



Ultra-Mini Cylindrical Venturi Vacuum Pumps

Ultra-Mini J Series: JS-40UM



JS-40UM generates 27" Hg and weighs less than 1 oz



Ultra-mini pump for drip control in dispensing applications

Standard Pump:

The JS-40UM (Ultra-Mini) cylindrical venturi vacuum pump is the smallest complete venturi vacuum pump that Vaccon offers. Incredibly compact and powerful – it measures the size of your finger tip and generates up to 27" Hg [914mbar]. 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.

Ideal Applications:

- Gas sampling and analysis
- Leak testing
- Portion/ drip control (suck-back) for dispensing liquids
- Liquid transfer
- Pick & place for small, non porous parts
- Small vessel evacuation
- Used as vacuum source for vacuum pencil kit (see page 277)

Features/Benefits

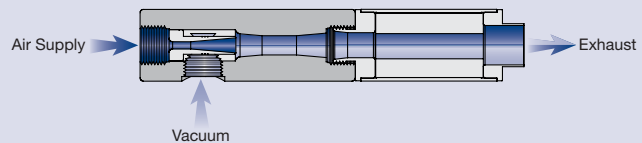
- High performance - powerful vacuum up to 27" Hg [914mbar]
- Lightweight – less than 1 oz. [28.3g]
- Compact – 1.25" x .56" OD [31.75mm x 14.22 mm OD]
- Input pressure from 5 PSI [0.34 bar]
- Fast response – Mounts in-line, and installs close to vacuum point – no delay due to long plumbing lines
- Efficient – 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:

- Optional Silencer: VCF2-1032M
- Choice of operating pressures to meet machine and factory air supply 80 PSI [5.5 bar] standard, 60 PSI [4.1 bar] optional
- G port threads for metric machines – an "I" prefix designates products with metric threads
- 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!

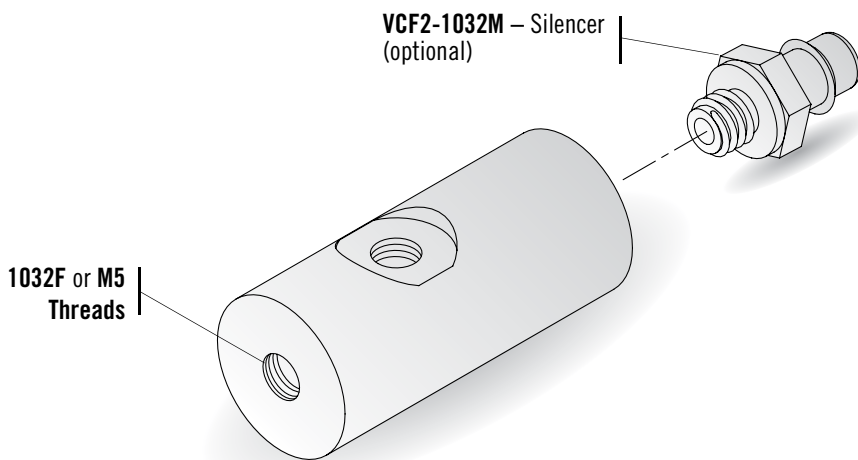
Vacuum technology isn't an exact science. To ensure proper product selection, Vaccon offers free application engineering assistance, a 30 Day Test & Evaluation Program or you can send sample products to our in-house test facility and we will test and size a pump for you.

To download a complete set of drawings in 13 different CAD formats, please visit our website at www.vaccon.com

For more information or technical assistance, please call 508-359-7200 or 800-848-8788 or email engineering@vaccon.com

JS-40UM (Ultra Mini) Vacuum Pump – 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.



CONFIGURE AND ORDER ON-LINE



VACCON.COM
VACUUM PRODUCTS

Let us help you get the pump you need

[Click Here](#)

How to Specify:

JS-40UM - 60 - VCF2 - 303

P/N	Imp. Thread	Max. Vac.
JS-40UM	1032F	27"Hg [914 mbar]

P/N	Metric Thread	Max. Vac.
I-JS-40UM	M5	27"Hg [914 mbar]

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

For complete Performance Data, see page 147.

P/N	Material
	Anodized Aluminum (Standard)
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)
VCF2	VCF2-1032M (Straight-through)

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

JS-40UM Pump Standard Specifications:

- Pump Material:** Anodized Aluminum Standard (Silencer material – Brass)
- Medium:** Filtered (50 Micron) un-lubricated, non-corrosive dry gases
- Operating Temperature:** -100° to ~400°F [-73° to ~204°C] (without silencer)
- Operating Pressure:** 80 PSI [5.5 bar] or 60 PSI [4.1 bar] – Consult Factory for other operating pressures

JS-40UM Pump Operating & Installation Requirements:

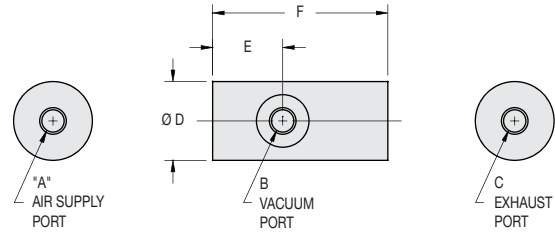
- Supply and Vacuum Lines:** Min. 5/32" [4mm], 1/4" O.D. [6mm] tube preferred for supply lines exceeding 3' [1M]
- Vacuum Line Filtration:** Not required



Standard Pump: JS-40UM



Standard JS-40UM without silencer.



Specifications:

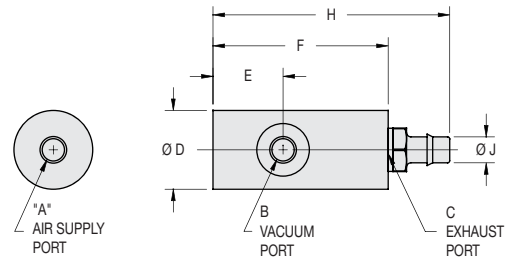
Weight 0.3 oz [8.5g]
Noise Level 58 dB

Model #	Imperial Dimensions (in.)					
	A	B	C	D	E	F
JS-40UM	10-32F	10-32F	10-32F	0.56	0.45	1.45
Model #	Metric Dimensions (mm)					
	A	B	C	D	E	F
I-JS-40UM	M5	M5	M5	14.3	11.4	36.8

JS-40UM: Optional Silencer: VCF2-1032M



JS-40UM-VCF2



Specifications:

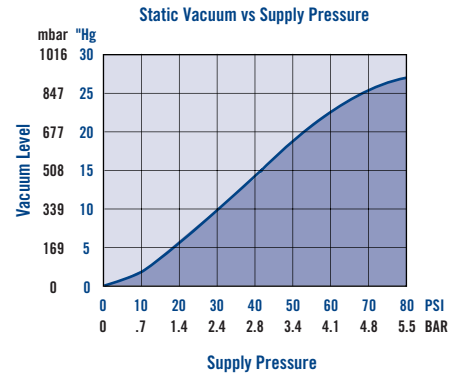
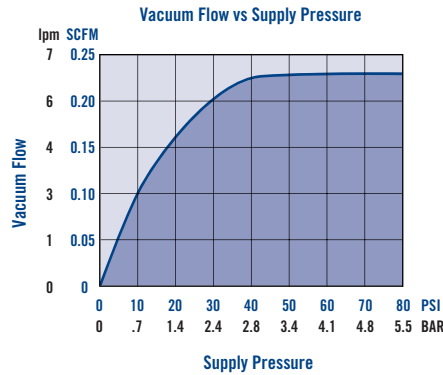
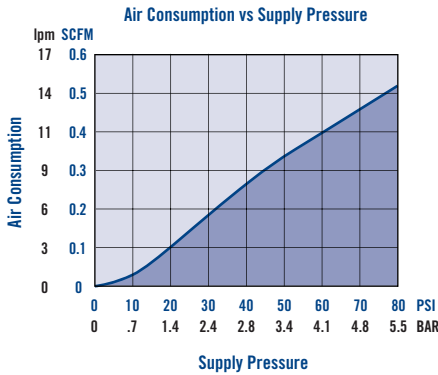
Weight 0.4 oz [9.6g]
Noise Level 54 dB

Model #	Imperial Dimensions (in.)							
	A	B	C	D	E	F	H	J
JS-40UM-VCF2	10-32F	10-32F	10-32F	0.56	0.45	1.45	1.90	0.19
Model #	Metric Dimensions (mm)							
	A	B	C	D	E	F	H	J
I- JS-40UM-VCF2	M5	M5	M5	14.3	11.4	36.8	48.3	4.7

Performance Data – JS-40UM Imperial and Metric

Model #	Air Consumption (SCFM) @ 80 PSI	Imperial - Vacuum Flow (SCFM) vs Vacuum Level ("Hg) @ 80 PSI									
		0"Hg	3"Hg	6"Hg	9"Hg	12"Hg	15"Hg	18"Hg	21"Hg	24"Hg	27"Hg
JS-40UM	0.52	0.23	0.20	0.17	0.15	0.13	0.10	0.08	0.05	0.03	0.00
		Imperial - Evacuation Time (Seconds) Based on 1 cu. ft. Volume ("Hg)									
		0"Hg	3"Hg	6"Hg	9"Hg	12"Hg	15"Hg	18"Hg	21"Hg	24"Hg	27"Hg
		0.00	24.80	54.40	89.50	130.30	178.30	240.40	334.50	516.70	1028.00

Model #	Air Consumption L/min	Metric - Vacuum Flow (L/min) vs Vacuum Level (mbar)									
		0mbar	102mbar	203mbar	305mbar	406mbar	508mbar	609mbar	711mbar	813mbar	914mbar
I-JS-40UM	14.7	6.5	5.7	4.8	4.2	3.7	2.8	2.3	1.4	0.8	0.0
		Metric - Evacuation Time (Seconds) Based on 1 liter Volume (mbar)									
		0mbar	102mbar	203mbar	305mbar	406mbar	508mbar	609mbar	711mbar	813mbar	914mbar
		0.0	0.9	1.9	3.2	4.6	6.3	8.5	11.8	18.2	36.3



Note 1: Standard operating pressure for Vaccon pumps is 80 PSI [5.5 bar]. Pumps can be factory modified to run at other operating pressures i.e. 60 PSI [4.1 bar], 50 PSI [3.4 bar] etc. The values shown on the performance chart will remain the same for all operating pressures.

Note 2: Evacuation speed is linear with volume i.e. a two cu. ft volume will take twice as long to evacuate as a 1 cu. ft. volume.