

Turbo fans

CTFII/CTF3

TERAL

50Hz



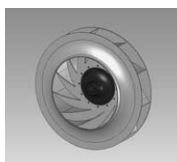
TERAL INC.

Uses

Boiler draft of thermal power plants and factories, etc.; gas transportation of ironworks and chemical plants, etc.; kiln draft of cement plants; dust collection of machine tools and weaving machines; cooling systems; industrial air curtains; pneumatic conveying systems; food industry; pulp industry

Features

- Fan efficiency reaches 80% by the blade design based on flow analysis. Some CTF3 models reach 90% in maximum efficiency.
- Three-dimensional blades create an ideal airflow and minimize noise generation.
- Due to limit-load characteristics, there is never a concern that horsepower will be exceeded.



Type designation

CTFII - No.5 - TV - R - OB - B

① ② ③ ④ ⑤ ⑥

- ① Model Turbo fan
- ② Fan number No. 5
- ③ Discharge direction Top vertical
- ④ Rotation direction Clockwise
- ⑤ Power transmission method Single inlet, overhang mounted impeller, belt driven type
- ⑥ Installation method Floor type

CTFII-OB type



* Keep in mind that the above show typical examples, part of which may differ from actual devices.

Standard/special specifications

For gases other than standard air, contact us separately.

● standard specification, ◎ special specification, — unsupported

Power transmission method		HOH type	VOH type	OB type	UOB type ^{※2}	MOB type
Temperature of gas handled	0 – 90°C (for HOH type; 0 – 40°C for VOH type)	●	●	●	●	●
	91 – 350°C	—	—	◎ ^{※1}	◎ ^{※1}	◎ ^{※1}
Structure	Impeller ... Three-directional backward curved blade for up to CTFII-No. 6	●	●	●	●	●
	Backward curved blade for CTF3-No. 6½ or higher	●	●	●	●	●
	Bearing ... Radial ball bearing or radial roller bearing	●	●	●	●	●
	Casing ... Special discharge direction	◎	—	◎	◎	◎
Material	Shaft seal ... Sheet packing type	—	—	●	●	●
	Casing and impeller ... SS400, SPHC, etc.	●	●	●	●	●
	Shaft ... S45C (for HOH type; S35C motor shaft for VOH type)	●	●	●	●	●
	Casing and impeller ... SUS304, etc.	◎	◎	◎	◎	◎
Installation method	Shaft ... SUS304 (for HOH type; unsupported for VOH type)	◎	◎	◎	◎	◎
	Floor type (B-type)	●	—	●	●	●
	Anti-vibration type (D-type)	◎	—	◎	◎	◎
Coating ^{※3}	Flange mounted type	—	●	—	—	—
	Inner/outer surface ... Polyester urethane based powder coating 7.5BG1/1.5	●	●	●	●	●
	Inner/outer surface ... Heat-resistant silver coating, PVC coating, epoxy resin coating, coating color designation	◎	◎	◎	◎	◎

※1 According to temperature classification, internal clearance C3 bearing (anti-pulley; side), and radiator plate, radiation blade, cooling blade, etc., are included as bearing cooling parts.

※2 Supported as a power transmission method of special specification for No. 6 or lower; single inlet, overhang mounted impeller, belt driven type with the motor installed on top of the bearing stand.

Since there are restrictions on installation depending on motor output, contact us separately for details.

※3 May differ with types and parts. Parts of stainless steel material are uncoated in principle.

Standard accessories

	OB-B	MOB-B
Common base	1	1
Companion flange (suction/discharge)	1 each	1 each
V-belt guard	1	
V-pulley	1	
V-belt	1 set	
Coupling		1 set
Coupling guard		1
Inspection opening	1	1
Drain	1	1
Bearing guard	1	1
Shaft seal	1	1

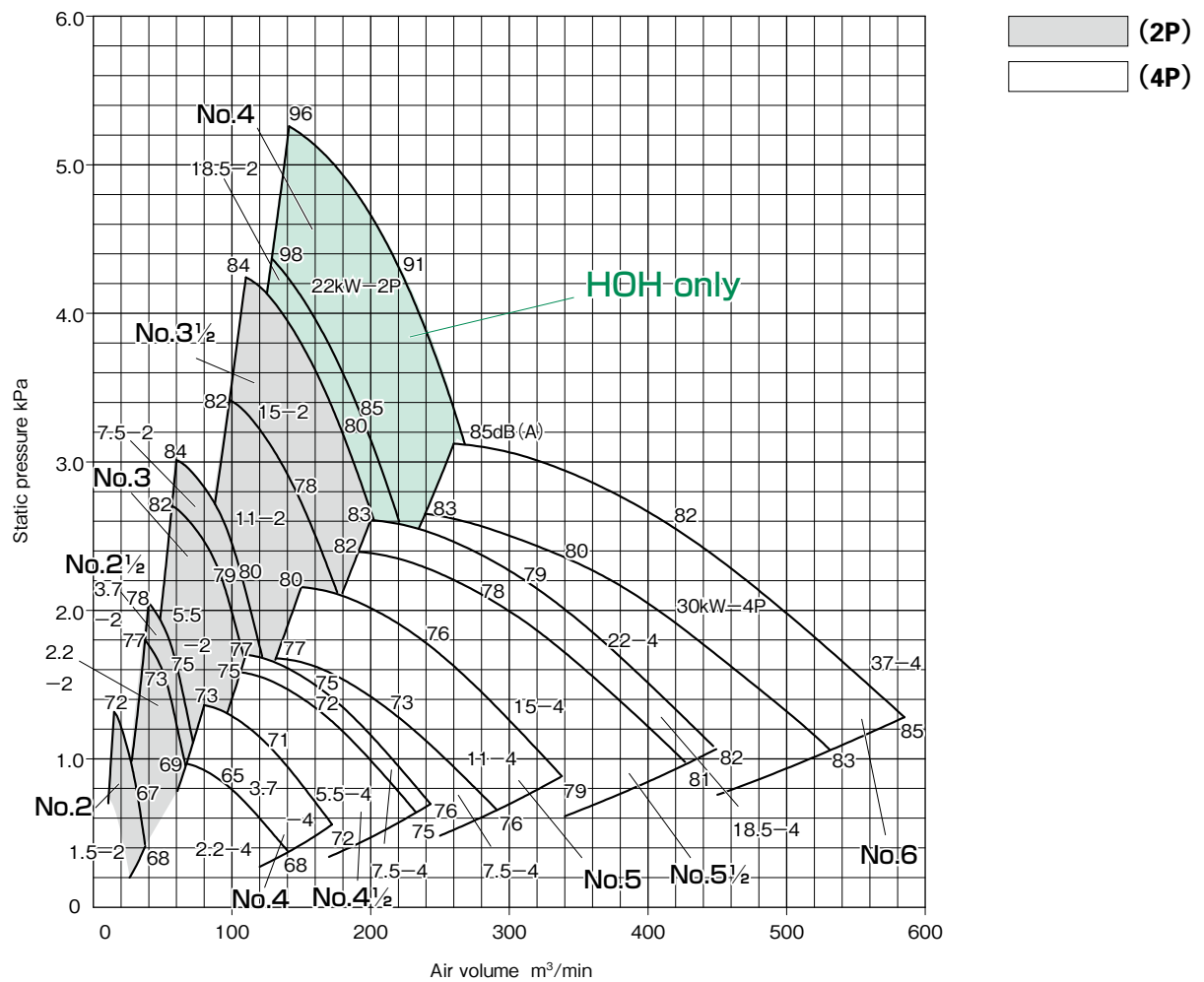
Special accessories

- Anti-vibration base
- Suction wire mesh, suction filter
- Discharge damper, suction damper
- Connecting pipe, expansion joint

* For accessories other than the above, consult us.

Performance drawing

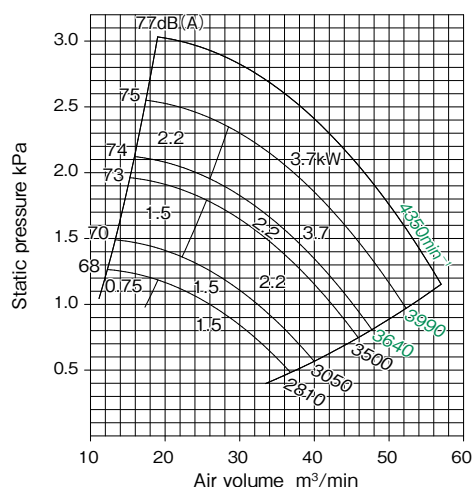
●HOH/VOH/MOB (2/4P) performance drawing



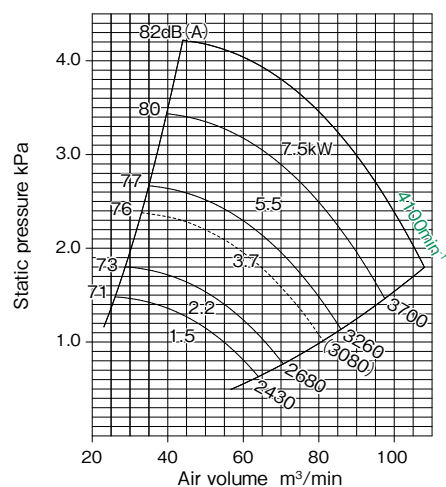
■ Performance drawing

* In performance drawings, rotation speeds in green correspond to 2P for the number of poles.

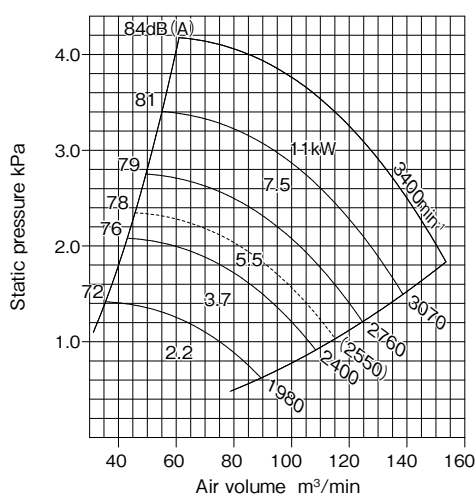
No.2



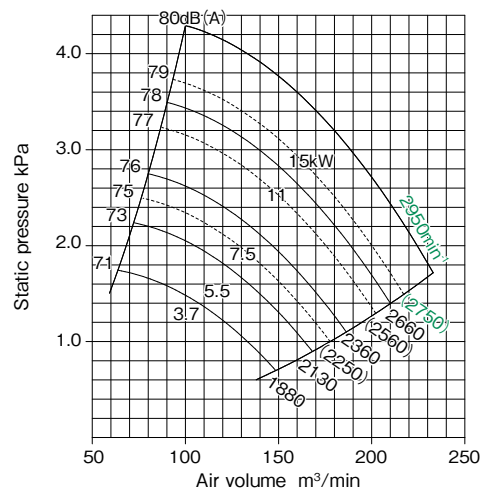
No.2½



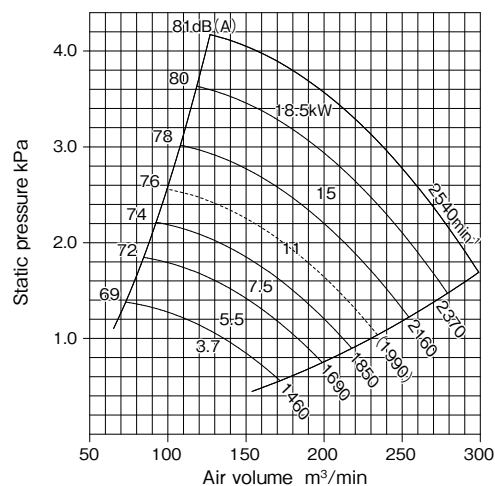
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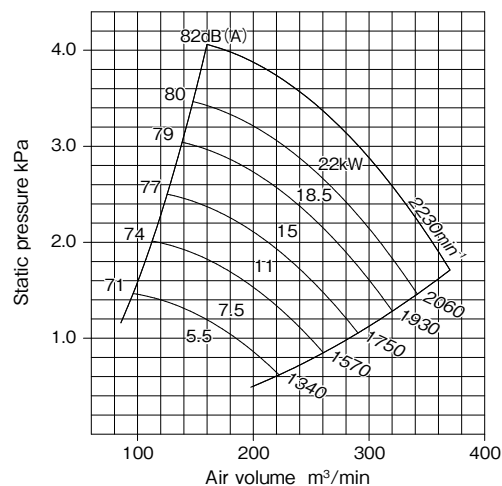
No.3½



No.4

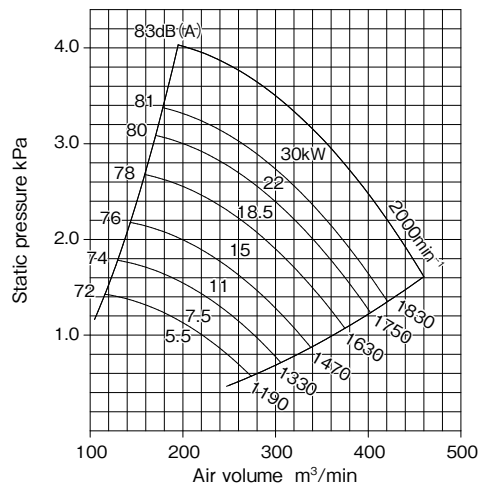


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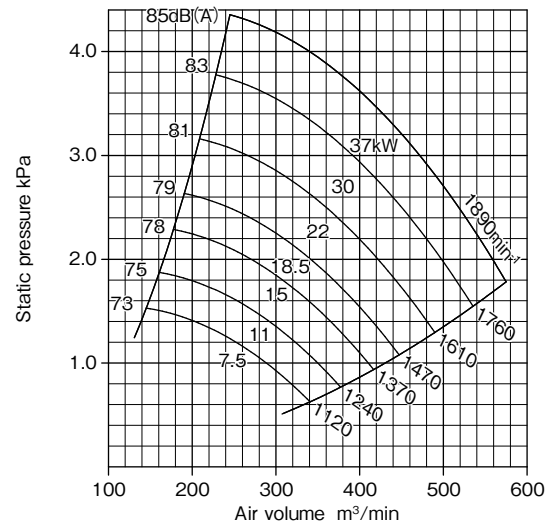


Performance drawing

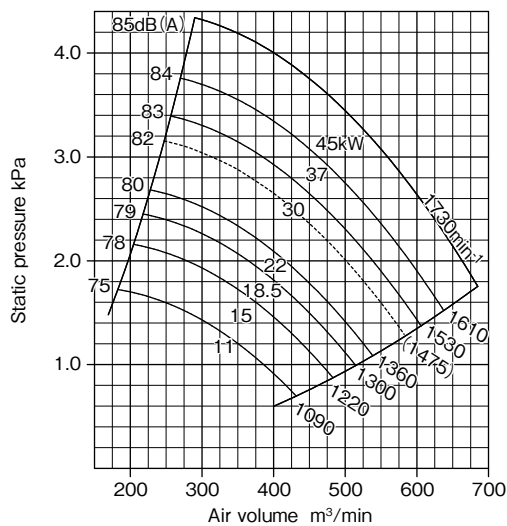
CTFII-No.5



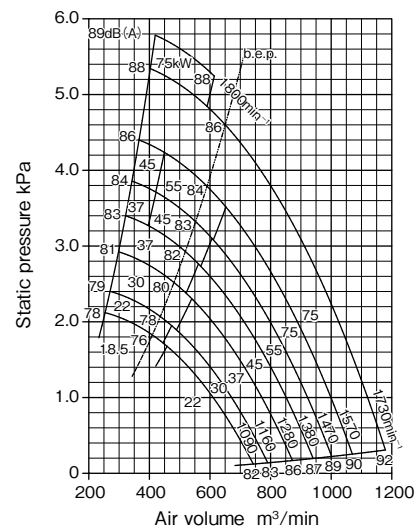
CTFII-No.5½



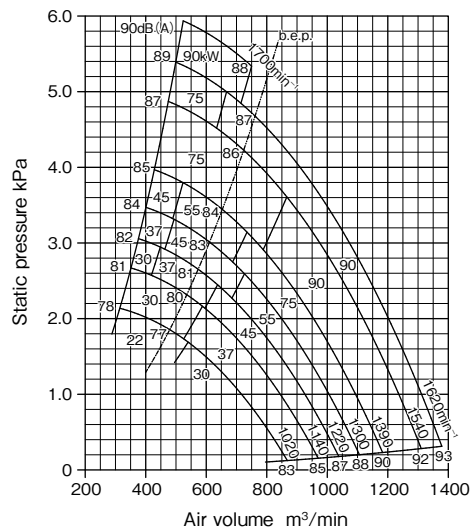
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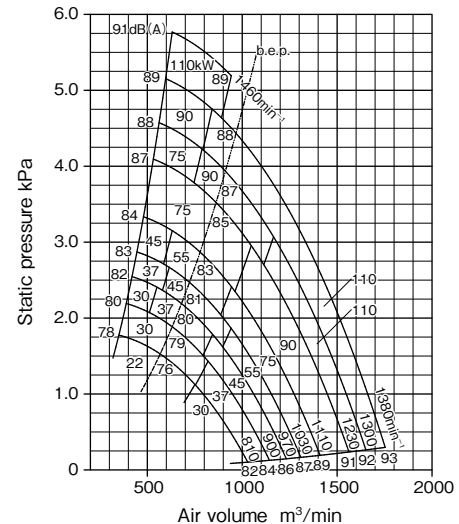
CTF3-No.6½



CTF3-No.7

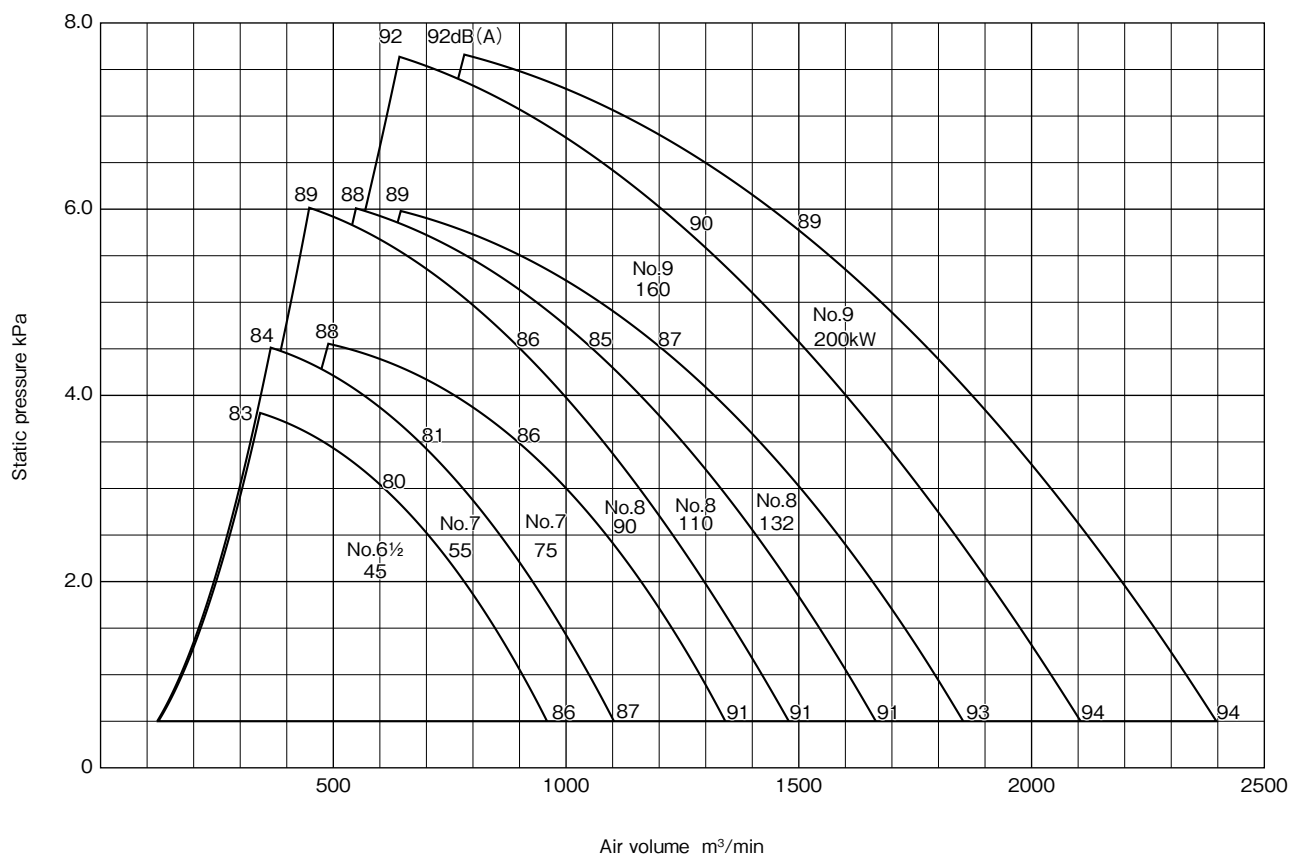


CTF3-No.8

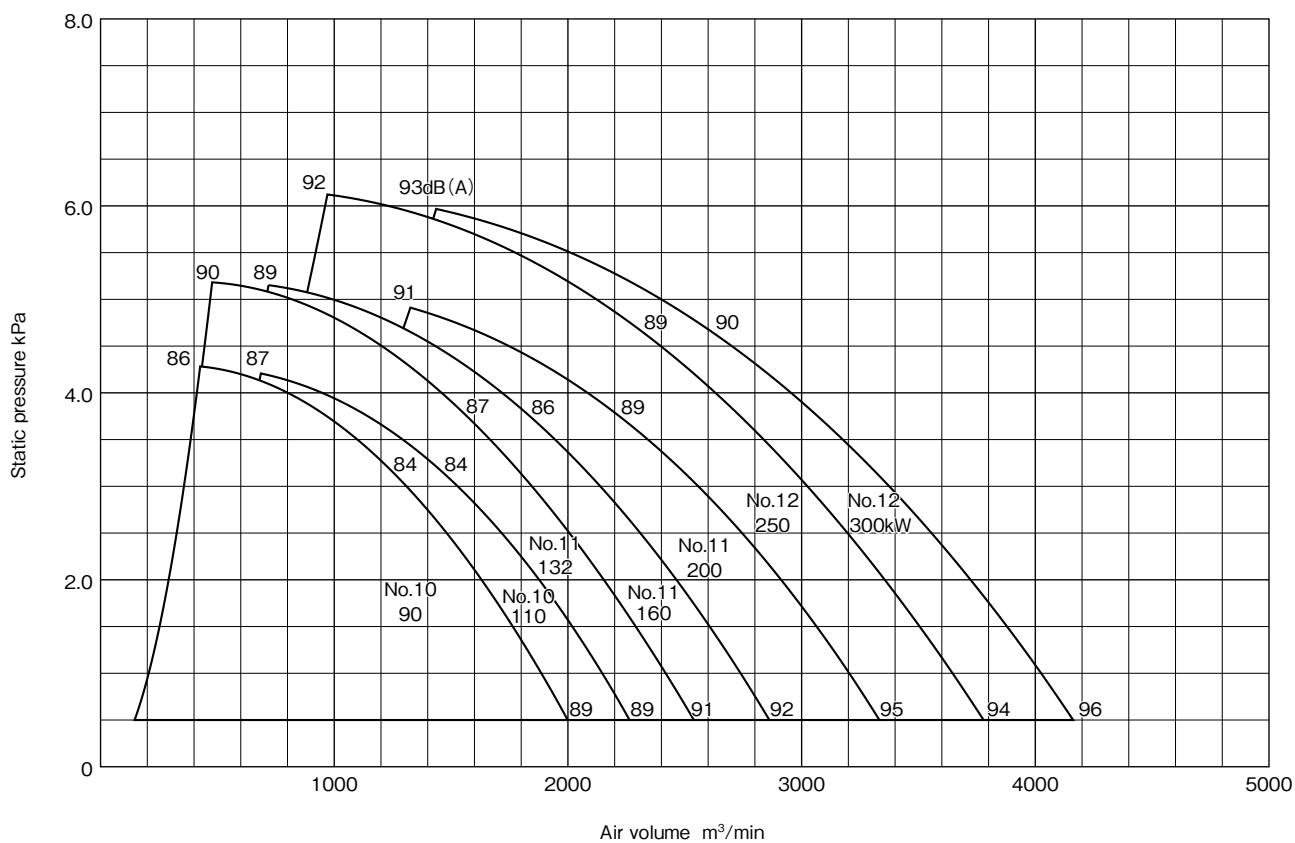


Performance drawing

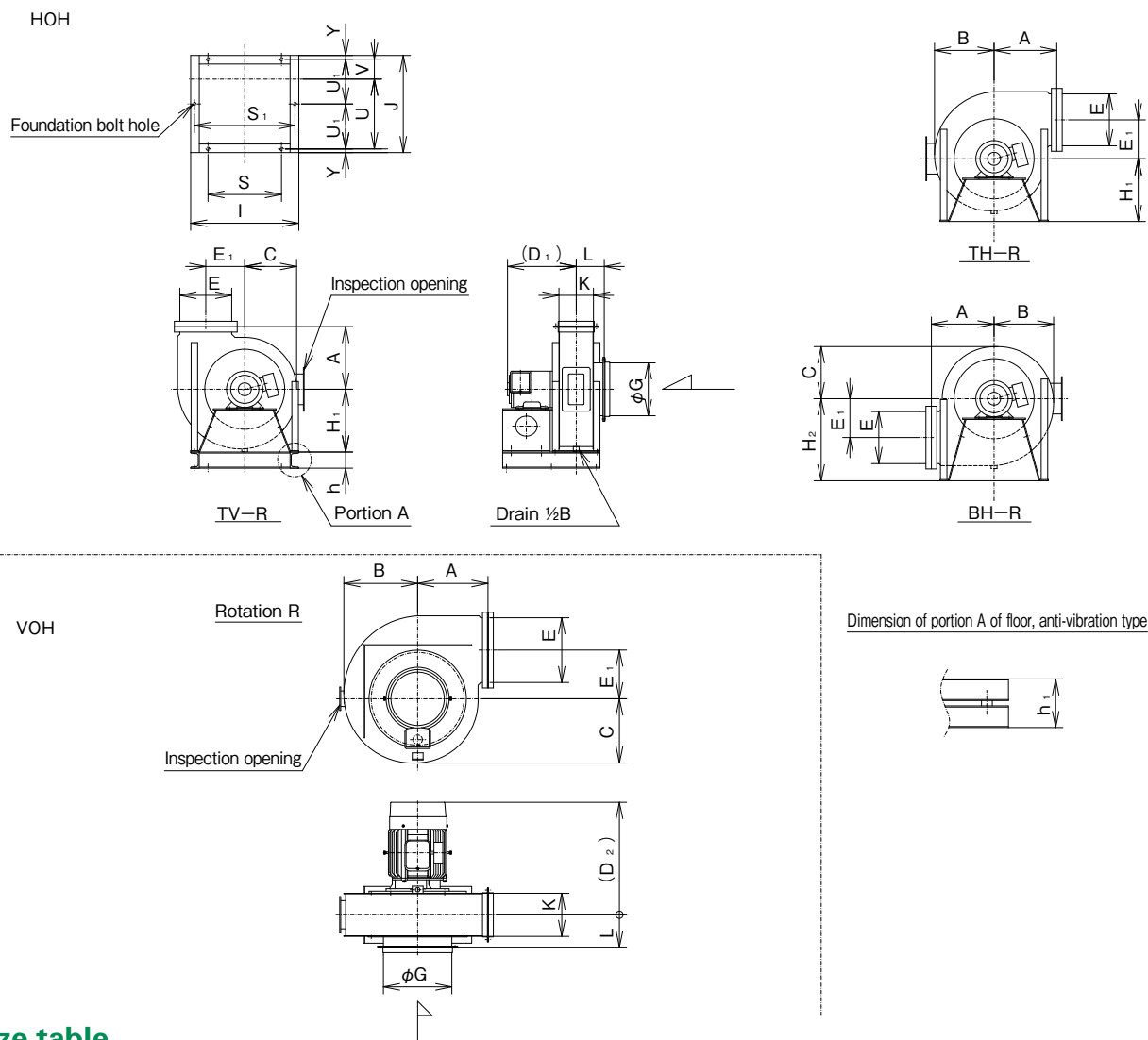
● MOB-type performance drawing (4P)



● MOB-type performance drawing (6P)



■ Assembly drawing (No. 2 – 6)



■ Size table

(Unit: mm)

No.	Main body								Suction		Discharge		Inspection opening	Motor output (kW) x No. of poles (P)
	A	B	C	E ₁	H ₁	H ₂	L	D ₁	D ₂	ϕG	E	K		
2	290	280	245	180	290	380	130	365	375	245	240	160	150× 80	1.5×2P
2½	330	345	300	225	365	460	150	475	515	310	300	200	150× 80	2.2·3.7×2P
3	390	410	360	270	440	550	180	625	635	380	360	240	150× 80	5.5·7.5×2P
3½	440	475	415	315	510	645	200	700	700	450	420	280	150× 80	11·15×2P
4	510	545	475	360	580	730	220	820	870	520	480	320	200×250	2.2·3.7×4P
4½	550	610	530	405	650	820	240	665	695	550	540	360	200×250	5.5·7.5×4P
5	590	675	590	450	720	900	260	770	790	600	600	400	200×250	7.5·11×4P
5½	650	745	645	495	790	980	280	830	850	670	660	440	200×250	15·18.5×4P
6	700	810	705	540	860	1060	320	940	955	750	720	480	200×250	22·30×4P

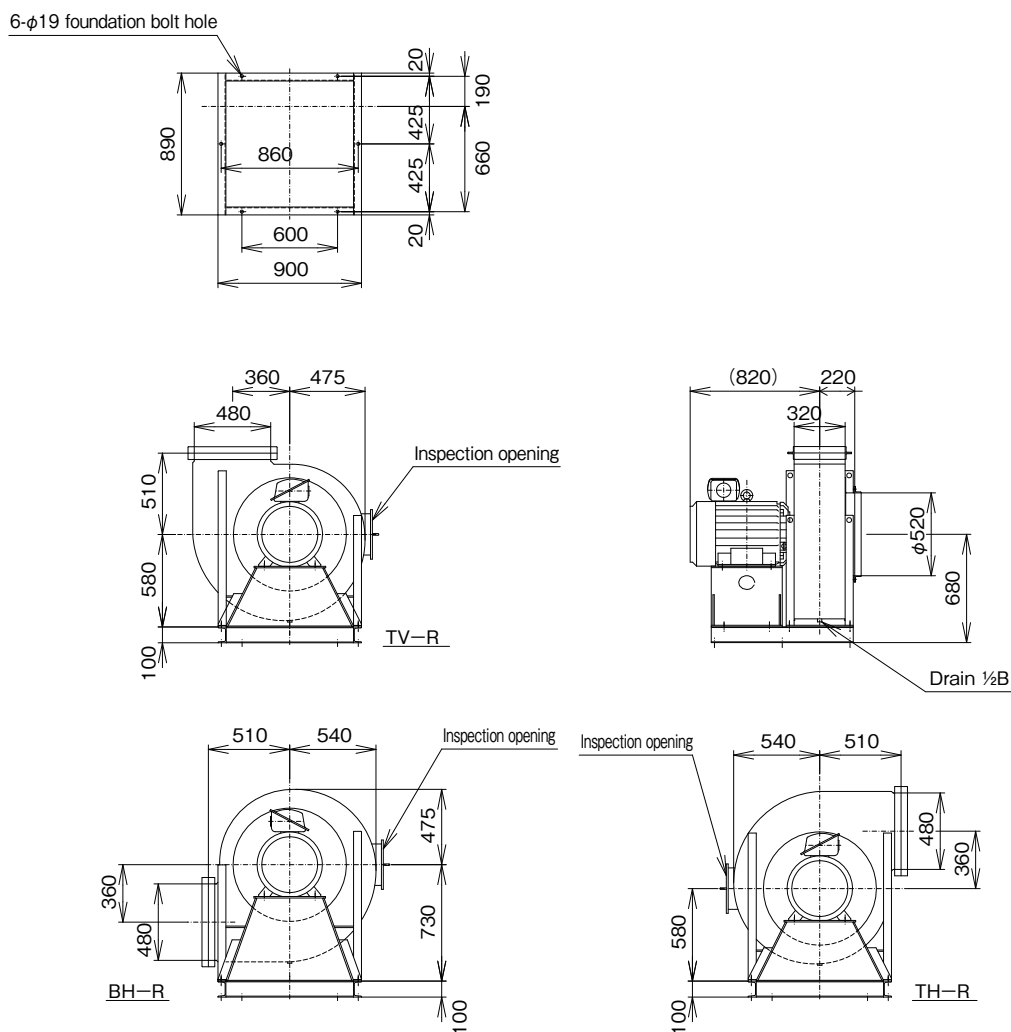
No.	Base										Foundation bolt hole	Approx. mass (kg) (not including motor)	
	I	J	S	S ₁	U	U ₁	V	Y	h	h ₁		HOH type	VOH type
2	500	450	340	465	322.5	207.5	92.5	17.5	75	170	6–ϕ15	65	35
2½	585	550	425	550	402.5	257.5	112.5	17.5	75	170	6–ϕ15	85	55
3	680	700	480	645	522.5	332.5	142.5	17.5	75	175	6–ϕ15	140	85
3½	780	740	530	740	600	380	160	20	100	225	6–ϕ19	185	115
4	900	750	600	860	670	430	190	20	100	225	6–ϕ19	250(275)	170
4½	990	840	690	950	590	400	210	20	100	225	6–ϕ19	305	225
5	1070	900	720	1030	630	430	230	20	100	225	6–ϕ19	400	285
5½	1180	970	830	1140	680	465	250	20	100	235	6–ϕ19	465	340
6	1280	1050	880	1240	740	505	270	20	100	235	6–ϕ19	610	395

· For companion flange dimensions, see the companion flange dimensional drawings.

· For HOH, discharge direction TV-L, TH-L, BH-L types that are different in discharge direction are also manufactured as a standard.

· Dimensions in brackets differ according to motor.

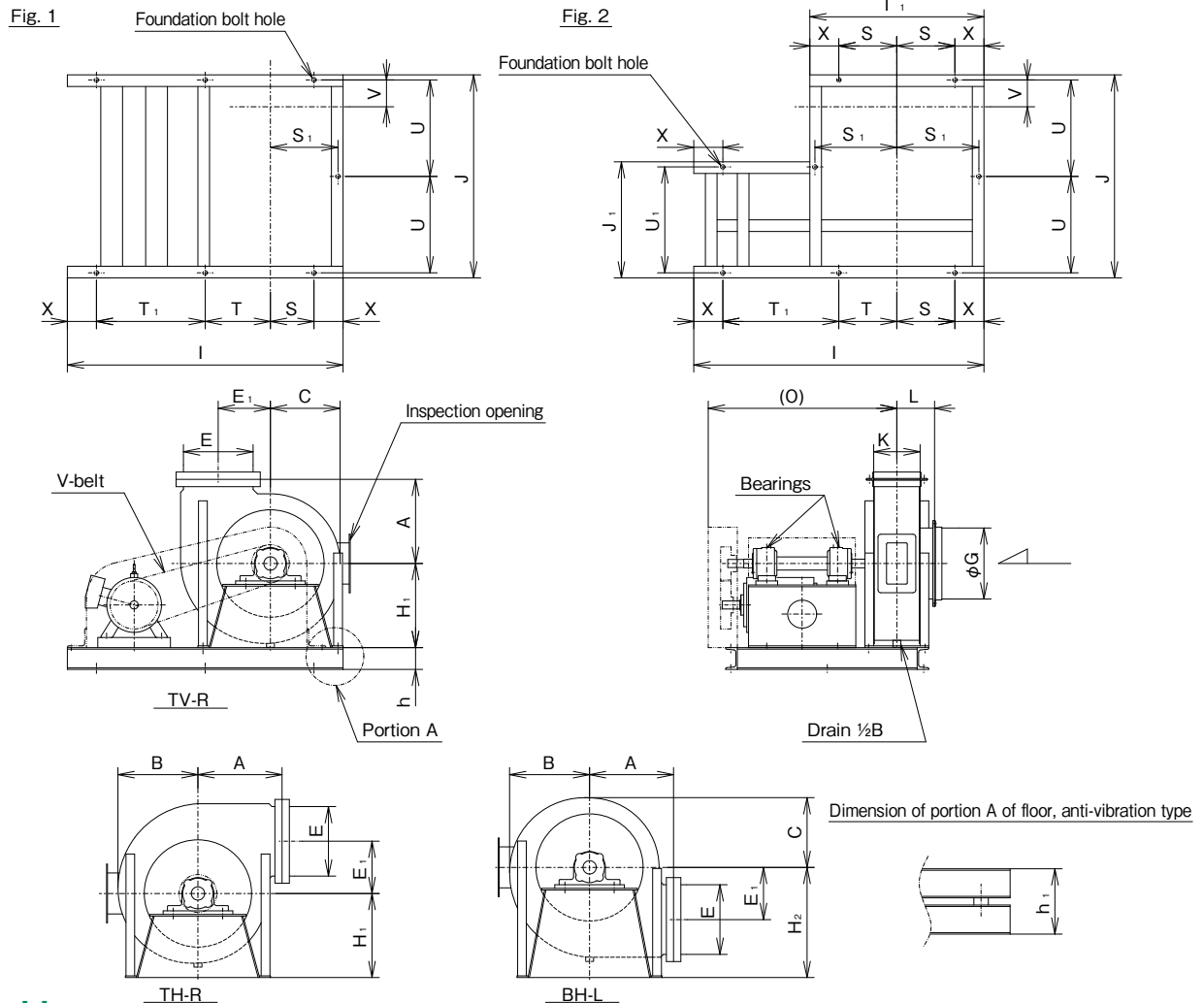
■ Assembly drawing (No. 4)



Maximum motor		Approx. mass (not including motor)
output	frame number	
18.5kW(50Hz)	160L	275kg
22kW(50Hz)	180M	275kg

- For companion flange dimensions, see the companion flange dimensional drawings.
- For HOH, discharge direction TV-L, TH-L, BH-L types that are different in discharge direction are also manufactured as a standard.
- Dimensions in brackets differ according to motor.

Assembly drawing (No. 2 – 6)



Size table

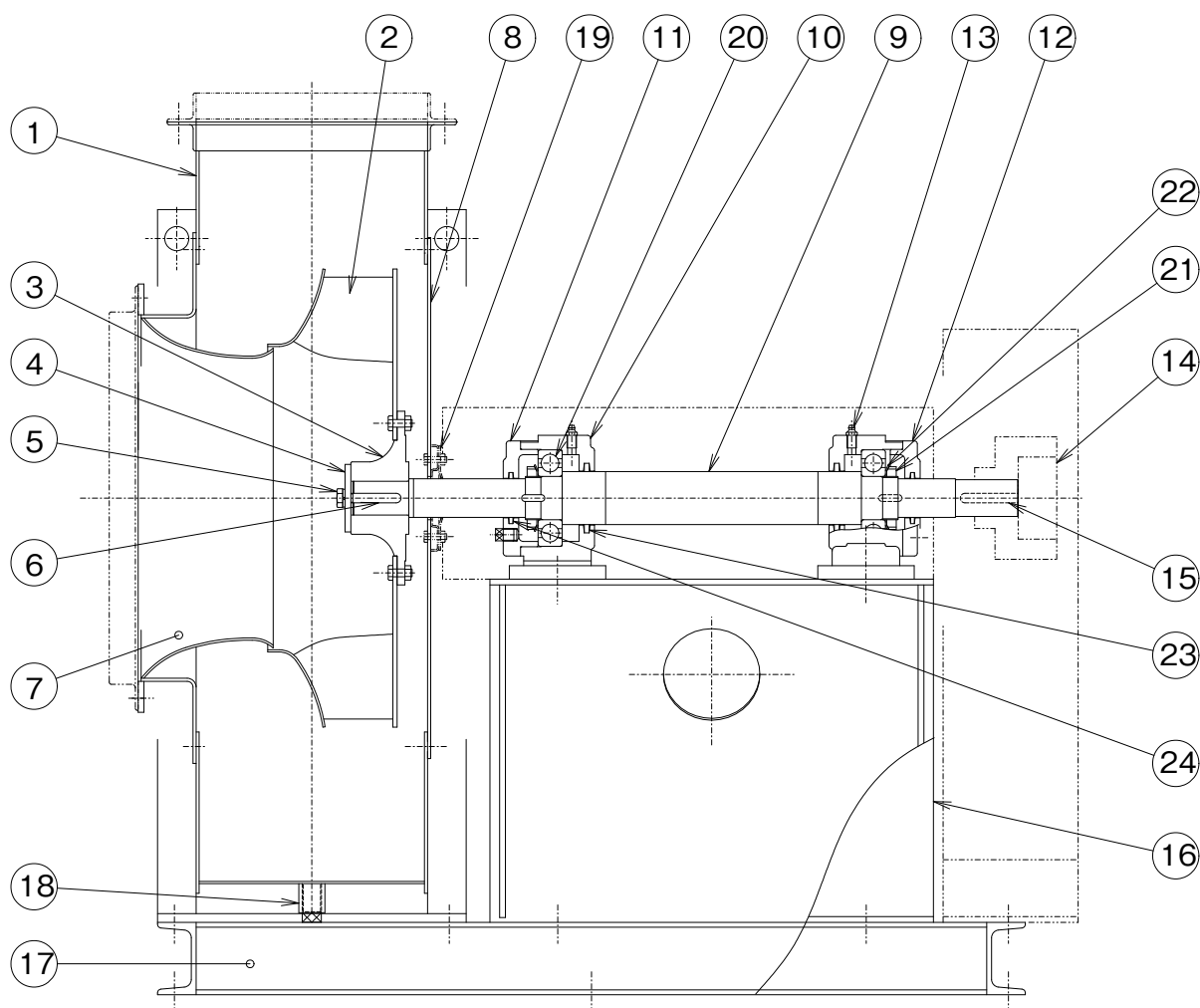
(Unit: mm)

No.	Main body								Suction	Discharge		Inspection opening	Bearings	Maximum rotation speed (min ⁻¹)	Maximum motor (kW)
	A	B	C	E ₁	H ₁	H ₂	L	O	φG	E	K				
2	290	280	245	180	290	380	130	650	245	240	160	150× 80	6307	4540	3.7
2½	330	345	300	225	365	460	150	740	310	300	200	150× 80	6308	4100	7.5
3	390	410	360	270	440	550	180	820	380	360	240	150× 80	6309	3400	11
3½	440	475	415	315	510	645	200	895	450	420	280	150× 80	6310	2950	15
4	510	545	475	360	580	730	220	985	520	480	320	200×250	6311	2540	18.5
4½	550	610	530	405	650	820	240	1065	550	540	360	200×250	6312	2230	22
5	590	675	590	450	720	900	260	1125	600	600	400	200×250	6313	2000	30
5½	650	745	645	495	790	980	280	1195	670	660	440	200×250	6314	1910	37
6	700	810	705	540	860	1060	320	1305	750	720	480	200×250	6316	1760	45

No.	Base															Foundation bolt hole	Approx. mass (kg) (not including motor)	
	Fig.	I	I ₁	J	J ₁	S	S ₁	T	T ₁	U	U ₁	V	X	h	h ₁		B type	D type
2	1	950	–	700	–	150	232.5	–	–	332.5	–	92.5	100	75	170	5-φ15	125	145
2½		1100	–	800	–	192.5	275	–	–	382.5	–	112.5	100	75	170	5-φ15	165	190
3		1250	–	900	–	190	322.5	–	–	432.5	–	142.5	150	75	175	5-φ15	240	270
3½		1350	–	1000	–	240	370	285	525	480	–	160	150	100	225	7-φ19	330	375
4		1500	–	1100	–	275	430	300	575	530	–	190	175	100	225	7-φ19	435	480
4½	2	1600	990	1200	750	320	475	305	625	580	710	210	175	100	225	8-φ19	515	575
5		1750	1070	1280	750	360	515	340	700	620	710	230	175	100	225	8-φ19	615	680
5½		1900	1180	1370	800	390	570	360	750	665	760	250	200	100	235	8-φ19	860	930
6		2000	1280	1500	800	440	620	360	800	730	760	270	200	100	235	8-φ19	1010	1085

- For companion flange dimensions, see the companion flange dimensional drawings.
- Discharge direction TV-L, TH-L, BH-L types are also manufactured as a standard.

Internal structure drawing (No. 2 - 6)

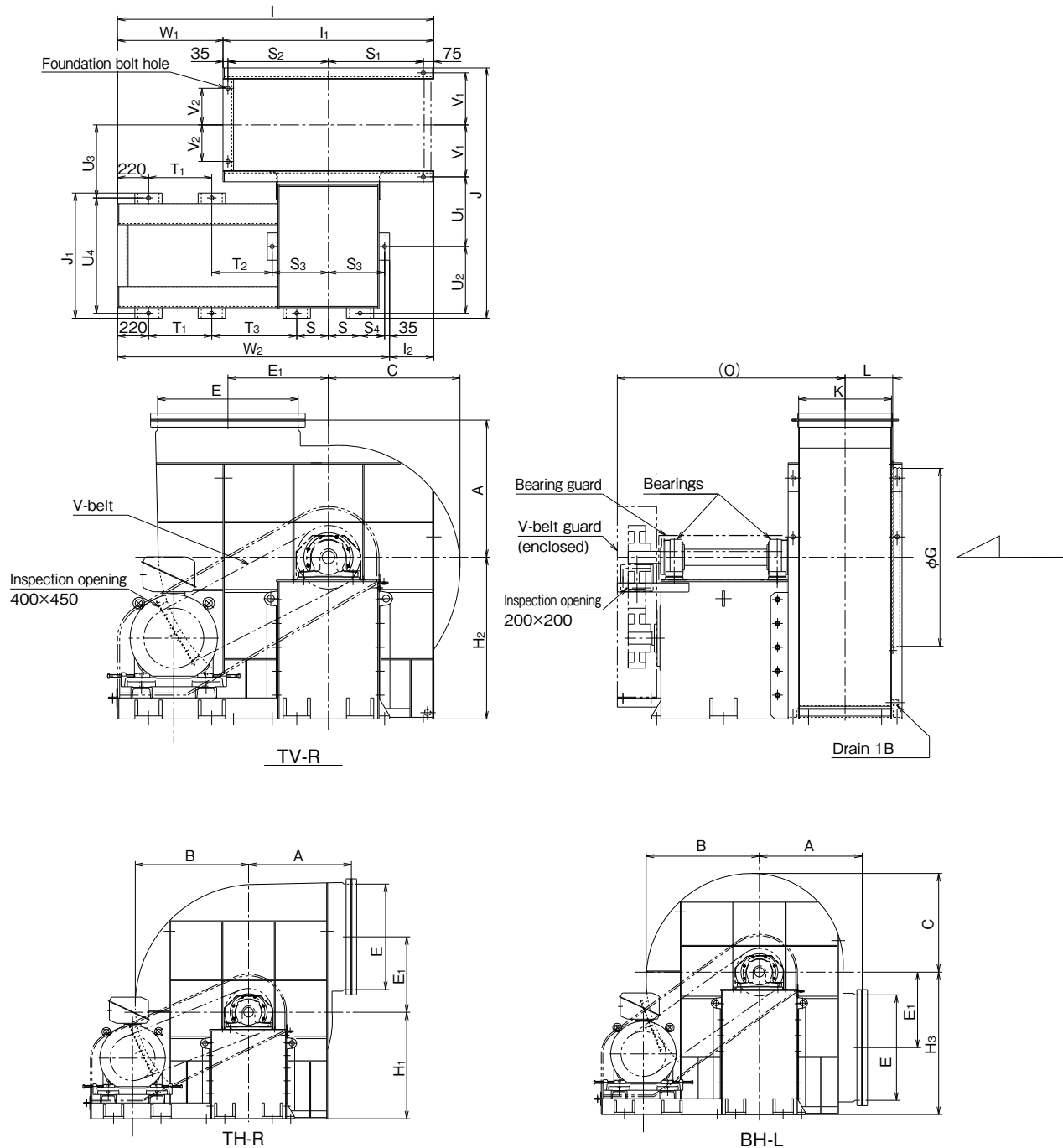


No.	Part name	Qty	Material
1	Casing	1	SPHC-SS400
2	Impeller	1	SS400
3	Impeller hub	1	FCD400
4	Impeller retaining washer	1	SS400
5	Impeller retaining bolt	1	SWCH
6	Impeller key	1	S45C
7	Inlet	1	SPHE-SS400
8	Casing cover	1	SPHC
9	Shaft	1	S45C
10	Bearing case	2	FC200

No.	Part name	Qty	Material
11	Bearing cap A	1	FC200
12	Bearing cap C	1	FC200
13	Grease nipple	2	C3604B
14	V-pulley	1	FC200
15	V-pulley key	1	S45C
16	Bearing stand	1	SS400-SPHC
17	Common base	1	SS400
18	Drain	1	SS400
19	Shaft seal	1	

No.	Part name	Qty	Material	No.2	No.2½	No.3	No.3½	No.4	No.4½	No.5	No.5½	No.6
20	Ball bearing	2	SUJ	6307	6308	6309	6310	6311	6312	6313	6314	6316
21	Bearing nut	2	SS400	AN07	AN08	AN09	AN10	AN11	AN12	AN13	AN14	AN16
22	Bearing washer	2	SS400	AW07	AW08	AW09	AW10	AW11	AW12	AW13	AW14	AW16
23	Felt ring	2	FELT	Fi10	Fi11	Fi12	Fi13	Fi15	Fi16	Fi17	Fi18	Fi20
24	Felt ring	2	FELT	Fi 7	Fi 8	Fi 9	Fi10	Fi11	Fi12	Fi13	Fi15	Fi16

■ Assembly drawing (No. 6½ – 8)



■ Size table

(Unit: mm)

No.	Main body									Suction	Discharge		Maximum rotation speed (min ⁻¹)	Motor output (kW)	Bearings	
	A	B	C	E ₁	H ₁	H ₂	H ₃	L	O	φG	E	K			Pulley side	Anti-pulley side
6½	795	880	765	582.5	840	950	1090	277	1380	1030	815	535	1800	18.5~7.5	6320	6224
7	860	950	825	630	900	1010	1170	300	1400	1105	880	580	1700	22~90	6320	6224
8	975	1075	935	715	1010	1150	1350	340	1620	1265	1000	660	1460	22~110	6320	6224

No.	Base																				Foundation bolt hole	Approx. mass (kg) Not including motor and pulley	
	I	I ₁	I ₂	J	J ₁	S	S ₁	S ₂	S ₃	S ₄	T ₁	T ₂	T ₃	U ₁	U ₂	U ₃	U ₄	V ₁	V ₂	W ₁			W ₂
6½	1925	1250	260	1555	840	155	550	590	330	175	375	375	550	445	425	407.5	770	307.5	197.5	675	1665	12–ϕ28	1350
7	1975	1350	310	1600	840	155	600	640	330	175	375	375	550	445	425	430	770	330	220	625	1665	12–ϕ28	1480
8	2250	1500	315	1780	890	225	675	715	400	175	450	430	605	495	475	520	820	370	260	750	1935	12–ϕ28	1840

- For companion flange dimensions, see the companion flange dimensional drawings.
- Discharge direction TV-L, TH-L, BH-L types are also manufactured as a standard.

■ Assembly drawing (No. 2 – 6)

Fig. 1

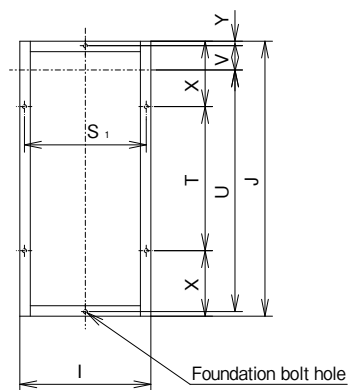
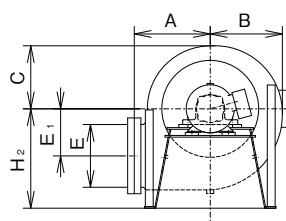
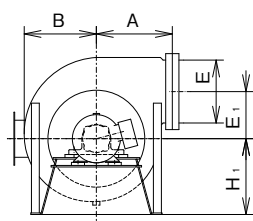
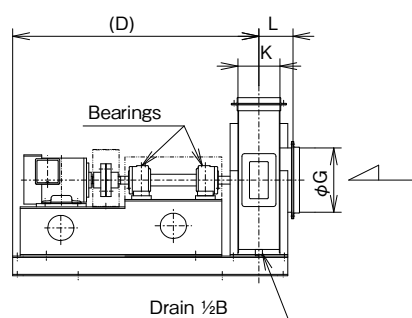
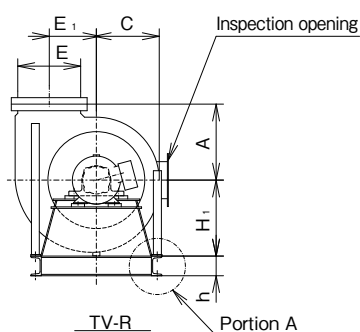
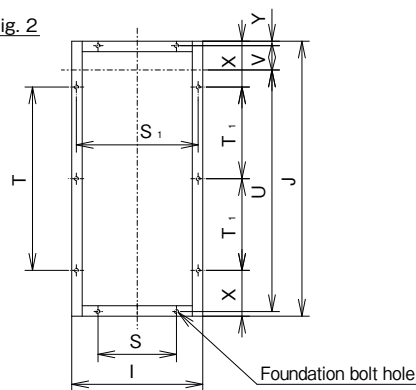
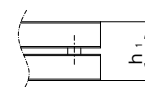


Fig. 2



Dimension of portion A of floor, anti-vibration type



TH-R

BH-R

■ Size table

(Unit: mm)

No.	Main body								Suction	Discharge		Inspection opening	Motor output (kW) x No. of poles (P)
	A	B	C	E1	H1	H2	L	D	φG	E	K		
2	290	280	245	180	290	380	130	915	245	240	160	150× 80	1.5×2P
2½	330	345	300	225	365	460	150	1105	310	300	200	150× 80	2.2·3.7×2P
3	390	410	360	270	440	550	180	1315	380	360	240	150× 80	5.5·7.5×2P
3½	440	475	415	315	510	645	200	1390	450	420	280	150× 80	11·15×2P
4	510	545	475	360	580	730	220	1375	520	480	320	200×250	2.2·3.7×4P
4½	550	610	530	405	650	820	240	1570	550	540	360	200×250	5.5·7.5×4P
5	590	675	590	450	720	900	260	1720	600	600	400	200×250	7.5·11×4P
5½	650	745	645	495	790	980	280	1830	670	660	440	200×250	15·18.5×4P
6	700	810	705	540	860	1060	320	2050	750	720	480	200×250	22·30×4P

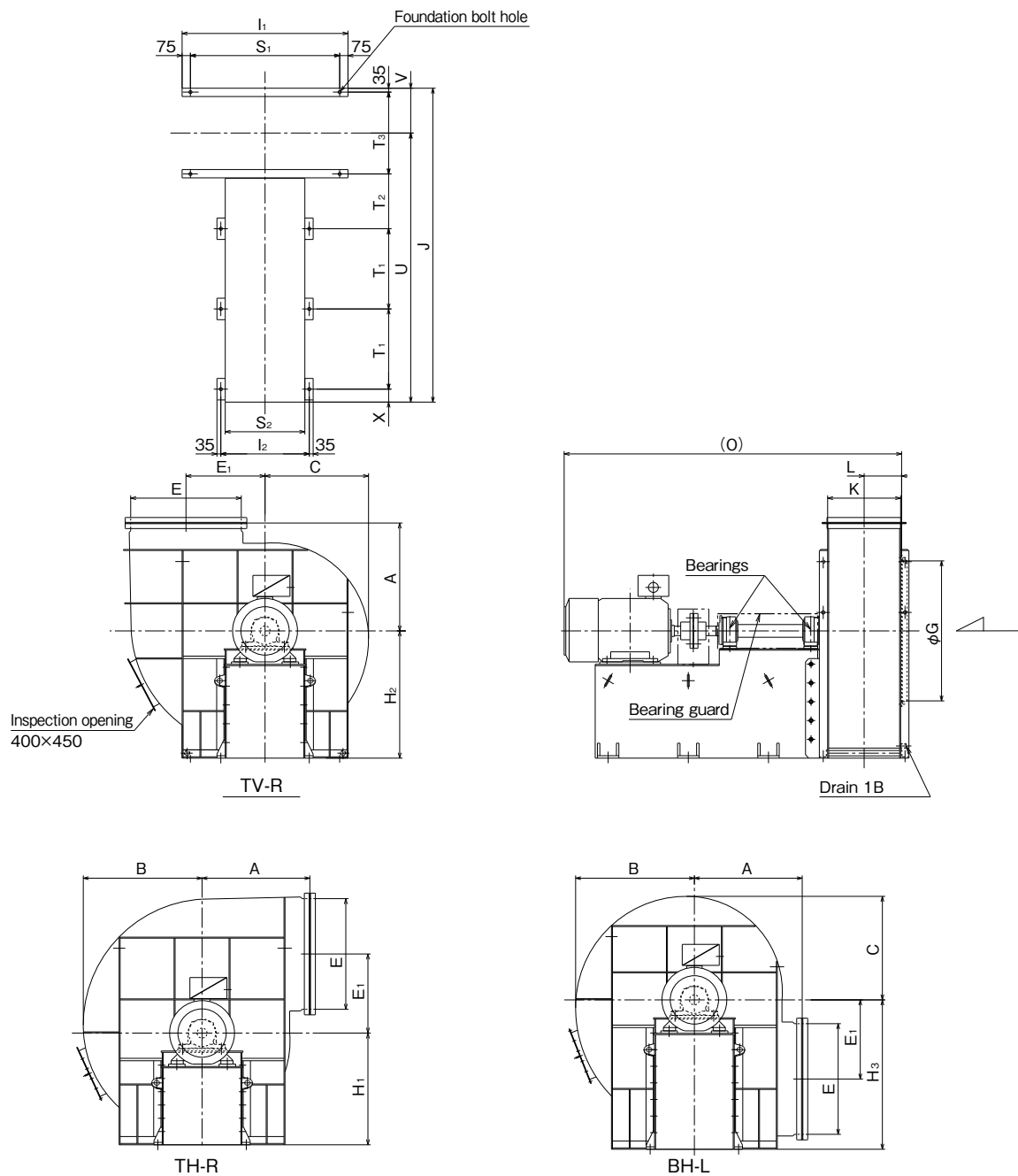
No.	Bearings	Base													Foundation bolt hole	Approx. mass (kg) (not including motor)	
		Fig.	I	J	S	S1	T	T1	X	U	V	Y	h	h1		B type	D type
2	6307	1	500	1050	—	465	550	—	250	922.5	92.5	17.5	75	170	6-φ15	130	150
2½	6308		585	1150	—	550	650	—	250	1002.5	112.5	17.5	75	170	6-φ15	165	190
3	6309	2	680	1400	480	640	600	—	400	1220	140	20	100	225	8-φ19	280	320
3½	6310		780	1500	530	740	700	—	400	1300	160	20	100	225	8-φ19	340	390
4	6311		900	1550	600	860	750	—	400	1320	190	20	100	225	8-φ19	480	530
4½	6312		990	1750	690	930	—	525	350	1490	200	30	125	275	10-φ24	600	680
5	6313		1070	1900	720	1010	—	600	350	1620	220	30	125	275	10-φ24	735	825
5½	6314		1180	2000	830	1120	—	650	350	1700	240	30	125	285	10-φ24	1070	1170
6	6316		1280	2220	880	1220	—	710	400	1900	260	30	125	285	10-φ24	1290	1400

· For companion flange dimensions, see the companion flange dimensional drawings.

· Discharge direction TV-L, TH-L, BH-L types are also manufactured as a standard.

· Dimensions in brackets differ according to motor.

■ Assembly drawing (No. 6½ – 8)



■ Size table

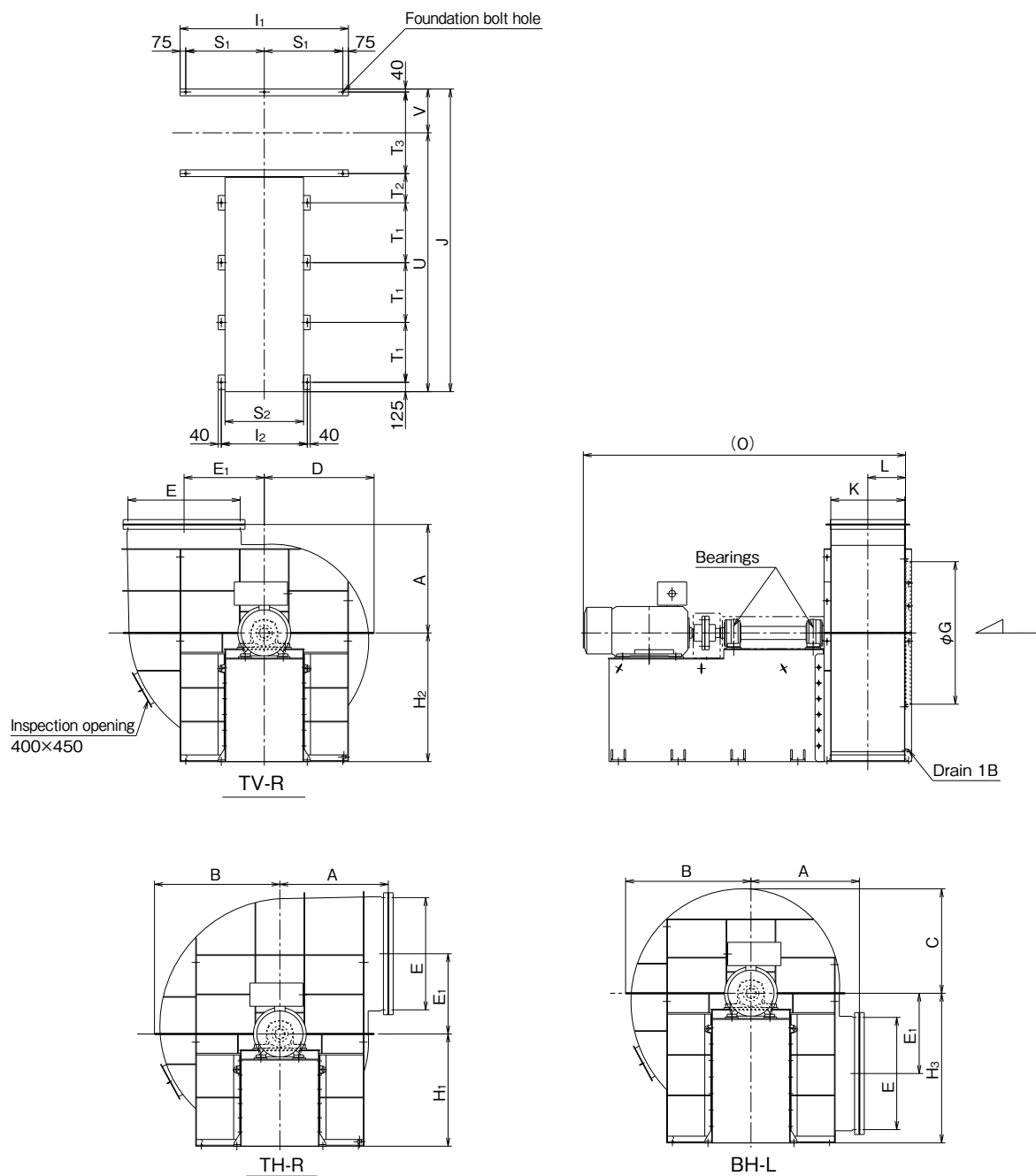
(Unit: mm)

No.	Main body									Suction	Discharge		Maximum motor output (kW)	Bearings	
	A	B	C	E ₁	H ₁	H ₂	H ₃	L	O	φG	E	K		Pulley side	Anti-pulley side
6½	795	880	765	582.5	840	950	1090	277	2540	1030	815	535	90	6320	6224
7	860	950	825	630	900	1010	1170	300	2690	1105	880	580	132	6320	6224
8	975	1075	935	715	1010	1150	1350	340	3060	1265	1000	660	200	6320	6224

No.	Base											Foundation bolt hole	Approx. mass (kg) Not including motor and pulley
	l ₁	l ₂	J	S ₁	S ₂	T ₁	T ₂	T ₃	U	V	X		
6½	1250	660	2400	1100	580	595	445	615	2057.5	342.5	115	10–ϕ28	1380
7	1350	660	2600	1200	580	670	445	660	2235	365	120	10–ϕ28	1520
8	1500	800	2837	1350	720	725	495	740	2432	405	117	10–ϕ28	1980

- For companion flange dimensions, see the companion flange dimensional drawings.
- Discharge direction TV-L, TH-L, BH-L types are also manufactured as a standard.

■ Assembly drawing (No. 9 – 12)



■ Size table

(Unit: mm)

No.	Main body										Suction	Discharge		Maximum motor output (kW)	Bearings	
	A	B	C	D	E ₁	H ₁	H ₂	H ₃	L	O	φG	E	K		Pulley side	Anti-pulley side
9	1050	1280	1055	1120	805	1200	1350	1520	379	3420	1425	1125	740	200	6324	6230
10	1215	1415	1170	1240	895	1280	1430	1660	422	3760	1580	1250	825	200	6324	6230
11	1335	1545	1285	1360	985	1390	1580	1850	462	4180	1740	1375	905	300	6330	6236
12	1450	1680	1400	1470	1072.5	1500	1720	2000	504	4265	1905	1500	990	300	6330	6236

No.	Base										Foundation bolt hole	Approx. mass (kg) Not including motor and pulley
	I ₁	I ₂	J	S ₁	S ₂	T ₁	T ₂	T ₃	U	V		
9	1650	1000	3290	750	900	630	395	840	2830	460	13-φ28	3000
10	1850	1000	3375	850	900	630	395	925	2872.5	502.5	13-φ28	3400
11	2000	1150	3960	925	1050	800	390	1005	3417.5	542.5	13-φ28	4500
12	2250	1150	4045	1050	1050	800	390	1090	3460	585	13-φ28	5000

· For companion flange dimensions, see the companion flange dimensional drawings.

· Discharge direction TV-L, TH-L, BH-L types are also manufactured as a standard.

Companion flange dimensional drawings

▼ Suction companion flange

Fig. 1

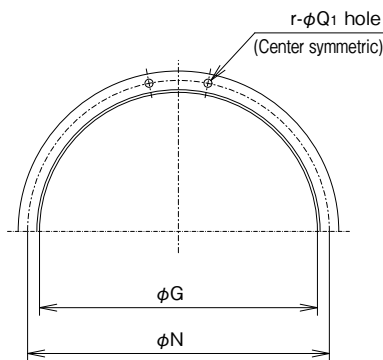
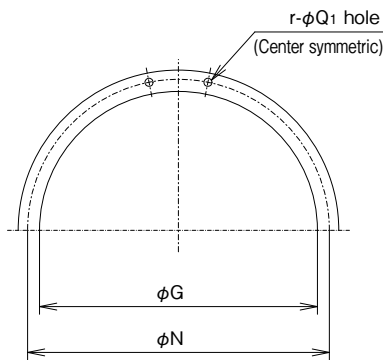


Fig. 2



(Unit: mm)

Model	No.	Fig.	φG	φN	r-φQ ₁	Steel size
CTFII	2	1	245	275	12-10	L25×25×3
	2½		310	340	12-10	L25×25×3
	3		380	415	12-12	L30×30×3
	3½		450	485	12-12	L30×30×3
	4		520	565	16-15	L40×40×5
	4½		550	595	16-15	L40×40×5
	5	2	600	645	16-15	L40×40×5
	5½		670	715	16-15	L40×40×5
	6		750	795	16-15	L40×40×5
	6½		880	945	16-15	65×12t
	7		950	1020	16-15	65×12t
	7½		1020	1085	16-15	65×12t
CTF3	8	1	1096	1160	16-15	65×12t
	8½		1170	1245	16-15	65×12t
	9		1250	1320	24-15	65×12t
	9½		1310	1380	24-15	65×12t
	10		1380	1460	24-19	75×12t
	10½		1460	1540	24-19	75×12t
	11	2	1540	1620	24-19	75×12t
	11½		1620	1700	24-19	75×12t
	12		1700	1780	24-19	75×12t
	12½		1780	1860	24-19	75×12t
	13		1860	1940	24-19	75×12t
	13½		1940	2020	24-19	75×12t

▼ Discharge companion flange

Fig. 3

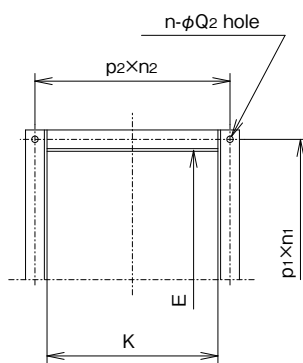
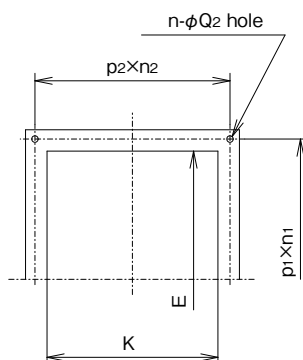


Fig. 4



(Unit: mm)

Model	No.	Fig.	E	K	P ₁ ×n ₁	P ₂ ×n ₂	n-φQ ₂	Steel size
CTFII	2	3	240	160	90 × 3	63 × 3	12-10	L25×25×3
	2½		300	200	82 × 4	76 × 3	14-10	L25×25×3
	3		360	240	79 × 5	69 × 4	18-12	L30×30×3
	3½		420	280	76 × 6	79 × 4	20-12	L30×30×3
	4		480	320	87.5 × 6	73 × 5	22-12	L40×40×5
	4½		540	360	84 × 7	81 × 5	24-12	L40×40×5
	5	4	600	400	92 × 7	89 × 5	24-12	L40×40×5
	5½		660	440	88 × 8	97 × 5	26-12	L40×40×5
	6		720	480	85 × 9	87.5 × 6	30-15	L40×40×5
	6½		650	650	103 × 7	103 × 7	28-15	65×12t
	7		700	700	96 × 8	96 × 8	32-15	65×12t
	7½		750	750	102 × 8	102 × 8	32-15	65×12t
CTF3	8	3	800	800	97 × 9	97 × 9	36-15	65×12t
	8½		850	850	102 × 9	102 × 9	36-15	65×12t
	9		900	900	97 × 10	97 × 10	40-15	65×12t
	9½		950	950	102 × 10	102 × 10	40-15	65×12t
	10		1000	1000	108 × 10	108 × 10	40-19	75×12t
	10½		1050	1050	113 × 10	113 × 10	40-19	75×12t
	11	4	1100	1100	113 × 11	113 × 11	40-19	75×12t
	11½		1150	1150	118 × 11	118 × 11	40-19	75×12t
	12		1200	1200	123 × 11	123 × 11	40-19	75×12t
	12½		1250	1250	128 × 11	128 × 11	40-19	75×12t
	13		1300	1300	133 × 11	133 × 11	40-19	75×12t
	13½		1350	1350	138 × 11	138 × 11	40-19	75×12t

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