

CENTRIFUGAL FANS

TEB fans and ventilation equipment



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TEB Ventilation co., Ltd., a member of TEB Group, has been established since 1993 as manufacturer of air ventilation equipment. Through continuous R&D process and application of proven technology, TEB has continuously strived to improve our product quality. Our product range has also been expanding to serve the growing demand for air ventilation solutions.

Centrifugal Fans



TEB Ventilation Co., Ltd. certifies that the type FCS Series Fans (page 15-38) and type BCS Series Fans (page 73-94) and type BCS-OH Series Fans (page 99-120) shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Introduction

TEB Centrifugal Fans are suitable for exhaust and supply application in commercial and industrial facilities. Our product philosophy is based on high efficiency, low noise, low vibration and long product durability. Two choices of impeller are available as type FCS/FCD and type BCS/BCD, each with its own characteristics. Together they provide the widest available range for centrifugal fan selection to meet application requirements.

Forward Curved Multi-Blade Fans (TYPE FCS/FCD)

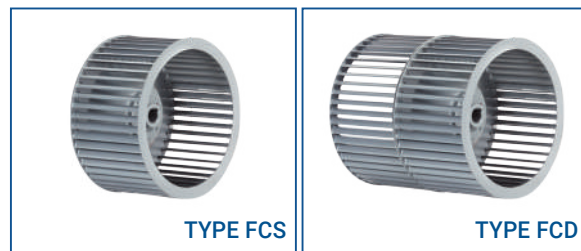


SWSI TF-06FCS ~ TF-54FCS
(WHEEL DIA 160 ~ 1370 mm.)



DWDI TF-12FCD ~ TF-54FCD
(WHEEL DIA 302 ~ 1370 mm.)

Forward Curved Blades are available from diameter 6 inches to 54 inches which offer low running speed and low sound level combined with high volume air flow.



Specification

Type		FCS/FCD	BCS/BCD	BCS-OH
Operating Condition	Clean Air	-10°C ~ 50°C (Ambient Temp. below 40)		20°C ~ 100°C (Ambient Temp. below 40)
	Relative Humidity	below 85%		
Structure	Fan Blade	Forward Curved Blade Type	Backward Curved Blade Type	
	Bearing	Bearing Unit or Pillow Block	Pillow Block	
	V-Pulley	FC200		
	Bolt	Steel + Chromate Coating		
Application	Indoor / Outdoor (as an option)			
	General Ventilation	✓	✓	✓
	Pressurization		✓	✓
	Kitchen exhaust			✓
Motor		Totally Enclosed Fan Cooled		

Backward Curved Blade Limit-Load Fans (TYPE BCS/BCD)



SWSI TF-12BCS ~ TF-54BCS
TF-12BCS-OH ~ TF-54BCS-OH
(WHEEL DIA 310 ~ 1401 mm.)

DWDI TF-12BCD ~ TF-54BCD
(WHEEL DIA 310 ~ 1401 mm.)

Backward Curved Blades are available from diameter 12 inches to 54 inches which offer high efficiencies with a non-overloading power characteristic.



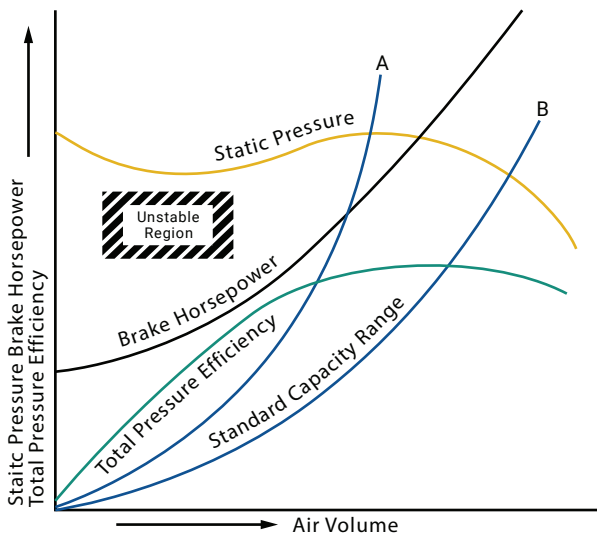
Accessories

Item	Standard	Optional
V-pulley	✓	
V-belt	✓	
Belt guard	✓	
Inlet flange, Outlet flange	✓	
Common base	✓	
Outdoor application (Epoxy painted, Enclosed belt guard, SUS screw, Bearing cover, Drain plug)		✓
Anti-vibration devices		✓
Inlet screen		✓
Inspection hole / Access door, Drain plug		✓
Automatic lubrication		✓
FRP lining (Anti-corrosive application)		✓
Split casing (for large size unit)		✓
Drain plug		✓

Characteristics and standard capacity range

Forward Curved Fans

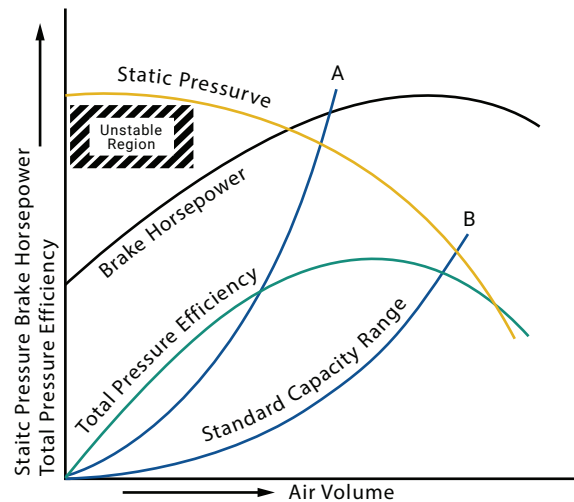
1. The impeller has many forward-curved blades, thus it is low speed and low noise.
2. Small area is required for installation because this type is the smallest of all centrifugal fans for the same air volume and static pressure.
3. Easy maintenance and inspection due to simple structure and operation.



Working Region	Left Side beyond A	Right side beyond B
Efficiency	Decrease with air volume	Decrease with air volume
Air Volume	Unstable, large fluctuation	Stable, small fluctuation
Static Pressure	Decrease with air volume	Decrease with air volume
Brake Horsepower	Decrease with air volume	Increase with air volume (rapidly)
Noise	Increase with air volume	Increase with air volume
Fan Phenomena	Surging occurs	Larger power consumption

Backward Curved Fans

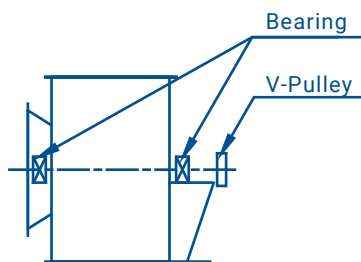
1. This type shows the perfect limit load characteristics that is, the required power does not exceed a certain value with the increase of air volume.
2. The blade is backward curved, producing less air turbulence and noise. It is highly efficient and economical, saving power consumption.
3. Compared with a FORWARD CURVED MULTI-BLADE FAN, this is suitable for higher static pressure (100 to 200 mm.W.G).
4. As the structure is similar to that of a FORWARD CURVED MULTI-BLADE FAN, its maintenance and inspection are easy.



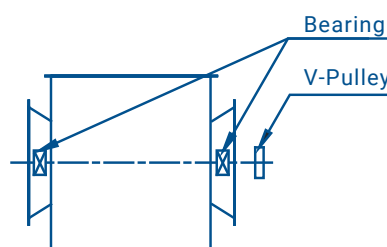
Working Region	Left Side beyond A	Right side beyond B
Efficiency	Decrease with air volume	Decrease with air volume
Air Volume	Unstable, large fluctuation	Stable, small fluctuation
Static Pressure	Decrease with air volume (slowly)	Decrease with air volume (rapidly)
Brake Horsepower	Decrease with air volume	Decrease with air volume
Noise	Increase with air volume	Increase with air volume
Fan Phenomena	Surging occurs	Larger power consumption

1. The Centrifugal Fans can also be classified as single suction centre impeller type, single suction overhang impeller type, or double suction centre impeller type, subject to the suction system and the method of connection between the bearings and V-belt pulley.
2. The rotating direction of a fan shall be expressed as clockwise rotation where the impeller rotates clockwise when viewed from the V-belt pulley side, and as counter-clockwise rotation where the impeller rotates in the opposite direction.

Forward Curved Multi-blade Fan

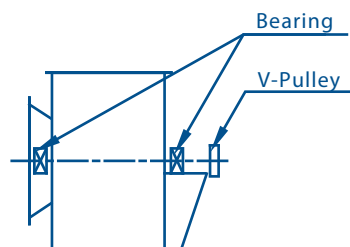


Double-end Bearing,
Single Suction Type (S1)

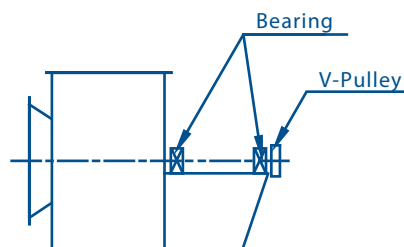


Double-end Bearing,
Double Suction Type (D1)

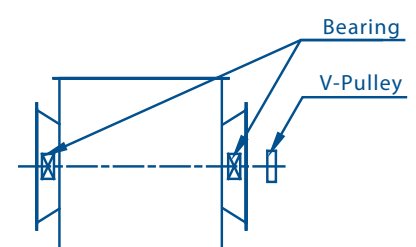
Backward Curved Limit-Load Fan



Double-end Bearing,
Single Suction Type (S1)



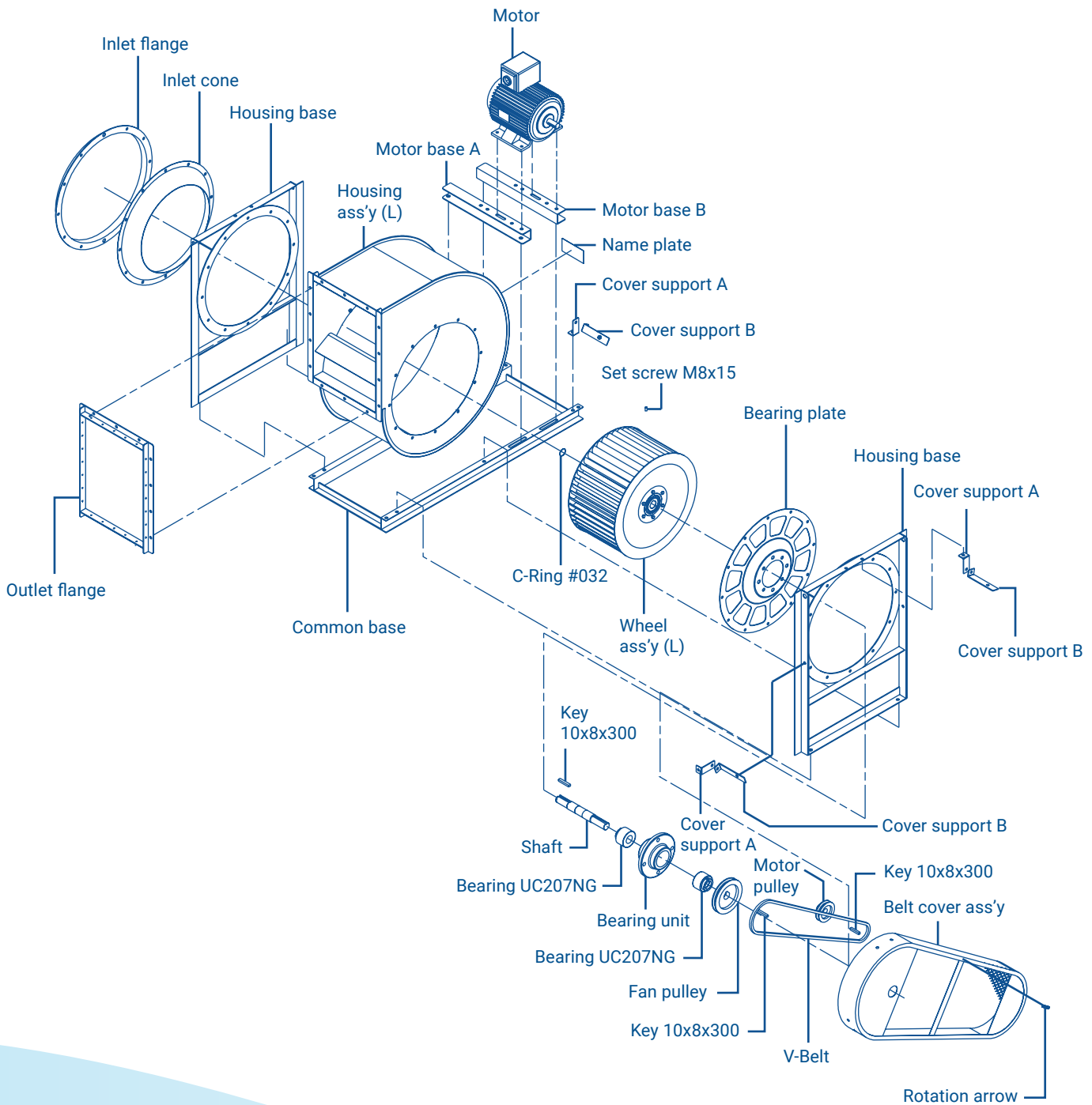
Single-end Bearing,
Single Suction Overhung Type (S2)



Double-end Bearing,
Double Suction Type (D1)

Parts and Construction

Model TF-18FCS is used as an illustration:



Material and General Specification

Casing

The casing is fabricated from heavy gauge mild steel sheet and rust-proofed with gray colour finishing. It is of continuous welded construction which prevents air leakage, and combines inherent strength, rigidity and reliability.

The large rectangular, flanged and drilled outlet can be supplied in any of the directions of discharge. Both single inlet and double width, double inlet casings are available, which have flanged inlets as standard.

The casing is supported on rigid steel feet, drilled for bolting to foundations.

Motor

Induction motor type and standards: IEC 60034

Class F or Class H with IP55 protection class (protection against water jets from any direction) available with 4 poles and 6 poles.

Impeller

All impellers are manufactured from painted steel with continuous welding to the shroud and backplate to form heavy duty, long life, and high efficiency impeller.

The impellers are fully static and dynamically balanced in accordance with ISO1940 and AMCA 204 standards.

Shaft

The shaft is manufactured from heavy-duty high strength C45 carbon steel with controller tolerance and dimension accuracy to match to the application.

Bearing

The Centrifugal fans are furnished with grease-lubricated heavy-duty self-aligning ball bearing in the pillow blocks except TF-06FCS to TF-18FCS.

Model TF-06FCS to TF-18FCS are assembled with a single rigid cast iron housing with ball bearing assembly at each end of the fan shaft.

Frame

The frame is manufactured from painted angular steel bar to enhance fan structure and rigidity.

Balancing quality

All Centrifugal Fan impellers are fully static and dynamically balanced in accordance with AMCA204-20 (G6.3) and ISO1940 standards.

Factors in Fan Selection

1. Fan type as Forward Curved and/or Backward Curved
2. Suction method as Double-end Bearing, Single suction Type (S1), Double-end Bearing, Double suction Type (D1) and/or Single-end Bearing, Single suction Type (S2).
3. Impeller diameter
4. Air volume
5. Fan static pressure
6. Suction temperature from -10°C to +50°C for standard type and from 20°C to 100°C for overhung type.
7. Gas composition and characteristics
8. Direction of rotation and discharge
9. Motor specification: motor type, pole number, voltage and frequency.
10. Purpose and place of installation.
11. Additional accessories of required for outdoor and/or anti-corrosive application.

Fan Selection Data

How to read the catalogue

This catalogue adopts chart display system and table performance for the selection of appropriate fan size, required power and fan speed. All test results data in this catalogue are based on normal suction condition ($\gamma=1.2\text{kg/m}^3$).

How to read the performance data

The intersection point of the perpendicular, with air volume on the horizontal axis and static pressure on the vertical axis, resulting in fan speed and brake horsepower.

EXAMPLE: Required performance

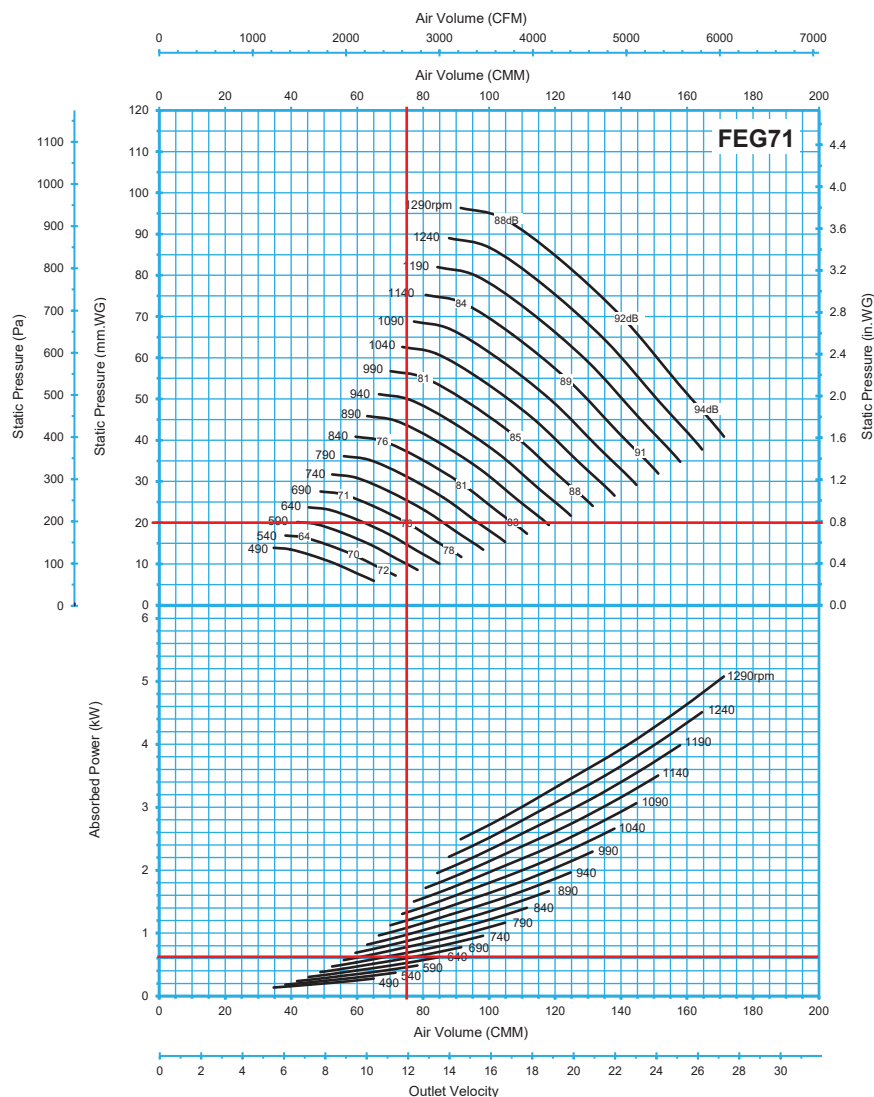
Fan Type Forward Curved Fan

Air Volume 75 CMM

Static Pressure 20 mm.WG

Handled Gas Air 20°C

According to the performance curves, TF-15FCS can be selected as a suitable model (Page 24).



* Performance certified is for installation type B - Free inlet, Ducted outlet. Power rating (kW) does not include transmission losses.
 Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwA sound power levels for installation type B: free inlet, ducted outlet.

How to determine RPM and B.kW

The information as shown in the table below refers to static pressure of 20 mm WG and air volume of 75 CMM (closest to the required working point of the fan), resulting in 690 RPM fan speed and power consumption of 0.61 B.kW.

How to determine motor size

When the motor output is selected, please add 15% margin for motor B.kW.

EXAMPLE: in case of 0.61 B.kW (TF-15FCS)

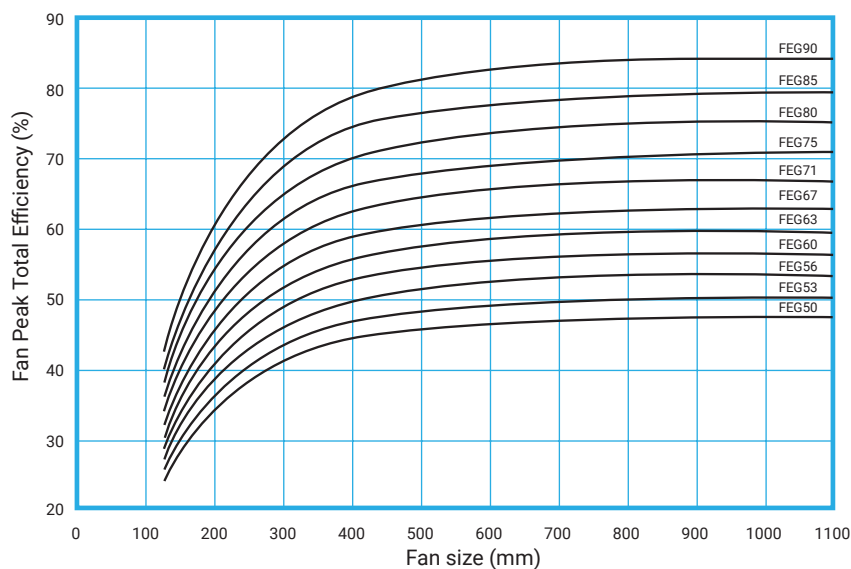
$$0.61(\text{B.kW}) \times (1 + 0.15) = 0.70 \text{ kW (as minimum capacity)}$$

Fan performance

The fan performance data as shown in this catalogue is derived from tests conducted in accordance with Fig. 12 under AMCA Standard 210 relating to installation type B (free inlet and duct outlet condition). In accordance with AMCA 205 Standard, peak efficiency of our FCS and BCS centrifugal fan models ranks from FEG 65-85.

The following is the explanation of FEG classification:

1. Fan size is the impeller diameter in mm.
2. The fan peak efficiency shall be calculated from the fan total pressure.
3. If this method is used for a direct driven fan, the fan efficiency is the impeller efficiency.
4. The FEG label for a given fan size is assigned when the fan peak efficiency is equal to or lower than the efficiency at the grade upper limit and higher than efficiency at the grade upper limit of the next lower grade for the fan size.
5. For any fan sizes larger than 1016 mm, the values of the grade upper limits are the same as for a size of 1016 mm.
6. No labels are considered for the fans with the fan peak total efficiency below FEG50.
7. The values of efficiencies are calculated for fan sizes in the preferred R40 Series.
8. Not all fan sizes in preferred numbers are shown as per below.



How to determine sound pressure

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation type B: free inlet, ducted outlet.

EXAMPLE: TF-15FCS

operating parameters at 75 CMM, 20 mm.WG, 690 rpm, 0.70 B.kW

Step1. Select sound power level (PWL) closest to the operating point as 76 dB(A).

Step2. Apply Calculation as shown as below.

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
① Sound Power Level dB(A) at fan inlet	76							
② -20 log r-11 dB(A) @ 1.5 meter	-14.5							
A-WEIGHTED Sound Pressure Level dB(A)	61.5							

Note:

① Sound Pressure Level values in a Free-Field condition can be calculated with the following equation, in which “r” is the distance of the points of measurement from the open inlet of the fan.

$$SPL(f) = PWL(f) - 20 \log r - 11$$

where SPL (f) : Sound Pressure Level (dB) in Free-Field

PWL (f) : Sound Power Level (dB) in Free-Field

r : Distance from sound source (m)

r = 1.5 (m)

$-20 \log_{10} 1.5 - 11 = -14.5$

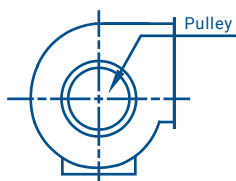
② Values shown are for inlet LwiA sound power levels for installation type B: free inlet, ducted outlet.

Direction of rotation and discharge

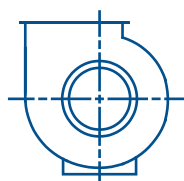
The discharge direction has 3 types, namely upper part horizontal, upper part vertical and lower part horizontal as show below.

Right Rotation (R)

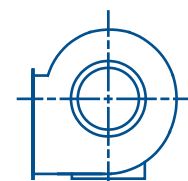
Clockwise rotation from pulley side



Upper part Horizontal (R1)



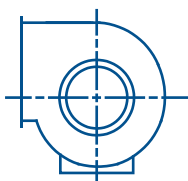
Upper part Vertical (R2)



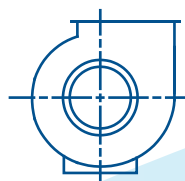
Lower part Horizontal (R3)

Left Rotation (L)

Counter-clockwise rotation from pulley side



Upper part Horizontal (L1)



Upper part Vertical (L2)



Lower part Horizontal (L3)

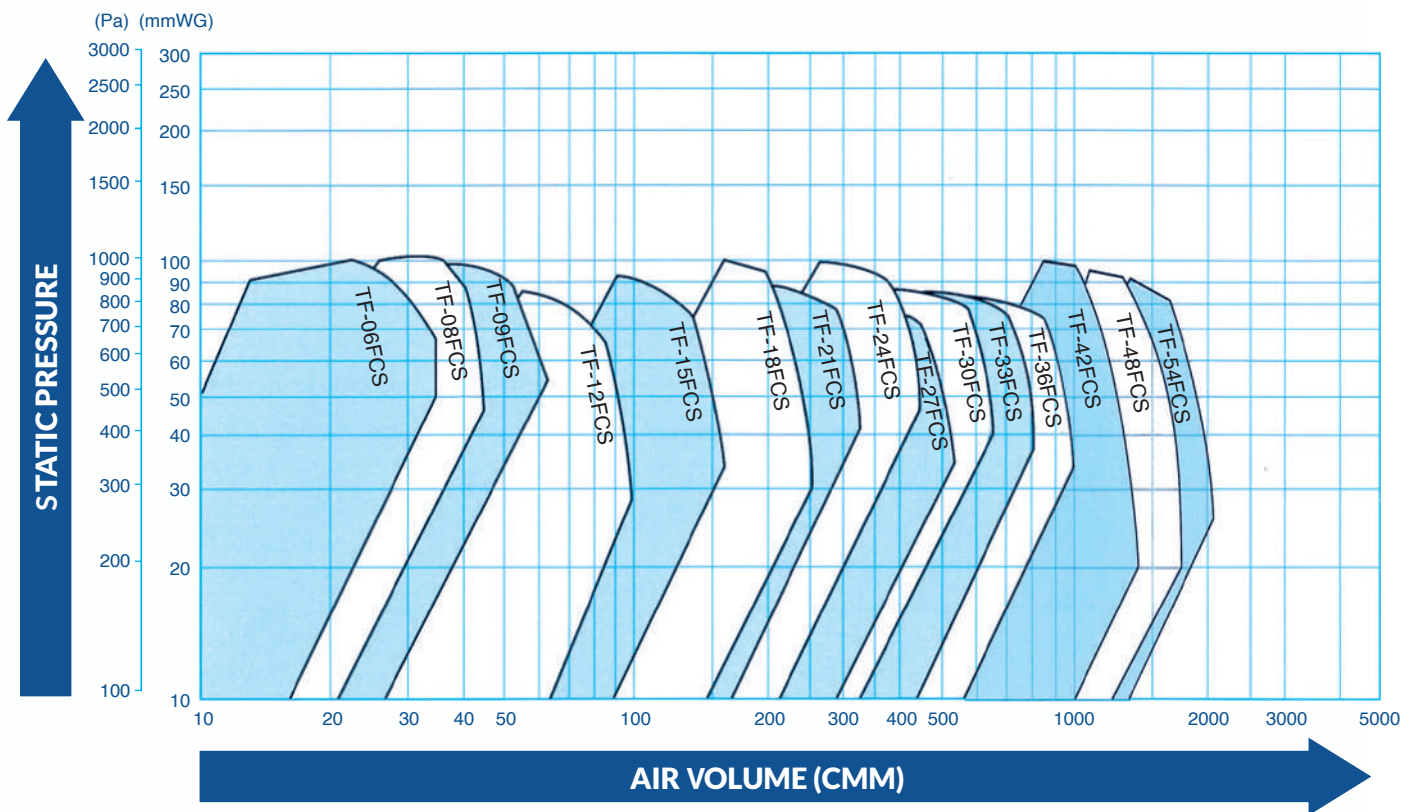
Forward Curved Multi-Blade Fans Single Width Single Inlet (SWSI)

AIR PERFORMANCE DATA

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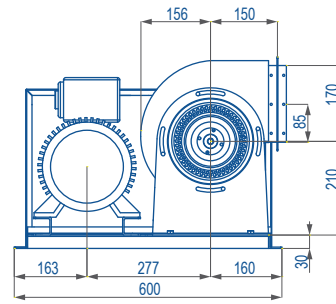
SELECTION CHART



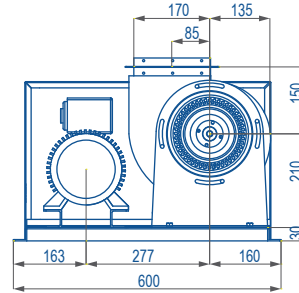
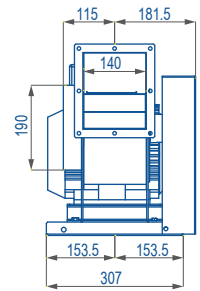
AVAILABLE MODELS

Model	Wheel Diameter		Approx. Weight of Fan & Housing (kg.)	Approx. Air Volume	
	mm.	inch		CMH	CFM
TF-06FCS	160	6	17	1,278	752
TF-08FCS	202	8	19	1,758	1,034
TF-09FCS	254	9	23	2,520	1,482
TF-12FCS	302	12	42	3,570	2,100
TF-15FCS	382	15	60	5,640	3,318
TF-18FCS	464	18	105	9,300	5,471
TF-21FCS	529	21	145	11,760	6,918
TF-24FCS	621.6	24	180	15,600	9,176
TF-27FCS	686	27	285	21,000	12,353
TF-30FCS	762	30	330	26,100	15,353
TF-33FCS	838	33	415	31,362	18,456
TF-36FCS	915	36	490	37,500	22,059
TF-42FCS	1,065	42	740	50,802	29,897
TF-48FCS	1,220	48	890	66,354	39,049
TF-54FCS	1,370	54	1,330	82,230	48,392

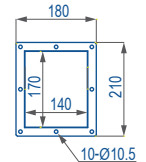
The approximate air volume is measured at air velocity of 15 m/s.
 The approximate weight of fan & housing (kg.) includes common base, motor base and belt cover.



L1



L2

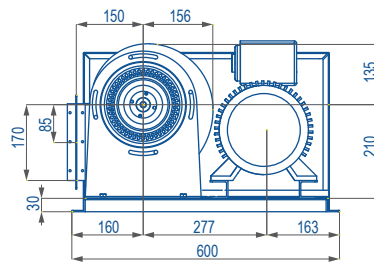


FLANGE (OUTLET)

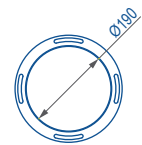
TF-06FCS

Forward Curved SWSI

- Wheel diameter = 165 mm.
- Outlet area = 0.023 sq.m.
- Tip speed (m/s) = 0.0084 x RPM
- Maximum B.kW = 0.37 kW
- Moment of inertia : $GD^2 = 0.05\text{kg}\cdot\text{m}^2$

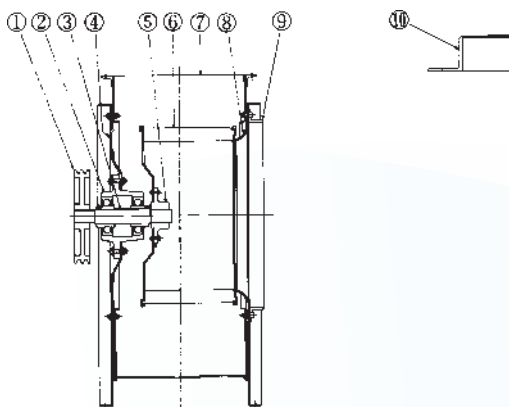


L3



FLANGE (INLET)

Sectional drawing and materials

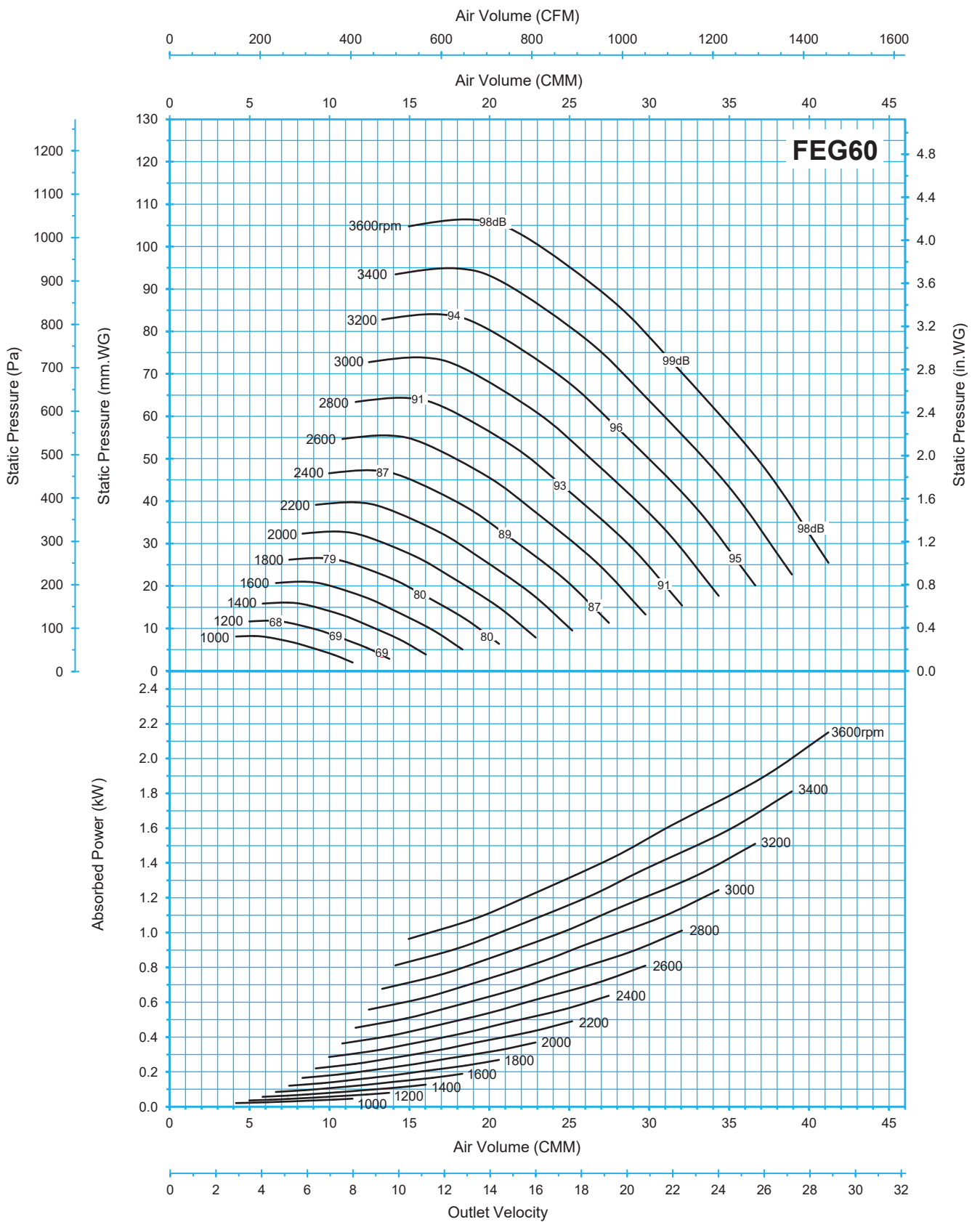


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing Unit	—
3	Shaft	Carbon steel C45
4	Bearing Fixing Plate	Mild steel sheet
5	Hub	Cast iron
6	Impeller	Galvanized steel sheet
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Inlet Flange	Carbon steel
10	Common Base	Carbon steel

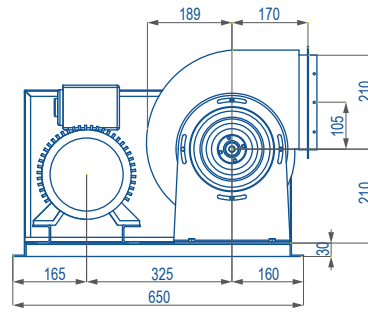
Motor (kW)	0.37	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0
Motor Weight (kg)	8.2	12.5	16	21	28	40	48	73	85	120	130
Fan Weight (kg)	14.5	14.5	14.5								
Total Weight (kg)	22.7	27.0	30.5								

TF-06FCS

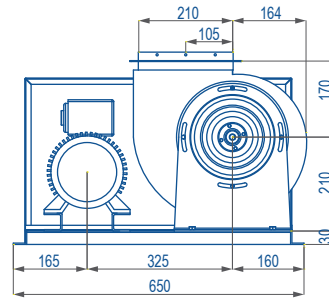
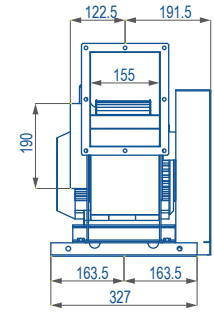
$\rho = 1.2\text{kg/m}^3$



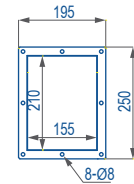
* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



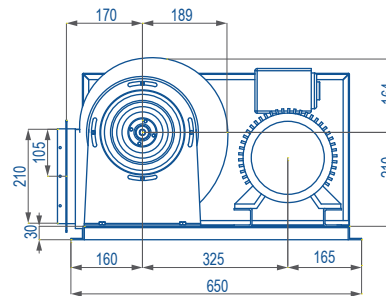
L1



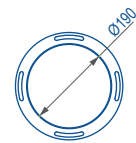
L2



FLANGE (OUTLET)



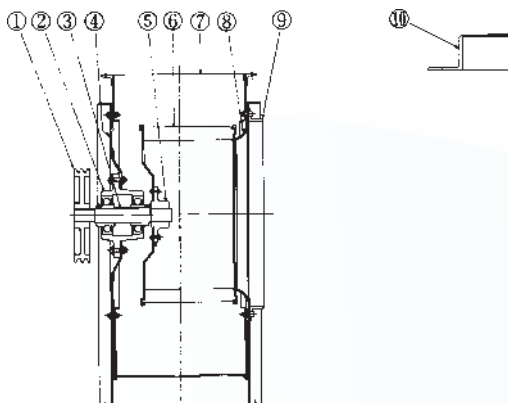
L3



FLANGE (INLET)



Sectional drawing and materials

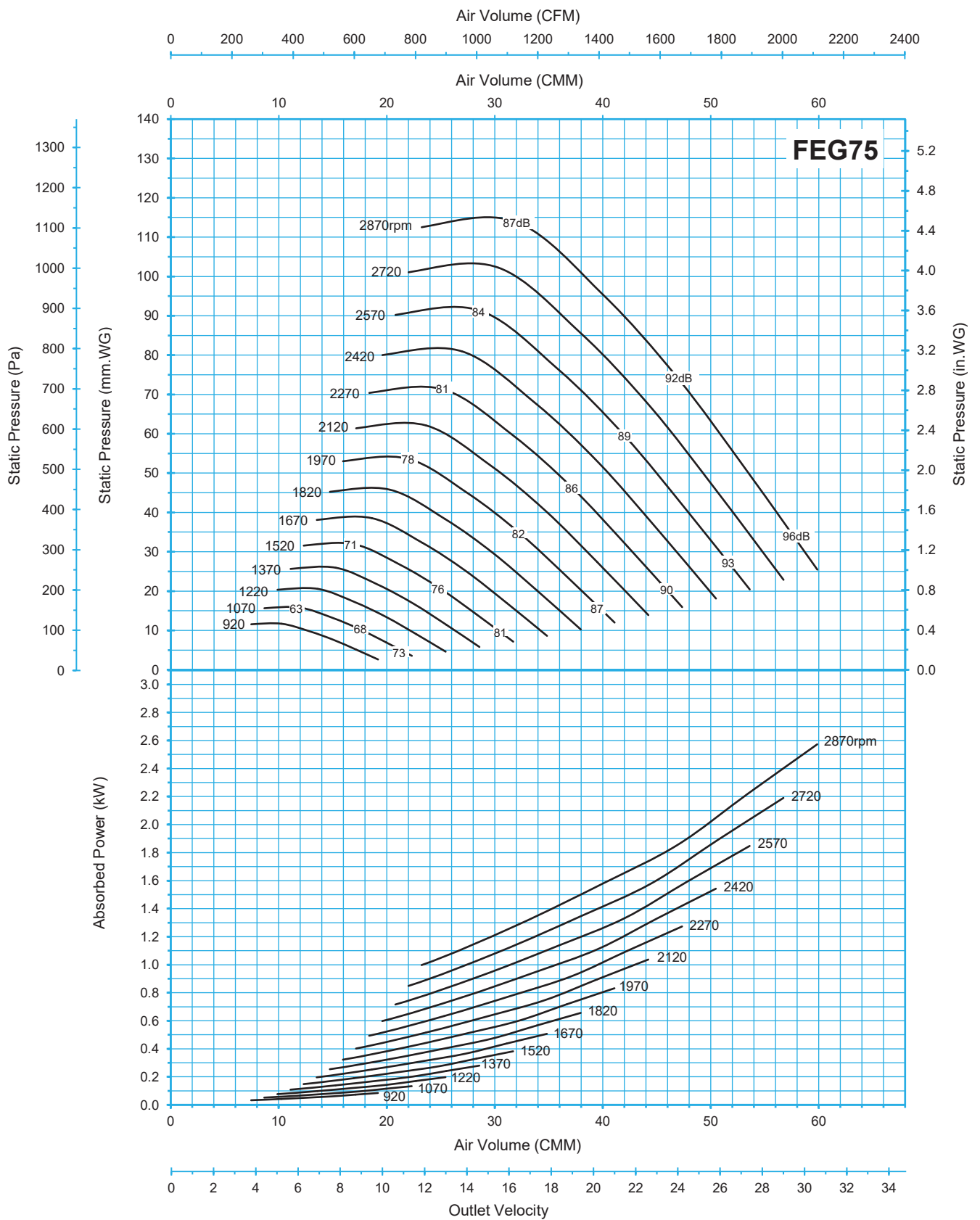


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing Unit	—
3	Shaft	Carbon steel C45
4	Bearing Fixing Plate	Mild steel sheet
5	Hub	Cast iron
6	Impeller	Galvanized steel sheet
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Inlet Flange	Carbon steel
10	Common Base	Carbon steel

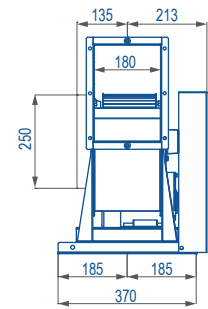
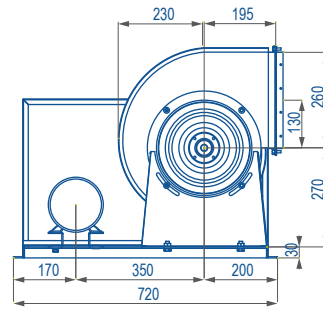
Motor (kW)	0.37	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0
Motor Weight (kg)	8.2	12.5	16	21	28	40	48	73	85	120	130
Fan Weight (kg)	16.5	16.5	16.5								
Total Weight (kg)	24.7	29.0	32.5								

TF-08FCS

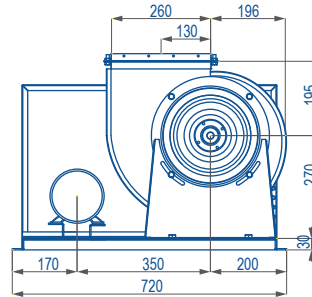
$\rho = 1.2\text{kg/m}^3$



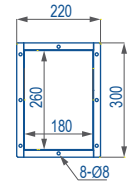
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 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



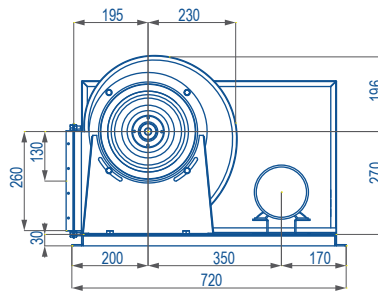
L1



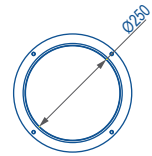
L2



FLANGE (OUTLET)



L3



FLANGE (INLET)

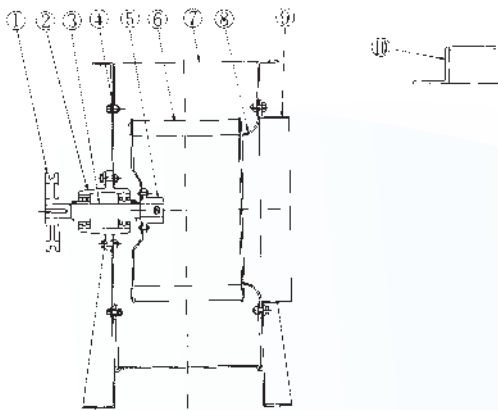


TF-09FCS

Forward Curved SWSI

- Wheel diameter = 259 mm.
- Outlet area = 0.045 sq.m.
- Tip speed (m/s) = 0.0133 x RPM
- Maximum B.kW = 0.37 kW
- Moment of inertia : $GD^2 = 0.15\text{kg}\cdot\text{m}^2$

Sectional drawing and materials

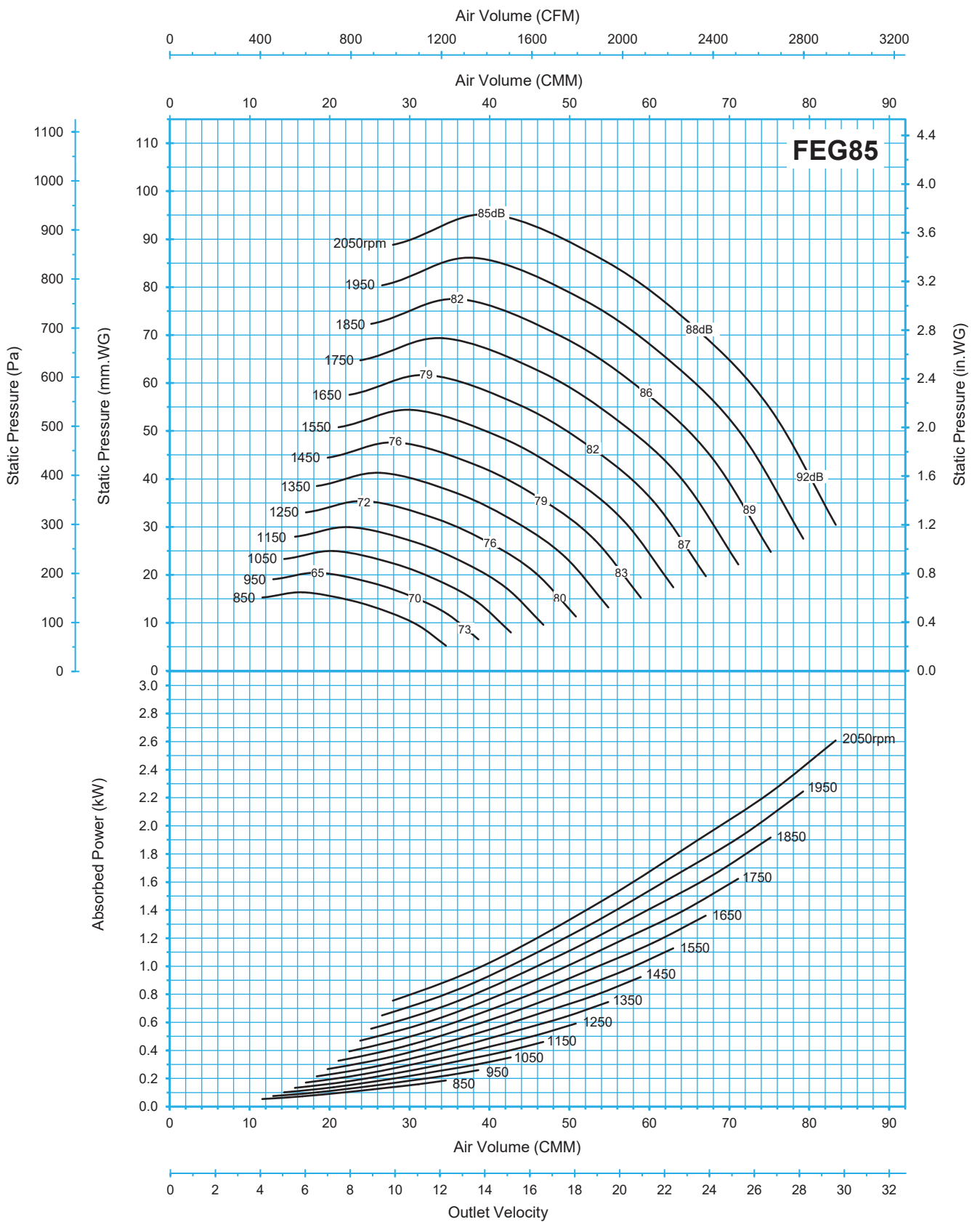


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing Unit	—
3	Shaft	Carbon steel C45
4	Bearing Fixing Plate	Mild steel sheet
5	Hub	Cast iron
6	Impeller	Galvanized steel sheet
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Inlet Flange	Carbon steel
10	Common Base	Carbon steel

Motor (kW)	0.37	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0
Motor Weight (kg)	8.2	12.5	16	21	28	40	48	73	85	120	130
Fan Weight (kg)	20.0	20.0	20.0								
Total Weight (kg)	28.2	32.5	36.0								

TF-09FCS

$\rho = 1.2\text{kg/m}^3$



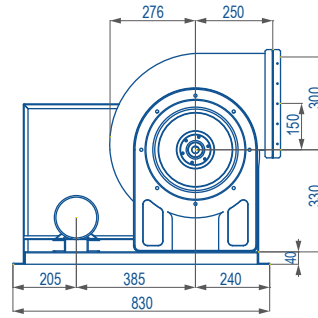
* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet Lw/A sound power levels for installation type B: free inlet, ducted outlet.



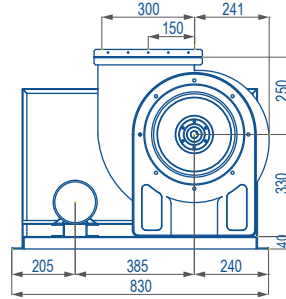
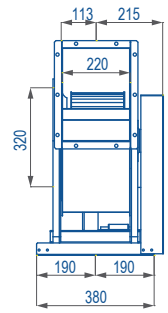
TF-12FCS

Forward Curved SWSI

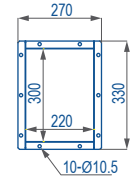
- Wheel diameter = 316 mm.
- Outlet area = 0.064 sq.m.
- Tip speed (m/s) = 0.0158 x RPM
- Maximum B.kW = 0.37 kW
- Moment of inertia : $GD^2 = 0.25\text{kg}\cdot\text{m}^2$



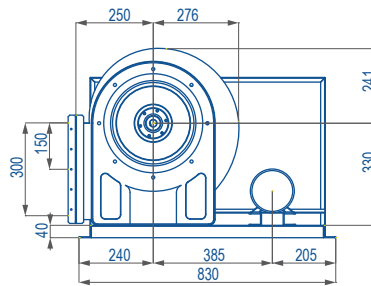
L1



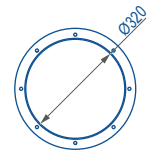
L2



FLANGE (OUTLET)



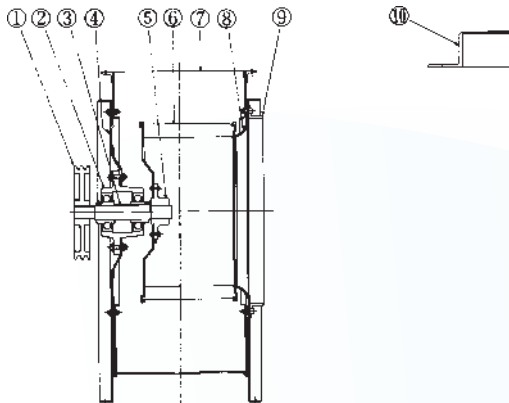
L3



FLANGE (INLET)



Sectional drawing and materials

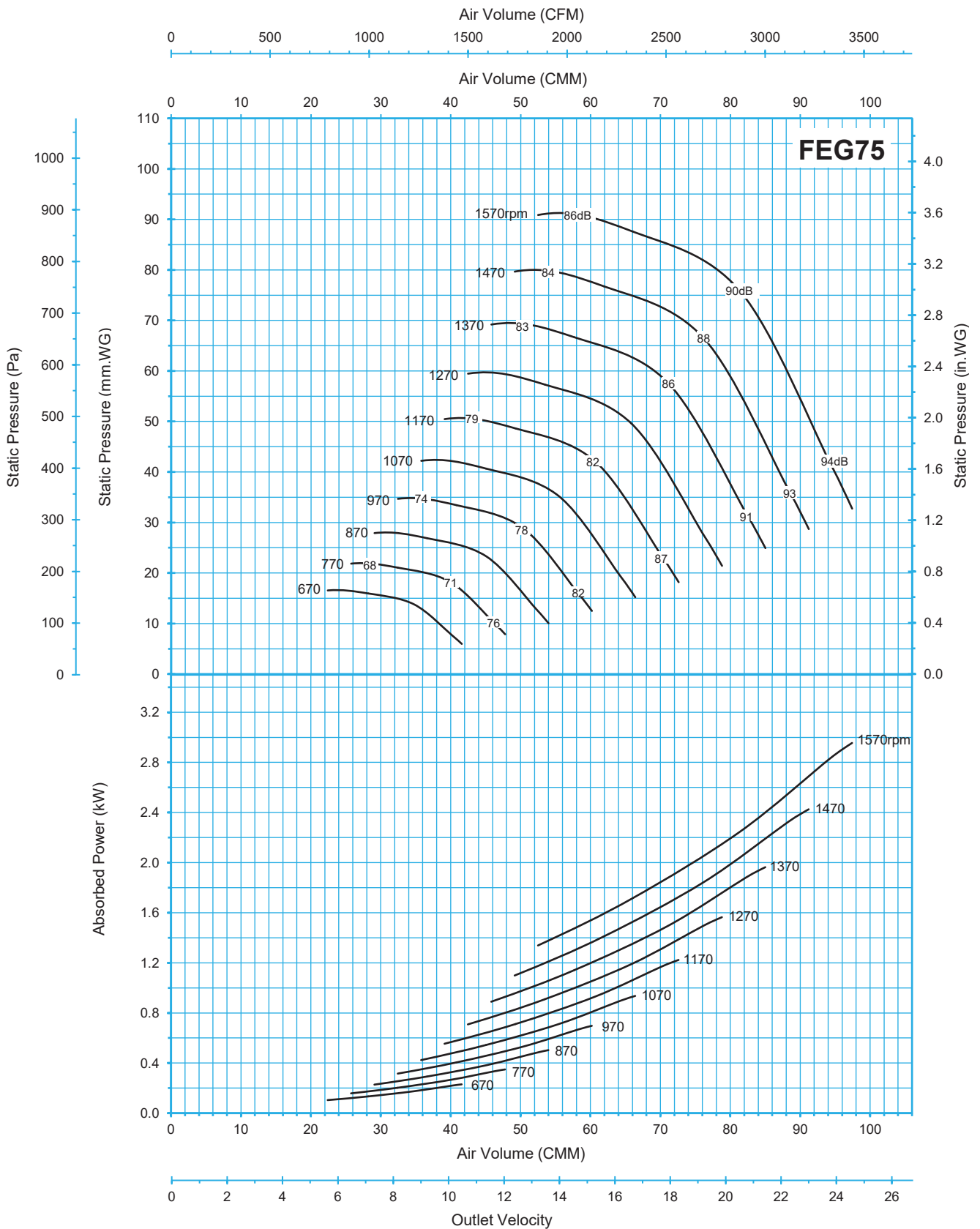


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing Unit	—
3	Shaft	Carbon steel C45
4	Bearing Fixing Plate	Mild steel sheet
5	Hub	Cast iron
6	Impeller	Mild steel sheet
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Inlet Flange	Carbon steel
10	Common Base	Carbon steel

Motor (kW)	0.37	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0
Motor Weight (kg)	8.2	12.5	16	21	28	40	48	73	85	120	130
Fan Weight (kg)	38.0	38.0	38.0	38.0							
Total Weight (kg)	46.2	50.5	54.0	59.0							

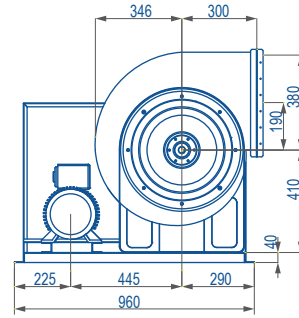
TF-12FCS

$\rho = 1.2\text{kg/m}^3$

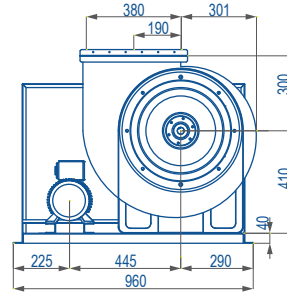
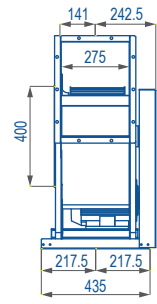


* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

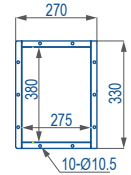
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet Lw/A sound power levels for installation type B: free inlet, ducted outlet.



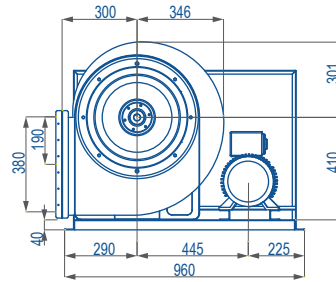
L1



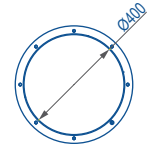
L2



FLANGE (OUTLET)



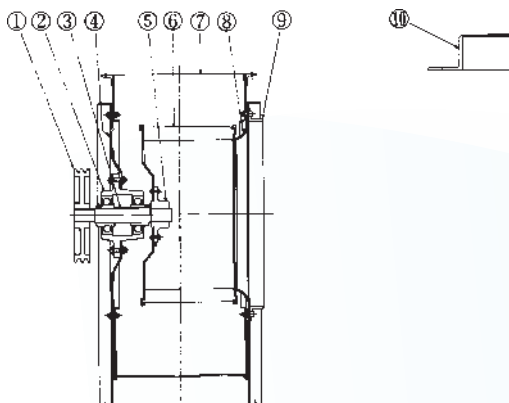
L3



FLANGE (INLET)



Sectional drawing and materials

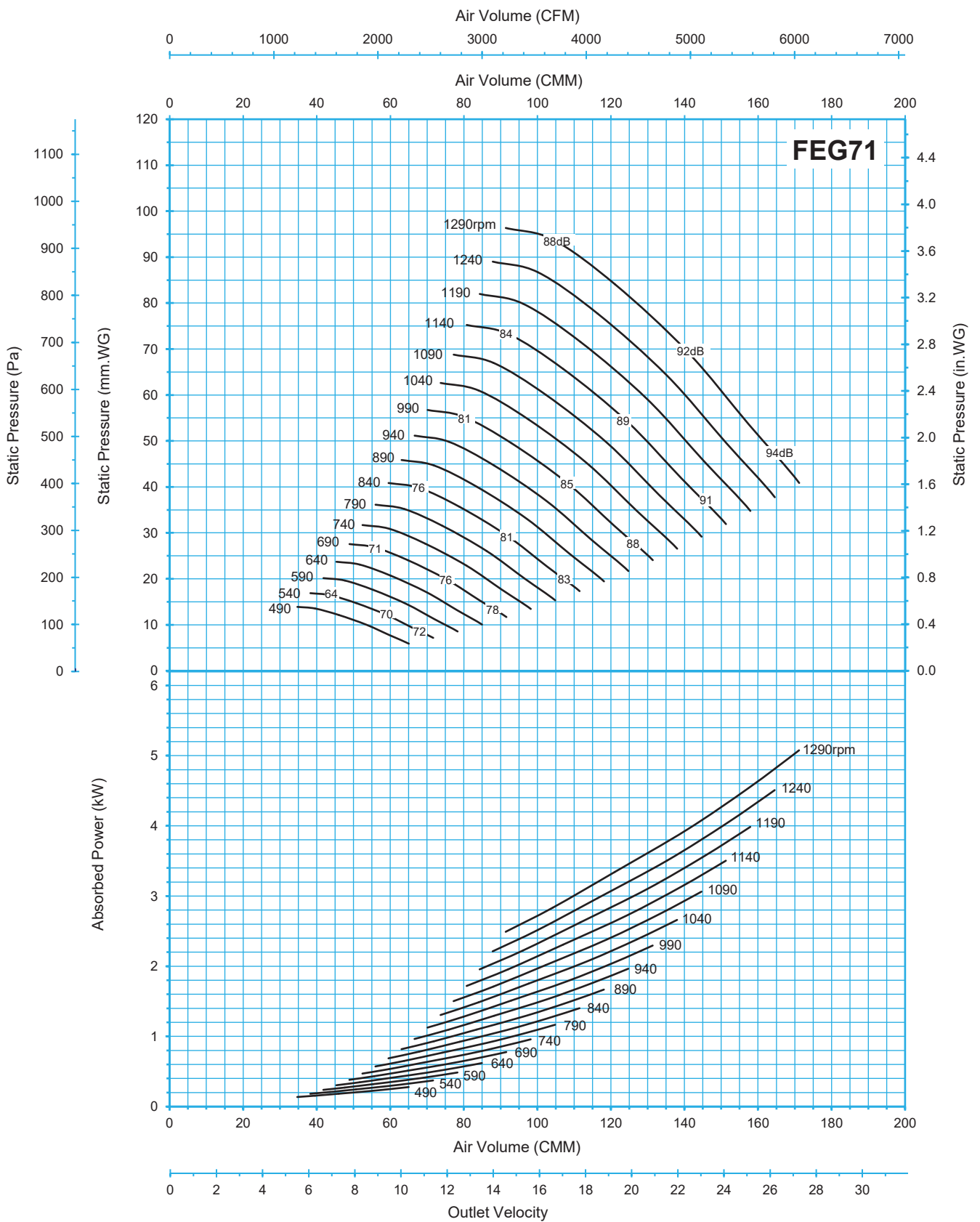


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing Unit	—
3	Shaft	Carbon steel C45
4	Bearing Fixing Plate	Mild steel sheet
5	Hub	Cast iron
6	Impeller	Mild steel sheet
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Inlet Flange	Carbon steel
10	Common Base	Carbon steel

Motor (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0
Motor Weight (kg)	12.5	16	21	28	40	48	73	85	120	130	160
Fan Weight (kg)	55.0	55.0	55.0	55.0							
Total Weight (kg)	67.5	71.0	76.0	83.0							

TF-15FCS

$\rho = 1.2\text{kg/m}^3$



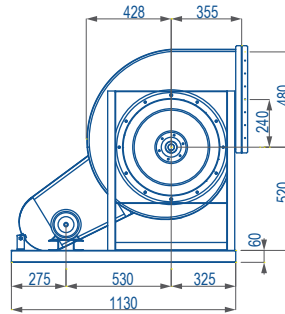
* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



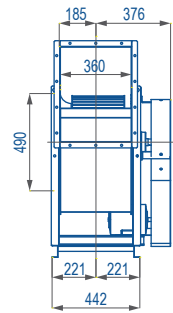
TF-18FCS

Forward Curved SWSI

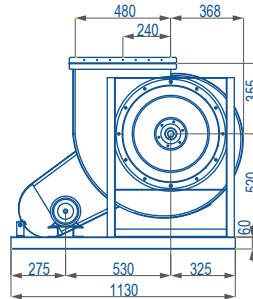
- Wheel diameter = 471 mm.
- Outlet area = 0.168 sq.m.
- Tip speed (m/s) = 0.0243 x RPM
- Maximum B.kW = 0.75 kW
- Moment of inertia : $GD^2 = 2.5kg \cdot m^2$



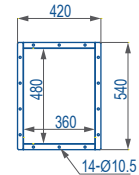
L1



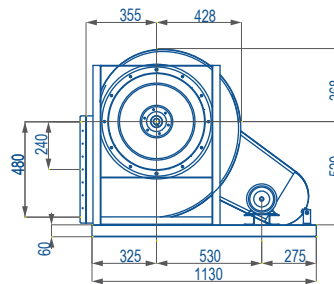
FLANGE (OUTLET)



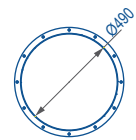
L2



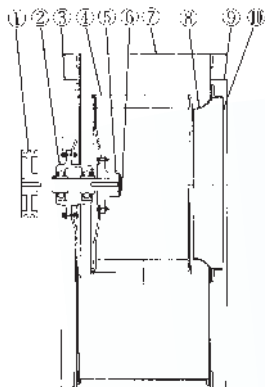
FLANGE (INLET)



L3



Sectional drawing and materials

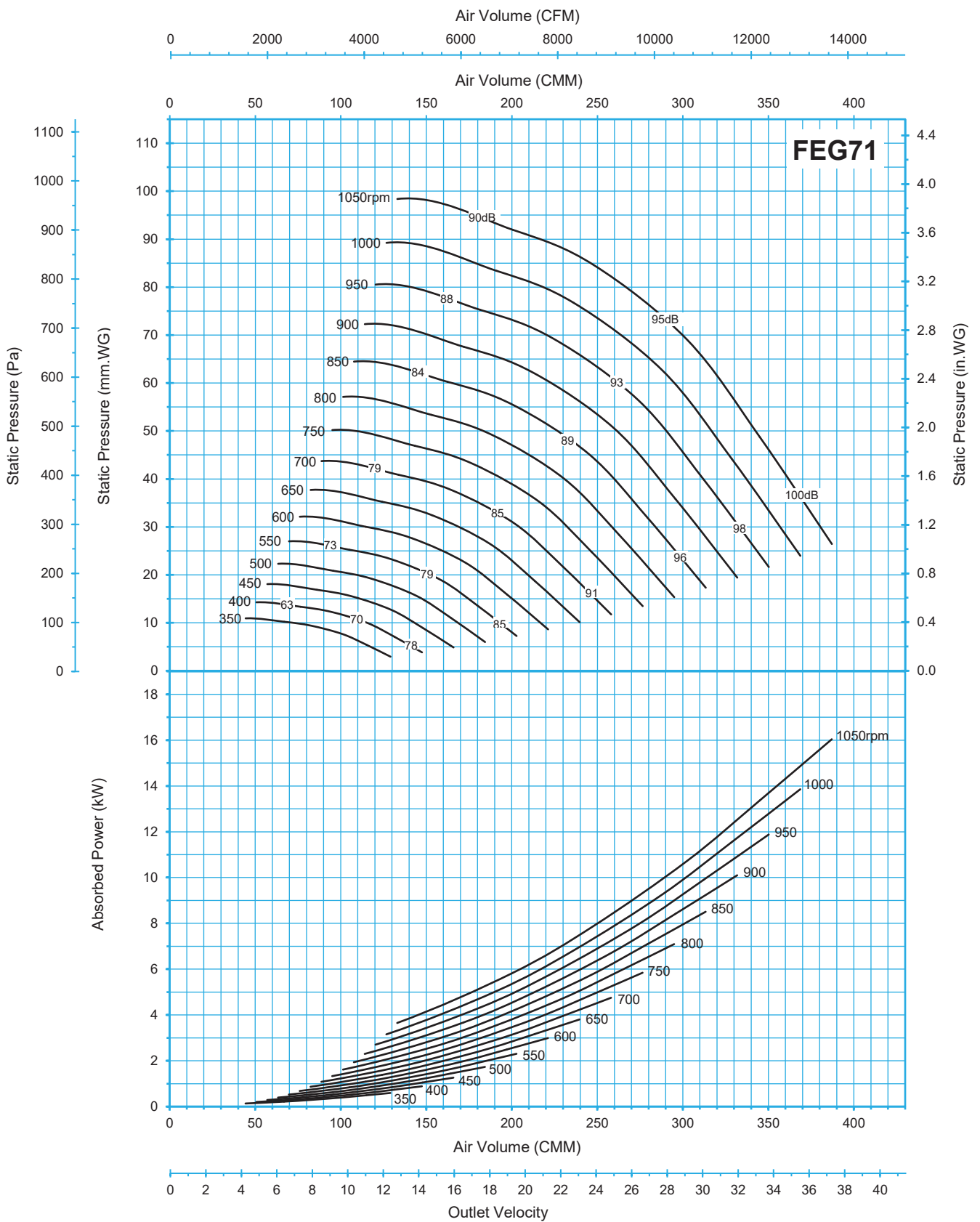


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing Unit	—
3	Housing Base	Mild steel sheet
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Housing Base	Mild steel sheet
10	Inlet Flange	Carbon steel
11	Common Base	Carbon steel

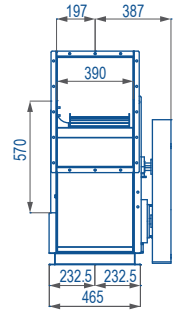
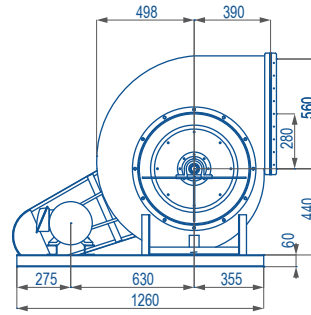
Motor (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0
Motor Weight (kg)	12.5	16	21	28	40	48	73	85	120	130	160
Fan Weight (kg)	100.0	100.0	100.0	100.0	100.0						
Total Weight (kg)	112.5	116.0	121.0	128.0	140.0						

TF-18FCS

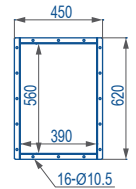
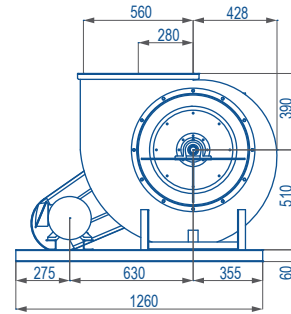
$\rho = 1.2\text{kg/m}^3$



* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.

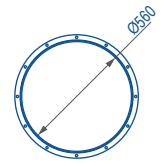
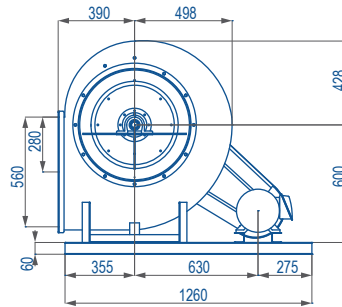


L1



L2

FLANGE (OUTLET)



L3

FLANGE (INLET)

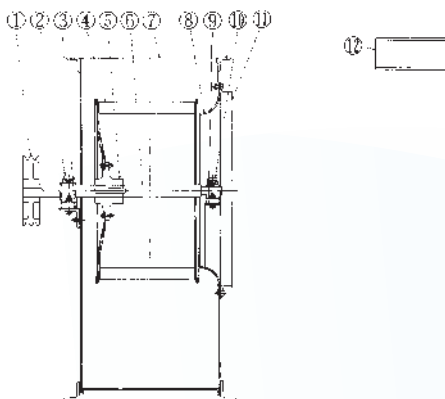
TF-21FCS

Forward Curved SWSI

- Wheel diameter = 540 mm.
- Outlet area = 0.214 sq.m.
- Tip speed (m/s) = 0.0277 x RPM
- Maximum B.kW = 1.5 kW
- Moment of inertia : $GD^2 = 3.5\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

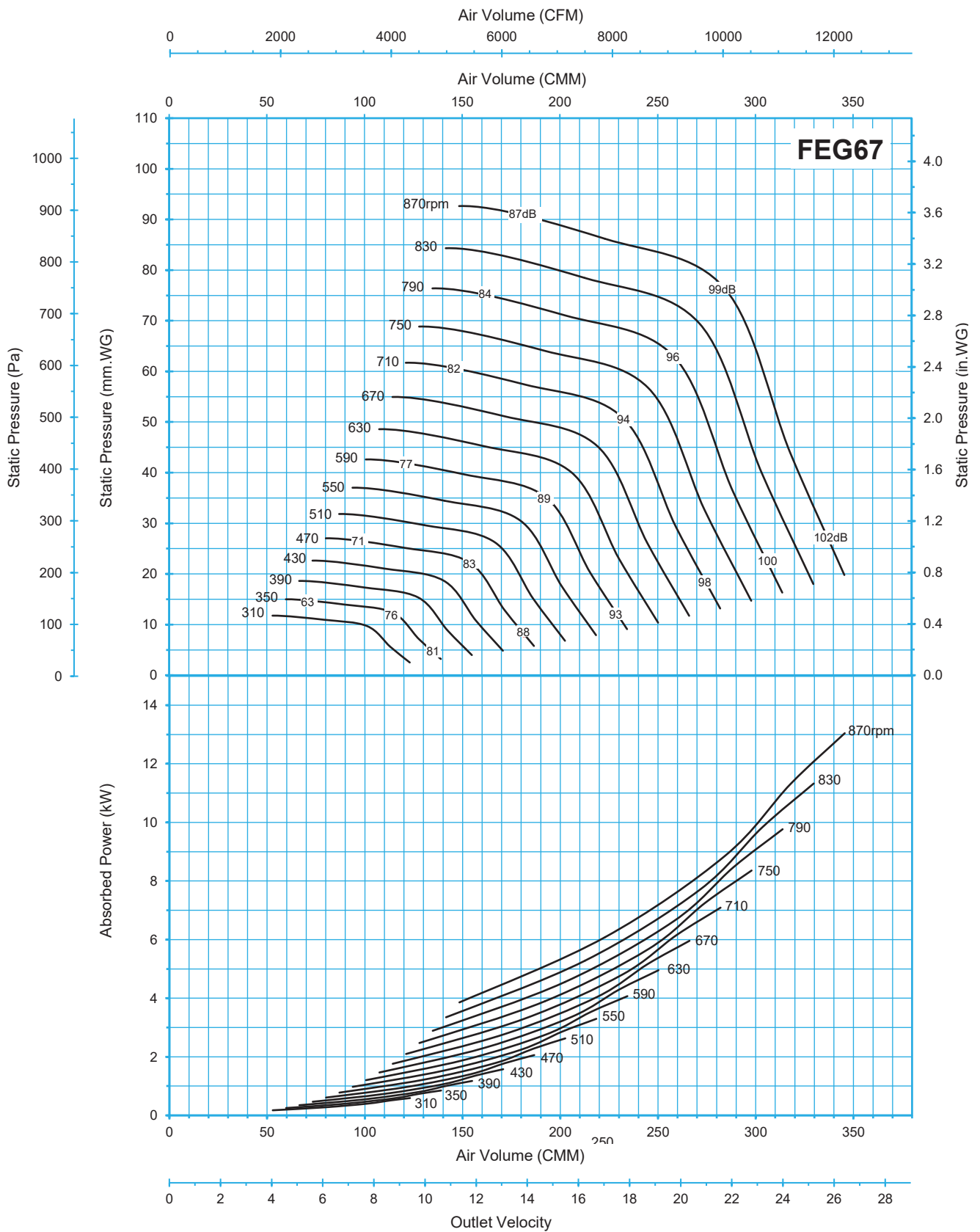


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Inlet Flange	Carbon steel
12	Common Base	Carbon steel

Motor (kW)	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0
Motor Weight (kg)	16	21	28	40	48	73	85	120	130	160	215
Fan Weight (kg)	138.0	138.0	138.0	138.0	138.0						
Total Weight (kg)	154.0	159.0	166.0	178.0	186.0						

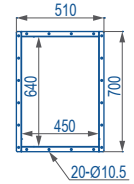
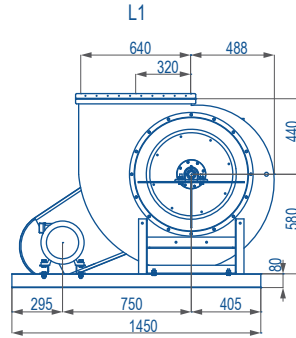
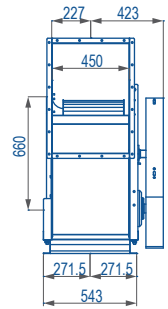
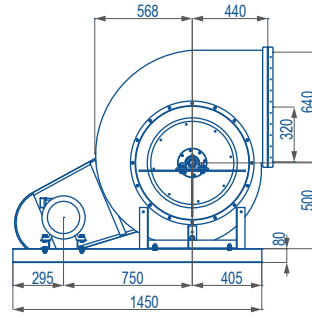
TF-21FCS

$\rho = 1.2\text{kg/m}^3$



* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

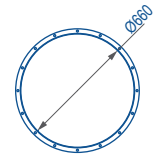
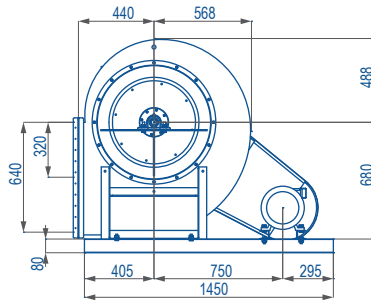
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



TF-24FCS

Forward Curved SWSI

- Wheel diameter = 631 mm.
- Outlet area = 0.283 sq.m.
- Tip speed (m/s) = 0.0325 x RPM
- Maximum B.kW = 1.5 kW
- Moment of inertia : $GD^2 = 7.0\text{kg}\cdot\text{m}^2$



L1

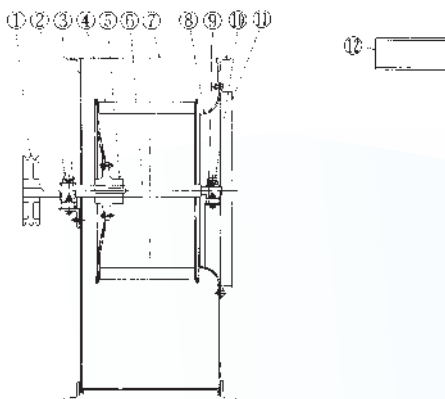
FLANGE (OUTLET)

L2

FLANGE (INLET)



Sectional drawing and materials

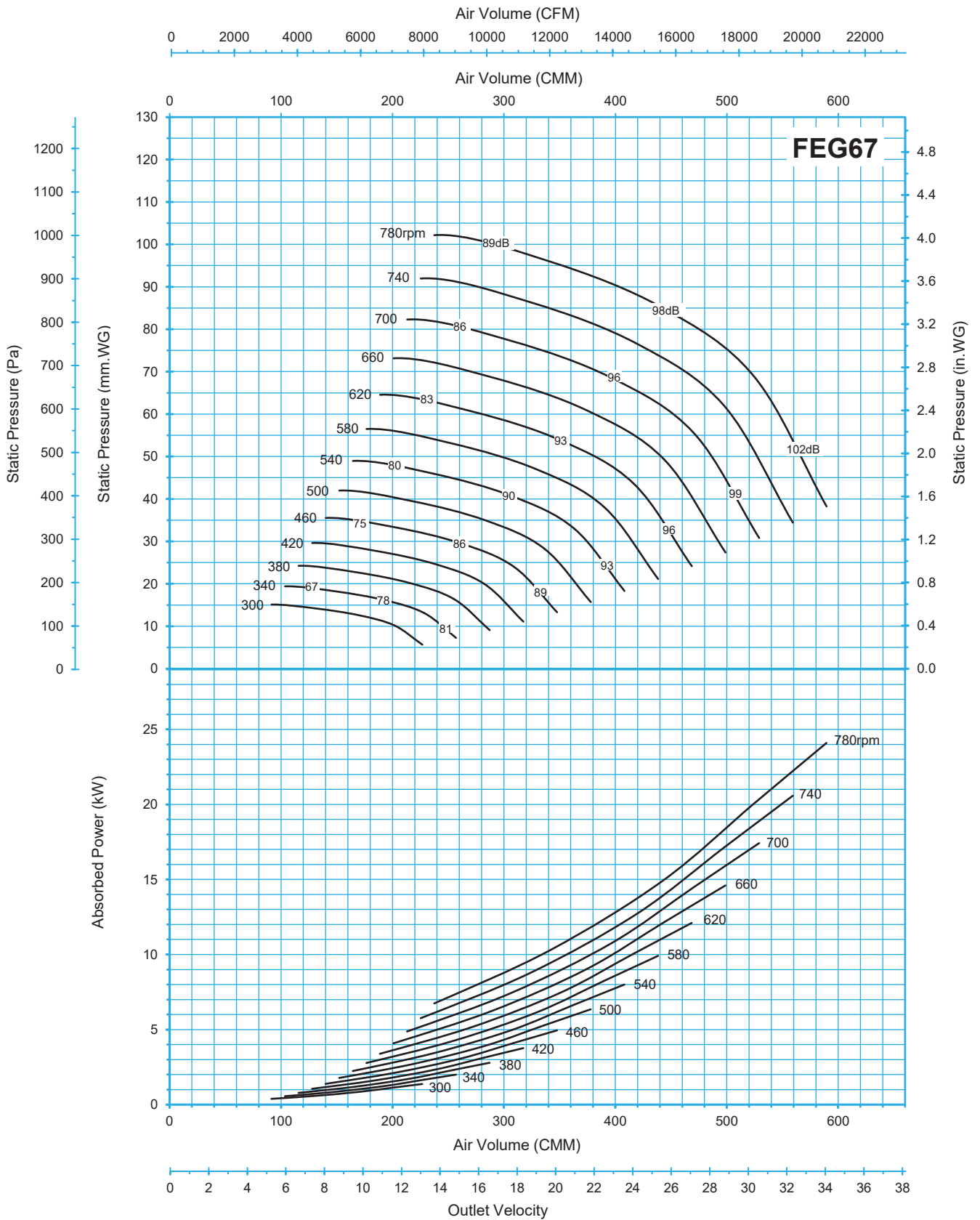


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Inlet Flange	Carbon steel
12	Common Base	Carbon steel

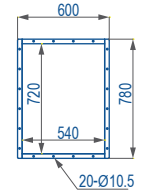
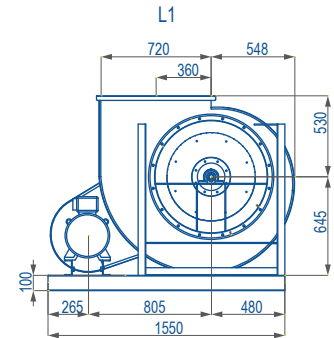
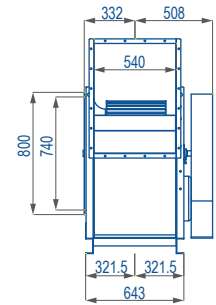
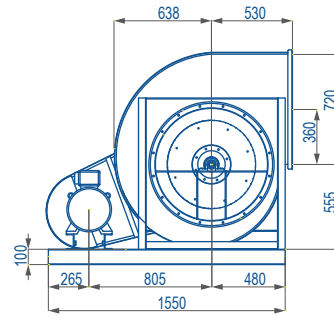
Motor (kW)	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0
Motor Weight (kg)	16	21	28	40	48	73	85	120	130	160	215
Fan Weight (kg)	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0
Total Weight (kg)	186.0	191.0	198.0	210.0	218.0	243.0	243.0	243.0	243.0	243.0	243.0

TF-24FCS

$\rho = 1.2\text{kg/m}^3$



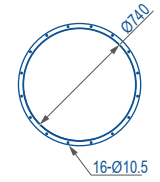
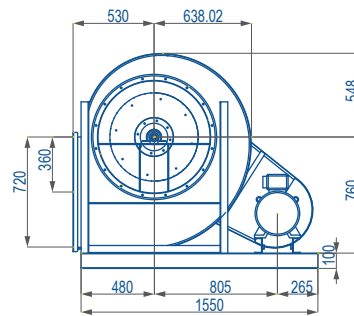
* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



L1

L2

FLANGE (OUTLET)



L3

FLANGE (INLET)

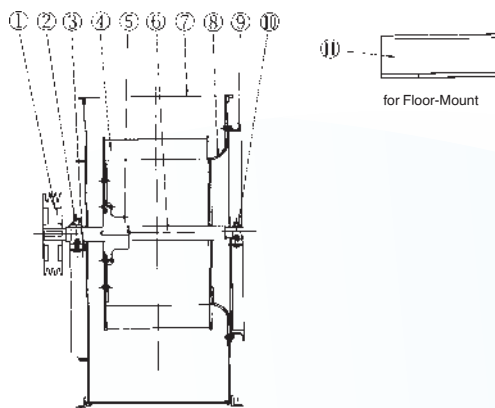
TF-27FCS

Forward Curved SWSI

- Wheel diameter = 693 mm.
- Outlet area = 0.383 sq.m.
- Tip speed (m/s) = 0.0359 x RPM
- Maximum B.kW = 1.5 kW
- Moment of inertia : $GD^2 = 12.0\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

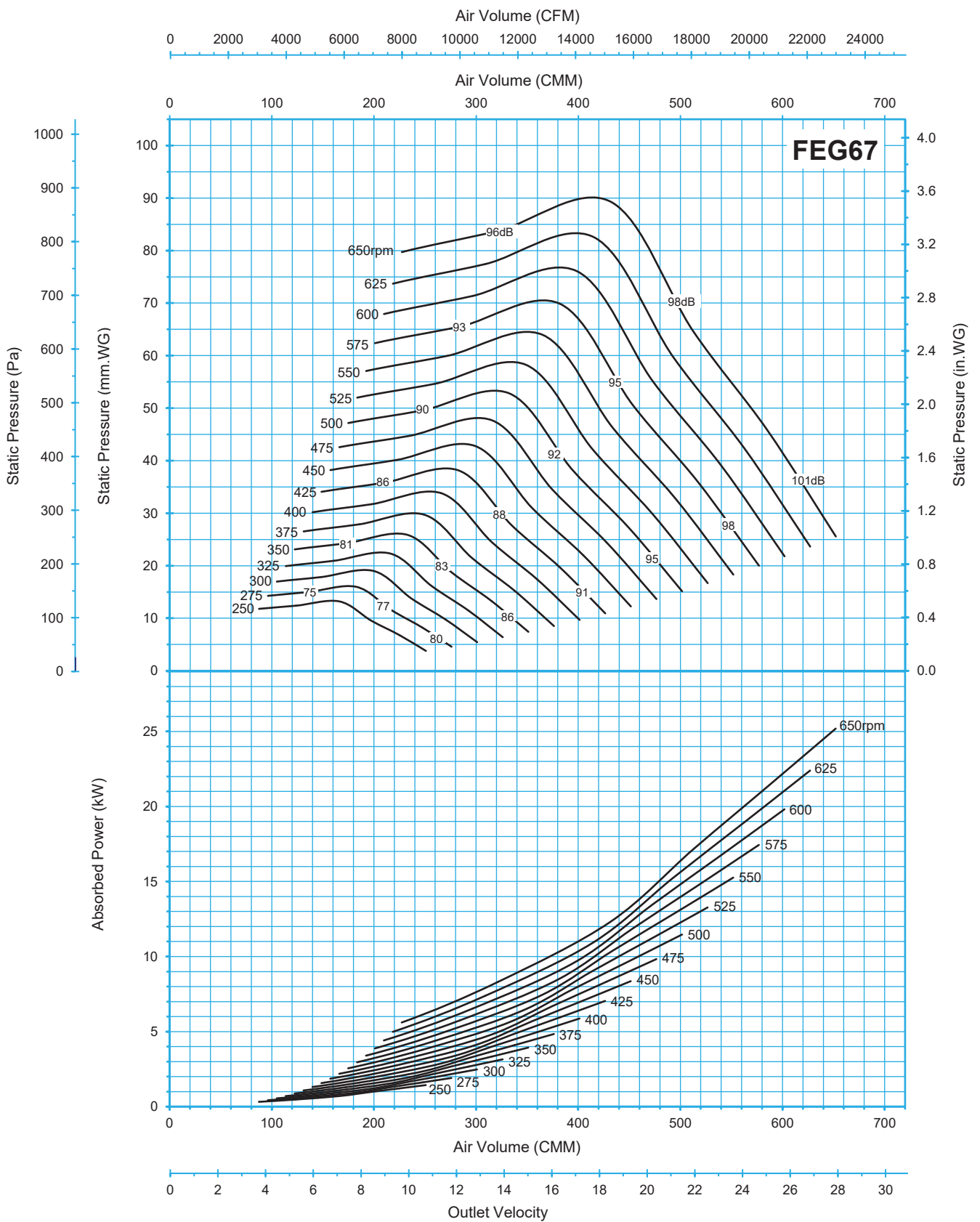


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

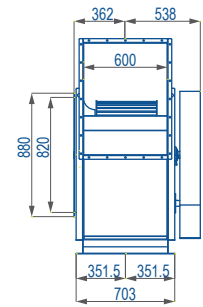
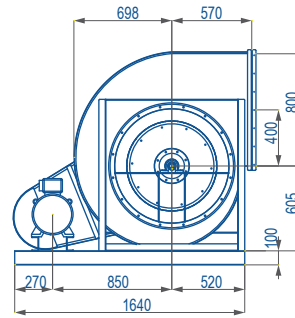
Motor (kW)	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0
Motor Weight (kg)	16	21	28	40	48	73	85	120	130	160	215
Fan Weight (kg)	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
Total Weight (kg)	286.0	291.0	298.0	310.0	318.0	343.0	343.0	343.0	343.0	343.0	343.0

TF-27FCS

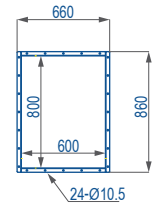
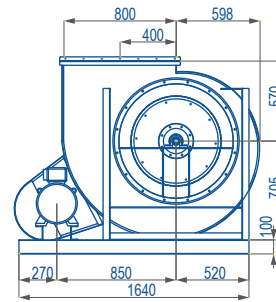
$\rho = 1.2\text{kg/m}^3$



* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.

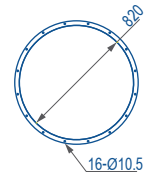
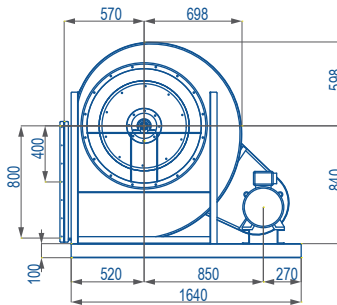


L1



L2

FLANGE (OUTLET)



L3

FLANGE (INLET)

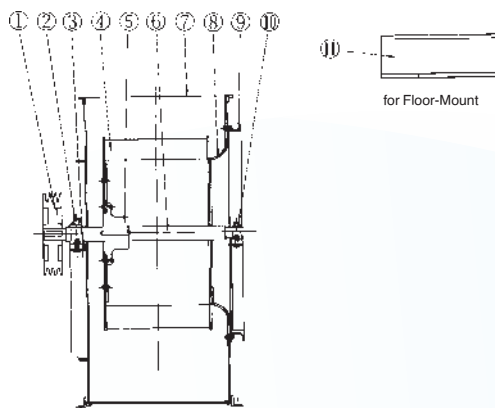


TF-30FCS

Forward Curved SWSI

- Wheel diameter = 775 mm.
- Outlet area = 0.479 sq.m.
- Tip speed (m/s) = 0.0399 x RPM
- Maximum B.kW = 2.2 kW
- Moment of inertia : $GD^2 = 17.0\text{kg}\cdot\text{m}^2$

Sectional drawing and materials

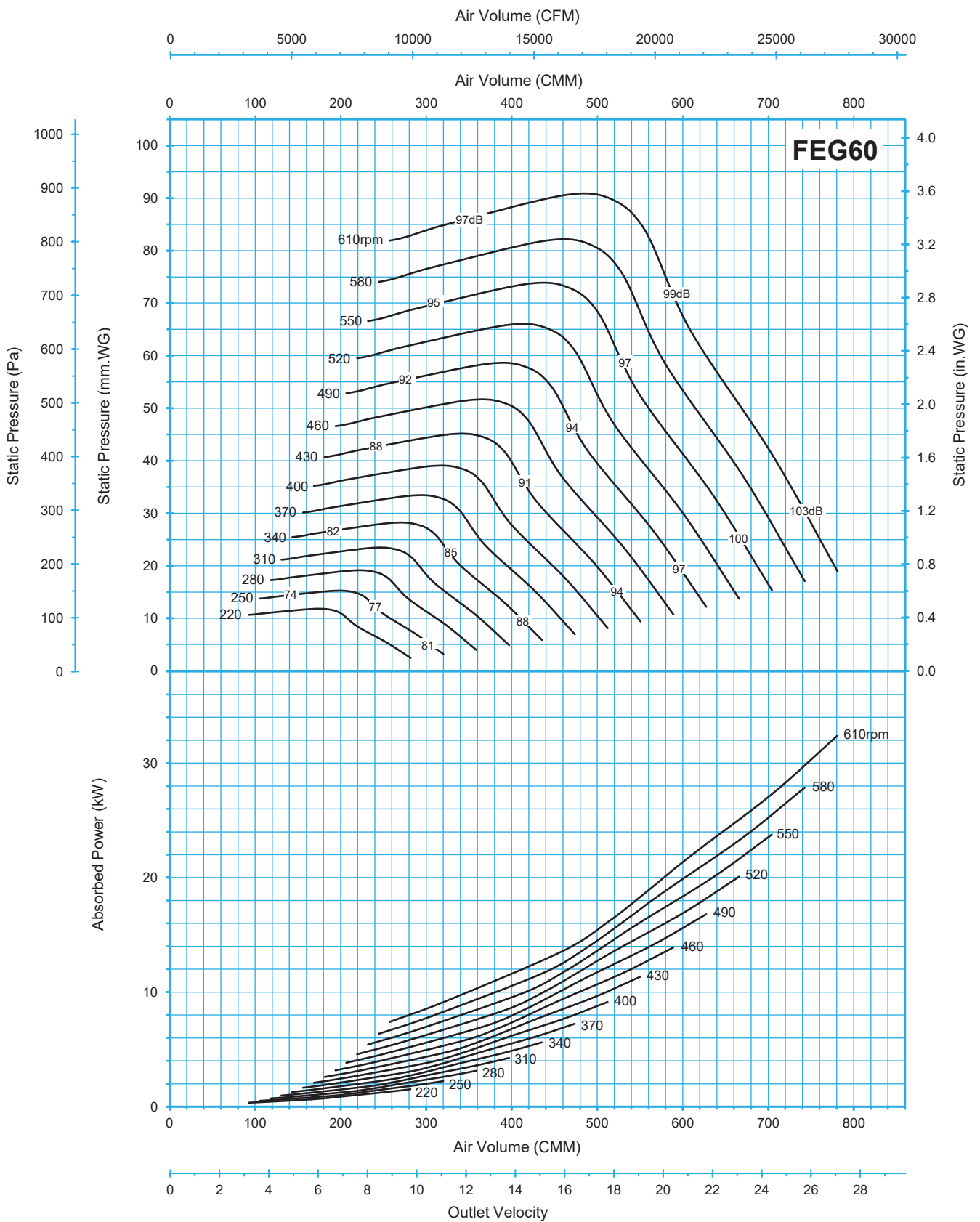


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

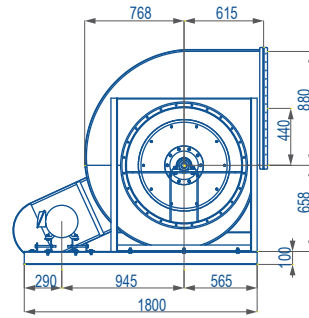
Motor (kW)	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0
Motor Weight (kg)	21	28	40	48	73	85	120	130	160	215	235
Fan Weight (kg)	320.0	320.0	320.0	320.0	320.0	320.0					
Total Weight (kg)	341.0	348.0	360.0	368.0	393.0	405.0					

TF-30FCS

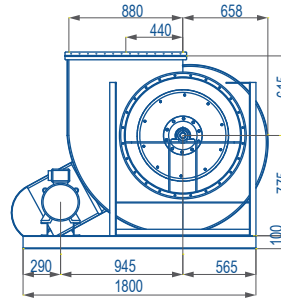
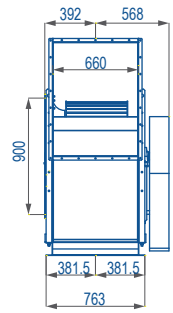
$\rho = 1.2\text{kg/m}^3$



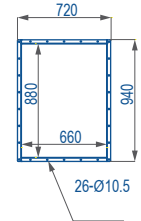
* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



L1



L2

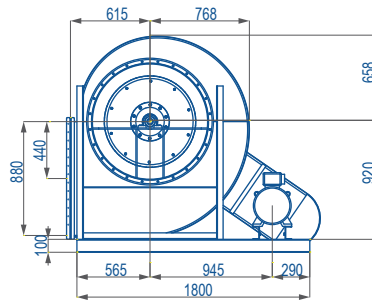


FLANGE (OUTLET)

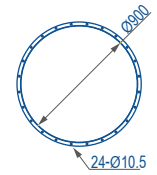
TF-33FCS

Forward Curved SWSI

- Wheel diameter = 856 mm.
- Outlet area = 0.584 sq.m.
- Tip speed (m/s) = 0.0439 x RPM
- Maximum B.kW = 3.7 kW
- Moment of inertia : $GD^2 = 26.0\text{kg}\cdot\text{m}^2$

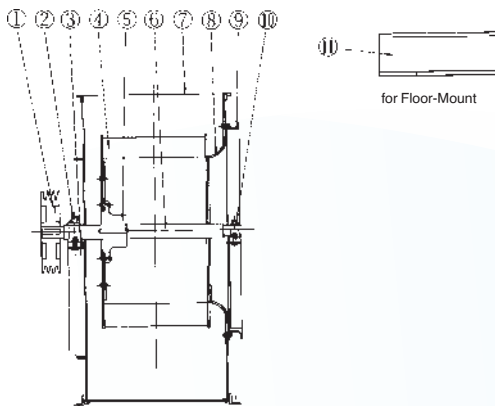


L3



FLANGE (INLET)

Sectional drawing and materials

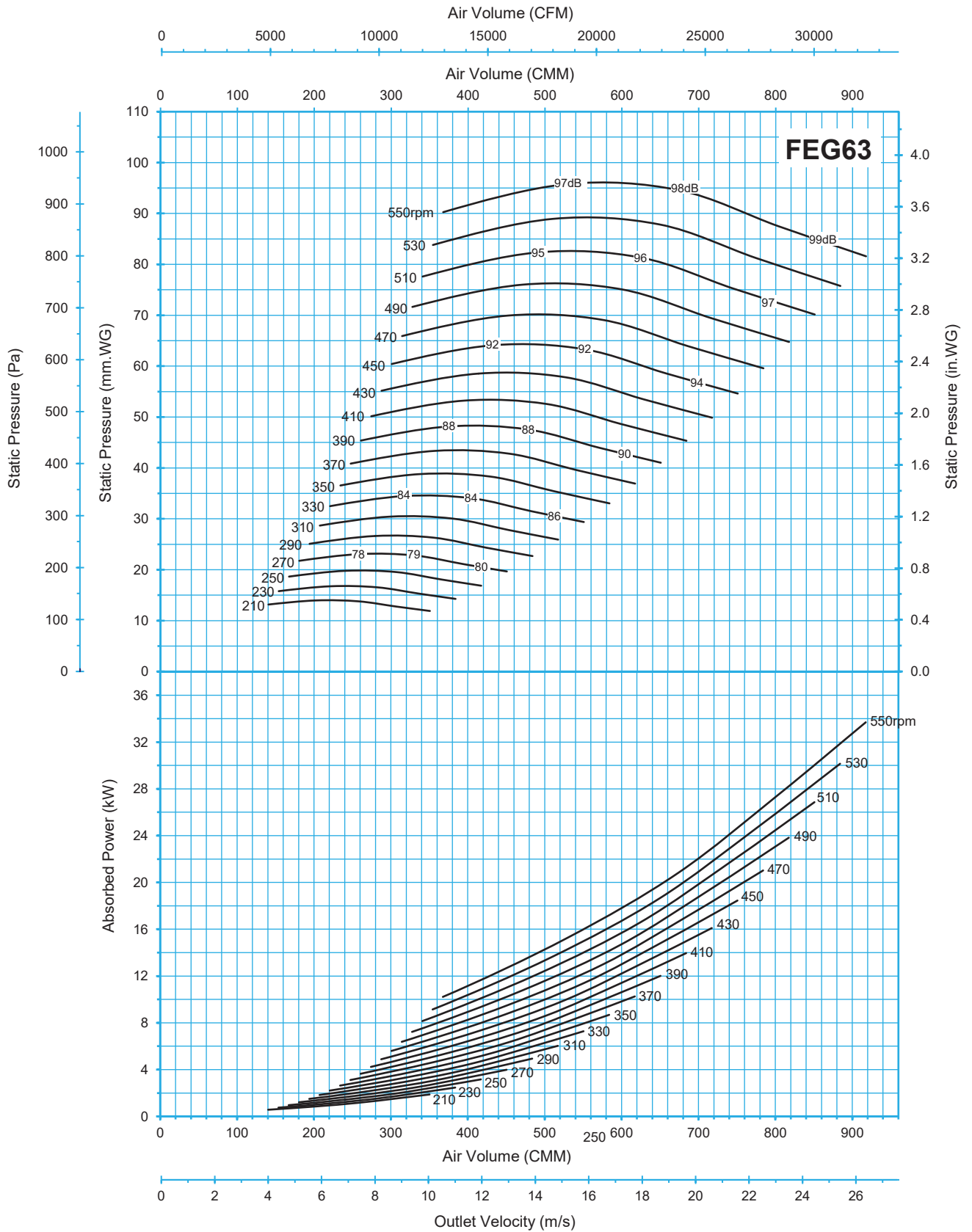


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0
Motor Weight (kg)	28	40	48	73	85	120	130	160	215	235	265
Fan Weight (kg)	390.0	390.0	390.0	390.0	390.0	390.0					
Total Weight (kg)	418.0	430.0	438.0	463.0	475.0	510.0					

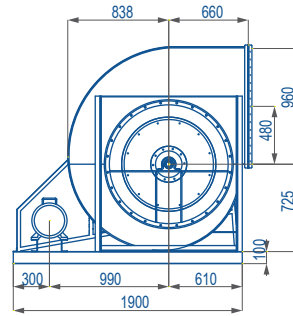
TF-33FCS

$\rho = 1.2\text{kg/m}^3$

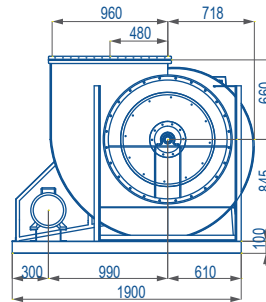
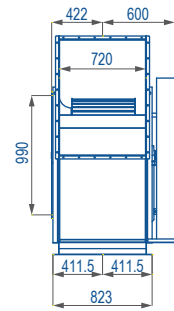


* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

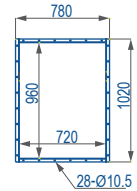
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



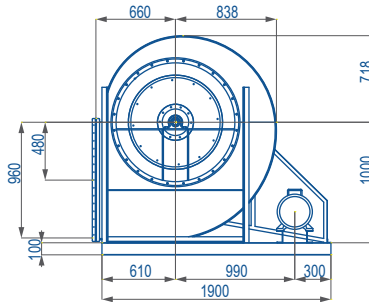
L1



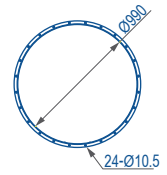
L2



FLANGE (OUTLET)



L3



FLANGE (INLET)

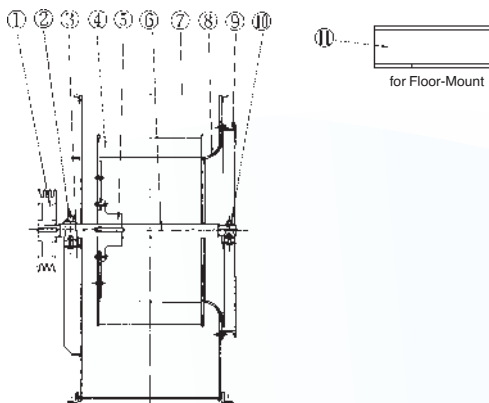
TF-36FCS

Forward Curved SWSI

- Wheel diameter = 942 mm.
- Outlet area = 0.691 sq.m.
- Tip speed (m/s) = 0.0483 x RPM
- Maximum B.kW = 3.7 kW
- Moment of inertia : $GD^2 = 40.0\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

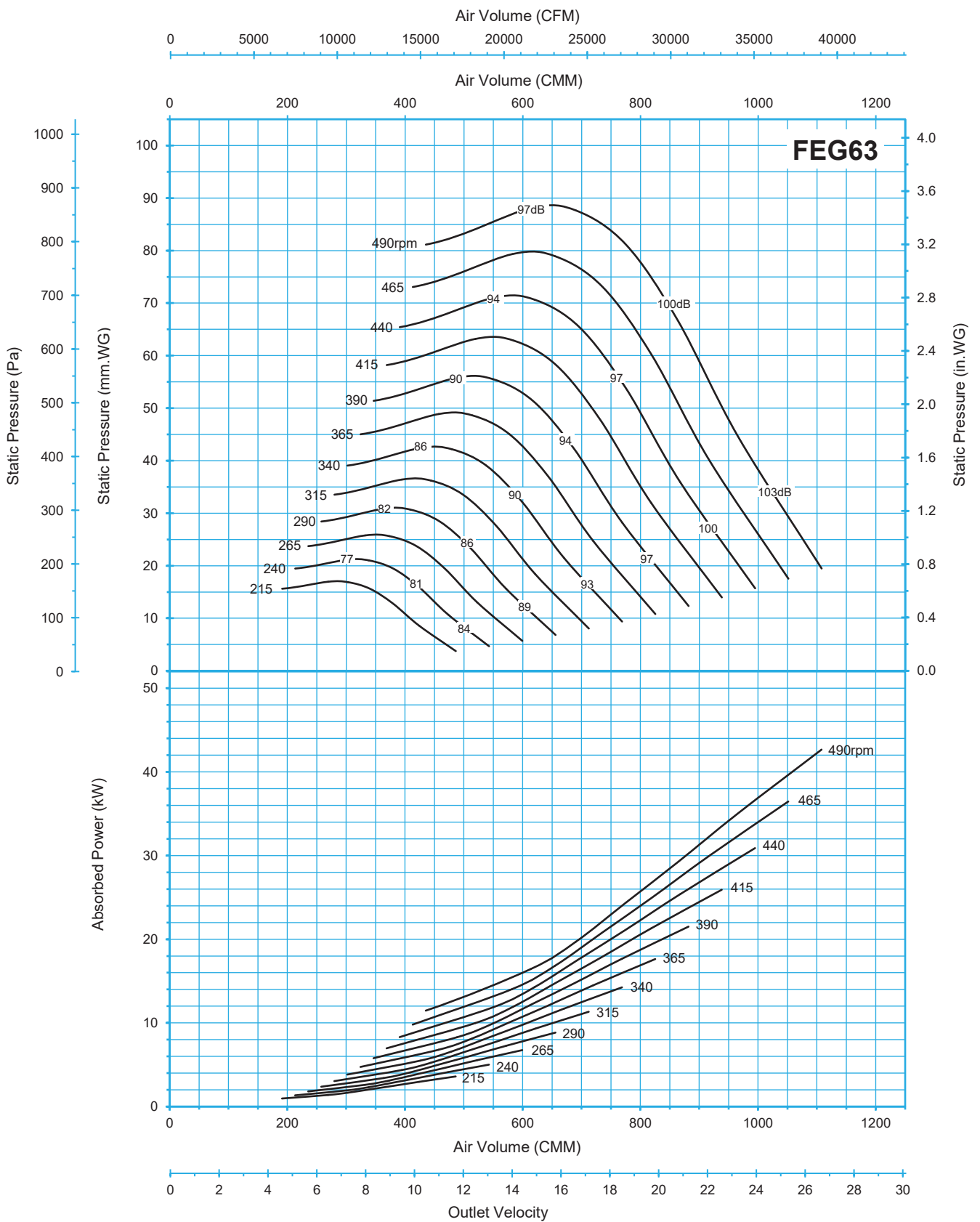


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

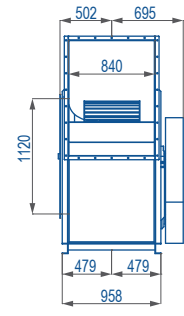
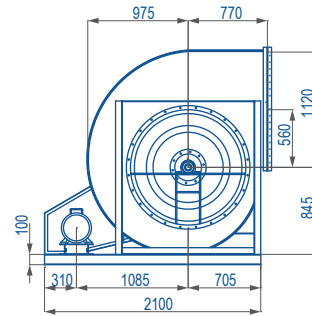
Motor (kW)	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0
Motor Weight (kg)	28	40	48	73	85	120	130	160	215	235	265
Fan Weight (kg)	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0
Total Weight (kg)	498.0	510.0	518.0	543.0	555.0	600.0	600.0	600.0	600.0	600.0	600.0

TF-36FCS

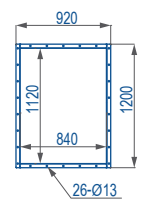
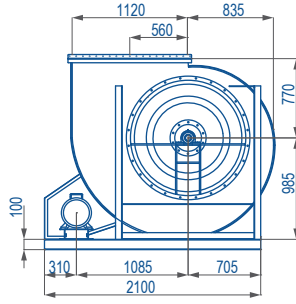
$\rho = 1.2\text{kg/m}^3$



* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet Lw/A sound power levels for installation type B: free inlet, ducted outlet.

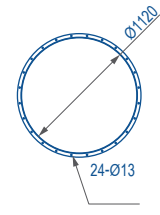
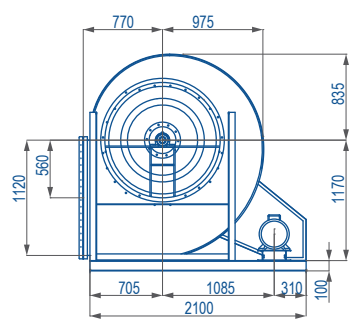


L1



L2

FLANGE (OUTLET)



L3

FLANGE (INLET)

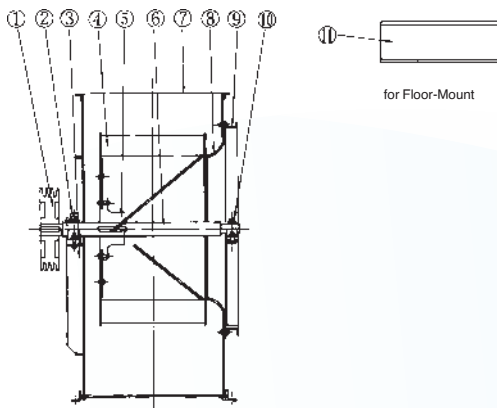


TF-42FCS

Forward Curved SWSI

- Wheel diameter = 1065 mm.
- Outlet area = 0.9408 sq.m.
- Tip speed (m/s) = 0.0558 x RPM
- Maximum B.kW = 5.5 kW
- Moment of inertia : $GD^2 = 80.0\text{kg}\cdot\text{m}^2$

Sectional drawing and materials

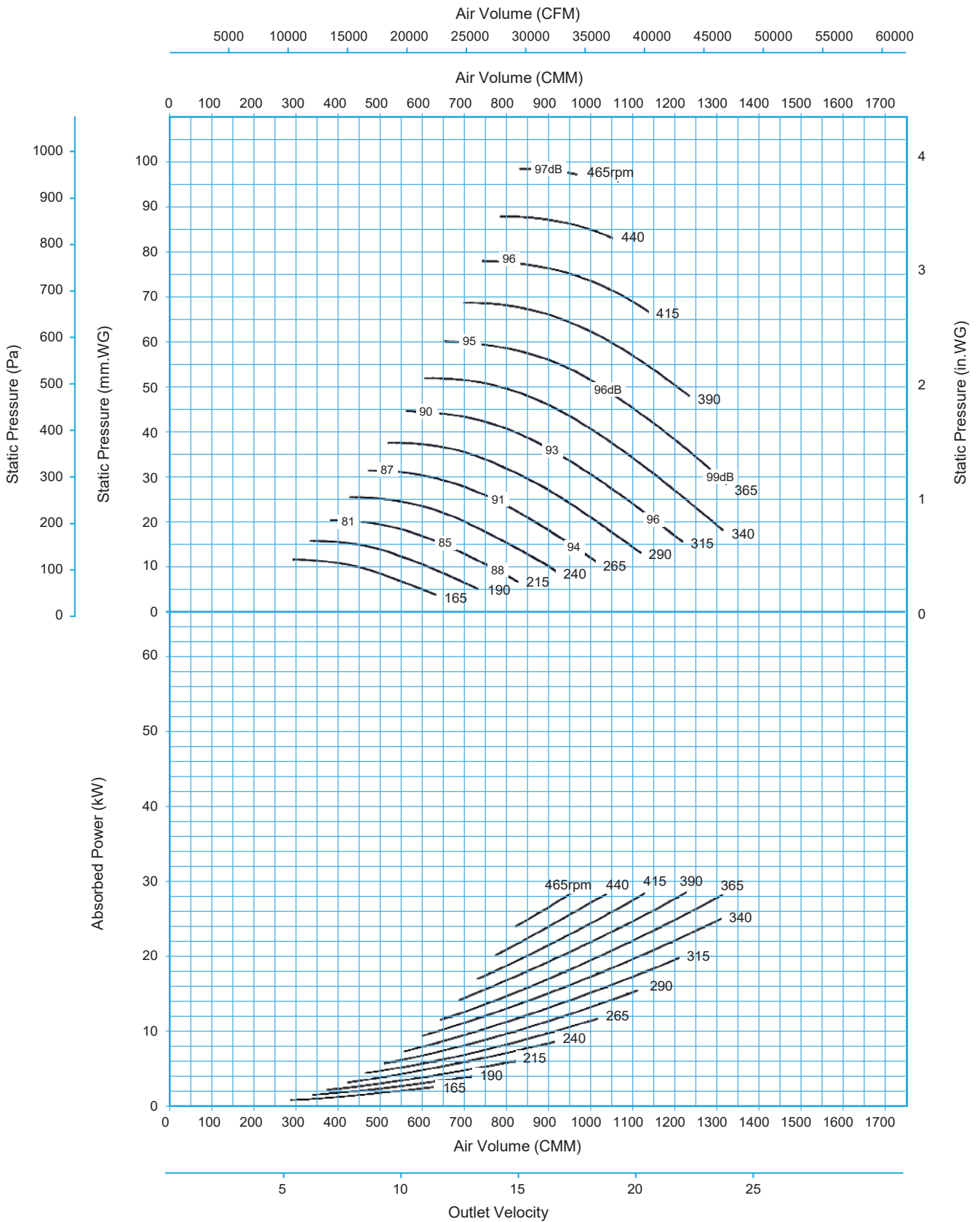


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

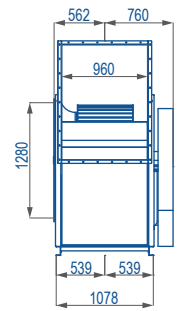
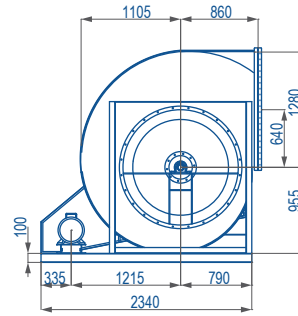
Motor (kW)	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0
Motor Weight (kg)	40	48	73	85	120	130	160	215	235	265	490
Fan Weight (kg)	710.0	710.0	710.0	710.0	710.0	710.0	710.0				
Total Weight (kg)	750.0	758.0	783.0	795.0	830.0	840.0	870.0				

TF-42FCS

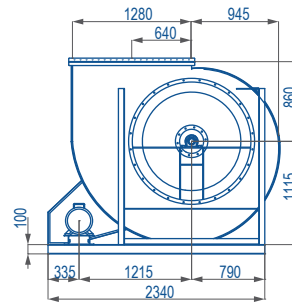
$\rho = 1.2\text{kg/m}^3$



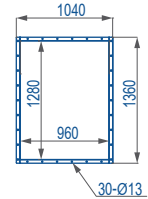
*Model TF-42FCS is not licensed to bear the AMCA certified seal.



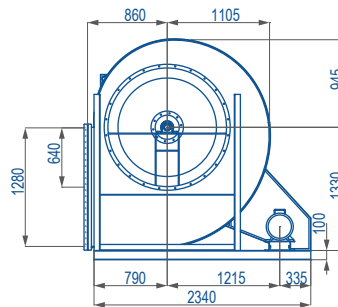
L1



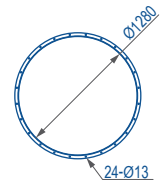
L2



FLANGE (OUTLET)



L3



FLANGE (INLET)

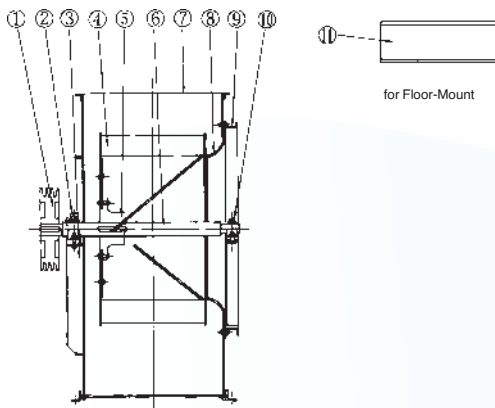
TF-48FCS

Forward Curved SWSI

- Wheel diameter = 1220 mm.
- Outlet area = 1.2288 sq.m.
- Tip speed (m/s) = 0.0639 x RPM
- Maximum B.kW = 5.5 kW
- Moment of inertia : $GD^2 = 150.0\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

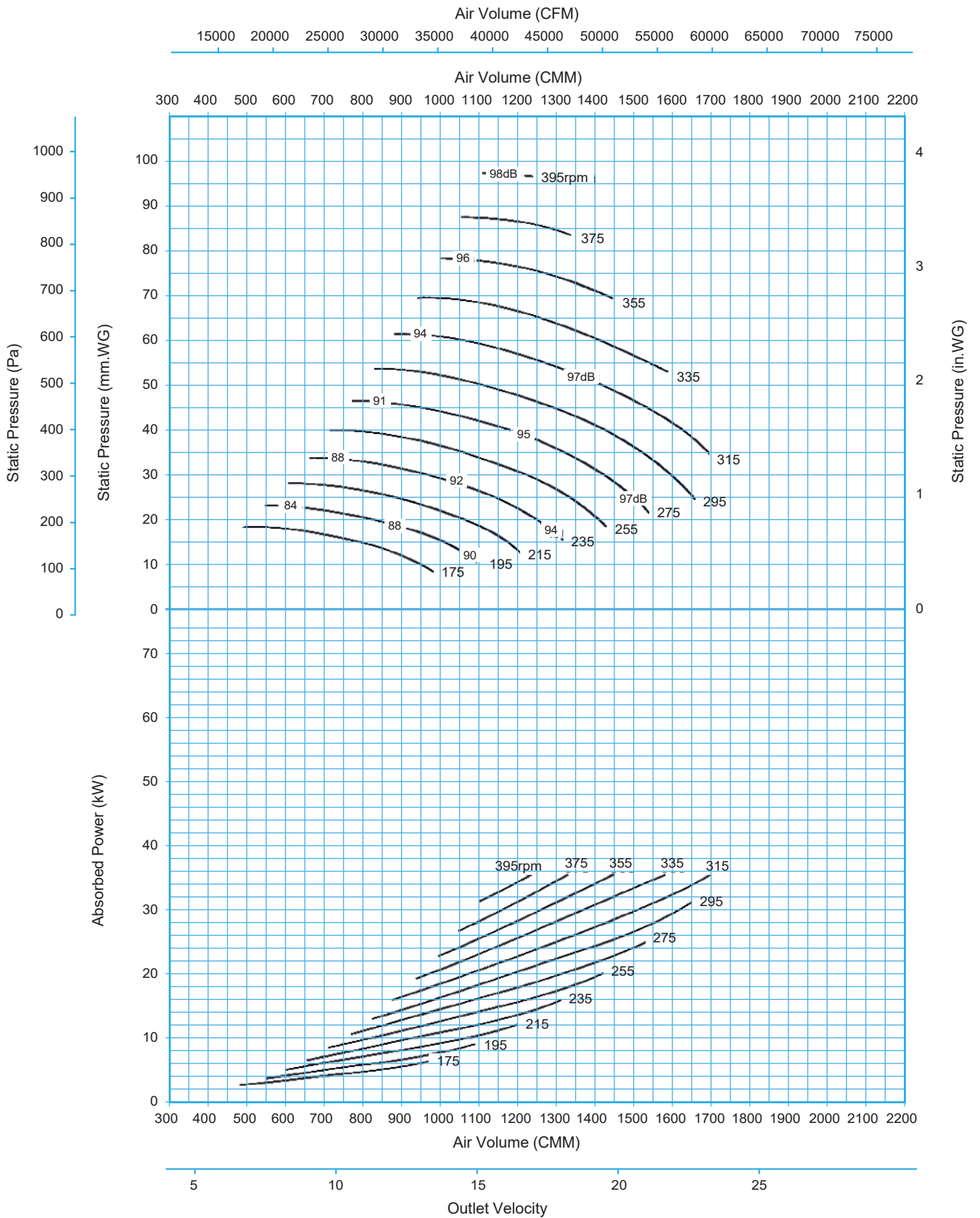


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0
Motor Weight (kg)	40	48	73	85	120	130	160	215	235	265	490
Fan Weight (kg)	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0			
Total Weight (kg)	900.0	908.0	933.0	945.0	980.0	990.0	1020.0	1075.0			

TF-48FCS

$\rho = 1.2\text{kg/m}^3$



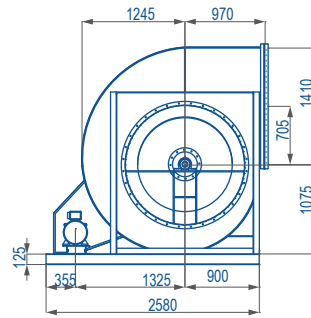
*Model TF-48FCS is not licensed to bear the AMCA certified seal.



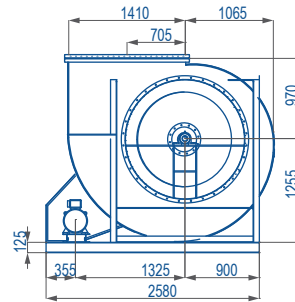
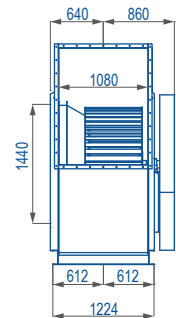
TF-54FCS

Forward Curved SWSI

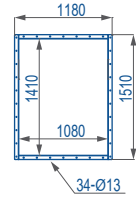
- Wheel diameter = 1370 mm.
- Outlet area = 1.5228 sq.m.
- Tip speed (m/s) = 0.0717 x RPM
- Maximum B.kW = 11 kW
- Moment of inertia : $GD^2 = 260.0\text{kg}\cdot\text{m}^2$



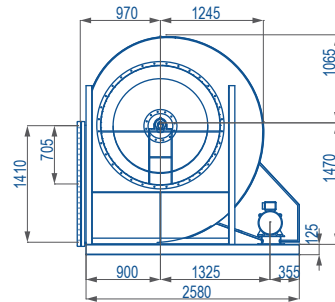
L1



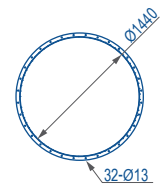
L2



FLANGE (OUTLET)



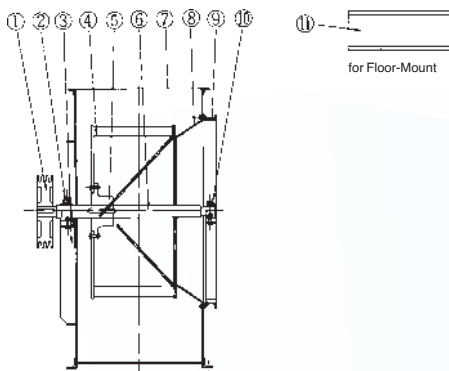
L3



FLANGE (INLET)



Sectional drawing and materials

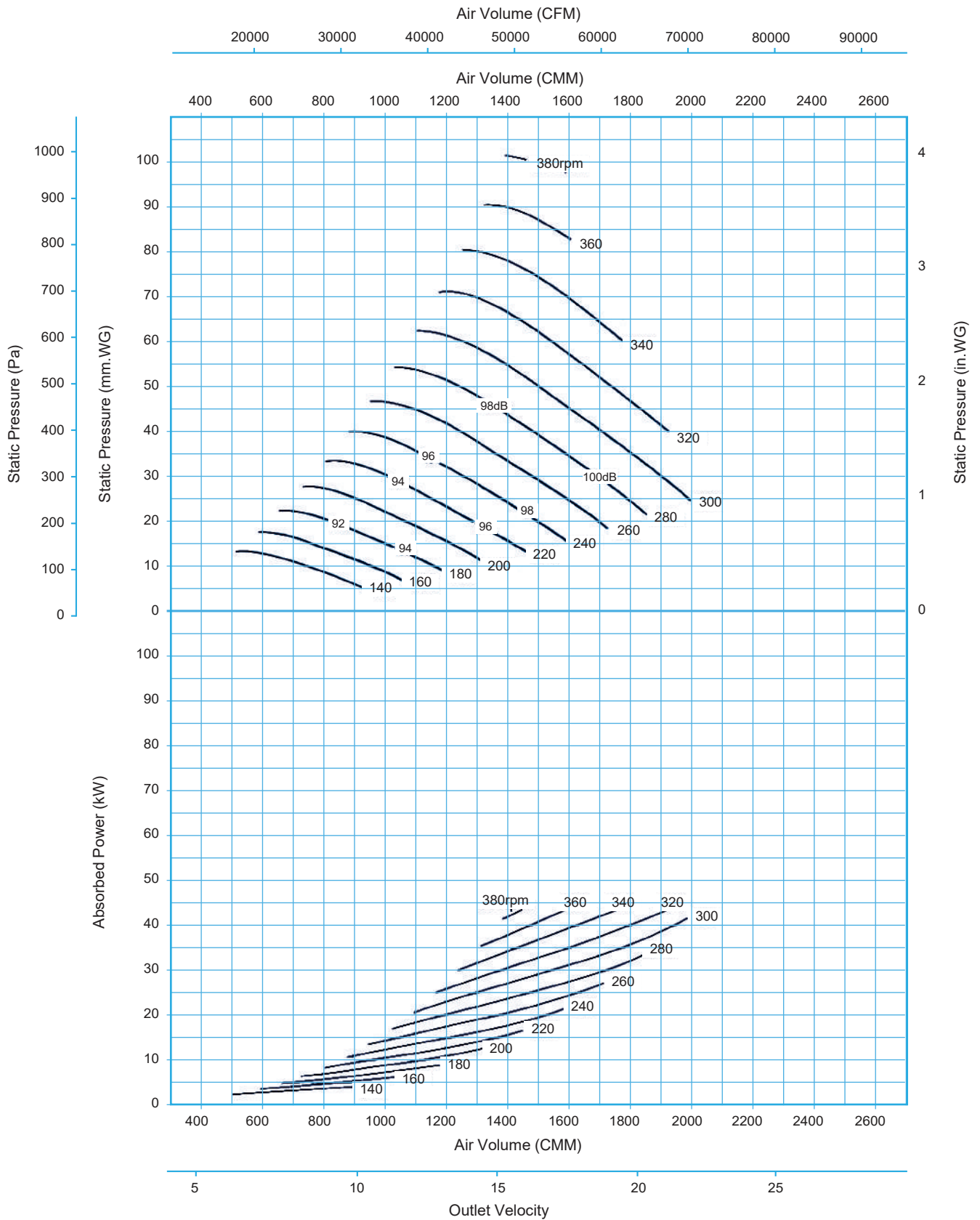


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0	110.0
Motor Weight (kg)	73	85	120	130	160	215	235	265	490	535	645
Fan Weight (kg)	1290.0	1290.0	1290.0	1290.0	1290.0	1290.0	1290.0	1290.0	1290.0	1290.0	1290.0
Total Weight (kg)	1363.0	1375.0	1410.0	1420.0	1450.0	1505.0	1525.0	1525.0	1525.0	1525.0	1525.0

TF-54FCS

$\rho = 1.2\text{kg/m}^3$

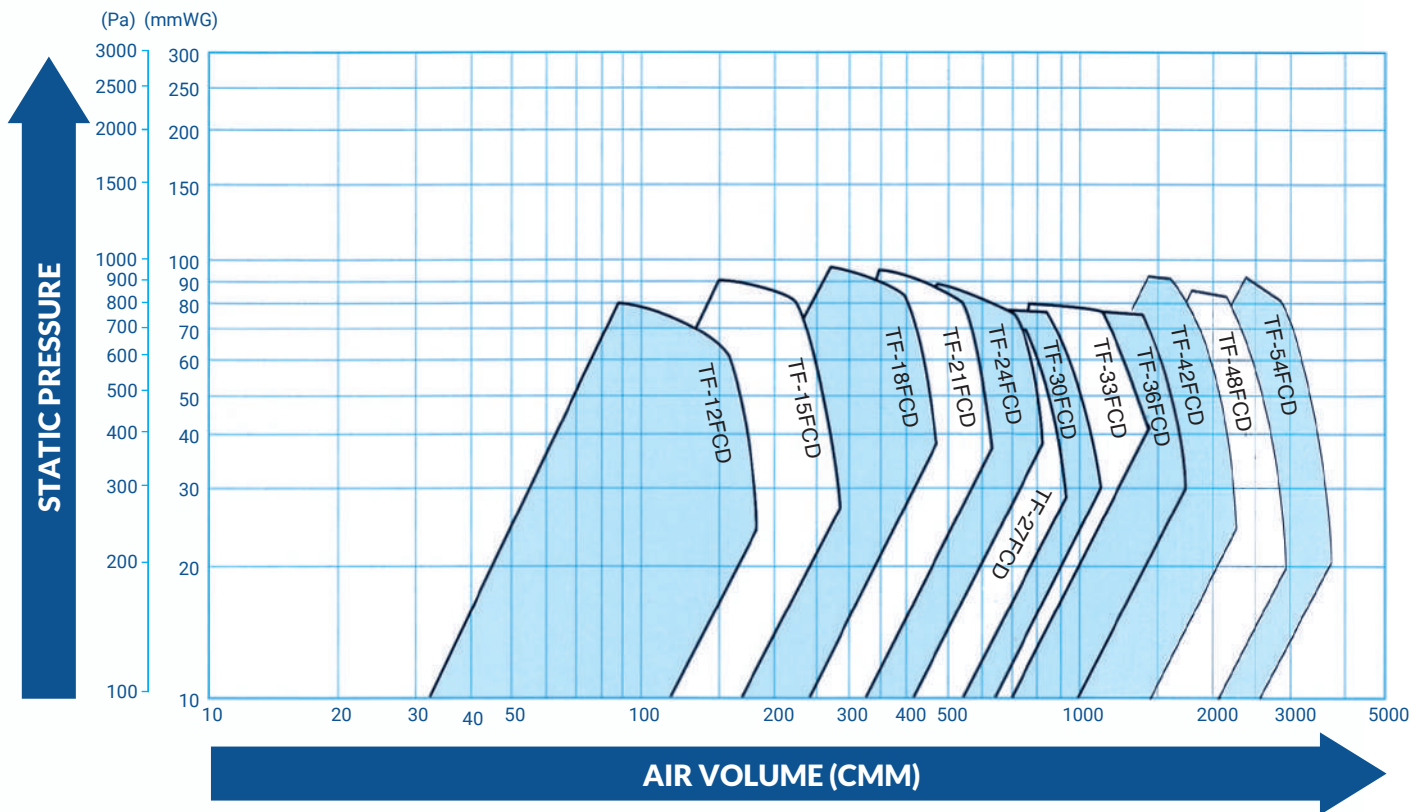


*Model TF-54FCS is not licensed to bear the AMCA certified seal.

Forward Curved Multi-Blade Fans Double Width Double Inlet (DWDI)

AIR PERFORMANCE DATA

SELECTION CHART

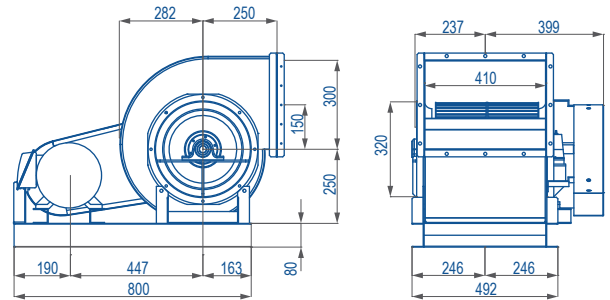


AVAILABLE MODELS

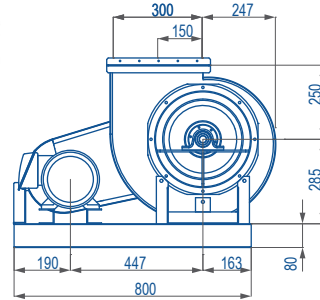
Model	Wheel Diameter		Approx. Weight of Fan & Housing (kg.)	Approx. Air Volume	
	mm.	inch		CMH	CFM
TF-12FCD	302	12	85	6,642	3,908
TF-15FCD	382	15	110	10,566	6,218
TF-18FCD	464	18	160	16,980	9,993
TF-21FCD	529.6	21	230	22,380	13,171
TF-24FCD	621.6	24	300	29,550	17,390
TF-27FCD	686	27	420	36,744	21,624
TF-30FCD	762	30	500	45,144	26,567
TF-33FCD	838	33	620	54,648	32,160
TF-36FCD	915	36	730	65,838	38,746
TF-42FCD	1,065	42	1,120	84,066	49,473
TF-48FCD	1,220	48	1,400	109,902	64,677
TF-54FCD	1,370	54	2,050	149,994	88,271

The approximate air volume is measured at air velocity of 15 m/s.

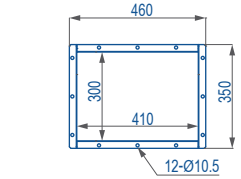
The approximate weight of fan & housing (kg.) includes common base, motor base and belt cover.



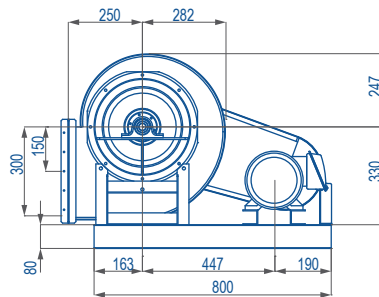
L1



L2



FLANGE (OUTLET)



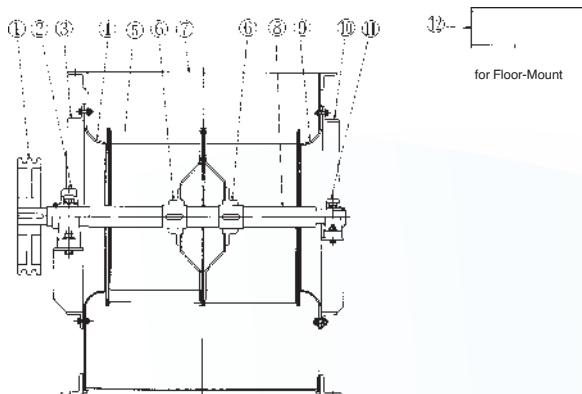
L3

TF-12FCD

Forward Curved DWDI

- Wheel diameter = 302 mm.
- Outlet area = 0.123 sq.m.
- Tip speed (m/s) = 0.0158 x RPM
- Minimum motor size = 0.75 kW
- Moment of inertia : $GD^2 = 0.5\text{kg}\cdot\text{m}^2$

Sectional drawing and materials

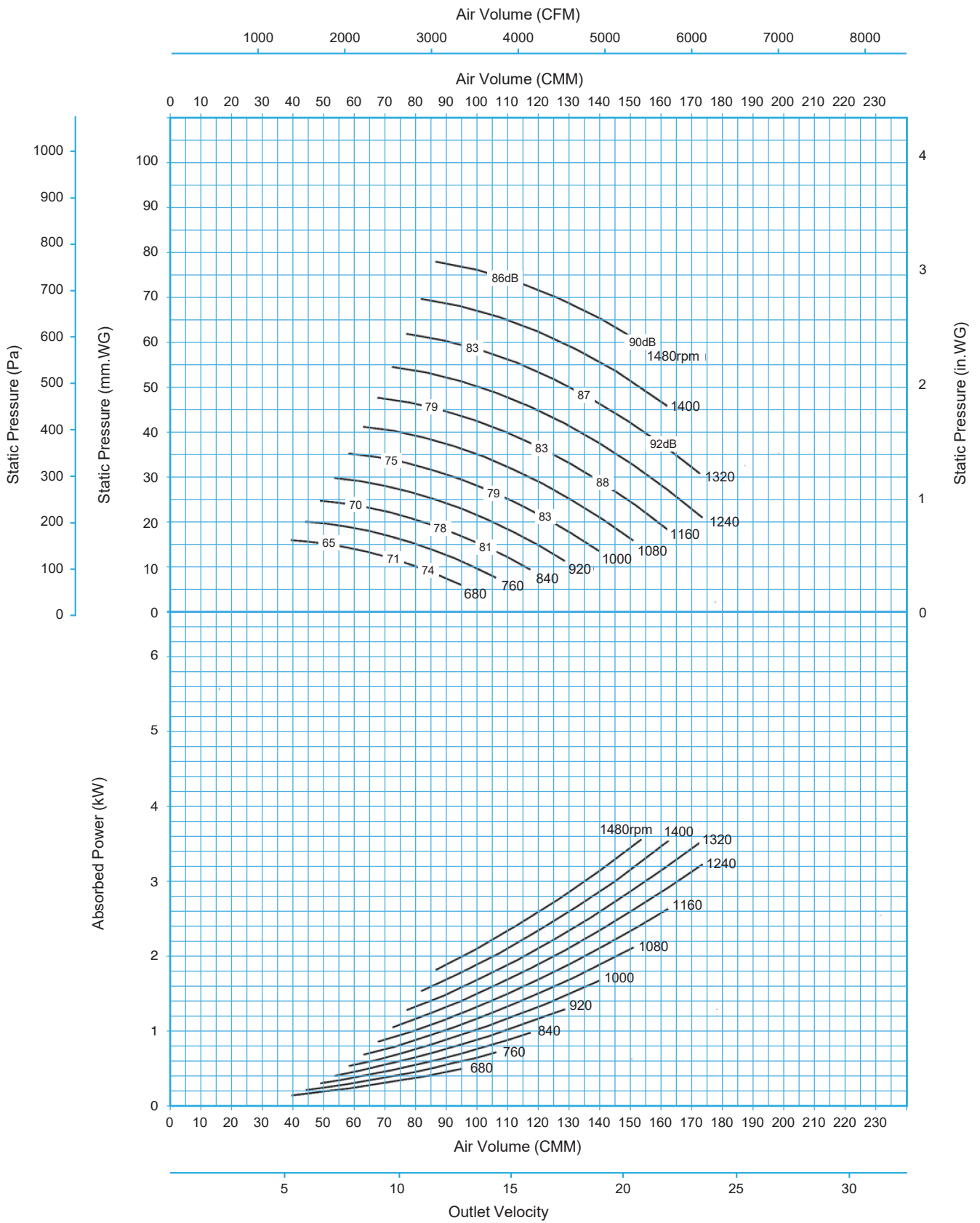


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Carbon steel C45
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

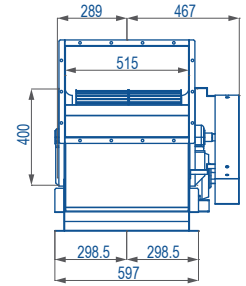
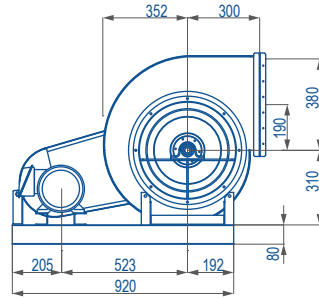
Motor (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0
Motor Weight (kg)	12.5	16	21	28	40	48	73	85	120	130	160
Fan Weight (kg)	81.0	81.0	81.0	81.0							
Total Weight (kg)	93.5	97.0	102.0	109.0							

TF-12FCD

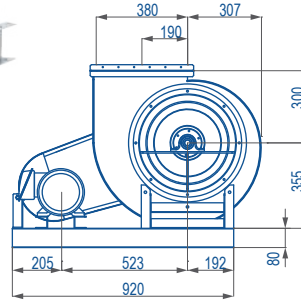
$\rho = 1.2\text{kg/m}^3$



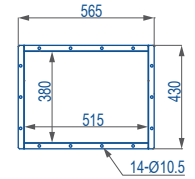
*Model TF-12FCD is not licensed to bear the AMCA certified seal.



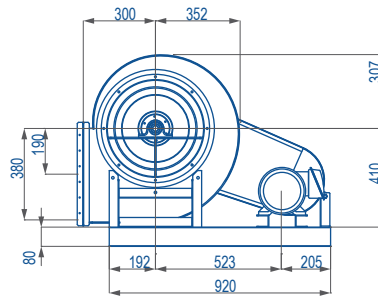
L1



L2



FLANGE (OUTLET)



L3

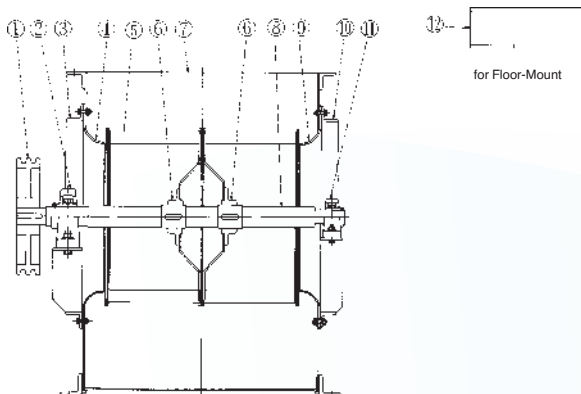
TF-15FCD

Forward Curved DWDI

- Wheel diameter = 382 mm.
- Outlet area = 0.1957 sq.m.
- Tip speed (m/s) = 0.0200 x RPM
- Minimum motor size = 0.75 kW
- Moment of inertia : $GD^2 = 1.2\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

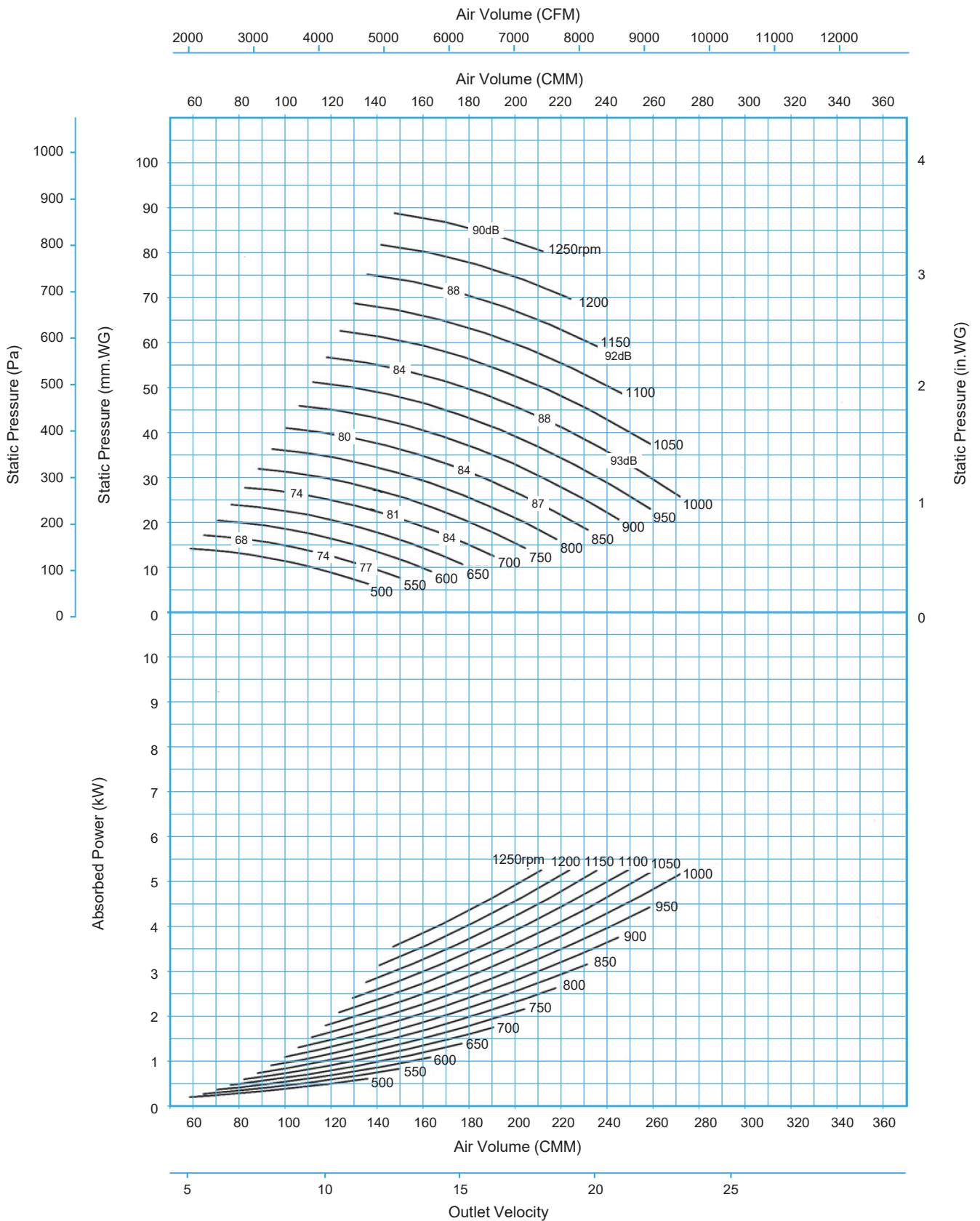


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Carbon steel C45
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

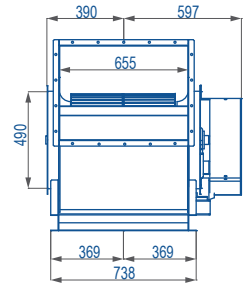
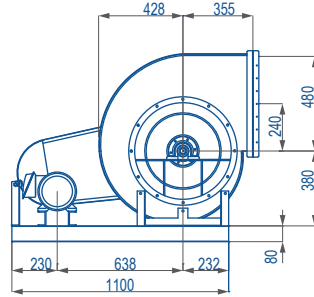
Motor (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0
Motor Weight (kg)	12.5	16	21	28	40	48	73	85	120	130	160
Fan Weight (kg)	105.0	105.0	105.0	105.0	105.0						
Total Weight (kg)	117.5	121.0	126.0	133.0	145.0						

TF-15FCD

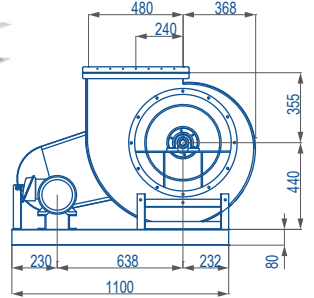
$\rho = 1.2\text{kg/m}^3$



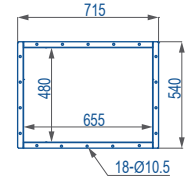
* Model TF-15FCD is not licensed to bear the AMCA certified seal.



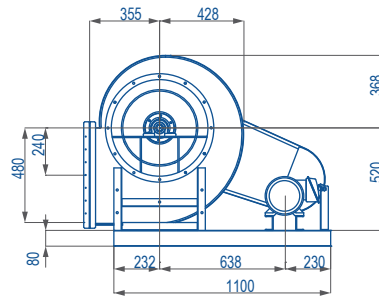
L1



L2



FLANGE (OUTLET)



L3

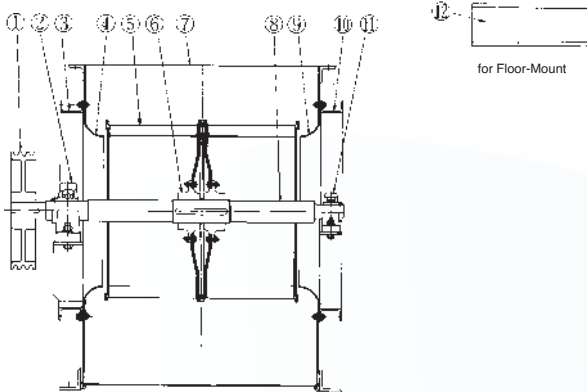
TF-18FCD

Forward Curved DWDI

- Wheel diameter = 464 mm.
- Outlet area = 0.3144 sq.m.
- Tip speed (m/s) = 0.0243 x RPM
- Minimum motor size = 1.5 kW
- Moment of inertia : $GD^2 = 5.0\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

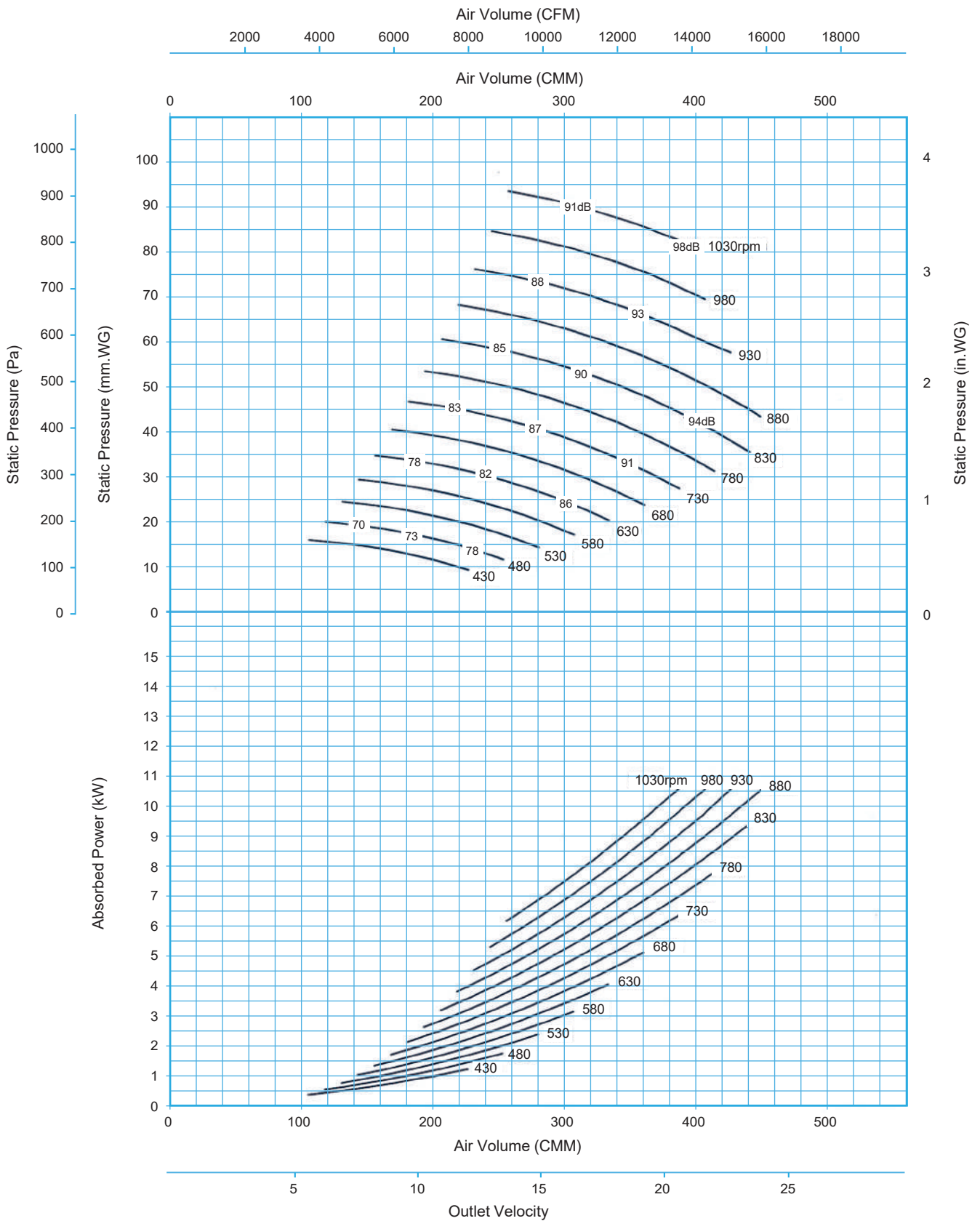


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Carbon steel C45
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

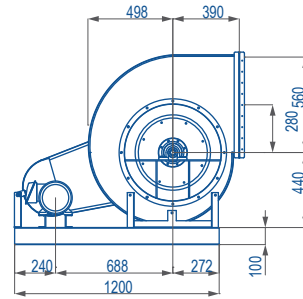
Motor (kW)	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0
Motor Weight (kg)	16	21	28	40	48	73	85	120	130	160	215
Fan Weight (kg)	155.0	155.0	155.0	155.0	155.0						
Total Weight (kg)	171.0	176.0	183.0	203.0	228.0						

TF-18FCD

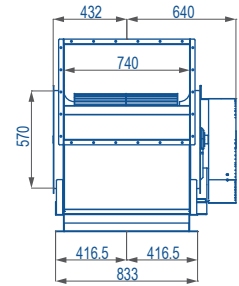
$\rho = 1.2\text{kg/m}^3$



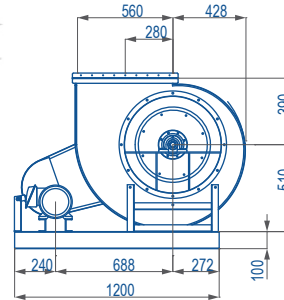
* Model TF-18FCD is not licensed to bear the AMCA certified seal.



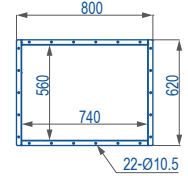
L1



FLANGE (OUTLET)



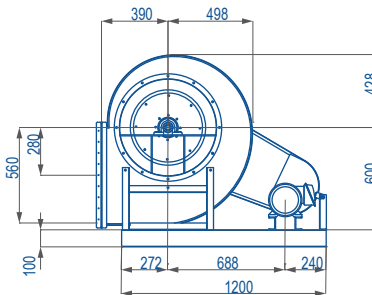
L2



TF-21FCD

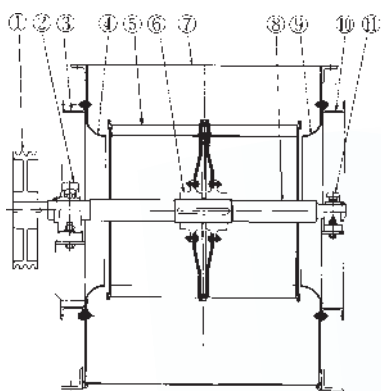
Forward Curved DWDI

- Wheel diameter = 530 mm.
- Outlet area = 0.4144 sq.m.
- Tip speed (m/s) = 0.0277 x RPM
- Minimum motor size = 2.2 kW
- Moment of inertia : $GD^2 = 7.0\text{kg}\cdot\text{m}^2$



L3

Sectional drawing and materials

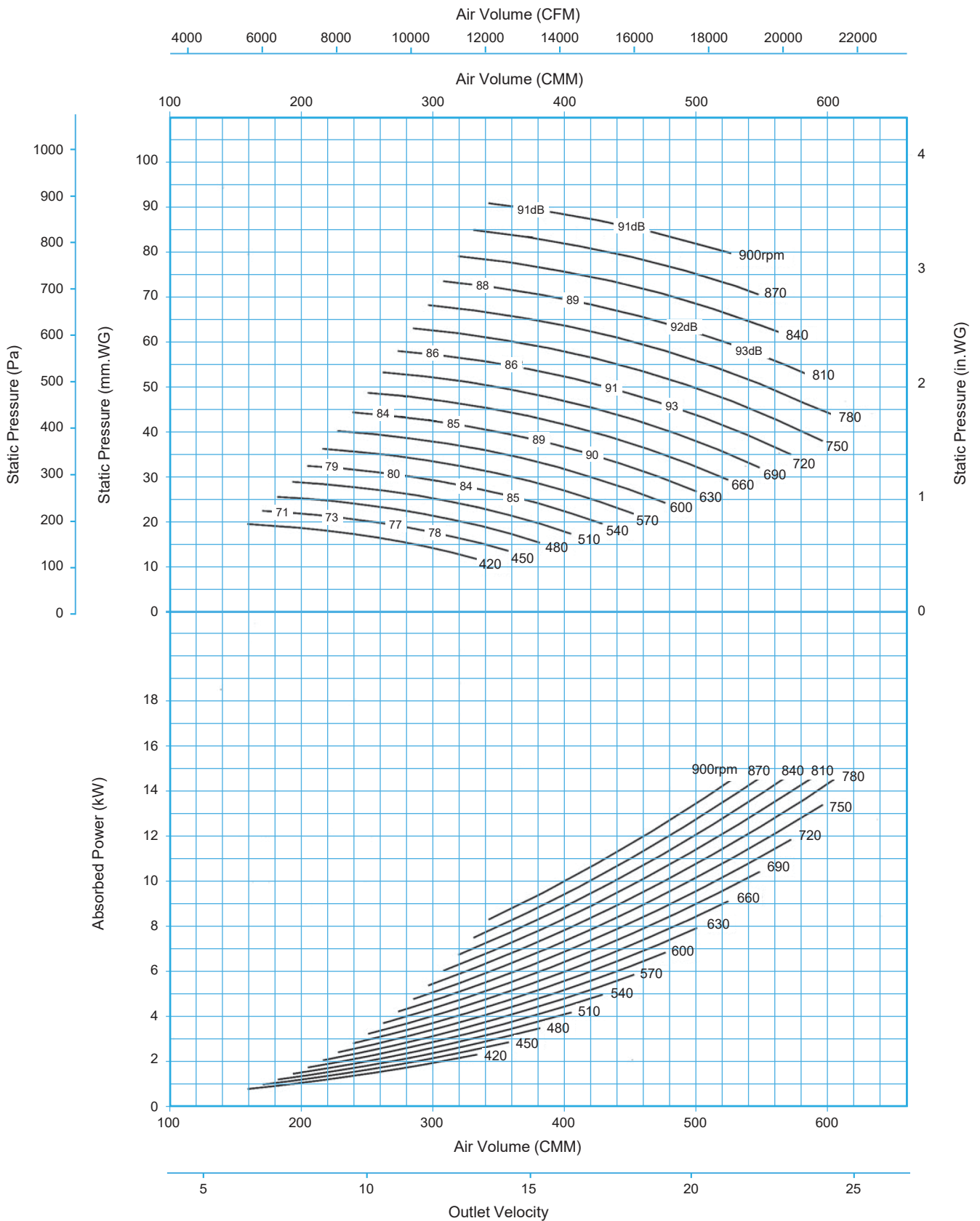


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Carbon steel C45
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

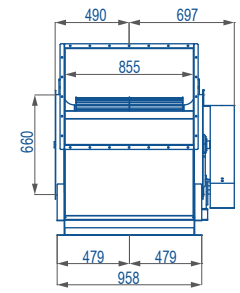
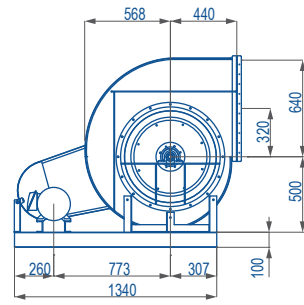
Motor (kW)	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0
Motor Weight (kg)	21	28	40	48	73	85	120	130	160	215	235
Fan Weight (kg)	220.0	220.0	220.0	220.0	220.0	220.0					
Total Weight (kg)	241.0	248.0	260.0	268.0	293.0	305.0					

TF-21FCD

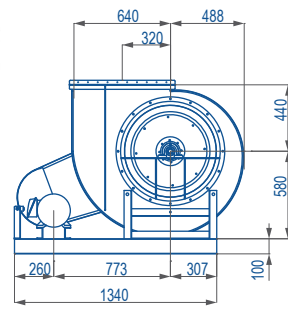
$\rho = 1.2\text{kg/m}^3$



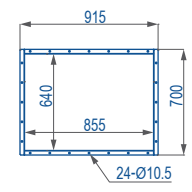
* Model TF-21FCD is not licensed to bear the AMCA certified seal.



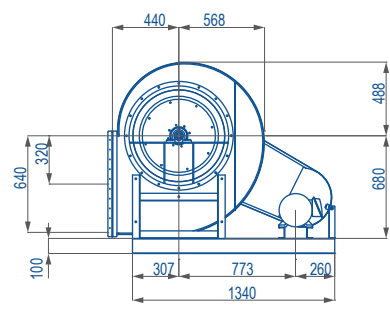
L1



L2



FLANGE (OUTLET)



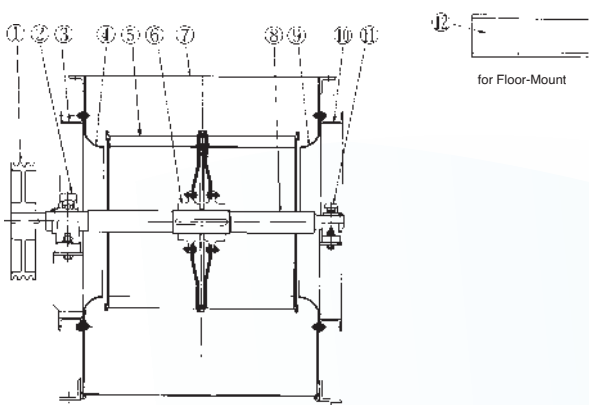
L3

TF-24FCD

Forward Curved DWDI

- Wheel diameter = 622 mm.
- Outlet area = 0.5472 sq.m.
- Tip speed (m/s) = 0.0325 x RPM
- Minimum motor size = 3.7 kW
- Moment of inertia : $GD^2 = 14.0\text{kg}\cdot\text{m}^2$

Sectional drawing and materials

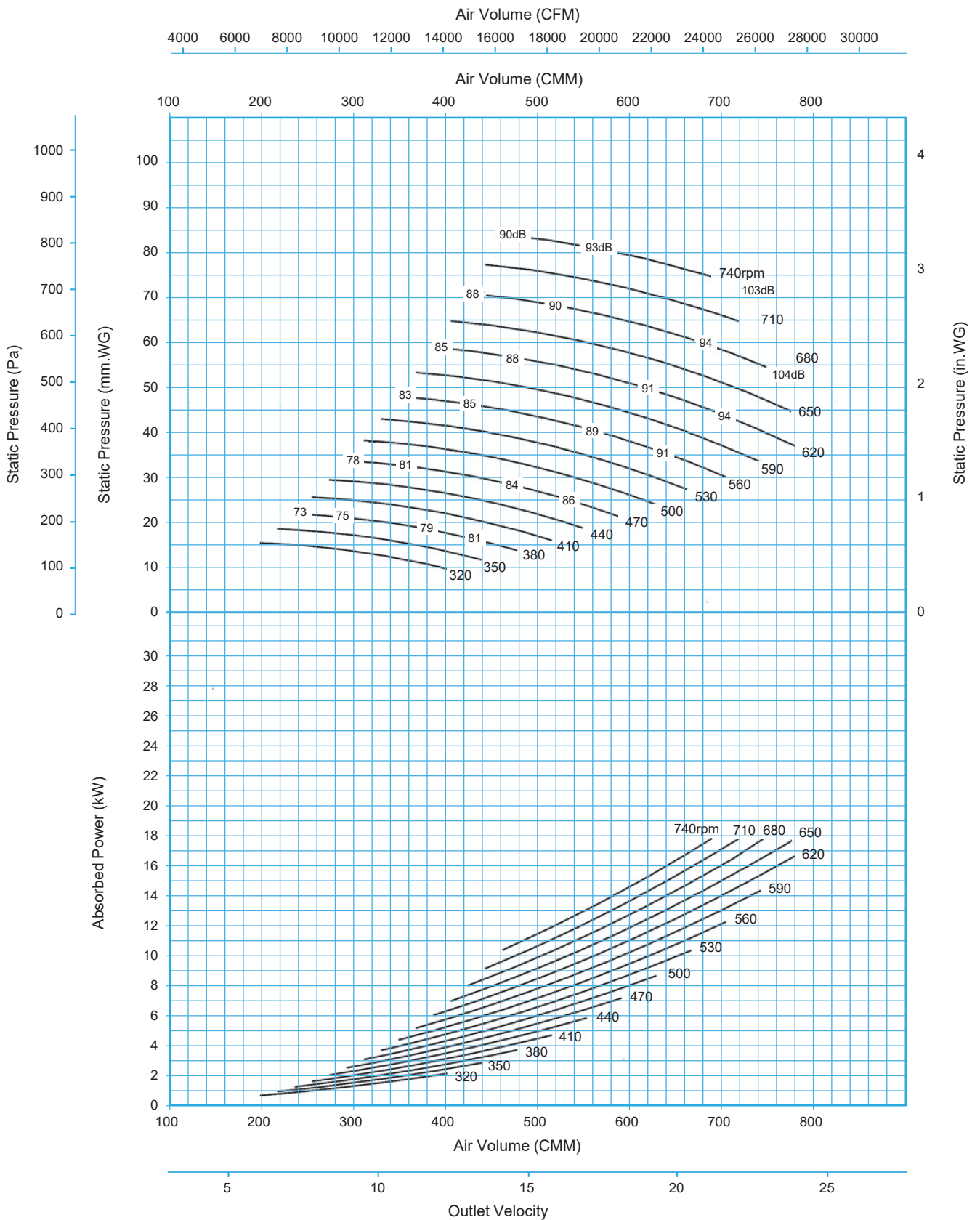


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Carbon steel C45
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

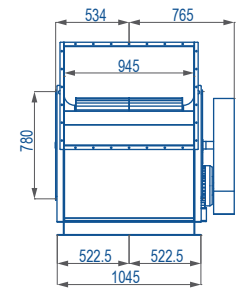
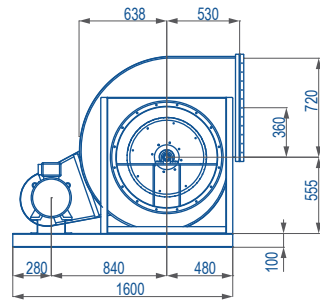
Motor (kW)	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0
Motor Weight (kg)	28	40	48	73	85	120	130	160	215	235	265
Fan Weight (kg)	290.0	290.0	290.0	290.0	290.0	290.0					
Total Weight (kg)	318.0	330.0	338.0	363.0	375.0	410.0					

TF-24FCD

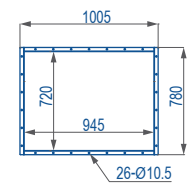
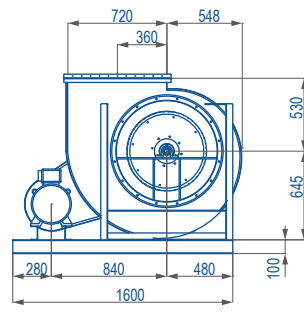
$\rho = 1.2\text{kg/m}^3$



* Model TF-24FCD is not licensed to bear the AMCA certified seal.

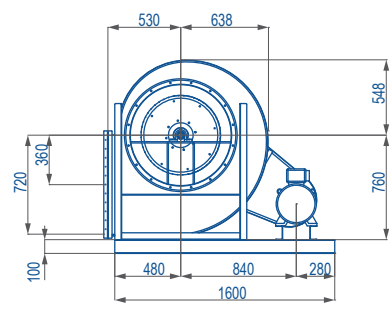


L1



L2

FLANGE (OUTLET)



L3

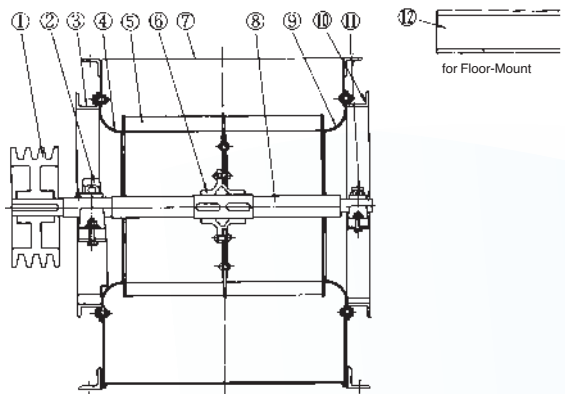
TF-27FCD

Forward Curved DWI

- Wheel diameter = 686 mm.
- Outlet area = 0.6804 sq.m.
- Tip speed (m/s) = 0.0359 x RPM
- Minimum motor size = 3.7 kW
- Moment of inertia : $GD^2 = 24.0\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

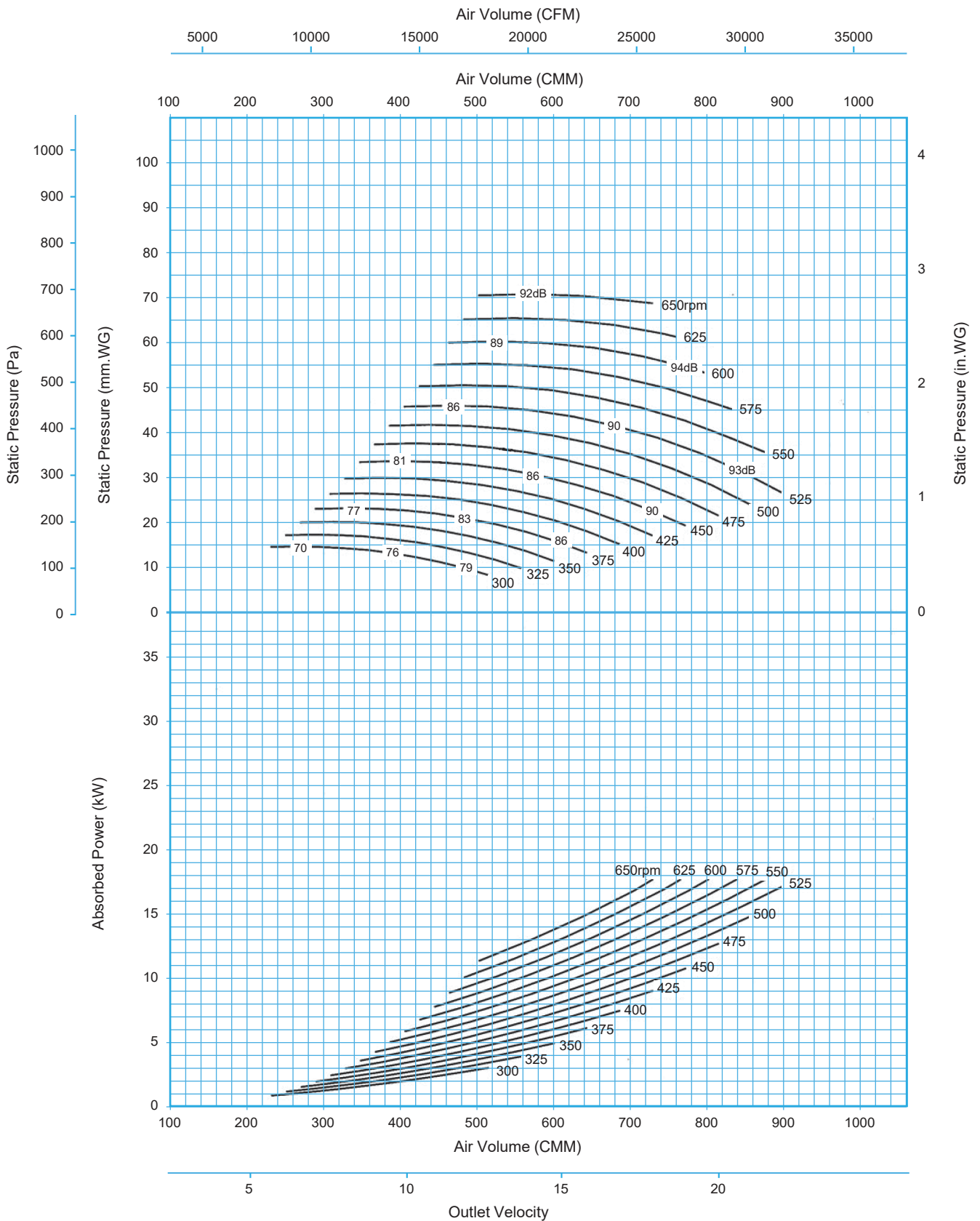


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Carbon steel C45
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

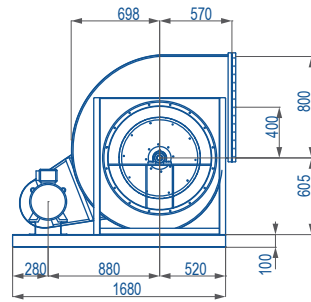
Motor (kW)	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0
Motor Weight (kg)	28	40	48	73	85	120	130	160	215	235	265
Fan Weight (kg)	400.0	400.0	400.0	400.0	400.0	400.0	400.0				
Total Weight (kg)	428.0	440.0	448.0	473.0	485.0	520.0	530.0				

TF-27FCD

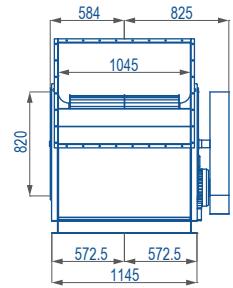
$\rho = 1.2\text{kg/m}^3$



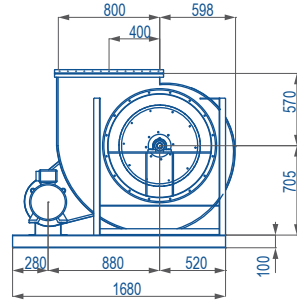
* Model TF-27FCD is not licensed to bear the AMCA certified seal.



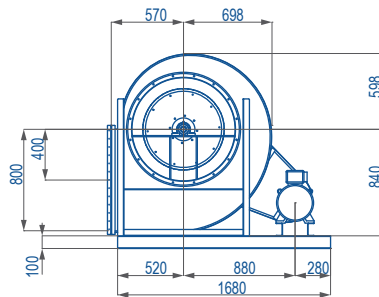
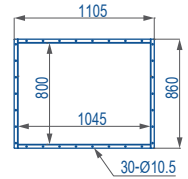
L1



FLANGE (OUTLET)



L2



L3

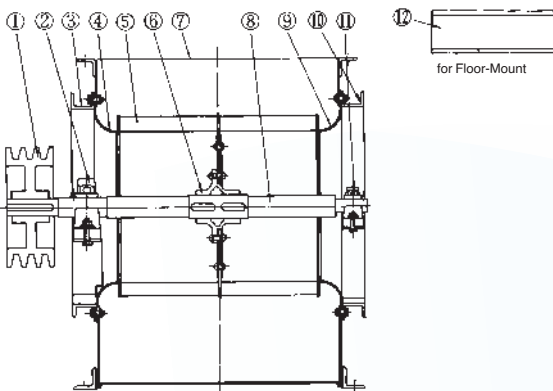
TF-30FCD

Forward Curved DWI

- Wheel diameter = 762 mm.
- Outlet area = 0.836 sq.m.
- Tip speed (m/s) = 0.0399 x RPM
- Minimum motor size = 5.5 kW
- Moment of inertia : $GD^2 = 34.0\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

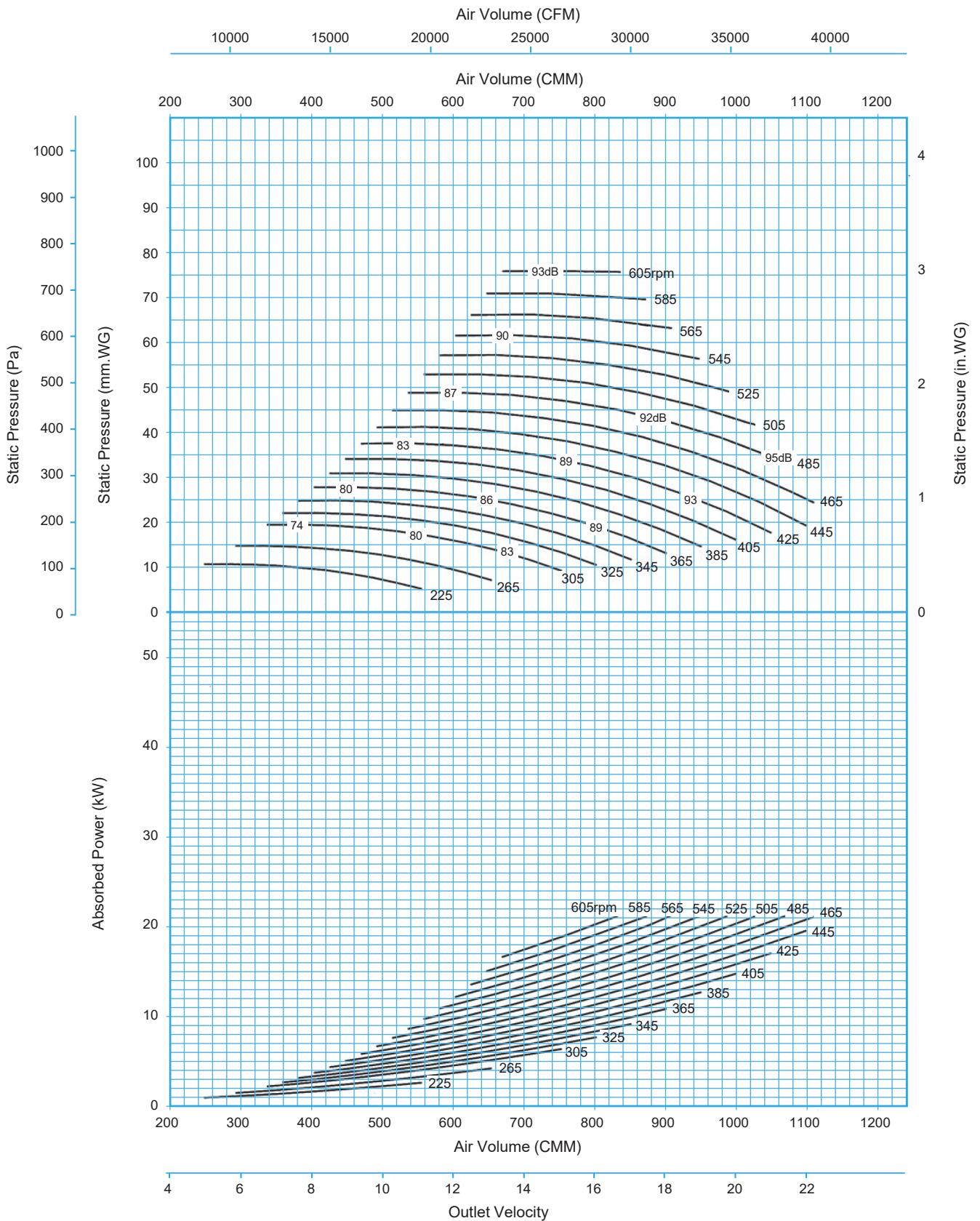


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Carbon steel C45
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

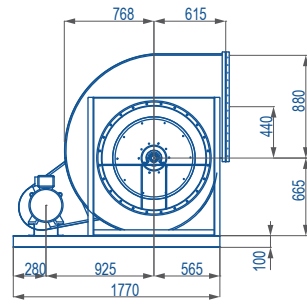
Motor (kW)	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0
Motor Weight (kg)	40	48	73	85	120	130	160	215	235	265	490
Fan Weight (kg)	480.0	480.0	480.0	480.0	480.0	480.0	480.0				
Total Weight (kg)	520.0	528.0	553.0	565.0	600.0	610.0	640.0				

TF-30FCD

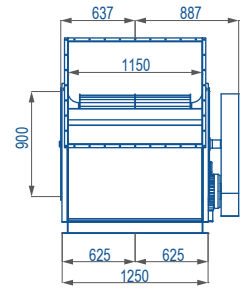
$\rho = 1.2\text{kg/m}^3$



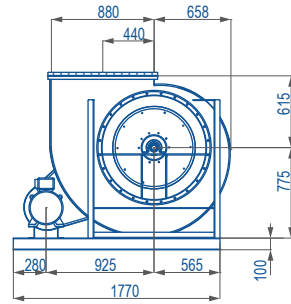
* Model TF-30FCD is not licensed to bear the AMCA certified seal.



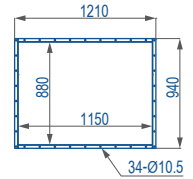
L1



FLANGE (OUTLET)



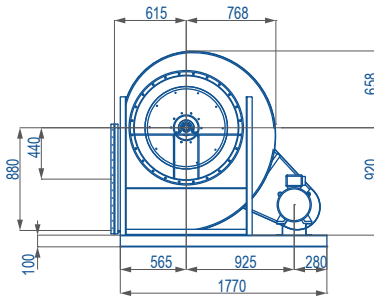
L2



TF-33FCD

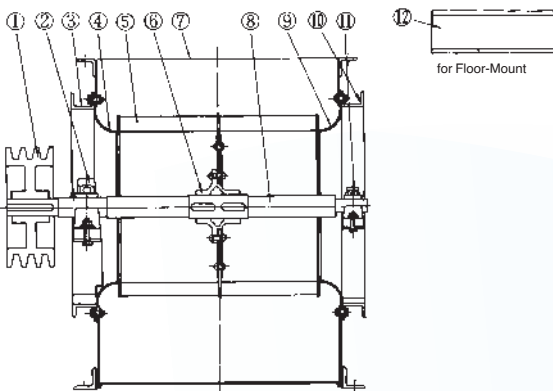
Forward Curved DWDI

- Wheel diameter = 838 mm.
- Outlet area = 1.012 sq.m.
- Tip speed (m/s) = 0.0439 x RPM
- Minimum motor size = 5.5 kW
- Moment of inertia : $GD^2 = 52.0\text{kg}\cdot\text{m}^2$



L3

Sectional drawing and materials

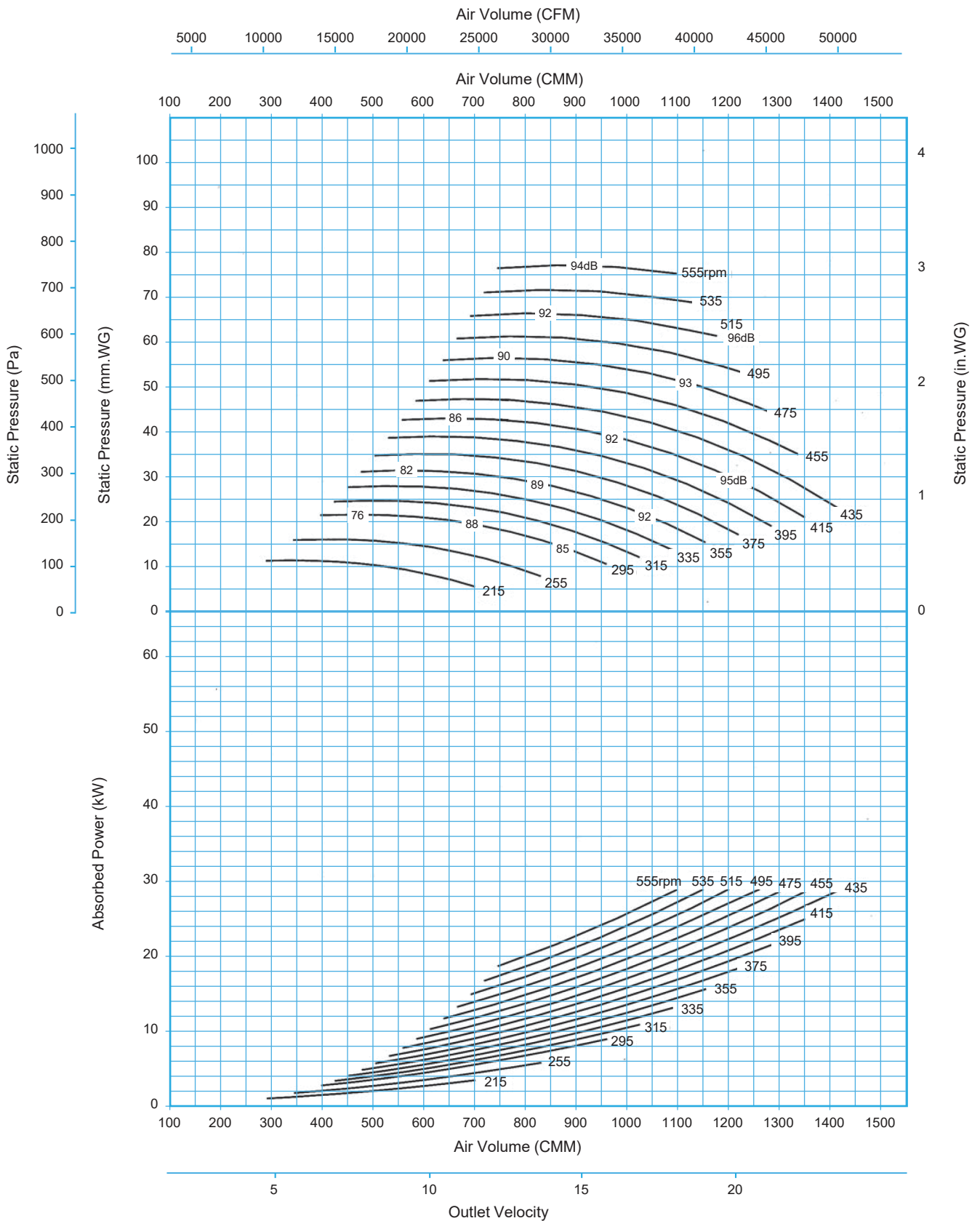


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Carbon steel C45
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

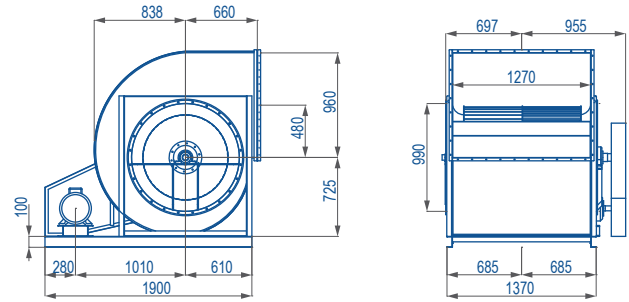
Motor (kW)	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0
Motor Weight (kg)	40	48	73	85	120	130	160	215	235	265	490
Fan Weight (kg)	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0
Total Weight (kg)	640.0	648.0	673.0	685.0	720.0	730.0	760.0	815.0	815.0	815.0	815.0

TF-33FCD

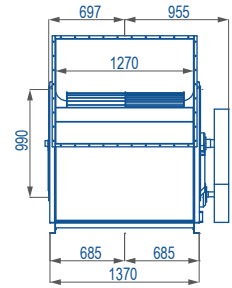
$\rho = 1.2\text{kg/m}^3$



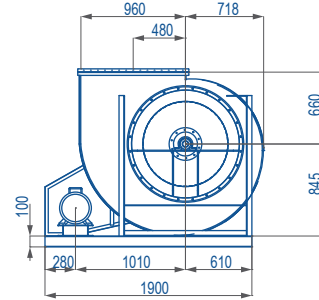
* Model TF-33FCD is not licensed to bear the AMCA certified seal.



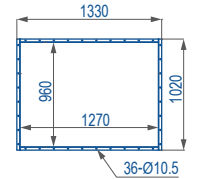
L1



FLANGE (OUTLET)



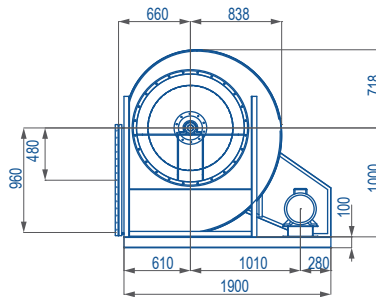
L2



TF-36FCD

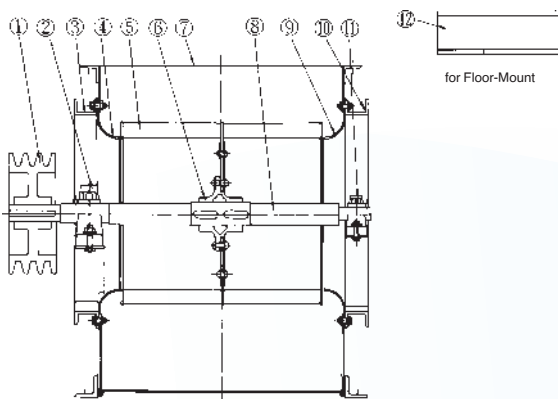
Forward Curved DWI

- Wheel diameter = 923 mm.
- Outlet area = 1.2192 sq.m.
- Tip speed (m/s) = 0.0483 x RPM
- Minimum motor size = 7.5 kW
- Moment of inertia : $GD^2 = 80.0\text{kg}\cdot\text{m}^2$



L3

Sectional drawing and materials

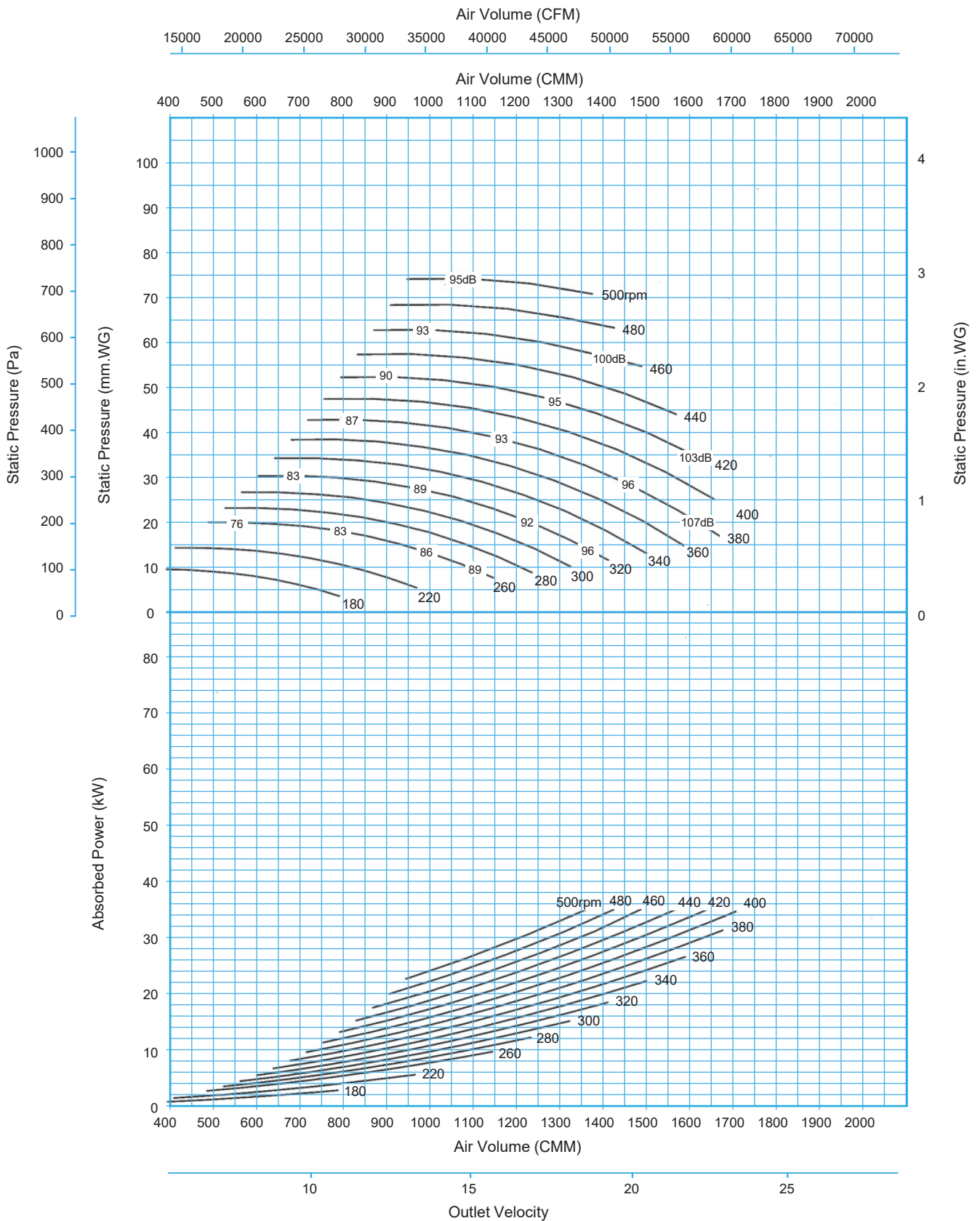


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Carbon steel C45
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

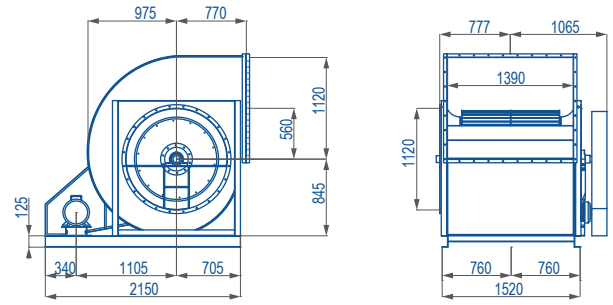
Motor (kW)	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0
Motor Weight (kg)	48	73	85	120	130	160	215	235	265	490	535
Fan Weight (kg)	700.0	700.0	700.0	700.0	700.0	700.0	700.0				
Total Weight (kg)	748.0	773.0	785.0	820.0	830.0	860.0	915.0				

TF-36FCD

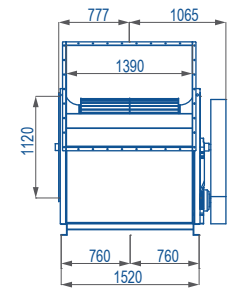
$\rho = 1.2\text{kg/m}^3$



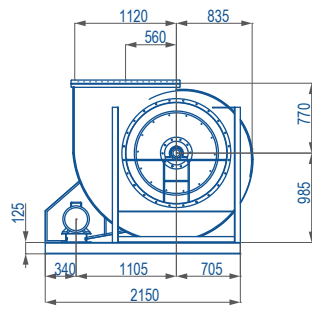
* Model TF-36FCD is not licensed to bear the AMCA certified seal.



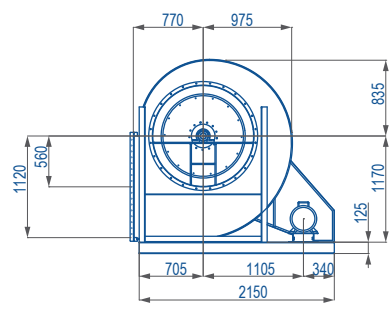
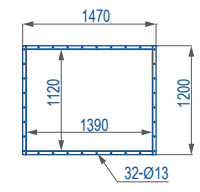
L1



FLANGE (OUTLET)



L2



L3

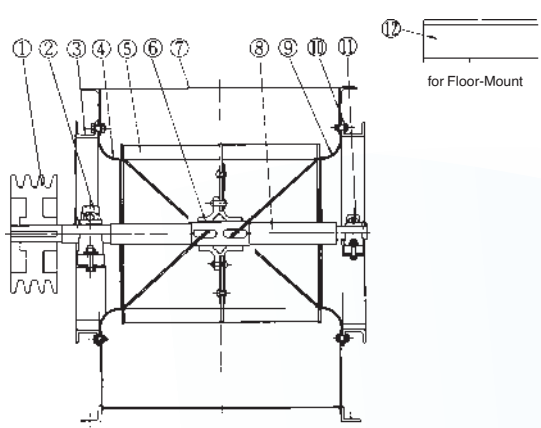
TF-42FCD

Forward Curved DWI

- Wheel diameter = 1065 mm.
- Outlet area = 1.5568 sq.m.
- Tip speed (m/s) = 0.0558 x RPM
- Minimum motor size = 7.5 kW
- Moment of inertia : $GD^2 = 160.0\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

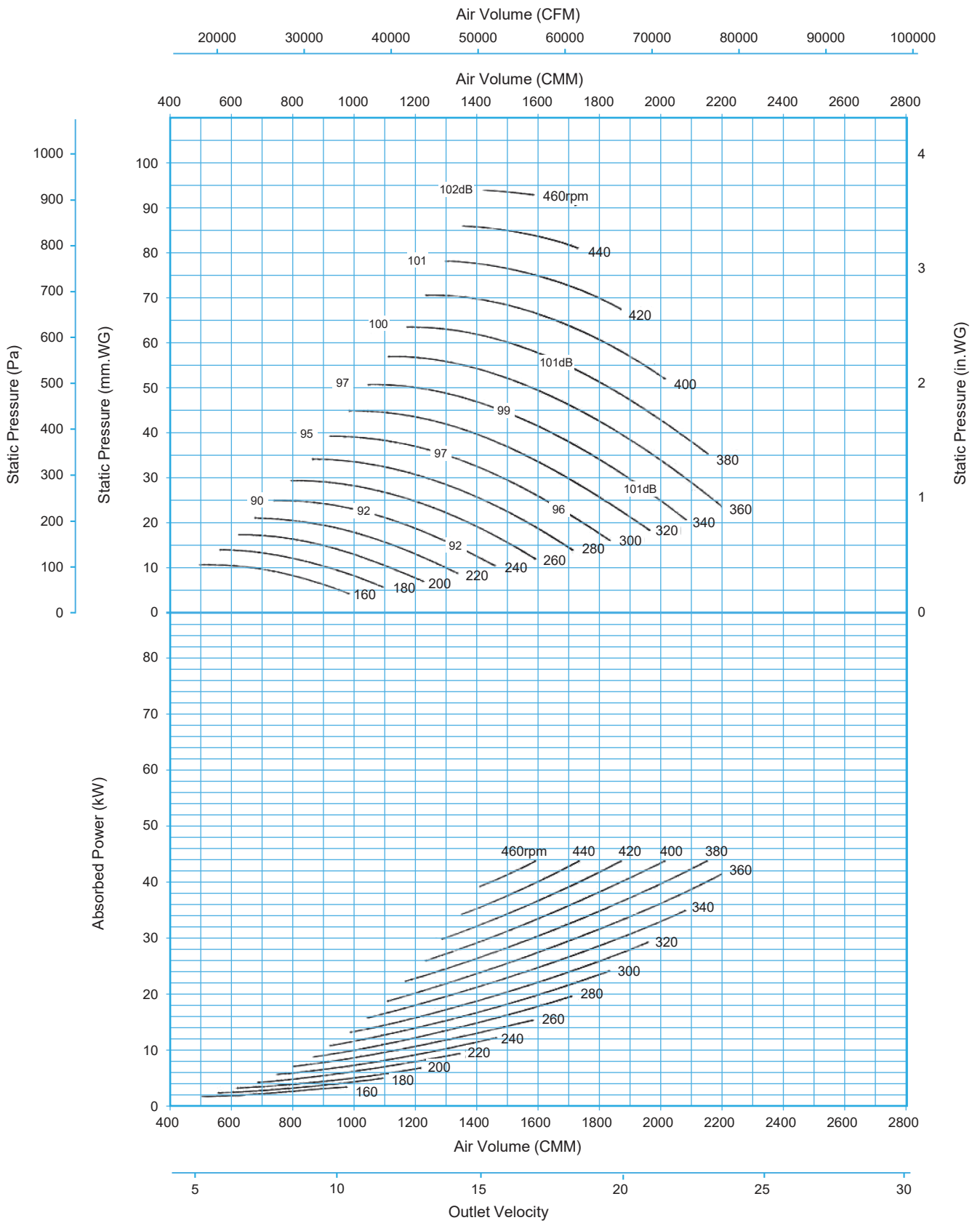


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	-
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Carbon steel C45
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	-
12	Common Base	Carbon steel

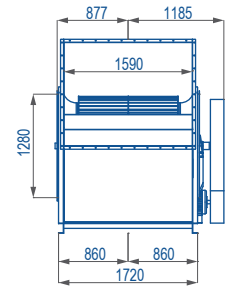
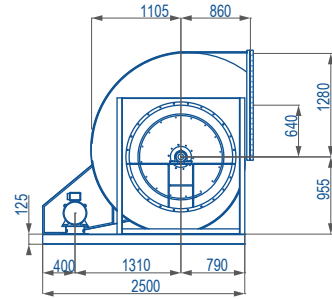
Motor (kW)	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0
Motor Weight (kg)	48	73	85	120	130	160	215	235	265	490	535
Fan Weight (kg)	1080.0	1080.0	1080.0	1080.0	1080.0	1080.0	1080.0	1080.0	1080.0	1080.0	1080.0
Total Weight (kg)	1128.0	1153.0	1165.0	1200.0	1210.0	1240.0	1295.0	1315.0	1315.0	1315.0	1315.0

TF-42FCD

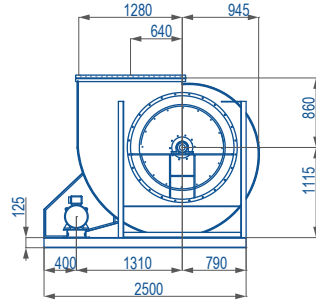
$\rho = 1.2\text{kg/m}^3$



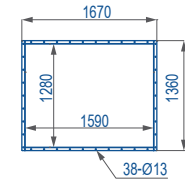
* Model TF-42FCD is not licensed to bear the AMCA certified seal.



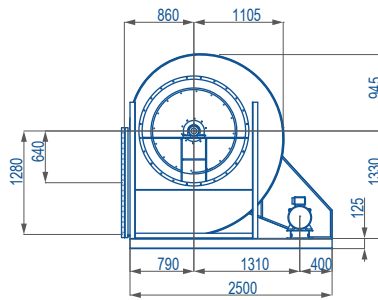
L1



L2



FLANGE (OUTLET)



L3

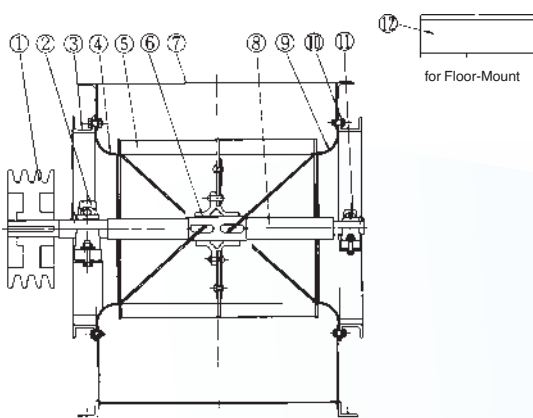
TF-48FCD

Forward Curved DWI

- Wheel diameter = 1220 mm.
- Outlet area = 2.0352 sq.m.
- Tip speed (m/s) = 0.0639 x RPM
- Minimum motor size = 7.5 kW
- Moment of inertia : $GD^2 = 300.0\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

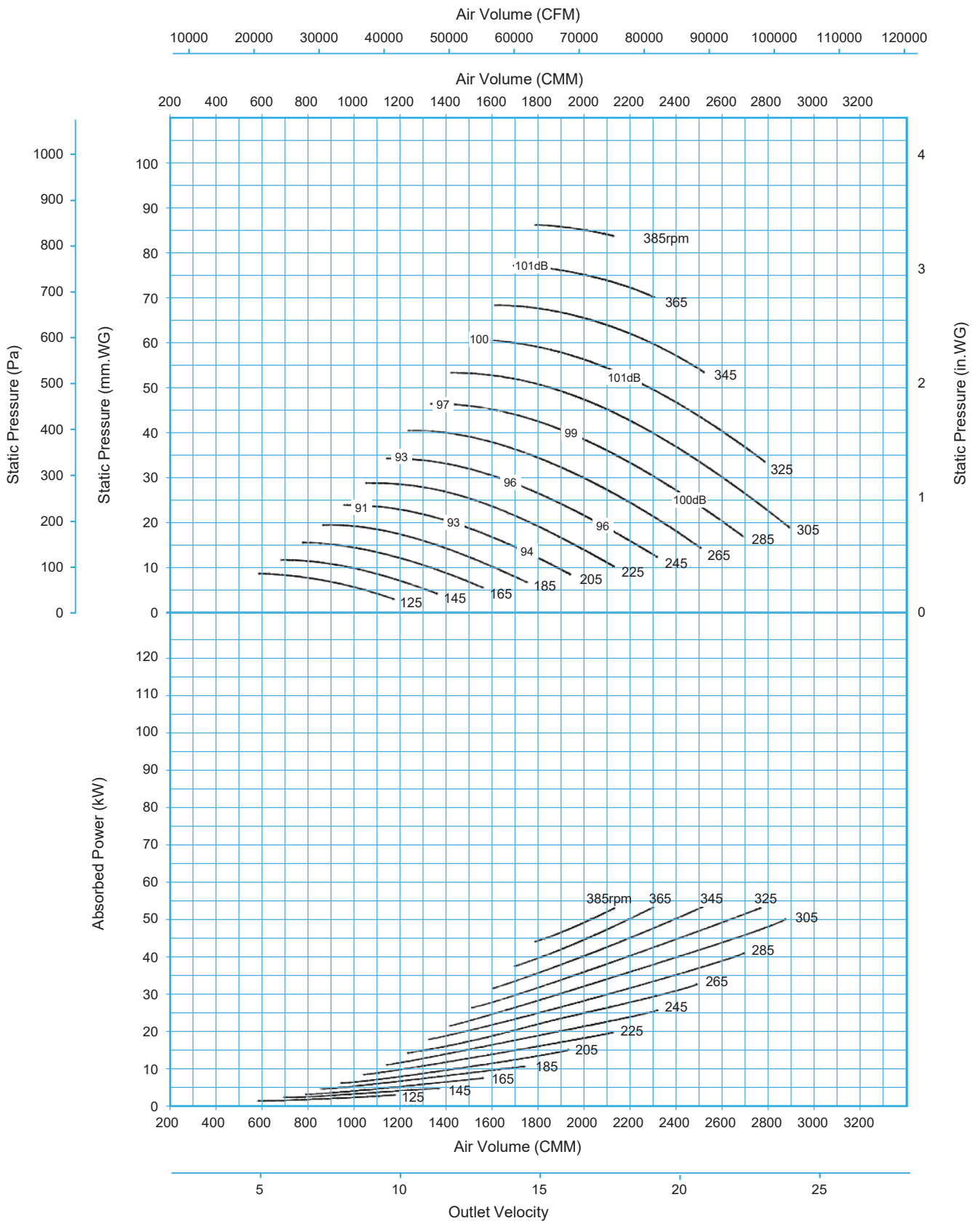


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Carbon steel C45
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

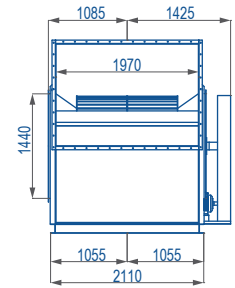
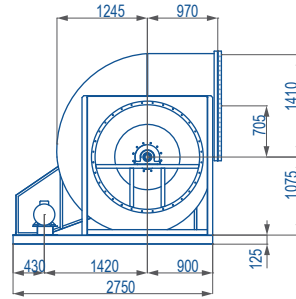
Motor (kW)	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0
Motor Weight (kg)	48	73	85	120	130	160	215	235	265	490	535
Fan Weight (kg)	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0	1350.0
Total Weight (kg)	1398.0	1423.0	1435.0	1470.0	1480.0	1510.0	1565.0	1585.0	1615.0	1615.0	1615.0

TF-48FCD

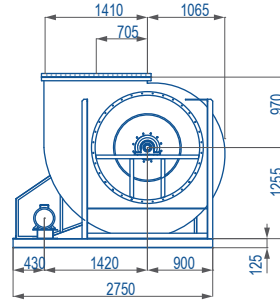
$\rho = 1.2\text{kg/m}^3$



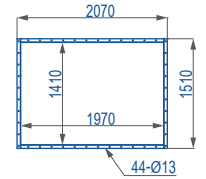
* Model TF-48FCD is not licensed to bear the AMCA certified seal.



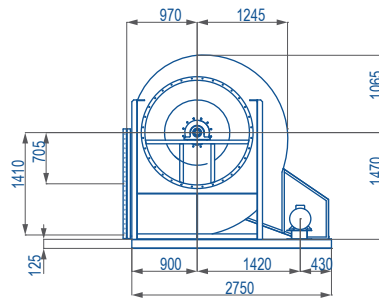
L1



L2



FLANGE (OUTLET)



L3

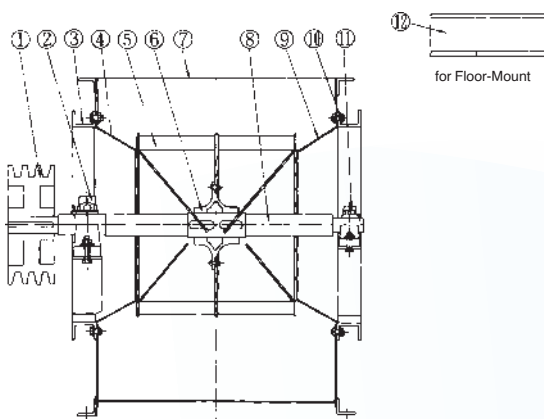
TF-54FCD

Forward Curved DWDI

- Wheel diameter = 1370 mm.
- Outlet area = 2.7777 sq.m.
- Tip speed (m/s) = 0.0717 x RPM
- Minimum motor size = 15 kW
- Moment of inertia : $GD^2 = 520.0\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

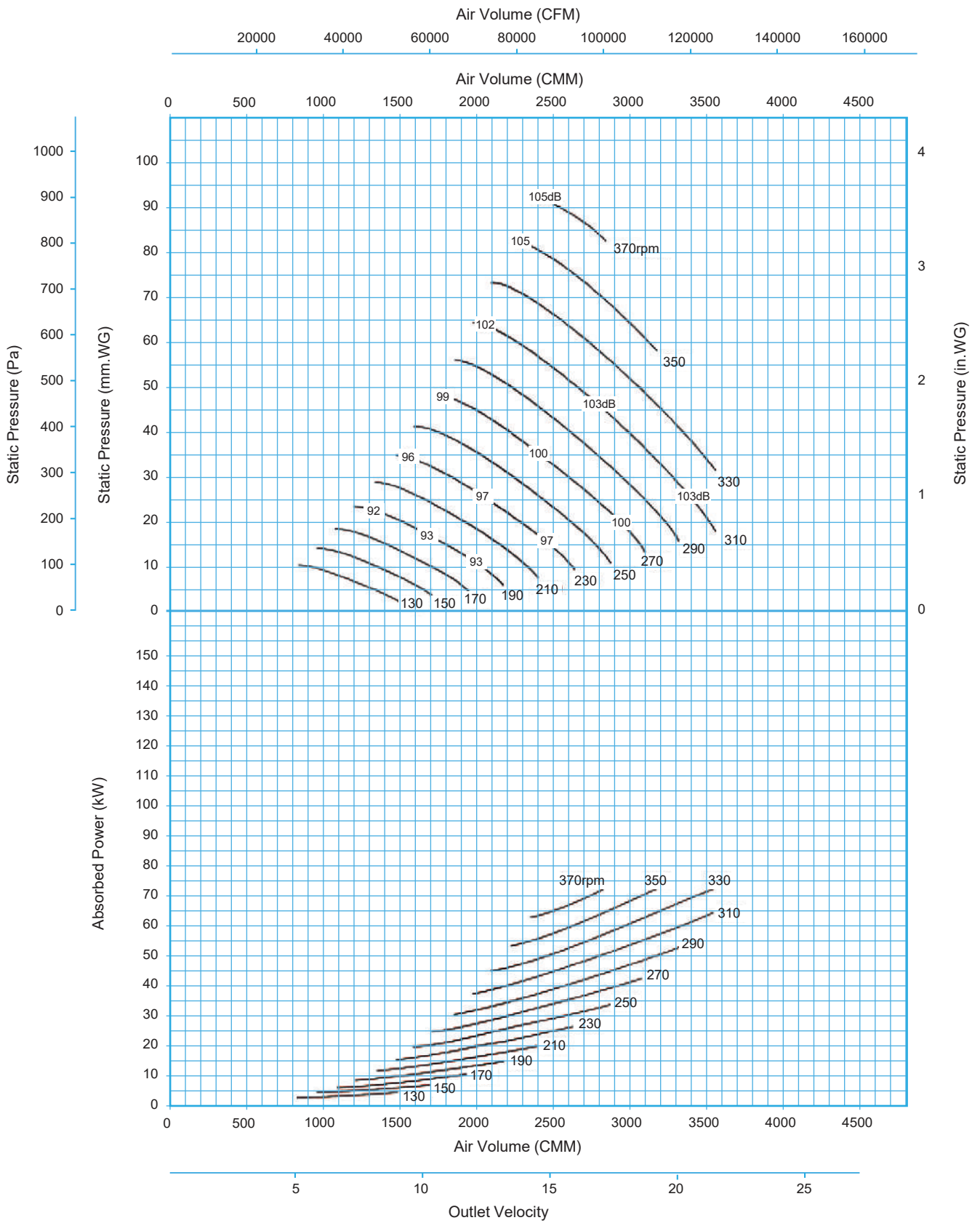


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Carbon steel C45
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

Motor (kW)	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0	110.0	132.0
Motor Weight (kg)	85	120	130	160	215	235	265	490	535	645	725
Fan Weight (kg)	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0
Total Weight (kg)	2085.0	2120.0	2130.0	2160.0	2215.0	2235.0	2265.0	2490.0			

TF-54FCD

$\rho = 1.2\text{kg/m}^3$



* Model TF-54FCD is not licensed to bear the AMCA certified seal.

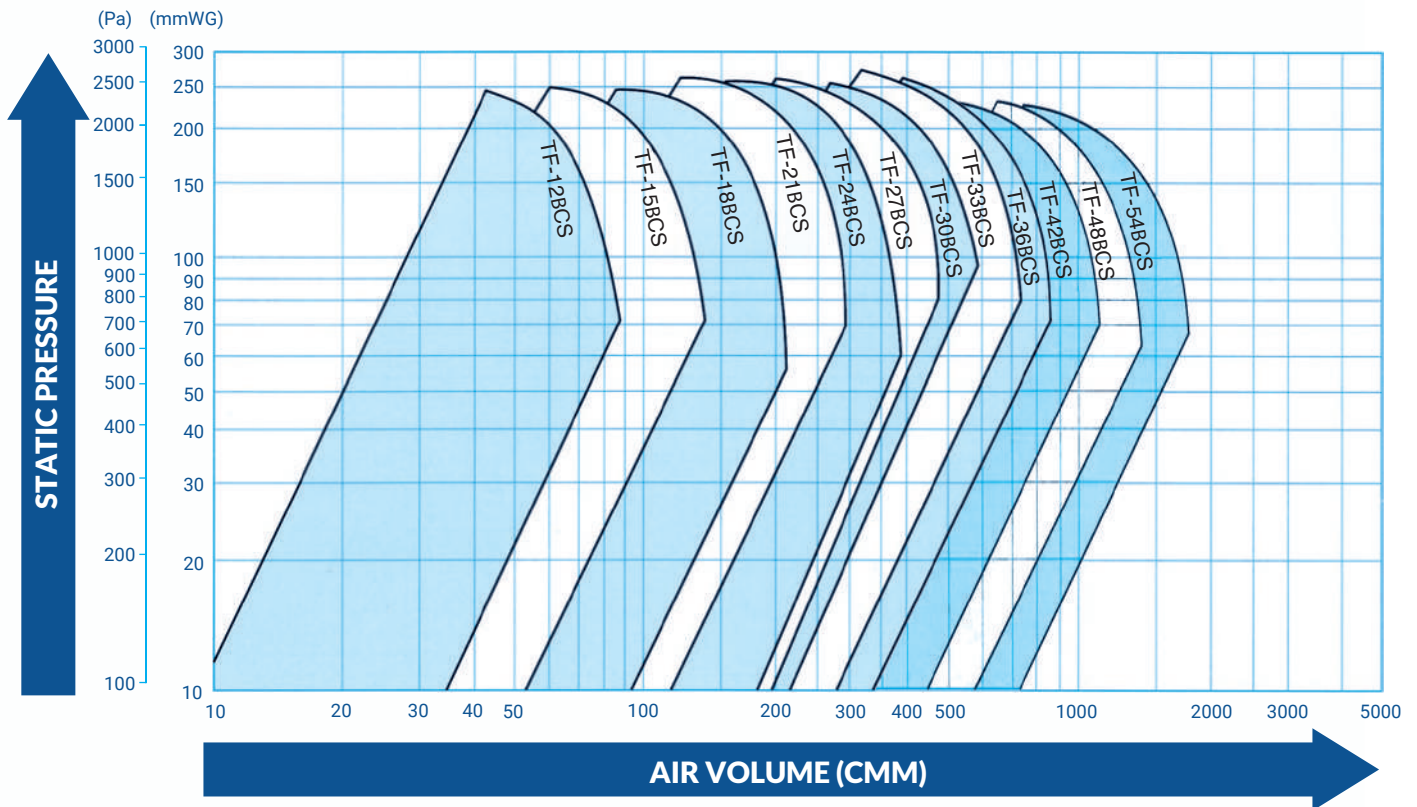
Backward Curved Limit-Load Fans Single Width Single Inlet (SWSI)

AIR PERFORMANCE DATA

TEB Ventilation Co., Ltd. certifies that the type BCS Series Fans (page 73-94) shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



SELECTION CHART



AVAILABLE MODELS

Model	Wheel Diameter		Approx. Weight of Fan & Housing (kg.)	Approx. Air Volume	
	mm.	inch		CMH	CFM
TF-12BCS	310	12	75	4,404	2,591
TF-15BCS	390	15	90	6,720	3,953
TF-18BCS	467	18	115	9,360	5,506
TF-21BCS	545	21	160	12,660	7,447
TF-24BCS	623	24	205	16,560	9,741
TF-27BCS	701	27	310	21,000	12,353
TF-30BCS	778	30	360	25,920	15,247
TF-33BCS	856	33	460	31,320	18,424
TF-36BCS	934	36	560	37,260	21,918
TF-42BCS	1,090	42	870	50,580	29,753
TF-48BCS	1,245	48	1,110	66,600	39,176
TF-54BCS	1,401	54	1,540	82,230	48,392

The approximate air volume is measured at air velocity of 15 m/s.

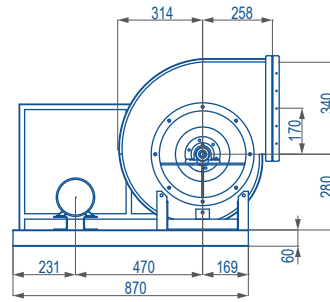
The approximate weight of fan & housing (kg.) includes common base, motor base and belt cover.



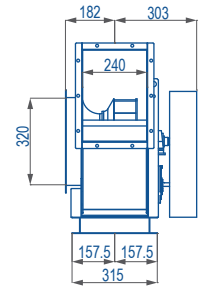
TF-12BCS

Backward Curved SWSI

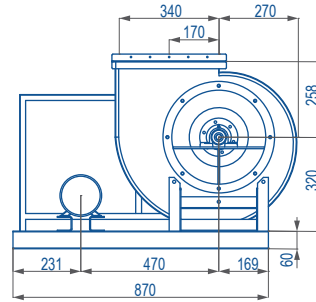
- Wheel diameter = 316 mm.
- Outlet area = 0.079 sq.m.
- Tip speed (m/s) = $0.0162 \times \text{RPM}$
- Maximum B.kW = $0.047 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 0.75 kW
- Moment of inertia : $GD^2 = 0.4\text{kg}\cdot\text{m}^2$



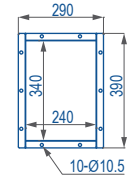
L1



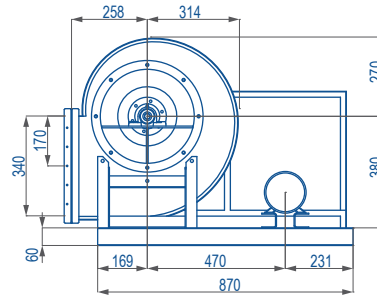
FLANGE (OUTLET)



L2



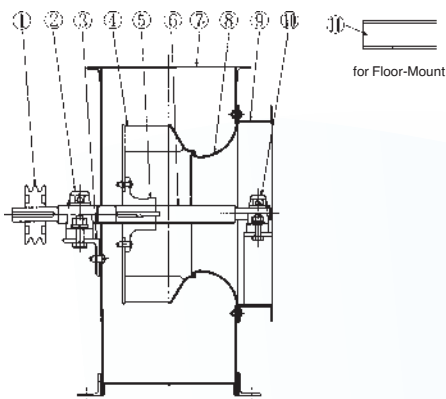
FLANGE (INLET)



L3



Sectional drawing and materials

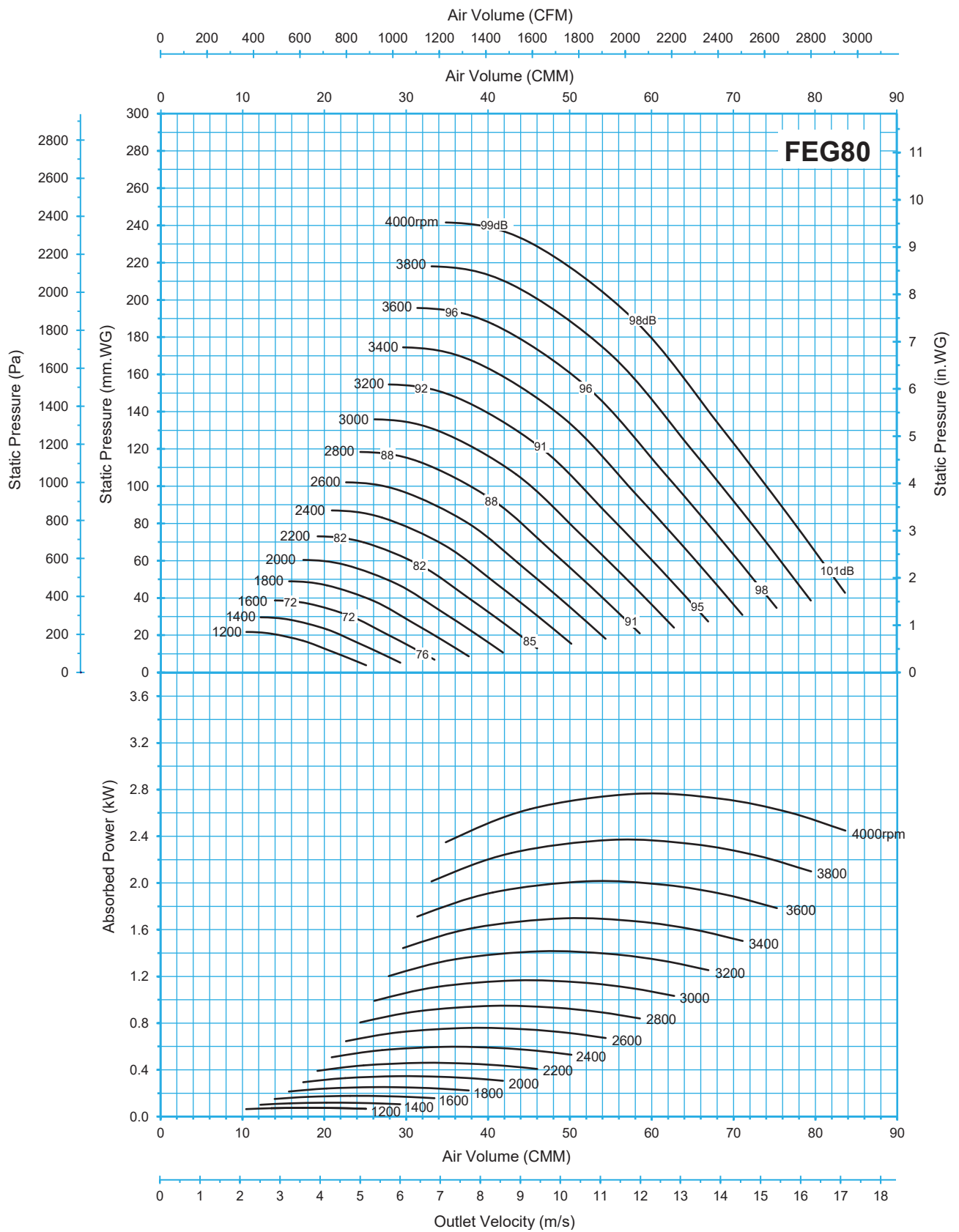


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0
Motor Weight (kg)	12.5	16	21	28	40	48	73	85	120	130	160
Fan Weight (kg)	72.0	72.0	72.0	72.0							
Total Weight (kg)	84.5	88.0	93.5	100.0							

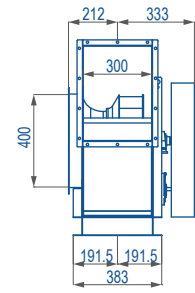
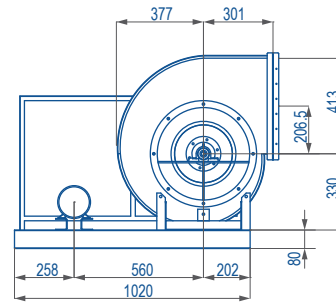
TF-12BCS

$\rho = 1.2\text{kg/m}^3$

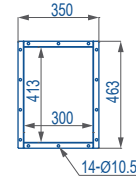
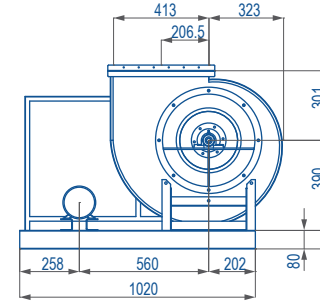


* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.

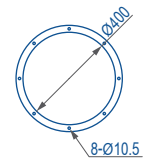
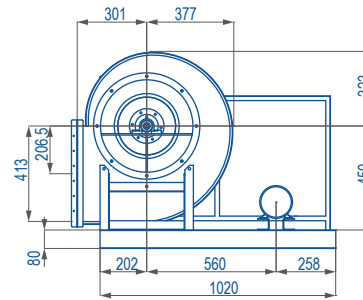


L1



L2

FLANGE (OUTLET)

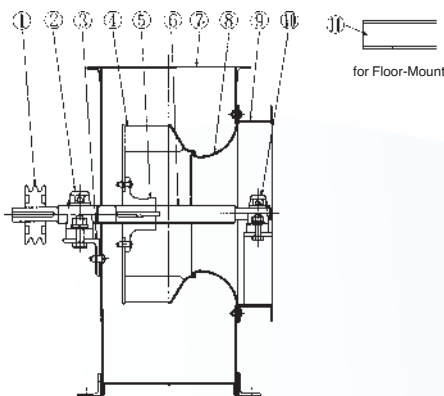


L3

FLANGE (INLET)



Sectional drawing and materials

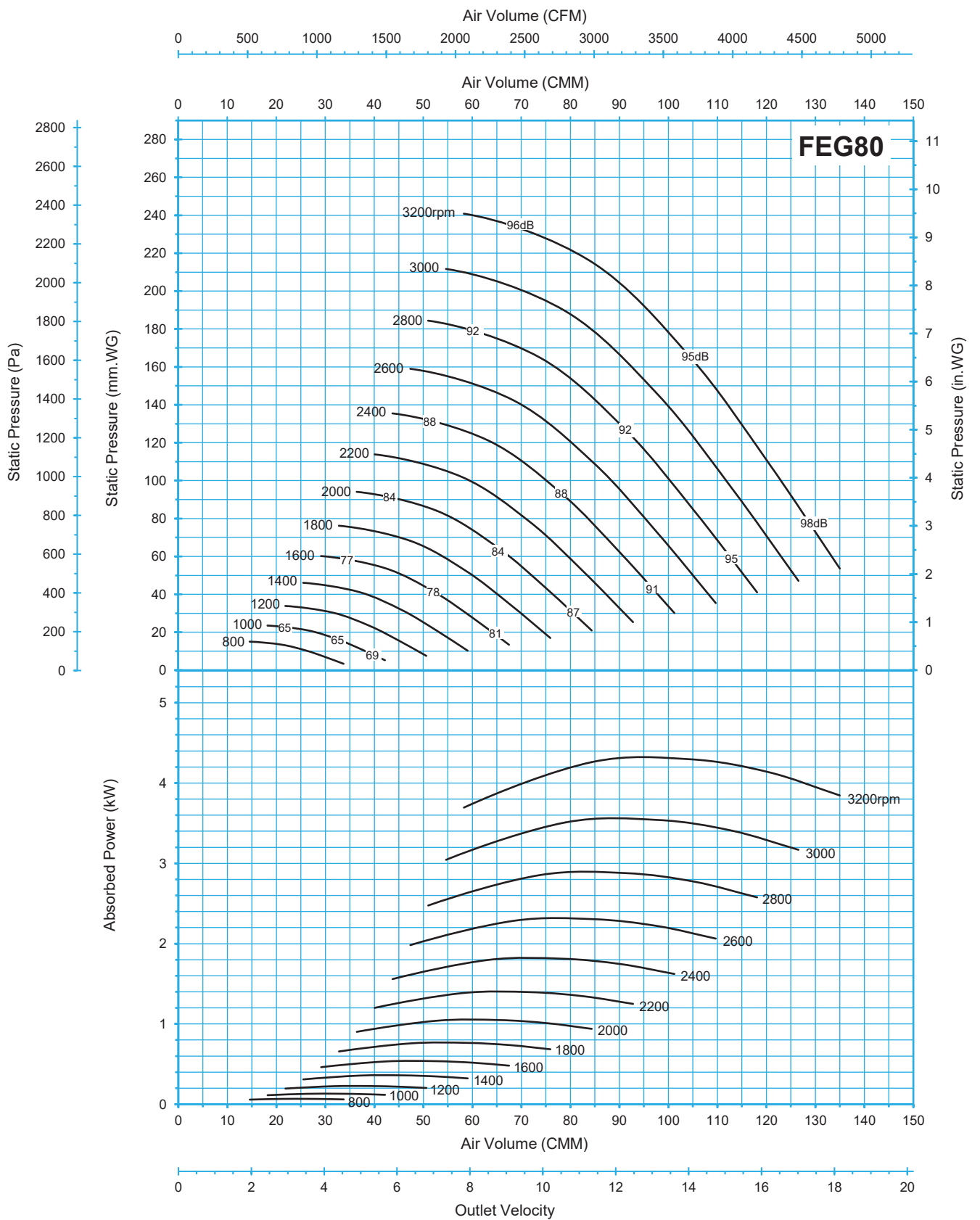


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0
Motor Weight (kg)	12.5	16	21	28	40	48	73	85	120	130	160
Fan Weight (kg)	85.0	85.0	85.0	85.0	85.0						
Total Weight (kg)	97.5	101.0	106.0	113.0	125.0						

TF-15BCS

$\rho = 1.2\text{kg/m}^3$



* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

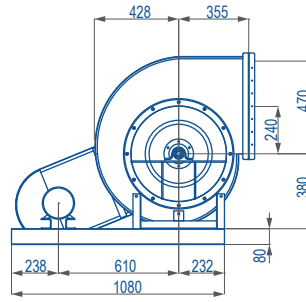
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



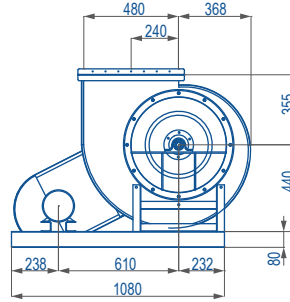
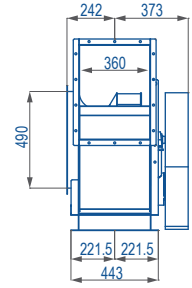
TF-18BCS

Backward Curved SWSI

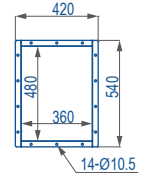
- Wheel diameter = 475 mm.
- Outlet area = 0.169 sq.m.
- Tip speed (m/s) = 0.0245 x RPM
- Maximum B.kW = $0.371 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 0.75 kW
- Moment of inertia : $GD^2 = 1.0\text{kg}\cdot\text{m}^2$



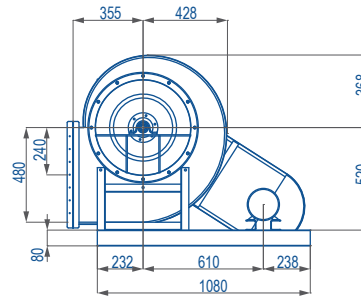
L1



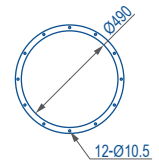
L2



FLANGE (OUTLET)



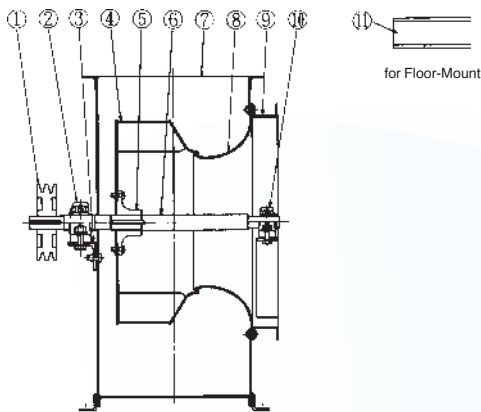
L3



FLANGE (INLET)



Sectional drawing and materials

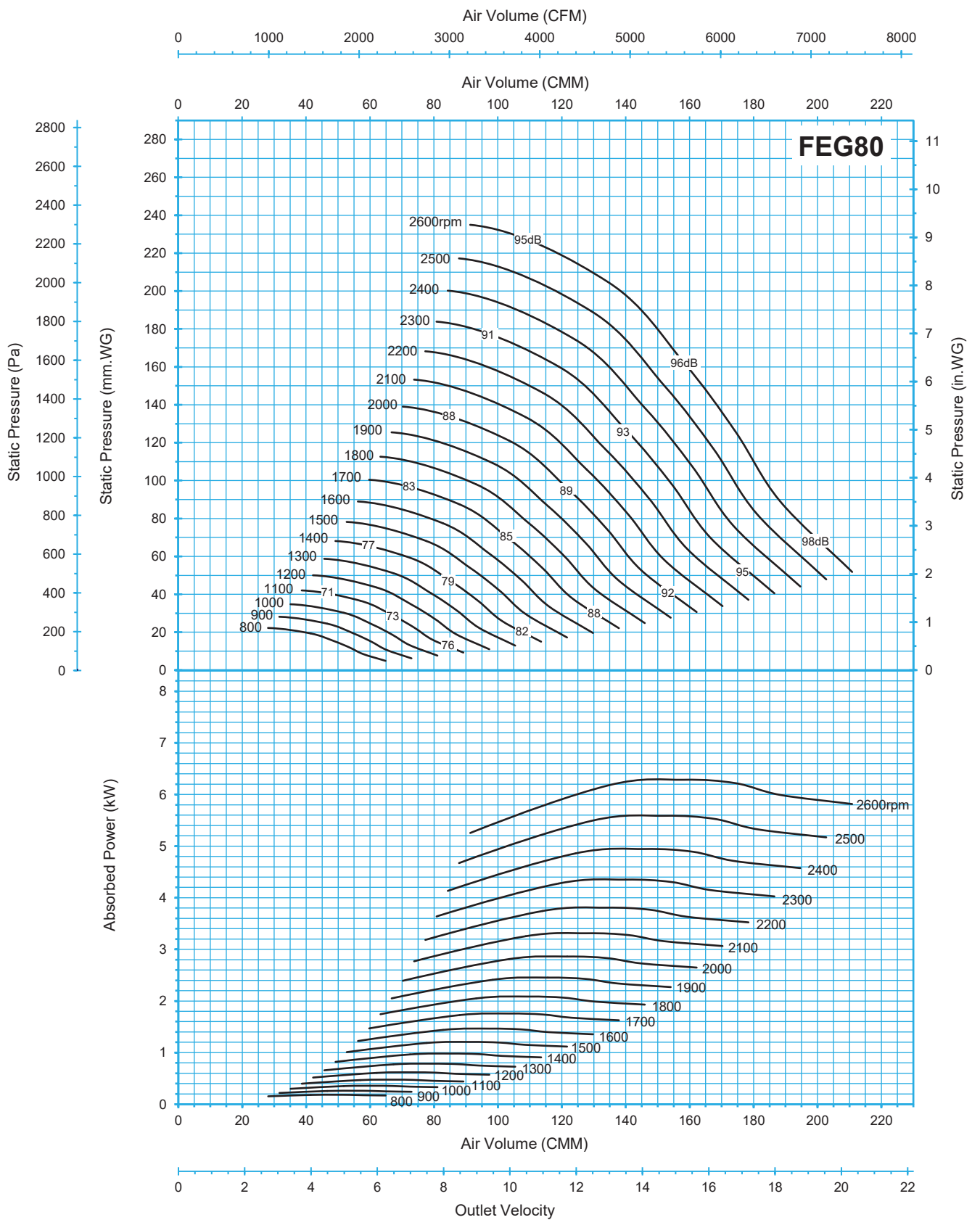


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0
Motor Weight (kg)	12.5	16	21	28	40	48	73	85	120	130	160
Fan Weight (kg)	110.0	110.0	110.0	110.0	110.0	110.0					
Total Weight (kg)	122.5	126.0	131.0	138.0	150.0	158.0					

TF-18BCS

$\rho = 1.2\text{kg/m}^3$



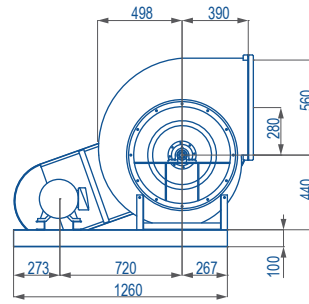
* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



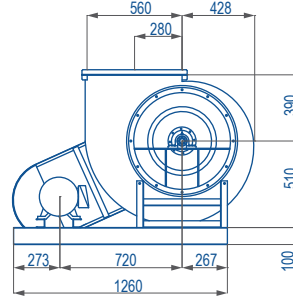
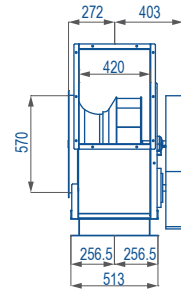
TF-21BCS

Backward Curved SWSI

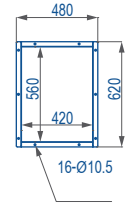
- Wheel diameter = 554 mm.
- Outlet area = 0.232 sq.m.
- Tip speed (m/s) = 0.0285 x RPM
- Maximum B.kW = $0.803 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 1.50 kW
- Moment of inertia : $GD^2 = 5.2\text{kg}\cdot\text{m}^2$



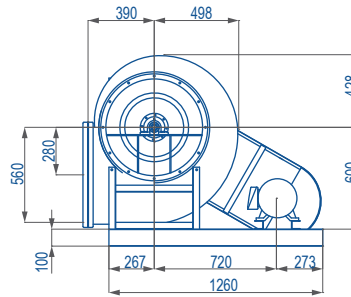
L1



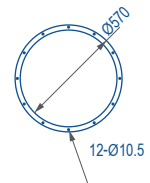
L2



FLANGE (OUTLET)

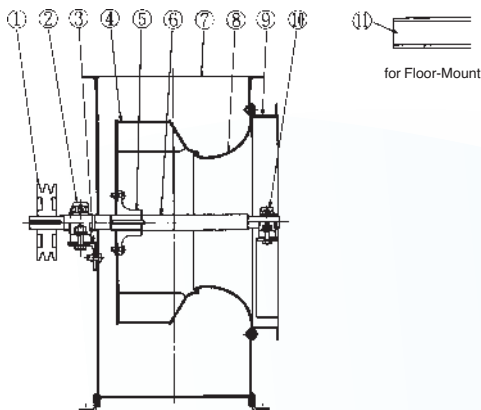


L3



FLANGE (INLET)

Sectional drawing and materials

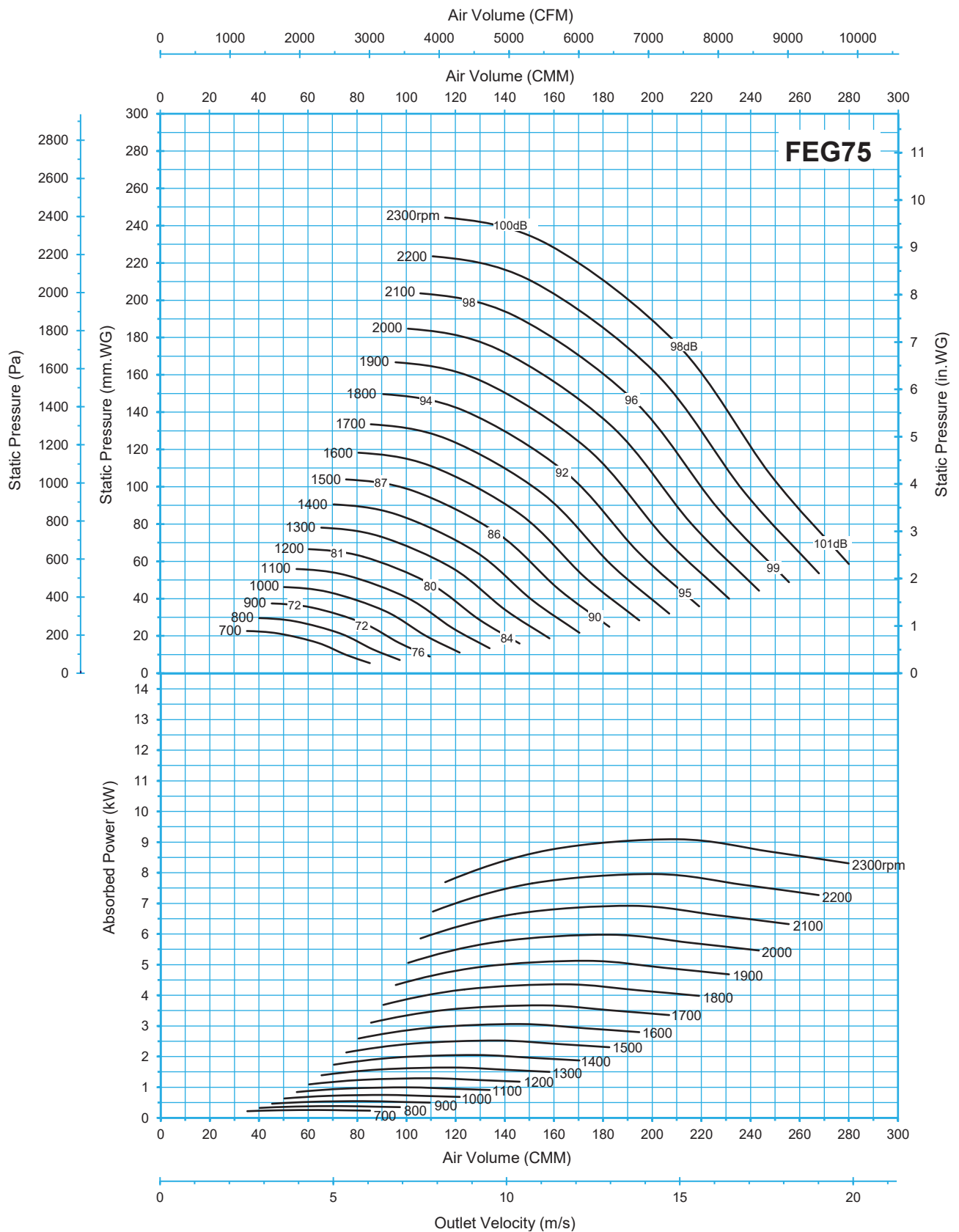


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0
Motor Weight (kg)	16	21	28	40	48	73	85	120	130	160	215
Fan Weight (kg)	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
Total Weight (kg)	166.0	171.0	178.0	190.0	198.0	223.0					

TF-21BCS

$\rho = 1.2\text{kg/m}^3$



* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

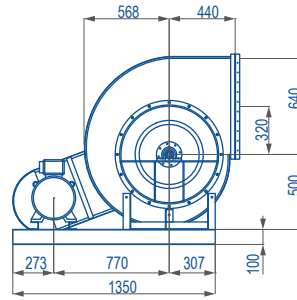
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



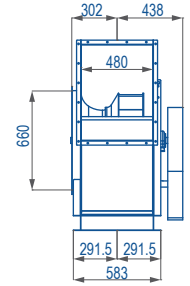
TF-24BCS

Backward Curved SWSI

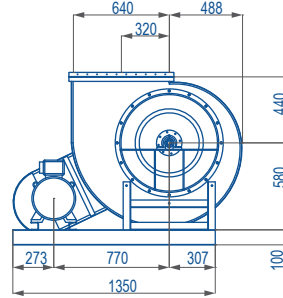
- Wheel diameter = 631 mm.
- Outlet area = 0.304 sq.m.
- Tip speed (m/s) = 0.0326 x RPM
- Maximum B.kW = $1.569 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 2.20 kW
- Moment of inertia : $GD^2 = 8.8\text{kg}\cdot\text{m}^2$



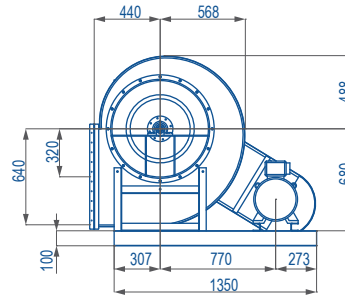
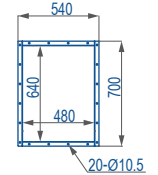
L1



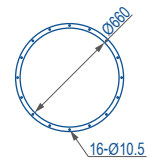
FLANGE (OUTLET)



L2



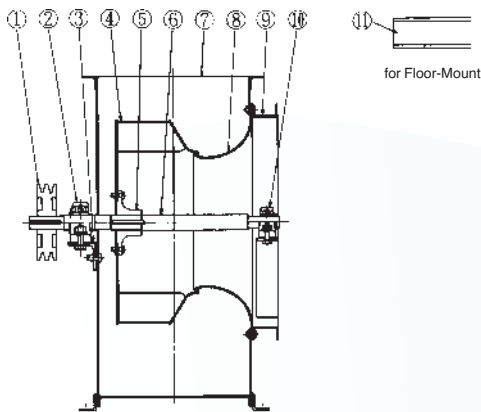
L3



FLANGE (INLET)



Sectional drawing and materials

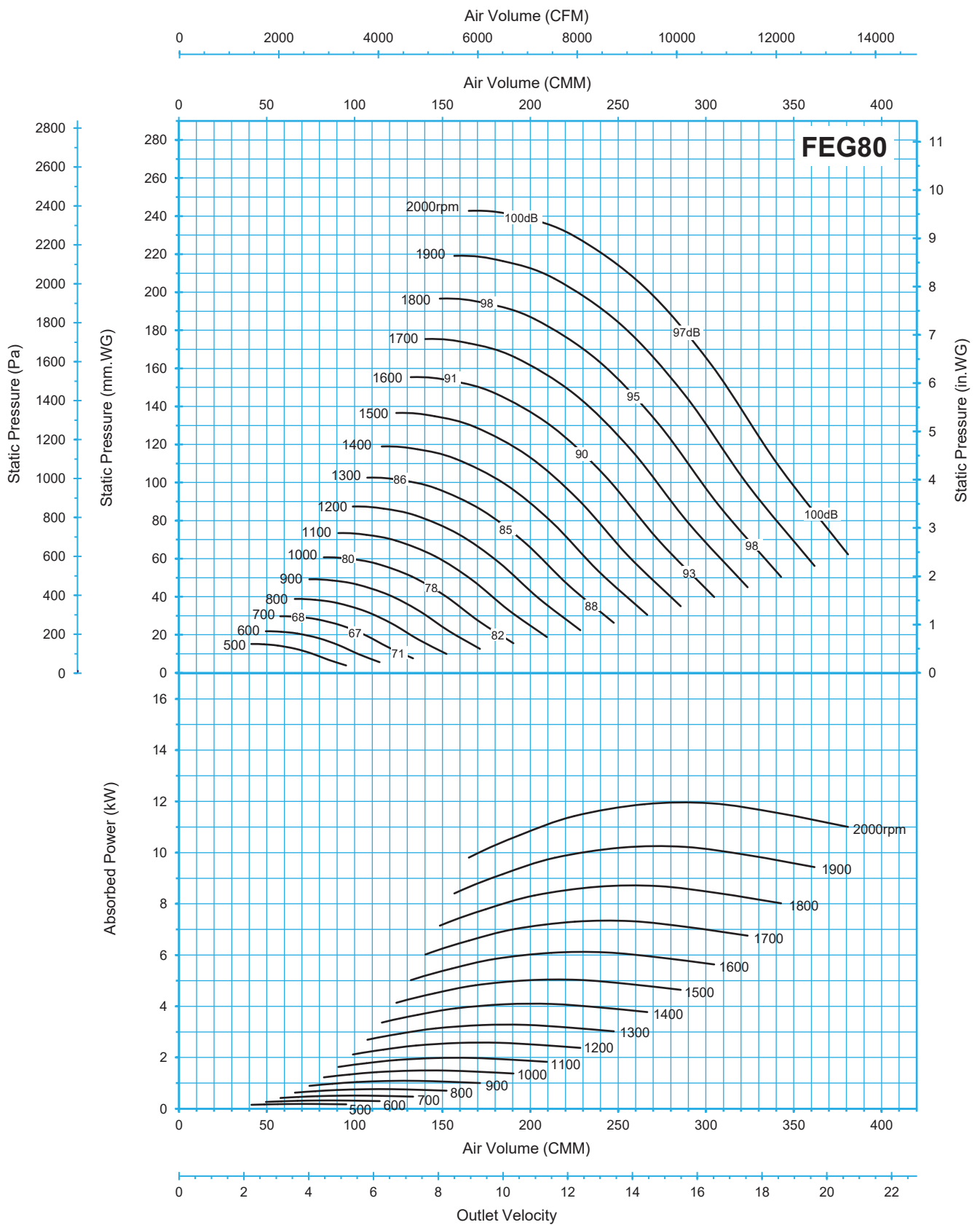


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0
Motor Weight (kg)	21	28	40	48	73	85	120	130	160	215	235
Fan Weight (kg)	195.0	195.0	195.0	195.0	195.0	195.0					
Total Weight (kg)	216.0	223.0	235.0	243.0	268.0	280.0					

TF-24BCS

$\rho = 1.2\text{kg/m}^3$



* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

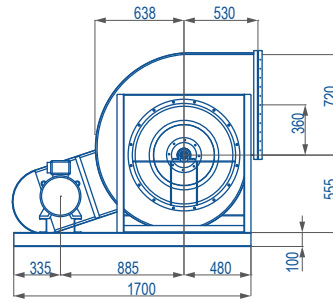
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



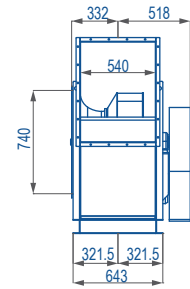
TF-27BCS

Backward Curved SWSI

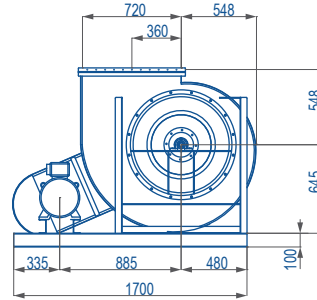
- Wheel diameter = 709 mm.
- Outlet area = 0.383 sq.m.
- Tip speed (m/s) = 0.0367 x RPM
- Maximum B.kW = $2.785 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 2.20 kW
- Moment of inertia : $GD^2 = 17\text{kg}\cdot\text{m}^2$



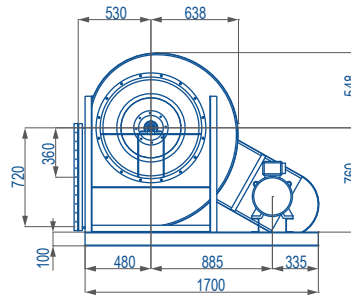
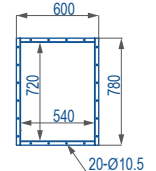
L1



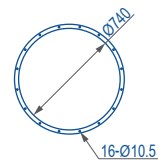
FLANGE (OUTLET)



L2



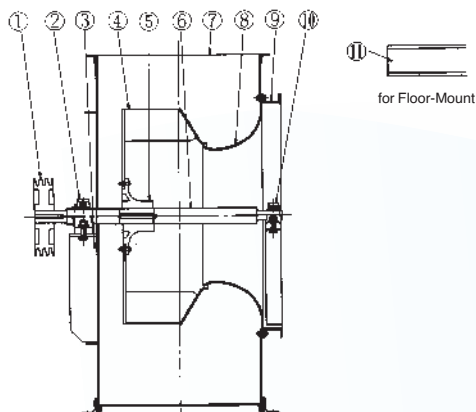
L3



FLANGE (INLET)



Sectional drawing and materials

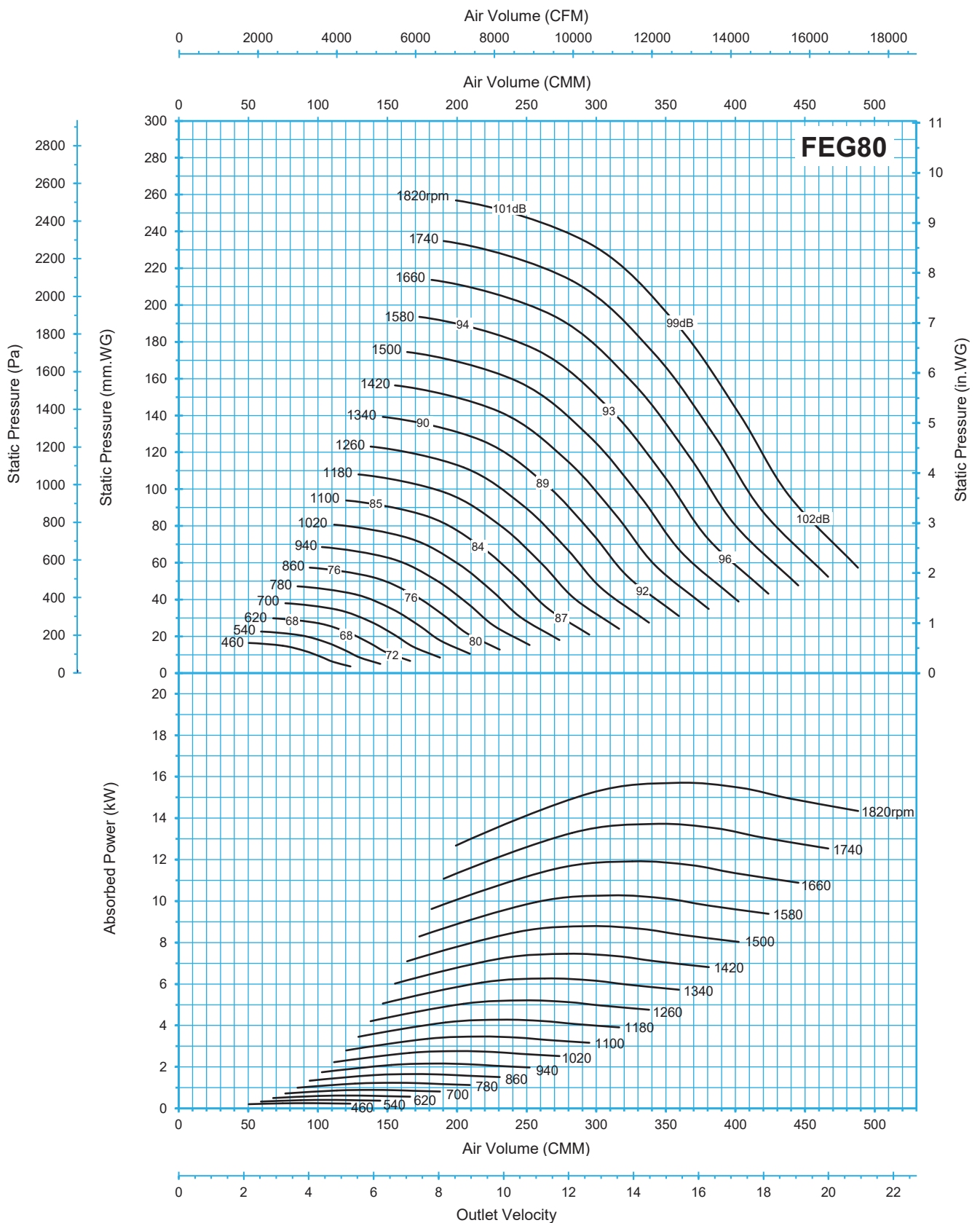


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0
Motor Weight (kg)	21	28	40	48	73	85	120	130	160	215	235
Fan Weight (kg)	290.0	290.0	290.0	290.0	290.0	290.0	290.0				
Total Weight (kg)	311.0	318.0	330.0	338.0	363.0	375.0	410.0				

TF-27BCS

$\rho = 1.2\text{kg/m}^3$



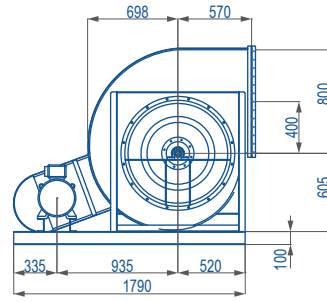
* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



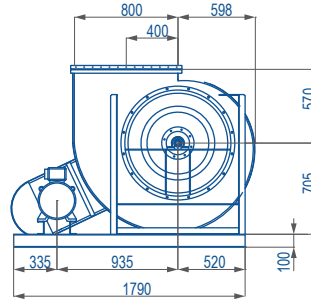
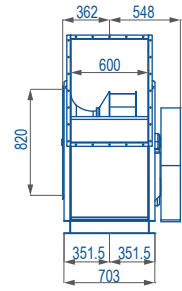
TF-30BCS

Backward Curved SWSI

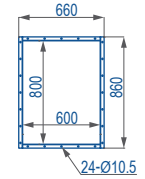
- Wheel diameter = 786 mm.
- Outlet area = 0.479 sq.m.
- Tip speed (m/s) = 0.0407 x RPM
- Maximum B.kW = $4.693 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 3.70 kW
- Moment of inertia : $GD^2 = 27\text{kg}\cdot\text{m}^2$



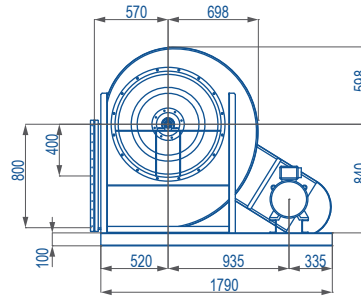
L1



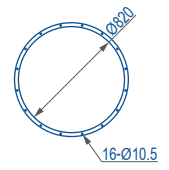
L2



FLANGE (OUTLET)

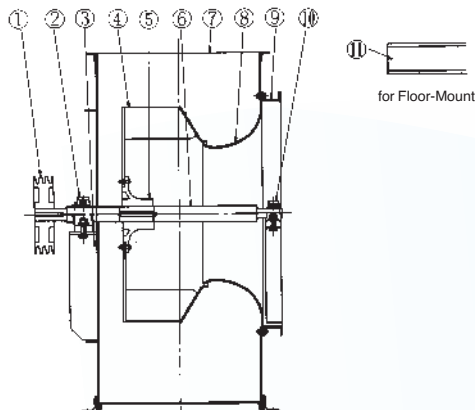


L3



FLANGE (INLET)

Sectional drawing and materials

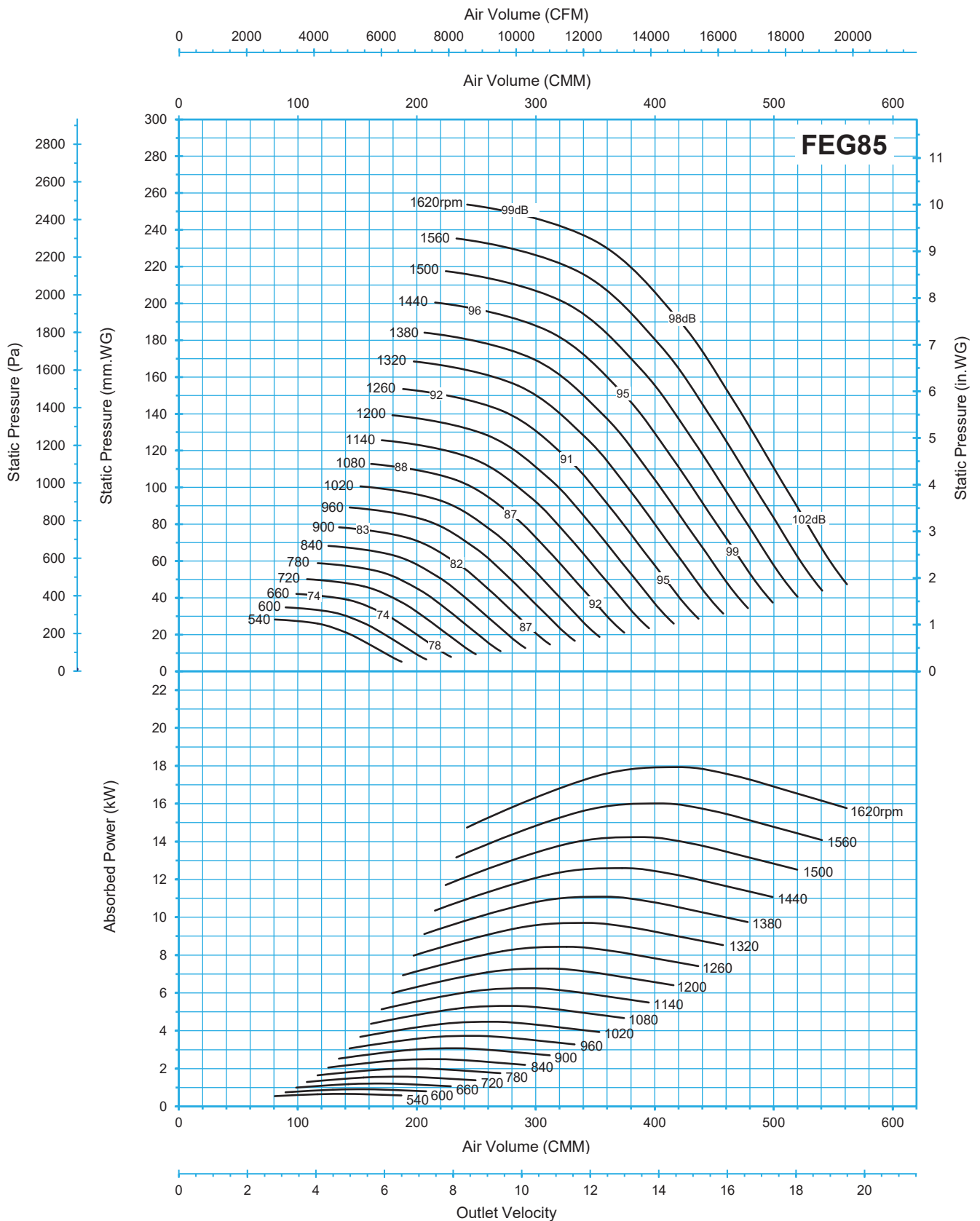


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0
Motor Weight (kg)	28	40	48	73	85	120	130	160	215	235	265
Fan Weight (kg)	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0
Total Weight (kg)	368.0	380.0	388.0	413.0	425.0	460.0	470.0	470.0	470.0	470.0	470.0

TF-30BCS

$\rho = 1.2\text{kg/m}^3$



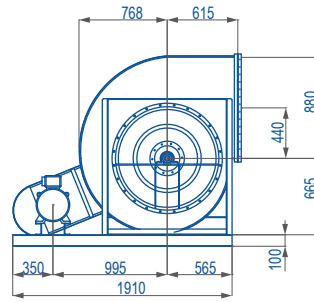
* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



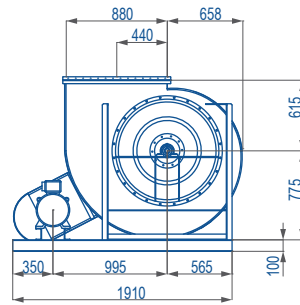
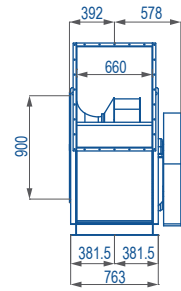
TF-33BCS

Backward Curved SWSI

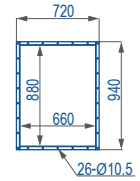
- Wheel diameter = 866 mm.
- Outlet area = 0.447 sq.m.
- Tip speed (m/s) = $0.0448 \times \text{RPM}$
- Maximum B.kW = $7.561 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 3.70 kW
- Moment of inertia : $GD^2 = 40\text{kg}\cdot\text{m}^2$



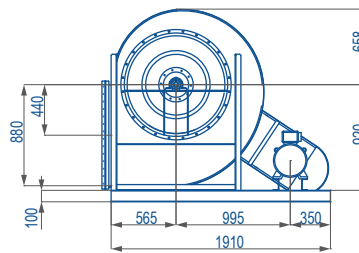
L1



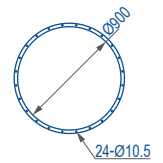
L2



FLANGE (OUTLET)



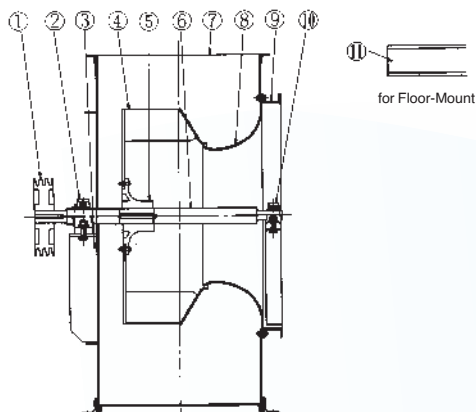
L3



FLANGE (INLET)



Sectional drawing and materials

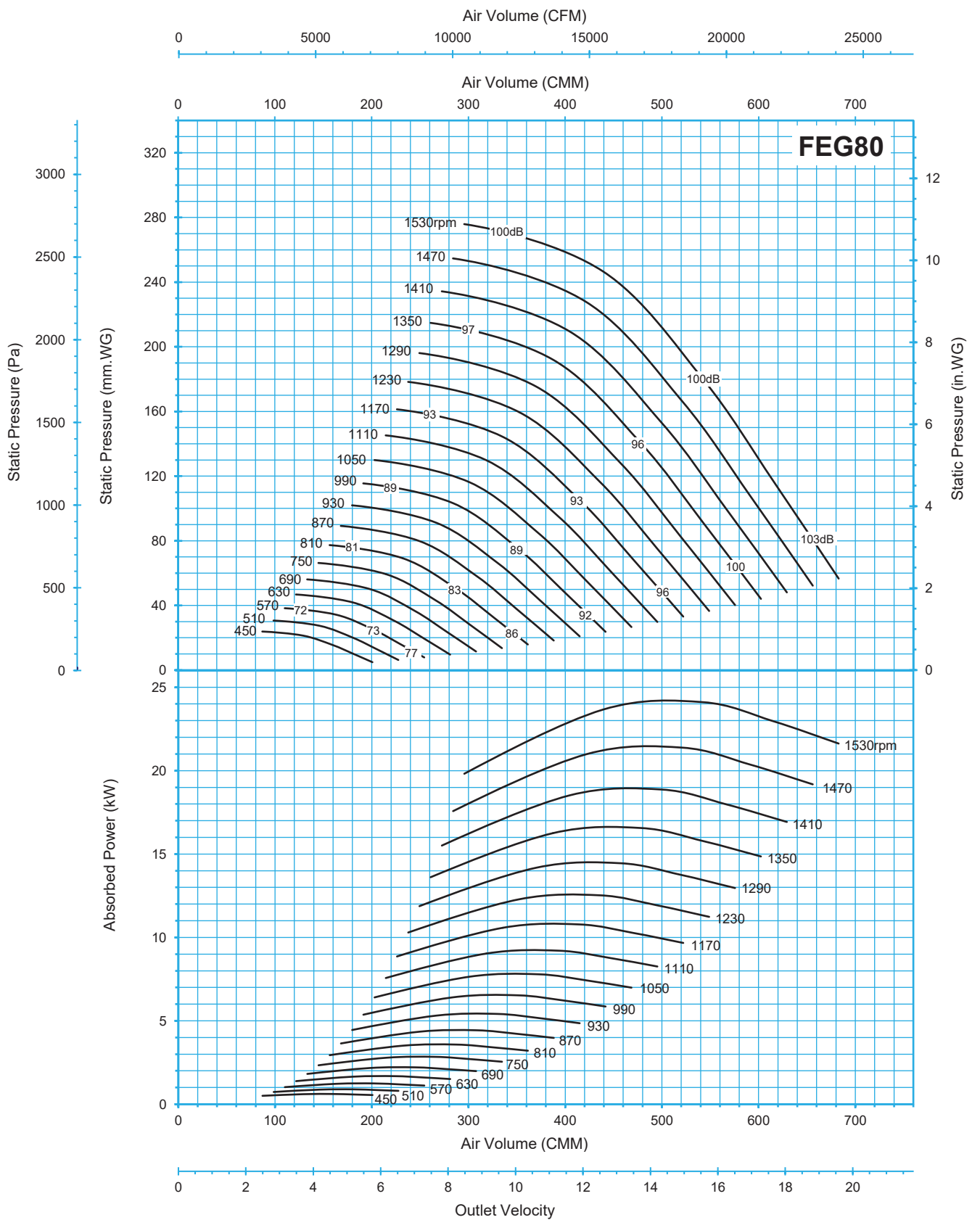


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0
Motor Weight (kg)	28	40	48	73	85	120	130	160	215	235	265
Fan Weight (kg)	440.0	440.0	440.0	440.0	440.0	440.0	440.0	440.0	440.0	440.0	440.0
Total Weight (kg)	468.0	480.0	488.0	513.0	525.0	560.0	570.0	600.0	600.0	600.0	600.0

TF-33BCS

$\rho = 1.2\text{kg/m}^3$



* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

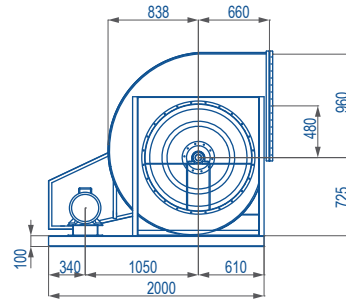
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



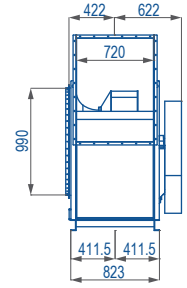
TF-36BCS

Backward Curved SWSI

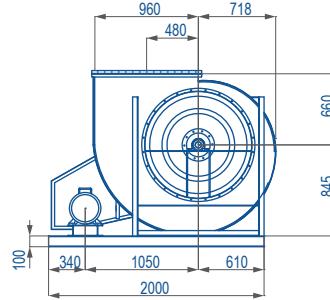
- Wheel diameter = 942 mm.
- Outlet area = 0.689 sq.m.
- Tip speed (m/s) = 0.0489 x RPM
- Maximum B.kW = $11.698 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 5.50 kW
- Moment of inertia : $GD^2 = 70\text{kg}\cdot\text{m}^2$



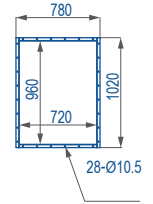
L1



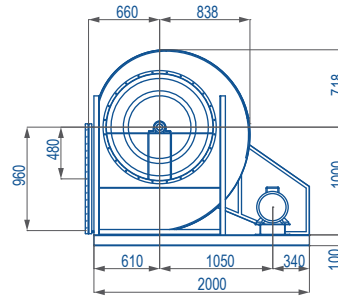
FLANGE (OUTLET)



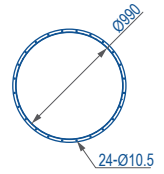
L2



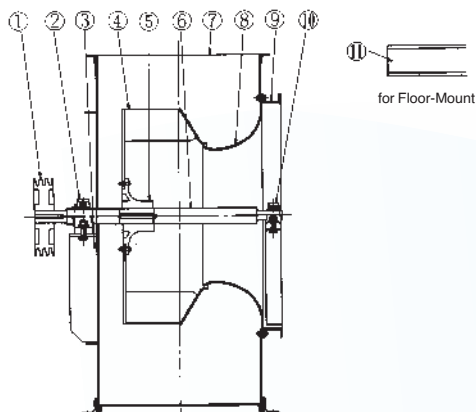
FLANGE (INLET)



L3



Sectional drawing and materials

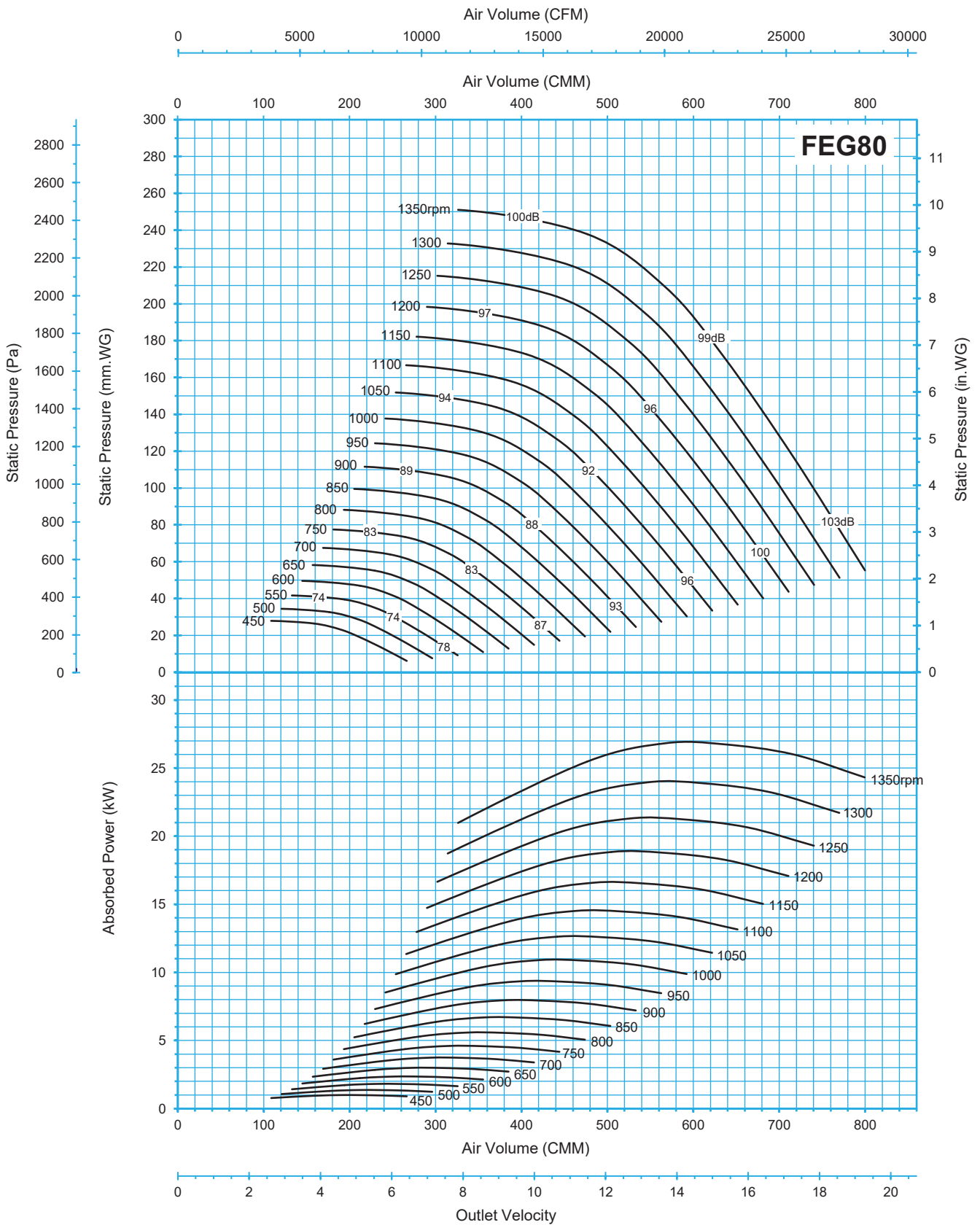


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

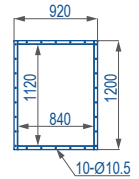
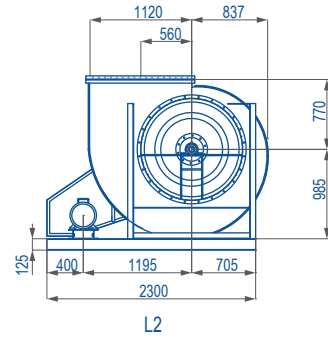
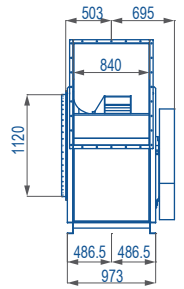
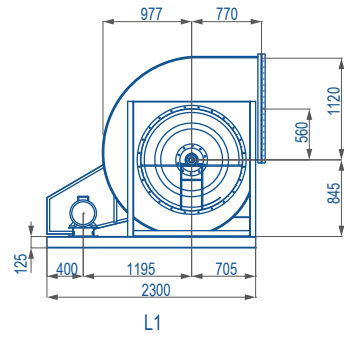
Motor (kW)	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0
Motor Weight (kg)	40	48	73	85	120	130	160	215	235	265	490
Fan Weight (kg)	550.0	550.0	550.0	550.0	550.0	550.0	550.0				
Total Weight (kg)	590.0	598.0	623.0	635.0	670.0	680.0	710.0				

TF-36BCS

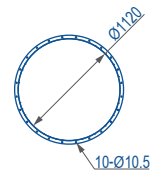
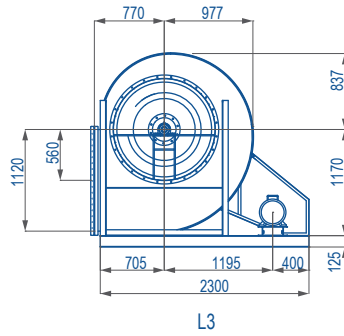
$\rho = 1.2\text{kg/m}^3$



* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



FLANGE (OUTLET)



FLANGE (INLET)

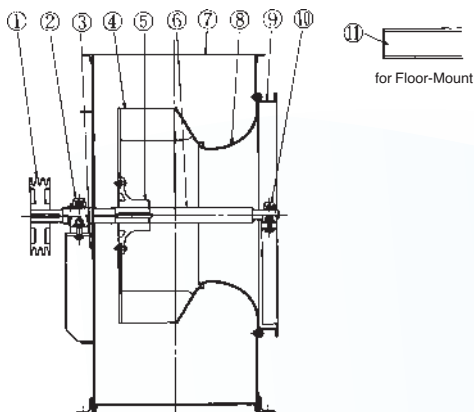


TF-42BCS

Backward Curved SWSI

- Wheel diameter = 1101 mm.
- Outlet area = 0.923 sq.m.
- Tip speed (m/s) = 0.0571 x RPM
- Maximum B.kW = 25.169 x $\left(\frac{RPM}{1000}\right)^3$
- Minimum motor size = 5.50 kW
- Moment of inertia : $GD^2 = 145kg \cdot m^2$

Sectional drawing and materials

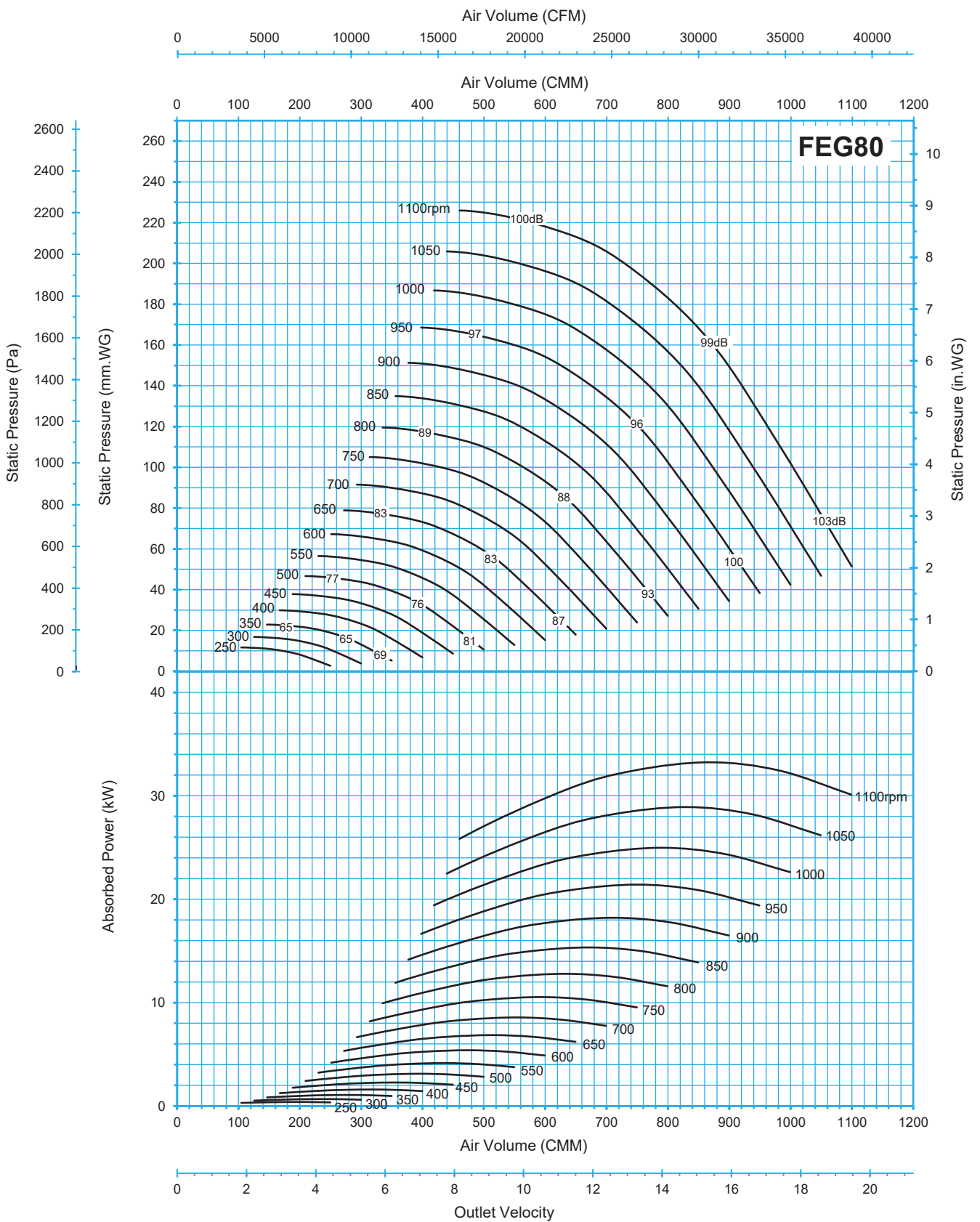


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

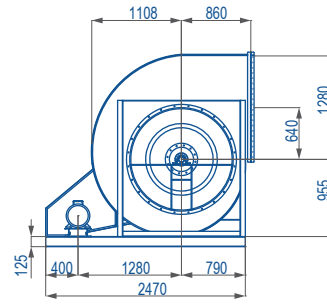
Motor (kW)	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0
Motor Weight (kg)	40	48	73	85	120	130	160	215	235	265	490
Fan Weight (kg)	830.0	830.0	830.0	830.0	830.0	830.0	830.0	830.0			
Total Weight (kg)	870.0	878.0	903.0	915.0	950.0	960.0	990.0	1045.0			

TF-42BCS

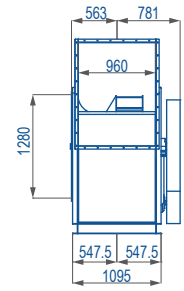
$\rho = 1.2\text{kg/m}^3$



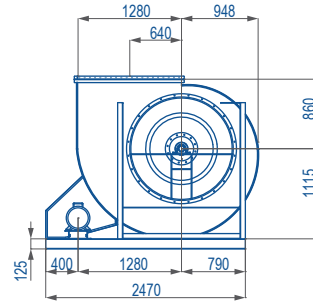
* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



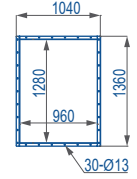
L1



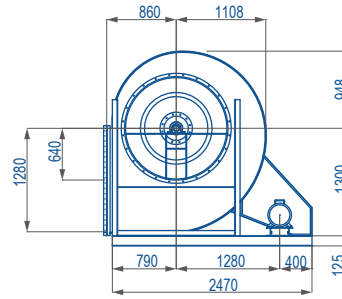
FLANGE (OUTLET)



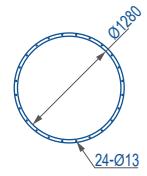
L2



FLANGE (INLET)



L3



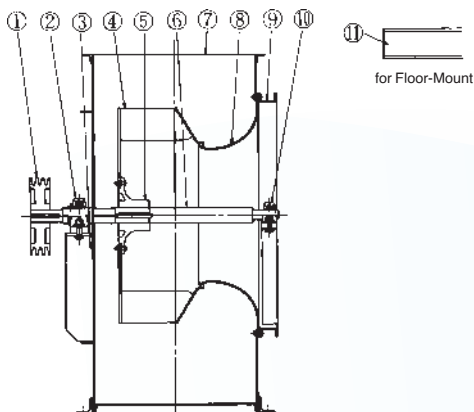
TF-48BCS

Backward Curved SWSI

- Wheel diameter = 1249 mm.
- Outlet area = 1.217 sq.m.
- Tip speed (m/s) = 0.0652 x RPM
- Maximum B.kW = $48.987 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 7.50 kW
- Moment of inertia : $GD^2 = 245\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

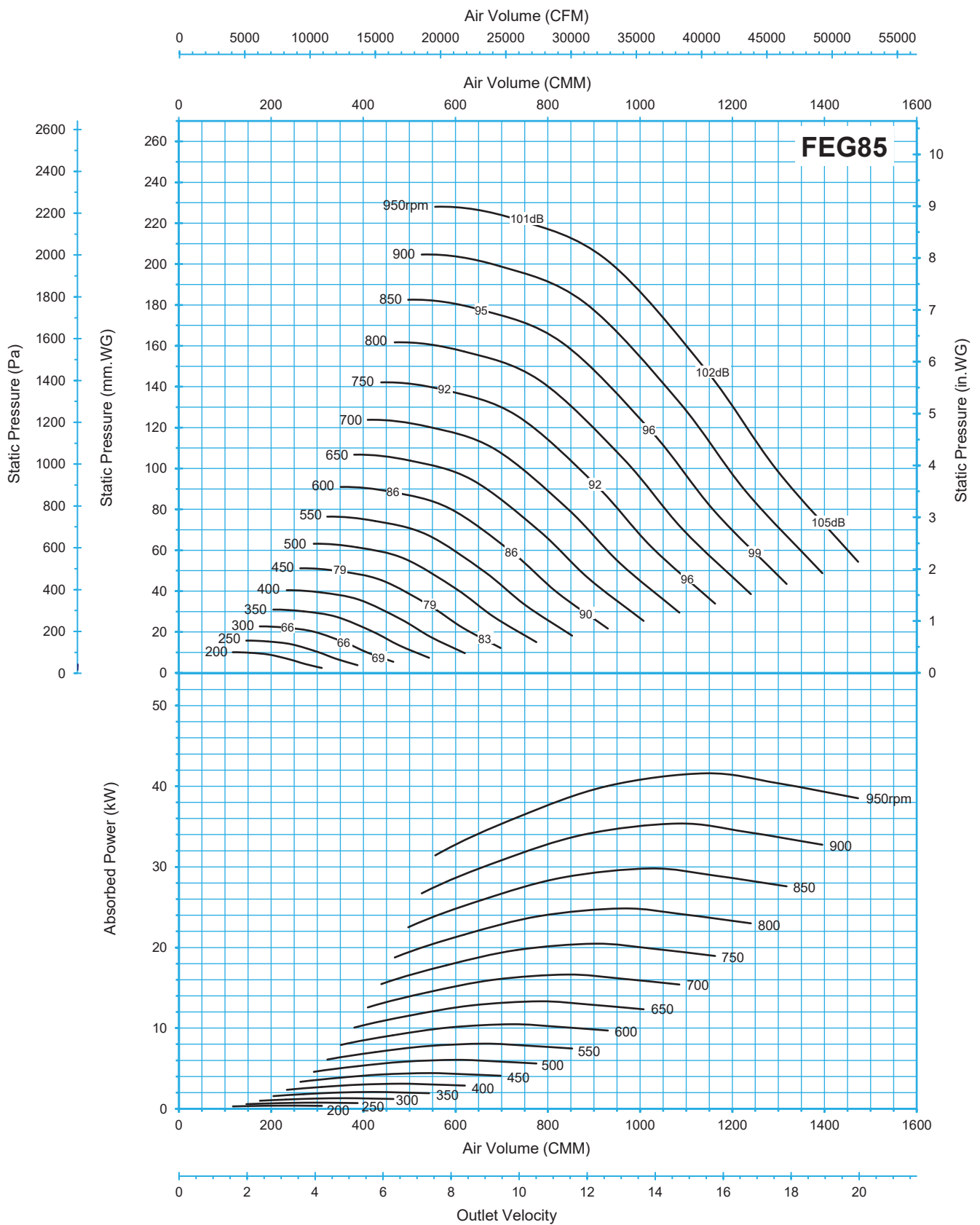


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0
Motor Weight (kg)	48	73	85	120	130	160	215	235	265	490	535
Fan Weight (kg)	1070.0	1070.0	1070.0	1070.0	1070.0	1070.0	1070.0	1070.0			
Total Weight (kg)	1118.0	1143.0	1155.0	1190.0	1200.0	1230.0	1285.0	1305.0			

TF-48BCS

$\rho = 1.2\text{kg/m}^3$



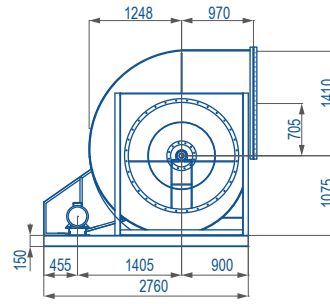
* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



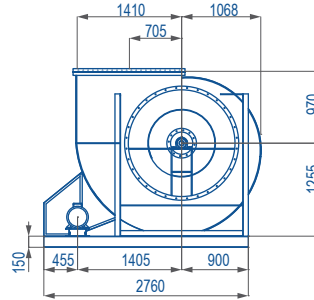
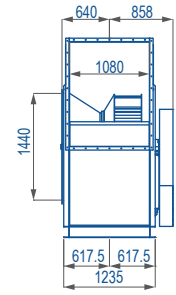
TF-54BCS

Backward Curved SWSI

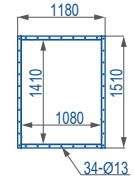
- Wheel diameter = 1401 mm.
- Outlet area = 1.5228 sq.m.
- Tip speed (m/s) = $0.0734 \times \text{RPM}$
- Maximum B.kW = $79.255 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 7.50 kW
- Moment of inertia : $GD^2 = 410\text{kg}\cdot\text{m}^2$



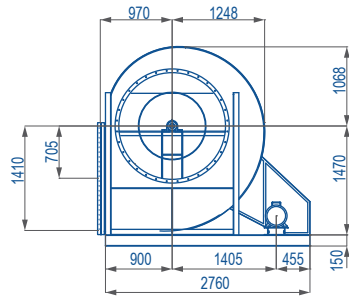
L1



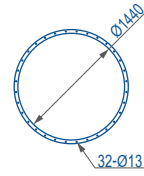
L2



FLANGE (OUTLET)



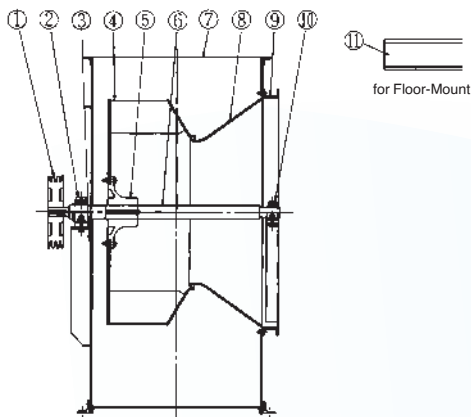
L3



FLANGE (INLET)



Sectional drawing and materials

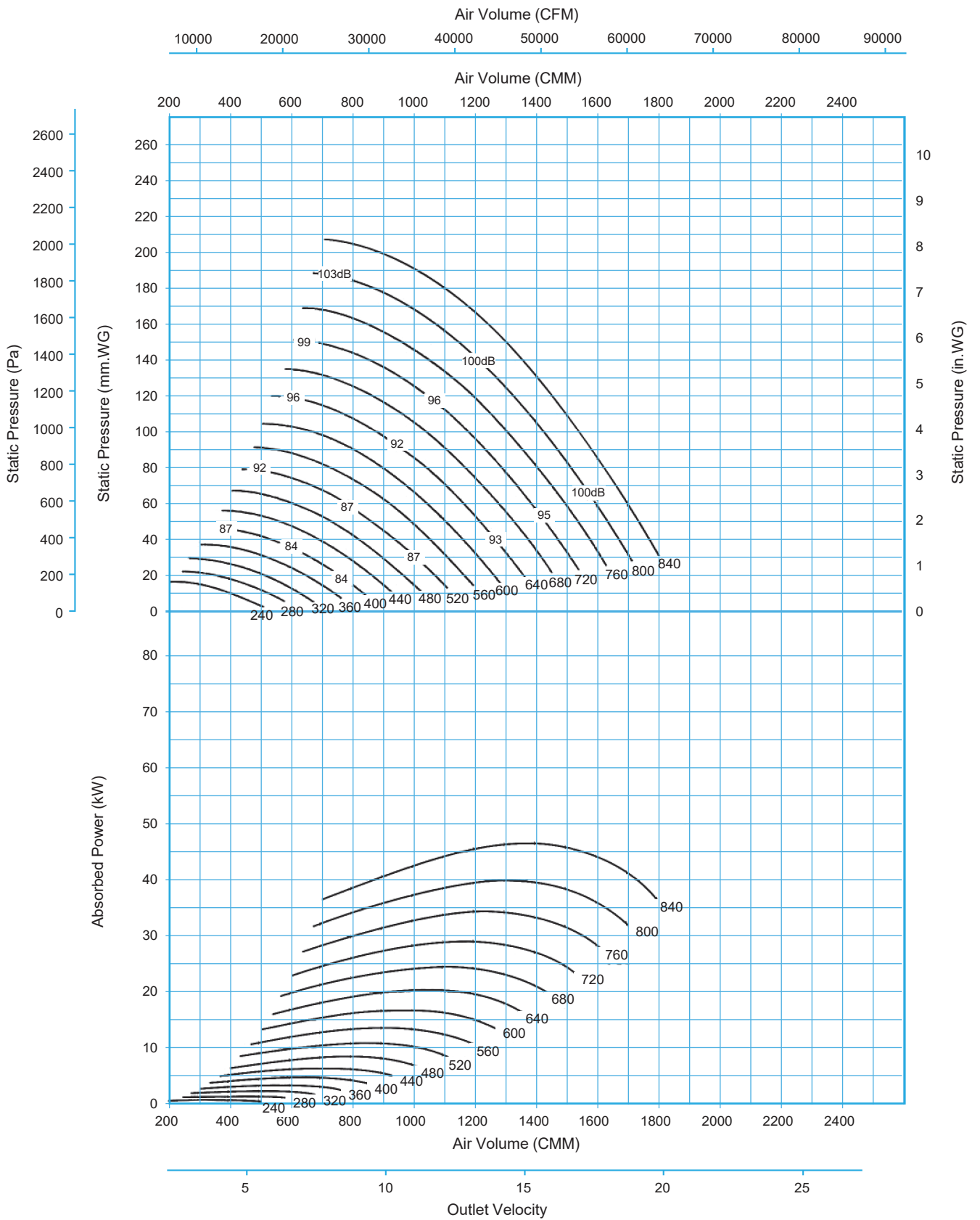


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing Base	Carbon steel
10	Bearing	—
11	Common Base	Carbon steel

Motor (kW)	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0
Motor Weight (kg)	48	73	85	120	130	160	215	235	265	490	535
Fan Weight (kg)	1490.0	1490.0	1490.0	1490.0	1490.0	1490.0	1490.0	1490.0	1490.0	1490.0	1490.0
Total Weight (kg)	1538.0	1563.0	1575.0	1610.0	1620.0	1650.0	1705.0	1725.0	1755.0	1755.0	1755.0

TF-54BCS

$\rho = 1.2\text{kg/m}^3$



*Model TF-54BCS is not licensed to bear the AMCA certified seal.

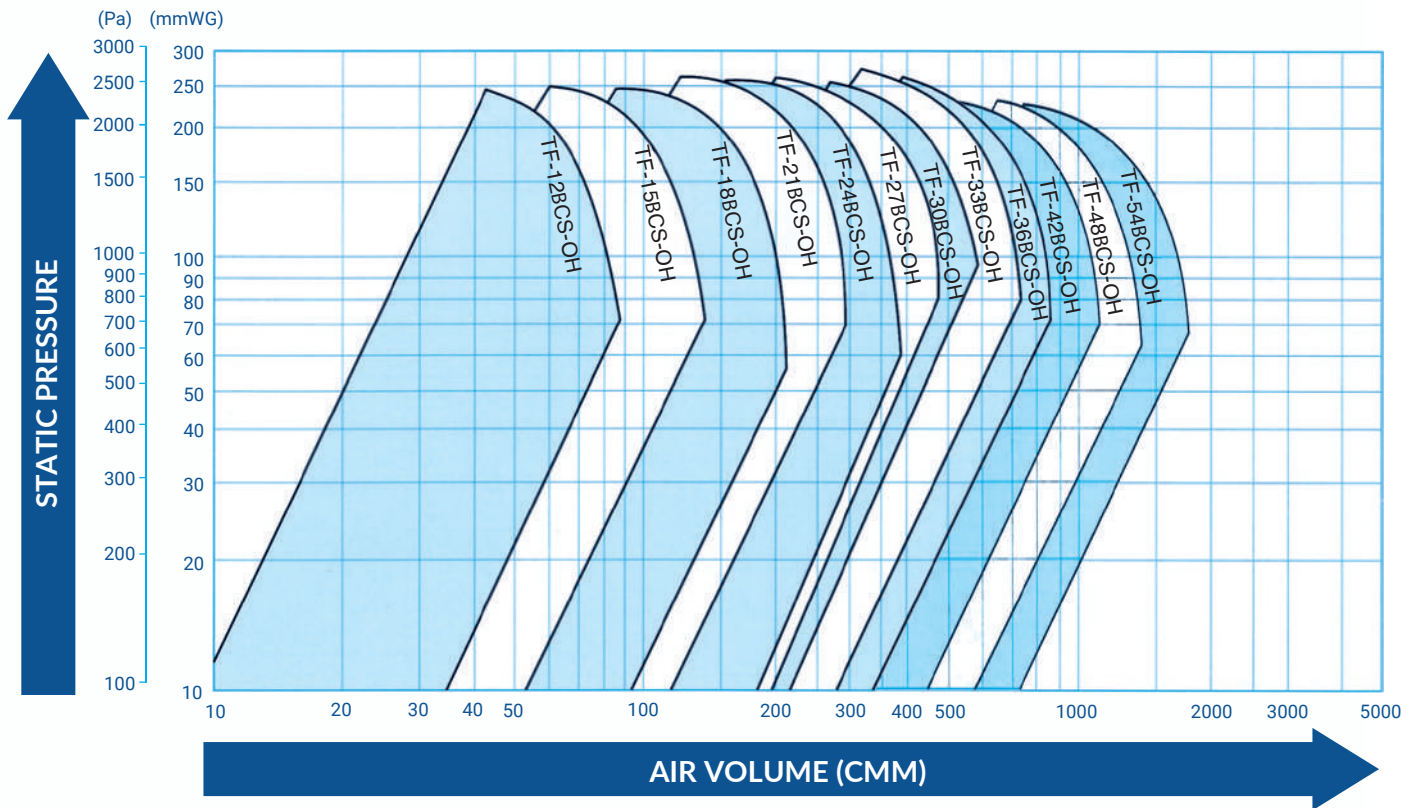
Backward Curved Limit-Load Fans Overhung Type Single Width Single Inlet (SWSI)

AIR PERFORMANCE DATA

TEB Ventilation Co., Ltd. certifies that the type BCS-OH Series Fans (page 99-120) shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



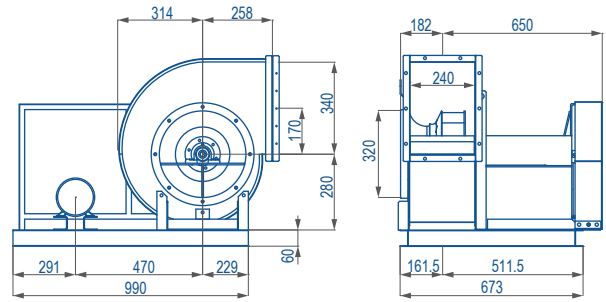
SELECTION CHART



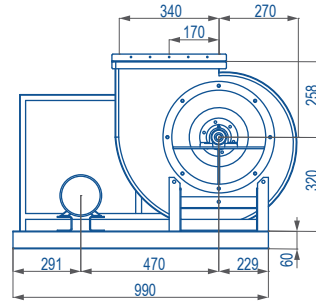
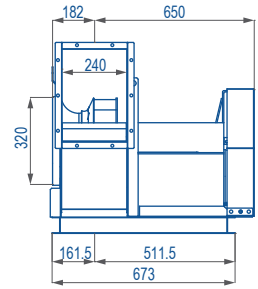
AVAILABLE MODELS

Model	Wheel Diameter		Approx. Weight of Fan & Housing (kg.)	Approx. Air Volume	
	mm.	inch		CMH	CFM
TF-12BCS-OH	310	12	124	4,404	2,591
TF-15BCS-OH	390	15	150	6,720	3,953
TF-18BCS-OH	467	18	191	9,360	5,506
TF-21BCS-OH	545	21	225	12,660	7,447
TF-24BCS-OH	623	24	330	16,560	9,741
TF-27BCS-OH	701	27	494	21,000	12,353
TF-30BCS-OH	778	30	560	25,920	15,247
TF-33BCS-OH	856	33	655	31,320	18,424
TF-36BCS-OH	934	36	820	37,260	21,918
TF-42BCS-OH	1,090	42	1,150	50,580	29,753
TF-48BCS-OH	1,245	48	1,630	66,600	39,176
TF-54BCS-OH	1,401	54	2,140	82,230	48,392

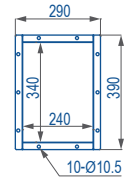
The approximate air volume is measured at air velocity of 15 m/s.
The approximate weight of fan & housing (kg.) includes common base, motor base and belt cover.



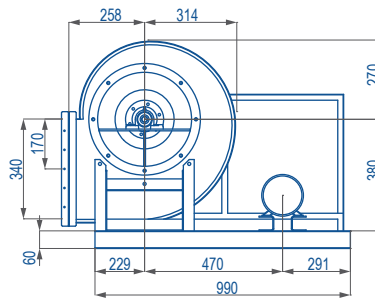
L1



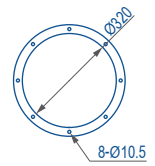
L2



FLANGE (OUTLET)



L3



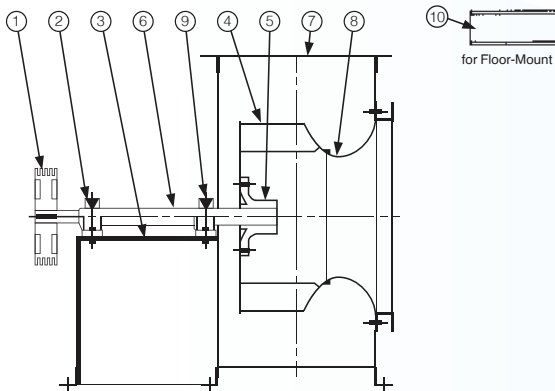
FLANGE (INLET)

TF-12BCS-OH

Backward Curved SWSI Overhung Type

- Wheel diameter = 316 mm.
- Outlet area = 0.079 sq.m.
- Tip speed (m/s) = 0.0162 x RPM
- Maximum B.kW = $0.047 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 0.75 kW
- Moment of inertia : GD² = 0.4kg*m²

Sectional drawing and materials

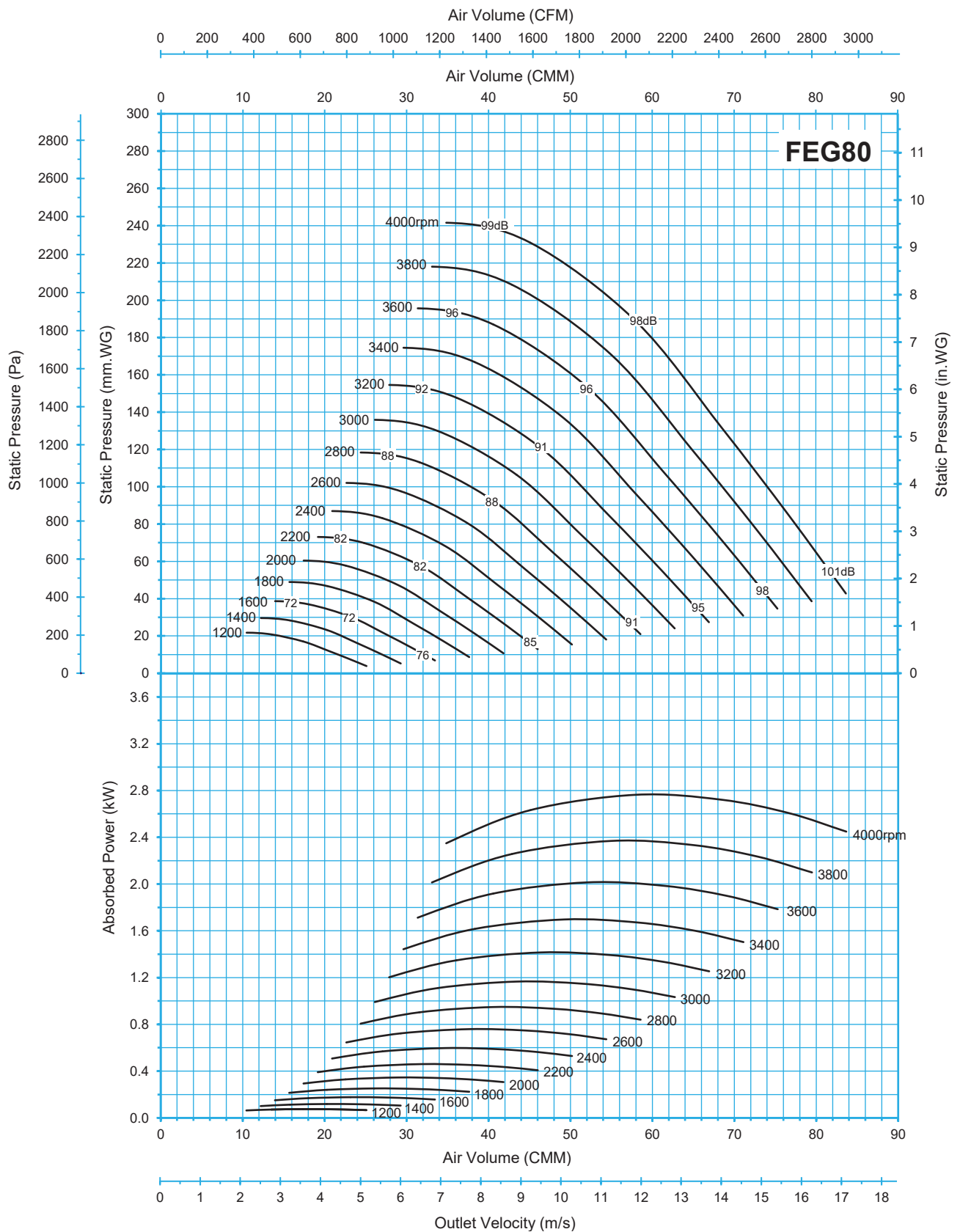


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing	—
10	Common Base	Carbon steel

Motor (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0
Motor Weight (kg)	12.5	16	21	28	40	48	73	85	120	130	160
Fan Weight (kg)	124.0	124.0	124.0	124.0							
Total Weight (kg)	136.5	140.0	145.0	152.0							

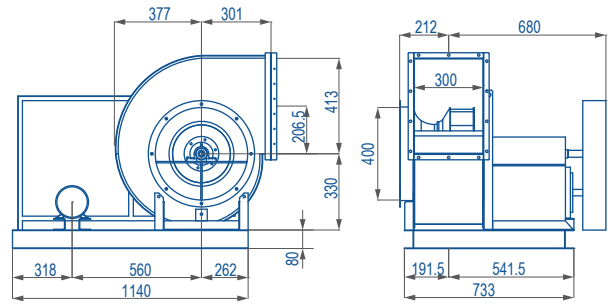
TF-12BCS-OH

$\rho = 1.2\text{kg/m}^3$

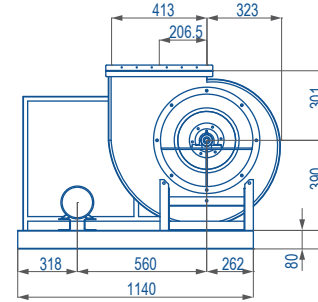


* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

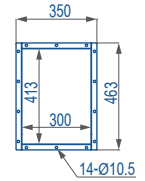
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



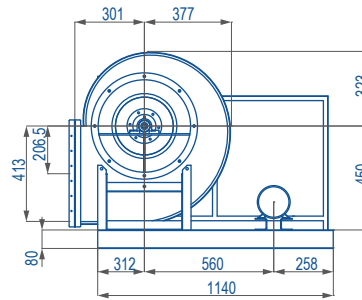
L1



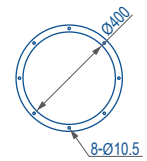
L2



FLANGE (OUTLET)



L3



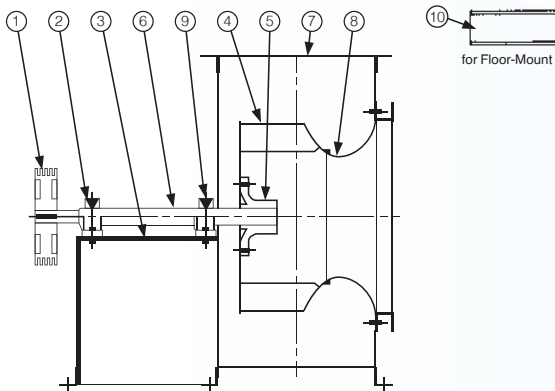
FLANGE (INLET)

TF-15BCS-OH

Backward Curved SWSI Overhung Type

- Wheel diameter = 399 mm.
- Outlet area = 0.122 sq.m.
- Tip speed (m/s) = $0.0204 \times \text{RPM}$
- Maximum B.kW = $0.145 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 0.75 kW
- Moment of inertia : $\text{GD}^2 = 1.0\text{kg}\cdot\text{m}^2$

Sectional drawing and materials

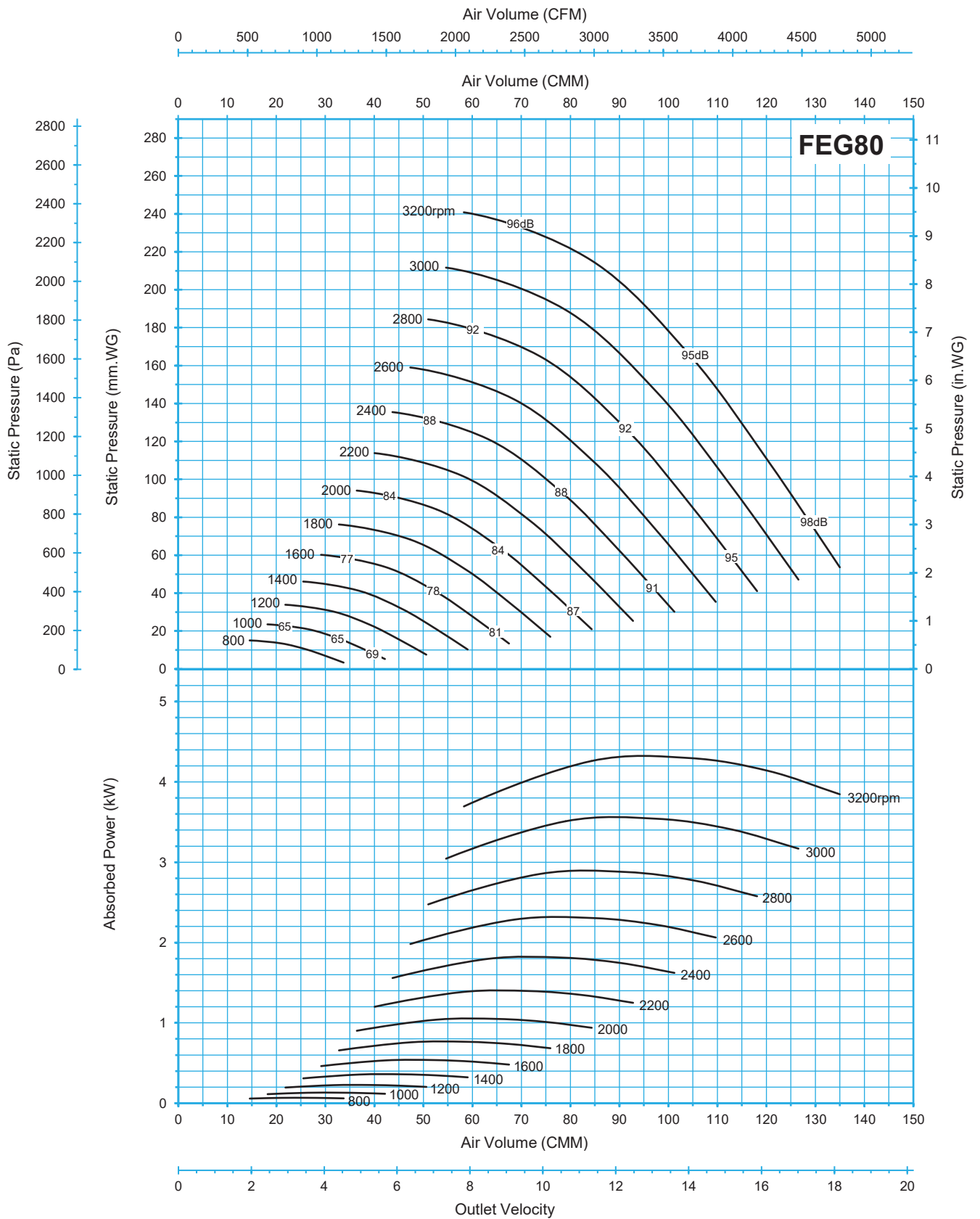


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing	—
10	Common Base	Carbon steel

Motor (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0
Motor Weight (kg)	12.5	16	21	28	40	48	73	85	120	130	160
Fan Weight (kg)	150.0	150.0	150.0	150.0	150.0						
Total Weight (kg)	162.5	166.0	171.0	178.0	190.0						

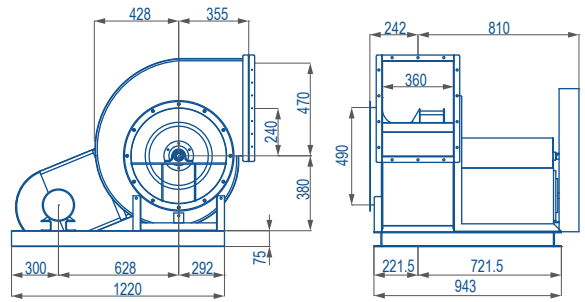
TF-15BCS-OH

$\rho = 1.2\text{kg/m}^3$

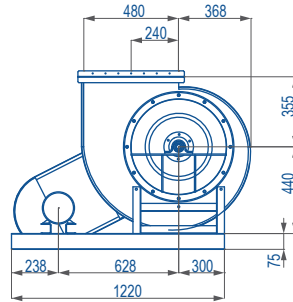


* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

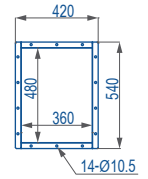
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



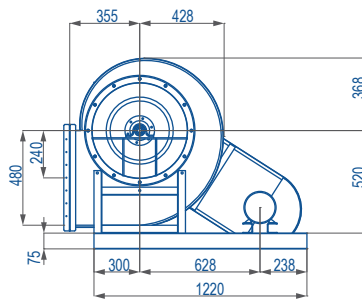
L1



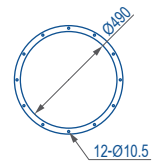
L2



FLANGE (OUTLET)



L3



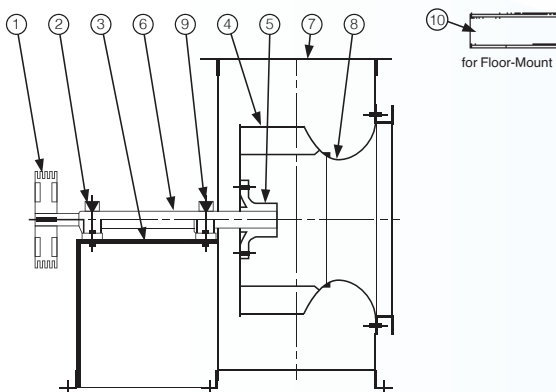
FLANGE (INLET)

TF-18BCS-OH

Backward Curved SWSI Overhung Type

- Wheel diameter = 475 mm.
- Outlet area = 0.169 sq.m.
- Tip speed (m/s) = 0.0245 x RPM
- Maximum B.kW = $0.371 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 0.75 kW
- Moment of inertia : $GD^2 = 1.0\text{kg}\cdot\text{m}^2$

Sectional drawing and materials

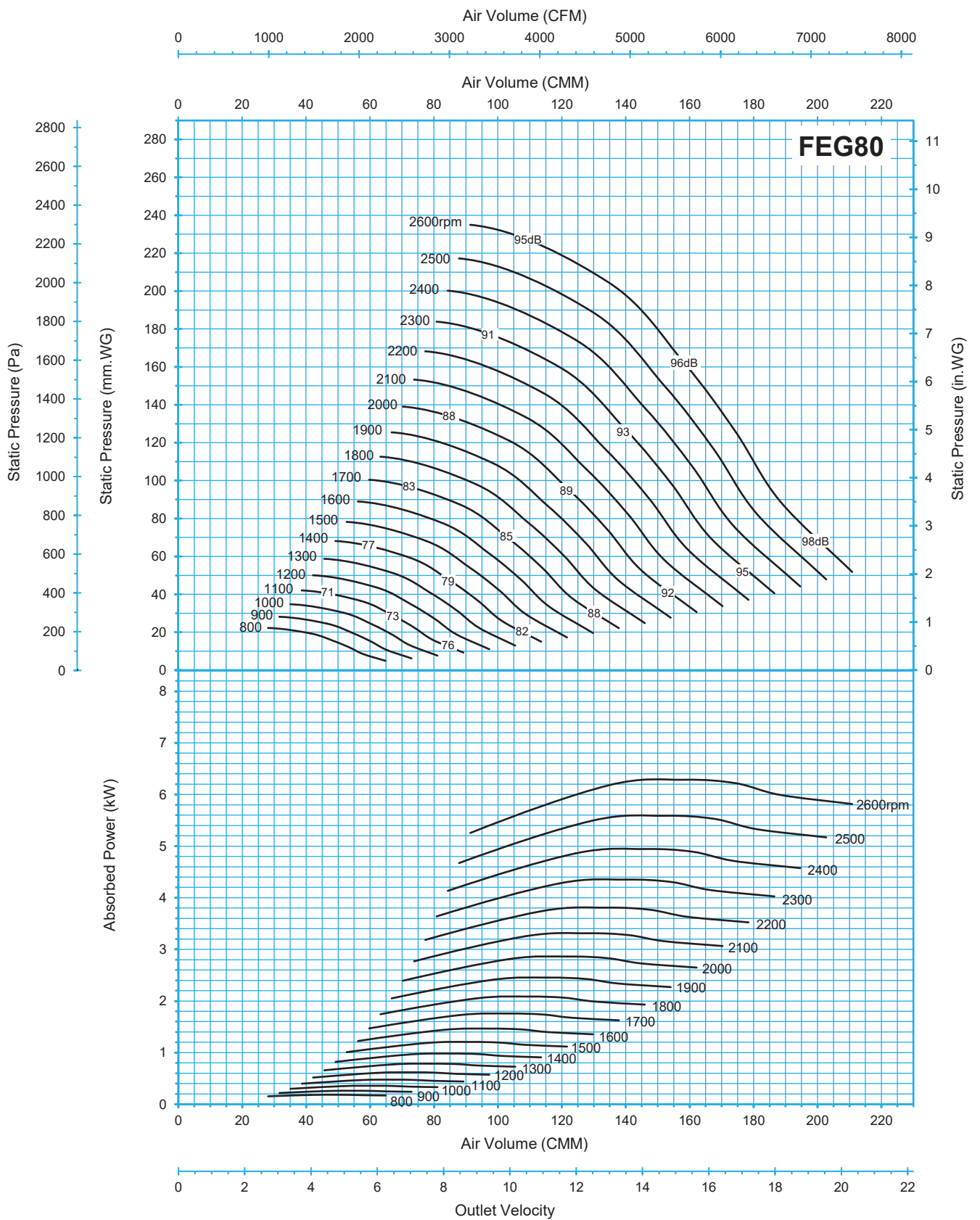


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing	—
10	Common Base	Carbon steel

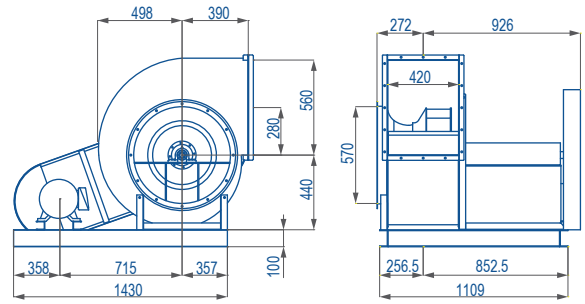
Motor (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0
Motor Weight (kg)	12.5	16	21	28	40	48	73	85	120	130	160
Fan Weight (kg)	191.0	191.0	191.0	191.0	191.0	191.0					
Total Weight (kg)	203.5	207.0	212.0	219.0	231.0	239.0					

TF-18BCS-OH

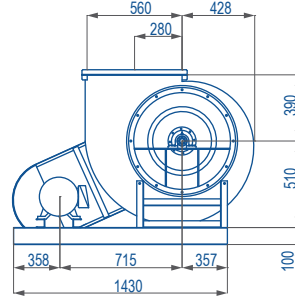
$\rho = 1.2\text{kg/m}^3$



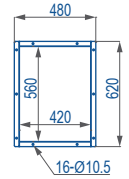
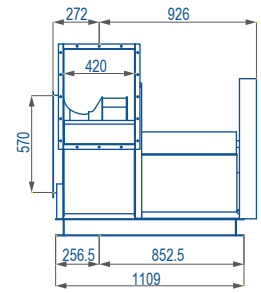
* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



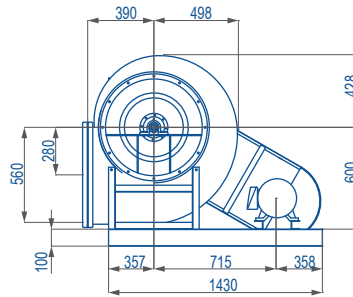
L1



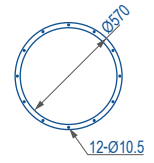
L2



FLANGE (OUTLET)



L3



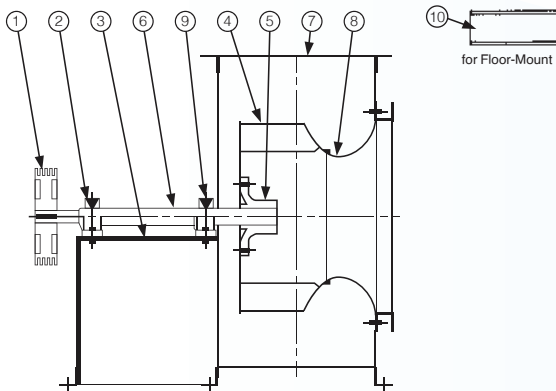
FLANGE (INLET)

TF-21BCS-OH

Backward Curved SWSI Overhung Type

- Wheel diameter = 554 mm.
- Outlet area = 0.232 sq.m.
- Tip speed (m/s) = 0.0285 x RPM
- Maximum B.kW = $0.803 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 1.50 kW
- Moment of inertia : GD² = 5.2kg*m²

Sectional drawing and materials

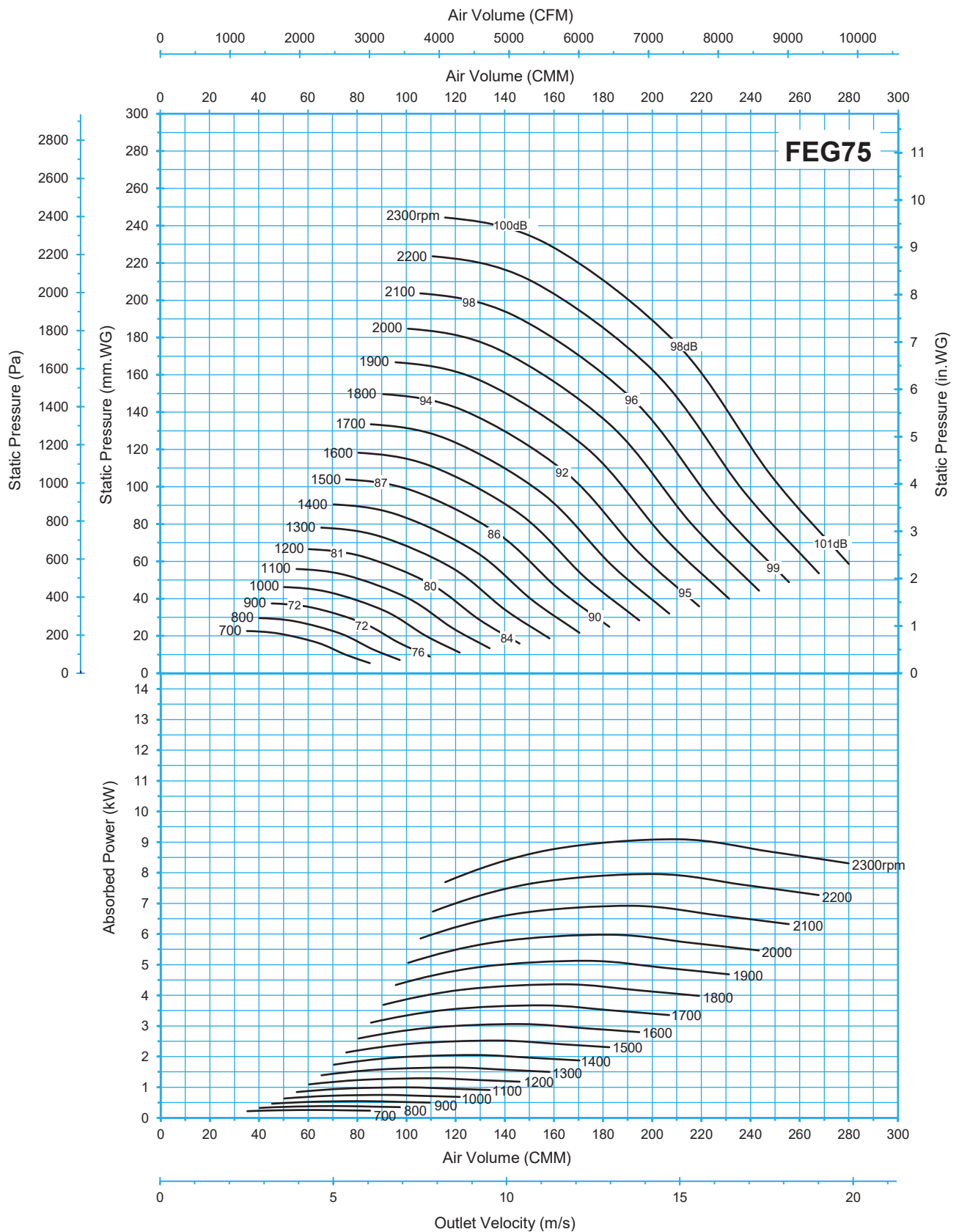


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing	—
10	Common Base	Carbon steel

Motor (kW)	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0
Motor Weight (kg)	16	21	28	40	48	73	85	120	130	160	215
Fan Weight (kg)	225.0	225.0	225.0	225.0	225.0	225.0	225.0	225.0	225.0	225.0	225.0
Total Weight (kg)	241.0	246.0	253.0	265.0	273.0	298.0					

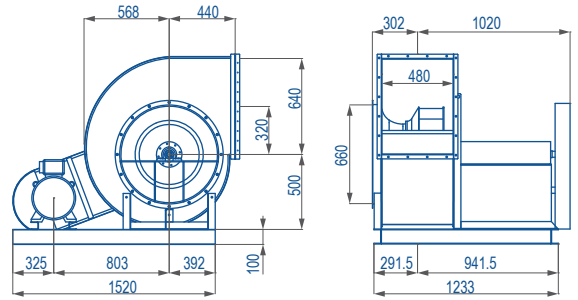
TF-21BCS-OH

$\rho = 1.2\text{kg/m}^3$

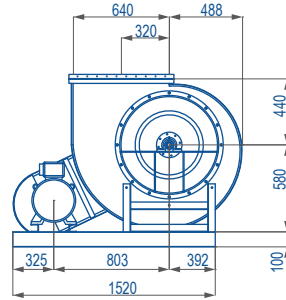


* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

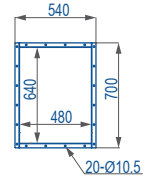
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



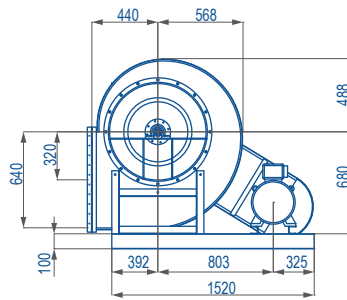
L1



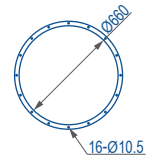
L2



FLANGE (OUTLET)



L3



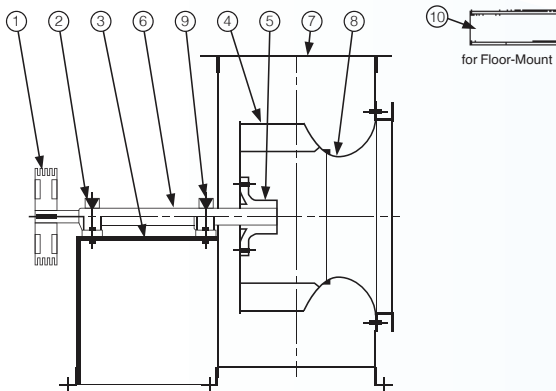
FLANGE (INLET)

TF-24BCS-OH

Backward Curved SWSI Overhung Type

- Wheel diameter = 631 mm.
- Outlet area = 0.304 sq.m.
- Tip speed (m/s) = 0.0326 x RPM
- Maximum B.kW = $1.569 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 2.20 kW
- Moment of inertia : $GD^2 = 8.8\text{kg}\cdot\text{m}^2$

Sectional drawing and materials

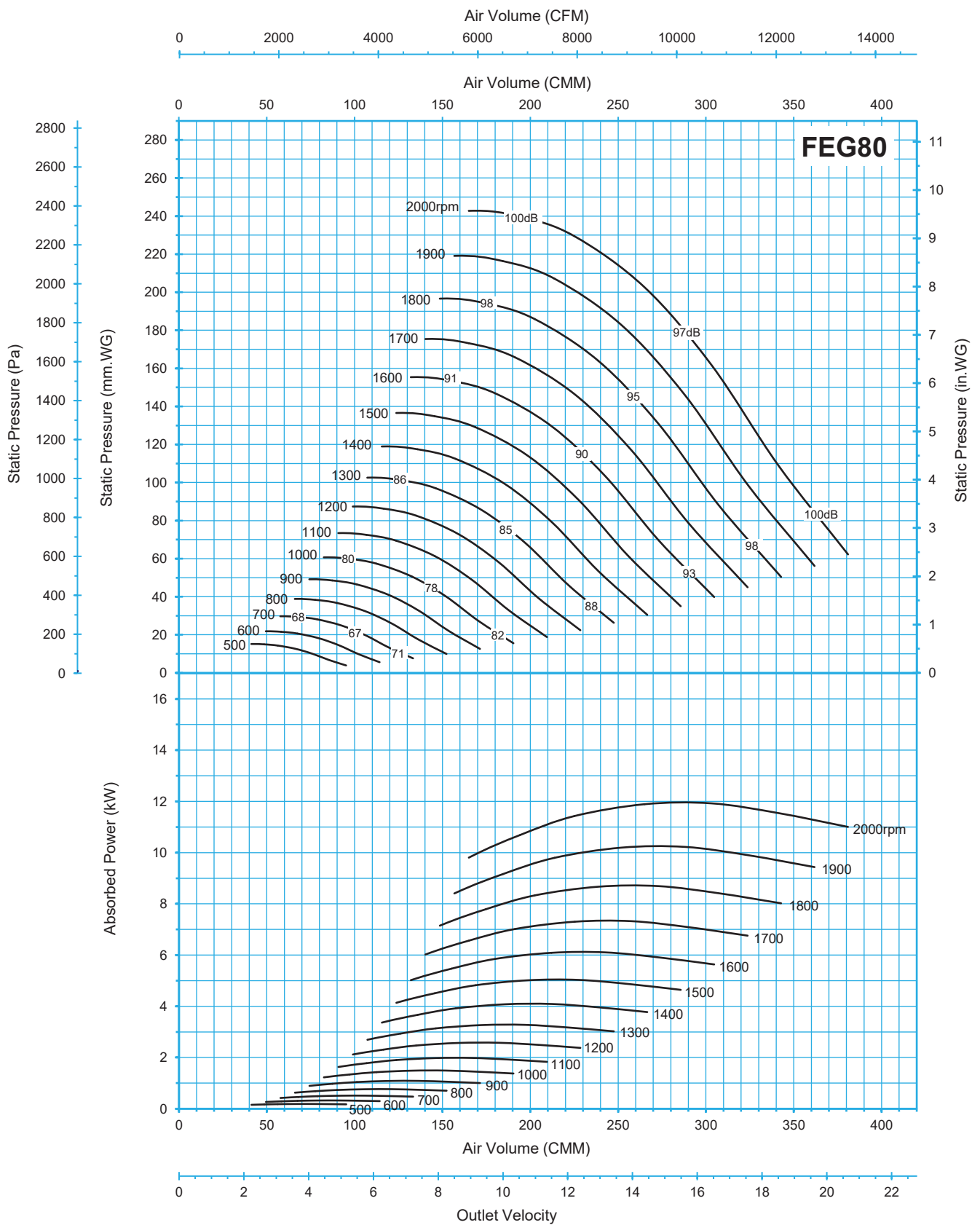


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing	—
10	Common Base	Carbon steel

Motor (kW)	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0
Motor Weight (kg)	21	28	40	48	73	85	120	130	160	215	235
Fan Weight (kg)	330.0	330.0	330.0	330.0	330.0	330.0					
Total Weight (kg)	351.0	358.0	370.0	378.0	403.0	415.0					

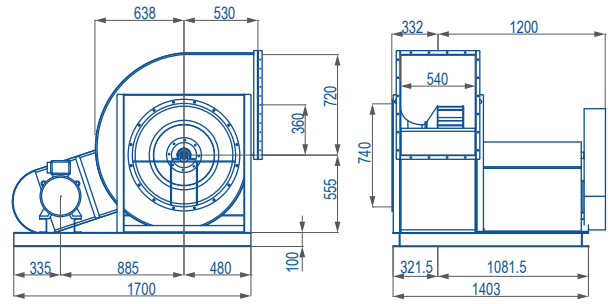
TF-24BCS-OH

$\rho = 1.2\text{kg/m}^3$

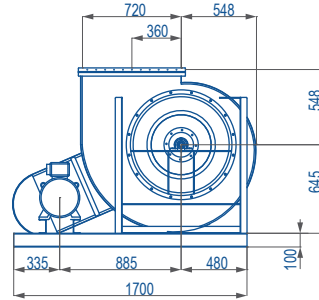


* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

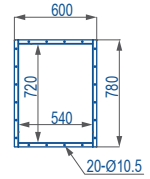
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



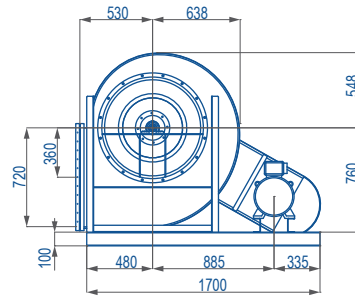
L1



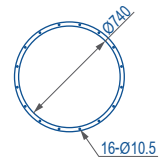
L2



FLANGE (OUTLET)



L3



FLANGE (INLET)

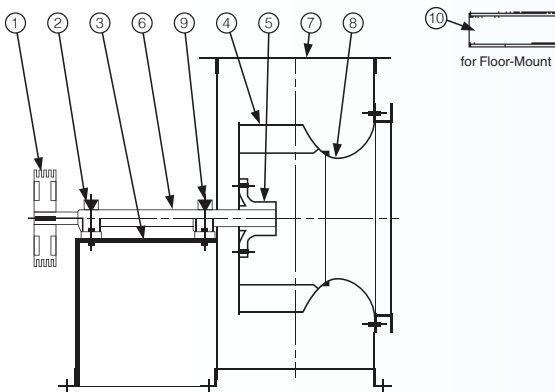
TF-27BCS-OH

Backward Curved SWSI Overhung Type

- Wheel diameter = 709 mm.
- Outlet area = 0.383 sq.m.
- Tip speed (m/s) = $0.0367 \times \text{RPM}$
- Maximum B.kW = $2.785 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 2.20 kW
- Moment of inertia : $GD^2 = 17\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

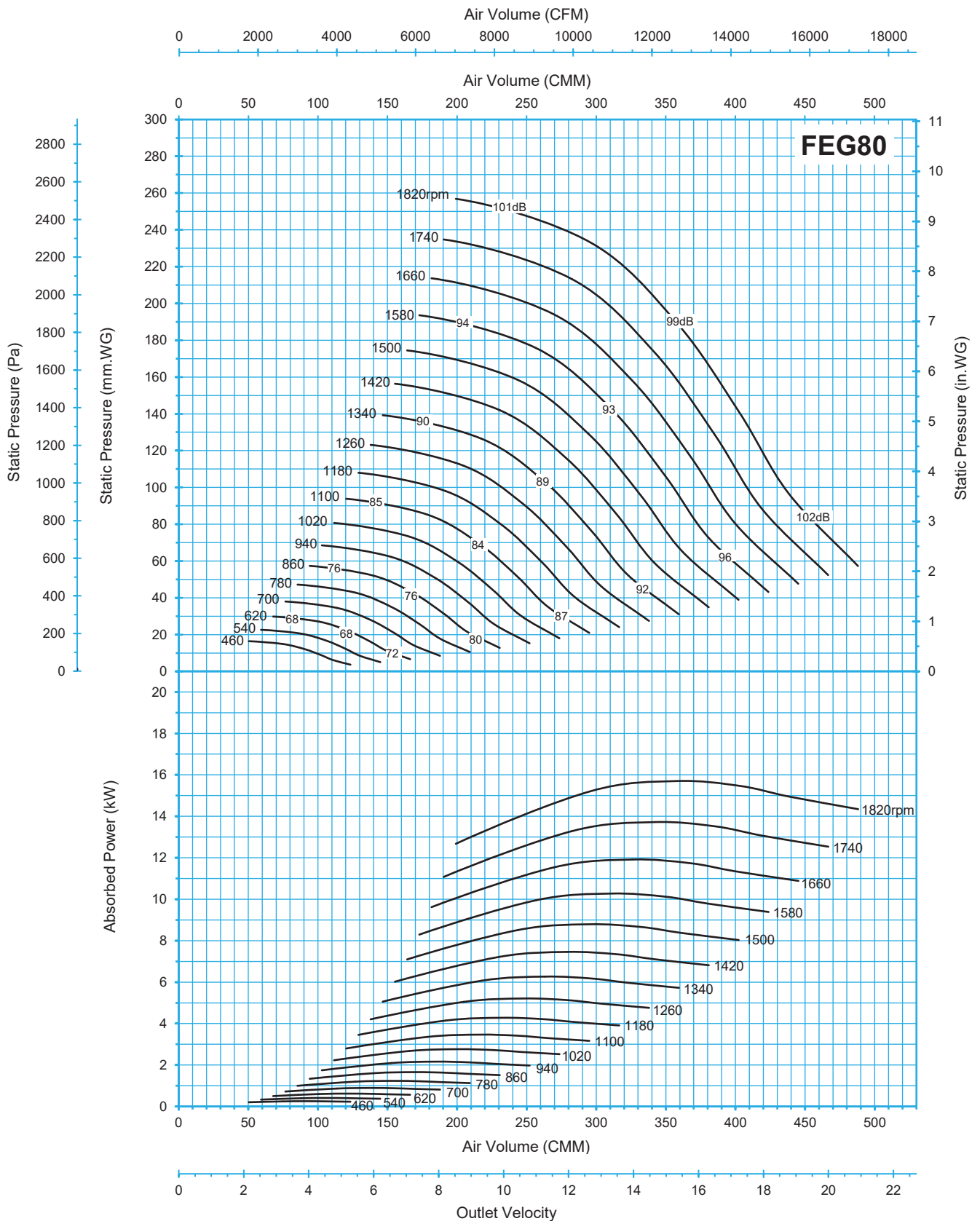


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing	—
10	Common Base	Carbon steel

Motor (kW)	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0
Motor Weight (kg)	21	28	40	48	73	85	120	130	160	215	235
Fan Weight (kg)	494.0	494.0	494.0	494.0	494.0	494.0	494.0				
Total Weight (kg)	515.0	522.0	534.0	542.0	567.0	579.0	614.0				

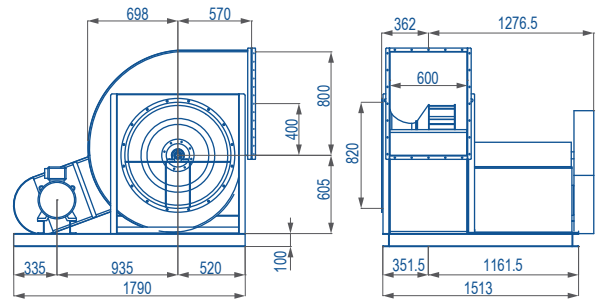
TF-27BCS-OH

$\rho = 1.2\text{kg/m}^3$

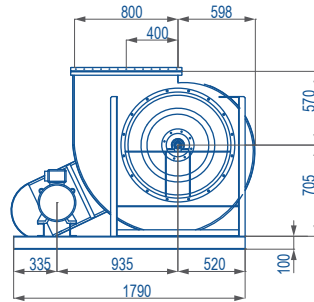


* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

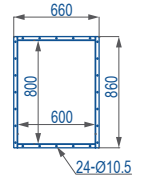
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



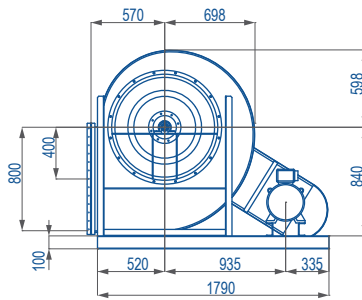
L1



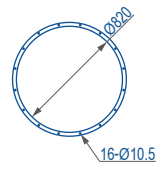
L2



FLANGE (OUTLET)



L3



FLANGE (INLET)

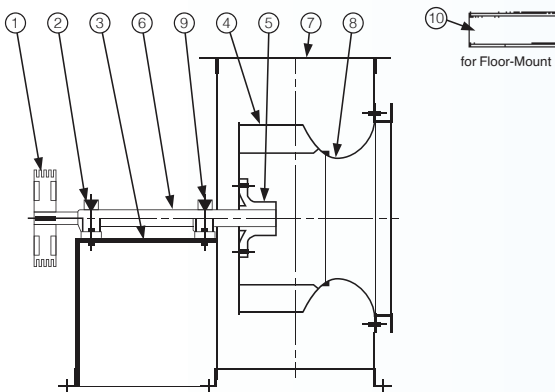
TF-30BCS-OH

Backward Curved SWSI Overhung Type

- Wheel diameter = 786 mm.
- Outlet area = 0.479 sq.m.
- Tip speed (m/s) = $0.0407 \times \text{RPM}$
- Maximum B.kW = $4.693 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 3.70 kW
- Moment of inertia : $GD^2 = 27\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

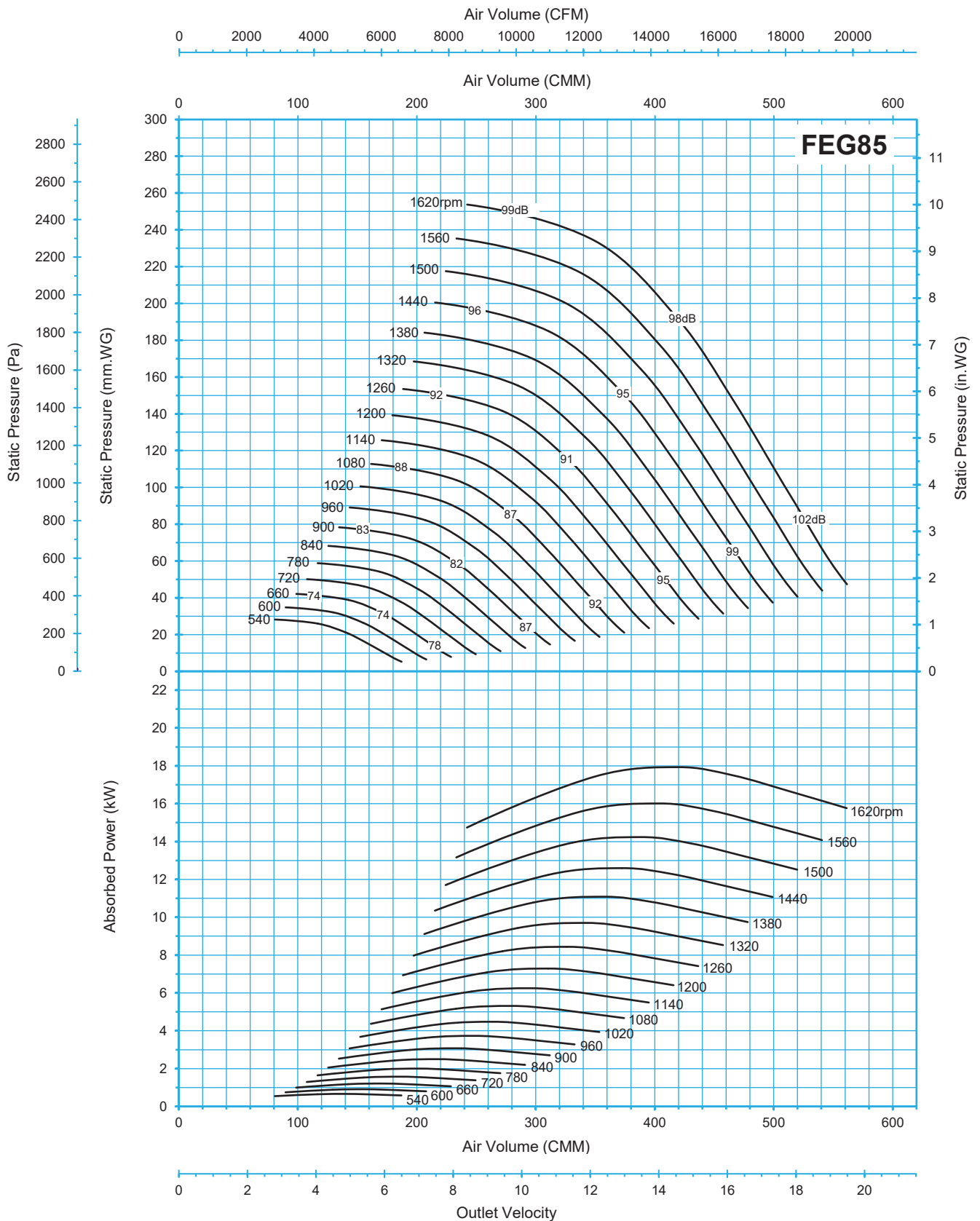


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing	—
10	Common Base	Carbon steel

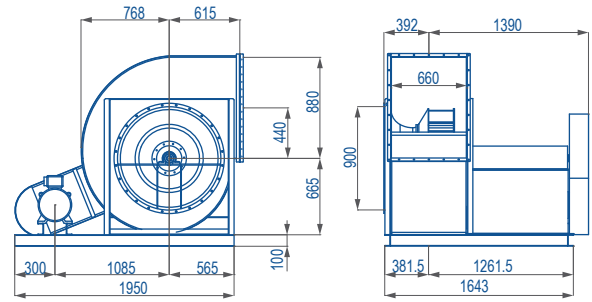
Motor (kW)	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0
Motor Weight (kg)	28	40	48	73	85	120	130	160	215	235	265
Fan Weight (kg)	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0
Total Weight (kg)	588.0	600.0	608.0	633.0	645.0	680.0	690.0	690.0	690.0	690.0	690.0

TF-30BCS-OH

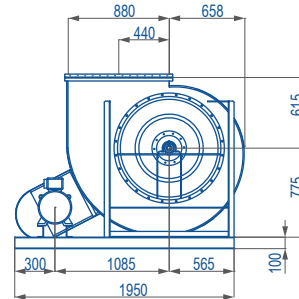
$\rho = 1.2\text{kg/m}^3$



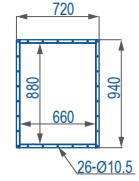
* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



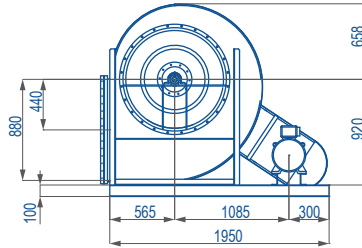
L1



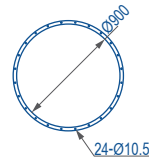
L2



FLANGE (OUTLET)



L3



FLANGE (INLET)

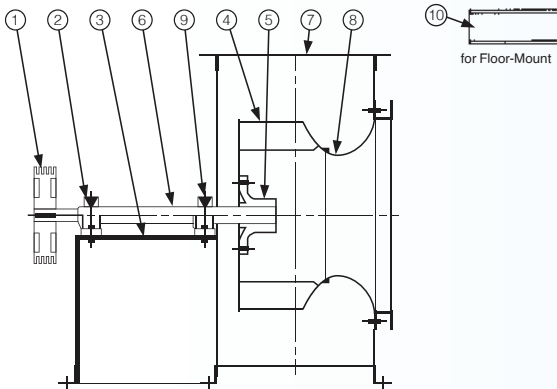
TF-33BCS-OH

Backward Curved SWSI
Overhung Type

- Wheel diameter = 866 mm.
- Outlet area = 0.447 sq.m.
- Tip speed (m/s) = 0.0448 x RPM
- Maximum B.kW = 7.561 x $\left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 3.70 kW
- Moment of inertia : GD² = 40kg*m²



Sectional drawing and materials

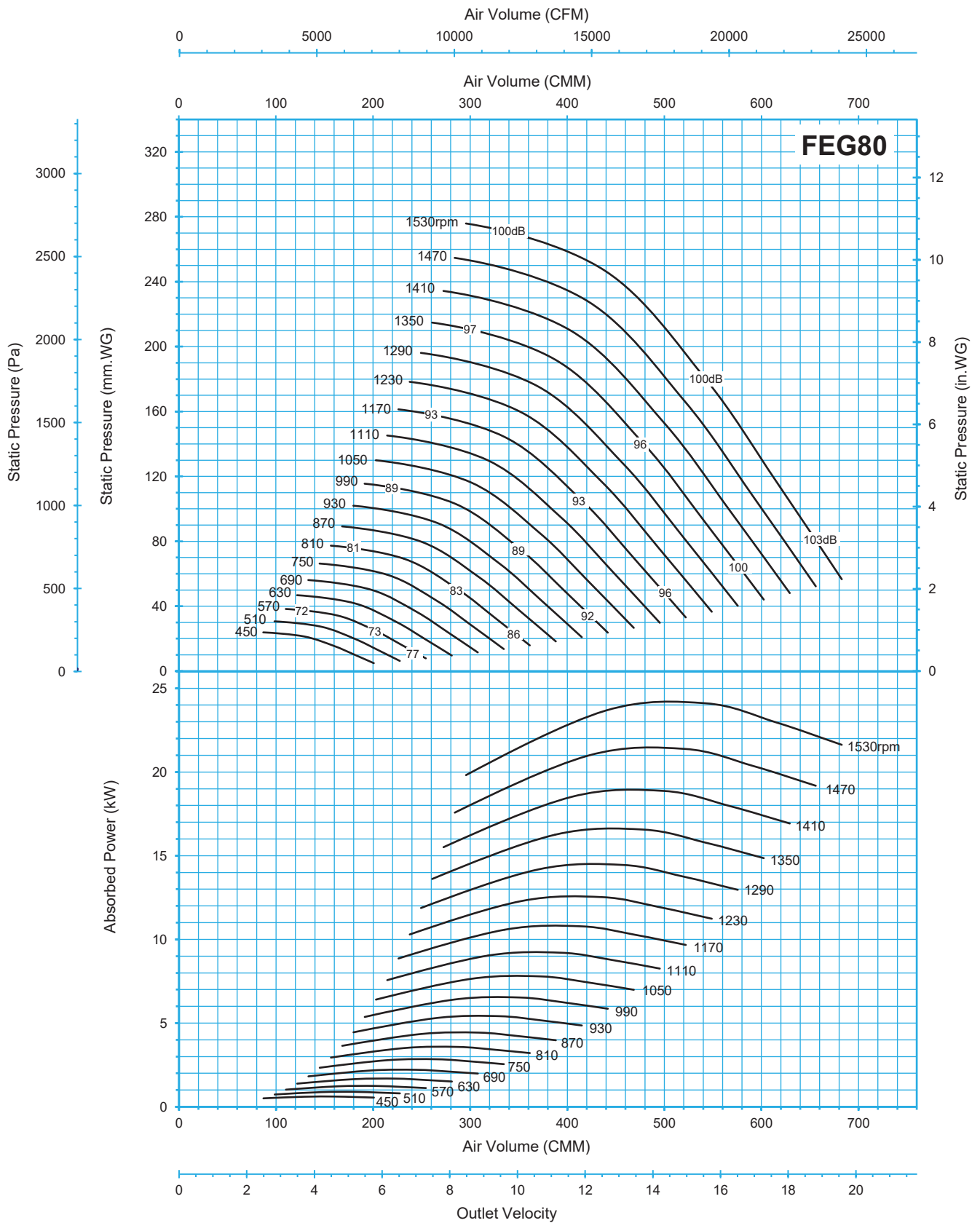


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing	—
10	Common Base	Carbon steel

Motor (kW)	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0
Motor Weight (kg)	28	40	48	73	85	120	130	160	215	235	265
Fan Weight (kg)	655.0	655.0	655.0	655.0	655.0	655.0	655.0	655.0			
Total Weight (kg)	683.0	695.0	703.0	728.0	740.0	775.0	785.0	815.0			

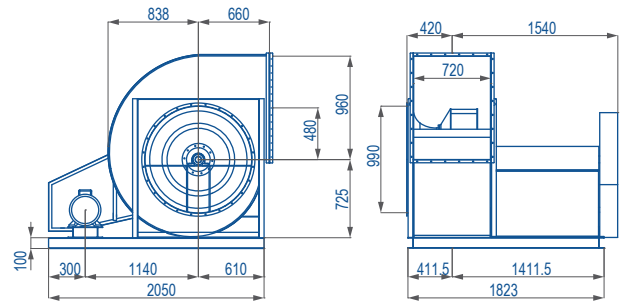
TF-33BCS-OH

$\rho = 1.2\text{kg/m}^3$

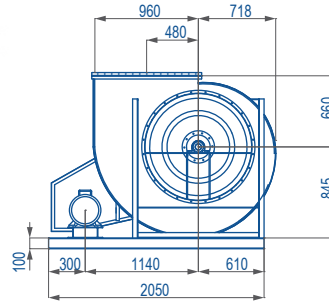


* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

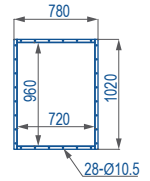
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



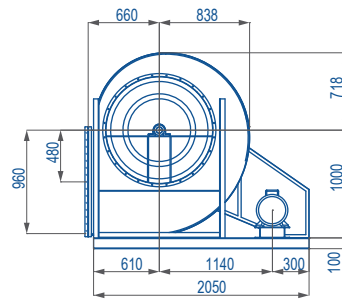
L1



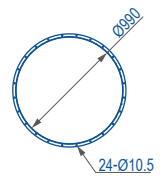
L2



FLANGE (OUTLET)



L3



FLANGE (INLET)

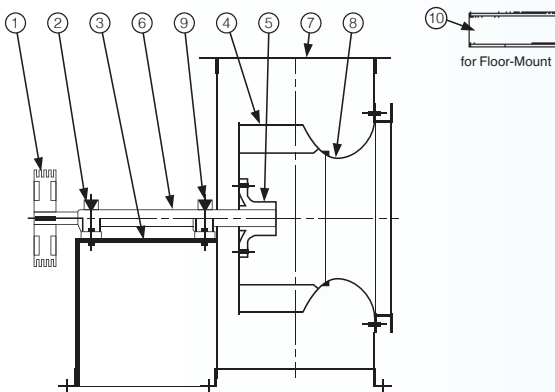
TF-36BCS-OH

Backward Curved SWSI
Overhung Type

- Wheel diameter = 942 mm.
- Outlet area = 0.689 sq.m.
- Tip speed (m/s) = 0.0489 x RPM
- Maximum B.kW = $11.698 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 5.50 kW
- Moment of inertia : $GD^2 = 70\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

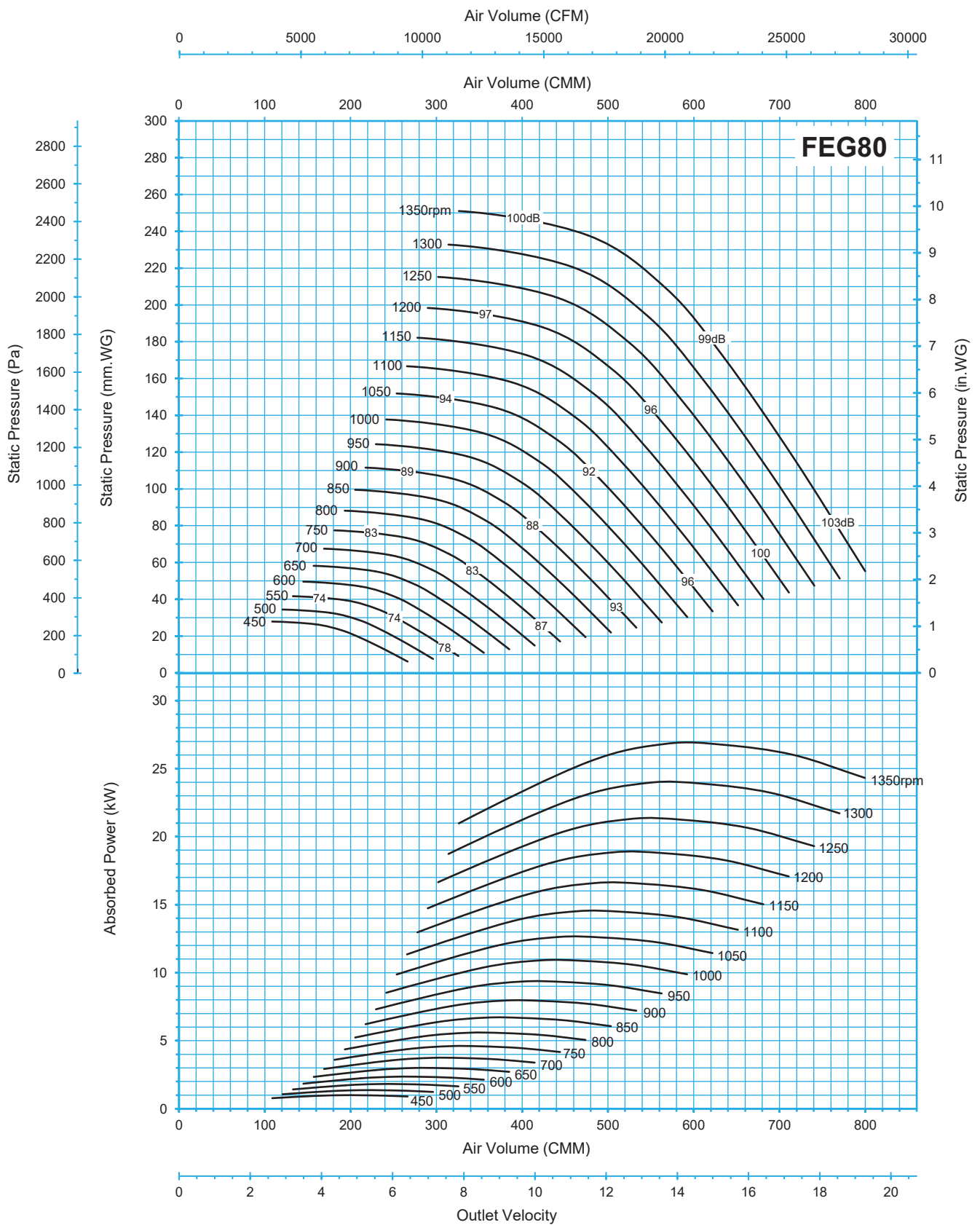


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing	—
10	Common Base	Carbon steel

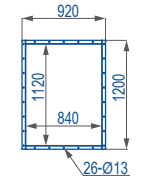
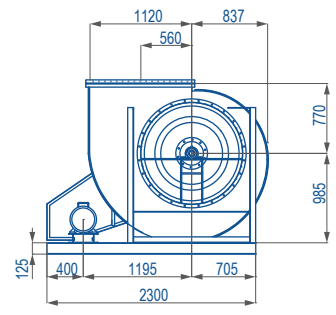
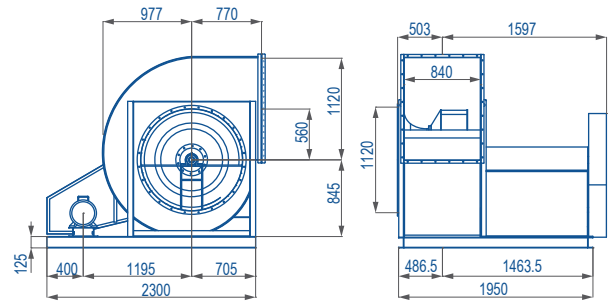
Motor (kW)	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0
Motor Weight (kg)	40	48	73	85	120	130	160	215	235	265	490
Fan Weight (kg)	820.0	820.0	820.0	820.0	820.0	820.0	820.0				
Total Weight (kg)	860.0	868.0	893.0	905.0	940.0	950.0	980.0				

TF-36BCS-OH

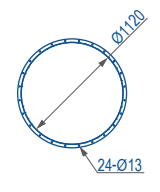
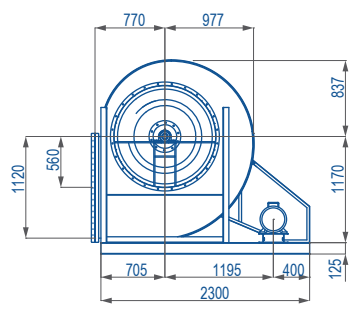
$\rho = 1.2\text{kg/m}^3$



* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 * The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



FLANGE (OUTLET)



FLANGE (INLET)

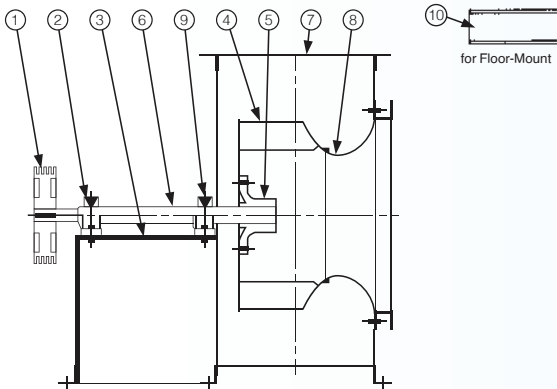
TF-42BCS-OH

Backward Curved SWSI
Overhung Type

- Wheel diameter = 1101 mm.
- Outlet area = 0.923 sq.m.
- Tip speed (m/s) = 0.0571 x RPM
- Maximum B.kW = $25.169 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 5.50 kW
- Moment of inertia : $GD^2 = 145\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

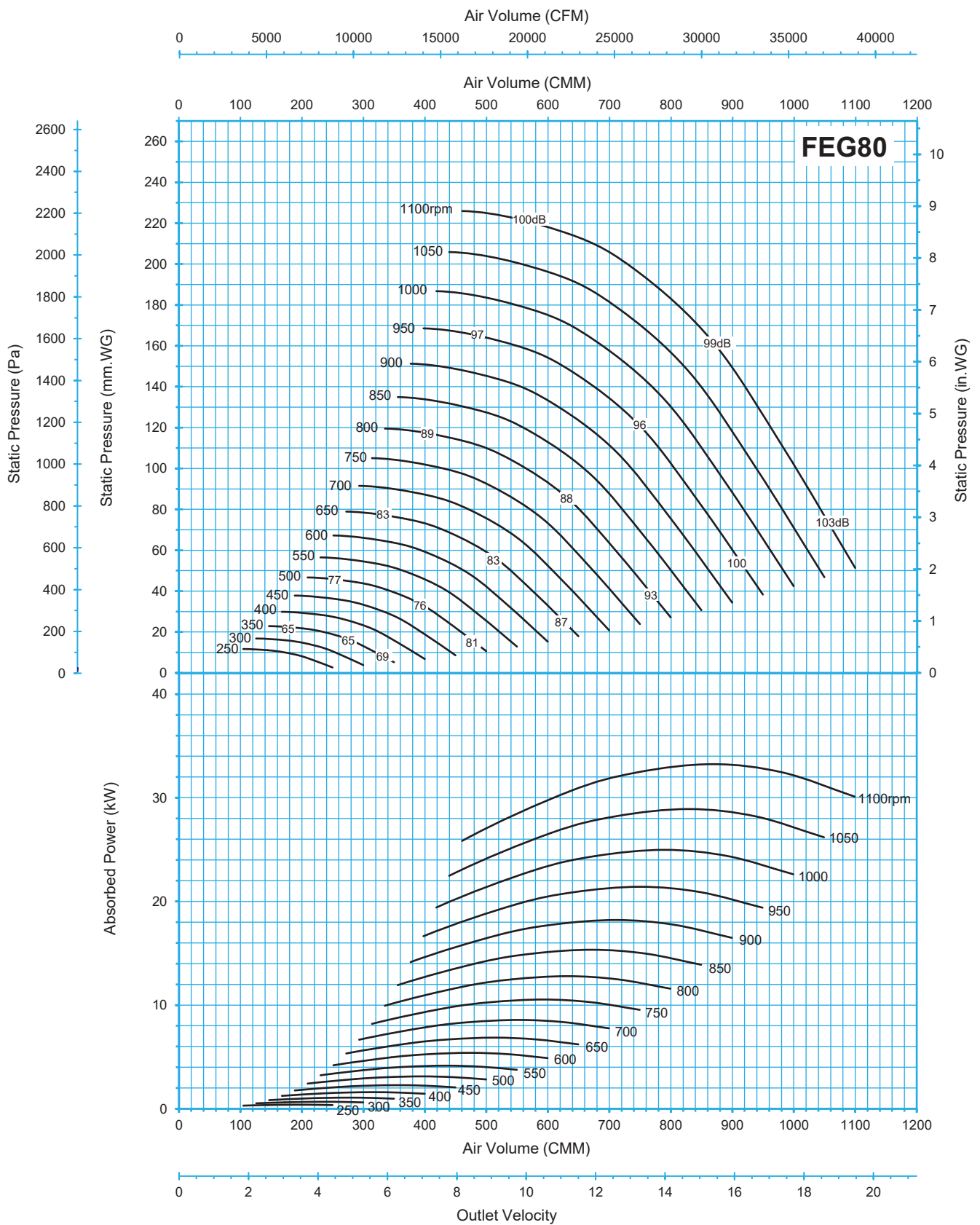


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing	—
10	Common Base	Carbon steel

Motor (kW)	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0
Motor Weight (kg)	40	48	73	85	120	130	160	215	235	265	490
Fan Weight (kg)	1236.0	1236.0	1236.0	1236.0	1236.0	1236.0	1236.0	1236.0	1236.0	1236.0	1236.0
Total Weight (kg)	1276.0	1284.0	1309.0	1321.0	1356.0	1366.0	1396.0	1451.0	1451.0	1451.0	1451.0

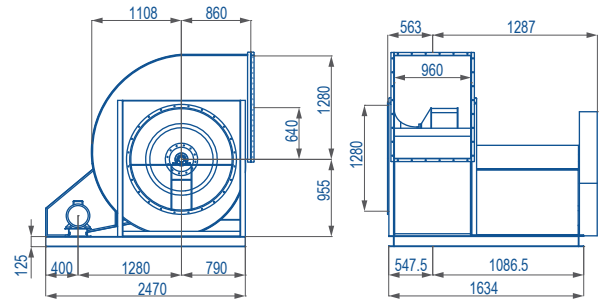
TF-42BCS-OH

$\rho = 1.2\text{kg/m}^3$

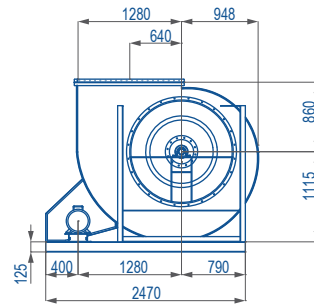


* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

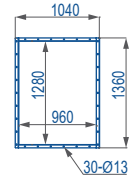
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



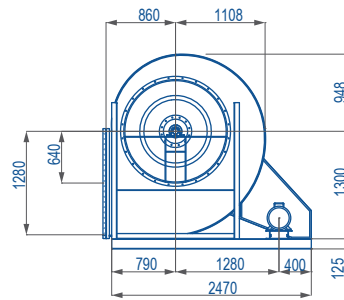
L1



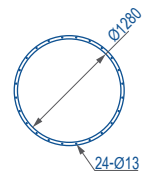
L2



FLANGE (OUTLET)



L3



FLANGE (INLET)

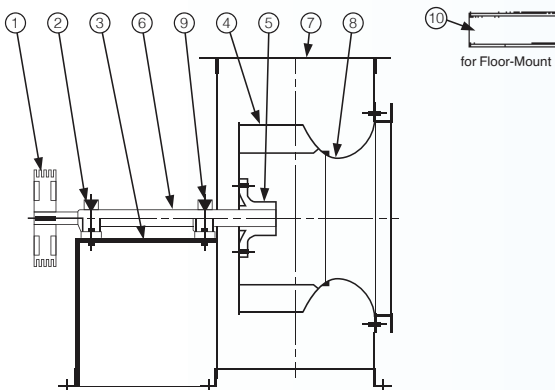
TF-48BCS-OH

Backward Curved SWSI Overhung Type

- Wheel diameter = 1249 mm.
- Outlet area = 1.217 sq.m.
- Tip speed (m/s) = 0.0652 x RPM
- Maximum B.kW = 48.987 x $\left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 7.50 kW
- Moment of inertia : GD² = 245kg*m²



Sectional drawing and materials

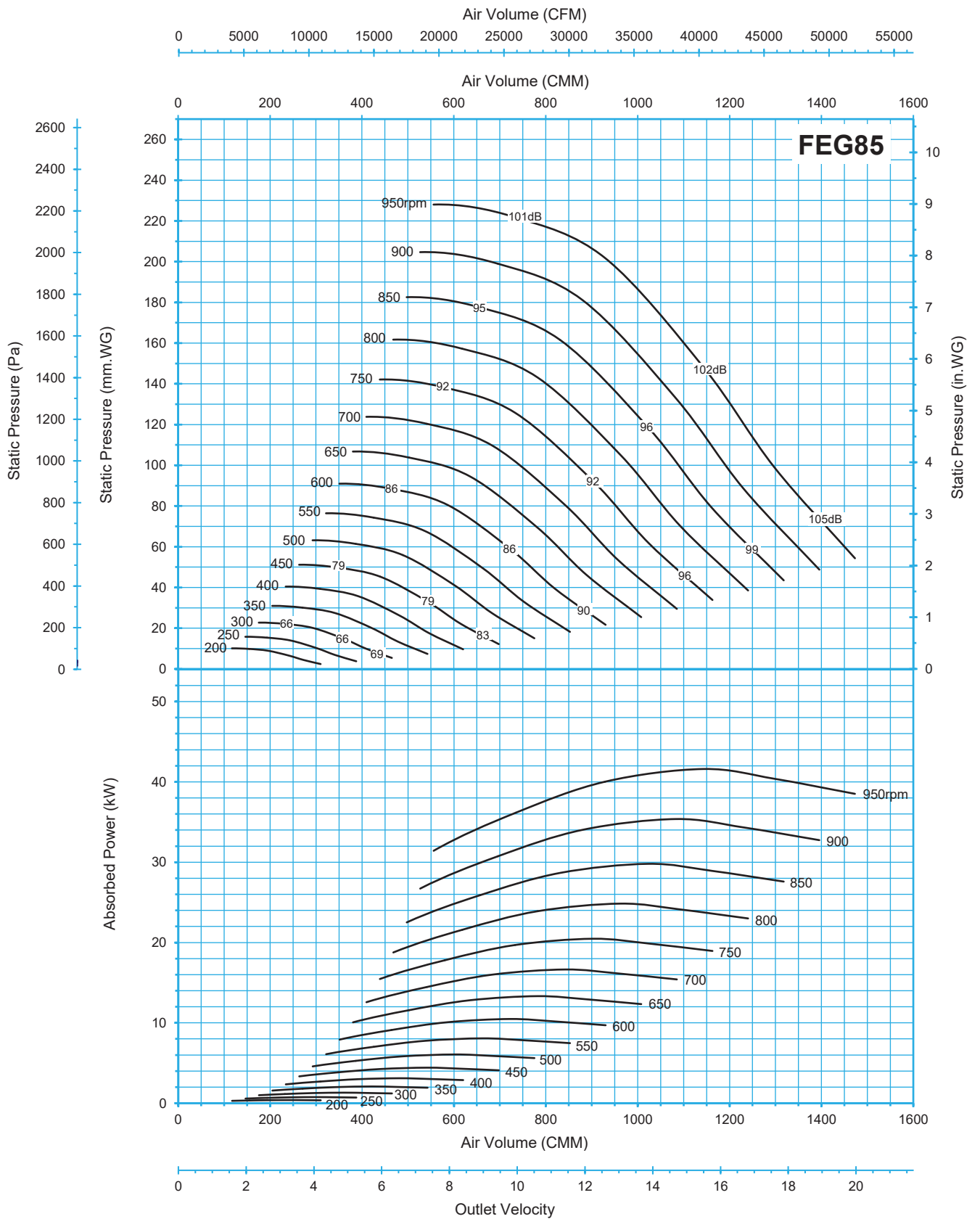


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing	—
10	Common Base	Carbon steel

Motor (kW)	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0
Motor Weight (kg)	48	73	85	120	130	160	215	235	265	490	535
Fan Weight (kg)	1396.0	1396.0	1396.0	1396.0	1396.0	1396.0	1396.0	1396.0	1396.0	1396.0	1396.0
Total Weight (kg)	1444.0	1469.0	1481.0	1516.0	1526.0	1556.0	1611.0	1631.0	1631.0	1631.0	1631.0

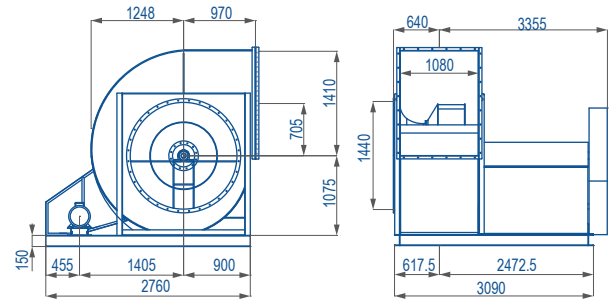
TF-48BCS-OH

$\rho = 1.2\text{kg/m}^3$

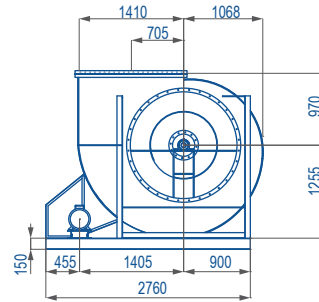


* Performance certified is for installation type B - Free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

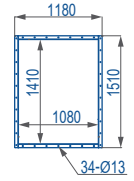
* The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwIA sound power levels for installation type B: free inlet, ducted outlet.



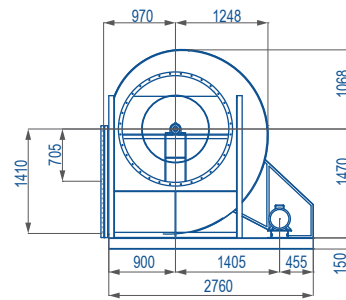
L1



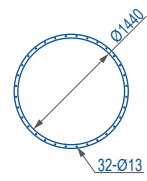
L2



FLANGE (OUTLET)



L3



FLANGE (INLET)

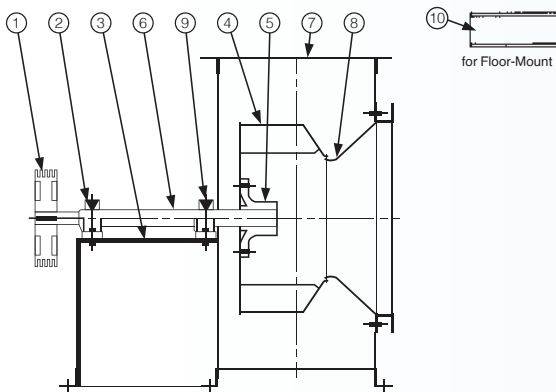
TF-54BCS-OH

Backward Curved SWSI Overhung Type

- Wheel diameter = 1401 mm.
- Outlet area = 1.5228 sq.m.
- Tip speed (m/s) = 0.0734 x RPM
- Maximum B.kW = $79.255 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 7.50 kW
- Moment of inertia : $GD^2 = 410\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

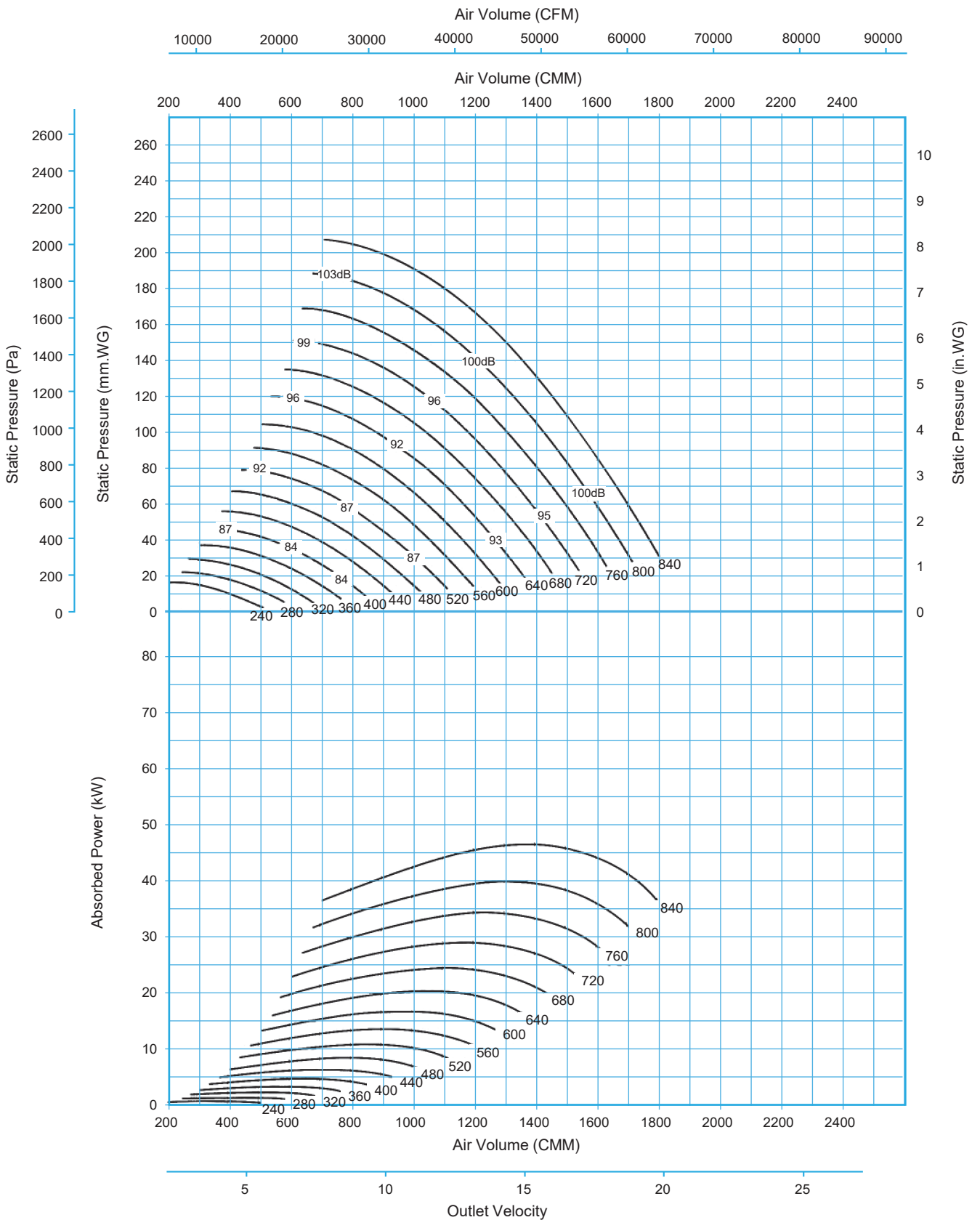


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Impeller	Mild steel sheet
5	Hub	Cast iron
6	Shaft	Carbon steel C45
7	Housing	Mild steel sheet
8	Inlet Cone	Mild steel sheet
9	Bearing	—
10	Common Base	Carbon steel

Motor (kW)	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0
Motor Weight (kg)	48	73	85	120	130	160	215	235	265	490	535
Fan Weight (kg)	2373.0	2373.0	2373.0	2373.0	2373.0	2373.0	2373.0	2373.0	2373.0	2373.0	2373.0
Total Weight (kg)	2421.0	2446.0	2458.0	2493.0	2503.0	2533.0	2588.0	2608.0	2638.0		

TF-54BCS-OH

$\rho = 1.2\text{kg/m}^3$

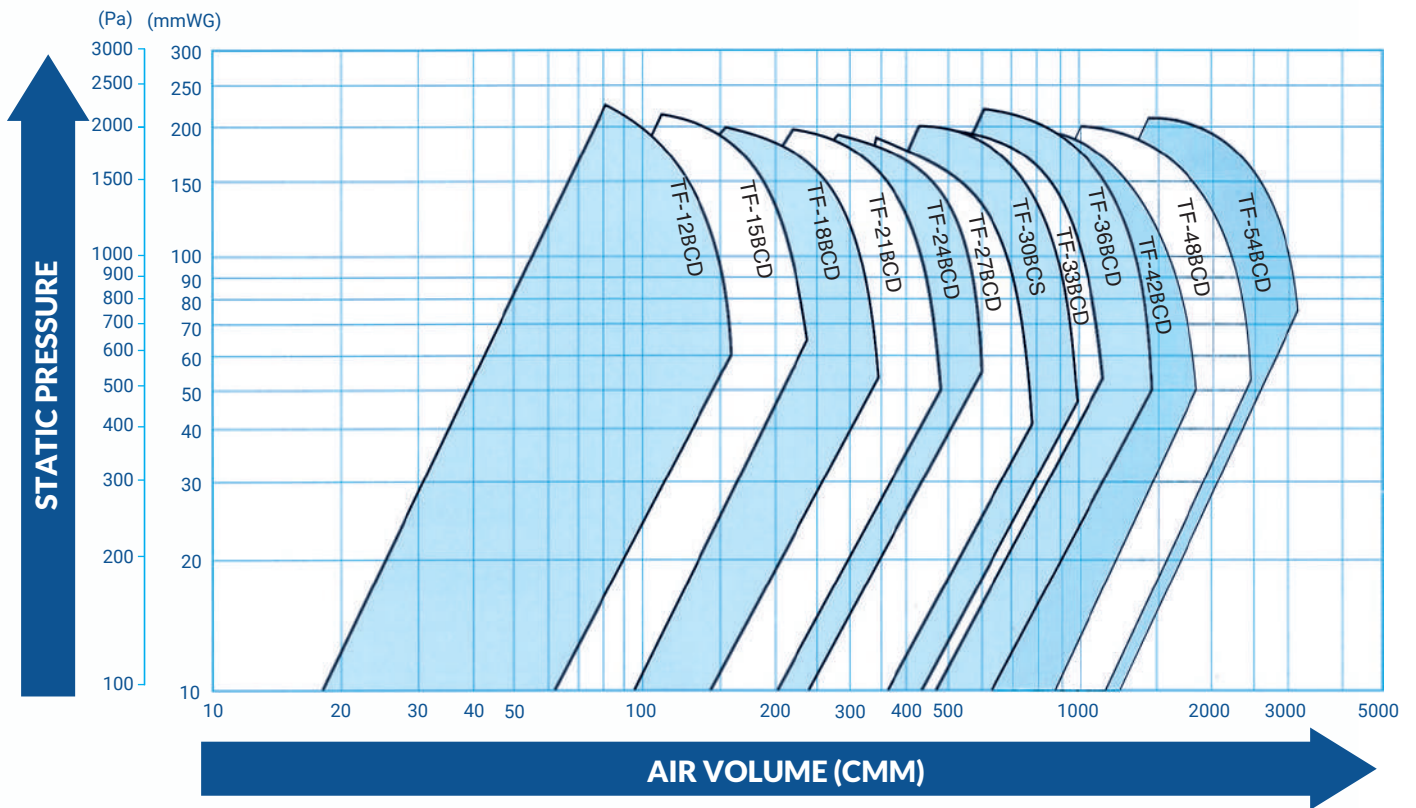


*Model TF-54BCS-OH is not licensed to bear the AMCA certified seal.

Backward Curved Limit-Load Fans Double Width Double Inlet (DWDI)

AIR PERFORMANCE DATA

SELECTION CHART

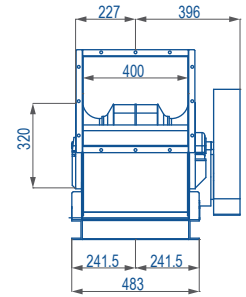
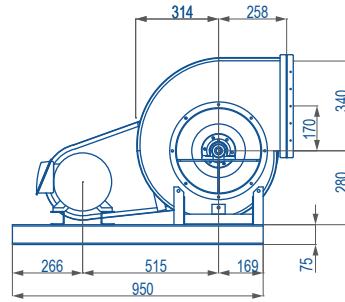


AVAILABLE MODELS

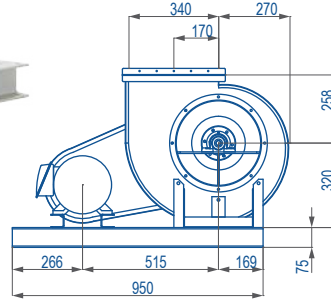
Model	Wheel Diameter		Approx. Weight of Fan & Housing (kg.)	Approx. Air Volume	
	mm.	inch		CMH	CFM
TF-12BCD	310	12	90	7,344	4,322
TF-15BCD	390	15	115	11,598	6,825
TF-18BCD	467	18	170	16,200	9,534
TF-21BCD	545	21	235	22,074	12,990
TF-24BCD	623	24	300	28,686	16,882
TF-27BCD	701	27	490	34,992	20,593
TF-30BCD	778	30	570	44,416	25,550
TF-33BCD	856	33	720	52,272	30,762
TF-36BCD	934	36	890	61,692	36,306
TF-42BCD	1,090	42	1,320	84,066	49,473
TF-48BCD	1,245	48	1,820	109,902	64,677
TF-54BCD	1,401	54	2,510	146,952	86,481

The approximate air volume is measured at air velocity of 15 m/s.

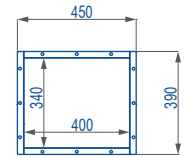
The approximate weight of fan & housing (kg.) includes common base, motor base and belt cover.



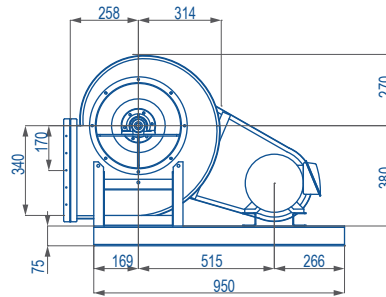
L1



L2



FLANGE (OUTLET)



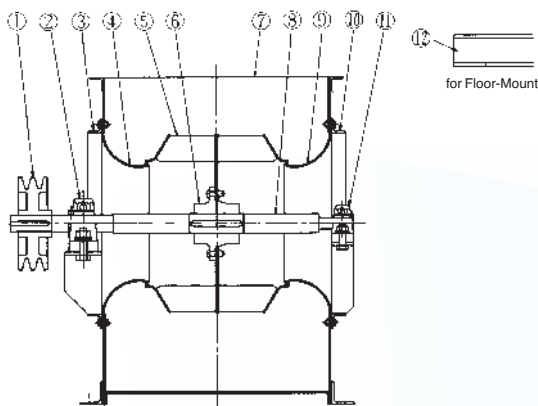
L3

TF-12BCD

Backward Curved DWDI

- Wheel diameter = 310 mm.
- Outlet area = 0.136 sq.m.
- Tip speed (m/s) = 0.0162 x RPM
- Maximum B.kW = $0.089 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 1.5 kW
- Moment of inertia : $GD^2 = 0.6\text{kg}\cdot\text{m}^2$

Sectional drawing and materials

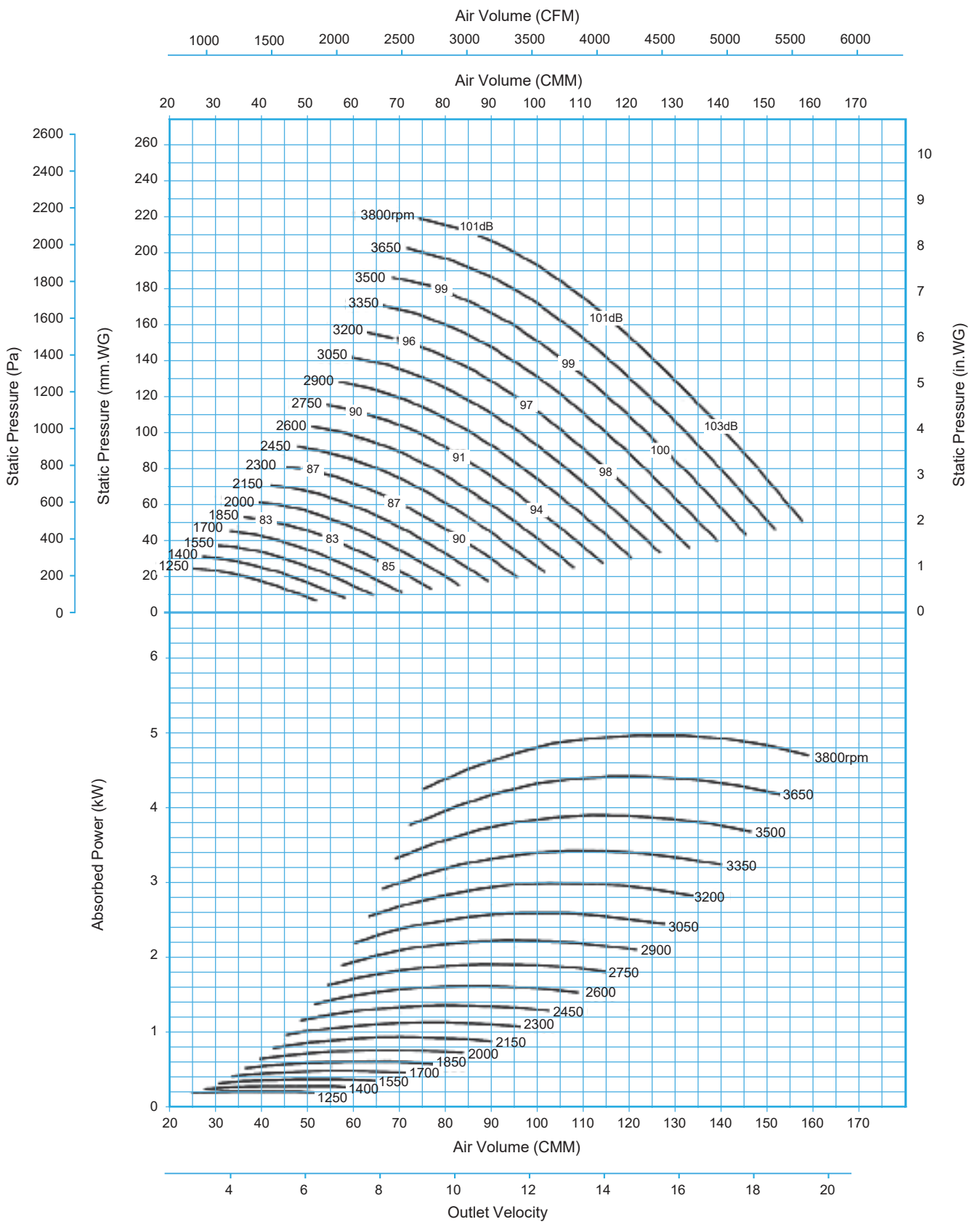


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Cast iron
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

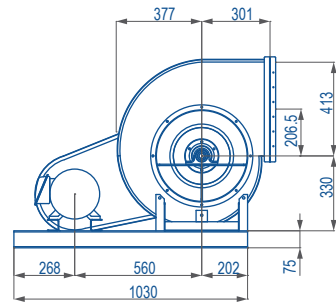
Motor (kW)	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0
Motor Weight (kg)	16	21	28	40	48	73	85	120	130	160	215
Fan Weight (kg)	85.0	85.0	85.0	85.0							
Total Weight (kg)	101.0	106.0	113.0	125.0							

TF-12BCD

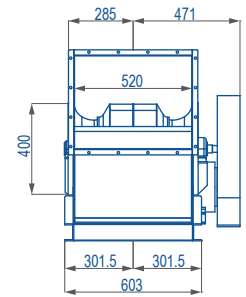
$\rho = 1.2\text{kg/m}^3$



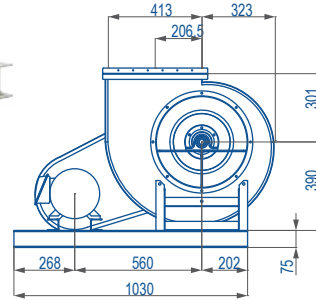
* Model TF-12BCD is not licensed to bear the AMCA certified seal.



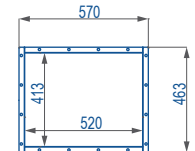
L1



FLANGE (OUTLET)



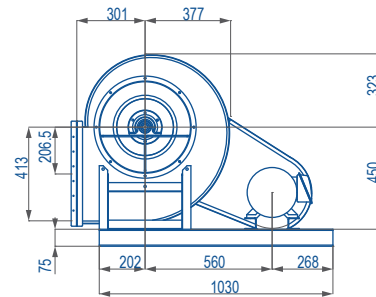
L2



TF-15BCD

Backward Curved DWDI

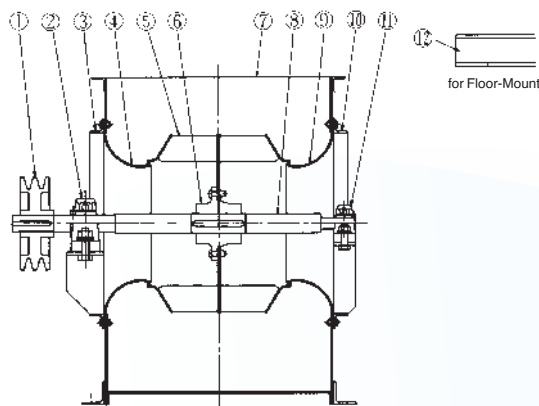
- Wheel diameter = 390 mm.
- Outlet area = 0.21476 sq.m.
- Tip speed (m/s) = 0.0204 x RPM
- Maximum B.kW = $0.286 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 1.5 kW
- Moment of inertia : $GD^2 = 1.7\text{kg}\cdot\text{m}^2$



L3



Sectional drawing and materials

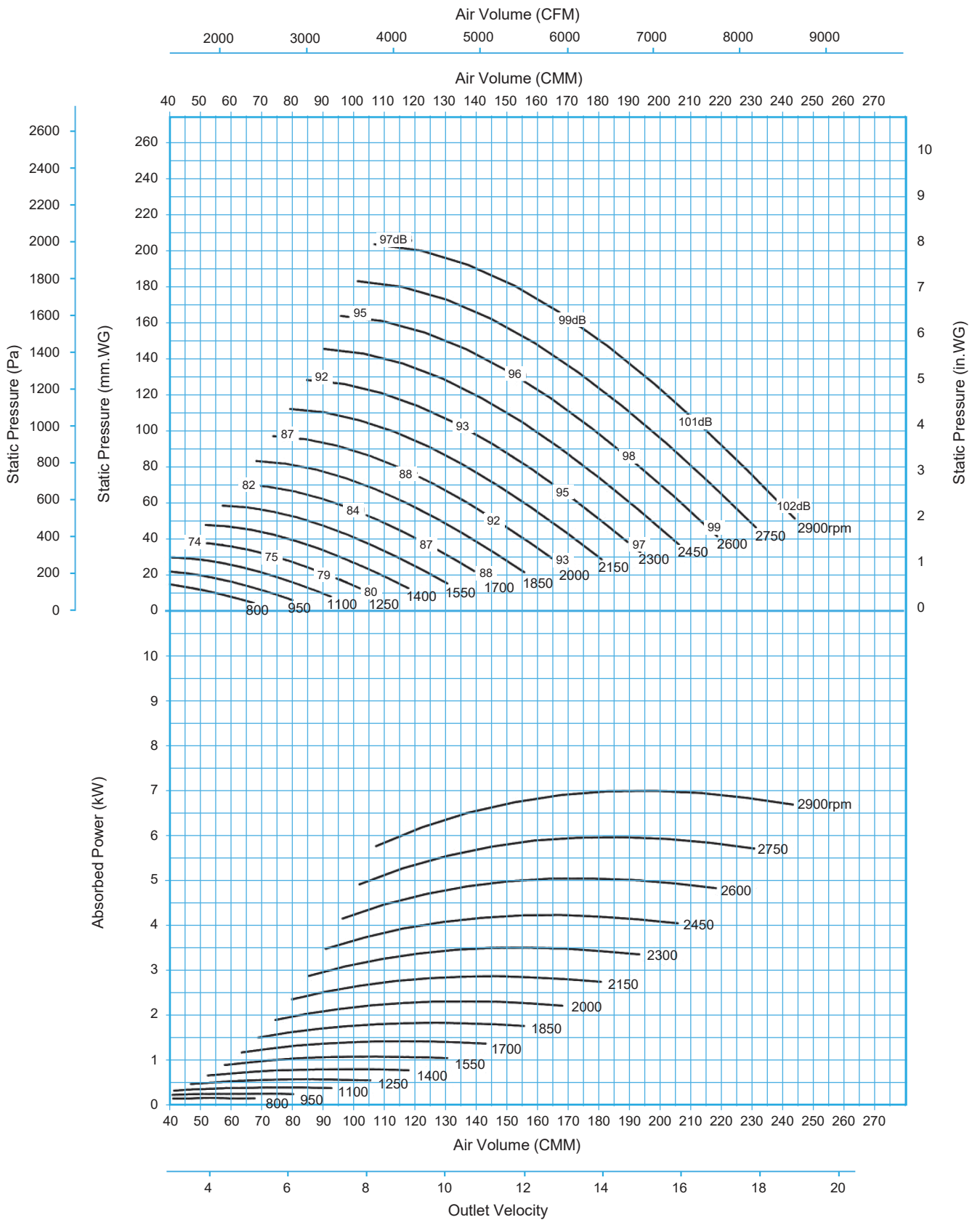


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Cast iron
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

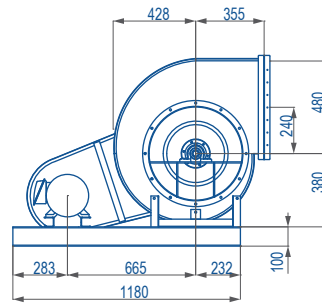
Motor (kW)	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0
Motor Weight (kg)	16	21	28	40	48	73	85	120	130	160	215
Fan Weight (kg)	110.0	110.0	110.0	110.0	110.0						
Total Weight (kg)	126.0	131.0	138.0	150.0	158.0						

TF-15BCD

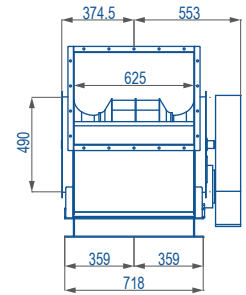
$\rho = 1.2\text{kg/m}^3$



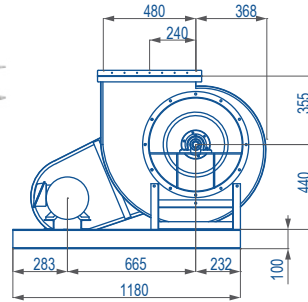
* Model TF-15BCD is not licensed to bear the AMCA certified seal.



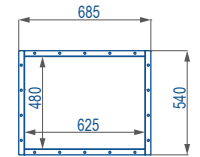
L1



FLANGE (OUTLET)



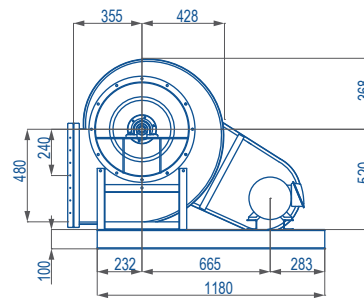
L2



TF-18BCD

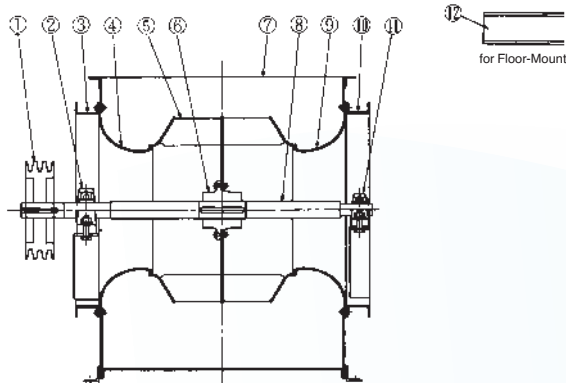
Backward Curved DWDI

- Wheel diameter = 467 mm.
- Outlet area = 0.300 sq.m.
- Tip speed (m/s) = $0.0245 \times \text{RPM}$
- Maximum B.kW = $0.734 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 2.2 kW
- Moment of inertia : $GD^2 = 3.4\text{kg}\cdot\text{m}^2$



L3

Sectional drawing and materials

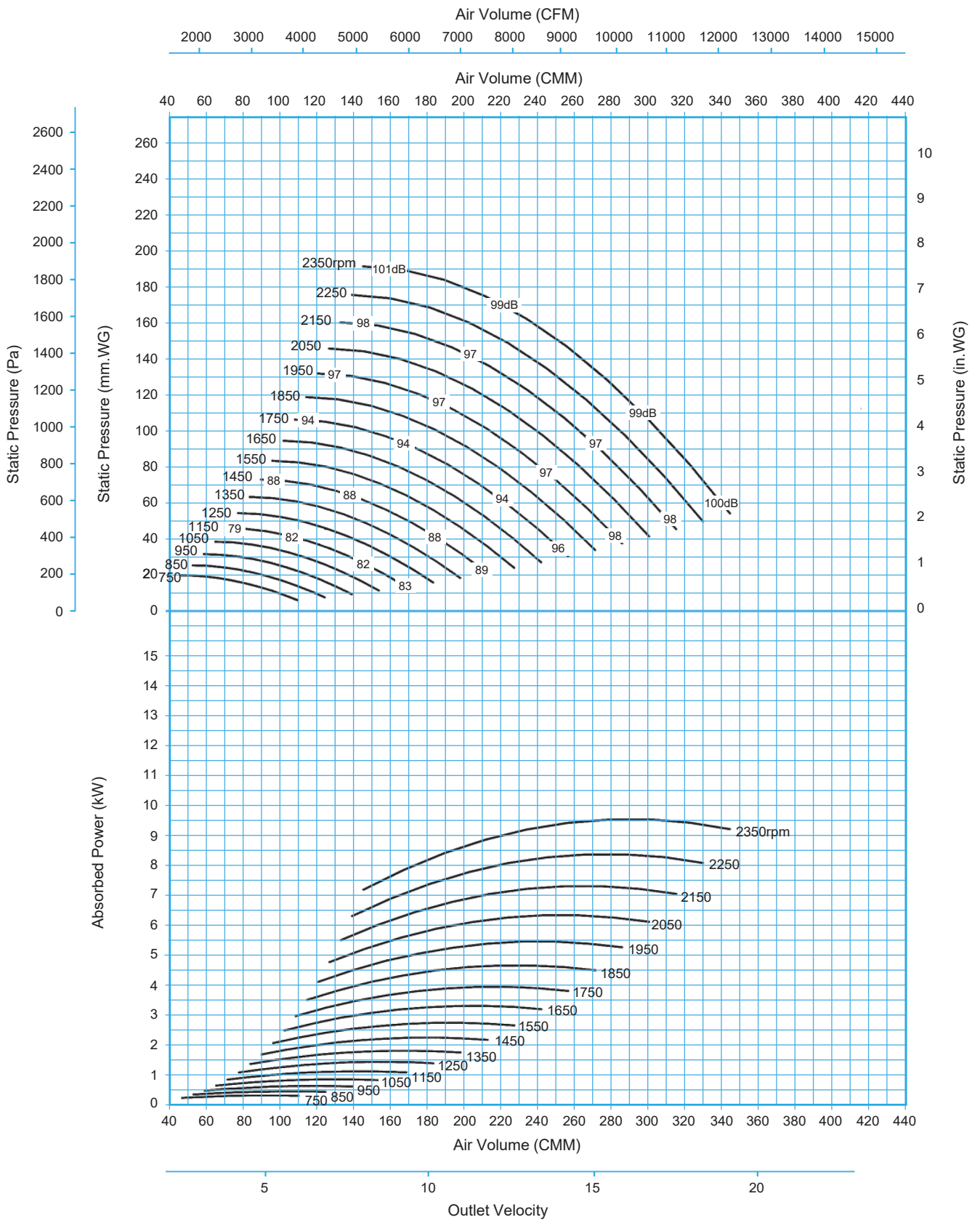


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Cast iron
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

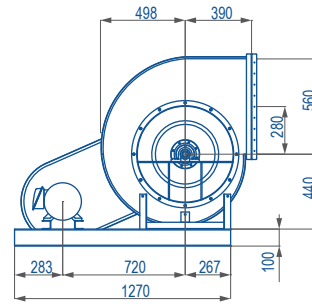
Motor (kW)	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0
Motor Weight (kg)	21	28	40	48	73	85	120	130	160	215	235
Fan Weight (kg)	160.0	160.0	160.0	160.0	160.0						
Total Weight (kg)	181.0	188.0	200.0	208.0	233.0						

TF-18BCD

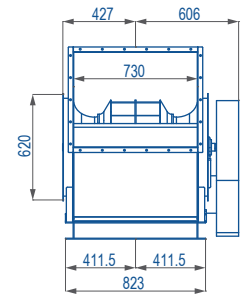
$\rho = 1.2\text{kg/m}^3$



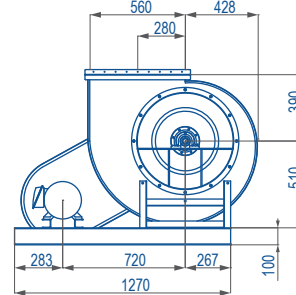
* Model TF-18BCD is not licensed to bear the AMCA certified seal.



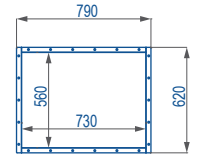
L1



FLANGE (OUTLET)



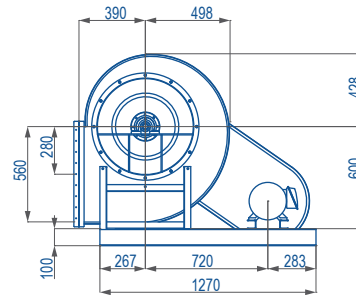
L2



TF-21BCD

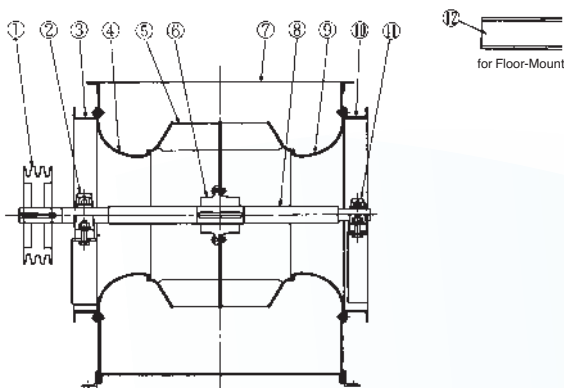
Backward Curved DWDI

- Wheel diameter = 545 mm.
- Outlet area = 0.4088 sq.m.
- Tip speed (m/s) = 0.0285 x RPM
- Maximum B.kW = $1.588 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 3.7 kW
- Moment of inertia : $GD^2 = 8.6\text{kg}\cdot\text{m}^2$



L3

Sectional drawing and materials

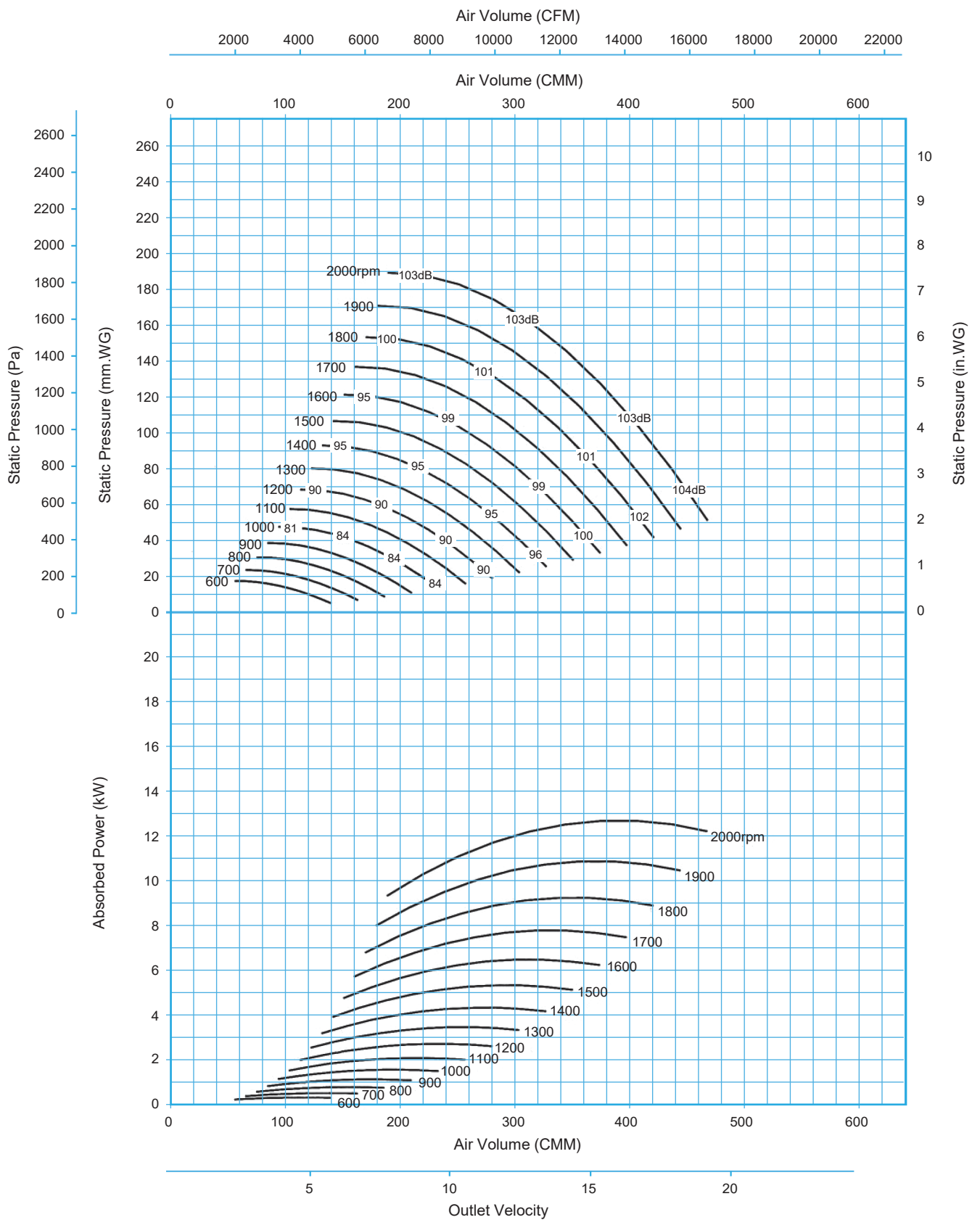


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Cast iron
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

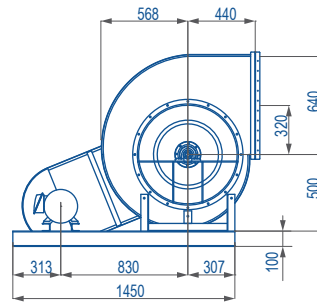
Motor (kW)	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0
Motor Weight (kg)	28	40	48	73	85	120	130	160	215	235	265
Fan Weight (kg)	225.0	225.0	225.0	225.0	225.0						
Total Weight (kg)	253.0	265.0	273.0	298.0	310.0						

TF-21BCD

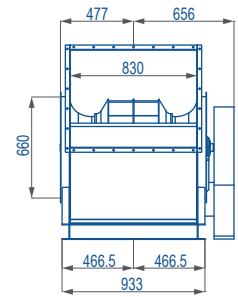
$\rho = 1.2\text{kg/m}^3$



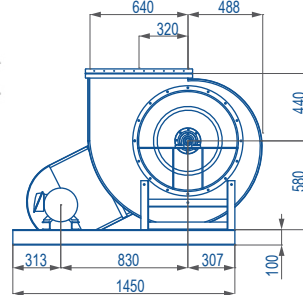
* Model TF-21BCD is not licensed to bear the AMCA certified seal.



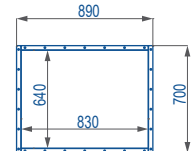
L1



FLANGE (OUTLET)



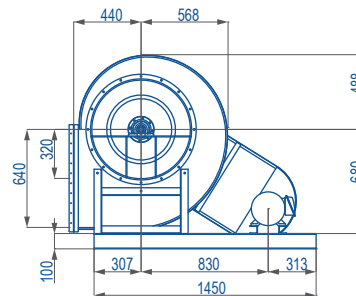
L2



TF-24BCD

Backward Curved DWDI

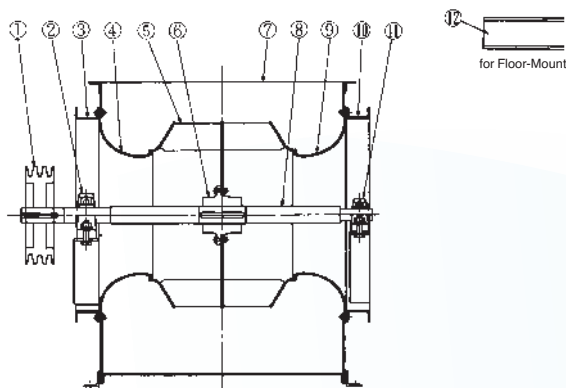
- Wheel diameter = 623 mm.
- Outlet area = 0.5312 sq.m.
- Tip speed (m/s) = $0.0326 \times \text{RPM}$
- Maximum B.kW = $3.100 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 3.7 kW
- Moment of inertia : $GD^2 = 15\text{kg}\cdot\text{m}^2$



L3



Sectional drawing and materials

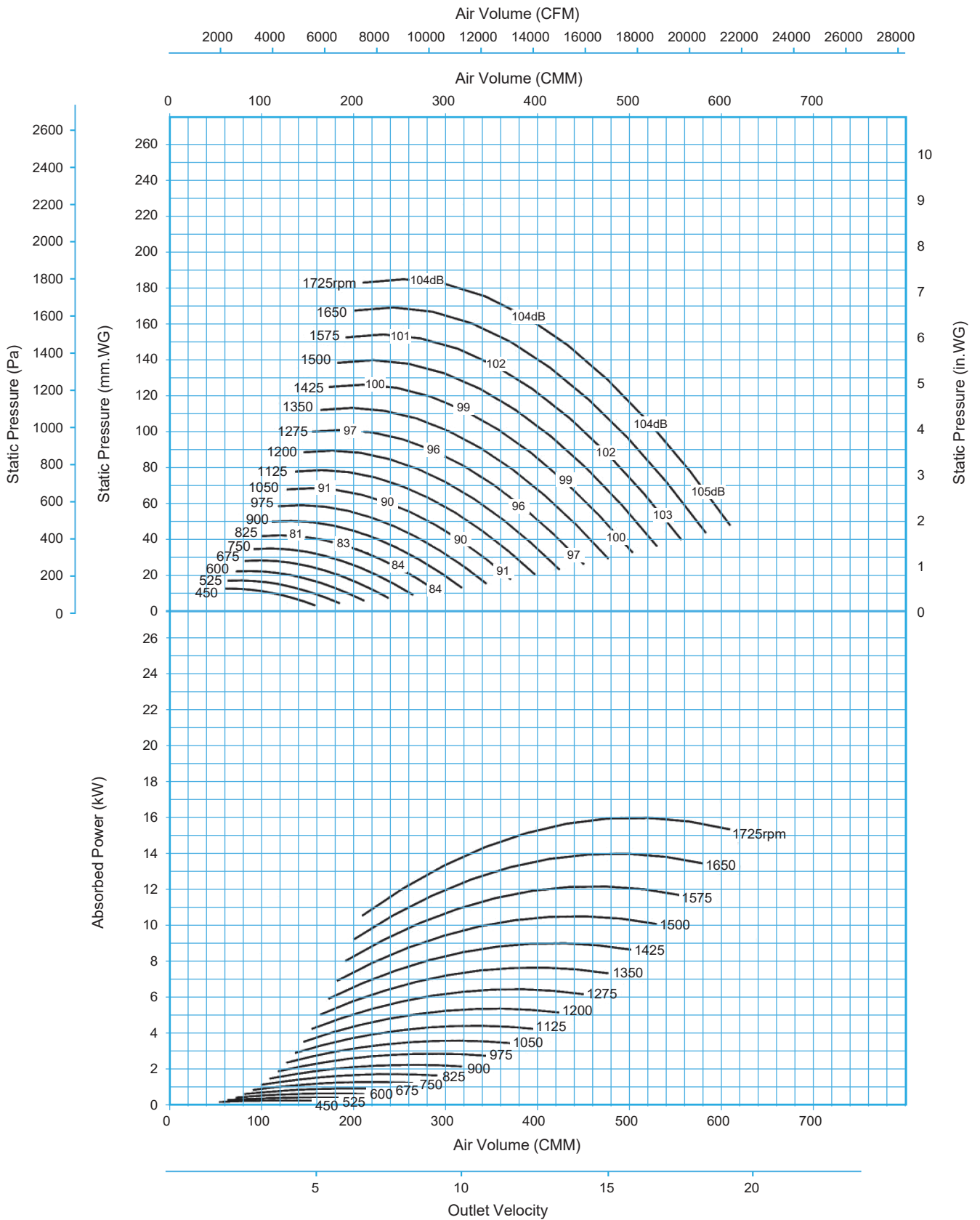


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Cast iron
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

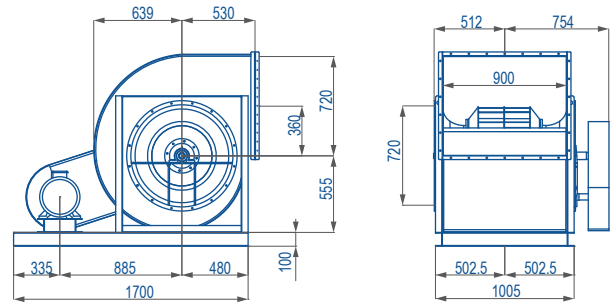
Motor (kW)	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0
Motor Weight (kg)	28	40	48	73	85	120	130	160	215	235	265
Fan Weight (kg)	290.0	290.0	290.0	290.0	290.0	290.0	290.0	290.0	290.0	290.0	290.0
Total Weight (kg)	318.0	330.0	338.0	363.0	375.0	410.0					

TF-24BCD

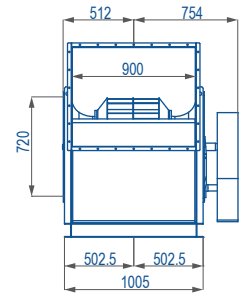
$\rho = 1.2\text{kg/m}^3$



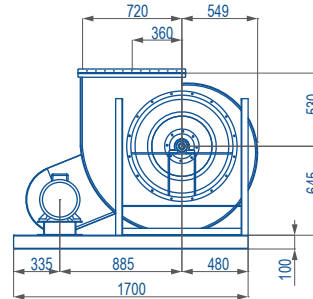
* Model TF-24BCD is not licensed to bear the AMCA certified seal.



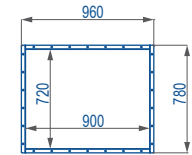
L1



FLANGE (OUTLET)



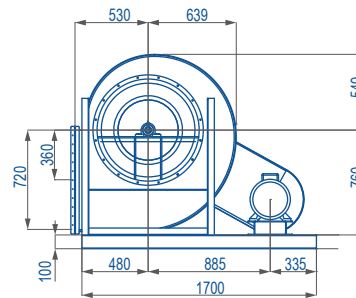
L2



TF-27BCD

Backward Curved DWDI

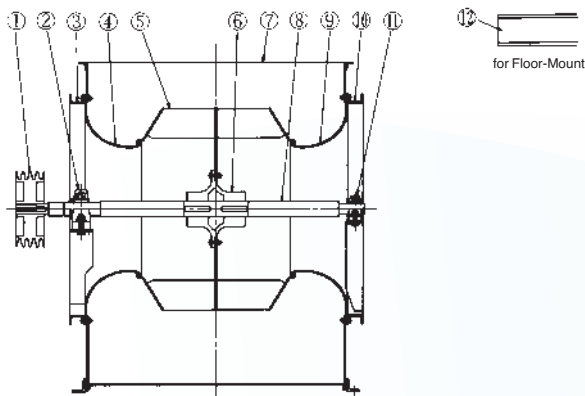
- Wheel diameter = 701 mm.
- Outlet area = 0.648 sq.m.
- Tip speed (m/s) = 0.0367 x RPM
- Maximum B.kW = $5.379 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 3.7 kW
- Moment of inertia : $GD^2 = 29\text{kg}\cdot\text{m}^2$



L3



Sectional drawing and materials

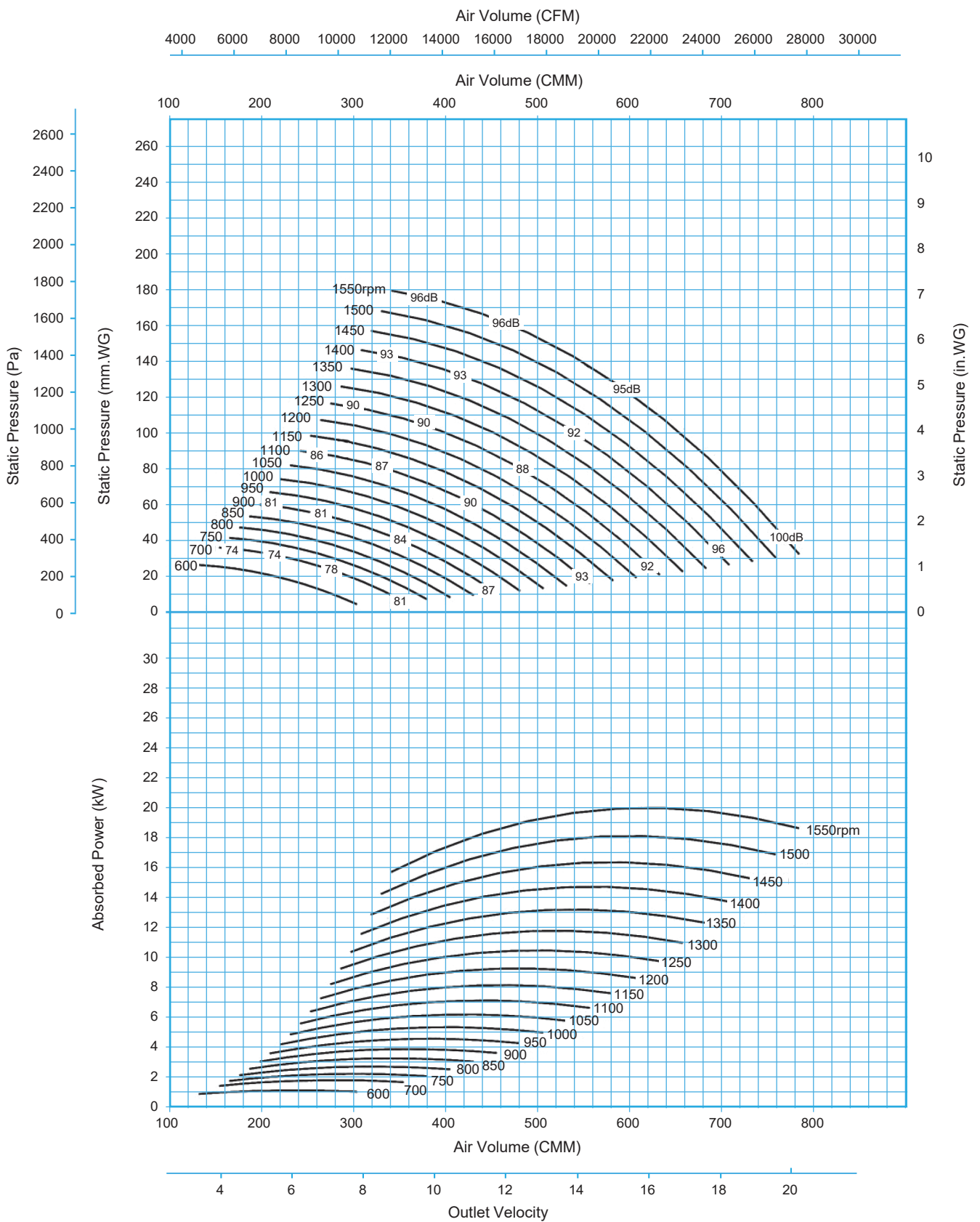


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Cast iron
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

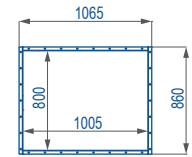
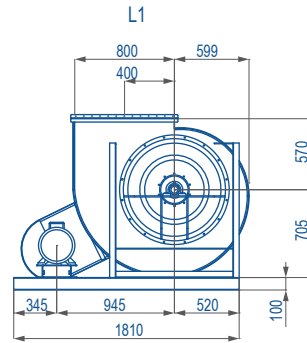
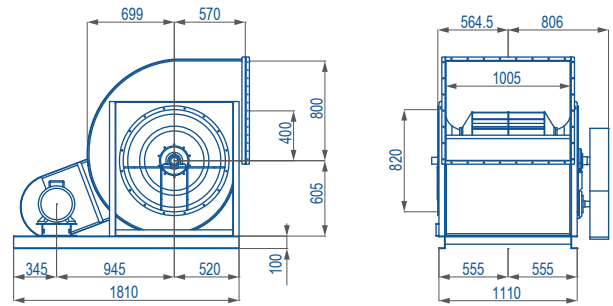
Motor (kW)	3.7	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0
Motor Weight (kg)	28	40	48	73	85	120	130	160	215	235	265
Fan Weight (kg)	470.0	470.0	470.0	470.0	470.0	470.0	470.0				
Total Weight (kg)	498.0	510.0	518.0	543.0	555.0	590.0	600.0				

TF-27BCD

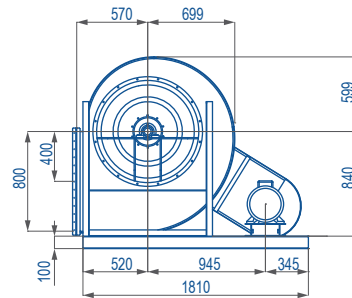
$\rho = 1.2\text{kg/m}^3$



* Model TF-27BCD is not licensed to bear the AMCA certified seal.



FLANGE (OUTLET)



L3

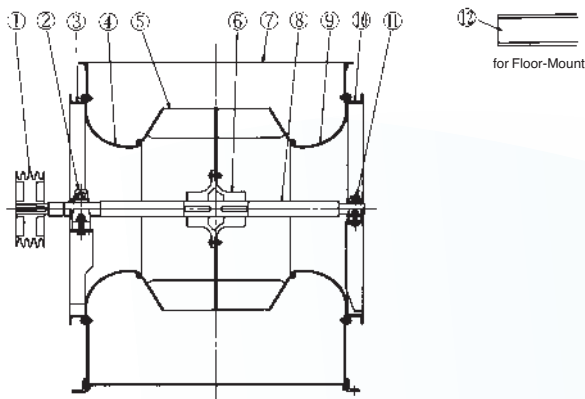
TF-30BCD

Backward Curved DWDI

- Wheel diameter = 778 mm.
- Outlet area = 0.804 sq.m.
- Tip speed (m/s) = 0.0407 x RPM
- Maximum B.kW = $9.064 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 5.5 kW
- Moment of inertia : $GD^2 = 46\text{kg}\cdot\text{m}^2$



Sectional drawing and materials

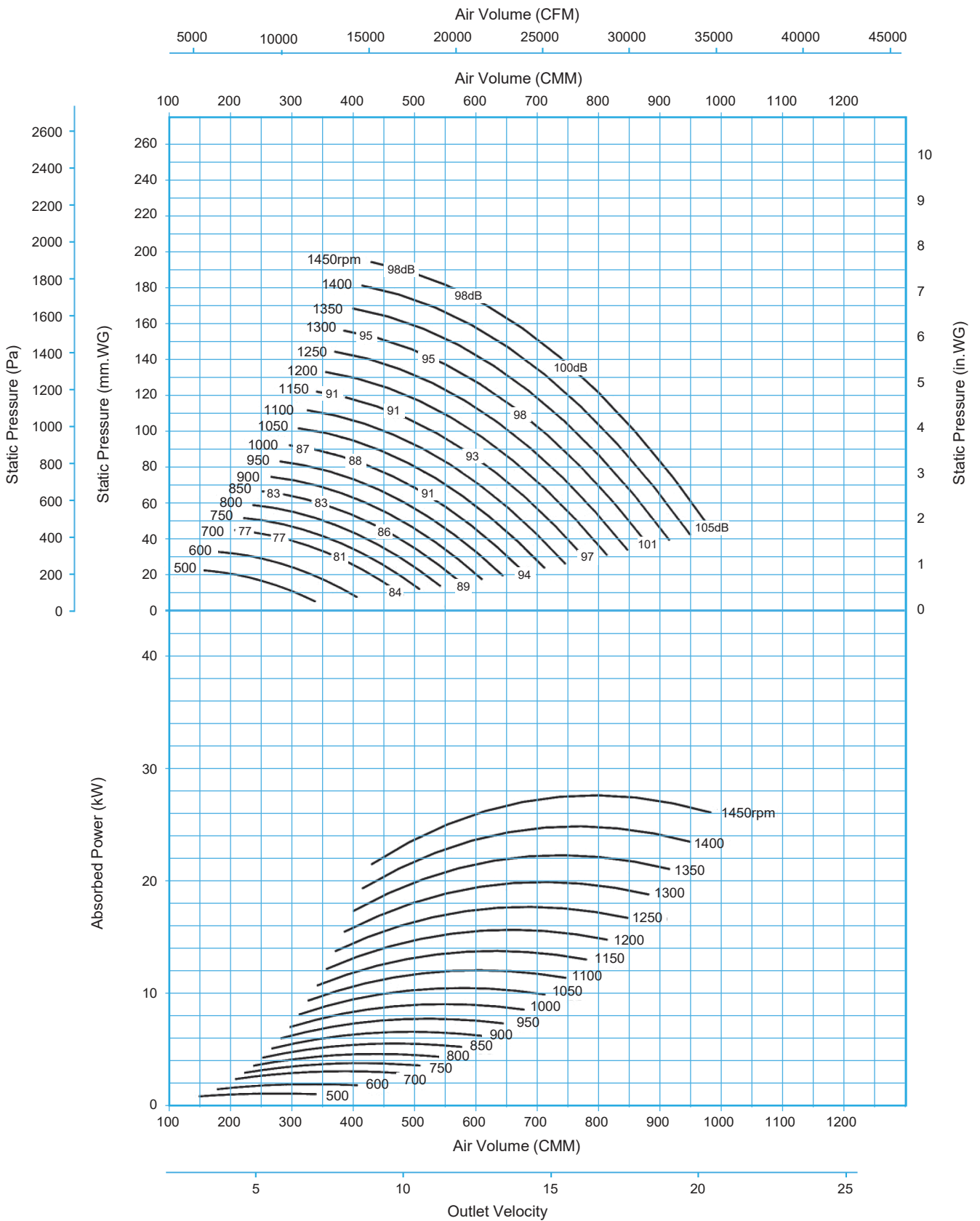


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Cast iron
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

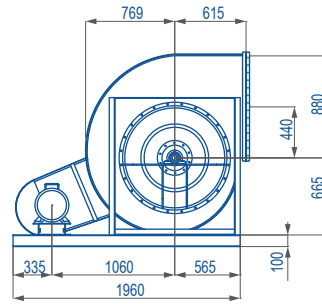
Motor (kW)	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0
Motor Weight (kg)	40	48	73	85	120	130	160	215	235	265	490
Fan Weight (kg)	550.0	550.0	550.0	550.0	550.0	550.0	550.0				
Total Weight (kg)	590.0	598.0	623.0	635.0	670.0	680.0	710.0				

TF-30BCD

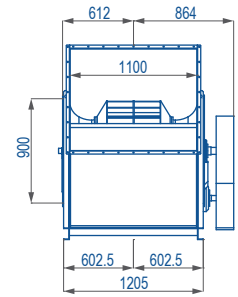
$\rho = 1.2\text{kg/m}^3$



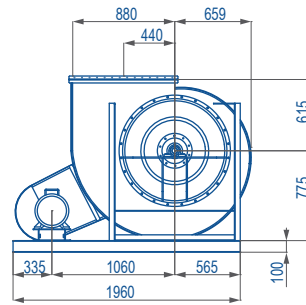
* Model TF-30BCD is not licensed to bear the AMCA certified seal.



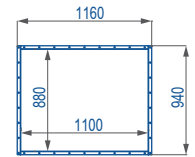
L1



FLANGE (OUTLET)



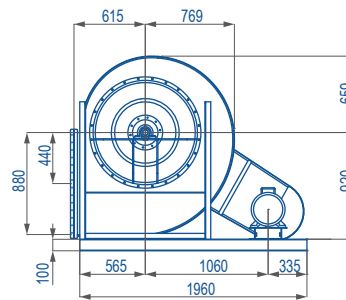
L2



TF-33BCD

Backward Curved DWDI

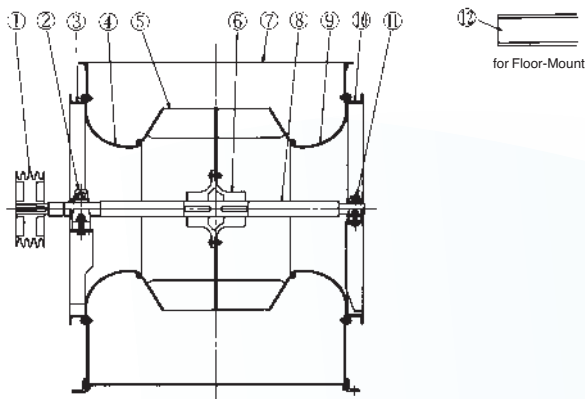
- Wheel diameter = 856 mm.
- Outlet area = 0.968 sq.m.
- Tip speed (m/s) = 0.0448 x RPM
- Maximum B.kW = $14.611 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 7.5 kW
- Moment of inertia : $GD^2 = 73\text{kg}\cdot\text{m}^2$



L3



Sectional drawing and materials

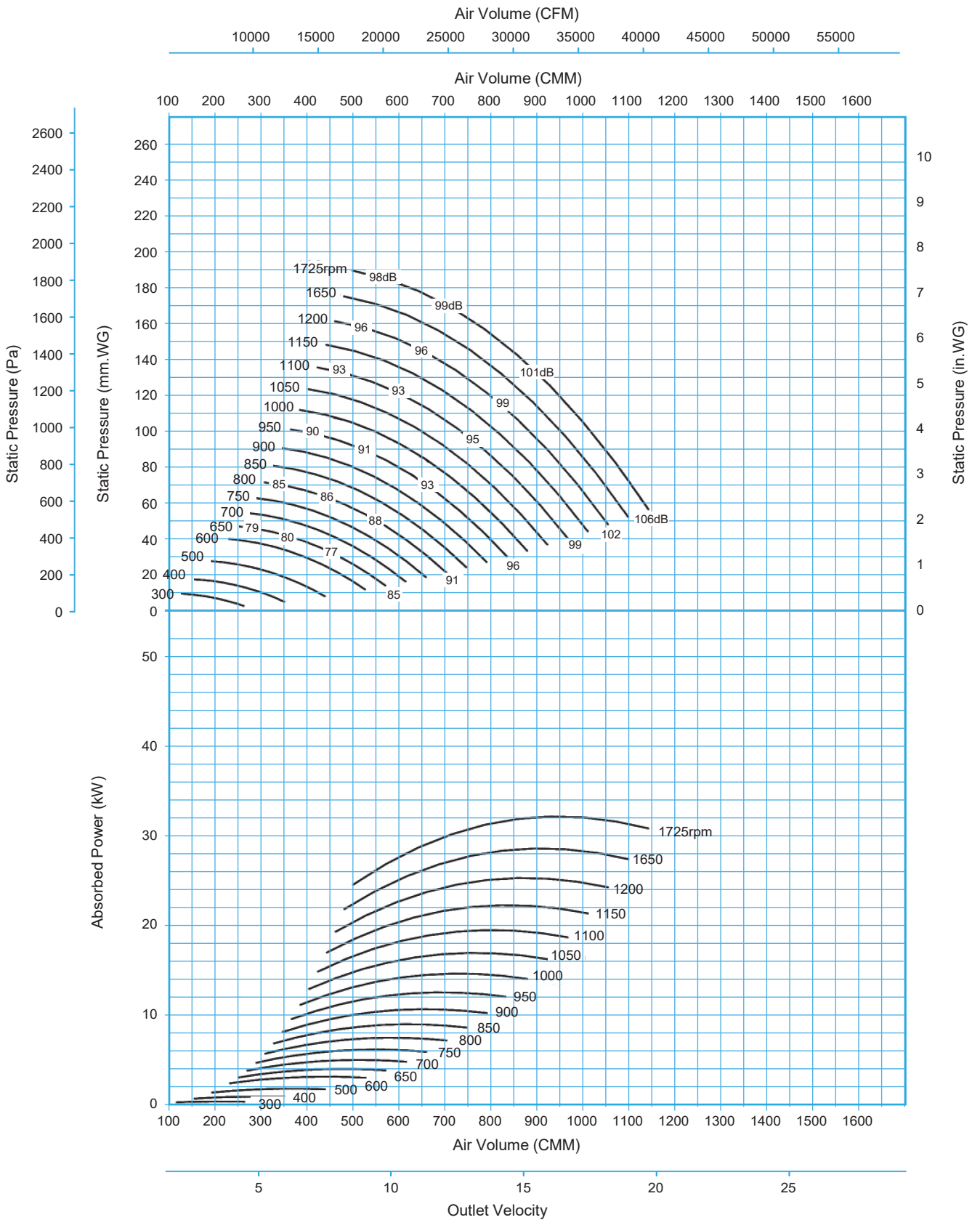


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Cast iron
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

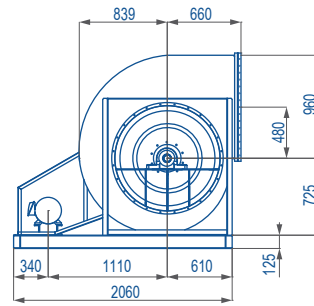
Motor (kW)	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0
Motor Weight (kg)	48	73	85	120	130	160	215	235	265	490	535
Fan Weight (kg)	690.0	690.0	690.0	690.0	690.0	690.0	690.0	690.0	690.0	690.0	690.0
Total Weight (kg)	738.0	763.0	775.0	810.0	820.0	850.0	905.0	905.0	905.0	905.0	905.0

TF-33BCD

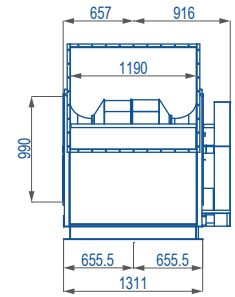
$\rho = 1.2\text{kg/m}^3$



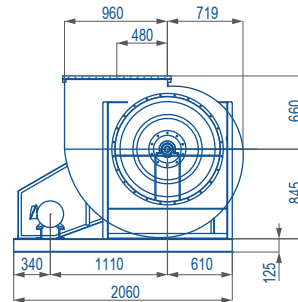
* Model TF-33BCD is not licensed to bear the AMCA certified seal.



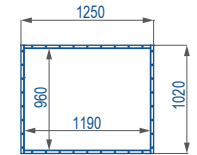
L1



FLANGE (OUTLET)



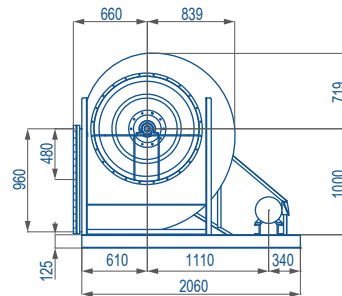
L2



TF-36BCD

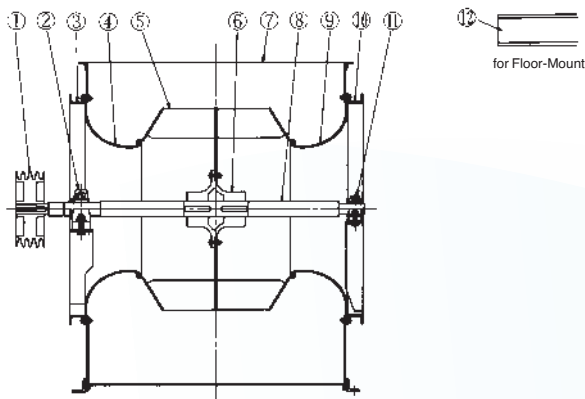
Backward Curved DWDI

- Wheel diameter = 934 mm.
- Outlet area = 1.1424 sq.m.
- Tip speed (m/s) = 0.0489 x RPM
- Maximum B.kW = $22.603 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 7.5 kW
- Moment of inertia : $GD^2 = 132\text{kg}\cdot\text{m}^2$



L3

Sectional drawing and materials

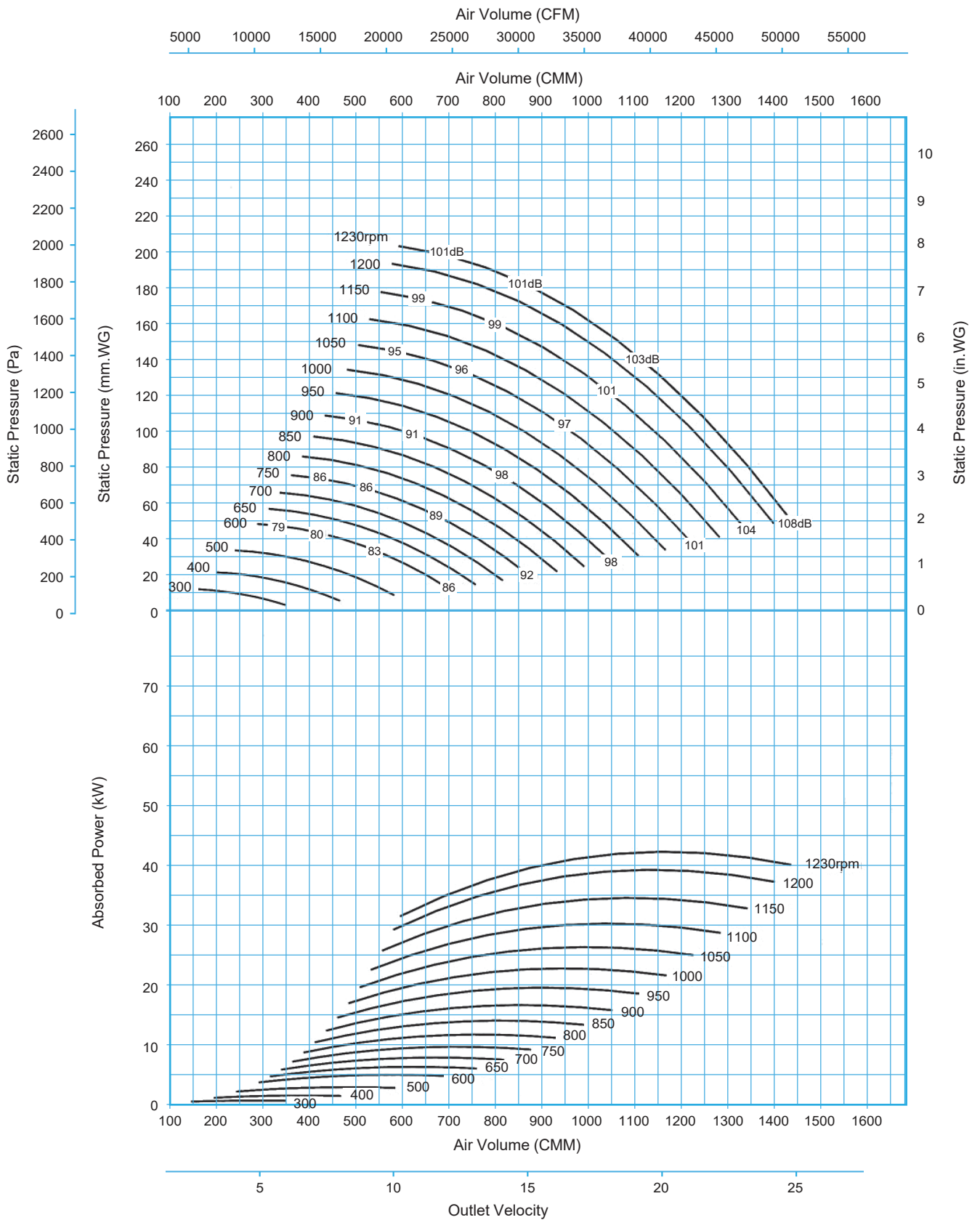


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Cast iron
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

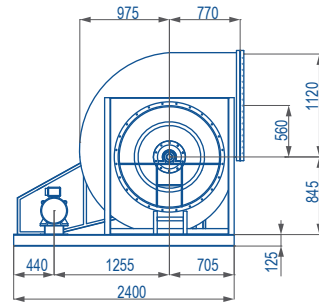
Motor (kW)	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0
Motor Weight (kg)	48	73	85	120	130	160	215	235	265	490	535
Fan Weight (kg)	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0
Total Weight (kg)	898.0	923.0	935.0	970.0	980.0	1010.0	1065.0	1085.0	1115.0	1115.0	1115.0

TF-36BCD

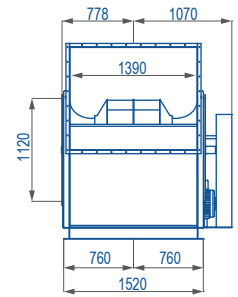
$\rho = 1.2\text{kg/m}^3$



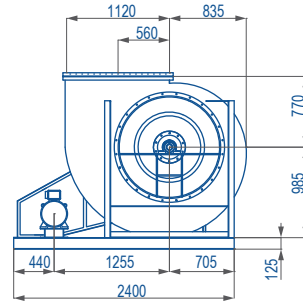
* Model TF-36BCD is not licensed to bear the AMCA certified seal.



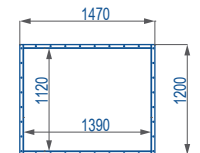
L1



FLANGE (OUTLET)



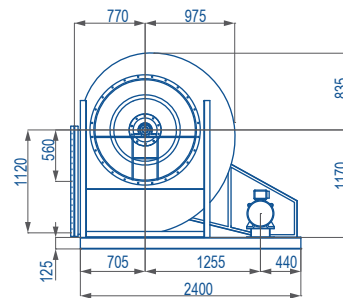
L2



TF-42BCD

Backward Curved DWDI

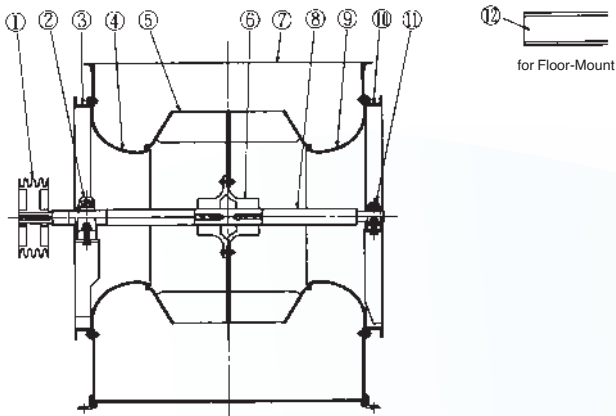
- Wheel diameter = 1090 mm.
- Outlet area = 1.5568 sq.m.
- Tip speed (m/s) = 0.0571 x RPM
- Maximum B.kW = $49.600 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 11 kW
- Moment of inertia : $GD^2 = 245\text{kg}\cdot\text{m}^2$



L3



Sectional drawing and materials

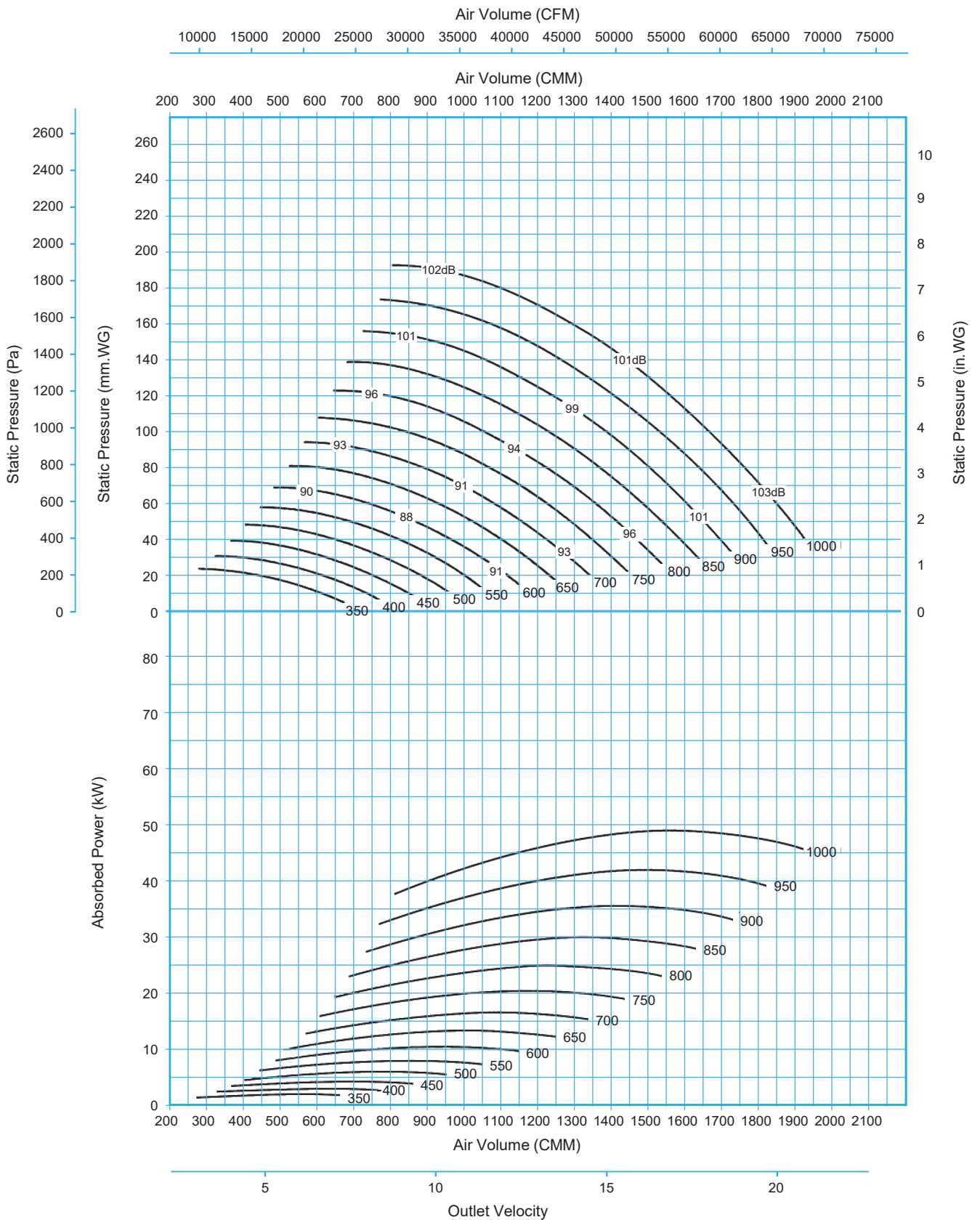


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Cast iron
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

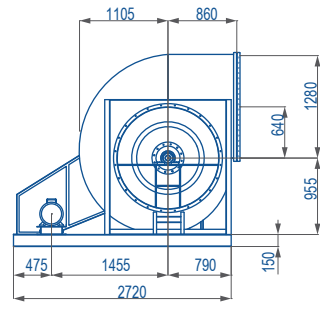
Motor (kW)	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0	110.0
Motor Weight (kg)	73	85	120	130	160	215	235	265	490	535	645
Fan Weight (kg)	1280.0	1280.0	1280.0	1280.0	1280.0	1280.0	1280.0	1280.0	1280.0	1280.0	1280.0
Total Weight (kg)	1353.0	1365.0	1400.0	1410.0	1440.0	1495.0	1515.0	1545.0	1770.0	1770.0	1770.0

TF-42BCD

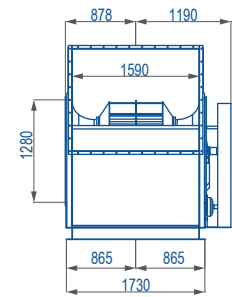
$\rho = 1.2\text{kg/m}^3$



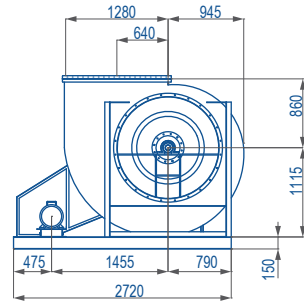
* Model TF-42BCD is not licensed to bear the AMCA certified seal.



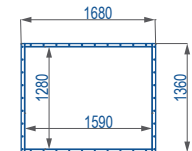
L1



FLANGE (OUTLET)



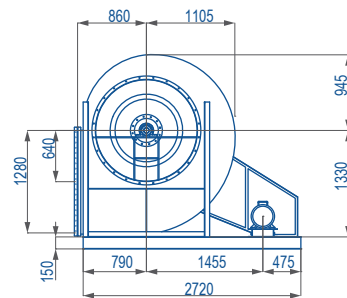
L2



TF-48BCD

Backward Curved DWDI

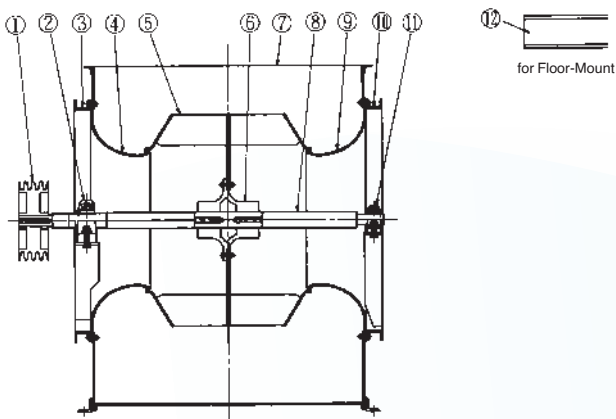
- Wheel diameter = 1245 mm.
- Outlet area = 2.0352 sq.m.
- Tip speed (m/s) = 0.0652 x RPM
- Maximum B.kW = $98.080 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 15 kW
- Moment of inertia : $GD^2 = 420\text{kg}\cdot\text{m}^2$



L3



Sectional drawing and materials

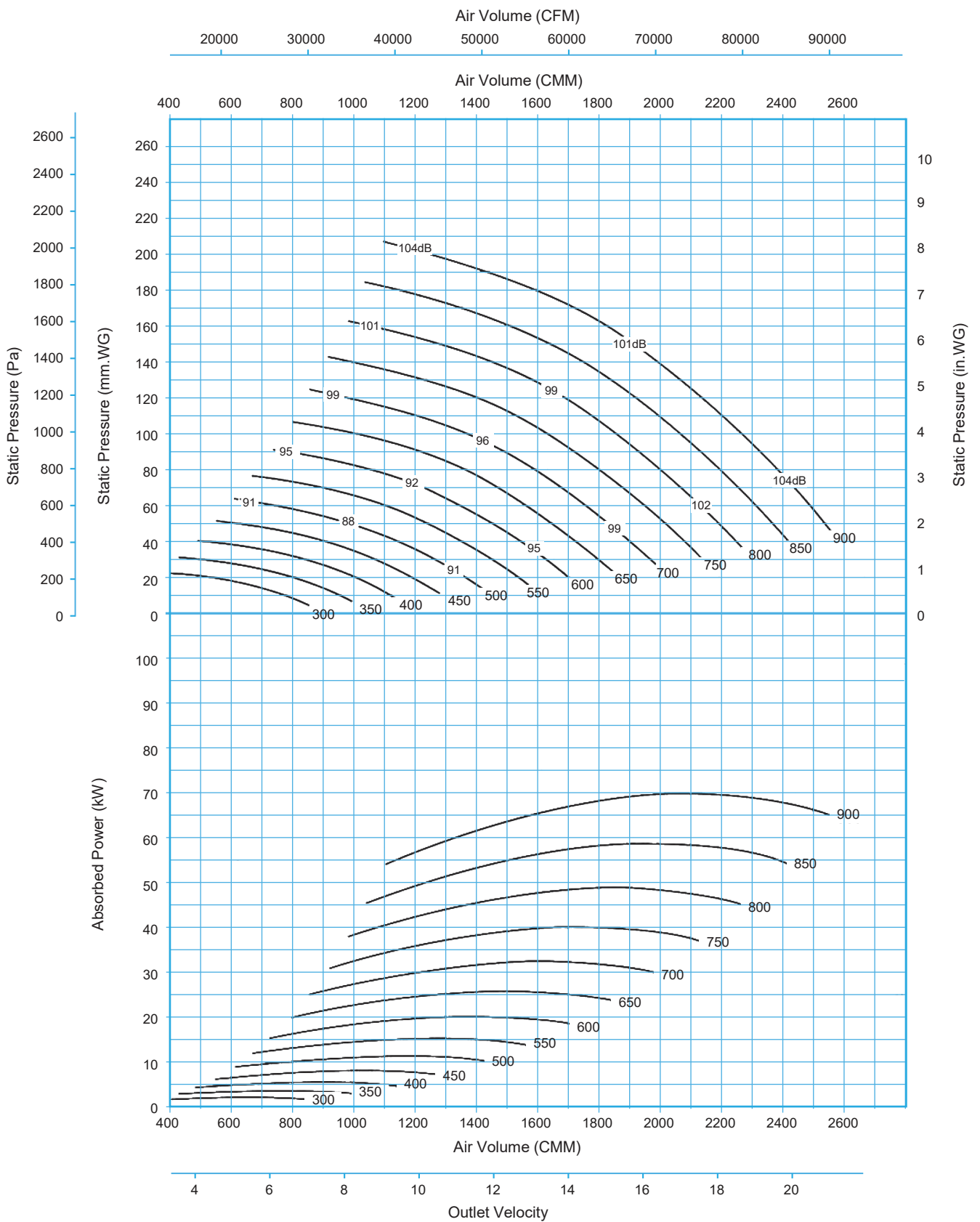


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Cast iron
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

Motor (kW)	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0	110.0	132.0
Motor Weight (kg)	85	120	130	160	215	235	265	490	535	645	725
Fan Weight (kg)	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0
Total Weight (kg)	1845.0	1880.0	1890.0	1920.0	1975.0	1995.0	2025.0	2250.0	2295.0	2295.0	2295.0

TF-48BCD

$\rho = 1.2\text{kg/m}^3$



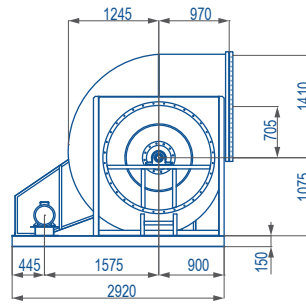
* Model TF-48BCD is not licensed to bear the AMCA certified seal.



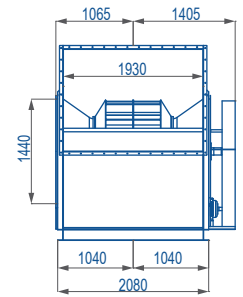
TF-54BCD

Backward Curved DWDI

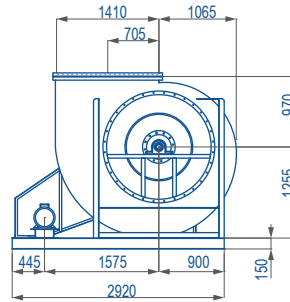
- Wheel diameter = 1401 mm.
- Outlet area = 2.7213 sq.m.
- Tip speed (m/s) = 0.0734 x RPM
- Maximum B.kW = $151.514 \times \left(\frac{\text{RPM}}{1000}\right)^3$
- Minimum motor size = 15 kW
- Moment of inertia : $GD^2 = 740\text{kg}\cdot\text{m}^2$



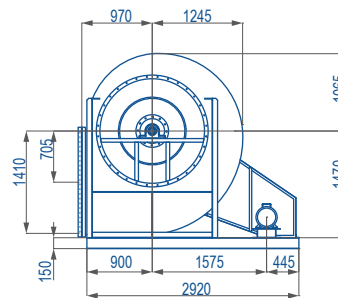
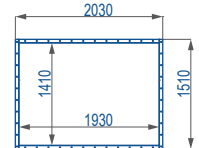
L1



FLANGE (OUTLET)



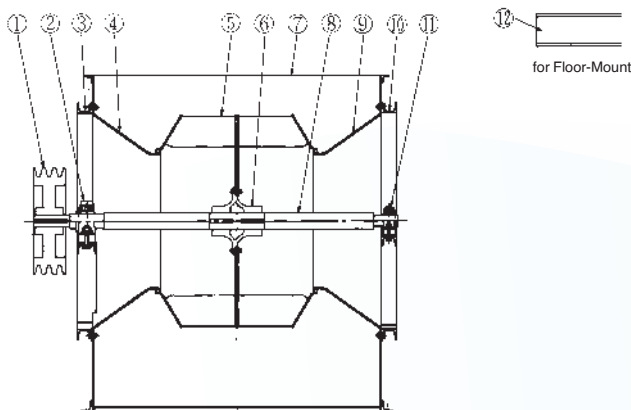
L2



L3



Sectional drawing and materials

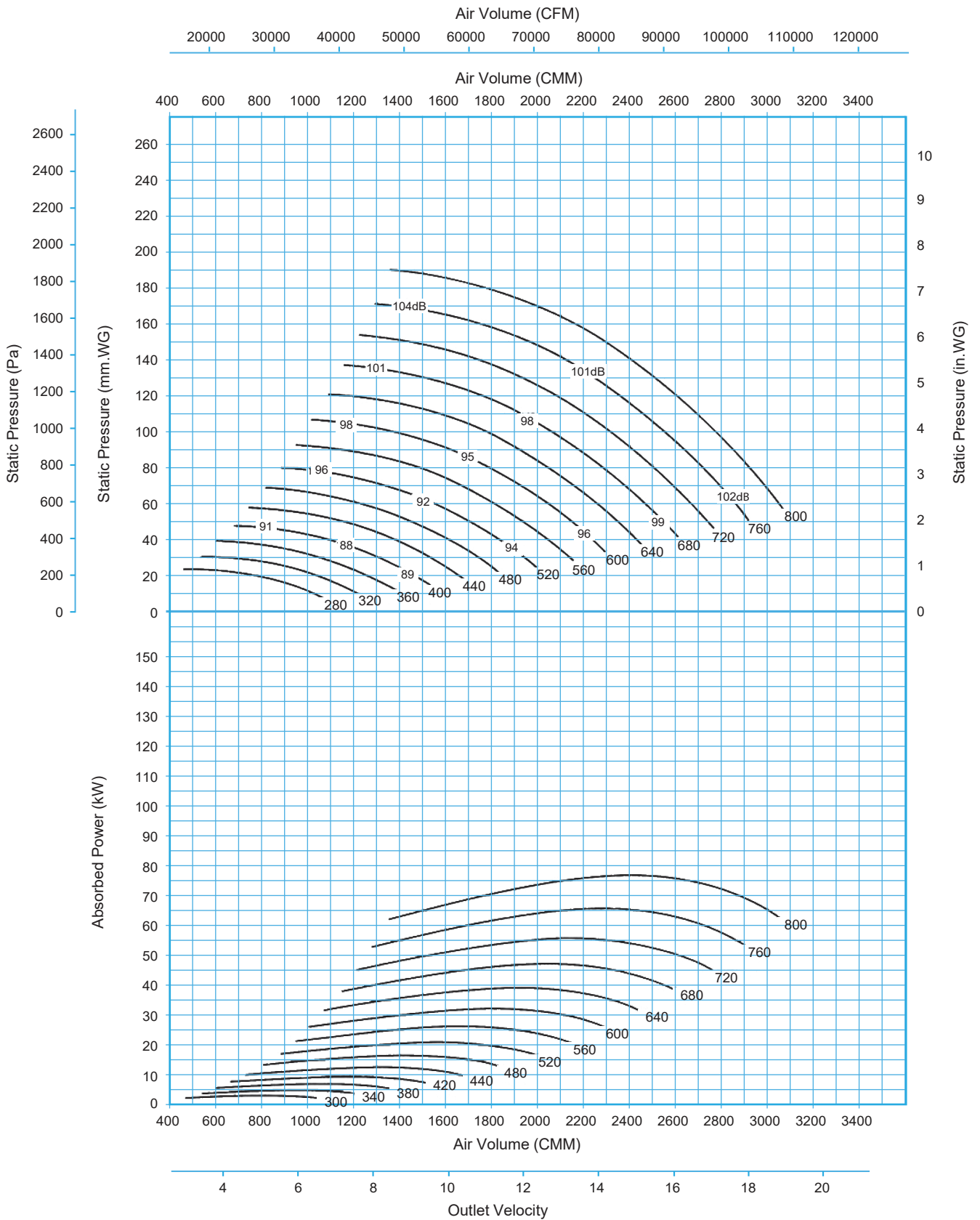


NO.	PARTS NAME	MATERIALS
1	Fan Pulley	Cast iron
2	Bearing	—
3	Bearing Base	Carbon steel
4	Inlet Cone	Mild steel sheet
5	Impeller	Mild steel sheet
6	Hub	Cast iron
7	Housing	Mild steel sheet
8	Shaft	Cast iron
9	Inlet Cone	Mild steel sheet
10	Bearing Base	Carbon steel
11	Bearing	—
12	Common Base	Carbon steel

Motor (kW)	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0	110.0	132.0
Motor Weight (kg)	85	120	130	160	215	235	265	490	535	645	725
Fan Weight (kg)	2440.0	2440.0	2440.0	2440.0	2440.0	2440.0	2440.0	2440.0	2440.0	2440.0	2440.0
Total Weight (kg)	2525.0	2560.0	2570.0	2600.0	2655.0	2675.0	2705.0	2930.0	2975.0	3085.0	

TF-54BCD

$\rho = 1.2\text{kg/m}^3$



* Model TF-54BCD is not licensed to bear the AMCA certified seal.

Installation Cautions

- Fan storage

Before installation, full measures should be taken to prevent rainwater and foreign matters from entering the body of the fan or the motor in order to prevent rainwater, sunshine or dust from contacting V-pulley and V-belt.

- Fan inspection

For the purpose of bearing and V-belt maintenance, the impeller should be rotated frequently.

- Fan connection

Connect the fan and ductwork with flexible canvas type connection as shown below. The flexible connection design should not add extra weight to the intake duct and exhaust duct of the fan in order to reduce vibration and noise transmission.

- Wire guard set up

For safety purpose, metal wire protective grille should be installed when suction inlet of the fan is operated without any inlet duct in order to prevent accident or injury.

- Duct construction

The ductwork layout should be planned and constructed to avoid unnecessary bend, abrupt enlargement or reduction near the suction inlet and exhaust outlet of the fan, which may impede the fan performance as rated because of air route obstruction, resulting in additional vibration and noise.

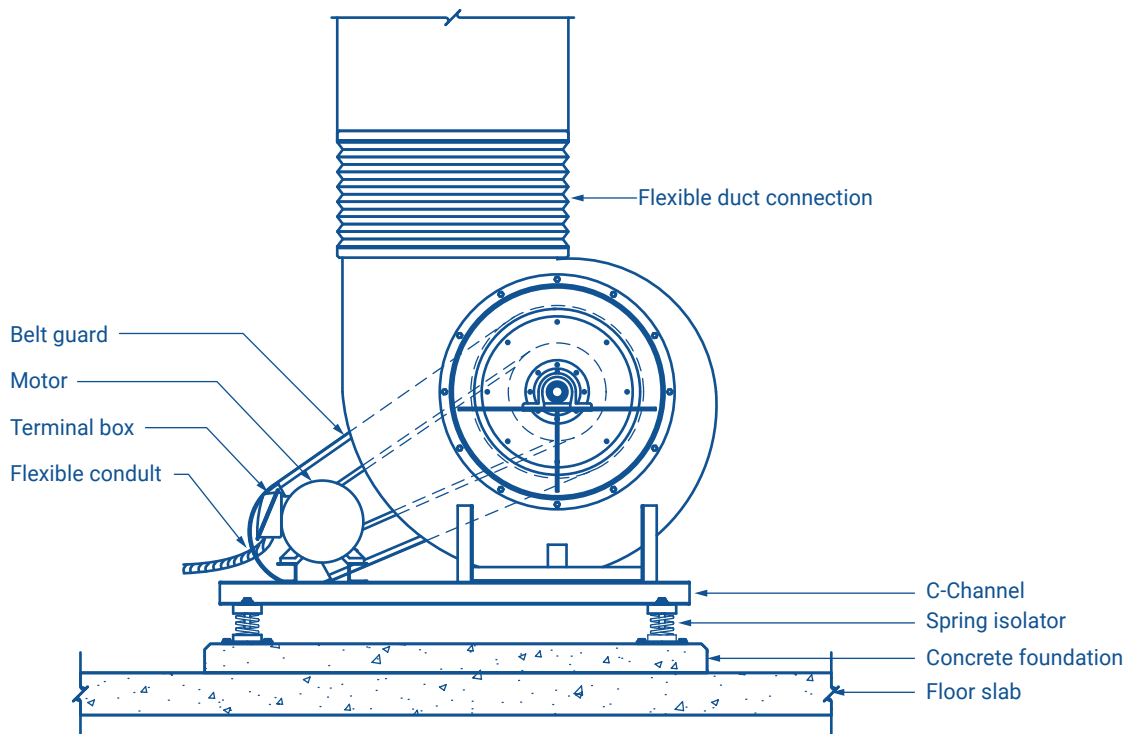
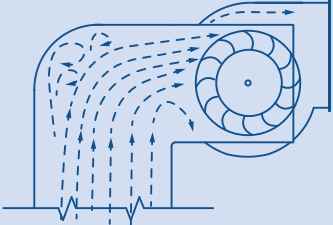
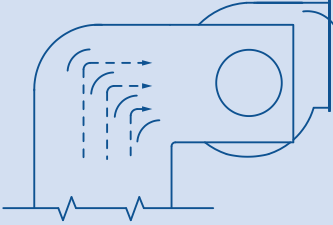
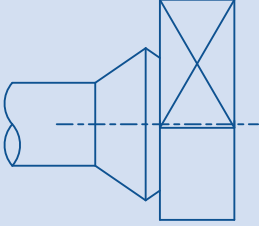
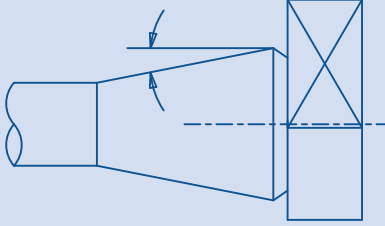
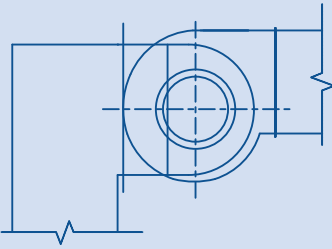
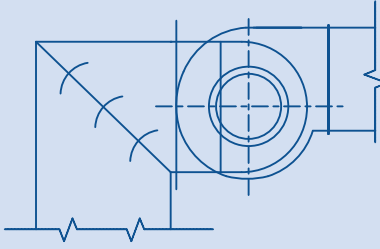
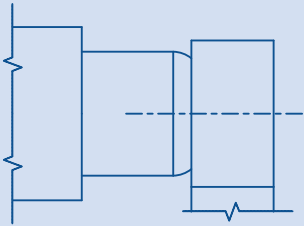
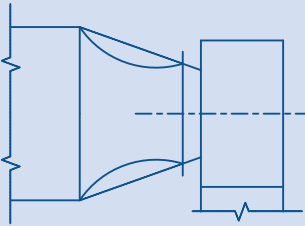
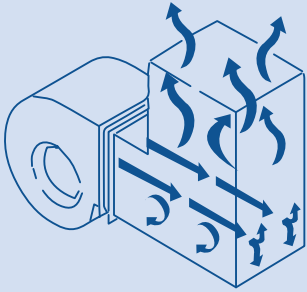
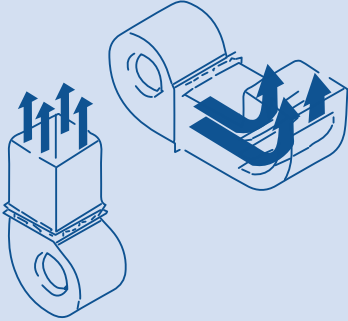
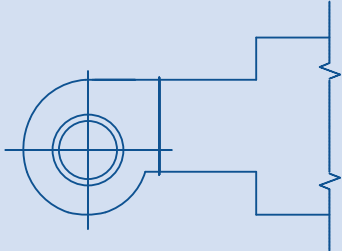
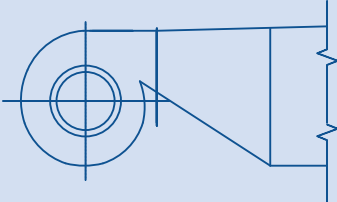
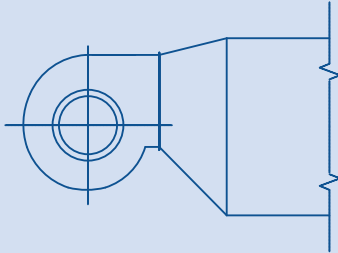
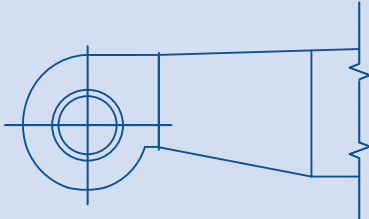
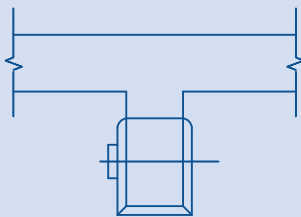
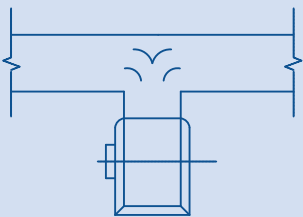


Illustration of centrifugal fan installation

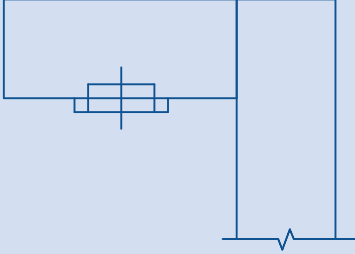
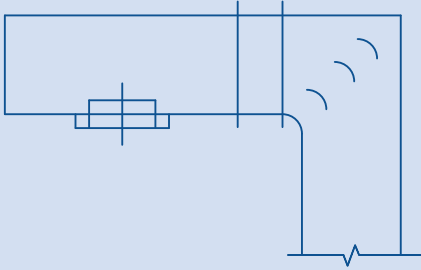
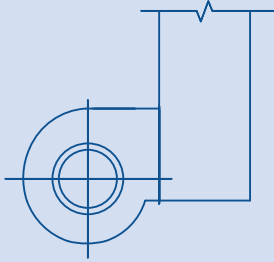
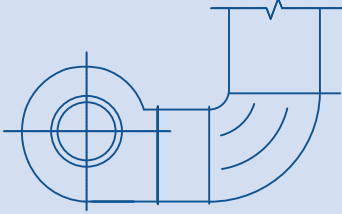
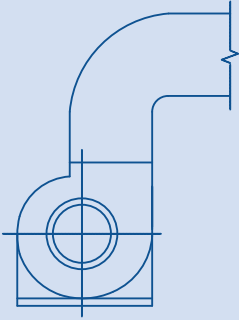
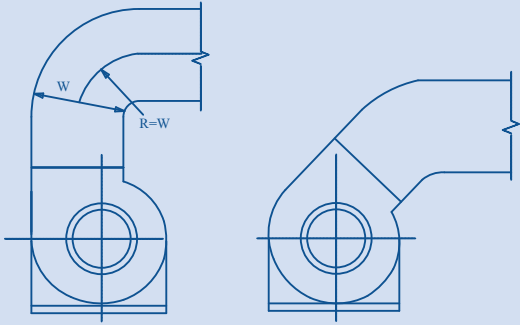
Recommended duct installation for suction inlet

Not recommended	Recommended
	
	
	
	

Recommended duct installation for exhaust outlet

Not recommended	Recommended
	
	
	
	

Recommended duct installation for exhaust outlet (cont.)

Not recommend	Recommend
	
	
	

Electrical wiring

- Each fan should be installed with the overload protection device complying with acceptable safety standard in order to avoid motor burn due to overcurrent. (Please refer to motor name plate for the electrical current specification).
- To avoid motor insulation damage when star delta starting is used, power switch should be installed at the main circuit for power cut off (to avoid voltage entering the stopped motor).
- Starting time for the limit-load fans would be longer than the multi-blade fans. It is recommended to use power switch with thermal time delay relay for limit-load fan.

Maintenance information

Recommended inspection items

The maintenance cycle should be shortened if the fans are operated under severe operating conditions.

Inspection item	Inspection cycle						Remarks
	Day	Week	Month	6-Month	Year	5-Year	
Confirm operation current and operation status	○						Caution to current value, abnormal sound and vibration
Check bearing temperature		○					Caution to temperature change (bearing and motor)
Check tension of belt			○				
Adjustment and condition of belt since last replacement				○			Vary subject to usage condition while replace every 2 years in normal operating condition
Check wearing of pulley				○			
Check alignment of pulley				○			
Check tightness of slot key				○			
Check tightness of fixing bolt for impeller and bearing				○			
Check dirt on impeller & casing interior				○			
Check tightness of installation bolt & anchor bolt				○			
Check precision of bearing				○			
Clean motor				○			Remove dust
impeller, shaft and casing					○		
Disassemble motor for inspection						○	Shorten the inspection cycle when using in dusty place
Bearing replacement						○	Vary subject to operating condition while replace by 3-5 years as seal type or lubricant-free type bearing is used

Remarks: With proper maintenance management, operation efficiency can be maintained and unnecessary energy consumption can be reduced while equipment life time can be extended. It is recommended to implement maintenance as refer to the above table.

Maintenance cycle

		Common Case △ Inspection ◇ Lubrication ☆ Painting ▲ Adjustment ☒ Replacement ○ Parts replacement ■ Washing ● Cleaning																
Parts	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
	1	Casing	▲	▲	★	▲	▲	★	▲	▲	▲	▲	▲	★	▲	▲	▲	★
2	Shaft	▲	▲	★	▲	▲	★	▲	▲	▲	▲	▲	★	▲	▲	▲	★	Vibration wearing rust
3	Impeller	●	●	★	●	●	★	●	●	★	●	●	★	●	●	▲	★	Abnormal sound and vibration
4	Bearing	◇ For every 1,000 hours		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	Abnormal sound heat screw loose
5	Pulley	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	Core declination vibration screw loose
6	Belt	▲ For 50 hours in preliminary stage and every 2,000 hours after re-tension															Tension wearing	
7	Motor	▲	▲	▲	▲	○	▲	▲	▲	▲	▲	○	▲	▲	▲	▲	▲	Current (Amps) Abnormal sound and vibration
8	Anti-vibration	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	Being deform

Remarks:

- Above maintenance duration is based on normal operating condition, it may vary subject to usage and installation condition.
- The criteria of operation time are 10 hours per day, 300 days per year, total 3,000 hours.
- ☒ -Replacement and ○ -Parts replacement processes should be conducted by specialists to ensure reliability.

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