



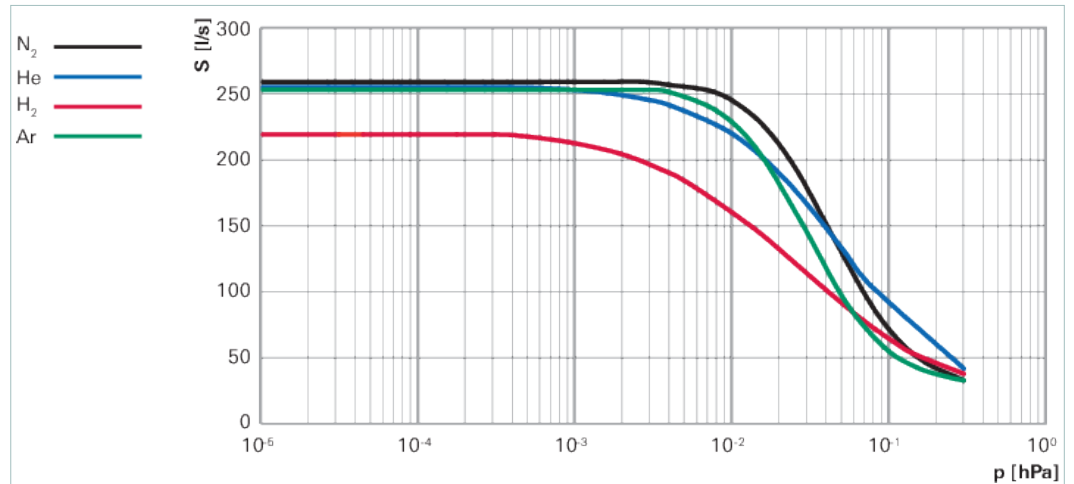
HiPace[®] 300 H with TC 110



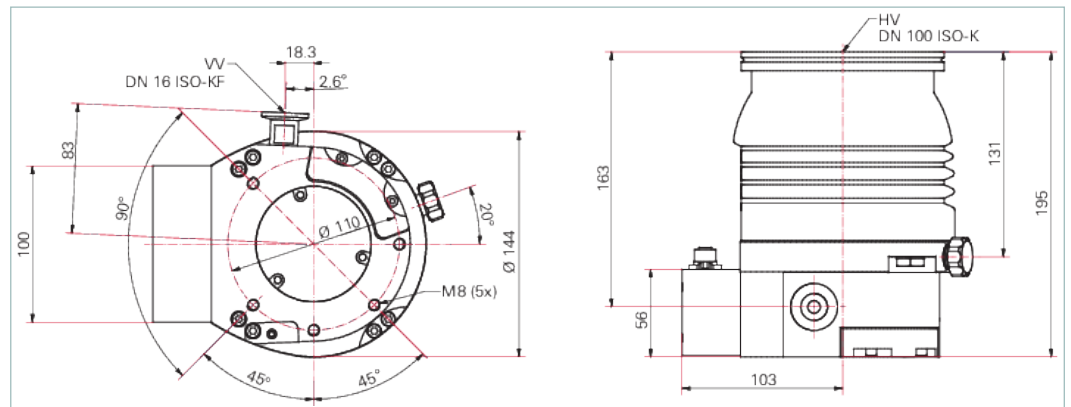
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HiPace® 300 H with TC 110, DN 100 ISO-K

- Rugged, powerful turbopump with a pumping speed of up to 260 l/s for N₂
- Extremely high compression, especially for light gases. Ideal for the generation of an ultra high vacuum
- Integrated TC 110 drive electronics
- For installation in any orientation
- Extensive accessories expand the range of applications



Dimensions



Technical Data	HiPace® 300 H with TC 110, DN 100 ISO-K
Bearing	Hybrid
Compression ratio for Ar	$> 1 \cdot 10^{13}$
Compression ratio for H ₂	$1 \cdot 10^7$
Compression ratio for He	$2.5 \cdot 10^9$
Compression ratio for N ₂	$> 1 \cdot 10^{13}$
Cooling method, optional	Water
Cooling method, standard	Air
Cooling water flow	50 l/h
Cooling water flow, max	50 l/h
Cooling water flow, min	50 l/h
Cooling water temperature	15-35 °C 59-95 °F 288-308 K
Current max.	7,5 A
Electronic drive unit	with TC 110
Flange (in)	DN 100 ISO-K

Technical Data	HiPace® 300 H with TC 110, DN 100 ISO-K
Flange (out)	DN 16 ISO-KF/G ¼"
Fore-vacuum max. for Ar	25 hPa 18.75 Torr 25 mbar
Fore-vacuum max. for H ₂	15 hPa 11.25 Torr 15 mbar
Fore-vacuum max. for He	28 hPa 21 Torr 28 mbar
Fore-vacuum max. for N ₂	30 hPa 22.5 Torr 30 mbar
Gas throughput at full rotational speed for Ar	0.5 hPa·l/s
Gas throughput at full rotational speed for H ₂	10 hPa·l/s
Gas throughput at full rotational speed for He	3.5 hPa·l/s
Gas throughput at full rotational speed for N ₂	1.5 hPa·l/s
I/O interfaces	RS-485, Remote
Mounting orientation	Any
Permissible radial magnetic field max.	5.5 mT
Power consumption max.	180 W
Protection category	IP54
Pumping speed for Ar	255 l/s
Pumping speed for H ₂	220 l/s
Pumping speed for He	255 l/s
Pumping speed for N ₂	260 l/s
Rotation speed ± 2 %	60,000 rpm 60,000 min ⁻¹
Rotation speed variable	35 – 100 %
Run-up time	3.5 min
Sound pressure level	≤50 dB(A)
Ultimate pressure without gas ballast	< 1 · 10 ⁻⁷ hPa < 7.5 · 10 ⁻⁸ Torr < 1 · 10 ⁻⁷ mbar
Venting connection	G 1/8"
Weight	6.2 kg 13.67 lb

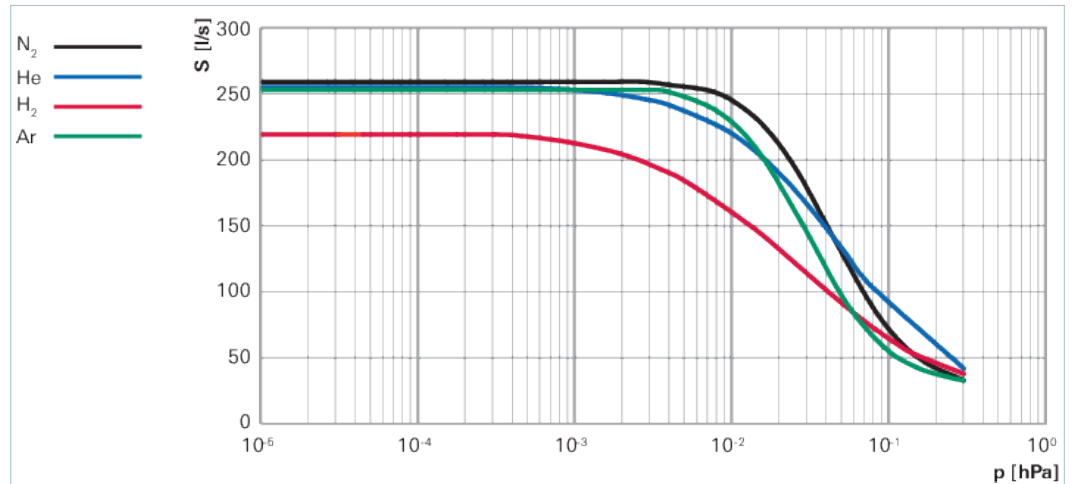
Order number	
HiPace® 300 H	PM P05 540



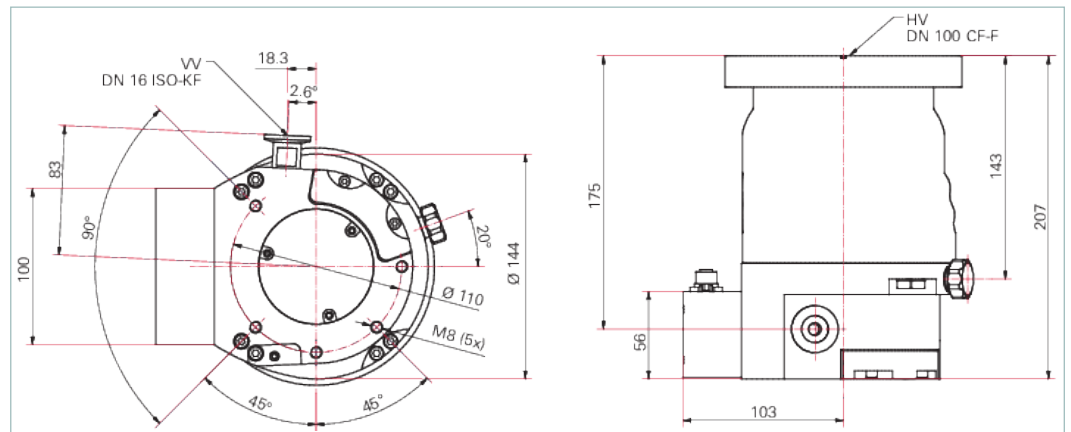
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HiPace® 300 H with TC 110, DN 100 CF-F

- Rugged, powerful turbopump with a pumping speed of up to 260 l/s for N₂
- Extremely high compression, especially for light gases. Ideal for the generation of an ultra high vacuum
- Integrated TC 110 drive electronics
- For installation in any orientation
- Extensive accessories expand the range of applications



Dimensions



Technical Data	HiPace® 300 H with TC 110, DN 100 CF-F
Bearing	Hybrid
Compression ratio for Ar	$> 1 \cdot 10^{13}$
Compression ratio for H ₂	$1 \cdot 10^7$
Compression ratio for He	$2.5 \cdot 10^9$
Compression ratio for N ₂	$> 1 \cdot 10^{13}$
Cooling method, optional	Water
Cooling method, standard	Air
Cooling water flow	50 l/h
Cooling water flow, max	50 l/h
Cooling water flow, min	50 l/h
Cooling water temperature	15-35 °C 59-95 °F 288-308 K
Current max.	7,5 A
Electronic drive unit	with TC 110

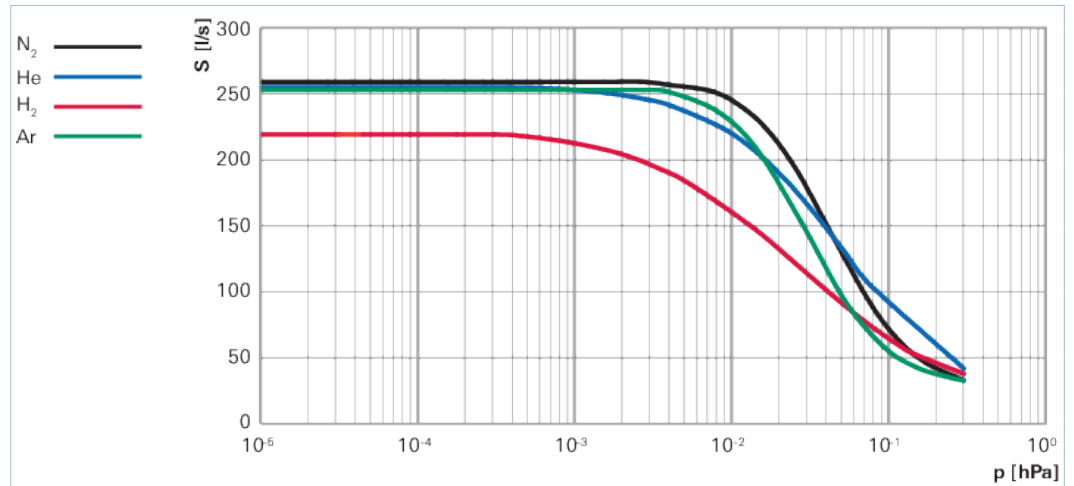
Technical Data	HiPace® 300 H with TC 110, DN 100 CF-F
Flange (in)	DN 100 CF-F
Flange (out)	DN 16 ISO-KF/G ¼"
Fore-vacuum max. for Ar	25 hPa 18.75 Torr 25 mbar
Fore-vacuum max. for H ₂	15 hPa 11.25 Torr 15 mbar
Fore-vacuum max. for He	28 hPa 21 Torr 28 mbar
Fore-vacuum max. for N ₂	30 hPa 22.5 Torr 30 mbar
Gas throughput at full rotational speed for Ar	0.5 hPa·l/s
Gas throughput at full rotational speed for H ₂	10 hPa·l/s
Gas throughput at full rotational speed for He	3.5 hPa·l/s
Gas throughput at full rotational speed for N ₂	1.5 hPa·l/s
I/O interfaces	RS-485, Remote
Mounting orientation	Any
Permissible radial magnetic field max.	5.5 mT
Power consumption max.	180 W
Protection category	IP54
Pumping speed for Ar	255 l/s
Pumping speed for H ₂	220 l/s
Pumping speed for He	255 l/s
Pumping speed for N ₂	260 l/s
Rotation speed ± 2 %	60,000 rpm 60,000 min ⁻¹
Rotation speed variable	35 – 100 %
Run-up time	3.5 min
Sound pressure level	≤50 dB(A)
Ultimate pressure without gas ballast	< 1 · 10 ⁻¹⁰ hPa < 7.5 · 10 ⁻¹¹ Torr < 1 · 10 ⁻¹⁰ mbar
Venting connection	G 1/8"
Weight	8.2 kg 18.08 lb
Order number	
HiPace® 300 H	PM P05 541



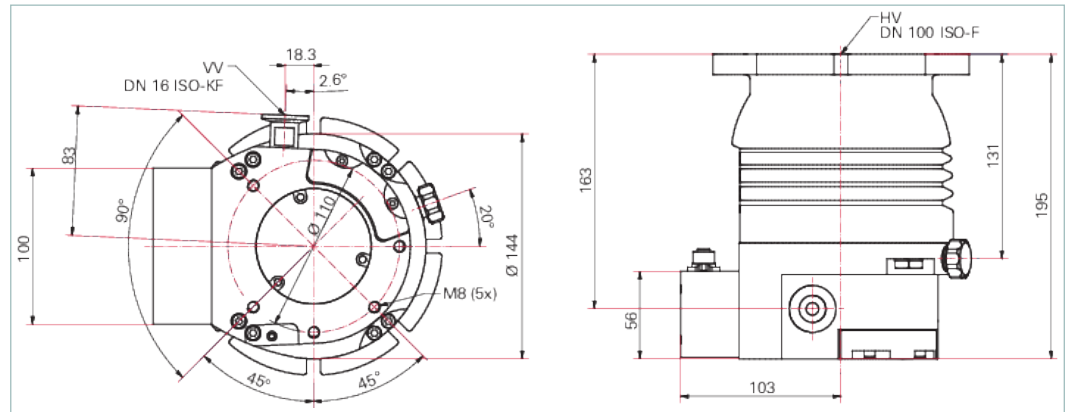
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HiPace® 300 H with TC 110, DN 100 ISO-F

- Rugged, powerful turbopump with a pumping speed of up to 260 l/s for N₂
- Extremely high compression, especially for light gases. Ideal for the generation of an ultra high vacuum
- Integrated TC 110 drive electronics
- For installation in any orientation
- Extensive accessories expand the range of applications



Dimensions



Technical Data

HiPace® 300 H with TC 110, DN 100 ISO-F

Bearing	Hybrid
Compression ratio for Ar	$> 1 \cdot 10^{13}$
Compression ratio for H ₂	$1 \cdot 10^7$
Compression ratio for He	$2.5 \cdot 10^9$
Compression ratio for N ₂	$> 1 \cdot 10^{13}$
Cooling method, optional	Water
Cooling method, standard	Air
Cooling water flow	50 l/h
Cooling water flow, max	50 l/h
Cooling water flow, min	50 l/h
Cooling water temperature	15-35 °C 59-95 °F 288-308 K
Current max.	7,5 A
Electronic drive unit	with TC 110
Flange (in)	DN 100 ISO-F

Technical Data	HiPace® 300 H with TC 110, DN 100 ISO-F
Flange (out)	DN 16 ISO-KF/G ¼"
Fore-vacuum max. for Ar	25 hPa 18.75 Torr 25 mbar
Fore-vacuum max. for H ₂	15 hPa 11.25 Torr 15 mbar
Fore-vacuum max. for He	28 hPa 21 Torr 28 mbar
Fore-vacuum max. for N ₂	30 hPa 22.5 Torr 30 mbar
Gas throughput at full rotational speed for Ar	0.5 hPa-l/s
Gas throughput at full rotational speed for H ₂	10 hPa-l/s
Gas throughput at full rotational speed for He	3.5 hPa-l/s
Gas throughput at full rotational speed for N ₂	1.5 hPa-l/s
I/O interfaces	RS-485, Remote
Mounting orientation	Any
Permissible radial magnetic field max.	5.5 mT
Power consumption max.	180 W
Protection category	IP54
Pumping speed for Ar	255 l/s
Pumping speed for H ₂	220 l/s
Pumping speed for He	255 l/s
Pumping speed for N ₂	260 l/s
Rotation speed ± 2 %	60,000 rpm 60,000 min ⁻¹
Rotation speed variable	35 – 100 %
Run-up time	3.5 min
Sound pressure level	≤50 dB(A)
Ultimate pressure without gas ballast	< 1 · 10 ⁻⁷ hPa < 7.5 · 10 ⁻⁸ Torr < 1 · 10 ⁻⁷ mbar
Venting connection	G 1/8"
Weight	6.5 kg 14.33 lb

Order number	
HiPace® 300 H	PM P05 542

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 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 180, power supply pack for wall/standard rail fitting	PM 061 341 -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 181	PM 061 394 -T
DCU 180, Display control unit incl. power supply pack 19"	PM C01 821
Cooling Air cooling	
Air cooling for HiPace 300/450 with TC 110/120	PM Z01 301
Air cooling for HiPace 300/450, 115 V	PM Z01 308
Air cooling for HiPace 300/450, 230 V	PM Z01 309
Cooling Water cooling	
Water cooling for HiPace 300 with push-in fitting 8 mm	PM 016 624 -T
Water cooling for HiPace 300 with 6 mm push-in fitting	PM 016 636 -T
Water cooling for HiPace 300 with tube fitting 1/4"	PM 016 637 -T
Water cooling for HiPace 300 with hose nozzle, 9.5 mm	PM 016 655 -T
Mounting DN ISO-F, Mounting kits	
Mounting kit for DN 100 ISO-F, including coated centering ring, hexagon screws	PM 016 450 -T
Mounting kit for DN 100 ISO-F, including coated centering ring, splinter shield, hexagon screws	PM 016 451 -T
Mounting kit for DN 100 ISO-F, including coated centering ring, protective screen, hexagon screws	PM 016 452 -T
Mounting kit for DN 100 ISO-F, including coated centering ring, stud screws	PM 016 455 -T
Mounting kit for DN 100 ISO-F, including coated centering ring, splinter shield, stud screws	PM 016 456 -T
Mounting kit for DN 100 ISO-F, including coated centering ring, protection screen, stud screws	PM 016 457 -T
Mounting DN ISO-K/-F, sealings	
Centering ring with multifunction coating, DN 100 ISO-K/-F	PM 016 210 -U
Mounting Wall rail fittings	
Wall rail fitting for TPS 110/180/310/400	PM 061 392 -T
Protection DN ISO-K/-F, sealings, splinter shields, protection screens	
Centering ring with multifunction coating and integrated splinter shield, DN 100 ISO-K/-F	PM 016 807 -U
Centering ring with multifunction coating and integrated protection screen, DN 100 ISO-K/-F	PM 016 212 AU
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
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

Accessories	
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
Vibration Reduction Vibration dampers	
Vibration damper for HiPace 300/400, DN 100 ISO-K/F	PM 006 459 AX

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