AGILENT IDP-15 DRY SCROLL PUMP
CLEAN. QUIET. RELIABLE.

The next generation 15 m³/h Scroll Pump, designed for quiet and low vibration operation.

The Measure of Confidence
The state-of-the-art in dry scroll pump technology

The Agilent IDP-15 Scroll Pump is a high performance dry primary vacuum pump, providing rapid pump-down at 15.4 m³/hour (60 Hz). With a single-sided scroll design it offers fast, easy yearly maintenance and low cost of ownership. It 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 (<50db) and vibration-free, and is ideal for use in Analytical Instrument and Research applications, and many industrial applications as well.

Applications

The IDP-15 Dry Scroll Pump is the ideal solution for vacuum users in most clean applications, for backing a turbo pump, and for loadlock applications in general. Key target applications include:

Academic and Research
- Government Research Labs
- University Labs
- High Energy Physics/Beam Lines

Industrial
- Glovebox
- Crystal Pulling
- LED/Light Manufacturing
- Freeze Drying

- Gel Drying
- Sample Preparation

Instrumentation
- Cryogenics
- Electron Microscope
- Helium Recirculation
- Leak Detectors

- Mass Spectrometry
- Ion Implant
- Leak Detection
- Surface Science Instruments
Features and Benefits

<table>
<thead>
<tr>
<th>IDP-15 Feature</th>
<th>Advantage</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolated bearings/motor</td>
<td>No risk of oil or grease back streaming from the pump</td>
<td>Longer Service Interval with condensable vapor applications</td>
</tr>
<tr>
<td>Single Sided Scroll Design</td>
<td>Easier, quicker basic service</td>
<td></td>
</tr>
<tr>
<td>Solid Tip Seals</td>
<td>Longer Tip Seal Life in most applications</td>
<td>Longer Service Interval with condensable vapor applications</td>
</tr>
<tr>
<td>Very low noise and vibration</td>
<td>Appropriate for use in laboratory settings</td>
<td>Required in applications such as Mass Spec and Microscopy</td>
</tr>
<tr>
<td>Hermetic Design</td>
<td>Necessary for use in helium and other pure gas applications</td>
<td>No risk of non-process gases entering the vacuum path</td>
</tr>
<tr>
<td>Optional Integral Isolation Valve</td>
<td>Fast acting isolation valve at relatively low cost</td>
<td>Valve is built into pump module and adds no height to the inlet of the pump</td>
</tr>
<tr>
<td>IEC Power Cord Module</td>
<td>All pumps use standard IEC power cords</td>
<td>Power cord not hard-wired to the motor</td>
</tr>
</tbody>
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Understanding Scroll Pump Technology

IDP Pumps create vacuum using a simple dual scroll mechanism in which one of the nested scrolls orbits about the other, creating moving zones of captured gas. Gas enters the scroll set at the perimeter and is displaced and compressed toward the center hub where it is exhausted.

The uncomplicated dual scroll design offers many benefits including lower noise and vibration levels, simple and infrequent maintenance requirements, plus the elimination of catastrophic failure modes.
IDP-15 Key Design Elements
A state-of-the-art Vacuum Pump

Isolated and Hermetic Design
Motor and Bearings completely isolated from the vacuum path
- Motor and Bearings are not exposed to any process gases or water vapor from the application
- Bearings run at atmospheric pressure

Hermetic Design
- Appropriate for Rare Gas and Helium recirculation applications
- Gas Ballast normally closed
- Closed system from inlet to exhaust
- Each pump is leak checked

Optional Integral Isolation Valve
- The Integral Inlet Isolation Valve is installed inside the module; it adds no height to the pump inlet
- Valve protects against backward migration through the inlet, and sudden venting of customer chamber/instrument
- Spring holds inlet valve normally closed
- Lower pressure in pump causes spring to open
- On power loss, solenoid valve vents pump causing inlet valve to close (20 ms)
- Power is restored, solenoid closes, inside of pump begins evacuating, inlet valve opens (about 10 sec)

Fixed Speed Motor Supports Global Input Voltages
- Supports Single Phase Operating Voltages:
  - 100V, 50/60 Hz
  - 115V, 60Hz
  - 220-230V, 50/60Hz
- Simple Switch to change between high and low voltage use.
Designed for Quiet Operation
Low noise
• Agilent consulted with noise experts to aid in designing Pump Module to minimize noise
• Three piece outer cowling acts as a built-in noise enclosure
• IDP-15 is specified at 50 dBA ±2 dBA, much lower than other scroll pumps available

How Quiet is the IDP-15?

<table>
<thead>
<tr>
<th>Noise</th>
<th>dBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chainsaw; Thunder Clap</td>
<td>120</td>
</tr>
<tr>
<td>Car Horn (1m); Live Rock Music</td>
<td>110</td>
</tr>
<tr>
<td>Lawn Mower; Airplane Take off (1km)</td>
<td>100</td>
</tr>
<tr>
<td>Motorcycle (8m away)</td>
<td>90</td>
</tr>
<tr>
<td>Freight Train (25m); Food Blender</td>
<td>80</td>
</tr>
<tr>
<td>Cars on Freeway; Vacuum Cleaner</td>
<td>70</td>
</tr>
<tr>
<td>Air Conditioner (30m); Office Noise</td>
<td>60</td>
</tr>
<tr>
<td>Best competing scroll pump</td>
<td>52</td>
</tr>
<tr>
<td>Conversation at Home; IDP-15</td>
<td>50</td>
</tr>
<tr>
<td>Library</td>
<td>40</td>
</tr>
</tbody>
</table>

Every additional 10 dBA is a doubling of noise

Low Vibration
The IDP-15 is equipped with integral Vibration Isolation feet, which:
• Decouple vibration from motor and scrolls from the mounting brackets
• Dampen vibration of the pump module

Single Sided Scroll Design
• Only Fixed Scroll needs to be removed to change tip seals
• Very easy basic service, 15 minutes using two tools
• Simple design still achieves a low ultimate pressure of 10 mTorr

Design for Service
IDP-15 Tip Seal Replacement: 15 minutes
Agilent IDP-15 Dry Scroll Pump
Clean. Quiet. Reliable.

Technical Specifications

Peak pumping speed:
- 60 Hz: 256 L/m, 15.4 m³/hr
- 50 Hz: 214 L/m, 12.8 m³/hr

Media:
Not suitable for use with corrosive, explosive or particulate-forming gases

Ultimate pressure:
10 x 10⁻⁶ Torr (13.3 x 10⁻³ mbar)

Maximum inlet pressure:
1.0 atmosphere (0 psig)

Maximum outlet pressure:
6.5 psig

Inlet connection:
NW25

Exhaust connection:
NW16

Gas ballast:
1/4” NPTF (two positions)

Water vapor handling per Pneurop 6602:
- Gas Ballast Position 1: 20.7 g/hr
- Gas Ballast Position 2: 235 g/hr

Ambient operating temp.:
5 °C to 45 °C (41 °F to 113 °F)

Storage temperature:
-20 °C to 60 °C (-4 °F to 140 °F)

Motor rating:
0.75 HP (560 W)

Operating voltages:
- 1ø / 100 VAC, 50/60 Hz
- 1ø / 115 VAC, 60 Hz
- 1ø / 220-230 VAC, 50/60 Hz

Motor thermal protection:
Automatic thermal protection

Operating speed:
- 60 Hz: 1725 RPM, 50 Hz: 1450 RPM

Cooling system:
Air-cooled

Pump weight:
34 kg (75 lbs)

Shipping weight:
45 kg (100 lbs)

Dimensions:
364mm (14.3”) h x 333mm (13.1”) w x 485mm (19.1”) l

Leak rate*:
<1 x 10⁻⁶ sccs helium

Vibration level at inlet:
< 9 mms⁻¹ rms

Noise level:
50 dBA ± 2dBA

Conformance standards:
CE, CSA, RoHS

*(with exhaust and gas ballast sealed)

Pumping Speed

![Pumping Speed Graph](image-url)
Ordering Information

Pump Part Numbers
- X3815-64000: IDP15 Scroll Pump, Std
- X3815-64010: IDP15 Scroll Pump, Std w/inlet vlv

Service Part Numbers
- X3815-67000: IDP-15 Tip Seal Replacement Kit

Spares Part Numbers
- X3815-67001: Shipping Box Set, IDP-15

Accessories:
- SCRINTRPNW25: Inlet Trap, NW25, HEPA
- EXSLRSH110: Exhaust Silencer Kit, SH110

Outline Drawing

Line Cords:
- 656494220: Europe, 10A/220-230V, 2.5 meter
- 656494225: Denmark, 10A/220-230V, 2.5 meter
- 656494235: Switzerland, 10A/230V, 2.5 meter
- 656494250: UK/Ireland, 13A/230V, 2.5 meter
- 656494245: India, 10A/220-250V, 2.5 meter
- 656494230: Israel, 10A/220-230V, 2.5 meter
- 656494240: Japan, 12A/100V, 2.3 meter
- 656458203: North America, 15A/125V, 2.0 meter
- 656494255: North America, 10A/230V, 2.5 meter
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