

# PDF SERIES

## BACKWARD BLADES DIRECT DRIVEN CENTRIFUGAL PLUG FAN

The PDF range of plug fans was only introduced to the HVAC industry in recent years. They have almost replaced the FCC (forward curved centrifugal) and BCC (backward curved centrifugal) fan in most AHU (air handling units) manufactured today both locally and internationally. The main reason is that the direct driven fans are very compact and with the introduction of VSD (variable speed drives), the units can be speed regulated to deliver the required air volume and pressure. The PDF range of fans are all horizontally mounted, i.e. the motor shaft is in the horizontal position. Units mounted in the vertical position are available, details of which are available in a further publication.

Belt drive versions are available throughout the range but are seldom used as space becomes a problem and maintaining of the belts is not a desired practice. Furthermore, the VSD with its many features outweighs the choice between direct and belt driven models.

Fan sizes range from 315mm – 1000mm. The impeller is produced in sheet steel, statically and dynamically balanced to ISO1940 and AMCA 204–G4.0 standards with surface protection achieved



through powder coating. The impeller hub is available in standard bore sizes to fit directly onto the motor shaft or, in the larger motor frame sizes, taper lock bushes are used. Information regarding this is at the rear of this presentation.

The fans are fitted with high quality foot mounted electric motors in 400volt 50Hz 3phase as standard. Other voltages namely 525volt 50Hz 3phase and 240volt 50Hz single phase (up to fan certain sizes) are also

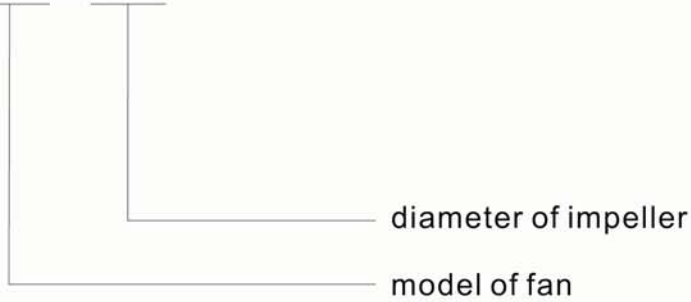
available on demand. All 400volt 3phase motors supplied with the PDF range are suitable for VSD control.

Standard Class F insulation motors are fitted to all units. Special motors such as premium efficiency IE2 and IE3 can be fitted on request. Further treatment to standard motors is also available. All motors have a conveying temperature range of -20°C to 40°C. The complete unit is of a modular design. The framework, supports, motor platform, motor and inlet cone are all bolted together. Mounting lugs are provided for bolting direct to the AHU or used as supports for anti-vibration rubber mountings which are available on request.

Applications for the PDF range of fans are air handling units, cooling and ventilation.

## Designation of Products

### PDF - 355



## Operational limits

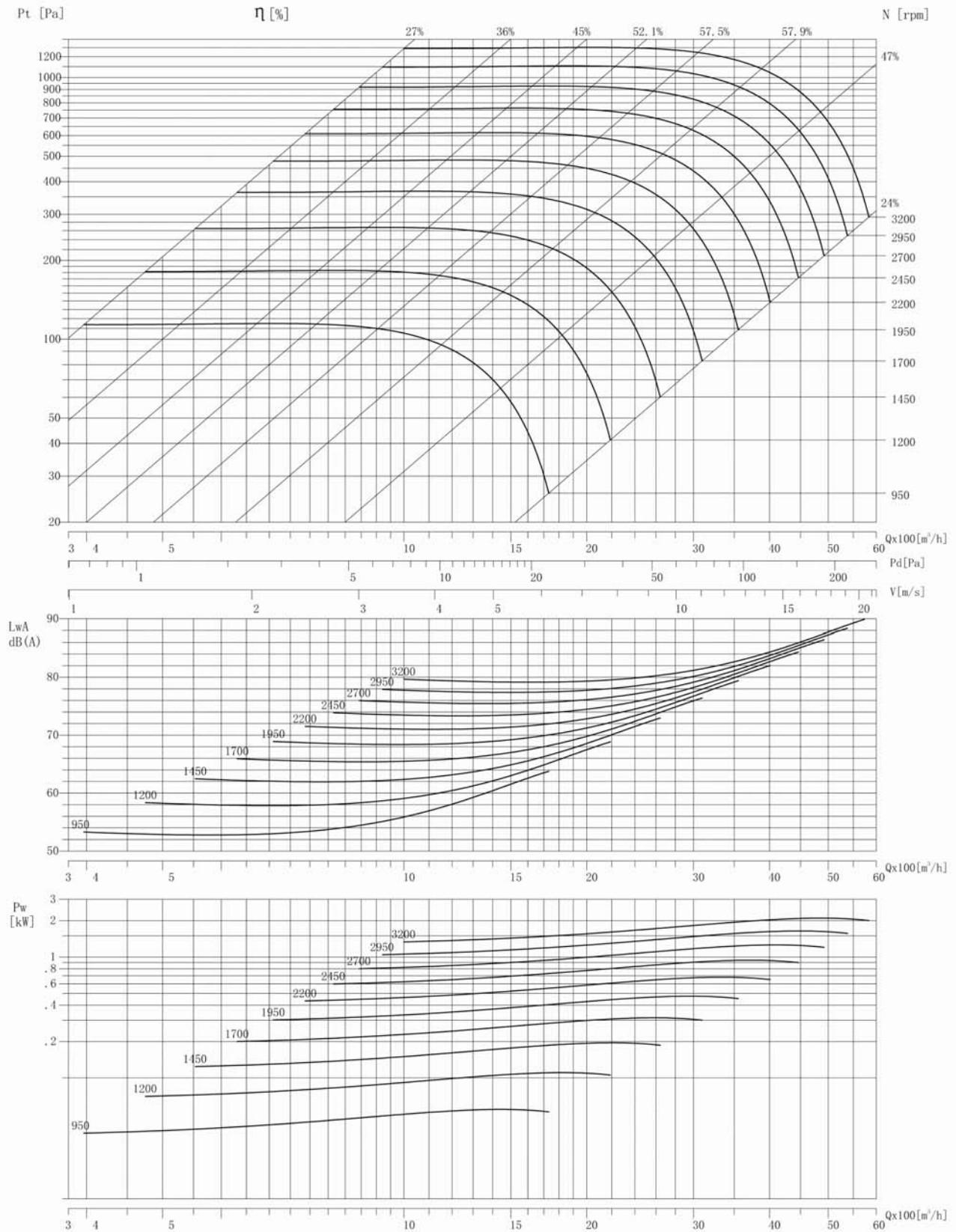
		315	355	400	450	500	560	630	710	800	900	1000
Max Absorbed Power	kw	4	5	6	10	11	13	16	20	22	22	22
Max Speed	rpm	3600	3500	3200	2900	2550	2200	2000	1800	1600	1200	1050
Temp. range (min. -10°C)	max. °C	40	40	40	40	40	40	40	40	40	40	40

Performance of PDF Fans are not licensed by AMCA International.



## PDF315

Air Density: 1.2 kg/m<sup>3</sup>



Performance shown is installation type B-free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings does not include drive losses.

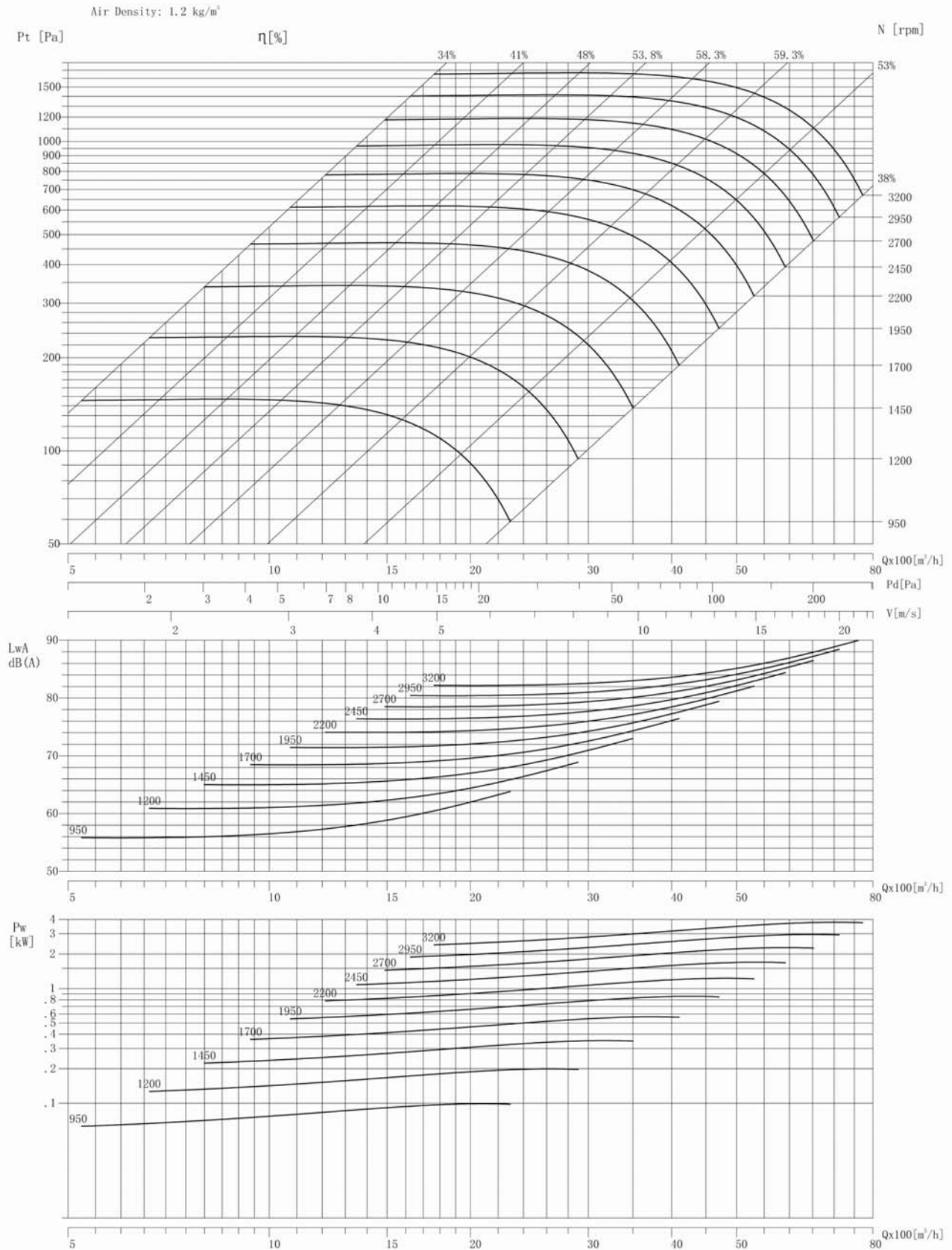


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## PDF355

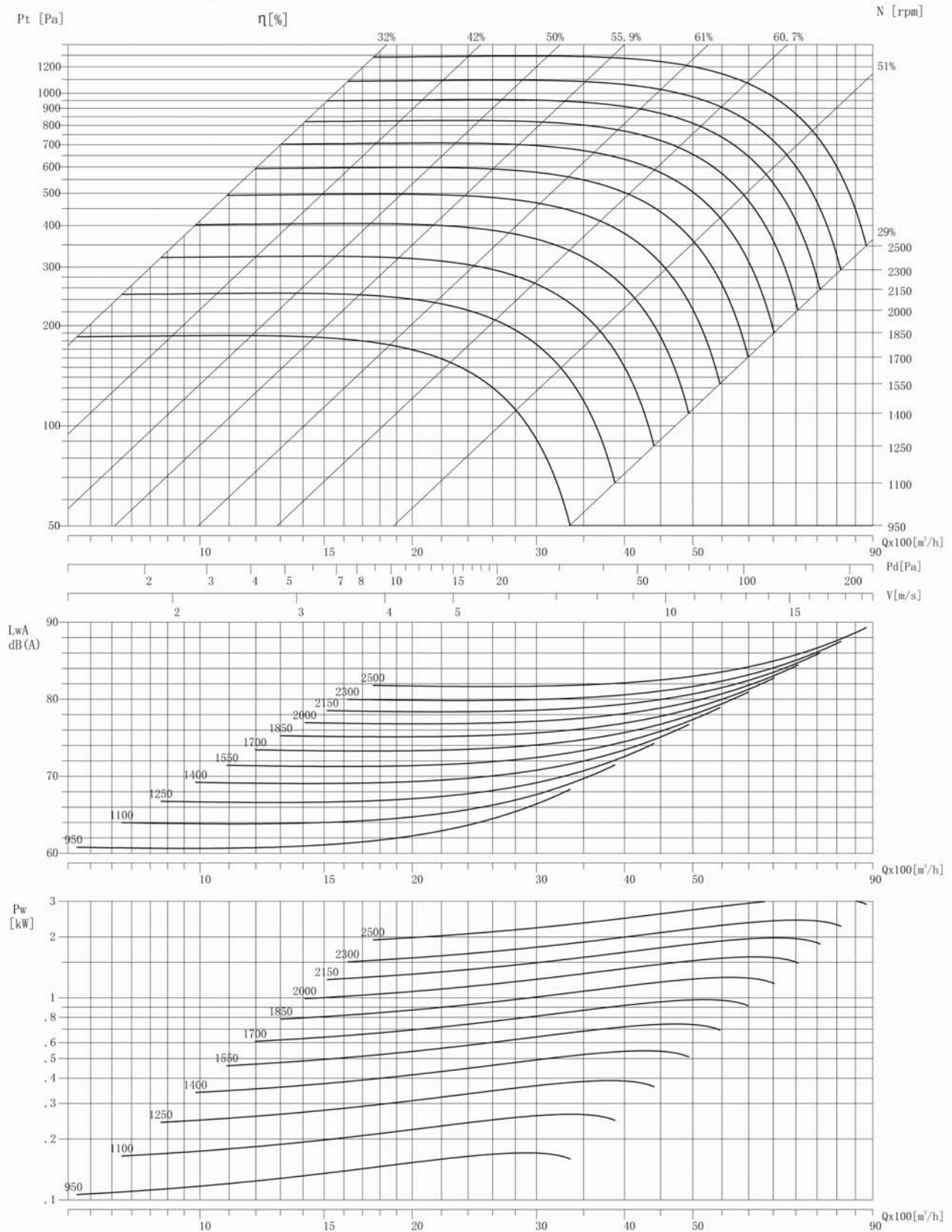


Performance shown is installation type B-free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings does not include drive losses.



## PDF400

Air Density: 1.2 kg/m<sup>3</sup>

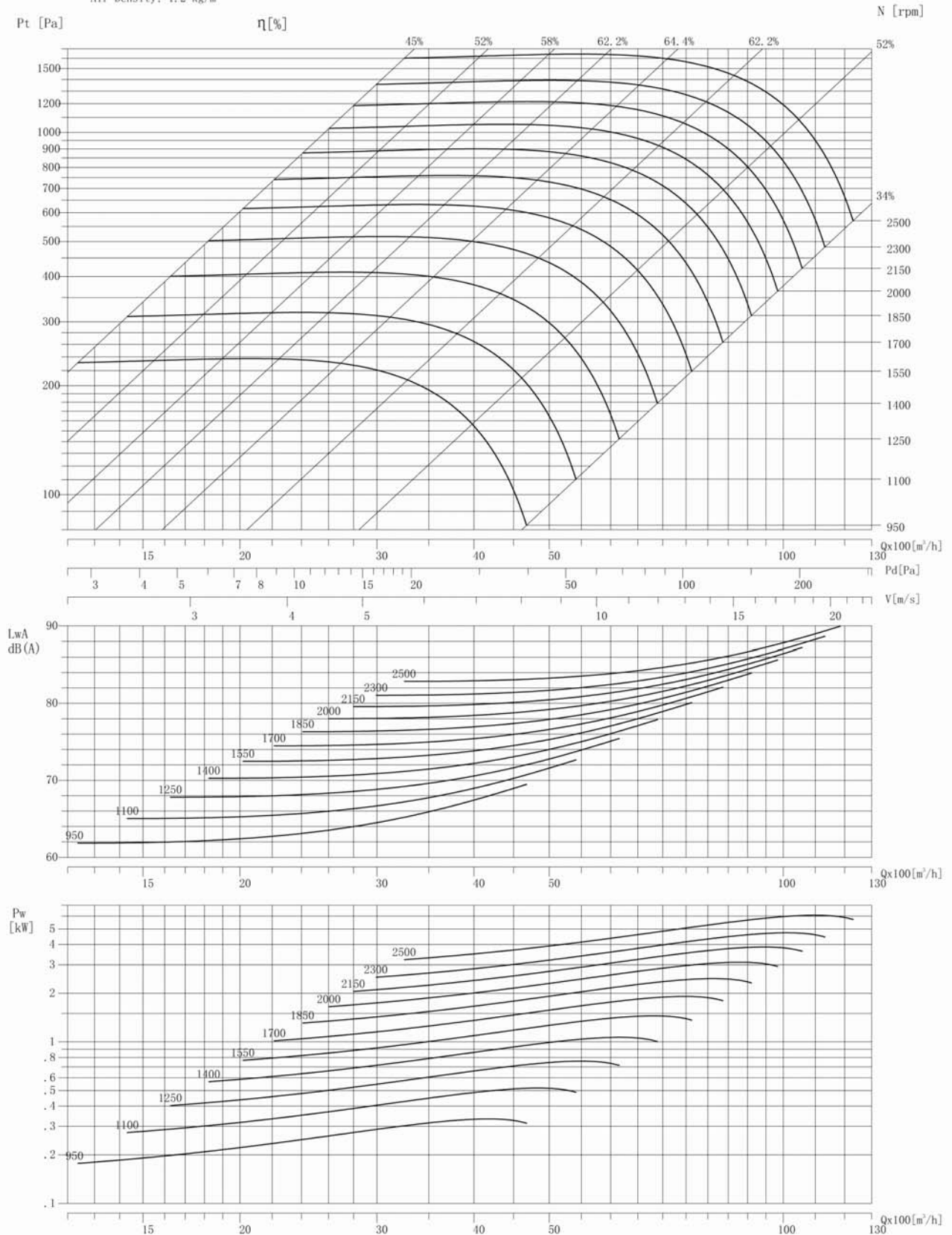


Performance shown is installation type B—free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings does not include drive losses.



## PDF450

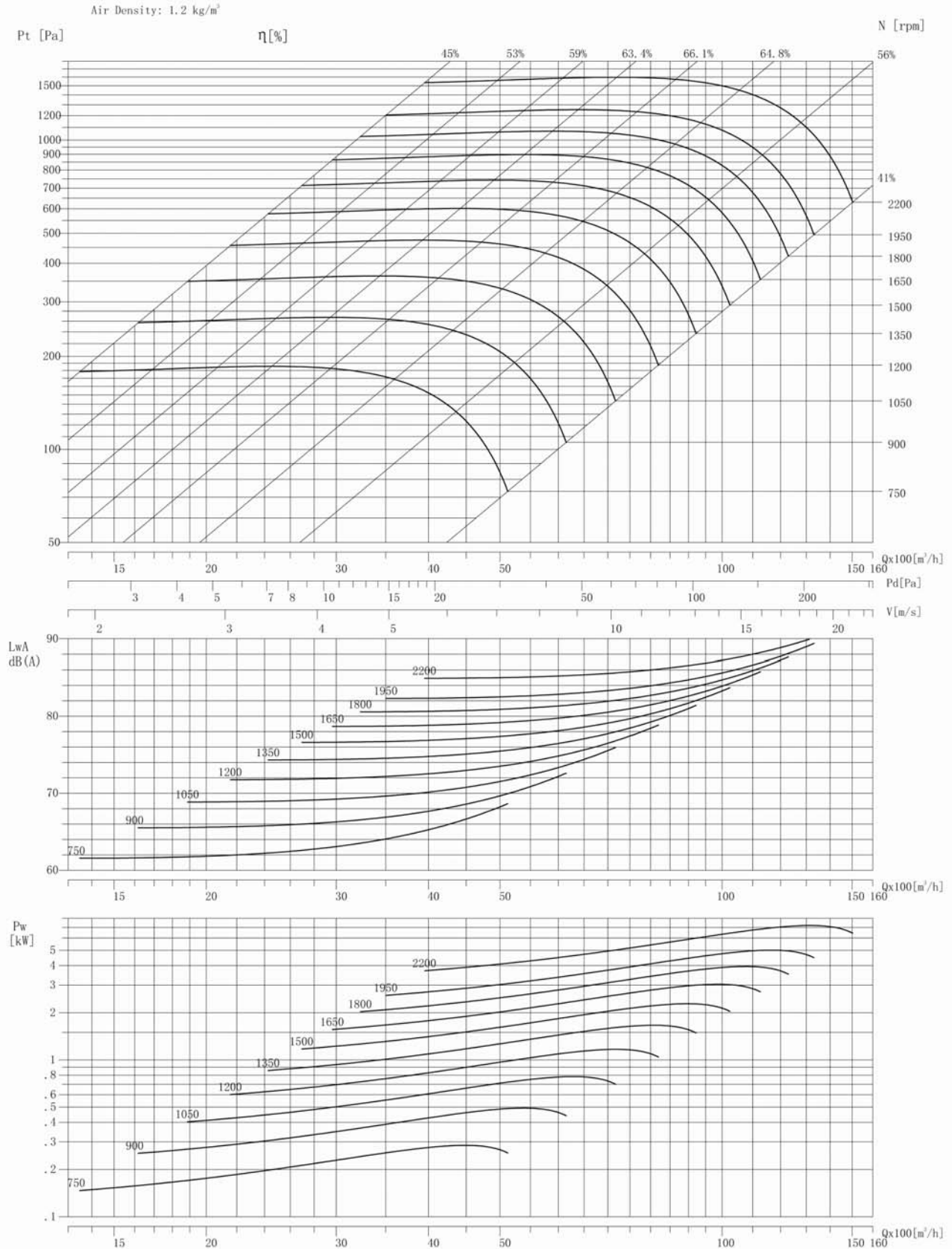
Air Density: 1.2 kg/m<sup>3</sup>



Performance shown is installation type B-free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings does not include drive losses.



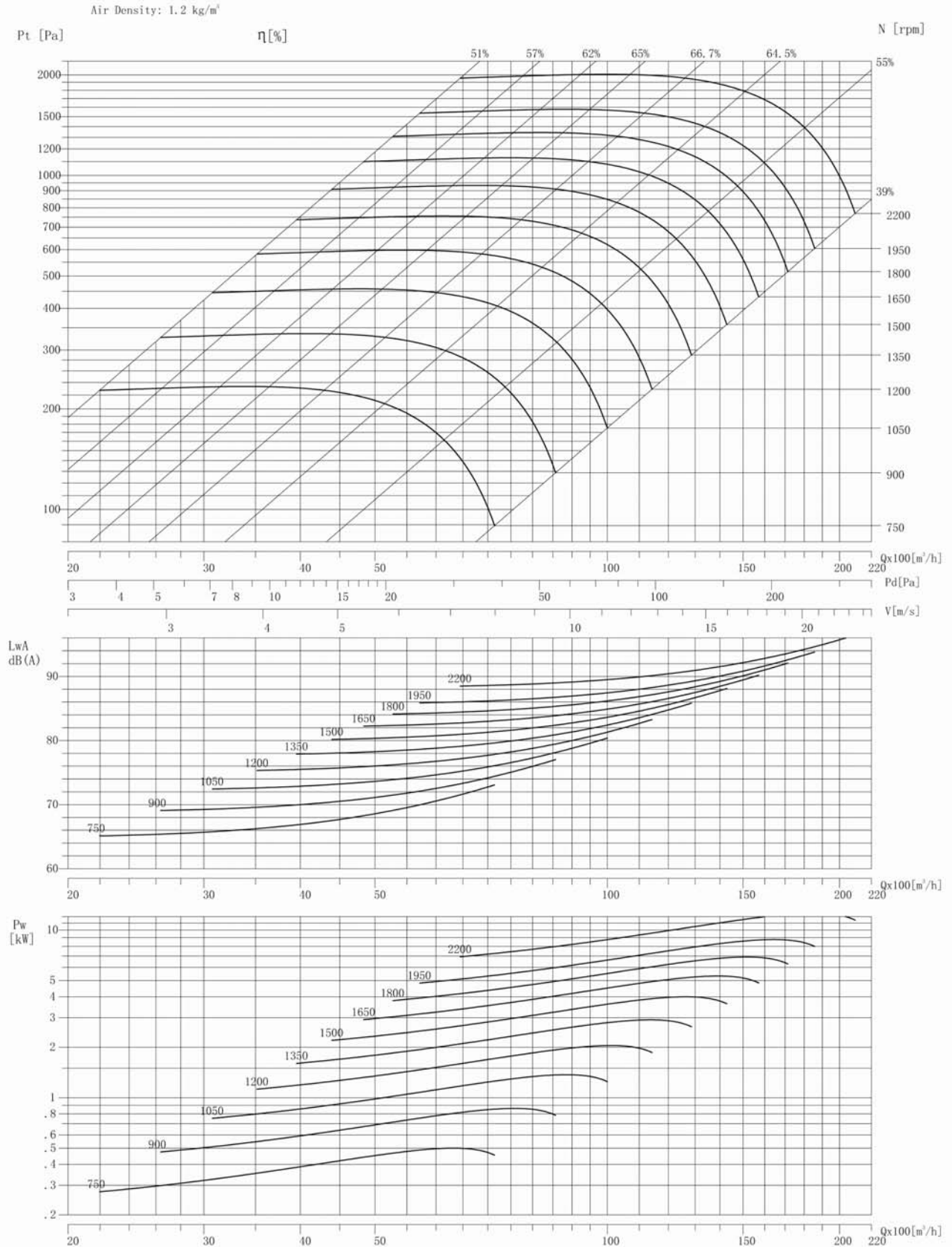
## PDF500



Performance shown is installation type B-free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings does not include drive losses.



## PDF560

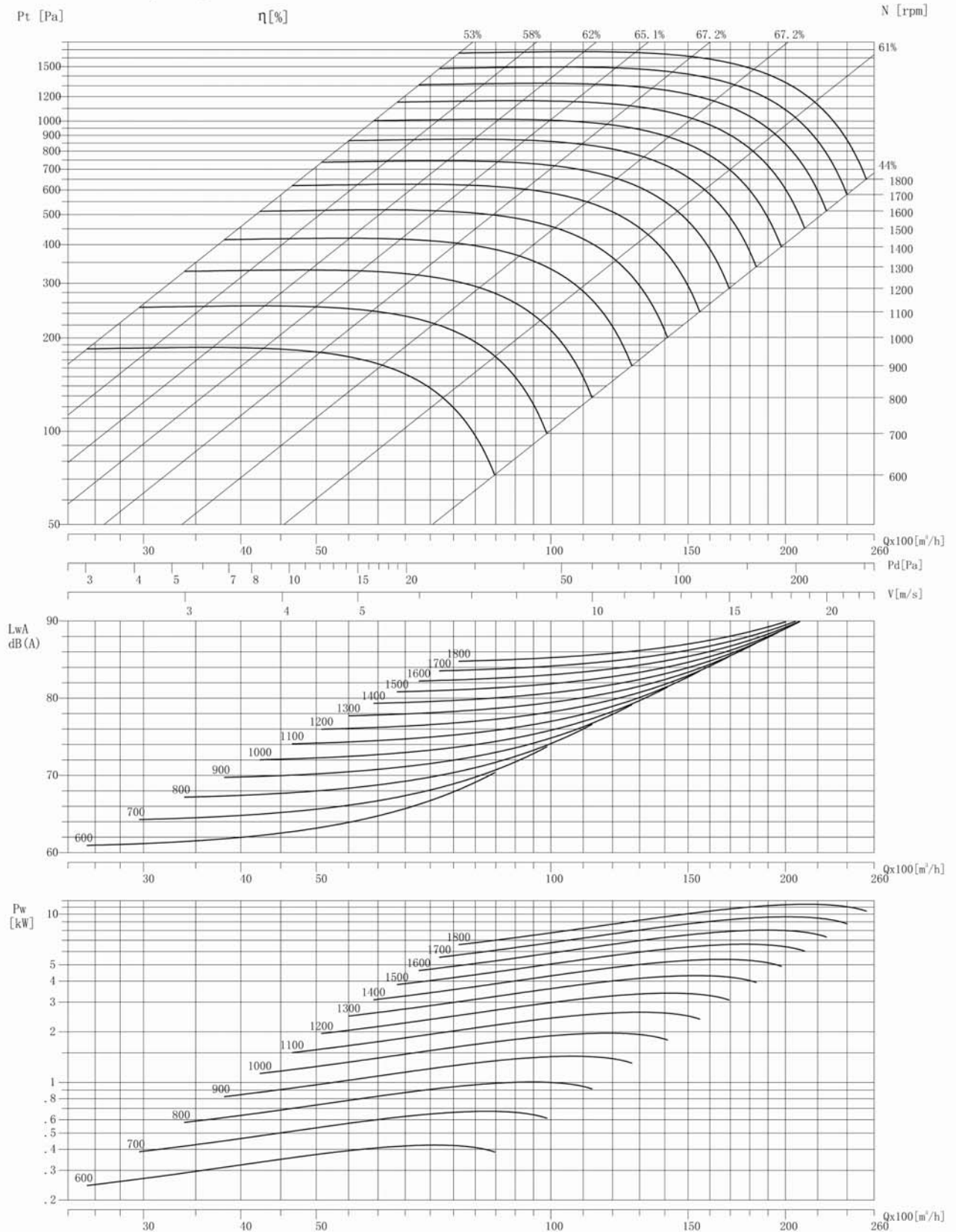


Performance shown is installation type B-free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings does not include drive losses.



## PDF630

Air Density: 1.2 kg/m<sup>3</sup>

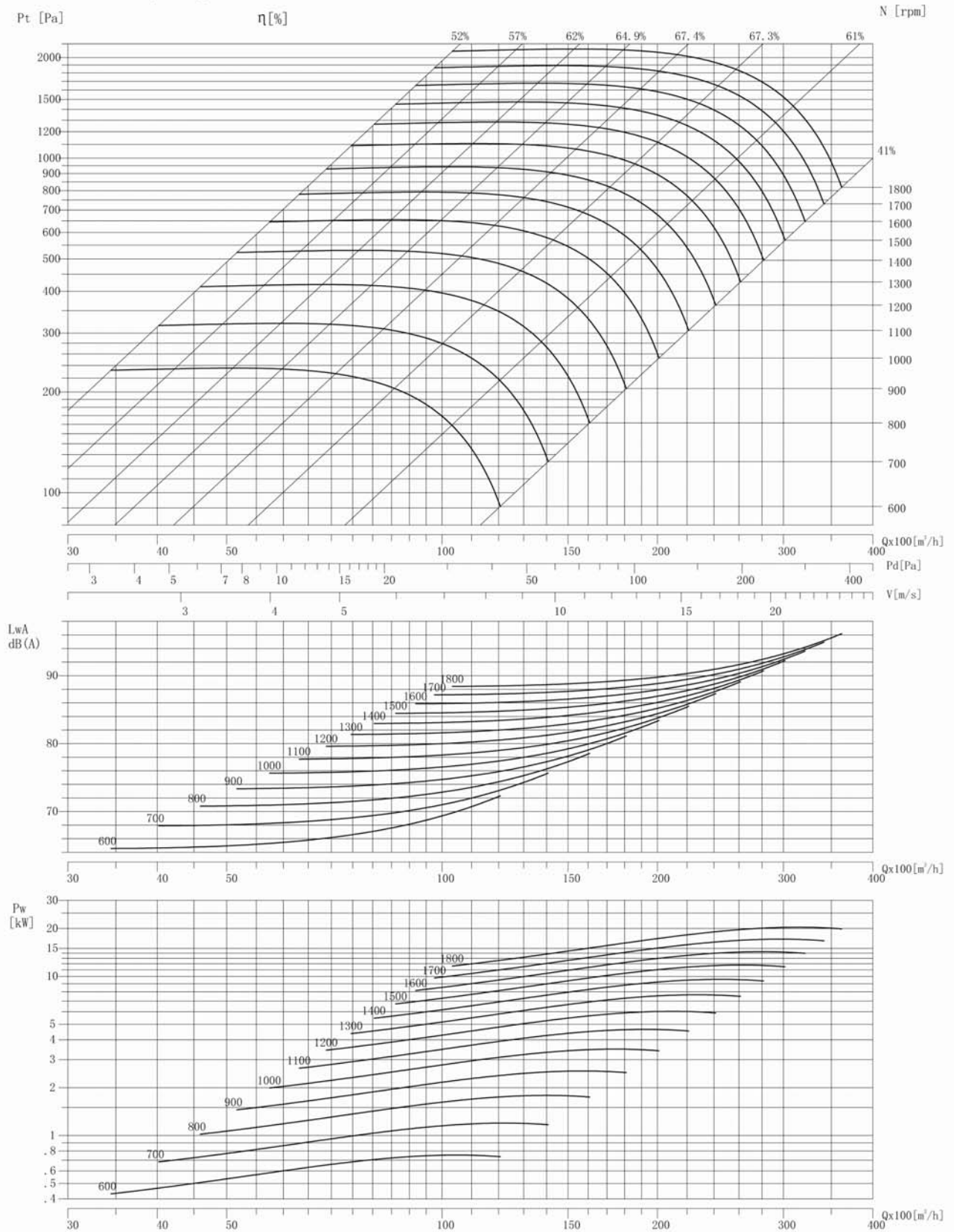


Performance shown is installation type B-free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings does not include drive losses.



## PDF710

Air Density: 1.2 kg/m<sup>3</sup>

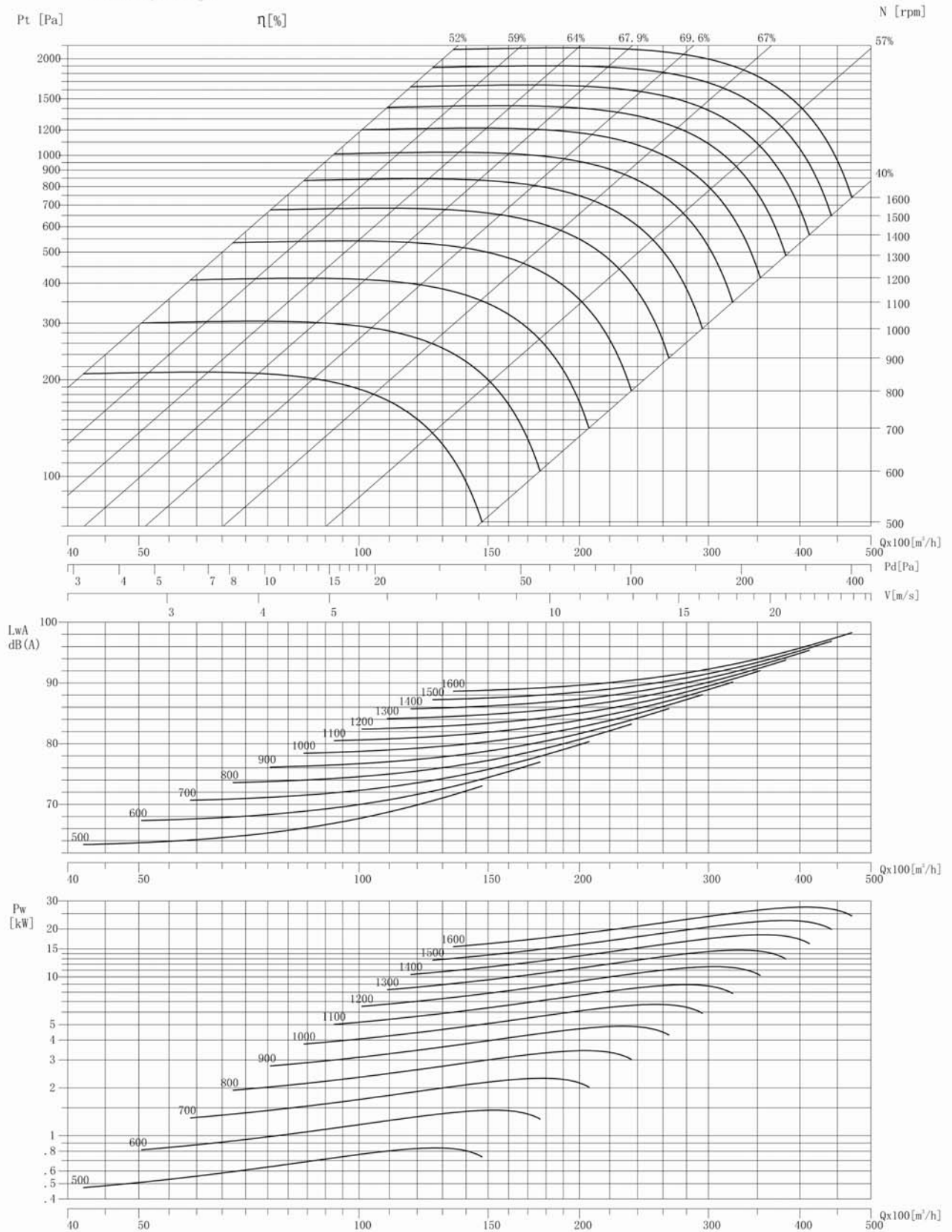


Performance shown is installation type B-free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings does not include drive losses.



## PDF800

Air Density: 1.2 kg/m<sup>3</sup>

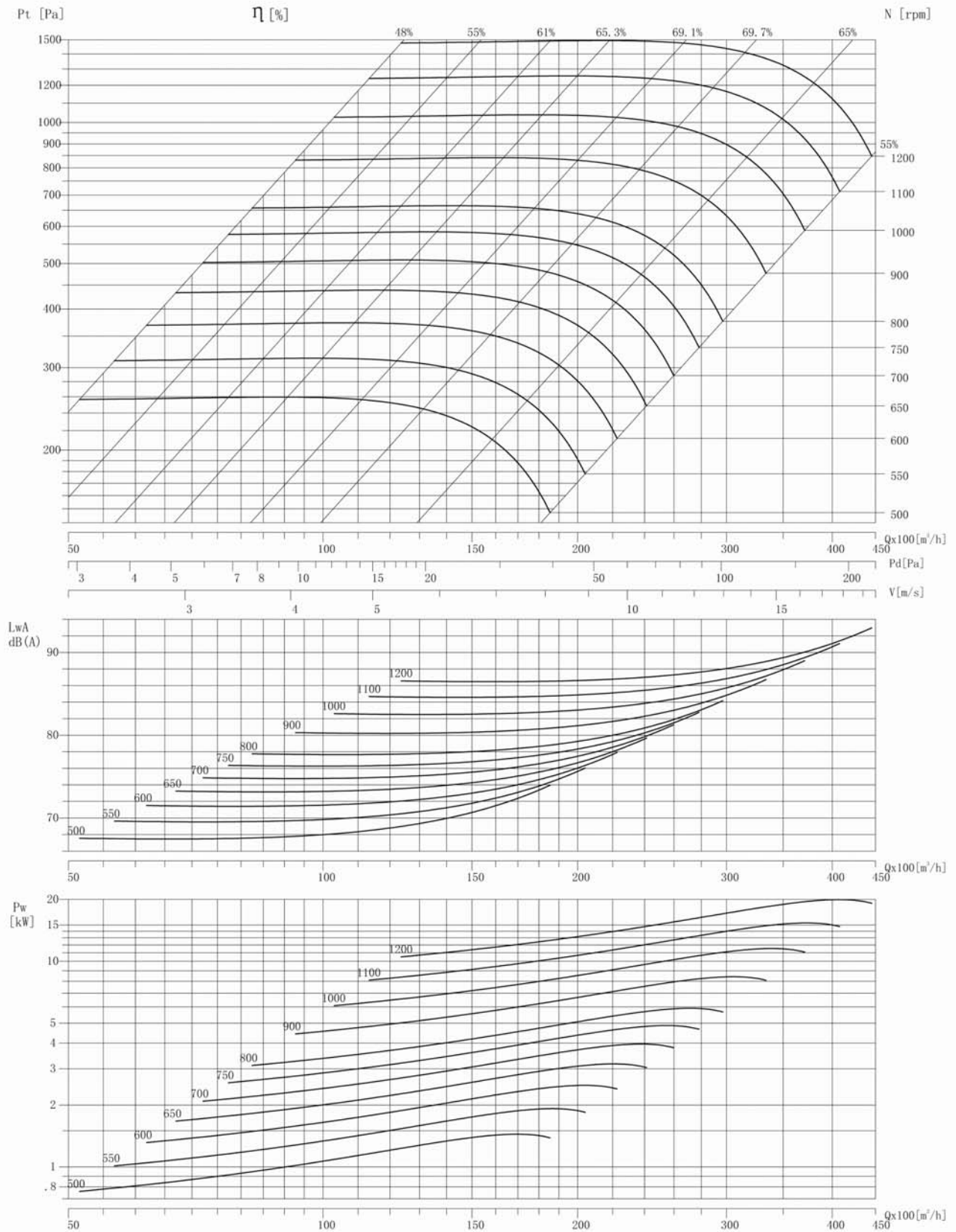


Performance shown is installation type B-free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings does not include drive losses.



## PDF900

Air Density: 1.2 kg/m<sup>3</sup>

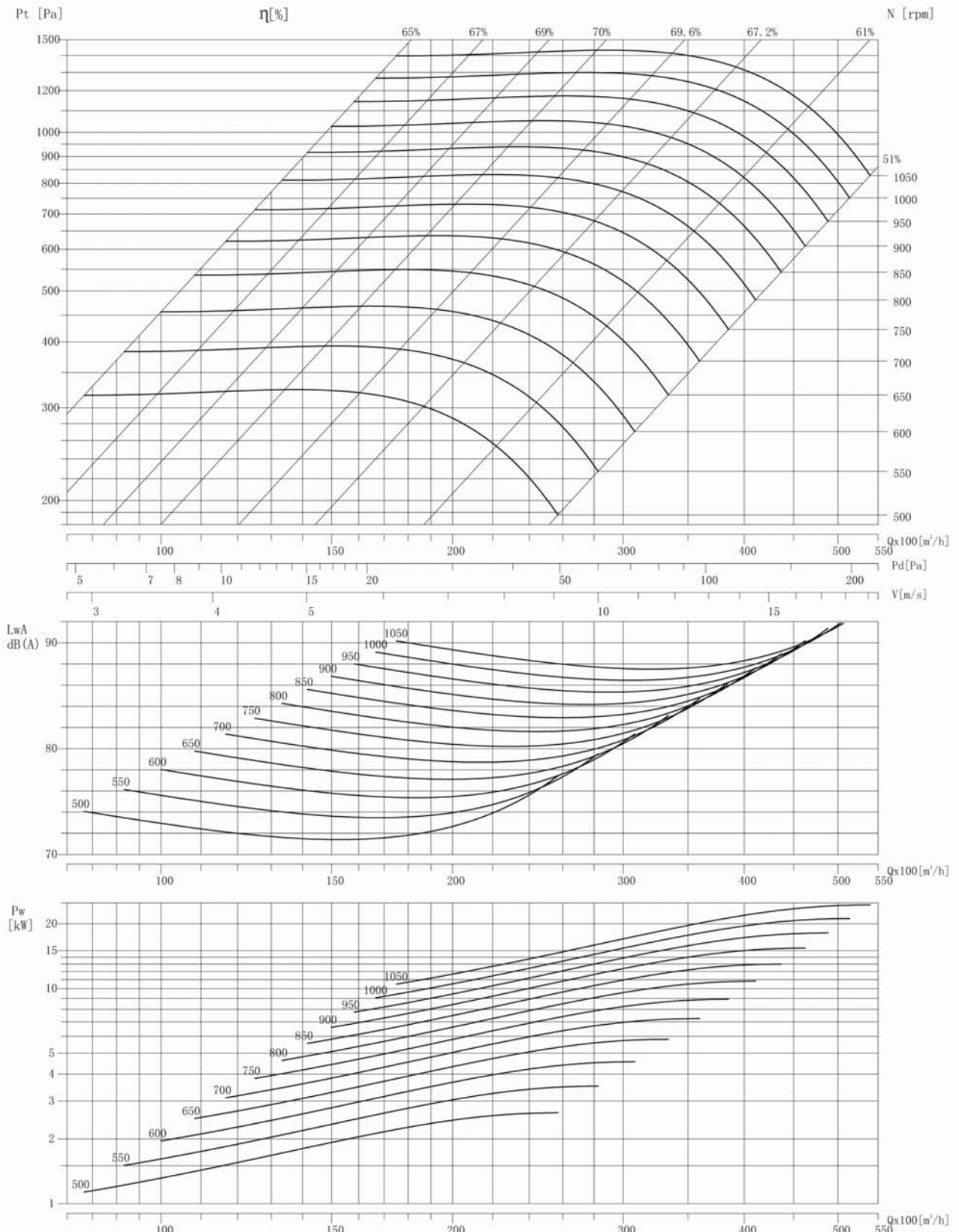


Performance shown is installation type B-free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings does not include drive losses.



## PDF1000

Air Density: 1.2 kg/m<sup>3</sup>

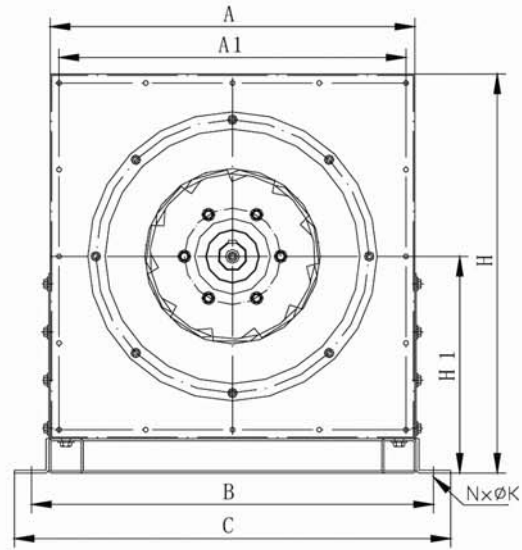
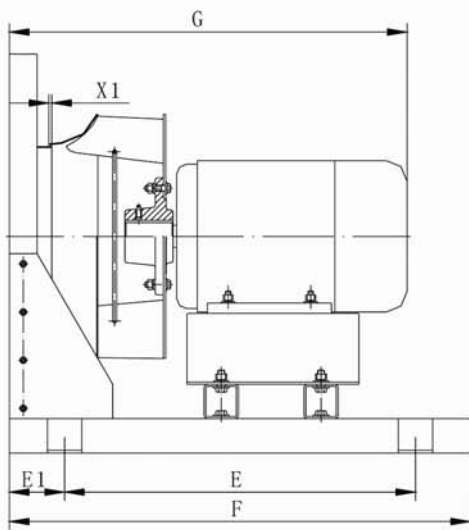


Performance shown is installation type B-free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings does not include drive losses.

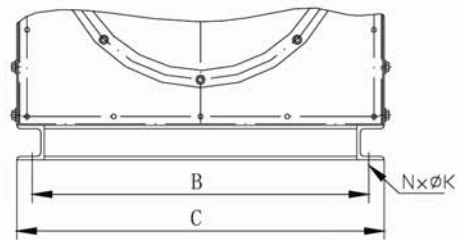
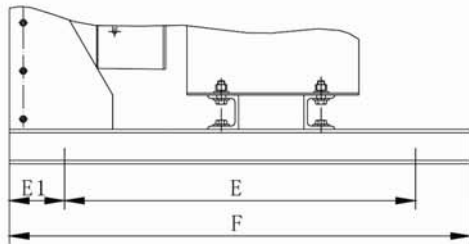


## PDF dimension

PDF315~500



PDF560~1000



[mm]

Model	A	A1	B	C	E	E1	F	G	H	H1	N × ØK	X1
PDF315	450	424	504	554	410	80	570	437	500	275	4 × Ø11	3.6
PDF355	530	504	584	634	510	80	670	557	58	315	4 × Ø11	4.3
PDF400	530	504	584	634	510	80	670	606	580	315	4 × Ø11	4.8
PDF450	640	614	694	744	630	80	790	690	690	370	4 × Ø11	6.3
PDF500	640	614	694	744	630	80	790	639	690	370	4 × Ø13	5.8
PDF560	800	774	764	804	740	80	900	676	863	463	4 × Ø16	7.3
PDF630	800	774	764	804	740	80	900	745	863	463	4 × Ø16	8.7
PDF710	950	924	910	954	940	80	1100	883	1030	555	4 × Ø18	10.2
PDF800	950	924	910	954	940	80	1100	1019	1030	555	4 × Ø18	10.5
PDF900	1150	1124	1106	1154	1190	80	1350	1010	1250	675	4 × Ø20	11.5
PDF1000	1150	1124	1106	1154	1190	80	1350	1055	1250	675	4 × Ø20	13.5

Note: Overall dimension tolerance allow  $\pm 4\text{mm}$  .

