

# Технические характеристики

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# Agilent Dry Scroll Pumps

## Are Agilent scroll pumps really dry?

Yes, and that makes all the difference for research and industrial applications.

### Better performance than pumps of similar size

Isolated Dry Pumps (IDP) rapidly pump down to low base pressures, maximizing turbo pump performance and system reliability.

### A cleaner environment inside—and outside—your lab

IDP scroll pumps do not use oil, which can spill, leak, or infiltrate the vacuum system. They also eliminate the risk of hydrocarbon contamination in the vacuum system. Perhaps most importantly, IDP scroll pumps reduce pollutants in our air, water, and soil.

### Less downtime, lower ownership costs

Unlike traditional pumps that demand hours of scheduled maintenance, IDP scroll pumps require a simple seal replacement that takes about 15 minutes. And even this procedure can be performed infrequently, because Agilent solid tip seals are built to last up to three years.

Dry scroll pumps also eliminate expensive oil topping, changing, and disposal—plus the risk of pump seizure. Even better, you won't have to worry about oil leaks/spills, or hazardous waste disposal of used oil.

### Easy installation and integration

With their small footprint, lighter weight, and minimal power requirements, IDP pumps accommodate any system design. They place little burden on utilities, require no special voltage, and are suitable for use inside cabinet enclosures. Agilent IDP scroll pumps also use standard IEC power cords that are not hard-wired to the motor.

### A more pleasant workday

The innovative scroll design reduces noise and vibration without using a quiet cover. Plus, there's no hydrocarbon exhaust and no oil mist filter required.

## How does the scroll mechanism work?

Agilent IDP pumps generate vacuum using a simple dual-scroll mechanism, in which one nested scroll orbits within the other, creating moving zones of captured gas. After the gas enters the scroll set at the perimeter, it is displaced and compressed toward the center hub, where it is exhausted.



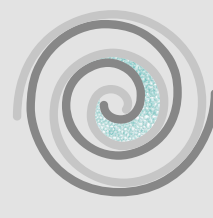
Gas enters scroll set



Gas is displaced and...



...compressed toward center hub



Gas is exhausted at center hub

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# Agilent Dry Scroll Pumps

## Proven reliability

With over 25,000 Agilent manufactured scroll pumps operating worldwide, Agilent scroll technology has demonstrated exceptional reliability.

## IDP series scroll pumps

These pumps employ a single-stage design that delivers a dry vacuum in an economical, reliable package making the pumps ideally suited for many applications, such as analytical instruments and Research and Development.

This simple design uses proven seal technology for longer, demonstrated maintenance intervals.



## Single-sided scroll

The IDP series enables quick and easy tip seal changes.

## Agilent TriScroll and TriScroll Inverter pumps

These two-stage scroll pumps achieve the lowest ultimate pressure of any dry pump technology in the market today.



## Unique TriScroll design

Delivers high pumping speed and achieves low ultimate pressure, within a compact design.

## Inverter-driven scroll pumps

These pumps deliver constant pumping speed worldwide, regardless of line frequency. Inverters enable selection of the optimal pumping speed for any application by adjusting the rotational speed of the pump.

A 9-pin D-shell connector allows remote start and stop with contact closure, and the serial interface enables monitoring of the pump parameters and remote start capability.

*For more information, see Pages 24-28*







IDP-3

IDP-7

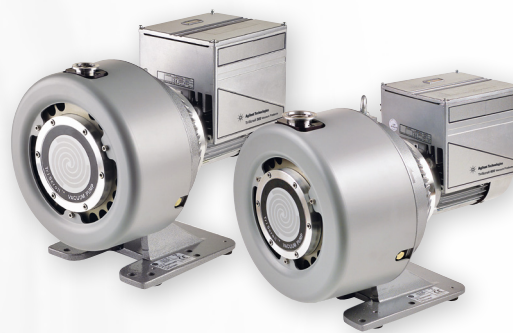
IDP-10

IDP-15



TriScroll 300

TriScroll 600



TriScroll 300  
Inverter

TriScroll 600  
Inverter



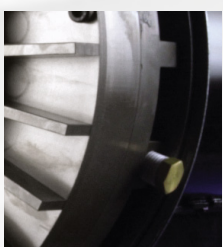
Gas ballast port

Improves tolerance for water vapor and handling of condensable gases for consistent performance.



Hour meter  
Standard on IDP series pumps

Gives an accurate measurement of total run time which facilitates maintenance planning.



Bearing purge port  
TriScrolls only

Improves tolerance for condensable gases by purging the shaft bearings with dry gas.



Optional inlet  
vacuum protection valve

Isolates the pump during vacuum system fault conditions and power loss; prevents contamination of the vacuum system.

## Scroll Pumps Features and Benefits

# Clean, Quiet, Reliable, and Oil-free.

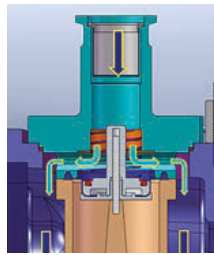
## Key IDP scroll pump design features

### Fail-safe integral isolation valve prevents accidental contamination

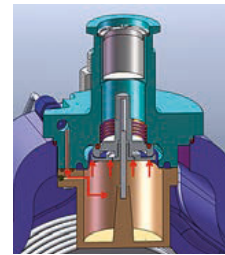
This optional valve protects against backwards migration and sudden venting. It is installed inside the module, adding no extra height to the pump inlet.

Here's how it works:

- Under normal conditions, a spring holds the inlet valve open.
- Upon power loss, the solenoid valve vents a small chamber beneath the valve, which closes the inlet valve (approximately 20 ms).
- Once power is restored, the solenoid closes, the pump evacuates, and the inlet valve opens (approximately 10-30 s).



Vacuum in pump, inlet valve opens



Pump vents, inlet valve closes

### Recover process gases and prevent toxic gas leaks

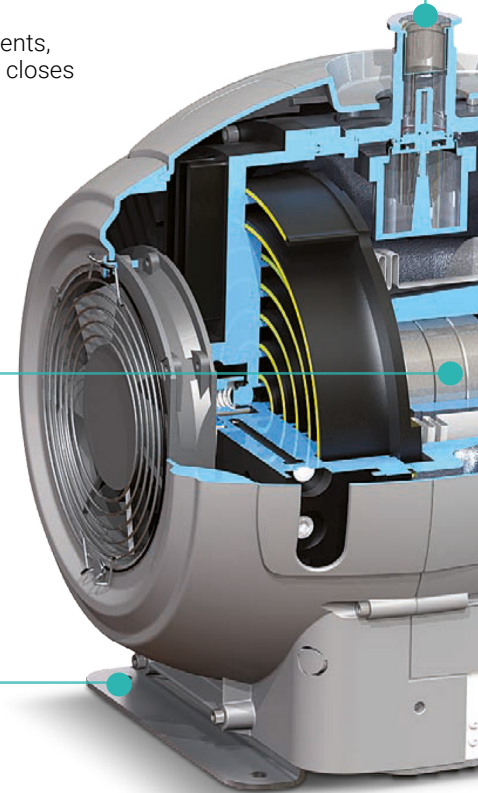
Agilent IDP scroll pumps employ a hermetic design, with the motor and bearings located outside the vacuum space at atmospheric pressure—completely isolating all pumped gases. This closed system, from inlet to exhaust, is particularly well suited for rare gas and helium recirculation applications.

### Protect your system from vibration damage

A set of integral vibration isolation feet on the IDP-15 scroll pump dampens module vibration and decouples motor and scroll vibration from the mounting brackets.



Vibration isolators



### IDP-15

Hermetically designed IDP pumps eliminate the risk of nonprocess gases entering the vacuum path.

### Easy on the ears

When designing our IDP scroll pump module, Agilent consulted with noise experts to ensure quiet operation. Just look at how the Agilent IDP scroll pumps compare with common everyday noises.

| Noise                                       | dBA |
|---|-----|
| Chainsaw; thunder clap                      | 120 |
| Car horn (1 m); live rock music             | 110 |
| Lawn mower; airplane take off (1 km)        | 100 |
| Motorcycle (8 m away)                       | 90  |
| Freight train (25 m); food blender          | 80  |
| Cars on freeway; vacuum cleaner             | 70  |
| Air conditioning (30 m); office noise       | 60  |
| <b>Agilent IDP-10</b>                       | 53  |
| <b>Agilent IDP-7</b>                        | 52  |
| Conversation at home; <b>Agilent IDP-15</b> | 50  |
| Library                                     | 40  |

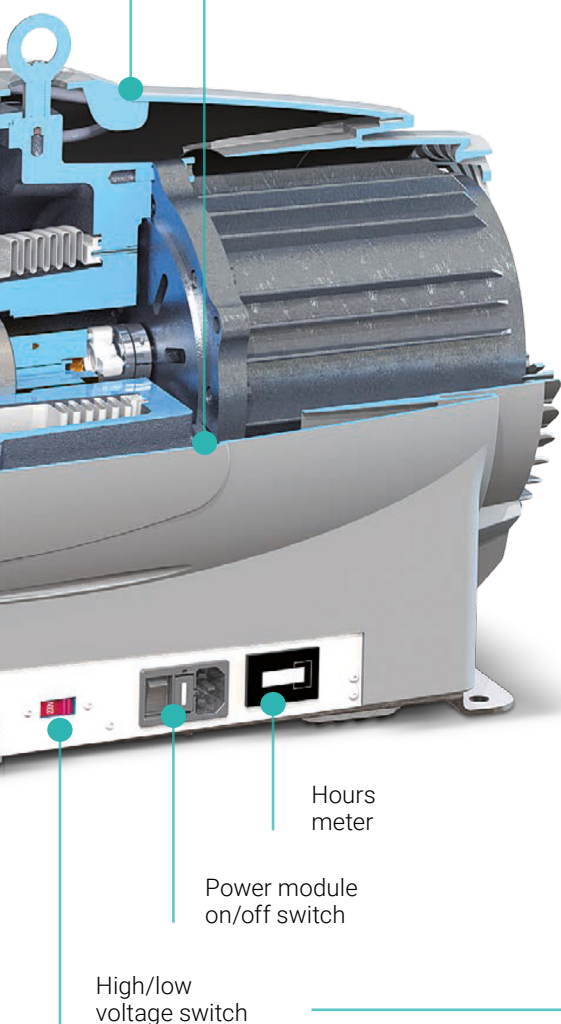


Outer cowling acts as a noise enclosure

### Service your pump in less than 15 minutes



Our single-sided scroll design means that you only need to remove the fixed scroll when changing the tip seals. This procedure can be accomplished in about 15 minutes using two basic tools. Even with this simple design, Agilent IDP scroll pumps achieve a low ultimate pressure of 10 mTorr.



Hours meter

Power module on/off switch

High/low voltage switch

### Fixed speed motor enables operation around the world

Agilent IDP pump motors (IDP-3, -7, -15) support the following single-phase operating voltages:

- 100 V, 50/60 Hz
- 115 V, 60 Hz
- 220-230 V, 50/60 Hz
- 24 VDC (IDP-3 only)

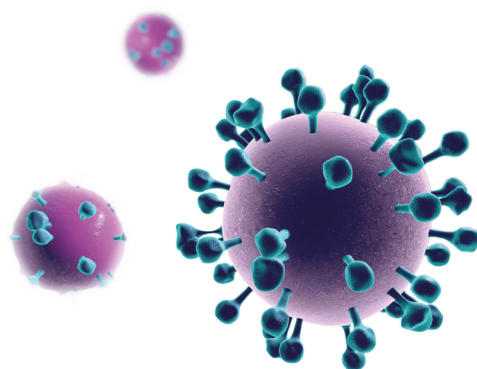
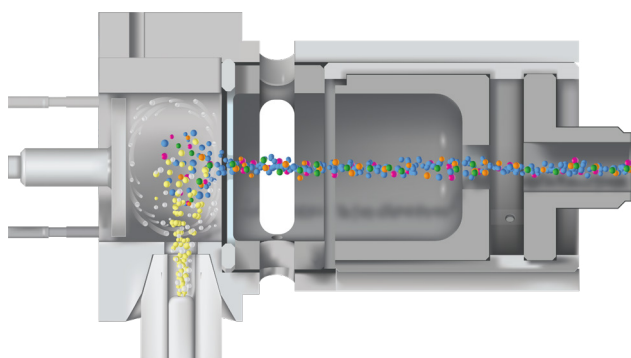
In addition, a simple switch lets you change between high and low voltage use.

## Scroll Pumps Typical Applications

# Expanded Pumping Speed Options Enable New Application Possibilities

The addition of our IDP-10 and IDP-7 scroll pumps brings Agilent quality and performance to applications such as freeze drying, glove boxes, sample preparation, SEM, and more. They are also ideal for backing a turbo pump and loadlock applications.

Best of all, our full range of pumping speeds lets you optimize your system configuration for maximum performance at the lowest possible cost.



### Mass spectrometry

- Oil-free—no messy maintenance, no contamination risk
- Inlet isolation valve protects the turbo pump during power loss
- Quiet operation—no quiet cover required



### Sample preparation

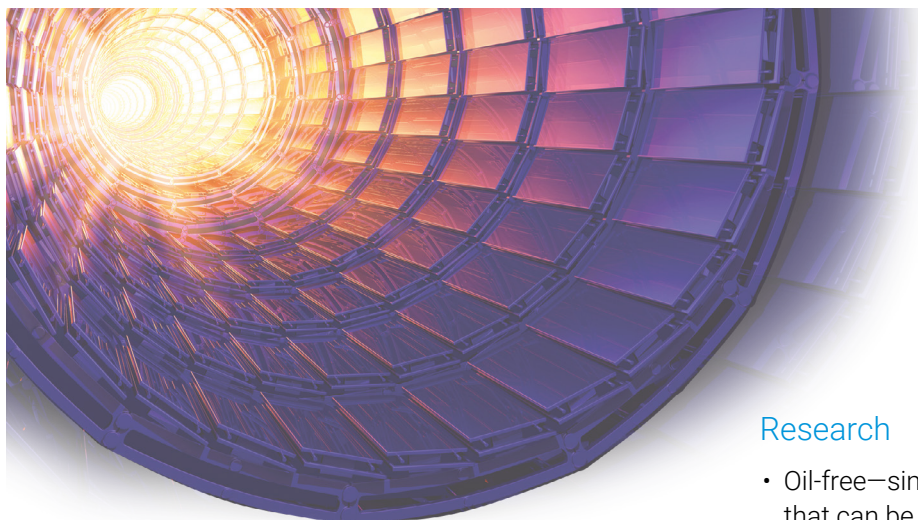
- Protected bearings enable use with light solvents
- Clean, oil-free vacuum path
- Minimal noise during operation
- Long service life

### Electron microscopy

- Very low vibration—no impact on the instrument
- Oil-free—no messy maintenance, no contamination risk
- Inlet isolation valve assures system protection
- Low noise level—appropriate for use in laboratory setting







### Research

- Oil-free—simple, clean regular maintenance that can be accomplished quickly with simple tools
- Inlet isolation valve assures system protection
- Quiet operation for workplace comfort
- Long service life

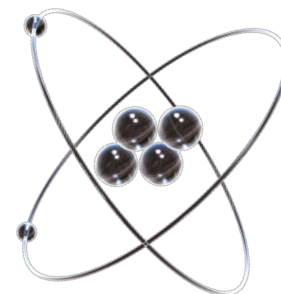


### Freeze drying

- Protected bearings provide high tolerance for water vapor
- Gas ballast available to improve water vapor handling capability
- Long service life

### Glove box

- Protected bearings provide high tolerance for water vapor
- Long service life



### Helium recirculation

- Clean, oil-free vacuum path, no messy maintenance, no contamination risk
- Long service life
- Hermetic design guaranteed to be leak free

## Pump Specifications

|   |  | IDP-3   | IDP-7  | IDP-10   |
|---|--|---|--|--|
| Pumping speed                                       | 60 Hz L/min, m <sup>3</sup> /h<br>50 Hz L/min, m <sup>3</sup> /h | 60, 3.6<br>50, 3.0  | 152, 9.1<br>120, 7.2   | 170, 10.2 at full speed<br>170, 10.2 at full speed           |
| Ultimate pressure, mbar (Torr)                      |  | 3.3 x 10 <sup>-1</sup> (2.5 x 10 <sup>-1</sup> )          | 60 Hz: 2.6 x 10 <sup>-2</sup> (2.0 x 10 <sup>-2</sup> )<br>50 Hz: 4.0 x 10 <sup>-2</sup> (3.0 x 10 <sup>-2</sup> ) | 2.0 x 10 <sup>-2</sup> (1.5 x 10 <sup>-2</sup> )             |
| Maximum inlet pressure, atm (psig)                  |  | 1.0 (0)   | 1.0 (0)  | 1.0 (0)  |
| Maximum outlet pressure, atm (psig)                 |  | 1.4 (6.5)   | 1.34 (5)   | 1.34 (5)   |
| Inlet connection                                    |  | NW16  | NW25   | NW25   |
| Exhaust connection                                  |  | ¼-inch female NPT<br>(10 mm hose barb provided)           | NW16   | NW16   |
| Gas ballast   |  | ⅜-inch female NPT   | ⅜-inch female NPT<br>(two positions)   | ⅜-inch female NPT<br>(two positions)                         |
| Motor rating (1 phase), HP (kW)                     |  | 0.16 (0.12)   | 0.38 (0.28)  | 0.50 (0.37)  |
| Operating voltages<br>(610 %)                       | 1Ø 60 Hz<br>50 Hz<br>3Ø 60 Hz<br>50 Hz                           | 100, 115, 220-230 V<br>100, 220-230 V<br>-<br>-<br>24 VDC | 100-120, 200-240V<br>100-120, 200-240V<br>-<br>-   | 100-120, 200-240V<br>100-120, 200-240V<br>-<br>-             |
| Motor thermal protection                            |  | Type U automatic  | Type U automatic   | Type U automatic   |
| Operating speed                                     | 60 Hz (rpm)<br>50 Hz (rpm)                                       | 3200<br>2600  | 1725<br>1425   | 1900<br>1350<br><i>Variable speed control 63 Hz to 45 Hz</i> |
| Cooling system                                      |  | Air-cooled  | Air-cooled   | Air-cooled   |
| Ambient operating temperature, °C (°F)              |  | 5 to 40 (41 to 104)                                       | 5 to 40 (41 to 104)  | 5 to 40 (41 to 104)  |
| Storage temperature, °C (°F)                        |  | -20 to 60 (-4 to 140)                                     | -20 to 60 (-4 to 140)  | -20 to 60 (-4 to 140)  |
| Weight pump only, kg (lb)                           |  | 9.5 (21)  | 24.5 (54)  | 24.7 (54.5)  |
| Shipping weight, kg (lb)                            |  | 10.5 (23)   | 28.1 (62)  | 28.1 (62)  |
| Noise level (per ISO 11201), dB                     |  | 55  | 52   | 53   |
| Vibration level (per ISO 10816 <sup>-1</sup> ) mm/s |  | 1.5   | 7  | 7  |

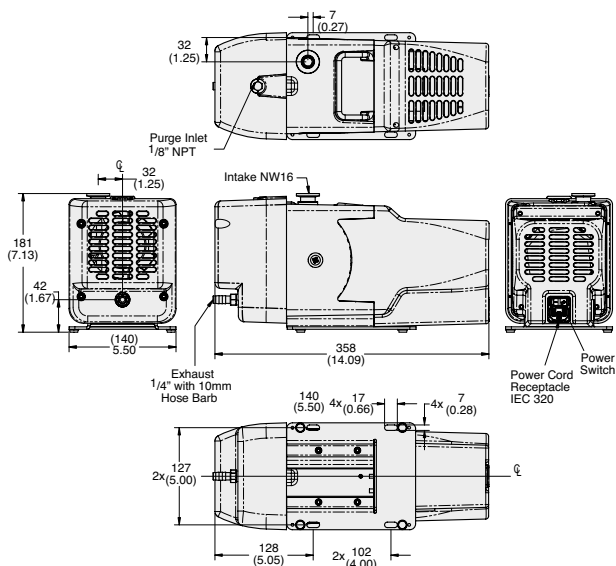


| IDP-15   | TriScroll 300  | TriScroll 600  | TriScroll 300 Inverter                             | TriScroll 600 Inverter                         |
|--|--|--|--|--|
| 257, 15.4<br>213, 12.8                           | 250, 15<br>210, 12.6   | 500, 30<br>420, 25.2   | 250, 15 at full speed<br>250, 15 at full speed     | 500, 30 at full speed<br>500, 30 at full speed |
| $1.3 \times 10^{-2}$ ( $1 \times 10^{-2}$ )      | $1.3 \times 10^{-2}$ ( $1 \times 10^{-2}$ )                                      | $9.3 \times 10^{-3}$ ( $7 \times 10^{-3}$ )                                      | $1.3 \times 10^{-2}$ ( $1 \times 10^{-2}$ )        | $9.3 \times 10^{-3}$ ( $7 \times 10^{-3}$ )    |
| 1.0 (0)  | 1.0 (0)  | 1.0 (0)  | 1.0 (0)  | 1.0 (0)  |
| 1.4 (6.5)  | 1.1 (1.5)  | 1.1 (1.5)  | 1.1 (1.5)  | 1.1 (1.5)                                      |
| NW25   | NW25   | NW40   | NW25   | NW40   |
| NW16   | NW16   | NW25   | NW16   | NW25   |
| ¼-inch female NPT<br>(two positions)             | ¼-inch female NPT  | ¼-inch female NPT  | ¼-inch female NPT                                  | ¼-inch female NPT                              |
| 0.75 (0.56)                                      | 0.75 (0.56)  | 1.0 (0.76)   | 0.67 (0.5)   | 0.67 (0.5)                                     |
| 100-120, 200-240V<br>100-120, 200-240V<br>-<br>- | 100-115, 200-230 V<br>100-115, 200-230 V<br>200-230, 460 V<br>200-230, 380-415 V | 100-115, 200-230 V<br>100-115, 200-230 V<br>200-230, 460 V<br>200-230, 380-415 V | 100-115, 200-240 V<br>100-115, 200-240 V<br>-<br>- | 200-240 V<br>200-240 V<br>-<br>-               |
| Type U automatic                                 | Type U automatic   | Type U automatic   | Automatic  | Automatic                                      |
| 1725<br>1450                                     | 1725<br>1425   | 1725<br>1425   | 1800 at 62 Hz                                      | 1800 at 62 Hz                                  |
| Air-cooled                                       | Air-cooled   | Air-cooled   | Air-cooled   | Air-cooled                                     |
| 5 to 40 (41 to 104)                              | 5 to 40 (41 to 104)  | 5 to 40 (41 to 104)  | 5 to 40 (41 to 104)                                | 5 to 40 (41 to 104)                            |
| -20 to 60 (-4 to 140)                            | -20 to 60 (-4 to 140)  | -20 to 60 (-4 to 140)  | -20 to 60 (-4 to 140)                              | -20 to 60 (-4 to 140)                          |
| 30 (66)  | 26.4 (57)  | 32 (70)  | 26 (57)  | 31 (68)  |
| 54 (118)   | 34.2 (75)  | 40 (87)  | 34 (74)  | 39 (85)  |
| 50 ±2  | 68   | 68   | Variable with frequency<br>55 - 68                 | Variable with frequency<br>55 - 68             |
| < 9  | 6.3  | 6.3  | Variable with frequency                            | Variable with frequency                        |





# Agilent IDP-3



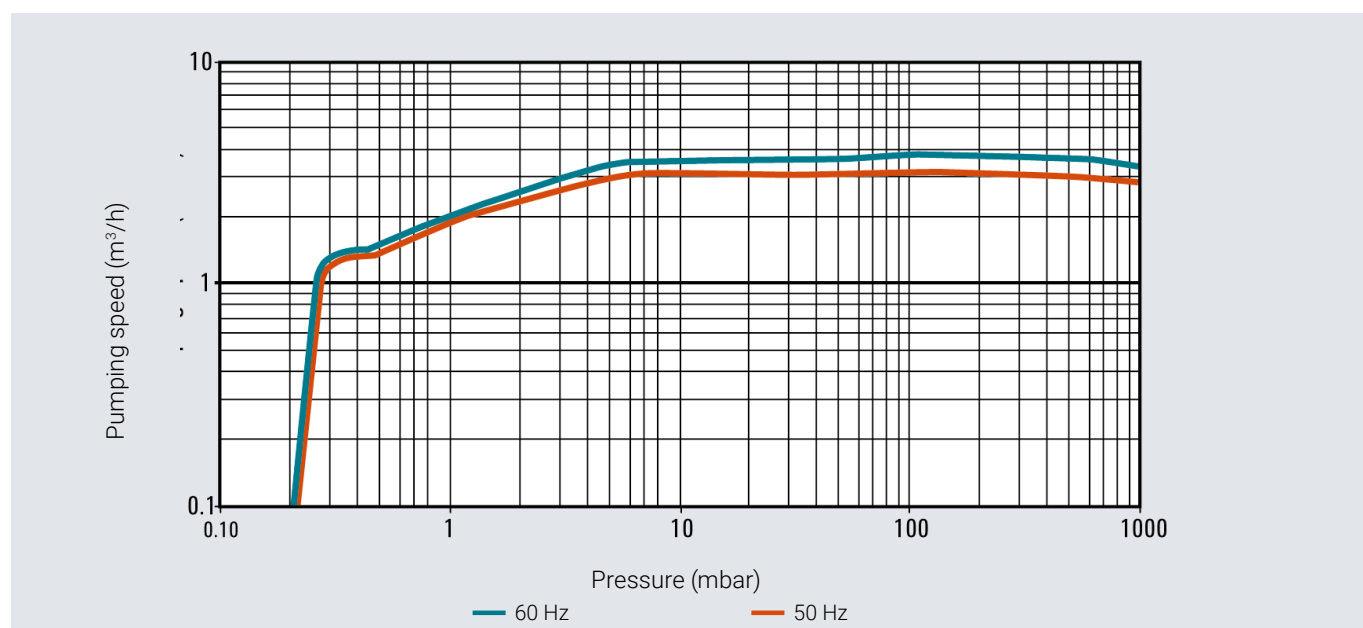
Dimensions: millimeters (inches)

The Agilent IDP-3 dry scroll pump is a compact, high performance, oil-free vacuum pump that is suitable for a wide variety of applications. It is the smallest scroll pump made for general vacuum applications, and weighs only 9.5 kg (21 lb). This makes it easy to integrate into OEM systems. Yet, with a pumping speed of 60 L/m and a very low base pressure of 250 mTorr, it is the highest-performing dry pump in its class.

- Oil-free—no contamination of the vacuum system
- Hermetic design with fully isolated motor and bearings
- Low noise and vibration
- No mechanisms subject to catastrophic failure
- Lower base pressure than diaphragm pumps
- Speed control on 24 VDC motor with 0 to 10 V control signal
- Hour meter is standard on all IDP-3 units

## Technical specifications

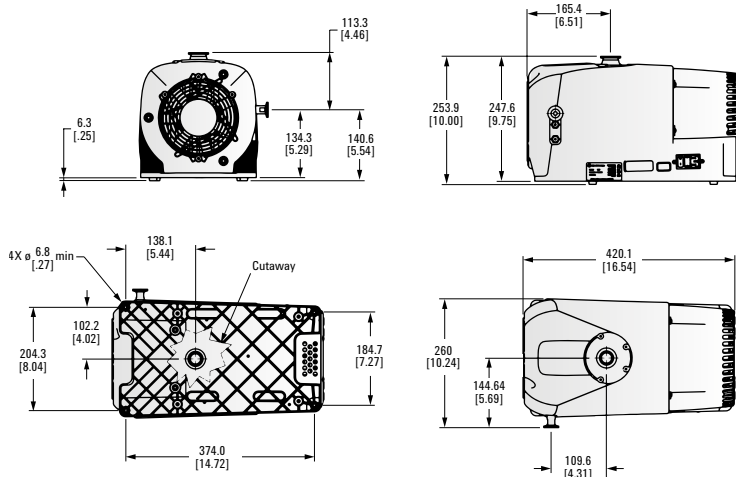
|  |   |
|--|---|
| <b>Pumping speed</b>   | 60 Hz: 60 L/m, 3.6 m <sup>3</sup> /h, 2.1 cfm<br>50 Hz: 50 L/m, 3.0 m <sup>3</sup> /h, 1.8 cfm        |
| <b>Ultimate pressure</b>   | 2.5 x 10 <sup>-1</sup> Torr (3.3 x 10 <sup>-1</sup> mbar)   |
| <b>Maximum inlet pressure</b>  | 1 atm (0 psig)  |
| <b>Maximum outlet pressure</b>   | 1.4 atm (6.5 psig)  |
| <b>Inlet connection</b>  | NW16 flange   |
| <b>Exhaust connection</b>  | 1/4-inch female NPT (10 mm hose barb provided)  |
| <b>Gas ballast</b>   | 1/8-inch female NPT (shipped with gas ballast port plug installed;<br>20 µm sintered filter provided) |
| <b>Weight</b>  | Pump only: 9.5 kg (21 lb)<br>Shipping weight: 10.5 kg (23 lb)   |
| <b>Leak rate</b>   | <1 x 10 <sup>-6</sup> std-cc/s He   |
| <b>Certification</b>   | Conforms with CE, CSA, CSA/CUS, semi S2-703, and RoHS   |
| <b>Note:</b> Scroll pumps are not suitable for pumping corrosive, explosive, or particulate-forming gases. |   |

IDP-3 Pumping Speed–Air/N<sub>2</sub>

## Ordering information

| Description  | Part Number |
|--|-------------|
| IDP-3 dry scroll vacuum pump, 1Ø, 220 V, 50/60 Hz                                | IDP3A01     |
| IDP-3 dry scroll vacuum pump, 1Ø, 115 V, 60 Hz                                   | IDP3B01     |
| IDP-3 dry scroll vacuum pump, 1Ø, 100 V, 50/60 Hz                                | IDP3C01     |
| IDP-3 dry scroll vacuum pump, 24 VDC   | IDP3D01     |
| <b>With Inlet Isolation Valve</b>  |             |
| IDP-3 dry scroll vacuum pump with inlet isolation valve, 1Ø, 220-230 V, 50/60 Hz | IDP3A21     |
| IDP-3 dry scroll vacuum pump with inlet isolation valve, 1Ø, 115 V, 60 Hz        | IDP3B21     |
| IDP-3 dry scroll vacuum pump with inlet isolation valve, 1Ø, 100 V, 50/60 Hz     | IDP3C21     |
| IDP-3 dry scroll vacuum pump with inlet isolation valve, 24 VDC                  | IDP3D21     |
| <b>Power Cords</b>   |             |
| Europe, 10 A/220-230 V, 2.5 m  | 656494220   |
| Denmark, 10 A/220-230 V, 2.5 m   | 656494225   |
| Switzerland, 10 A/220-230 V, 2.5 m   | 656494235   |
| UK/Ireland, 13A/230 V, 2.5 m   | 656494250   |
| India, 10 A/220-250 V, 2.5 m   | 656494245   |
| Israel, 10 A/230 V, 2.5 m  | 656494230   |
| Japan, 12 A/100 V, 2.3 m   | 656494240   |
| North America, 15 A/125 V, 2.0 m   | 656458203   |
| North America, 10 A/230 V, 2.5 m   | 656494255   |
| <b>Accessories</b>   |             |
| See also the Scroll Accessories section, beginning on Page 30                    |             |
| <b>Maintenance/Service Parts</b>   |             |
| See also the Scroll Service Parts section, beginning on Page 38                  |             |

# Agilent IDP-7



Dimensions: millimeters (inches)

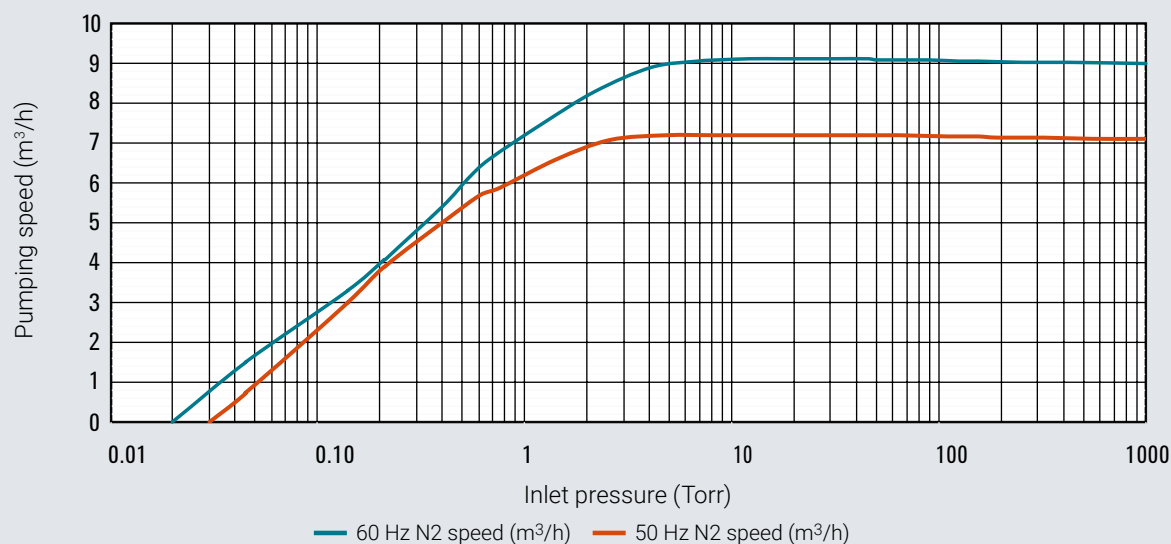
The Agilent IDP-7 dry scroll pump is a compact, high performance, oil-free vacuum pump, delivering a large pumping speed capacity (9.1 m<sup>3</sup>/h at 60 Hz) and offering a simple maintenance routine.

The hermetic design provides a clean, dry vacuum, with the motor and all bearings completely isolated from the vacuum path. An optional integral inlet protection valve, built into the pump module, is available and adds no extra height to the pump.

- Oil-free—clean, dry
- Rapid pump down, low base pressures
- Simple, infrequent maintenance
- Quiet, low vibration
- Easy installation and system integration

## Technical specifications

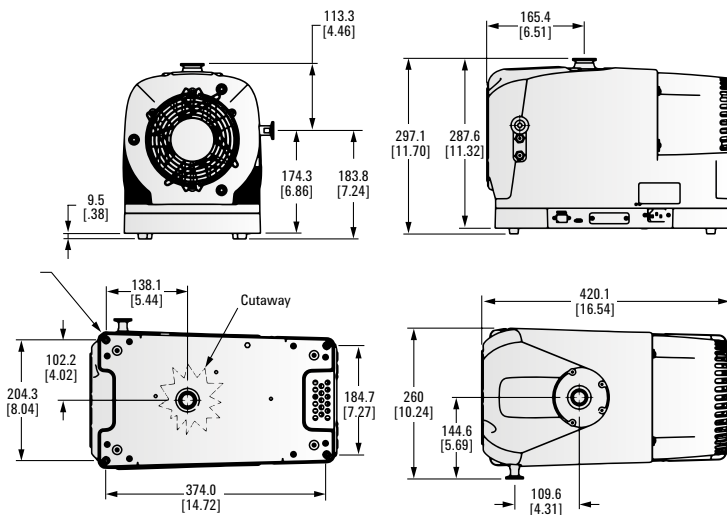
|  |  |
|--|--|
| <b>Pumping speed</b>   | 60 Hz: 152 L/min (9.1 m <sup>3</sup> /h)<br>50 Hz: 120 L/min (7.2 m <sup>3</sup> /h)   |
| <b>Ultimate pressure</b>   | 60 Hz: 2.6 x 10 <sup>-2</sup> mbar (2.0 x 10 <sup>-2</sup> Torr)<br>50 Hz: 4.0 x 10 <sup>-2</sup> mbar (3.0 x 10 <sup>-2</sup> Torr) |
| <b>Maximum inlet pressure</b>  | 1.0 atm (0 psig)   |
| <b>Maximum outlet pressure</b>   | 1.34 atm (5 psig)  |
| <b>Inlet connection</b>  | NW25   |
| <b>Exhaust connection</b>  | NW16   |
| <b>Gas ballast</b>   | ¼-inch female national pipe thread, (20 µm sintered plug provided), SAE-2 5/16-24  |
| <b>Weight</b>  | Pump only: 24.5 kg (54 lb),<br>Shipping weight: 28.1 kg (62 lb)  |
| <b>Leak rate (with exhaust sealed)</b>   | <1 x 10 <sup>-6</sup> cc/s (1 x 10 <sup>-6</sup> mbar L/s)   |
| <b>Certification</b>   | EN/IEC 61010 third edition certified   |
| <b>Note:</b> Scroll pumps are not suitable for pumping corrosive, explosive, or particulate-forming gases. |  |

IDP-7 Pumping Speed–Air/N<sub>2</sub>

## Ordering information

| Description   | Part Number    |
|---|----------------|
| IDP-7 dry scroll vacuum pump                                      | X3807-64000    |
| IDP-7 dry scroll pump with integral vacuum protection inlet valve | X3807-64010    |
| <b>Service Parts</b>  |                |
| IDP-7 and IDP-10 tip seal replacement kit                         | X3807-67000    |
| <b>Accessory Parts</b>  |                |
| Exhaust silencer kit  | X3807-68003    |
| Purge kit   | X3807-68004    |
| Gas ballast kit   | X3807-68008    |
| Inlet trap  | SCRINTRPNW25   |
| Vibration isolation kit   | SH110VIBISOKIT |
| <b>Power Cords</b>  |                |
| Europe, 10 A/220-230 V, 2.5 m                                     | 656494220      |
| Denmark, 10 A/220-230 V, 2.5 m                                    | 656494225      |
| Switzerland, 10 A/230 V, 2.5 m                                    | 656494235      |
| UK/Ireland, 13 A/230 V, 2.5 m                                     | 656494250      |
| India, 10 A/220-250 V, 2.5 m                                      | 656494245      |
| Israel, 10 A/220-230 V, 2.5 m                                     | 656494230      |
| Japan, 12 A/100 V, 2.3 m  | 656494240      |
| North America, 15 A/125 V, 2.0 m                                  | 656458203      |
| North America, 10 A/230 V, 2.5 m                                  | 656494255      |
| <b>Accessories</b>  |                |
| See also the Scroll Accessories section, beginning on Page 30     |                |
| <b>Maintenance/Service Parts</b>                                  |                |
| See also the Scroll Service Parts section, beginning on Page 38   |                |

# Agilent IDP-10



Dimensions: millimeters (inches)

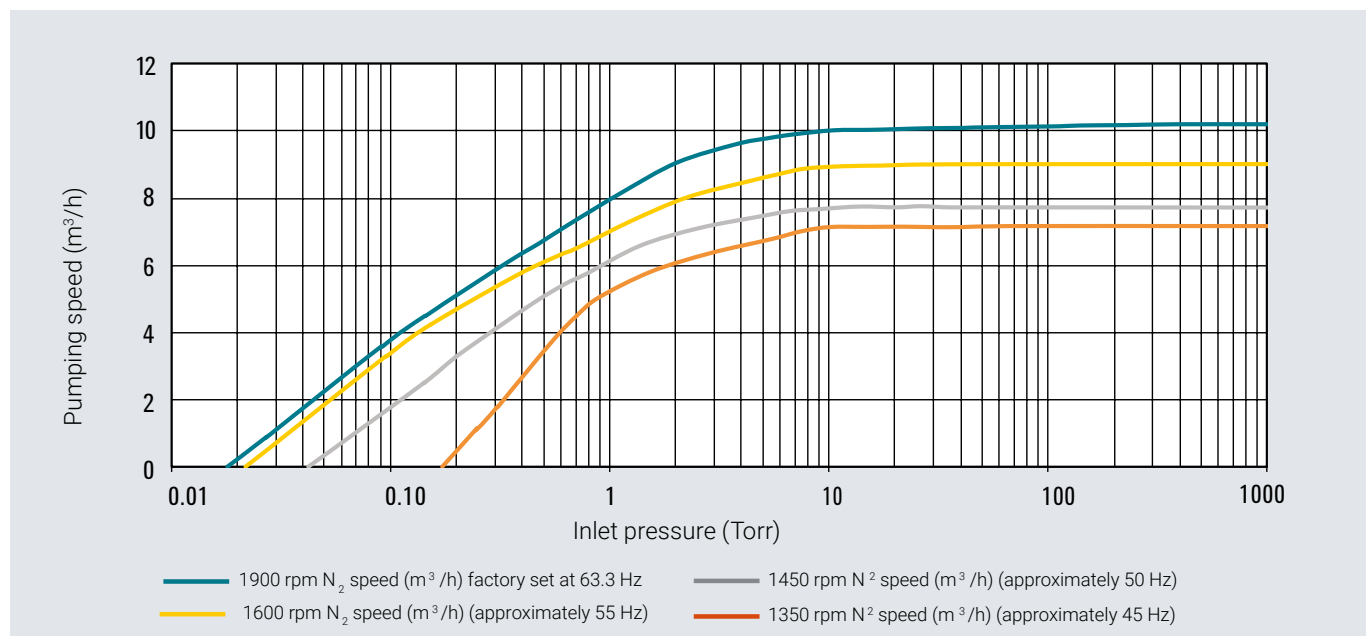
The Agilent IDP-10 dry scroll pump is a compact, high performance, oil-free vacuum pump that is easy to maintain. The inverter-driven motor provides uniform vacuum performance at all global frequencies and input voltages.

The hermetic design, with the motor and all bearings completely isolated from the vacuum path, extends the bearing life and provides a clean, dry vacuum. An optional integral inlet protection valve, built into the pump module, is available and adds no additional height to the pump.

- Oil-free—clean, dry
- Rapid pump down, low base pressures
- Simple, infrequent maintenance
- Quiet, low vibration
- Easy installation and system integration

## Technical specifications

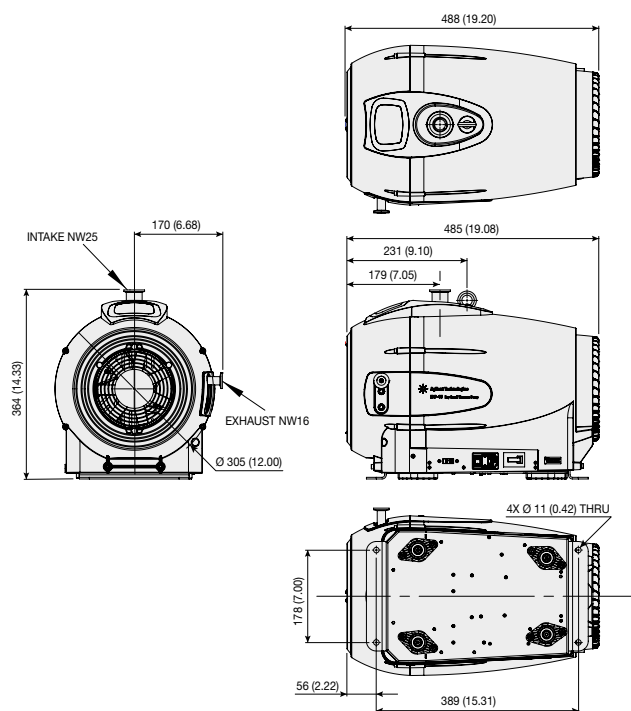
|  |   |
|--|---|
| <b>Pumping speed</b>   | 170 L/min (10.2 m <sup>3</sup> /h) at full speed                    |
| <b>Ultimate pressure</b>   | 2.0 x 10 <sup>-2</sup> mbar (1.5 x 10 <sup>-2</sup> Torr)           |
| <b>Maximum inlet pressure</b>  | 1.0 atm (0 psig)  |
| <b>Maximum outlet pressure</b>   | 1.34 atm (5 psig)   |
| <b>Inlet connection</b>  | NW25  |
| <b>Exhaust connection</b>  | NW16  |
| <b>Gas ballast</b>   | ¼-inch, female national pipe thread, (20 µm sintered plug provided) |
| <b>Weight</b>  | Pump only: 24.74 kg (54.5 lb),<br>Shipping weight: 28.1 kg (62 lb)  |
| <b>Leak rate (with exhaust sealed)</b>   | <1 x 10 <sup>-6</sup> cc/s (1 x 10 <sup>-6</sup> mbar L/s)          |
| <b>Certification</b>   | EN/IEC 61010 third edition certified                                |
| <b>Note:</b> Scroll pumps are not suitable for pumping corrosive, explosive, or particulate-forming gases. |   |

IDP-10 Pumping Speed–Air/N<sub>2</sub>

## Ordering information

| Description   | Part Number    |
|---|----------------|
| IDP-10 dry scroll vacuum pump   | X3810-64000    |
| IDP-10 dry scroll vacuum pump with integral vacuum protection inlet valve | X3810-64010    |
| <b>Service Parts</b>  |                |
| IDP-7 and IDP-10 tip seal replacement kit                                 | X3807-67000    |
| <b>Accessory Parts</b>  |                |
| Exhaust silencer kit  | X3807-68003    |
| Purge kit   | X3807-68004    |
| Gas ballast kit   | X3807-68008    |
| Inlet trap  | SCRINTRPNW25   |
| Vibration isolation kit   | SH110VIBISOKIT |
| <b>Power Cords</b>  |                |
| Europe, 10 A/220-230 V, 2.5 m   | 656494220      |
| Denmark, 10 A/220-230 V, 2.5 m  | 656494225      |
| Switzerland, 10 A/230 V, 2.5 m  | 656494235      |
| UK/Ireland, 13 A/230 V, 2.5 m   | 656494250      |
| India, 10 A/220-250 V, 2.5 m  | 656494245      |
| Israel, 10 A/230 V, 2.5 m   | 656494230      |
| Japan, 12 A/100 V, 2.3 m  | 656494240      |
| North America, 15 A/125 V, 2.0 m  | 656458203      |
| North America, 10 A/230 V, 2.5 m  | 656494255      |
| <b>Accessories</b>  |                |
| See also the Scroll Accessories section, beginning on Page 30             |                |
| <b>Maintenance/Service Parts</b>  |                |
| See also the Scroll Service Parts section, beginning on Page 38           |                |

# Agilent IDP-15



Dimensions: millimeters (inches)

The Agilent IDP-15 scroll pump is a high performance, dry, primary vacuum pump, providing rapid pumpdown at 15.4 m<sup>3</sup>/h (60 Hz). With a single-sided scroll design, the pump offers long service intervals, fast and simple basic maintenance, and a low cost of ownership over the lifetime of the pump.

Tip seal service interval is typically two to three years of operation depending on base pressure requirements and customer application.

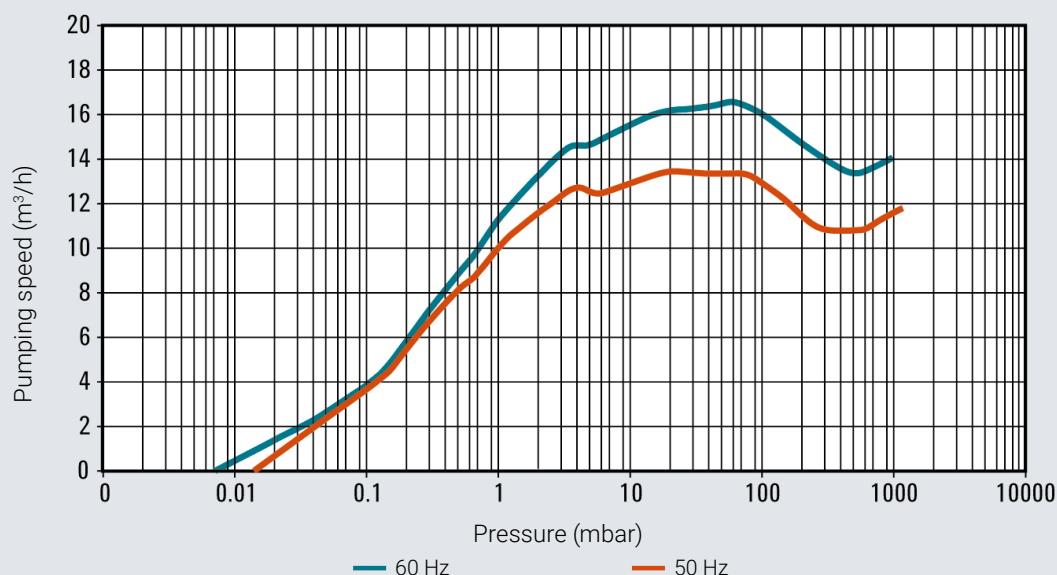
The pump is hermetic, with the motor and all bearings completely isolated from the vacuum path, and protected from process gases for extended life.

The IDP-15 is exceptionally quiet (50 ± 2 dB) and vibration-free, and is ideal for use in analytical instrument and research applications, as well as many industrial applications.

## Technical specifications

|  |  |
|--|--|
| <b>Pumping speed</b>                   | 60 Hz: 256 L/m, 15.4 m <sup>3</sup> /h<br>50 Hz: 214 L/m, 12.8 m <sup>3</sup> /h |
| <b>Ultimate pressure</b>               | 1.3 x 10 <sup>-2</sup> mbar (1 x 10 <sup>-2</sup> Torr)                          |
| <b>Maximum inlet pressure</b>          | 1.0 atm (0 psig)   |
| <b>Maximum outlet pressure</b>         | 6.5 psig   |
| <b>Inlet Connection</b>                | NW25   |
| <b>Exhaust Connection</b>              | NW16   |
| <b>Gas ballast</b>                     | ¼-inch female NPT (two positions)  |
| <b>Weight</b>                          | Pump only: 34 kg (75 lb)<br>Shipping weight: 45 kg (100 lb)                      |
| <b>Leak rate (with exhaust sealed)</b> | <1 x 10 <sup>-6</sup> cc/s He  |
| <b>Certification</b>                   | Conforms with CE, CSA, and RoHS  |

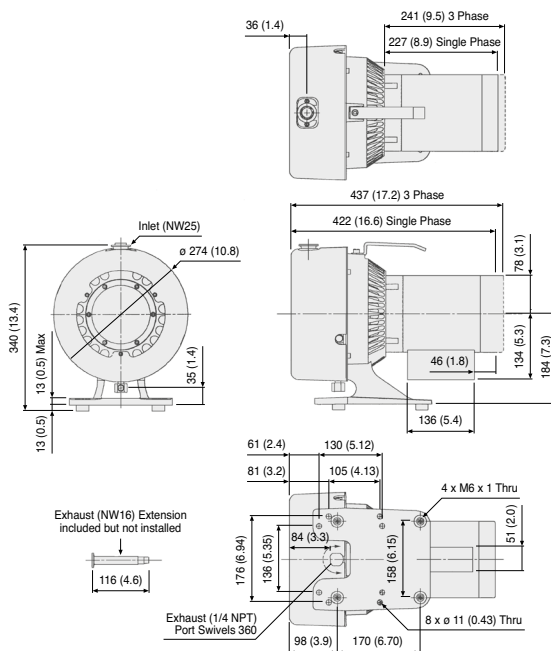


IDP-15 Pumping Speed–Air/N<sub>2</sub>

## Ordering information

| Description   | Part Number  |
|---|--------------|
| IDP-15 dry scroll vacuum pump   | X3815-64000  |
| IDP-15 dry scroll vacuum pump with integral vacuum protection inlet valve         | X3815-64010  |
| <b>Service Parts</b>  |              |
| IDP-15 tip seal replacement kit   | X3815-67000  |
| <b>Spares</b>   |              |
| Shipping box set, IDP-15  | X3815-67001  |
| <b>Power Cords</b>  |              |
| Europe, 10 A/220-230 V, 2.5 m   | 656494220    |
| Denmark, 10 A/220-230 V, 2.5 m  | 656494225    |
| Switzerland, 10 A/230 V, 2.5 m  | 656494235    |
| UK/Ireland, 13 A/230 V, 2.5 m   | 656494250    |
| India, 10 A/220-250 V, 2.5 m  | 656494245    |
| Israel, 10 A/220-230 V, 2.5 m   | 656494230    |
| Japan, 12 A/100 V, 2.3 m  | 656494240    |
| North America, 15 A/125 V, 2.0 m  | 656458203    |
| North America, 10 A/230 V, 2.5 m  | 656494255    |
| <b>Accessories</b> – See also the Scroll Accessories section beginning on Page 30 |              |
| Inlet trap, NW25, HEPA  | SCRINTRPNW25 |
| Exhaust muffler with NW16 fitting   | X3815-68003  |
| <b>Maintenance/Service Parts</b>  |              |
| See also the Scroll Service Parts section beginning on Page 38                    |              |

# Agilent TriScroll 300



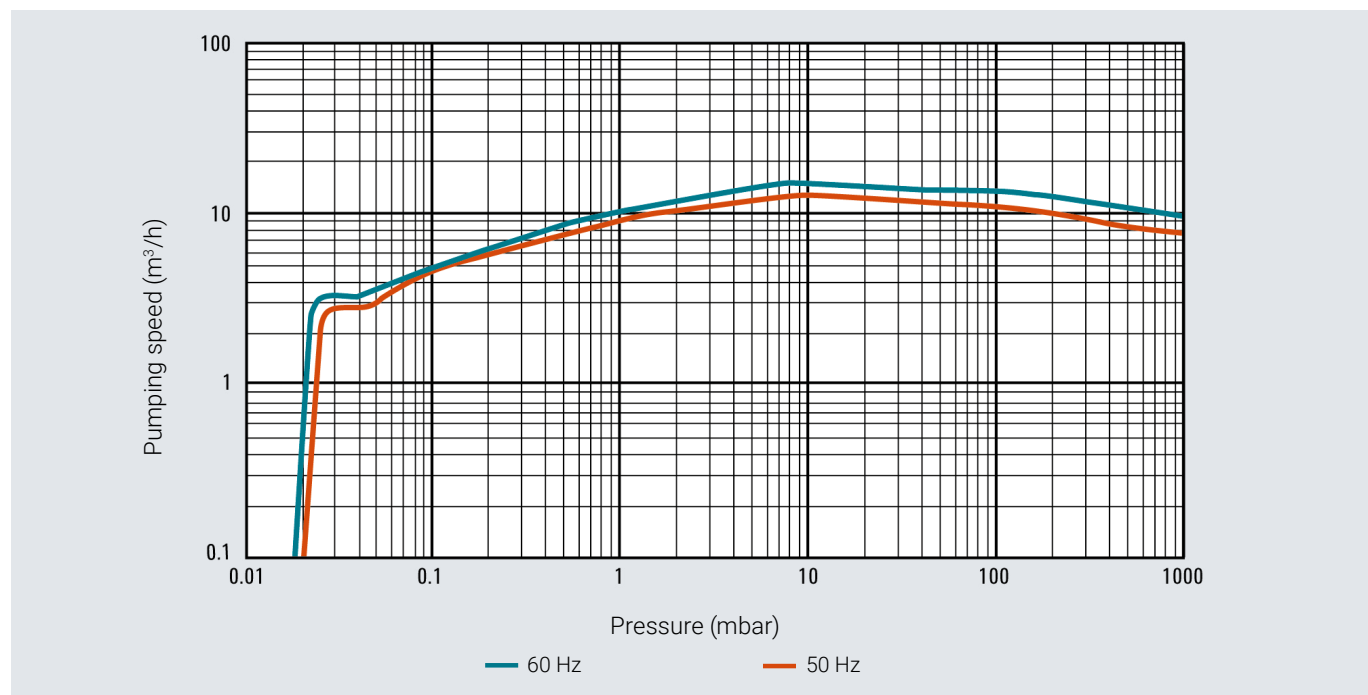
Dimensions: millimeters (inches)

The TriScroll series is a range of two-stage dry scroll pumps that have high pumping speeds and low base pressure. TriScroll pumps eliminate the frequent maintenance requirements of oil-sealed rotary vane pumps, simplifying regulatory and environmental compliance, and eliminating oil disposal costs. The unique, patented TriScroll pump offers proven reliability and durability, delivering consistent performance and superior cost of ownership.

- High pumping speeds and low ultimate pressure provide a clean, dry vacuum
- Long-life tip seals routinely last more than a year before replacement
- Bearing purge port permits simple maintenance and delivers long bearing life
- Automatic air ballast manages water vapor without reducing pumping speed

## Technical specifications

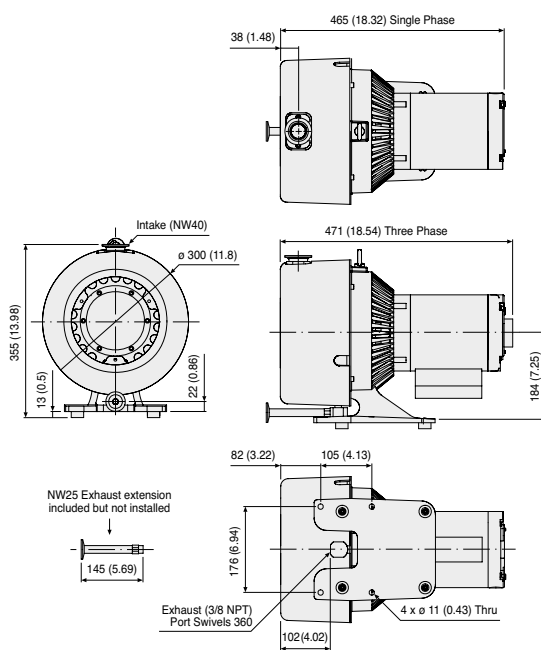
|  |   |
|--|---|
| <b>Pumping speed</b>   | 60 Hz: 250 L/m, 15 m <sup>3</sup> /h, 8.8 cfm<br>50 Hz: 210 L/m, 12.6 m <sup>3</sup> /h, 7.4 cfm          |
| <b>Ultimate pressure</b>   | 1.3 x 10 <sup>-2</sup> mbar (1 x 10 <sup>-2</sup> Torr)   |
| <b>Maximum inlet pressure</b>  | 1.0 atm (1.0 psig)  |
| <b>Maximum outlet pressure</b>   | 1.1 atm (1.5 psig)  |
| <b>Inlet connection</b>  | NW25  |
| <b>Exhaust connection</b>  | 1/4-inch female NPT with swivel (NW16 adapter provided)   |
| <b>Gas ballast</b>   | 1/8-inch female NPT (shipped with 40 µm filter installed; port plug also provided)                        |
| <b>Operating voltages</b>  | 1Ø models: 50-60 Hz/100-115, 200-230 VAC<br>3Ø models: 50 Hz/200-230, 380-415 VAC; 60 Hz/200-230, 460 VAC |
| <b>Weight</b>  | Pump only: 26.4 kg (58 lb)<br>Shipping weight: 34.2 kg (75 lb)  |
| <b>Certification</b>   | CE, CSA, and RoHS   |
| <b>Note:</b> Scroll pumps are not suitable for pumping corrosive, explosive, or particulate-forming gases. |   |

TriScroll 300 Pumping Speed – Air/N<sub>2</sub>

## Ordering information

| Description   | Part Number       |
|---|-------------------|
| TriScroll 300 dry scroll vacuum pump, 1Ø motor, U.S. cord       | PTS03001UNIV      |
| TriScroll 300 dry scroll vacuum pump 1Ø motor, Euro cord        | PTS03001UNIVEU    |
| TriScroll 300 dry scroll vacuum pump, 1Ø motor, UK cord         | PTS03001UNIVUK    |
| TriScroll 300 dry scroll vacuum pump 3Ø motor                   | PTS03003UNIV      |
| TriScroll 300, 1Ø, with vacuum isolation valve (VPI), 120 V     | PTS03001UVPI*     |
| TriScroll 300, 1Ø, with VPI, 220 V, EU power cord               | PTS03001UVPIEU    |
| TriScroll 300, 1Ø, with VPI, 220 V, UK power cord               | PTS03001UVPIUK    |
| TriScroll 300, 3Ø, with VPI, 200 V                              | PTS03003200VPI    |
| TriScroll 300, 3Ø, with VPI, 230 V                              | PTS03003230VPI    |
| TriScroll 300, 3Ø, with VPI, 380/415 V                          | PTS03003380415VPI |
| TriScroll 300, 3Ø, with VPI, 460 V                              | PTS03003460VPI    |
| TriScroll 300 exhaust extension                                 | S4707002          |
| * Contact Agilent for other voltages                            |                   |
| Accessories   |                   |
| See also the Scroll Accessories section, beginning on Page 30   |                   |
| Maintenance/Service Parts                                       |                   |
| See also the Scroll Service Parts section, beginning on Page 38 |                   |

# Agilent TriScroll 600



**Dimensions: millimeters (inches)**

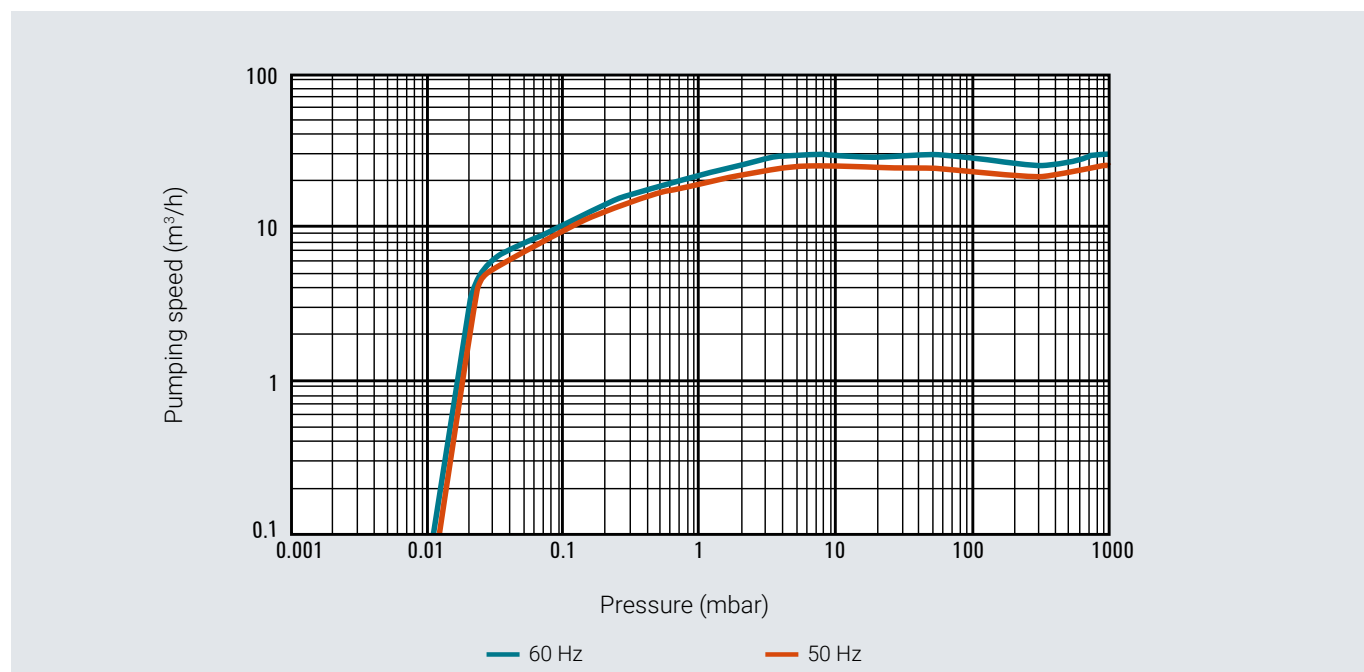
The TriScroll series is a range of two-stage dry scroll pumps that have high pumping speeds and low base pressure. TriScroll pumps eliminate the frequent maintenance requirements of oil-sealed rotary vane pumps, simplifying regulatory and environmental compliance, and eliminating oil disposal costs.

The unique, patented TriScroll pump offers proven reliability and durability, delivering consistent performance and superior cost of ownership.

- High pumping speeds and low ultimate pressure provide clean, dry vacuum
- Long-life tip seals routinely last more than a year before replacement
- Bearing purge port permits simple maintenance and delivers long bearing life
- Automatic air ballast manages water vapor without reducing pumping speed

## Technical specifications

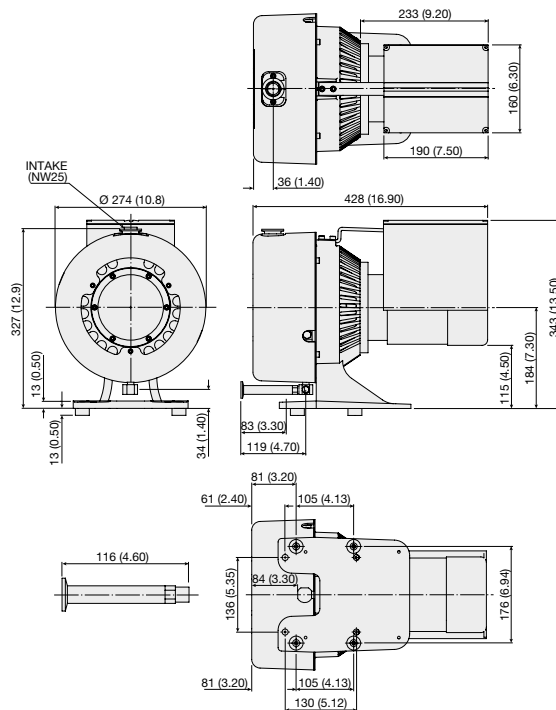
|  |   |
|--|---|
| <b>Pumping speed</b>   | 60 Hz: 500 L/m 30 m <sup>3</sup> /h, 17.7 cfm<br>50 Hz: 420 L/m, 25.2 m <sup>3</sup> /h, 14.8 cfm         |
| <b>Ultimate pressure</b>   | 9.3 x 10 <sup>-3</sup> mbar (7.0 x 10 <sup>-3</sup> Torr)   |
| <b>Maximum inlet pressure</b>  | 1.0 atm (0 psig)  |
| <b>Maximum outlet pressure</b>   | 1.1 atm (1.5 psig)  |
| <b>Inlet connection</b>  | NW40  |
| <b>Exhaust connection</b>  | 3/8-inch female NPT with swivel (NW25 adapter provided)   |
| <b>Gas ballast</b>   | 1/4-inch female NPT (shipped with 40 µm filter installed; port plug also provided)                        |
| <b>Operating voltages</b>  | 1Ø models: 50-60 Hz/100-115, 200-230 VAC<br>3Ø models: 50 Hz/200-230, 380-415 VAC; 60 Hz/200-230, 460 VAC |
| <b>Weight</b>  | Pump only: 32 kg (70 lb)<br>Shipping weight: 40 kg (87 lb)  |
| <b>Certification</b>   | CE, CSA, and RoHS   |
| <b>Note:</b> Scroll pumps are not suitable for pumping corrosive, explosive, or particulate-forming gases. |   |

TriScroll 600 Pumping Speed – Air/N<sub>2</sub>

## Ordering information

| Description  | Part Number       |
|--|-------------------|
| TriScroll 600 dry scroll vacuum pump, 1Ø motor                 | PTS06001UNIV      |
| TriScroll 600 dry scroll vacuum pump, 1Ø motor, Euro cord      | PTS06001UNIVEU    |
| TriScroll 600 dry scroll vacuum pump, 1Ø motor, UK cord        | PTS06001UNIVUK    |
| TriScroll 600 dry scroll vacuum pump, 3Ø phase motor           | PTS06003UNIV      |
| TriScroll 600, 1Ø, with vacuum isolation valve (VPI), 120 V    | PTS06001UVPI*     |
| TriScroll 600, 1Ø, with VPI, 220 V, EU power cord              | PTS06001UVPIEU    |
| TriScroll 600, 1Ø, with VPI, 220 V, UK power cord              | PTS06001UVPIUK    |
| TriScroll 600, 3Ø, with VPI, 200 V                             | PTS06003200VPI    |
| TriScroll 600, 3Ø, with VPI, 230 V                             | PTS06003230VPI    |
| TriScroll 600, 3Ø, with VPI, 380/415 V                         | PTS06003380415VPI |
| TriScroll 600, 3Ø, with VPI, 460 V                             | PTS06003460VPI    |
| TriScroll 600 exhaust extension                                | S4807001          |
| * Contact Agilent for other voltages                           |                   |
| <b>Accessories</b>   |                   |
| See also the Scroll Accessories section beginning on Page 30   |                   |
| <b>Maintenance/Service Parts</b>                               |                   |
| See also the Scroll Service Parts section beginning on Page 38 |                   |

# Agilent TriScroll 300 Inverter



**Dimensions: millimeters (inches)**

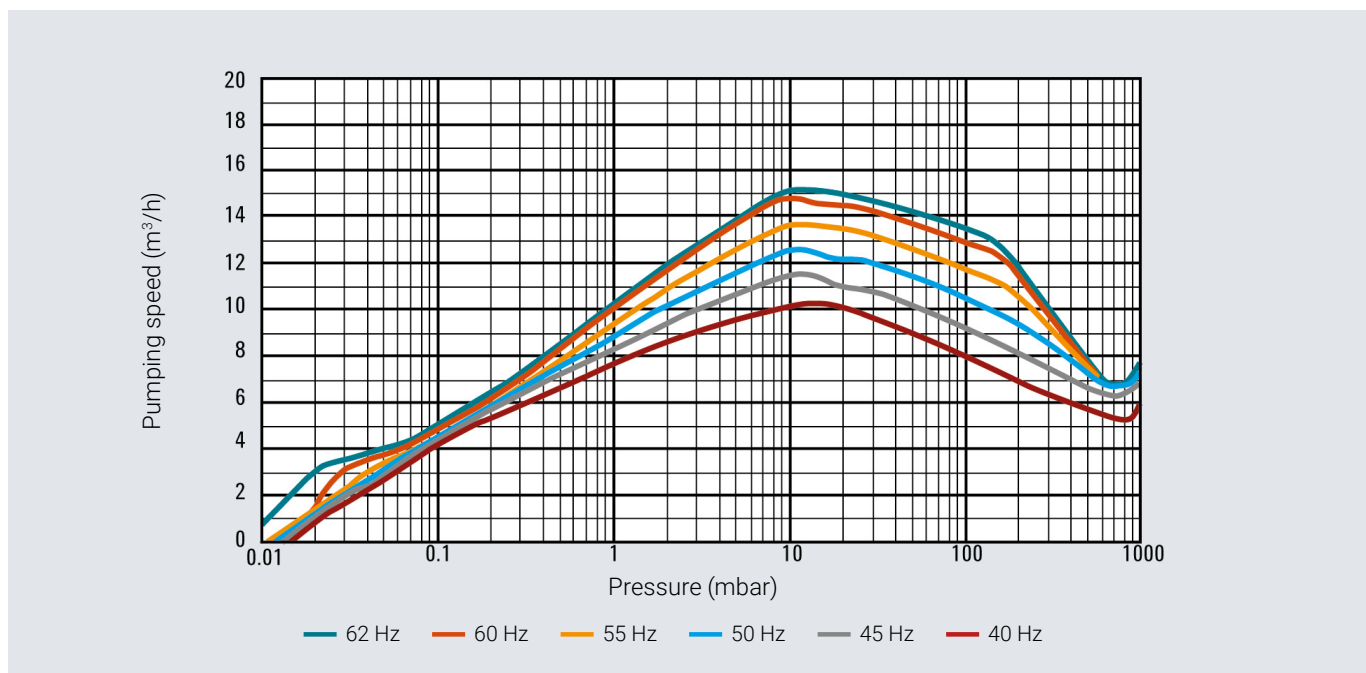
TriScroll Inverter pumps apply the benefits of frequency inverter technology to the performance of Agilent TriScroll dry primary vacuum pumps. TriScroll pumps eliminate the frequent maintenance requirements of oil-sealed rotary vane pumps, simplifying regulatory and environmental compliance, and eliminating oil disposal costs.

- Constant pumping speed worldwide, regardless of line frequency
- Optimal pumping speed selection, adjusting the rotational speed of the pump, using RS-232 or 0 to 10 V control signal
- Monitoring of pump parameters using serial interface
- Remote start/stop with a contact closure made possible by a standard D-shell connector
- Optimal rotational speed selection reduces noise and vibration levels in the work area, with little loss in base pressure performance of the pump

## Technical specifications

|  |  |
|--|--|
| <b>Pumping speed at 60 Hz</b>  | 250 L/m, 15 m <sup>3</sup> /h, 8.8 cfm (at 60 Hz drive frequency, variable)      |
| <b>Ultimate pressure</b>   | $1.3 \times 10^{-2}$ mbar ( $1.0 \times 10^{-2}$ Torr)                           |
| <b>Maximum inlet pressure</b>  | 1.0 atm (0 psig)   |
| <b>Maximum outlet pressure</b>   | 1.1 atm (1.5 psig)   |
| <b>Inlet connection</b>  | NW25   |
| <b>Exhaust connection</b>  | ¼-inch female NPT with swivel (NW16 adapter provided)                            |
| <b>Gas ballast</b>   | ¼-inch female NPT (shipped with 40 µm filter installed; port plug also provided) |
| <b>Operating voltages</b>  | 100-115 V, 200-240 V, 1Ø, 50/60 Hz   |
| <b>Maximum line current</b>  | 200 V; 5 A 240 V; 4.2 A  |
| <b>Weight</b>  | Pump only: 26 kg (57 lb)<br>Shipping weight: 34 kg (74 lb)                       |
| <b>Certification</b>   | CE, CSA, and RoHS  |
| <b>Note:</b> Scroll pumps are not suitable for pumping corrosive, explosive, or particulate-forming gases. |  |

## TriScroll 300 Inverter Pumping Speed – Air/N<sub>2</sub>

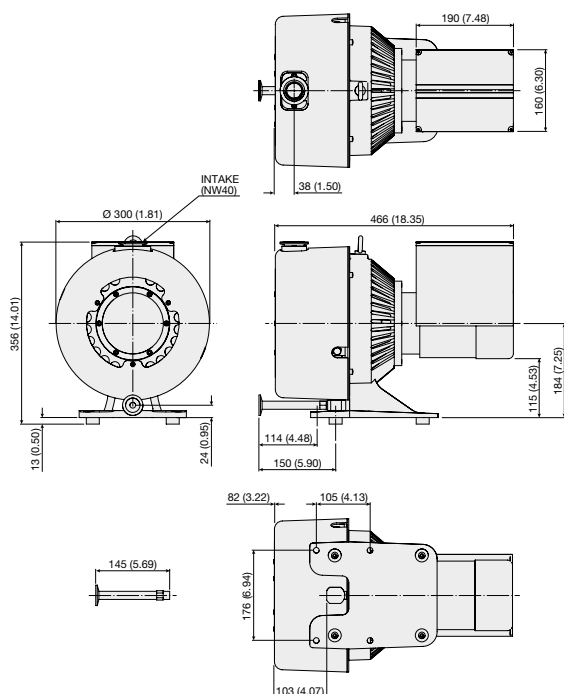
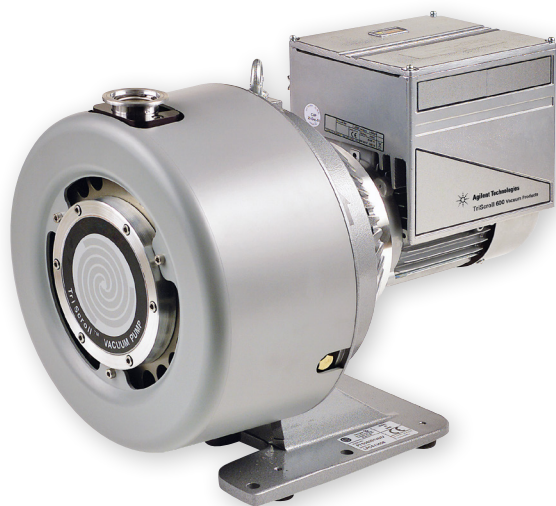


## Ordering information

| Description  | Part Number |
|--|-------------|
| TriScroll 300 dry scroll vacuum pump, 1Ø motor, 100-240 V      | PTS03001INV |
| <b>Power Cord Selection</b>                                    |             |
| Europe, 10 A/220-230 V, 2.5 m                                  | 656494220   |
| Denmark, 10 A/220-230 V, 2.5 m                                 | 656494225   |
| Switzerland, 10 A/230 V, 2.5 m                                 | 656494235   |
| UK/Ireland, 13 A/230 V, 2.5 m                                  | 656494250   |
| India, 10 A/220-250 V, 2.5 m                                   | 656494245   |
| Israel, 10 A/220-230 V, 2.5 m                                  | 656494230   |
| Japan, 12 A/100 V, 2.3 m                                       | 656494240   |
| North America, 15 A/125 V, 2.0 m                               | 656458203   |
| North America, 10 A/230 V, 2.5 m                               | 656494255   |
| <b>Accessories</b>   |             |
| See also the Scroll Accessories section beginning on Page 30   |             |
| <b>Maintenance/Service Parts</b>                               |             |
| See also the Scroll Service Parts section beginning on Page 38 |             |



# Agilent TriScroll 600 Inverter



Dimensions: millimeters (inches)

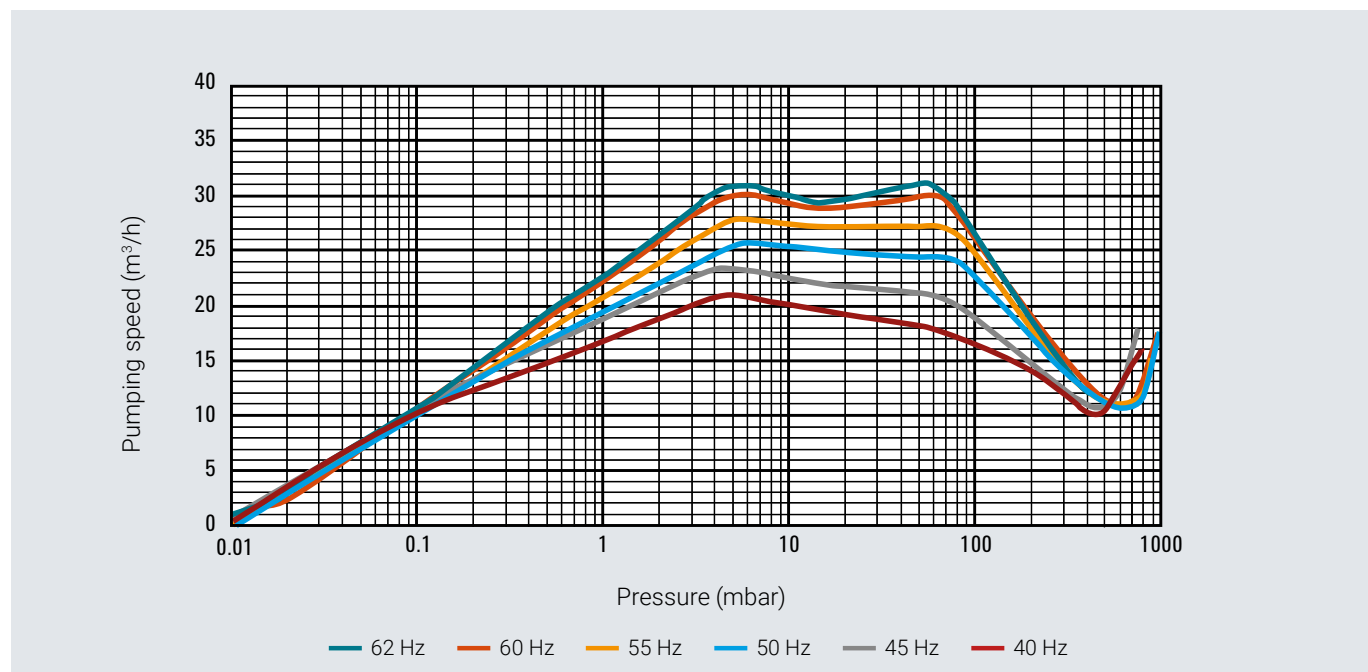
TriScroll Inverter pumps apply the benefits of frequency inverter technology to the performance of Agilent TriScroll dry primary vacuum pumps. TriScroll pumps eliminate the frequent maintenance requirements of oil-sealed rotary vane pumps, simplifying regulatory and environmental compliance, and eliminating oil disposal costs.

- Constant pumping speed worldwide regardless of line frequency
- Optimal pumping speed selection, adjusting the rotational speed of the pump, using RS-232 or 0 to 10 V control signal
- Monitoring of pump parameters using serial interface
- Remote start/stop with a contact closure made possible by a standard D-shell connector
- Optimal rotational speed selection reduces noise and vibration levels in the work area, with little loss in base pressure performance of the pump

## Technical specifications

|                                |  |
|--------------------------------|--|
| <b>Pumping speed at 60 Hz</b>  | 500 L/m, 30 m <sup>3</sup> /h, 17.7 cfm (at 60 Hz drive frequency, variable)       |
| <b>Ultimate pressure</b>       | 9.3 x 10 <sup>-3</sup> mbar (7.0 x 10 <sup>-3</sup> Torr)                          |
| <b>Maximum inlet pressure</b>  | 1.0 atm (0 psig)   |
| <b>Maximum outlet pressure</b> | 1.1 atm (1.5 psig)   |
| <b>Inlet connection</b>        | NW40   |
| <b>Exhaust connection</b>      | 3/8-inch female NPT with swivel (NW25 adapter provided)                            |
| <b>Gas ballast</b>             | 1/4-inch female NPT (shipped with 40 µm filter installed; port plug also provided) |
| <b>Operating voltages</b>      | 200-240 V, 1Ø, 50/60 Hz  |
| <b>Maximum line current</b>    | 200 V; 5 A 240 V; 4.2 A  |
| <b>Weight</b>                  | Pump only: 31 kg (68 lb)<br>Shipping weight: 39 kg (85 lb)                         |
| <b>Certification</b>           | CE, CSA, and RoHS  |

**Note:** Scroll pumps are not suitable for pumping corrosive, explosive, or particulate-forming gases.

TriScroll 600 Inverter Pumping Speed – Air/N<sub>2</sub>

## Ordering information

| Description   | Part Number |
|---|-------------|
| TriScroll 600 dry scroll vacuum pump, 1Ø, 200-240 V       | PTS06001INV |
| <b>Power Cord Selection</b>                               |             |
| Europe, 10 A/220-230 V, 2.5 m                             | 656494220   |
| Denmark, 10 A/220-230 V, 2.5 m                            | 656494225   |
| Switzerland, 10 A/230 V, 2.5 m                            | 656494235   |
| UK/Ireland, 13 A/230 V, 2.5 m                             | 656494250   |
| India, 10 A/220-250 V, 2.5 m                              | 656494245   |
| Israel, 10 A/230 V, 2.5 m                                 | 656494230   |
| North America, 10 A/230 V, 2.5 m                          | 656494255   |
| <b>Accessories</b>  |             |
| See the Scroll Accessories section beginning on Page 30   |             |
| <b>Maintenance/Service Parts</b>                          |             |
| See the Scroll Service Parts section beginning on Page 38 |             |

## About Frequency Inverter-Driven Scroll Pumps

The application of innovative variable frequency inverter technology to dry scroll pumps provides significant advantages over conventional vacuum pumps.

The inverter-driven TriScroll 300, 600, and IDP-10 pumps deliver optimal and consistent performance across worldwide voltages and frequency conditions.

Operating with low power requirements, the microprocessor-controlled frequency inverter is an efficient driving unit, capable of delivering high starting torque and constant pump performance.



Agilent TriScroll 300 Inverter



Agilent TriScroll 600 Inverter



Agilent IDP-10



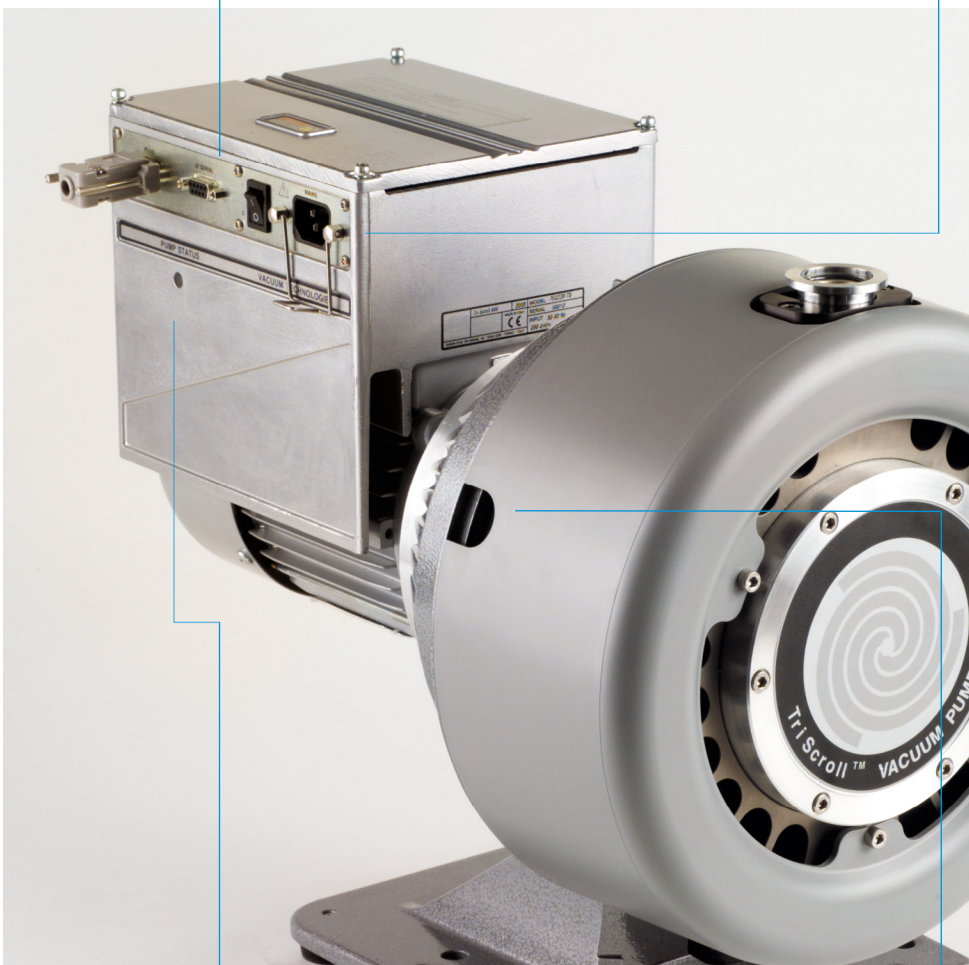
### I/O and RS-232/RS-485 communication

Adjustable motor speed from 35 to 65 Hz permits easy matching of pumping speed and reduces noise levels. Pump performance can be tailored to specific applications to optimize system performance.



### Universal input voltage

The universal single-phase voltage and frequency provide worldwide compatibility and constant performance at different input frequencies.



### Remote diagnostics

Fully compatible with Agilent A-PLUS software, the RS-232/485 interface allows data acquisition and control of pump operations, including pumping speed.



### Reduced power requirements

Inverter technology reduces the power required compared to traditional single-phase motors.

# Exhaust Silencer and Vibration Isolation Kits

## Exhaust Silencer Kits

Exhaust silencer kits are designed for applications where the sound level produced by the work of gas compression needs to be diminished.

An exhaust silencer is not necessary in situations where the exhaust is carried away in a ducted manifold because, in that case, the noise level is typically the same as when a local silencer is used.

Exhaust silencers work by breaking up noise pulsation in the discharge line. The kits contain two basic components, as well as installation hardware.

1. The exhaust muffler filter, which provides the majority of actual noise reduction.
2. An optional silencer can be connected to the exhaust of the pump as well. It weakens certain frequencies associated with the exhaust gas pulsation noise. The silencer is then attached to the exhaust muffler.



IDP-3 with muffler



Silencer

Muffler

TriScroll with muffler

Exhaust kit installed

## Ordering information

| Description                                  | Part Number    |
|--|----------------|
| Exhaust silencer kit for IDP-3               | EXSLRIDP3      |
| Exhaust silencer kit for IDP-7 and IDP-10    | X3807-68003    |
| Exhaust silencer kit for TriScroll           | EXSLRTRISCROLL |
| Exhaust silencer kit for IDP-15              | X3815-68003    |
| Exhaust muffler for IDP-15 with NW16 fitting | X3815-68003    |
| Exhaust muffler for IDP-7 and IDP-10         | EXSLRSH110     |



## Vibration Isolation Kits

Vibration isolation kits are designed to reduce the vibration level transmitted at the base of the scroll pump. The set of vibration isolation mounts provided in the kit will be most beneficial in applications that require minimal vibration transmission from the pump to the installation. The isolation mounts replace the standard feet and can be used alone or with flexible bellows at the pump inlet to enhance pump isolation.

**Note:** The mounts will increase the height of the TriScroll pumps by 0.75 in compared to the standard mounting feet supplied with the pump.



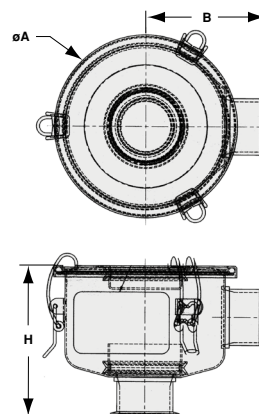
Vibration isolation kit installed

## Ordering information

| Description   | Part Number    |
|---|----------------|
| Vibration isolation kit for IDP-3                         | IDP3VIBISOKIT  |
| Vibration isolation kit for the IDP-7 and IDP-10          | SH110VIBISOKIT |
| Vibration isolation kit for TriScroll                     | PTSVIBISOKIT   |
| <b>Note:</b> The IDP-15 has integral vibration isolation. |                |

# HEPA Filters

## HEPA Inlet Filters



Dimensions: millimeters (inches)

Agilent Inlet HEPA filters for scroll pumps protect the pump from ingested particles and prevent particles from migrating out of the pump.

These HEPA filters trap particles  $>0.3 \mu\text{m}$  at a rate of 99.97 % efficiency.

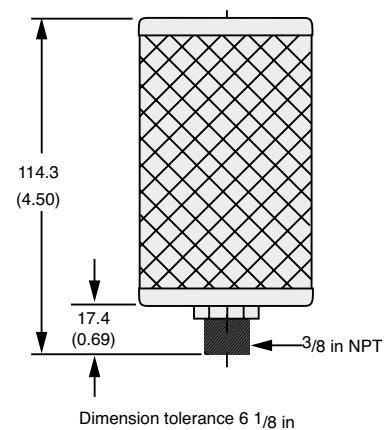
|   | NW16         | NW25          | NW40          |
|---|--------------|---------------|---------------|
| A | 95.25 (3.75) | 146.05 (5.75) | 146.05 (5.75) |
| H | 99.06 (3.90) | 111.00 (4.37) | 120.90 (4.76) |
| B | 66.17 (2.61) | 185.85 (3.38) | 195.76 (3.77) |

## Ordering information

| Description                                    | Part Number     |
|--|-----------------|
| NW40 inlet trap with HEPA filter insert        | SCRINTRPNW40    |
| NW25 inlet trap with HEPA filter insert        | SCRINTRPNW25    |
| NW16 inlet trap with HEPA filter insert        | SCRINTRPNW16    |
| Replacement HEPA filter element (NW25 or NW40) | REPLHEPAFILTER1 |
| Replacement HEPA filter element (NW16)         | REPLHEPAFILTER2 |



## Exhaust Filter Kits for TriScroll Pumps



**Dimensions: millimeters (inches)**

These HEPA filters trap particles and dust that emanate from the vacuum system and prevent discharge into the room. Kits include one HEPA filter, flange adapter, centering ring seal, and clamp to fit the exhaust extensions. Replacement filters are also available.

### Ordering information

| Description                       | Part Number |
|-----------------------------------|-------------|
| Exhaust filter kit, TriScroll 300 | PTS300EXFIL |
| Exhaust filter kit, TriScroll 600 | PTS600EXFIL |
| Replacement HEPA filter           | 110420110   |

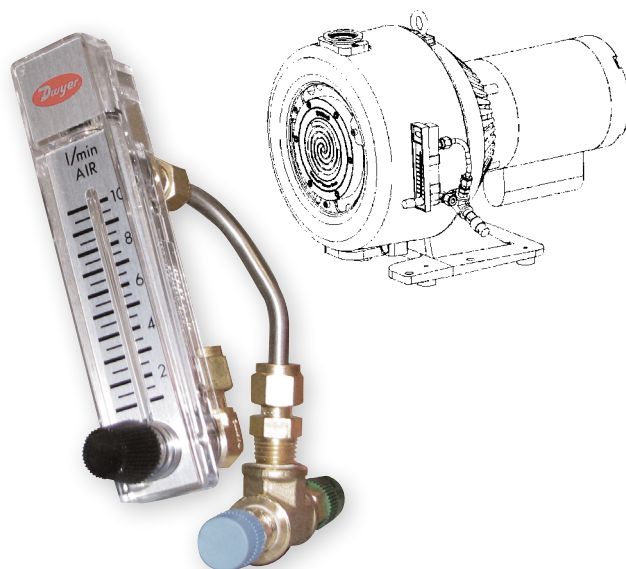
# Purge Kits and Vacuum Isolation Valves

## Purge Kits for TriScroll Pumps

Purge kits for TriScroll pumps enable safe, proper purging of either the main bearings through the TriScroll bearing purge port, or the pump exhaust region through the gas ballast port. Use of a gas ballast purge is indicated where it is desirable to dilute the pumped gases, and is always recommended when pumping condensable gases.

The kit includes a flow meter with manual throttle valve, a 5-psig relief valve, necessary tubing and fittings, and instructions.

The flow meter assembly mounts directly onto the TriScroll pump. The recommended flow rate for both the gas ballast and bearing purge port is 5 L/m.



## Ordering information

| Description              | Part Number |
|--------------------------|-------------|
| Purge kit for TriScrolls | PTSPURGEKIT |

## Vacuum Isolation Valves for IDP Series Scroll Pumps

Agilent offers a range of isolation valves that are used with the scroll pump to ensure proper vacuum isolation, and eliminate turbulence into the pump foreline.

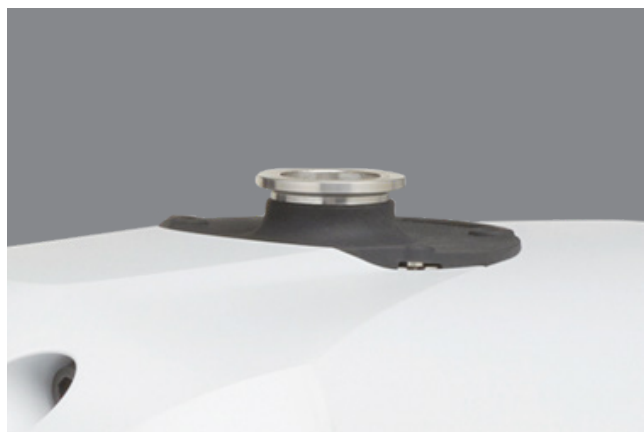
For applications where the process is sensitive to particulates or requires the best vacuum isolation, the installation of a fast-acting, automatic, normally closed valve is recommended to maintain a vacuum and prevent backstreaming of debris that may have accumulated inside the pump.

The IDP series scroll pumps offers an optional inlet valve that provides isolation of the pump in case of power failure.

On the IDP-7, IDP-10, and IDP-15 dry scroll pumps, this optional valve is integral to the pump frame and adds no height to the inlet of the pump. On the IDP-3 pump, this optional valve is installed above the inlet of the pump.

When restarting the pump, there is a time delay before the isolation valve opens. This time allows a good level of vacuum to be established between the valve and the pump before the pump is exposed to the system vacuum line. This eliminates turbulence that can cause back migration of particulate.

Isolation valve retrofit kits are available for the IDP-3.



On the IDP-7, IDP-10 and IDP-15, the optional integral inlet valve is contained within the frame of the pump and adds no height to the inlet position

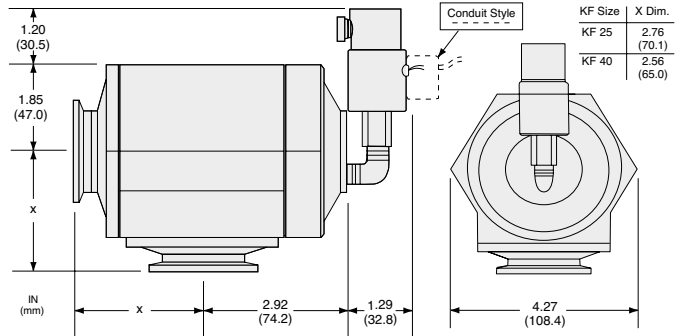
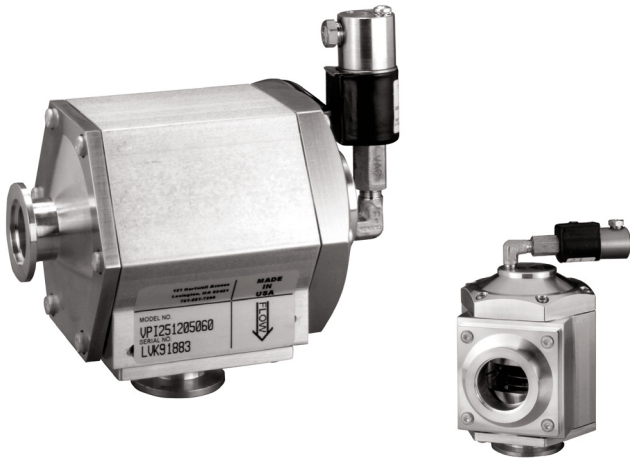


Vacuum Isolation Valve – IDP-3

### Ordering information

| Description  | Part Number |
|--|-------------|
| Isolation valve retrofit kit for IDP-3 pump, 100 VAC | VPI16IDP100 |
| Isolation valve retrofit kit for IDP-3 pump, 115 VAC | VPI16IDP115 |
| Isolation valve retrofit kit for IDP-3 pump, 200 VAC | VPI16IDP220 |

# Agilent Vacuum Pump Isolation Valve (VPI)



Dimensions: millimeters (inches)

## Protection for your vacuum system

The VPI is electrically connected in parallel to your mechanical pump. It closes rapidly when power is interrupted to prevent oil backstreaming or particle migration into your vacuum system. The valve also vents the pump from the inlet side to push any debris towards the outlet. This prevents it from being swept into the system when pumping is restarted. The body design and right-angle configuration provide maximum conductance.

## Technical specifications

|                   |  |
|-------------------|--|
| Materials         | Body: 6061-T6 aluminum<br>Piston: 2024 aluminum<br>Seals: synthetic rubber |
| Leak rate         | Body and seal: $<1 \times 10^{-9}$ std cc/s He                             |
| Closing time      | <30 ms   |
| Power             | 7 W at 115 VAC   |
| Conductance       | NW25 - 13 L/s    NW40 - 33 L/s   |
| Temperature range | Valve: 0 to 100 °C, solenoid 0 to 50 °C                                    |

## Features

- Lock-over-center mechanism
- Fast-acting: valve closes in less than 30 ms
- Provides venting of the pump at the pump inlet
- Remains closed until pump inlet pressure returns to system pressure
- Operates with atmospheric pressure and is activated upon loss of electrical power
- Provides maximum conductance

## Benefits

- Reliable, repeatable seals
- Immediate protection of your vacuum system from oil or contaminant migration in the event of power failure
- Flow direction is maintained; oil/debris are not swept into the system
- Continued protection and easy restart
- No compressed air required for operation
- No reduction of pumping speed

## Ordering information

| Description          | Voltage | Part Number   | Shipping Weight lb (kg) |
|----------------------|---------|---------------|-------------------------|
| NW25                 | 120 VAC | VPI251205060  | 5.0 (2.3)               |
|                      | 133 VAC | VPI251335060  | 5.0 (2.3)               |
|                      | 220 VAC | VPI252205060  | 5.0 (2.3)               |
|                      | 266 VAC | VPI252665060  | 5.0 (2.3)               |
| NW40                 | 120 VAC | VPI401205060  | 5.0 (2.3)               |
|                      | 133 VAC | VPI401335060  | 5.0 (2.3)               |
|                      | 220 VAC | VPI402205060  | 5.0 (2.3)               |
|                      | 266 VAC | VPI402665060  | 5.0 (2.3)               |
| <b>Accessories</b>   |         |               |                         |
| Piston kit, NW25     |         | VPI25PSTNKIT  | 1.0 (0.5)               |
| Rebuild kit, NW25    |         | VPI25RBLDKIT  | 1.0 (0.5)               |
| Piston kit, NW40     |         | VPI40PSTNKIT  | 1.0 (0.5)               |
| Rebuild kit, NW40    |         | VPI40RBLDKIT  | 1.0 (0.5)               |
| Replacement solenoid | 120 VAC | VPISOL1205060 | 1.0 (0.5)               |
|                      | 133 VAC | VPISOL1335060 | 1.0 (0.5)               |
|                      | 220 VAC | VPISOL2205060 | 1.0 (0.5)               |
|                      | 266 VAC | VPISOL2665060 | 1.0 (0.5)               |
| Seals kit, NW25/40   |         | VPISEALSKIT   | 1.0 (0.5)               |

Agilent's service and support offer is one of the most comprehensive in the industry, with an emphasis on quick response times and hassle-free service.

### Product Support

#### Exchange/Repair program

The exchange program maximizes uptime for occasions where a fast response is essential, offering exchange units for advance shipment. Our exchange units are fully reconditioned to the same strict standards as new products. They are kept in stock in North America, Europe, Japan, Korea, Singapore, and Taiwan. If requested, your exchange unit can be shipped for overnight delivery.

The repair program is available for situations where the traceability of assets is important, and when the customer must retain possession of the original pump. Both the exchange and repair programs are available worldwide and provide global OEMs and end-users with consistent delivery time, value pricing, and simple ordering procedures.

To order an exchange unit, contact the closest Agilent office to your location. After receipt of the exchange unit, you have up to 20 days to return the original unit to Agilent. To request a repair for your unit, contact the closest Agilent office to your location.

#### Upgrade program

The upgrade program is designed for customers who need to replace an Agilent product at the end of its life, or wish to upgrade to a more current product. For example, a customer might wish to replace a TriScroll 300 scroll pump, with the newer TriScroll 300 Inverter scroll pump, which has more advanced inverter technology, or with a state-of-the-art, single-sided IDP-15 scroll pump.

### Technical Assistance

#### Customer support

Our toll-free lines with technical support engineers at worldwide locations, allow us to provide you with quick, corrective responses to your needs. When a new problem is identified and solved by our support personnel, it is entered into our technical support system and becomes available to our network of Agilent technical support centers.

This system allows all Agilent locations to provide excellent first- and second-level technical support to customers worldwide. In addition, the technical support centers are in daily contact with our R&D departments for a third level of support.

#### Application support - Application training

Agilent has a leadership position in vacuum technology and maintains this position by continuously searching for innovative solutions through research and development. To meet our customers most demanding needs, our applications engineering team can bring our knowledge to your factory.

Application support is a project-based activity where our experts assist you towards the solution of your application issues in both presales and postsales. By designing solutions that meet customer needs, Agilent aims to create a positive and synergetic relationship with customers.

Our experts can keep you informed and updated on industrial and scientific applications, with the goal of optimizing the use of our products in your system, as well as developing of new vacuum techniques.

For more information, or if you have a need for customized solutions, contact your Agilent representative.



## Service and Maintenance

Agilent's industry-leading service programs maximize your system uptime and productivity. Agilent offers several scroll pump service and maintenance options, depending on your in-house capability and maintenance approach.

From “do it yourself” to exchange of the entire pump, we accommodate your maintenance needs. Routine maintenance of Agilent scroll pumps consists of simple tip seal replacement.

### IDP series tip seal replacement

The IDP dry scroll pumps are designed for a long service life and easy maintenance. The tip seals in a scroll pump form the basic axial vacuum seal between the rotating and stationary scrolls, deterring the gases being pumped from moving backwards through the pumping mechanism. Tip seals are a wearable part and require occasional replacement to keep the pump at optimal operating performance.

The IDP dry scroll pumps use a solid, PTFE based tip seal design that offers from one to three years of service life in most common applications. The single-sided design of the IDP pumps enables simple and quick basic service. A tip seal replacement process is easy to perform, takes about 15 minutes, and uses only common tools.

The IDP scroll pump's long service life and ability for end-users to perform basic service on the pump at their facility reduces down-time and costly service expenses.

### TriScroll series tip seal replacement

For TriScroll pumps, a tip seal tool kit is recommended along with the replacement tip seal kit. Maintenance kits for TriScroll pumps contain all fixtures and tools required to perform any maintenance on TriScroll pumps.

The kits include all bearings, bearing seals, bearing lubricant, O-rings, and tip seals required to rebuild TriScroll pumps. For many Agilent pump models, an advance exchange of the entire pump is available.

## Tip Seal Kits

### Ordering information

| Description  | Part Number |
|--|-------------|
| <b>IDP-3</b>   |             |
| Tip seal replacement kit   | IDP3TS      |
| Replacement module   | IDP3        |
| <b>IDP-7</b>   |             |
| Tip seal replacement kit   | X3807-67000 |
| <b>IDP-10</b>  |             |
| Tip seal replacement kit   | X3807-67000 |
| <b>IDP-15</b>  |             |
| Tip seal replacement kit   | X3815-67000 |
| <b>TriScroll 300/600 and TriScroll Inverter Pumps</b>  |             |
| TriScroll 300 exhaust extension  | S4707002    |
| TriScroll 300 maintenance kit  | PTSS0300MK  |
| TriScroll 600 maintenance kit  | PTSS0600MK  |
| TriScroll 300/600 maintenance tool kit   | PTSS0600TK  |
| TriScroll 300 replacement tip seal kit   | PTSS0300TS  |
| TriScroll 600 replacement tip seal kit   | PTSS0600TS  |
| TriScroll 300/600 tip seal tool kit  | PTSTSTKIT   |
| TriScroll 300/600 3 Ø cable kit  | S478900     |
| <b>Exchange and Replacement Pumps</b>  |             |
| Contact Agilent for the exchange or advance exchange part number for your Agilent dry scroll pump. |             |

**По вопросам продаж и поддержки обращайтесь:**

|                             |                                 |                                |                           |
|-----------------------------|---------------------------------|--------------------------------|---------------------------|
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