

AXIAL FLOW FANS



COWDRAY'S standard range of Axial fans comes in nine diameters – 12 in. to 55 in (315mm – 1400mm). This range of fans are capable of delivering the volume flow rates and pressures generally required for ventilation purposes. Standard range of fans can develop volumes of up to 42.5m³/s (90,000 cfm) and static pressure up to 1.5 kPa (6 in. w.g.)

Axial fans have an inherent non-overloading characteristics.

CASINGS

Two types of casings are available, 'S' type (short) **Fig.1** and the 'L' type (long) **Fig. 2**. The short casing covers the impeller and part of the motor only. This type is normally intended for installing at the intake or discharge end of a duct system.

The long casing covers the impeller as well as the whole of the motor. An external terminal box is standard. Inspection door can be provided on request.

The casings are hot dip galvanized. This galvanized coating has unique metallurgical structure which gives outstanding resistance to mechanical damage in transport, erection and service. Baked-epoxy paint finish is available for mildly corrosive condition.

ADJUSTABLE IMPELLER

The adjustable pitch impellers provide many desired pitch angles. The range of pitch angles employed are from 10° through 38°. The blades and hubs are die cast aluminium alloy.

EFFECT OF AIR FLOW REVERSAL

Reversing the direction air flow, when alternating current motors are employed, present no problem when the supply is three-phase. On single phase, this is more complicated if switch control is desired. The effect of reversing the direction of rotation of standard impeller would result in a reduction of rated volume to approximately 70%. Truly reversible performance so as to give equal volume in either direction can be provided on request. To achieve this the wings are positioned such that the leading edge of one is followed by the trailing edge of the next. The effect as compared with the standard G impeller will be reduction to : 85% Volume, 75% Pressure, 80% Power while Sound Power Level increase by 3dbW.

HIGH TEMPERATURE

For temperature higher than 150°C, or where fans are required for emergency to clear smoke in case of fire (250°C for 2 hours), either bifurcated or standard axial fans coupled with Class H high temperature motor and specially skimmed impeller for tip clearance can be provided.

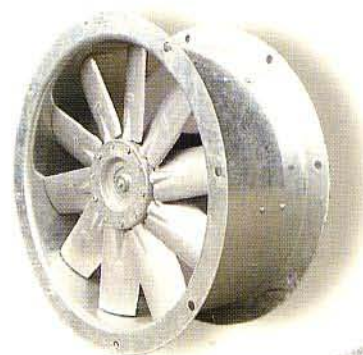


Fig.1



Fig.2

MOTORS

Motors supplied are totally enclosed, squirrel caged induction design. The motors are rated for continuous operation in ambient temperatures up to 40°C. The standard degree of protection for aluminium TEFC motors is IP54, IP55 and higher degrees of protection are also available. One of the most important properties of aluminium is its remarkable resistance to corrosive environment. This makes it a natural choice for operation under severe industrial and weather conditions.

Insulation is Class F throughout. Although with Class F insulation (temperature limit 140°C), the motors are designed to operate within Class B limits (120°C). Direct-on-line starting can be used on all frame sizes. Single speed, single voltage motors above 3kW are provided with 6 terminals which can be used for start-delta starting, if required.

TWO-SPEED MOTORS

Two-speed motors can be supplied for a number of fans. Details will be provided on request.

SPEED REGULATION

Speed on many of the motors can be regulated down to about 70% of the maximum or below by speed regulators. Details will be provided on request.

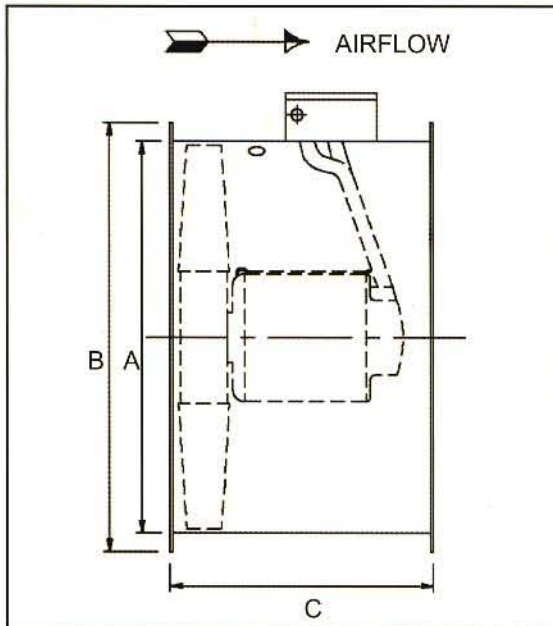
FLAMEPROOF MOTORS

Flameproof motors complying with Type Ex.d requirement and certified to BS.299 for Group II and III gases are available for most fans 15 in. and larger. Single phase motors have non-flameproof capacitors for mounting outside the hazardous area.

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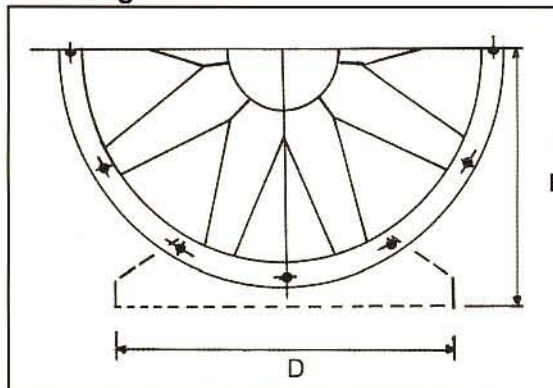


Dimensions



Fan Size	A	B	C	D	E	P.C.D.	No. Of Holes	Estim. Weight in Kg
315	315	395	340	315	208	363	8	20
400	400	485	340	400	250	450	8	28
450	450	535	375	450	275	500	8	31
500	500	585	410	500	300	555	8	36
560	560	660	410	560	330	610	12	48
630	630	730	450	630	365	684	12	62
710	710	810	450	710	405	767	12	98
800	800	885	550	800	450	855	12	140
900	900	1000	690	900	500	962	16	180
1000	1000	1100	800	1000	550	1060	16	200
1120	1120	1220	900	1120	610	1180	16	230
1250	1250	1385	900 950	1250	688	1325	20	320
1400	1400	1535	1050 1100	1400	763	1472	24	400

Mounting Feet



Flanges

Dimensions in mm

Fan Size	315	400	450	500	560	630	710	800	900	1000	1120	1250	1400
Flange Width	40	46.5	46.5	46.5	50	50	50	50	50	50	50	67.5	67.5
Hole Diameter	10	10	10	12	12	12	12	12	14	14	16	20	20

