

TMP-403 Series

Standard Specifications

Pump Main Unit

Turbo molecular pump		TMP-403LM	TMP-403LMC	TMP-403M	TMP-403MC
Inlet flange		VG150 / ICF203 / ISO160B / ISO160C			
Outlet flange		KF25			
Cooling method		Water		Cooling fan	
Ultimate pressure (after baking) (Note1)		10 ⁻⁸ Pa order	10 ⁻⁷ Pa order	10 ⁻⁸ Pa order	10 ⁻⁷ Pa order
Maximum allowable inlet pressure (N ₂ continuous exhaust)		200 Pa		1.3 Pa	
Maximum allowable outlet pressure		400 Pa		40 Pa	
Pumping speed (Note 2)	N ₂	420 L/s			
	He	360 L/s			
	H ₂	340 L/s			
Compression ratio	N ₂	1 x 10 ⁹			
	He	8 x 10 ⁴			
	H ₂	1 x 10 ⁴			
Rated speed		45000 rpm			
Start-up time		5 minutes or less			
Mounting position		In any desired direction			
Bake-out temperature at an inlet flange		120 degrees C. or less			
Vibration level (by Shimadzu's method)		0.012 μm or less (0-peak)			

Recommended flow rate of purge gas		20 to 30 mL/min (Note 3)	
Recommended pumping speed of backing pump in case of gas purge		200 L/min or more	
Environmental Temperatures		0 to 40 degrees C.	
Admissible ambient magnetic field	Radial direction	3 mT	
	Axial direction	15 mT	
Water	Flow rate	1 to 3 L/min	-
	Pressure	0.2 to 0.5 MPa	
	Temperature	5 to 30 degrees C.	
Mass		14 kg	

(Note 1)When using a metal gasket at the inlet flange. When using an o-ring gasket, the ultimate pressure is 10^{-7} Pa order.

(Note 2)Without a protective net. Pumping speed for N₂ is 400 L/s with a protective net.

(Note 3)mL/min : volume flow rate at 0 degrees C., 1 atm. (compatible with SCCM.)

Power Supply Unit

Power supply unit		EI-S04M
Battery		Not Necessary
Exchangeable compatibility		The control cable and the fan cable are interchangeable between any pump and power supply unit.
Speed variation		Speed is variable between 25 % and 100 % of the rated speed. (set as 0.1 %)
Communication	Contact	REMOTE (MR-34) Input : START / STOP / RESET / LOW SPEED Output : ROTATION / ACC. / BRAKE / NORMAL / REMOTE / ALARM / WARNING
	Serial	Front panel : RS-232C (D-sub 9 pin male, Screw lock size : M2.6)

		Rear panel : RS-485 (D-sub 9 pin female, Screw lock size : M2.6)
Environmental conditions	Temperature	Operation 0 to 45 degrees C. (No dew condensation)
	Relative humidity	40 to 80 %RH
Input electric power	Voltage	Single phase 100 to 120 VAC \pm 10 % (50/60 Hz \pm 2 Hz)
		Single phase 200 to 240 VAC \pm 10 % (50/60 Hz \pm 2 Hz)
	Maximum power	550 VA
Mass		8 kg