



# HiPace<sup>®</sup> 300 M

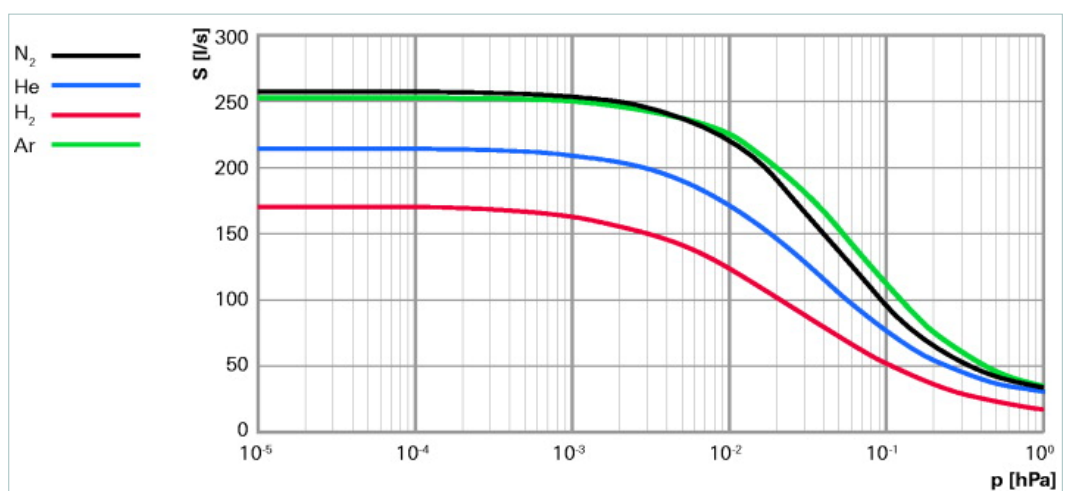




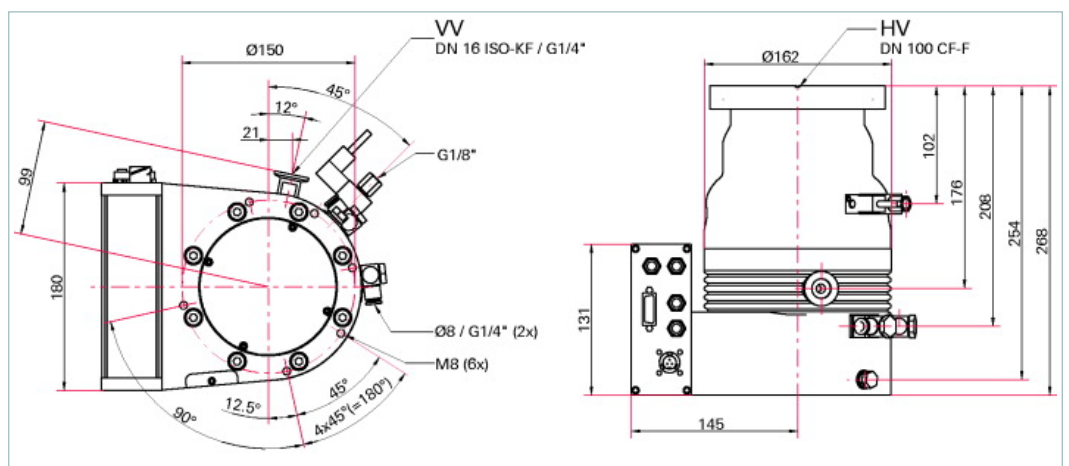
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## HiPace® 300 M with TM 700, DeviceNet, DN 100 CF-F

- 5-axis magnetically levitated turbopump with a pumping speed of 255 l/s for N<sub>2</sub>
- Integrated digital magnetic bearing controller TM 700
- Installation in any orientation; flexible through connectivity of up to 4 accessory parts
- With integrated water cooling for maximum gas throughput
- Interface: DeviceNet and Remote
- The turbopump features extremely low vibration and is oil-free
- With patented In-field sensor calibration
- Including venting valve and patented "pulsed venting"
- Protection Class: IP 54
- Extensive accessories expand the range of applications



### Dimensions



### Technical Data

### HiPace® 300 M with TM 700, DeviceNet, DN 100 CF-F

Bearing	Magnetically Levitated
Compression ratio for Ar	$> 1 \cdot 10^{11}$
Compression ratio for H <sub>2</sub>	$5 \cdot 10^5$
Compression ratio for He	$> 1 \cdot 10^8$
Compression ratio for N <sub>2</sub>	$> 1 \cdot 10^{11}$
Cooling method, optional	Air, convection
Cooling method, standard	Water

Technical Data		HiPace® 300 M with TM 700, DeviceNet, DN 100 CF-F	
Cooling water consumption		80 l/h	
Cooling water temperature		15-35 °C   59-95 °F   288-308 K	
Electronic drive unit		with TM 700	
Flange (in)		DN 100 CF-F	
Flange (out)		DN 16 ISO-KF	
Fore-vacuum max. for N <sub>2</sub>		20 hPa   15 Torr   20 mbar	
Gas throughput at 0.1 hPa HV for Ar		11 hPa l/s   8.25 Torr l/s   11 mbar l/s	
Gas throughput at 0.1 hPa HV for H <sub>2</sub>		5 hPa l/s   3.75 Torr l/s   5 mbar l/s	
Gas throughput at 0.1 hPa HV for He		8 hPa l/s   6 Torr l/s   8 mbar l/s	
Gas throughput at 0.1 hPa HV for N <sub>2</sub>		10 hPa l/s   7.5 Torr l/s   10 mbar l/s	
Gas throughput at full rotational speed for Ar		13 hPa l/s   9.75 Torr l/s   13 mbar l/s	
Gas throughput at full rotational speed for N <sub>2</sub>		28 hPa l/s   21 Torr l/s   28 mbar l/s	
Interface, extended		DeviceNet	
Interfaces		RS-485, Remote, DeviceNet	
Low vibrations		yes	
Mounting orientation		in any orientation	
Operating voltage		48 (± 5 %) V DC	
Permissible magnetic field max.		5 mT	
Protection category		IP 54	
Pumping speed for Ar		250 l/s	
Pumping speed for H <sub>2</sub>		170 l/s	
Pumping speed for He		215 l/s	
Pumping speed for N <sub>2</sub>		255 l/s	
Rotation speed ± 2 %		60000 min <sup>-1</sup>	
Rotation speed variable		20-100 %	
Run-up time		< 2 min	
Sound pressure level		≤ 45 dB (A)	
Ultimate pressure according to PNEUROP		< 5 · 10 <sup>-10</sup> hPa   < 3.75 · 10 <sup>-10</sup> Torr   < 5 · 10 <sup>-10</sup> mbar	
Venting connection		G 1/8"	
Weight		17.2 kg   37.92 lb	

Order number	
HiPace® 300 M	PM P03 958

Accessories	
<b>Accessory for TC 400/1200 and TM 700</b>	
Mains power socket, angled, for TC 400/TM 700	P 4723 101
Mains power socket TC 400/TM 700, straight	P 4723 100
<b>Adapter and control cables</b>	
HiPace - ACP connection cable	PM 071 142 -X
<b>Air cooling</b>	
Air cooling, shielded, for HiPace 300 with TC 400 PB	PM Z01 362
<b>CF-F, Mounting kit</b>	
Set of hexagon screws for through hole, DN 100 CF-F	PM 016 690 -T
Set of stud screws for tapped hole, DN 100 CF-F	PM 016 692 -T
Set of stud screws for through hole, DN 100 CF-F	PM 016 734 -T
<b>CF-F, Sealings, splinter shields, protection screens</b>	
Protection screen for DN 100 CF-F	PM 016 336
Splinter shield for turbopumps, DN 100 CF-F	PM 016 315
<b>Connection cables</b>	
Connection cable for HiPace with TC 400/TM 700 to power supply TPS/DCU 310/311/400/401	PM 061 352 -T
<b>Control and display units</b>	
Accessories package for HPU 001/PC	PM 061 005 -T
DCU 002, Display Control Unit	PM 061 348 -T
HPU 001, Handheld Programming Unit	PM 051 510 -T
<b>DCU with integrated power supply</b>	
DCU 400, Display control unit incl. power supply	PM C01 823
<b>Fore-vacuum safety valves</b>	
TVV 001 fore-vacuum safety valve, 115 V AC	PM Z01 206
TVV 001 fore-vacuum safety valve, 230 V AC	PM Z01 205
<b>Interface and extension cables</b>	
Extension cable M12 on M12	PM 061 747 -T
Interface cable, M12 m straight/M12 m straight, 3 m	PM 061 283 -T
<b>Mains cables</b>	
Mains cable 115 V AC, NEMA 5-15 to C13, 3 m	P 4564 309 ZE
Mains cable 208 V AC, NEMA 6-15 to C13, 3 m	P 4564 309 ZF
Mains cable 230 V AC, CEE 7/7 to C13, 3 m	P 4564 309 ZA
<b>Power failure venting units (normally open)</b>	
Power failure venting valve, shielded, 24 V DC, G 1/8" for connection to TC 400, TM 700 and TC 1200	PM Z01 331
<b>Pressure Sensors</b>	
IKT 010, Digital Cold Cathode Sensor, low current	PTR 72 100
IKT 011, Digital Cold Cathode Sensor, high current	PT R73 100
RPT 010, Digital Piezo/Pirani Sensor	PT R71 100
TIC 010, Adapter for two sensors	PT R70 000
<b>Profibus</b>	
Remote adapter for RS-485	PM 061 649 -X
<b>Relay boxes</b>	
Relay box, shielded, for backing pumps, 1-phase 20 A for TC 400/1200, TM 700 and TCP 350, M12	PM 071 285 -X
<b>RS-485</b>	
USB converter to RS-485 interface	PM 061 207 -T
Y-Connector M12 to RS-485	P 4723 010

<b>Accessories</b>	
<b>Sealing gas</b>	
Sealing gas throttle for HiPace 300	<b>PM Z01 317</b>
Sealing gas valve, shielded for HiPace 300 with TC 400 and TM 700, TCP 350	<b>PM Z01 312</b>
<b>Shielded heating suitable for TC 400 PB, TC 1200 and TM 700</b>	
Heating jacket, shielded, for HiPace 300 with TC 400 PB/TM 700, 115 V AC, with UL plug	<b>PM 071 268 -T</b>
Heating jacket, shielded, for HiPace 300 with TC 400 PB/TM 700, 208 V AC, UL plug	<b>PM 071 267 -T</b>
Heating jacket, shielded, for HiPace 300 with TC 400 PB/TM 700, 230 V AC, with safety plug	<b>PM 071 266 -T</b>
<b>TPS-19" rack module</b>	
Front panel kit for TPS 401	<b>PM 061 396 -T</b>
TPS 401, power supply 48 V DC, 19" partial plug-in 3HU	<b>PM 061 347 -T</b>
<b>TPS wall rail fitting</b>	
TPS 400, power supply 48 V DC, for wall/standard rail fitting	<b>PM 061 343 -T</b>
<b>Venting accessory with small flange, G 1/8", hoses, air drier</b>	
Banjo fitting	<b>PM 016 787 -T</b>
Banjo fitting, small	<b>PM 143 877 -T</b>
TTV 001, dryer for venting turbopumps	<b>PM Z00 121</b>
<b>Venting valve (normally closed)</b>	
Venting valve, shielded, 24 V DC, G 1/8", for connection to TC 400/1200 and TM 700	<b>PM Z01 291</b>
<b>Vibration damper</b>	
Vibration damper for HiPace 300/400, DN 100 CF-F	<b>PM 006 488 -X</b>

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