MINI SERIES

Industrial Mini Vent Sets

- Radial and Backward Inclined Impellers
- Volume Range shut off up to 4000 CFM (1888 l/sec)
- Static pressures up to 19” W.G. (4719 Pa)
- Industrial and Commercial Applications

Plasticair

Mini Series

Plasticair's Mini Industrial Exhaust Fan Series has been specifically designed for exposure to gas streams containing corrosive fumes. The rugged compact design offers favorable features such as corrosion resistant FRP construction for all gas contact parts and the choice of radial or backward inclined impellers.

The Mini Series is available in two sizes and a variety of wheel widths and covers volume ranges of shut off up to 4000 CFM (1888 l/sec), and the industrial heavy duty Class 2 construction allows for smooth operation up to 19" W.G. (4719 Pa).

Standard Features

Housing Construction

This housing is available in a variety of CW and CCW rotations(page 10). 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 - solid pillow block type rated for two hundred thousand hours

Fasteners - a combination of 304/316 stainless steel

PVC Drains - laminated directly into the housing and located at the lowest point

Flanged outlet - supplied as standard not drilled

Inlet connections - slip type, supplied as standard

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 and shaft sleeve are a machine fit for best possible elimination of leaking gas. 316 stainless steel shafts are available as an option.

FRP Radial Wheel Construction The Mini Series Radial impeller is of a heavy duty self cleaning design. The Radial 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 fiberglass lay-up. All gas contact points are FRP complete with corrosion barrier. Only hand lay-up methods are used to fabricate this industrial quality paddle wheel. This Class 2 impeller is rated to handle 17,000 feet per minute (86.36 m/sec) tip speed.

Base 400 Option

Features

- Arrangement #4
- Epoxy coated mild steel all welded construction
- Motor maximum size 7.5 HP(5.5 KW) 213

Base 200 Option

Features

- Arrangement #9
- Epoxy coated mild steel all welded construction.
- Maximum motor size of 5 HP(4 KW) 184T
- FRP drive and shaft guard

FRP Backward Inclined Wheel Construction The Mini Series B.I. impeller is of a rugged non-overloading design. The backward curved 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 fiberglass 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. This Class 2 impeller is rated to handle 14,000 feet per minute (71 m/sec) tip speed.

Accessories

Access Door: The bolt-on access door is designed to be flush with the inner surface of the fan housing therefore smooth flowing gas stream encounters minimal turbulence when passing the access door. The door is fastened to the fan housing with 304 stainless steel hardware and is sealed air tight with neoprene gasket (exotic gasket is available upon request) The fastening bolts are encapsulated with full thickness FRP to give maximum corrosion resistance protection.

Solid FRP Drains: Plasticair's standard PVC drain can be upgraded to a solid FRP drain complete with plug and laminated into the lowest point of the fan scroll. The FRP drain is flanged and drilled to standard pipe flange specification.

Flanged inlet: A fiberglass flange my be supplied for the inlet of the fan. The flange is laminated directly to the spigot of the scroll and is supplied standard not drilled.

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

Indoor Belt Guard: For indoor installations a steel mesh epoxy coated guard provides OSHA rated protection and is maintenance friendly.

Backdraft Dampers: Gravity operated backdraft dampers can be supplied in FRP or PVC construction. Available in the upblast and horizontal discharge positions.

Teflon Packed Seal: When applications incorporate a positive pressure on the scroll of a fan, Plasticair offers an option for a mechanically spring loaded, grease filled, teflon packed unit all encased in an FRP housing.

Outlet Stack Supports: Fans supporting stacks that weigh over 90 lbs will require an extra support located at the bottom of the scroll.

PVC Connections: PVC flexible inlet connections are available and are supplied complete with 316 stainless steel banding straps

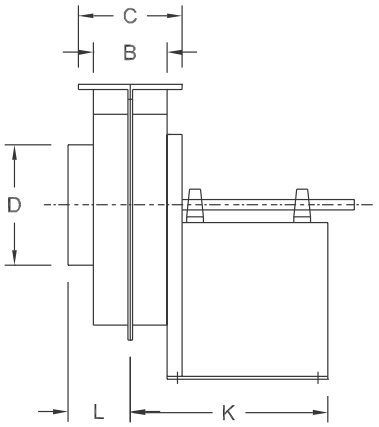
- Nexus lining
- Vibration isolation
- Option for Polyester resin
- Motor and V-belt drive sets
- Split pillow block bearings
- Paint thickness to customer specification
- 304 or 316 stainless steel motor and bearing pedestals

Statically grounded graphite lining for spark resistant construction

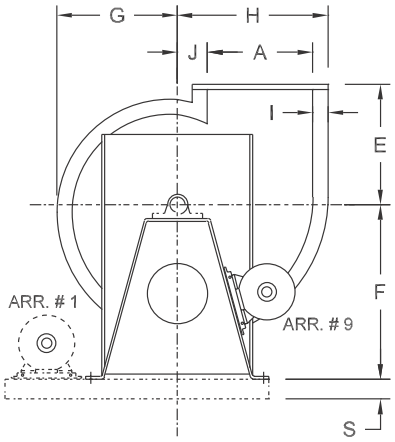
Option Explosion Proof Motors

All air stream parts are grounded to the motor grounding lug, therefore eliminating any opportunity for static charge to build up and spark.

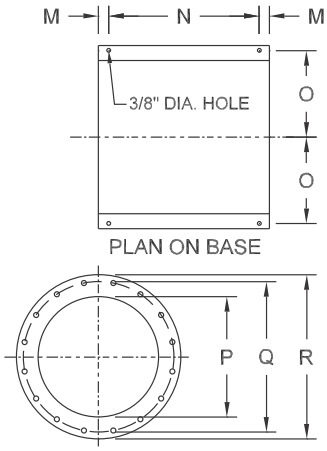
Base 200 Dimensions



SIDE VIEW



DRIVE END VIEW



OPTIONAL INLET FLANGE

1000
MODEL 1033= SIZE 1000 DIMENSIONS
1050

1200
MODEL 1233= SIZE 1200 DIM.
1250

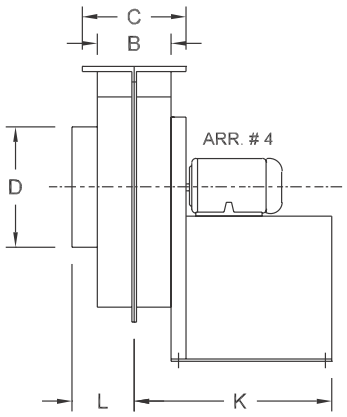
1400
MODEL 1433= SIZE 1400 DIM.
1450

MINI-VENT DIMENSIONS – BASE 200 & 400: inches (mm)

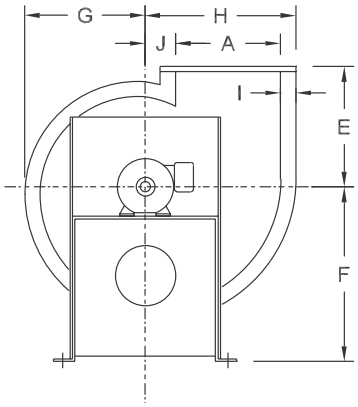
FAN SIZE	A inside	B inside	C	D	E	F	G	H	I	J	K	L	M	N	O	INLET FLANGE DIMENSIONS P	Q (BCD)	R min.	Flange thickness	No. & dia. of holes	S Arr. 1
1000	8 3/4 (222)	6 1/8 (156)	9 1/8 (232)	10 (254)	9 1/2 (241)	17 3/8 (441)	10 1/4 (260)	13 1/2 (343)	1 1/2 (38)	3 1/4 (83)	19 1/4 (489)	5 1/4 (133)	1 (25)	14 (356)	8 5/8 (219)	10 (254)	13 (330)	14 3/8 (365)	3/8 (10)	12 - 7/16 (11)	2 (51)
1200	10 1/2 (267)	7 3/8 (187)	10 3/8 (264)	12 (305)	12 (305)	17 3/8 (441)	12 (305)	15 (381)	1 1/2 (38)	3 (76)	20 (508)	6 3/8 (162)	1 (25)	14 (356)	8 5/8 (219)	12 (305)	15 (381)	16 3/8 (416)	1/2 (13)	12 - 7/16 (11)	2 (51)
1400	12 1/4 (311)	8 5/8 (219)	12 5/8 (321)	14 (356)	14 (356)	17 3/8 (441)	14 1/4 (362)	17 3/4 (451)	2 (51)	3 1/2 (89)	20 5/8 (524)	7 3/8 (187)	1 (25)	14 (356)	8 5/8 (219)	14 (356)	17 (432)	18 3/8 (467)	1/2 (13)	12 - 7/16 (11)	2 (51)

Note: Add 3" (76 mm) to L dimension for inlet flange option. Dimension S for arrangement 1 option.

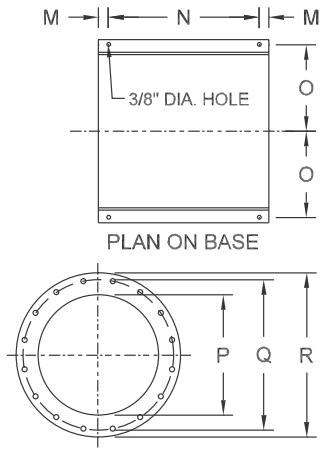
Base 400 Dimensions



SIDE VIEW



DRIVE END VIEW



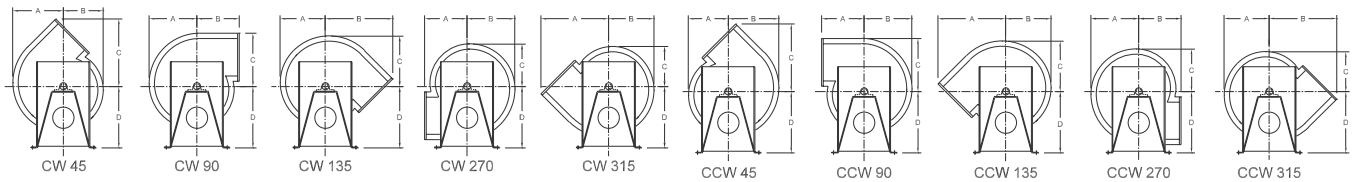
OPTIONAL INLET FLANGE

Rotational Discharge Dimensions

MINI-VENT DIMENSIONS FOR VARIOUS ROTATIONS: inches (mm)

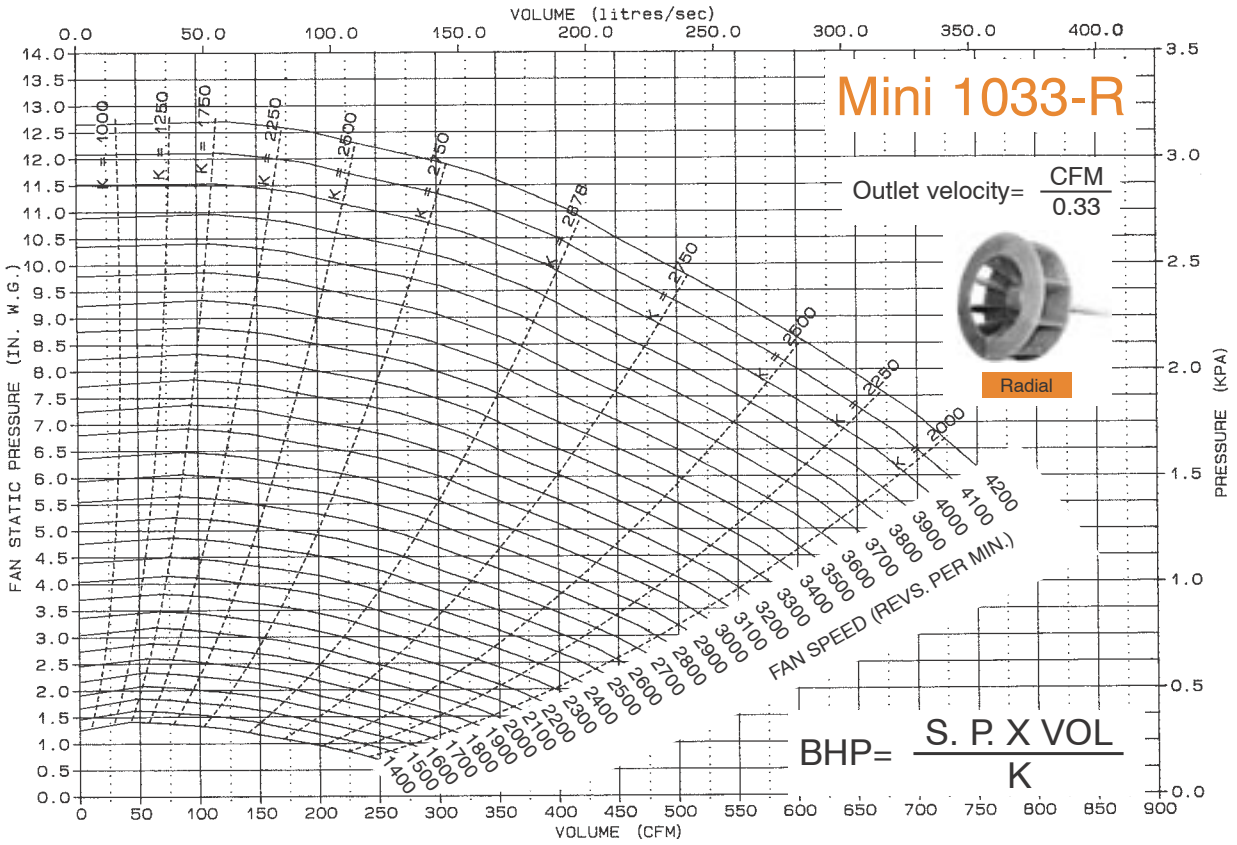
FAN SIZE	10				12				14			
ROTATION	A	B	C	D	A	B	C	D	A	B	C	D
CW45	12 1/2 (318)	9 1/2 (241)	16 1/8 (410)	17 3/8 (441)	14 1/4 (362)	11 1/4 (286)	19 1/8 (486)	17 3/8 (441)	16 7/8 (429)	13 3/8 (340)	22 1/2 (572)	17 3/8 (441)
CW90	11 3/4 (298)	9 1/2 (241)	13 1/4 (337)	17 3/8 (441)	13 1/2 (343)	12 (305)	15 (381)	17 3/8 (441)	16 (406)	14 (356)	17 3/4 (451)	17 3/8 (441)
CW135	11 (279)	16 1/8 (410)	12 1/2 (318)	17 3/8 (441)	12 3/4 (324)	19 1/8 (486)	14 1/4 (362)	17 3/8 (441)	15 1/8 (384)	22 1/2 (572)	16 7/8 (429)	17 3/8 (441)
CW270	9 1/2 (241)	11 3/4 (289)	10 1/4 (260)	17 3/8 (441)	12 (305)	13 1/2 (343)	12 (305)	17 3/8 (441)	14 (356)	16 (406)	14 1/4 (362)	18 3/8 * (467)
CW315	16 1/8 (410)	11 (279)	9 1/2 (241)	17 3/8 (441)	19 1/8 (486)	12 3/4 (324)	11 1/4 (286)	17 3/8 (441)	22 1/2 (572)	15 1/8 (384)	13 3/8 (340)	17 3/8 (441)
CCW45	9 1/2 (241)	12 1/2 (318)	16 1/8 (410)	17 3/8 (441)	11 1/4 (286)	14 1/4 (362)	19 1/8 (486)	17 3/8 (441)	13 3/8 (340)	16 7/8 (429)	22 1/2 (572)	17 3/8 (441)
CCW90	9 1/2 (241)	11 3/4 (298)	13 1/4 (337)	17 3/8 (441)	12 (305)	13 1/2 (343)	15 (381)	17 3/8 (441)	14 (356)	16 (406)	17 3/4 (451)	17 3/8 (441)
CCW135	16 1/8 (410)	11 (279)	12 1/2 (318)	17 3/8 (441)	19 1/8 (486)	12 3/4 (324)	14 1/4 (362)	17 3/8 (441)	22 1/2 (572)	15 1/8 (384)	16 7/8 (429)	17 3/8 (441)
CCW270	11 3/4 (289)	9 1/2 (241)	10 1/4 (260)	17 3/8 (441)	13 1/2 (343)	12 (305)	12 (305)	17 3/8 (441)	16 (406)	14 (356)	14 1/4 (362)	18 3/8 * (467)
CCW315	11 (279)	16 1/8 (410)	9 1/2 (241)	17 3/8 (441)	12 3/4 (324)	19 1/8 (486)	11 1/4 (286)	17 3/8 (441)	15 1/8 (384)	22 1/2 (572)	13 3/8 (340)	17 3/8 (441)

* No clearance from bottom of fan case to ground on this rotation.



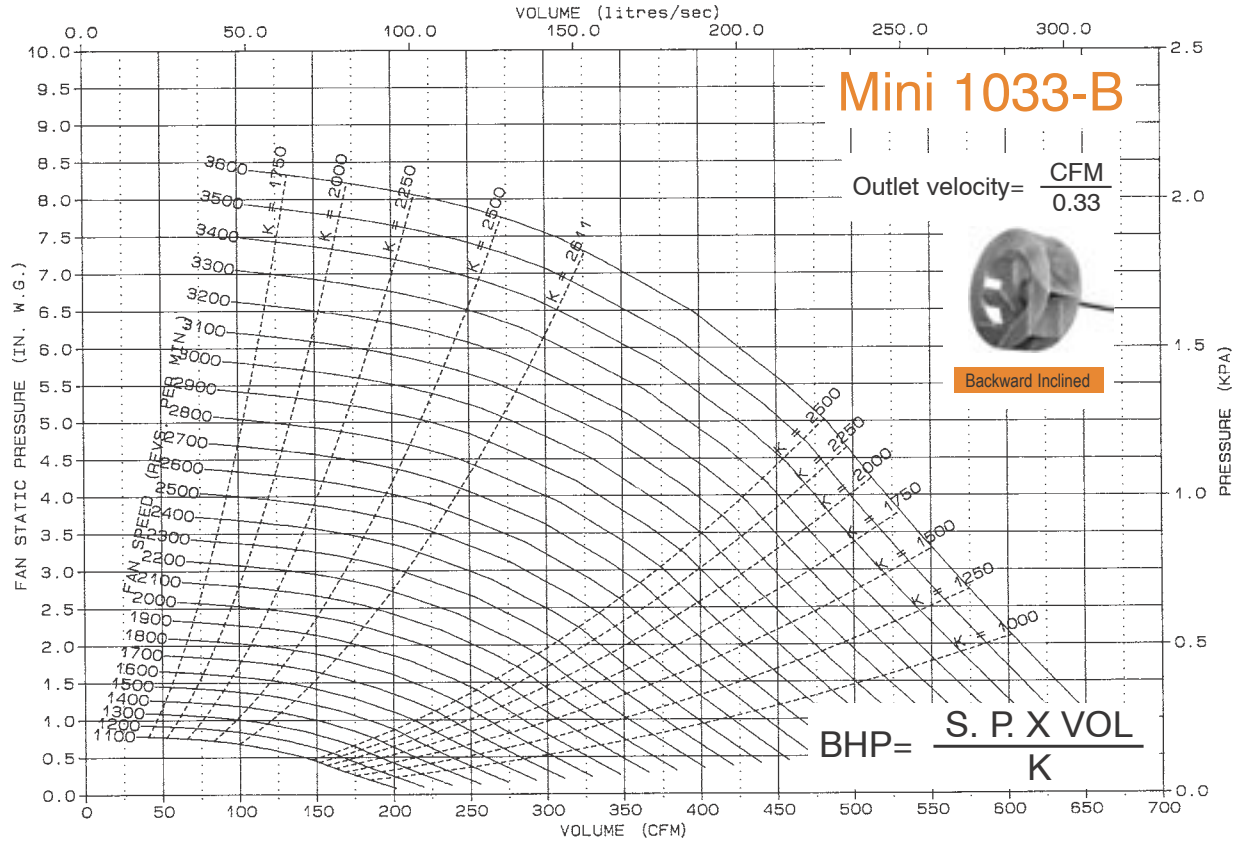
Inlet Diameter:10”
Diameter: 12.5”

Wheel



Inlet Diameter:10”
Diameter: 12.5”

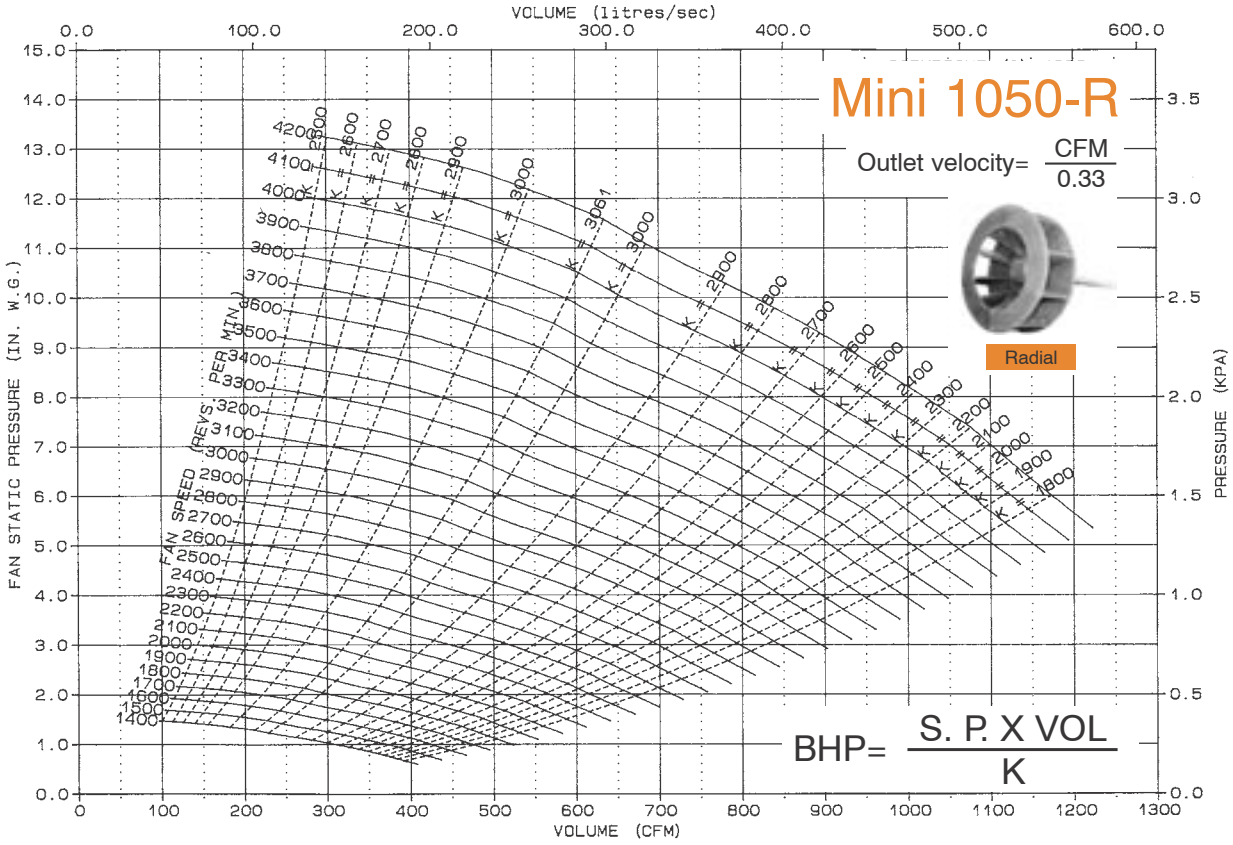
Wheel



PERFORMANCE SHOWN IS FOR INSTALLATION TYPE B - FREE INLET, DUCTED OUTLET. POWER RATING (BHP) DOES NOT INCLUDE DRIVE LOSSES.
PERFORMANCE RATINGS DO NOT INCLUDE THE EFFECTS OF APPURTENANCES IN AIRSTREAM.

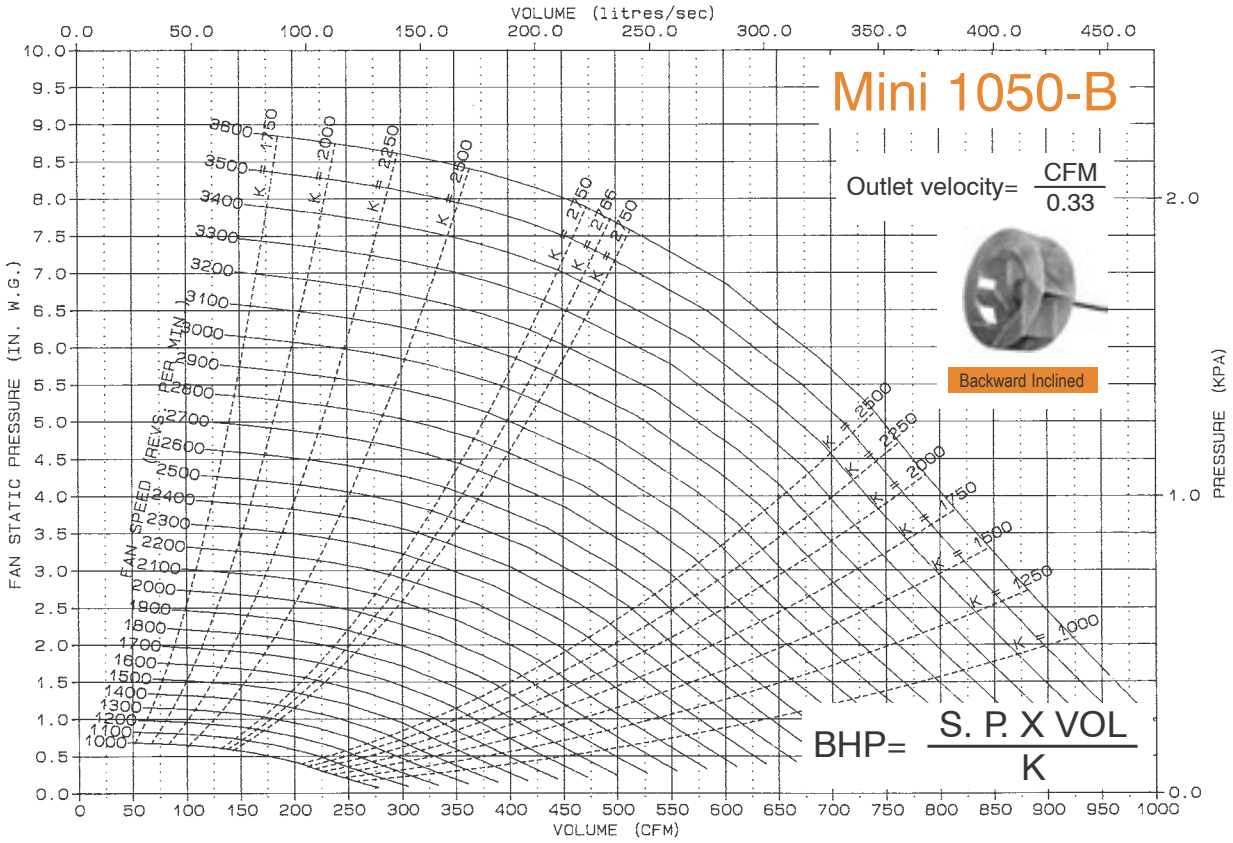
Inlet Diameter:10”
Diameter: 12.5”

Wheel



Inlet Diameter:10”
Diameter: 12.5”

Wheel



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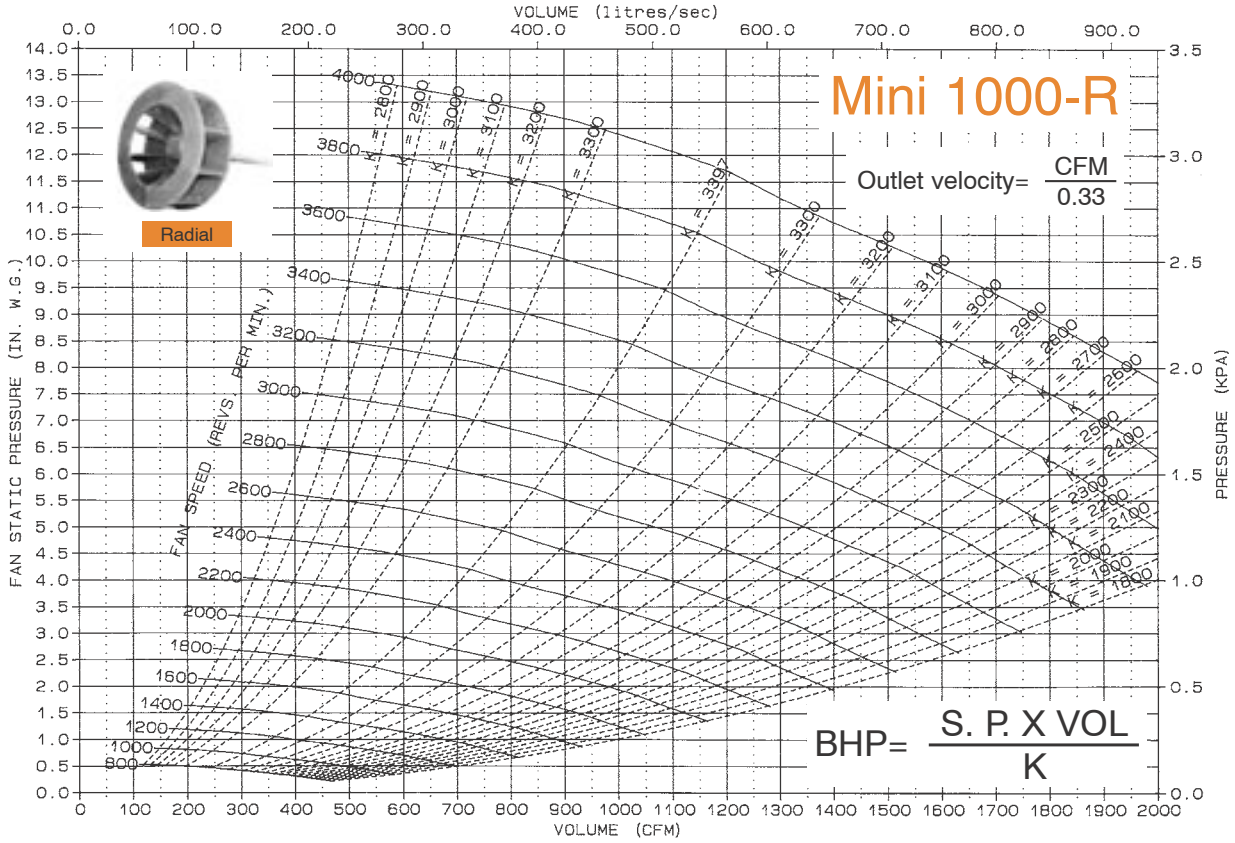
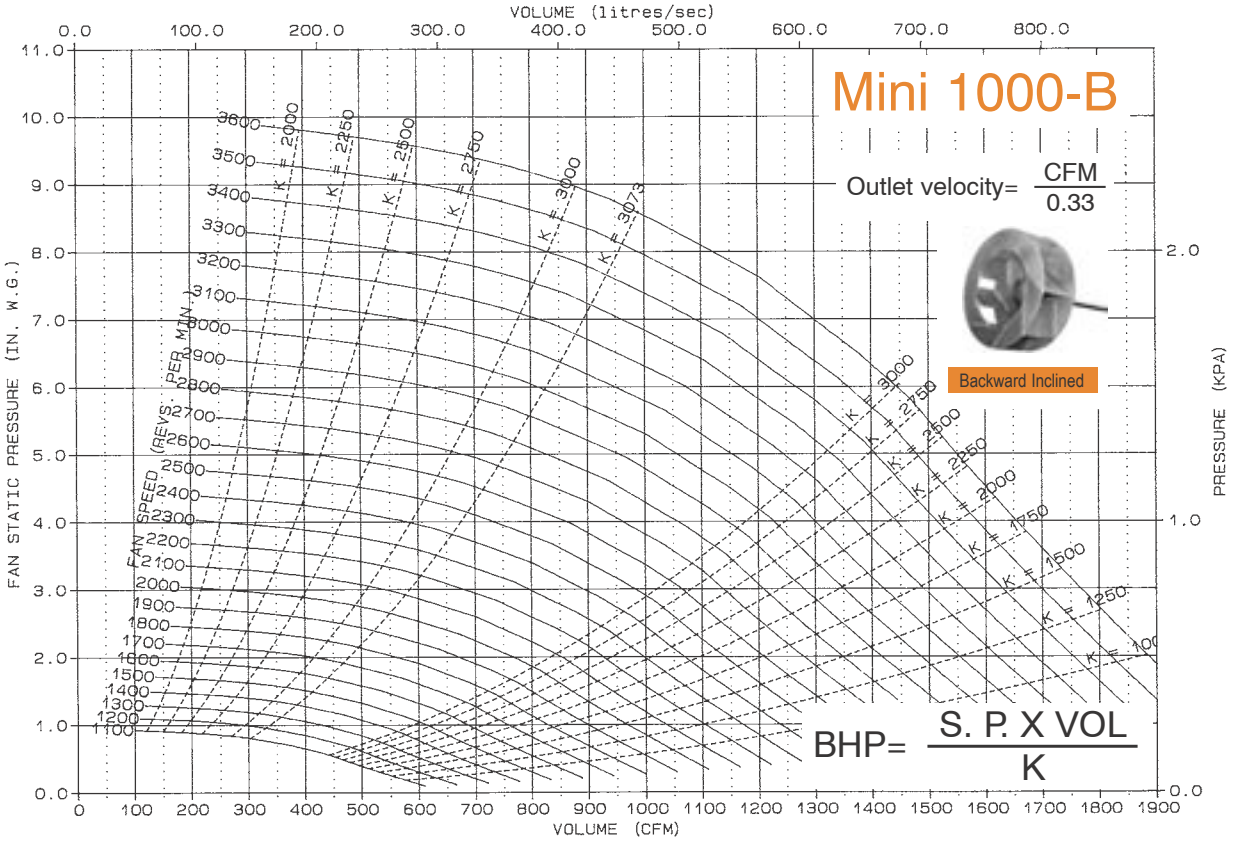
Inlet Diameter:10”
Diameter: 12.5”

Wheel



Inlet Diameter:10”
Diameter: 12.5”

Wheel



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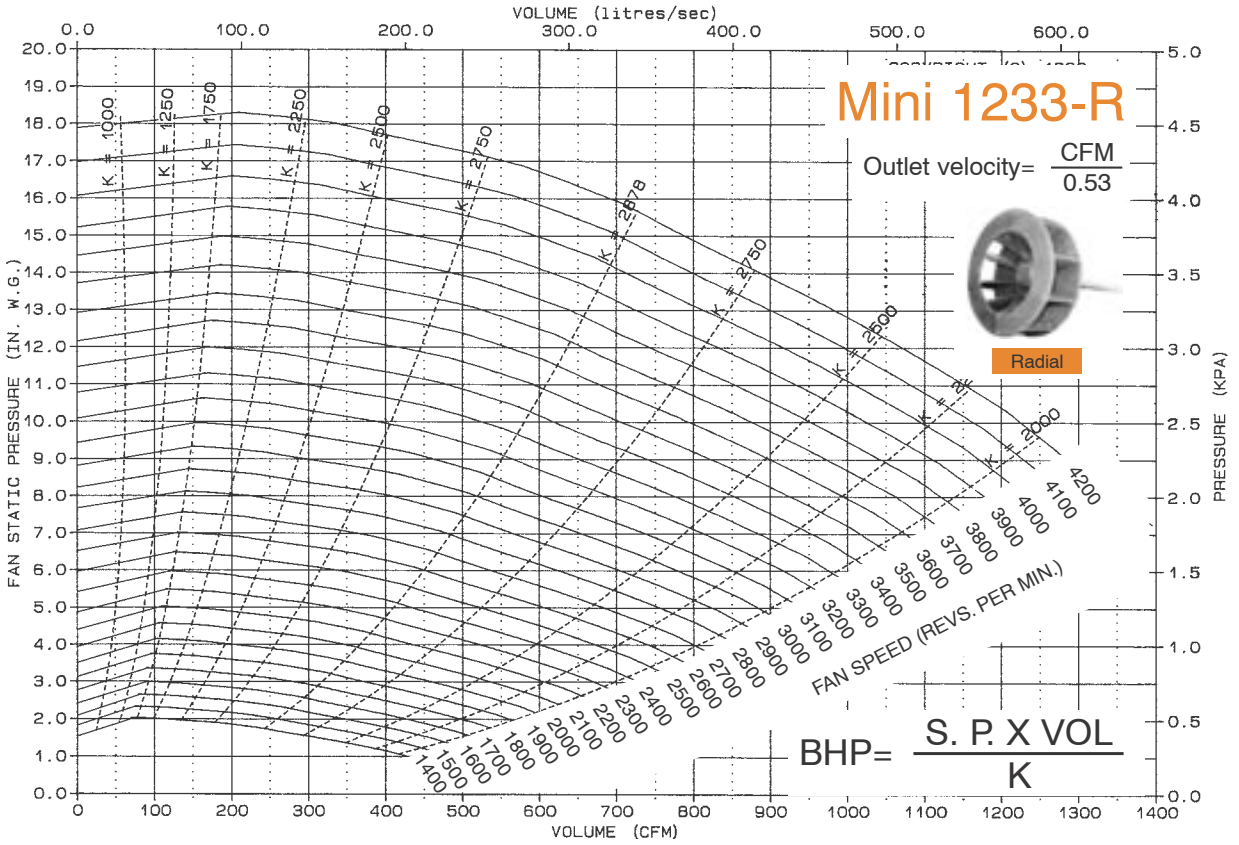
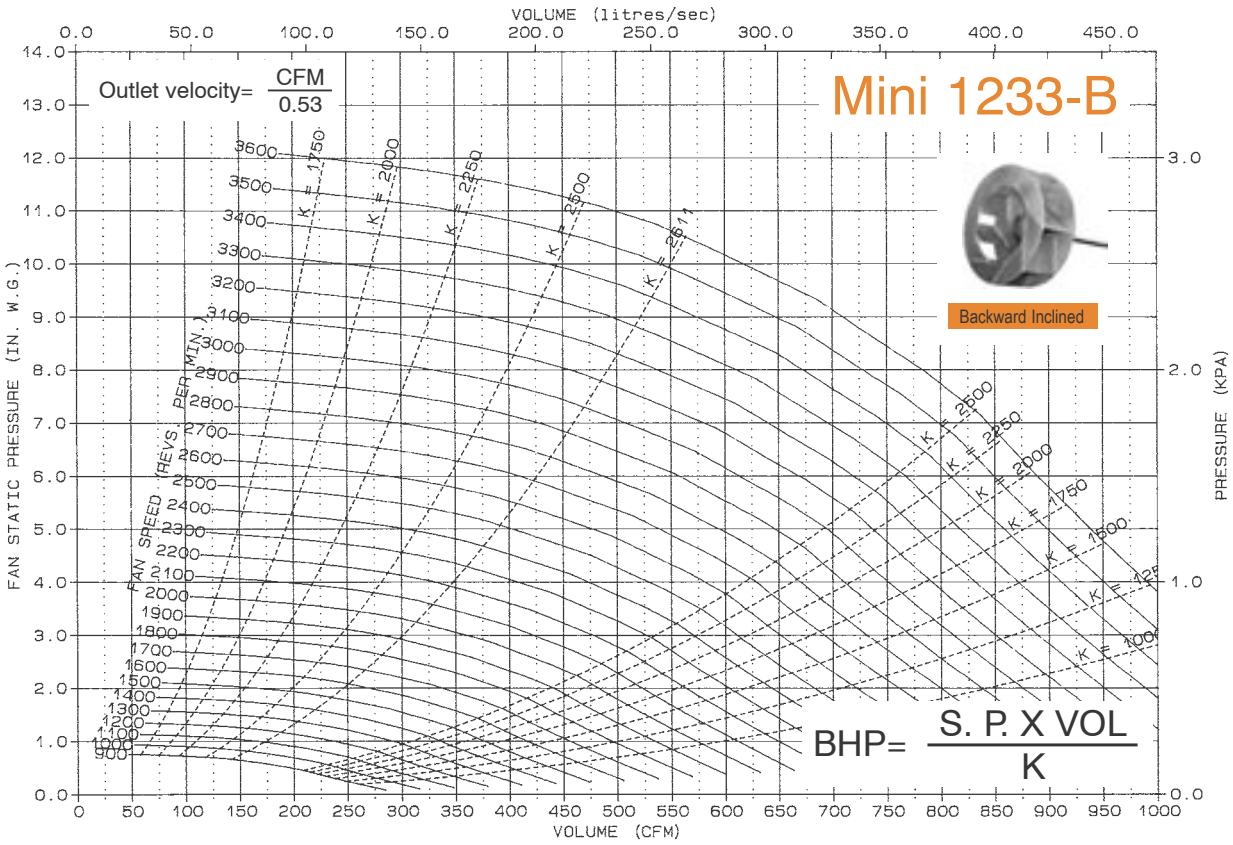
Inlet Diameter:12”
Diameter: 15”

Wheel



Inlet Diameter:12”
Diameter: 15”

Wheel



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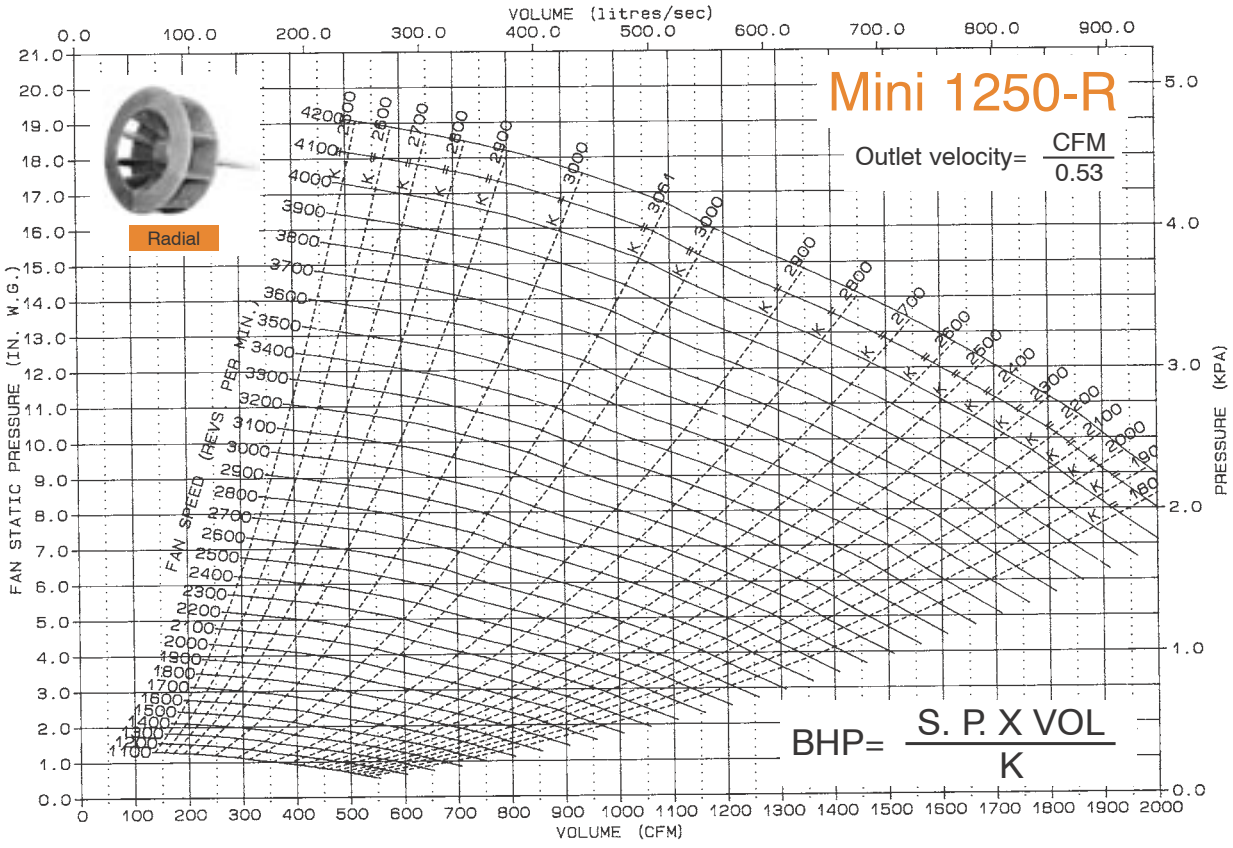
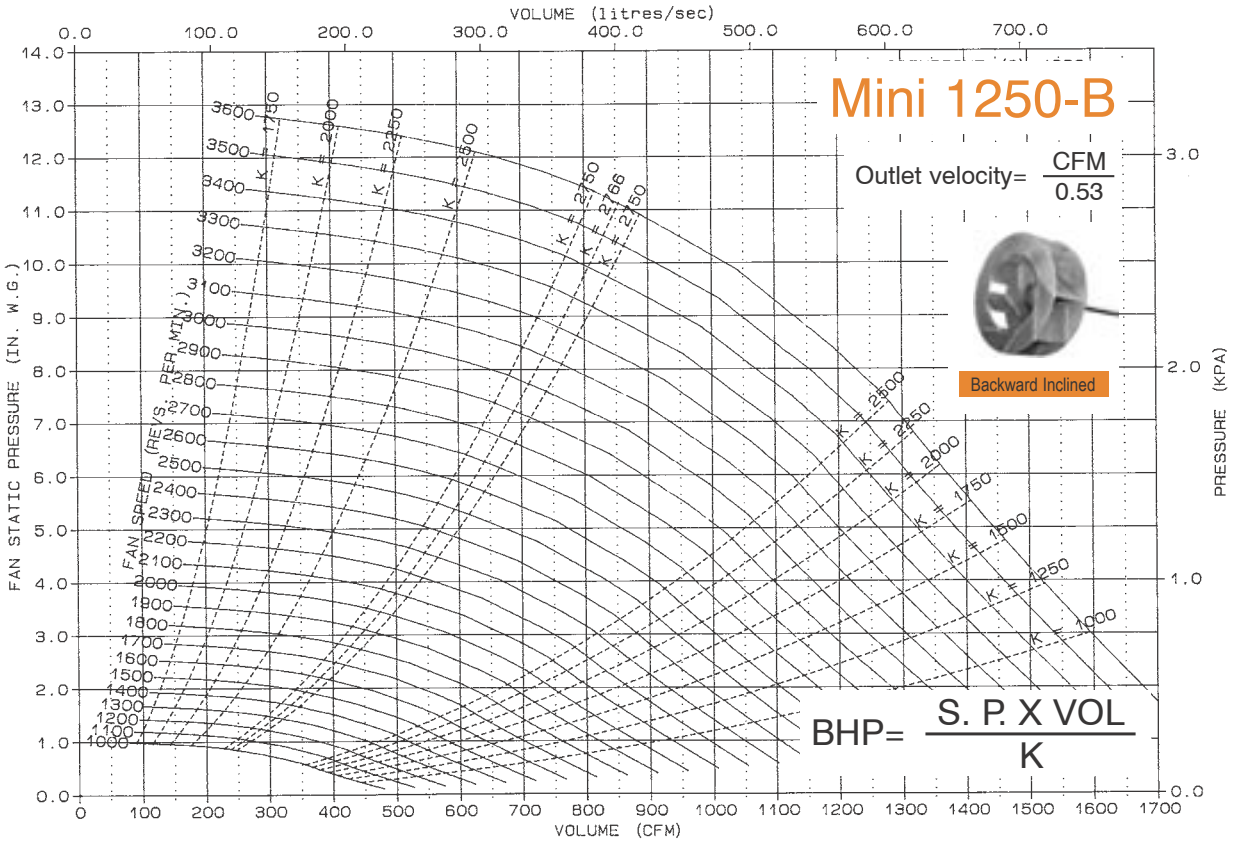
Inlet Diameter:12”
Diameter: 15”

Wheel



Inlet Diameter:12”
Diameter: 15”

Wheel



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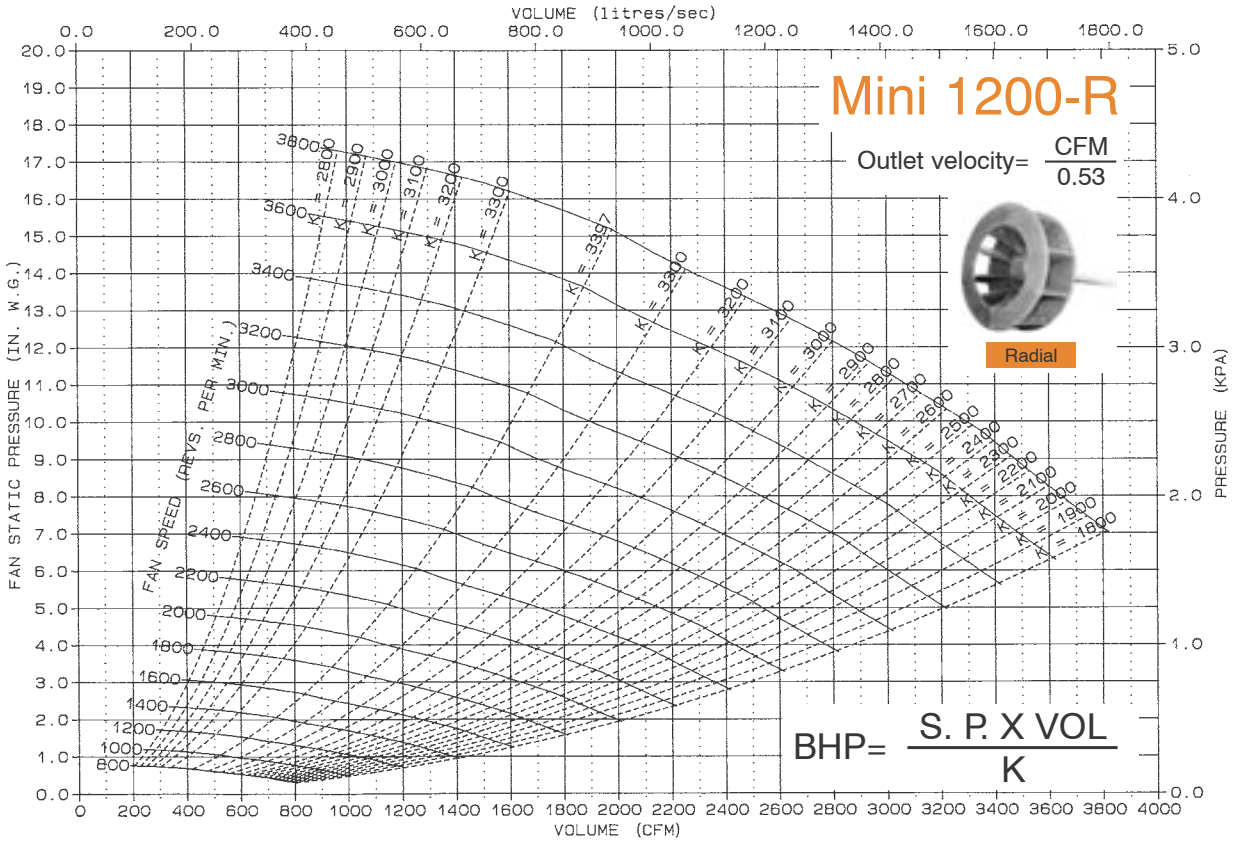
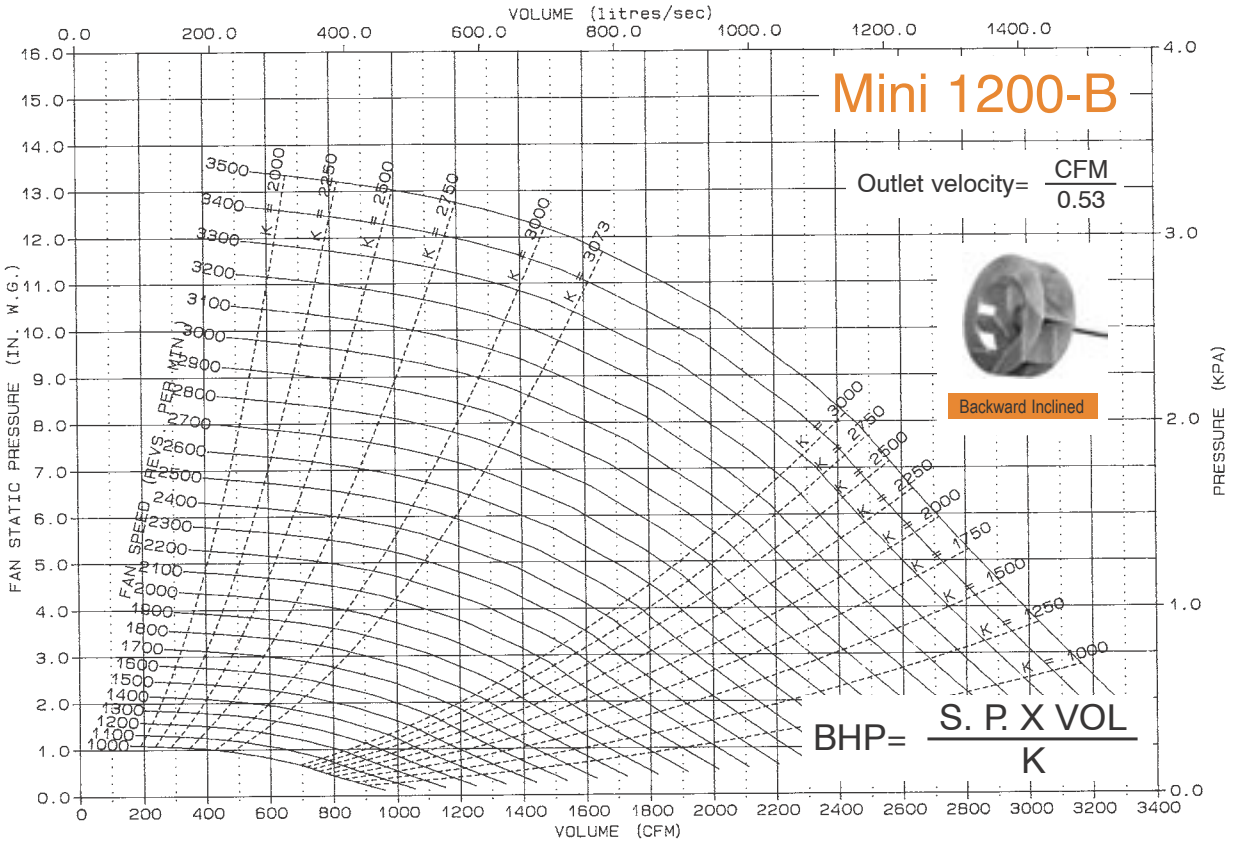
Inlet Diameter:12”
Diameter: 15”

Wheel



Inlet Diameter:12”
Diameter: 15”

Wheel



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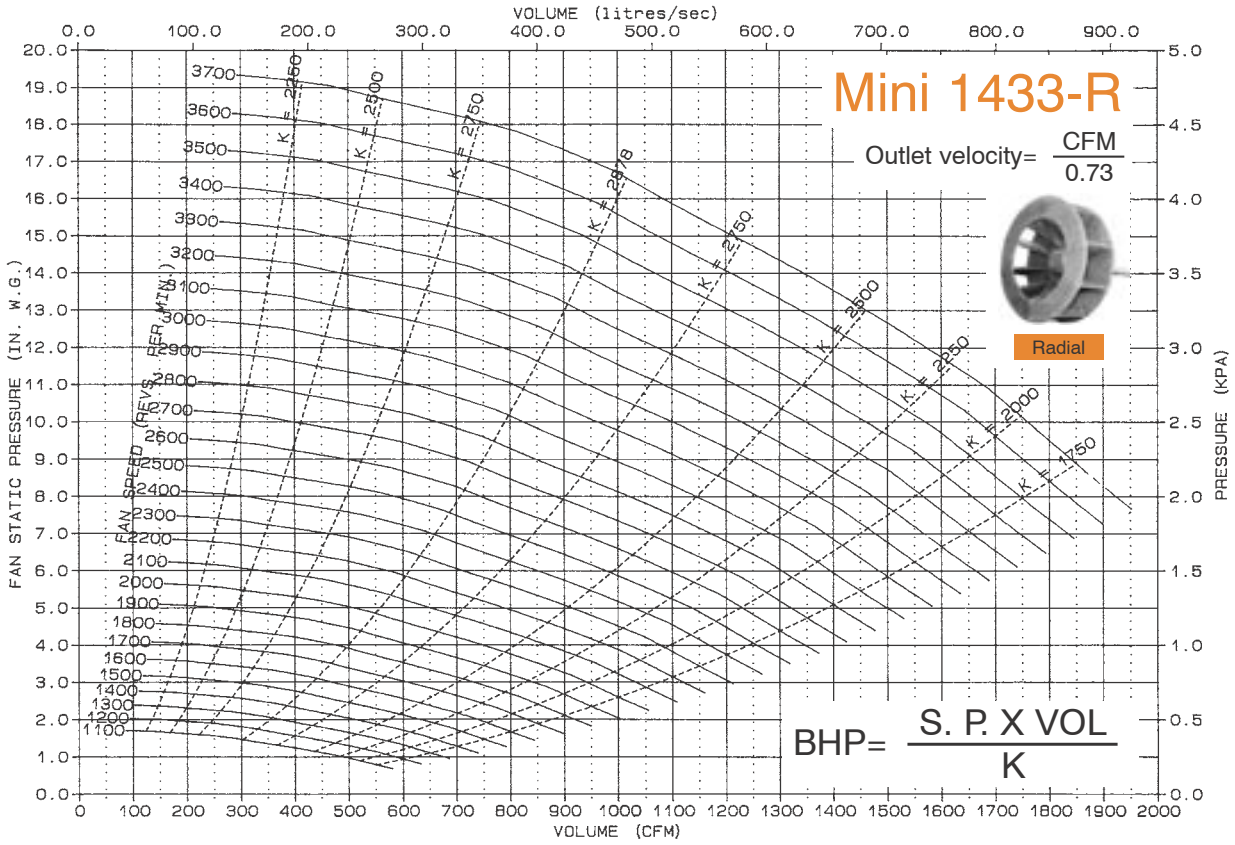
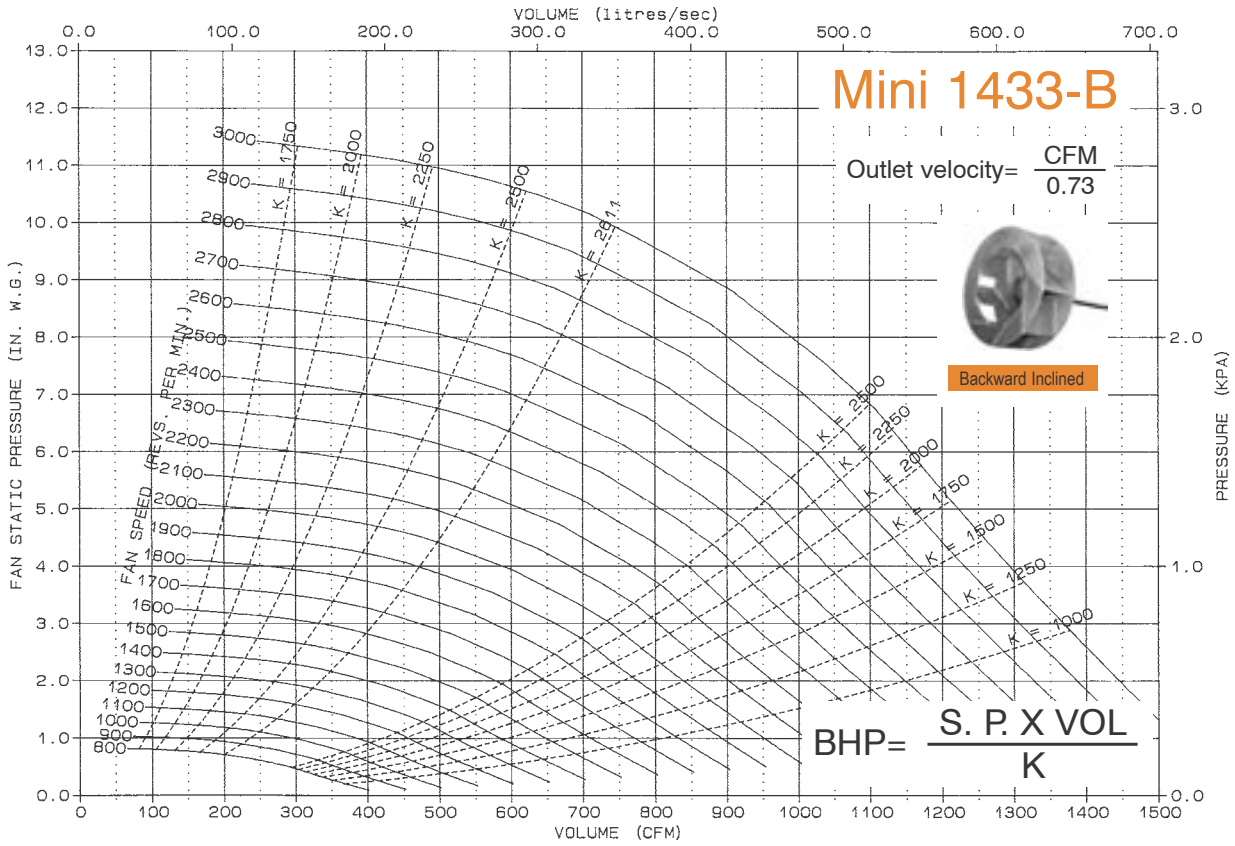
Inlet Diameter:14”
Diameter: 17.5”

Wheel



Inlet Diameter:14”
Diameter: 17.5”

Wheel



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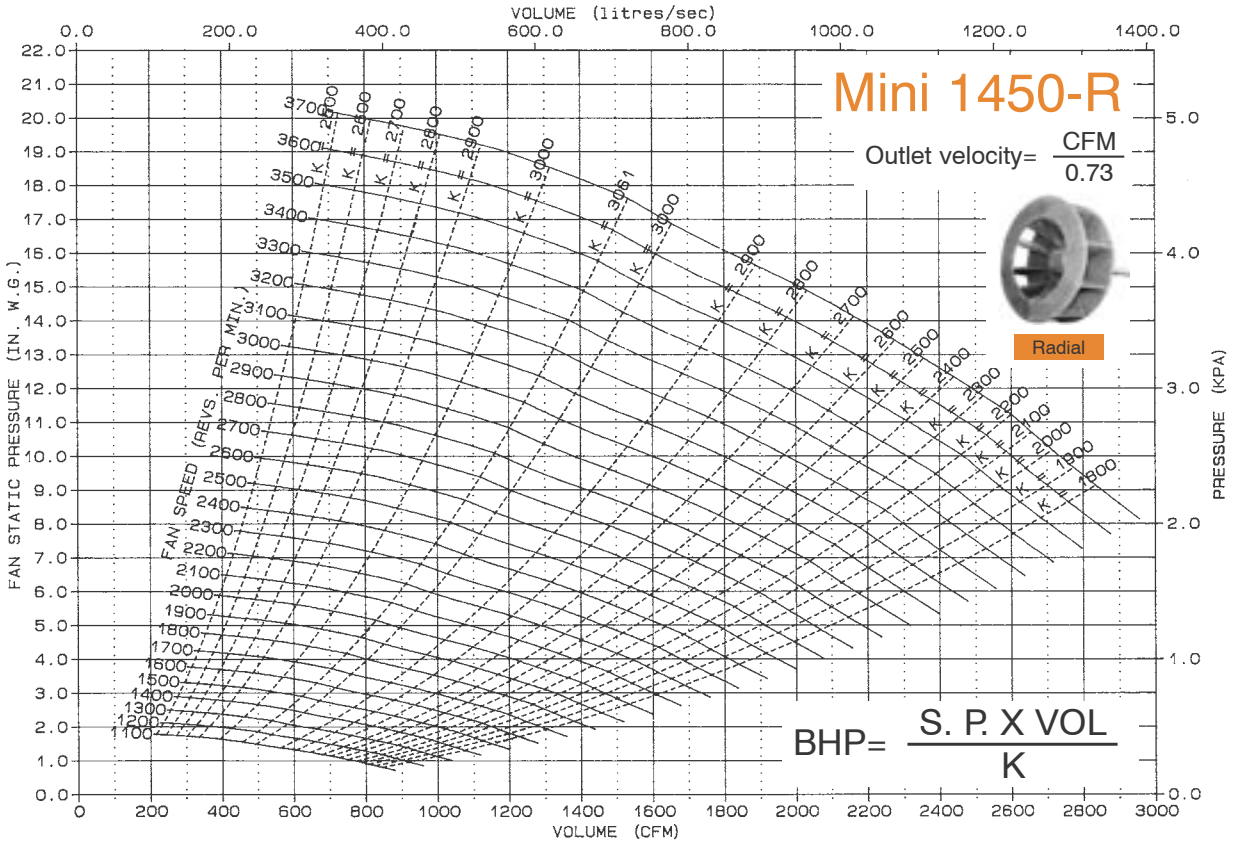
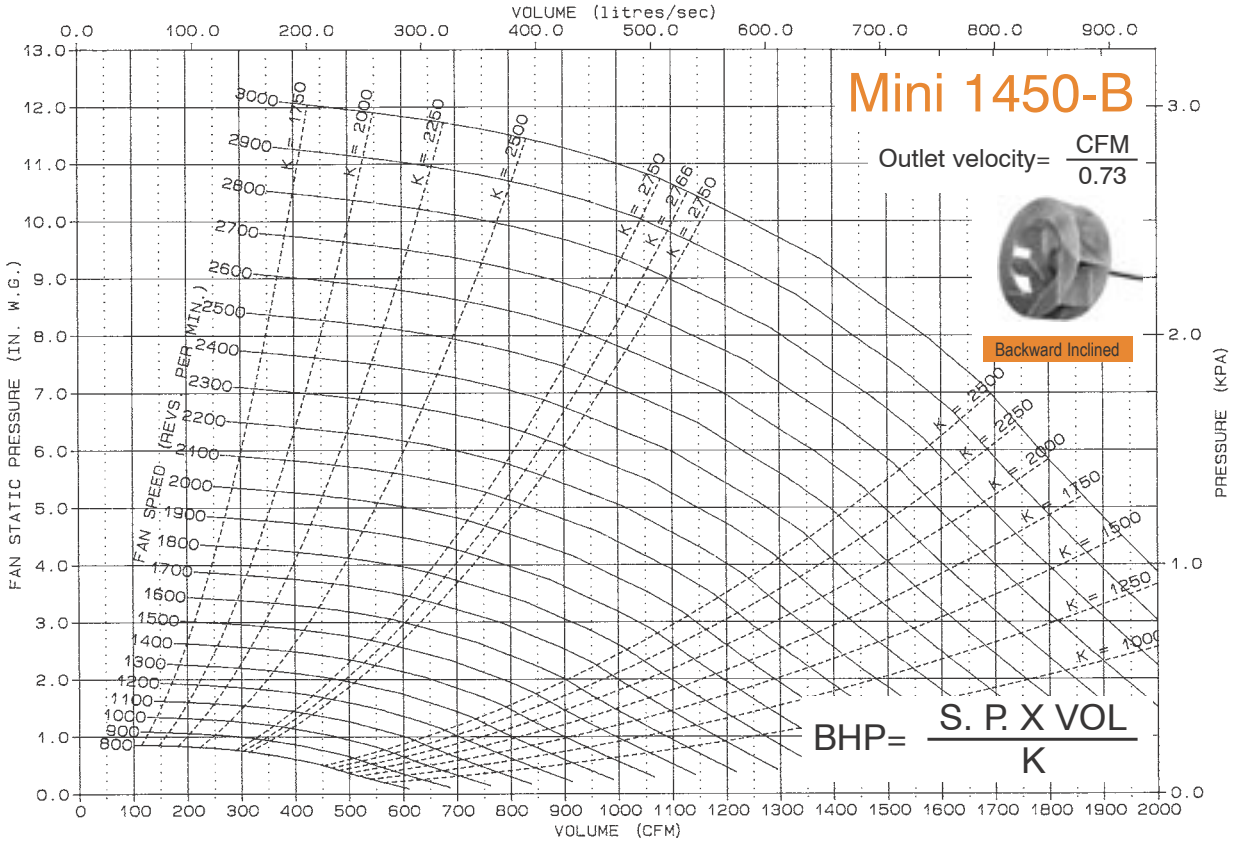
Inlet Diameter:14”
Diameter: 17.5”

Wheel



Inlet Diameter:14”
Diameter: 17.5”

Wheel



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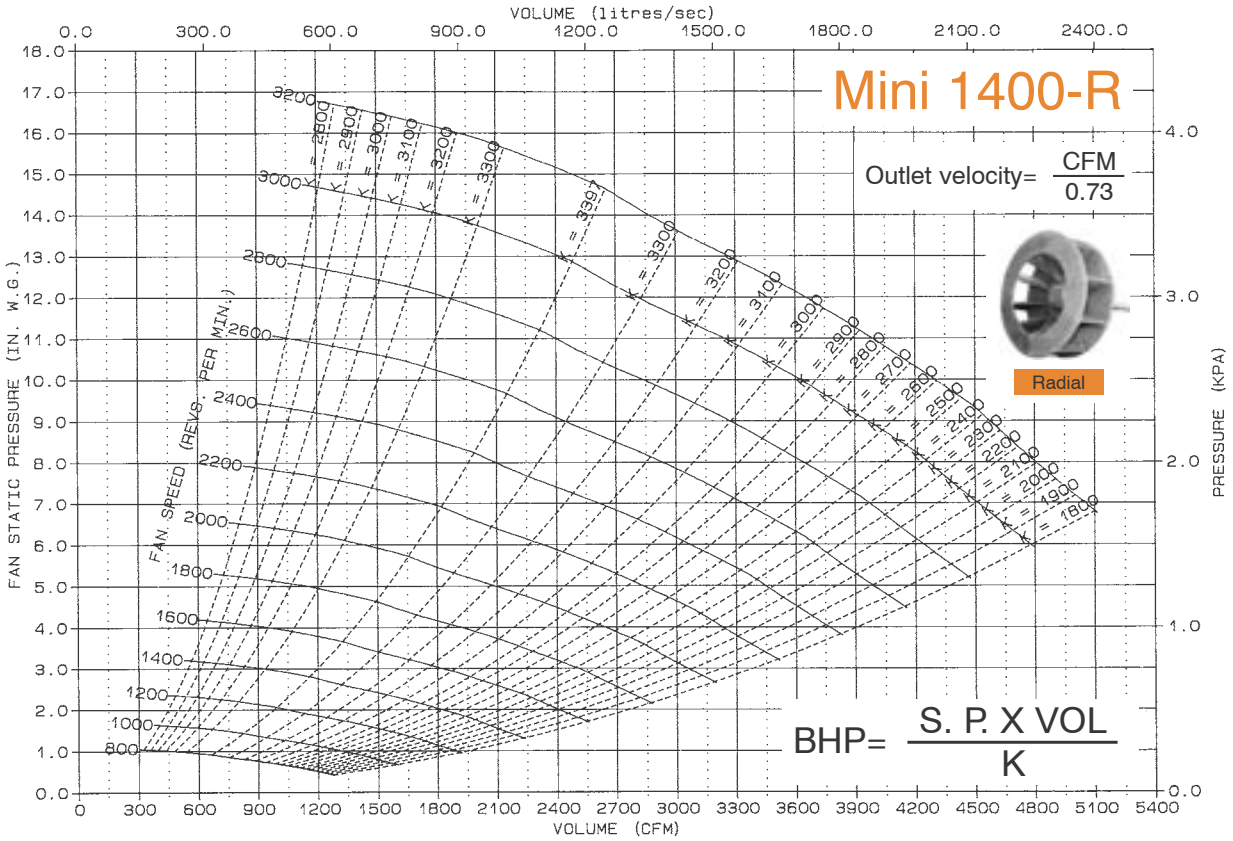

Inlet Diameter:14”
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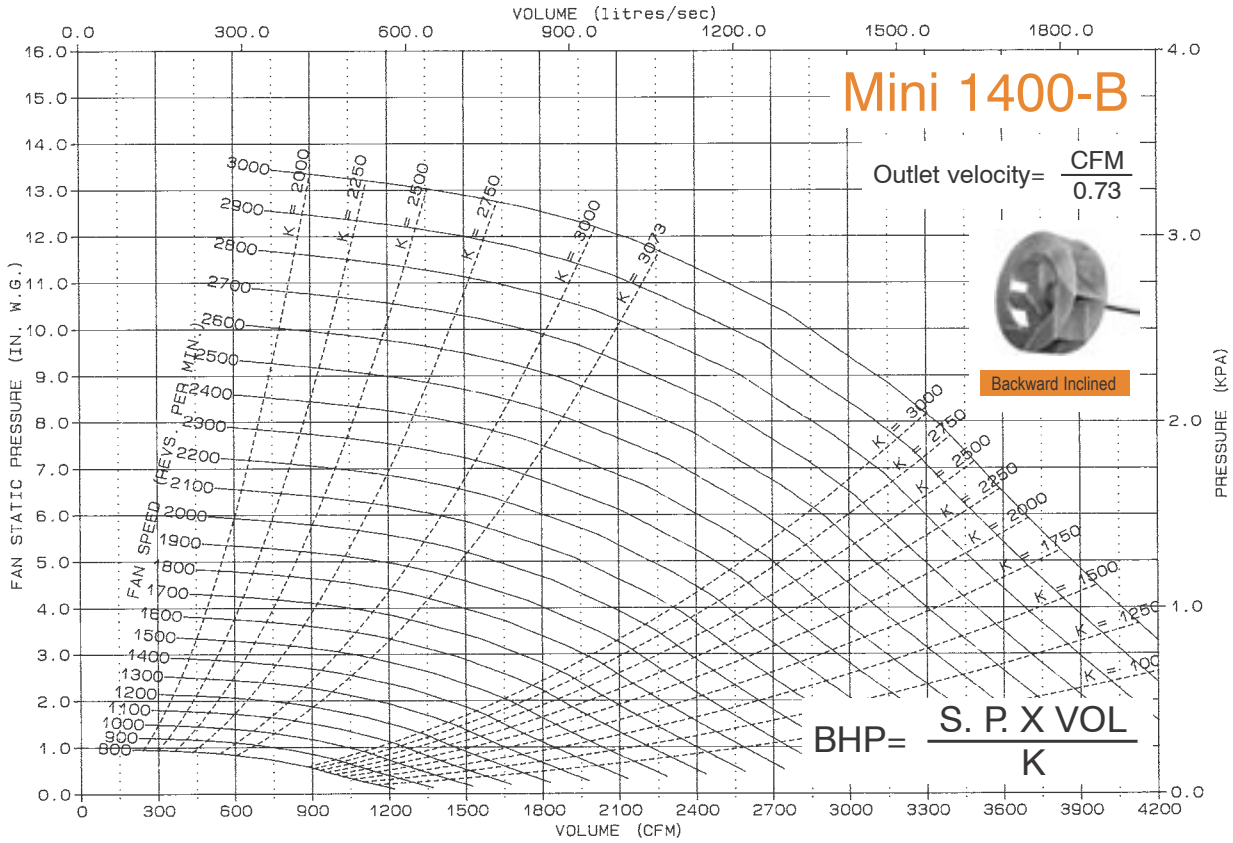
Wheel



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How To Specify Plasticair Mini Industrial Vent Sets - Mini 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 0.1875" (3 mm) of FRP lay-up. Acceptable AMCA arrangements are 4, and 9. 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.

Air Performance
The cataloged performance ratings are to be in accordance with AMCA standard 210, and are to be guaranteed by the manufacturer.

Sound Data
Submitted sound data shall be in accordance with AMCA standards 300 and 301. All submitted data will be in decibels, and presented in eight octave bands (10 12 watts). The designing engineer will perform the final dBA calculations.

Impeller Construction (Radial Blade)
The impeller is to be a self-cleaning radial blade 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 corrosion resin rich 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 taperlock 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. The impeller is to have a safe maximum tip speed rating of 17,000 feet per minute. Steel or thermoplastic impellers with FRP coatings are not acceptable.

Impeller Construction (Backward Inclined)
The impeller is to be a highly efficient 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 corrosion resin rich 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 taperlock 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. The impeller is to have a safe maximum tip speed rating of 14,000 feet per minute. Steel or thermoplastic impellers with FRP coatings are not acceptable.

Housing Construction
The fan housing is to be designed and constructed to resist vibration and imploding for static pressures up to negative 20" 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. Injection molded and press molded techniques are not acceptable. The entire surface exposed to the corrosive gas stream will be complete with a corrosion resin rich 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. The inlet, outlet and center split flanges are to be of heavy industrial quality. All sides accepting duct must have a factory flat finish. The housing shall consist of a machined Teflon seal to limit gas leakage. Steel and thermoplastic housings complete with 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. After welding is complete, prior to the fan assembly, the fan base is to be coated with 2-4 mils of the manufacturer's standard epoxy.

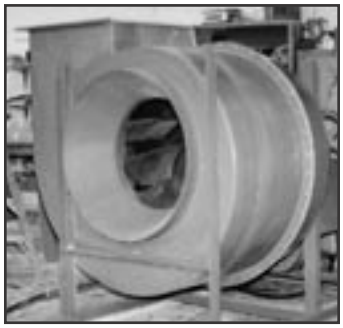
Bearings
Bearings are to be of a self-aligning, solid pillow block type. The bearings are to be rated and designed for a minimum L-10 life of 50,000 hours or L-50 life of 200,000 hours. The bearings are to be located out of the air stream and are to be covered with an easily removable guard for maintenance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

Shaft
Fan shaft will be carbon steel 1045. The diameter of the shaft shall not be less than the specified manufacturer. 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 housing.

Balancing And Testing
The balancing shall be in accordance with ASTM D-4167. Each 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, whichever occurs first.

Plasticair Inc., Servicing Industry



FRP Fans

Scrubbing Equipment

Laboratory Fumehoods

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.

Plasticair's Sales Forces are located in major cities around the world.

Contact the factory for the agent closest to you.

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