

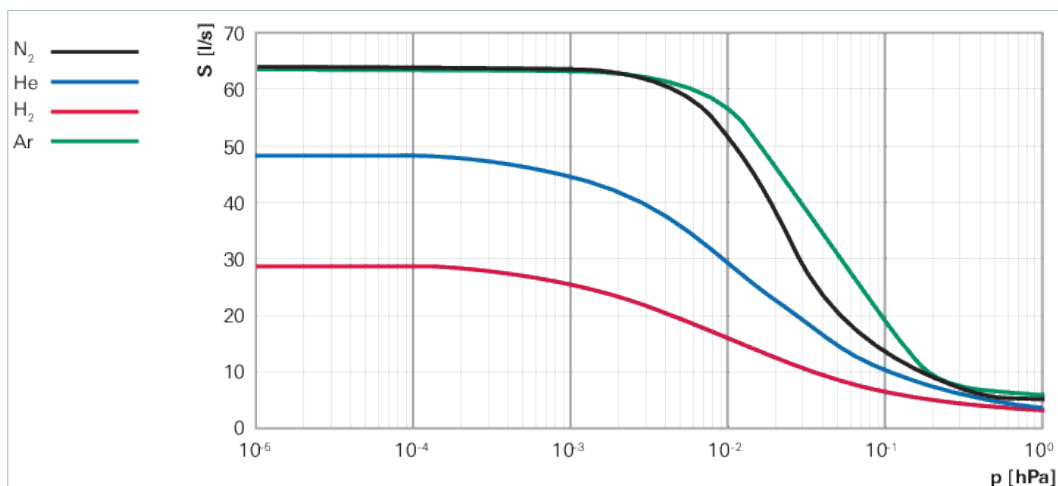


HiPace[®] 60 P with TC 110, DN 63 ISO-K

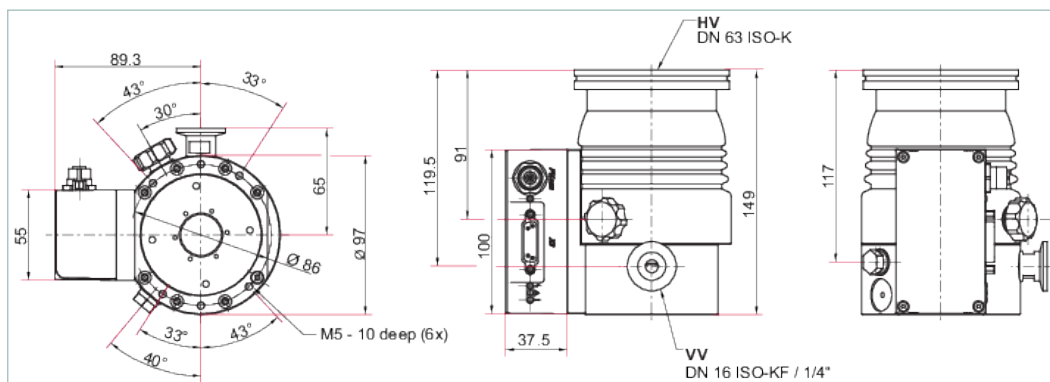


HiPace® 60 P with TC 110, DN 63 ISO-K

- Small yet powerful turbo molecular pump without Holweck-stage with a pumping speed of up to 64 l/s for N₂
- 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 flow	75 l/h
Cooling water flow, max	75 l/h
Cooling water flow, min	75 l/h
Cooling water temperature	5-25 °C 41-77 °F 278-298 K
Current max.	4,6 A
Electronic drive unit	with TC 110
Flange (in)	DN 63 ISO-K

Technical Data	HiPace® 60 P with TC 110, DN 63 ISO-K
Flange (out)	DN 16 ISO-KF/G ¼"
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
Gas throughput at full rotational speed for H ₂	55 hPa·l/s
Gas throughput at full rotational speed for He	55 hPa·l/s
Gas throughput at full rotational speed for N ₂	9.2 hPa·l/s
I/O interfaces	RS-485, Remote
Mounting orientation	Any
Operating voltage: V DC	24 (± 5 %) V DC
Permissible magnetic field max.	4 mT
Power consumption max.	110 W
Protection category	IP54
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 rpm 90,000 min ⁻¹
Rotation speed variable	50 – 100 %
Run-up time	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
Ultimate pressure without gas ballast	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	
Adapters (electrical) Remote	
Enclosure for plug, spraywater-protected, 15-pole, D-Sub	P 0998 016
Mains power plug for TC 110/120 and mating plug for E74 interface, straight	P 4723 110
Mains power plug angled for TC 110/120 and mating plug for interface E74	P 4723 111
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
Adapters (electrical) RS-232/485	
Y-Connector M12 to RS-485	P 4723 010
USB converter to RS-485 interface	PM 061 207 -T
Coupling M12 for RS-485	PM 061 270 -X
Termination resistor for RS-485	PT 348 105 -T
Power separator for RS-485	PT 348 132 -T
Cables Backing pump control cables	
Control cable for valve	PM 061 687 -T
HiPace – ACP connection cable	PM 071 142 -X
Cables Connection cables	
Connection cable with RS-485 interface for TC 110/120 to power supply pack	PM 061 350 -T
Connection cable with RS-485 interface and 2 accessory ports for TC110/120 to power supply pack	PM 061 351 -T
Connection cable TPS 180 - MVP 006-4 with HiPace 80/HiPace 10, 2 x 0.5 m	PM 061 399 -T
Connection cable with RS-485 interface and 3 accessory ports for TC110/120 to power supply pack	PM 061 512 -T
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 pack	PM 061 552 -T
Cables Extension cables	
Extension cable M8 on M8	PM 061 783 -T
Cables Mains cables / Power cords	
Mains cable 230 V AC, CEE 7/7 to C13, 3 m	P 4564 309 ZA
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
Cables RS-485 Interface cables	
Interface cable, M12 m straight/M12 m straight, 3 m	PM 061 283 -T
Interface cable, M12 m straight/ M12 m angled, 0.7 m	PM 061 791 -T
Control Devices Backing pump	
Relay box for backing pumps, 1-phase 20 A for TC 110/120 and TCP 350, plug M8	PM 061 373 -T
Relay box, shielded, for backing pumps, 1-phase 7A for TC 110/120 and TCP 350, plug M8	PM 071 282 -X

Accessories	
Control Devices Power supplies and control displays	
HPU 001, Handheld programming unit	PM 051 510 -T
Accessories package for HPU 001/PC	PM 061 005 -T
TPS 110, power supply pack for wall/standard rail fitting	PM 061 340 -T
TPS 180, power supply pack for wall/standard rail fitting	PM 061 341 -T
TPS 111, power supply pack 3HU 19" rack module	PM 061 344 -T
TPS 181, power supply pack 19" rack module 3HU	PM 061 345 -T
DCU 002, Display Control Unit	PM 061 348 AT
Front panel kit for TPS 111	PM 061 393 -T
Front panel kit for TPS 181	PM 061 394 -T
DCU 110, Display control unit with power supply pack	PM C01 820
DCU 180, Display control unit incl. power supply pack 19"	PM C01 821
Cooling Air cooling	
Air cooling for HiPace 60 P, HiPace 80 and SplitFlow 50/80 with TC 110/120	PM Z01 300
Air cooling for HiPace 60/80, SplitFlow 50/80, 230 V	PM Z01 343
Air cooling for HiPace 60 P and 80, SplitFlow 50/80, 115 V	PM Z01 344
Cooling Water cooling	
Water cooling for HiPace 60 P HiPace 80 and for SplitFlow 50/80 with push-in fitting, 8 mm	PM 016 623 -T
Monitoring Pressure Sensors	
RPT 010, Digital Piezo/Pirani Sensor	PT R71 100
IKT 010, Digital cold cathode sensor, low current	PT R72 100
IKT 011, Digital cold cathode sensor, high current	PT R73 100
Mounting DN ISO-K, Mounting kits, bracket screws	
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring and bracket screws	PM 016 360 -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, protection screen and bracket screws	PM 016 362 -T
Mounting DN ISO-K, Mounting kits, claws	
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, splinter and claw grips	PM 016 511 -T
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring with integrated protection screen and claw grips	PM 016 512 -T
Mounting DN ISO-K/-F, sealings	
Centering ring with multifunction coating, DN 63 ISO-K/-F	PM 016 206 -U

Accessories	
Mounting DN ISO-K/-F Mounting kits	
Mounting kit for DN 63 ISO-K to ISO-F, with collar flange, coated centering ring, hexagon bolts	PM 016 930 -T
Mounting kit for DN 63 ISO-K to ISO-F, with collar flange, coated centering ring with splinter shield, hexagon bolts	PM 016 931-T
Mounting kit for DN 63 ISO-K to ISO-F, with collar flange, coated centering ring with protection screen, hexagon bolts	PM 016 932 -T
Mounting kit for DN 63 ISO-K to ISO-F, with collar flange, coated centering ring, stud screws	PM 016 935 -T
Mounting kit for DN 63 ISO-K to ISO-F, with collar flange, coated centering ring with splinter shield, stud screws	PM 016 936 -T
Mounting kit for DN 63 ISO-K to ISO-F, with collar flange, coated centering ring with protection screen, stud screws	PM 016 937 -T
Mounting Wall rail fittings	
Wall rail fitting for TPS 110/180/310/400	PM 061 392 -T
Other	
TIC 010, Adapter for two sensors	PT R70 000
Protection DN ISO-K/-F, sealings, splinter shields, protection screens	
Centering ring with multifunction coating and integrated splinter shield, DN 63 ISO-K/-F	PM 016 207 -U
Centering ring with multifunction coating and integrated protection screen, DN 63 ISO-K/-F	PM 016 208 -U
Protection Sealing gas throttles	
Sealing gas throttle for HiPace 30/60/80	PM Z01 316
Valves Fore-vacuum safety valves	
TVV 001, fore-vacuum safety valve, 230 V AC	PM Z01 205
TVV 001, fore-vacuum safety valve, 115 V AC	PM Z01 206
Valves Sealing gas valves, shielded (normally closed)	
Sealing gas valve, shielded for HiPace 30/60/80 with TC 110	PM Z01 310
Venting Power failure venting units (normally open)	
Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120	PM Z01 330
Venting Venting accessories	
Screw-on flange, DN 16 ISO-KF, G 1/8"	PM 016 780 -T
Push-in fitting for 6 mm tube, G 1/8"	PM 016 781 -T
Push-in fitting for 8 mm tube, G 1/8"	PM 016 782 -T
Hose nozzle for 9 mm hose, G 1/8"	PM 016 783 -T
Banjo fitting	PM 016 787 -T
Screw-in flange, DN 10 ISO-KF, G 1/8"	PM 033 737 -T
Banjo fitting, small	PM 143 877 -T
TTV 001, Drier for Venting Turbopumps	PM Z00 121
Venting Venting valves (normally closed)	
Venting valve, shielded, 24 V DC, G 1/8", for connection to TC 110/120	PM Z01 290
Venting valve, 24 V DC, G 1/8" without cable	PM Z01 293
Vibration Reduction Vibration dampers	
Vibration damper for HiPace 60/80, DN 63 ISO-K	PM 006 800 -X

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