

# Model 86

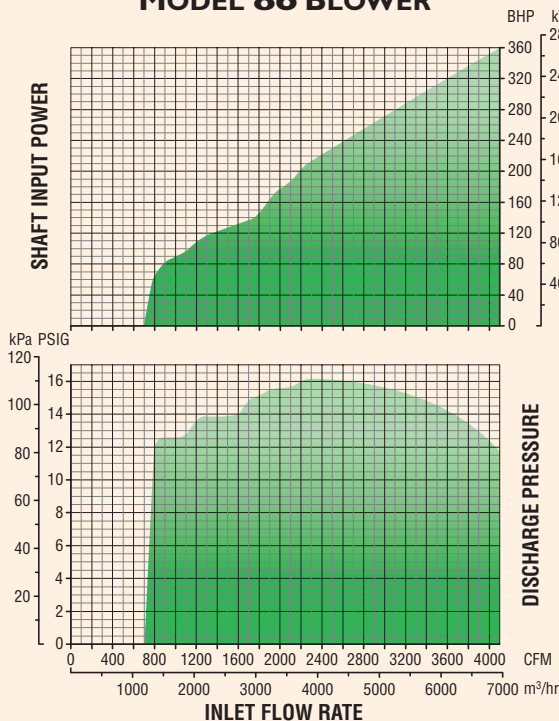
**HSI** MULTISTAGE  
CENTRIFUGAL  
BLOWERS



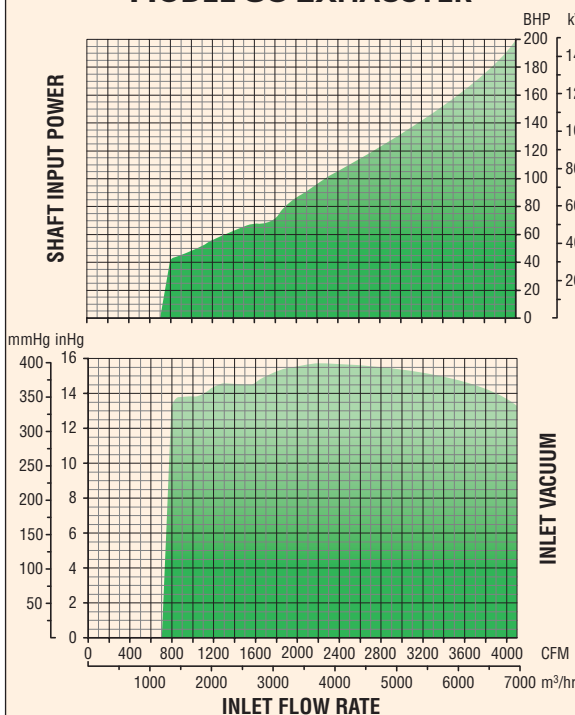
## General Performance

## Specifications Standard

### MODEL 86 BLOWER



### MODEL 86 EXHAUSTER



## TECHNICAL DATA

Number of Stages .....	1 through 10
Inlet Connection .....	8" (203.2 mm) flange, ASA 125# / ANSI 150# drilling
Outlet Connection .....	8" (203.2 mm) flange, ASA 125# / ANSI 150# drilling
Operating Speed.....	3550 RPM (60 Hz), 2960 RPM (50 Hz)
Casing Pressure.....	25 PSIG (1.76 kg/cm <sup>2</sup> )
Seals (air).....	Labyrinth type
Seals (gas).....	Stuffing box type/carbon ring (four each end)/custom available
Bearings.....	Ball, 10-year minimum life per AFBMA L <sub>10</sub> standard
Lubrication.....	Oil or grease
Impeller Diameter.....	24.00 in (609.6 mm)
Impeller Tip Speed.....	372 ft/s (113 m/s) @ 3550 RPM
First Critical Speed.....	4323 RPM (9-stage)
Drive Type.....	Direct coupled or belt driven, Inlet driven (standard) or Outlet driven
Shaft End.....	1.875 in (47.63 mm) diameter at coupling
Vibration Tolerance.....	.25 in/s (6.4 mm/s) ISO overall specification, 1.25 mils (0.03 mm) peak to peak
Rotor Balance.....	Military standard 167-1. Individual impellers and rotating assembly dynamically balanced

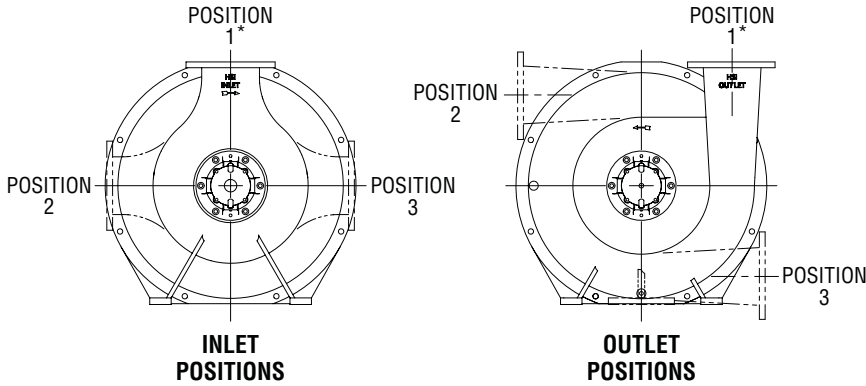
## MATERIALS OF CONSTRUCTION

Casing.....	Cast iron ASTM A48 grade 25/30
Bearing Caps & Housings ...	Cast iron ASTM A48 grade 25/30
Oil Reservoir.....	Cast aluminum ANSI AA319
Shaft.....	Carbon steel AISI 4140 (stainless steel available)
Impellers.....	Cast aluminum ANSI AA319 or fabricated aluminum ANSI AA6061 with cast Al AA356 hub stainless steel/custom alloys available
Seals (air).....	Zinc-Alloy, ZA-12
Seals (gas).....	Cast aluminum ANSI AA319 stuffing box with braided packing
Interstage Baffle Rings.....	Stainless steel ASTM A240 304
Tie Rods.....	.75 in (19.1 mm) diameter, high strength steel ASTM A193-B7/B7M available
Blower Base.....	Welded structural steel ASTM A36 ASME/AWS D1.1 WPS's available
Motor Pedestal.....	Welded steel plate ASTM A36
Joint Sealing Compound.....	RTV silicone
Base Isolation Pads.....	Neoprene rubber
Finish.....	HSI standard

# MODEL 86 MULTISTAGE CENTRIFUGAL BLOWER

## Inlet and Outlet Orientation Options

The orientation of the inlet and outlet is selectable from any of three different positions, as viewed when facing the exterior of the part:



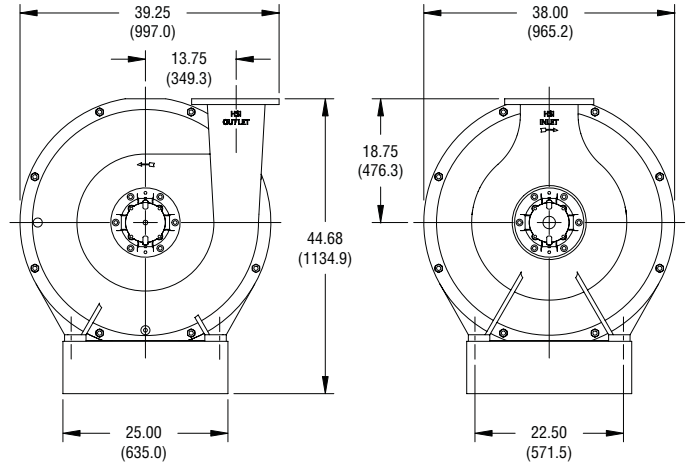
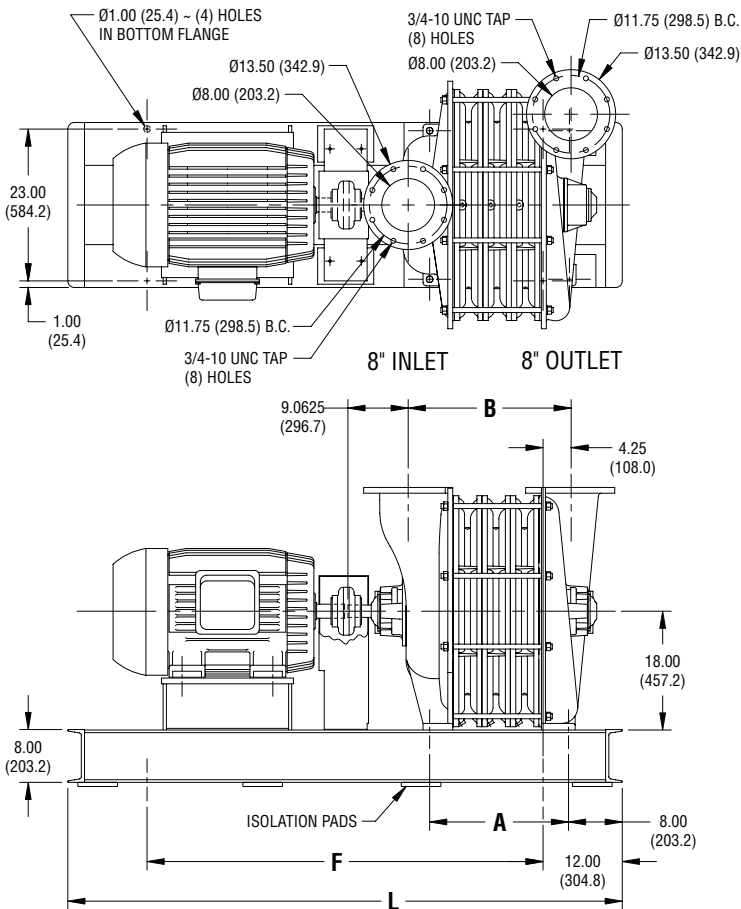
\*Standard configuration.

## Weight and Inertia

Model	Weight*		Wk <sup>2</sup>	
	lb	kg	lb-ft <sup>2</sup>	kg-m <sup>2</sup>
8601	1300	591	11	0.46
8602	1610	732	21	0.89
8603	1925	875	31	1.31
8604	2300	1046	42	1.77
8605	2750	1250	52	2.19
8606	3100	1409	63	2.66
8607	3450	1568	73	3.08
8608	3875	1761	38	1.60
8609	4275	1943	43	1.81
8610	4700	2132	50	2.11

\*Approximate weight for blower only.

## General Arrangement



Model	Dimensions*			
	A	B	F <sup>†</sup>	L <sup>†</sup>
8601	8.25 (210)	11.75 (298)	49 (1245)	73 (1854)
8602	12.56 (319)	16.06 (408)	49 (1245)	73 (1854)
8603	16.88 (429)	20.38 (518)	62 (1575)	86 (2184)
8604	21.19 (538)	24.69 (627)	62 (1575)	86 (2184)
8605	25.50 (648)	29.00 (737)	62 (1575)	86 (2184)
8606	29.81 (757)	33.31 (846)	76 (1930)	100 (2540)
8607	34.12 (867)	37.62 (956)	93 (2362)	117 (2972)
8608	38.44 (976)	41.94 (1065)	93 (2362)	117 (2972)
8609	42.75 (1086)	46.25 (1175)	93 (2362)	117 (2972)
8610	47.06 (1195)	50.56 (1284)	93 (2362)	117 (2972)

\*Dimensions in inches and (millimeters) and are approximate. Do not use for construction purposes.

†Dimension may vary depending on motor frame size.



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