

BELT-DRIVE CENTRIFUGAL CABINET FAN UPE Series

DESCRIPTION

The UPE range of belt-drive double inlet centrifugal cabinet fans consists of 10 nominal product sizes with motor powers ranging from 0.18 up to 15.0kW. Airflow performances range from 500 up to 42,000 m³/hr, with static pressures up to 600 mmWG. The UPE series can be supplied suitable for either horizontal (H) or vertical (V) air discharge depending upon the

requirements of the installation. In addition to special order, the units can be supplied with circular inlet and discharge duct connection flanges (rectangular supplied as standard).

The UPE range of fans offer a very flexible supply or exhaust air ventilation solution to many applications, including the ventilation of:

- Factory units. - Offices.
- Restaurants. - Commercial kitchens.

CONSTRUCTION

Casing

- Manufactured from high grade galvanised sheet steel.
- Side, top and base panels include high grade Melamine sheet acoustic insulation.
- Motor side access panel includes inspection pressure locks.
- All models are supplied as standard with the belt-drive transmission on the right hand side, when viewed from the inlet. If required, to special order, the belt-drive transmission can be supplied on the left hand side.

Fan/Impeller

- All models include double inlet, low pressure forward curved centrifugal fans as standard.
- All fan-impeller assemblies are mounted on anti-vibration mountings within the cabinet and connected to the discharge with a flexible connecting flange.
- The UPE range can be supplied in two versions: with horizontal discharge (H); or with vertical discharge (V). As standard, all models are supplied in horizontal (H) format.

Motor / Transsmision

- All models are supplied with Three Phase 230/400V 50Hz, IP55 motors.
- All motors up to 2.2kW are mounted directly to the impeller fan scroll (as in photograph).
- All motors larger than 3.0kW are mounted behind the fan scroll, directly to a robust fan-impeller base frame.
- All models utilize a standard belt and pulley transmission system.

TECHNICAL CHARACTERISTICS

Model Type	Motor Power		Impeller Speed		Airflow		Weight with largest motor (kg)
	Minimum (kW)	Maximum (kW)	Minimum (R.P.M.)	Maximum (R.P.M.)	Minimum (m ³ /h)	Maximum (m ³ /h)	
UPE-7/7	0,18	0,75	800	1800	500	2400	43
UPE-9/9	0,37	1,1	800	1500	1300	4500	52
UPE-10/10	0,37	1,5	600	1300	1500	5000	66
UPE-12/12	0,37	2,2	500	1100	1500	7500	88
UPE-15/15	0,55	4,0	300	1000	2000	12000	108
UPE-18/18	1,1	5,5	400	900	2500	16000	147
UPE-20/20	1,5	7,5	300	800	4000	20000	270
UPE-22/22	1,5	11,0	300	700	4000	28000	309
UPE-25/25	2,2	11,0	250	600	5000	32000	350
UPE-30/28	2,2	15,0	200	500	6000	40000	472

* With largest motor.

ACOUSTIC CHARACTERISTICS

To obtain the corresponding Sound Power Level Spectrum, simply subtract the values detailed in the table to the right at the corresponding octave average frequencies, from that of the value of sound pressure level detailed in the Performance Characteristics Curves.

Model Type	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16000 Hz
UPE-7/7	17	15	11	12	4	4,5	14	19	27
UPE-9/9	17	15	11	12	4	4,5	14	19	27
UPE-10/10	17	15	11	11	4	4,5	14	20	27
UPE-12/12	16	14	11	10	4,4	4,5	15	21	27
UPE-15/15	13	13	10	10	4,6	5	15	22	27
UPE-18/18	11	12	9	9	5	6	15	22	27
UPE-20/20	10	11	8	8	5,7	7	16	23	27
UPE-22/22	9	11	7	8	6,3	7,5	17	24	27
UPE-25/25	9	11	7	8	6,3	7,5	17	25	27
UPE-30/28	9	11	7	8	6,3	7,5	18	25	27



PERFORMANCE CHARACTERISTICS

FAN SELECTION EXAMPLE FOR A UPE BELT-DRIVE CABINET FAN

Working Point

Required volume: 3410 m³/hr

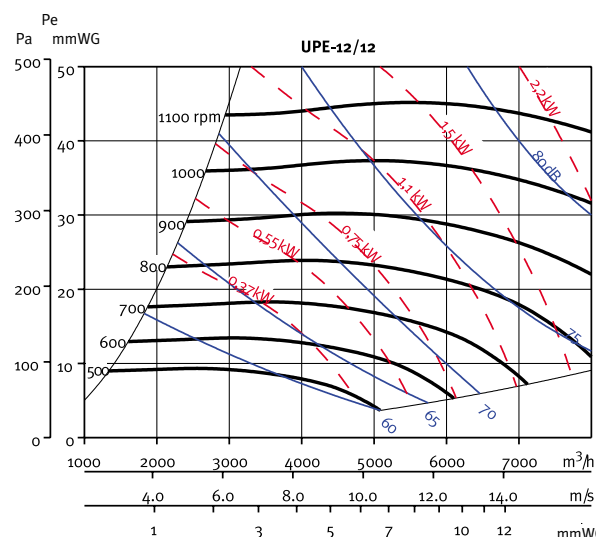
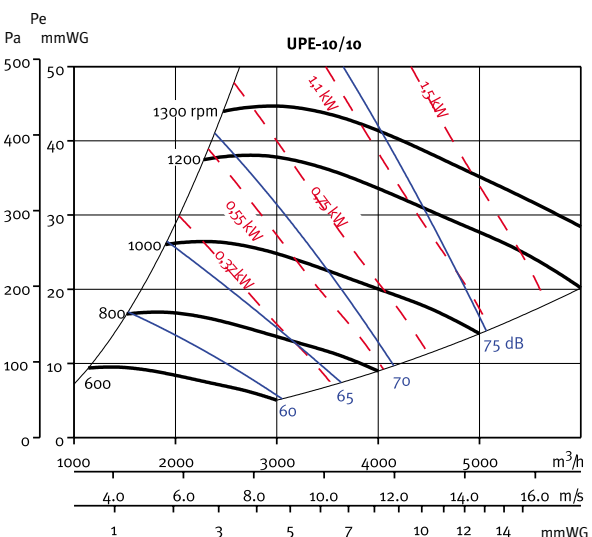
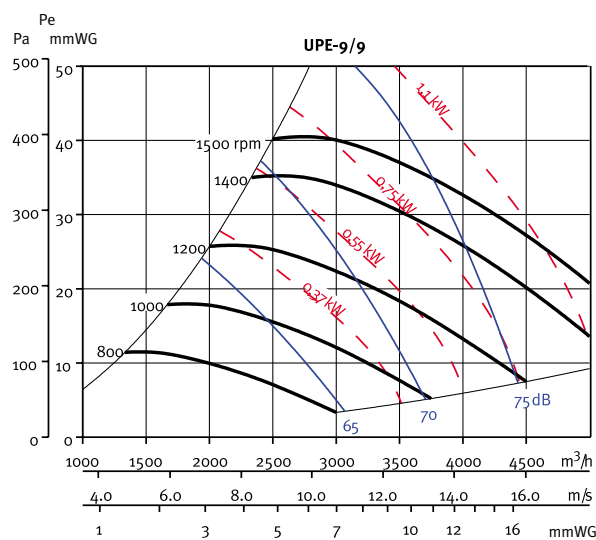
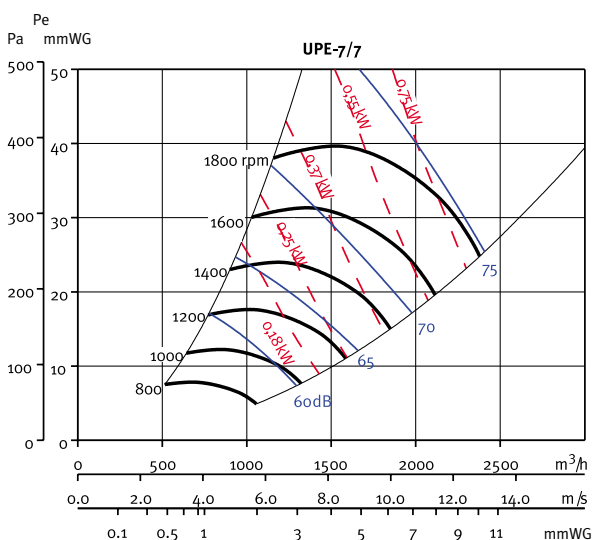
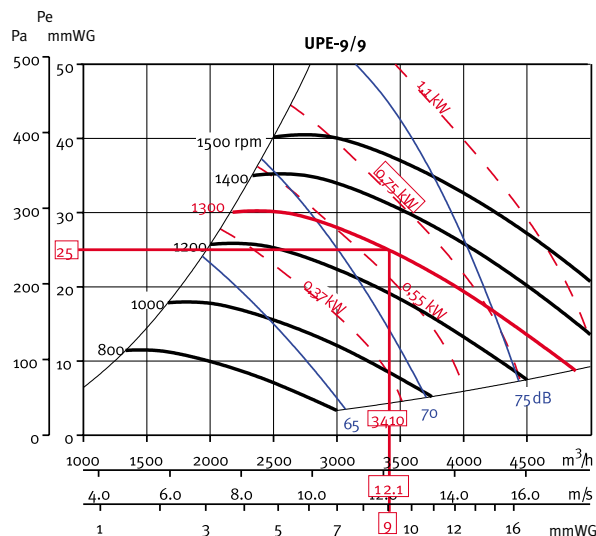
Calculated static pressure: 25 mmWG

With the required volume and static pressure values calculated we trace along the horizontal axis (against pressure value) at 3410 m³/hr, and vertical axis (against volume value) at 25 mmWG, to the point of intersection as shown. This intersection point lies on the projected fan curve with a Speed (r.p.m.) of 1300 (red curve) and motor power of 0.75kW (power curve in dashed red - motor power curve always to right of fan curve). From this point we can also approximate the sound power level as being 71.8dB(A), as it lies between the blue lines of 70dB(A) and 75dB(A).

The resulting model would have the reference - UPE-9/9 - 0.75 kW (1.300 r.p.m.), where:

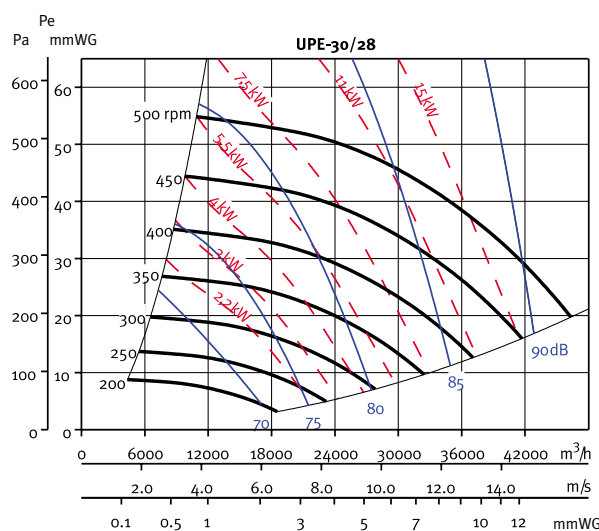
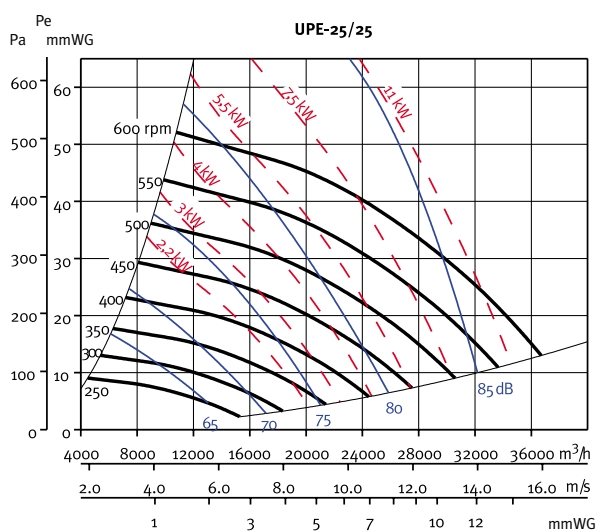
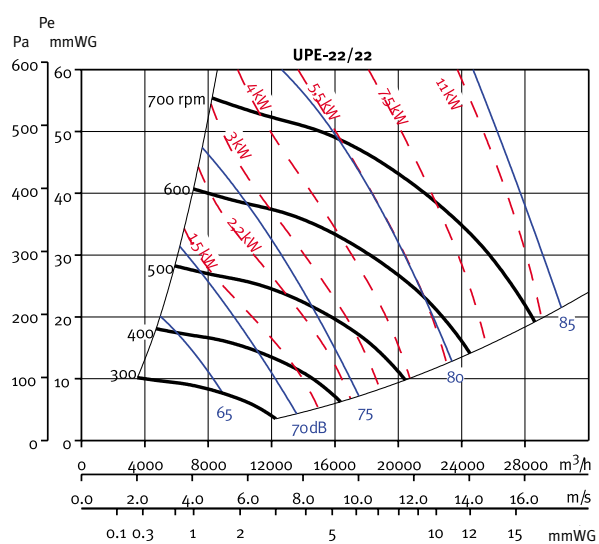
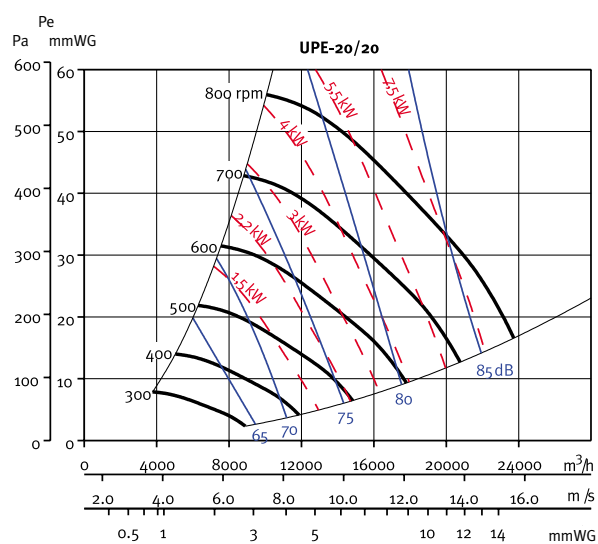
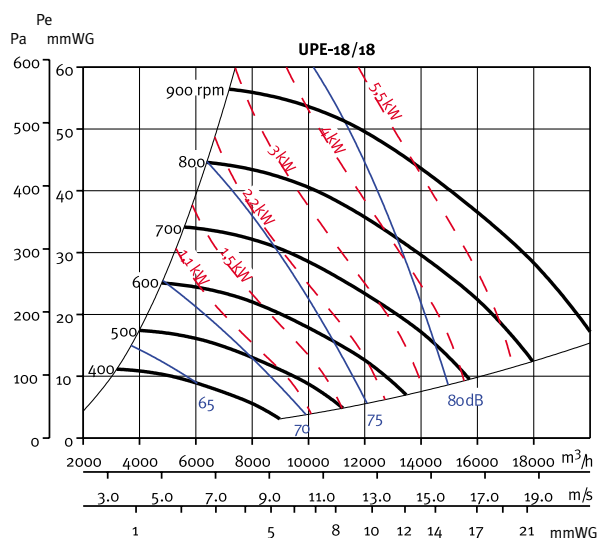
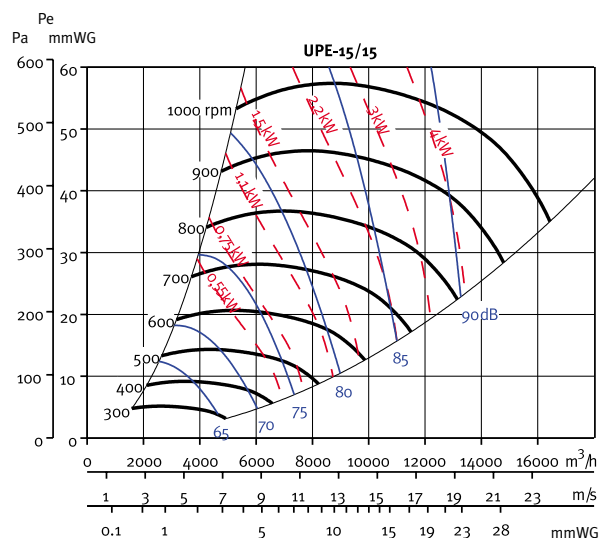
- Motor Power: 0,75 kW
- Impeller Speed: 1.300 r.p.m.
- Sound Pressure Level - 1m: 71,8 dB(A)
- Air Velocity at Discharge: 12.1 m/s

If the fan operates with a free discharge, the fan pressure reading should be increased by the value of pressure rated in the bottom scale - mmWG. In our example we will use an increment of 4 mmWG.





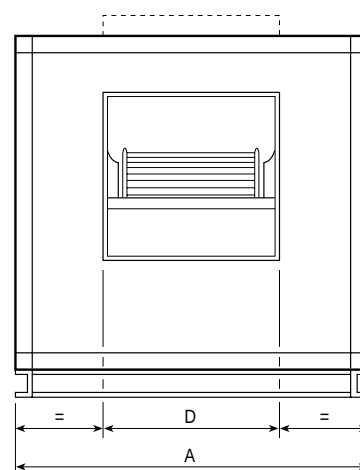
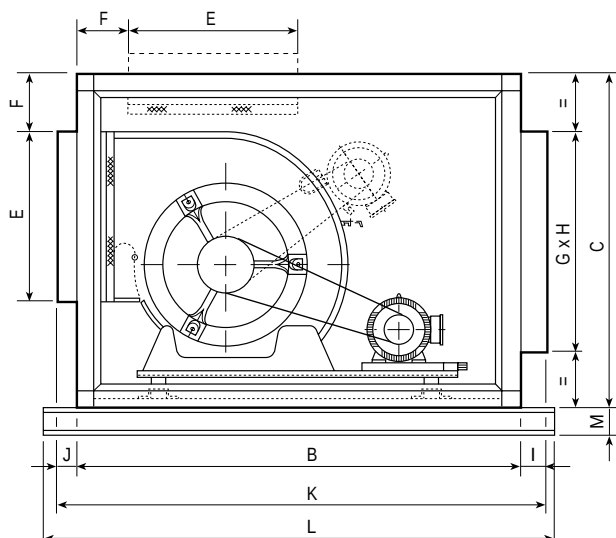
PERFORMANCE CHARACTERISTICS





UPE

DIMENSIONS (mm)



Model Type	A	B	C	D	E	F	G	H	I	J	K	L	M
Horizontal Discharge													
UPE-7/7 - H	554	710	483	232	222	92	325	325	40	30	780	–	–
UPE-9/9 - H	605	800	554	300	260	96	400	400	40	30	870	–	–
UPE-10/10 - H	710	850	605	333	289	94	450	450	40	30	920	–	–
UPE-12/12 - H	775	950	675	396	341	82	500	500	40	30	1020	–	–
UPE-15/15 - H	950	1018	775	473	403	88	600	600	40	30	1088	–	–
UPE-18/18 - H	1018	1250	900	556	479	82	700	700	40	30	1320	–	–
UPE-20/20 - H	1250	1350	1140	630	630	137	800	800	40	30	1420	1510	80
UPE-22/22 - H	1350	1500	1250	695	700	161	900	900	40	30	1570	1660	80
UPE-25/25 - H	1500	1600	1350	796	800	122	1000	1000	40	30	1670	1760	80
UPE-30/28 - H	1700	1900	1600	870	945	150	1200	1200	40	30	1970	2060	80
Vertical Discharge													
UPE-7/7 - V	554	710	483	232	222	92	325	325	40	30	780	–	–
UPE-9/9 - V	605	800	554	300	260	96	400	400	40	30	870	–	–
UPE-10/10 - V	710	850	605	333	289	94	450	450	40	30	920	–	–
UPE-12/12 - V	775	950	675	396	341	82	500	500	40	30	1020	–	–
UPE-15/15 - V	950	1018	775	473	403	88	600	600	40	30	1088	–	–
UPE-18/18 - V	1018	1250	900	556	479	82	700	700	40	30	1320	–	–
UPE-20/20 - V	1250	1500	1018	630	630	137	800	800	40	30	1540	1660	80
UPE-22/22 - V	1350	1600	1086	695	700	161	900	900	40	30	1640	1760	80
UPE-25/25 - V	1500	1800	1190	796	800	128	1000	1000	40	30	1840	1960	80
UPE-30/28 - V	1700	2000	1390	870	945	128	1200	1200	40	30	2040	2160	80



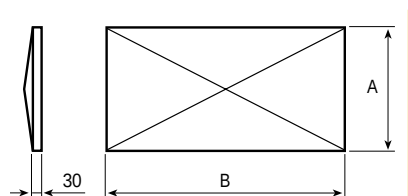
Optional: Inlet circular duct connection flanges

UPE Model Type	Inlet Circular Flange Connection Diameter (mm)
UPE-7/7	250
UPE-9/9	350
UPE-10/10	400
UPE-12/12	450
UPE-15/15	500
UPE-18/18	630
UPE-20/20	800
UPE-22/22	900
UPE-25/25	1000
UPE-30/28	1200

ACCESSORIES



Pitched Roof Top
Pitched roof top for exterior mounted installations.

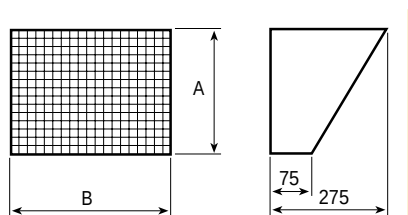


Roof Type	UPE Model Type	A	B	
Roof Type 7	UPE-7/7	557	713	
Roof Type 9	UPE-9/9	608	803	
Roof Type 10	UPE-10/10	713	853	
Roof Type 12	UPE-12/12	778	953	
Roof Type 15	UPE-15/15	953	1021	
			H	V
Roof Type 18	UPE-18/18	1021	1253	1253
Roof Type 20	UPE-20/20	1253	1353	1503
Roof Type 22	UPE-22/22	1353	1503	1603
Roof Type 25	UPE-25/25	1503	1603	1803
Roof Type 30	UPE-30/28	1703	1903	2003

Dimensions in mm.



Inlet / Outlet Wire Guards
Inlet or outlet wire protection guards.



Outlet Guard				Inlet Guard		
UPE Model Type	Guard Ref.	A	B	Guard Ref.	A	B
UPE-7/7	Outlet Guard-7	235	225	Inlet Guard-7	382	328
UPE-9/9	Outlet Guard-9	303	263	Inlet Guard-9	403	403
UPE-10/10	Outlet Guard-10	336	292	Inlet Guard-10	453	453
UPE-12/12	Outlet Guard-12	399	344	Inlet Guard-12	503	503
UPE-15/15	Outlet Guard-15	476	406	Inlet Guard-15	603	603
UPE-18/18	Outlet Guard-18	559	482	Inlet Guard-18	703	703
UPE-20/20	Outlet Guard-20	633	633	Inlet Guard-20	803	803
UPE-22/22	Outlet Guard-22	698	703	Inlet Guard-22	903	903
UPE-25/25	Outlet Guard-25	799	803	Inlet Guard-25	1003	1003
UPE-30/28	Outlet Guard-30	873	948	Inlet Guard-30	1203	1203

Dimensions in mm.