

ZM 51



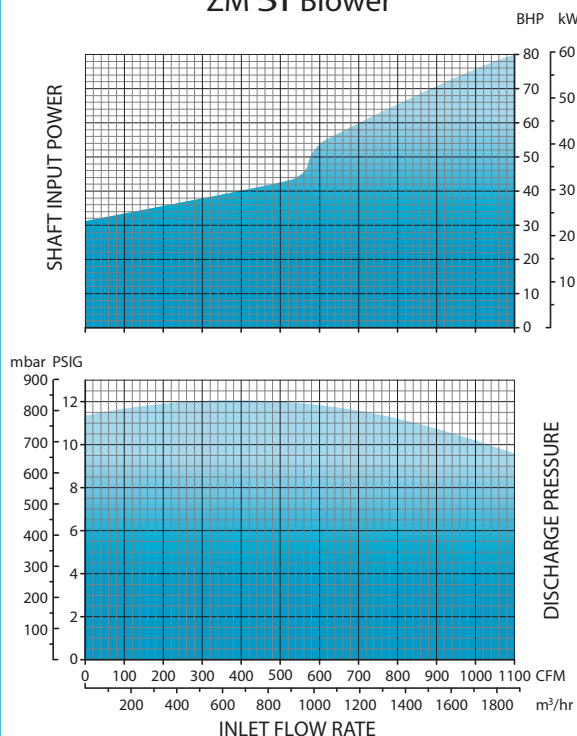
Atlas Copco

MULTISTAGE CENTRIFUGAL BLOWERS

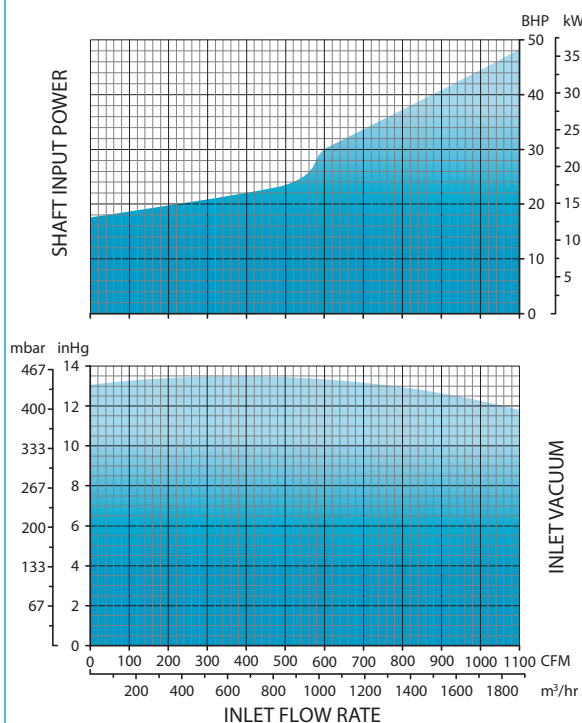
General Performance

Specifications Standard

ZM 51 Blower



ZM 51 Exhauster



Technical Data

Number of Stages	1 to 10
Inlet Connection	5" flange, ASA 125# / ANSI 150# drilling Optional DIN 150 adapter flange
Outlet Connection	5" flange, ASA 125# / ANSI 150# drilling Optional DIN 150 adapter flange
Operating Speed	Fixed speed 3550 RPM (60 Hz), 2960 RPM (50 Hz) Variable speed option available
Casing Pressure	20 PSIG (1.4 bar)
Seals (air)	Labyrinth type
Seals (gas)	OPTi Seal/ Stuffing box type/ Carbon ring type/ Custom available
Bearings	Ball, 10-year minimum life per AFBMA L ₁₀ standard
Lubrication	Standard Grease/ Oil option available
Impeller Diameter	22.00 in (558.8 mm)
Impeller Tip Speed	341 ft/s (104 m/s) @ 3550 RPM
First Critical Speed	4505 RPM (10-stage)
Drive Type	Direct coupled or Belt driven, Inlet driven (standard) or Outlet driven
Shaft End	1.625 in (41.28 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

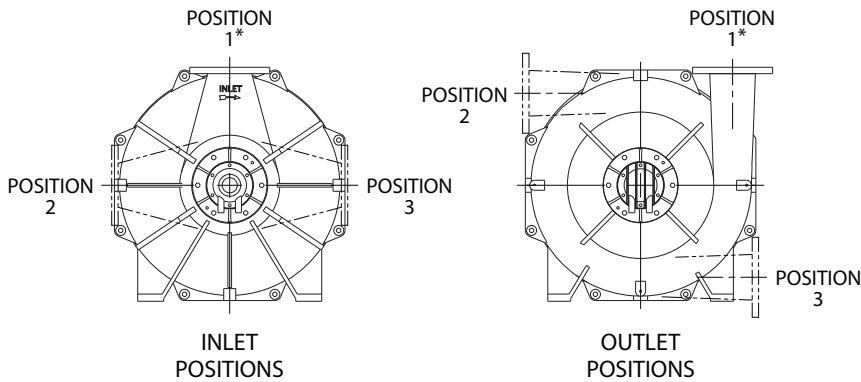
Casing	Cast iron ASTM A48 grade 25/30
Bearing Caps & Housings...	Cast iron ASTM A48 grade 25/30
Oil Reservoir	Cast iron ASTM A48 grade 25/30
Shaft	Carbon steel AISI 4140 (stainless steel available)
Impellers	Cast aluminum ANSI AA319/356 or fabricated aluminum ANSI AA6061 with cast Al AA356 hub (stainless 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
Tie Rods	.50 in (12.7 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

Curves are based on atmospheric conditions of 1 Atm, 68F/20C, 36% RH, and 3550 rpm

ZM51 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.

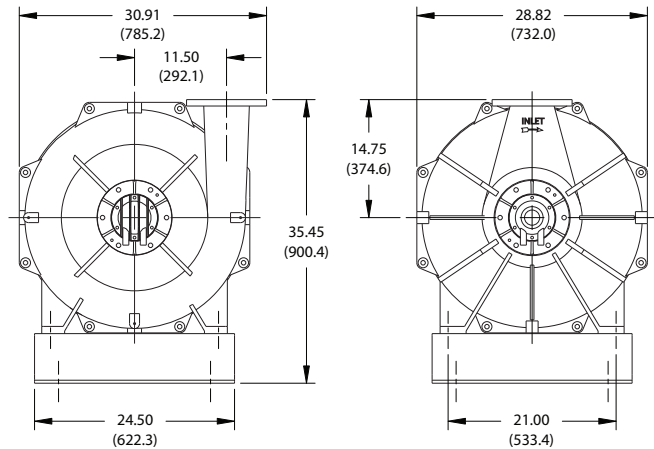
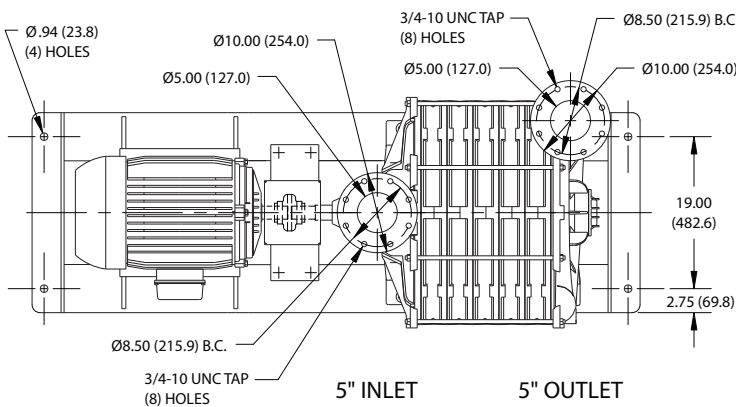
Weight and Inertia

Model	Weight*		Wk ²	
	lb	kg	lb-ft ²	kg-m ²
5101	480	218	6	0.26
5102	607	275	12	0.51
5103	730	331	18	0.76
5104	860	390	24	1.02
5105	987	448	30	1.27
5106	1113	505	36	1.52
5107	1240	562	42	1.77
5108	1367	620	48	2.03
5109	1493	677	54	2.28
5110	1620	735	60	2.53

*Approximate weight for blower only.

† Inertia based on cast impellers.

General Arrangement



Model	Dimensions*			
	A	B	F [†]	L [†]
5101	4.63 (117)	8.00 (203)	47 (1194)	50 (1270)
5102	7.88 (200)	11.25 (286)	56 (1422)	59 (1499)
5103	11.13 (283)	14.50 (368)	56 (1422)	59 (1499)
5104	14.38 (365)	17.75 (451)	66 (1676)	69 (1753)
5105	17.63 (448)	21.00 (533)	66 (1676)	69 (1753)
5106	20.88 (530)	24.25 (616)	77.5 (1969)	80.5 (2045)
5107	24.13 (613)	27.50 (699)	77.5 (1969)	80.5 (2045)
5108	27.38 (695)	30.75 (781)	77.5 (1969)	80.5 (2045)
5109	30.63 (778)	34.00 (864)	88 (2235)	91 (2311)
5110	33.88 (860)	37.25 (946)	88 (2235)	91 (2311)

*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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