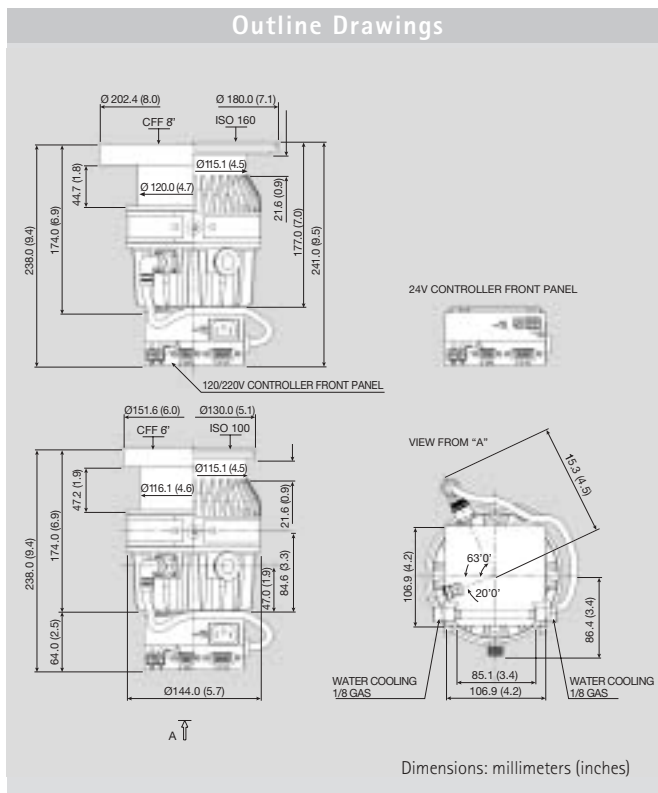


# Turbo-V 301 Navigator

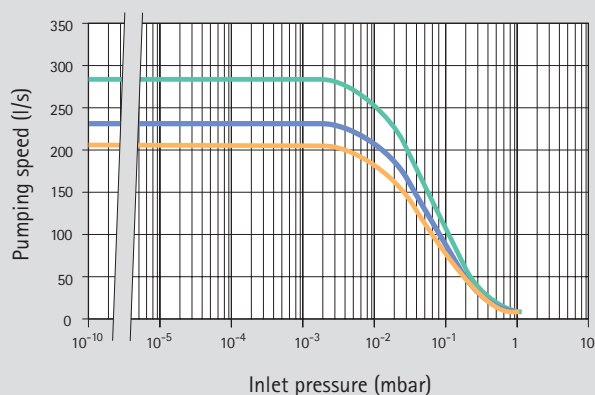


## Technical Specifications

Pumping speed				
With CF 8" or ISO 160:	N <sub>2</sub> : 280 l/s	He: 230 l/s	H <sub>2</sub> : 210 l/s	
With CF 6" or ISO 100:	N <sub>2</sub> : 250 l/s	He: 220 l/s	H <sub>2</sub> : 200 l/s	
Compression ratio	N <sub>2</sub> : 7 x 10 <sup>8</sup>	He: 1 x 10 <sup>5</sup>	H <sub>2</sub> : 1 x 10 <sup>4</sup>	
Base pressure * (with recommended forepump)	mechanical: < 5 x 10 <sup>-10</sup> mbar (< 3.75 x 10 <sup>-10</sup> Torr) dry: < 5 x 10 <sup>-9</sup> mbar (< 3.75 x 10 <sup>-9</sup> Torr)			
Inlet flange	CF 8" O.D.	ISO 160		
	CF 6" O.D.	ISO 100		
Foreline flange	KF16 (KF25 optional)			
Rotational speed	56,000 rpm			
Start-up time	< 3 minutes			
Recommended forepump	Mechanical: Varian DS 102 Dry scroll: Varian SH-100			
Operating position	Any			
Cooling requirements	Natural air convection Forced air or water optional			
Bakeout temperature	120 °C at inlet flange max. (CF flange) 80 °C at inlet flange max. (ISO flange)			
Vibration level (displacement)	<0.01 µm at inlet flange			
Weight kg (lbs)				
Kit: (Pump + Navigator controller)	ISO 100 and 160: 4.5 (10) CF 6" and 8": 8 (17.6) 1 (2.2)			
Navigator controller	4,5 (10)			
1/4 Rack controller				

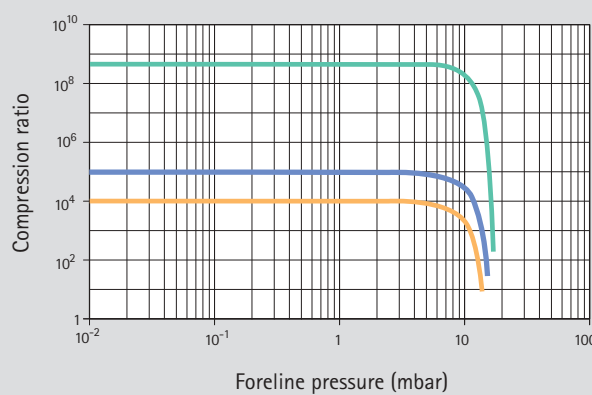
\* According to PNEUROP 5608.

Pumping Speed vs Inlet Pressure (DN 160 only)



— Nitrogen — Helium — Hydrogen

Compression Ratio vs Foreline Pressure



— Nitrogen — Helium — Hydrogen

Ordering Information

Description	Weight kg (lbs)	Part Number
<b>Complete Systems (Pump + Navigator Controller)</b>		
Turbo-V 301 Navigator complete system, ISO 100, 24 Vdc	4.5 (10.0)	9698824
Turbo-V 301 Navigator complete system, CF 6", 24 Vdc	8.0 (17.6)	9698825
Turbo-V 301 Navigator complete system, ISO 160, 24 Vdc	4.5 (10.0)	9698826
Turbo-V 301 Navigator complete system, CF 8", 24 Vdc	8.0 (17.6)	9698827
Turbo-V 301 Navigator complete system, ISO 100, 120/220 Vac	4.5 (10.0)	9698828
Turbo-V 301 Navigator complete system, CF 6", 120/220 Vac	8.0 (17.6)	9698829
Turbo-V 301 Navigator complete system, ISO 160, 120/220 Vac	4.5 (10.0)	9698830
Turbo-V 301 Navigator complete system, CF 8", 120/220 Vac	8.0 (17.6)	9698831
<i>Complete system includes: Pump, Inlet screen, Navigator controller, 2 Mains cables (NEMA plug and European plug), Serial cable and Navigator software, Bracket for side mounting</i>		
<b>Pumps</b>		
Turbo-V 301 Navigator pump, ISO 100	4.2 (9.2)	9698918
Turbo-V 301 Navigator pump, CF 6"	7.7 (16.8)	9698919
Turbo-V 301 Navigator pump, ISO 160	4.2 (9.2)	9698920
Turbo-V 301 Navigator pump, CF 8"	7.7 (16.8)	9698921
<b>Controllers</b>		
Turbo-V 301 Navigator controller, 24 Vdc	1.0 (2.2)	9698972
Turbo-V 301 Navigator controller, 120/220 Vac	1.0 (2.2)	9698973
Turbo-V 301 1/4 Rack controller, 220 V	4.5 (10.0)	9699437
Turbo-V 301 1/4 Rack controller, 110 V	4.5 (10.0)	9699537

Description	Weight kg (lbs)	Part Number
<b>Accessories</b>		
Mains cable NEMA plug, 3m long	0.5 (1.0)	9699958
Mains cable European plug, 3m long	0.5 (1.0)	9699957
Serial cable and T-plus Software	0.5 (1.0)	9699883
<i>(previous release Navigator 2.2 included in the CD)</i>		
Inlet Screen DN100	0.5 (1.0)	9699302
Inlet Screen DN160	0.5 (1.0)	9699304
Heater band 120 Vac	1.0 (2.0)	9699804
Heater band 220 Vac	1.0 (2.0)	9699803
Water cooling kit	0.5 (1.0)	9699337
Plastic water cooling kit	0.5 (1.0)	9699347
Air cooling kit	3.0 (7.0)	9699299
Fan extension cable	0.5 (1.0)	9699949
<i>(to be used when the pump is supplied by rack controller 9699437 or 9699537)</i>		
Bracket for Navigator controller side mouting	2.0 (4.0)	9699970
Vibration damper ISO 100	3.0 (7.0)	9699344
Vibration damper CF 6"	3.0 (7.0)	9699334
Vibration damper ISO 160	4.0 (9.0)	9699345
Vibration damper CF 8"	4.0 (9.0)	9699335
Vent flange, NW 10 KF / M8	0.5 (1.0)	9699108
Vent device with adjustable delay time for standard rack controller	2.0 (4.0)	9699831
Vent valve for standard rack controller	2.0 (4.0)	9699843
Vent valve for Navigator controller	2.0 (4.0)	9699834
Purge valve 10 SCCM NW16KF - M12	0.2 (0.5)	9699239
Purge valve 10 SCCM 1/4 Swagelok - M12	0.2 (0.5)	9699240
Purge valve 20 SCCM NW16KF - M12	0.2 (0.5)	9699241
Purge valve 20 SCCM 1/4 Swagelok - M12	0.2 (0.5)	9699242
Purge valve 10 SCCM 1/4 Swagelok - 1/4 Swagelok	0.2 (0.5)	9699232
Purge valve 20 SCCM 1/4 Swagelok - 1/4 Swagelok	0.2 (0.5)	9699236
Foreline flange KF25 1/4 gas	0.2 (0.5)	9699130