



# Pfeiffer TMH-1001P, TMU-1001P

## Technical Specifications

Feature	Unit	TMH 1001 P TMU 1001 P	TMH 1001 P C H (T) TMU 1001 P C H (T)
Connection nominal diameter: Inlet			DN 200 ISO-K DN 200 CF-F
Outlet Venting connection			DN 40 ISO-KF G 1/8"
Nominal rotation speed	1/min		39 600
Standby rotation speed	1/min		26 400
Start-up time (up to 90% of the nominal rotation speed fore-vacuum pressure $\leq 0.1$ mbar)	min		5
Noise level	dB (A)		< 50
Final pressure, backing pump	mbar		< 5
Maximum permissible rotor temperature	°C		120
Permissible heat radiation power	W		20
Volume flow rate for:			
Nitrogen N <sub>2</sub>	l/s		920
Helium He	l/s		920
Hydrogen H <sub>2</sub>	l/s	720	720
Compression ratio for:			
N <sub>2</sub>		$> 10^{12}$	$> 2 \cdot 10^8$
He		$> 1 \cdot 10^8$	$1.5 \cdot 10^6$
H <sub>2</sub>		$2 \cdot 10^6$	$4 \cdot 10^4$
Maximum fore-vacuum pressure			
N <sub>2</sub>	mbar	18	10
He	mbar	17	10
H <sub>2</sub>	mbar	8	6
Maximum gas throughput <sup>1) 2) 3)</sup> with HV pressure of 0,1 mbar			
N <sub>2</sub>	mbarl/s	20	20
Ar	mbarl/s	—	22
with nominal rotation speed (water cooling)			
N <sub>2</sub>	mbarl/s	9	14
Ar	mbarl/s	5	8
with voltage range 90 - 132 VAC			
N <sub>2</sub>	mbarl/s	8	8.5
Vertex power characteristics lines <sup>4)</sup>			
A	W / Hz		495 / 660
B	W / Hz		533 / 447
C	W / Hz		470 / 660
D	W / Hz		495 / 413
Final pressure <sup>5)</sup>			
with diaphragm vacuum pump	mbar	$< 1 \cdot 10^{-8}$	$< 1 \cdot 10^{-8}$
with rotary vane vacuum pump	mbar	$< 5 \cdot 10^{-10}$	$< 5 \cdot 10^{-10}$
with UniDry™	mbar	$< 5 \cdot 10^{-10}$	$< 5 \cdot 10^{-10}$
Lubricant Type <sup>6)</sup>			F3
Filling volume	cm <sup>3</sup>		65
Cooling water consumption with water at 15 °C <sup>7)</sup>	l/h		100
Cooling water temperature	°C		5 - 25
Permissible ambient temperature with air cooling	°C	0 - 35	-----
Power consumption			
Casing heating	W		140
TMS heating	W	—	1000
Weight	kg	36/38	36/38
Permissible magnetic field	mT		3
Connection voltage	VDC		140 ± 5%
Current consumption	A		4.3
Power	W		600
Protection class <sup>8)</sup>			IP 30
Relative humidity of air	%		5 - 85 non-condensing



1) Measured with a rotary vane vacuum pump > 5 m<sup>3</sup>/h, higher gas throughputs with reduced rotation speed.  
 2) In TMS operations the maximum gas throughput is reduced with increasing TMS temperature.  
 3) If the pump is to be operated with more than 50% of the maximum gas load, sealing gas must be used.  
 4) For gas type characteristics lines please refer to Section 4.4. Where pumps for TMS operations are involved, the corner points reduce according to the temperature; the values are available on request.

5) In accordance with DIN 28 428 the final pressure of a turbomolecular pump is that pressure which is attained in a measuring dome 48 hours after baking out (with metallic sealing).  
 6) See rating plate.  
 7) With maximum gas throughput.  
 8) Protection class IP 54 is afforded for the Electronic Drive Unit TC 600 by retro-fitting a cover plate (accessory).



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## Dimensions

