



Agilent Turbo-V 3K-G System

The Advanced Solution
for Thin Film Applications



Agilent Turbo-V 3K-G System

The Advanced Solution for Thin Film Applications

The Only Truly “Integrated” System in the Market

- Fully integrated system with on board power supply
- Vent/purge valves control capability
- Integrated diagnostics
- Multiple interface capability
- Lowest power absorption

Best Footprint to Performance Ratio

- The Turbo-V 3K-G is an optimized solution dedicated to the Thin Film Deposition application
- The highest Argon pumping speed (2050 l/s) for its size allows uniform deposition rates at high substrate throughput
- Highest pumping speed in its class: 2200 l/s for Nitrogen
- Throughput: over 1400 sccm for Nitrogen
- Ramp Up time < 6 mins
- The all-turbo, more compact rotor design delivers highest performance with the smallest footprint

Applications

- TFD processes like:
PVD Coating systems, Evaporative sputtering applications, Glass-coating systems, Flat Panel Display substrate processing, Thin Film Photovoltaics manufacturing, Data Storage, Optical Coating, Large Area Coating
- Other applications like:
Vacuum furnaces, Ion Implanters, MBE systems

Thermal Efficiency

- New double loop SST cooling channel doubles the heat exchange surface
- Less power consumption (-25%) resulting in lower operating temperature
- Reduced bearing operating temperature extends bearing life

Best Turbo Solution for Thin Film Deposition



Oil-free, Robust and Reliable

- Maintenance-free design:
 - no oil refill
 - no preventive maintenance
- MTTF > 200,000 hrs
- More compact electrical motor design reduces rotor diameter (-20%) and improves electrical efficiency (+15%)
- State-of-the-art rotor design reduces weight and mechanical stress (-20%)
- Agilent’s new rotor-shaft fitting (Patent pending) eliminates rotor tensile stress

Features and Benefits

Completely Maintenance Free thanks to Agilent's dry system lubricant

- No oil
- No risk of system contamination
- No preventive maintenance
- Designed to allow mounting in any position without compromises

Optimized Temperature Monitoring System

- Integrated double loop cooling channel
- Active control and management of pump operating parameters for the highest thermal efficiency
- Assures pumping system operates within specifications for maximum operating life

Integrated Purge and Vent Valve

- Both purge and vent valves are integrated into the pump body
- Valves are managed by the integrated electronics
- Protects suspension from contamination
- Manages for optimum pump slow down

MoniTor & Remote Assist

- Integrated MoniTor card (optional) allows 24/7 monitoring of all pump parameters
- A proprietary Agilent Software Package collects all data
- Allows virtual presence of Agilent Support Engineers at the user site

Integrated, Waterproof Electronics (IP54)

- Microprocessor based architecture
- Electronics are completely protected in the pump body
- Simplifies pump installation in the system
- Compact design reduces overall footprint and volume

Stop Speed Reading (SSR)

- Continued pump speed reading after the STOP command
- Allows management of pump slow down and shut down time
- Allows controlled venting procedure in combination with integrated purge/vent device (Patent Pending)

Multiple Interface

- Proprietary Agilent Profibus communication card and specific GSD file (optional)
- Serial interface or remote I/O provide communication between the pump and system controls
- Enables the pump to be operated via a PC using T-Plus Software

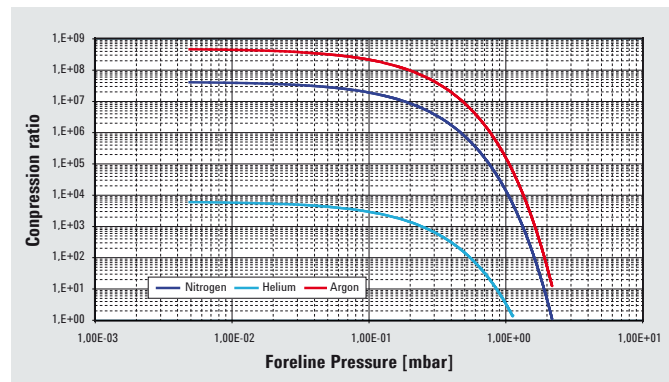
Remote Control Panel

- Enables control of the pump from a rack mounted panel
- Allows manual user interface
- LC Display shows immediate pump status information

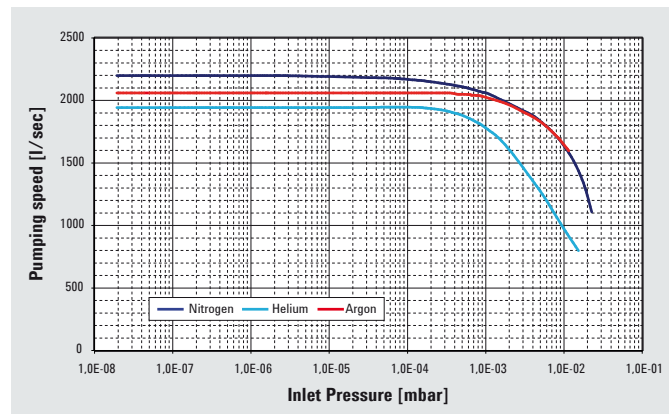
Service Capability Worldwide

- 24h Advance Exchange, Factory Repair and Upgrade Programs allow the global coverage of pre- and post-sales support needs

Compression Ratio vs Foreline Pressure



Pumping Speed vs Inlet Pressure*



(* Measured with a 60 m³/h forepump)

Technical Specifications

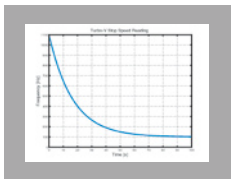
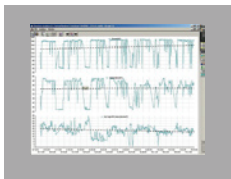
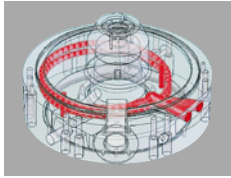
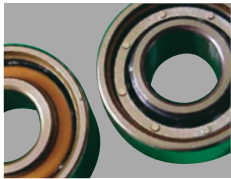
Pumping speed With ISO 250F:	N ₂ : 2200 l/s Ar: 2050 l/s He: 1900 l/s
Compression ratio:	N ₂ : >1 × 10 ⁷ Ar: >1 × 10 ⁸ He: 6 × 10 ³
Throughput (sccm)	>1400 for Nitrogen
Base pressure (mbar)	<10 ⁻⁸
Inlet flange	ISO 250F
Foreline flange	KF40 NW
Rotational speed	31800 RPM
Start-up time	< 6 minutes
Foreline pressure	< 0.5 mbar
Recommended forepump	> 60m ³ /h (depending on gas flow requirements)
Operating position	Any
Cooling methods	Water
Weight	52Kg

15-20%
higher
pumping
speed

20-25%
more gas
throughput
capacity

15%
smaller
size
(height)

- Comparisons referred to published competitors' specifications



Ordering Information

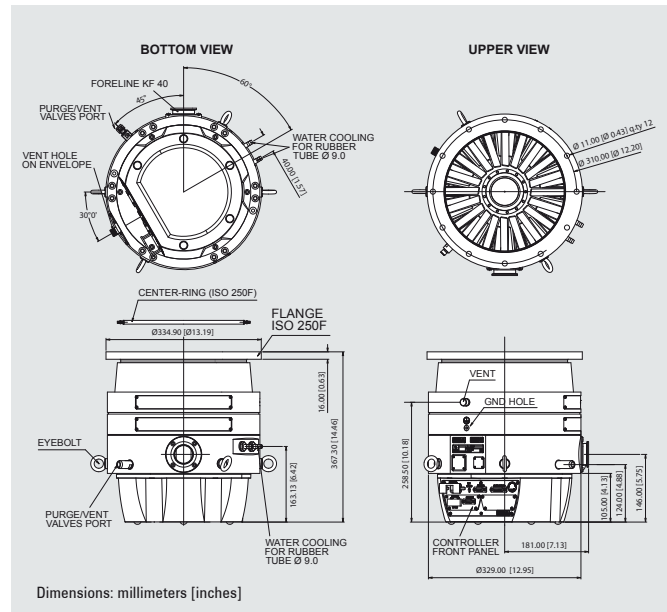
PUMPING SYSTEMS (*)	Part Number
Agilent Turbo-V 3K-G ISO 250 F System with integrated purge/vent device	969-8888
Agilent Turbo-V 3K-G ISO 250 F System with Profibus and integrated purge/vent device	969-8889

(*) Pumping Systems include Pump with 230V Integrated Electronics, Inlet Screen installed on the pump, separate center-ring and pre-installed IP54 Mating Connectors.
Both models can be equipped with Agilent's MoniTox device on request. Also 120VAC units available on request.

ACCESSORIES	Part Number
Mains cable NEMA Plug, 3m long	969-9958
Mains cable European Plug, 3m long	969-9957
T-Plus Software and serial cable	969-9883
Water cooling kit for 6x8 (IDxOD) flexible tube	969-9348
Water cooling kit for 3/8 in.ID flexible tube	969-9338

SPARE PARTS	Part Number
IP54 proof mating connectors	969-8960
Inlet screen ISO 250	969-9350
O-ring and center ring ISO 250	969-9144

Outline Drawings



Agilent Technologies

United States and Canada

Agilent Technologies
121 Hartwell Avenue
Lexington, MA 02421
USA
Tel.: +1 781 861 7200
Toll-Free: +1 800 882 7426
Fax: +1 781 860 5437
vpl-customerservice@agilent.com

Benelux

Agilent Technologies Netherlands B.V.
Herculesweg 8
4338 PL Middelburg
The Netherlands
Tel: +31 118 671570
Fax: +31 118 671569
Toll free: 00 800 234 234 00

Brazil

Agilent Technologies Brasil
Avenida Marcos Penteado de Ulhoa
Rodrigues, 939 - 6º andar
Castelo Branco Office Park,
Torre Jacarandá - Tamboré
Barueri, Sao Paulo CEP: 06460-040
Toll free : 0800-728-1405

China

Agilent Technologies (China) Co. Ltd
No.3, Wang Jing Bei Lu,
Chao Yang District,
Beijing, 100102
China
Tel.: +86 (10) 6439 7888
Fax: +86 (10) 6439 1318
Toll-Free: 800 820 8266
vpc-customerservice@agilent.com

France

Agilent Technologies France
7 avenue des Tropiques
Z.A. de Courtaboeuf - B.P. 12
91941 Les Ulis cedex
France
Tel.: +33 (0) 1 69 86 38 84
Fax: +33 (0) 1 69 86 29 88
Toll free: 00 800 234 234 00
vpf.sales@agilent.com

Germany & Austria

Agilent Technologies
Alsfelder Strasse 6
Postfach 11 14 35
64289 Darmstadt
Germany
Tel.: +49 (0) 6151 703 353
Fax: +49 (0) 6151 703 302
Toll free: 00 800 234 234 00

India

Agilent Technologies India Pvt. Ltd.
G01. Prime corporate Park,
230/231, Sahar Road,
Opp. Blue Dart Centre,
Andheri (East), Mumbai – 400 099.
India
Tel: +91 22 30648287/8200
Fax: +91 22 30648250
Toll Free: 1800 113037
cag_india@agilent.com

Italy

Agilent Technologies Italia S.p.A.
via F.Ili Varian 54
10040 Leini, (Torino)
Italy
Tel.: +39 011 997 9111

Fax: +39 011 997 9350
Toll-Free: 00 800 234 234 00
vpt.sales@agilent.com
vpt-customerservice@agilent.com

Japan

Agilent Technologies Japan, Ltd.
8th Floor
Sumitomo Shibaura Building
4-16-36 Shibaura Minato-ku
Tokyo 108-0023
Japan
Tel.: +81 3 5232 1253
Toll-Free: 0120 655 040
Fax: +81 3 5232 1710
vpj-customerservice@agilent.com

Korea

Agilent Technologies Korea Ltd.
Shinsa 2nd Bldg. 2F
966-5 Daechi-dong
Kangnam-gu, Seoul
Korea 135-280
Tel.: +82 2 3452 2455
Toll-Free: 080 222 2452
Fax: +82 2 3452 2451
vpk-customerservice@agilent.com

Mexico

Agilent Technologies
Concepcion Beistegui No 109
Col Del Valle
C.P. 03100
Mexico, D.F.
Tel.: +52 5 523 9465
Fax: +52 5 523 9472

Singapore

Agilent Technologies Singapore

Pte Ltd

No.1 Yishun Avenue 7
Singapore 768923
Tel: +65 6215 8045
Fax : +65 6754 0574
Toll-Free: 1 800 2762622
vps-customerservice@agilent.com

South East Asia

Agilent Technologies Sales Sdn Bhd
Unit 201, Level 2 uptown 2,
2 Jalan SS21/37, Damansara Uptown
47400 Petaling Jaya ,
Selangor , Malaysia
Tel : +603 7712 6106
Fax: +603 6733 8121
Toll-Free: 1 800 880 805
vps-customerservice@agilent.com

Taiwan

Agilent Technologies Taiwan Limited
20 Kao-Shuang Rd.,
Pin-Chen City, 324
Taoyuan Hsien , Taiwan, R.O.C.
Tel. +886 34959281
Toll Free: 0800 051 342
vpw-customerservice@agilent.com

UK & Ireland

Agilent Technologies UK Ltd
6 Mead Road
Oxford Industrial Park
Yarnton, Oxford OX5 1QU
UK
Tel.: +44 (0) 1865 291570
Fax: +44 (0) 1865 291571
Toll free: 00 800 234 234 00
vpt-customerservice@agilent.com



This information is subject to change without notice

© Agilent Technologies, Inc. 2011
Published July 15, 2011
VPD-0511EN



Agilent Technologies