



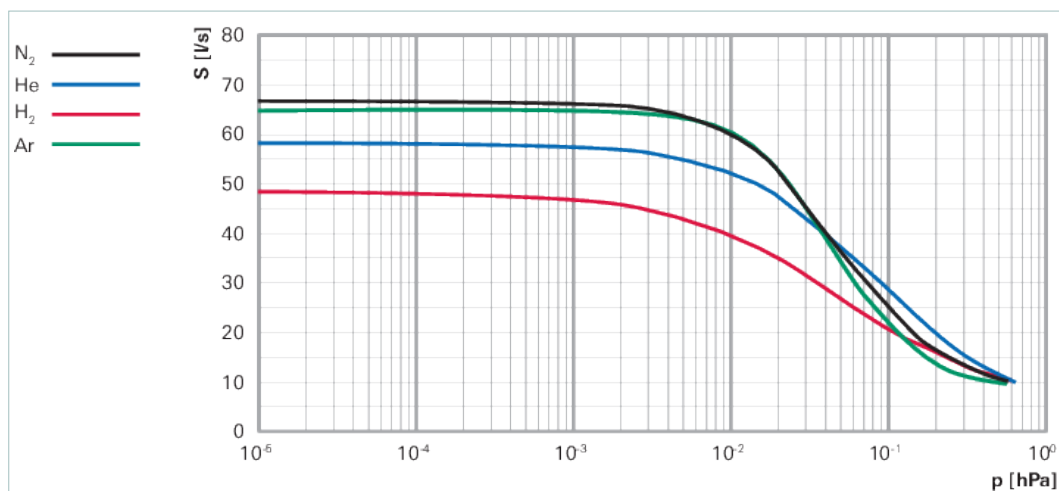
# HiPace<sup>®</sup> 80 with TC 110, DN 63 ISO-K



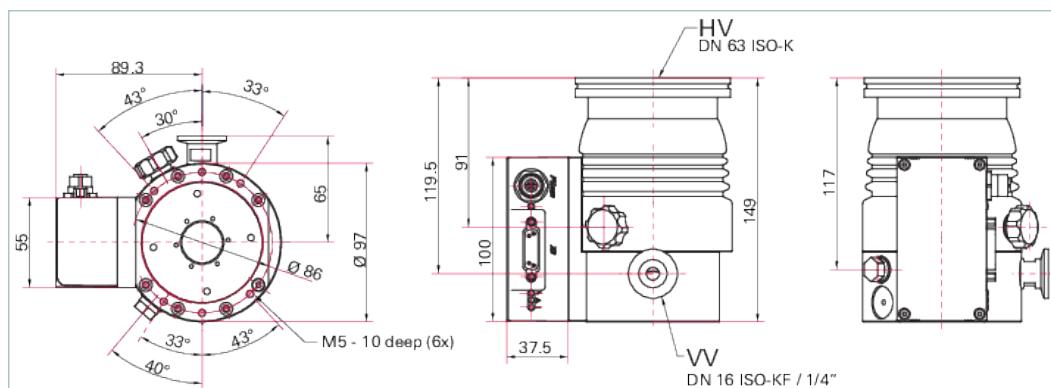
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## HiPace® 80 with TC 110, DN 63 ISO-K

- Small yet powerful turbopump with a pumping speed of up to 67 l/s for N<sub>2</sub>
- Integrated TC 110 drive electronics
- For installation in any orientation
- Ideal for dependable systems integration
- Extensive accessories expand the range of applications



### Dimensions



Technical Data	HiPace® 80 with TC 110, DN 63 ISO-K
Bearing	Hybrid
Compression ratio for Ar	$> 1 \cdot 10^{11}$
Compression ratio for H <sub>2</sub>	$1.4 \cdot 10^5$
Compression ratio for He	$1.3 \cdot 10^7$
Compression ratio for N <sub>2</sub>	$> 1 \cdot 10^{11}$
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 <sub>2</sub>	22 hPa   16.5 Torr   22 mbar
Gas throughput at full rotational speed for Ar	0.54 hPa·l/s
Gas throughput at full rotational speed for H <sub>2</sub>	15.3 hPa·l/s

Technical Data	HiPace® 80 with TC 110, DN 63 ISO-K
Gas throughput at full rotational speed for He	2.7 hPa·l/s
Gas throughput at full rotational speed for N <sub>2</sub>	1.3 hPa·l/s
Interfaces	RS-485, Remote
Mounting orientation	in any orientation
Operating voltage: V DC	24 (5) V DC
Permissible magnetic field max.	3.3 mT
Protection category	IP54
Pumping speed for Ar	66 l/s
Pumping speed for H <sub>2</sub>	48 l/s
Pumping speed for He	58 l/s
Pumping speed for N <sub>2</sub>	67 l/s
Rotation speed ± 2 %	90,000 rpm   90,000 min <sup>-1</sup>
Rotation speed variable	50 – 100 %
Run-up time	1.7 min
Sound pressure level	≤ 48 dB(A)
Ultimate pressure according to PNEUROP	< 1 · 10 <sup>-7</sup> hPa   < 7.5 · 10 <sup>-8</sup> Torr   < 1 · 10 <sup>-7</sup> mbar
Venting connection	G 1/8"
Weight	2.4 kg   5.29 lb

Order number	
HiPace® 80	PM P03 940

Accessories	
<b>Adapters/connections TC 110</b>	
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
<b>Mains cables</b>	
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
<b>RS-485 accessories</b>	
Y-Connector M12 to RS-485	P 4723 010
USB converter to RS-485 interface	PM 061 207 -T
Connector M12 to RS-485	PM 061 270 -X
Termination resistor for RS-485	PT 348 105 -T
Power separator for RS-485	PT 348 132 -T
<b>Vibration damper</b>	
Vibration damper for HiPace 60/80, DN 63 ISO-K	PM 006 800 -X
<b>Centering ring with multifunctional coating</b>	
Centering ring with multifunction coating, DN 63 ISO-K/-F	PM 016 206 -U
<b>Centering ring with multifunctional coating, including protection screen</b>	
Centering ring with multifunction coating and integrated protection screen, DN 63 ISO-K/-F	PM 016 207 -U
<b>Centering ring with multifunctional coating, including splinter shield</b>	
Centering ring with multifunction coating and integrated splinter shield, DN 63 ISO-K/-F	PM 016 208 -U
<b>Mounting kits for HiPace, including coated centering ring and bracket screws</b>	
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring and bracket screws	PM 016 360 -T
<b>Mounting kits for HiPace, including coated centering ring, splinter shield and bracket screws</b>	
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring, splinter shield and bracket screws	PM 016 361 -T
<b>Mounting kits for HiPace, including coated centering ring, protection screen and bracket screws</b>	
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring, protection screen and bracket screws	PM 016 362 -T
<b>Mounting kits for HiPace, including coated centering ring and claws</b>	
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring and claws	PM 016 510 -T

<b>Accessories</b>	
<b>Mounting kits for HiPace, including coated centering ring, splinter shield and claws</b>	
Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring, splinter and claw grips	PM 016 511 -T
<b>Mounting kits for HiPace, including coated centering ring, protection screen and claws</b>	
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
<b>Water cooling</b>	
Water cooling for HiPace 60 P, HiPace 80 and for SplitFlow 50/80 with push-in fitting, 8 mm	PM 016 623 -T
<b>Venting accessory with small flange, G 1/8", hoses, air drier</b>	
Screw-on flange, DN 16 ISO-KF, G 1/8"	PM 016 780 -T
Push-in fitting for 6 mm hose, G 1/8"	PM 016 781 -T
Push-in fitting for 8 mm hose, 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, dryer for venting turbopumps	PM Z00 121
<b>Control and display units</b>	
HPU 001, Handheld Programming Unit	PM 051 510 -T
DCU 002, Display Control Unit	PM 061 348 -T
<b>Accessory for DCU/HPU</b>	
Accessories package for HPU 001/PC	PM 061 005 -T
<b>Accessories RS-485</b>	
Interface cable, M12 m straight/M12 m straight, 3 m	PM 061 283 -T
<b>Accessories Diaphragm pumps</b>	
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
Connection cable TPS 180 - MVP 006-4 with HiPace 80/HiPace 10, 2 x 0.5 m	PM 061 399 -T
<b>Mains pack 19" rack module 3HU with front panel</b>	
TPS 111, mains pack 19" rack module 3HU	PM 061 344 -T
TPS 181, mains pack 19" rack module 3HU	PM 061 345 -T
<b>Connection cables</b>	
Connection cable with RS-485 interface for TC 110/120 to power supply	PM 061 350 -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 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
<b>Relay boxes suitable for TC 110, TC 400 and TCP 350</b>	
Relay box for backing pump, single phase 20 A for TC 110/120 and TCP 350, M8 plug	PM 061 373 -T
<b>Wall rail fitting</b>	
Wall rail fitting for TPS 110/180/310/400	PM 061 392 -T
<b>Front panel kit as spare part</b>	
Front panel kit for TPS 111	PM 061 393 -T
Front panel kit for TPS 181	PM 061 394 -T

Accessories	
<b>Extension cables</b>	
Extension cable M8 on M8	PM 061 783 -T
<b>Interface cables</b>	
Interface cable, M12 m straight/ M12 m angled 0.7 m	PM 061 791 -T
<b>Adapter and control cables</b>	
TCS 17 for control of backing pumps	PM 071 093 -U
HiPace - ACP connection cable	PM 071 142 -X
<b>Shielded relay boxes suitable for TC 110/TC 400 with PB, TC 1200 and TM 700</b>	
Relay box, shielded, for backing pumps, 1-phase 7A for TC 110/120 and TCP 350, plug M8	PM 071 282 -X
<b>DCU with integrated power supply</b>	
DCU 110, Display control unit incl. power supply	PM C01 820
DCU 180, Display control unit incl. power supply	PM C01 821
<b>Fore-vacuum safety valves</b>	
TVV 001 fore-vacuum safety valve, 230 V AC	PM Z01 205
TVV 001 fore-vacuum safety valve, 115 V AC	PM Z01 206
<b>Venting valve (normally closed)</b>	
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
<b>Air coolings (unshielded)</b>	
Air cooling for HiPace 60 P, HiPace 80 and SplitFlow 50/80 with TC 110/120	PM Z01 300
<b>Sealing gas valve, shielded (normally closed)</b>	
Sealing gas valve, shielded for HiPace 30/60/80 with TC 110	PM Z01 310
<b>Sealing gas throttle</b>	
Sealing gas throttle for HiPace 30/60/80	PM Z01 316
<b>Power failure venting units (normally open)</b>	
Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120	PM Z01 330
<b>Air coolings 115/230 V</b>	
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
<b>Pressure Sensors</b>	
TIC 010, Adapter for two sensors	PT R70 000
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
<b>Mounting kit with collar flange, coated centering ring, Hexagon bolts</b>	
Mounting kit for DN 63 ISO-K to ISO-F, with collar flange, coated centering ring, hexagon bolts	PM 016 930 -T
<b>Mounting kit with collar flange, coated centering ring with splinter shield, hexagon bolts</b>	
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

Accessories	
<b>Mounting kit with collar flange, coated centering ring with protection screen, hexagon bolts</b>	
Mounting kit for DN 63 ISO-K to ISO-F, with collar flange, coated centering ring with protection screen, hexagon bolts	<b>PM 016 932 -T</b>
<b>DN ISO-K/F Mounting kit with collar flange, coated centering ring, stud screws</b>	
Mounting kit for DN 63 ISO-K to ISO-F, with collar flange, coated centering ring, stud screws	<b>PM 016 935 -T</b>
<b>Mounting kit with collar flange, coated centering ring with splinter shield, stud screws</b>	
Mounting kit for DN 63 ISO-K to ISO-F, with collar flange, coated centering ring with splinter shield, stud screws	<b>PM 016 936 -T</b>
<b>Mounting kit with collar flange, coated centering ring with protection screen, stud screws</b>	
Mounting kit for DN 63 ISO-K to ISO-F, with collar flange, coated centering ring with protection screen, stud screws	<b>PM 016 937 -T</b>

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