GIF Series
Centrifugal Fans

- Eleven sizes from 24 to 66
- Volumes up to 140,000 CFM
- Static pressures up to 16” W.G.
- Class I • Class II • Class III

Plasticair
Introduction

Plasticair’s GIF Series has been specifically designed and constructed so that the corrosive gas stream only contacts solid FRP surfaces. The heavy duty backward curved impeller and robust housing offer favourable features such as corrosion resistant FRP construction for all gas contact parts, high efficiencies and quiet operation. The GIF Series is available in eleven sizes and covers volumes up to 140,000 CFM and static pressures up to 16” W.G.

Standard Features

Housing Construction
The fan housing is available in a variety of CW and CCW rotations. The molded smooth surface provides an aerodynamic highly efficient passage for gas streams. Fabrication method is hand lay-up, and materials are vinyl ester resin and reinforcing glass.

Bearings are to be solid pillow block type rated for two hundred thousand hours.

Fasteners are a combination of 304/316 stainless steel.

Flanged outlets are supplied as standard not drilled.

Shaft and Teflon Seal
This effective design has completely protected the polished ground mild steel shaft from the corrosive gas stream. The shaft is encapsulated with a solid FRP shaft sleeve which protrudes out from the Teflon disk shaft seal located on the housing wall. The Teflon seal shaft sleeve are a machine fit for best possible reduction of leaking gas. 316 stainless steel shafts are available as an option.

Wheel Construction
The GIF Series is of a high efficiency non-overloading design. The wheel is constructed of solid vinyl ester resin and reinforcing glass. A sprocket and bushing are used for shaft attachment and are completely covered with a minimum 3/16” (5 mm) of FRP lay-up. All gas contact points are FRP complete with corrosion barrier. Plasticair’s commitment to quality ensures that only hand lay-up methods are utilized for fabrication. The impeller is comfortably rated to handle up to 17,800 feet per minute (71 m/sec) tip speed.

Plasticair Inc. certifies
That the GIF series
Centrifugal Fans shown
herein are licensed to
bear the AMCA seal. The
ratings shown are based
on tests and procedures
performed in accordance
with AMCA Publication 211
and Publication 311 and
Comply with the requirements
of the AMCA Certified Ratings
Program.
Accessories

**Mechanical Shaft Seals – Zero Leakage:** For critical toxic applications mechanical gas purge seals in FRP construction are available on all Plasticair fans in arrangements 1, 8, 9. This seal is located where the shaft meets the fan scroll wall. This seal works up to the fan static pressure capacity. External supply of gas is required by other.

**Silencer/GIF Packaged Systems:** Plasticair offers a wide range of corrosion resistant fan/silencer packaged systems. Other options are fan scroll added thickness, FRP sound enclosures/penthouses. All construction is focused on the highest attenuation while maintaining corrosion resistance.

**Outdoor Weather Guard:** For outdoor installations Plasticair’s FRP weather guard is designed for not only protecting the fan against outdoor elements but also serving as an OSHA rated belt and shaft guard.

- Inlet flanges
- Inlet and outlet FRP companion flanges
- Flame retardant construction: Per ASTM E84 - 0-25 Flame Spread.
- Access Door
- V-belt drive selections
- Direct drive couplings
- Indoor belt guards
- PVC drain – Threaded NPT
- FRP drain – flanged and drilled
- Bearing upgrade – split pillow block bearings available upon request
- Shaft material upgrades – 304 ss, 316 ss, Titanium
- FRP Gravity operated back draft dampers.

- Fan stand coatings - FRP (the zero rust solution) 0.1875” thickness (4.8 mm thickness)
- Fan stand coatings - Epoxy 4-6 mils
- Fan stand coatings - Epoxy 8-10 mils
- Fan stand coatings - Epoxy 12-14 mils
- Nexus linings (for Hydrofluoric Acid applications)
- Spark resistant - graphite lined FRP with grounding kit (Equal to AMCA – A )
- Vibration isolators: spring housed
- Vibration isolators: spring housed & restrained
- Vibration isolators: neoprene mounts
- Inlet screens
- Added thickness to fan housing for sound reduction
Alternate Drive Arrangements

**ARRANGEMENT 1**

Motor may be left or right hand mounted.

**ARRANGEMENT 4**

Varies with motor size.

**ARRANGEMENT 8**

Varies with motor size.

**ARRANGEMENT 9**

Motor may be left or right hand mounted.

**ARRANGEMENT 10**

Varies with motor size.
**Optional Inlet Flange**

- U number of holes

**Standard Options:**
- Solid FRP Housing
- Fan Stand - Arr10, Epoxy Coated
- Drive & Shaft Guard
- Impeller - Backward Inclined, FRP
- Shaft - 1045 Carbon Steel with FRP Sleeve
- Fasteners - SS 304/SS316
- Bearings - Solid Pillow Block/200,000 h L10 life
- Teflon Seal & Shaft Sleeve
- Outlet Connection - Flanged (not drilled)
- Inlet Connection - Slip Type
- Wheel Width: 100%

**Due to product improvement and development**
Plasticair reserves the right to change design and construction at any time without notice.

**Note:** Dimensions are not used for construction, certified drawings available upon request

### Standard Options:
- Arr. 10 SWSI
- Size: CW 45, CW 90, CW 315, CW 270
- Dimensions are in inches
- Angular: Machined Bend
- Two place decimal

---

**Optional Inlet Flange**

- U number of holes

**Standard Options:**
- Arr. 10 SWSI
- Size: CW 45, CW 90, CW 315, CW 270
- Dimensions are in inches
- Angular: Machined Bend
- Two place decimal

---

**UNLESS OTHERWISE SPECIFIED:**

- **NAME**
- **DATE**
- **DRAWN**
- **Y.L.**
- **Oct 2 2012**

**PROPRIETARY AND CONFIDENTIAL**

The information contained in this drawing is the sole property of Plasticair Inc. Any reproduction in part or as a whole without the written permission of Plasticair Inc. is prohibited.
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**Note:** Dimensions are not used for construction, certified drawings available upon request.

**UNLESS OTHERWISE SPECIFIED:**

- **NAME:** CHECKED: ENG APPR.: MFG APPR.: Q.A.
- **DATE:** OCT 2 2012
- **TITLE:** GIF ARR. 4 SWSI

**Standard Options:**

- Solid FRP Housing
- Fan Stand- Arr4, Epoxy Coated
- Drive & Shaft Guard
- Impeller - Backward Inclined, FRP
- Shaft- 1045 Carbon Steel with FRP Sleeve
- Fasteners - SS 304/SS316
- Bearings - Solid Pillow Block/200,000 h L10 life
- Teflon Seal & Shaft Sleeve
- Outlet Connection - Flanged (not drilled)
- Inlet Connection - Slip Type
- Wheel Width: 100%
Optional Inlet Flange

U number of holes

Drawings show CW fan rotation. CCW rotation has symmetric dimensions.

**Standard Options:**
- Solid FRP Housing
- Fan Stand- Arr8, Epoxy Coated
- Drive & Shaft Guard
- Impeller - Backward Inclined, FRP
- Shaft- 1045 Carbon Steel with FRP Sleeve
- Fasteners - SS 304/SS316
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Plasticair Inc.
1275 Crestlawn Drive
Mississauga, Ontario L4W 1A9

Performance certified is for installation type B - unducted inlet, ducted outlet.
Performance ratings do not include the effects of appurtenances (accessories).
Power ratings do not include transmission losses.

Wheel Dia = 24.5"
Outlet area = 3.44 ft²
Max speeds:
CL 1 = 1900 RPM
CL 3 = 2700 RPM
Wheel Dia = 27"
Outlet area = 4.18 ft²
Max speeds:
CL 1 = 1700 RPM
CL 3 = 2500 RPM

FLOW MAY BE UNSTABLE TO LEFT OF THIS LINE

Performance certified is for installation type B - unducted inlet, ducted outlet.
Performance ratings do not include the effects of appurtenances (accessories).
Power ratings do not include transmission losses.
FLOW MAY BE UNSTABLE TO LEFT OF THIS LINE

Wheel Dia = 30"
Outlet area = 5.14 ft²
Max speeds:
CL 1 = 1500 RPM
CL 3 = 2200 RPM

PERFORMANCE CERTIFIED IS FOR INSTALLATION TYPE B - UNDUCTED INLET, DUCTED OUTLET.
PERFORMANCE RATINGS DO NOT INCLUDE THE EFFECTS OF APPURTENANCES (ACCESSORIES).
POWER RATINGS DO NOT INCLUDE TRANSMISSION LOSSES.
Wheel Dia = 33"
Outlet area = 6.24 ft²

Max speeds:
CL 1 = 1400 RPM
CL 3 = 2000 RPM

PERFORMANCE CERTIFIED IS FOR INSTALLATION TYPE B - UNDUCTED INLET, DUCTED OUTLET.
PERFORMANCE RATINGS DO NOT INCLUDE THE EFFECTS OF APPURTENANCES (ACCESSORIES).
POWER RATINGS DO NOT INCLUDE TRANSMISSION LOSSES.
Wheel Dia = 49.5"
Outlet area = 14.04 ft²
Max speeds:
CL 1 = 900 RPM
CL 3 = 1300 RPM

FLOW MAY BE UNSTABLE TO LEFT OF THIS LINE
Wheel Dia = 54.25"
Outlet area = 16.87 ft²
Max speeds:
CL 1 = 800 RPM
CL 3 = 1200 RPM

PERFORMANCE CERTIFIED IS FOR INSTALLATION TYPE B - UNDUCTED INLET, DUCTED OUTLET.
PERFORMANCE RATINGS DO NOT INCLUDE THE EFFECTS OF APPURTENANCES (ACCESSORIES).
POWER RATINGS DO NOT INCLUDE TRANSMISSION LOSSES.
Wheel Dia = 60"
Outlet area = 20.63 ft²
Max speeds:
CL 1 = 800 RPM
CL 3 = 1100 RPM

Performance certified is for installation type B - unducted inlet, ducted outlet.
Performance ratings do not include the effects of appurtenances (accessories).
Power ratings do not include transmission losses.
FLOW MAY BE UNSTABLE TO LEFT OF THIS CURVE

Wheel Dia = 66"
Outlet area = 24.96 ft²

Max speeds:
CL 1 = 700 RPM
CL 3 = 1000 RPM

Performance certified is for installation type B - unducted inlet, ducted outlet.
Performance ratings do not include the effects of appurtenances (accessories).
Power ratings do not include transmission losses.
The sound power level ratings shown are in decibels, referred to $10^{-12}$ watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for Installation Type B: Unducted inlet, ducted outlet. Ratings do not include the effects of duct end correction.

Plasticair Inc.
1275 CRESTLAWN DRIVE
MISSISSAUGA, ONTARIO, CANADA L4W 1A9
TEL. (905) 625-9164 FAX. (905) 625-0147
### Plasticair GIF Series Centrifugal Fans
#### Heavy Duty Industrial Applications

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The sound power level ratings shown are in decibels, referred to $10^{-12}$ watts calculated per AMCA Standard 301. Values shown are for inlet Lw and LwA sound power levels for Installation Type B: Unducted inlet, ducted outlet. Ratings do not include the effects of duct end correction.

Plasticair Inc.
1275 CRESTLAWN DRIVE
MISISSAUGA, ONTARIO, CANADA L4W 1A9
TEL. 905 625-9164 FAX. 905 625-0147

Web page: www.plasticair.com
Email: sales@plasticair.com

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January 3, 2008
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Plasticair Inc.
1275 CRESTLAWN DRIVE
MISSISSAUGA, ONTARIO, CANADA L4W 1A9
TEL. (905) 625-9164 FAX: (905) 625-0147
How To Specify Plasticair Backward Inclined Fans – GIF Series

General
The fan is to be designed and constructed so that the corrosive gas stream only contacts solid FRP surfaces. All steel fasteners within the corrosive gas contact area will be stainless steel and encapsulated with a minimum of 0.1875" (3 mm) of FRP lay-up. The manufacturer must supply fans with RPM and BHP equal to or less than that shown in the fan schedule. The acceptable AMCA arrangements are 1, 4, 9 and 10 as indicated on the fan schedule. Under no circumstances shall an impeller or motor shaft be exposed to the corrosive gas stream. All shafts will be fully protected with FRP shaft sleeves. The fan shall be constructed as per AMCA Standards 99. Fans shall conform to ASTM D 4167 - 91.

Air Performance
The performance ratings are to be in accordance with AMCA standard 210, and the fans must bear the AMCA Air & Sound Performance Seal.

Sound Data
Submitted sound data shall be in accordance with AMCA standards 300 and 301. All submitted data will be in decibels re 10-12 watts, and presented in eight octave bands.

Impeller Construction
All resin is to be clear (no pigments) in order to expose any imperfections or unauthorized fillers. The impeller is to be of a high efficiency backward inclined or backward curved design. The material of construction is to be vinyl ester resin (premium quality Hetron 922) and reinforcing glass throughout. The method of construction is to be hand lay-up only. Injection molded, rotor molded or press molded techniques are not acceptable. The entire surface of the impeller exposed to the gas stream will be complete with a resin rich corrosion barrier consisting of C-veil and a smooth finish. The shaft is to be attached to the back-plate of the impeller by way of a taper lock bushing and a one piece cast sprocket hub. Sprockets with welded hubs are not acceptable. The entire shaft attachment assembly is to be completely covered with a minimum 0.25"(6 mm) of FRP lay-up. Steel or thermoplastic impellers with FRP coatings are not acceptable.

Housing Construction
The fan housing is to be designed and constructed to resist vibration for static pressures up to 10" W.G. The material of construction will be vinyl ester resin (premium quality Hetron 922) and reinforcing glass throughout. The method of construction will be hand lay-up only. The entire surface exposed to the corrosive gas stream will be complete with a resin rich corrosion barrier consisting of C-veil and a smooth finish. The outer surface of the housing will be a heavy gel coat, UV stabilized coating. The fan housing is to be of a bolted center split design complete with neoprene gasket for easy impeller access. All Flanges are to have factory flat finishes. The inlet is to be slip fit connection. The housing shall consist of a machined Teflon seal to limit gas leakage. Steel and thermoplastic housings complete with or without FRP linings are not acceptable.

Steel Fan Base
The fan base is to be of heavy-duty industrial quality to minimize vibration and to ensure long life. The bearing shaft pedestal is to be constructed of heavy gauge steel. The fabrication method is to be all welded. If a unitary motor mounting base (arrangement 1) is required, the bearing and shaft pedestal is to be attached by welding. After welding is complete, prior to the fan assembly, the fan base is to be coated with 2.4 mils of the manufacturers standard epoxy.

Bearings
Bearings are to be solid pillow block, self-aligning type. The bearings are to be rated and designed for a minimum L-10 life of 50,000 hours or L-50 life of 200,000 hours. The bearings are to be located out of the air stream and are to be covered with an easily removable guard for maintenance access. The method of lubrication will be grease.

Shaft
Fan shaft will be 1045 carbon steel. The diameter of the shaft shall be sized to ensure that the critical speed of the fan is at least 25% above the fan operating speed. The drive side of the shaft shall be countersunk for tachometer readings and complete with the correct keyways to accept V-belt drive selections. The impeller side of the shaft shall be complete with an FRP shaft sleeve which is bonded to the back-plate of the impeller and protrudes past the Teflon shaft seal located on the on the housing.

Balancing and Testing
Balancing of the impeller shall be achieved only with the use of the identical material used to fabricate the impeller. The use of any other foreign material is not acceptable. The balancing shall be in accordance with ASTM D-4167. The fan shall be test run and not shipped until vibration readings are within acceptable limits.

Warranty
The supplier shall warrant that all fan components shall be free from defects in materials and workmanship for a period of 15 months from date shipped or 12 months from equipment start up, which ever occurs first.

Acceptable Manufacturers
Plasticair Inc. or approved equal

Plasticair Inc.
1275 CRESTLAWN DRIVE
MISSISSAUGA, ONTARIO, CANADA L4W 1A9
TEL: (905) 625-9164  FAX: (905) 625-0147
Plasticair Inc., Servicing Industry

Plasticair Product List

**Scrubbers:**
- Horizontal Packed Bed - Single/Double (HS-Series)
- Vertical Packed Bed Towers (VS-Series)
- Odour Control Scrubbers (HCS, VCS-Series)
- Demisters - Vane Type (P-Series)
- Demisters - Mesh Type (M-Series)
- Demisters - Multiple Stage Type (E-Series)
- Venturi Scrubbers (ECE-Series)
- Laboratory Fume Hood Scrubbers (FHS-Series)

**Scrubber Applications:**
- Oil/Air Separators
- Chlorine Scrubbers
- Micro Chip Manufacturing Scrubbers
- Plating Plant Scrubbers
- Pickling Line Scrubbers
- Chromic Acid Scrubbers And Demisters

**FRP Fans:**
- Axial Fans - Vane / Tube
- Panel Fans - Wall Mount / Box Mount
- Inline Centrifugal - Backward Curved
- Laboratory Fans - B.I. Utility Sets / B.I. Tubular
- High Pressure Fans - Radial Blade
- Medium Pressure Fans - Radial Blade
- Medium Pressure Fans - Backward Curved
- Mini Industrial Vent Sets - Radial Blade / B.I.

Your local Plasticair Representative is: