

# Centrifugal Fans and Blowers

## Hot Fans

### High Temperature Fans

A group of five direct drive fans especially designed to handle hot air or the products of combustion from gas burning appliances at temperatures up to 250°C. An Intermediate cooling impeller positioned between the motor and the fan casing minimises the transfer of conducted and radiated heat to the motor bearings and windings.

### General Installation Conditions

The fans are mounted either from their outlet flanges or from threaded inserts incorporated on the inlet face of the casing, with the motor shaft horizontal.

The motors are efficiently rated to run the fans out to the free air condition, while the ambient temperature around the motor must not exceed 40°C.

These fans must not be used for handling explosive, inflammable or corrosive gases, nor sighted in such environments.

### Typical Applications

This model range has been developed for the Overhead Radiant tube heating market, but the concept of using directly driven fans for handling hot air was pioneered by Airflow for the domestic and commercial catering oven markets when a radial bladed impeller interposed between motor and fan eliminated the problems of short motor life.

Since that time "hot" fans have been used in applications such as Tunnel curing ovens for the shoe and automotive industries, laboratory

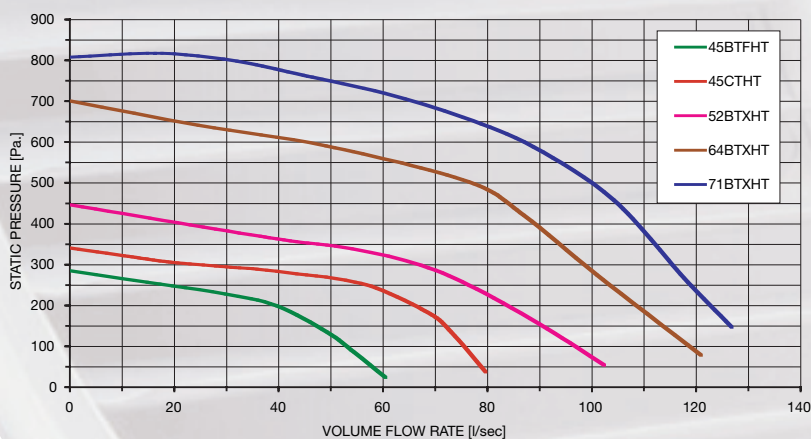
### Specifications:

All models feature aluminium or mild steel forward curved impellers directly driven by totally enclosed motors which have an integrated cooling impeller and guard arrangement. The motor on the 45BTF-HT is of the shaded pole electrical type, whilst the remaining units have motors of the permanent capacitor type.

The fan casings are fabricated from zinc coated mild sheet and finished in a black polyester high temperature paint.

Power connection is via 3-core cable.

### PERFORMANCE DATA



## Speed Control

Normally the fan model is selected to suit a particular heating appliance rating, and therefore these fans are not designed specifically to be speed controlled. However if variable flow by voltage control is required this can be considered.

## Maintenance

Very little servicing is required. The motor bearings are "sealed for life" and no provision is made for re-lubrication. In dusty environments the main impeller and intermediate cooling impeller (& guard) should be examined regularly and cleaned as required to maintain performance and cooling efficiency.

## Availability & Variants

Generally the fans shown in this section are made to order only, in quantity, for Original Equipment Manufacturers, giving due regard to their needs.

Airflow will work in conjunction to evolve the correct variant

that meets the application.

Where flow rates greater than those shown are required, these could be met with larger impeller sizes and using stool mounted metric frame motors.

Dependent on quantities required (usually minimum 25 off) possible variants to the basic design can include:

- alternative inlet & outlet fixings
- non-standard voltage
- opposite hand rotation to that illustrated
- cable plug connectors
- speed control capability
- budget version with open frame motor and plastic cover

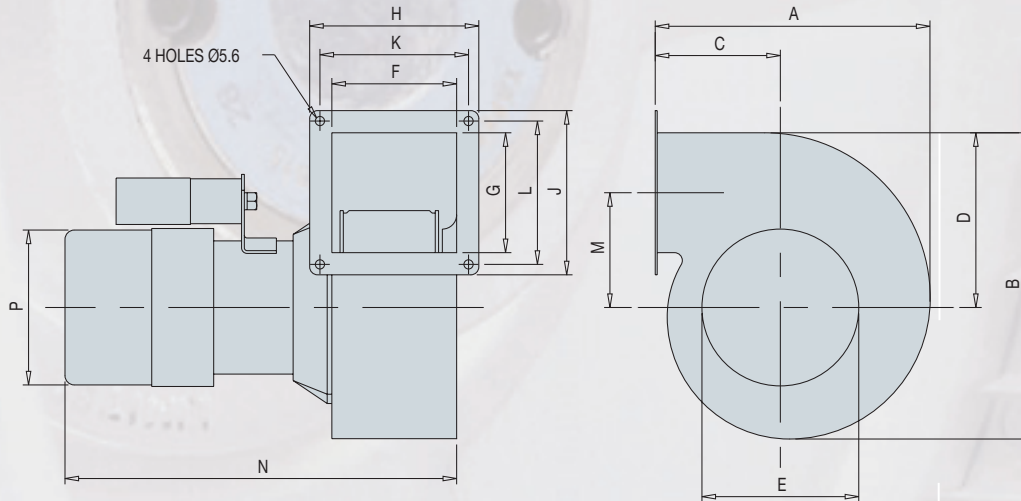
## TECHNICAL DATA:

Fan Model	Supply Voltage	Frequency	Capacitor value	Max running current	Start current (approx)	Max input watts	Max air flow	Min static pressure	Noise level	Speed at max air flow	Weight	Max ambient temp
	Volts	Hz	µF	Amperes	Amperes	Watts	Litres/s.	Pascal	dBA *	Rev/m	kg	°C.
45BTFRHT	230	50	N/a	0.55	0.75	85	60	25	53	2330	2.4	40●
45CTRHT	230	50	2	0.38	0.56	92	80	37	54	2260	2.43	40●
52BTRHT	230	50	2	0.53	1.03	125	102	54	58	2600	3.3	40●
64BTRHT	230	50	3	0.9	1.71	222	121	78	61	2450	3.88	40●
71BTRHT	230	50	3	1.15	2.3	273	127	146	64	2520	4.43	40●

\* At 1metre

● Thermal protection

## DIMENSIONAL DATA:



Fan type	A	B	C	D	ØE INLET	F INSIDE	G INSIDE	H	J	K CRS	L CRS	M	N	ØP
45BTRHT	172	189	79	107	95.5	60	70	103	113	87	97	70	198	100
45CTRHT	172	189	79	107	95.5	76	73	103	100	90.5	87.3	70	208	100
52BTRHT	195	216	89	124	111	64	89	117.5	117.5	88.9	73	78.5	216	100
64BTRHT	216	232	98	131	133	64	89	117.5	117.5	88.9	73	85.7	230	100
71BTRHT	225	250	103	148	171.5	57	94	117.5	117.5	88.9	73	100.5	234	100

Right hand (R) versions illustrated. Opposite hand (L) versions also available

(i) Dimensions are for guidance only - certified drawings available.

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