

HF Thermoplastic Centrifugal Fans



Fabco's HF thermoplastic radial fans are designed specifically for exhausting aggressive, low-aerosol gases, explosive atmosphere and ultra-clean air. The HF fan is resistant to attack from most chemicals and as such ideally suited for applications in chemical, pulp and paper, mining, plating, anodizing, fertilizer, pharmaceutical, waste water treatment facilities as well as educational and institutional labs. HF radial fans will accommodate explosive atmospheres. Our product range includes more than 150 standard components which allows for the design and construction of numerous versions of fans. Axial, radial, and radial roof fans are available with direct drive motors for consistent and maintenance-free performance. The housing is fabricated from rotationally moulded Polyethylene (PE's) that is both flame retardant and UV inhibited. Additional thermoplastic materials are available to suit most applications. A condensate drain is provided at the bottom point of the fan housing. The housing is mounted within a rigid hot dipped galvanized frame. All sizes are available in clockwise or counter clockwise rotations as well as six standard discharge positions.

Both inlet and outlet diameters are the same sizes for ease of installation of adjacent duct work. In addition, fans can be fitted with optional inlet and outlet flanges. The impeller is manufactured of injection moulded flame retardant polypropylene (PPs), statically and dynamically balanced and keyed to the motor shaft by means of a taper lock bushing. The impeller can be removed without first having to dismantle the housing. All fans are supplied with high efficiency TEFC direct drive motors. Explosion and mill & chemical service rated motors are available upon request. Available accessories include vibration isolators, flexible vibration isolators, inlet/outlet flanges, shaft seals, inspection ports, weather covers, starter/disconnect switches, variable frequency drives. Fans are available in sizes ranging from 6" to 20" diameter with a variety of motors up to 3600 rpm and 1/2 hp. These fans can accommodate flow rates of up to 88,000 cfm and static pressure up to 12" W.G.

HF-centrifugal fans are ideally suitable for extraction of exhaust air and gases. These fans are used mainly for extraction of corrosive fumes in such applications as:

- Electroplating and Metal Finishing
- Circuit Board Manufacturing
- Chemical Processing
- Pulp and Paper
- Water and Waste Water Treatment
- Industrial, Government & Educational Laboratories
- Hospitals
- Pharmaceutical

Standard Construction Features:

Housing

The HF series of fan housings is generally made from rotationally moulded flame and UV retardant polyethylene (PEs). Other thermoplastic materials are available upon request.

The housing is fitted with a splinter guard around the circumference. A condensate drain is installed at the lowest point of the housing.

HF fans are normally produced in an upblast position and capable of rotating the exhaust outlet in steps of 45°. The normal position is either referred to as GR 360 or GL 360. The exhaust outlet may be connected via a flexible connector or flange outlet. Since the outlet is round; attachment to round ducting does not require a transition fitting.

Inlet/Outlet

Both inlet and outlet diameters are the same sizes for ease of installation of adjacent duct work. In addition

Benefits:

- Fan sizes from 6" up to 20" can attain a maximum efficiency of 81% at the operating point.
- Impellers are backward inclined providing the highest and quietest operation with non-overloading horsepower characteristic.
- HF series impellers are 20% larger than the former Oktavent models; providing higher air and pressure specifications.
- The rotationally moulded housing has greater structural integrity, impact strength, flame retardant and UV inhibited.
- Available in axial as well.
- Impeller has massive blades, which are not easily damaged should unforeseen objects enter the intake duct.

fans can be fitted with optional inlet and outlet flanges.

Impeller

The impeller is made of flame retardant polypropylene (PPs) that is balanced both statically and dynamically. In the case of a direct drive fan the impeller is secured to the motor shaft by means of a taper lock bushing. On belt drive fans the impeller is secured in the same way (taper lock bushing) to the drive shaft and supported by flanged double bearings.

The impeller can be removed without having to dismantle the housing from the frame. The fan is mounted to a welded steel frame that is hot dip galvanized.

Drive Arrangements

Arrangement 4 – Direct Drive

Arrangement 9 – Belt Drive

Motors

Supplied as high efficiency TEFC motors. Explosion and mill & chemical service rated motors are optional.

HF Centrifugal Fans

Accessories:

Vibration Isolators

All HF fans are designed to accommodate vibration isolators in either neoprene pads or housed spring units.

Flexible Vibration Connectors

Heavy-duty polyvinyl chloride (PVC) is available.

Inlet/Outlet Flanges

Where applications require tight bolted duct connections. Flanges are available with or without prepunched holes.

Shaft Seals

To limit the air leakage around the housing shaft passage, a felt ring is standard construction. For more stringent applications other shaft seal options are available.

Material Data:

HF-fans are suitable for exhausting aggressive corrosive fumes or humid air. Explosive atmosphere can be delivered with HF-fans especially designed for this purpose. The permissible gas temperatures for plastics most frequently used in our fans are generally:

- For PE, PE-FR (PEs) -20 °C up to 60 °C

These temperature ranges must be reviewed and if necessary limited depending upon gas composition and impeller's rotational speed. In case of exceptionally aggressive media, the reduction must be reviewed and determined from case to case. Our data sheets contain information about mechanical limits. Other applications or design changes must be implemented in consultation with the manufacturer.

Rough assessment of chemical resistance can be made according to the following instructions:

Access/Inspection Port

All HF fans can be provided with an access port, which allows for examination and cleaning of the housing interior without disassembly, resulting in less downtime.

Weather Cover

For outside installation a motor covering hood is available.

Starter & Disconnect Switches

A wide assortment of both enclosed starters/disconnects from Nema 1 to corrosion resistant boxes are available.

Variable Frequency Drives

A wide assortment of VFD's are available to meet both motor capability and application.

Chemical resistance of materials used can be derived from the material manufacturers. In case of critical gas media, please inquire in writing giving all the conditions of the application.

MATERIAL	RESISTANT TO	NOT RESISTANT TO
PE, PE-FR (PEs)	Acids, Caustic Soda, Salt Solutions, Oil and Diluted Solvents	Oxidizing Acids and Halogens

Note: PVC, PP custom fabricated on request.

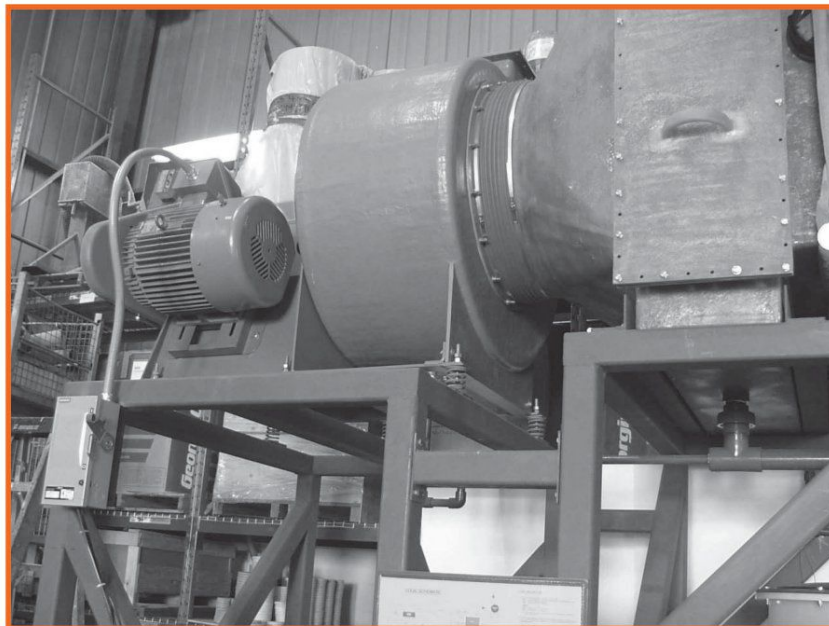
Explanation of Code Designations:

PE = Polyethylene

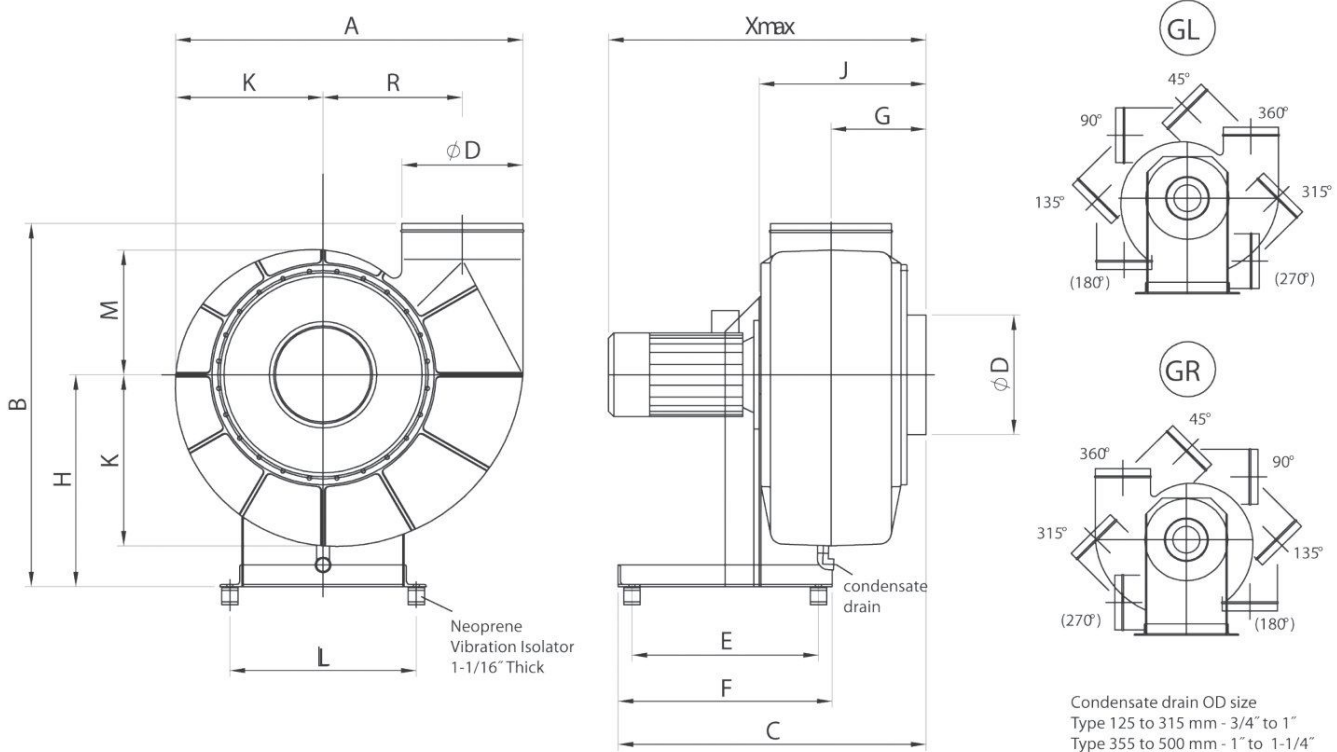
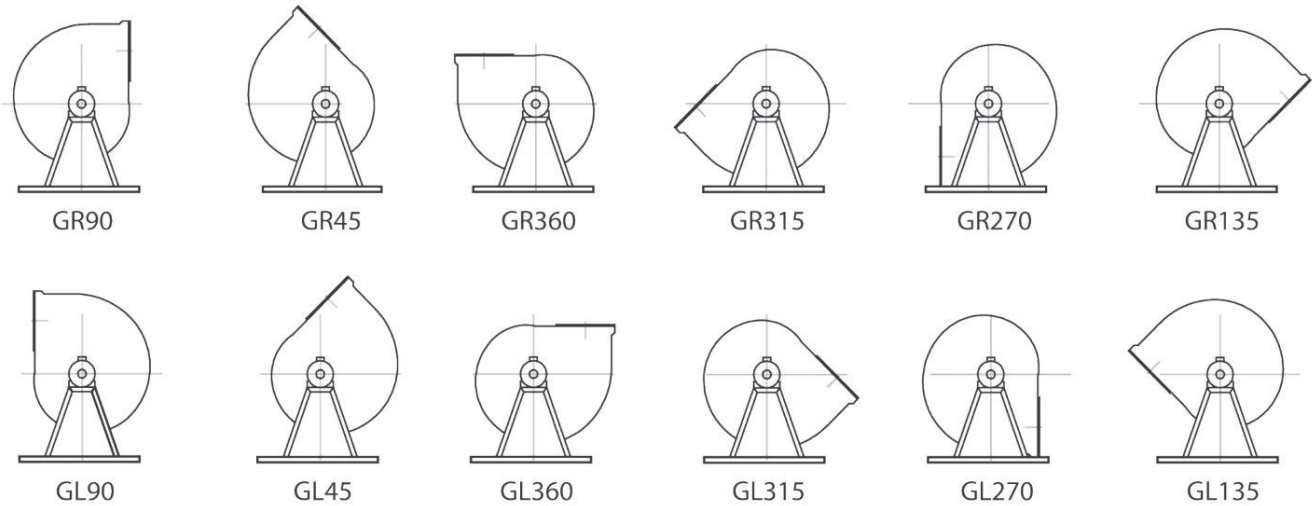
PE-FR (PEs) = Polyethylene flame retardant

PVC = Polyvinyl chloride

PP = Polypropylene



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TYPE	D	A	B	C	E	F	G	H	J	K	L	M	N	R	XMAX	LBS
HF R	160	18.27	20.28	18.86	11.42	13.39	5.47	11.02	9.65	7.72	11.42	6.69	9.09	7.40	18.03	49
HF R	200	22.91	24.41	21.65	13.15	15.12	6.38	13.46	11.50	9.61	1315	8.35	11.26	9.37	22.72	68
HF R	250	28.78	29.42	25.00	15.75	17.72	7.24	16.34	13.19	12.32	15.75	10.43	14.13	11.57	25.63	108
HF R	315	36.25	35.75	28.78	16.69	18.66	9.21	20.08	17.28	15.47	16.69	13.19	18.07	14.57	30.55	143
HF R	400	44.92	44.49	34.96	28.46	31.63	11.42	25.59	20.28	19.06	16.22	13.34	22.20	18.00	32.88	192
HF R	500	57.76	55.12	41.42	35.16	38.31	13.27	31.89	23.98	24.53	20.87	21.26	28.27	23.46	38.94	271

Note: For engineering and performance information go to <http://www.fabcoplastics.com/ventilation/index.htm>

