PFEIFFER VACUUM

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HiPace® 60 P

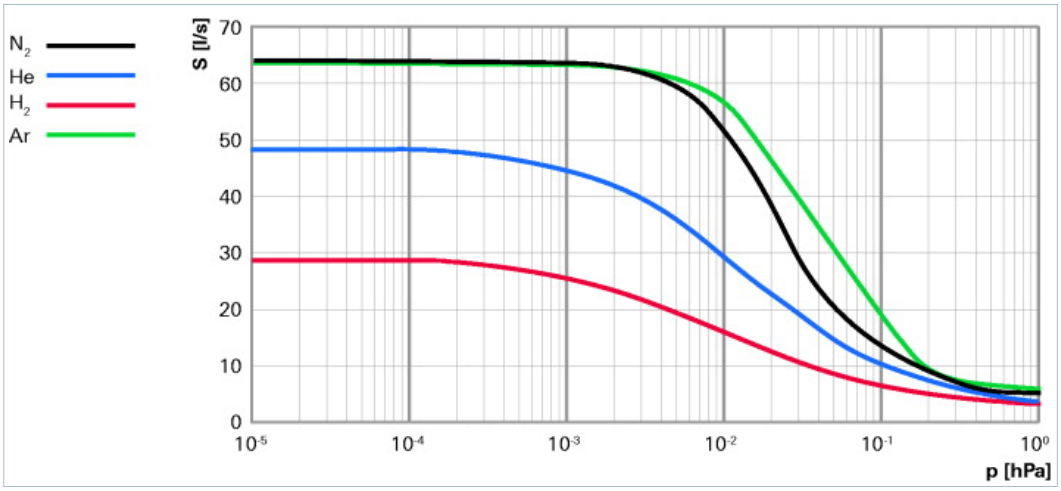
Small yet powerful turbo molecular pump without Holweck-stage with a pumping speed of up to 64 l/s for N_2



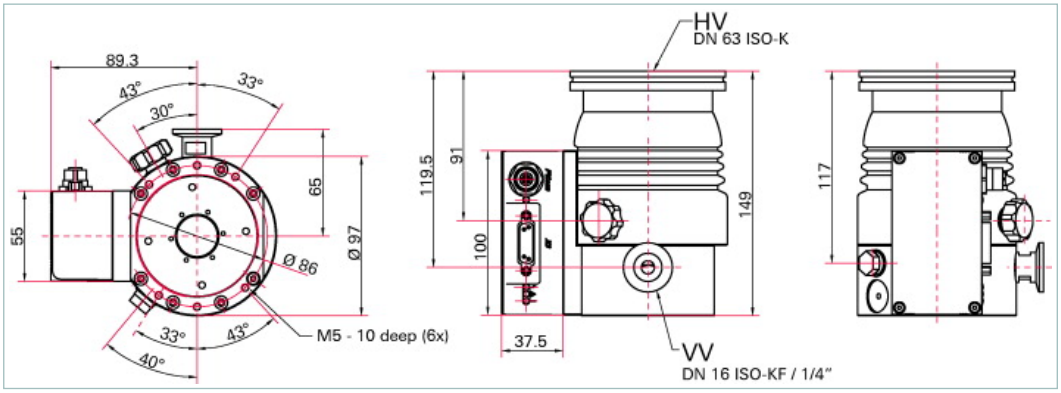
Similar Image

HiPace® 60 P with TC 110, DN 63 ISO-K

- Small yet powerful turbo molecular pump without Holweck-stage with a pumping speed of up to 64 l/s for N_2
- Integrated TC 110 drive electronics
- Installation in any orientation
- Simple and reliable system integration
- Insensitive to dust
- Extensive accessories expand the range of applications



Dimensions



Technical Data	HiPace® 60 P with TC 110, DN 63 ISO-K
Bearing	Hybrid
Compression ratio for Ar	$2 \cdot 10^6$
Compression ratio for H_2	$2 \cdot 10^2$
Compression ratio for He	$3.5 \cdot 10^2$
Compression ratio for N_2	$1 \cdot 10^6$
Cooling method, optional	Air/water
Cooling method, standard	Convection
Cooling water consumption	75 l/h
Cooling water temperature	5-25 °C | 41-77 °F | 278-298 K
Electronic drive unit	with TC 110
Flange (in)	DN 63 ISO-K
Flange (out)	DN 16 ISO-KF / G 1/4"
Fore-vacuum max. for N_2	4 hPa | 3 Torr | 4 mbar
Gas throughput at full rotational speed for Ar	0.83 hPa l/s | 0.62 Torr l/s | 0.83 mbar l/s
Gas throughput at full rotational speed for H_2	55 hPa l/s | 41.25 Torr l/s | 55 mbar l/s

Technical Data	HiPace® 60 P with TC 110, DN 63 ISO-K
Gas throughput at full rotational speed for He	55 hPa l/s | 41.25 Torr l/s | 55 mbar l/s
Gas throughput at full rotational speed for N_2	9.2 hPa l/s | 6.9 Torr l/s | 9.2 mbar l/s
Interfaces	RS-485, Remote
Mounting orientation	in any orientation
Operating voltage	24 (± 5 %) V DC
Permissible magnetic field max.	4 mT
Protection category	IP 54
Pumping speed for Ar	63 l/s
Pumping speed for H_2	28 l/s
Pumping speed for He	48 l/s
Pumping speed for N_2	64 l/s
Rotation speed ± 2 %	90,000 min^{-1}
Rotation speed variable	50-100 %
Run-up time	1.1 min
Sound pressure level	<= 48 dB (A)
Ultimate pressure according to PNEUROP	< 1 · 10^{-6} hPa | < 7.5 · 10^{-7} Torr | < 1 · 10^{-6} mbar
Venting connection	G 1/8"
Weight	2.2 kg | 4.85 lb

Order number	
HiPace® 60 P	**PM P04 000**

Accessories	
Accessory for TC 110	
Enclosure for plug, spraywater-protected, 15-pole, D-sub	**P 0998 016**
Mains power plug angled for TC 110/120 and mating plug for interface E74	**P 4723 111**
Mains power plug for TC 110/120 and mating plug for E74 interface, straight	**P 4723 110**
TCS 11, adapter for TC 110/120 with RS-485 interface	**PM 061 636 -U**
TCS 12, adapter for TC 110/120 with interface RS-485, 4 accessory ports and coupling set	**PM 061 638 -U**
TCS 13, adapter for TC 110/120 with interface RS-485, 2 accessory ports and coupling set	**PM 061 856 -U**
Adapter and control cables	
Control cable for valve	**PM 061 687 -T**
HiPace - ACP connection cable	**PM 071 142 -X**
Air cooling	
Air cooling for HiPace 60/80, SplitFlow 50/80, 230 V	**PM Z01 343**
Air cooling for HiPace 60 P, HiPace 80 and SplitFlow 50/80 with TC 110/120	**PM Z01 300**
Air cooling for HiPace 60 P and 80, SplitFlow 50/80, 115 V	**PM Z01 344**
Connection cables	
Connection cable for HiPace with TC 110/120	**PM 061 543 -T**
Connection cable incl. 2 accessory ports for TC 110/120 to power supply	**PM 061 552 -T**
Connection cable with RS-485 interface and 2 accessory ports for TC110/120 to power supply	**PM 061 351 -T**
Connection cable with RS-485 interface and 3 accessory ports for TC 110/120 to power supply	**PM 061 512 -T**
Connection cable with RS-485 interface for TC 110/120 to power supply	**PM 061 350 -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**
RJ 45 interface cable on M12 for HiPace	**PM 051 726 -T**
DCU with integrated power supply	
DCU 110, Display control unit incl. power supply	**PM C01 820**
DCU 180, Display control unit incl. power supply	**PM C01 821**
DN ISO-K, claws	
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring, splinter and claw grips	**PM 016 511 -T**
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring and claws	**PM 016 510 -T**
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring with integrated protection screen and claws grips	**PM 016 512 -T**
DN ISO-K, Mounting kit, bracket screws	
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring, protection screen and bracket screws	**PM 016 362 -T**
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring, splinter shield and bracket screws	**PM 016 361 -T**
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring and bracket screws	**PM 016 360 -T**

Accessories	
DN ISO-K / -F, sealings, splinter shields, protection screens	
Centering ring with multifunction coating, DN 63 ISO-K/-F	**PM 016 206 -U**
Centering ring with multifunction coating and integrated protection screen, DN 63 ISO-K/-F	**PM 016 208 -U**
Centering ring with multifunction coating and integrated splinter shield, DN 63 ISO-K/-F	**PM 016 207 -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	
Extension cable M8 on M8	**PM 061 783 -T**
Interface cable, M12 m straight/ M12 m angled 0.7 m	**PM 061 791 -T**
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**
Power failure venting units (normally open)	
Schielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120	**PM Z01 330**
Relay boxes	
Relay box, shielded, for backing pumps, 1-phase 7A for TC 110/120 and TCP 350, plug M8	**PM 071 282 -X**
Relay box for backing pump, single phase 20 A for TC 110/120 and TCP 350, M8 plug	**PM 061 373 -T**
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**
Sealing gas	
Sealing gas throttle for HiPace 60/80	**PM Z01 316**
Sealing gas valve, shielded for HiPace 60/80 with TC 110	**PM Z01 310**
TPS-19" rack module	
Front panel kit for TPS 111	**PM 061 393 -T**
Front panel kit for TPS 181	**PM 061 394 -T**
TPS 111, mains pack 19" rack module 3HU	**PM 061 344 -T**
TPS 181, mains pack 19" rack module 3HU	**PM 061 345 -T**
TPS wall rail fitting	
TPS 110, mains pack for wall/standard rail fitting	**PM 061 340 -T**
TPS 180, mains pack for wall/standard rail fitting	**PM 061 341 -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	
Banjo fitting	**PM 016 787 -T**
Banjo fitting, small	**PM 143 877 -T**
Hose nozzle for 9 mm hose, G 1/8"	**PM 016 783 -T**
Plug-in fitting for 6 mm hose, G 1/8"	**PM 016 781 -T**
Plug-in fitting for 8 mm hose, G 1/8"	**PM 016 782 -T**
Screw-in flange, DN 10 ISO-KF, G 1/8"	**PM 033 737 -T**
Screw-on flange, DN 16 ISO-KF, G 1/8"	**PM 016 780 -T**
TTV 001, dryer for venting turbopumps	**PM Z00 121**

Accessories	
Venting valve (normally closed)	
Venting valve, 24 V DC, G 1/8" without cable	**PM Z01 293**
Venting valve, shielded, 24 V DC, G 1/8", for connection to TC 110/120	**PM Z01 290**
Vibration damper	
Vibration damper for HiPace 60/80, DN 63 ISO-K	**PM 006 800 -X**
Water cooling	
Water cooling for HiPace 60 P, HiPace 80 and for SplitFlow 50/80 with plug-in connection, 8 mm	**PM 016 623 -T**