

# Cylindrical Venturi Vacuum Pumps

## Mid J Series



*JS-200-ST6A used extensively in vent-less molding applications i.e. rubber tire mold evacuation*

### Standard Pump:

The J-100 and J-150 models offer the same performance as their sister pumps, the J-100M and J-150M on page 165, but with larger ports.

The J-200 and 250's offer higher vacuum flows for rapid evacuation of large vessels and to overcome leakage to sustain high vacuum levels while handling porous materials.

Choose from 6 models that can generate up to 28"Hg [948mbar], and 10 SCFM [283LPM] of vacuum flow.

Lightweight, quiet and cool operating, J Series pumps are ideal for confined spaces, where they can be mounted in-line near the point of use for rapid response. The single-stage design allows ingested contaminants to flow through the pump without clogging ensuring continuous operation. Constructed of a single material, with no seals or moving parts, J Series pumps are virtually indestructible. They can be manufactured in a variety of materials, making them ideal for use in adverse operating conditions.

J Series pumps provide a constant vacuum flow, rather than a fluctuating flow typically associated with diaphragm pumps. They operate with an instantaneous response in pulsed applications or on a continuous basis.

J Series pumps can be powered by alternate media (gases, liquids) etc. For liquid powered pumps please see our JW series on page 183.

### Performance Level Designation:

"JF" 0-10"Hg, [0 to 339mbar] for low vacuum / high flow applications

"JD" 0-20"Hg, [0 to 677mbar] for medium vacuum / high flow applications

"JS" 0-28"Hg, [0 to 948mbar] for high vacuum / standard flow applications

### Ideal Applications:

- Pick and place medium to large size objects
- End-of-Arm Tooling / Robotics
- Vessel evacuation – molds/tanks/bottles/drums
- Packaging – bag/box/carton folding and handling
- Vacuum clamping/holding – fixtures, veneers
- Vacuum filling/bottling operations
- Food processing applications
- High temperature applications
- Caustic applications

### Features/Benefits

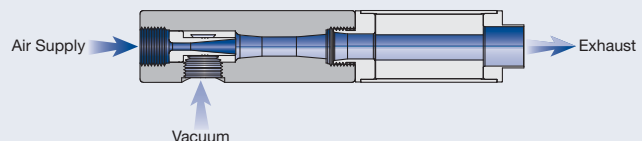
- High performance – powerful vacuum up to 28"Hg [948mbar]
- Durable – rugged aluminum body construction
- Compact & lightweight – easily fits in confined spaces
- Fast response – Mounts in-line, and installs close to vacuum point – no delay due to long plumbing lines
- Efficient – Minimal air consumption, provides instantaneous vacuum as needed
- Safe operation – No electricity needed
- Reliable, trouble-free operation
  - ~ No moving parts to wear
  - ~ No flap valves to stick open
  - ~ No maintenance
  - ~ No downtime

### Pump Options:

- Silencers: AA6-closed end silencer, ST6A – straight-through silencer won't clog, STAA6 silencers for ultra quiet operation and FA-51-3/8 for high-flow applications
- G port threads for metric machines – an "I" prefix designates products with metric threads
- Choice of operating pressures to meet machine and factory air requirements (80 PSI [5.5 BAR] standard, 60 PSI [4.0 BAR] optional).
- For chemical compatibility requirements, high temperature, food, medical and caustic applications, custom materials are available including stainless steel, PEEK, Delrin,™ Teflon,™ PVC.

### Principles of Operation:

Vacuum is produced by forcing compressed air through a limiting orifice (nozzle). As the air exits the orifice it expands, increasing in velocity to supersonic speed before entering the venturi section (diffuser). This creates a vacuum at the vacuum inlet port located between the nozzle and diffuser.



### Eliminate the Guesswork: Contact Us!

Vacuum technology isn't an exact science. To ensure proper product selection, Vaccon offers free application engineering assistance, a 30 Day Test & Evaluation Program or you can send sample products to our in-house test facility and we will test and size a pump for you.

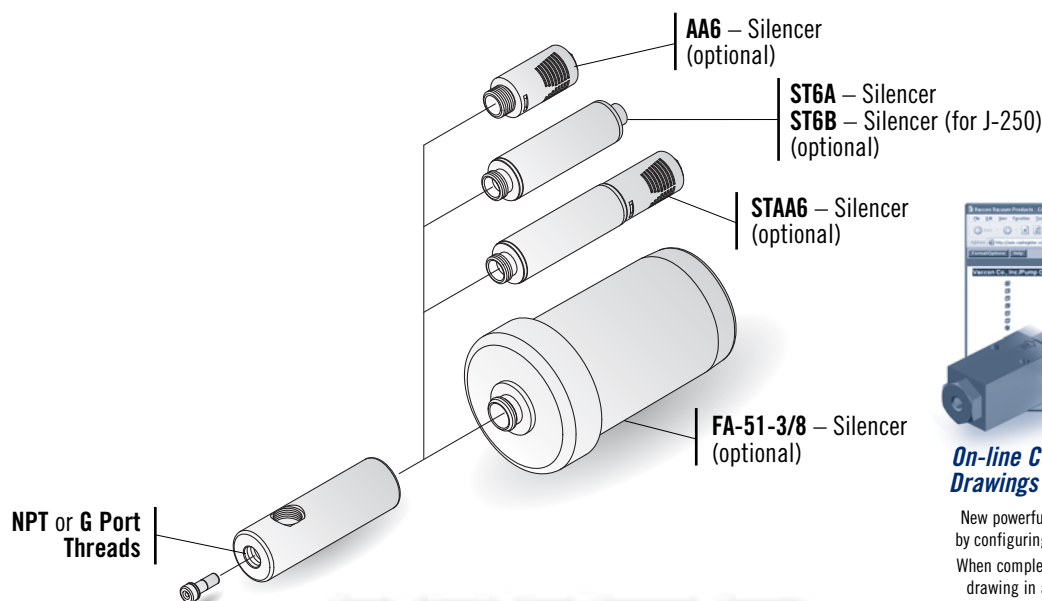
To download a complete set of drawings in 13 different CAD formats, please visit our website at [www.vaccon.com](http://www.vaccon.com)

For more information or technical assistance, please call 508-359-7200 or 800-848-8788 or email [engineering@vaccon.com](mailto:engineering@vaccon.com)

# Cylindrical Venturi Vacuum Pumps

## J (F, D, S)-(100, 150, 200, 250) Series – Configurations and Options:

All Vaccon pumps offer a variety of options and accessories to meet your specific requirements. Please configure your pump from the options listed below.



**On-line Configurator and CAD Drawings @ [www.vaccon.com](http://www.vaccon.com)**

New powerful design tool saves you time by configuring the pump you need on-line. When complete, simply download the CAD drawing in any one of 13 different CAD formats and insert it right into your design.

**Get the pump you need, in the format you like!**

### How to Specify:

P/N	Thread	Max. Vac Level
JF	NPT	10"Hg [339mbar]
JD	NPT	20"Hg [677mbar]
JS	NPT	28"Hg [948mbar]
I-JF	G Port	10"Hg [339mbar]
I-JD	G Port	20"Hg [677mbar]
I-JS	G Port	28"Hg [948mbar]

P/N	Max. Flow Level
-100	
-150	
-200	
-250	

P/N	Operating Pressure
	80 PSI [5.5 BAR] (Standard)
60	60 PSI [4.0 BAR]



P/N	Material
	Anodized Aluminum
303	303 Stainless Steel
304	304 Stainless Steel
316	316 Stainless Steel
316L	316 Low Carbon Stainless
PVC	PVC
TEF	PTFE
PK	PEEK
DEL	Acetal

P/N	Silencer*
	No Silencer (Standard)
AA6	AA6 – Closed-End
ST6A	ST6A – Straight-Through
ST6B	ST6B – Straight-Through (for J-250 Series)
STAA6	STAA6 – Hybrid
FA-51-3/8	FA-51-3/8 – High Flow

For complete Performance Data, see page 187.

\*Vaccon strongly recommends the use of silencers on all pumps except where the exhaust is plumbed away.

### J Series 100-250 Cylindrical Vacuum Pump Standard Specifications:

<b>Pump Material:</b>	Anodized Aluminum (for silencer material - See pages 237-239)
<b>Medium:</b>	Filtered (50 Micron) un-lubricated, non-corrosive dry gases
<b>Operating Temperature:</b>	-100°F~400°F [-73°~204°C] (without silencer)
<b>Operating Pressure:</b>	80 PSI [5.5 BAR] or 60 PSI [4.0 BAR] – Consult Factory for other operating pressures

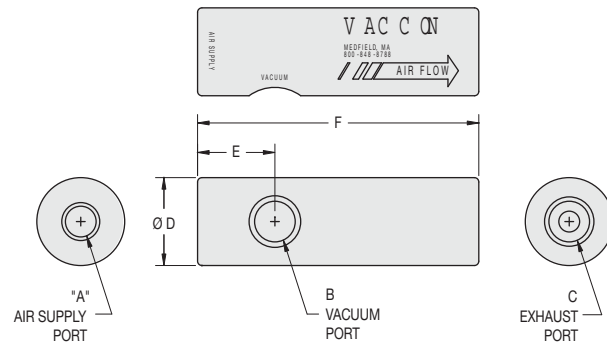
### J Series 100-250 Cylindrical Vacuum Pump Operating and Installation Instructions:

<b>Supply Line:</b>	Minimum recommended – 3/8" O.D. [10mm] Preferred – 1/2" [12mm] OD tubing – for J250's
<b>Vacuum Line:</b>	Minimum recommended – 3/8" O.D. [10mm] Preferred – 1/2" [12mm] OD tubing – for J250's
<b>Vacuum Line Filtration:</b>	Typically filters are not required, if desired Vaccon recommends – VF375F. See page 282.

## Standard Pump: J (F, D, S) – (100, 150, 200, 250)



JD-100



### Specifications:

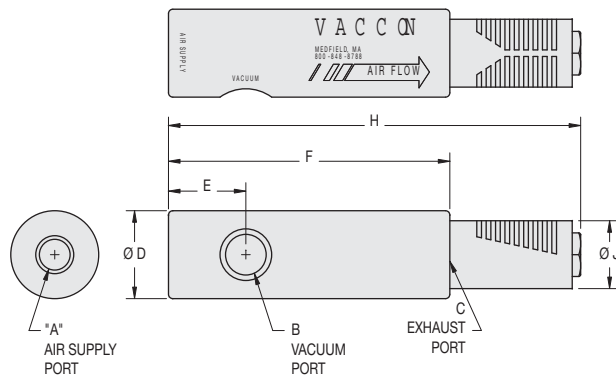
**Weight:** 6.9 oz [195.6g]  
**Noise Level:** Vaccon highly recommends the use of silencers on all vacuum pumps unless the exhaust is being plumbed away.

Model #	Imperial Dimensions (in.)					
	A	B	C	D	E	F
J (F, D, S) – (100-250)	1/4 NPT F	3/8 NPT F	3/8 NPT F	1.25	1.10	4.00
Model #	Metric Dimensions (mm)					
	A	B	C	D	E	F
I-J (F, D, S) – (100-250)	G 1/4	G 3/8	G 3/8	31.8	27.9	101.6

## J (F, D, S) – (100, 150, 200) Pump – Optional Silencer: AA6



JS-200-AA6 (AA6 silencer not recommended on J-250 pumps)



### Specifications:

**Weight:** 7.2 oz [204.1g]  
**Noise Level:** 70 dB

Model #	Imperial Dimensions (in.)							
	A	B	C	D	E	F	H	J
J (F, D, S) – (100, 150, 200) - AA6	1/4 NPT F	3/8 NPT F	3/8 NPT F	1.25	1.10	4.00	5.86	1.00
Model #	Metric Dimensions (mm)							
	A	B	C	D	E	F	H	J
I-J (F, D, S) – (100, 150, 200) - AA6	G 1/4	G 3/8	G 3/8	31.8	27.9	101.6	148.8	25.4

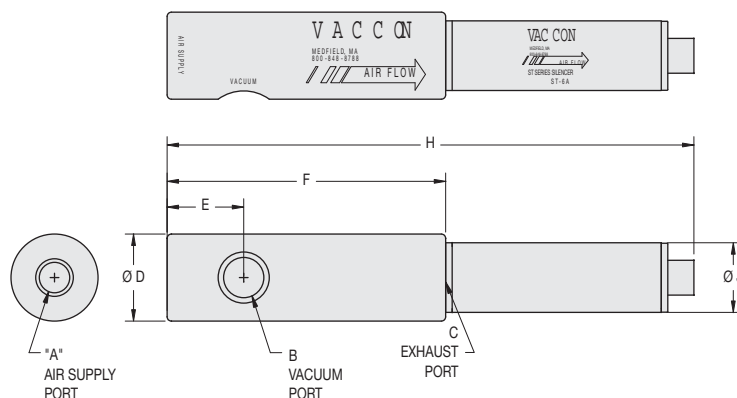
## J (F, D, S) – (100, 150, 200, 250) Pump – Optional Silencer: ST6A



JF-150-ST6A

### Specifications:

**Weight:** 8.6 oz [243.8g]  
**Noise Level:** 72 dB



Model #	Imperial Dimensions (in.)							
	A	B	C	D	E	F	H	J
J (F, D, S) – (100-250) - ST6A	1/4 NPT F	3/8 NPT F	3/8 NPT F	1.25	1.10	4.00	7.57	1.00
Model #	Metric Dimensions (mm)							
	A	B	C	D	E	F	H	J
I-J (F, D, S) – (100-250) - ST6A	G 1/4	G 3/8	G 3/8	31.8	27.9	101.6	192.2	25.4

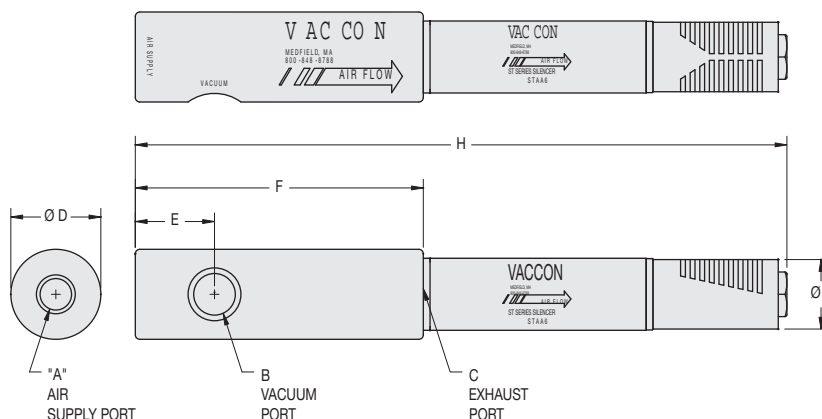
## J (F, D, S) – (100, 150, 200) Pump – Optional Silencer: STAA6



JS-200-STAA6 (STAA6 silencer not recommended on J-250 pumps)

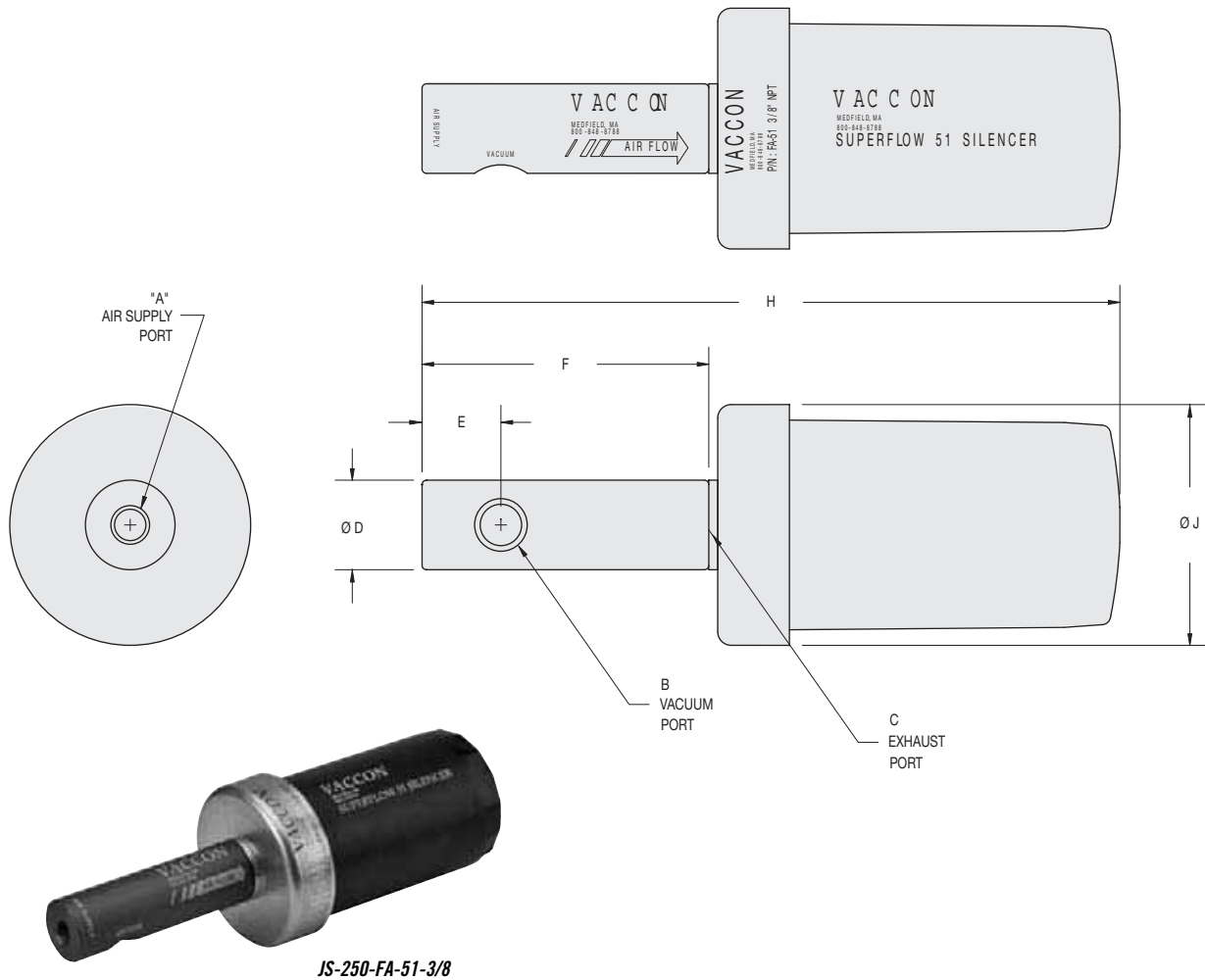
### Specifications:

**Weight:** 8.7 oz [246.6g]  
**Noise Level:** 66 dB



Model #	Imperial Dimensions (in.)							
	A	B	C	D	E	F	H	J
J (F, D, S) – (100, 150, 200) - STAA6	1/4 NPT F	3/8 NPT F	3/8 NPT F	1.25	1.10	4.00	9.05	1.00
Model #	Metric Dimensions (mm)							
	A	B	C	D	E	F	H	J
I-J (F, D, S) – (100, 150, 200) - STAA6	G 1/4	G 3/8	G 3/8	31.8	27.9	101.6	229.9	25.4

## J (F, D, S) – (100, 150, 200, 250) Pump – Optional Silencer: FA-51-3/8



### Specifications:

**Weight:** 1 lb. 4 oz [567g]  
**Noise Level:** 72 dB

Model #	Imperial Dimensions (in.)							
	A	B	C	D	E	F	H	J
J (F, D, S) – (100-250) - FA-51-3/8	1/4 NPT F	3/8 NPT F	3/8 NPT F	1.25	1.10	4.00	9.74	3.36
Model #	Metric Dimensions (mm)							
	A	B	C	D	E	F	H	J
I-J (F, D, S) – (100-250) - FA-51-3/8	G 1/4	G 3/8	G 3/8	31.8	27.9	101.6	247.3	85.3

**Note:** RF-51 - Silencer replacement element available – see page 239.