

Ring Blowers

VFZ/VFC

TERAL

50Hz/60Hz

*Small-scale &
High wind pressure*
BLOWERS



TERAL INC.

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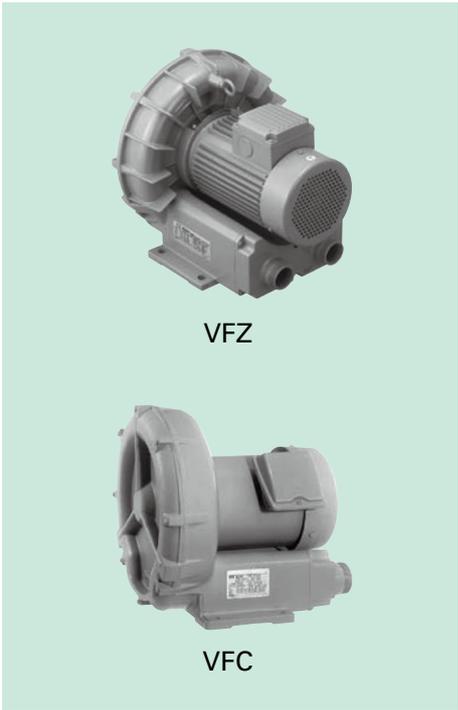
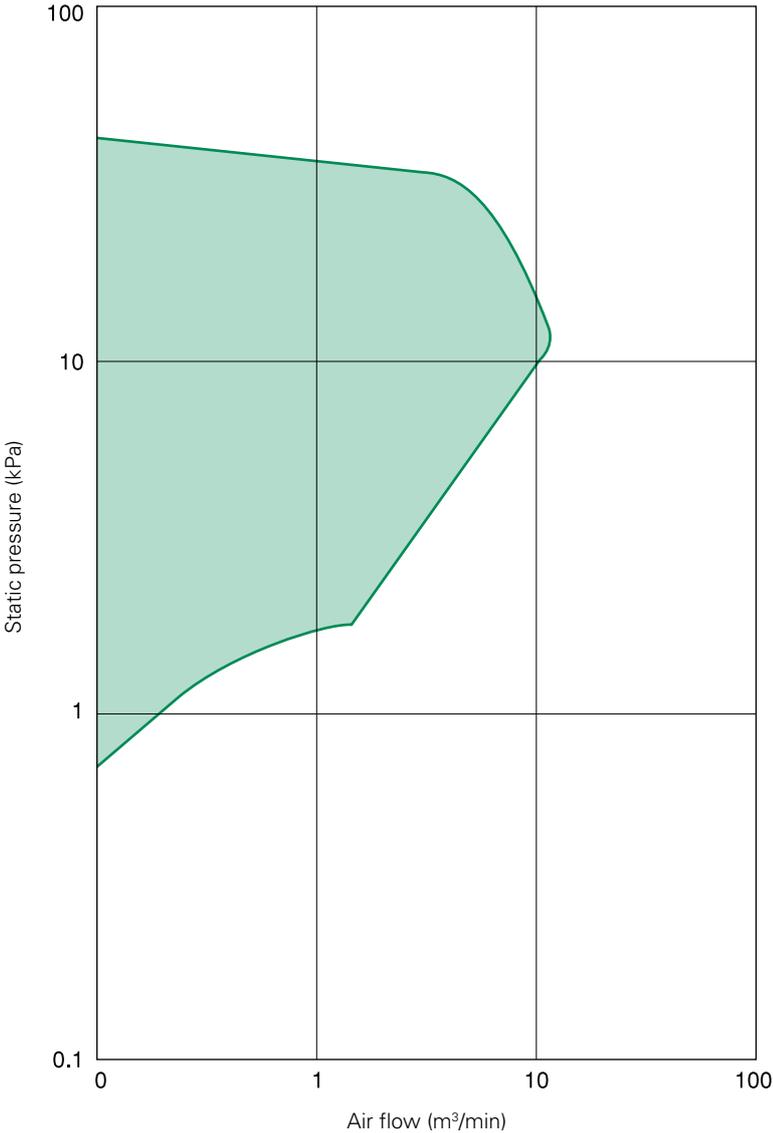
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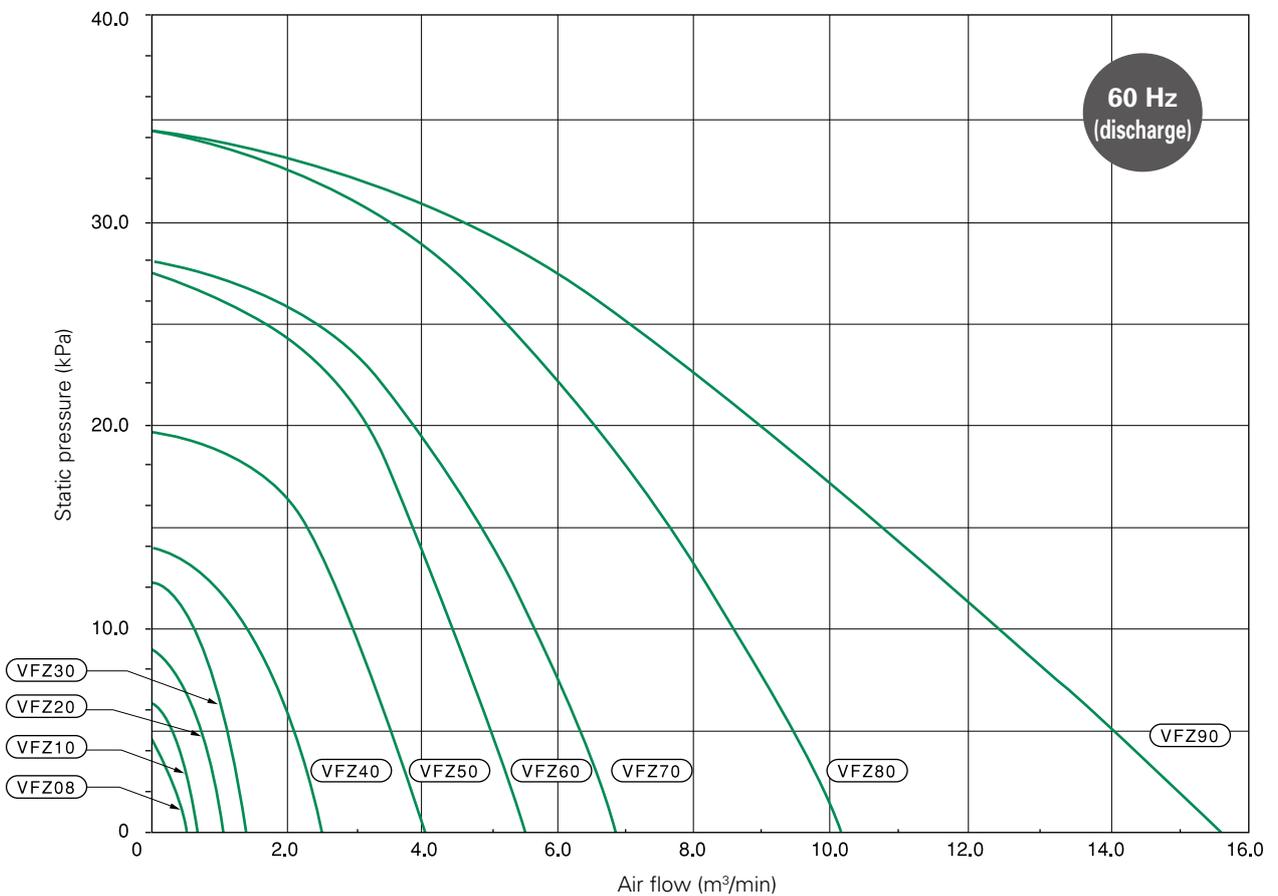
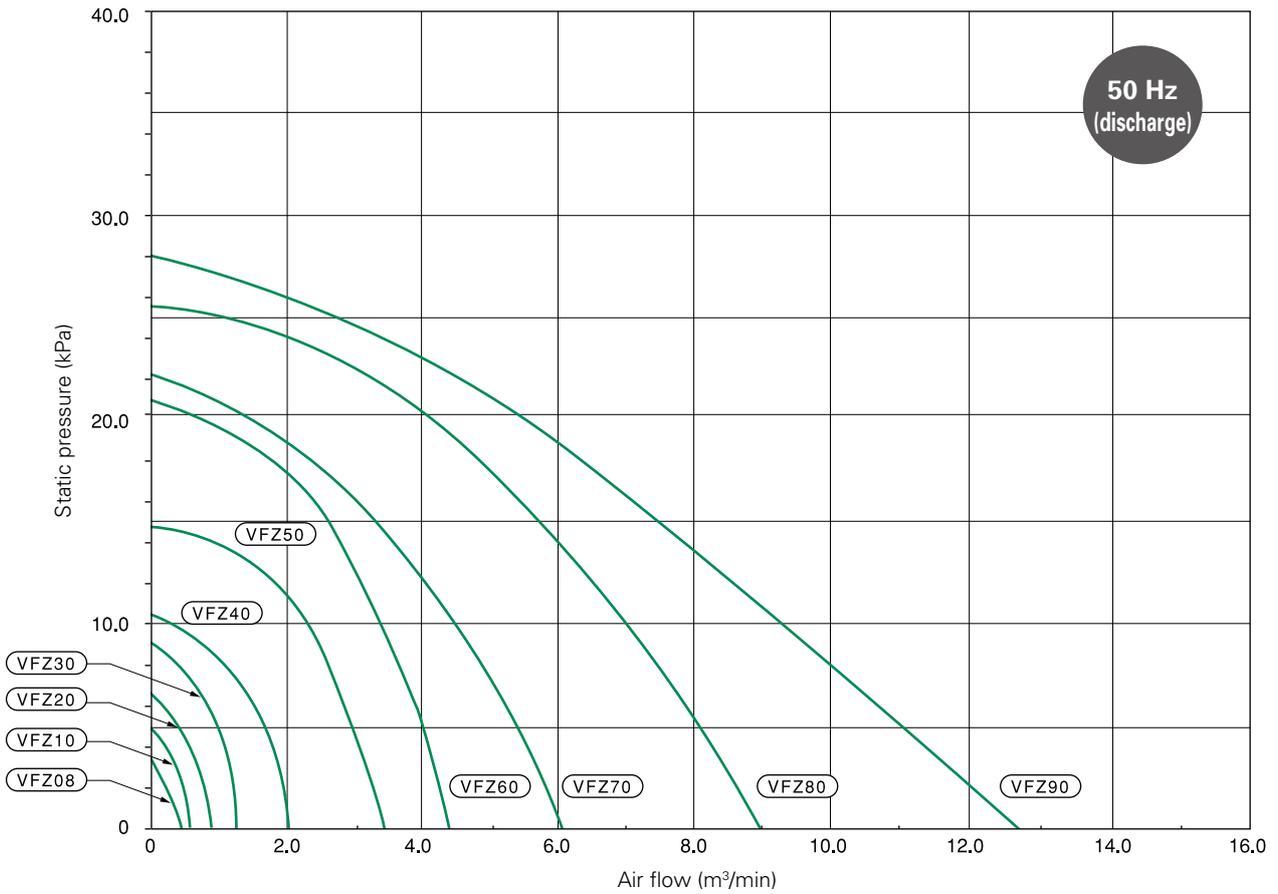
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General selection diagram



■ Selection diagrams



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

	Model	Terat 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 (m ³ /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
3-phase, standard type (for companion flange)	VFZ101AF	512891	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
	VFZ201AF	512892			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
3-phase, low-noise type	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 (m ³ /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	-	-			1.4-2.2
	VFZ201A	0.90/1.09	B	57.5/62.0	32	9.0	9.0/8.1-9.0	BW32AAM-3P1P4	1.4			1.7-2.6
	VFZ301A	1.28/1.40	B	58.0/62.0	38	11.0	13.0/12.0-13.5	BW32SAM-3P002	2			2.8-4.2
	VFZ401A	2.0/2.5	B	65.5/69.5	50, R1½	19.0	27.0/25.0-27.5	BW32AAM-3P004	4			5-8
	VFZ501A	3.4/4.0	F	70.5/74.5	50, R1½	27.5	49/46-51	※BW32AAM-3P008	8			12-18
	VFZ601A	4.2/5.5	F	70.0/74.5	63, R2	43	100/88-97	※BW32AAM-3P016	16			18-26
	VFZ701A	6.2/7.2	F	75.0/79.5	Rp2	50	146/125-136	※BW32AAM-3P024	24			24-36
	VFZ801A	8.7/10.3	F	78.0/81.0	Rp2½	89	175/160-170	※BW32AAM-3P032	32			34-50
	VFZ901A	13/15.5	F	79.5/83.0	Rp3	107	310/280-300	※BW63EAM-3P063	63			0.48-0.72
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	1.4-2.2
	VFZ201AF	0.90/1.09	B	57.5/62.0	Rp1	9.0	9.0/8.1-9.0	BW32AAM-3P1P4	1.4			1.7-2.6
	VFZ301AF	1.28/1.40	B	58.0/62.0	Rp1¼	11.0	13.0/12.0-13.5	BW32SAM-3P002	2			2.8-4.2
	VFZ401AF	2.0/2.5	B	65.5/69.5	Rp1½	19.0	27.0/25.0-27.5	BW32AAM-3P004	4			5-8
	VFZ501AF	3.4/4.0	F	70.5/74.5	Rp1½	27.5	49/46-51	※BW32AAM-3P008	8			12-18
	VFZ601AF	4.2/5.5	F	70.0/74.5	Rp2	43	100/88-97	※BW32AAM-3P016	16			0.48-0.72
3-phase, low-noise type	VFZ101AN	0.58/0.69	B	49.5/51.5	32	9.0	4.2/3.9-4.2	-	-	SW-03	TR-0N	1.4-2.2
	VFZ201AN	0.90/1.09	B	55.5/59.0	32	10.0	9.0/8.1-9.0	BW32AAM-3P1P4	1.4			1.7-2.6
	VFZ301AN	1.28/1.40	B	55.5/59.5	38	13.0	13.0/12.0-13.5	BW32SAM-3P002	2			2.8-4.2
	VFZ401AN	2.0/2.5	B	62.0/66.0	50, R1½	22.0	27.0/25.0-27.5	BW32AAM-3P004	4			5-8
	VFZ501AN	3.4/4.0	F	66.0/69.5	50, R1½	34.0	49/46-51	※BW32AAM-3P008	8			12-18
	VFZ601AN	4.2/5.5	F	67.5/70.5	63, R2	45.0	100/88-97	※BW32AAM-3P016	16			18-26
	VFZ701AN	6.2/7.2	F	70.5/74.5	Rp2	62	146/125-136	※BW32AAM-3P024	24			24-36
	VFZ801AN	8.7/10.3	F	74.0/75.0	Rp2½	98	175/160-170	※BW32AAM-3P032	32			34-50
	VFZ901AN	13/15.5	F	76.0/79.5	Rp3	140	310/280-300	※BW63EAM-3P063	63			

- Noise values measured in an unrestricted state at 1.5m.
- Maximum values (output, power) and rated values (static pressure, flow) in Discharge characteristics are noted on the nameplate (stamped with *).
- VFZ80 and VFZ90 types employ λ - Δ (star delta) start.
- Over-current protection for the auto-breaker (indicated by ※) is difficult for the breaker alone. Always use it as a restraint device.

	Model	Terat 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 (m ³ /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	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	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	200 220		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	200 220		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	200 220		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	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	200 220		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	200 220		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	

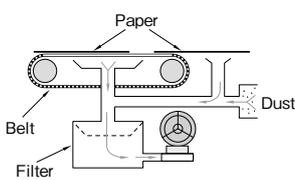
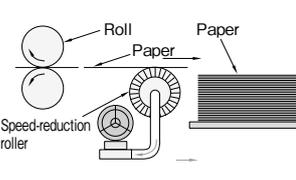
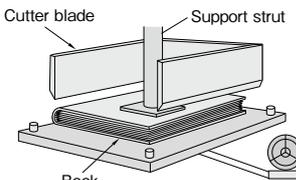
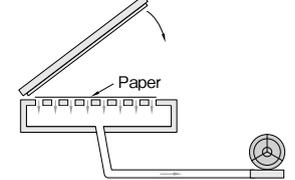
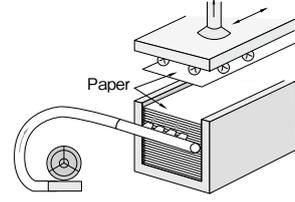
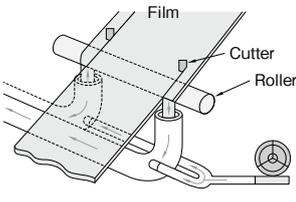
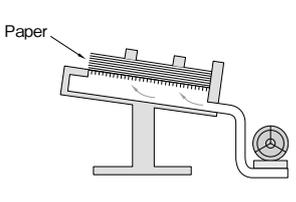
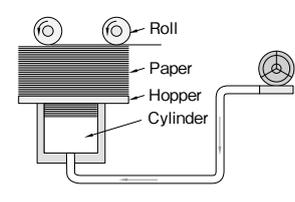
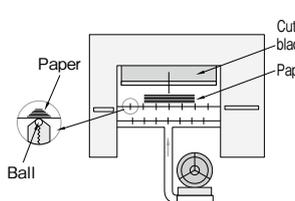
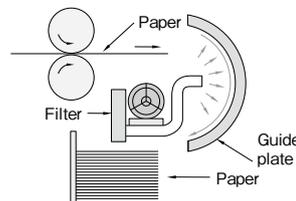
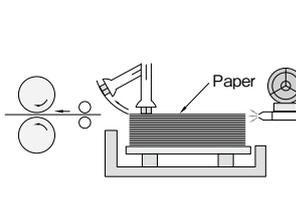
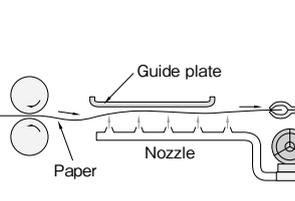
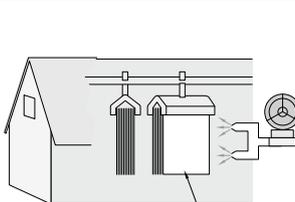
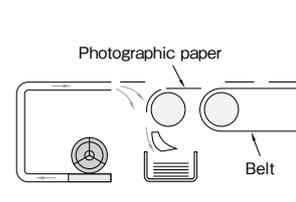
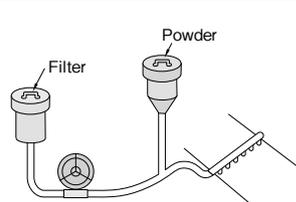
	Model	Maximum discharge air flow (m ³ /min)	Heat-resistance class	Noise level (dB(A))	Inlet and outlet diameters (mm, inches)	Approximate mass (kg)	Starting current (A)	Auto-breaker		Solenoid switch	Thermal relay	
								Model	Rated current (A)		Model	Rated current (A)
Non-standard voltage product	VFZ081A-4Z	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, R1 1/2	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, R1 1/2	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	Rp2 1/2	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	NPSC1 1/4	12.3	17.0/8.5	-	-	-	-	-
	VFC400P-5T	2.45	B	69.5	NPSC1 1/2	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	NPSC1 1/4	11.5	7.2-8.0/4.0	-	-	-	-	-
	VFC400A-7W	2.5	B	69.5	NPSC1 1/2	21.5	15.0-16.5/9.2	-	-	-	-	-
	VFC500A-7W	4.0	B	74.5	NPSC1 1/2	32	44-52/26	-	-	-	-	-
Water-resistant type	VFC308Z	1.28/1.40	E	65.0/68.0	38	12.5	13.0/12.0-13.5	BW32AAM-3P2P6	2.6	SW-03	TR-0N	1.7-2.6
	VFC408Z	2.0/2.5	B	74.0/79.0	50, R1 1/2	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, R1 1/2	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			12-18
	VFC405C	1.95/2.4	E	67.0/70.5	Rp1 1/2	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	Rp1 1/2	27.5	36.0/35.0-37.0	BW32AAM-3P008	8			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-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)

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

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

Recommended type > **40-90 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**

Sludge recovery equipment

Recovery of sludge with shield method.

Recommended type > —

Card feed (1)

Card gripping feed.

Recommended type > **08-30 type**

Card feed (2)

Cards gripped by suction through holes in belt during transport.

Recommended type > **30·40 type**

Air lift (1)

Gripping of items by suction for transport.

Recommended type > **08-60 type**

Air lift (2)

The large air flow allows stable gripping of large items.

Recommended type > **40-60 type**

Transport of mixtures of water and granular material

Recovery of small fish etc.

Recommended type > **40-90 type**

Transport of granular solids

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

Recommended type > **40-90 type**

Transport of cereals

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

Recommended type > **40-70 type**

Golf ball feed

Feeding golf balls.

Recommended type > **30-50 type**

Mixing in hopper

Air forced into hopper to eliminate bridging with granular solids.

Recommended type > **40-60 type**

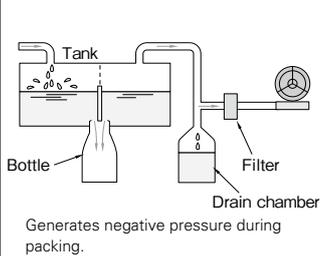
Note: The above recommended types are all based on examples delivered by the manufacturer.

Food machinery

For gripping (negative pressure)

For discharge (positive pressure)

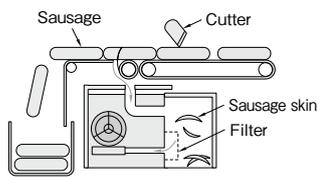
Automatic bottle filling machinery



Generates negative pressure during packing.

Recommended type > 20-50 type

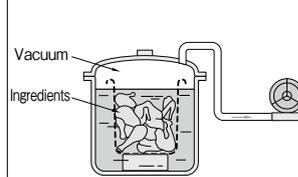
Sausage skin peeler



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

Recommended type > 60 type

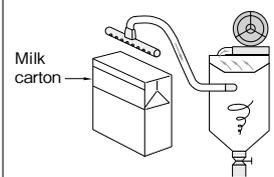
Food processing equipment



Vacuum impregnation for flavoring of ingredients.

Recommended type > 40-60 type

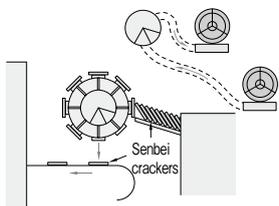
Filling cardboard milk cartons



Removal of bubbles by suction when filling milk cartons.

Recommended type > 20 type

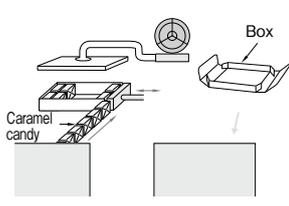
Automatic equipment for aligning senbei cracker materials



Automatic alignment in senbei cracker baking equipment.

Recommended type > —

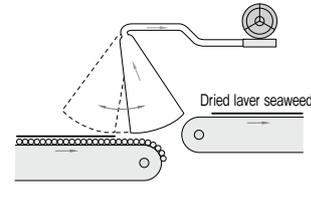
Caramel candy packing equipment



Caramel candy packing equipment.

Recommended type > 40 type

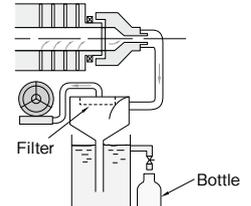
Dried laver seaweed peeling equipment



Suction for peeling dried laver seaweed from drainage slats.

Recommended type > 40-60 type

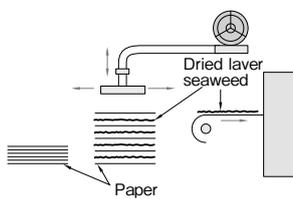
In combination with press



Suction removal of liquid during squeezing.

Recommended type > 40-50 type

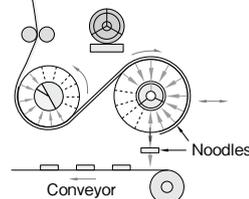
Dried laver seaweed pick-and-place



Source of suction for gripping dried laver seaweed.

Recommended type > —

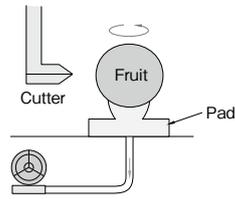
Ramen noodle manufacturing equipment



Suction and blowing of noodle raw materials.

Recommended type > —

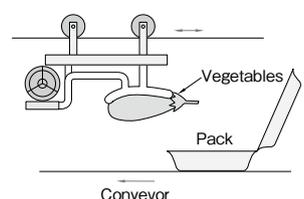
Fruit peeling equipment



Gripping and holding fruit.

Recommended type > 20-30 type

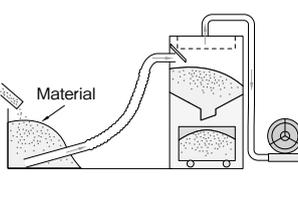
Filling vegetable packs



Filling vegetable packs.

Recommended type > —

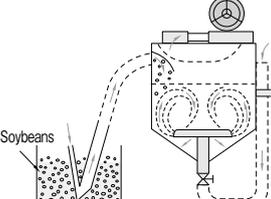
Transport of granular solids



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

Recommended type > 40-60 type

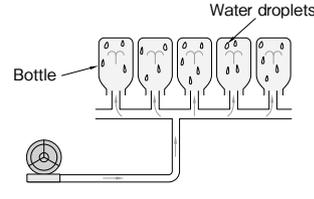
Tofu manufacturing equipment



Soybeans transported by suction. Switched to blowing for cleaning.

Recommended type > —

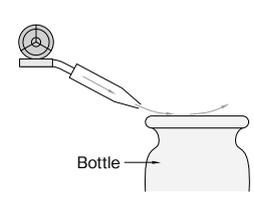
Bottle washing equipment



Removal of water droplets in bottles after washing.

Recommended type > 40-60 type

Bottling and assembly lines



Blowing water droplets from bottles.

Recommended type > —

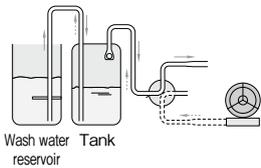
Note: The above recommended types are all based on examples delivered by the manufacturer.

Food machinery

For gripping (negative pressure)

For discharge (positive pressure)

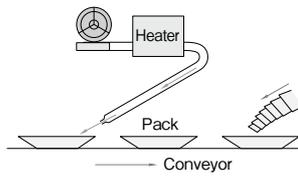
Automatic tank washing equipment



Automatic washing inside tank with air mixing.

Recommended type > —

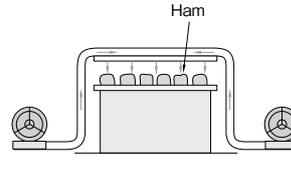
Pack drying



Drying packs with hot air.

Recommended type > 40-60 type

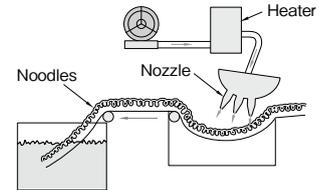
Ham processing equipment



Blowing water droplets off hams.

Recommended type > 40-60 type

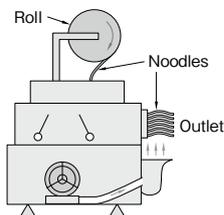
Ramen noodle processing line



Removal of oil from ramen noodles using hot air.

Recommended type > —

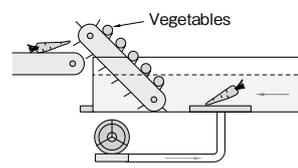
Spaghetti processing equipment



Preventing sticking of spaghetti.

Recommended type > —

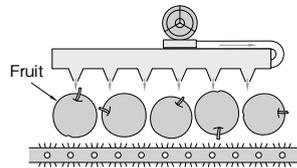
Vegetable washing equipment



Aeration when washing vegetables.

Recommended type > 40-50 type

Fruit washing equipment



Removal of water droplets from washed fruit.

Recommended type > —

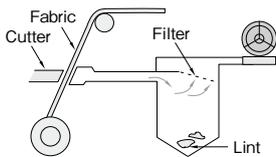
Note: The above recommended types are all based on examples delivered by the manufacturer.

Textile equipment

For gripping (negative pressure)

For discharge (positive pressure)

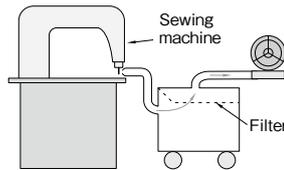
Lint recovery (1)



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

Recommended type > 20-60 type

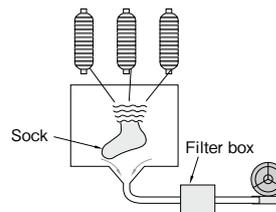
Lint recovery (2)



Recovery of lint produced during industrial sewing machine operation.

Recommended type > 08-20 type

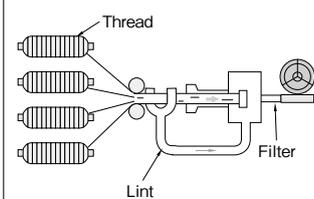
Sock knitting machine



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

Recommended type > 20-40 type

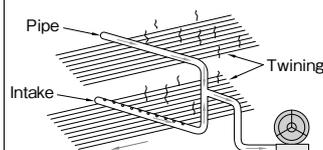
Automatic loom



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

Recommended type > 20-40 type

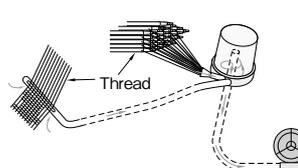
Twining



Removal of soot produced in the process of twining

Recommended type > 30-40 type

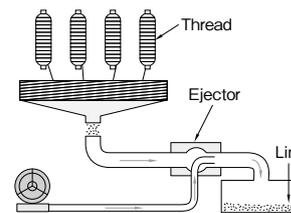
Loom



Wool air tensioning, and recovery of lint.

Recommended type > 30 type

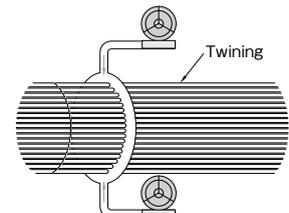
Automatic loom



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.

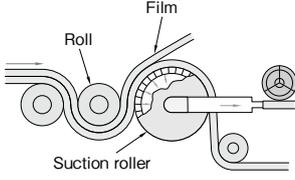
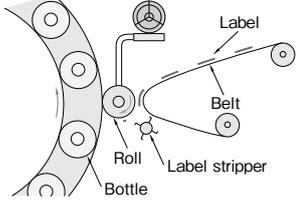
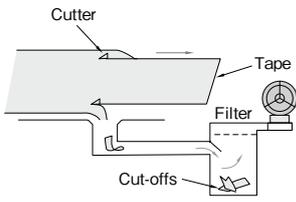
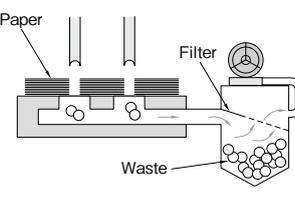
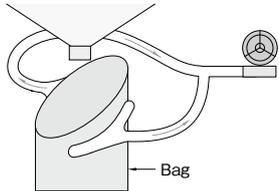
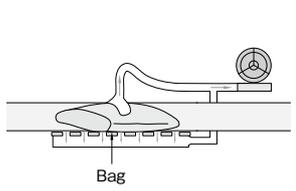
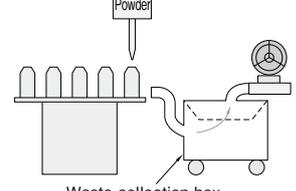
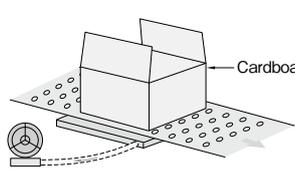
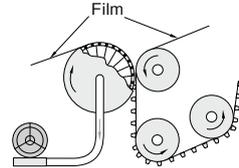
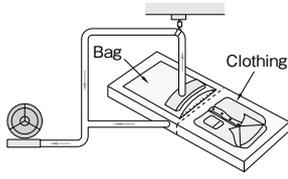
Recommended type > 20-40 type

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

Packaging equipment

■ For gripping (negative pressure)

■ For discharge (positive pressure)

<p>Plastic film processing</p>  <p>Gripping plastic film with suction roller.</p> <p>Recommended type > 20-60 type</p>	<p>Label applicator equipment</p>  <p>Labels held on roll, and applied to bottles etc.</p> <p>Recommended type > 10-30 type</p>	<p>Automatic packaging equipment</p>  <p>Removal of tape cut-offs.</p> <p>Recommended type > 30-40 type</p>	<p>Hole puncher</p>  <p>Collection of waste from hole puncher in filter box.</p> <p>Recommended type > 08-30 type</p>
<p>Vertical packaging equipment</p>  <p>Opening and gripping bags.</p> <p>Recommended type > 20-40 type</p>	<p>Horizontal packaging equipment</p>  <p>Opening and gripping bags.</p> <p>Recommended type > 20-40 type</p>	<p>Automatic packaging equipment</p>  <p>Collection of waste (e.g. particles) from table of automatic packaging machine.</p> <p>Recommended type > 20-60 type</p>	<p>Cardboard packaging</p>  <p>Preventing displacement of, and gripping, cardboard.</p> <p>Recommended type > 40-60 type</p>
<p>Vacuum forming equipment</p>  <p>Film formation.</p> <p>Recommended type > —</p>	<p>Dry cleaning packaging</p>  <p>Opening and gripping dry cleaning bags.</p> <p>Recommended type > 20-40 type</p>		

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

Removal of smoke, heat and fumes during welding work.

Recommended type > **40 type**

Gripping work

Gripping non-magnetic materials such as timber and plastic.

Recommended type > **80-90 type**

Laminating press

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

Recommended type > **40-60 type**

Dehydrator

Vacuum dehydration of sludge.

Recommended type > **80-90 type**

Swarf removal

Collection of swarf produced during machining operations.

Recommended type > **30-60 type**

Press

Removal of molded products from mold.

Recommended type > **40-60 type**

Grinder

Suction to collect grinding dust.

Recommended type > **20-50 type**

Cutting oil mister

Source of pressure to generate cutting oil mist.

Recommended type > **30-50 type**

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

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

Recommended type > —

Water uptake pump

Priming water for water pump.

Recommended type > —

Automobile exhaust gas detection equipment

Testing of automobile exhaust gas.

Recommended type > —

Vacuum dehydration

Vacuum dehydration of silica sand.

Recommended type > **60-80 type**

Filter

Reduce filtering time.

Recommended type > **40-60 type**

Extraction of plating gases

Extraction of plating gases.

Recommended type > **50 type**

Car washing equipment

Produces a mist of water and detergent.

Recommended type > —

Cleaning tank

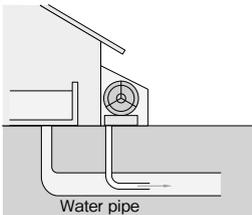
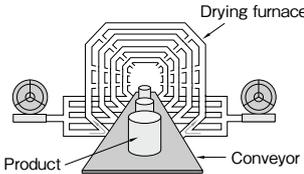
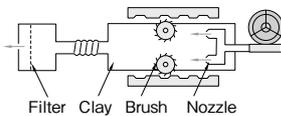
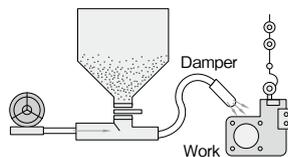
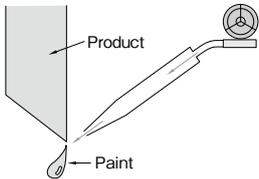
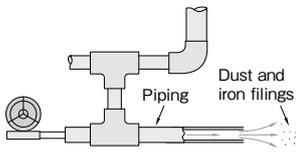
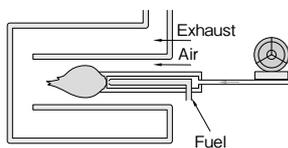
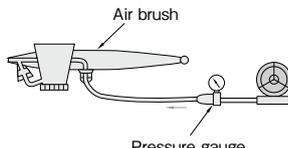
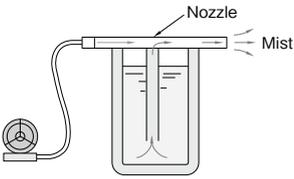
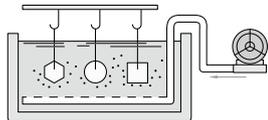
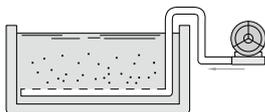
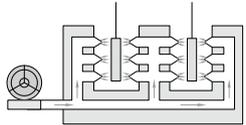
Mixing of sediment, and aeration of comparatively shallow water treatment plants.

Recommended type > **50-90 type**

Plant and machinery

■ For gripping (negative pressure)

■ For discharge (positive pressure)

<p>Freezing prevention</p>  <p>Water pipe</p> <p>Prevention of freezing in water piping.</p> <p>Recommended type > 40-60 type</p>	<p>Drying line</p>  <p>Drying furnace</p> <p>Product</p> <p>Conveyor</p> <p>Small-scale drying lines.</p> <p>Recommended type > —</p>	<p>Mold cleaning equipment</p>  <p>Filter</p> <p>Clay</p> <p>Brush</p> <p>Nozzle</p> <p>Blows clay removed from surfaces of the tile mold by rotation of the brushes.</p> <p>Recommended type > 40-60 type</p>	<p>Sand blasting</p>  <p>Damper</p> <p>Work</p> <p>Air source for blasting.</p> <p>Recommended type > 60-90 type</p>
<p>Painting line</p>  <p>Product</p> <p>Paint</p> <p>Blowing to prevent paint drips on finished surfaces.</p> <p>Recommended type > —</p>	<p>Cleaning piping</p>  <p>Piping</p> <p>Dust and iron filings</p> <p>Removal of dust and iron filings produced during replacement and periodic inspection of piping.</p> <p>Recommended type > 40-60 type</p>	<p>Gas burner</p>  <p>Exhaust</p> <p>Air</p> <p>Fuel</p> <p>Atomization of fuel.</p> <p>Recommended type > 50-60 type</p>	<p>Air brush</p>  <p>Air brush</p> <p>Pressure gauge</p> <p>High-pressure air free of oil is highly desirable for air-brushing.</p> <p>Recommended type > 60-80 type</p>
<p>Spray</p>  <p>Nozzle</p> <p>Mist</p> <p>Source of high-pressure air free of oil for spraying.</p> <p>Recommended type > 40-60 type</p>	<p>Plating tank</p>  <p>Air blown into the tank to remove bubbles from electrolyte and thus improve plating quality.</p> <p>Recommended type > 30-50 type</p>	<p>Plating tank</p>  <p>Maintains temperature of plating fluid, and prevents separation of cutting fluid.</p> <p>Recommended type > 20-30 type</p>	<p>Plating line</p>  <p>Blows away water droplets following plating, reducing energy consumption during drying.</p> <p>Recommended type > 50-60 type</p>

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

Egg, Pack, Conveyor

Gripping and placing eggs in packs.

Recommended type > 20-40 type

Vegetable packaging

Film, Vegetables

Forming and cutting of vegetable packaging film.

Recommended type > 20 type

Transport of granular solids

Raw materials

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

Recommended type > 40-60 type

Milking machinery

Milk hose, Milk

Dairy milking.

Recommended type > 30-40 type

Gripping and transport for rice bagging

Finished product, Gripper pad, Conveyor, Pallet

Gripping and transport for rice bagging and stacking.

Recommended type > 60 type

Transport of mixtures of water and granular material

Filter, Drain

Recovery of small fish etc.

Recommended type > 40-90 type

Fruit peeling equipment

Cutter, Fruit, Pad

Gripping and holding fruit.

Recommended type > 20-30 type

Filling vegetable packs

Vegetables, Pack, Conveyor

Gripping and packing vegetables.

Recommended type > —

Transport of cereals

Wheat, Rotary valve

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

Recommended type > 40-70 type

Fermentation of animal waste

Animal waste 1.5m~1.8m, Sawdust and rice husks

Promotion of animal waste fermentation.

Recommended type > —

Fruit washing equipment

Fruit

Removal of water droplets from washed fruit.

Recommended type > —

Egg washing equipment

Egg, Blow nozzle, Brush conveyor

Automatic egg washing.

Recommended type > 80 type

Vegetable washing equipment

Vegetables

Aeration when washing vegetables.

Recommended type > 40-50 type

Supplementary oxygen for fish breeding ponds

Pond

Supplementary dissolved oxygen for fish breeding ponds.

Recommended type > 30-60 type

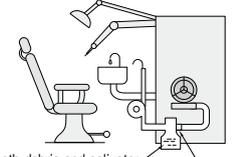
Note: The above recommended types are all based on examples delivered by the manufacturer.

Medical and welfare equipment

■ For gripping (negative pressure)

■ For discharge (positive pressure)

Dental equipment



Fill Tooth debris and salivater Filter

Removal of tooth debris and saliva produced during dental work.

Recommended type > 30·40 type

Therapeutic baths

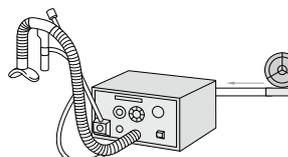


Bath Mat

Aeration in bath.

Recommended type > 20-60 type

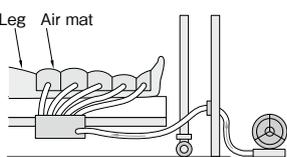
Respiration equipment



Prevention of irregular respiration, and assisting respiration.

Recommended type > 08-20 type

Massage equipment

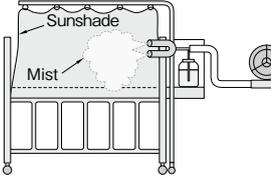


Leg Air mat

Vibration of air mat promotes circulatory function within the skin.

Recommended type > 30·40 type

Humidifier (mist generated within enclosure)

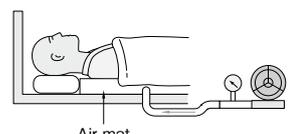


Sunshade Mist

Humidification of pediatric bed by misting within curtained enclosure.

Recommended type > 30-60 type

Air bed



Air mat

Body support and protection for burn victims and bedridden patients.

Recommended type > 20-40 type

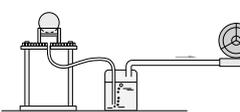
Note: The above recommended types are all based on examples delivered by the manufacturer.

Other

■ For gripping (negative pressure)

■ For discharge (positive pressure)

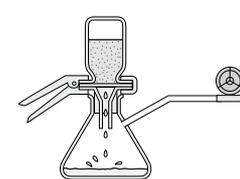
Leak tester



Seal testing.

Recommended type > —

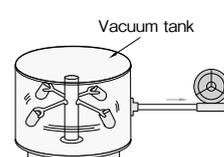
Vacuum filter



Rapid filtering by vacuum.

Recommended type > —

Chemical testing equipment

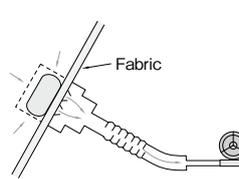


Vacuum tank

Vacuum tank for chemical testing equipment.

Recommended type > —

Stain remover

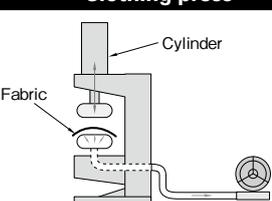


Fabric

Removal of moisture in fabric.

Recommended type > 08-30 type

Clothing press

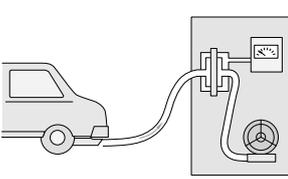


Cylinder Fabric

Removal of steam by suction.

Recommended type > —

Exhaust gas detection equipment



Employed in automobile exhaust gas testing equipment.

Recommended type > —

Clean room

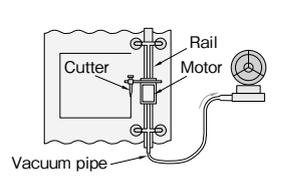


Air Filter

Localized ventilation in clean rooms.

Recommended type > 40-60 type

Flame cutter

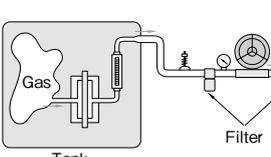


Cutter Rail Motor Vacuum pipe

Gripping and holding cutters for glass and plastic materials.

Recommended type > —

Gas decomposition equipment



Gas Tank Filter

Suction source for gas spectrometer.

Recommended type > —

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



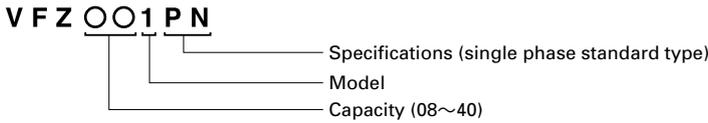
Features

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

Paint color

Munsell 2.5Y5/1

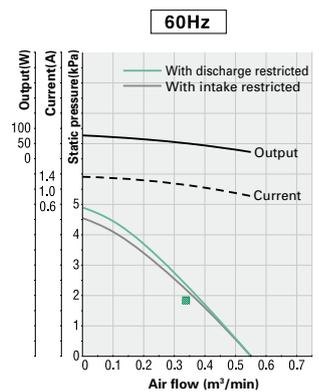
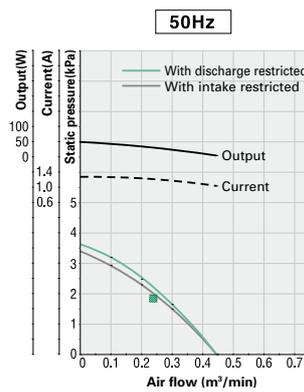
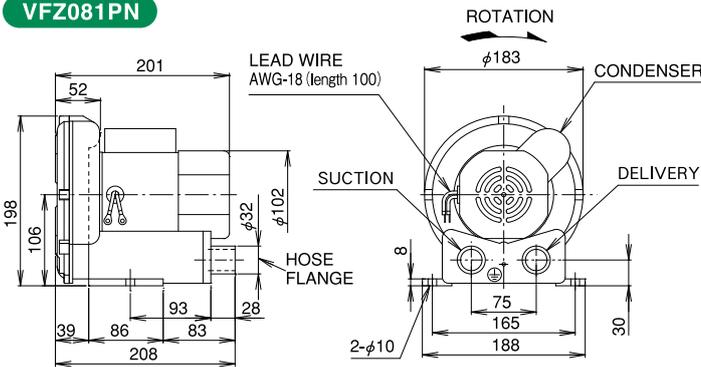
Model description



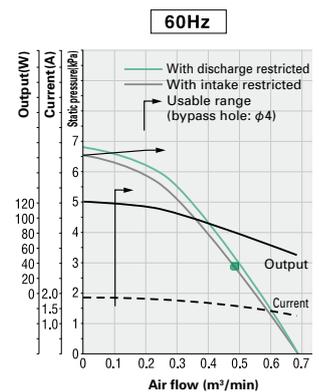
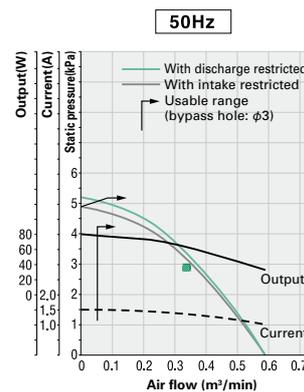
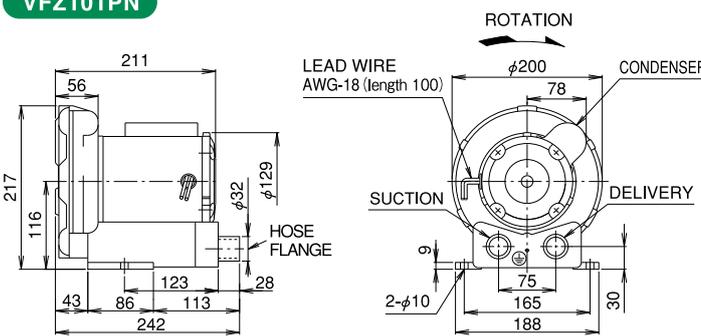
※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

Dimensional outline drawing and characteristic

VFZ081PN



VFZ101PN

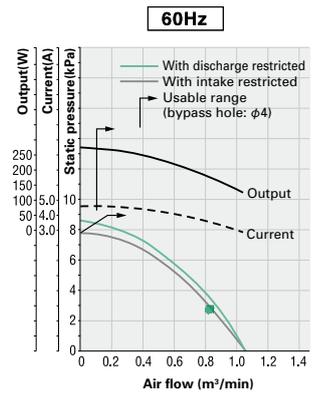
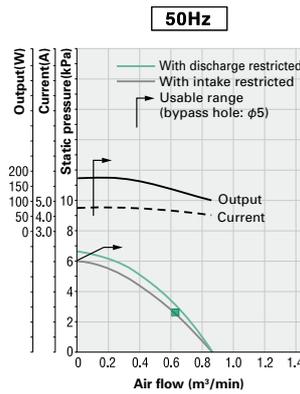
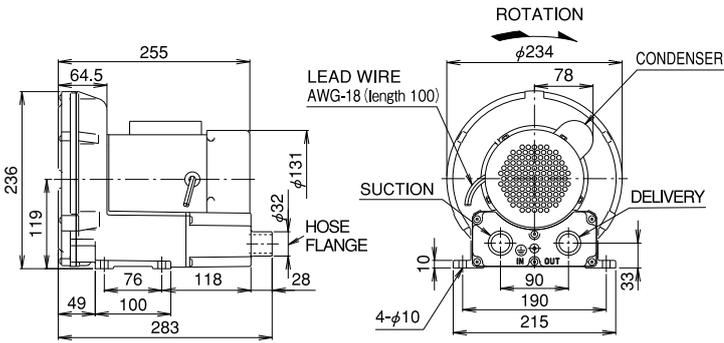


Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 – 20% higher at ambient temperature due to air density.

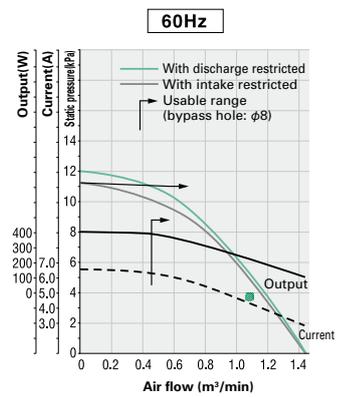
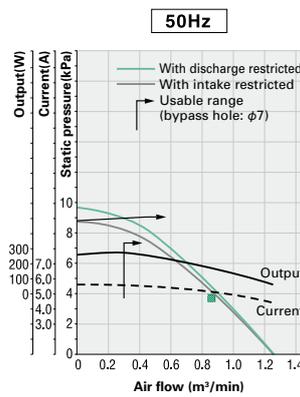
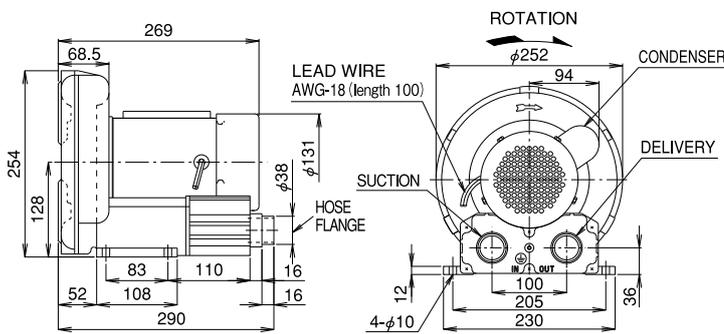
Note 2: ■ noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

Dimensional outline drawing and characteristic

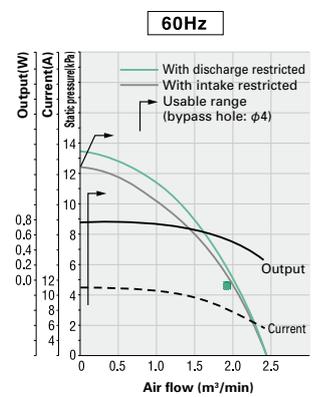
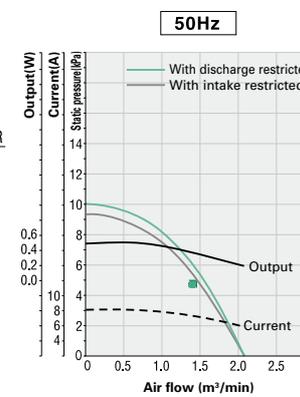
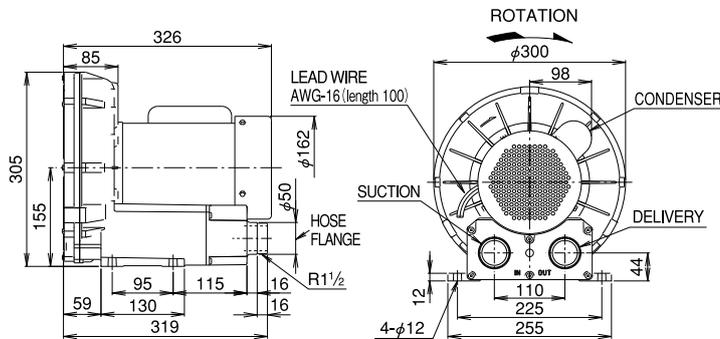
VFZ201PN



VFZ301PN



VFZ401PN



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.



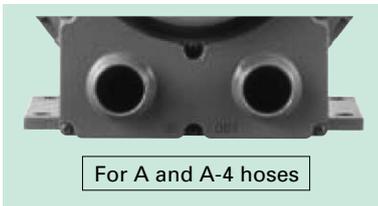
Features

- 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

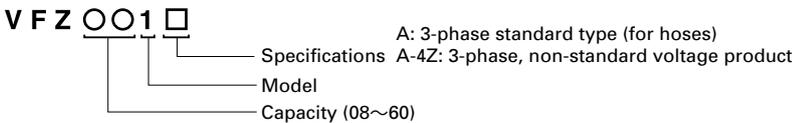
Munsell 2.5Y5/1

Piping



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

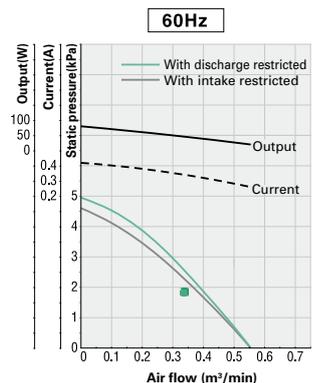
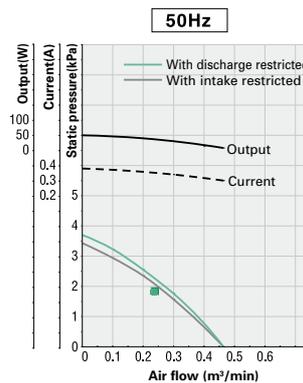
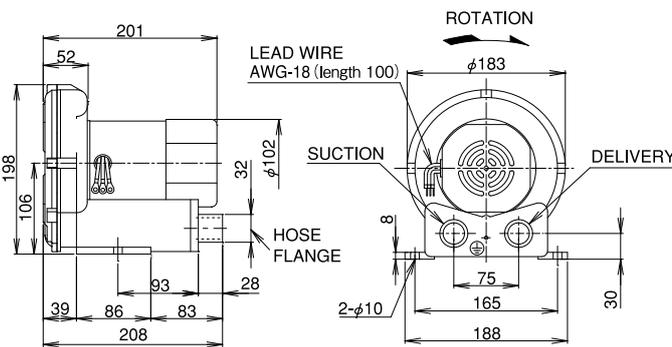
Model description



Dimensional outline drawing and characteristic

VFZ081A

VFZ081A-4Z



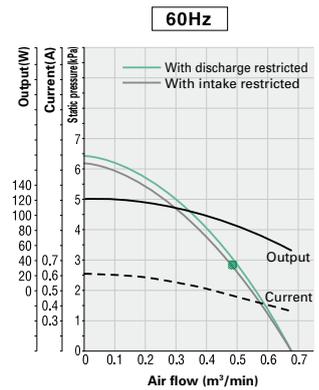
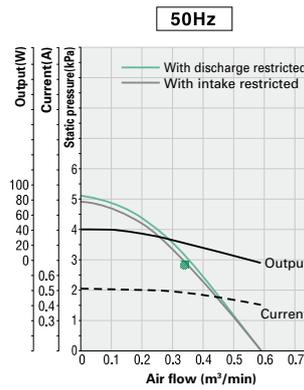
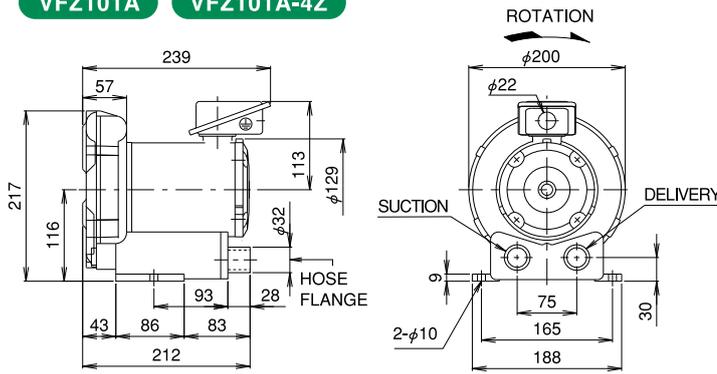
Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 – 20% higher at ambient temperature due to air density.

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.

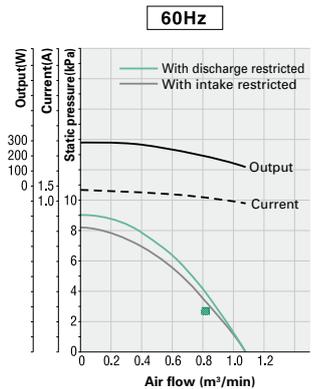
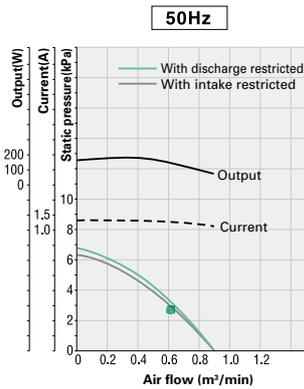
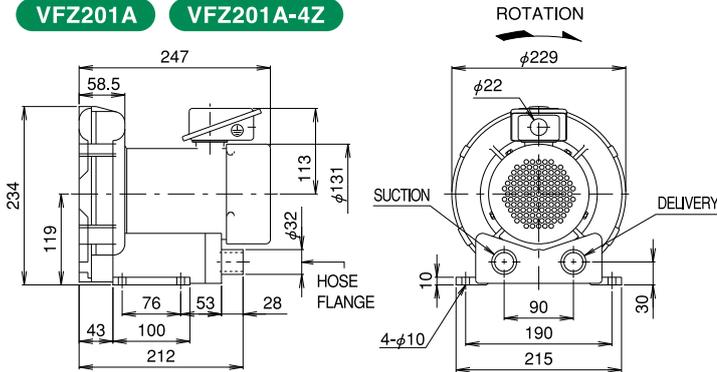
Note 3: Check 'Standard Specifications' for current values for non-standard voltage products (-4Z).

Dimensional outline drawing and characteristic

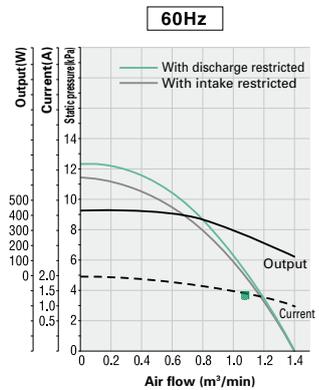
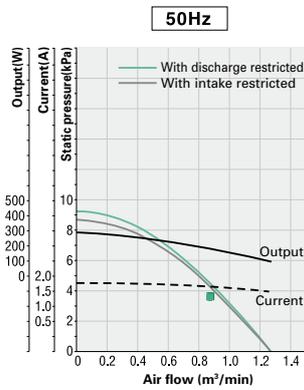
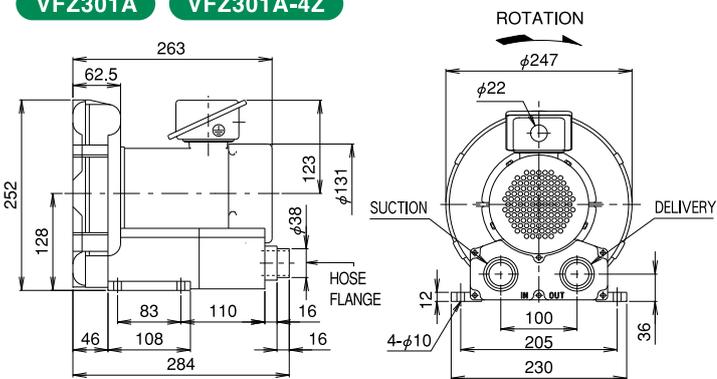
VFZ101A VFZ101A-4Z



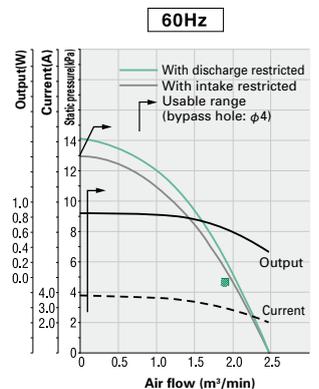
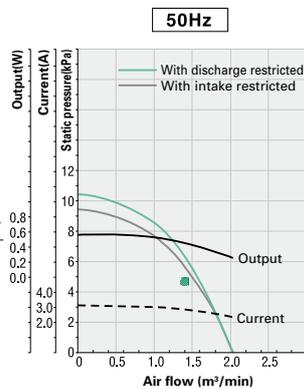
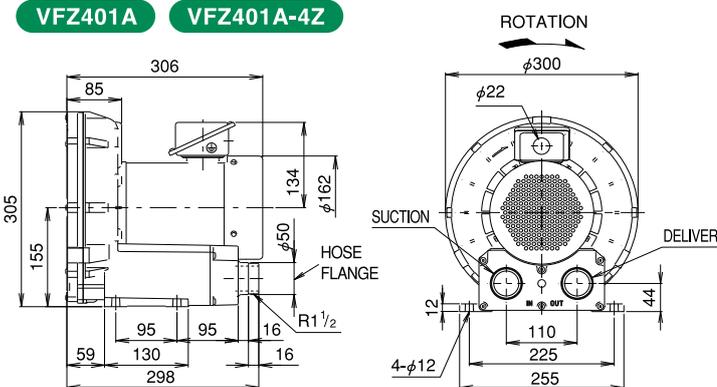
VFZ201A VFZ201A-4Z



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.

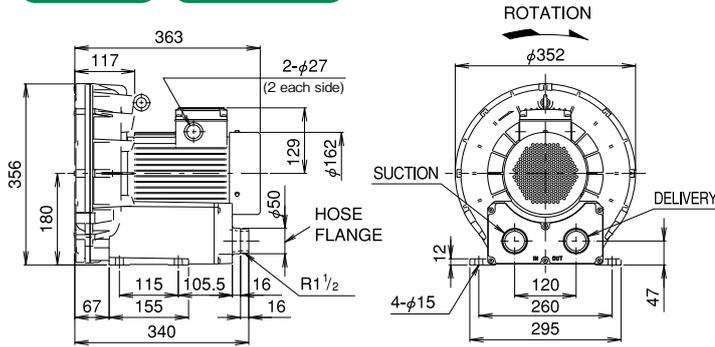
Note 2: ■ noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

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

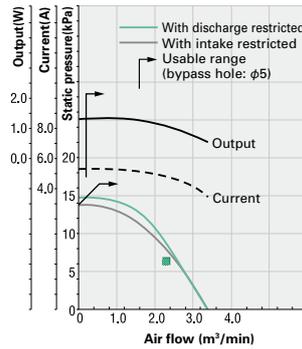
Dimensional outline drawing and characteristic

VFZ501A

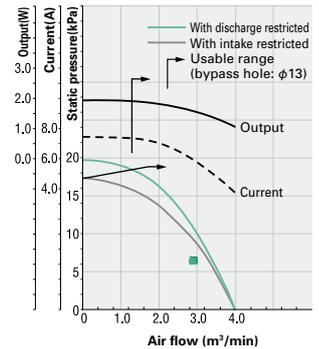
VFZ501A-4Z



50Hz



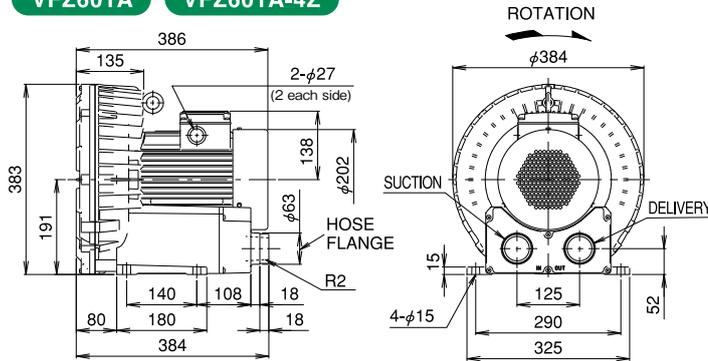
60Hz



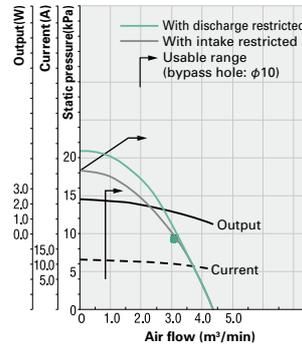
※Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

VFZ601A

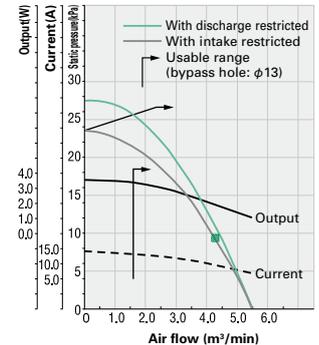
VFZ601A-4Z



50Hz



60Hz



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

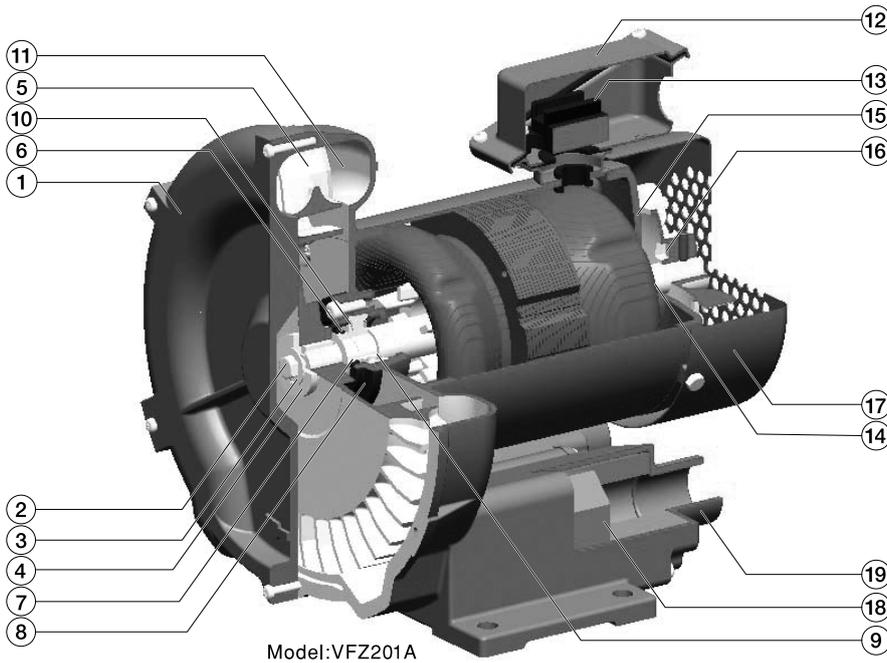
Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

Note 2: 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).

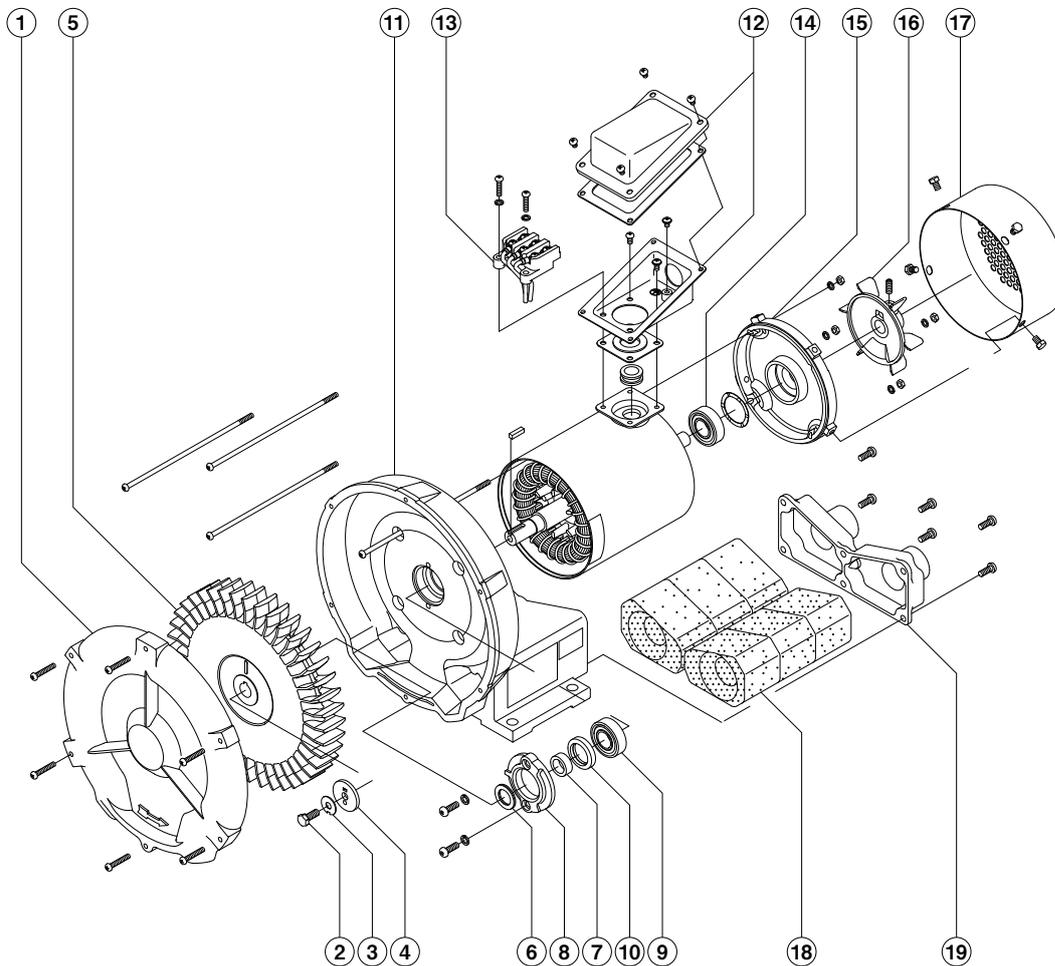
Internal structure

10~30 type



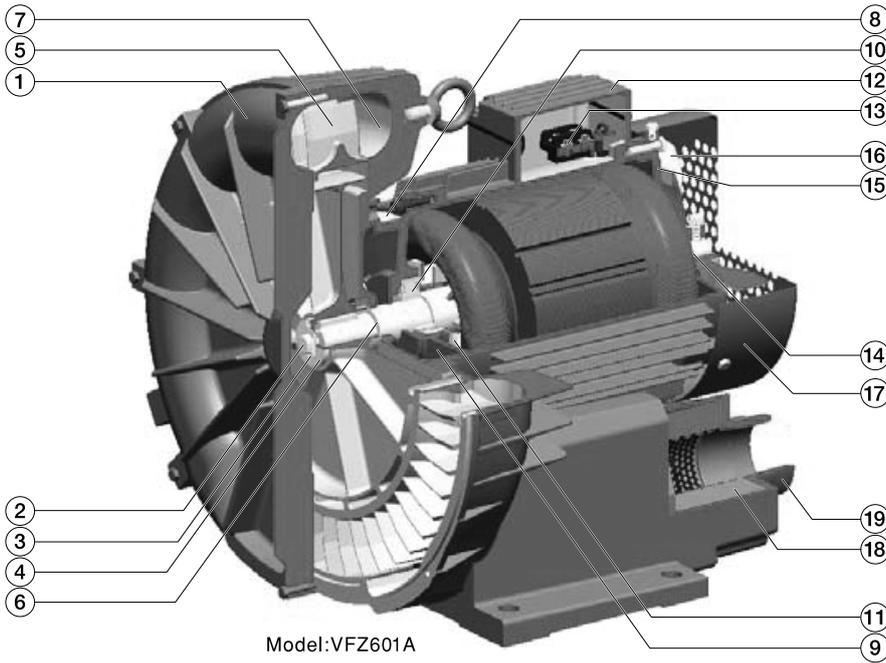
No	Parts	Material
1	Casing	ADC12 or FC150
2	Locking bolt	Steel
3	Claw washer	SPCC
4	Clamp plate	SPCC
5	Fan	ADC12
6	Adjuster	BsP3-1/2
7	Collar	Brass
8	End cover	FC150
9	Deep groove ball bearing	
10	Oil seal	Nitrile rubber
11	Casing	ADC12
12	Terminal box	SPCC
13	Terminal block	Phenolic resin
14	Deep groove 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



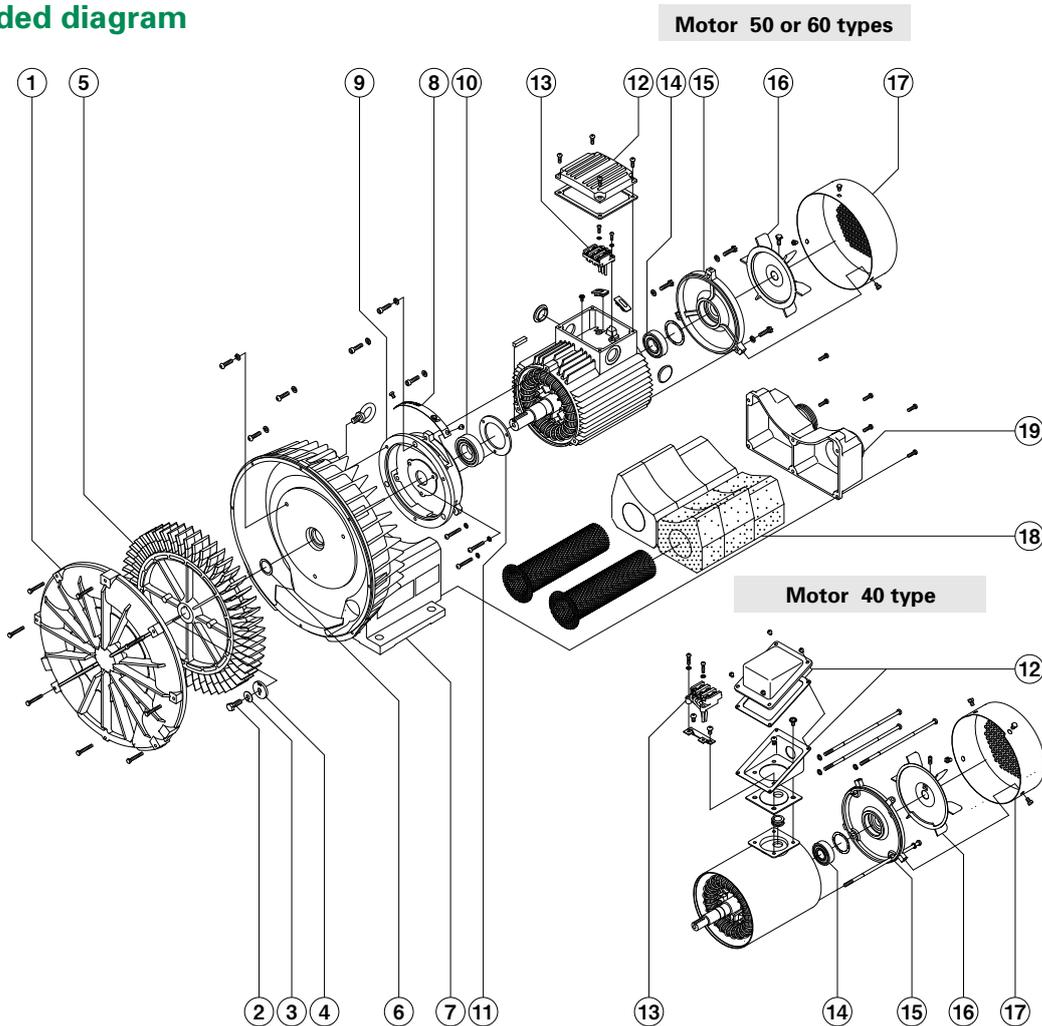
Internal structure

40~60 type



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





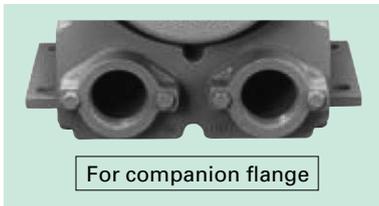
Features

- 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

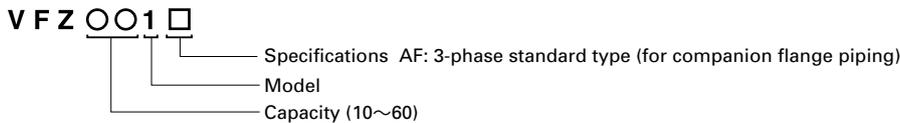
Munsell 2.5Y5/1

Piping



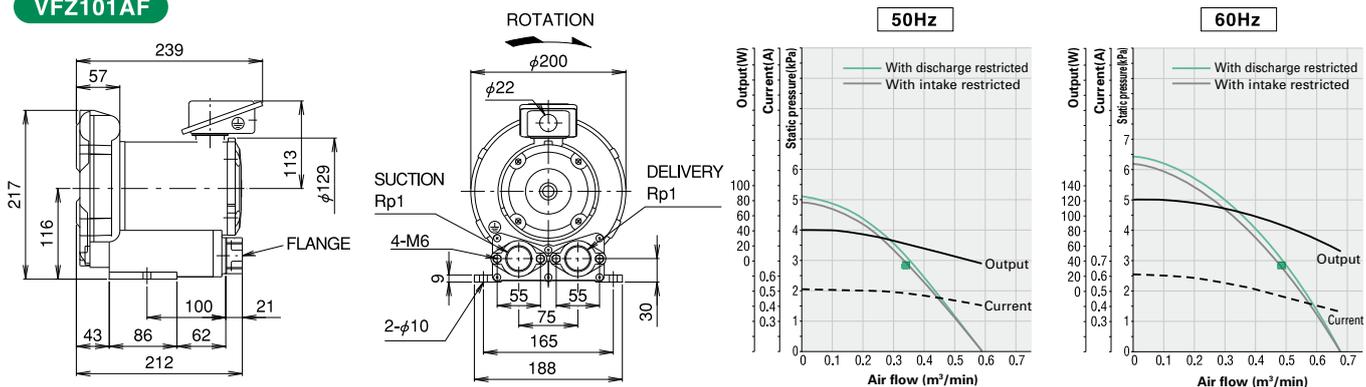
※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

Model description



Dimensional outline drawing and characteristic

VFZ101AF

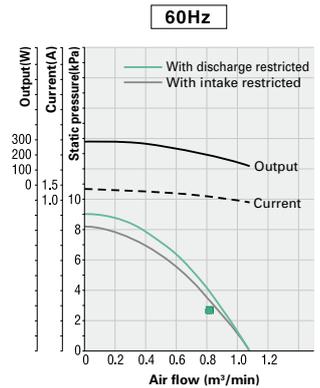
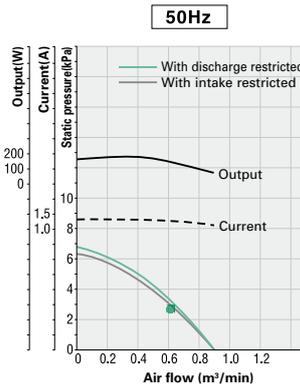
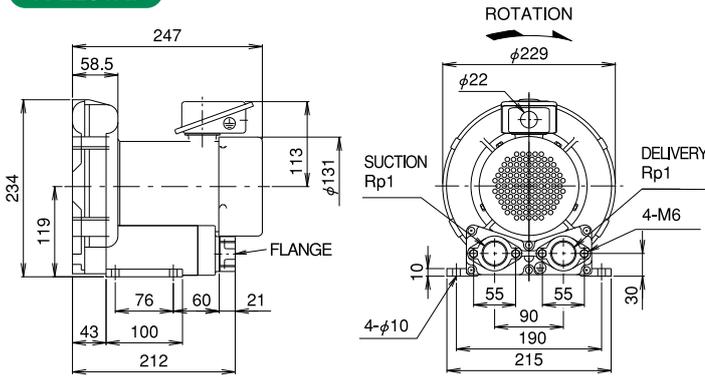


Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 – 20% higher at ambient temperature due to air density.

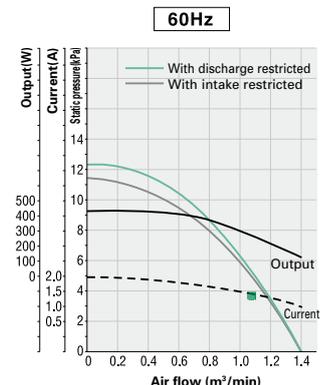
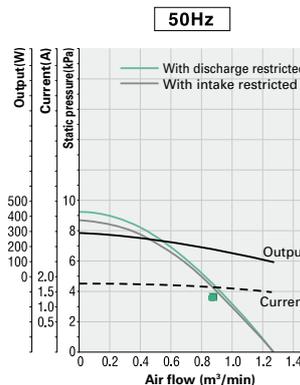
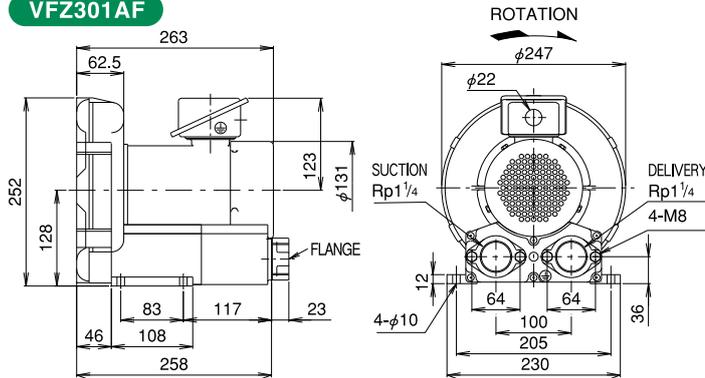
Note 2: ▨ noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

Dimensional outline drawing and characteristic

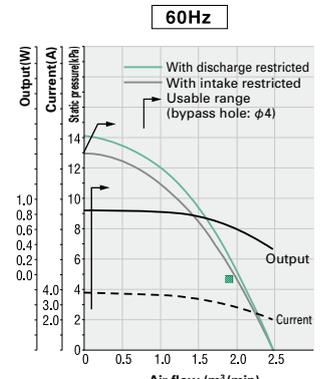
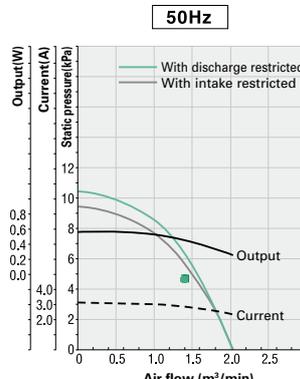
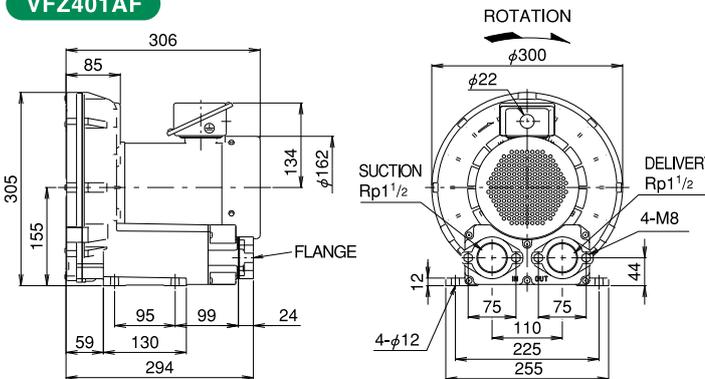
VFZ201AF



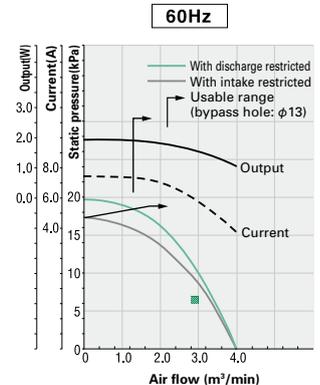
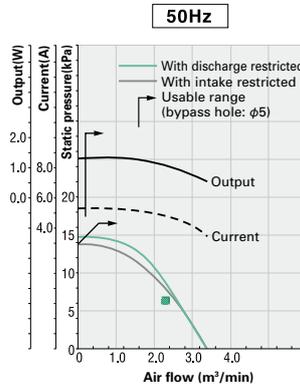
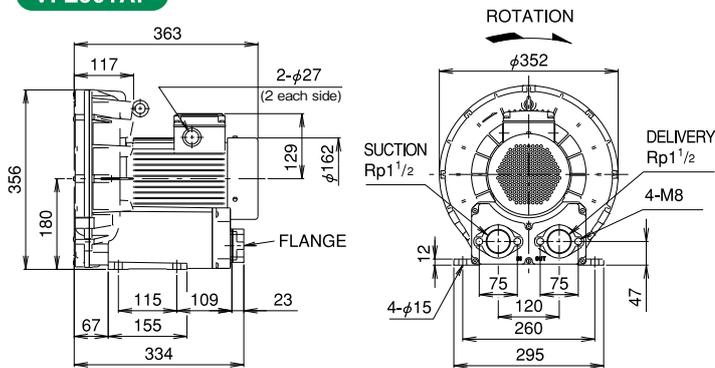
VFZ301AF



VFZ401AF



VFZ501AF



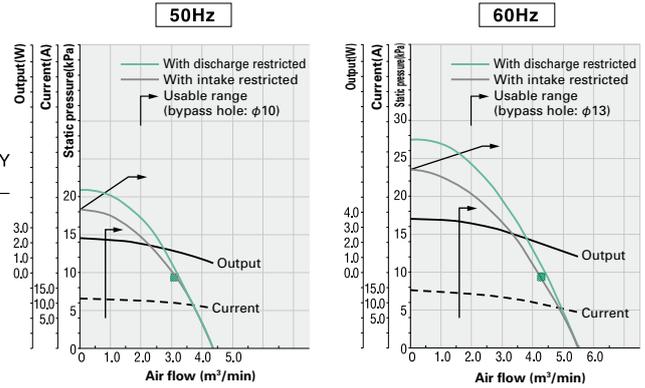
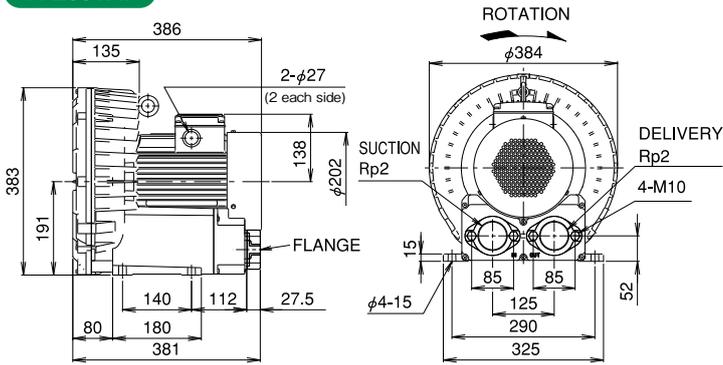
* Caution: Always remove the emblem on the main unit before fully enclosed intake operation.

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.

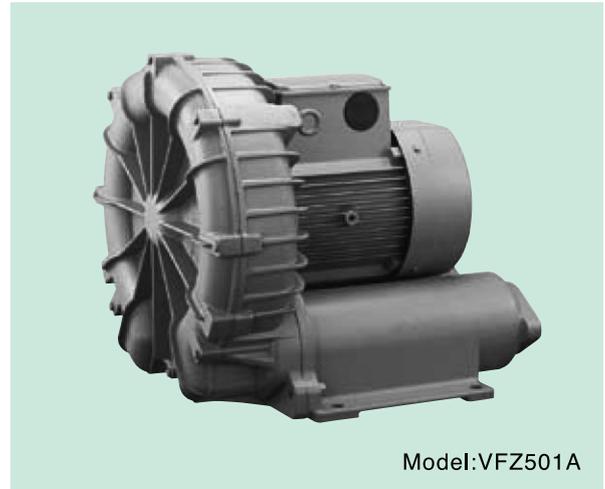
Note 2: ▨ noted with characteristics above are values on the name plate (flow and static pressure only). Current and output values indicated are limits for continuous use.

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
(▲ 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

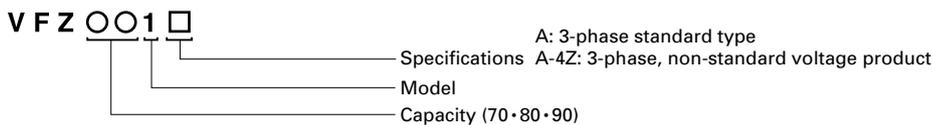


※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

Paint color

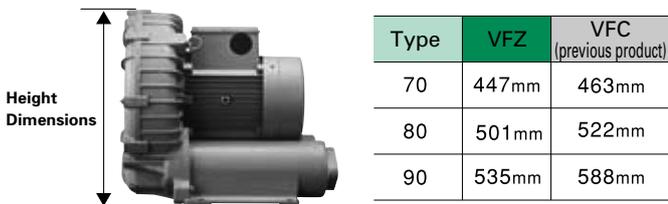
Munsell 2.5Y5/1

Model description

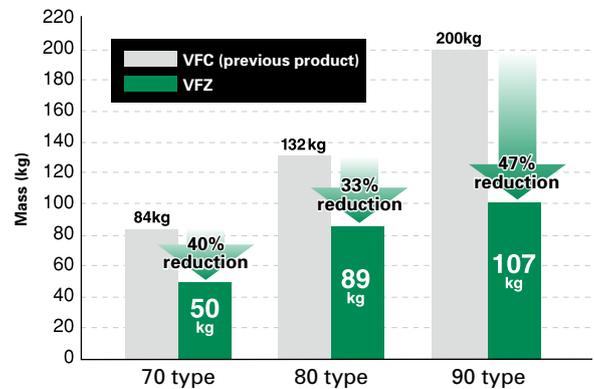


Comparison with previous products

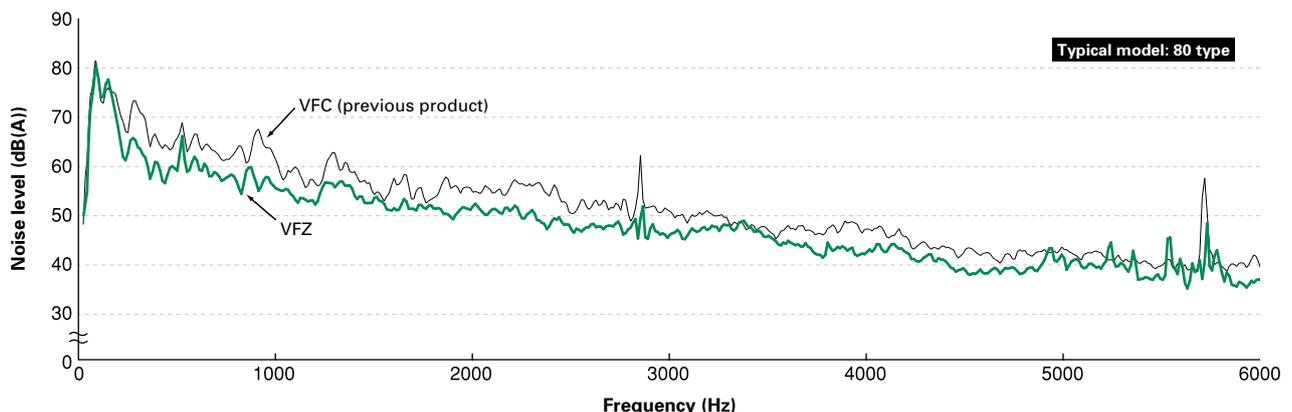
Blower height



Mass comparison



Noise comparison (high frequency)

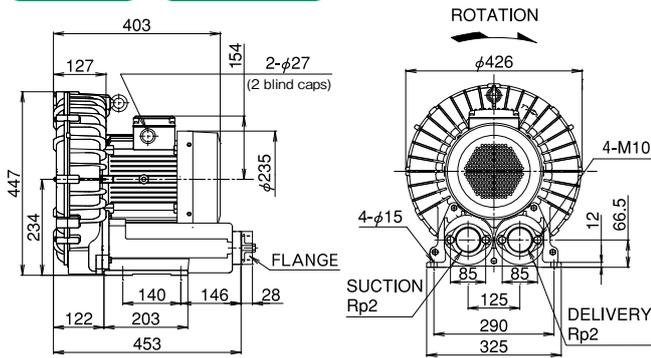


※Above noise comparison (high frequency) data obtained from typical model at 60 Hz and 200V in unrestricted operation.
※Values measured at distance of 1.0 m.

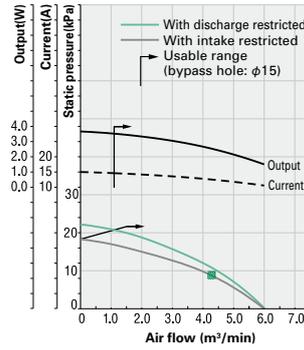
Dimensional outline drawing and characteristic

VFZ701A

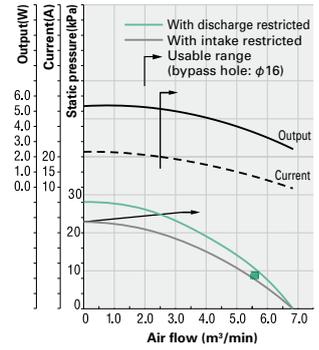
VFZ701A-4Z



50Hz

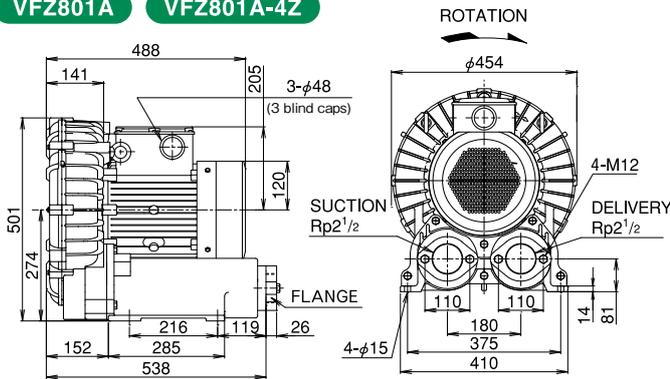


60Hz

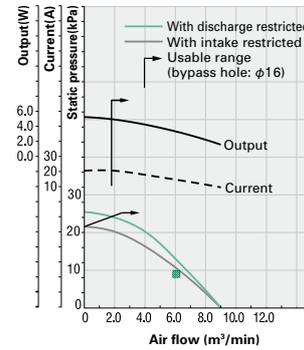


VFZ801A

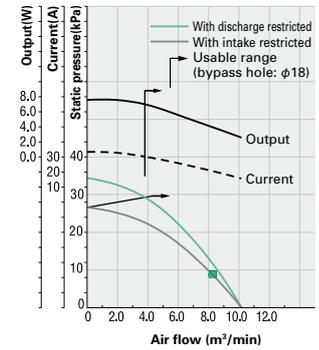
VFZ801A-4Z



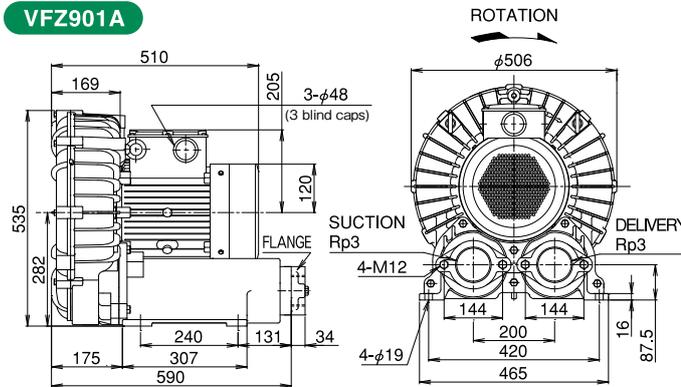
50Hz



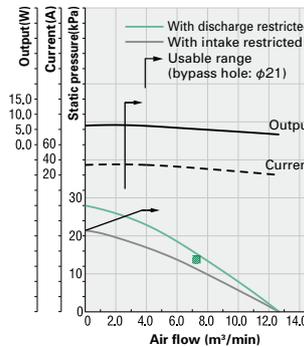
60Hz



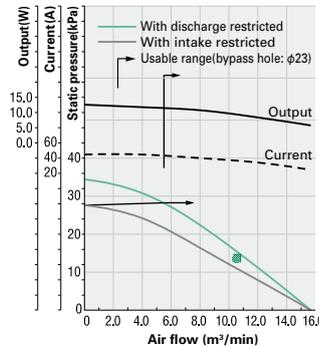
VFZ901A



50Hz



60Hz

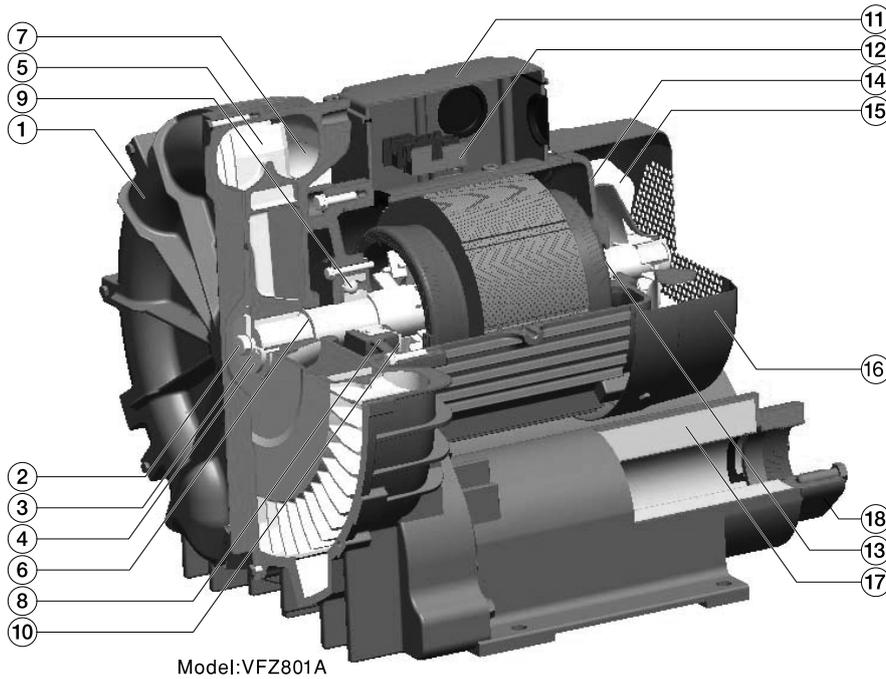


Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

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.

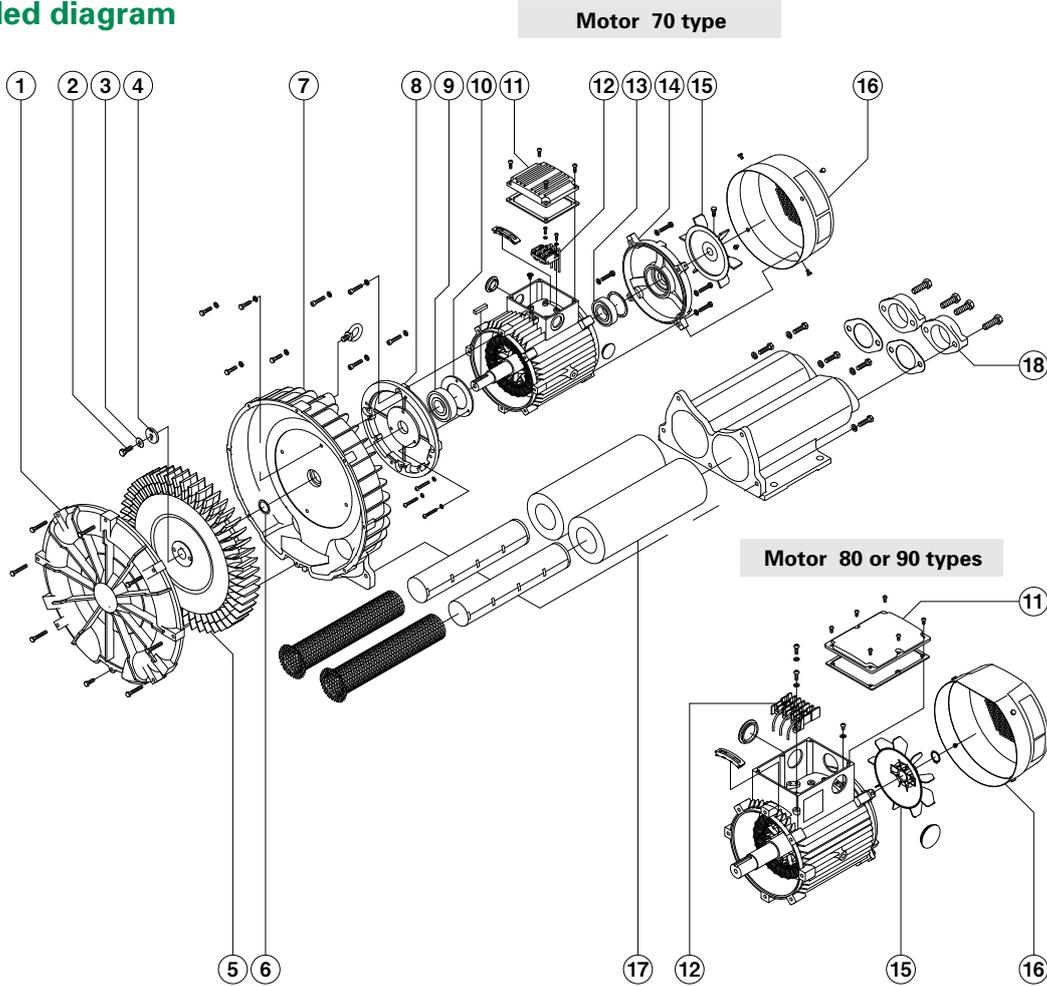
Note 3: Check 'Standard Specifications' for current values for non-standard voltage products (-4Z).

Internal structure



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)

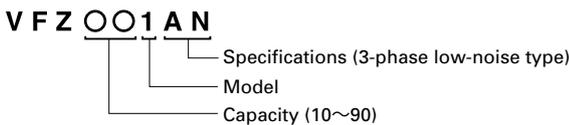


※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

Paint color

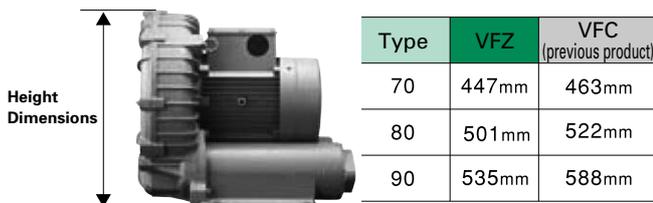
Munsell 10YR4/1

Model description

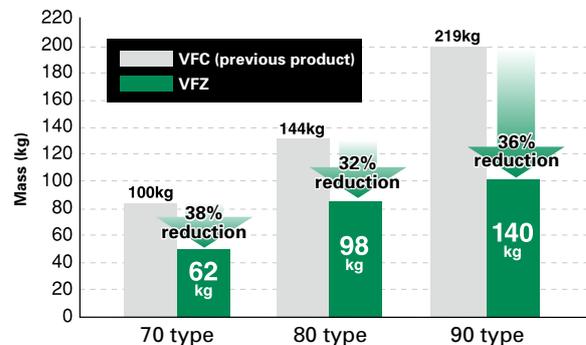


Comparison with previous products

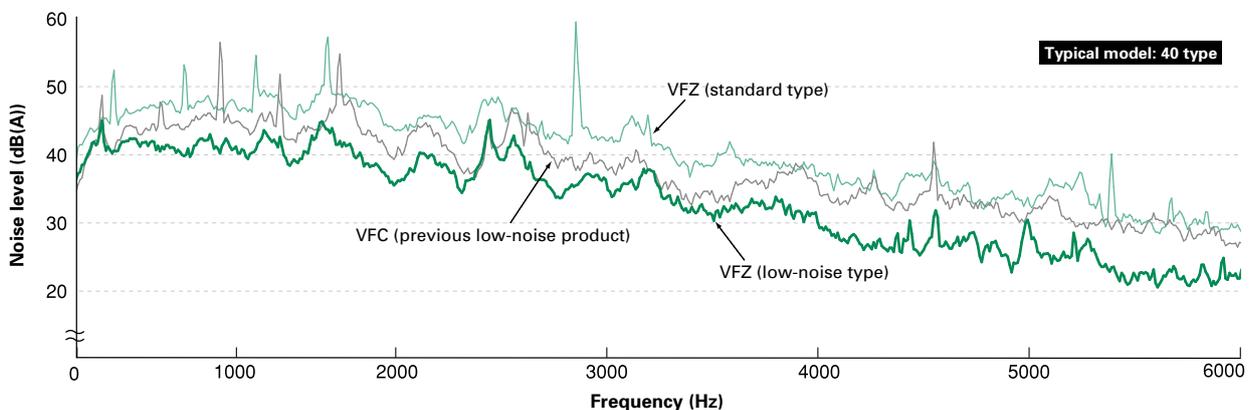
Blower height (70 type and above)



Mass comparison (70 type and above)



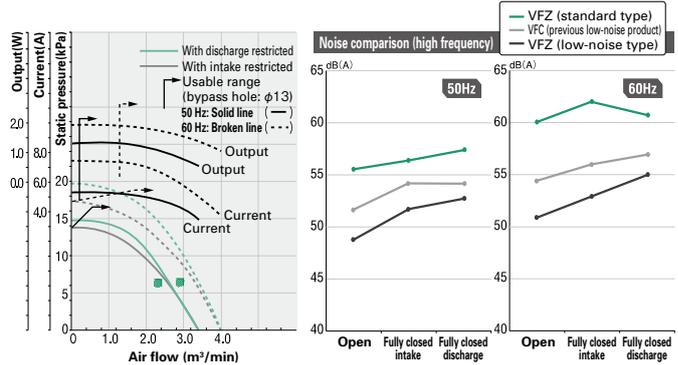
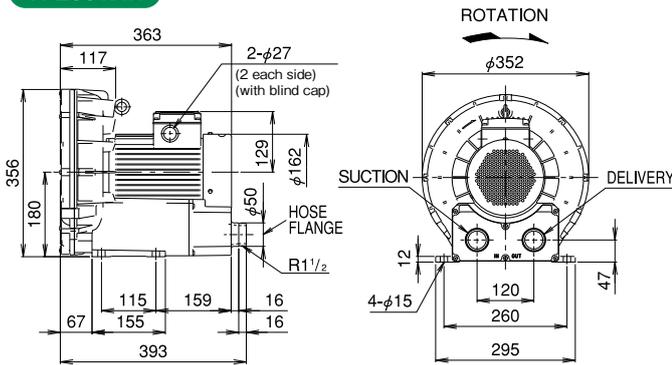
Noise comparison (high frequency)



※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.

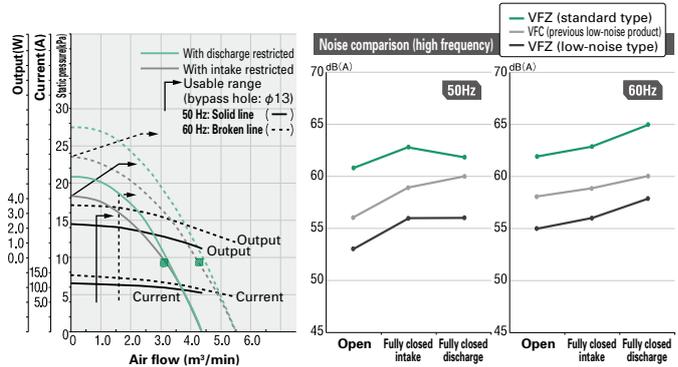
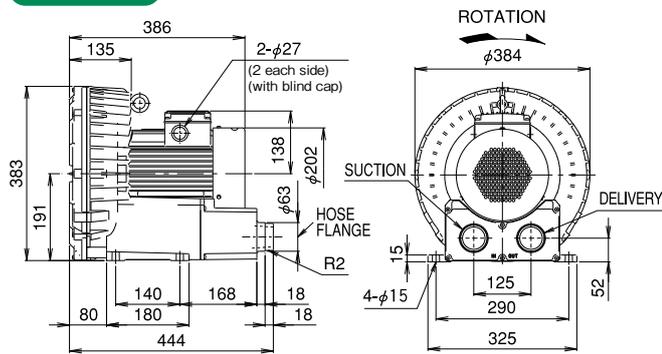
Dimensional outline drawing and characteristic

VFZ501AN



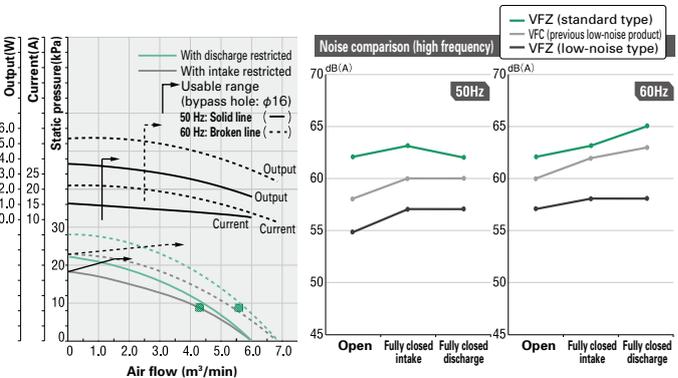
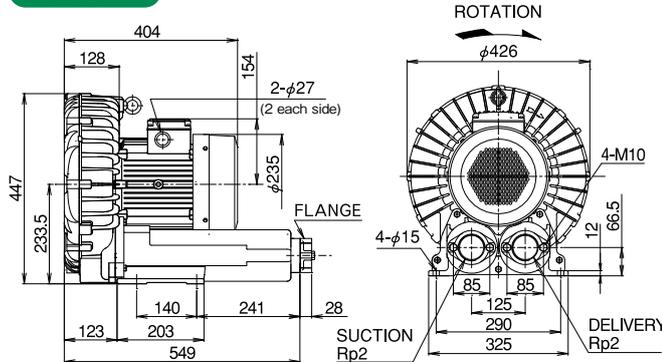
*Caution: Always remove the emblem on the main unit before fully closed intake operation.

VFZ601AN

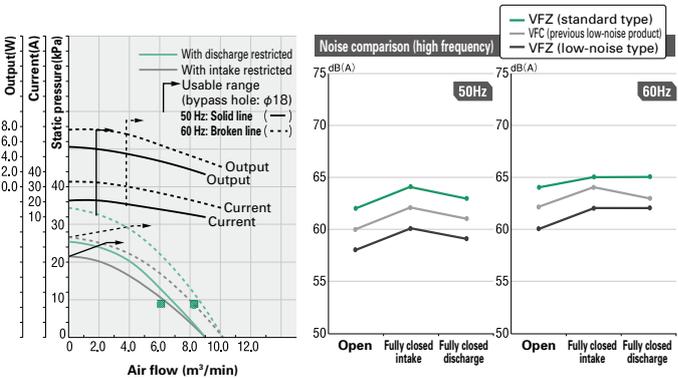
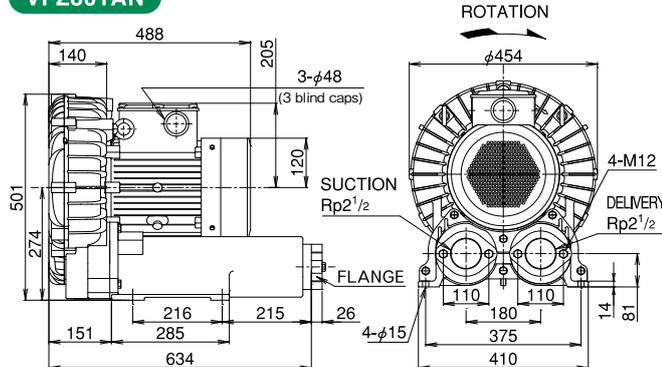


*Caution: Always remove the emblem on the main unit before fully closed intake operation.

VFZ701AN



VFZ801AN



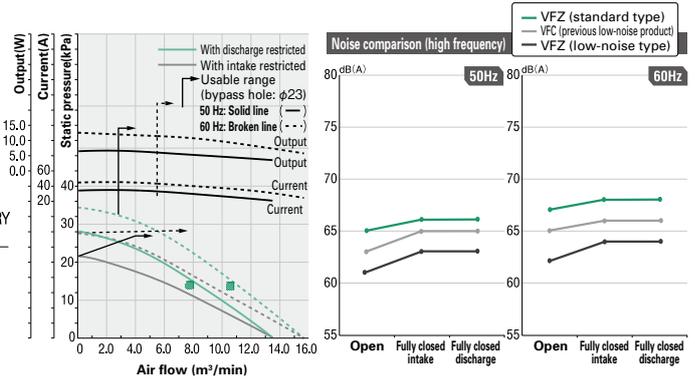
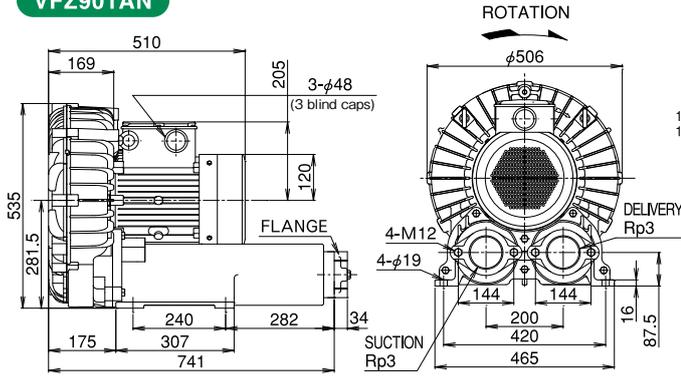
Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

Note 2: ▨ 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: ▨ 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

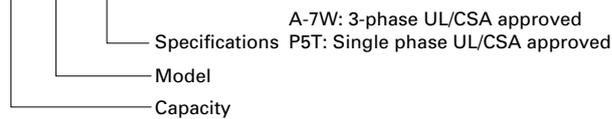


Paint color

Munsell N5

Model description

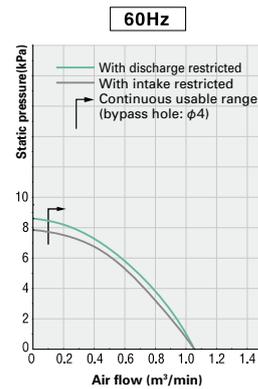
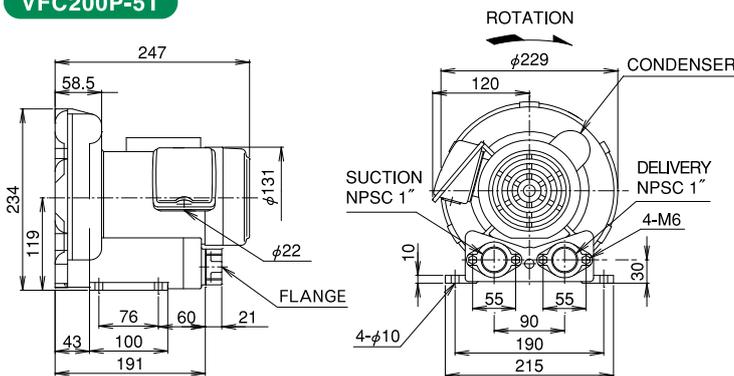
VFC○○○□-□



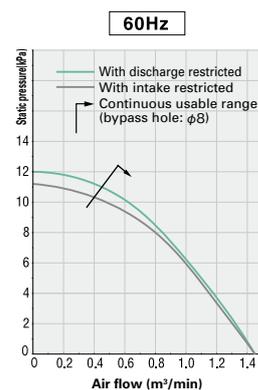
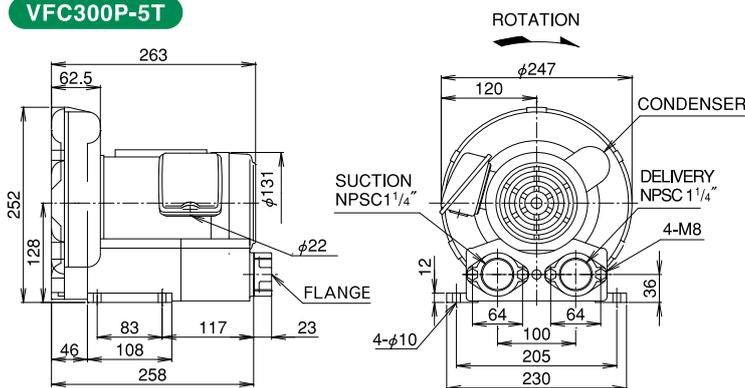
※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

Dimensional outline drawing and characteristic

VFC200P-5T



VFC300P-5T

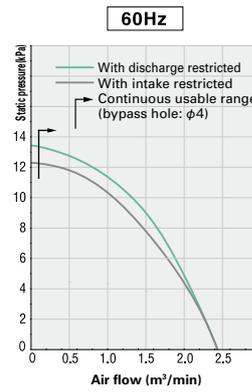
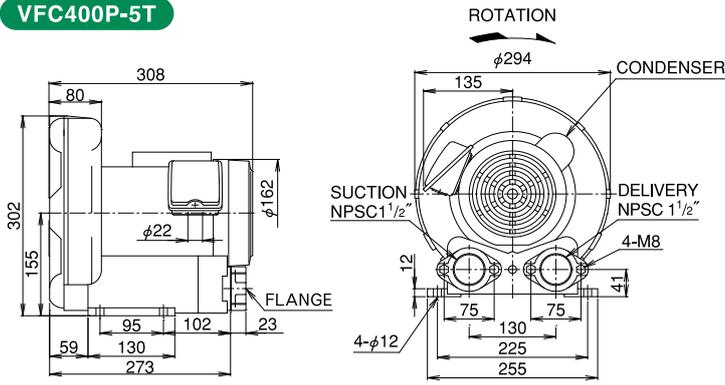


Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

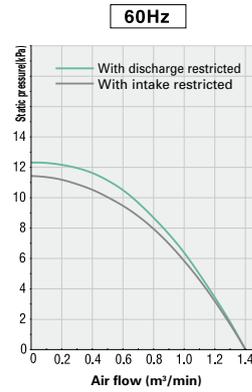
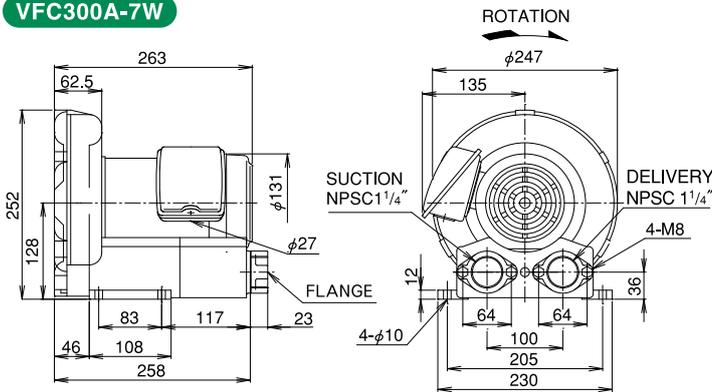
Note 2: Usable at 50 Hz, however characteristics deteriorate at this frequency.

Dimensional outline drawing and characteristic

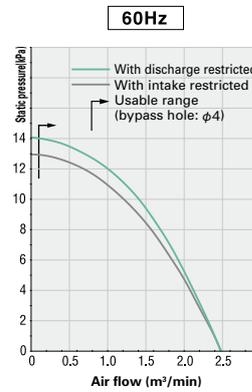
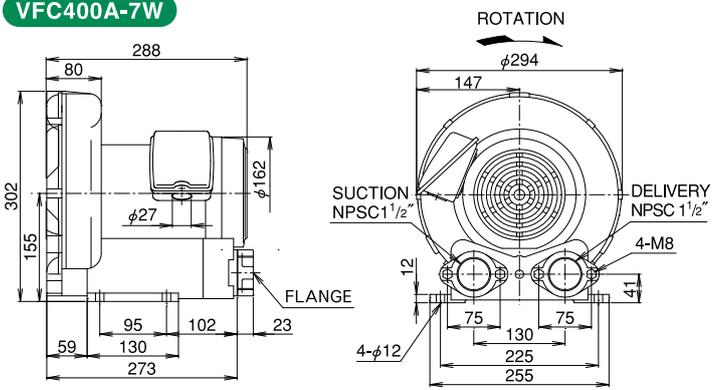
VFC400P-5T



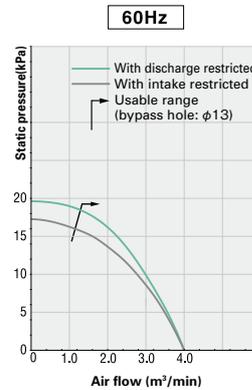
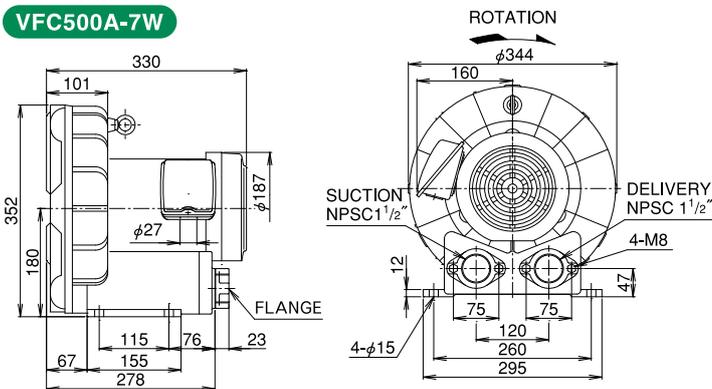
VFC300A-7W



VFC400A-7W



VFC500A-7W

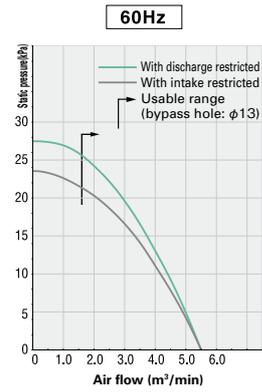
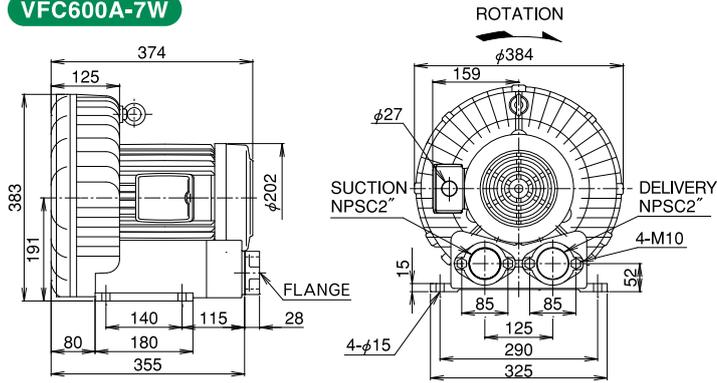


Note 1: The above values are obtained in a thermally saturated state. Depending on the model, characteristics near cut-off (static pressure, current, output) are therefore 0 - 20% higher at ambient temperature due to air density.

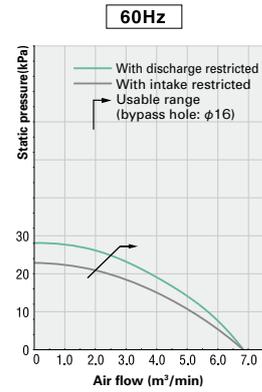
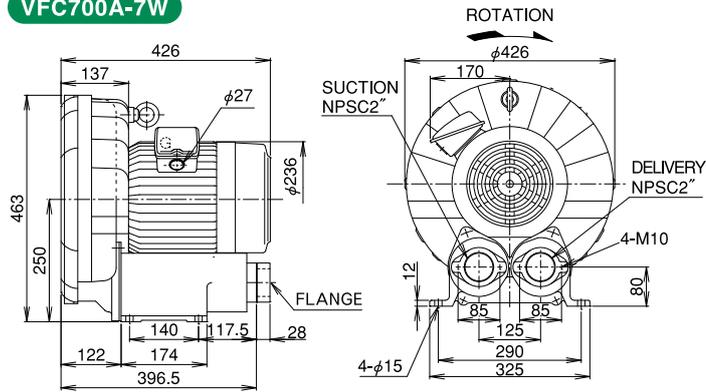
Note 2: Usable at 50 Hz, however characteristics deteriorate at this frequency.

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

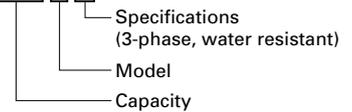
The blower is of water-resistant construction, however a water tank to separate air and water should be installed.

Paint color

Munsell N5

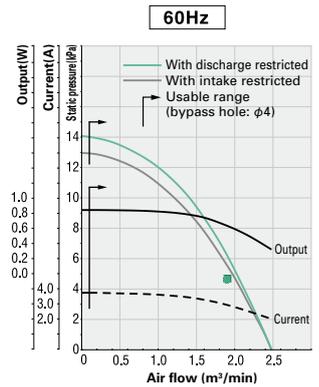
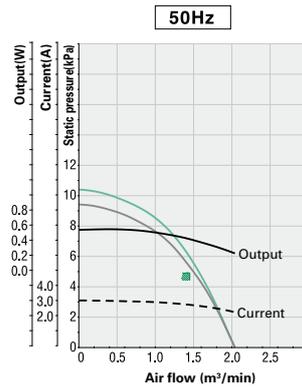
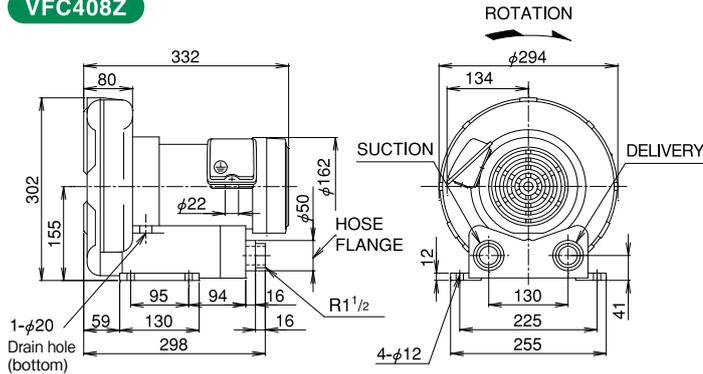
Model description

VFC 00 8 Z

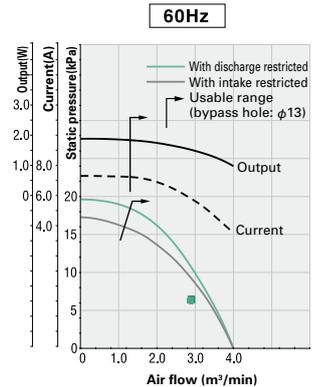
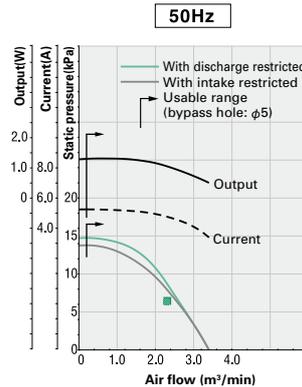
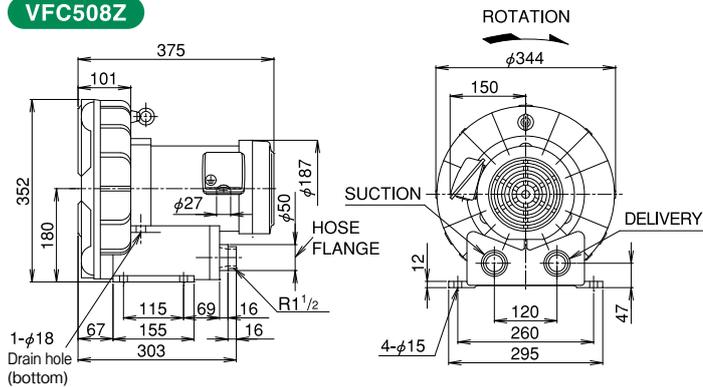


Dimensional outline drawing and characteristic

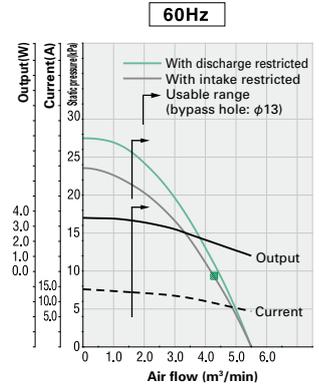
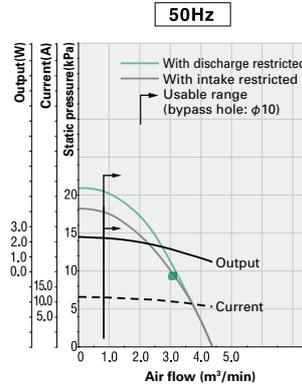
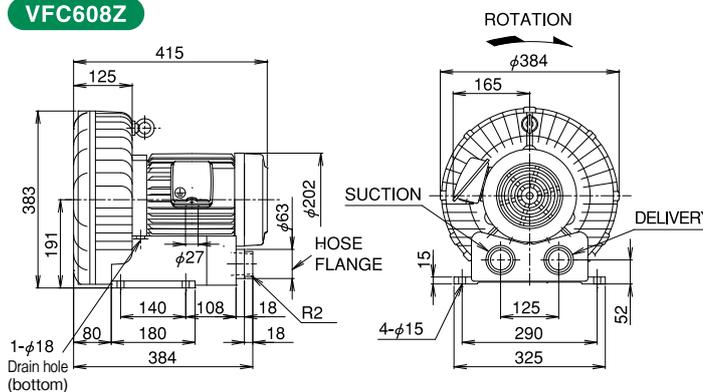
VFC408Z



VFC508Z



VFC608Z



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: Characteristics 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.

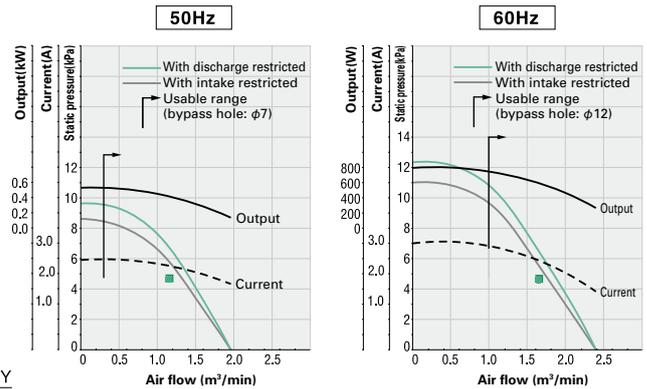
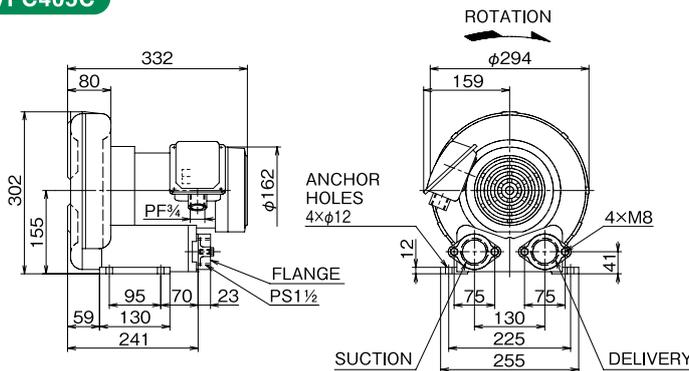
Note 2: Performance of standard 3-phase VFZ Series is downgraded.

Paint color

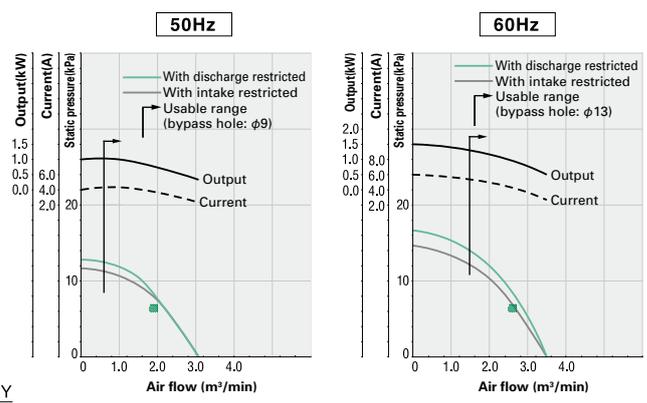
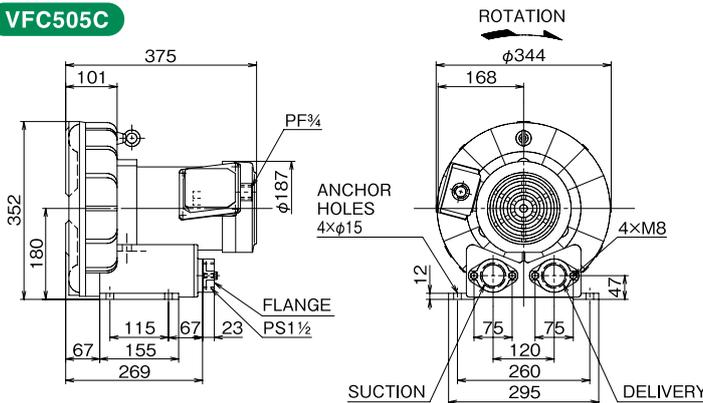
Munsell N5

Dimensional outline drawing and characteristic

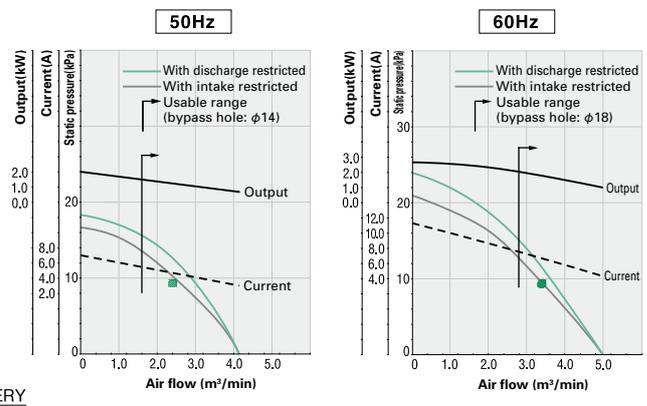
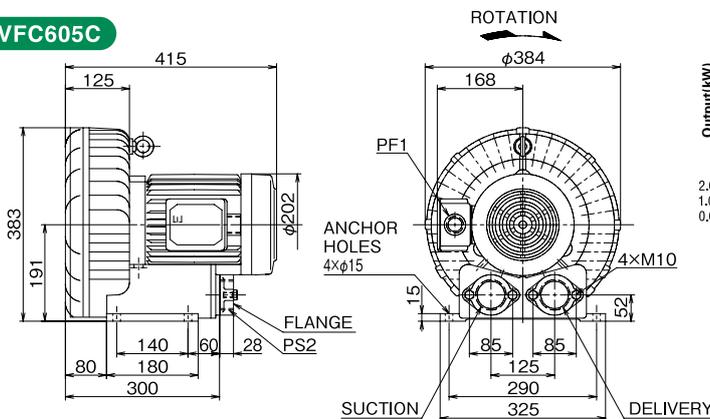
VFC405C



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.

Model description

VFC○○5C

- Specifications (3-phase, improved explosion-proofing type)
- Model
- Capacity

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

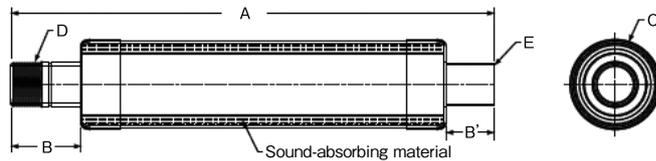
- Superior heat and water-resistant sound-absorbing material is used.
- Tapered or parallel-threaded connectors (VFY021S and VFY023S for hoses) used. Also usable with butted flanges.
- Compatible with RoHS directives.



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

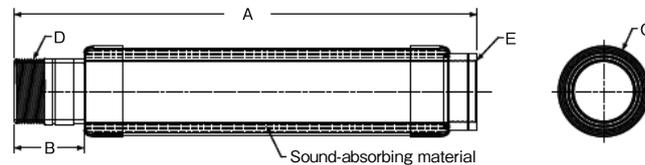
External dimensions

Fig.1



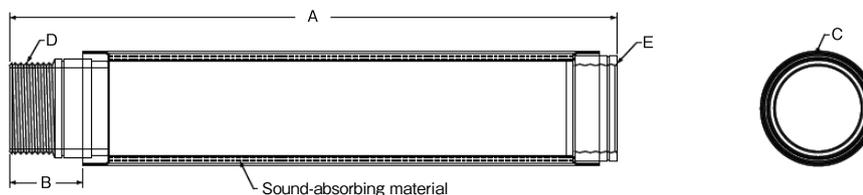
Model	A	B	B'	C	D	E	Mass	Suitable ring blower
VFY021S	345	51	28	φ66	R1	φ32	1.00kg	08, 10, and 20 types
VFY023S	348	51	31	φ66	R1¼	φ38	1.03kg	30 type

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



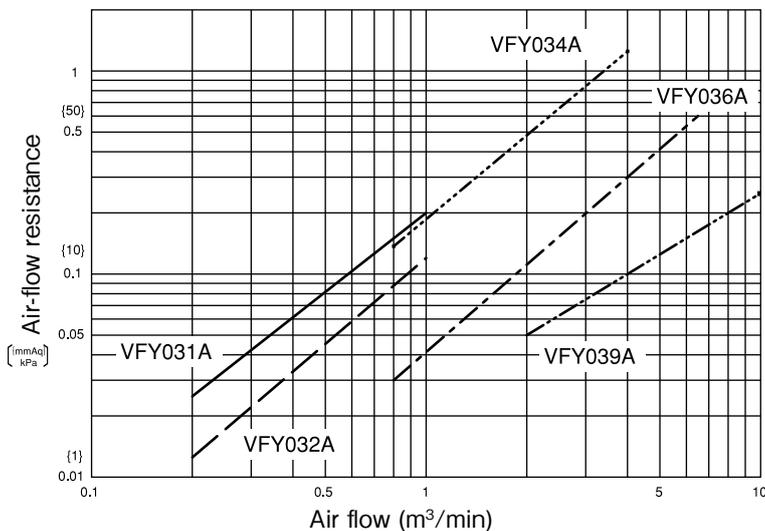
※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

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

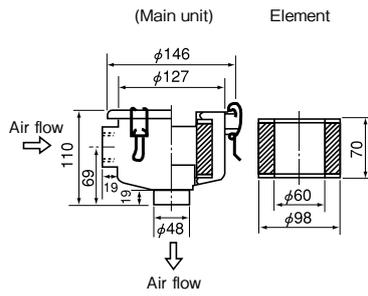
- (1) Clogging of air filters differs with conditions of use. Check periodically.
- (2) When cleaning and replacing the element, remove it to ensure that dust and particles do not fall into the ring blower. Remove dust and particles which have collected inside.
- (3) If the element contains water, air-flow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



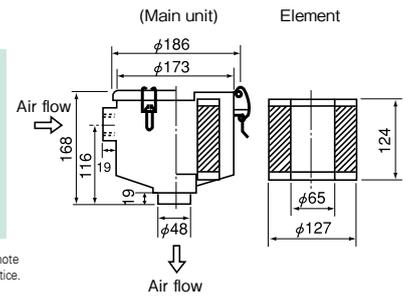
※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.



VFY032A



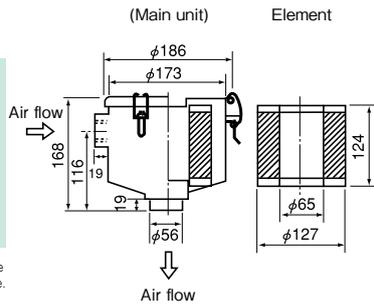
※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.



VFY034A



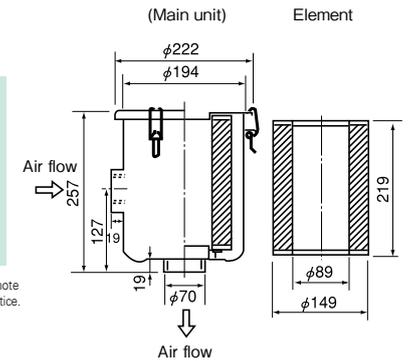
※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.



VFY036A



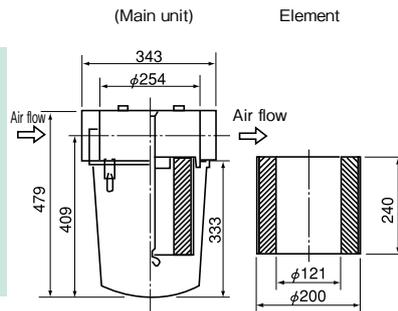
※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.



VFY038A



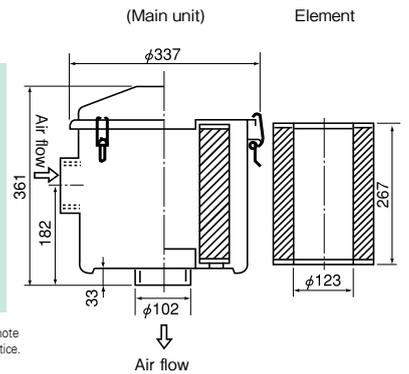
※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.



VFY039A

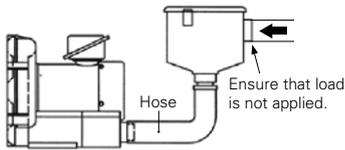


※This photo shows a number of examples. Please note that the actual equipment may differ slightly in practice.

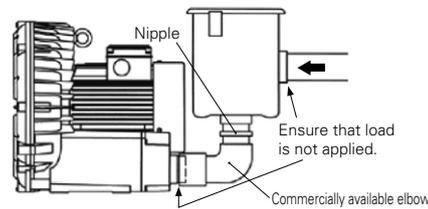


Mounting diagram

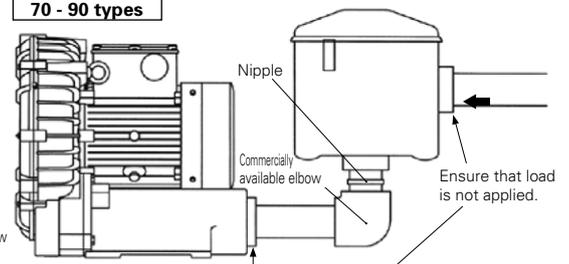
08 - 30 types



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.

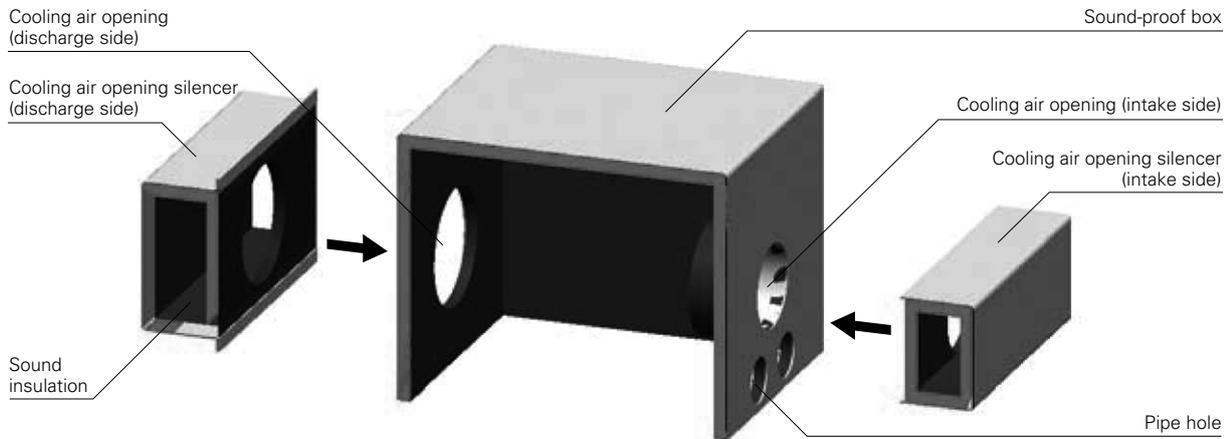


Fig.1 Structure

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

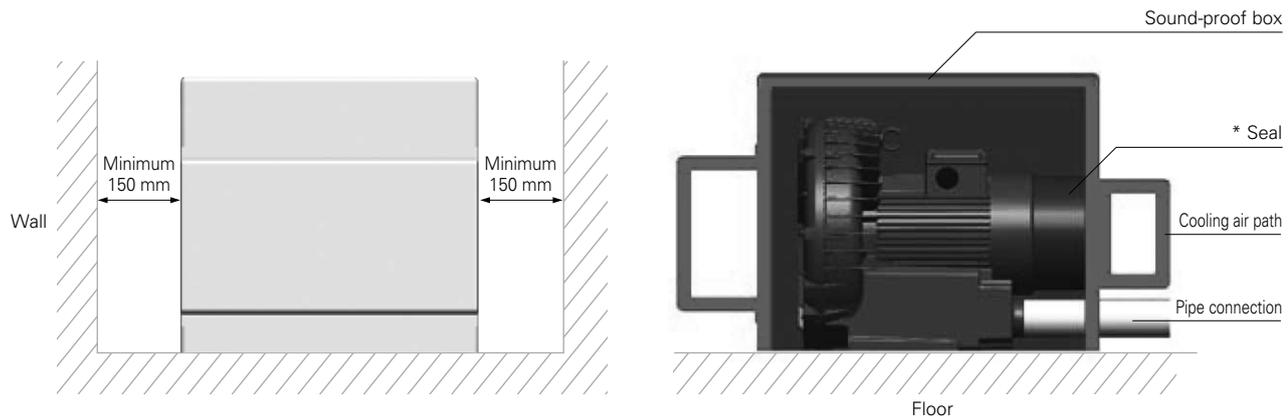


Fig.2 Installation

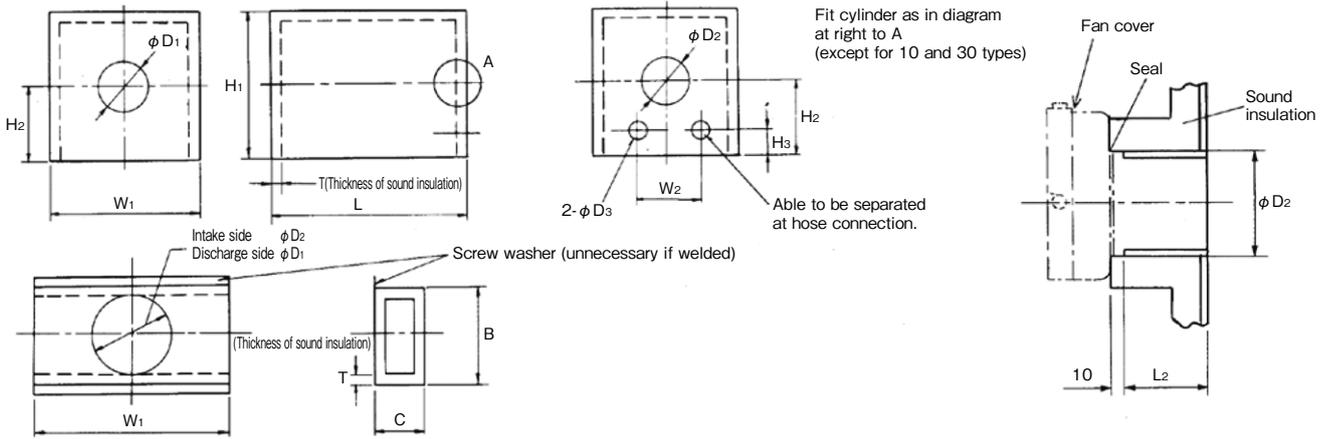
Installation sequence for sound-proof box

- 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	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 ±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	φ3	φ4
VFZ201PN	φ5	φ4
VFZ301PN	φ7	φ8
VFZ401PN	—	φ4
VFZ081A (AN)	—	—
VFZ101A (AN)	φ3	φ5
VFZ201A (AN)	—	—
VFZ301A (AN)	—	—
VFZ401A (AN)	—	φ4
VFZ501A (AN)	φ5	φ13
VFZ601A (AN)	φ10	φ13
VFZ701A (AN)	φ15	φ16
VFZ801A (AN)	φ16	φ18
VFZ901A (AN)	φ21	φ23

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

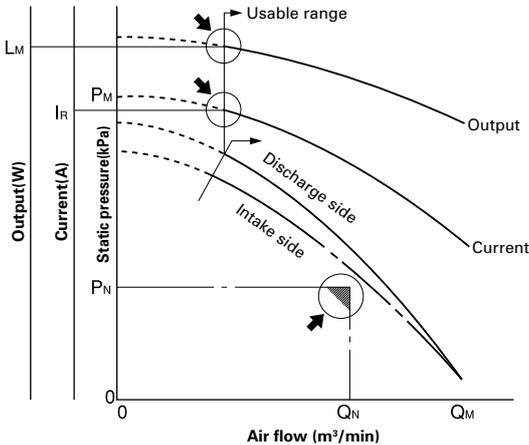
03

Technological material

Nameplates

To ensure a margin for safety, values on the nameplates are discharge characteristics.

Airflow volume and static pressure are the QN and PN optimum use characteristic points, and output and current are the LM and IR usable discharge characteristic points (see diagram below).



Airflow volume: 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

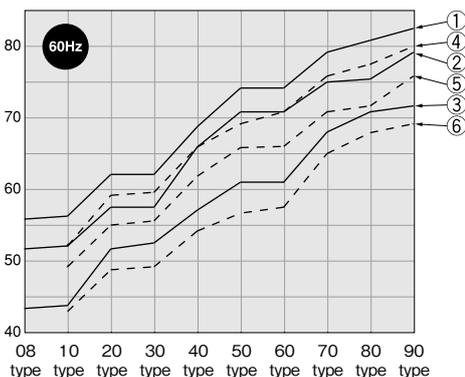
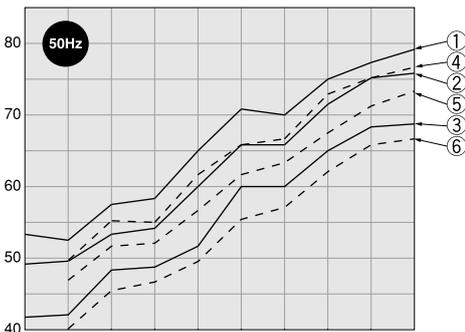
When using at both 50 Hz and 60 Hz, adjust to the 60Hz current value on the nameplate. If using solely at 50 Hz or 60 Hz, adjust to the relevant current value on the nameplate.

04

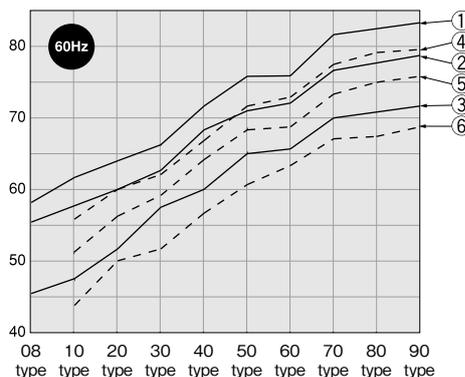
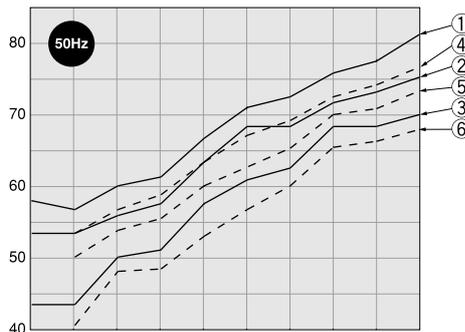
Technological material

Noise data

Unrestricted operation



Fully closed discharge operation



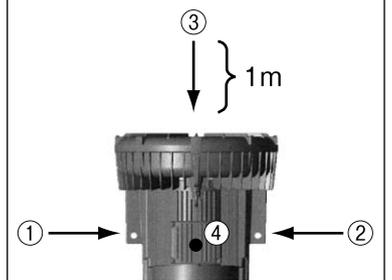
Standard type Solid line (—)

- ① When used alone
- ④ With pipe silencer fitted
- ② With pipe silencer and sound-proof box fitted
- ⑤
- ③
- ⑥

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.

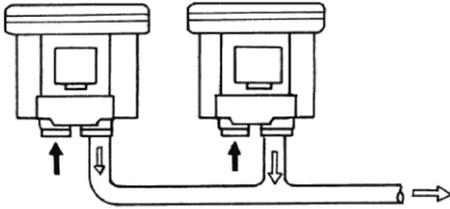
05

Technological material

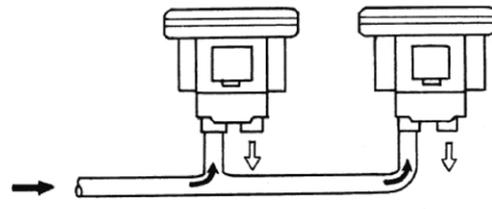
Parallel operation

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

Discharge parallel operation

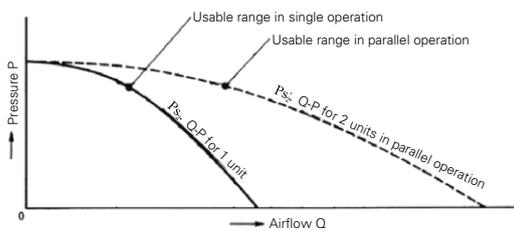


Intake parallel operation

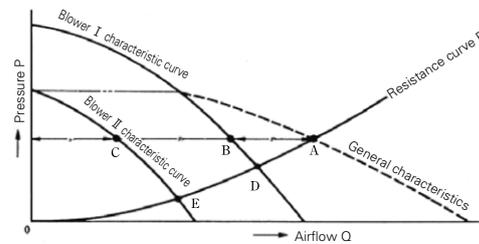


When blowers are operated in parallel, pressure characteristics remain unchanged, and airflow increases by the number of units (see below). Since airflow increases, the load on the blower also increases, and the usable range is displaced on the graph. Care is required to ensure that operation does not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

Characteristic curves with the same blowers in parallel operation.



Characteristic curves with different blowers in parallel operation.



06

Technological material

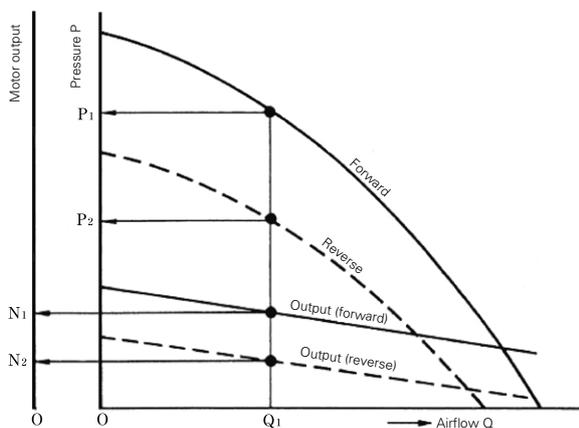
Reverse operation

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).

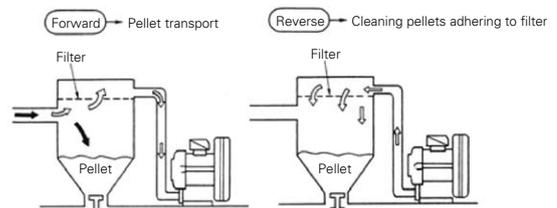
Furthermore, reverse operation allows use in cleaning of a variety of air transport equipment.

Characteristics with reverse operation



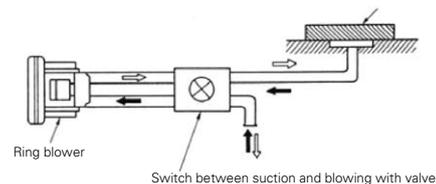
Application examples 1

Filter cleaning



Application examples 2

Repeated intake and discharge

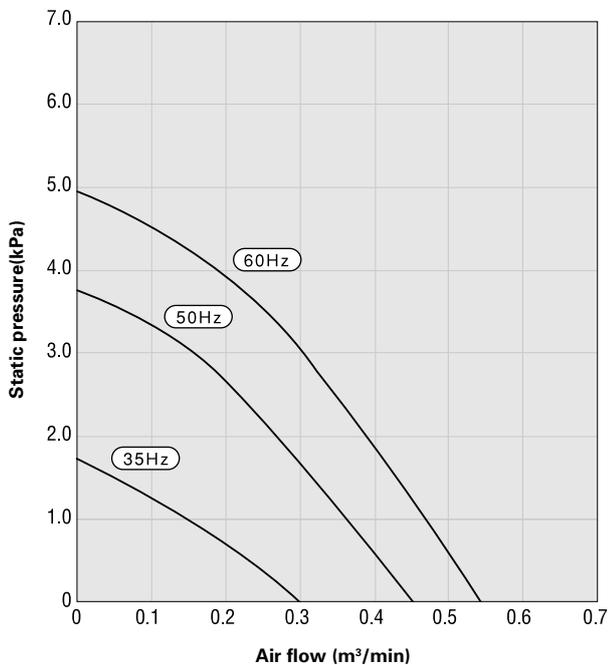


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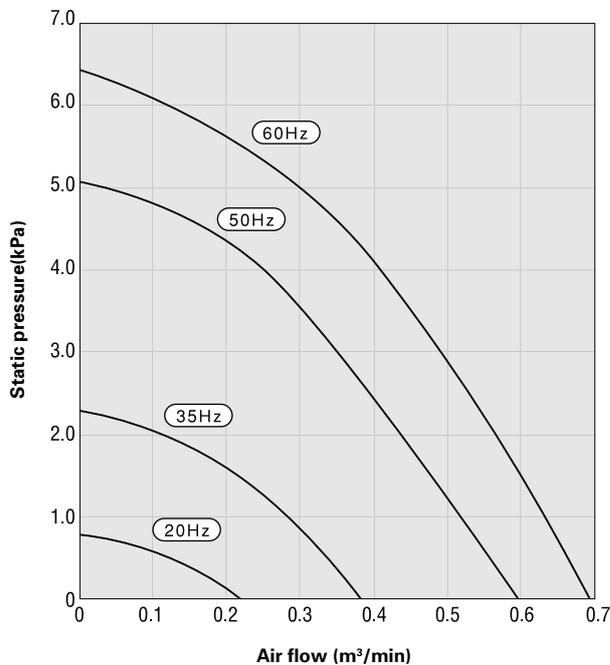
Technological material

Variable speed operation with inverter

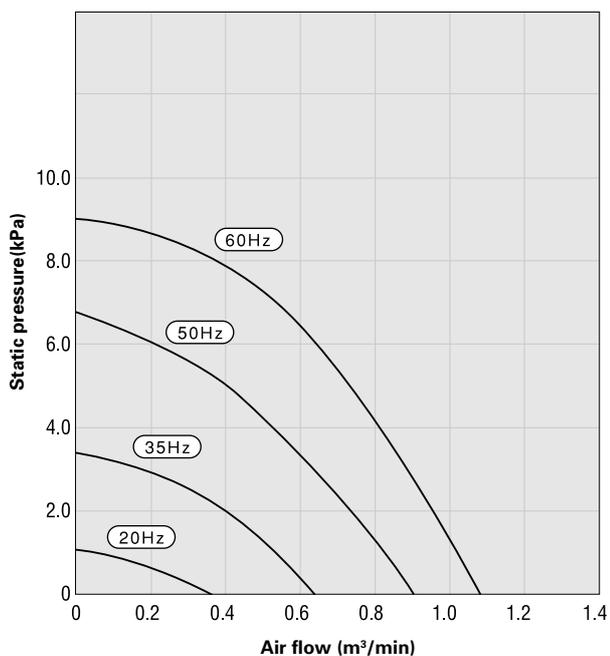
VFZ081



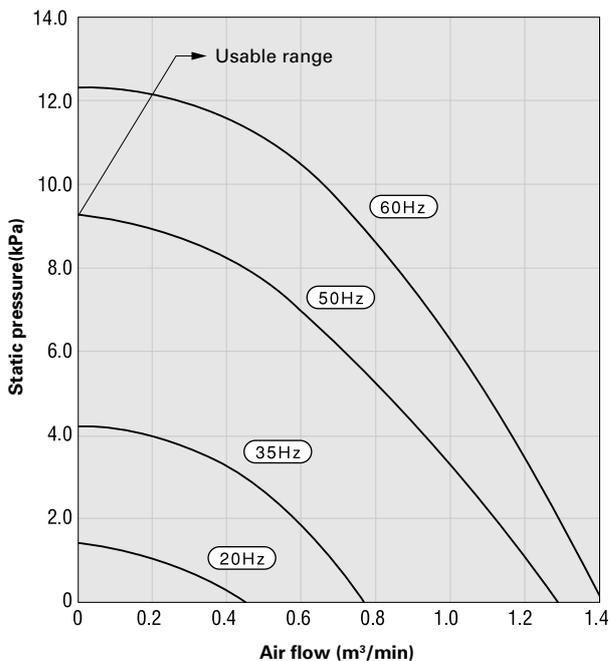
VFZ101



VFZ201

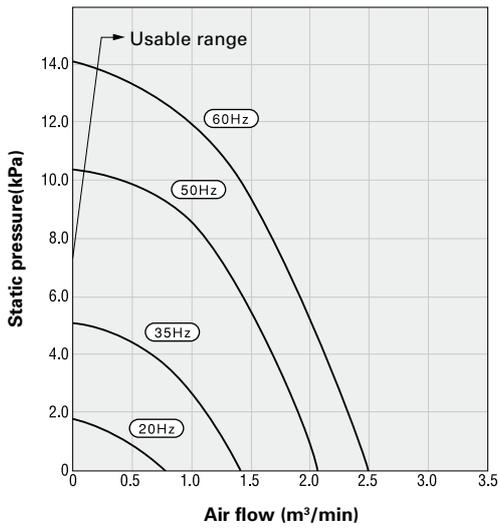


VFZ301

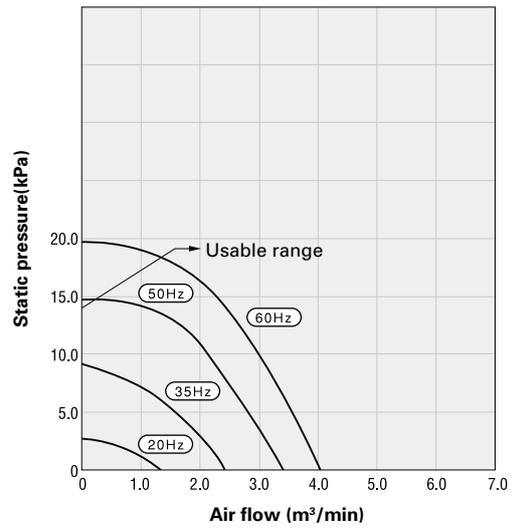


Note: These characteristic curves are for the 3-phase VFZ Series run with the Fuji Electric inverter (FRENIC Series).

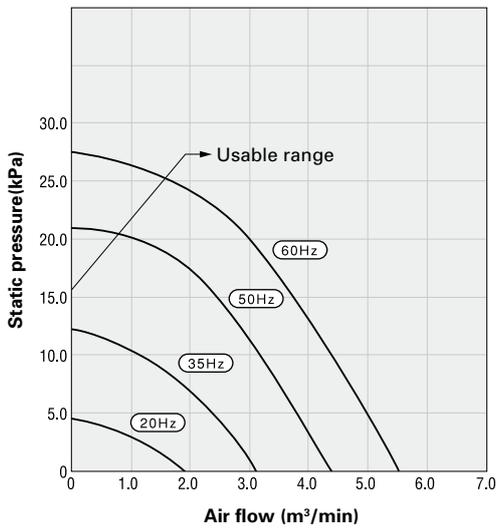
VFZ401



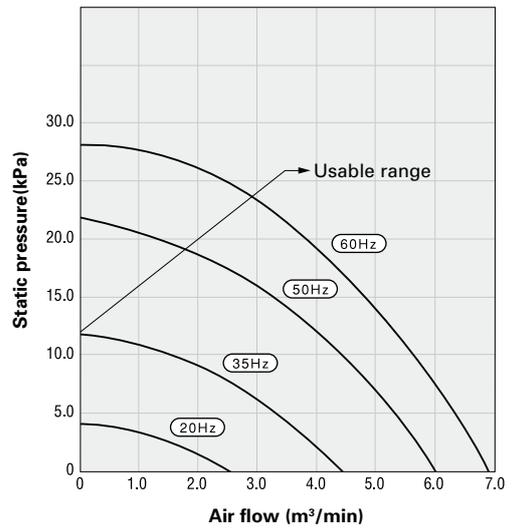
VFZ501



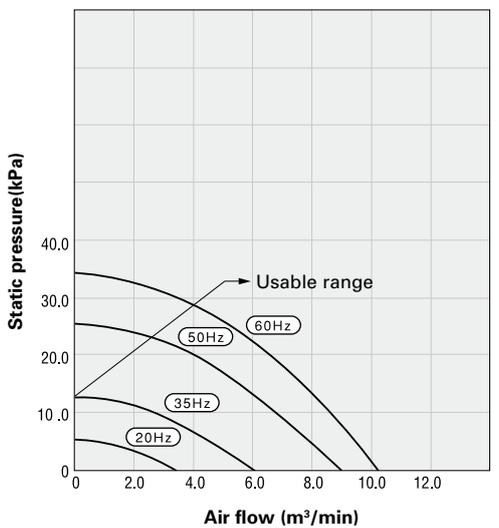
VFZ601



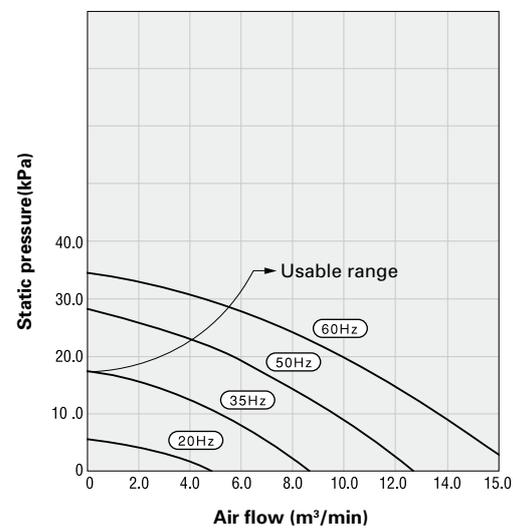
VFZ701



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	

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

Model	VFZ081~VFZ701	VFZ801, VFZ901	
Lead wire	3-wire	6-wire	
Connection		Full-voltage start (when shipped)	Star-delta start

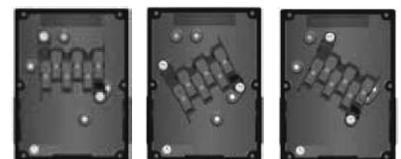
3 Non-standard voltage (-4Z) specification

Model	VFZ081~VFZ701	VFZ801	
Lead wire	3-wire	6-wire	
Connection		Full-voltage start (when shipped)	Star-delta start

[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	6309ZZ 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

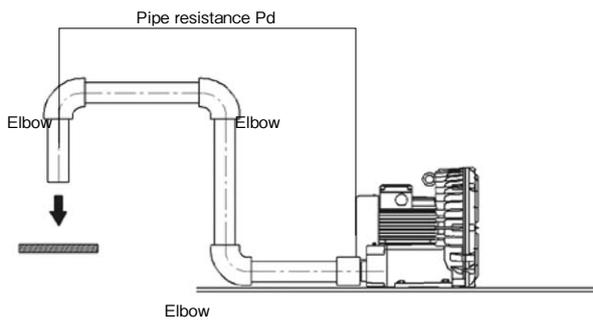
10

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	Remarks
1. Required airflow speed: V_1 [m/s]	λ : Pipe friction coefficient 0.02
2. Slit cross-section area: S [m ²]	γ : Specific gravity of air 1.2
3. Pipe diameter: ϕ d[m] Pipe cross-section area: D [m ²]	
4. Pipe length: L [m]	

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 $Pd_p = \lambda \times \frac{L}{d} \times \frac{\gamma V_2^2}{2} \quad [\text{Pa}]$

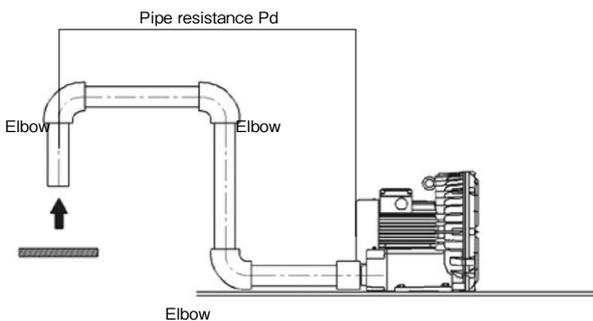
Step 3 Required static pressure calculation

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

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	Remarks
1. Work mass: W [kg]	λ : Pipe friction coefficient 0.02
2. Gripping area: S_s [m ²] Open area: S_o [m ²]	γ : Specific gravity of air 1.2
3. Pipe diameter: ϕ d[m] Pipe cross-section area: D [m ²]	
4. Pipe length: L [m]	

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.

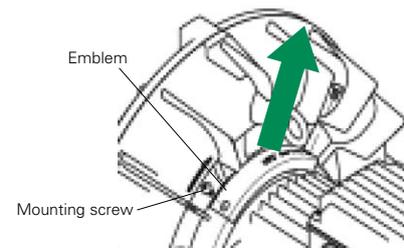
06

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.

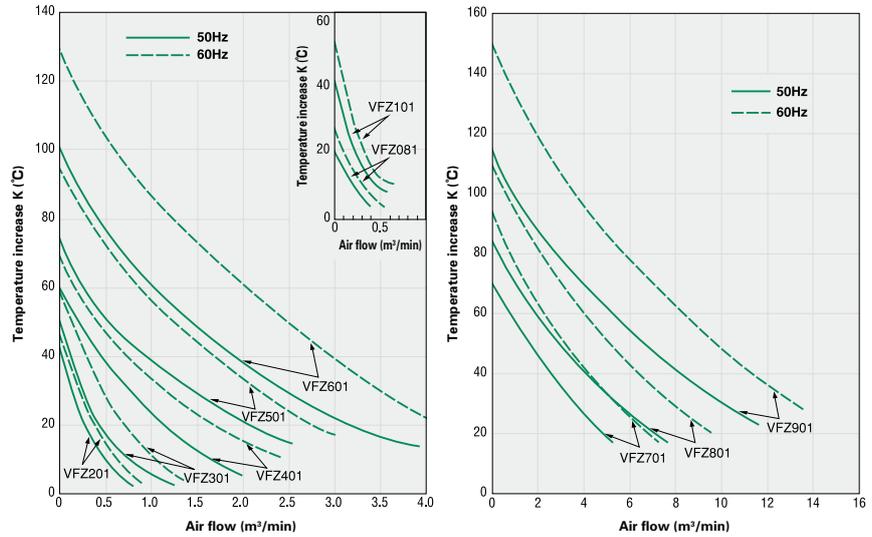
08

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

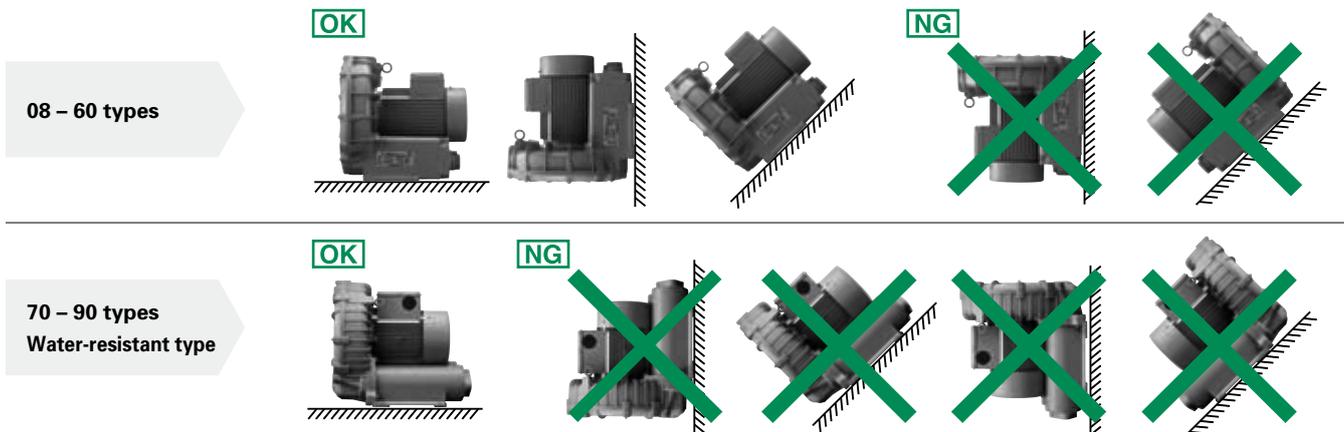
Pressure and temperature are very high with this ring blower, and serial operation should therefore be avoided (parallel operation permitted).

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.



Your Dealer

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