

## Turbo-V 1K-G Pump



### Product description

The high-throughput Agilent Turbo-V 1K-G turbomolecular pump is a dedicated vacuum pumping system offering 1,000 L/s pumping speed. The Turbo-V 1K-G is designed for industrial use, specifically as a turbo pump for thin film deposition equipment. Its pumping stages, and the entire pump structure, are optimized to work with very high flows of argon under high temperature load.

Typical industrial vacuum coating applications include solar and flat panel display manufacturing. The pump's robust design and its advanced electronics, rack type or onboard solution, make the Turbo-V 1K-G the optimum pumping solution for the vacuum coating industry.

### Features and benefits

- Application-specific pumping solution designed for thin film deposition equipment
- High pumping speed and high gas throughput
- Rugged design and highly efficient cooling system for continuous operation
- Gas Purge for bearings protection

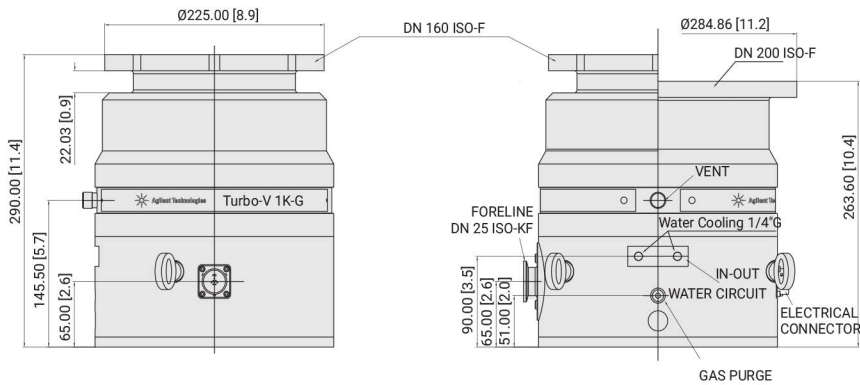
### Advanced electronics

- Rack type or Navigator on board controllers
- Versatile electronics interface with easy to use control Software
- Analog I/O signals and RS232/RS485 interface as standard Agilent Profibus interface as option

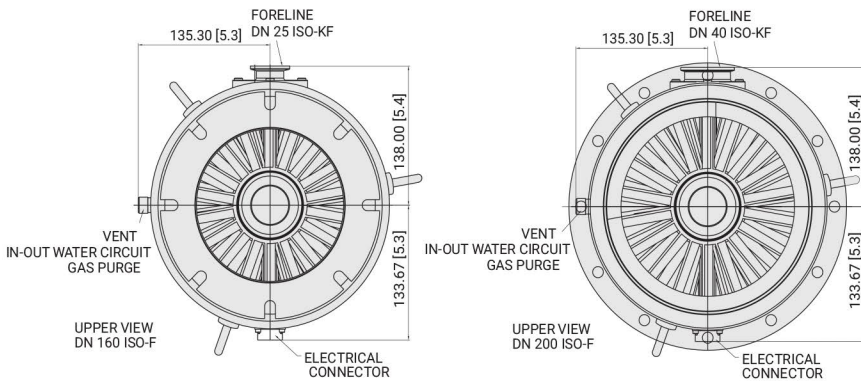


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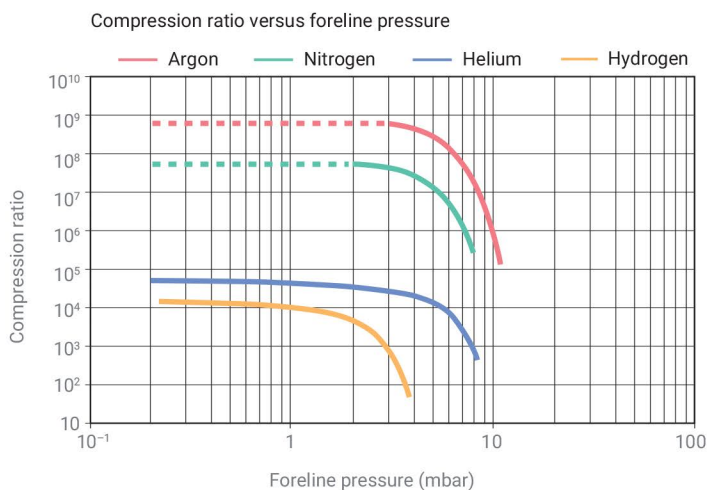
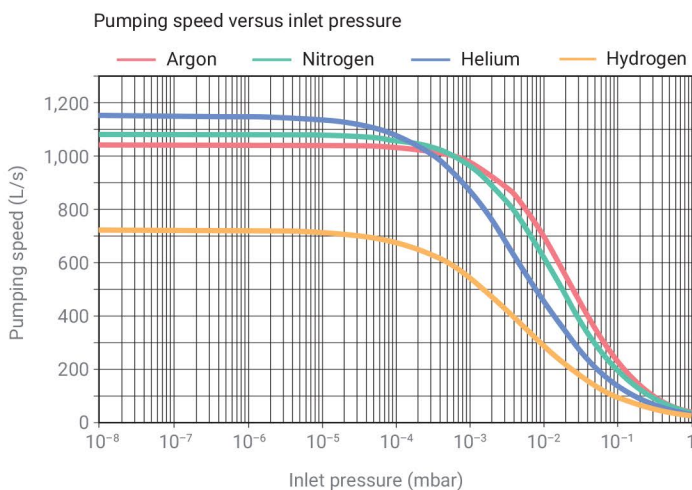


Dimensions: millimeters (inches)

## Technical specifications

|                                            |                                                                                                                                                                                                                                                          |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pumping Speed                              | DN 160 Ar: 750 L/s N <sub>2</sub> : 810 L/s He: 950 L/s H <sub>2</sub> : 680 L/s<br>DN 200 Ar: 1,040 L/s N <sub>2</sub> : 1,080 L/s He: 1,150 L/s H <sub>2</sub> : 730 L/s                                                                               |
| Compression Ratio                          | Ar: >5 × 10 <sup>8</sup> N <sub>2</sub> : >5 × 10 <sup>7</sup> He: >4 × 10 <sup>4</sup> H <sub>2</sub> : 1.5 × 10 <sup>4</sup>                                                                                                                           |
| Base Pressure* (with Recommended Forepump) | <1 × 10 <sup>-10</sup> mbar                                                                                                                                                                                                                              |
| Inlet Flange                               | DN 160 ISO-F, DN 200 ISO-F                                                                                                                                                                                                                               |
| Foreline Flange                            | DN 160: DN 25 ISO-KF<br>DN 200: DN 40 ISO-KF                                                                                                                                                                                                             |
| Nominal Rotational Speed                   | 45,500 rpm                                                                                                                                                                                                                                               |
| Start-Up Time                              | <5 minutes                                                                                                                                                                                                                                               |
| Minimum Recommended Forepump               | >20 m <sup>3</sup> /h (TriScroll 600, DS 602)                                                                                                                                                                                                            |
| Operating Position                         | Any                                                                                                                                                                                                                                                      |
| Operating Ambient Temperature              | 5 to 35 °C                                                                                                                                                                                                                                               |
| Bakeout Temperature                        | 80 °C at inlet flange max (ISO flange)                                                                                                                                                                                                                   |
| Vibration Level (Displacement)             | <0.01 µm at inlet flange                                                                                                                                                                                                                                 |
| Cooling Requirements                       | Water                                                                                                                                                                                                                                                    |
| Power Supply                               | Input voltage: 100 to 240 Vac<br>Input frequency: 50 to 60 Hz<br>Max input power: 600 VA<br>Stand-by power: 30 to 35 W<br>Max operating power: 400 W using nitrogen and lighter gases (water cooling setting)<br>260 W using Argon (air cooling setting) |
| Protection Fuse (Navigator Controller)     | 1 × 6.3 A                                                                                                                                                                                                                                                |
| Serial Communication (Navigator Kit)       | RS232 cable with a 9-pin D-type male connector and a 9-pin D-type female connector, and Navigator software (optional)                                                                                                                                    |
| Storage Temperature                        | -20 to 70 °C                                                                                                                                                                                                                                             |
| Weight                                     | 26.8 kg (59.1 lb)                                                                                                                                                                                                                                        |

\* According to standard DIN 28 428.



## Ordering information

| Description                                                         | Part Number |
|---------------------------------------------------------------------|-------------|
| <b>Pumping Systems</b>                                              |             |
| Turbo-V 1K-G DN 160 ISO-F                                           | 8698961R002 |
| Turbo-V 1K-G DN 200 ISO-F                                           | 8698962R001 |
| Turbo-V 1K-G DN 200 CF-F (10 in CFF)                                | 8698962R004 |
| <b>Controllers</b>                                                  |             |
| Turbo-V 1K-G Navigator Controller, 120 to 220 V                     | 9698978M005 |
| Turbo-V 1K-G Rack Controller, 100 to 240 V                          | X3501-64005 |
| <b>Accessories</b>                                                  |             |
| Mains Cable NEMA Plug, 3 m Long                                     | 9699958     |
| Mains Cable European Plug, 3 m Long                                 | 9699957     |
| RS232 – Serial Cable                                                | 9699883     |
| Inlet Screen DN 160                                                 | 9699304     |
| Inlet Screen DN 200                                                 | 9699316     |
| Water Cooling Kit Straight Hose Barb for 9 mm id Hose               | 9699825     |
| Water Cooling Kit 90 Degree Fitting for 9 mm id Hose                | 9699826     |
| Vent Flange, DN 10 ISO-KF/M8                                        | 9699108     |
| Vent Device with Adjustable Delay Time for Standard Rack Controller | 9699831     |
| Vent Valve for Standard Rack Controller                             | X3501-68002 |
| Vent Valve for Navigator Controller                                 | 9699834     |
| Purge Valve DN 16 ISO-KF-M12 20 SCCM                                | 9699241     |
| Purge Valve 7/16-M12 20 SCCM                                        | 9699242     |

| Recommended Forepump                                        |              |
|-------------------------------------------------------------|--------------|
| Rotary Vane Pump DS 602, with 1 ph, Worldwide Motor         | 9499335      |
| Rotary Vane Pump DS 602, with 3 ph, Worldwide Motor         | 9499336      |
| Dry pump TriScroll 600, with 1 ph, Worldwide Motor          | PTS06001UNIV |
| Dry pump TriScroll 600, with 3 ph, Worldwide Motor          | PTS06003UNIV |
| Dry pump TriScroll 600 Inverter, with 1 ph, Worldwide Motor | PTS06001INV  |

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