Agilent Mini-TASK AG81
Integrated Dry Turbo Pumping System
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Compact, Portable Vacuum System: Just Plug and Pump
The Agilent Mini-TASK AG81 (Active Gauge) is a small and compact, easy-to-use, integrated dry vacuum system, featuring the Agilent Turbo-V 81 MacroTorr pump with improved vacuum performance, backed by a dry 10 l/min diaphragm pump.

Turbo-V 81-M: improved vacuum performance
The Turbo-V 81-M is a high performance turbo-drag pump with improved mechanical design aimed at:
• Higher foreline pressure tolerance
• Higher pumping speed and throughput
• Excellent compression ratio

Unique Agilent Turbo Pump Technology
• No maintenance required: Agilent Turbo Pumps don’t need oil refills
• Operability in any position
• Low Power Requirement (optimized by new generation controller)

Reading Card and new Generation Controller
• Large Pressure Reading Display
• Universal voltage 90-240V, 50/60 Hz
• I/O and serial interface
• T-Plus Navigator Software allows communication with your PC

Worldwide Service Capability
• Three levels of Product Support
  – 24h Advance Exchange
  – Factory Repair
  – Upgrade Program
allow global coverage of service needs to maximize productivity and uptime

Active Gauge Capability
• FRG-700 Active Full Range combined gauge:
  Pirani and Cold Cathode from atmosphere to 5x10⁻⁹ mbar (7x10⁻⁹ Torr)
• Pressure data available on independent channels:
  – Serial communication
  – Analog output
• The gauge can be connected/disconnected from the Mini-TASK during normal operation.
Features

• New Generation Turbomolecular Pump Agilent Turbo-V 81-M
• Compact, Light, Dry, Clean and Robust System
• Universal voltage (90V/240V) - CE, C_CSA_US, RoHs compliant
• RS-232 or Analogical Communication
• High vacuum gauge driving card
• Large pressure data display
• Pressure driven set point, Analog set point

Benefits

• Designed for demanding applications
• Cost-effective pumping solution for small volumes
• Can be used world-wide
• Easy to use: plug and play system
• Compatible with world-wide power configurations
• Complies with world-wide safety standards
• Easy system pressure measurement

Active Gauge

FRG-700 Active Full Range combined gauge:
Pirani and Cold Cathode from atmosphere to 5x10⁻⁸ mbar (7x10⁻⁹ Torr)
• Compact, stand-alone transducers
• Simple, rugged electronics with metal enclosure
• LED status indicator
• CSA/UL and CE certified

DIY Active Gauge Kit

This accessory can be ordered separately, and includes:
• Active Gauge FRG-700
• Cable for gauge connection
• Vacuum Tee and Connecting Hardware (Flanges according to the System inlet flange)
Agilent Mini-TASK AG81 Dry Turbo Pumping System

Technical Specifications

<table>
<thead>
<tr>
<th></th>
<th>KF40</th>
<th>ISO63</th>
<th>CFF 4.5 in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pumping Speed (l/s)</td>
<td>N2</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>H2</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>He</td>
<td>45</td>
<td>55</td>
</tr>
<tr>
<td>Base pressure</td>
<td>2 x 10⁻¹ mbar</td>
<td>2 x 10⁻¹ mbar</td>
<td>5 x 10⁻⁴ mbar*</td>
</tr>
<tr>
<td>Bakeout temperature</td>
<td>80 °C at inlet</td>
<td>80 °C at inlet</td>
<td>120 °C at inlet</td>
</tr>
<tr>
<td>Shipping Weight lbs. (kg)</td>
<td>16.4 (7.5)</td>
<td>16.4 (7.5)</td>
<td>18.3 (8.3)</td>
</tr>
<tr>
<td>Pumpdown time (1 liter volume)</td>
<td>60 sec. to 24 mbar; 120 sec. to 1 x 10⁻¹ mbar; 160 sec. to 7 x 10⁻¹ mbar</td>
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<tr>
<td>Turbo pump rotational speed</td>
<td>80,000 rpm</td>
<td></td>
<td></td>
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<tr>
<td>Start-up time</td>
<td>Less than 2 minutes</td>
<td></td>
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<tr>
<td>Operating position</td>
<td>Any</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating ambient temperature</td>
<td>5 °C to 35 °C / 32 °F to 122 °F</td>
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<tr>
<td>Input Voltage and Frequency</td>
<td>90V to 240V AC; 50 Hz / 60 Hz</td>
<td></td>
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<tr>
<td>Maximum input power</td>
<td>220 VA</td>
<td></td>
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<tr>
<td>Serial communications</td>
<td>RS-232 cable, 9-pin D-type male, 9-pin D-type female, T-Plus Navigator Software</td>
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</tbody>
</table>

* According to standard DIN 28 428, the base pressure is that measured in a leak-free test dome, 48 hours after the completion of test dome bake-out, with a Turbopump fitted with a ConFlat Flange

Ordering Information

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<tbody>
<tr>
<td>Mini-TASK AG81</td>
<td>9699180</td>
<td>9699181</td>
<td>9699182</td>
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</tbody>
</table>

Accessories

- DIY Full Range Gauge Kit* 9699190 9699192 9699193
- EU plug power cable**, 2 meters (1 ph) 9499396 9499396 9499396
- USA plug power cable**, 2 meters (1 ph) 9499397 9499397 9499397
- UK plug power cable**, 2 meters (1 ph) 9499398 9499398 9499398
- Serial Cable and T-Plus Navigator Software 9699883 9699883 9699883

NOTE Special Vent Valve available on request

* The DIY Gauge Kit can be ordered separately, and includes Full Range Gauge FRG-700, Cable for gauge connection, Vacuum Tee and Connecting Hardware

** Power Cord to be ordered separately
Applications

Electron Microscopy and Mass Spectrometry
The Agilent Mini-TASK AG81 Integrated Turbo Pumping System is the perfect tool to keep the column of an electron microscope under vacuum while performing maintenance or repair on the device. The oil-free nature of the system guarantees freedom from contamination of the column.

Research & Development
Particle Accelerators
This Turbo Pumping System may be used in any laboratory where there is a need to create high vacuum in small-volume chambers quickly and easily. It performs best when evacuating volumes of 10 liters or less. The new generation electronics and the pressure display ensure the accuracy of the process.

Semiconductor Manufacturing
The Mini-TASK AG81 is particularly well suited for evacuating load-lock chambers. Its oil-free design ensures the purity of the process. The Mini-TASK AG81 may be mounted in any position, making it suitable for most system configurations.

Industrial Applications
The Mini-TASK AG81 Turbo Pumping System can create and maintain the required vacuum level in a separate chamber of an industrial system during maintenance or repair. It is well suited for applications in Medical accelerators for cancer therapy.