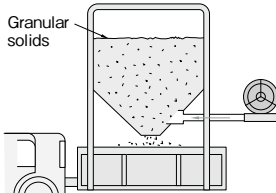
Dry copier  <p>Gripping paper and collection of waste within machine.</p> <p>Recommended type > 40-60 type</p>	Roller gripping  <p>Gripped and held by speed-reduction roller before stacking paper printed on high-speed copiers.</p> <p>Recommended type > 40-60 type</p>	Bookbinding machine  <p>Gripped while cutting.</p> <p>Recommended type > 20-60 type</p>	Gripping paper  <p>Paper gripped and held to prevent slippage.</p> <p>Recommended type > 20-40 type</p>
Paper feed  <p>Air blown between sheets of paper to produce a gap, and paper then gripped for transport.</p> <p>Recommended type > 20-60 type</p>	Recovery of cut-off edges  <p>Recovery of cut-off edges of tape and paper.</p> <p>Recommended type > 40-60 type</p>	Paper aligned automatically  <p>Positioning of printed paper and binding paper.</p> <p>Recommended type > 20-50 type</p>	Positioning of paper (1)  <p>Hopper pushed up to maintain height of paper.</p> <p>Recommended type > 08-30 type</p>
Positioning of paper (2)  <p>Positioning of paper for cutting, and air cushion for movement.</p> <p>Recommended type > 20-40 type</p>	Drying of paper  <p>Drying printed paper.</p> <p>Recommended type > 30-60 type</p>	Paper feed (1)  <p>Air blown between sheets of paper to prevent simultaneous feed of multiple sheets.</p> <p>Recommended type > 20-40 type</p>	Paper feed (2)  <p>Paper suspended on air blown from the nozzle, preventing contamination of the printed surface.</p> <p>Recommended type > 40-50 type</p>
Drying of paper in storage  <p>Drying of paper in storage chamber.</p> <p>Recommended type > 40-60 type</p>	Drying of photographic paper  <p>Drying of photographic paper.</p> <p>Recommended type > 10-40 type</p>	Dry sprayer  <p>Powder dispersed into wet printing unit, and dried to prevent adherence of dust, and to prevent scuffing of text.</p> <p>Recommended type > 10-20 type</p>	

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

Transport equipment

 For gripping (negative pressure)

 For discharge (positive pressure)

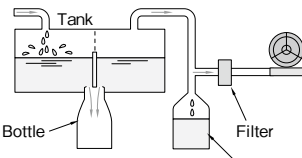
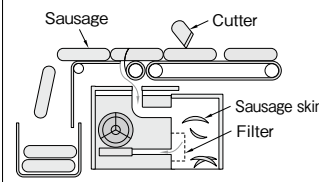
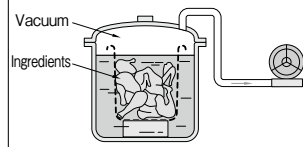
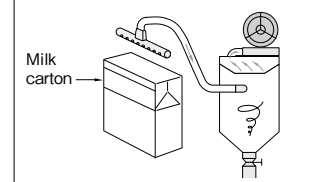
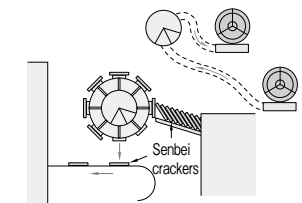
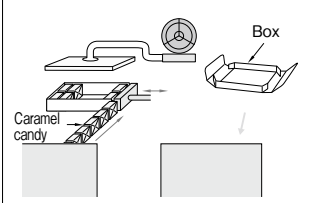
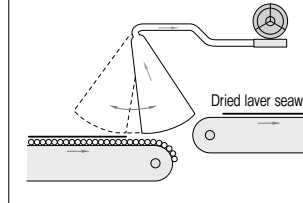
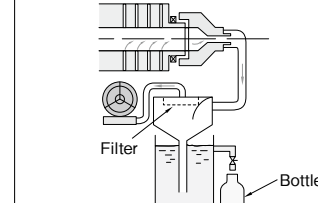
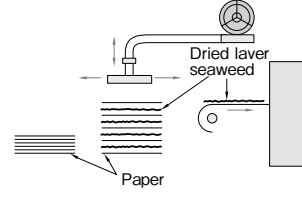
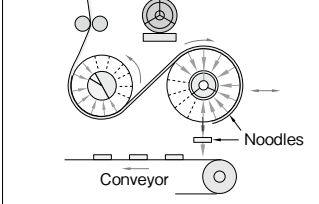
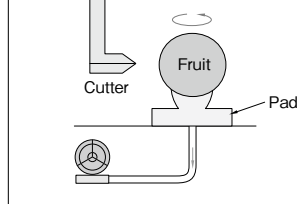
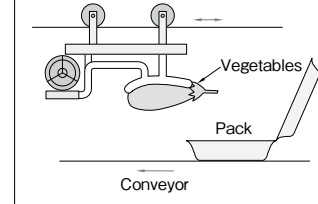
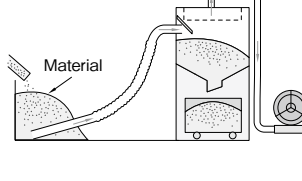
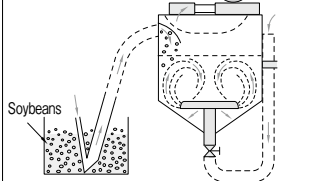
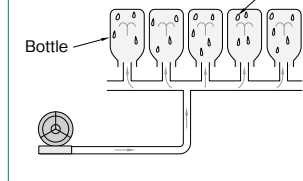
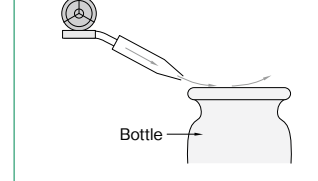
Hopper loader  <p>Transport of material (e.g. PVC, polyethylene, plastic resin).</p> <p>Recommended type > 40-90 type</p>	Transport of granular solids  <p>Transport of raw materials (e.g. rice, wheat, soybeans, powder, bean curd refuse, almonds, senbei cracker materials).</p> <p>Recommended type > 40-60 type</p>	Sludge recovery equipment  <p>Recovery of sludge with shield method.</p> <p>Recommended type > —</p>	Card feed (1)  <p>Card gripping feed.</p> <p>Recommended type > 08-30 type</p>
Card feed (2)  <p>Cards gripped by suction through holes in belt during transport.</p> <p>Recommended type > 30·40 type</p>	Air lift (1)  <p>Gripping of items by suction for transport.</p> <p>Recommended type > 08-60 type</p>	Air lift (2)  <p>The large air flow allows stable gripping of large items.</p> <p>Recommended type > 40-60 type</p>	Transport of mixtures of water and granular material  <p>Recovery of small fish etc.</p> <p>Recommended type > 40-90 type</p>
Transport of granular solids  <p>Air conveyance of pellet-type raw materials (e.g. PVC and polyethylene pellets).</p> <p>Recommended type > 40-90 type</p>	Transport of cereals  <p>Air conveyance of raw materials (e.g. wheat) dropped in discrete amounts using a rotary valve.</p> <p>Recommended type > 40-70 type</p>	Golf ball feed  <p>Feeding golf balls.</p> <p>Recommended type > 30-50 type</p>	Mixing in hopper  <p>Air forced into hopper to eliminate bridging with granular solids.</p> <p>Recommended type > 40-60 type</p>

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

Food machinery


For gripping (negative pressure)

For discharge (positive pressure)

Automatic bottle filling machinery  <p>Generates negative pressure during packing.</p> <p>Recommended type > 20-50 type</p>	Sausage skin peeler  <p>Grip by suction to ensure effective peeling, and collect peeled skins.</p> <p>Recommended type > 60 type</p>	Food processing equipment  <p>Vacuum impregnation for flavoring of ingredients.</p> <p>Recommended type > 40-60 type</p>	Filling cardboard milk cartons  <p>Removal of bubbles by suction when filling milk cartons.</p> <p>Recommended type > 20 type</p>
Automatic equipment for aligning senbei cracker materials  <p>Automatic alignment in senbei cracker baking equipment.</p> <p>Recommended type > —</p>	Caramel candy packing equipment  <p>Caramel candy packing equipment.</p> <p>Recommended type > 40 type</p>	Dried laver seaweed peeling equipment  <p>Suction for peeling dried laver seaweed from drainage slats.</p> <p>Recommended type > 40-60 type</p>	In combination with press  <p>Suction removal of liquid during squeezing.</p> <p>Recommended type > 40・50 type</p>
Dried laver seaweed pick-and-place  <p>Source of suction for gripping dried laver seaweed.</p> <p>Recommended type > —</p>	Ramen noodle manufacturing equipment  <p>Suction and blowing of noodle raw materials.</p> <p>Recommended type > —</p>	Fruit peeling equipment  <p>Gripping and holding fruit.</p> <p>Recommended type > 20・30 type</p>	Filling vegetable packs  <p>Filling vegetable packs.</p> <p>Recommended type > —</p>
Transport of granular solids  <p>Transport of raw materials (e.g. rice, wheat, soybeans, powder, bean curd refuse, almonds, senbei cracker materials).</p> <p>Recommended type > 40-60 type</p>	Tofu manufacturing equipment  <p>Soybeans transported by suction. Switched to blowing for cleaning.</p> <p>Recommended type > —</p>	Bottle washing equipment  <p>Removal of water droplets in bottles after washing.</p> <p>Recommended type > 40-60 type</p>	Bottling and assembly lines  <p>Blowing water droplets from bottles.</p> <p>Recommended type > —</p>

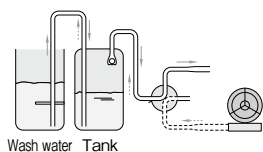
Note: The above recommended types are all based on examples delivered by the manufacturer.

Food machinery

 For gripping (negative pressure)

 For discharge (positive pressure)

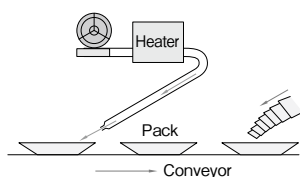
Automatic tank washing equipment



Automatic washing inside tank with air mixing.

Recommended type > —

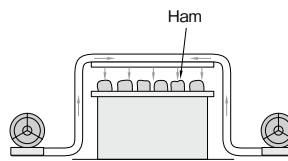
Pack drying



Drying packs with hot air.

Recommended type > 40-60 type

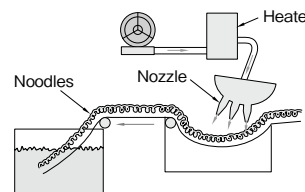
Ham processing equipment



Blowing water droplets off hams.

Recommended type > 40-60 type

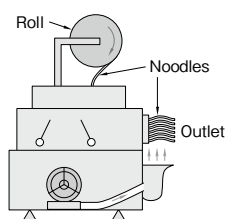
Ramen noodle processing line



Removal of oil from ramen noodles using hot air.

Recommended type > —

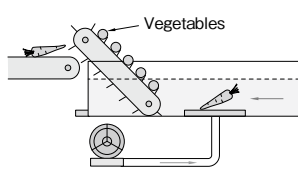
Spaghetti processing equipment



Preventing sticking of spaghetti.

Recommended type > —

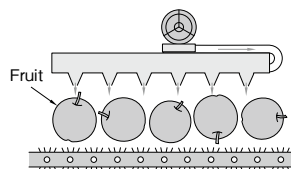
Vegetable washing equipment



Aeration when washing vegetables.

Recommended type > 40-50 type

Fruit washing equipment




Removal of water droplets from washed fruit.

Recommended type > —

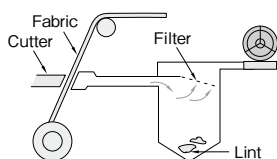
Note: The above recommended types are all based on examples delivered by the manufacturer.

Textile equipment

 For gripping (negative pressure)

 For discharge (positive pressure)

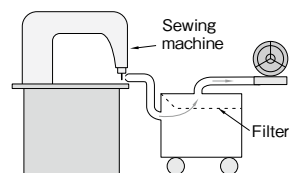
Lint recovery (1)



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

Recommended type > 20-60 type

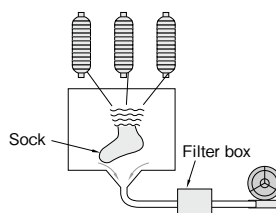
Lint recovery (2)



Recovery of lint produced during industrial sewing machine operation.

Recommended type > 08-20 type

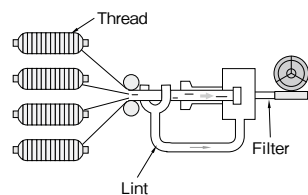
Sock knitting machine



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

Recommended type > 20-40 type

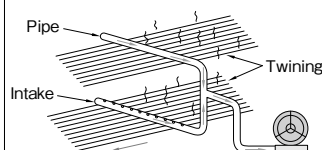
Automatic loom



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

Recommended type > 20-40 type

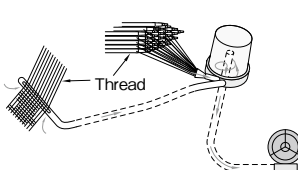
Twining



Removal of soot produced in the process of twining

Recommended type > 30-40 type

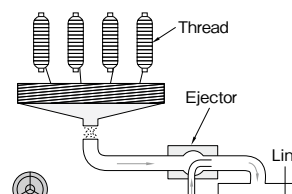
Loom



Wool air tensioning, and recovery of lint.

Recommended type > 30 type

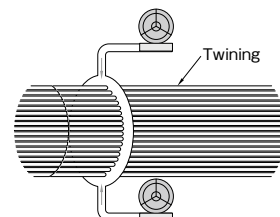
Automatic loom



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

Recommended type > 20-40 type

Circular knitting machine



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

Recommended type > 20-40 type

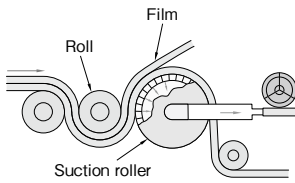
Note: The above recommended types are all based on examples delivered by the manufacturer.

Packaging equipment

For gripping (negative pressure)

For discharge (positive pressure)

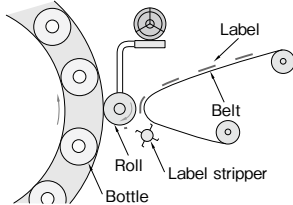
Plastic film processing



Gripping plastic film with suction roller.

Recommended type > 20-60 type

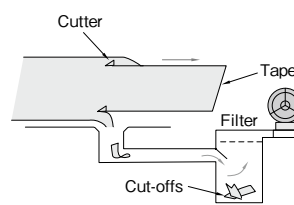
Label applicator equipment



Labels held on roll, and applied to bottles etc.

Recommended type > 10-30 type

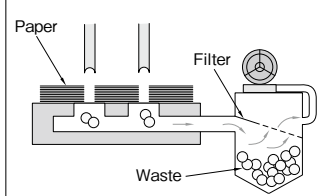
Automatic packaging equipment



Removal of tape cut-offs.

Recommended type > 30-40 type

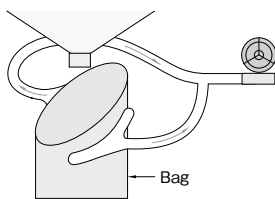
Hole puncher



Collection of waste from hole puncher in filter box.

Recommended type > 08-30 type

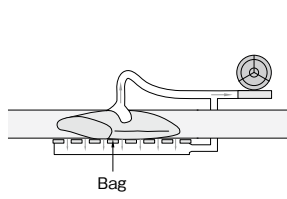
Vertical packaging equipment



Opening and gripping bags.

Recommended type > 20-40 type

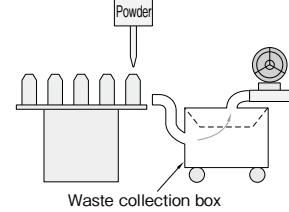
Horizontal packaging equipment



Opening and gripping bags.

Recommended type > 20-40 type

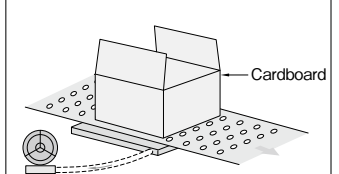
Automatic packaging equipment



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

Recommended type > 20-60 type

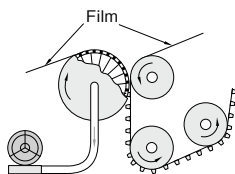
Cardboard packaging



Preventing displacement of, and gripping, cardboard.

Recommended type > 40-60 type

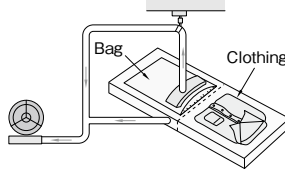
Vacuum forming equipment



Film formation.

Recommended type > —

Dry cleaning packaging



Opening and gripping dry cleaning bags.

Recommended type > 20-40 type

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

Machine tools

For gripping (negative pressure)

For discharge (positive pressure)

Welder <p>Removal of smoke, heat and fumes during welding work.</p> <p>Recommended type > 40 type</p>	Gripping work <p>Gripping non-magnetic materials such as timber and plastic.</p> <p>Recommended type > 80・90 type</p>	Laminating press <p>Removal of excess air on surface of pressure plate before lamination.</p> <p>Recommended type > 40-60 type</p>	Dehydrator <p>Vacuum dehydration of sludge.</p> <p>Recommended type > 80・90 type</p>
Swarf removal <p>Collection of swarf produced during machining operations.</p> <p>Recommended type > 30-60 type</p>	Press <p>Removal of molded products from mold.</p> <p>Recommended type > 40-60 type</p>	Grinder <p>Suction to collect grinding dust.</p> <p>Recommended type > 20-50 type</p>	Cutting oil mister <p>Source of pressure to generate cutting oil mist.</p> <p>Recommended type > 30-50 type</p>

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

Plant and machinery

For gripping (negative pressure)

For discharge (positive pressure)

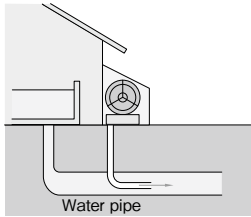
Construction site <p>Localized removal of dust and toxic gases from construction sites in restricted spaces such as tunnels.</p> <p>Recommended type > —</p>	Water uptake pump <p>Priming water for water pump.</p> <p>Recommended type > —</p>	Automobile exhaust gas detection equipment <p>Testing of automobile exhaust gas.</p> <p>Recommended type > —</p>	Vacuum dehydration <p>Vacuum dehydration of silica sand.</p> <p>Recommended type > 60-80 type</p>
Filter <p>Reduce filtering time.</p> <p>Recommended type > 40-60 type</p>	Extraction of plating gases <p>Extraction of plating gases.</p> <p>Recommended type > 50 type</p>	Car washing equipment <p>Produces a mist of water and detergent.</p> <p>Recommended type > —</p>	Cleaning tank <p>Mixing of sediment, and aeration of comparatively shallow water treatment plants.</p> <p>Recommended type > 50-90 type</p>

Plant and machinery

For gripping (negative pressure)

For discharge (positive pressure)

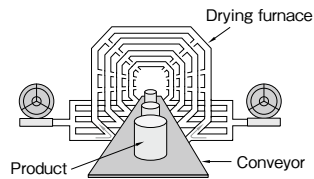
Freezing prevention



Prevention of freezing in water piping.

Recommended type > 40-60 type

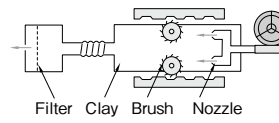
Drying line



Small-scale drying lines.

Recommended type > —

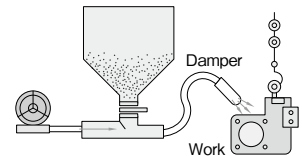
Mold cleaning equipment



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

Recommended type > 40-60 type

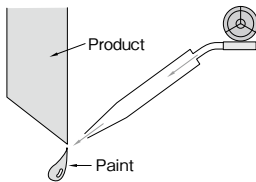
Sand blasting



Air source for blasting.

Recommended type > 60-90 type

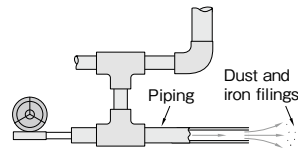
Painting line



Blowing to prevent paint drips on finished surfaces.

Recommended type > —

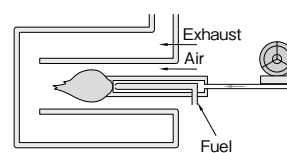
Cleaning piping



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

Recommended type > 40-60 type

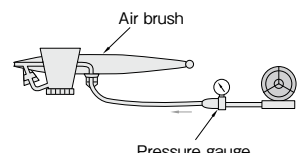
Gas burner



Atomization of fuel.

Recommended type > 50 · 60 type

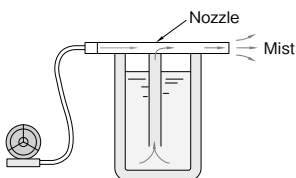
Air brush



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

Recommended type > 60-80 type

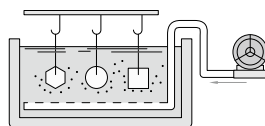
Spray



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

Recommended type > 40-60 type

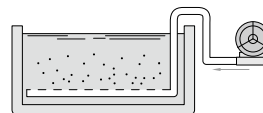
Plating tank



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

Recommended type > 30-50 type

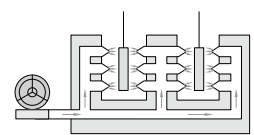
Plating tank



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

Recommended type > 20 · 30 type

Plating line



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

Recommended type > 50 · 60 type

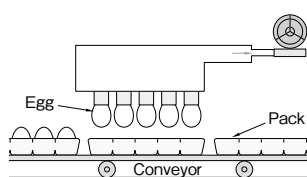
Note: The above recommended types are all based on examples delivered by the manufacturer.

Forestry and fishing machinery

For gripping (negative pressure)

For discharge (positive pressure)

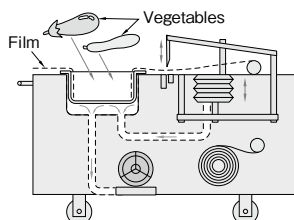
Egg packing



Gripping and placing eggs in packs.

Recommended type > 20-40 type

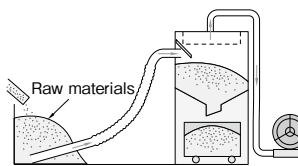
Vegetable packaging



Forming and cutting of vegetable packaging film.

Recommended type > 20 type

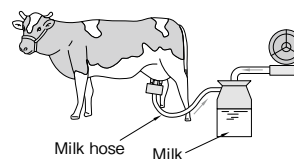
Transport of granular solids



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

Recommended type > 40-60 type

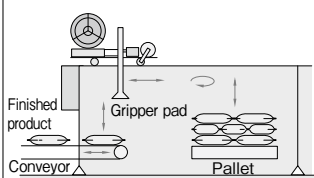
Milking machinery



Dairy milking.

Recommended type > 30-40 type

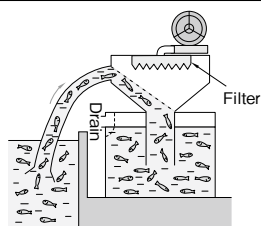
Gripping and transport for rice bagging



Gripping and transport for rice bagging and stacking.

Recommended type > 60 type

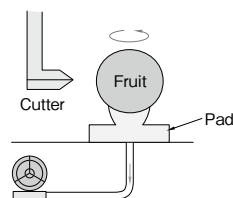
Transport of mixtures of water and granular material



Recovery of small fish etc.

Recommended type > 40-90 type

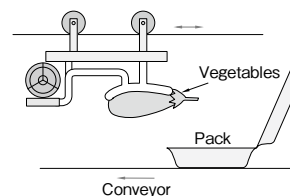
Fruit peeling equipment



Gripping and holding fruit.

Recommended type > 20-30 type

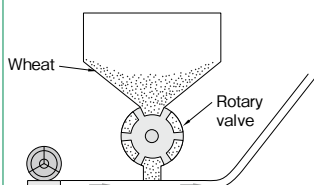
Filling vegetable packs



Gripping and packing vegetables.

Recommended type > —

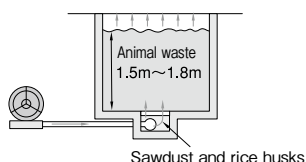
Transport of cereals



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

Recommended type > 40-70 type

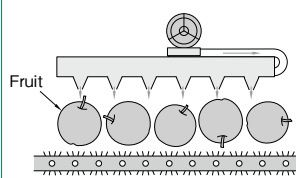
Fermentation of animal waste



Promotion of animal waste fermentation.

Recommended type > —

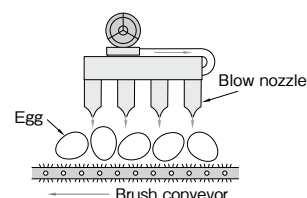
Fruit washing equipment



Removal of water droplets from washed fruit.

Recommended type > —

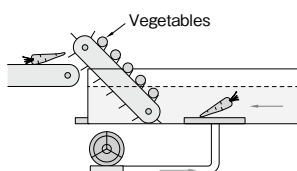
Egg washing equipment



Automatic egg washing.

Recommended type > 80 type

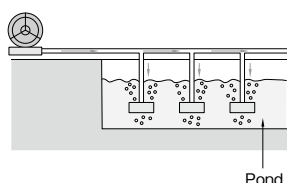
Vegetable washing equipment



Aeration when washing vegetables.

Recommended type > 40-50 type

Supplementary oxygen for fish breeding ponds



Supplementary dissolved oxygen for fish breeding ponds.

Recommended type > 30-60 type

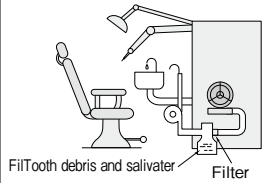
Note: The above recommended types are all based on examples delivered by the manufacturer.

Medical and welfare equipment

For gripping (negative pressure)

For discharge (positive pressure)

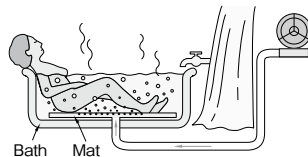
Dental equipment



Removal of tooth debris and saliva produced during dental work.

Recommended type > 30-40 type

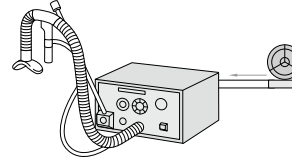
Therapeutic baths



Aeration in bath.

Recommended type > 20-60 type

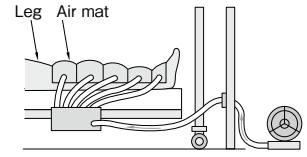
Respiration equipment



Prevention of irregular respiration, and assisting respiration.

Recommended type > 08-20 type

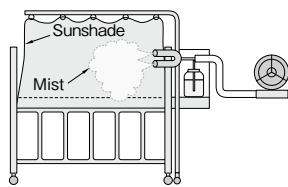
Massage equipment



Vibration of air mat promotes circulatory function within the skin.

Recommended type > 30-40 type

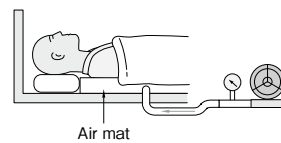
Humidifier (mist generated within enclosure)



Humidification of pediatric bed by misting within curtained enclosure.

Recommended type > 30-60 type

Air bed



Body support and protection for burn victims and bedridden patients.

Recommended type > 20-40 type

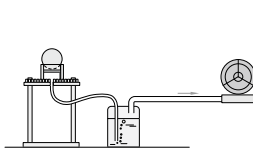
Note: The above recommended types are all based on examples delivered by the manufacturer.

Other

For gripping (negative pressure)

For discharge (positive pressure)

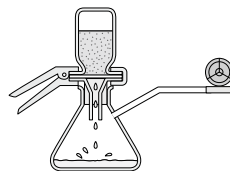
Leak tester



Seal testing.

Recommended type > —

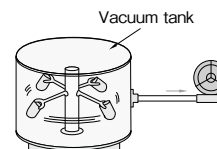
Vacuum filter



Rapid filtering by vacuum.

Recommended type > —

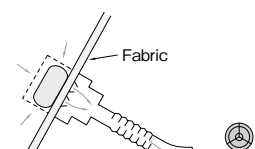
Chemical testing equipment



Vacuum tank for chemical testing equipment.

Recommended type > —

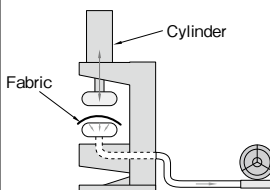
Stain remover



Removal of moisture in fabric.

Recommended type > 08-30 type

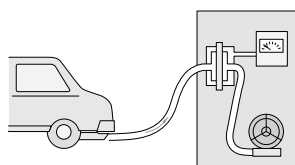
Clothing press



Removal of steam by suction.

Recommended type > —

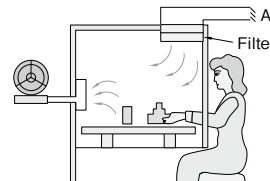
Exhaust gas detection equipment



Employed in automobile exhaust gas testing equipment.

Recommended type > —

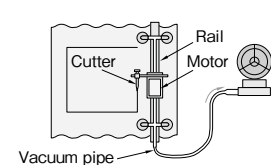
Clean room



Localized ventilation in clean rooms.

Recommended type > 40-60 type

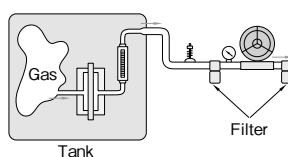
Flame cutter



Gripping and holding cutters for glass and plastic materials.

Recommended type > —

Gas decomposition equipment



Suction source for gas spectrometer.

Recommended type > —

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

Features

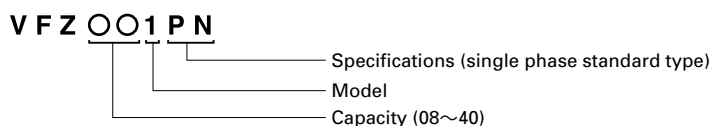
- Complies with EU RoHS directive standard
- Fully enclosed intake operation
- Low-noise construction



Paint color

Munsell 2.5Y5/1

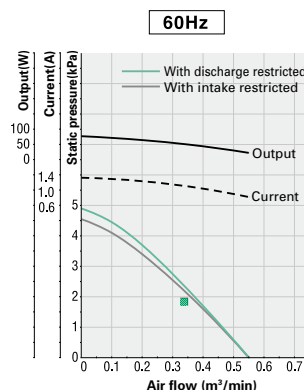
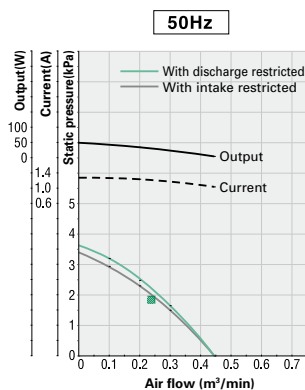
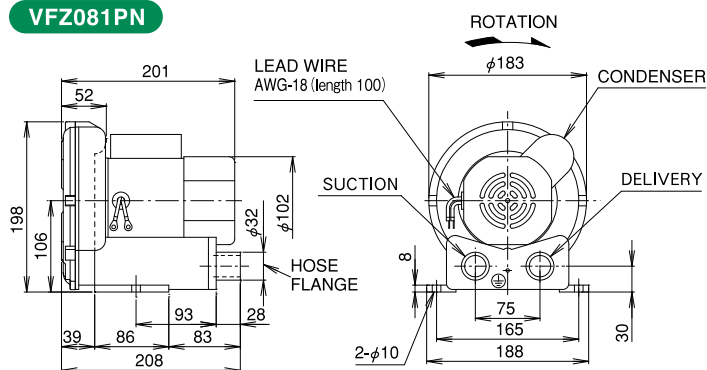
Model description



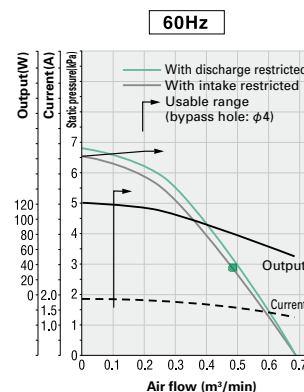
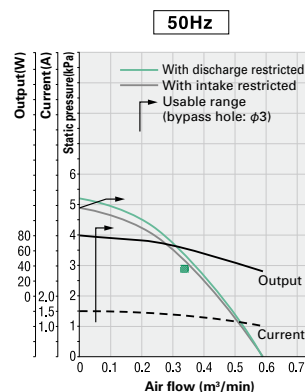
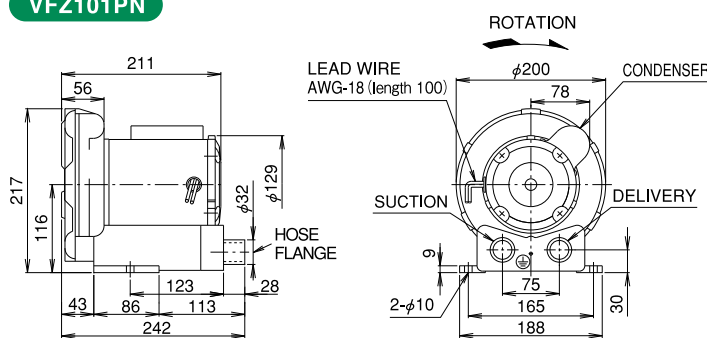
※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

Dimensional outline drawing and characteristic

VFZ081PN



VFZ101PN

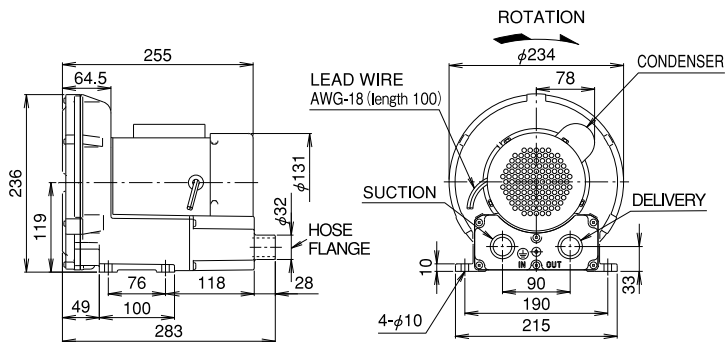


Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 – 20% higher at ambient temperature due to air density.

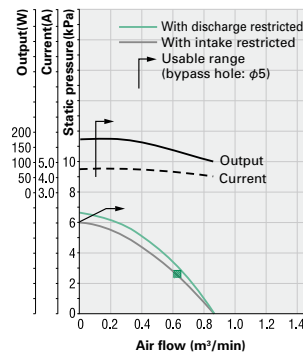
Note 2: ■ noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

Dimensional outline drawing and characteristic

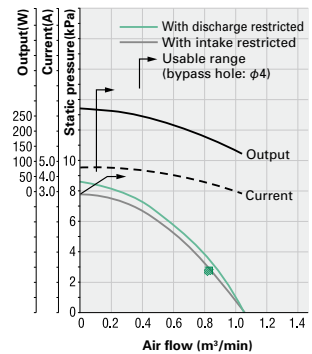
VFZ201PN



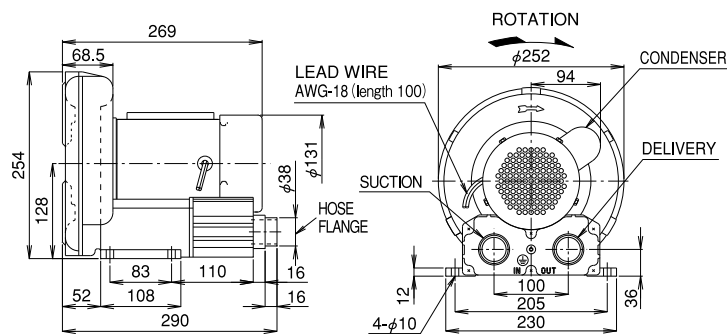
50Hz



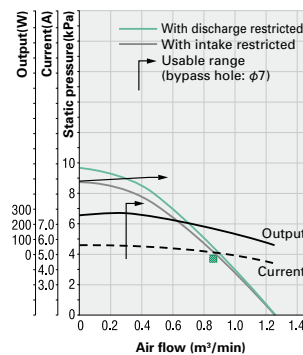
60Hz



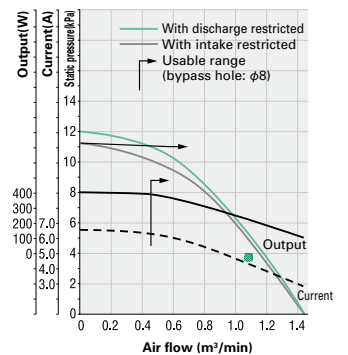
VFZ301PN



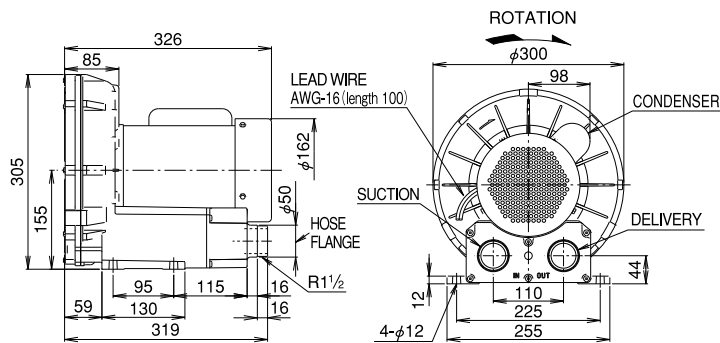
50Hz



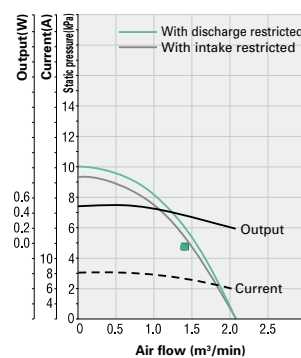
60Hz



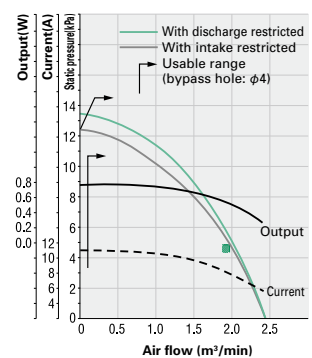
VFZ401PN



50Hz



60Hz



Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

Note 2: ■ noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.



Features

●Complies with EU RoHS directive and CE marking standard

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

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.

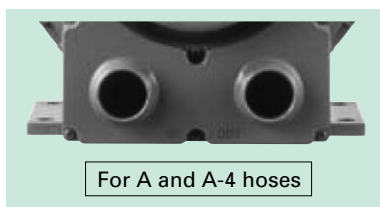
●Design eliminates oil seals in the blower (40 – 60 types)

●International Class IP54 protection (for motor)

Paint color

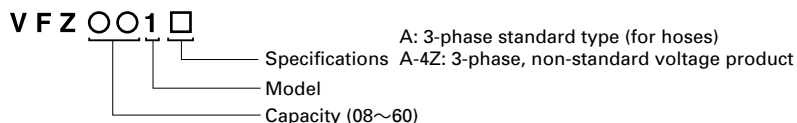
Munsell 2.5Y5/1

Piping



※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

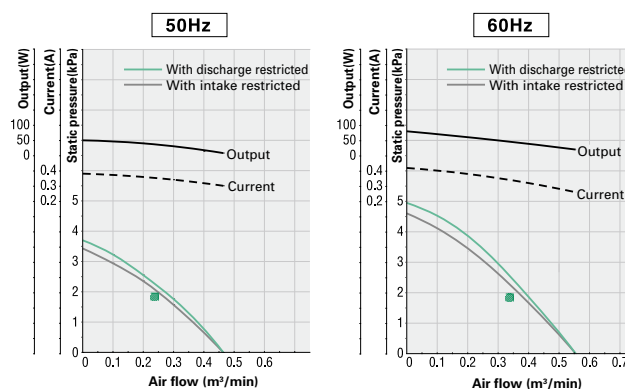
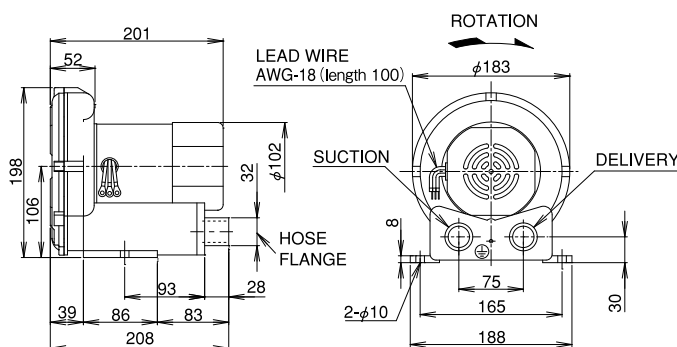
Model description



Dimensional outline drawing and characteristic

VFZ081A

VFZ081A-4Z



Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 – 20% higher at ambient temperature due to air density.

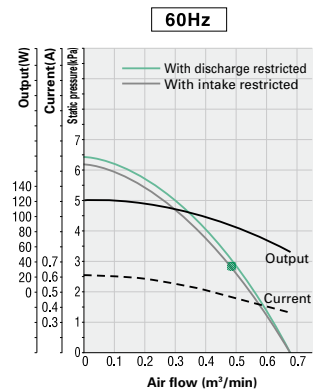
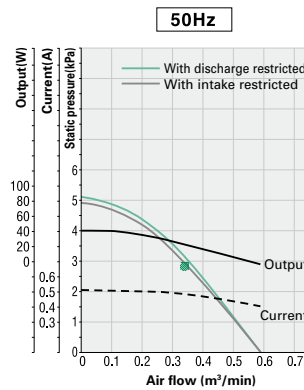
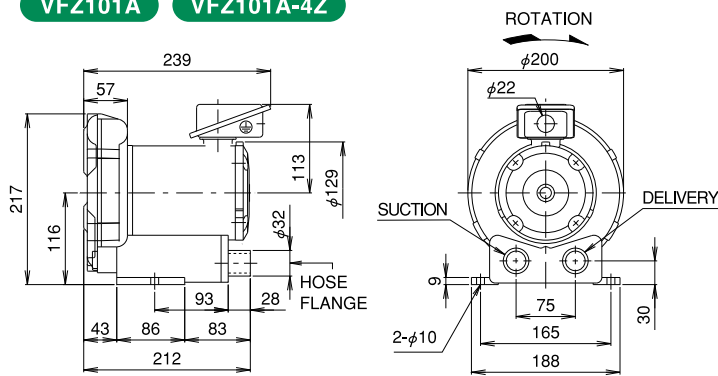
Note 2: noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

Note 3: Check 'Standard Specifications' for current values for non-standard voltage products (-4Z).

Dimensional outline drawing and characteristic

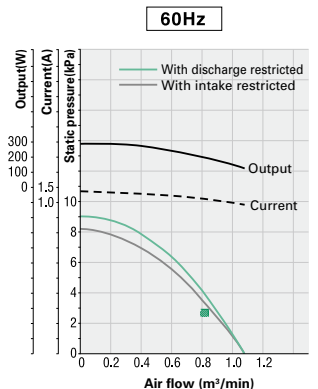
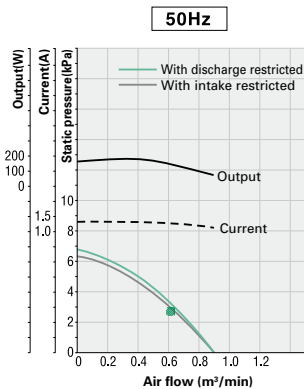
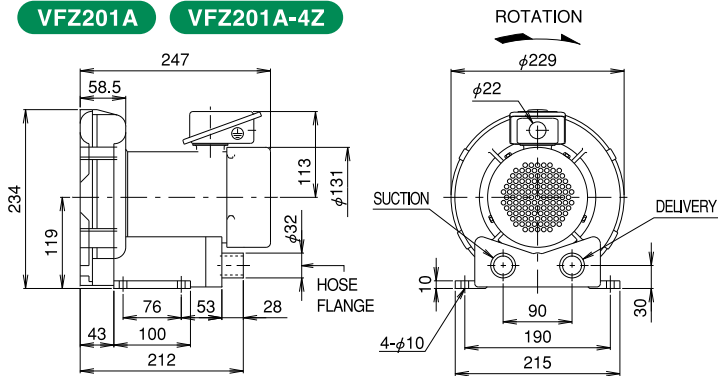
VFZ101A

VFZ101A-4Z



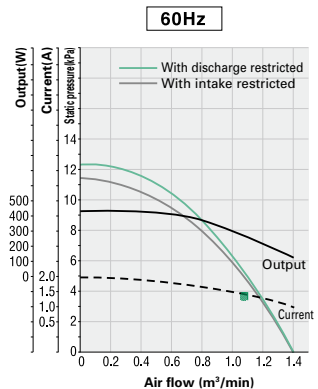
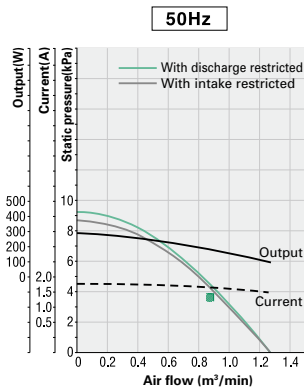
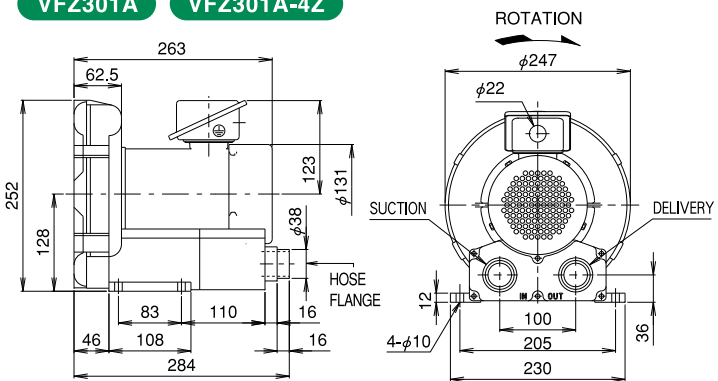
VFZ201A

VFZ201A-4Z



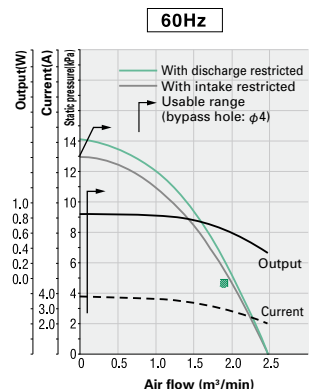
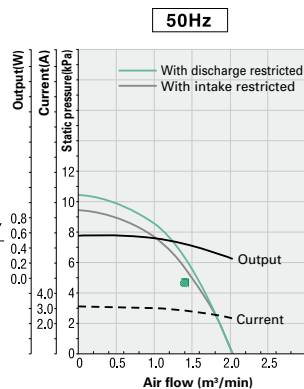
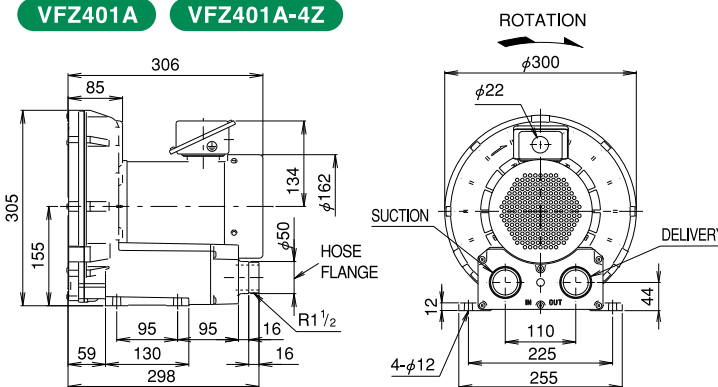
VFZ301A

VFZ301A-4Z



VFZ401A

VFZ401A-4Z



Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

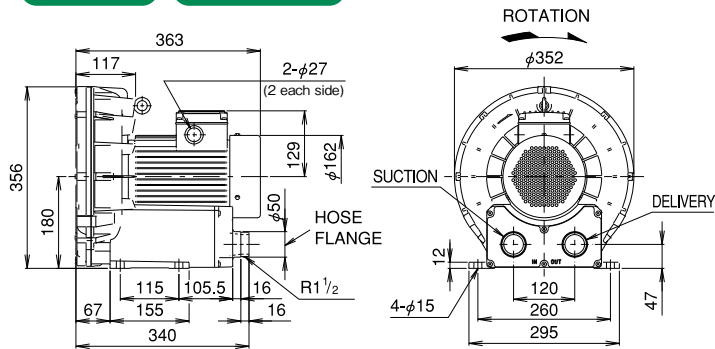
Note 2: The values noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

Note 3: Check 'Standard Specifications' for current values for non-standard voltage products (-4Z).

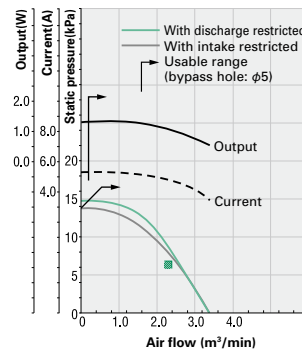
Dimensional outline drawing and characteristic

VFZ501A

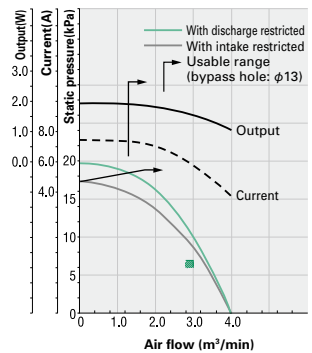
VFZ501A-4Z



50Hz



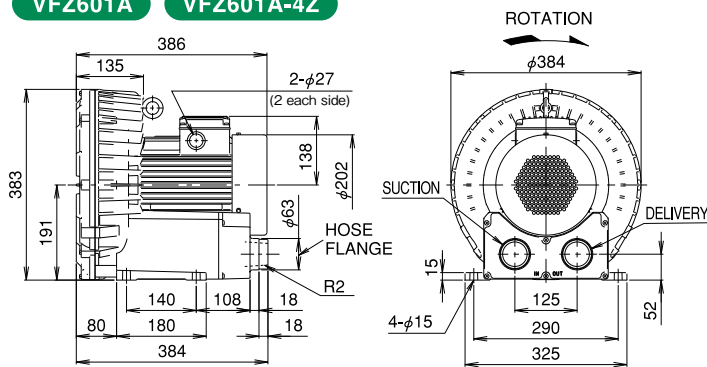
60Hz



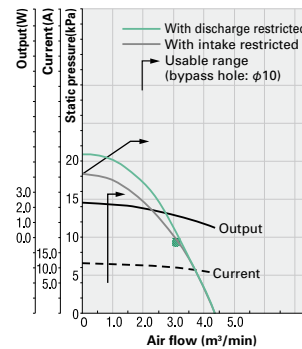
* Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

VFZ601A

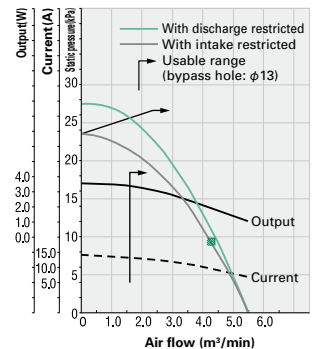
VFZ601A-4Z



50Hz



60Hz



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

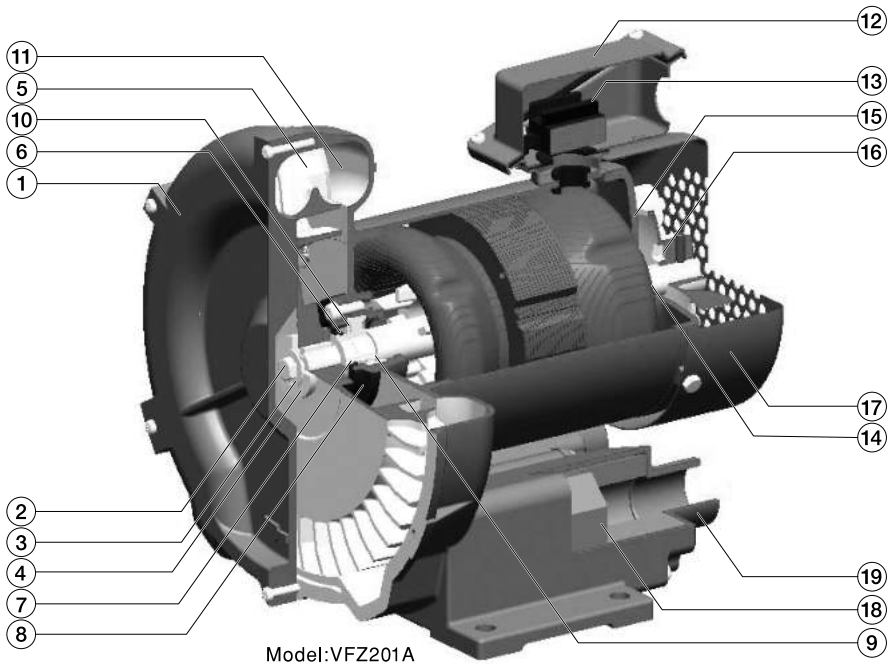
Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

Note 2: The values noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

Note 3: Check 'Standard Specifications' for current values for non-standard voltage products (-4Z).

Internal structure

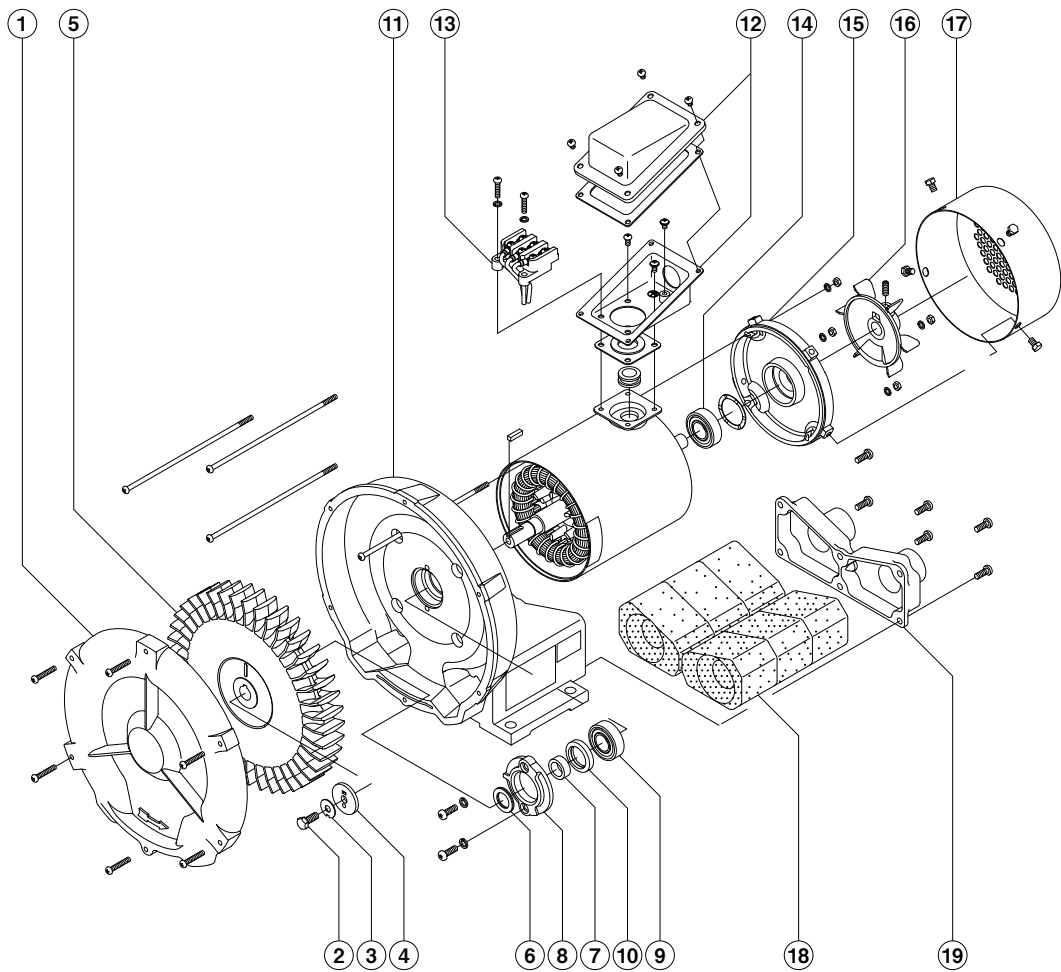
10~30 type



Model:VFZ201A

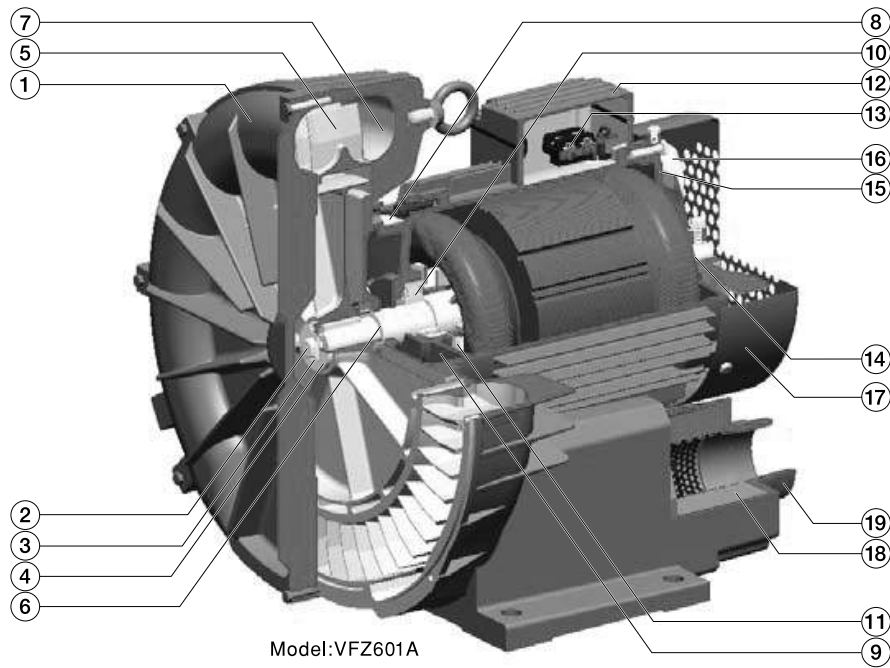
No	Parts	Material
1	Casing	ADC12 or FC150
2	Locking bolt	Steel
3	Claw washer	SPCC
4	Clamp plate	SPCC
5	Fan	ADC12
6	Adjuster	BsP3-1/2
7	Collar	Brass
8	End cover	FC150
9	Deep groove ball bearing	
10	Oil seal	Nitrile rubber
11	Casing	ADC12
12	Terminal box	SPCC
13	Terminal block	Phenolic resin
14	Deep groove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

Exploded diagram



Internal structure

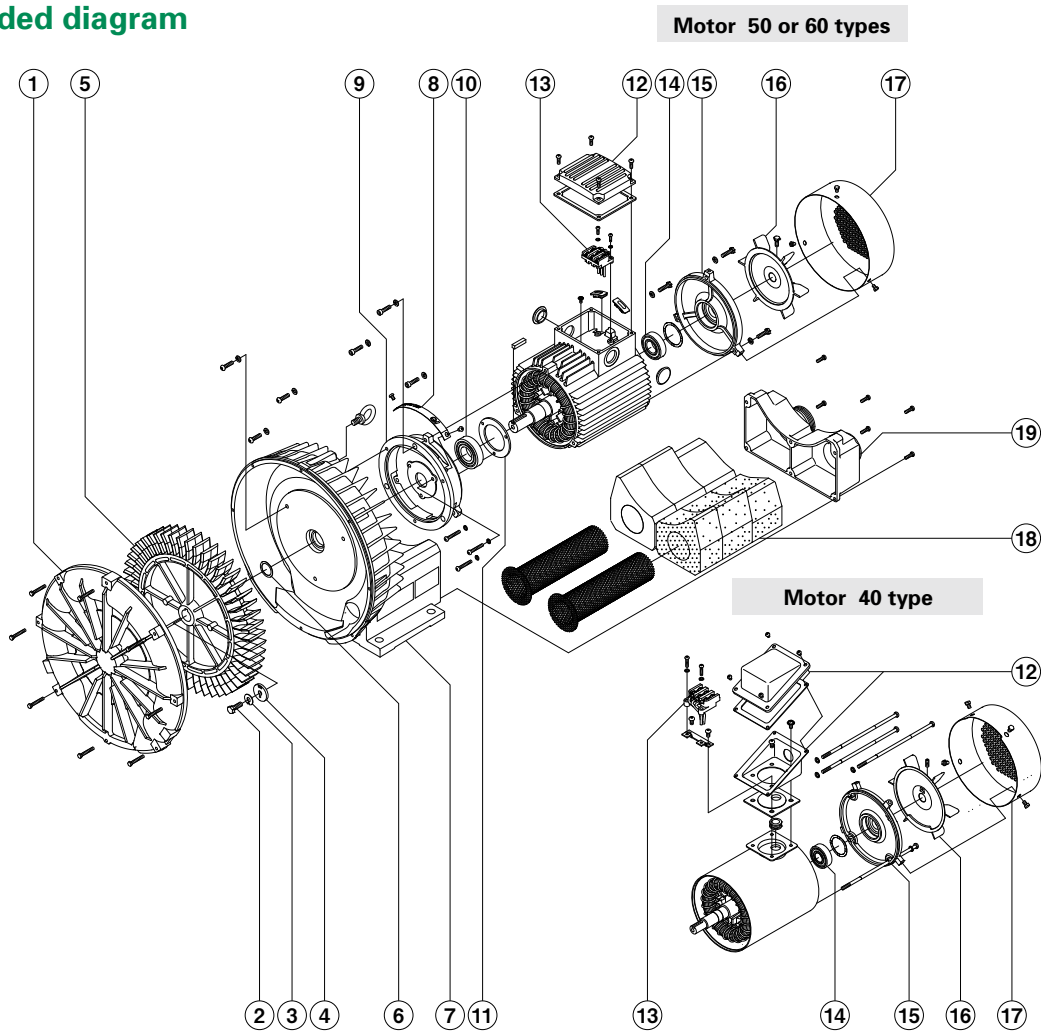
40~60 type



Model:VFZ601A

No	Parts	Material
1	Casing	ADC12 or FC150
2	Locking bolt	Steel
3	Claw washer	SPCC
4	Clamp plate	SPCC
5	Fan	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	Reverse operation 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





Features

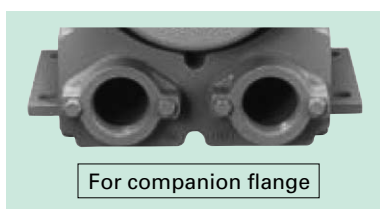
- Complies with EU RoHS directive and CE marking standard
- For fully enclosed intake operation (50 and 60 types)

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 types)
- International Class IP54 protection (for motor)

Paint color

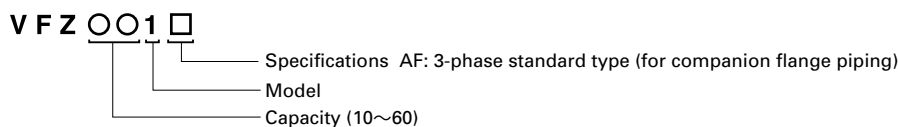
Munsell 2.5Y5/1

Piping



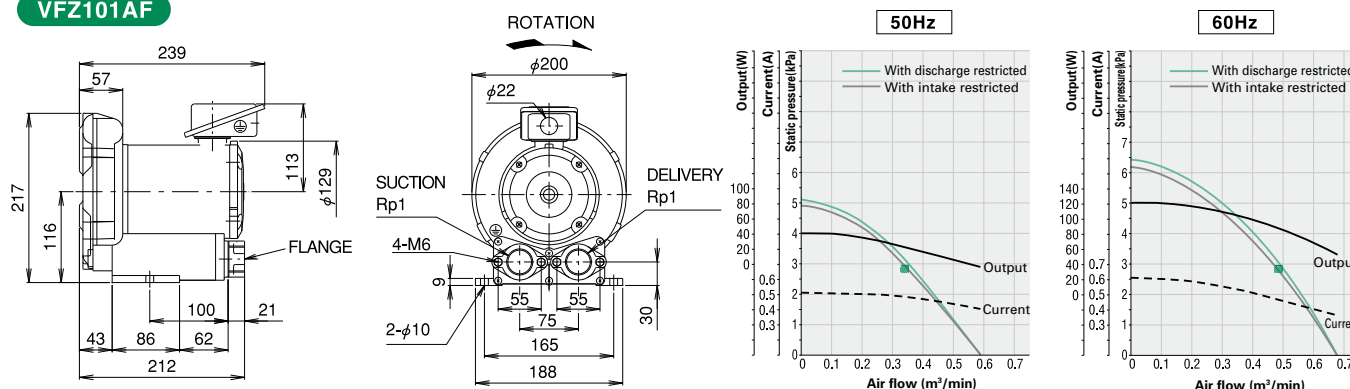
※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

Model description



Dimensional outline drawing and characteristic

VFZ101AF

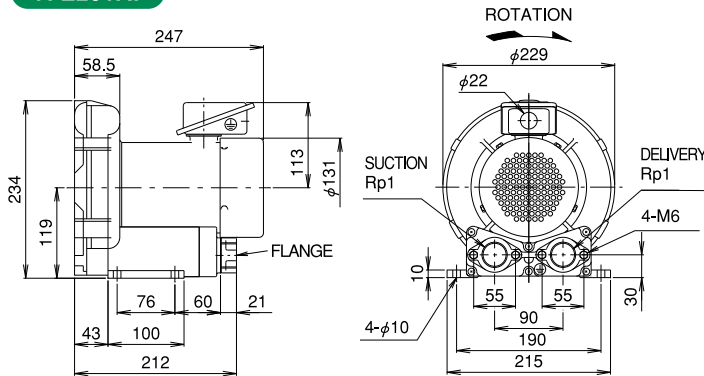


Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 – 20% higher at ambient temperature due to air density.

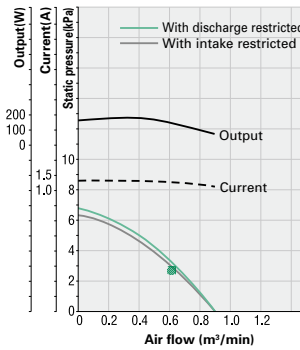
Note 2: noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

Dimensional outline drawing and characteristic

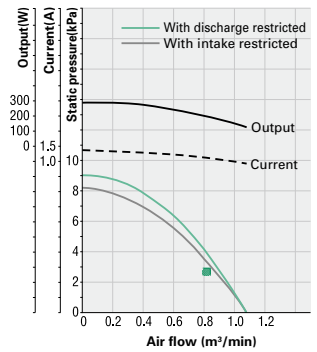
VFZ201AF



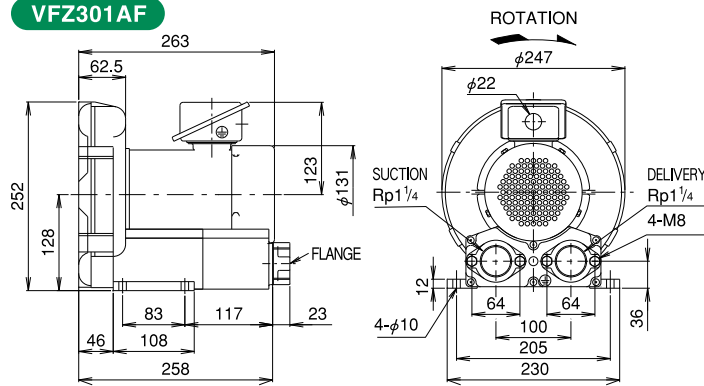
50Hz



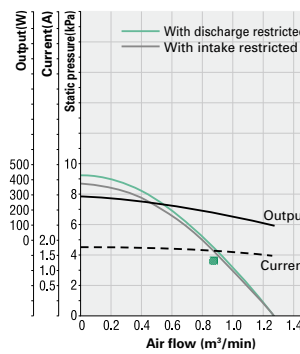
60Hz



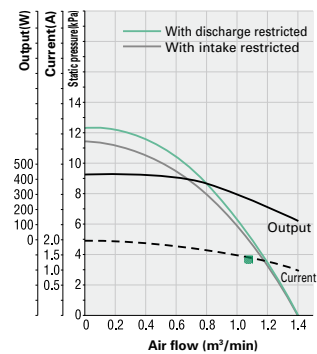
VFZ301AF



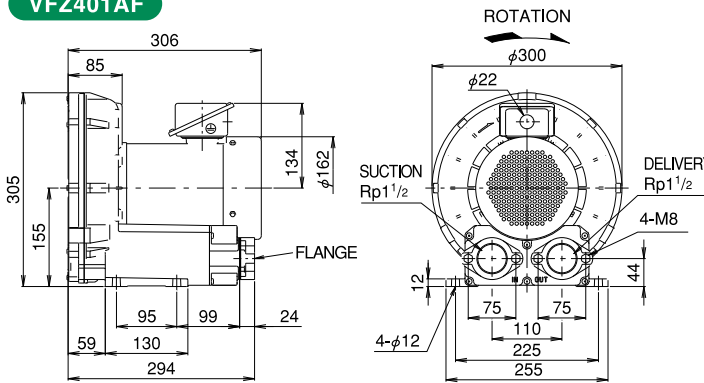
50Hz



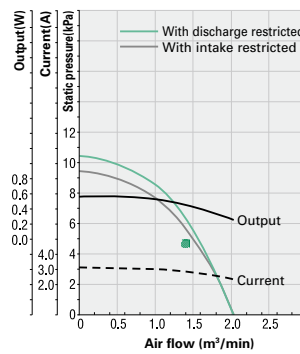
60Hz



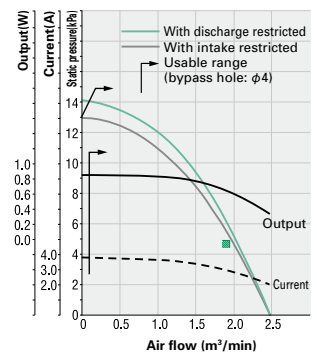
VFZ401AF



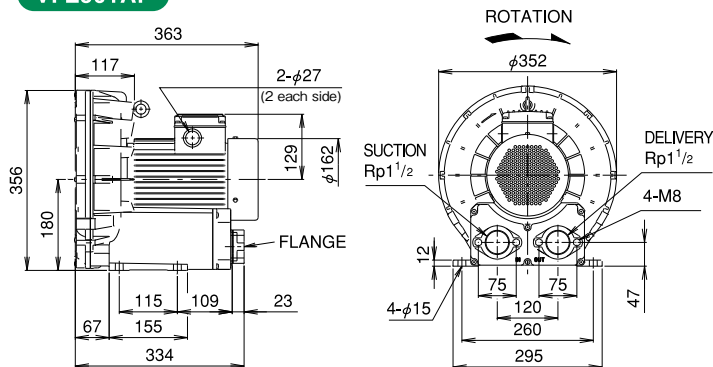
50Hz



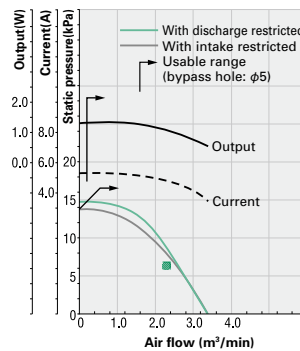
60Hz



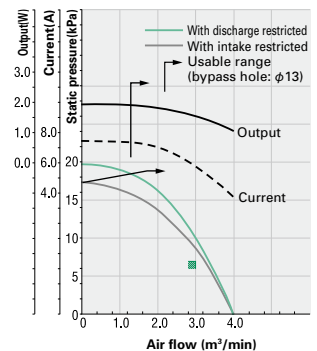
VFZ501AF



50Hz



60Hz



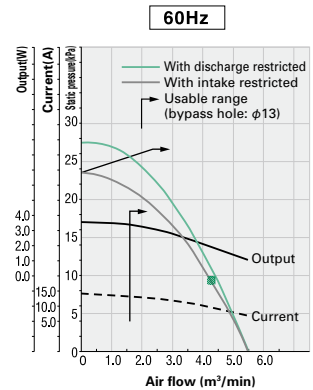
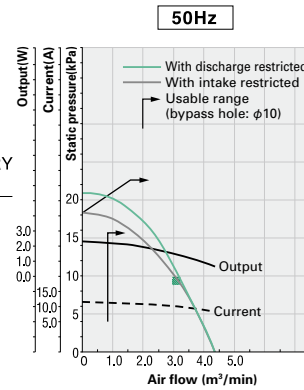
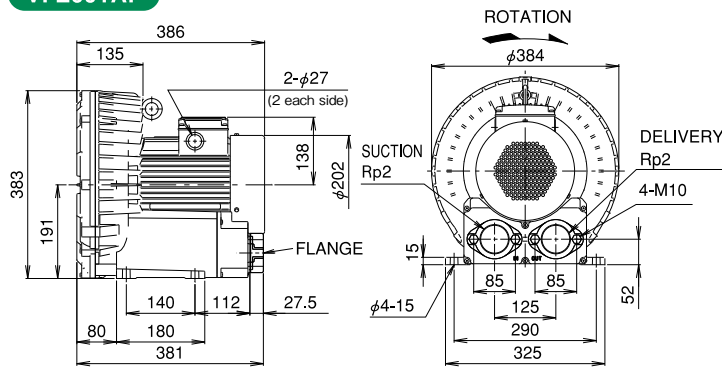
※ Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

Note 2: ■ noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

■ Dimensional outline drawing and characteristic

VFZ601AF



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

Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 – 20% higher at ambient temperature due to air density.

Note 2: ▨ noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

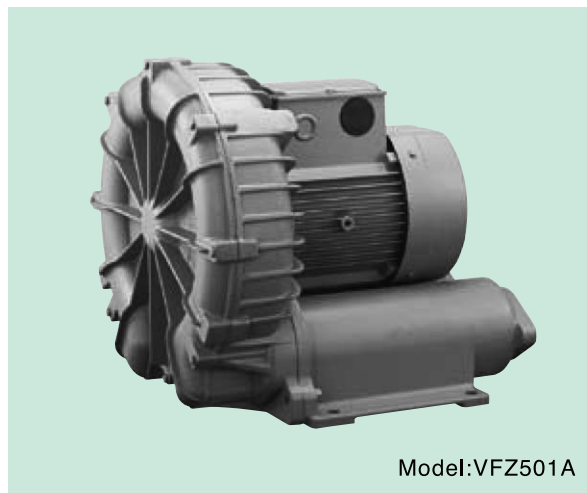
Light & Small **X** High performance

Features

- Dramatic reduction in size and weight
- Fully enclosed intake operation
- Design eliminates oil seals in the blower
- Reduction in harsh high frequency sounds
(Δ max 10 dB (A) compared to previous products)
- Complies with EU RoHS directive and CE marking standard
- International Class IP54 protection (for motor)
- Piping companion flange system used

Paint color

Munsell 2.5Y5/1



※ This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

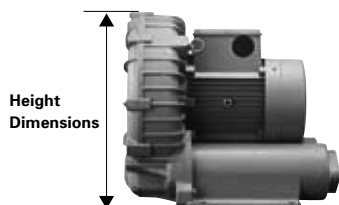
Model description

VFZ ○ ○ 1 □

A: 3-phase standard type
A-4Z: 3-phase, non-standard voltage product
Specifications
Model
Capacity (70・80・90)

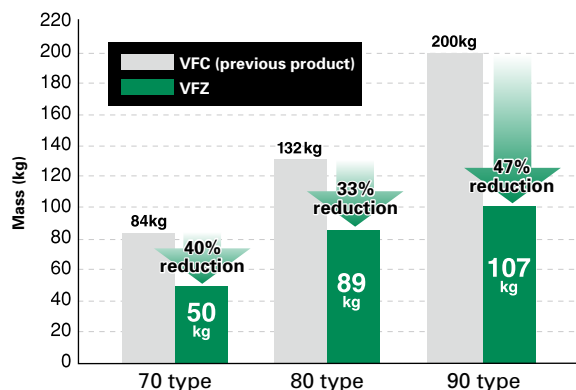
Comparison with previous products

Blower height

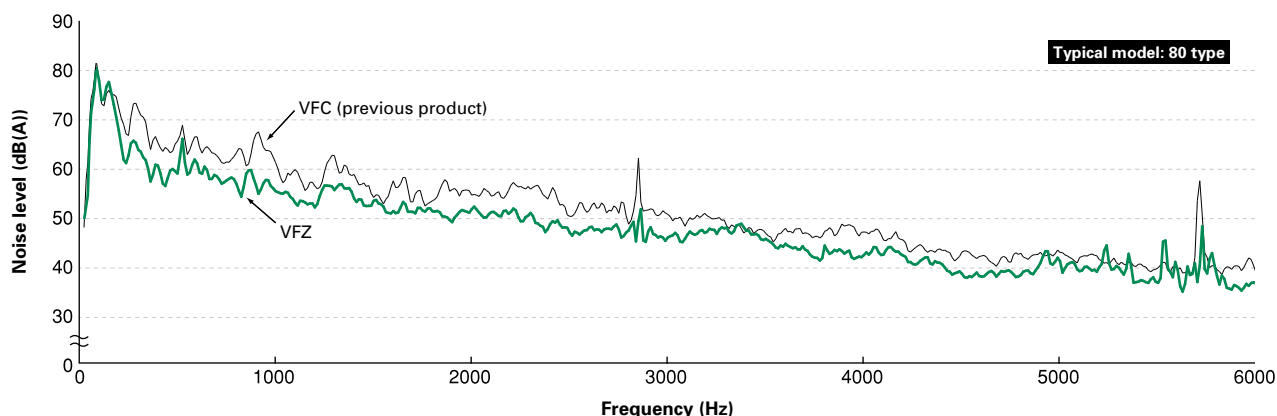


Type	VFZ	VFC (previous product)
70	447mm	463mm
80	501mm	522mm
90	535mm	588mm

Mass comparison



Noise comparison (high frequency)

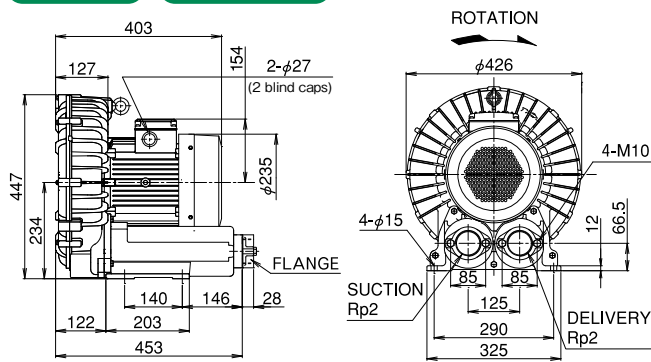


※ Above noise comparison (high frequency) data obtained from typical model at 60 Hz and 200V in unrestricted operation.
 ※ Values measured at distance of 1.0 m.

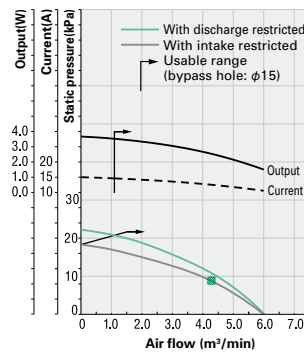
Dimensional outline drawing and characteristic

VFZ701A

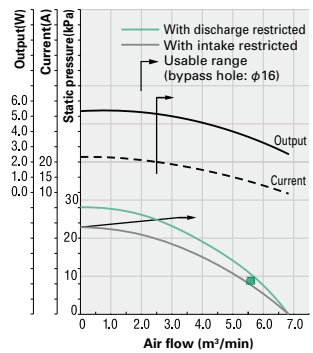
VFZ701A-4Z



50Hz

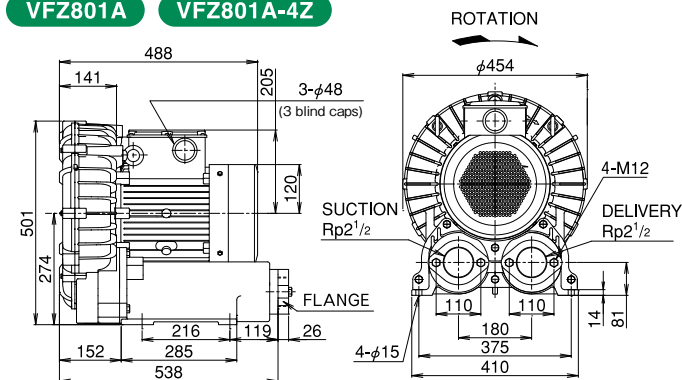


60Hz

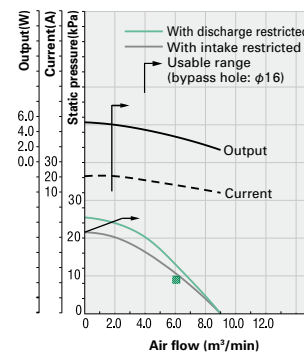


VFZ801A

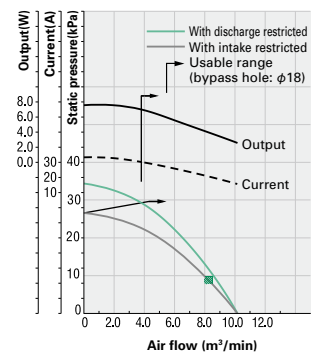
VFZ801A-4Z



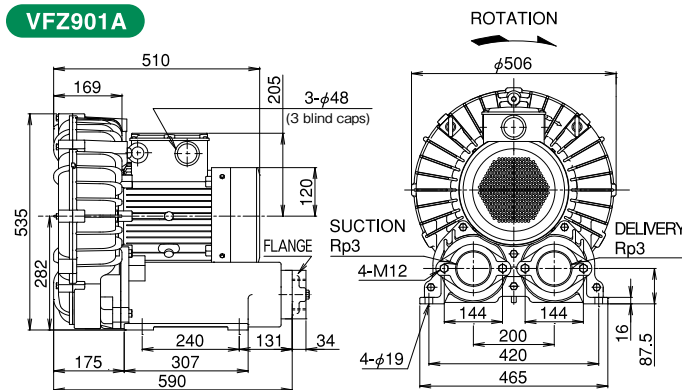
50Hz



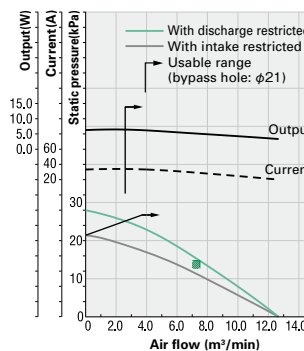
60Hz



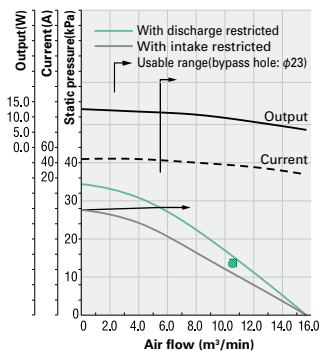
VFZ901A



50Hz



60Hz

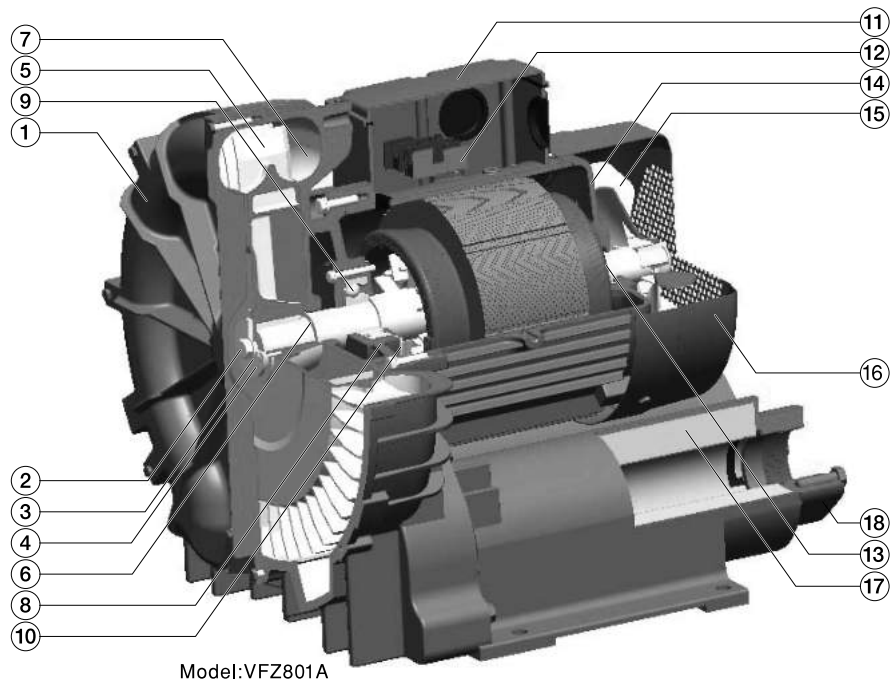


Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

Note 2: ■ noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

Note 3: Check 'Standard Specifications' for current values for non-standard voltage products (-4Z).

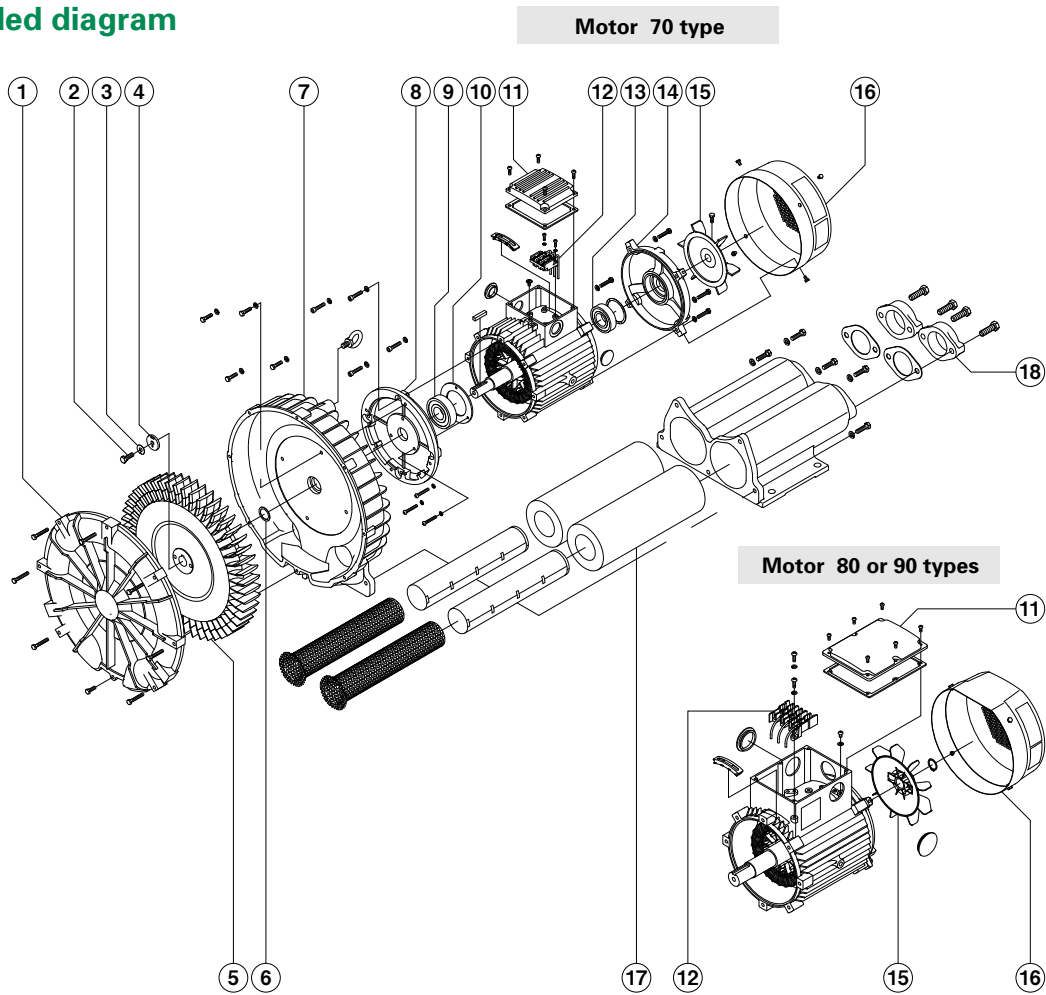
Internal structure



Model:VFZ801A

No	Parts	Material
1	Casing	FC150
2	Locking bolt	Steel
3	Claw washer	SPCC
4	Clamp plate	SPCC
5	Fan	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	Reverse operation shield	FC150
15	External fan	Plastic or ADC12
16	Fan cover	SPCC
17	Sound insulation	Glass wool
18	Flange	FC150

Exploded diagram





Features

- Large reduction in harsh high frequency sounds (Δ max 15 dB (A) compared to previous products)
- Complies with EU RoHS directive and CE marking standard
- For fully enclosed intake operation (50 and 60 types)
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 – 60 types)
- Employs an aerofoil section external fan to reduce fan noise (60 – 90 types) Patent granted (2008-115790)
- Dramatic reduction in size and weight (70 - 90 types)
- International Class IP54 protection (for motor)

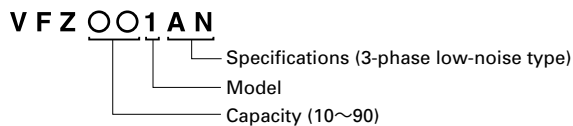


※ This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

Paint color

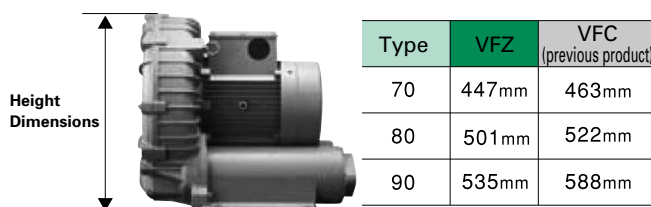
Munsell 10YR4/1

Model description

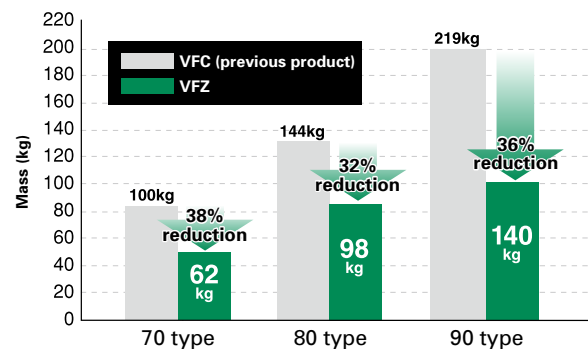


Comparison with previous products

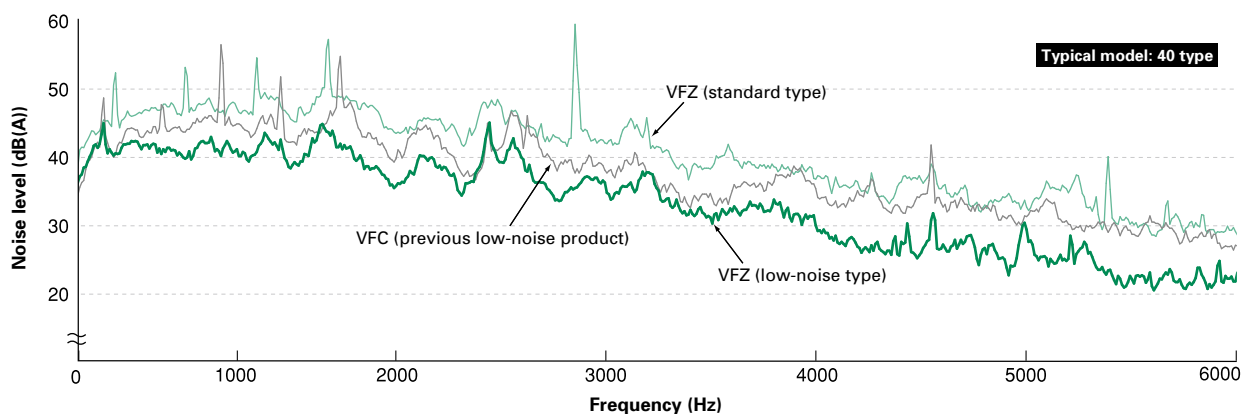
Blower height (70 type and above)



Mass comparison (70 type and above)



Noise comparison (high frequency)

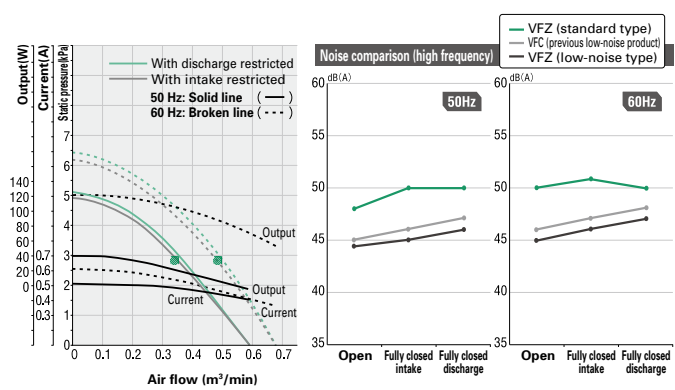
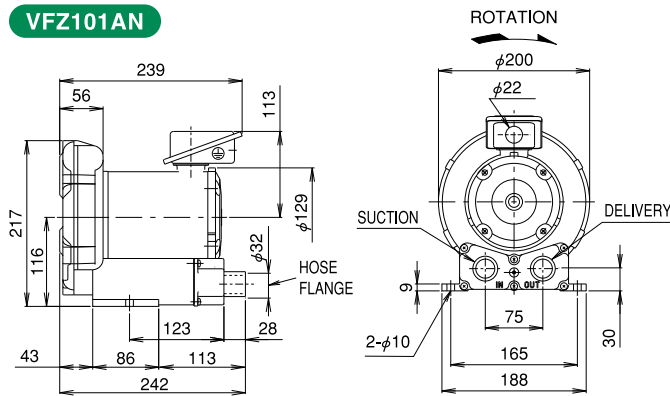


※ Above noise comparison (high frequency) data obtained from typical model at 60 Hz and 200V in unrestricted operation.

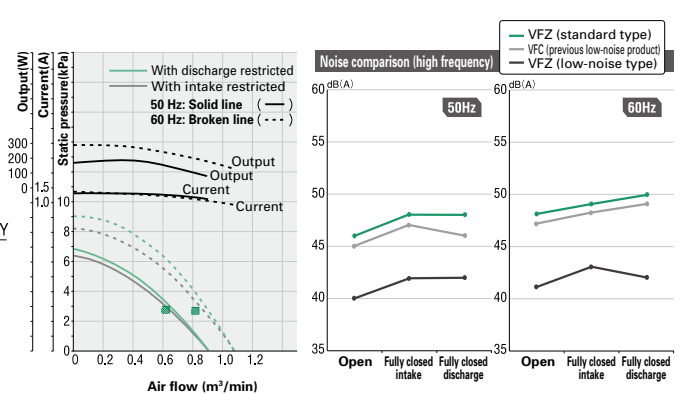
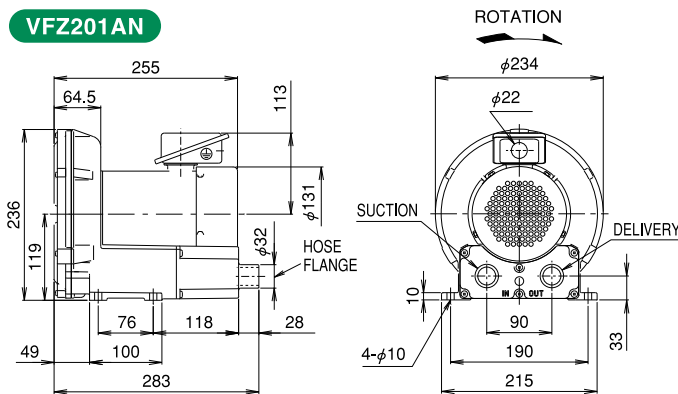
※ Values measured at distance of 1.0 m.

■ Dimensional outline drawing and characteristic

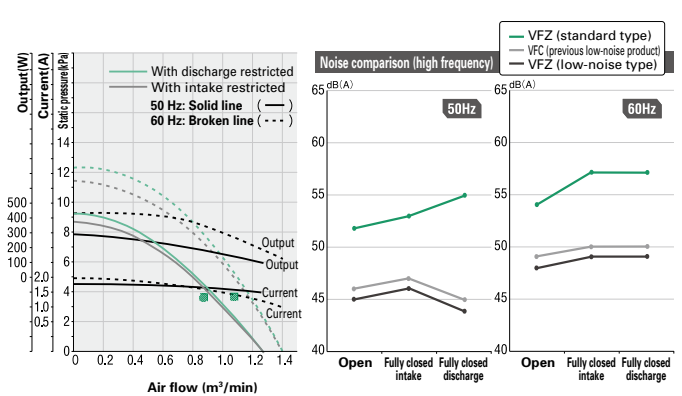
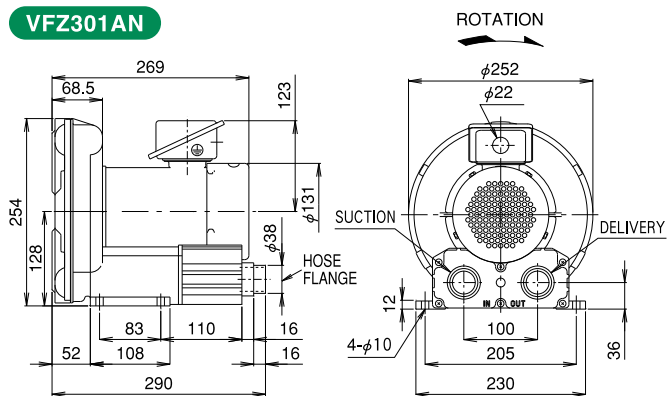
VFZ101AN



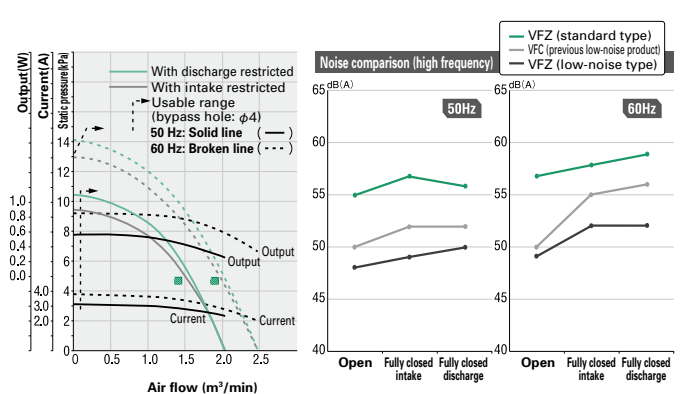
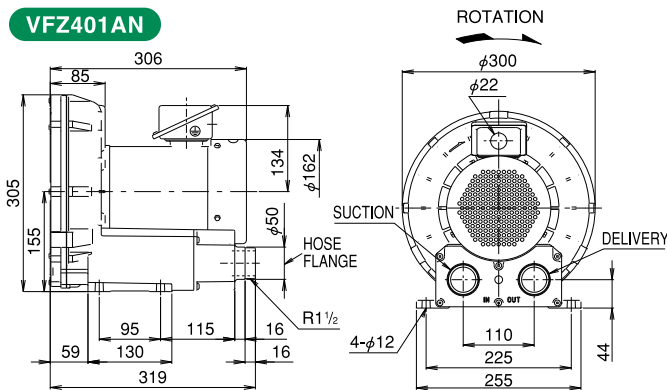
VFZ201AN



VFZ301AN



VFZ401AN



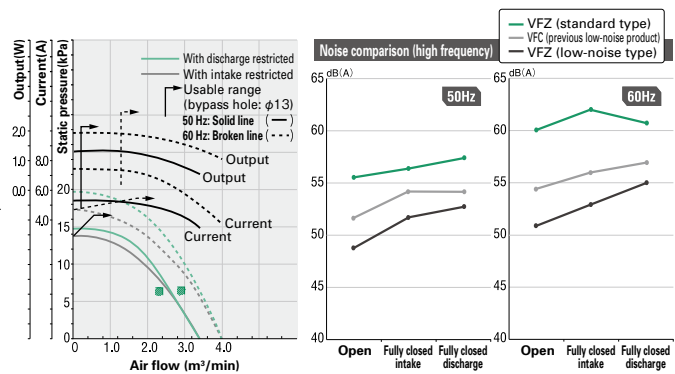
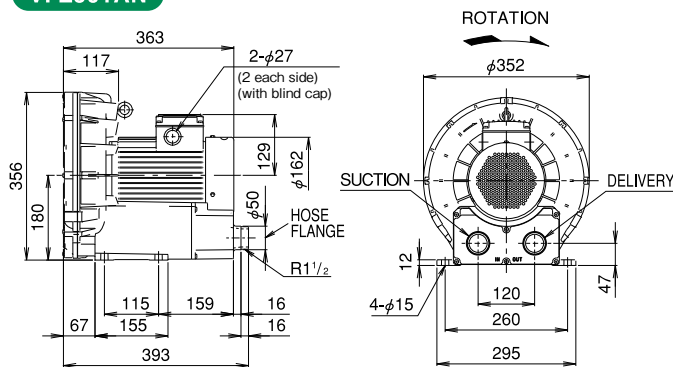
Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

Note 2: ■ noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

Note 3: Measurements for the above noise comparison (high frequency) graph were taken at a distance of 1.0 m.

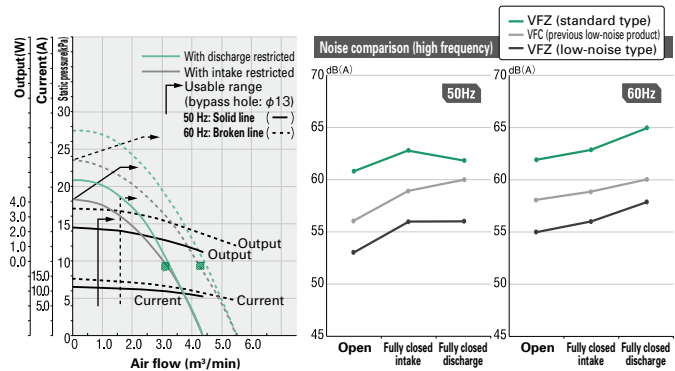
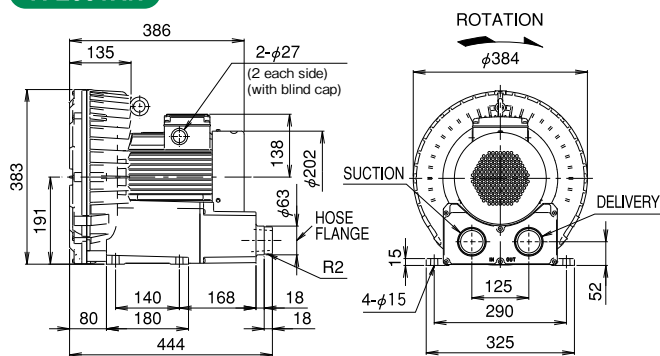
Dimensional outline drawing and characteristic

VFZ501AN



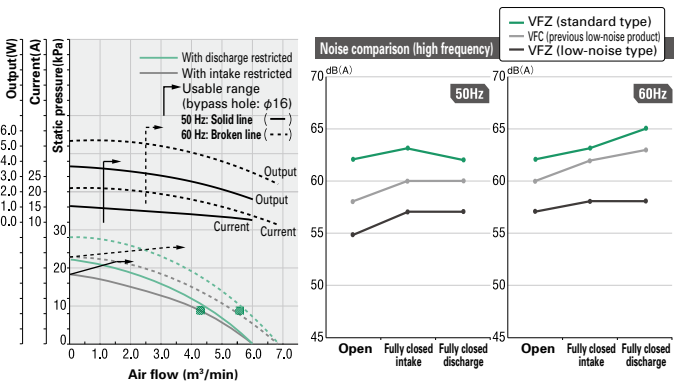
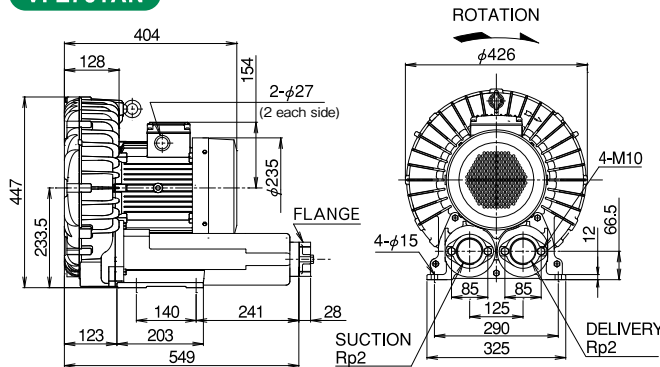
*Caution: Always remove the emblem on the main unit before fully closed intake operation.

VFZ601AN

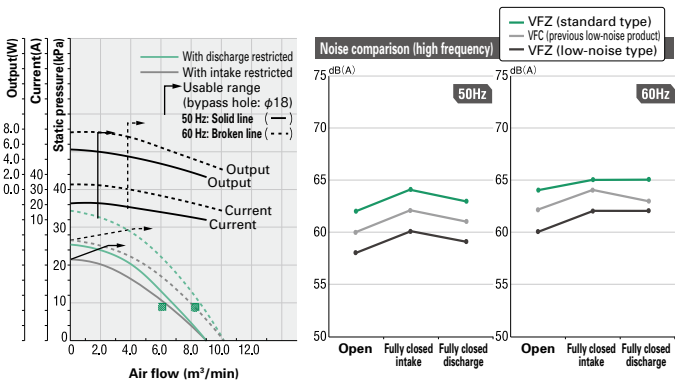
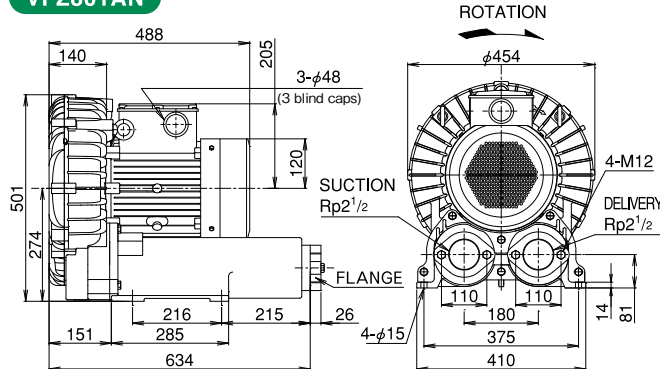


*Caution: Always remove the emblem on the main unit before fully closed intake operation.

VFZ701AN



VFZ801AN



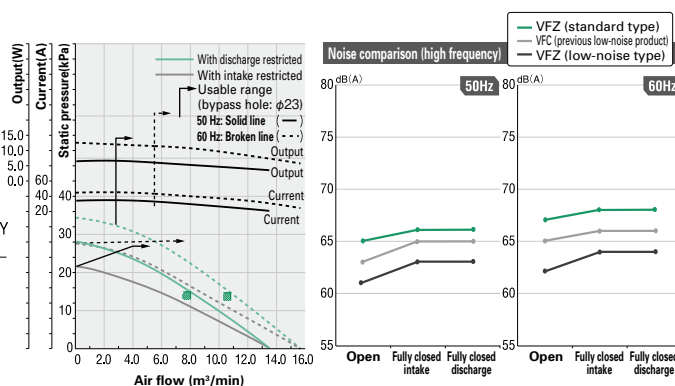
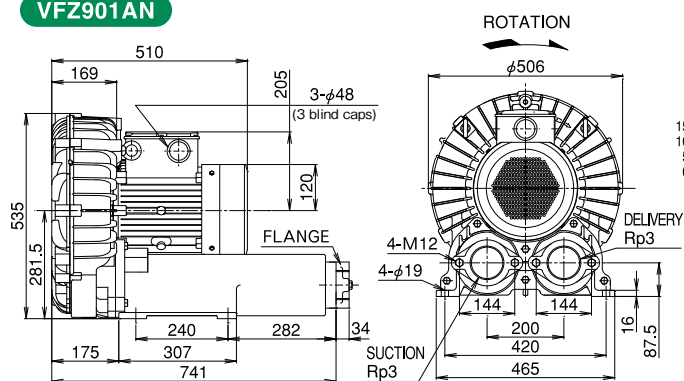
Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

Note 2: The values noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

Note 3: Measurements for the above noise comparison (high frequency) graph were taken at a distance of 1.0 m.

Dimensional outline drawing and characteristic

VFZ901AN



Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 – 20% higher at ambient temperature due to air density.

Note 2: The values noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

Note 3: Measurements for the above noise comparison (high frequency) graph were taken at a distance of 1.0 m.

Features

- UL (File No.E343781), CSA (File No.LR48762) approved



Paint color

Munsell N5

Model description

VFC○○○□-□

A-7W: 3-phase UL/CSA approved
P5T: Single phase UL/CSA approved
Specifications
Model
Capacity

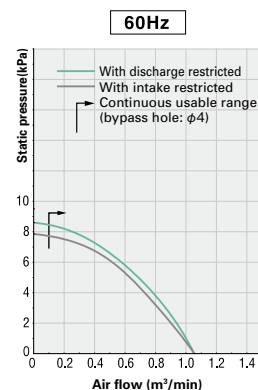
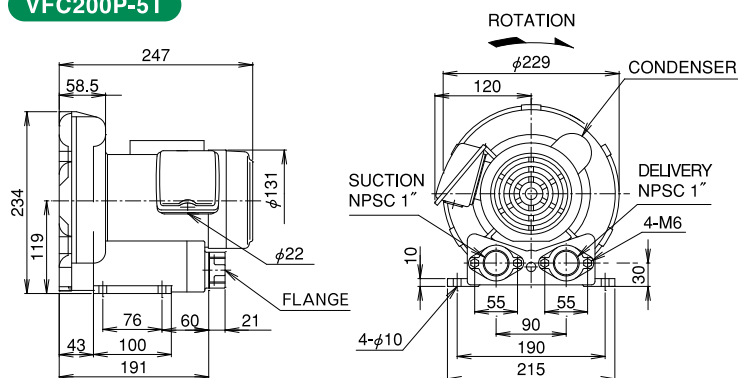


Model:VFC400A-7W

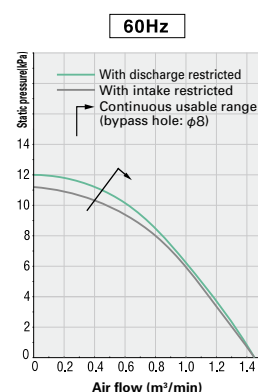
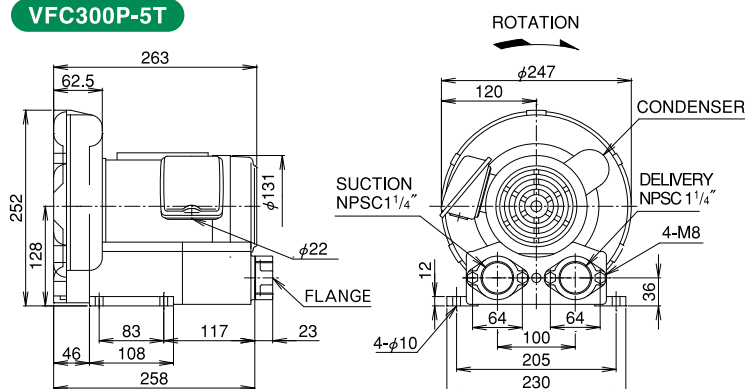
※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

Dimensional outline drawing and characteristic

VFC200P-5T



VFC300P-5T

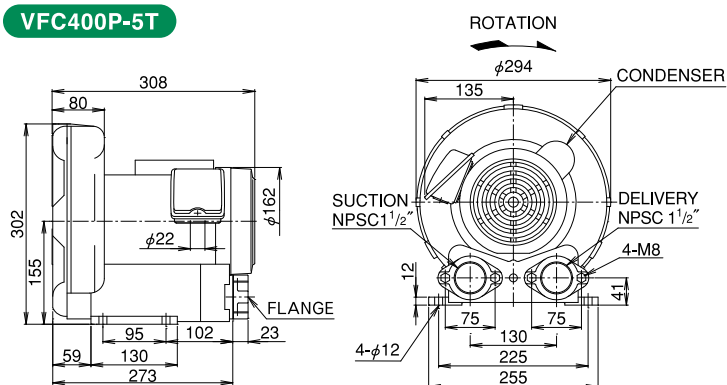


Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

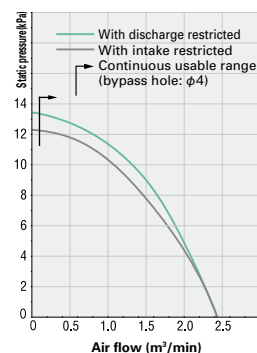
Note 2: Usable at 50 Hz, however characteristics deteriorate at this frequency.

Dimensional outline drawing and characteristic

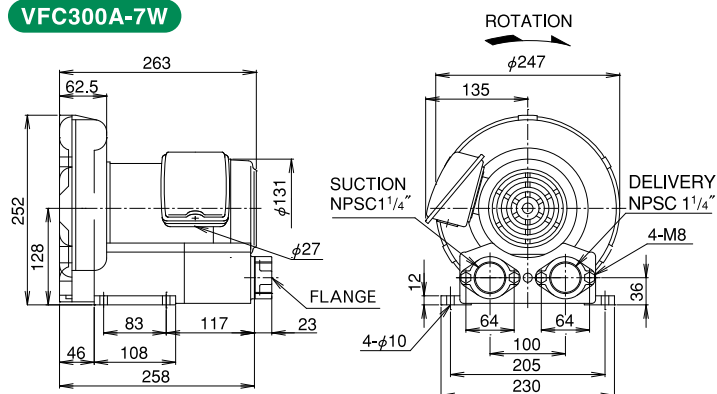
VFC400P-5T



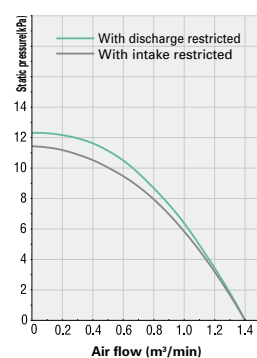
60Hz



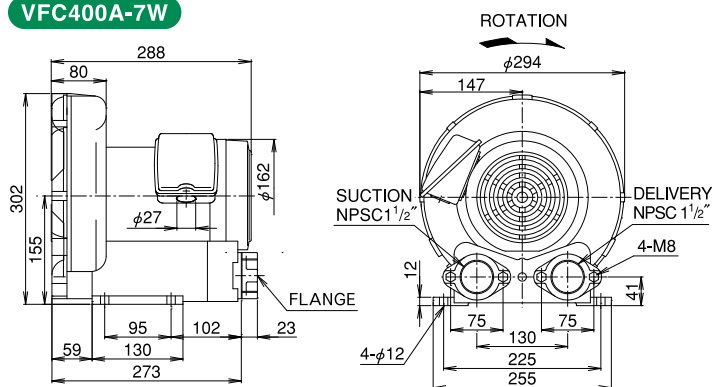
VFC300A-7W



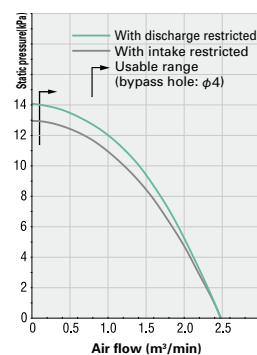
60Hz



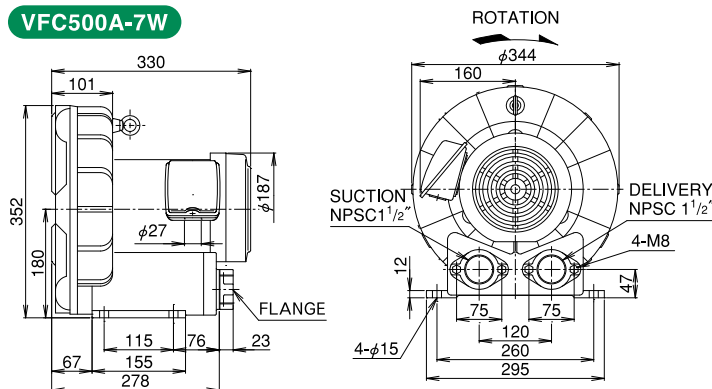
VFC400A-7W



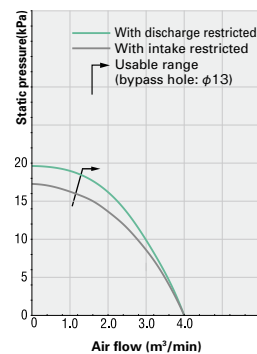
60Hz



VFC500A-7W



60Hz

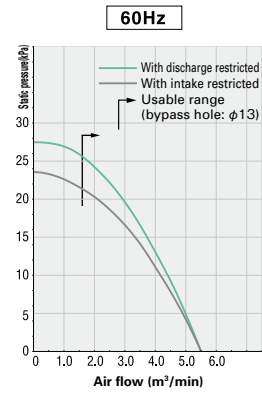
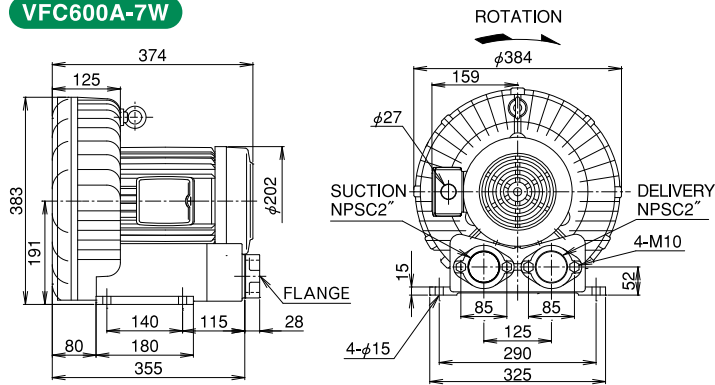


Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

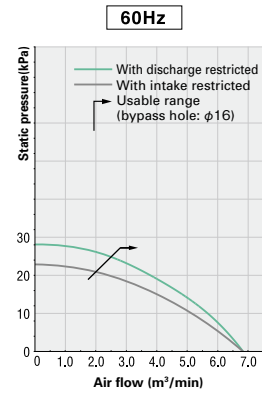
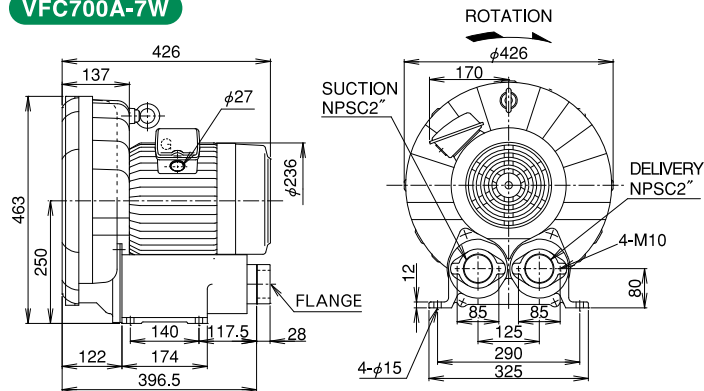
Note 2: Usable at 50 Hz, however characteristics deteriorate at this frequency.

Dimensional outline drawing and characteristic

VFC600A-7W



VFC700A-7W



Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 – 20% higher at ambient temperature due to air density.

Note 2: Usable at 50 Hz, however characteristics deteriorate at this frequency.

Features

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

Caution

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

Paint color

Munsell N5

Model description

VFC 00 8 Z

Specifications

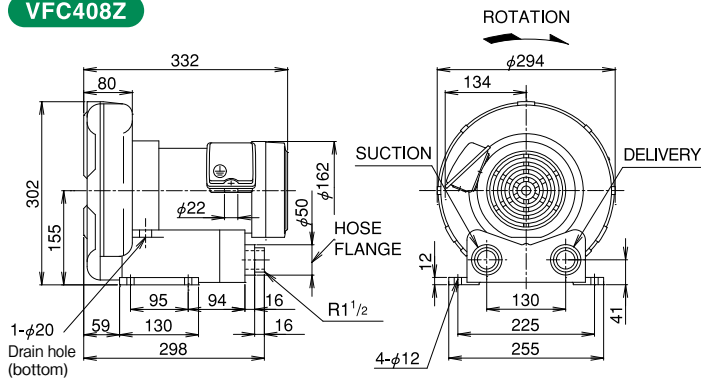
(3-phase, water resistant)

Model

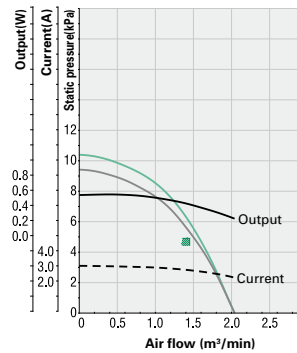
Capacity

Dimensional outline drawing and characteristic

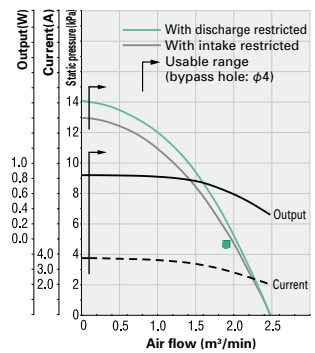
VFC408Z



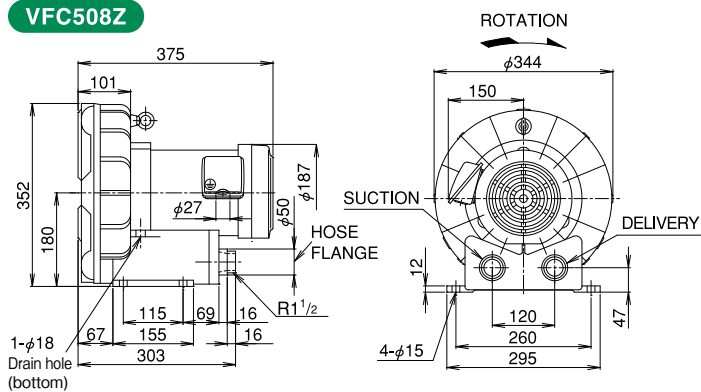
50Hz



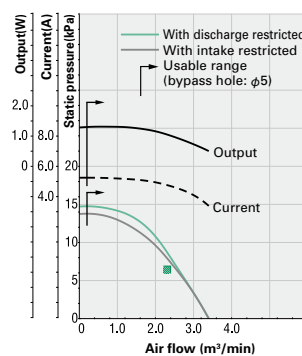
60Hz



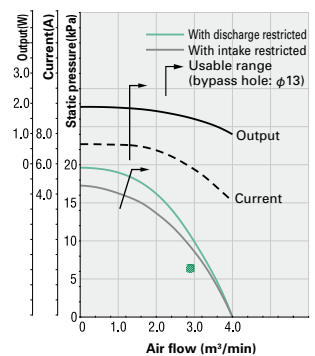
VFC508Z



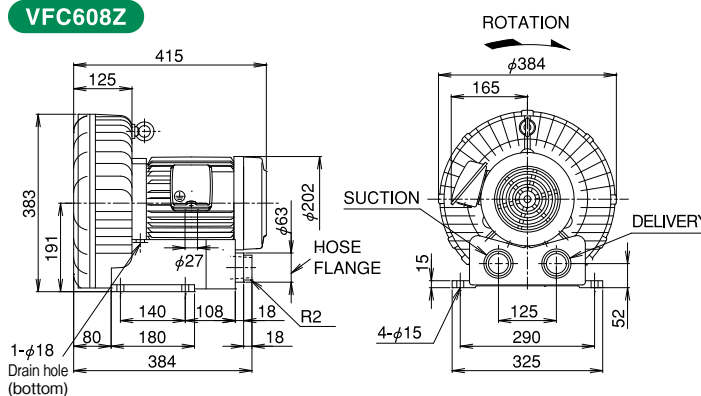
50Hz



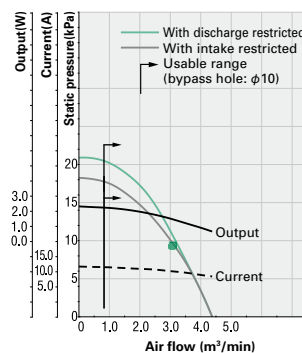
60Hz



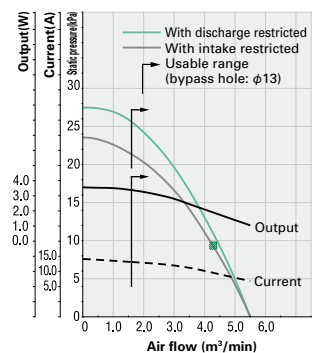
VFC608Z



50Hz



60Hz



Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

Note 2: ■ noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

Note 3: Built-in silencer on discharge side.

■ Features

- **Improved explosion-proofing design (factory electrical equipment guidelines eG3) used in motor.**

Note 1: The blower does employ a spark-proof design.

Do not use for transporting explosive or inflammable gases.

Note 2: Performance of standard 3-phase VFZ Series is downgraded.

■ Paint color

Munsell N5

■ Model description

V F C ○ ○ 5 C

– Specifications

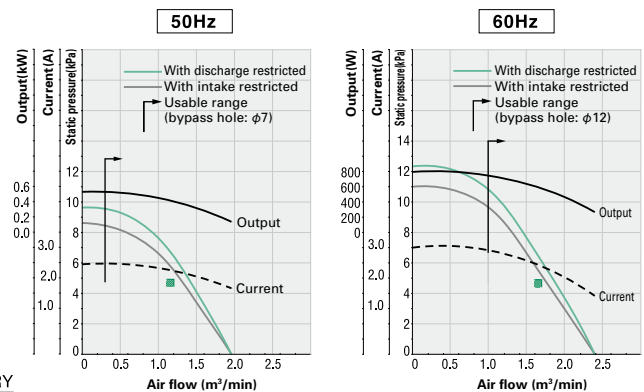
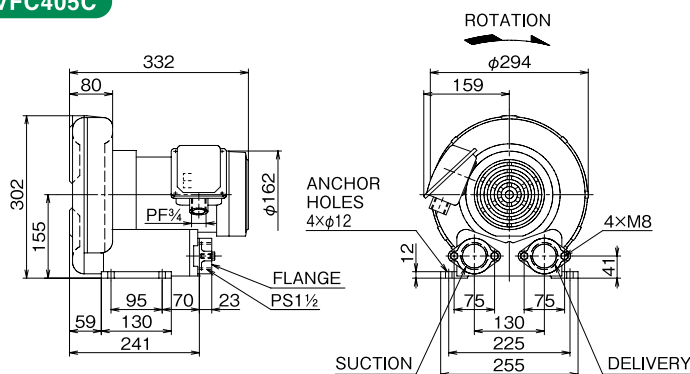
(3-phase, improved explosion-proofing type)

- Model

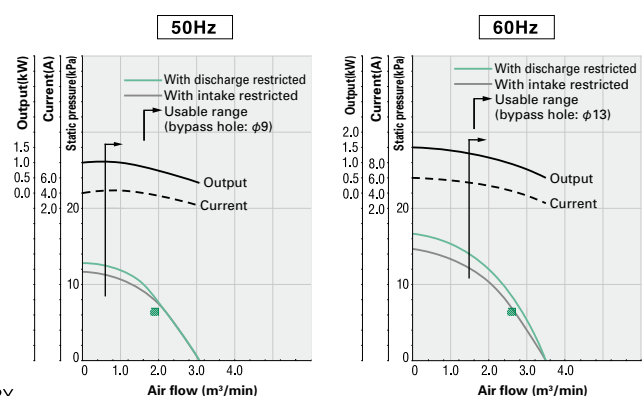
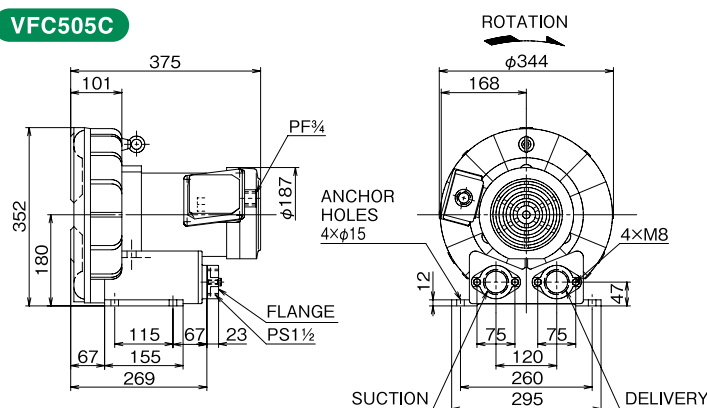
- Capacity

■ Dimensional outline drawing and characteristic

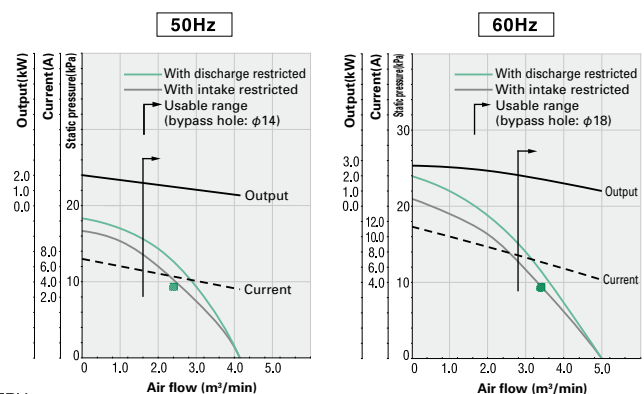
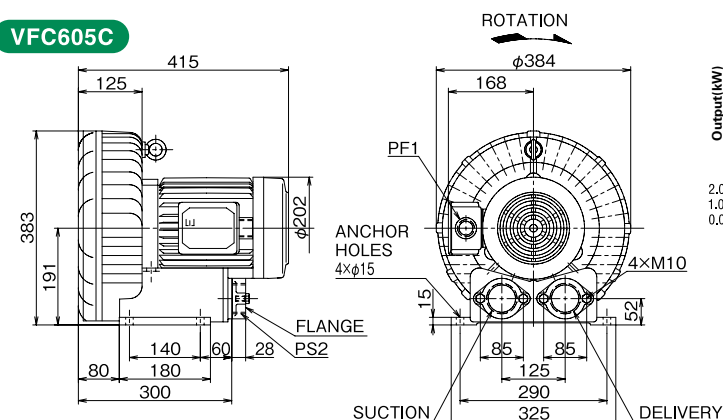
VFC405C



VFC505C



VFC605C



Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 – 20% higher at ambient temperature due to air density.

Note 2: ■ noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

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.

Features

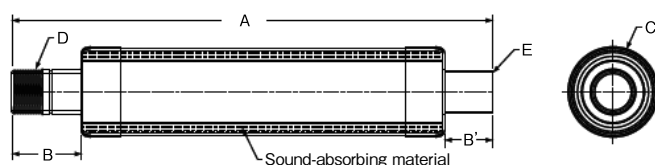
- Superior heat and water-resistant sound-absorbing material is used.
- Tapered or parallel-threaded connectors (VFY021S and VFY023S for hoses) used. Also usable with butted flanges.
- Compatible with RoHS directives.



※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

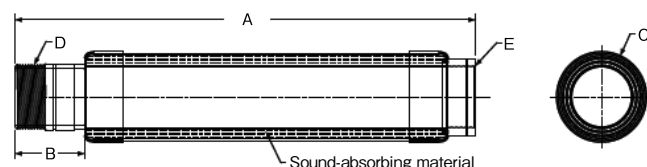
External dimensions

Fig.1



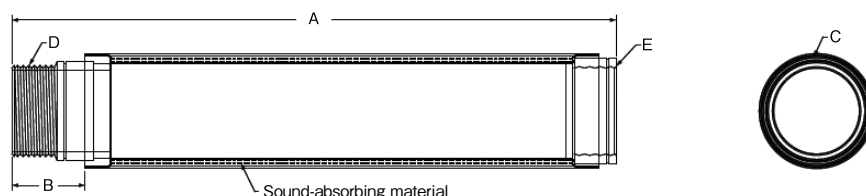
Model	A	B	B'	C	D	E	Mass	Suitable ring blower
VFY021S	345	51	28	φ66	R1	φ32	1.00kg	08, 10, and 20 types
VFY023S	348	51	31	φ66	R1¼	φ38	1.03kg	30 type

Fig.2



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

Fig.3



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

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



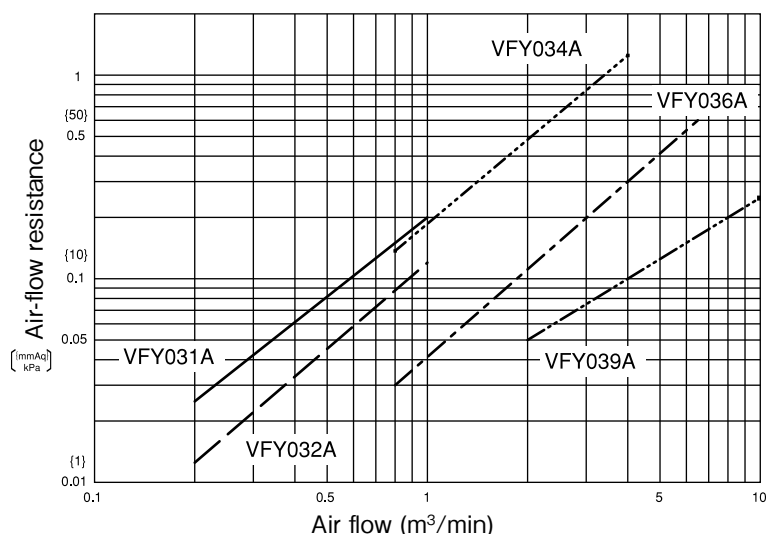
※ This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

Specifications

Air filter					Suitable ring blower	
Model	Area of filter material	Pipe bore (nominal thread)	Mass	Built-in element	Type	Intake bore
VFY031A	0.16m ²	Rp1 1/4 (Parallel set screw)	1.0kg	VFY031A-E	08 type 10 type	※ Always check bore size against 'Standard Specifications for Intake and Discharge Bores'.
VFY032A	0.42m ²	Rp1 1/4 (Parallel set screw)	1.8kg	VFY032A-E	20 type 30 type	
VFY034A	0.42m ²	Rp1 1/2 (Parallel set screw)	1.8kg	VFY032A-E	40 type 50 type	
VFY036A	1.28m ²	Rp2 (Parallel set screw)	4.6kg	VFY036A-E	60 type 70 type	
VFY038A (T style)	2.12m ²	Rp3 (Parallel set screw)	11.5kg	VFY038A-E	80 type 90 type	
VFY039A	2.79m ²	Rp3 (Parallel set screw)	12.5kg	VFY039A-E	80 type 90 type	

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 intake differ. Use a commercially available joint.

● Cautions for maintenance and checking of air filters

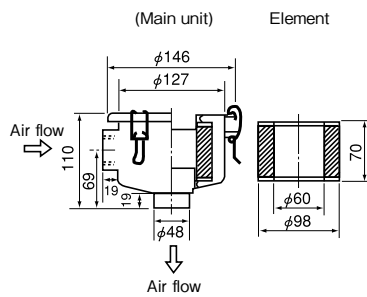
- (1) Clogging of air filters differs with conditions of use. Check periodically.
- (2) When cleaning and replacing the element, remove it to ensure that dust and particles do not fall into the ring blower. Remove dust and particles which have collected inside.
- (3) If the element contains water, air-flow 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.

External dimensions

VFY031A



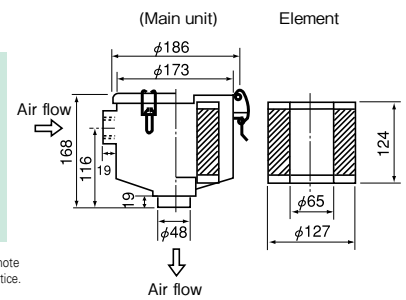
※ This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.



VFY032A



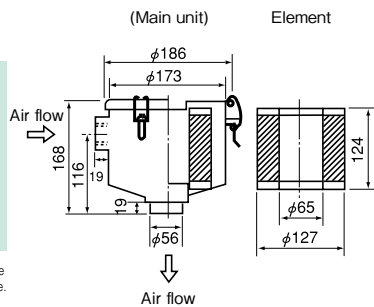
※ This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.



VFY034A



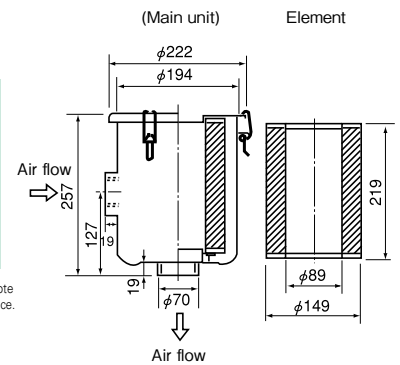
※ This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.



VFY036A



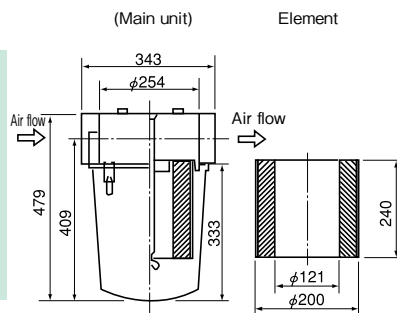
※ This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.



VFY038A



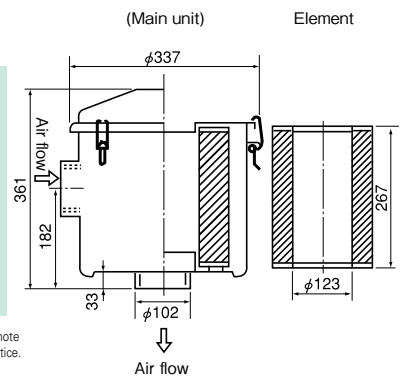
※ This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.



VFY039A

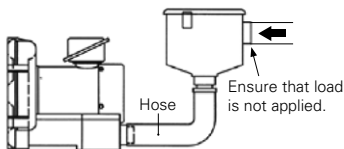


※ This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

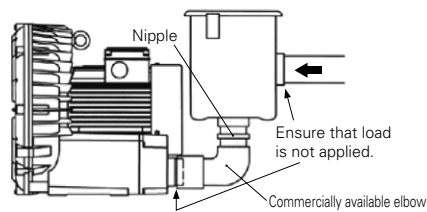


Mounting diagram

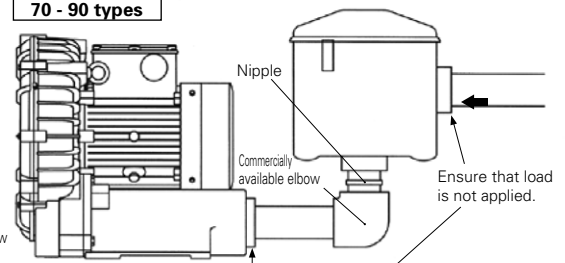
08 - 30 types



40 - 60 types



70 - 90 types



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.

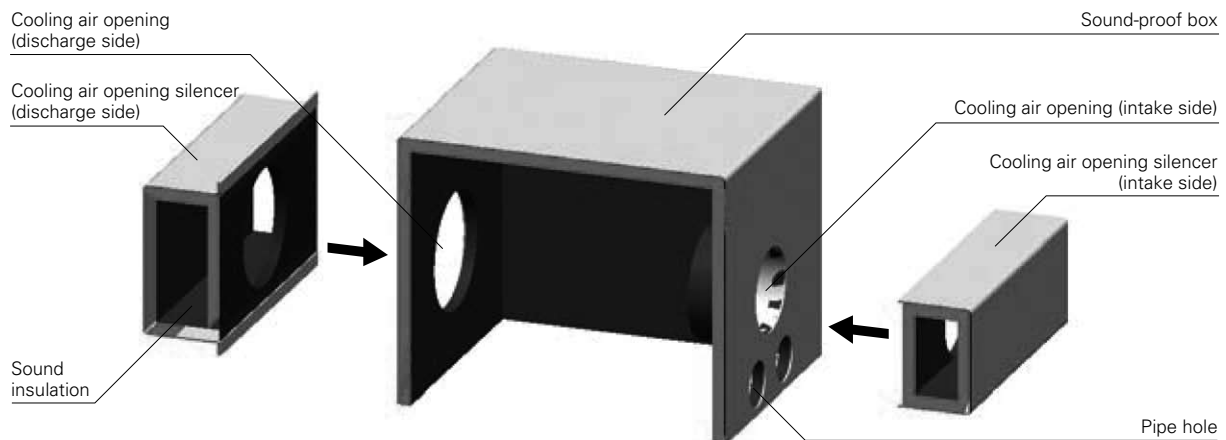


Fig.1 Structure

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

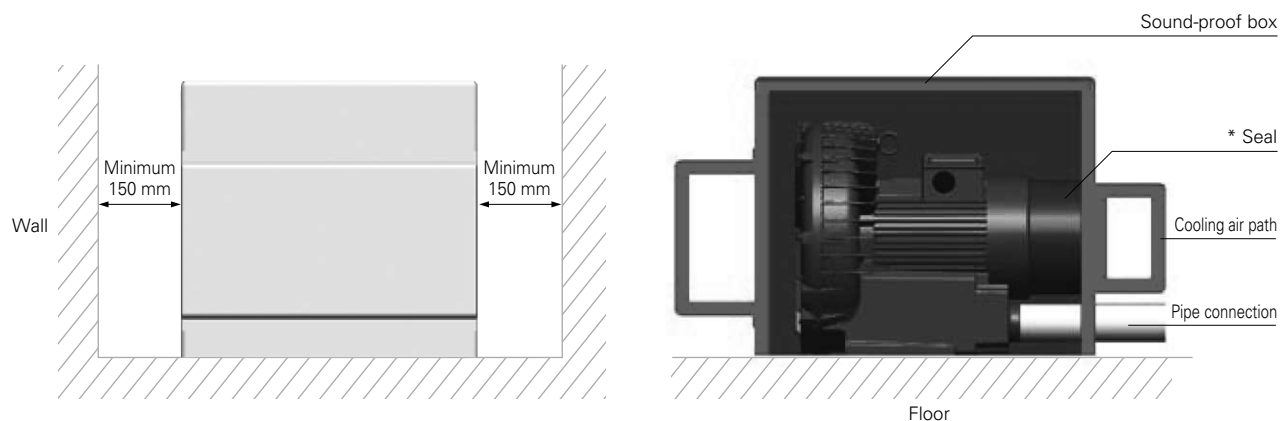


Fig.2 Installation

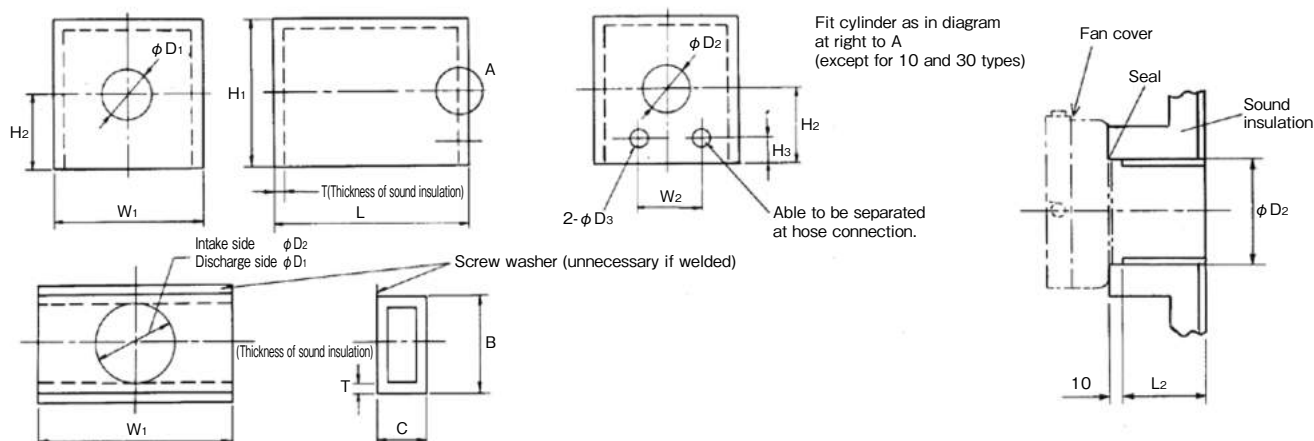
Installation sequence for sound-proof box

- 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.

External dimensions



(units:mm)

Model	L	W ₁	W ₂	H ₁	H ₂	H ₃	T	D ₁	D ₂	D ₃	B Intake side Discharge side	C Intake side Discharge side	L ₂
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 type.

Note 4: Fill any gaps at D₃ following wiring. Recheck D₃ dimension with special piping.

Note 5: Dimensions in brackets for the above 70, 80, and 90 types are for the AN Series.

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
Liftflex		Nichias Corporation	
Moltprene (Colorform)	SC	Inoac Corporation	Recommended items products
	ESC		Slightly reduced sound absorption properties, 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.

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°C). Variation in air volume at intake is $\pm 10\%$ from the resistance curve.
- (2) Solid line characteristic curves indicate that continuous operation is possible. This range of use extends up to cut-off pressure for intake operation, and to near the cut-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 cut-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 cut-off pressure in discharge operation. Refer to the table at right (VFZ Series) for bypass hole diameter.

(units:mm)

Model	50Hz	60Hz
VFZ081PN	—	—
VFZ101PN	$\phi 3$	$\phi 4$
VFZ201PN	$\phi 5$	$\phi 4$
VFZ301PN	$\phi 7$	$\phi 8$
VFZ401PN	—	$\phi 4$
VFZ081A (AN)	—	—
VFZ101A (AN)	$\phi 3$	$\phi 5$
VFZ201A (AN)	—	—
VFZ301A (AN)	—	—
VFZ401A (AN)	—	$\phi 4$
VFZ501A (AN)	$\phi 5$	$\phi 13$
VFZ601A (AN)	$\phi 10$	$\phi 13$
VFZ701A (AN)	$\phi 15$	$\phi 16$
VFZ801A (AN)	$\phi 16$	$\phi 18$
VFZ901A (AN)	$\phi 21$	$\phi 23$

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

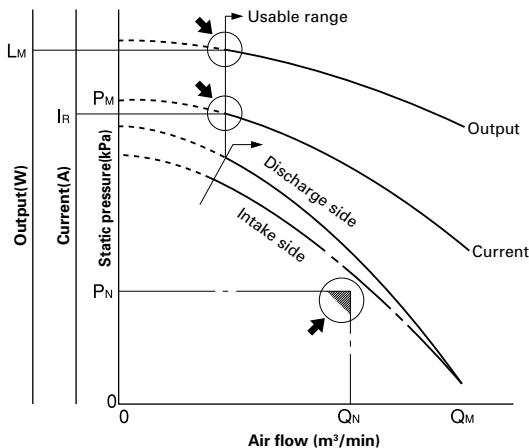
03

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: QN } Optimum use
Static pressure: PN } characteristic point

Output: LM } Usable discharge point
Current: IR }

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

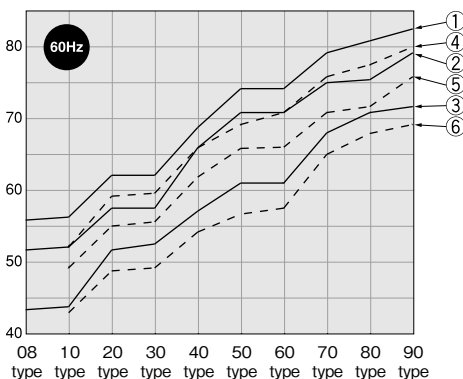
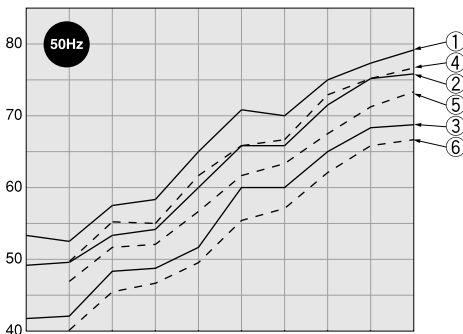
When using at both 50 Hz and 60 Hz, adjust to the 60Hz current value on the nameplate. If using solely at 50 Hz or 60 Hz, adjust to the relevant current value on the nameplate.

04

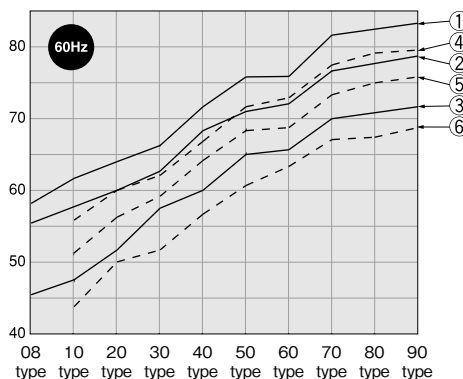
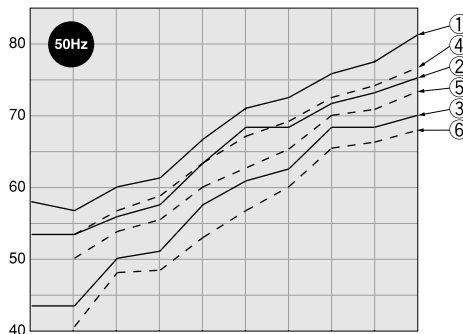
Technological material

Noise data

Unrestricted operation



Fully closed discharge operation



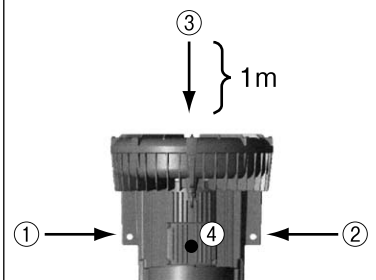
Standard type Solid line (—)

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

Low-noise type Broken line (- - -)

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

Measurement method



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

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

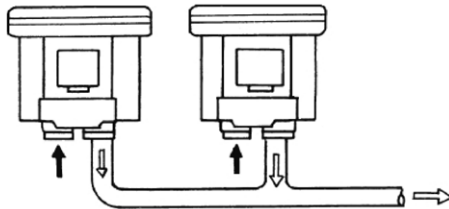
05

Technological material

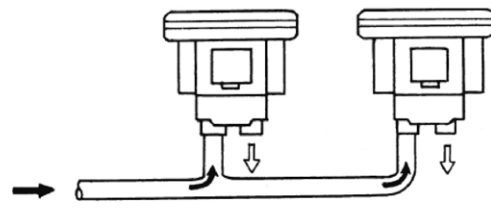
Parallel operation

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

Discharge parallel operation

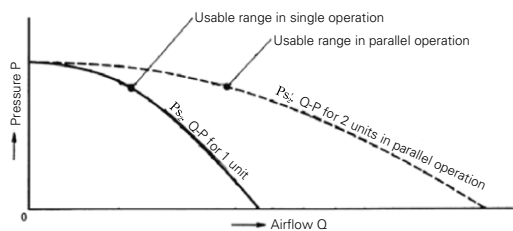


Intake parallel operation

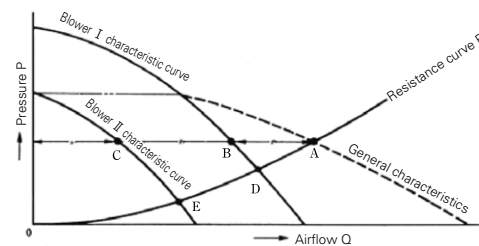


When blowers are operated in parallel, pressure characteristics remain unchanged, and airflow increases by the number of units (see below). Since airflow increases, the load on the blower also increases, and the usable range is displaced on the graph. Care is required to ensure that operation does not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

Characteristic curves with the same blowers in parallel operation.



Characteristic curves with different blowers in parallel operation.



06

Technological material

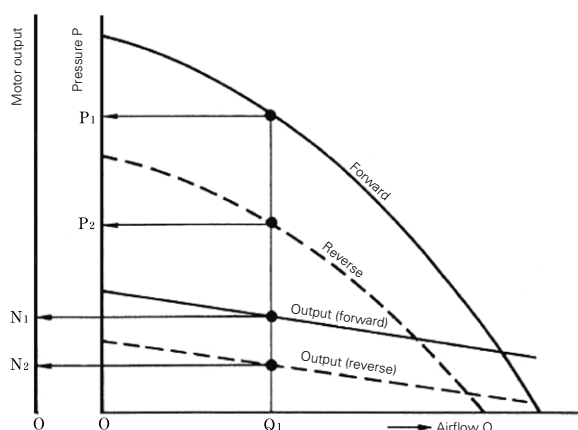
Reverse operation

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).

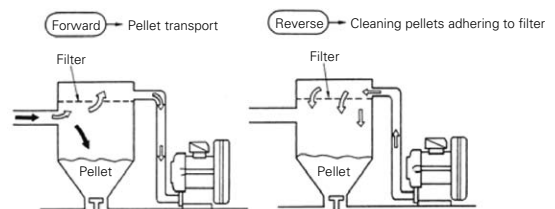
Furthermore, reverse operation allows use in cleaning of a variety of air transport equipment.

Characteristics with reverse operation



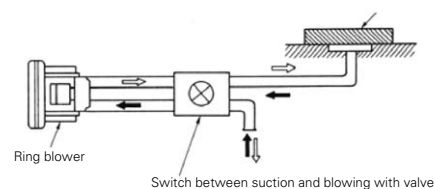
Application examples 1

Filter cleaning



Application examples 2

Repeated intake and discharge

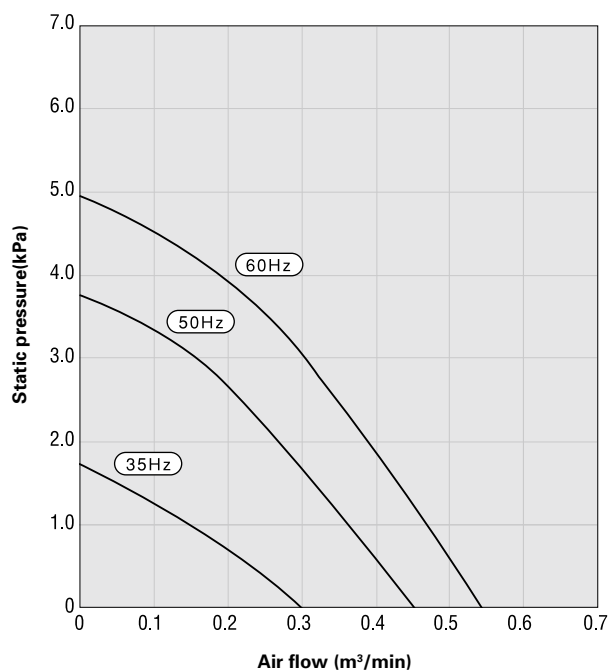


07

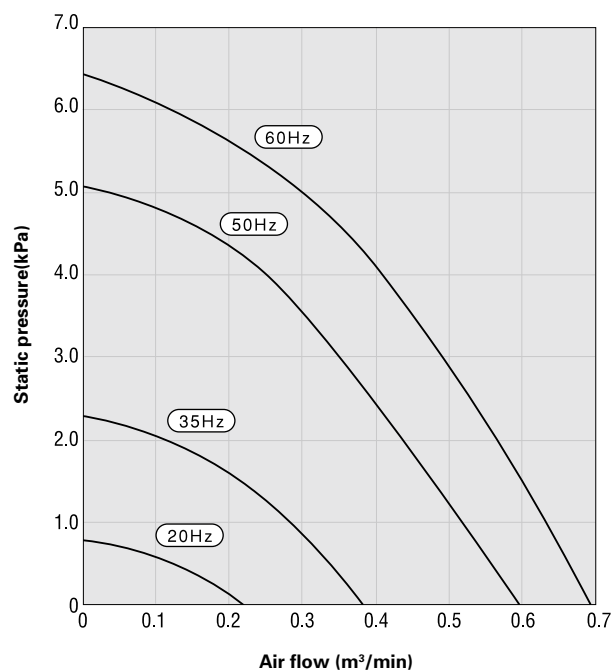
Technological material

Variable speed operation with inverter

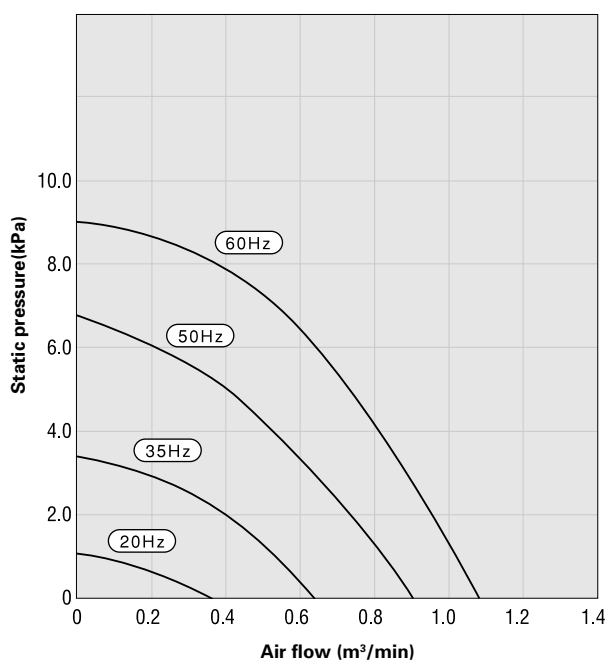
VFZ081



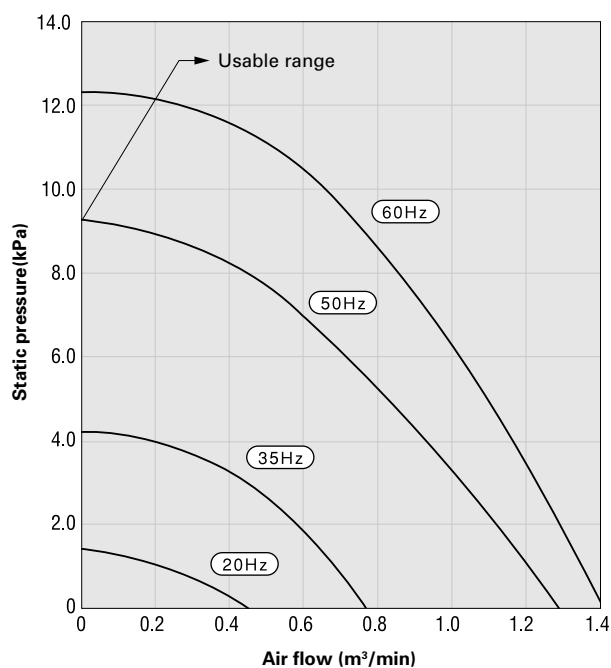
VFZ101



VFZ201

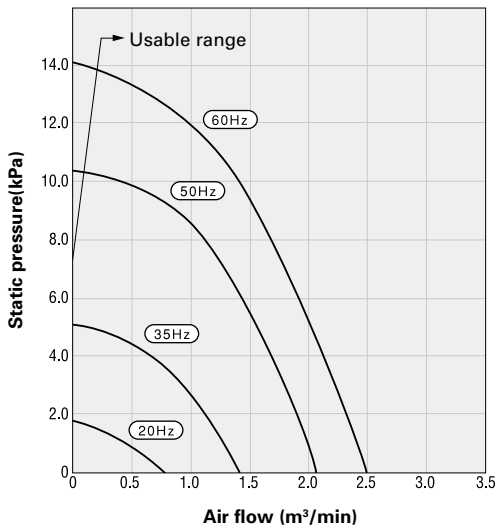


VFZ301

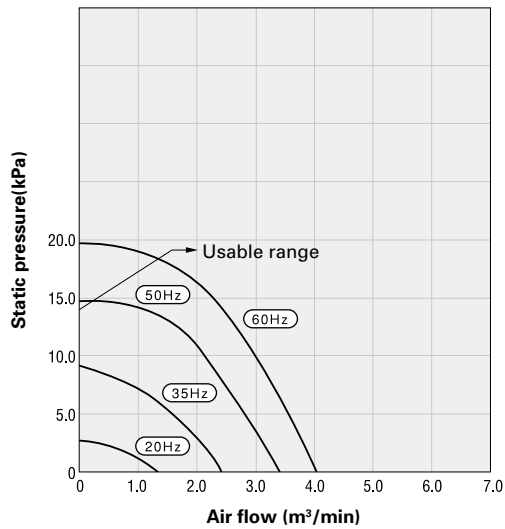


Note: These characteristic curves are for the 3-phase VFZ Series run with the Fuji Electric inverter (FRENIC Series).

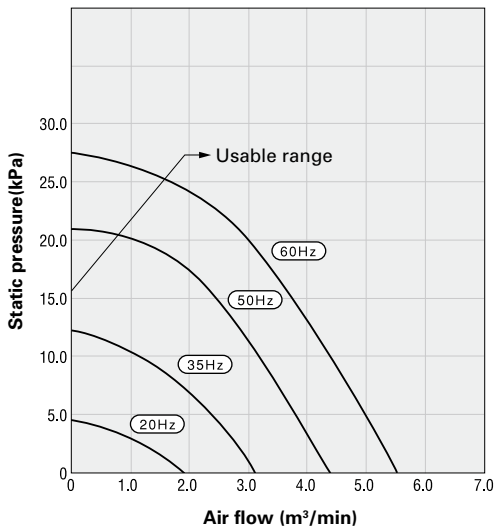
VFZ401



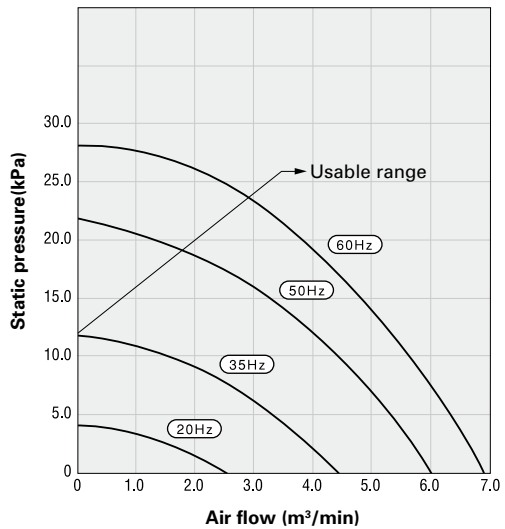
VFZ501



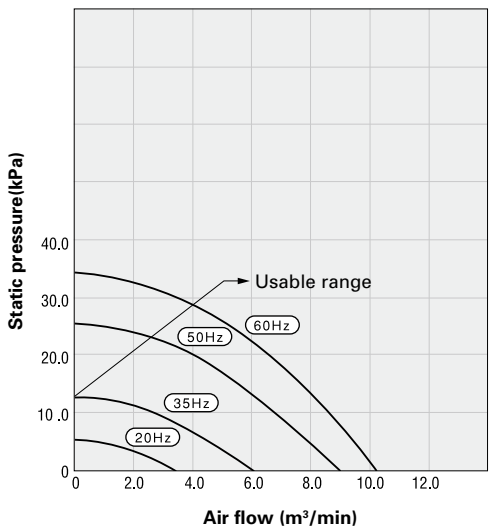
VFZ601



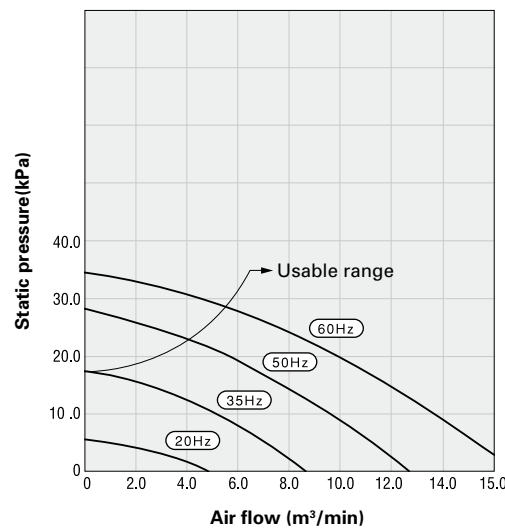
VFZ701



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 at the factory for line start. Refer to the following diagram before changing to star-delta start.

1 Single phase (PN, P) specification

Model	VFZ081~VFZ401
Lead wire	2-wire
Connection	<p>Motor terminal</p> <p>Power supply</p>

2 3-phase (A, AN, AF) specification

Model	VFZ081~VFZ701	VFZ801, VFZ901	
Lead wire	3-wire	6-wire	
Connection	<p>Motor terminal</p> <p>Power supply</p>	Full-voltage start (when shipped)	Star-delta start
		<p>Motor terminal</p> <p>Power supply</p>	<p>Motor terminal</p> <p>Power supply</p>

3 Non-standard voltage (-4Z) specification

Model	VFZ081~VFZ701	VFZ801	
Lead wire	3-wire	6-wire	
Connection	<p>Motor terminal</p> <p>Power supply</p>	Full-voltage start (when shipped)	Star-delta start
		<p>Motor terminal</p> <p>Power supply</p>	<p>Motor terminal</p> <p>Power supply</p>

[Reference]

VFZ70 – 90 terminal blocks

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



Front
(when shipped)

To right

To left

Bearings and oil seals

[Ring blower]

Model	Bearing		Grease type	Oil seal	
	Operation side	Reverse operation 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	—	—
VFC405C	6203ZZ	6203ZZ	Lithium	SC22-35-7	Nitrile rubber
VFC505C	6205ZZ C3	6205ZZ	Urea	MHS35-47-7	Nitrile rubber
VFC605C	6205ZZ C3	6205ZZ	Urea	MHS35-47-7	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
VFC400A-7W	6203ZZ	6203ZZ	Lithium	SC22-35-7	Nitrile rubber
VFC500A-7W	6205ZZ C3	6205ZZ	Urea	MHS35-47-7	Nitrile rubber
VFC600A-7W	6205ZZ C3	6205ZZ	Urea	MHS35-47-7	Nitrile rubber
VFC700A-7W	6306ZZ C3	6206ZZ	Urea	SB38-58-8	Nitrile rubber
VFC804A-7W	6308LLB	6207ZZ	Lithium	ISM50-64-10	Silicon rubber
VFC904A-7W	6308ZZ C3	6308ZZ	Urea	SB55-72-9	Silicon rubber

Model	Bearing		Grease type	Oil seal	
	Operation side	Reverse operation 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
VFC318P	6202ZZ	6202ZZ	Lithium	SC20-30-7	Nitrile rubber
VFC318A	6202ZZ	6202ZZ	Lithium	SC20-30-7	Nitrile rubber
VFD308PB	6203ZZ	6202ZZ	Lithium	SC22-35-7	Nitrile rubber
VFD308AB	6203ZZ	6202ZZ	Lithium	SC22-35-7	Nitrile rubber

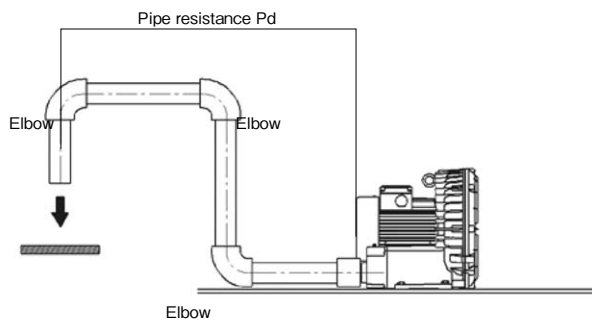
10

Technological material

Model selection

These 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 blower discharge diameter as possible. A number of model selection examples are provided below.

Discharge application example Blowing off water droplets



Conditions

1. Required airflow speed: V_1 [m/s]
2. Slit cross-section area: S [m²]
3. Pipe diameter: ϕ d [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 airflow calculation

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

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

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

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

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

Step 3 Required static pressure calculation

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

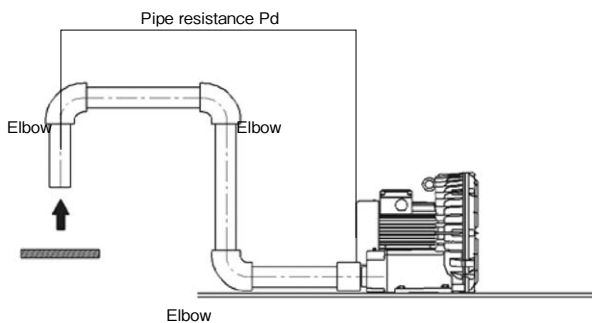
Model selection

From the above

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

Select a blower satisfying the above requirements.

Intake application Gripping and holding objects



Conditions

1. Work mass: W [kg]
2. Gripping area: S_s [m²]
Open area: S_o [m²]
3. Pipe diameter: ϕ d [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)

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

Step 2 Required airflow calculation

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

Step 3 Required airflow calculation

$$Q = 60 \times S_o \times V_1 \quad [\text{m}^3/\text{min}]$$

Step 4 Pipe loss calculation (pipe resistance Pd_p)

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

Step 5 Required static pressure calculation

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

Model selection

From the above

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

Select a blower satisfying the above requirements.

01

Attention when using it

Installation

Item	Conditions
Indoors/outdoors	This blower is for indoor use. Install in a location away from rain and wind.
Ambient temperature	-10°C to 40°C (without freezing)
Relative humidity	Maximum 80%
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 blower. (Periodically remove dust etc. adhering to the 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 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 blower.

02

Attention when using it

Operation and gases handled

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)) $\pm 10\%$ Rated frequency on nameplate (Frequency (Hz)) $\pm 5\%$ Note: When both voltage and frequency vary, ensure that the respective ranges are not exceeded, and that the sum of the absolute values of both is within $\pm 10\%$. ※Applies when operating current is equal to or less than the rated current on the nameplate.
Temperature of gas	-10°C to 40°C
Humidity of gas	Maximum 80%
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 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 blower. (The prescribed characteristics are not achieved in reverse rotation. Intake and discharge are reversed with reverse rotation.)

03

Attention when using it

Inverter operation

Operating frequency is between 5 Hz (rotating) and 60 Hz.

Do not operate at more than 60 Hz under any circumstances.

Furthermore, resonance is possible depending on the blower installation conditions. Ensure that the resonance point is avoided in operation.

04

Attention when using it

Frequency of use

Frequent use may have a negative affect on the motor, and may result in motor burnout. Ensure that the duration of operation is in accordance with the guidelines in the table at right. A method of switching valves etc. (with continuous operation) is recommended if this duration is to be exceeded. Furthermore, when operating in forward and reverse, ensure that operation in the new direction is started only after a complete stop.

Permissible start/stop frequency [Sw/Hr]

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

05

Attention when using it

Cleanliness

These 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.

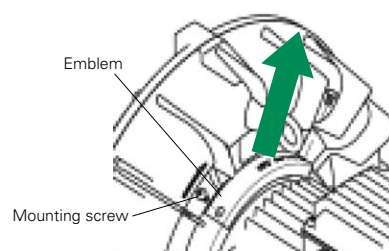
06

Attention when using it

Range of use

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 types 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

Attention when using it

Characteristics

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

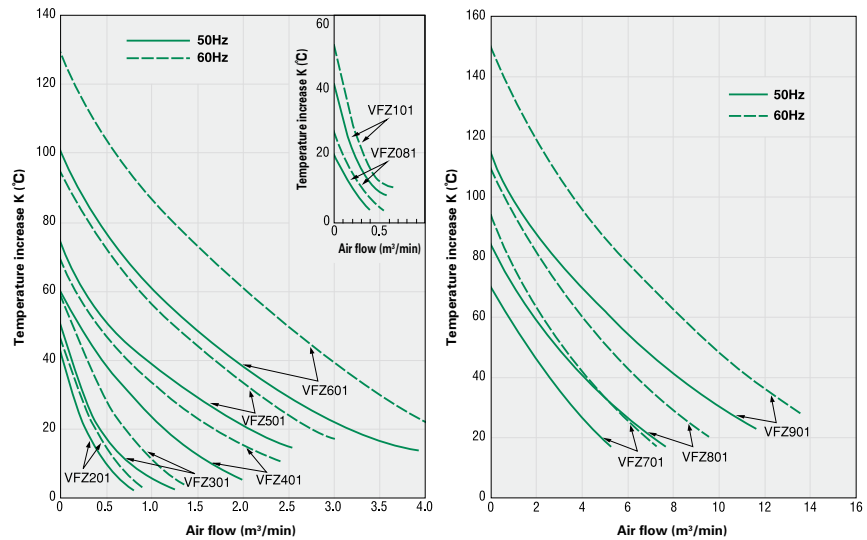
08

Attention when using it

Exhaust temperature (VFZ Series)

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-closed conditions.)

- 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

Attention when using it

Parallel operation

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

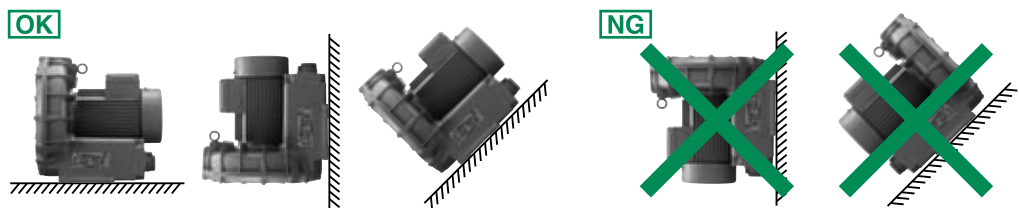
10

Attention when using it

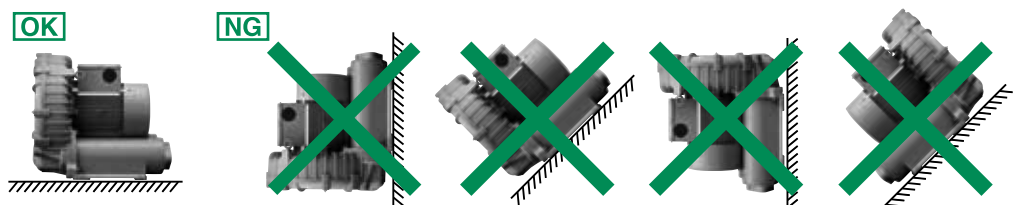
Mounting direction

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

08 – 60 types



70 – 90 types
 Water-resistant type



This image shows a full page of a handwriting practice worksheet. It consists of multiple rows of horizontal dashed lines spaced evenly down the page, providing a guide for letter height and placement. The background is plain white, and there are no other markings or text present.

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