

# Mid Series Venturi Vacuum Pump with Solenoid Operated Vacuum and Blow-off

## Fastvac Mid Series: VP30QR



*VP30QR-60M/24vDC with VG-150 vacuum gauge and VSMP-QD switch with quick disconnect*

### Standard Pump:

VP30QR Fastvac Mid Series are solenoid-controlled venturi vacuum pumps that feature a second solenoid to control blow-off air for rapid part release. VP30QR pumps generate vacuum only when needed, minimizing compressed air consumption.

Design flexibility is further increased with our interchangeable venturi cartridge system. Choosing from 11 different venturi cartridges, designers optimize performance to meet their needs.

Lightweight and compact, VP30 pumps are placed at the point of use to eliminate plumbing between components and to ensure high cycle rates for increased productivity. Extremely dirt tolerant, filters are not required. Push-to-connect air supply and vacuum lines save space and assembly time.

### Performance Level Designations:

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

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

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

### 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)

### Ideal Applications:

Pick and place for applications requiring accurate part placement:

- Automated assembly
- Robotics
- Material handling

### Features/Benefits:

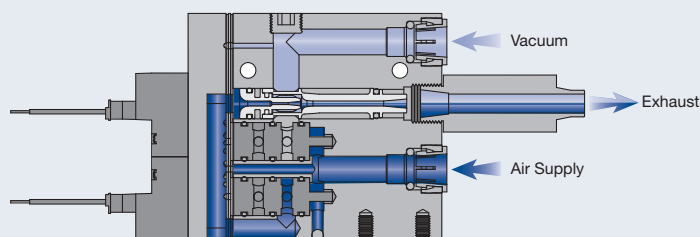
- Precise control – individual electrical connections let you control the vacuum and the blow-off duration time.
- Instantaneous vacuum as needed – minimal air consumption
- High Productivity – fast part release with cycle rates up to 2700/min
- Accurate part positioning from positive vacuum and rapid blow-off
- Easy installation – modular design speeds installation and minimizes assembly
- Fast response – no delay due to long plumbing lines; installs close to vacuum point
- Reliable, trouble-free operation
  - ~ No moving parts to wear
  - ~ No maintenance
  - ~ No downtime

### Pump Options:

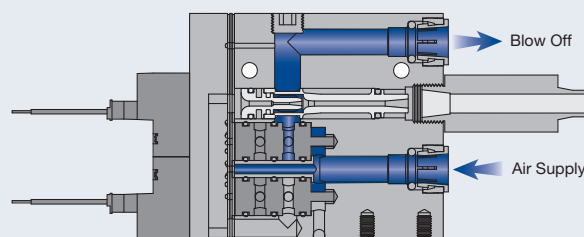
- Interchangeable venturi cartridges – 11 different performance levels
- Choice of valve voltage – 24vDC or 110vAC
- Factory-installed miniature vacuum switches or sensors for reliable part detection
- ST4 (straight-through) silencer that allows ingested debris to pass through pump without clogging or STAA4 hybrid silencer for ultra quiet operation
- Choice of operating pressures to meet machine and factory air supply 80 PSI [5.5 BAR] standard, 60 PSI [4.0 BAR] optional.

# Modular Venturi Vacuum Pumps with Solenoid-Operated Vacuum and Blow-Off

## Principles of Operation: VP30QR



Compressed air is supplied to both N.C. solenoid valves simultaneously. To create vacuum, energize the first solenoid valve to allow the compressed air to flow to the venturi cartridge resulting in instant vacuum at the vacuum port.



To release the part, de-energize the vacuum solenoid while energizing the blow-off solenoid. Because the blow-off air is at line pressure a very powerful blow-off will be created.

## VP30QR Standard Pump Specifications:

|                               |  |
|-------------------------------|--|
| <b>Body Material:</b>         | Anodized Aluminum, Buna-N, Brass, Acetal (For silencer material, see pages 233-237)  |
| <b>Cartridge Material:</b>    | Nylon, Buna-N (Other materials available, see page 7)                                |
| <b>Medium:</b>                | Filtered (50 Micron) un-lubricated, non-corrosive dry gases                          |
| <b>Operating Temperature:</b> | -23°~122° F [-5°~50°C]   |
| <b>Operating Pressure:</b>    | 80 PSI [5.5 BAR] or 60 PSI [4.0 BAR] — Consult Factory for other operating pressures |

## 3-Way Pilot Valve Specifications

|                                  |   |
|----------------------------------|---|
| <b>Valve Type:</b>               | Integral 3-way solenoid, 24vDC or 110vAC, Normally closed |
| <b>Valve Body Material:</b>      | Copper, Nylon, Stainless Steel                            |
| <b>Valve Seal Material:</b>      | Buna-N  |
| <b>Valve Operating Pressure:</b> | 0 to 100 PSI [0 to 7 BAR]                                 |
| <b>Average Life:</b>             | 50 million cycles or better                               |
| <b>Power Consumption:</b>        | 24vDC: 1.3 watts, 110vAC: 1.0 watts                       |
| <b>Response Time:</b>            | 8 milliseconds  |
| <b>Cycle Rate:</b>               | 45 cycles per second                                      |
| <b>Electrical Connection:</b>    | 2 pole plug-in cable with 24 AWG, 3' [1M] flying leads    |
| <b>Manual Override:</b>          | Yes, non-locking, spring return                           |

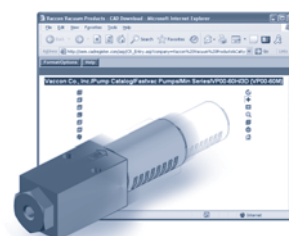
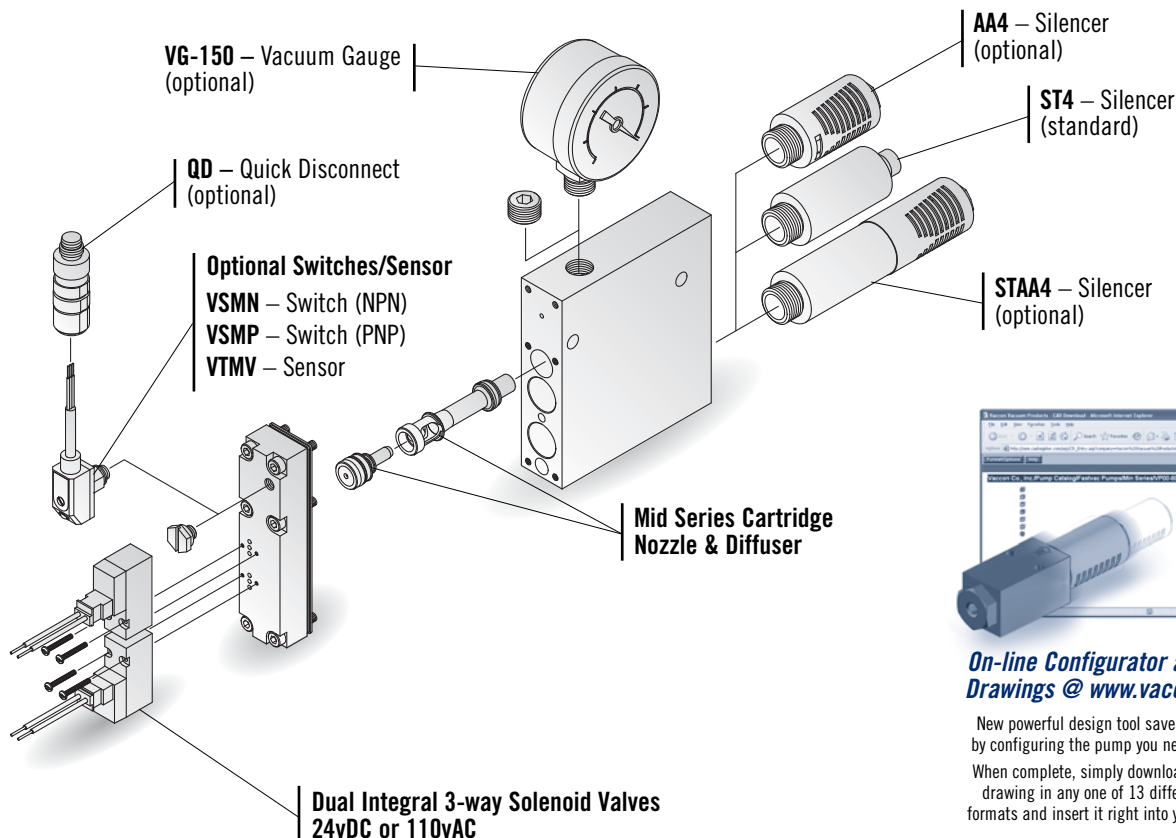
## VP30QR Operating and Installation Instructions:

|                                |  |  |
|--------------------------------|--|--|
| <b>Cartridge size:</b>         | <b>C60 (M, H) and C90 (L, M, H)</b>  | <b>C100 (L, M, H) and C150 (L, M, H)</b> |
| <b>Supply Line:</b>            | 1/4" O.D. [6mm] tube recommended   | 3/8" O.D. [10mm] tube recommended        |
| <b>Vacuum Line:</b>            | 3/8" O.D. [10mm] tube recommended  | 3/8" O.D. [10mm] tube recommended        |
| <b>Vacuum Line Filtration:</b> | Typically filters are not required, if desired Vaccon recommends — VF250F. See page 282. |  |
| <b>Mounting Holes:</b>         | Mounting holes accept 10-32 [M5] screws  |  |

# Modular Venturi Vacuum Pumps with Solenoid-Operated Vacuum and Blow-Off

## VP30QR Mid 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:

**VP30QR - 60 H - 110vAC - 60 - ST4 - VSMP**

| P/N    | Thread |
|--------|--------|
| VP30QR | NPT    |

| P/N  | Max. Flow Level |
|------|-----------------|
| -60  |                 |
| -90  |                 |
| -100 |                 |
| -150 |                 |

| P/N | Max. Vac Level  |
|-----|-----------------|
| L   | 10"Hg [339mbar] |
| M   | 20"Hg [677mbar] |
| H   | 28"Hg [948mbar] |

| P/N    | Voltage |
|--------|---------|
| 24vDC  | 24vDC   |
| 110vAC | 110vAC  |

| P/N | Vacuum Gauge |
|-----|--------------|
|-----|--------------|

VG-150 Vaccon does not recommend shipping gauges attached to pumps. Please specify as a separate line item.

| P/N     | Switch/Sensor             |
|---------|---------------------------|
|         | None (Standard)           |
| VSMN    | Switch - NPN              |
| VSMP    | Switch - PNP              |
| VTMV    | Sensor - 0-5VDC Output    |
| VSMN-QD | Switch w/Quick Disconnect |
| VSMP-QD | Switch w/Quick Disconnect |
| VTMV-QD | Sensor w/Quick Disconnect |

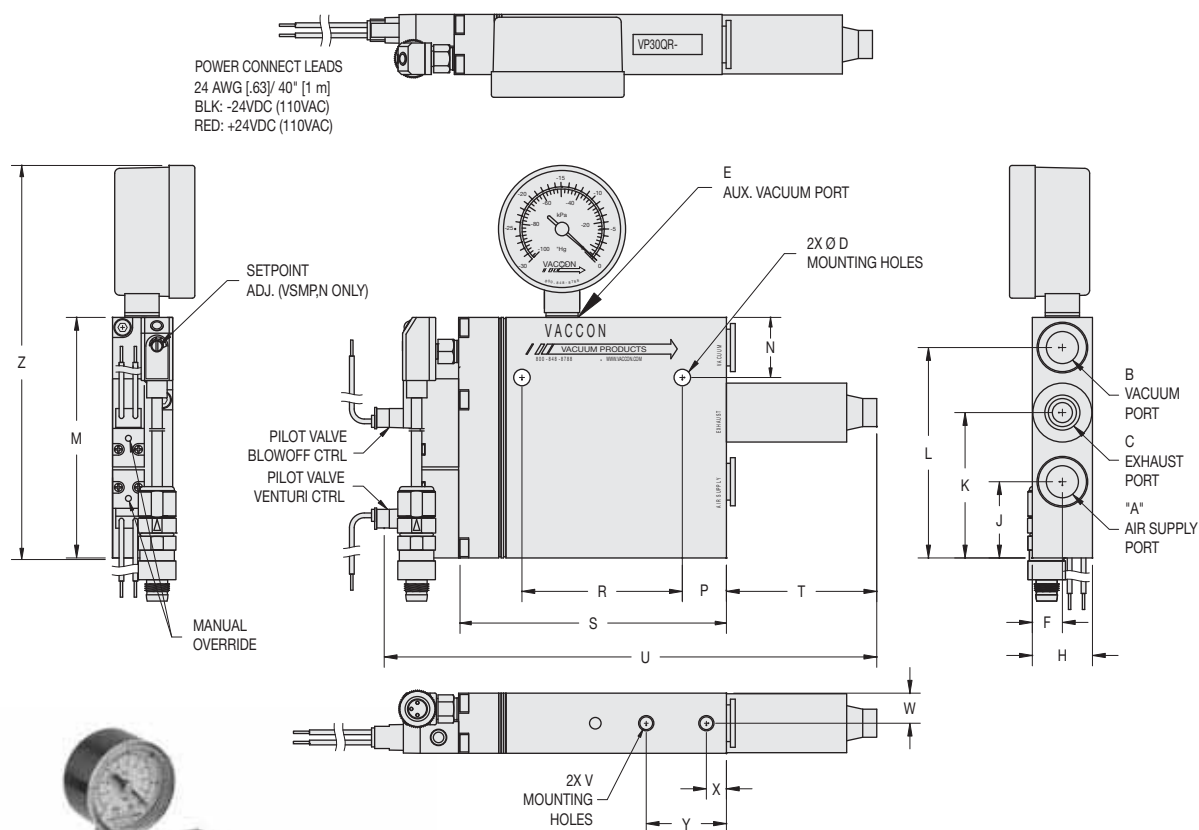
| P/N   | Silencer                     |
|-------|------------------------------|
|       | ST4 - Straight-Through (Std) |
| AA4   | Closed-End                   |
| STAA4 | Hybrid                       |

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

For complete Performance Data, see page 150.

# Modular Venturi Vacuum Pumps with Solenoid-Operated Vacuum and Blow-Off

**VP30QR-(60, 90, 100, 150) (L, M, H)/(24vDC or 110vAC): Optional Vacuum Gauge VG-150, Ultra Mini Switches/Sensor and Quick Disconnect -QD**



**VP30QR-100H/110vAC-VSMP-QD switch with quick disconnect and VG-150 vacuum gauge**

*For optional silencer dimensions, see pages 233-237.*

## Specifications:

**Weight:** 11.5 oz [328g]  
**Noise Level:** 66 dB

| Model #                     | Imperial Dimensions (in.) |         |           |      |           |      |      |      |      |      |      |      |      |      |      |      |       |       |      |      |
|-----------------------------|---------------------------|---------|-----------|------|-----------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|------|
| VP30QR w/VG-150, VSMP-QD    | A                         | B       | C         | D    | E         | F    | H    | J    | K    | L    | M    | N    | P    | R    | S    | T    | U     | V     | W    | X    |
|                             | 3/8 PTC                   | 3/8 PTC | 1/4 NPT F | 0.21 | 1/8 NPT F | 0.38 | 0.75 | 0.95 | 1.81 | 2.62 | 3.00 | 0.75 | 0.55 | 2.00 | 3.34 | 1.88 | 6.14  | 10-32 | 0.38 | 0.25 |
| Model #                     | Metric Dimensions (mm)    |         |           |      |           |      |      |      |      |      |      |      |      |      |      |      |       |       |      |      |
| I- VP30QR w/VG-150, VSMP-QD | A                         | B       | C         | D    | E         | F    | H    | J    | K    | L    | M    | N    | P    | R    | S    | T    | U     | V     | W    | X    |
|                             | 10mm                      | 10mm    | G 1/4     | 5.2  | G 1/8     | 9.5  | 19.1 | 24.1 | 46.1 | 66.6 | 76.2 | 19.1 | 14.0 | 50.8 | 84.8 | 47.6 | 156.0 | M5    | 9.5  | 6.4  |