

STP ULTRA HIGH VACUUM PUMP

THE INTELLIGENT CHOICE



A new turbomolecular pump for use in surface science or high energy physics in research applications. They offer unrivalled reliability, performance, cleanliness and class leading low vibration levels. Edwards rotor technology gives class-leading performance for maximum process flexibility.

The low vibration STP-L series has been designed to meet the low vibration requirements of advanced spectroscopy and metrology tools. It provides the advantage of having the vibration system built into the pump body.



Features and Benefits

- Advanced rotor technology.
- Oil free.
- Low vibration.
- Compact size.
- High reliability.
- Maintenance free.
- Corrosion resistant option available.
- RoHS compliant and UL approved.

Applications

- Electron microscope
- Surface analysis tool
- Mass spectrometer
- Nuclear fusion tool
- Accelerator
- R&D
- Semiconductor tool

Pump Range

STP-Series

- STP-301/STP-451
- STP-603/STP-1003

STP-L Series

- STP-L301/L451

Performance Curves

STP-301 Turbomolecular Vacuum Pump

STP-301



Peak pumping speed

N_2 300 $l s^{-1}$

H_2 300 $l s^{-1}$

Compression ratio

$N_2 > 10^8$

$H_2 > 2 \times 10^4$

Ultimate pressure

10^{-8} Pa

STP-451 Turbomolecular Vacuum Pump

STP-451



Peak pumping speed

N_2 480 $l s^{-1}$

H_2 460 $l s^{-1}$

Compression ratio

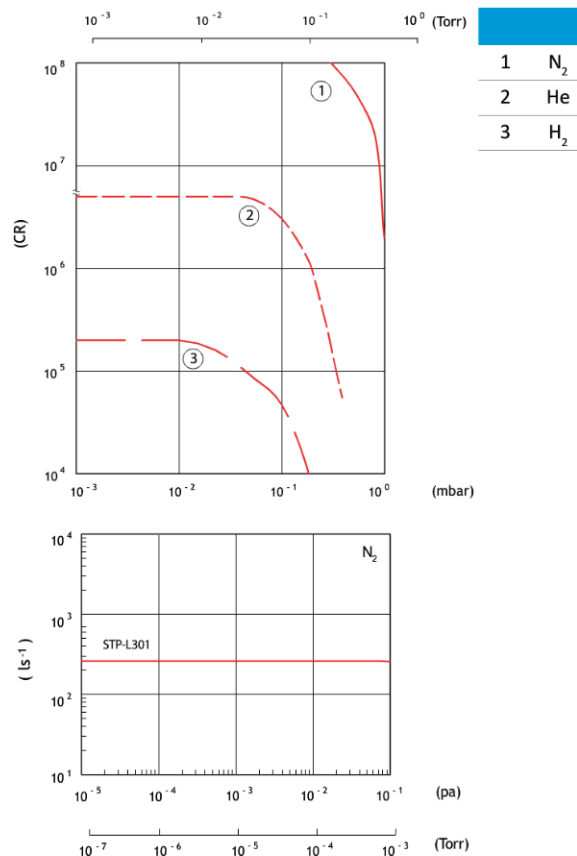
$N_2 > 10^8$

$H_2 > 2 \times 10^4$

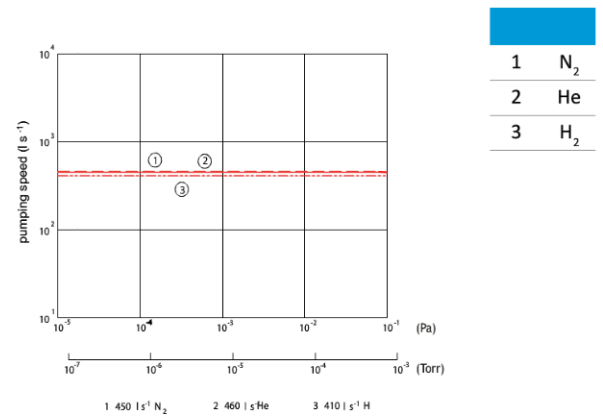
Ultimate pressure

10^{-8} Pa

STP-301 Performance Curve



STP-451 Performance Curve



Ordering information

Product description	Order no:
STP-451 Turbomolecular pump ISO160K	YT21B0460
STP-451 Turbomolecular pump VG150	YT210Z000
STP-451 Turbomolecular pump DN160CF	YT21B0080
STP-451C Turbomolecular pump ISO160K Corrosion resistant	YT21B0790
STP-451C Turbomolecular pump VG150 Corrosion resistant	YT21AZ001
STP-451C Turbomolecular pump DN160CF Corrosion resistant	YT21B0880

Ordering information

Product description	Order no:
STP-301 Turbomolecular pump ISO100K	YT21B0350
STP-301 Turbomolecular pump VG100	YT21B0190
STP-301 Turbomolecular pump DN100CF	YT21B0010
STP-301C Turbomolecular pump ISO100K Corrosion resistant	YT21B0660
STP-301C Turbomolecular pump VG100 Corrosion resistant	YT21AZ000
STP-301C Turbomolecular pump DN100CF Corrosion resistant	YT21B0630

STP-603 Turbomolecular Vacuum Pump

STP-603



Peak pumping speed

N_2 650 $l s^{-1}$

H_2 550 $l s^{-1}$

Compression ratio

$N_2 > 10^8$

$H_2 > 10^4$

Ultimate pressure

KF40

STP-1003 Turbomolecular Vacuum Pump

STP-1003



Peak pumping speed

N_2 1000 $l s^{-1}$

H_2 800 $l s^{-1}$

Compression ratio

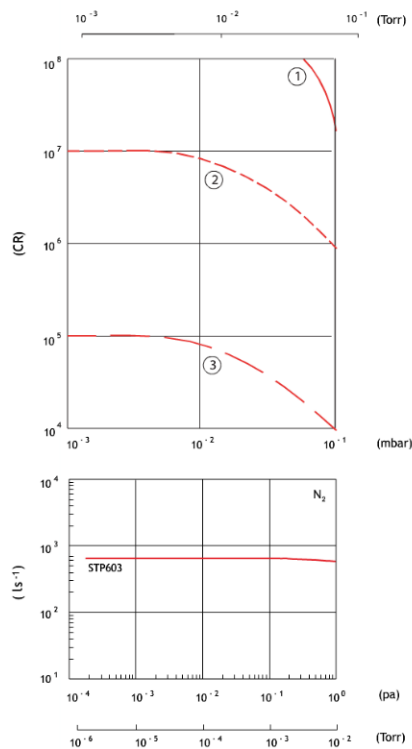
$N_2 > 10^8$

$H_2 > 10^5$

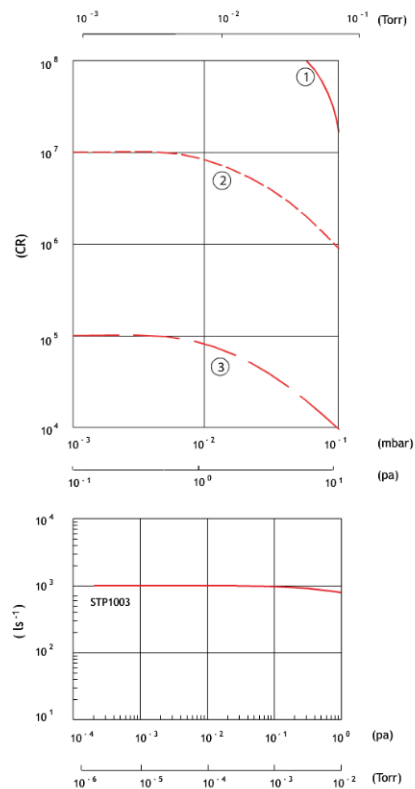
Ultimate pressure

KF40

STP-603 Performance Curve



STP-1003 Performance Curve



Ordering information

Product description	Order no:
STP-603 Turbomolecular pump ISO160F	YT39B0030
STP-603 Turbomolecular pump VG150	YT390Z003
STP-603 Turbomolecular pump DN160CF	YT390Z005
STP-603C Turbomolecular pump ISO160F Corrosion resistant	YT39B0110
STP-603C Turbomolecular pump VG150 Corrosion resistant	YT39AZ000
STP-603C Turbomolecular pump DN160CF Corrosion resistant	YT39AZ002

Ordering information

Product description	Order no:
STP-1003 Turbomolecular pump ISO200F	YT390Z001
STP-1003 Turbomolecular pump VG200	YT390Z004
STP-1003 Turbomolecular pump DN200CF	YT39B0010
STP-1003C Turbomolecular pump ISO200F Corrosion resistant	YT39B0130
STP-1003C Turbomolecular pump VG200 Corrosion resistant	YT39AZ001
STP-1003C Turbomolecular pump DN200CF Corrosion resistant	YT39AZ003

STP-L301 Turbomolecular Vacuum Pump

STP-L301



Peak pumping speed

N_2 260 $l s^{-1}$

H_2 290 $l s^{-1}$

Compression ratio

$N_2 > 10^8$

$H_2 > 2 \times 10^4$

Ultimate pressure

10^{-6} Pa

STP-L451 Turbomolecular Vacuum Pump

STP-L451



Peak pumping speed

N_2 450 $l s^{-1}$

H_2 410 $l s^{-1}$

Compression ratio

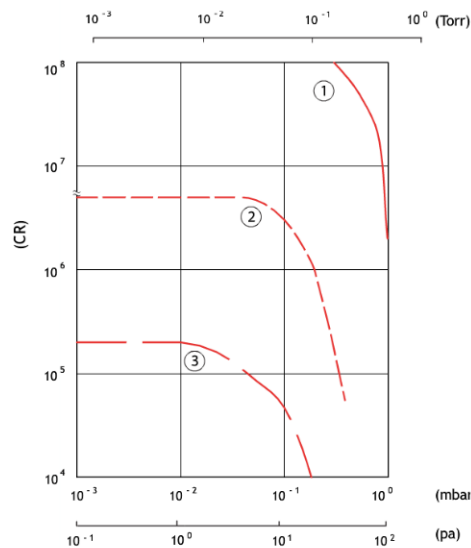
$N_2 > 10^8$

$H_2 > 2 \times 10^4$

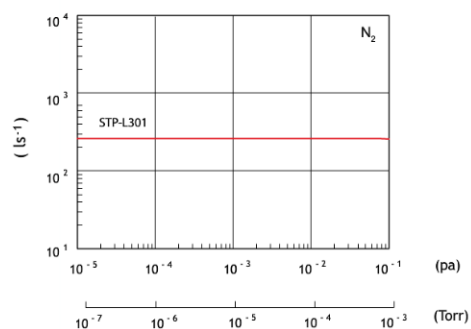
Ultimate pressure

10^{-6} Pa

STP-L301 Performance Curve



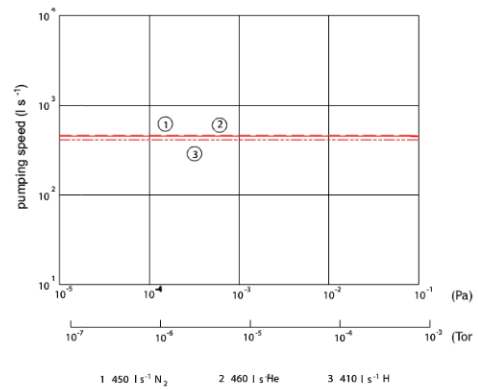
1	N_2
2	He
3	H_2



Ordering information

Product description	Order no:
STP-L301 Turbomolecular pump ISO100K	YT47B0030
STP-L301 Turbomolecular pump VG100	YT47B0020
STP-L301 Turbomolecular pump DN100CF	YT470Z000
STP-L301C ISO100 inlet	B75800010
STP-L301 ISO100 inlet	B75800090
STP-L301 DN100CF inlet	PT470Z000
STP-L301C DN100CF inlet	PT47AZ030

STP-L451 Performance Curve



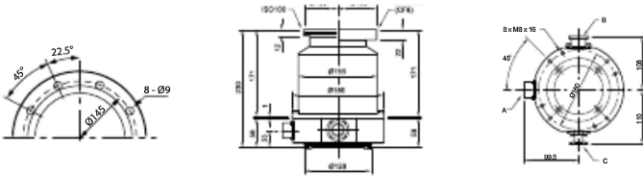
1	N_2
2	He
3	H_2

Ordering information

Product description	Order no:
STP-L451 Turbomolecular pump ISO160K	YT47B0150
STP-L451 Turbomolecular pump VG150	YT47B0050
STP-L451 Turbomolecular pump DN160CF	YT47B0010

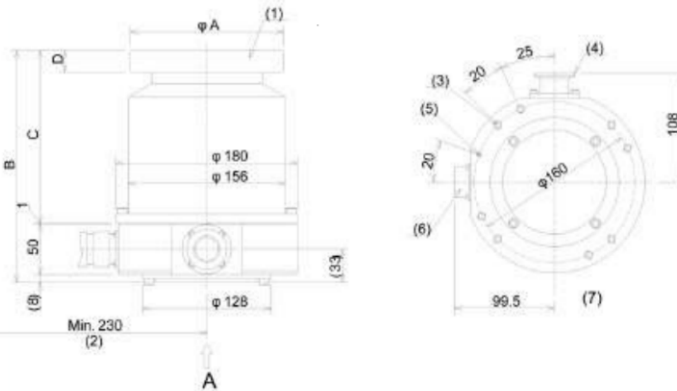
Dimensions

STP-301 Dimensions



A	Electrical connector
B	Outlet port
C	Purge Port (only for corrosion resistance type)

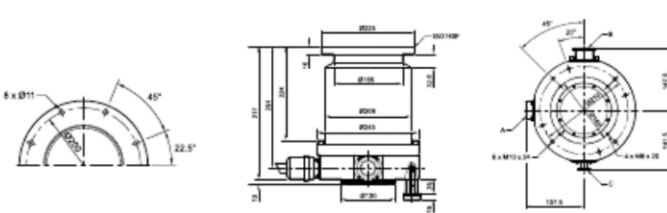
STP-451 Dimensions



No.	Item
1	Inlet port flange
2	Bending dimension of the STP connection cable
3	Screw hole of legs
4	Outlet port flange
5	Screw hole for earth
6	STP connector
7	Viewed from arrow A

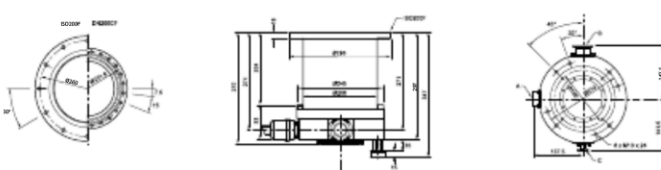
	STP-451 Series		
	ICF203	VG150	ISO160
ØA	203	235	180
B	200	200	200
C	141	141	141
D	22	12	12

STP-603 Dimensions



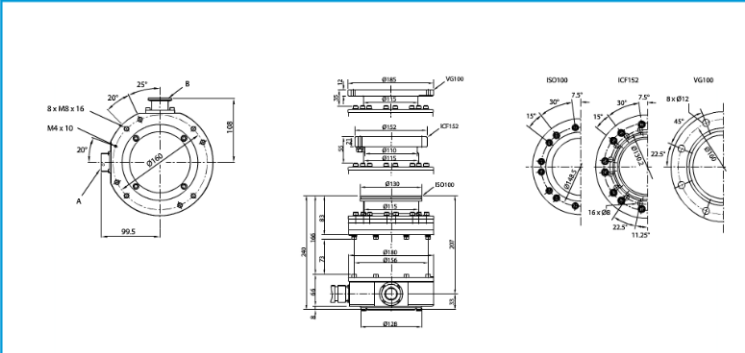
A	Electrical connector
B	Outlet port
C	Purge Port (only for corrosion resistance type)

STP-1003 Dimensions



A	Electrical connector
B	Outlet port
C	Purge Port (only for corrosion resistance type)

STP-L301 Dimensions

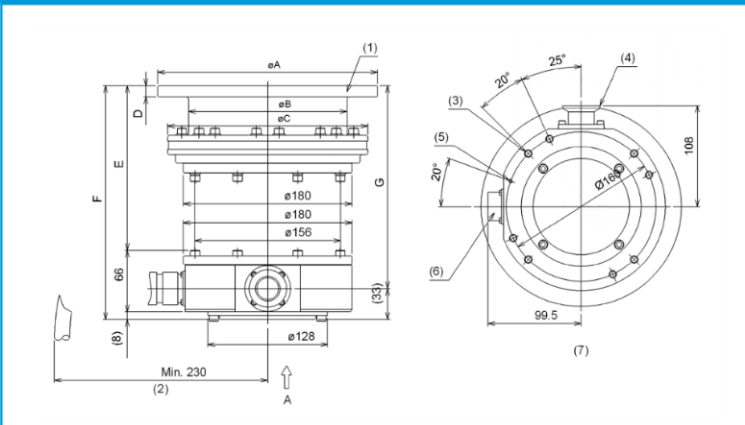


A Electrical connector

B Outlet port

C Purge Port (only with STP-L301C)

STP-L451 Dimensions



No. Item

- | | |
|---|---|
| 1 | Inlet port flange |
| 2 | Bending dimension of the STP connection cable |
| 3 | Screw hole of legs |
| 4 | Outlet port flange |
| 5 | Screw hole for earth |
| 6 | STP connector |
| 7 | Viewed from arrow A |

STP-L451 Series

	VG150	ISO0160	ICF203
ØA	235	180	203
ØB	169	169	169
ØC	214	214	214
D	12	12	22
E	176	176	196
F	250	250	270
G	217	217	237

Technical Data



	STP-301	STP-451	STP-603	STP-1003	STP-L301	STP-L451
Inlet flange	ISO100 VG100 ICF152	ISO160 VG150 ICF203	ISO160F	ISO200F	ISO100 VG100 ICF152	VG150 ISO160 ICF203
Outlet port	KF25		KF40		KF25	
Purge port	KF10 (only for corrosion resistance type)					
Pumping speed						
N ₂	300 ls ⁻¹	480 ls ⁻¹	650 ls ⁻¹	1000 ls ⁻¹	260 ls ⁻¹	450 ls ⁻¹
H ₂	300 ls ⁻¹	460 ls ⁻¹	550 ls ⁻¹	800 ls ⁻¹	290 ls ⁻¹	410 ls ⁻¹
Ar						
Compression ratio						
N ₂			> 10 ⁸			
He	5 x 10 ⁵				5 x 10 ⁵	
H ₂	2 x 10 ⁴		> 10 ⁵		2 x 10 ⁴	
Ultimate pressure with bake out heating (VG/ISO flange)	6.5 x 10 ⁻⁶ Pa (5 x 10 ⁻⁸ Torr)			10 ⁻⁶ Pa (10 ⁻⁸ Torr)		
Ultimate pressure with bake out heating (ICF flange)	10 ⁻⁸ Pa (10 ⁻¹⁰ Torr)		10 ⁻⁷ Pa (10 ⁻⁹ Torr)	10 ⁻⁸ Pa (10 ⁻¹⁰ Torr)	10 ⁻⁶ Pa (10 ⁻⁸ Torr)	
Max allowable inlet pressure (ambient cooled)	6.7 x 10 ⁻⁴ Pa (5 x 10 ⁻⁴ Torr)			6.7 x 10 ⁻⁴ Pa (5 x 10 ⁻⁴ Torr)		
Max continuous outlet pressure (ambient cooled)	13 Pa (0.1 Torr)					
Rated speed	48000 rpm		35000 rpm		48000 rpm	
Starting time	3 min		6 min		3 min	
Max inlet flange temperature	120 °C					
Input voltage	AC 100~240 V ±10% V a.c.		100 to 120 ±10% V a.c. or 200 to 240 ±10% V a.c.		AC 100~240 V ±10% V a.c.	
Power consumption at start up	350 VA		800 VA		350 VA	
Pump weight	11 kg	12 kg	31 kg	31 kg	14 kg	
Controller weight	8 kg		9 kg		8 kg	