

ZM 143



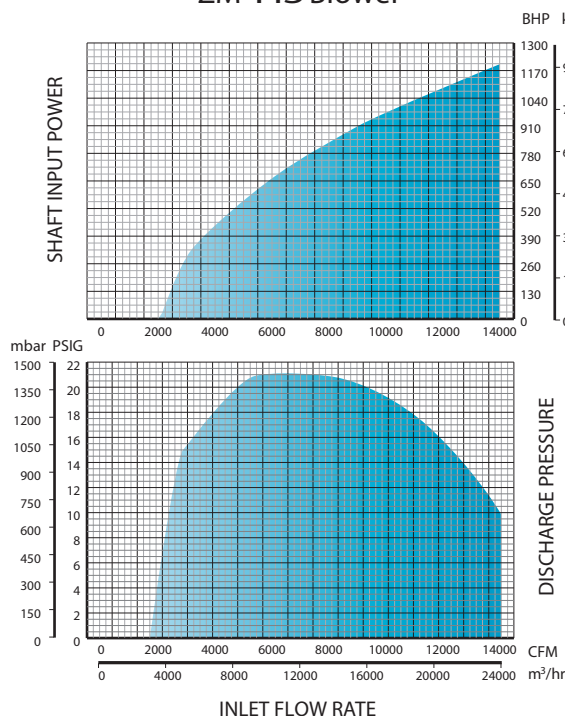
Atlas Copco

MULTISTAGE
CENTRIFUGAL
BLOWERS

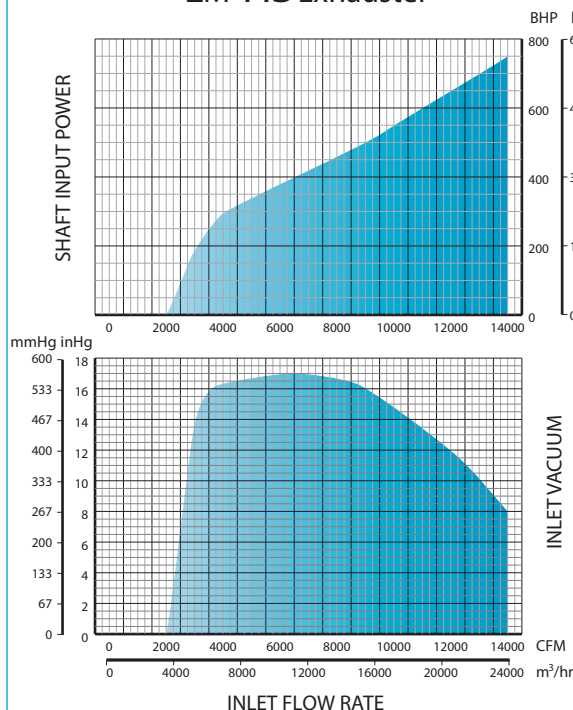
General Performance

Specifications Standard

ZM 143 Blower



ZM 143 Exhauster



Technical Data

Number of Stages	1 to 7 (60Hz), 1 to 8 (50Hz)
Inlet Connection	18" flange, ASA 125# / ANSI 150# drilling Optional DIN 450 adapter flange
Outlet Connection	14" flange, ASA 125# / ANSI 150# drilling Optional DIN 350 adapter flange
Operating Speed	Fixed speed 3560 RPM (60 Hz), 2965 RPM (50 Hz) Variable speed option available
Casing Pressure	25 PSIG (1.7 bar)
Seals (air)	Labyrinth type
Seals (gas)	OPTi Seal/ Carbon Ring Type/ Custom Available
Bearings	Ball, 10-year minimum life per AFBMA L ₁₀ standard
Lubrication	Oil
Impeller Diameter	29/30 in (736.6/ 762 mm)
Impeller Tip Speed	450 ft/s 27,028 FPM (8,238 m/min)
First Critical Speed	4501 RPM (7-Stage at 60 Hz)
Drive Type	Direct coupled, Inlet driven (standard) or Outlet driven
Shaft End	2.875 in (73.025 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

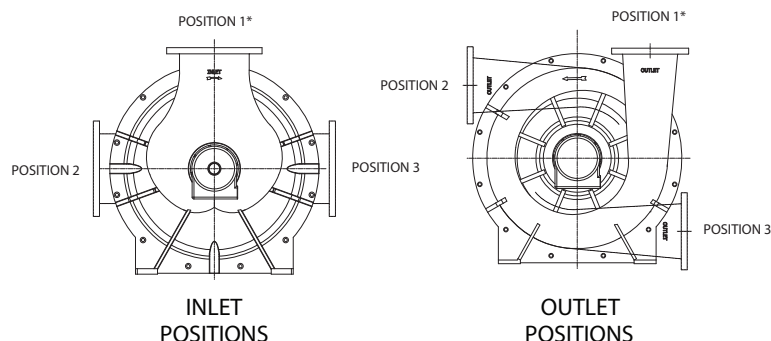
Materials of Construction

Casing	Cast iron ASTM A48 grade 25/30
Bearing Caps & Housings...	Cast iron ASTM A48 grade 25/30
Oil Reservoir	Cast iron ASTM A48 grade 25/30
Shaft	Carbon steel AISI 4140 (stainless steel available)
Impellers	Cast aluminum ANSI AA319/356 (stainless steel/custom alloys available)
Seals (air)	Cast Iron ASTM A48 grade 30 with lead babbitt insert Zinc-Alloy, ZA-12
Seals (gas)	Stainless Steel with Viton Elastomer, isostatically molded high density fine grain electro-graphite
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
Motor Pedestal	Welded steel plate ASTM A36
Joint Sealing Compound....	RTV silicone
Base Isolation Pads	Neoprene rubber
Finish	Standard 2 part epoxy, 7011 Atlas Copco Dark Gray

ZM143 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.

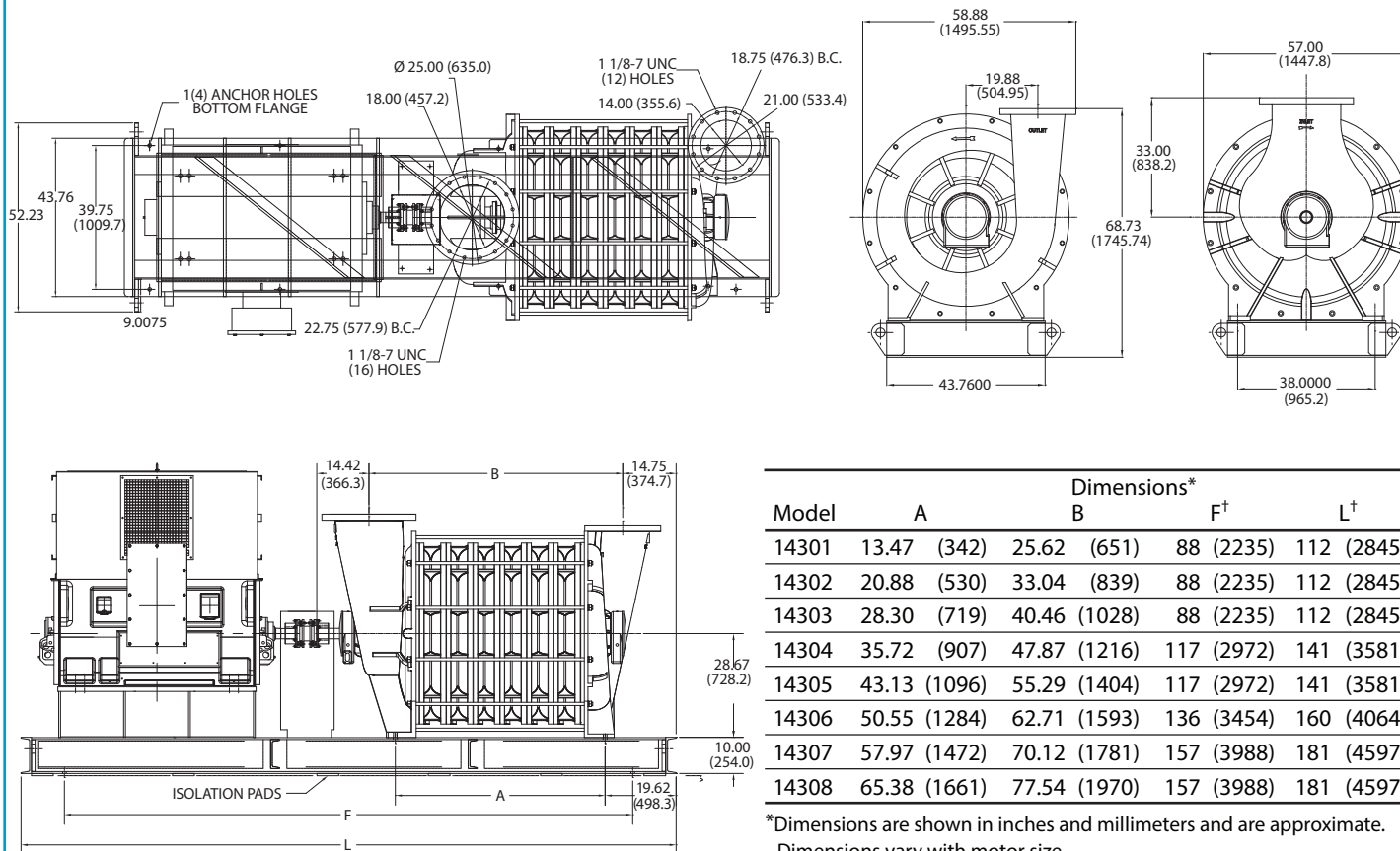
Weight and Inertia

Model	Weight*		Wk ²	
	lb	kg	lb-ft ²	kg-m ²
14301	3,103	1,407	35	1.5
14302	4,206	1,908	70	2.9
14303	5,309	2,408	100	4.2
14304	6,412	2,908	140	5.9
14305	7,515	3,409	175	7.4
14306	8,618	3,909	210	8.8
14307	9,721	4,409	240	10.1
14308	10,824	4,910	275	11.6

*Approximate weight for blower only.

† Inertia based on cast impellers.

General Arrangement



Model	Dimensions*			
	A	B	F†	L†
14301	13.47 (342)	25.62 (651)	88 (2235)	112 (2845)
14302	20.88 (530)	33.04 (839)	88 (2235)	112 (2845)
14303	28.30 (719)	40.46 (1028)	88 (2235)	112 (2845)
14304	35.72 (907)	47.87 (1216)	117 (2972)	141 (3581)
14305	43.13 (1096)	55.29 (1404)	117 (2972)	141 (3581)
14306	50.55 (1284)	62.71 (1593)	136 (3454)	160 (4064)
14307	57.97 (1472)	70.12 (1781)	157 (3988)	181 (4597)
14308	65.38 (1661)	77.54 (1970)	157 (3988)	181 (4597)

*Dimensions are shown in inches and millimeters and are approximate. Dimensions vary with motor size.
Do not use for construction purposes.

Atlas Copco