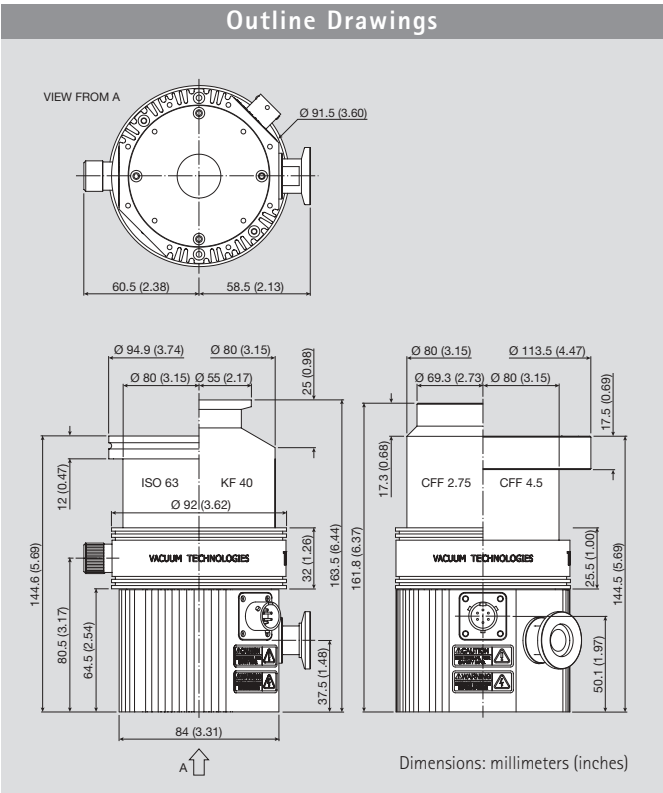


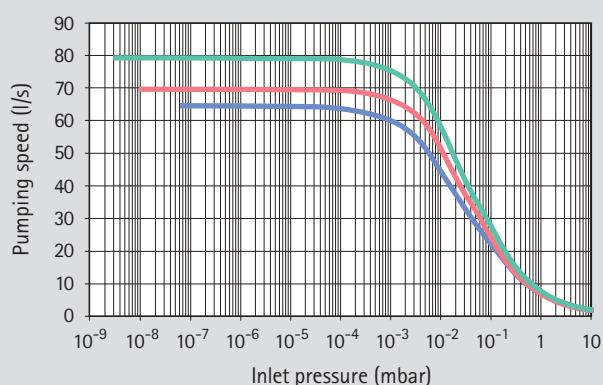
# Turbo-V 81-M



| Technical Specifications                   |                                                                                    |                         |                                      |
|--------------------------------------------|------------------------------------------------------------------------------------|-------------------------|--------------------------------------|
| Pumping speed (l/s)                        |                                                                                    |                         |                                      |
| With CF 4 1/2" or ISO 63:                  | N <sub>2</sub> : 77 l/s                                                            | He: 65 l/s              | H <sub>2</sub> : 50 l/s              |
| With CF 2 3/4" or KF 40:                   | N <sub>2</sub> : 50 l/s                                                            | He: 56 l/s              | H <sub>2</sub> : 46 l/s              |
| Compression ratio                          | N <sub>2</sub> : 5 x 10 <sup>8</sup>                                               | He: 8 x 10 <sup>4</sup> | H <sub>2</sub> : 7 x 10 <sup>3</sup> |
| Base pressure* (with recommended forepump) | 5 x 10 <sup>-10</sup> mbar (3.8 x 10 <sup>-10</sup> Torr)                          |                         |                                      |
| Inlet flange                               | CF 4 1/2" O.D.                                                                     | ISO 63                  |                                      |
|                                            | CF 2 3/4" O.D.                                                                     | KF 40                   |                                      |
| Foreline flange                            | KF 16 NW                                                                           |                         |                                      |
| Rotational speed                           | 1350 Hz (max)                                                                      |                         |                                      |
| Start-up time                              | < 60 seconds                                                                       |                         |                                      |
| Recommended forepump                       | Mechanical: Varian DS 42 – DS 102<br>Dry pump: Varian SH 100                       |                         |                                      |
| Operating position                         | Any                                                                                |                         |                                      |
| Cooling requirements                       | Natural air convection<br>Forced air or water optional                             |                         |                                      |
| Bakeout temperature                        | 120 °C at inlet flange max. (CF flange)<br>80 °C at inlet flange max. (ISO flange) |                         |                                      |
| Vibration level (displacement)             | <0.01 µm at inlet flange                                                           |                         |                                      |
| Weight kg (lbs)                            | ISO 63: 2 (4.4)<br>CF 4 1/2": 2,98 (6.57)                                          |                         |                                      |

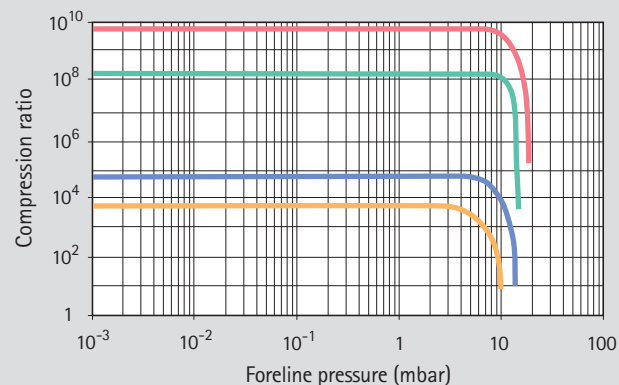
\* According to standard DIN 28 428.

Pumping Speed vs Inlet Pressure (DN 63 only)



— Nitrogen — Argon — Helium

Compression Ratio vs Foreline Pressure



— Argon — Nitrogen — Helium — Hydrogen

## Ordering Information

| Description                                   | Weight kg (lbs) | Part Number  |
|-----------------------------------------------|-----------------|--------------|
| <b>Pumps</b>                                  |                 |              |
| Turbo-V 81-M pump with ISO 63 inlet flange    | 2.0 (4.4)       | 9698901      |
| Turbo-V 81-M pump with CF 4 1/2" inlet flange | 2.98 (6.57)     | 9698903      |
| Turbo-V 81-M pump with KF 40 inlet flange     | 2.0 (4.4)       | 9698902      |
| Turbo-V 81-M pump with CF 2 3/4" inlet flange | 2.98 (6.57)     | 9698904      |
| <b>Controllers</b>                            |                 |              |
| Rack controller 81-AG base                    | 1.7 (3.2)       | 9698988      |
| Rack controller 81-AG RS232/485               | 1.7 (3.2)       | 9698989      |
| Rack controller 81-AG Profibus                | 1.7 (3.2)       | 9698990      |
| PCB 24 V                                      | 1.0 (2.2)       | 9699538      |
| <b>Accessories</b>                            |                 |              |
| Inlet screen, DN 40                           | 0.5 (1.0)       | 9699309      |
| Inlet screen, DN 63                           | 0.5 (1.0)       | 9699300      |
| Heater band 220 V                             | 1.0 (2.2)       | 9699801      |
| Heater band 120 V                             | 1.0 (2.2)       | 9699802      |
| Metallic water cooling kit                    | 0.5 (1.0)       | 9699823      |
| Plastic water cooling kit                     | 0.5 (1.0)       | 9699824      |
| Air cooling kit (0.5 m cable)                 | 2.2 (5.0)       | 9699290      |
| Air cooling kit extension cable (5 m)         | 2.2 (5.0)       | 9699940      |
| Pump extension cable                          | 2.2 (5.0)       | 9699942      |
| Vibration damper DN 63                        | 0.5 (1.0)       | 9699340      |
| Vibration damper CFF 4.5"                     | 0.5 (1.0)       | 969-9376     |
| Mechanical pump DS 102                        | 22.0 (48.0)     | 9499315      |
| Mechanical pump DS 42                         | 11.0 (24.0)     | 9499309      |
| Dry scroll SH 110                             | 19.0 (43.0)     | SH01101 UNIV |