

FanAir

FanAir India Pvt. Ltd.



**DIDW BACKWARD INCLINED CENTRIFUGAL FANS
(Belt Driven)**



FABI Series

FABI Series

Double Inlet Double Width Centrifugal Fan
With backward inclined wheel



FanAir India Pvt. Ltd.

Certifies that the FABI series F, P & Q model 200 to 1120 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.

FABI Series

DIDW Centrifugal Fans - Backward Inclined Wheel

FABI Series is a Double Inlet Double Width (DIDW) centrifugal fan with backward inclined 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 FABI series is set according to the requirement of Class I, II & III limit as defined in AMCA Standard 99-16.

The FABI Series is available in type F, P & Q

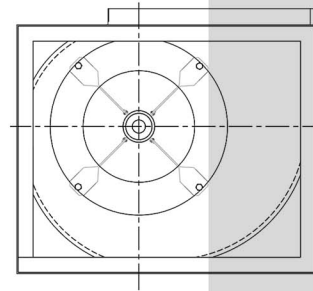
Fan Model & Type			
Fan Model (mm)	F	P	Q
200 to 710	I	II	III
800 to 1120		I	II

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 :- 200 mm to 710 mm

Volume :- Upto 55,000 CMH

Total Pressure :- upto 2000 Pa

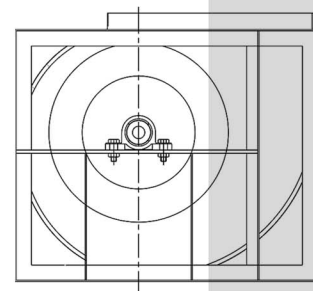


TYPE -P :- This type has a welded frame and bearings are pillow / plummer block giving increased stiffness and rigidity required for higher operating performance.

Fan Size :- 450 mm to 1120 mm

Volume :- Upto 1,00,000 CMH

Total Pressure :- upto 2000 Pa

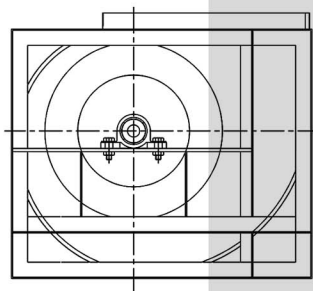


TYPE -Q :- The Structure is similar to type p but utilizes enhanced bearings to support higher dynamic load necessary for the increased performance.

Fan Size :- 560 mm to 1120 mm

Volume :- Upto 2,00,000 CMH

Total Pressure :- upto 2000 Pa



FABI Twin Series

FABI series is also available in twin fan version, with two double inlet fans mounted on the same shaft. To select for twin fans, use the curves of single fan with the following factors :-

Performance of Twin fans is not AMCA Certified.

Volume x 2

Absorbed Power x 2.15

Speed x 1.05

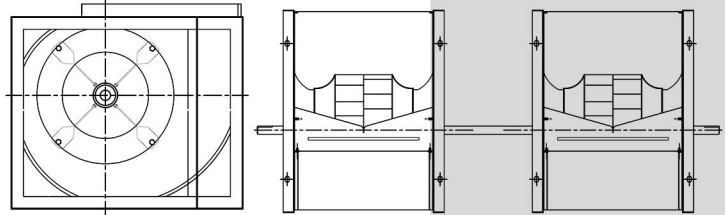
Noise + 3 dB

TYPE -F2 :- FABI F2 frame fitted is also available in twin fan version, with two double inlet fans mounted on the same shaft.

Fan Size :- 200 mm to 500 mm

Volume :- Upto 2,00,000 CMH

Total Pressure :- upto 2000 Pa

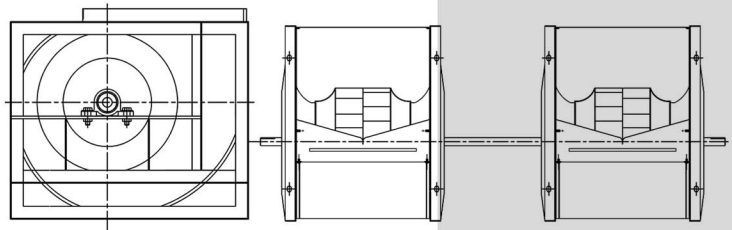


TYPE -P2 :- FABI P2 bearings are pillow / plummer block is also available in twin fan version, with two double inlet fans mounted on the same shaft.

Fan Size :- 250 mm to 630 mm

Volume :- Upto 2,00,000 CMH

Total Pressure :- upto 2000 Pa



Drive Arrangement

Belt Drive Arrangement



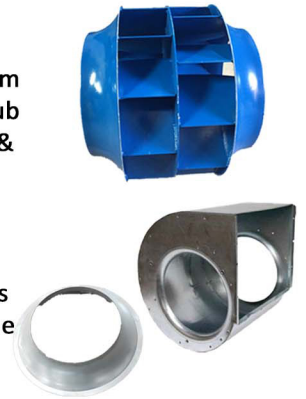
Coupling Drive Arrangement



Technical Specification

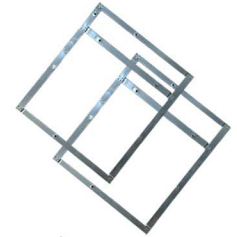
Wheel

The wheel of FABI series is made of mild steel backward inclined blades. To obtain maximum efficiency & low noise level, these wheel are specifically profiled. A die cast aluminum / CI hub with precisely machined bore and key is fitted to the wheel plates. The wheel is statistically & dynamically balanced.



Housing

The housing is manufactured in galvanized steel / mild steel / stainless steel sheet. The scroll is fixed to the side plates by using pittsburgh lock. Inlet cone (MOC- GI/ FRP/ SS.) are used for the smooth inlet of air.



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 steel with key ways at both ends and at the center for hub wheel. All dimensional tolerances of the shaft are fully checked to ensure a precision fit. All the shafts are coated with anti-corrosion varnish after assembly.

Bearings

All the bearings used are deep groove ball bearings type and sealed at both side. The bearings are self-aligning with an eccentric collar for clamping onto the shaft and each bearing shaft and each bearing sits in the side of moulded rubber housing. All the bearings are lubricated for life maintenance free under a normal operating conditions.



Fan Rotation and Discharge

The rotation and discharge of the fan is in accordance with AMCA Standard 99-16.

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

CW - clockwise rotation

CCW - counter-clockwise rotation

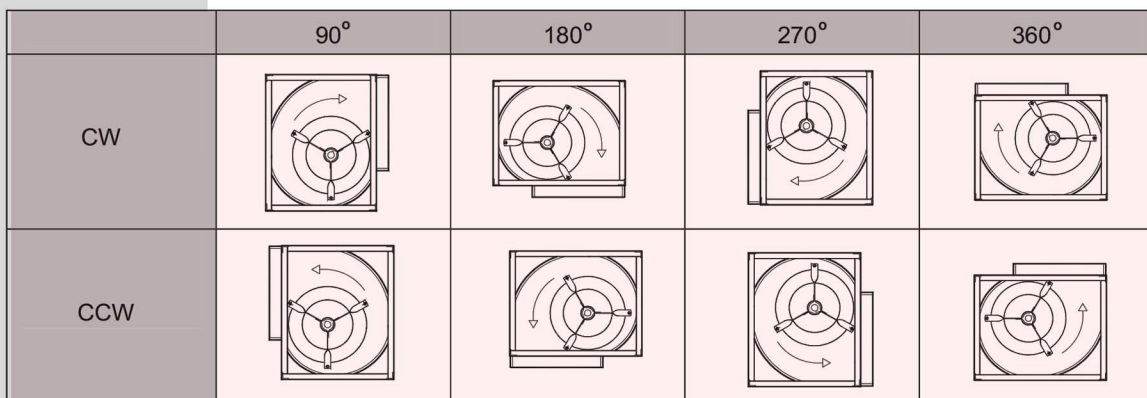


Fig. 1 - Fan rotation and discharge

Accessories such as Drain Plug, Outlet Flanges, Inspection Window and Gaurds for inlet and discharge will be available on special request

Motor Position

The position of the motor for belt drive centrifugal fan is in accordance with AMCA standard 99-2407-66. Location of motor is determined by facing the drive side of fan and designated by letters W, X, Y, or Z (Fig. 2)

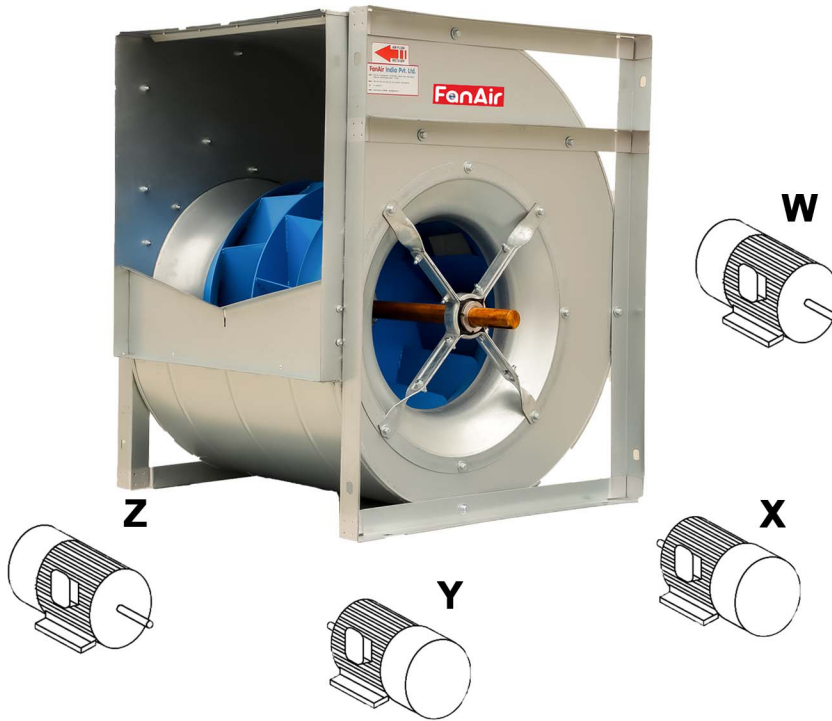


Fig. 2 - Motor Position

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.

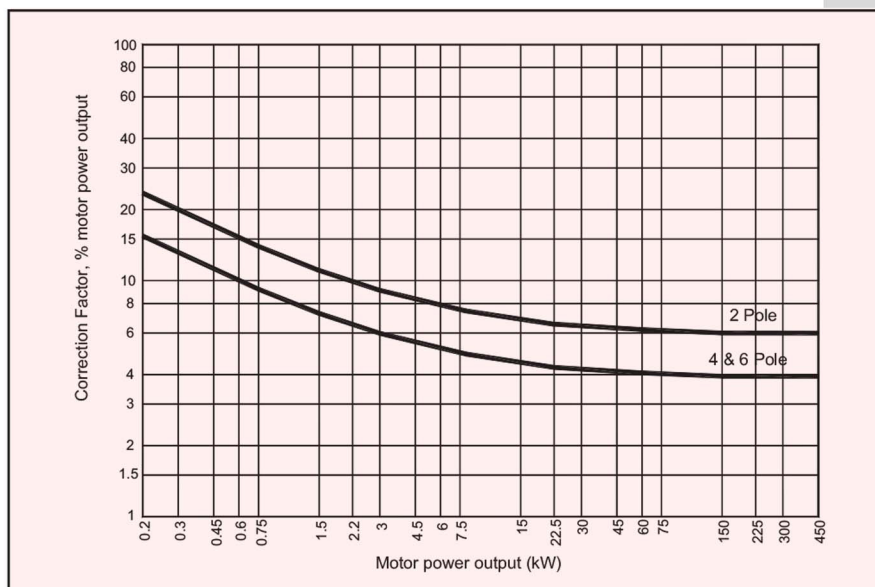


Fig. 3 – Recommended for compensation

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.

$$[K = 1.67]$$

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

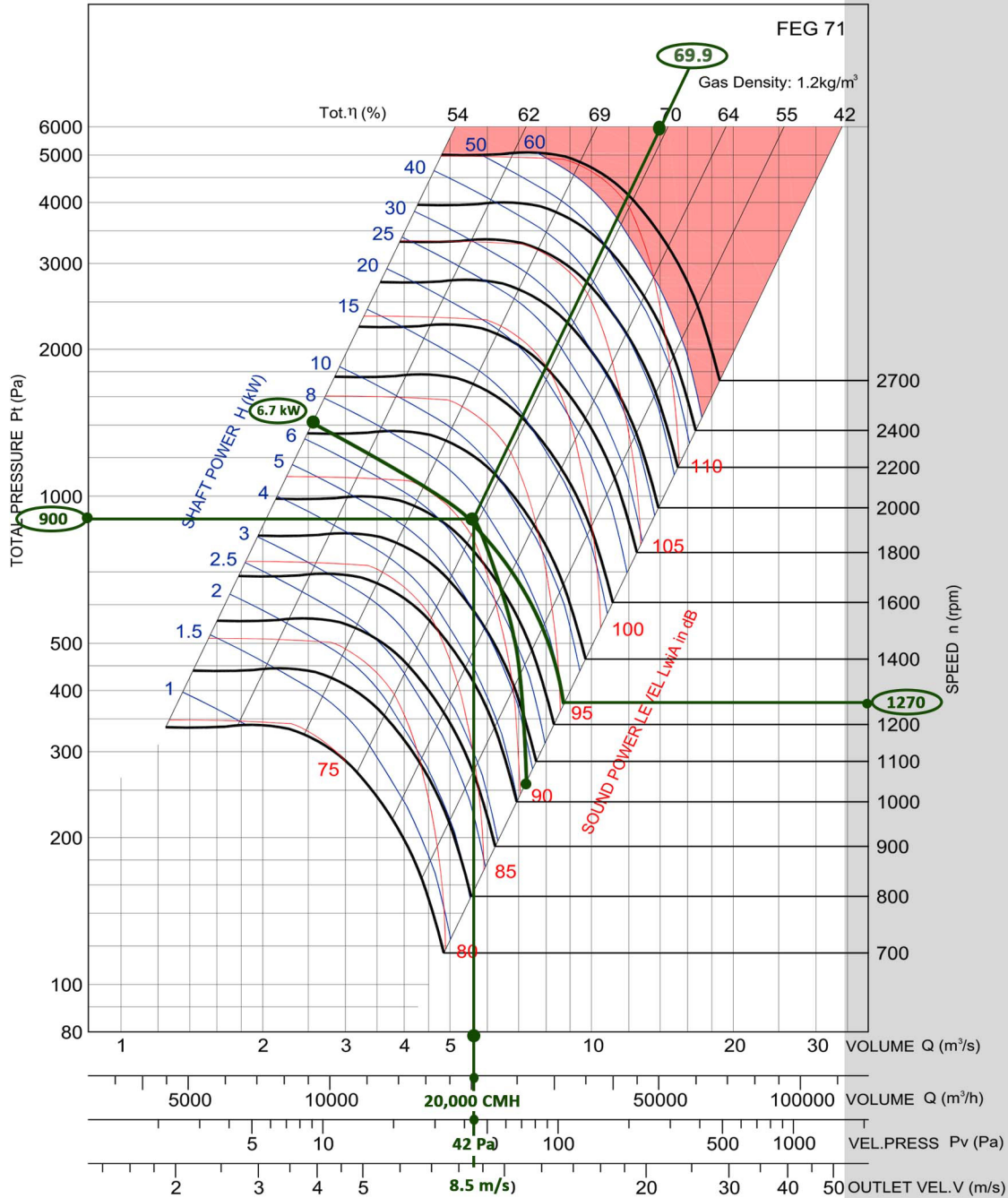
$$L_p (A) = L_w(A) - (20 \log_{10} d) - 8$$

Where d = distance from fan (m)

Sample Graph

Volume Flow Rate 'Q'	= 20,000 CMH (Q)	Outlet Velocity (V)	= 8.5 m/s
Static Pressure	= 900 Pa	Total Pressure (Pv)	= 942 Pa
Dynamic Pressure	= 42 Pa	Fan Speed	= 1270 RPM
Shaft Power (H)	= 6.8 K.W.	Total Efficiency (η)	= 69.9%
Sound Power Level Lw(A)	= 91 dBA		

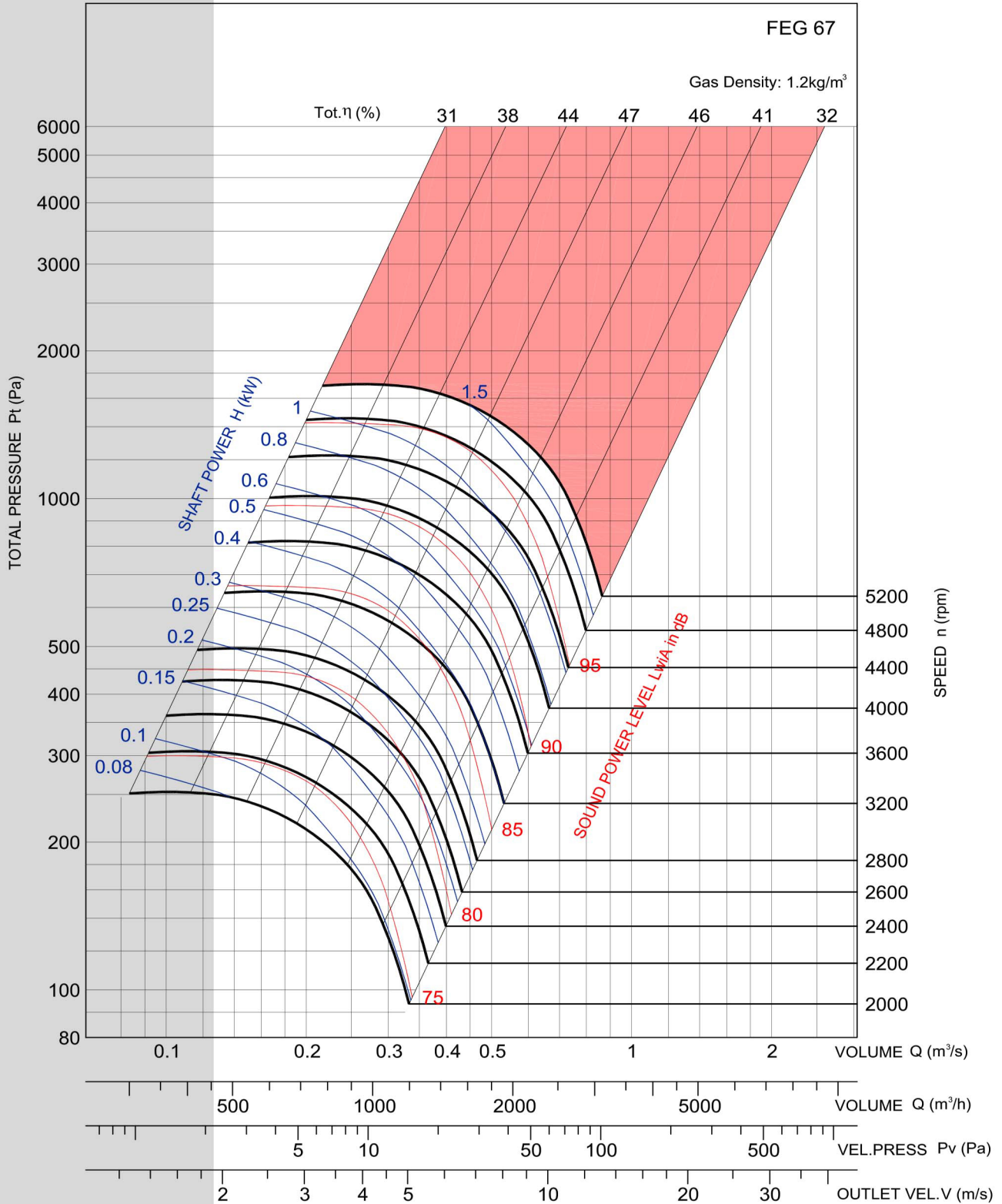
FABI 630



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.

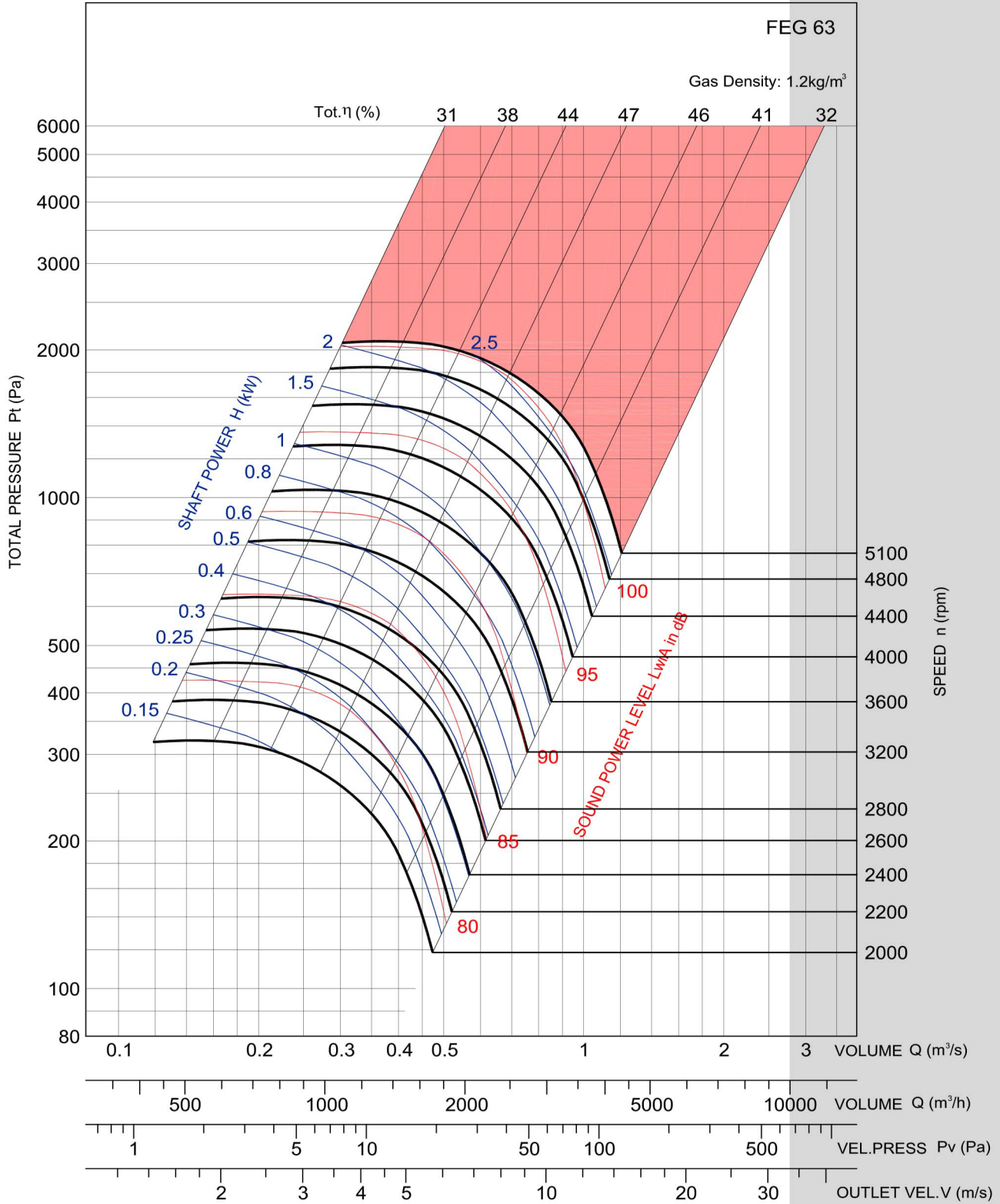
FABI 200



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.

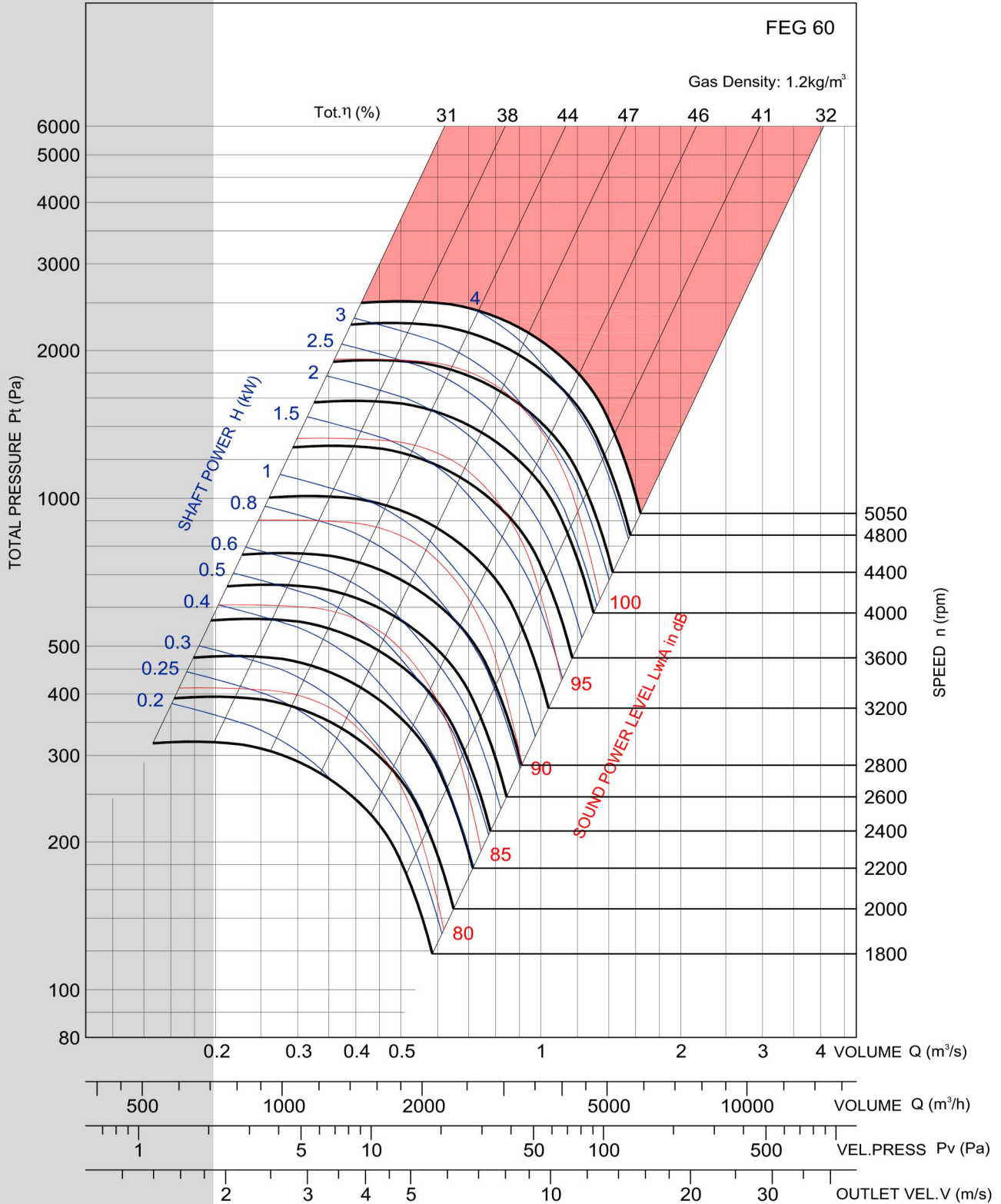
FABI 225



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.

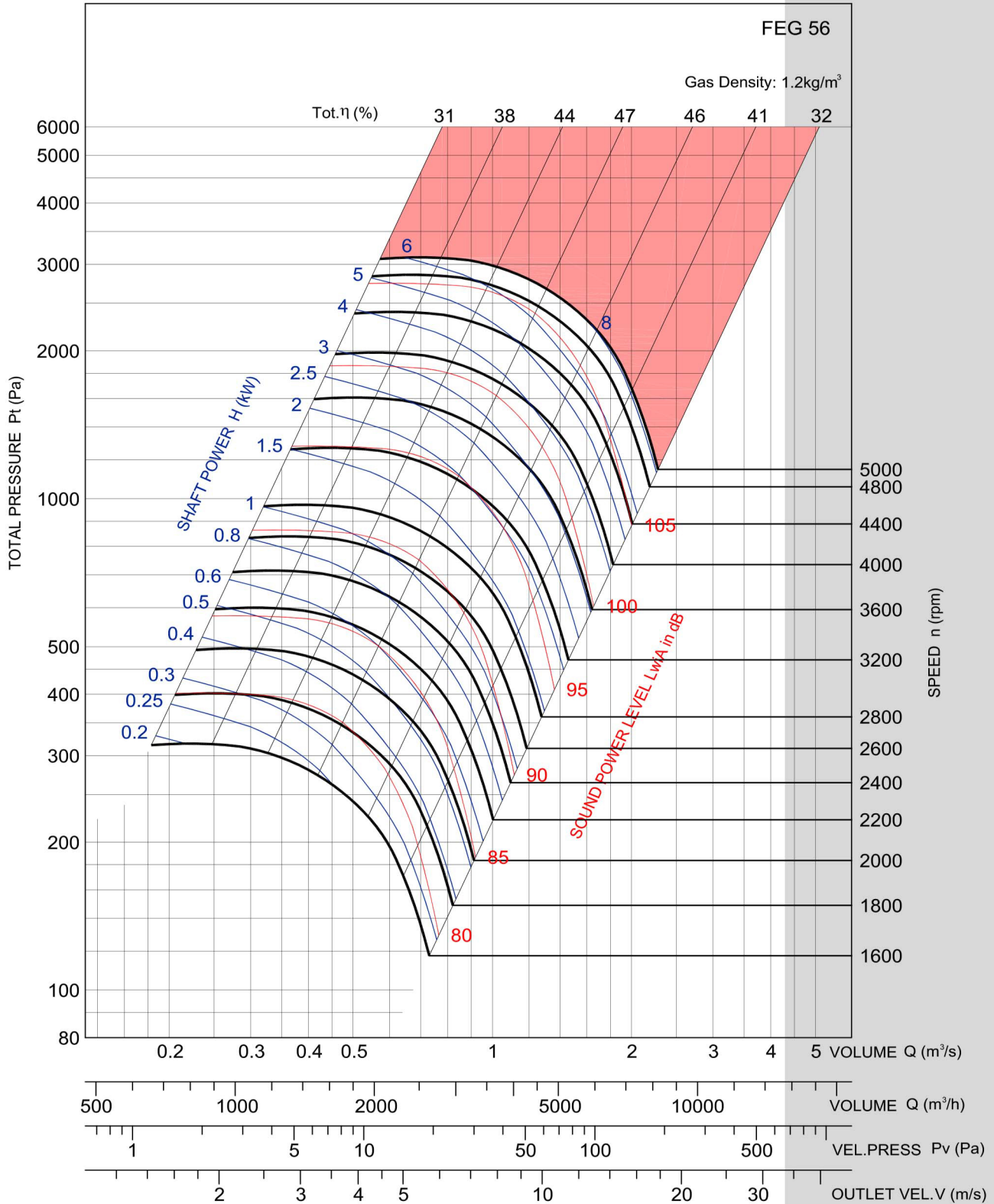
FABI 250



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_{wA} 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.

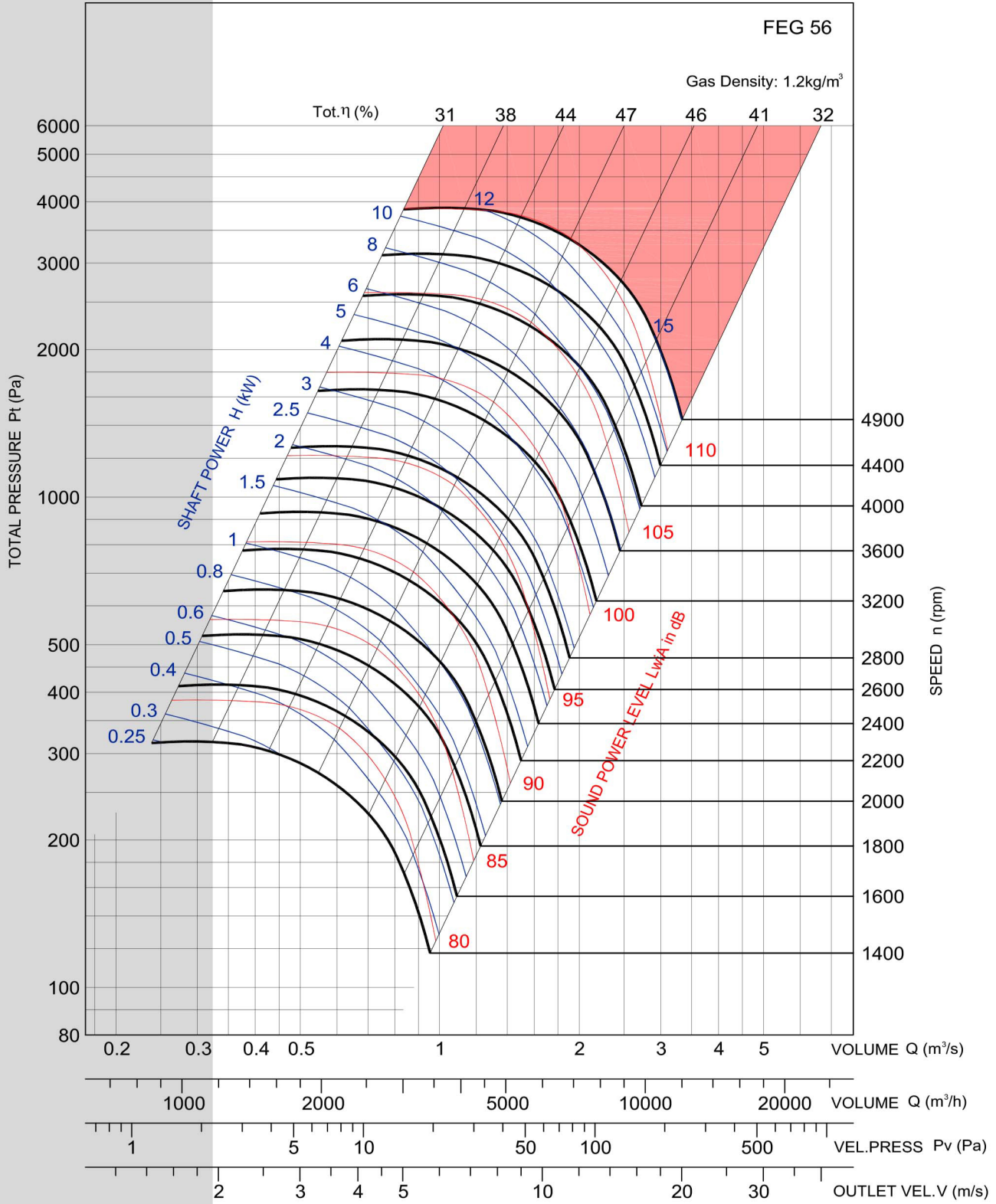
FABI 280



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.

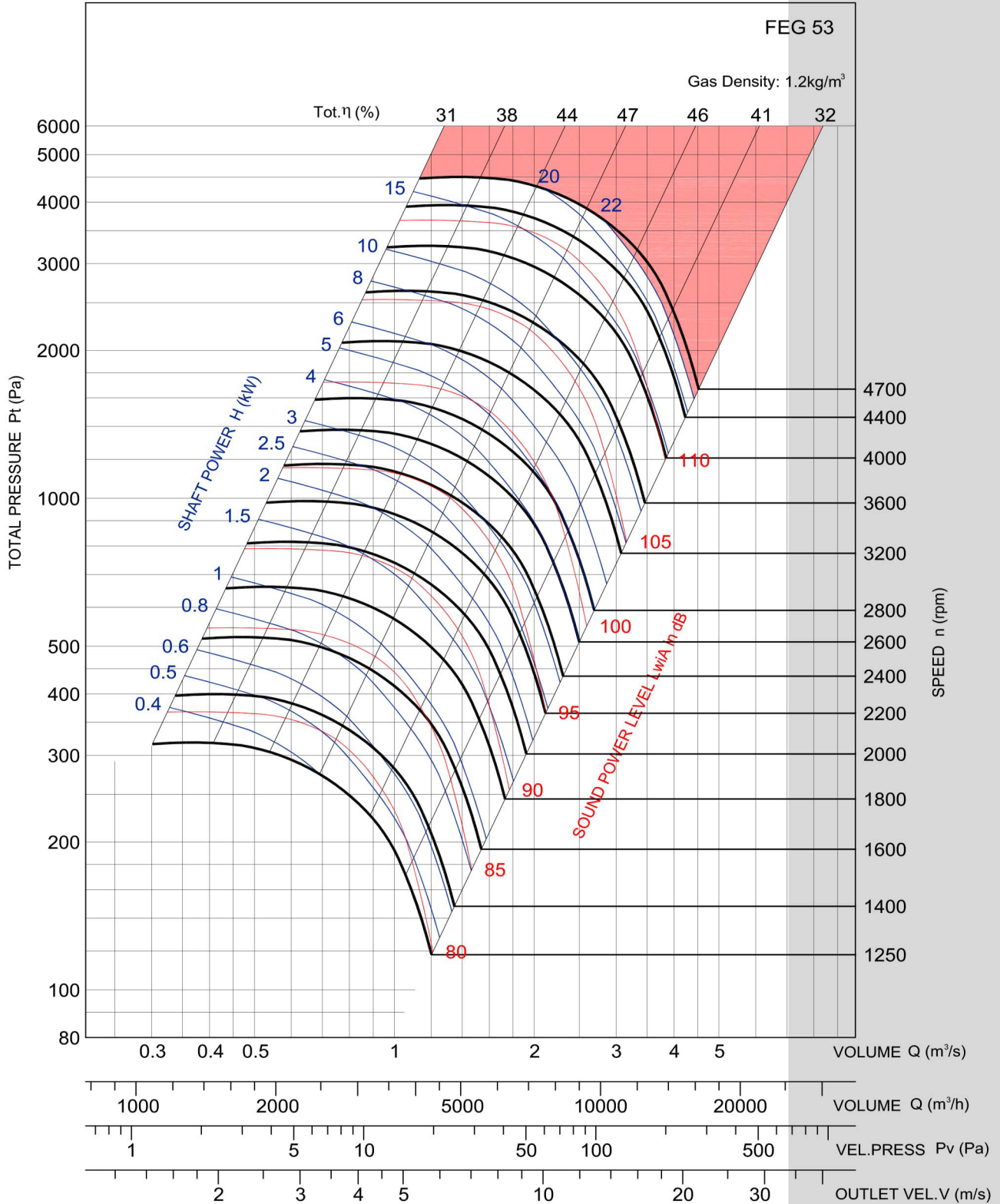
FABI 315



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_{wA} 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.

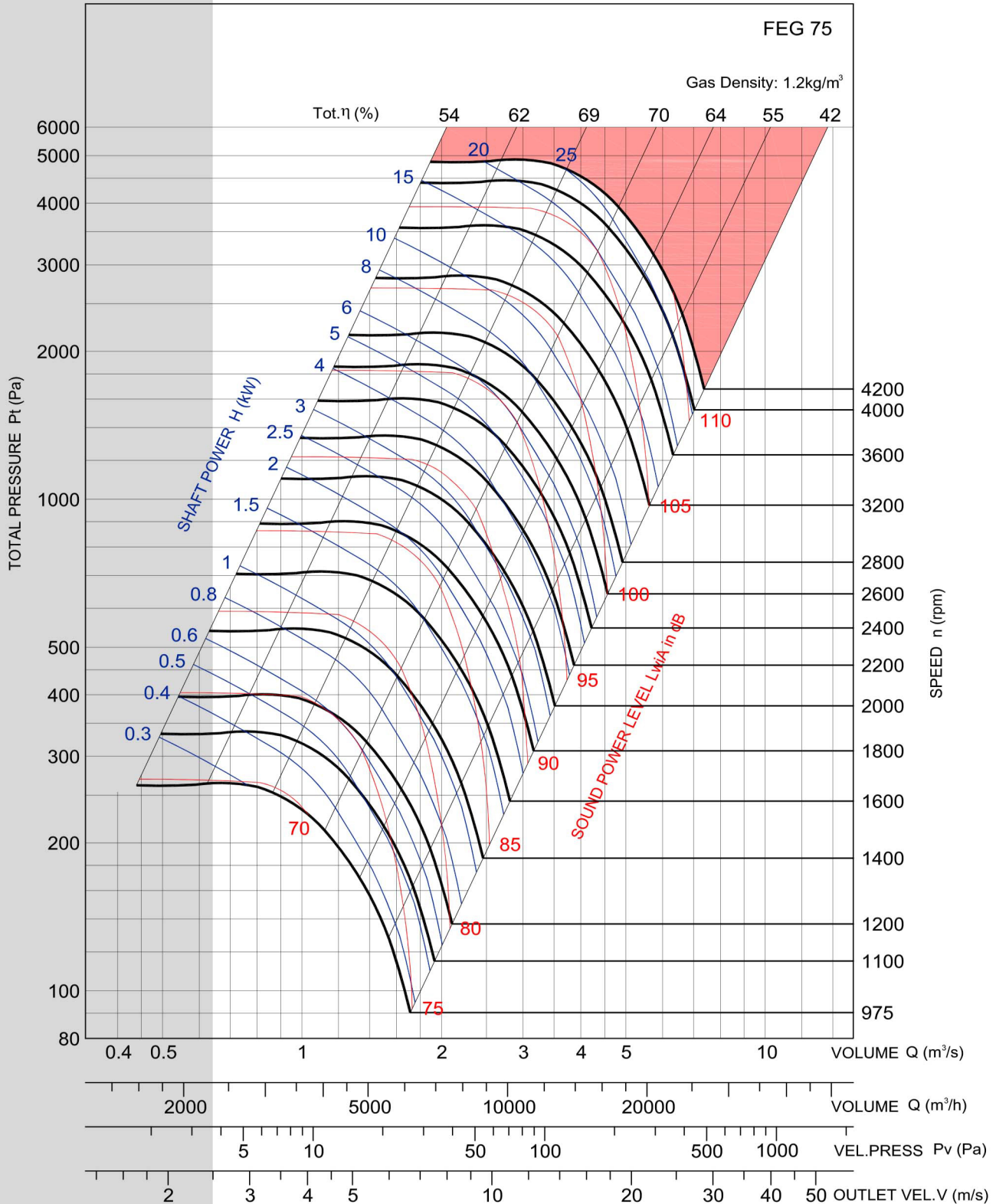
FABI 355



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.

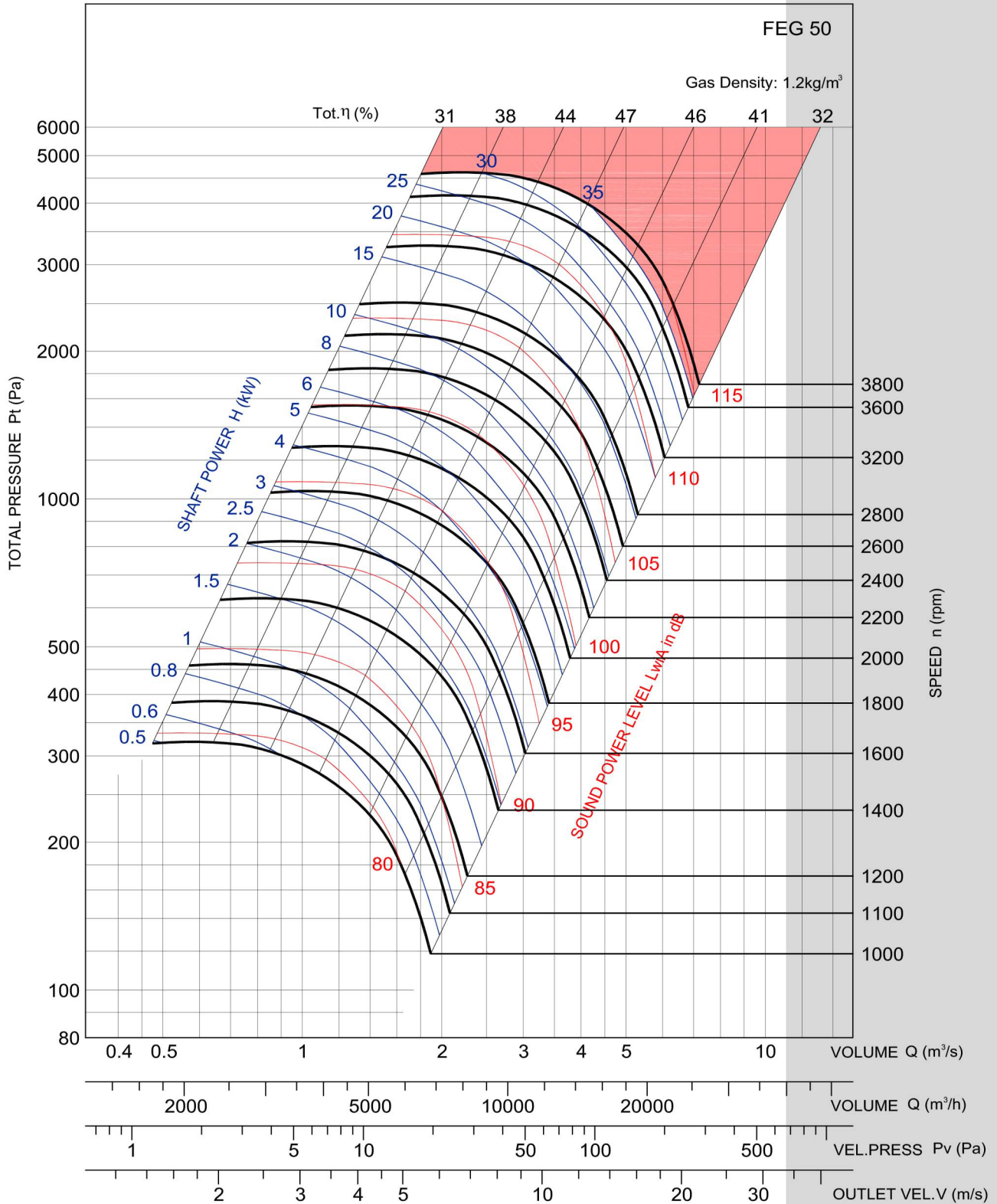
FABI 400



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.

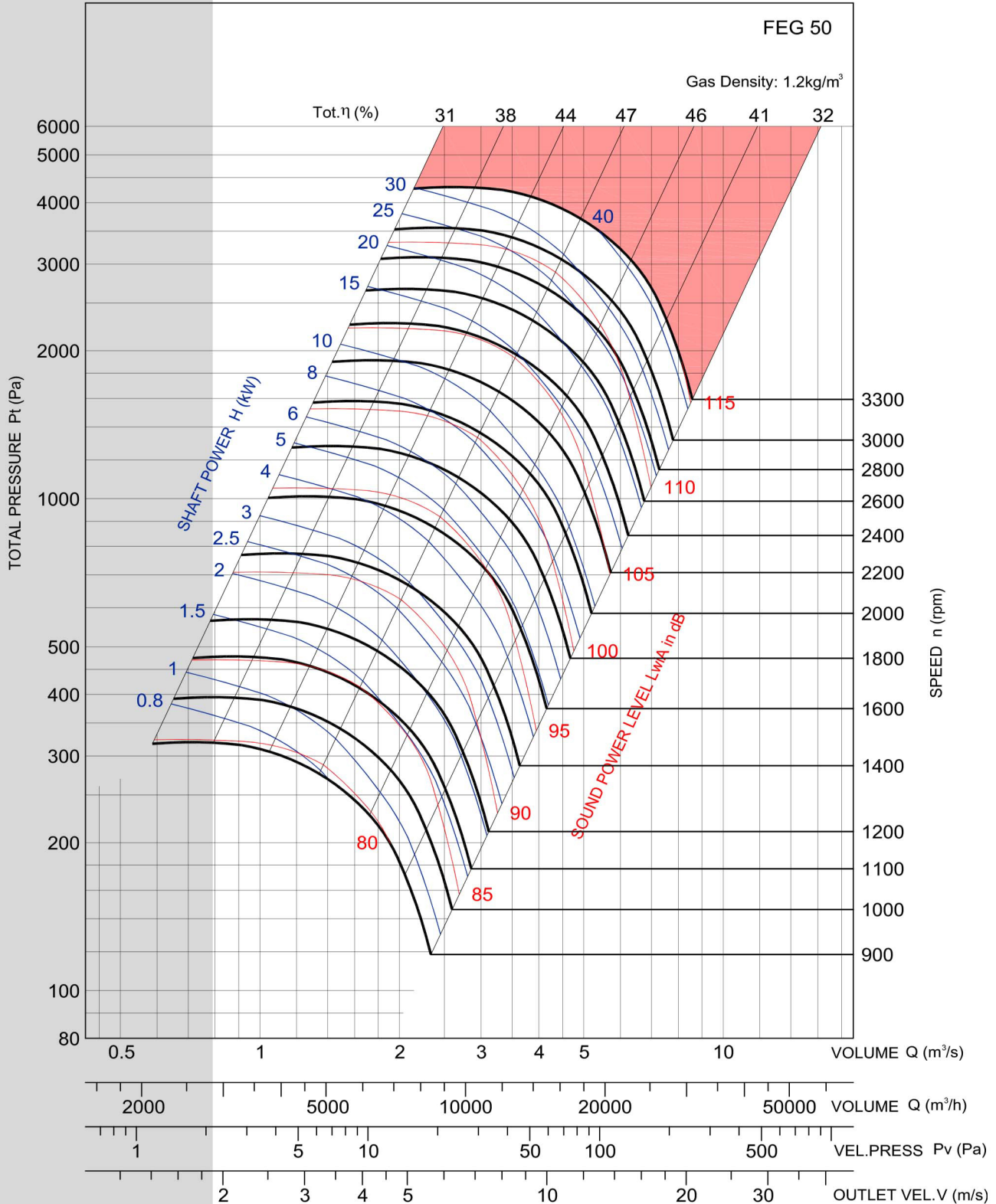
FABI 450



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_{wA} 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.

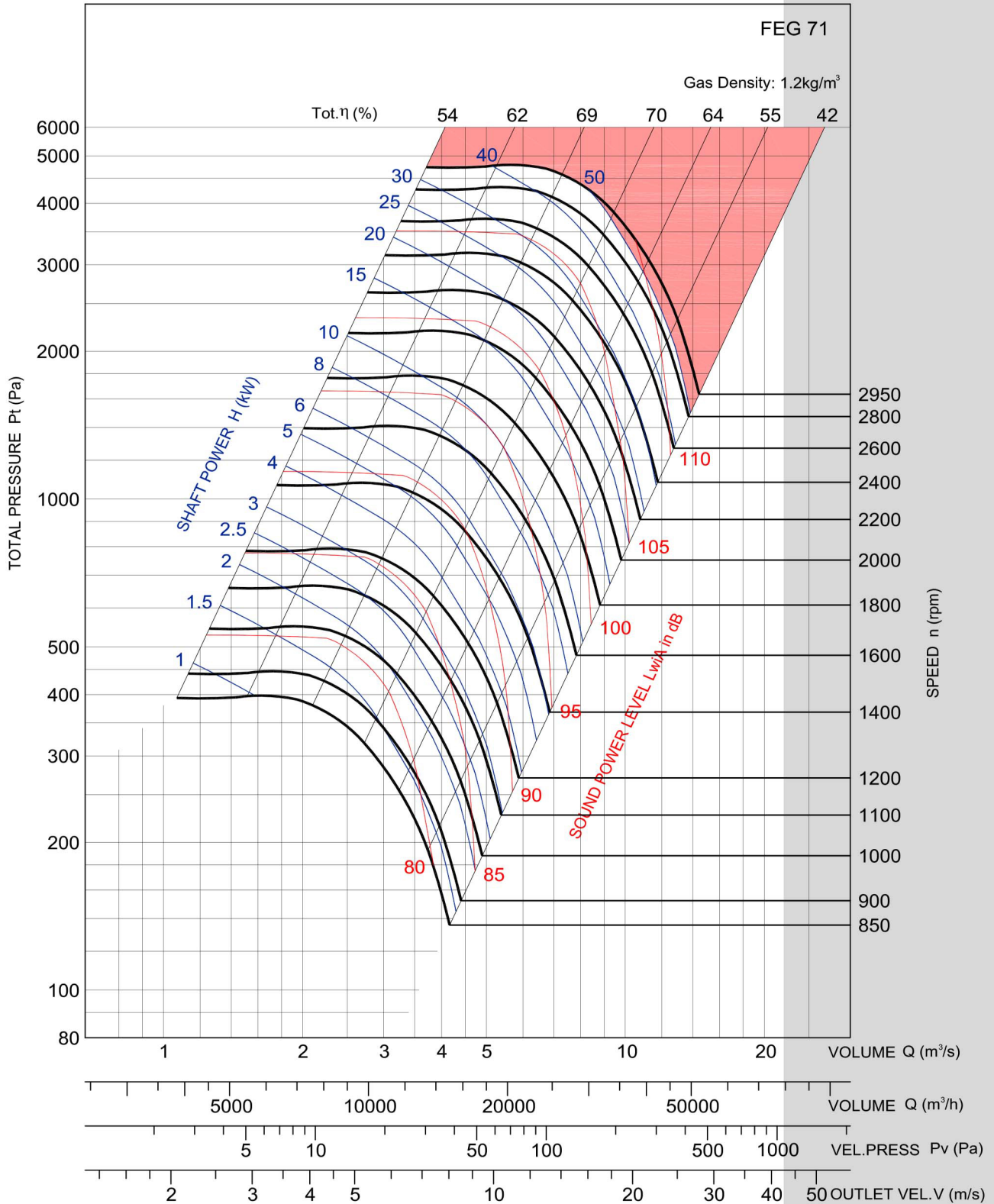
FABI 500



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_{wA} 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.

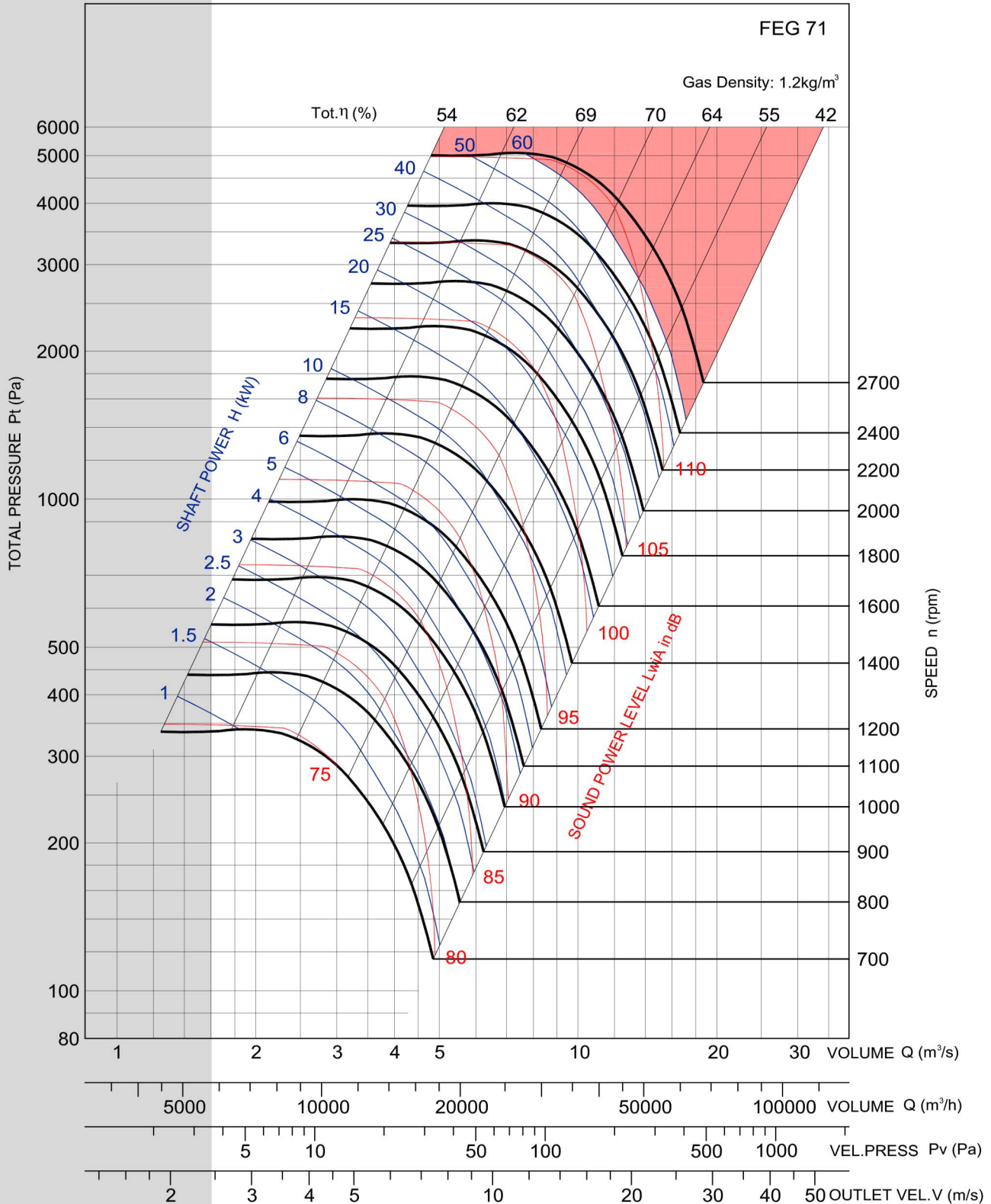
FABI 560



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.

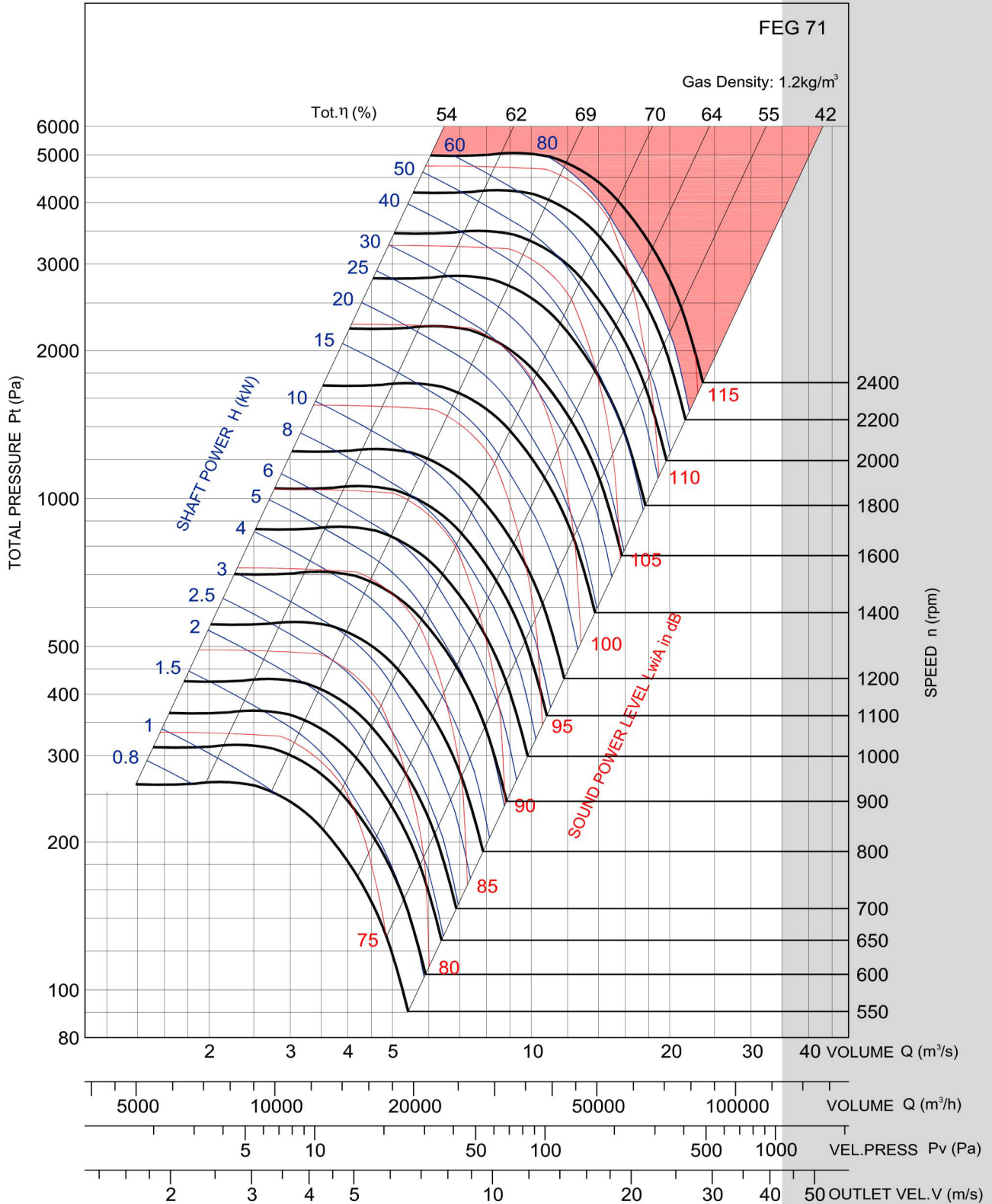
FABI 630



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_{wA} 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.

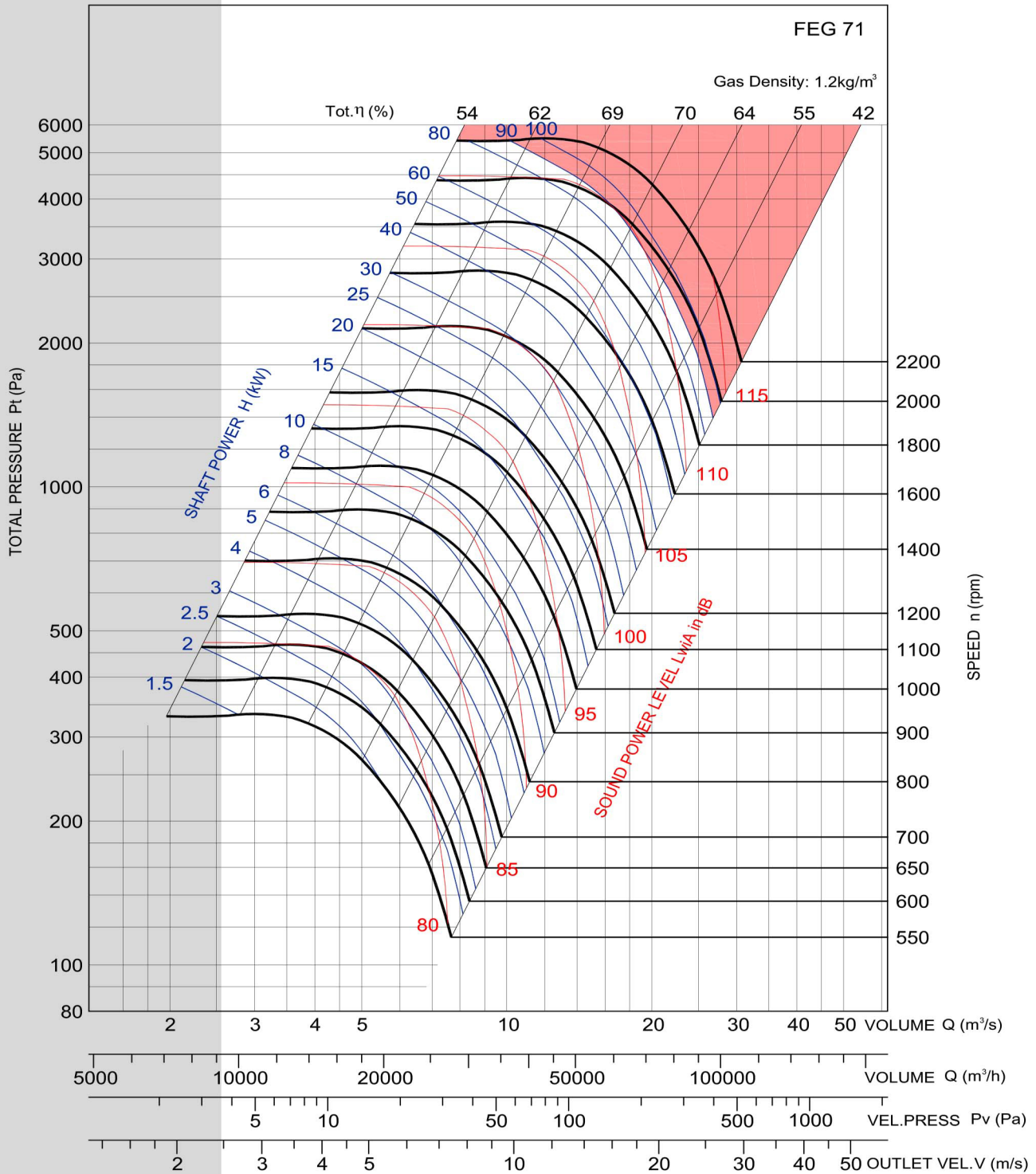
FABI 710



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.

FABI 800



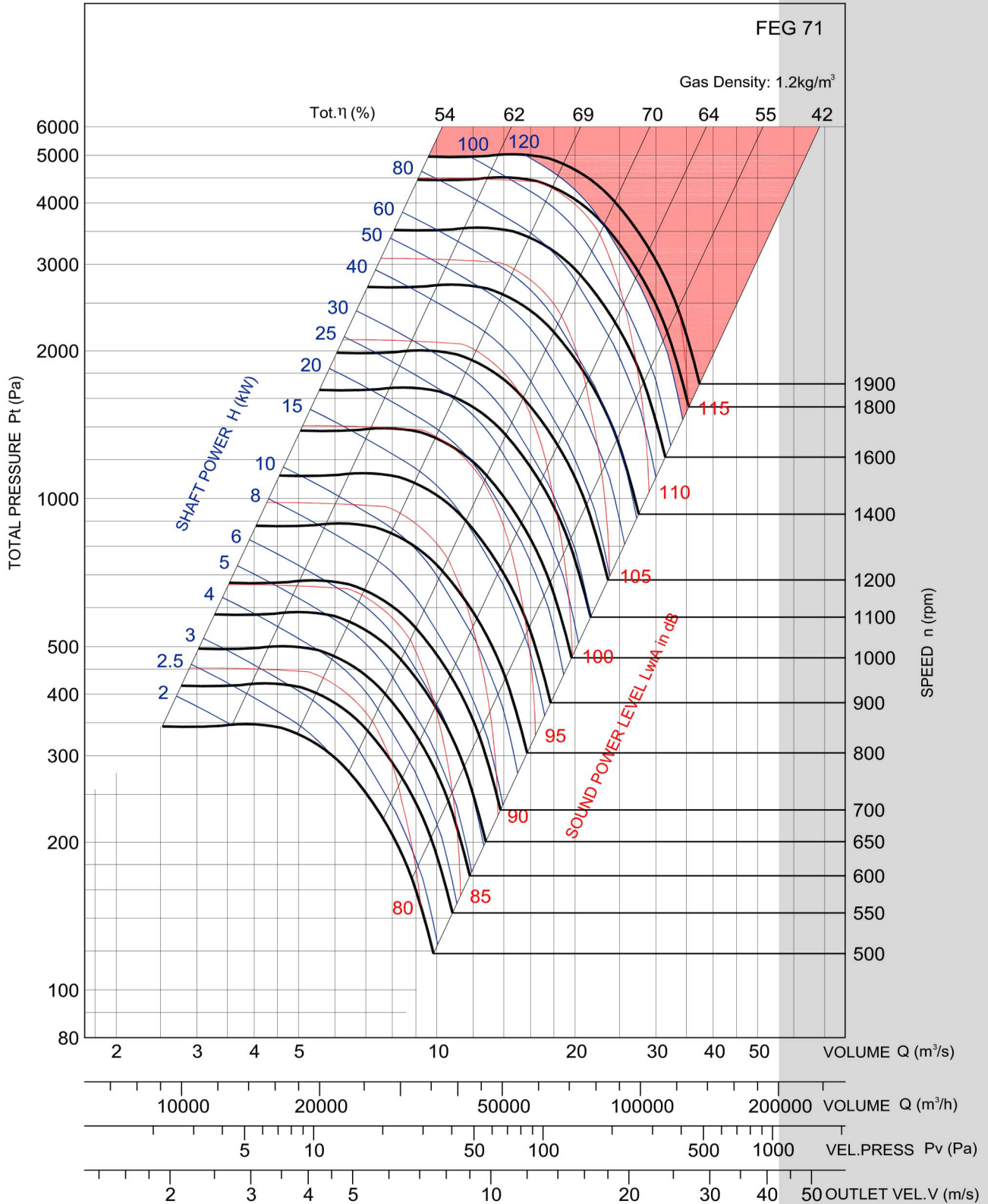
Performance certified is for installation type B - Free inlet, Ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard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



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.

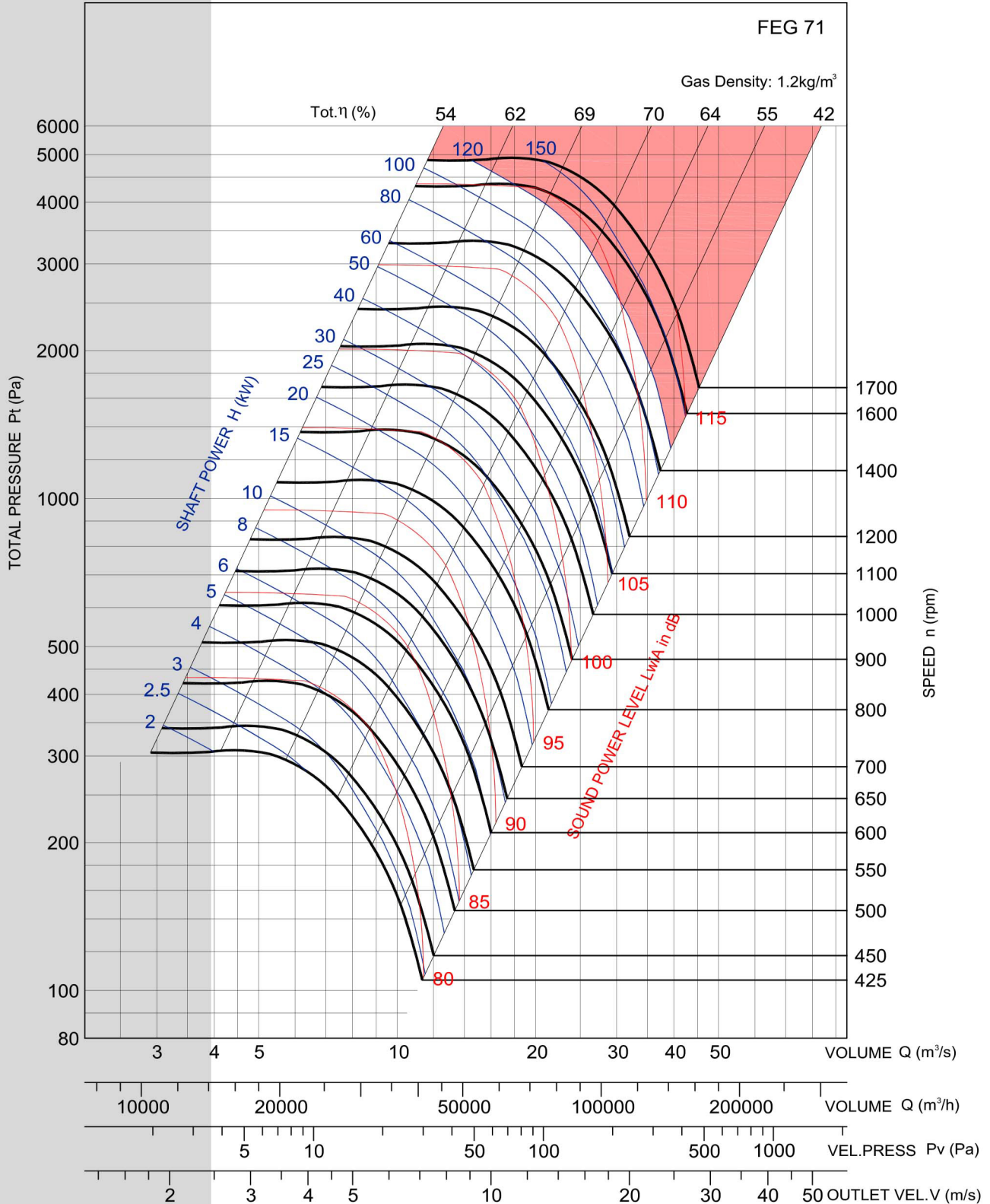
FABI 900



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_{wA} 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.

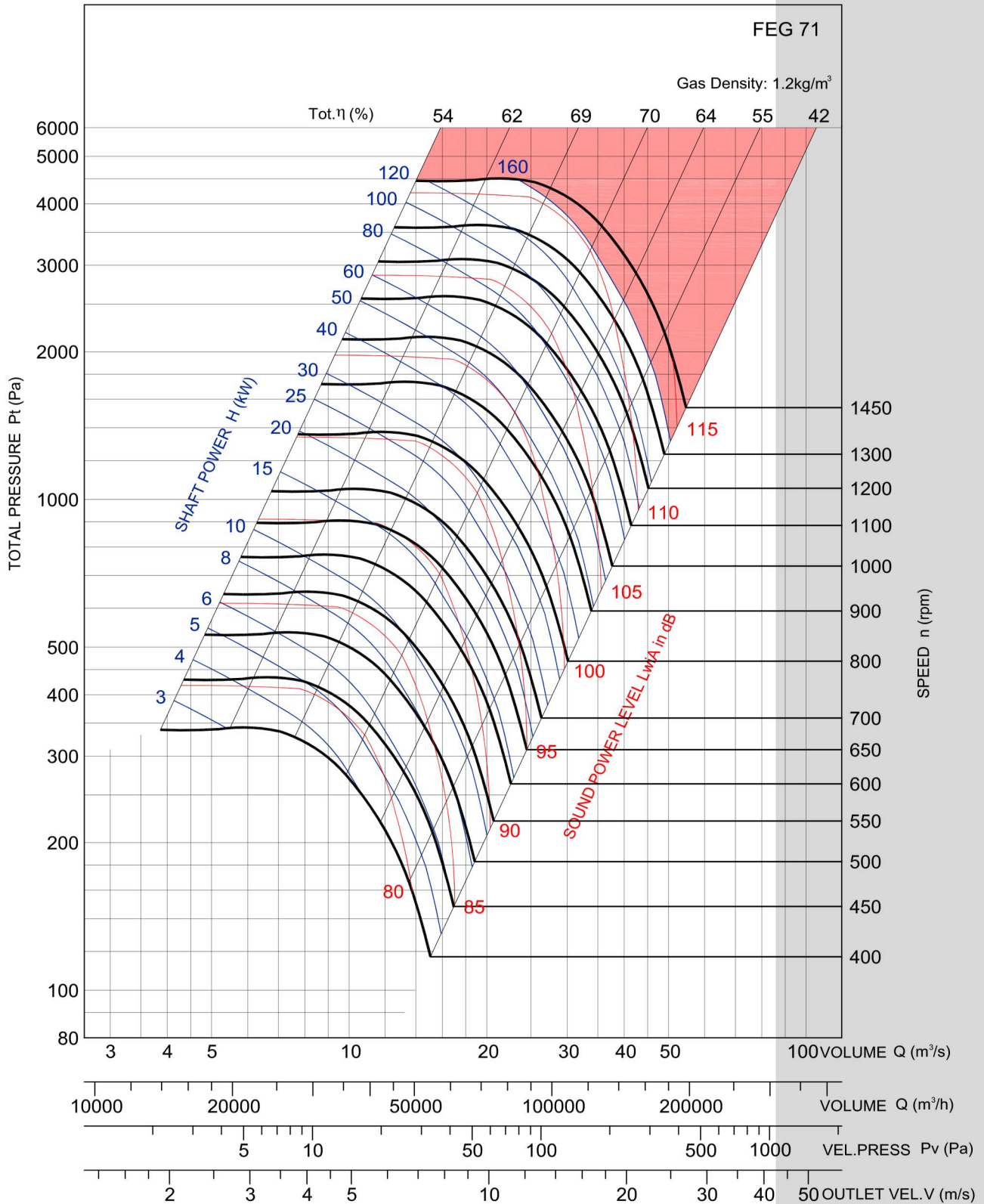
FABI 1000



Notes:

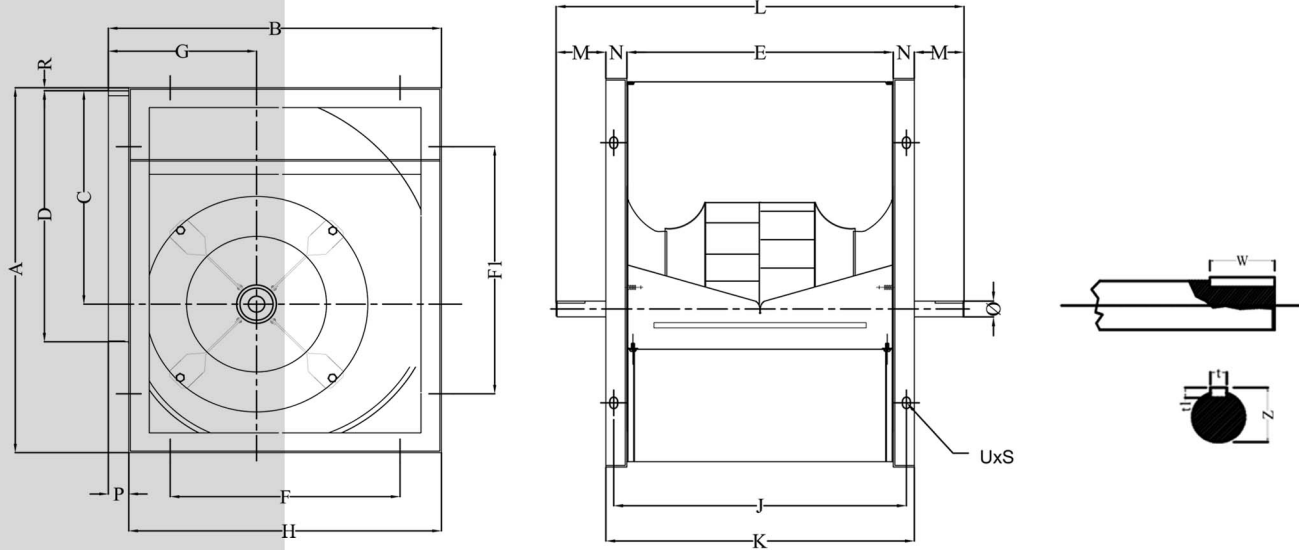
1. Performance certified is for Installation Type B : Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet Lw/A sound power levels for Installation Type B: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

FABI 1120



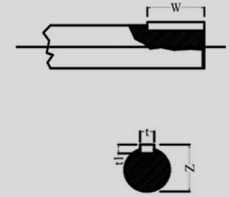
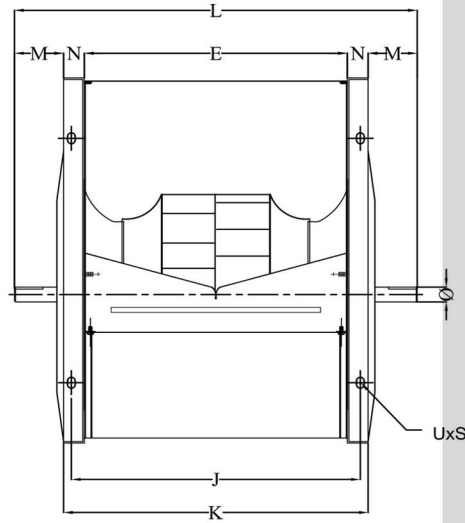
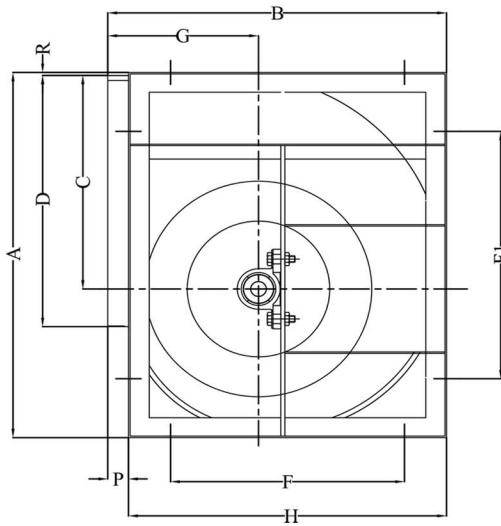
Notes:

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.

Dimension:
FABI- 'F'

FABI 200 - 710 F

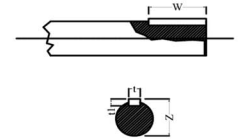
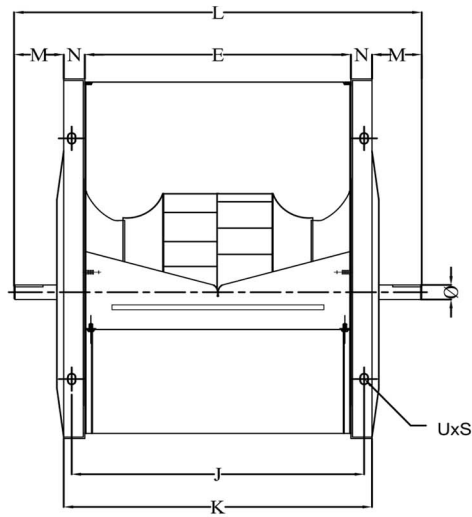
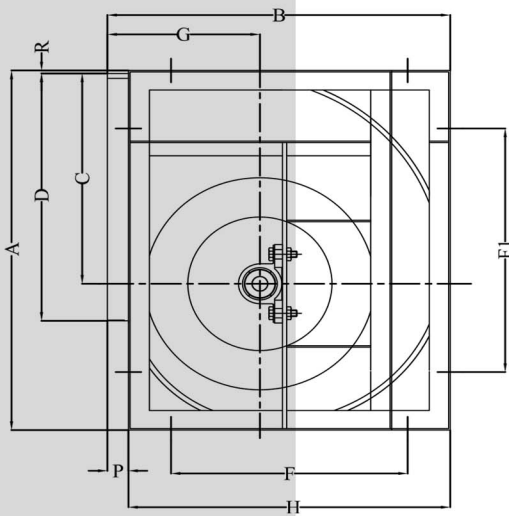
Model	A	B	C	D	E	F	G	F1	H	J	K	L	M	N	P	R	t	t1	W	Z	φd	UxS
200 F	369	343	219	257	257	213	164	269	313	287	317	440	62	30	30	4	6	6	40	23	20	11x16
225 F	417	383	243	288	288	248	180	317	348	318	348	465	59	30	35	4	6	6	40	23	20	11x16
250 F	460	418	270	324	324	283	194	360	383	354	384	500	58	30	35	4	6	6	40	23	20	11x16
280 F	518	466	302	358	358	331	214	418	431	388	418	570	76	30	35	5	8	7	45	29	25	11x16
315 F	582	520	340	408	408	385	236	482	485	438	468	620	76	30	35	5	8	7	45	34	30	11x16
355 F	654	578	389	457	457	343	260	454	543	497	537	680	72	40	35	6	8	7	45	34	30	11x16
400 F	739	655	432	507	507	415	290	539	615	547	587	740	77	40	40	6	8	7	45	34	30	11x16
450 F	832	728	487	574	574	488	322	632	688	614	654	820	83	40	40	7	10	8	50	40	35	11x16
500 F	920	801	534	645	645	551	382	720	751	685	725	924	100	40	50	7	10	8	50	40	35	11x16
560 F	1030	900	603	720	720	650	397	830	850	770	820	1000	90	50	50	7	12	8	70	45	40	24x17
630 F	1156	1005	676	808	808	645	434	856	945	858	908	1100	96	50	60	8	14	9	70	50	45	24x17
710 F	1311	1127	770	908	908	767	488	1011	1067	958	1008	1235	114	50	60	8	14	9	70	55	50	24x17

*All dimensions are in mm.

Dimension:
FABI- 'P'

FABI 250 - 1250 P

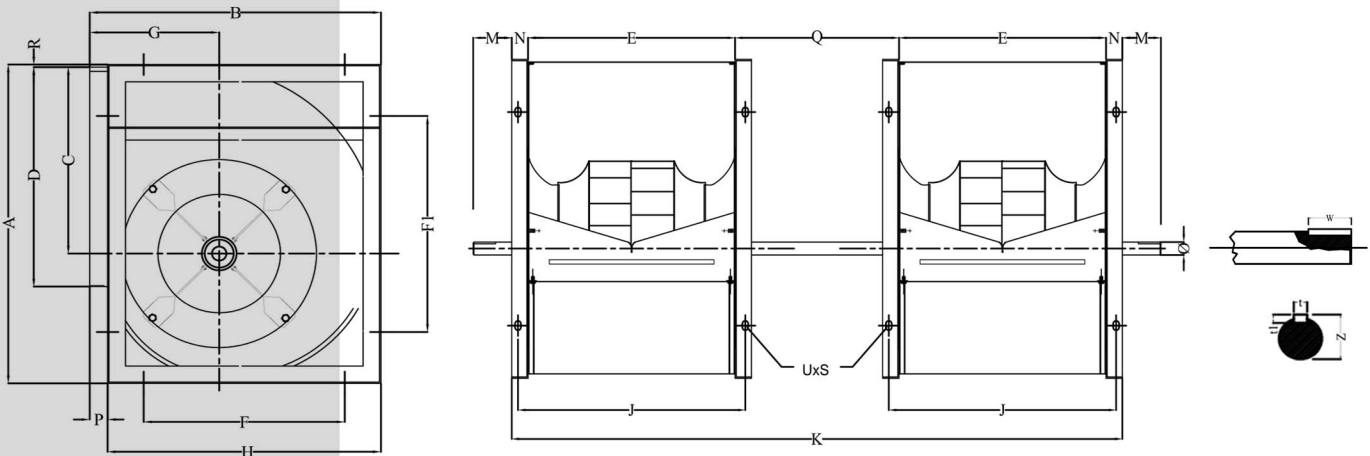
Model	A	B	C	D	E	F	G	F1	H	J	K	L	M	N	P	R	t	t1	W	Z	φd	UxS
250 P	460	418	270	324	324	283	194	360	383	354	384	550	83	30	35	4	6	6	40	23	20	11x16
280 P	518	466	302	358	358	331	214	418	431	388	418	600	91	30	35	5	8	7	45	29	25	11x16
315 P	582	520	340	408	408	385	236	482	485	438	468	650	91	30	35	5	8	7	45	34	30	11x16
355 P	654	578	389	457	457	343	260	454	543	497	537	720	92	40	35	6	8	7	45	34	30	11x16
400 P	739	655	432	507	507	415	290	539	615	547	587	770	92	40	40	6	8	7	45	34	30	11x16
450 P	832	728	487	574	574	488	322	632	688	614	654	880	113	40	40	7	10	8	50	40	35	11x16
500 P	920	801	534	645	645	551	382	720	751	685	725	963	119	40	50	7	12	8	70	45	40	11x16
560 P	1030	900	603	720	720	650	397	830	850	770	820	1086	113	50	50	7	12	8	70	45	40	24x17
630 P	1156	1005	676	808	808	645	434	856	945	858	908	1174	113	50	60	8	14	9	70	50	45	24x17
710 P	1311	1127	770	908	908	767	488	1011	1067	958	1008	1290	141	50	60	8	14	9	70	55	50	24x17
800 P	1468	1255	862	1017	1017	830	540	1118	1180	1067	1117	1390	137	50	75	8	16	10	90	61	55	24x17
900 P	1650	1409	970	1145	1145	969	603	1300	1319	1195	1245	1560	158	50	90	9	18	11	90	67	60	24x17
1000 P	1810	1540	1065	1265	1265	1100	656	1460	1450	1315	1365	1730	183	50	90	9	20	12	90	77	70	24x17
1120 P	2033	1725	1200	1422	1422	1280	748	1683	1630	1472	1522	1930	204	50	95	9	20	12	90	77	70	24x17
1250 P	2285	1930	1353	1524	1554	1435	830	1885	1835	1619	1684	2260	288	65	95	9	22	14	110	89	80	24x17

*All dimensions are in mm.

Dimension:
FABI- 'Q'

FABI- 560-1250 Q

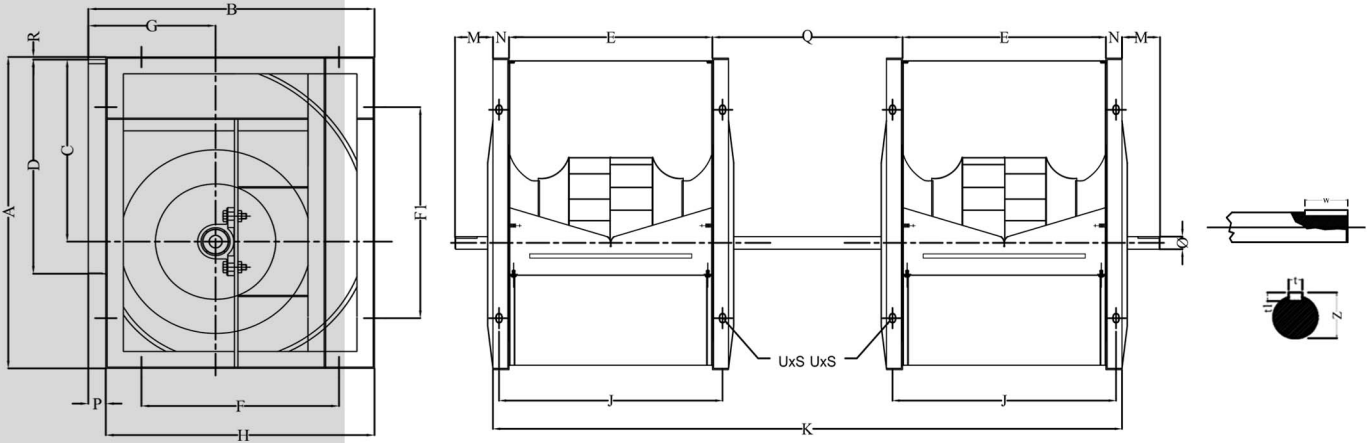
Model	A	B	C	D	E	F	G	F1	H	J	K	L	M	N	P	R	t	t1	W	Z	φd	UxS
560 Q	1030	900	603	720	720	650	397	830	850	770	820	1086	113	50	50	7	16	10	70	61	55	24x17
630 Q	1156	1005	676	808	808	645	434	856	945	858	908	1174	113	50	60	8	18	11	70	67	60	24x17
710 Q	1311	1127	770	908	908	767	488	1011	1067	958	1008	1290	141	50	60	8	18	11	70	72	65	24x17
800 Q	1468	1255	862	1017	1017	830	540	1118	1180	1067	1117	1390	137	50	75	8	18	11	90	72	65	24x17
900 Q	1650	1409	970	1145	1145	969	603	1300	1319	1195	1245	1560	158	50	90	9	20	12	90	77	70	24x17
1000 Q	1810	1540	1065	1265	1265	1100	656	1460	1450	1315	1365	1730	183	50	90	9	22	14	90	89	80	24x17
1120 Q	2033	1725	1200	1422	1422	1280	748	1683	1630	1472	1522	1930	204	50	95	9	22	14	90	89	80	24x17
1250 Q	2285	1930	1353	1524	1554	1435	830	1885	1835	1619	1684	2260	288	65	95	9	22	14	110	94	85	24x17

*All dimensions are in mm.

Dimension:
FABI- 'F2'

FABI- 200 - 500 F2

Model	A	B	C	D	E	F	G	F1	H	J	K	L	M	N	P	Q	R	t	t1	W	Z	φd	UxS
200 F	369	343	219	257	257	213	164	269	313	287	578	701	62	30	30	200	4	8	7	40	29	25	11x16
225 F	417	383	243	288	288	248	180	317	348	318	640	757	59	30	35	225	4	8	7	40	29	25	11x16
250 F	460	418	270	324	324	283	194	360	383	354	712	828	58	30	35	250	4	8	7	40	29	25	11x16
280 F	518	466	302	358	358	331	214	418	431	388	781	933	76	30	35	280	5	8	7	45	34	30	11x16
315 F	582	520	340	408	408	385	236	482	485	438	1191	1343	76	30	35	315	5	8	7	45	34	30	11x16
355 F	654	578	389	457	457	343	260	454	543	497	1349	1492	72	40	35	355	6	10	8	45	40	35	11x16
400 F	739	655	432	507	507	415	290	539	615	547	1494	1647	77	40	40	400	6	10	8	45	40	35	11x16
450 F	832	728	487	574	574	488	322	632	688	614	1678	1844	83	40	40	450	7	12	8	50	45	40	11x16
500 F	920	801	534	645	645	551	382	720	751	685	1870	2069	100	40	50	500	7	12	8	50	45	40	11x16

*All dimensions are in mm.

Dimension:
FABI- 'P2'

FABI- 250 - 630 P2

Model	A	B	C	D	E	F	G	F1	H	J	K	L	M	N	P	Q	R	t	t1	W	Z	φd	UxS
250 P2	460	418	270	324	324	283	194	360	383	354	958	1124	83	30	35	250	4	8	7	40	29	25	11x16
280 P2	518	466	302	358	358	331	214	418	431	388	1056	1238	91	30	35	280	5	8	7	45	34	30	11x16
315 P2	582	520	340	408	408	385	236	482	485	438	1191	1343	91	30	35	315	5	12	8	45	34	40	11x16
355 P2	654	578	389	457	457	343	260	454	543	497	1349	1492	92	40	35	355	6	12	8	45	45	40	11x16
400 P2	739	655	432	507	507	415	290	539	615	547	1494	1647	92	40	40	400	6	12	8	45	40	45	11x16
450 P2	832	728	487	574	574	488	322	632	688	614	1678	1844	113	40	40	450	7	14	9	50	55	50	11x16
500 P2	920	801	534	645	645	551	382	720	751	685	1870	1989	119	40	50	500	7	16	10	70	61	55	11x16
560 P2	1030	900	603	720	720	650	397	830	850	770	2100	2233	113	50	50	560	7	16	10	70	61	50	24x17
630 P2	1156	1005	676	808	808	645	434	856	945	858	2346	2479	113	50	60	630	8	18	11	70	67	60	24x17

*All dimensions are in mm.



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