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Pfeiffer TPH-180HC, TPU-180HC

Technical Specifications

Turbo-molecular pump		TPH 180 HC	TPU 180 HC
Nominal diameter			
Inlet		DN 100 ISO-K	DN 100 CF-F
Outlet		DN 25 ISO-KF	
Volume flow rate for			
Nitrogen N_2	l/s	180	
Helium He	l/s	170	
Hydrogen H_2	l/s	140	
Compression ratio for:			
Nitrogen N_2		$> 10^{12}$	
Helium He		5×10^7	
Hydrogen H_2	l/s	5×10^5	
Recommended backing pump:			
Diaphragm pump MD4 TC	m^3/h, min.	3	
sealing gas volume	mbar l/s[1], max.	0,1 – 0,25	
Suitable electronic drive unit		TCP 380; TCP 600	
Ultimate op. pressure:[2]		10^{-12}	
Ultimate pressure 1	mbar	$< 1 \times 10^{-10}$	
Ultimate pressure 2	mbar	$< 1 \times 10^{-8}$	
Speed	1/min	50000	
Standby speed	1/min	33000	
Run-up-time[3]	min	4	
Permissible magnetic field	mT	5.5	
Operating medium:			
Filling quantity	ml	35	
Type		F3	
Type of cooling:		Wasser/Water/l'eau	
Cooling water requirement for watertemperatur 15 °C	l/h	15	
Water temperature	°C	5 – 25	
Power input of heater	W	---	60
Gas throughput[5]	mbar l/s, max.	6	
Weight		13,5	14

1) 1 mbar l/s ≙ 60 sccm
2) For description, see Para. 2.3
3) Up to 90 % of rated speed with TCP 380 or TCP 600
4) For stronger magnetic fields, shielding is available on request
5) With recommended backing pump. When the specified gas throughput is exceeded, the pump speed drops. This results in an increase of the setting time (balancing between pressure and gas throughput).

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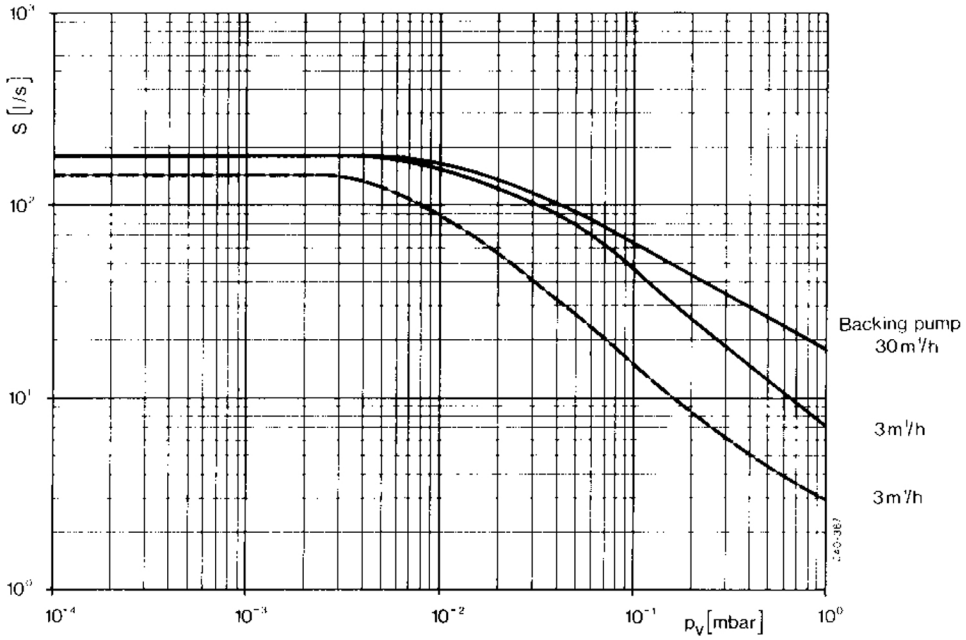
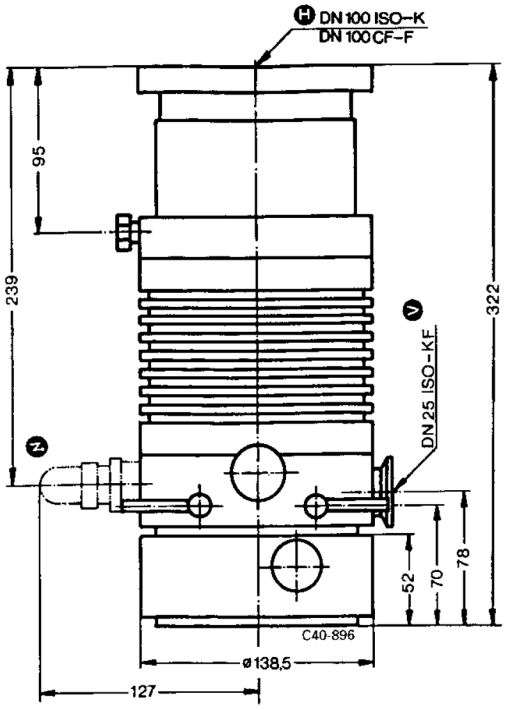
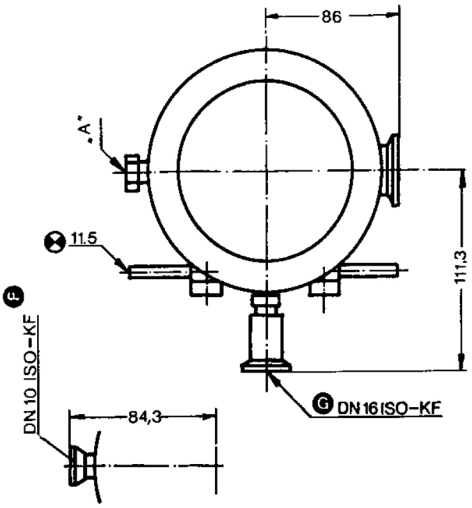
Pumping Curves



Volume flow rate for _____ N_2; — — — H_2

Dimensions





- H High-Vacuum Connection
- V Fore-Vacuum Flange
- F Venting Connection
- E Coolant Connection
- Connector for Electronic Drive
- G Sealing Gas Connection

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Features & Benefits

- high gas throughput with low volume flow rate of backing pump
- designed to pump off corrosive gases in plasma etching processes
- equipped with a sealing gas system
- non-wearing permanent magnet bearing on high vacuum side
- lubricated ball bearing on forevacuum side
- thermally protected from excessive temperatures
- with water cooling as standard feature
- dry backing pump usable
- single flow pump with an additional pumping system on the backing pressure side

Applications

- plasma etching • thin film deposition • space simulation • cryogenic research • nuclear, plasma, high energy physics • particle accelerators