



PLATE MOUNTED SICKLE BLADE AXIAL FANS WITH EXTERNAL ROTOR MOTOR

HXTR/HXBR Series

NEW



Description

Range of plate mounted Sickle Blade axial fans.

Applications

- General ventilation
- Shops, offices, cafes/bars, warehouse premises, garages, and commercial/industrial installations
- Industrial ventilation

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- EXTERNAL ROTOR MOTOR
- COMPACT DESIGN
- SPEED CONTROLLABLE
- HIGH EFFICIENCY

Construction

All S&P HXTR/HXBR plate mounted axial fans include a one piece bellmouth and mounting plate manufactured from high grade galvanised steel. The motor and fan impeller are supported within this mounting plate by a strong electrowelded steel support frame. All models also include a steel finger proof guard as standard mounted to the inlet side of the fan. The whole fan assembly is protected by a two stage cataforesis primer and tough black polyester paint finish. This particular coating has been evaluated as suitable for outdoor equipment applications, by Underwriters Laboratories, Inc (USA).

All models are supplied with a pre-wired wiring junction box located on the back of the motor hub for easy access wiring. This wiring junction box protects all wiring connections against the ingress of dust and moisture.

All standard plate mounted Sickle Blade Axial

fans are supplied in Form-(A) configuration. Airflow over Motor-Impeller. To special order fans can be supplied with Form-(B) configuration.

Impeller

The S&P "Sickle Blade" impeller has been specifically designed and developed using advanced aerodynamic software technology to ensure the highest and most efficient airflow performance with the lowest of noise levels. Model sizes Ø 250-400 mm are manufactured from pressed sheet steel, where sizes Ø 450-710 mm are manufactured from precision die cast aluminium. All Sickle Blade impellers, in conjunction with the external rotor motors, are dynamically balanced.

Motor

All S&P plate mounted Sickle Blade Axial fans incorporate asynchronous induction type motors with squirrel cage external rotors

manufactured in accordance with UNE-113 and IEC-34-1 standards. All S&P plate mounted Sickle Blade Axial fans incorporate the following specifications as standard;

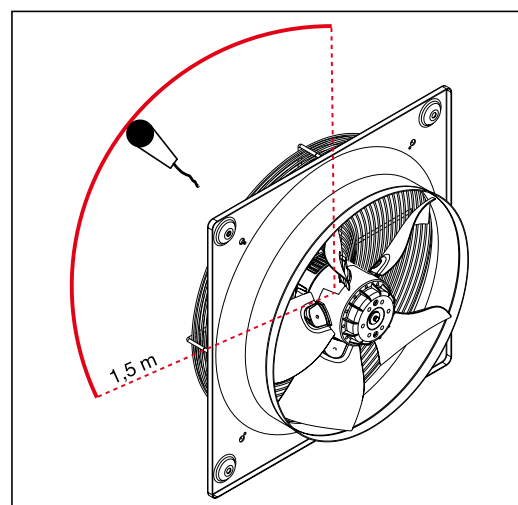
- Single phase: 230V – 50Hz.
- Three phase: 400V – 50Hz (except the model Ø 250,230/400V 50Hz).
- IP54.
- Insulation Class F (ambient temperature of operation between -40°C and +70°C).
- Maximum ambient relative humidity of 95%.
- Speed controllable 100% by variation of the voltage (except model HXBR/4-630).
- Terminal box with cable gland PG-11.
- Thermal protection.

All single phase models are fitted with the capacitor, included inside the terminal box. Other voltages and frequencies are available under request.

Acoustic characteristics

The sound levels –NPS- illustrated in the tabulated performance data for the HXTR/HXBR Plate Mounted Axial fans, correspond to the value of sound pressure dB(A), measured in free field conditions at a distance equivalent to three times the diameter of the impeller or a minimum of 1.5 meters whichever is the greater.

Sound power level spectrum. The values shown are in dB(A) at the corresponding octave band average frequencies (Hz):



LwA ASP Q max.	63	125	250	500	1000	2000	4000	8000
2-250	47	45	55	61	66	68	66	59
4-250	34	31	42	48	53	55	53	46
4-315	38	50	53	62	62	62	57	47
4-355	37	54	58	67	70	68	62	52
4-400	39	56	62	66	70	70	65	58
4-450	42	59	66	70	73	74	69	62
4-500	42	64	71	76	81	76	70	60
4-560	51	64	71	80	80	78	74	65
4-630	54	68	74	81	83	80	74	66
6-400	30	47	53	57	60	61	56	49
6-450	33	50	57	61	64	65	60	53
6-500	33	55	61	66	72	67	60	50
6-560	42	55	62	71	71	69	65	56
6-630	45	59	65	72	74	70	65	57
6-710	48	61	68	75	76	73	67	59



■ Technical characteristics

Model	Voltage	Protection IP	Range of temperatures		Speed (r.p.m.)	Maximum power absorbed (W)	Max. absorbed current		Sound pressure level dB (A)	Max. air volume (m ³ /h)	Weight (kg)
			Min.	Max.			at 230 V	at 400 V			
SINGLE PHASE 2 POLES											
HXBR/2-250	230V 50Hz	IP 54	-40°C	+60 °C	2650	120	0,55		58	1650	7,0
SINGLE PHASE 4 POLES											
HXBR/4-250	230V 50Hz	IP 54	-40°C	+40 °C	1450	40	0,21		45	930	6,5
HXBR/4-315	230V 50Hz	IP 54	-40°C	+40 °C	1400	120	0,53		53	2074	7,0
HXBR/4-355	230V 50Hz	IP 54	-40°C	+60 °C	1400	120	0,55		59	2970	7,5
HXBR/4-400	230V 50Hz	IP 54	-40°C	+70 °C	1360	290	1,20		60	5080	9,0
HXBR/4-450	230V 50Hz	IP 54	-40°C	+70 °C	1370	380	2,00		64	7649	11,5
HXBR/4-500	230V 50Hz	IP 54	-40°C	+70 °C	1350	850	3,80		69	9957	16,0
HXBR/4-560	230V 50Hz	IP 54	-40°C	+40 °C	1300	1300	6,00		70	12460	21,5
HXBR/4-630	230V 50Hz	IP 54	-40°C	+40 °C	1200	1300	5,70		72	14518	24,0
SINGLE PHASE 6 POLES											
HXBR/6-400	230V 50Hz	IP 54	-40°C	+70 °C	890	150	0,29		51	3387	9,0
HXBR/6-450	230V 50Hz	IP 54	-40°C	+70 °C	880	210	1,00		55	5099	11,5
HXBR/6-500	230V 50Hz	IP 54	-40°C	+70 °C	870	310	1,30		60	6638	16,0
HXBR/6-560	230V 50Hz	IP 54	-40°C	+70 °C	820	410	1,80		61	8307	21,5
HXBR/6-630	230V 50Hz	IP 54	-40°C	+70 °C	830	700	3,10		63	12315	24,0
HXBR/6-710	230V 50Hz	IP 54	-40°C	+40 °C	860	900	4,00		66	16668	27,0
THREE PHASE 2 POLES											
HXTR/2-250	230/400V 50 Hz	IP 54	-40°C	+60 °C	2700	110	0,40	0,23	57	1650	7,0
THREE PHASE 4 POLES											
HXTR/4-250	230/400V 50 Hz	IP 54	-40°C	+60 °C	1450	50	0,35	0,20	46	930	6,5
HXTR/4-315	400V 50Hz	IP 54	-40°C	+70 °C	1420	130	-	0,46	53	2074	7,0
HXTR/4-355	400V 50Hz	IP 54	-40°C	+70 °C	1400	150	-	0,42	59	2970	7,5
HXTR/4-400	400V 50Hz	IP 54	-40°C	+70 °C	1340	300	-	0,80	60	5080	9,0
HXTR/4-450	400V 50Hz	IP 54	-40°C	+70 °C	1340	570	-	1,10	64	7649	11,5
HXTR/4-500	400V 50Hz	IP 54	-40°C	+70 °C	1370	970	-	1,90	69	9957	16,0
HXTR/4-560	400V 50Hz	IP 54	-40°C	+70 °C	1340	1400	-	2,50	70	12460	21,5
HXTR/4-630	400V 50Hz	IP 54	-40°C	+70 °C	1330	1400	-	2,50	73	14518	24,0
THREE PHASE 6 POLES											
HXTR/6-400	400V 50Hz	IP 54	-40°C	+70 °C	900	170	-	0,50	51	3387	9,0
HXTR/6-450	400V 50Hz	IP 54	-40°C	+70 °C	910	230	-	0,57	55	5099	11,5
HXTR/6-500	400V 50Hz	IP 54	-40°C	+70 °C	900	270	-	0,62	60	6638	16,0
HXTR/6-560	400V 50Hz	IP 54	-40°C	+70 °C	860	450	-	0,90	61	8307	21,5
HXTR/6-630	400V 50Hz	IP 54	-40°C	+70 °C	880	740	-	1,50	63	12315	24,0
HXTR/6-710	400V 50Hz	IP 54	-40°C	+70 °C	920	1000	-	2,60	66	16668	27,0

HXTR-HXBR

Plate mounted sickle blade axial fans with external rotor motor

Performance curves

- Q = Air volume in, m³/hr and m³/s
- Pe = Static pressure in mmWG and Pa.
- Dry air at 20 °C and 760 mmHg.
- Air flow data in accordance with the following standards: UNE 100-212-89, BS 848, Part 1, AMCA 210-85 and ASHRAE 51-1985.

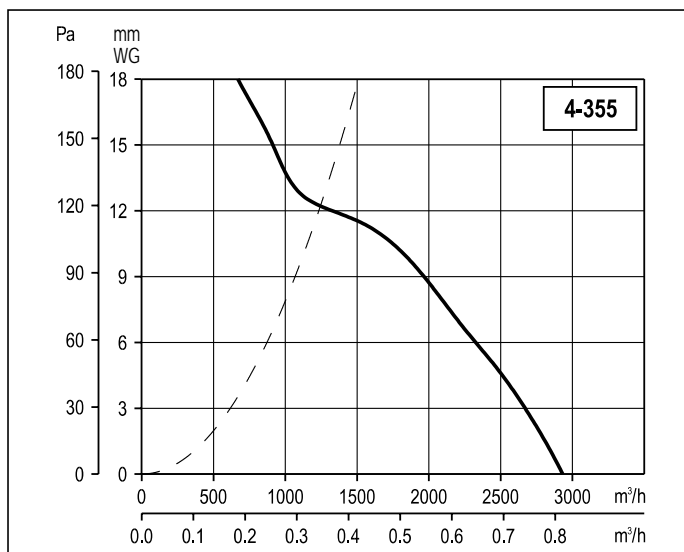
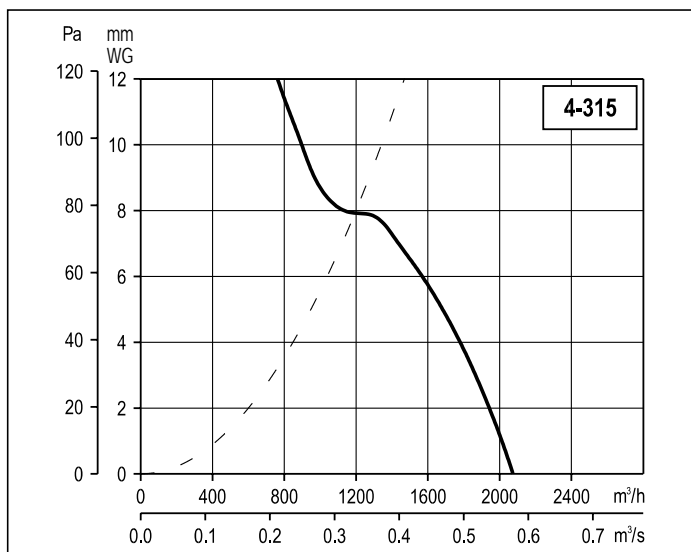
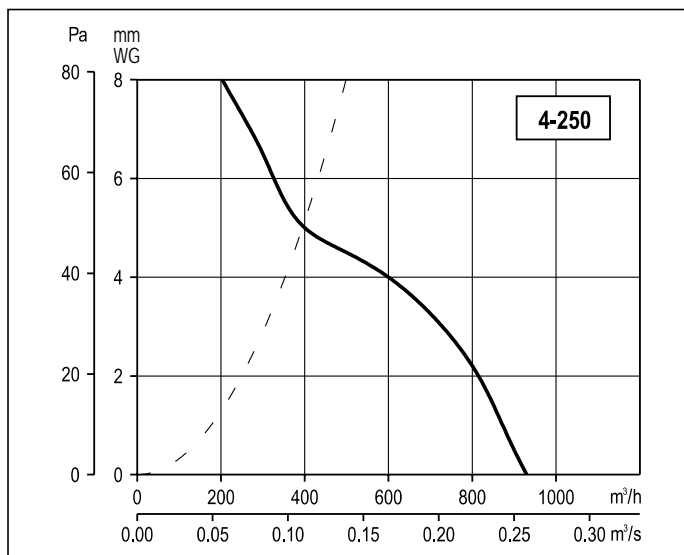
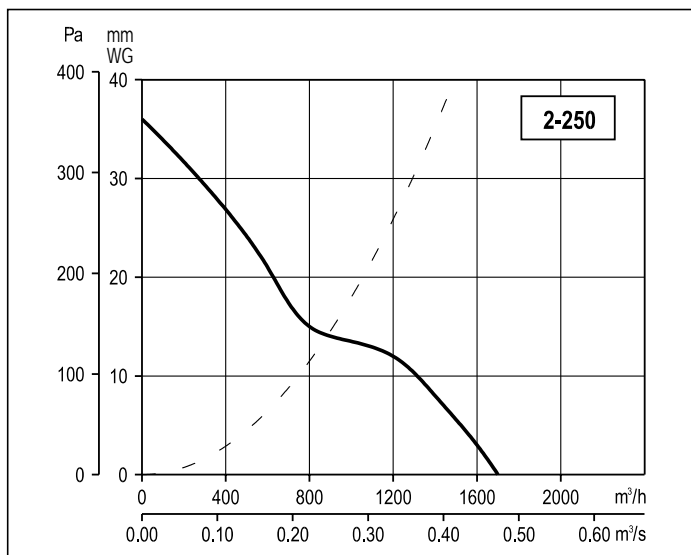
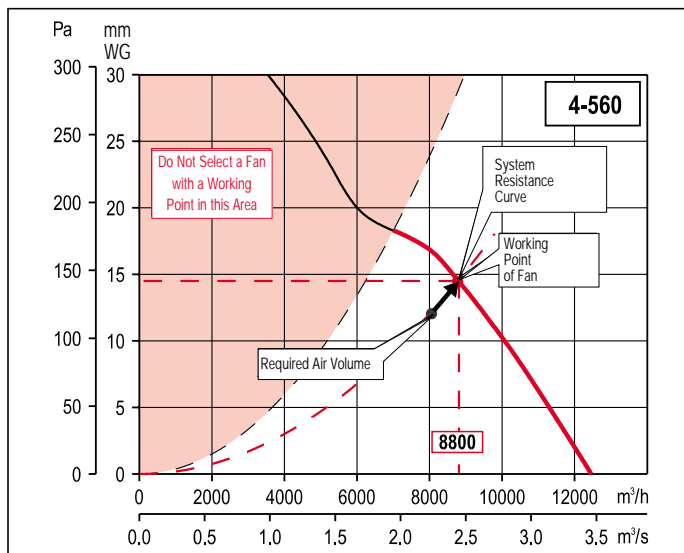
HXTR-HXBR

Plate mounted sickle blade axial fans with external rotor motor

Typical fan selection:

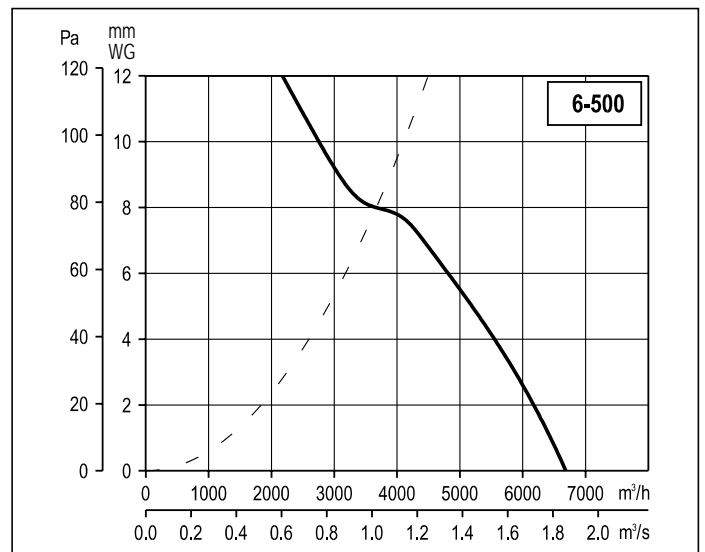
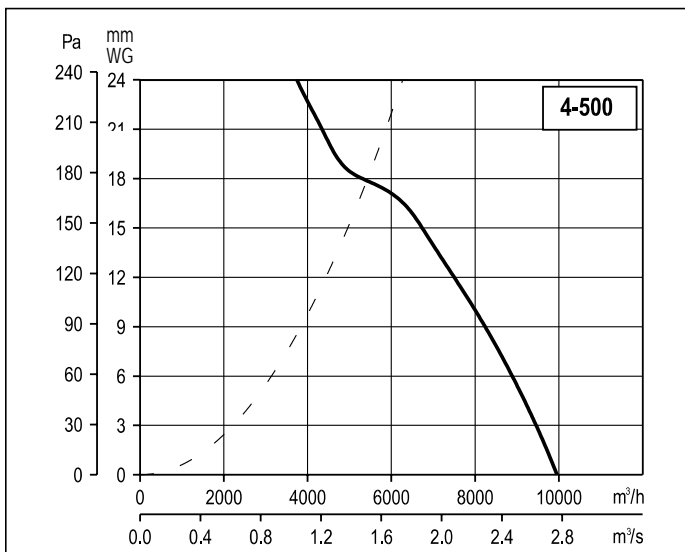
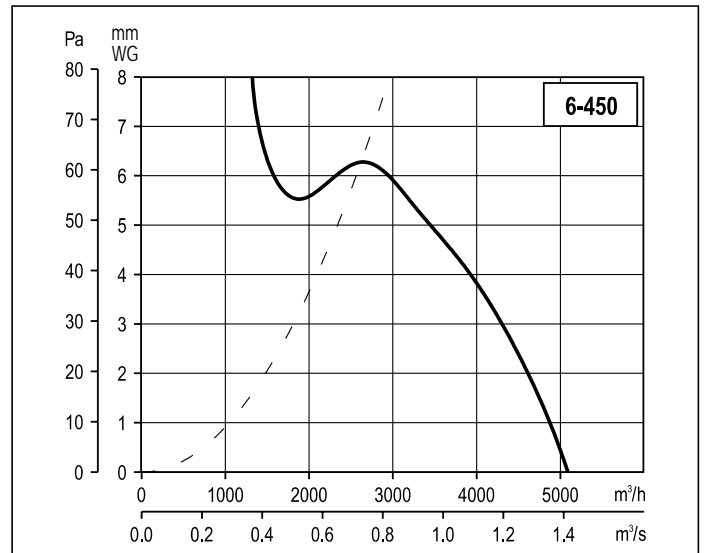
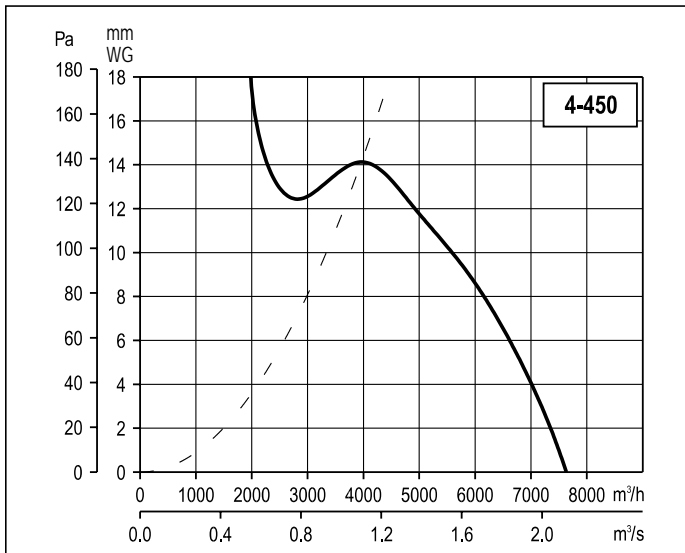
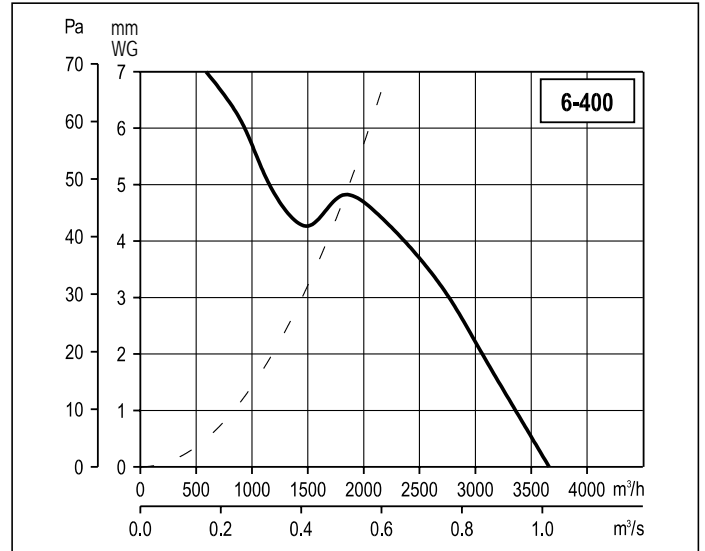
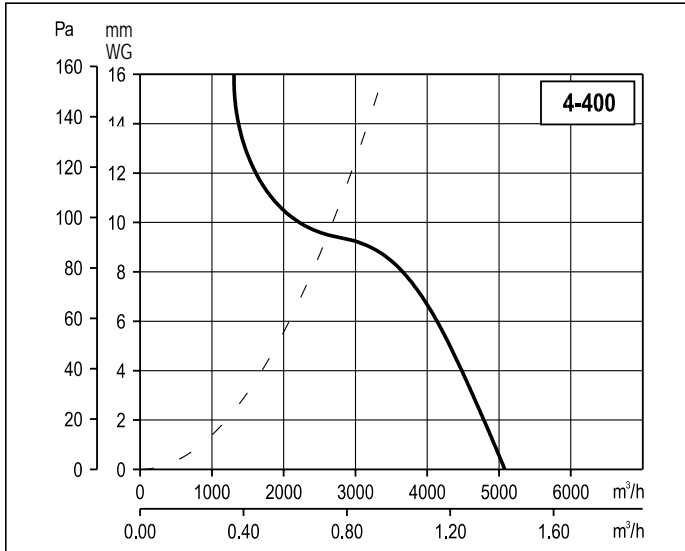
Do not select an airflow performance in the area of the graph left of the dashed line (as shown to the right – coloured area). To find the working point of the fan at a required volume, it is first necessary to plot a system resistance curve. The working point of the fan lies at the intersection of the system resistance curve and that of the fan performance curve – as illustrated to the right.

Example: Required air volume 8000 m³/h at 12 mmWG.
Fan working point 8800 m³/h at 14,5 mmWG.



Performance curves

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- Pe = Static pressure in mmWG and Pa.
- Dry air at 20 °C and 760 mmHg.
- Air flow data in accordance with the following standards: UNE 100-212-89, BS 848, Part 1, AMCA 210-85 and ASHRAE 51-1985.

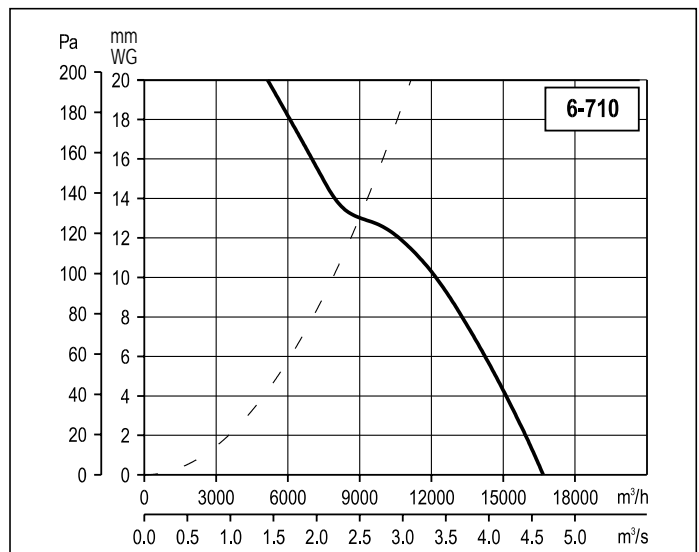
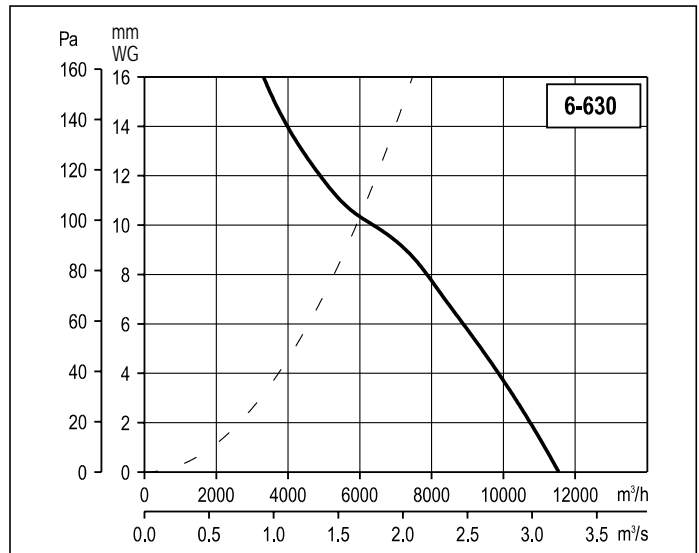
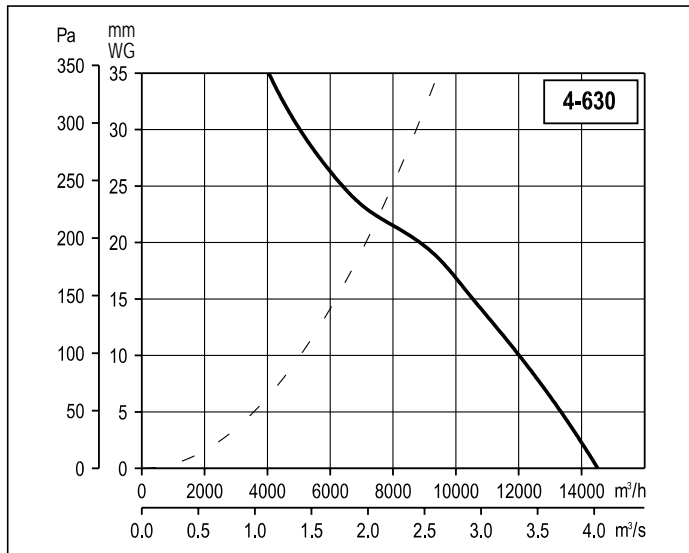
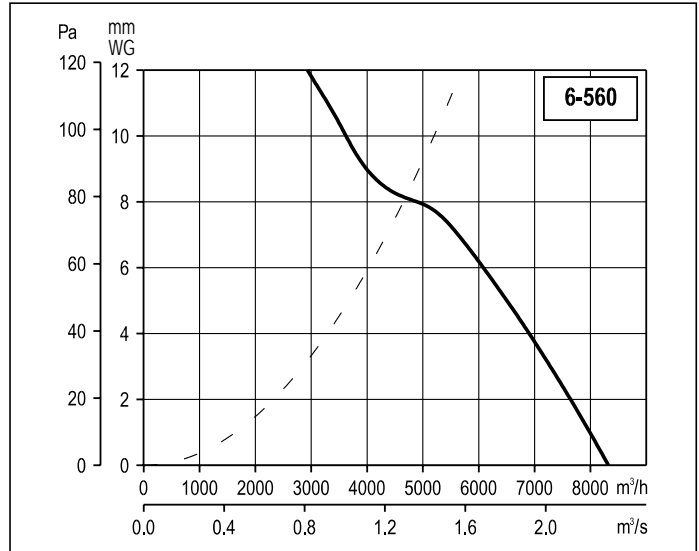
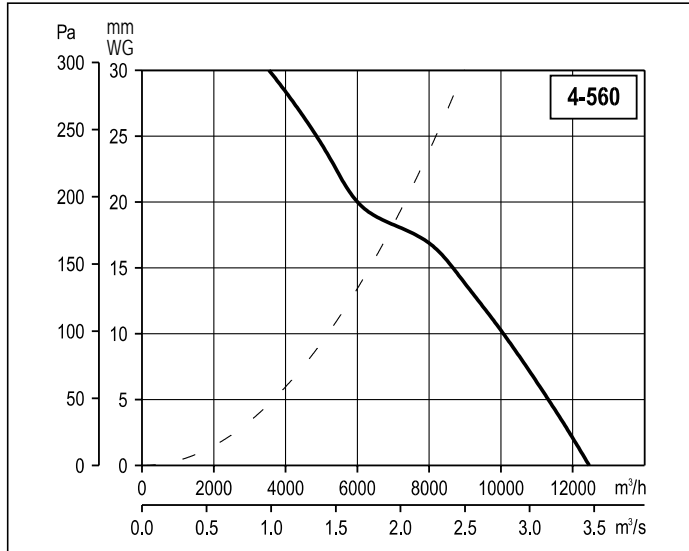


■ Performance curves

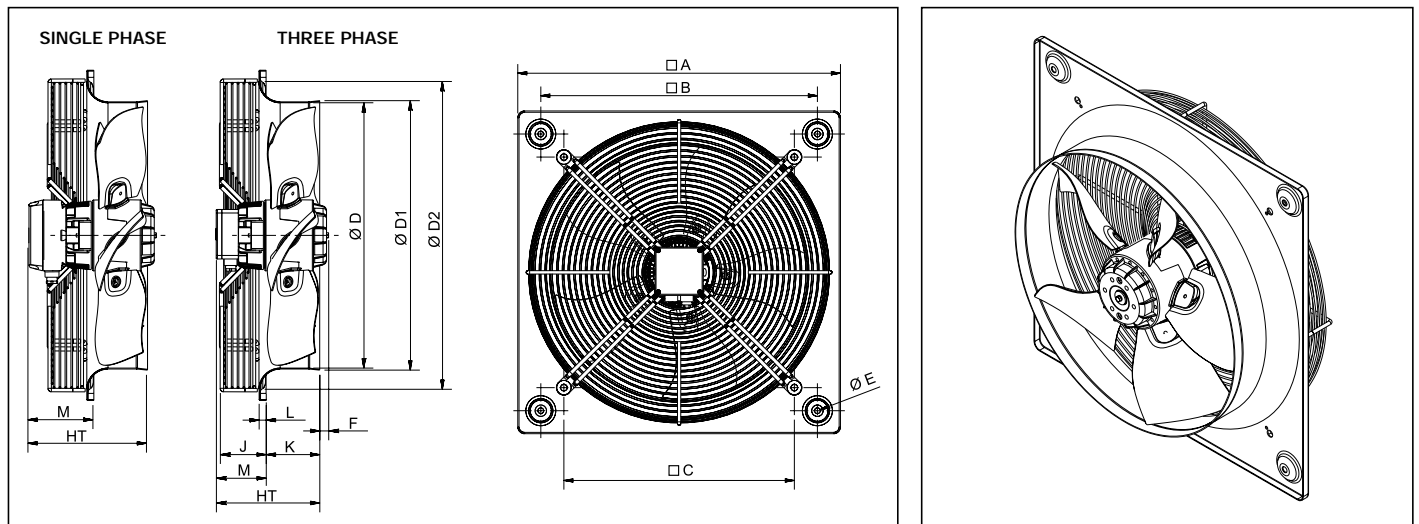
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HXTR-HXBR

Plate mounted sickle blade axial fans with external rotor motor



■ Dimensions (mm)



Model	A	B	C	D	D1	D2	E	F						HT		J	K	L	M	
								Single phase			Three phase			Single phase	Three phase				Single phase	Three phase
								/2	/4	/6	/2	/4	/6							
250	315	260	220	250	261	290	10	10,5	0	-	10,5	0	-	126	126	33	53	12	73	73
315	400	330	280	315	320	365	10	-	0	-	-	0	-	149	149	41	68	12	82	82
355	450	380	315	355	363	411	10	-	0	-	-	0	-	156	156	41	75	12	82	82
400	500	420	355	400	410	464	10	-	12	-	-	0	-	200	176	92	78	12	122	97
450	560	480	400	450	457	522	10	-	0	0	-	0	0	204	179	68	91	12	114	89
500	630	560	450	500	512	572	10	-	13	0	-	13	0	201	176	60	97	12	104	79
560	710	630	510	559	570	649	10	-	20	0	-	20	0	213	188	70	99	12	114	89
630	800	710	580	630	640	730	12	-	25	25	-	25	7	207	182	60	103	12	104	79
710	900	800	637	710		810	12	-	-	11	-	-	11	221	206	115	92	17	130	115

■ Mounting accessories



Model	Wire guard	Exhaust side louvre shutters	
		Plastic	Aluminium
250	DEF-250 D	PER-250 W	PER-250 CN
315	DEF-325 D	PER-355 W	PER-355 CN
355	DEF-375 D	PER-355 W	PER-355 CN
400	DEF-450 D	PER-400 W	PER-400 CN
450	DEF-450 D	PER-450 W	PER-450 CN
500	DEF-525 D	PER-500 W	PER-500 CN
560	DEF-630 D	PER-560 W	PER-560 CN
630	DEF-630 D	PER-630 W	PER-630 CN
710	DEF-800 D	PER-710 W	PER-710 CN

■ Electrical accessories



REB-1N and REB 2,5N
Electronic, single phase speed controllers.



REB-5
Electronic single phase speed controller.



RMB - Single phase
RMT - Three phase
Auto-transformer speed controllers.