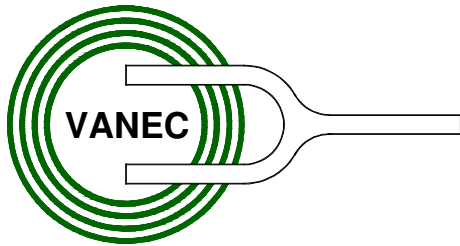


Rotary Positive Blower Silencers

VANEC

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ROTARY POSITIVE BLOWER SILENCER APPLICATION DATA SHEET

Customer:	RFQ:	
Contact:	Phone:	Fax:
Project Ref:	Email:	

Rotary Positive Blower Data (please fill in applicable data and units)

Make:	Model:	bHp:
Blower Type:	Lobe Vane Helical or Axial	RPM:
Timing Gear Diameter:	Rotor Length:	No. of Lobes on Male Rotor:
		Displacement:

Operating Conditions (please include units where applicable)

Service:	Intake Discharge	Process Gas:	Gas MW:	C _p /C _v :	Compressibility:
Process Gas Flow Rate at Intake Conditions:	Blower Intake Pressure:	Blower Intake Temp.:			
Blower Discharge Pressure:	Discharge Temp.:	Site Elevation:	Site Relative Humidity:		
*Unsilenced Blower Sound Power Level:		dB re 10 ⁻¹² watts			
*Unsilenced Sound Pressure Level:		dBa at	feet from blower	intake	outlet

*If available, please attach any unsilenced octave band noise data. This may be measured or predicted by the engine manufacturer.

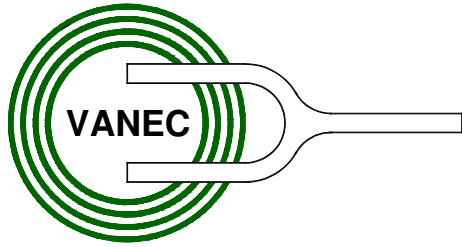
Rotary Positive Blower Silencer Performance Requirements

Required Silenced Noise Level:	dBa at	feet from silencer	intake	outlet
Maximum Allowable Silencer™ Pressure Drop:	psi			

Rotary Positive Blower Silencer Design Requirements

Shell Materials:	Internal Materials:	Silencer Inlet Size & Rating:	Silencer Outlet Size & Rating:
External Finish:	Internal Finish:		
Wind Load:	Seismic Load:		
Supports:	Skirt & Base Ring	Legs	Shell Brackets Saddles Other:
Customer Specifications:			
Comments:			

**** Please fax or Email completed data sheet to VANEC ****



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ROTARY POSITIVE BLOWERS

RECOMMENDED VELOCITY LIMITS

5500 to 6500 FPM

PRESSURE DROP FACTORS

<u>MODEL</u>	<u>PDF</u>
122	4.4
131	4.4
141	4.4
141 12" & larger	5.5
144	5.5

Rotary Positive Blowers are two impeller compressors that function like a high speed reciprocating compressor. Each revolution will displace a large quantity of gas relative to the individual pulse; each revolution will produce (4) pulsations. Blower capacities are expressed in ICFM (Inlet Cubic Feet per Minute). The manufacturer typically specifies blower size by connection size, gear diameter and rotor length. Pitch Line Velocity (PLV) is the gear circumference multiplied by the RPM usually expressed in feet per minute (FPM).

Blower applications involve two acoustic problems, pulsation (4/Revolution) which cause pipe vibration, and high audible noise levels radiating from the blower housing and piping. Pulsation and noise increase proportionately with blower size and the square of the RPM.

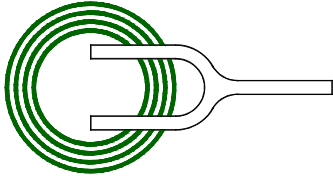
Silencer size and type is determined based on allowable pressure drop and flow, noise reduction required (DIL). The nominal size (nozzle/connection size) of the silencer is based on flow (ICFM). However, the silencer type is selected based on consideration of blower size (gear PLV).

SILENCER MODEL SPECIFICATION

PITCH LINE VELOCITY	INLET SILENCER	DISCHARGE SILENCER
BELOW TRANSITION	142	142
ABOVE TRANSITION	122	122

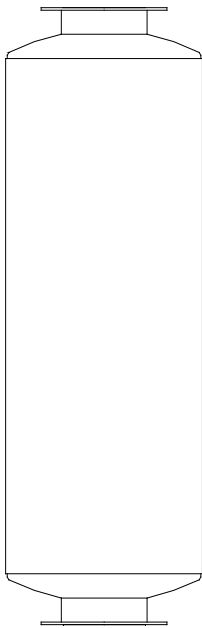
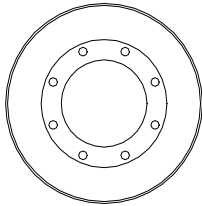
SILENCER CAPACITY

SIZE	CAPACITY (Inlet CFM 14.7 psia & 70°F)					
	INLET SILENCER	DISCHARGE SILENCER				
		4 PSIG	6 PSIG	8 PSIG	10 PSIG	15 PSIG
1	30	35	40	40	40	45
1½	70	80	85	90	95	105
2	120	140	150	160	165	185
2½	190	220	235	245	255	285
3	270	320	335	355	370	415
3½	370	430	455	480	505	560
4	480	560	600	630	660	735
5	750	880	935	985	1,030	1,150
6	1,080	1,260	1,340	1,410	1,480	1,650
8	1,920	2,250	2,390	2,510	2,630	2,940
10	3,000	3,520	3,730	3,930	4,110	4,590
12	4,300	5,070	5,370	5,660	5,920	6,600
14	5,900	6,890	7,310	7,700	8,060	8,990
16	7,700	9,000	9,550	10,000	10,500	11,800
18	9,700	11,400	12,100	12,700	13,300	14,900
20	12,000	14,000	14,900	15,700	16,400	18,400
22	14,500	17,000	18,100	19,000	19,900	22,200
24	17,300	20,200	21,500	22,600	23,700	26,400
26	20,300	23,800	25,200	26,600	27,800	31,000
28	23,500	27,600	29,300	30,800	32,200	36,000
30	27,000	31,700	33,600	35,400	37,000	41,300
EST. TEMP	70°F	115°F	140°F	165°F	190°F	240°F



VANEC

Model 122 Discharge Silencer



Standard Features:

- ✓ All Steel Welded Construction
- ✓ Quality Fabrication Techniques
- ✓ Shell Constructed with Integral Damping
- ✓ Polyester Fiber Absorptive Pack
- ✓ Prime Coated Exterior Surfaces
- ✓ Condensate Drain
- ✓ Plate Flanges Drilled to Match ASA 125# Flanges

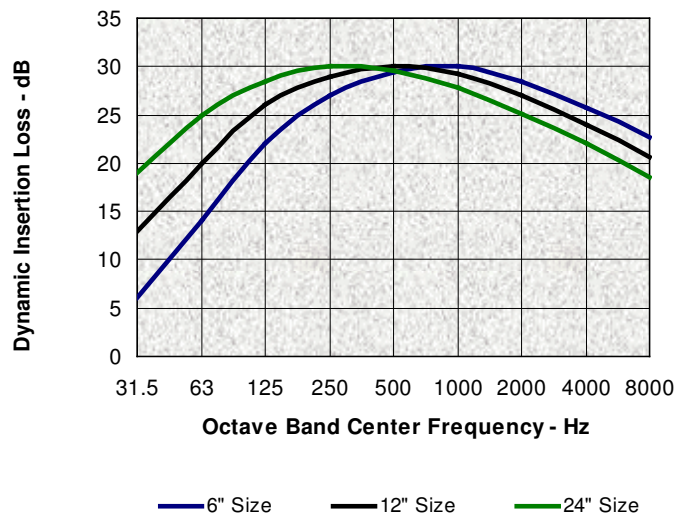
Optional Features:

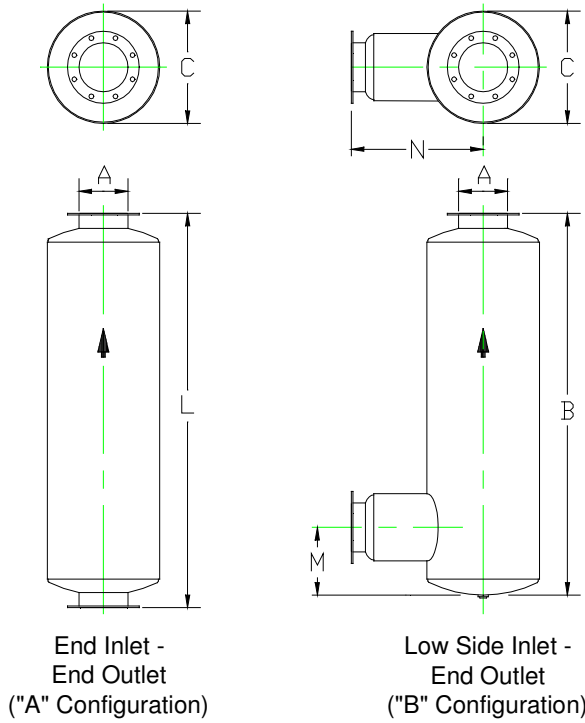
- ✓ Low Side Inlet
- ✓ Materials as Specified
- ✓ Finish as Specified
- ✓ Mounting Brackets or Supports for Vertical or Horizontal Installation
- ✓ Inspection Openings or Man Ways
- ✓ Companion Flanges

Application:

The **VANEC** Model 122 Exhaust Silencer is designed for use in suppressing the discharge noise from rotary positive blowers. The Model 122 may be used to silence an atmospheric or a pressurized discharge below 15 psig.

Typical Performance

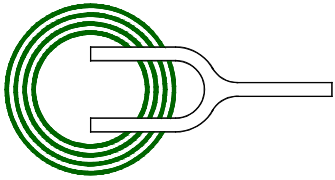




VANEC Model 122

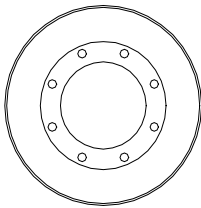
Model	Dimensions in Inches							Est. Wt. Lbs.
	All Models		"A" Config.	"B" Configuration Low Side Inlet			M	
	A	C		L	B	N		
					Min	Max		
122-04	4	10	45	42	12½	7½	16½	50
122-05	5	12	58	55	15½	9	23	80
122-06	6	14	64	61	17	9	25½	110
122-08	8	18	72	69	21½	12	30½	190
122-10	10	22	85	82	25½	13½	37	380
122-12	12	26	98	95	29½	15	44	550
122-14	14	30	111	108	30	16½	50	800
122-16	16	36	137	134	35½	18½	65	1,250
122-18	18	42	150	147	41	20½	70½	1,600
122-20	20	42	176	172	47	21½	87½	1,900
122-22	22	48	195	191	47	23½	93½	2,700
122-24	24	48	213	109	55½	24½	110	3,000

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Model 142 Discharge Silencer



Standard Features:

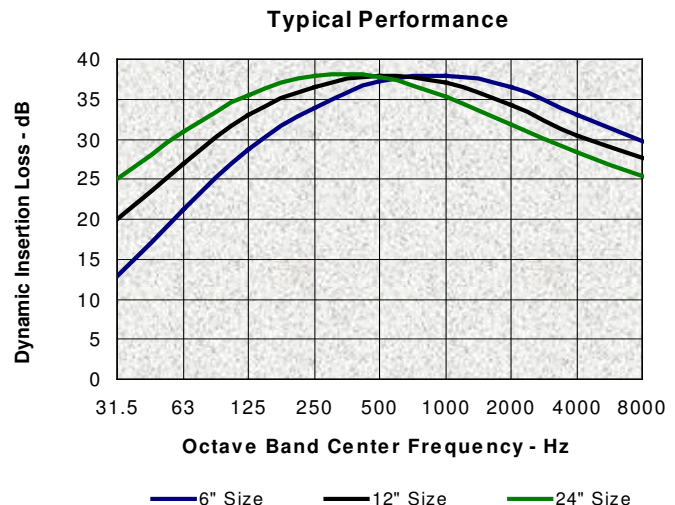
- ✓ All Steel Welded Construction
- ✓ Quality Fabrication Techniques
- ✓ Shell Constructed with Integral Damping
- ✓ Polyester Fiber Absorptive Pack
- ✓ Prime Coated Exterior Surfaces
- ✓ Condensate Drain
- ✓ Plate Flanges Drilled to Match ASA 125# Flanges

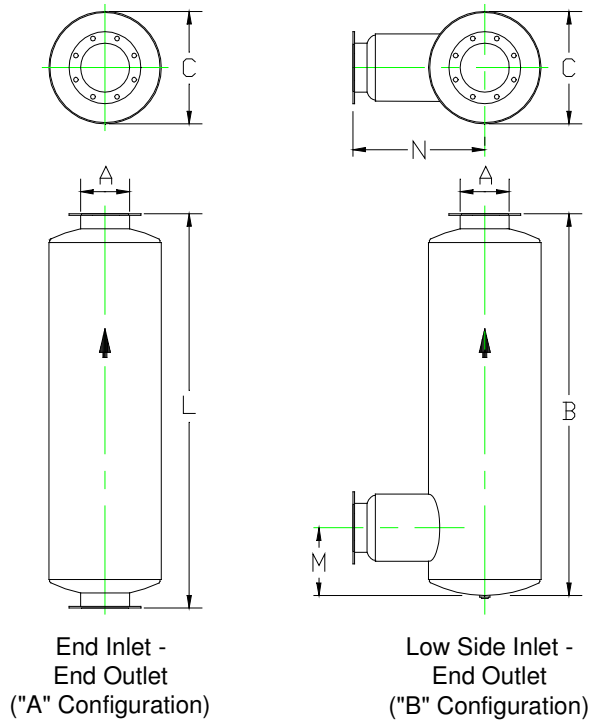
Optional Features:

- ✓ Low Side Inlet
- ✓ Materials as Specified
- ✓ Finish as Specified
- ✓ Mounting Brackets or Supports for Vertical or Horizontal Installation
- ✓ Inspection Openings or Man Ways
- ✓ Companion Flanges

Application:

The **VANEC** Model 142 Exhaust Silencer is designed for use in suppressing the discharge noise from rotary positive blowers. The Model 142 may be used to silence an atmospheric or a pressurized discharge below 15 psig.





VANEC Model 142

Model	Dimensions in Inches							Est. Wt. Lbs.
	All Models		"A" Config.	"B" Configuration Low Side Inlet			M	
	A	C	L	B	N	Min		
142-04	4	14	53	50	14½	8	20	80
142-05	5	16	65	62	16½	9	26½	130
142-06	6	18	72	69	20½	10	30	160
142-08	8	22	97	94	24½	12	45	410
142-10	10	26	122	119	28½	14	60½	600
142-12	12	30	135	132	35	15½	66	900
142-14	14	36	161	158	40½	17½	78	1,400
142-16	16	42	181	178	44½	19½	89	1,800
142-18	18	48	188	185	47	21½	95	2,500
142-20	20	42	202	198	53½	22½	100	2,800
142-22	22	54	204	200	59½	24½	100	3,300
142-24	24	54	239	235	66	25½	123	3,900

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