PFEIFFER VACUUM

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HiPace® 400

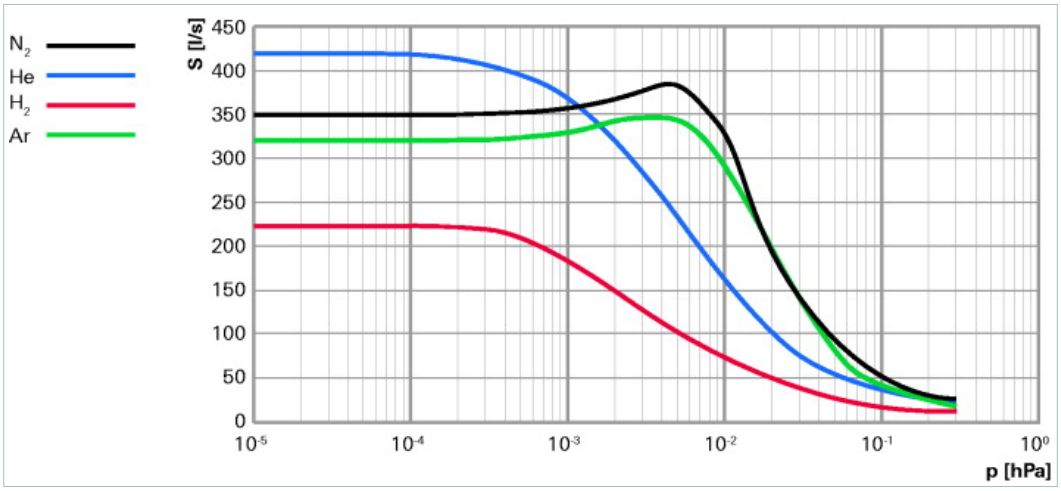
Compact yet powerful turbopumps with pumping speeds up to 355 l/s for N_2, with a small DN 100 flange connection



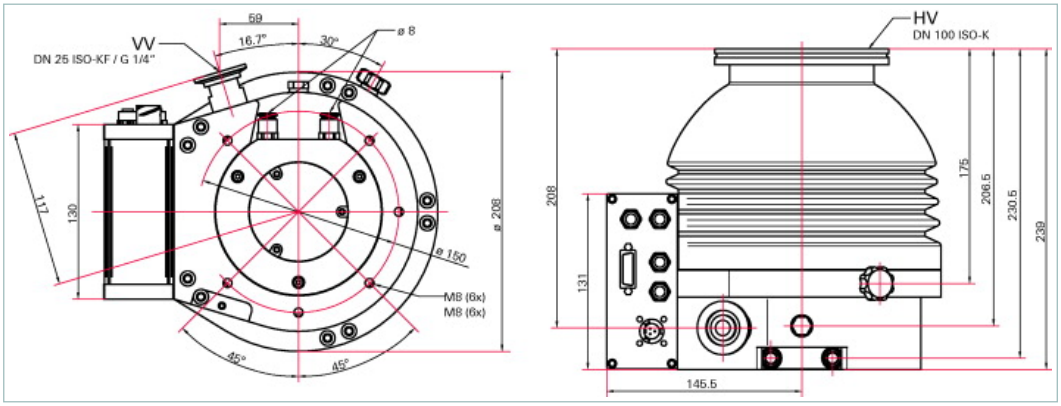
Similar Image

HiPace® 400 P with TC 400, DN 100 ISO-K

- Rugged, powerful turbopump with a pumping speed up to 355 l/s for N_2
- Perfect solution for coating and semiconductor processes as well as for dusty industrial applications like electron-beam welding facilities
- Integrated drive electronics TC 400
- For installation in any orientation
- With integrated water cooling for maximum gas throughput
- Flexible through the ability to employ up to 4 accessories
- Ideal for fast cycles
- Extensive accessories expand the range of applications
- Insensitive to dust



Dimensions



Technical Data	HiPace® 400 P with TC 400, DN 100 ISO-K
Bearing	Hybrid
Compression ratio for Ar	> $1 \cdot 10^7$
Compression ratio for H_2	$4 \cdot 10^2$
Compression ratio for He	$3 \cdot 10^3$
Compression ratio for N_2	> $1 \cdot 10^6$
Cooling method, optional	Air
Cooling method, standard	Water
Cooling water consumption	100 l/h
Cooling water temperature	15-35 °C | 59-95 °F | 288-308 K
Electronic drive unit	with TC 400
Flange (in)	DN 100 ISO-K
Flange (out)	DN 25 ISO-KF / G 1/4"

Technical Data	HiPace® 400 P with TC 400, DN 100 ISO-K
Fore-vacuum max. for N_2	0.9 hPa | 0.68 Torr | 0.9 mbar
Gas throughput at full rotational speed for Ar	1 hPa l/s | 0.75 Torr l/s | 1 mbar l/s
Gas throughput at full rotational speed for H_2	4 hPa l/s | 3 Torr l/s | 4 mbar l/s
Gas throughput at full rotational speed for He	4 hPa l/s | 3 Torr l/s | 4 mbar l/s
Gas throughput at full rotational speed for N_2	2 hPa l/s | 1.5 Torr l/s | 2 mbar l/s
Integrated power supply	yes
Interfaces	RS-485, Remote
Mounting orientation	in any orientation
Operating voltage	48 (± 5 %) V DC
Particulate matter	yes
Permissible magnetic field max.	6 mT
Protection category	IP 54
Pumping speed for Ar	320 l/s
Pumping speed for H_2	225 l/s
Pumping speed for He	420 l/s
Pumping speed for N_2	350 l/s
Rotation speed ± 2 %	49200 min^{-1}
Rotation speed variable	60-100 %
Run-up time	1.6 min
Sound pressure level	50 dB (A)
Ultimate pressure according to PNEUROP	< 1 · 10^{-7} hPa | < 7.5 · 10^{-8} Torr | < 1 · 10^{-7} mbar
Venting connection	G 1/8"
Weight	10.9 kg | 24.03 lb

Order number	
HiPace® 400	**PM P04 740**

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 for HiPace 400/700 and 800 with TC 400	**PM Z01 303**
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**
DN ISO-K, Mounting kit, bracket screws	
Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring	**PM 016 380 -T**
Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, protection screen, bracket screws	**PM 016 382 -T**
Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, splinter shield, bracket screws	**PM 016 381 -T**
DN ISO-K / -F, sealings, splinter shields, protection screens	
Centering ring with multifunction coating, DN 100 ISO-K/-F	**PM 016 210 -U**
Centering ring with multifunction coating and integrated protection screen, DN 100 ISO-K/-F	**PM 016 212 -U**
Centering ring with multifunction coating and integrated splinter shield, DN 100 ISO-K/-F	**PM 016 211 -U**
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**
Relay boxes	
Backing pump relay box, single phase 20 A, for TC 400 and TCP 350, M12 plug	**PM 061 375 -T**
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	
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**
Sealing gas	
Sealing gas throttle for HiPace 400/700/800 P and C version and HiPace 1200 - 2300	**PM Z01 318**
Sealing gas valve, shielded, HiPace 400/700/800 P and C with TC 400 and HiPace 1200 - 2300 with TC 1200	**PM Z01 313**

Accessories	
TPS-19" rack module	
Front panel kit for TPS 311	**PM 061 395 -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 300/400, DN 100 ISO-K/F	**PM 006 459 -X**