

FanAir

FanAir India Pvt. Ltd.





FAFC SERIES

FanAir India Pvt. Ltd.

FAFC Series Double Inlet Double Width Centrifugal Fan

With forward curved wheel



FanAir India Pvt Ltd

certifies that the FAFC series: version F, P & Q - model 400 to 1000 shown herein is 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.

FAFC SERIES

DIDW CENTRIFUGAL FANS - FORWARD WHEEL

FAFC Series is a Double Inlet Double Width (DIDW) centrifugal blower with forward curved wheel. These fans are suitable for Supply & exhaust application in commercial & industrial (**HVAC**) systems.

Maximum operating speed and power of each fan type is due to its mechanical design. The operating limit of different fan types of **FAFC** series is set according to the requirement of Class **I, II & III** limit as defined in **AMCA Standard 99**.

The FAFC Series is available in type **F, P & Q**.

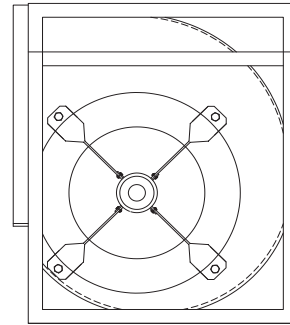
FAN MODEL & TYPE			
Fan Model (mm)	F	P	Q
400 to 710	I	II	III
800 to 1000		I	II

TYPE -F :- This type has a frame fitted on both sides of the fan which gives better strength and rigidity. It allows mounting in four different orientations.

Fan Size :- 400 mm to 710 mm

Volume :- 1100 CMH to 50000 CMH

Total Pressure :- upto 1200 Pa

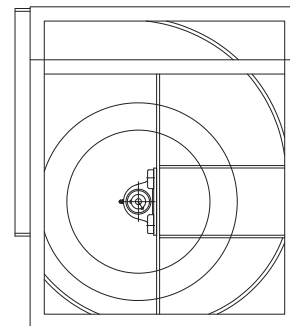


TYPE -P :- This type has a welded frame, giving increased stiffness and rigidity required for higher operating performance.

Fan Size :- 400 mm to 1000 mm

Volume :- 1000 CMH to 100000 CMH

Total Pressure :- upto 1500 Pa

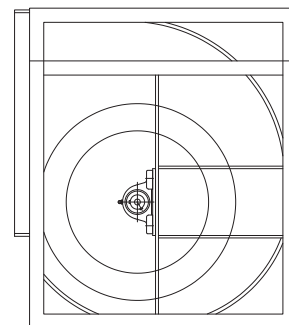


TYPE -Q :- The Structure is similar to type **P** but utilizes enhanced bearings to support higher dynamic load necessary for the increased performance.

Fan Size :- 560 mm to 1000 mm

Volume :- 2500 CMH to 120000 CMH

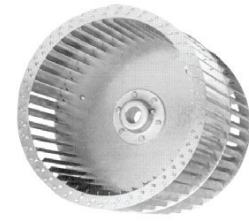
Total Pressure :- upto 1600 Pa



TECHNICAL SPECIFICATION

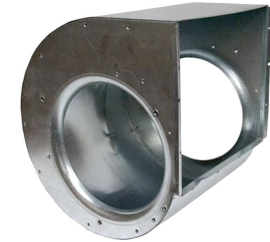
WHEEL

The wheel of FAFC series is made of galvanised sheet steel forward curved blades. To obtain a maximum efficiency & low noise level, these **wheel** are specially profiled. A die cast aluminium hub with a precisely machined bore a key way is fitted to the wheel plates. The wheel is statically and dynamically balanced.



HOUSING

The housing is manufactured in galvanized sheet steel with the housing fixed to the side plates by using pittsburg lock for sizes.



FRAME

For type "F" frame is of GI Sheet angle in which GI sheet is sheared, bend and spot welded in a way that ensures correct dimensions and also maximum rigidity. For type "P" & "Q" frames are of M.S sections, in which sections are cut to desired sizes and welded together to form rigid frame to provide strength and stability to the fan.

SHAFT

Shafts are manufactured from EN8 carbon with key ways at both ends and at the centre for hub of wheel. All dimensional tolerances of the shaft are fully checked to ensure a precision fit. All shafts are then coated with an anti corrosion varnish after assembly.



BEARINGS

All bearings used are deep groove ball bearing type sealed at both side. The bearings are self-aligning with an eccentric locking collar for clamping onto the shaft and each bearing sits in side a moulded rubber housing.

All the bearings are lubricated for life and maintenance-free under normal operating conditions.



FAN ROTATION AND DISCHARGE

The rotation and discharge of the fan is in accordance with AMCA Standard 99.

The direction of rotation is determined from the drive side of the fan [refer Fig. 1] :-

- CW - clockwise rotation
- CCW - counter-clockwise rotation

	90°	180°	270°	360°
CW				
CCW				

Fig. 1 - Fan rotation and discharge

MOTOR POSITION

The position of the motor for belt drive centrifugal fan is in accordance with Location of motor is determined by facing the drive side of fan and designating the positions by letters W, X, Y, or Z. (Fig. 2)

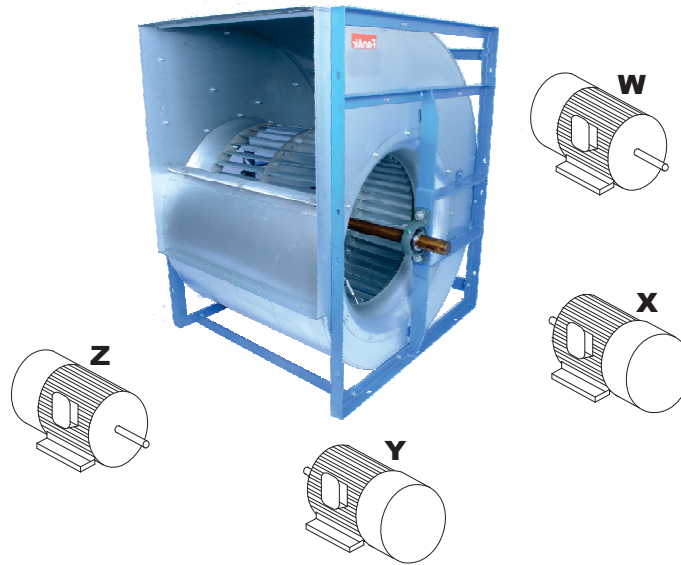


Fig. 2 - Motor Position

MOTOR SELECTION

The power curves shown on each performance graph represent the absorbed power at the shaft of the fan measured in KW. To determine the power of the motor to be installed, a correction factor as shown in fig.3 should be applied to compensate for transmission losses.

For conversion to horsepower (HP) use multiplying factor 1.34.

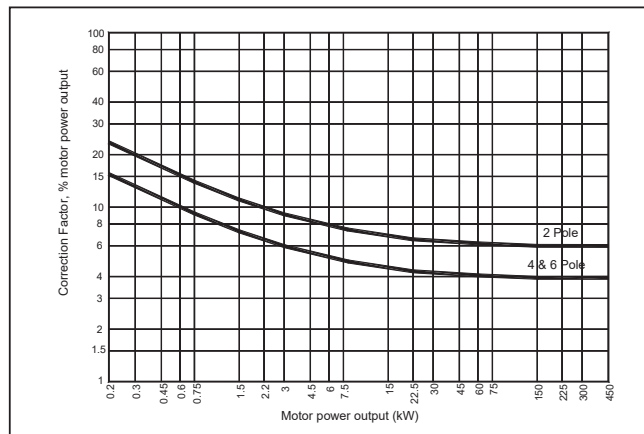


Fig. 3 – Recommended for compensation

DYNAMIC PRESSURE

The dynamic pressure and outlet air velocity shown on each curved are calculated on the full air discharge area, i.e. ducted outlet conditions.

With free outlet conditions, the velocity pressure is higher. To determine this new value, multiply the velocity pressure of the ducted outlet obtained from the fan curve by the following correction factor "K".

Fan performances calculated with this correction factors are not licensed by AMCA International.

PERFORMANCE

The performance data shown on each diagram has been tested and measured in accordance to AMCA Standard 210.

Ratings are referred to the standard air density with the total pressure as a function of the air volume, using logarithmic scales.

It is essential that, the same installation type and test standard are used at all times, when comparing fan.

$$[K = 2.6]$$

NOISE

The **Noise** level shown on each diagram refer to the sound power "A-weighted" and the data on the inlet side has been measured in accordance with AMCA Standard 300 configuration "B". The noise level of the fans are determined as follows:

Sound power level - ("A" scale) : $L_w(A)$ as catalogue

Octave band spectrum: $L_w = L_w(A) + L_w \text{ rel. dB}$

Sound pressure level :

A) Free field

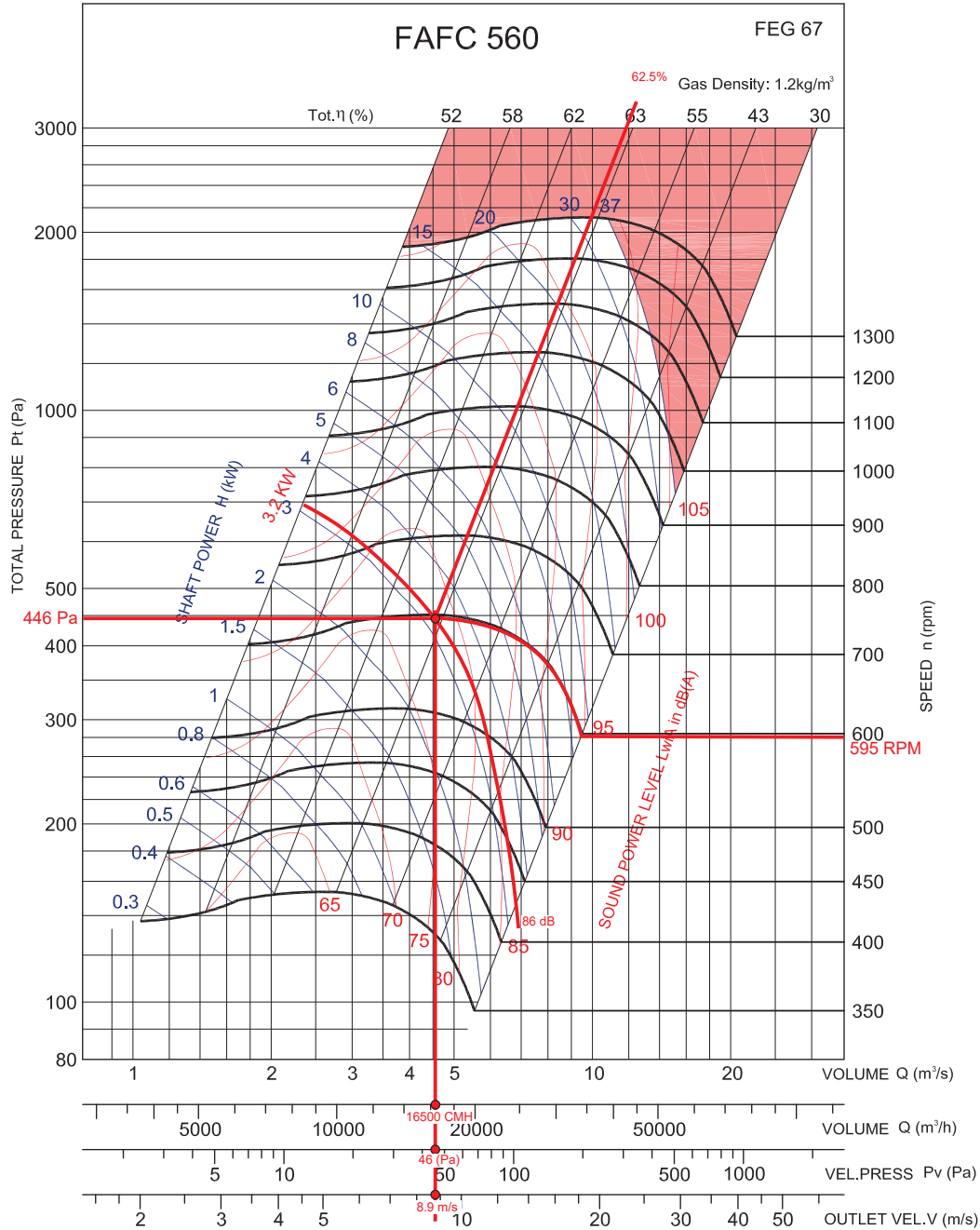
$$L_p(A) = L_w(A) - (20 \log_{10} d) - 11$$

B) Room conditions

$$L_p(A) = L_w(A) - (20 \log_{10} d) - 8$$

Where d = distance from fan (m)

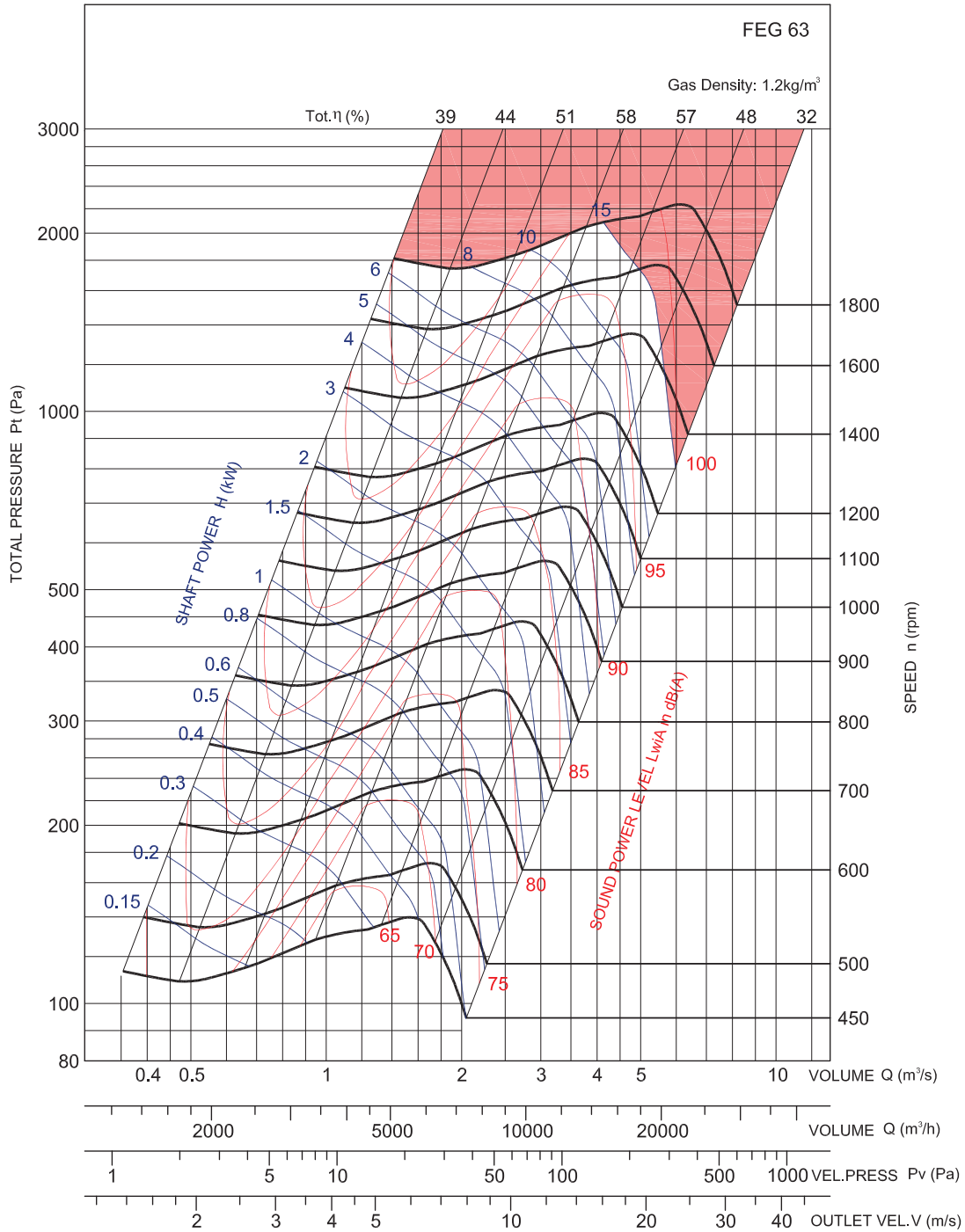
Volume Flow Rate 'Q'	=	16500 CMH (Q)	Outlet Velocity (V)	=	8.9 m/s
Static Pressure	=	400 Pa	Total Pressure (Pv)	=	446 Pa
Dynamic Pressure	=	46 Pa	Fan Speed	=	595 RPM
Shaft Power (H)	=	3.2 KW	Total Efficiency (\$)	=	62.5%
Sound Power Level Lw(A)	=	86 dB(A)			



Notes:

1. Performance certified is for Installation Type B : Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet Lw(A) sound power levels for Installation Type B: Free inlet, ducted outlet.
5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.

FAFC 400



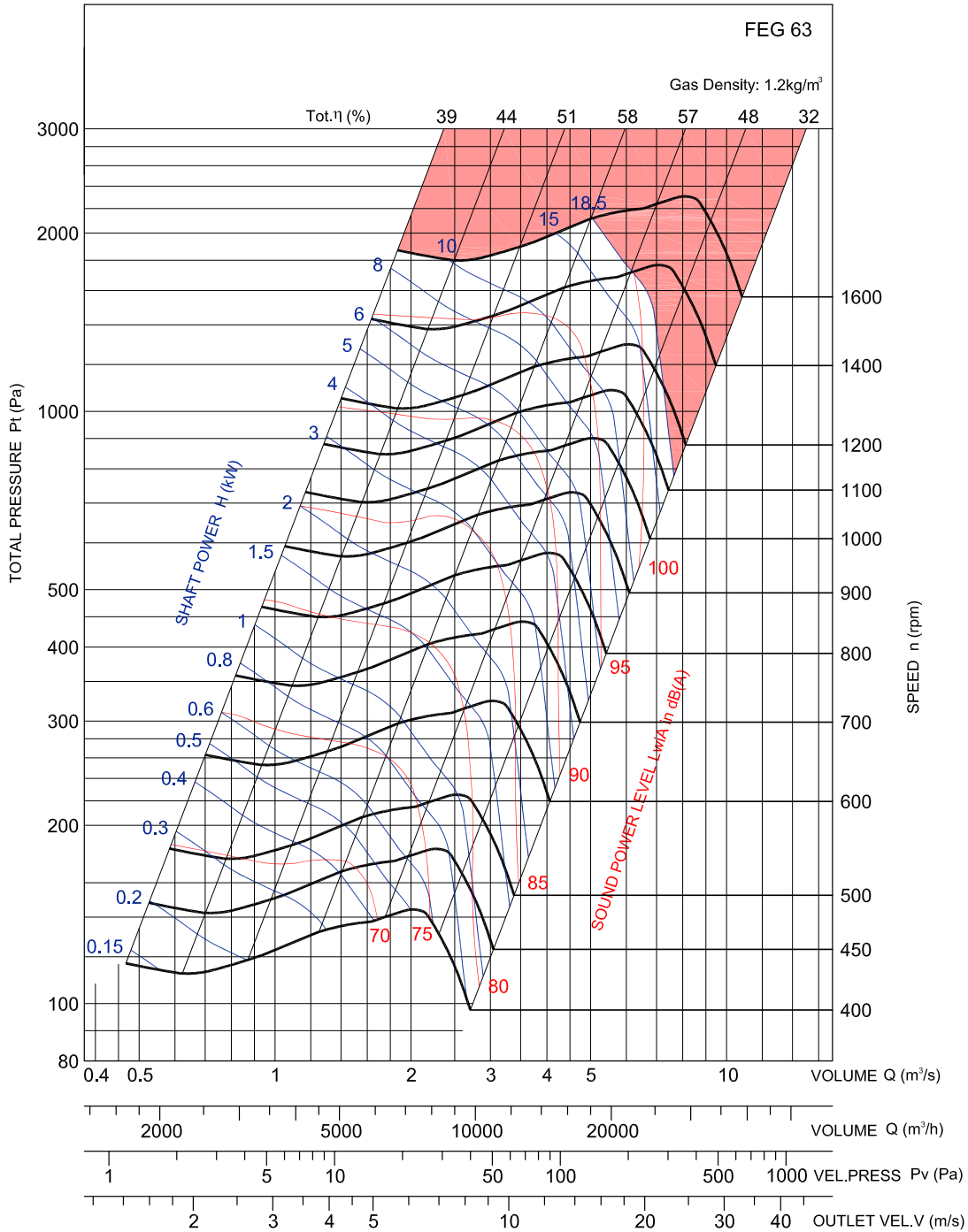
Fan Efficiency Grade :- FEG63



Notes:

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

FAFC 450



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 L_{wiA} sound power levels for installation Type B: free inlet, ducted outlet.

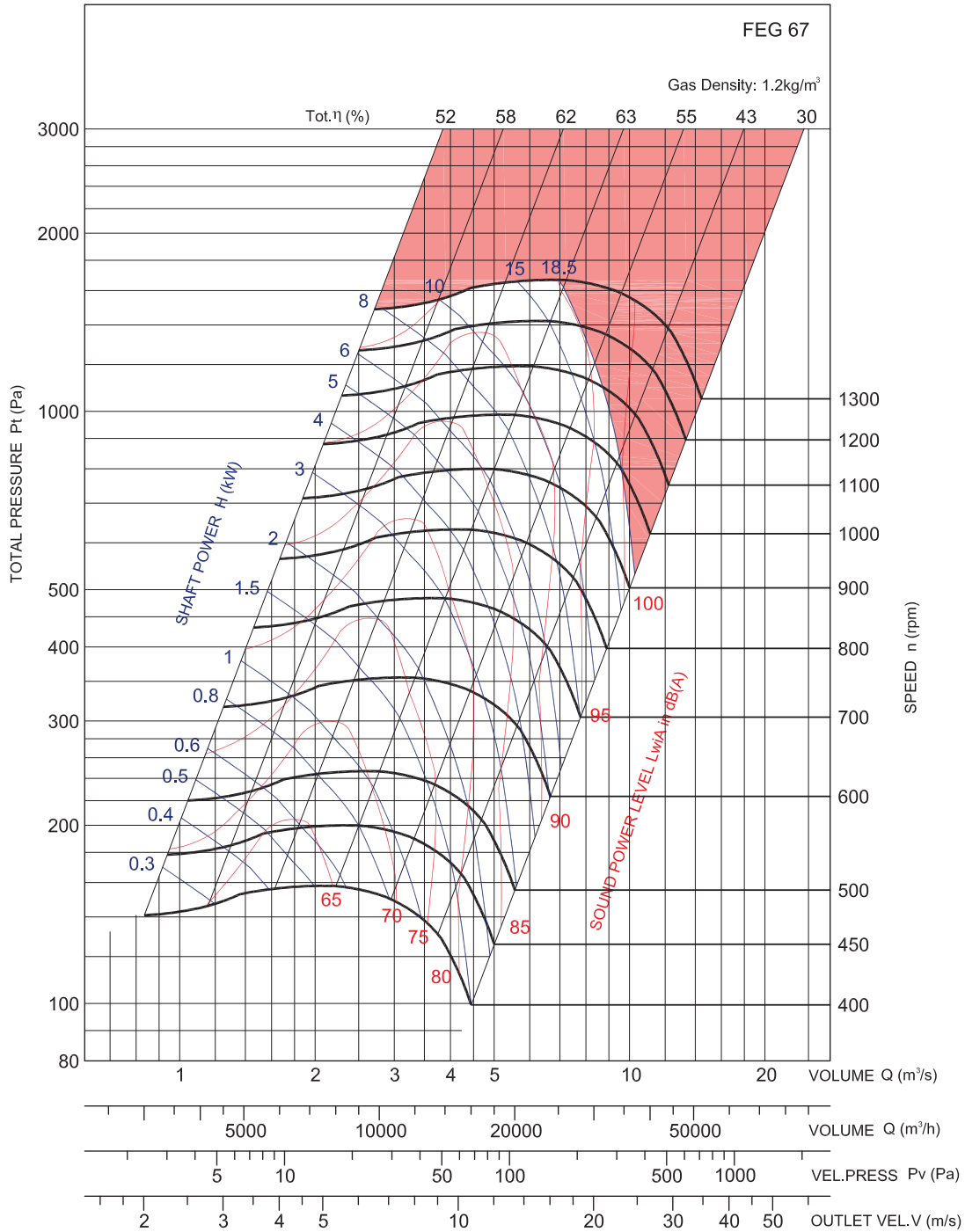
Fan Efficiency Grade :- FEG63



Notes:

1. Performance certified is for Installation Type B : Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet L_{wiA} sound power levels for Installation Type B: Free inlet, ducted outlet.
5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.

FAFC 500



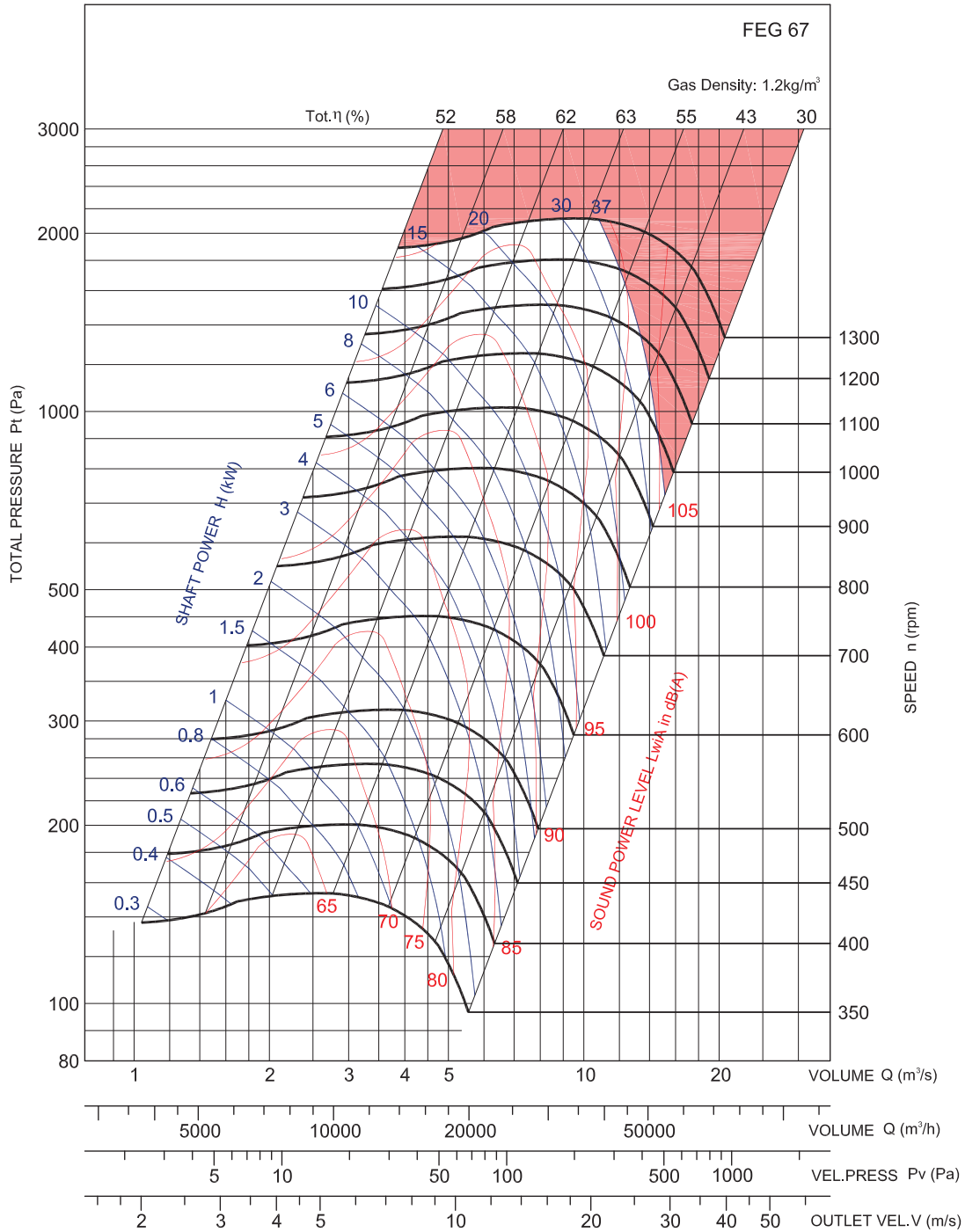
Fan Efficiency Grade :- FEG67



Notes:

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

FAFC 560



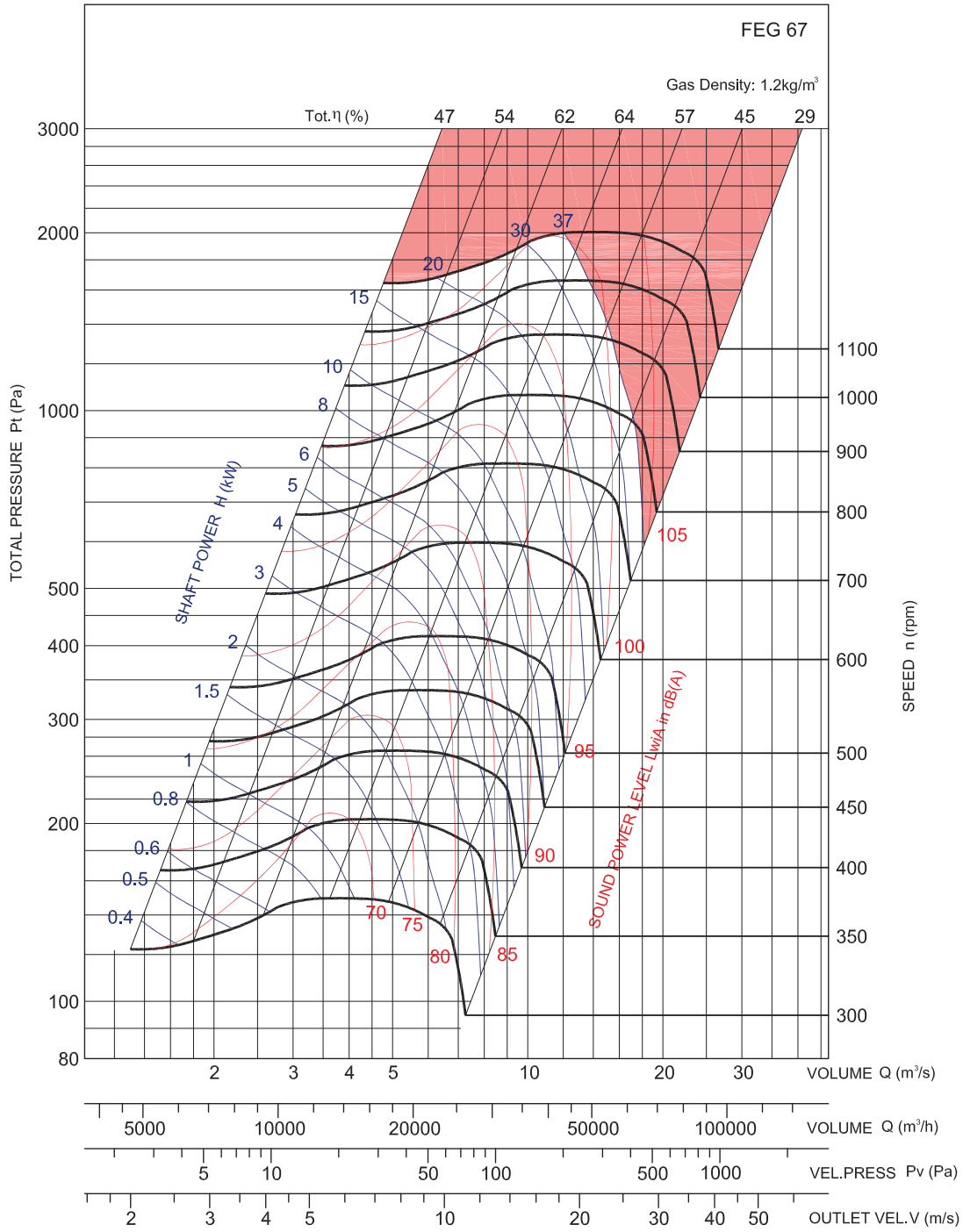
Fan Efficiency Grade :- FEG67



Notes:

1. Performance certified is for Installation Type B : Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.

FAFC 630



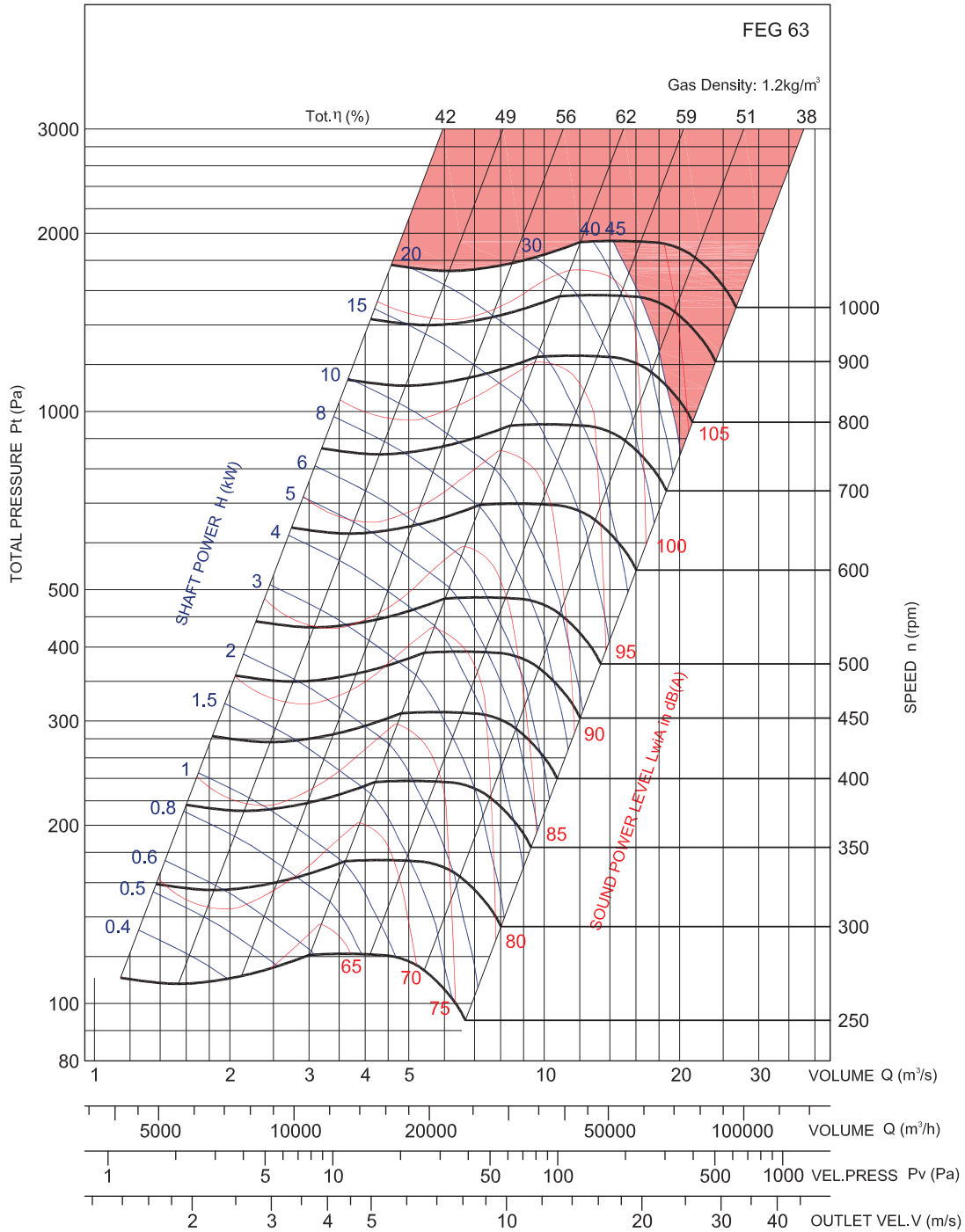
Fan Efficiency Grade :- FEG67



Notes:

1. Performance certified is for Installation Type B : Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet Lw(A) sound power levels for Installation Type B: Free inlet, ducted outlet.
5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.

FAFC 710



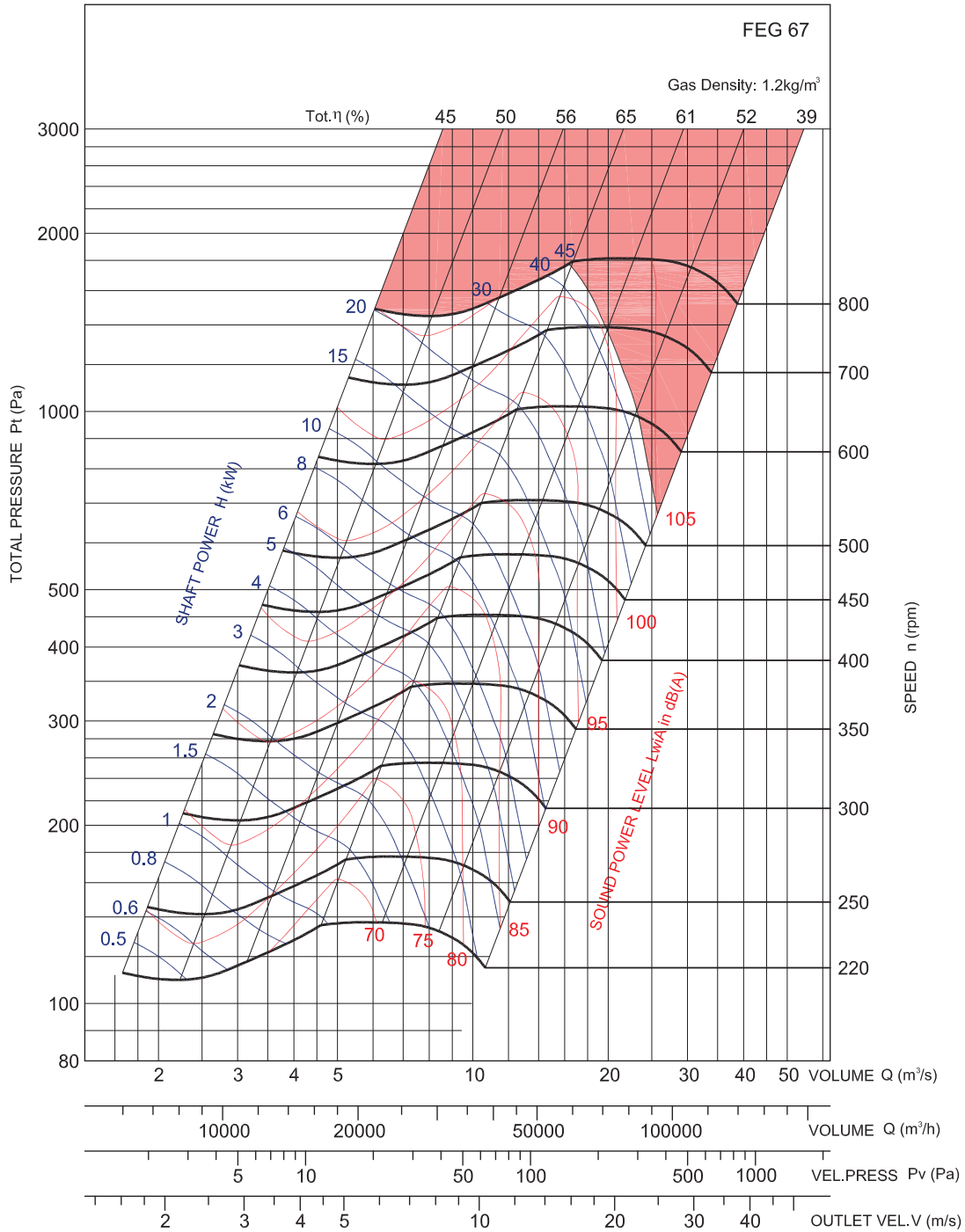
Fan Efficiency Grade :- FEG63



Notes:

1. Performance certified is for Installation Type B : Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.

FAFC 800



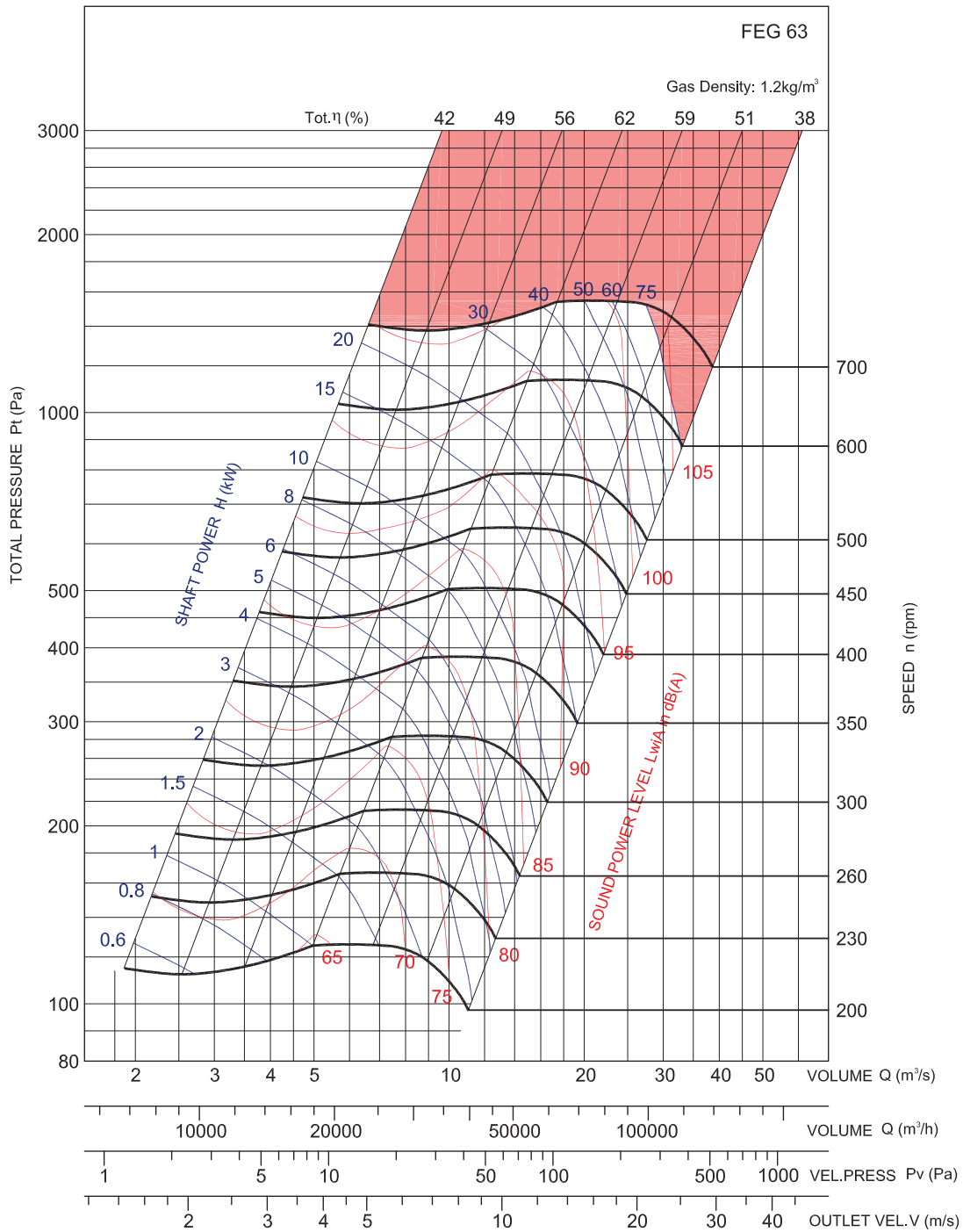
Fan Efficiency Grade :- FEG67



Notes:

1. Performance certified is for Installation Type B : Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.

FAFC 900



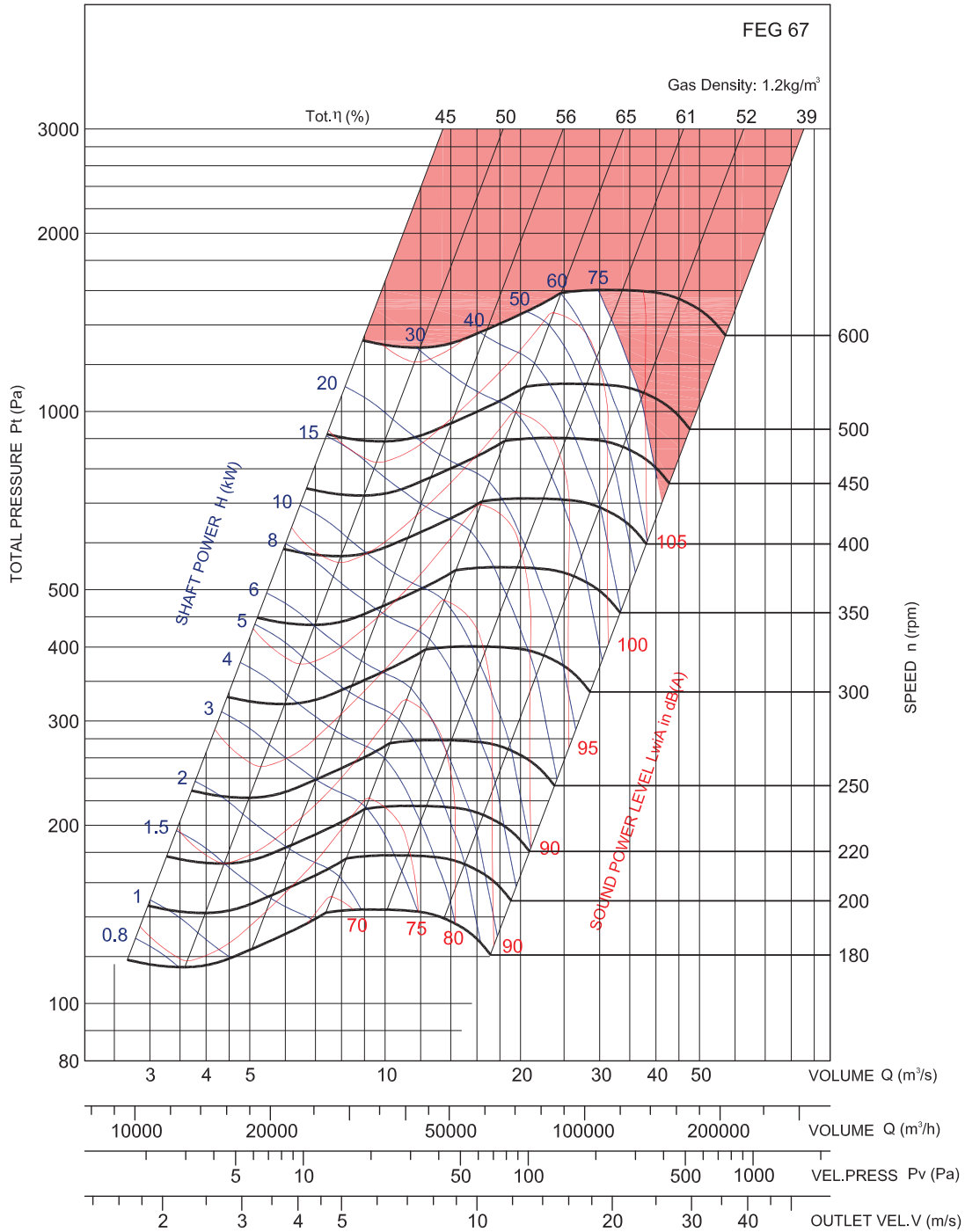
Fan Efficiency Grade :- FEG63



Notes:

1. Performance certified is for Installation Type B : Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet L_{wiA} sound power levels for Installation Type B: Free inlet, ducted outlet.
5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.

FAFC 1000



Fan Efficiency Grade :- FEG67

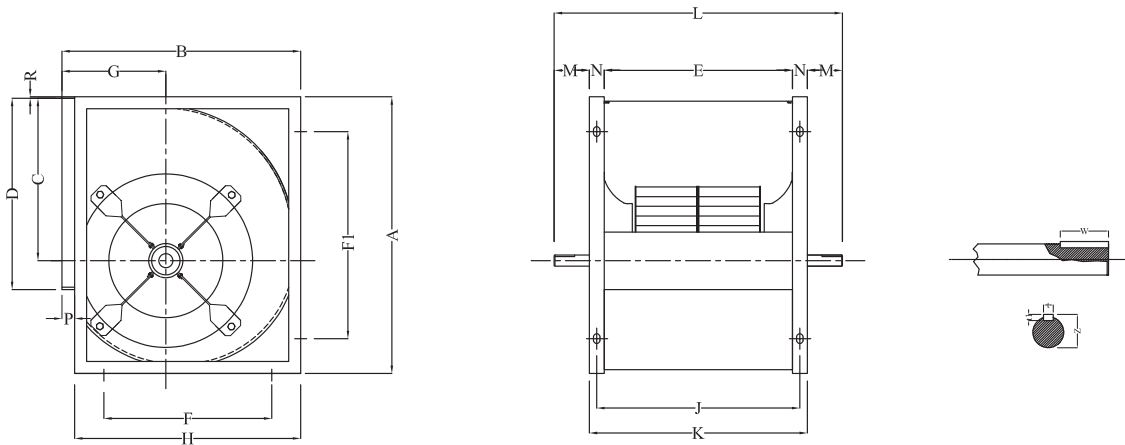


Notes:

1. Performance certified is for Installation Type B : Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.

Dimension :

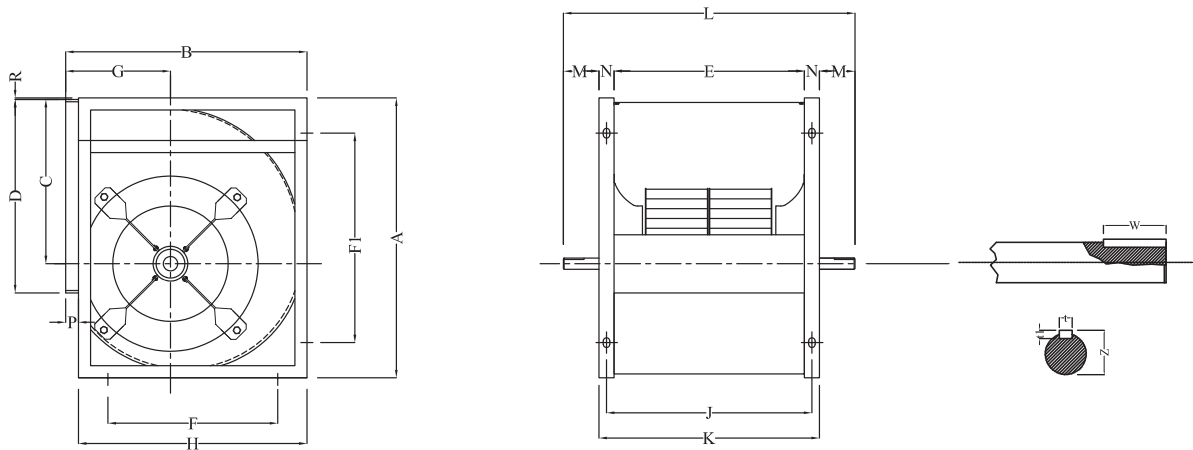
FAFC - 'F'



FAFC - 400 'F'

Model	A	B	C	D	E	F	G	F1	H	J	K	L	M	N	P	R	t	t1	W	φd	UxS
400	739	655	432	507	507	415	290	539	615	547	587	740	77	40	40	6	8	7	45	30	11*16

FAFC - 'F'



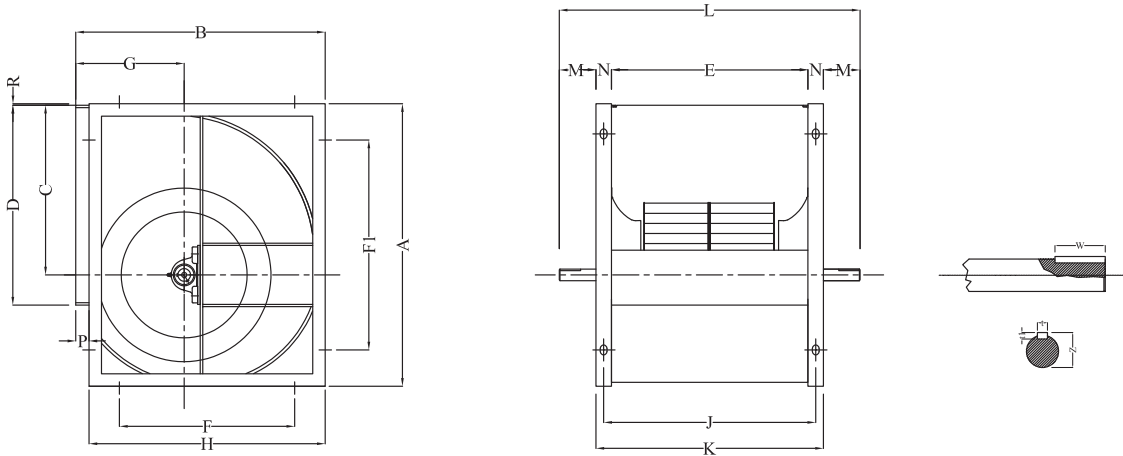
FAFC - 450 - 710 'F'

Model	A	B	C	D	E	F	G	F1	H	J	K	L	M	N	P	R	t	t1	W	φd	UxS
450	832	728	487	574	574	488	322	632	688	614	654	820	83	40	40	7	10	8	50	35	11*16
500	920	801	534	645	645	551	351	720	751	685	725	924	100	40	50	7	10	8	50	35	11*16
560	1030	900	603	720	720	650	397	830	850	770	820	1000	90	50	50	7	12	8	70	40	24*17
630	1156	1000	676	808	808	645	434	856	945	858	908	1100	96	50	55	8	14	9	70	45	24*17
710	1311	1127	770	908	908	767	488	1011	1067	958	1008	1235	114	50	60	8	14	9	90	50	24*17

All dimensions are in mm.

Dimension :

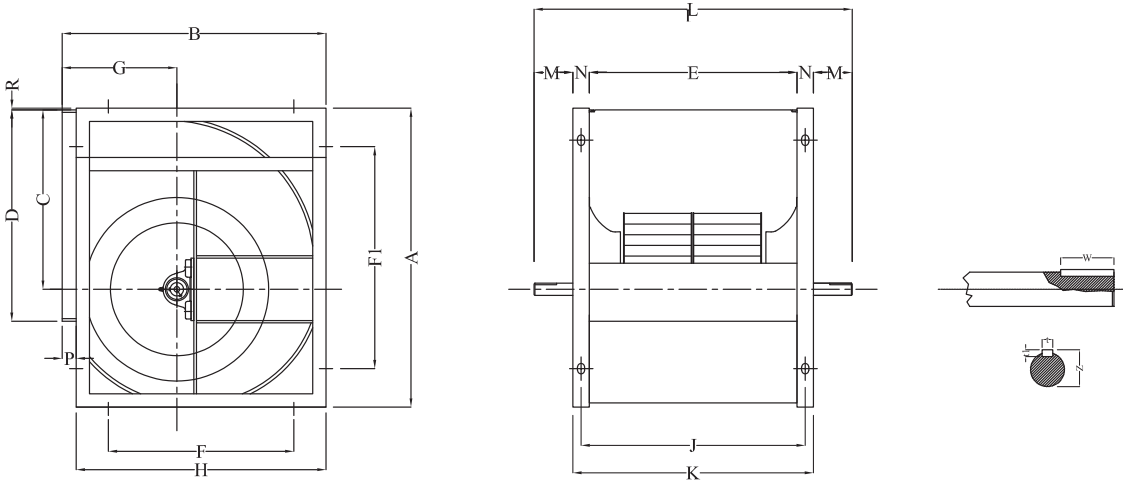
FAFC - 'P'



FAFC - 400 'P'

Model	A	B	C	D	E	F	D	F1	H	J	K	L	M	N	P	R	t	t1	W	ϕd	UxS
400	739	655	432	507	507	415	290	539	615	547	587	773	93	40	40	6	6	6	40	30	11*16

FAFC - 'P'



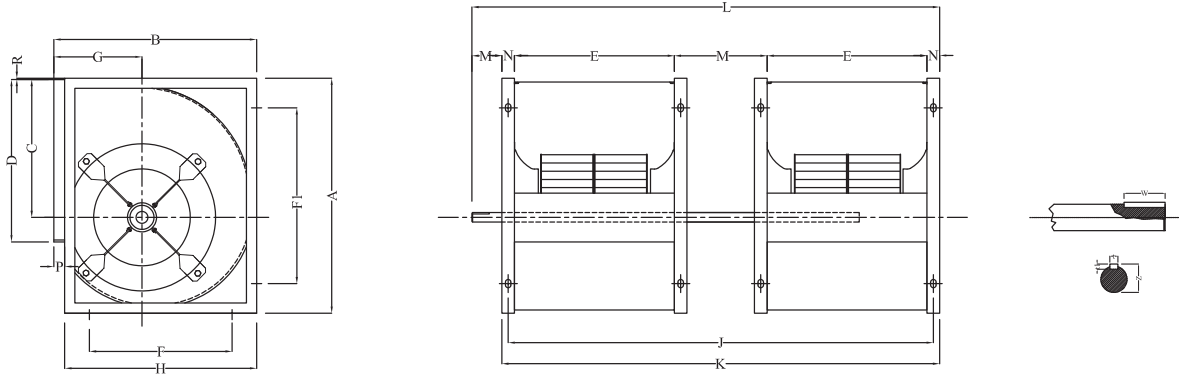
FAFC - 450 - 1000 'P'

Model	A	B	C	D	E	F	G	F1	H	J	K	L	M	N	P	R	t	t1	W	ϕd	UxS
450	832	728	487	574	574	488	322	632	688	614	654	880	113	40	40	7	10	8	50	35	11x16
500	920	801	534	645	645	551	351	720	751	685	725	963	119	40	50	7	12	8	70	40	11x16
560	1030	900	603	720	720	650	397	830	850	770	820	1086	133	50	50	7	12	8	70	40	24x17
630	1156	1000	676	808	808	645	434	856	945	858	908	1174	133	50	55	8	14	9	70	45	24x17
710	1311	1127	770	908	908	767	488	1011	1067	958	1008	1290	141	50	60	8	14	9	90	50	24x17
800	1468	1255	862	1017	1017	830	540	1118	1180	1067	1117	1390	137	50	75	8	16	10	90	55	24x17
900	1650	1409	970	1145	1145	969	603	1300	1319	1195	1245	1560	158	50	90	9	18	11	90	60	24x17
1000	1810	1540	1065	1265	1265	1100	656	1460	1450	1315	1365	1730	183	50	90	9	18	11	90	60	24x17
1120	2033	1725	1200	1422	1422	1280	748	1683	1630	1472	1522	1930	204	50	95	9	20	12	110	70	24x17
1250	2285	1930	1353	1524	1554	1435	830	1885	1835	1619	1684	2260	288	65	95	9	22	14	110	80	24x17

All dimensions are in mm.

Dimension :

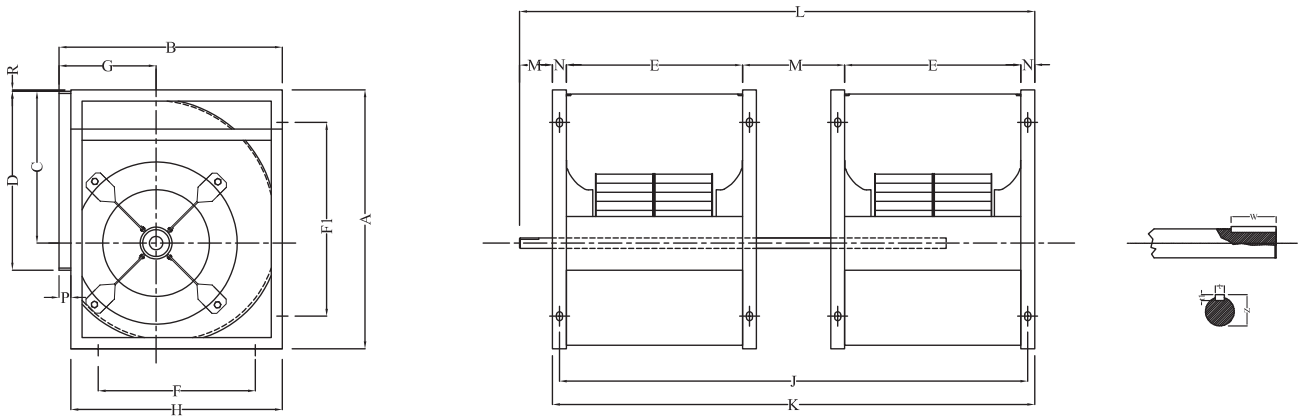
FAFC - 'F2'



FAFC - 400 'F2'

Model	A	B	C	D	E	F	G	F1	H	J	K	L	M	N	P	Q	R	t	t1	W	φd	UxS
400	739	655	432	507	507	415	290	739	615	547	587	740	77	40	40	400	6	10	8	50	35	11*16

FAFC - 'F2'



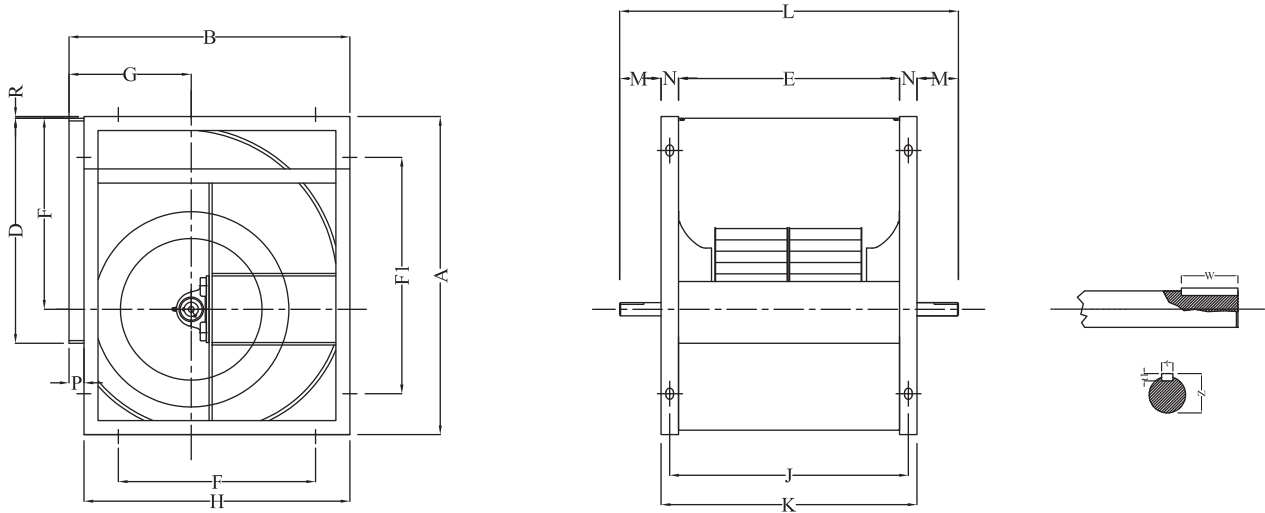
FAFC - 450 - 500 'F2'

Model	A	B	C	D	E	F	G	F1	H	J	K	L	M	N	P	Q	R	t	t1	W	φd	UxS
450	832	728	487	574	574	488	322	832	688	1638	1678	1761	83	40	40	450	7	12	8	70	40	11*16
500	920	801	534	645	645	551	351	920	751	1830	1870	1970	100	40	50	500	7	12	8	70	40	11*16

All dimensions are in mm.

Dimension :

FAFC - 'Q'



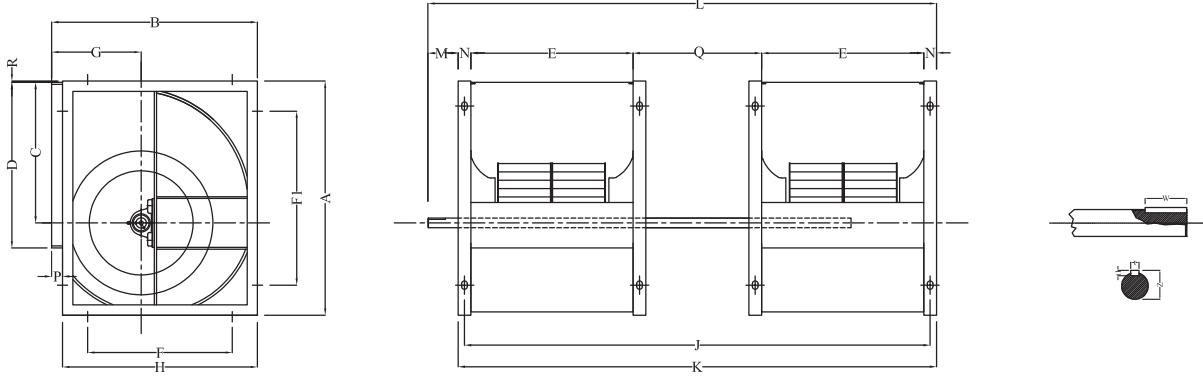
FAFC - 560 - 1000 'Q'

Model	A	B	C	D	E	F	G	F	H	J	K	L	M	N	P	R	t	t1	W	φd	UxS
560	1030	900	603	720	720	650	397	830	850	770	820	1086	133	50	50	7	16	10	90	55	24*17
630	1156	1000	676	808	808	645	434	856	945	858	908	1174	133	50	55	8	18	11	90	60	24*17
710	1311	1127	770	908	908	767	488	1011	1067	958	1008	1290	141	50	60	8	18	11	90	65	24*17
800	1468	1255	862	1017	1017	830	540	1118	1180	1067	1117	1390	137	50	75	8	18	11	90	65	24*17
900	1650	1409	970	1145	1145	969	603	1300	1319	1195	1245	1560	158	50	90	9	20	12	110	70	24*17
1000	1810	1540	1065	1265	1265	1100	656	1460	1450	1315	1365	1730	183	50	90	9	20	12	110	70	24*17
1120	2033	1725	1200	1422	1422	1280	656	1683	1630	1472	1522	1930	204	50	95	9	20	12	110	75	24*17

All dimensions are in mm.

Dimension :

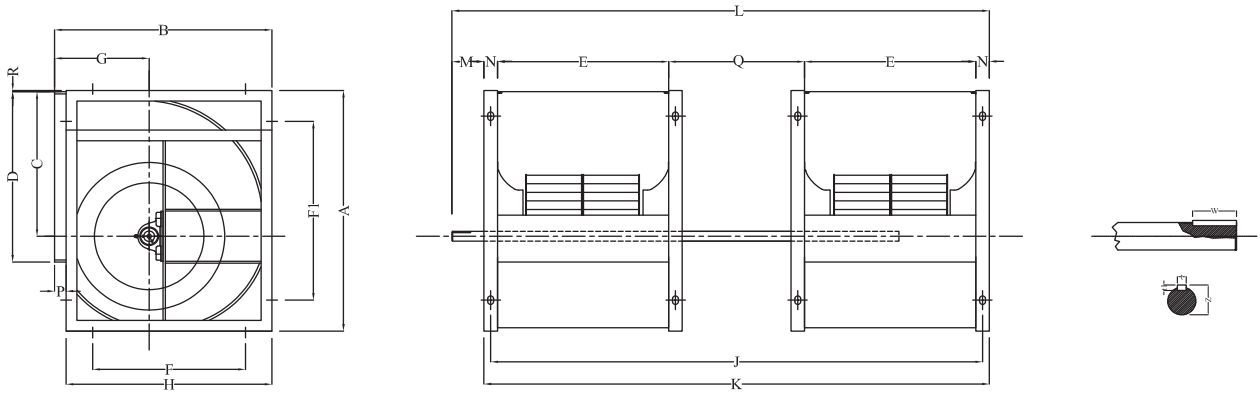
FAFC - 'P2'



FAFC - 400 'P2'

Model	A	B	C	D	E	F	G	F1	H	J	K	L	M	N	P	Q	R	t	t1	W	φd	UxS
400	739	655	432	507	507	415	290	739	615	547	587	740	77	40	40	400	6	10	8	50	35	11*16

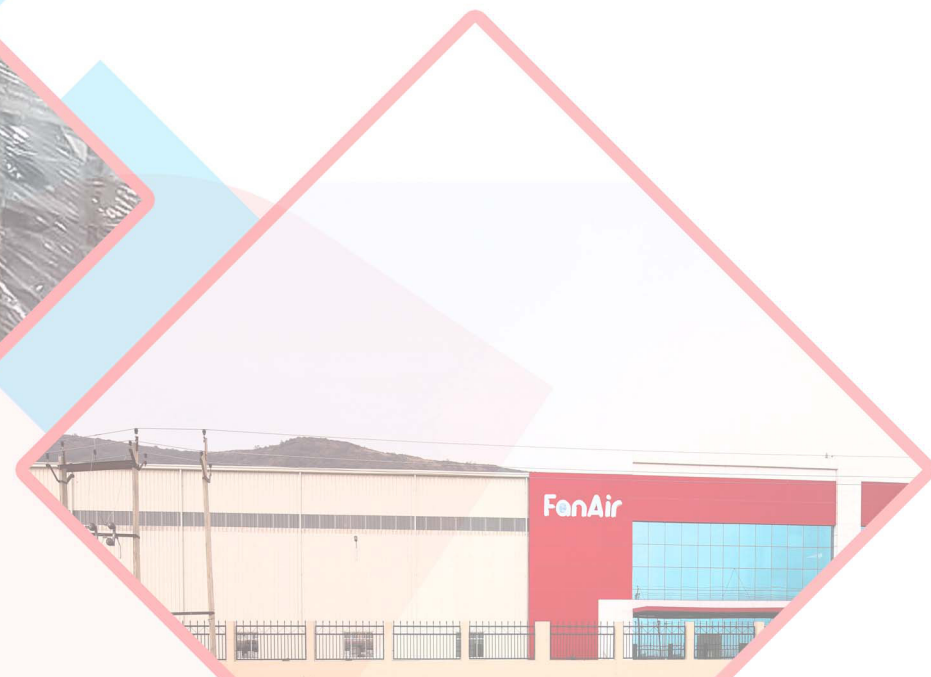
FAFC - 'P2'



FAFC - 450 - 630 'P2'

Model	A	B	C	D	E	F	G	F1	H	J	K	L	M	N	P	Q	R	t	t1	W	φd	UxS
450	832	728	487	574	574	488	322	832	688	1638	1678	1761	83	40	40	450	7	12	8	70	40	11*16
500	920	801	534	645	645	551	351	920	751	1830	1870	1970	100	40	50	500	7	12	8	70	40	11*16

All dimensions are in mm.



FanAir India Pvt. Ltd.

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Catalogue FAFC-02
December 2023