

Varian, Inc.
Vacuum Technologies

New Varian
Turbo Pumping Systems:
TPS-mobile / TPS-bench



Inspiring Excellence

NOTICE: This document contains references to Varian. Please note that Varian, Inc. is now part of Agilent Technologies. For more information, go to www.agilent.com/chem.

 Agilent Technologies

The New Varian TPS-mobile and TPS-bench

Integrated
Turbo Pumping
Solutions!

Varian Turbo Pumping Systems provide all features required by customers:

- Completely dry, high capacity pumping systems
- Higher compression ratio and pumping speed
- Roll around Cart or Bench solutions
- Two voltages 110 / 230 V
- Versatile and Reliable
- Fast Start Up
- Turbomolecular Pumps from 46 to 600 l/sec
- T-Plus Navigator Software allows communication with your PC
- Dry Scroll or Rotary Vane Primary Pumps
- Gauges and Accessories available
- Custom solutions available



NEW!



Dry Scroll Pumps

- No maintenance required, simple tip seal replacement
- CE, UL/CUL, CSA and Semi S2-0200 certified
- Isolation valve integrated/included

NEW IDP-3

- The smallest scroll pump on the market
- Peak Pumping Speed 3.0 m³/h
- Ultimate Pressure 3.3x10⁻¹ mbar

SH-110

- Peak Pumping Speed 5.4 m³/h
- Ultimate Pressure to 6.6x10⁻² mbar

TRISCROLL 300 AND 600

- Pumping Speed up to 30 m³/h (TS600)
- Ultimate Pressure up to 9.3 x 10⁻³ mbar



Rotary Vane Pumps

- New design
- Wide Pumping speed range from 1.8 to 20.5 m³/h
- Dual Stage
- Forced Oil Circulation
- Gas Ballast Valve
- Anti-suckback valve and vent device



Turbo Molecular Pumps

- Wide Pumping speed range from 46 to 600 l/sec
- High tech-design
- High Speed and Compression
- Maximum performance at minimum costs

Technical Specifications



Benefits

- Fast, clean, dry pump down from atmosphere to 10^{-10} mbar
- Pressure monitor
- Portable and compact
- No maintenance required
- Low cost of ownership



Applications

- UHV System pump down
- Ion pump roughing
- Lamp and tube processing
- Cryopump regeneration
- High Vacuum Systems operation
- High and Ultra High Vacuum systems bake out

TURBOMOLECULAR PUMPS

Turbo Pump Model	Inlet Flange
TURBO-V 81-M PUMP	ISO 63, KF 40, CFF 4 1/2
TURBO-V301 NAVIGATOR PUMP	ISO 100, CFF 6"
TURBO-V551 NAVIGATOR PUMP	ISO 160, CFF 8"

PRIMARY PUMPS

Dry Scroll Pumps	Peak Pumping Speed 50Hz
IDP-3	3.0 m ³ /h
Single Phase Motor Scroll Pump SH110	90 l/min - 5.4 m ³ /h - 3.3 cfm
TriScroll 300, single phase, with Vacuum Pump Isolation Valve (VPI) 220VAC	210 l/min - 12.6 m ³ /h - 7.4 cfm
TriScroll 600, single phase, with Vacuum Pump Isolation Valve (VPI) 220VAC	420 l/min - 25.2 m ³ /h - 14.8 cfm

Rotary Vane Dual Stage Pumps	Pumping Speed 50Hz
DS 42 - 1 phase worldwide motor	1.8 m ³ /h
DS 102 - 1 phase worldwide motor	5.0 m ³ /h
DS 302 - 1 phase worldwide motor	11.6 m ³ /h
DS 402 - 1 phase worldwide motor	17.4 m ³ /h

TURBOMOLECULAR PUMPS - Pumping Speed l/sec

	Turbo-V 81M		Turbo-V 301 Nav		Turbo-V 551 Nav	
	DN 40	DN 63	DN 100	DN 160	DN 100	DN 160
Nitrogen	50	77	250	280	350	550
Helium	56	65	220	230	450	600
Hydrogen	46	50	200	210	450	510

RECOMMENDED FOREPUMPS

	TV-81M	TV-301	TV-551
Primary Pumps Dry	SH110	SH110	TS 300
Primary Pumps Mechanical	DS 42 - DS 102	DS 102	DS 302

Base Pressure with Recommended Forepump - Acc. to standard DIN 28 428

	TV-81M	TV-301	TV-551
Primary Pumps Dry	5x10 ⁻¹⁰ mbar (3.8x10 ⁻¹⁰ Torr)	<5x10 ⁻⁹ mbar (<3.75x10 ⁻⁹ Torr)	<1x10 ⁻¹⁰ mbar (<1x10 ⁻¹⁰ Torr)
Primary Pumps Mechanical	5x10 ⁻¹⁰ mbar (3.8x10 ⁻¹⁰ Torr)	<5x10 ⁻¹⁰ mbar (<3.75x10 ⁻¹⁰ Torr)	<1x10 ⁻¹⁰ mbar (<1x10 ⁻¹⁰ Torr)

TPS-bench: 5 possible standard configurations

TMP	DS42	DS102	SH110
TV81M	●	●	●
TV301		●	●

TPS-mobile: 14 possible standard configurations

TMP	DS42	DS102	DS302	DS402	IDP3	SH110	TS300	TS600
TV81M	●	●			●	●		
TV301		●	●	●	●	●	●	
TV551			●	●			●	●

MANAGING GAUGES

GAUGE KIT	In-let Flange	DIY Eyesys Mini-IMG KIT (1x10 ⁻³ torr to 2x 10 ⁻⁹ torr)	DIY Full Range Gauge KIT (atmosphere to 3.8 x 10 ⁻⁹ torr)
TV81M	KF 40	9699185	9699190
	ISO 63	9699186	9699192
	CFF 4"1/2	9699187	9699193
TV301	ISO 100	9699188	9699194
	CFF 6"	9699197	9699201

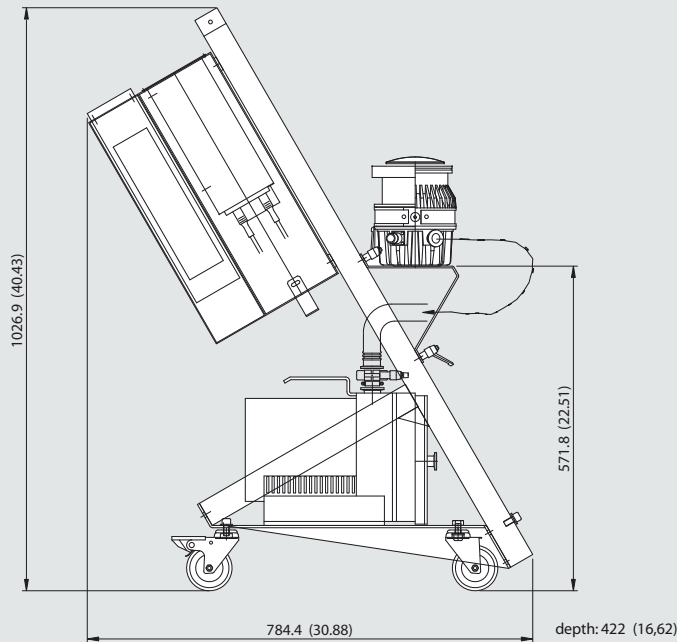
For other gauge configurations, please contact your local Varian representative

CABLES

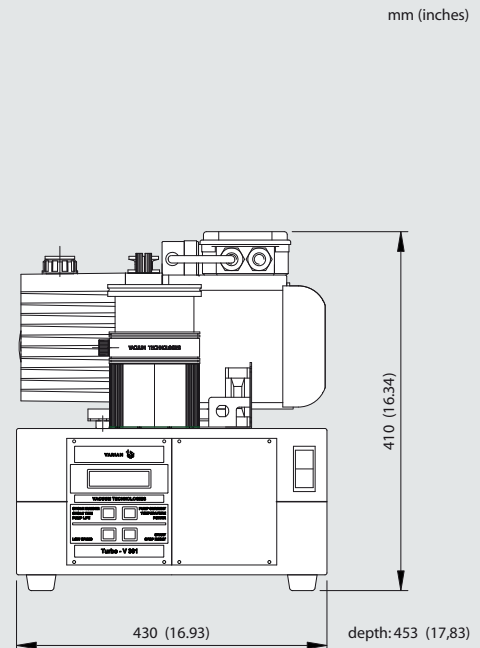
Power cords are included free of charge in all TPS-bench and TPS-mobile models, with US, EU or UK plug.

The New Varian TPS-mobile and TPS-bench

OUTLINE DRAWINGS



TPS-mobile



TPS-bench: available only with TV 81 or TV 301
(primary pump: DS42, DS102 or SH110)

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