



HiPace[®] 700 M



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Hakuto

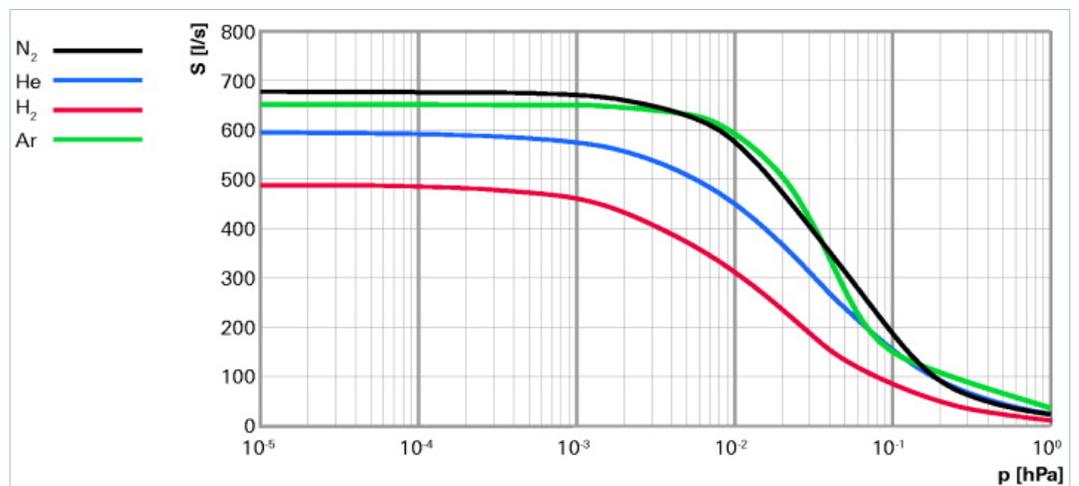
PFEIFFER  **VACUUM**



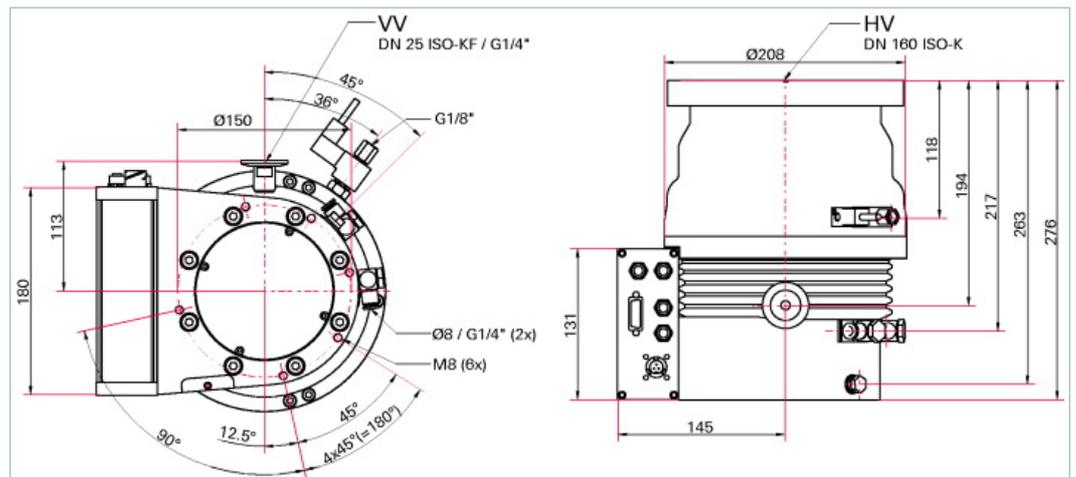
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HiPace® 700 M with TM 700, Profibus, DN 160 CF-F

- 5-axis magnetically levitated turbopump with a pumping speed of 685 l/s for N₂
- 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: Profibus and Remote; Y-Connector M 12 for Profibus included in scope of delivery
- 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® 700 M with TM 700, Profibus, DN 160 CF-F

| | |
|--------------------------------------|------------------------|
| Bearing | Magnetically Levitated |
| Compression ratio for Ar | $> 1 \cdot 10^{11}$ |
| Compression ratio for H ₂ | $2 \cdot 10^5$ |
| Compression ratio for He | $> 1 \cdot 10^7$ |
| Compression ratio for N ₂ | $> 1 \cdot 10^{11}$ |
| Cooling method, optional | Air, convection |

| Technical Data | HiPace® 700 M with TM 700, Profibus, DN 160 CF-F |
|--|--|
| Cooling method, standard | Water |
| 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 160 CF-F |
| Flange (out) | DN 25 ISO-KF |
| Fore-vacuum max. for N ₂ | 8 hPa 6 Torr 8 mbar |
| Gas throughput at 0.1 hPa HV for Ar | 16 hPa l/s 12 Torr l/s 16 mbar l/s |
| Gas throughput at 0.1 hPa HV for H ₂ | 9 hPa l/s 6.75 Torr l/s 9 mbar l/s |
| Gas throughput at 0.1 hPa HV for He | 16 hPa l/s 12 Torr l/s 16 mbar l/s |
| Gas throughput at 0.1 hPa HV for N ₂ | 16 hPa l/s 12 Torr l/s 16 mbar l/s |
| Gas throughput at full rotational speed for Ar | 8 hPa l/s 6 Torr l/s 8 mbar l/s |
| Gas throughput at full rotational speed for N ₂ | 13 hPa l/s 9.75 Torr l/s 13 mbar l/s |
| Interface, extended | Profibus |
| Interfaces | RS-485, Remote, Profibus |
| 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 | 660 l/s |
| Pumping speed for H ₂ | 480 l/s |
| Pumping speed for He | 600 l/s |
| Pumping speed for N ₂ | 685 l/s |
| Rotation speed ± 2 % | 49200 min ⁻¹ |
| Rotation speed variable | 20-100 % |
| Run-up time | 4 min |
| Sound pressure level | ≤ 45 dB (A) |
| Ultimate pressure according to PNEUROP | < 5 · 10 ⁻¹⁰ hPa < 3.75 · 10 ⁻¹⁰ Torr < 5 · 10 ⁻¹⁰ mbar |
| Venting connection | G 1/8" |
| Weight | 20.8 kg 45.86 lb |

| Order number | |
|---------------|------------|
| HiPace® 700 M | PM P04 455 |

| Accessories | |
|---|---------------|
| Accessory for TC 400/1200 and TM 700 | |
| Y-connector, shielded, M12 for accessories | P 4723 013 |
| Adapter and control cables | |
| Control cable for pumping stations 0.7 m | PM 061 675 AT |
| HiPace - ACP connection cable | PM 071 142 -X |
| Air cooling | |
| Air cooling, shielded, for HiPace 400/700/800 and 300700/800 M with TC 400 PB/TM 700 | PM Z01 363 |
| CF-F, Mounting kit | |
| Set of hexagon screws for trough hole, DN 160 CF-F | PM 016 691 -T |
| Set of stud screws for trough hole, DN 160 CF-F | PM 016 693 -T |
| CF-F, Sealings, splinter shields, protection screens | |
| Protection screen for DN 160 CF-F | PM 016 339 |
| Splinter shield for turbopumps, DN 160 CF-F | PM 016 318 |
| Connection cables | |
| Connection cable for HiPace with TC 400/TM 700 to power supply TPS/DCU 310/311/400/401 | PM 061 352 -T |
| Control and display units | |
| 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 |
| DCU with integrated power supply | |
| DCU 400, Display control unit incl. power supply | PM C01 823 |
| Fore-vacuum safety valves | |
| TVV 001 fore-vacuum safety valve, 115 V AC | PM Z01 206 |
| TVV 001 fore-vacuum safety valve, 230 V AC | PM Z01 205 |
| Interface and extension cables | |
| Interface cable, M12 m straight/M12 m straight, 3 m | PM 061 283 -T |
| Mains cables | |
| 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 |
| Pressure Sensors | |
| 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 |
| Relay boxes | |
| Relay box, shielded, for backing pumps, 1-phase 20 A for TC 400/1200, TM 700 and TCP 350, M12 | PM 071 285 -X |
| Relay box, shielded, for backing pumps, 1-phase 7 A for TC 400/1200, TM 700 and TCP 350, M12 | PM 071 284 -X |
| RS-485 | |
| Connector M12 to RS-485 | PM 061 270 -X |
| Power separator for RS-485 | PT 348 132 -T |
| Termination resistor for RS-485 | PT 348 105 -T |
| USB converter to RS-485 interface | PM 061 207 -T |
| Y-Connector M12 to RS-485 | P 4723 010 |

| Accessories | |
|---|----------------------|
| Sealing gas | |
| Sealing gas throttle for HiPace 300 | PM Z01 317 |
| Sealing gas valve, shielded for HiPace 300 with TC 400 and TM 700, TCP 350 | PM Z01 312 |
| Shielded heating suitable for TC 400 PB, TC 1200 and TM 700 | |
| Heating jacket, shielded, for HiPace 400/700/800 with TC 400 PB/TM 700, 115 V AC, UL plug | PM 071 271 -T |
| Heating jacket, shielded, for HiPace 400/700/800 with TC 400 PB/TM 700, 208 V AC, UL plug | PM 071 270 -T |
| Heating jacket, shielded, for HiPace 400/700/800 with TC 400 PB/TM 700, 230 V AC, safety plug | PM 071 269 -T |
| TPS-19" rack module | |
| Front panel kit for TPS 401 | PM 061 396 -T |
| TPS 401, power supply 48 V DC, 19" partial plug-in 3HU | PM 061 347 -T |
| TPS wall rail fitting | |
| TPS 400, power supply 48 V DC, for wall/standard rail fitting | PM 061 343 -T |
| Wall rail fitting for TPS 110/180/310/400 | PM 061 392 -T |
| Venting accessory with small flange, G 1/8", hoses, air drier | |
| TTV 001, dryer for venting turbopumps | PM Z00 121 |
| Venting valve (normally closed) | |
| Venting valve, shielded, 24 V DC, G 1/8", for connection to TC 400/1200 and TM 700 | PM Z01 291 |
| Vibration damper | |
| Vibration damper for HiPace DN 160 CF-F | PM 006 493 -X |

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