



# HiPace® 300

Compact yet powerful turbopumps with pumping speeds of up to 260 l/s for N<sub>2</sub>



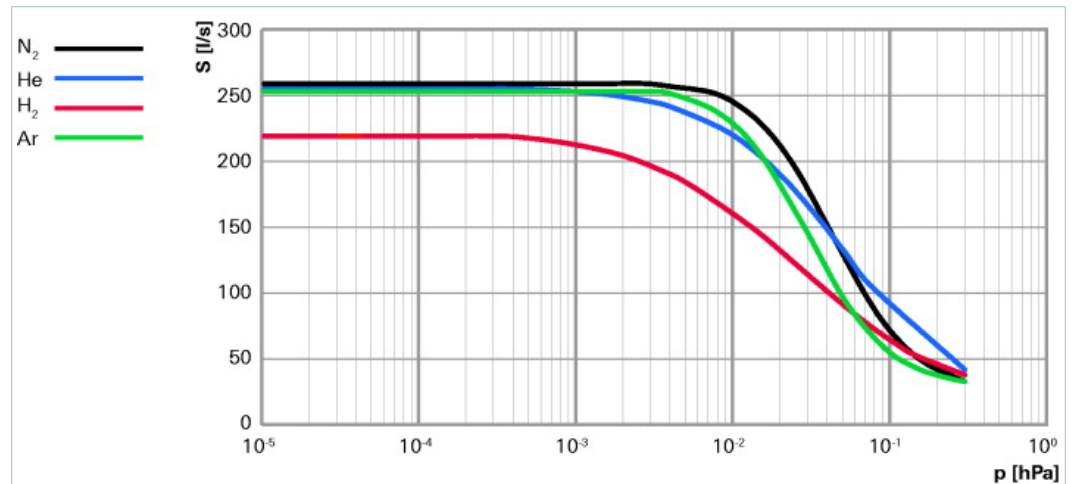


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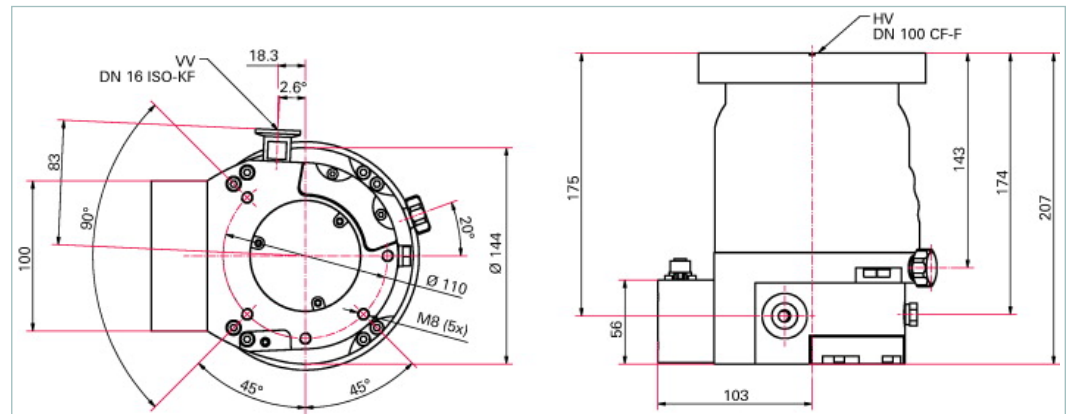
## HiPace® 300 with TC 110, DN 100 CF-F

- Rugged, powerful turbopump with a pumping speed of up to 260 l/s for N<sub>2</sub>
- Integrated TC 110 drive electronics
- Ideal for UHV applications
- For installation in any orientation
- Extensive accessories expand the range of applications

C=Corrosive gas version



### Dimensions



Technical Data	HiPace® 300 with TC 110, DN 100 CF-F
Bearing	Hybrid
Compression ratio for Ar	$> 1 \cdot 10^{11}$
Compression ratio for H <sub>2</sub>	$9 \cdot 10^5$
Compression ratio for He	$> 1 \cdot 10^8$
Compression ratio for N <sub>2</sub>	$> 1 \cdot 10^{11}$
Cooling method, optional	Water
Cooling method, standard	Air
Cooling water consumption	50 l/h
Cooling water temperature	15-35 °C   59-95 °F   288-308 K
Electronic drive unit	with TC 110
Flange (in)	DN 100 CF-F
Flange (out)	DN 16 ISO-KF / G 1/4"
Fore-vacuum max. for N <sub>2</sub>	15 hPa   11.25 Torr   15 mbar

Technical Data	HiPace® 300 with TC 110, DN 100 CF-F
Gas throughput at full rotational speed for Ar	2 hPa l/s   1.5 Torr l/s   2 mbar l/s
Gas throughput at full rotational speed for H <sub>2</sub>	> 14 hPa l/s   > 10.5 Torr l/s   > 14 mbar l/s
Gas throughput at full rotational speed for He	8 hPa l/s   6 Torr l/s   8 mbar l/s
Gas throughput at full rotational speed for N <sub>2</sub>	5 hPa l/s   3.75 Torr l/s   5 mbar l/s
Interfaces	RS-485, Remote
Mounting orientation	in any orientation
Operating voltage	24 (± 5 %) V DC
Permissible magnetic field max.	5.5 mT
Protection category	IP54
Pumping speed for Ar	255 l/s
Pumping speed for H <sub>2</sub>	220 l/s
Pumping speed for He	255 l/s
Pumping speed for N <sub>2</sub>	260 l/s
Rotation speed ± 2 %	60000 min <sup>-1</sup>
Rotation speed variable	35-100 %
Run-up time	3.5 min
Sound pressure level	≤ 50 dB (A)
Ultimate pressure according to PNEUROP	< 5 · 10 <sup>-10</sup> hPa   < 3.75 · 10 <sup>-10</sup> Torr   < 5 · 10 <sup>-10</sup> mbar
Venting connection	G 1/8"
Weight	8.2 kg   18.08 lb
Order number	
HiPace® 300	PM P03 991

Accessories	
<b>Accessory for TC 110</b>	
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
<b>Adapter and control cables</b>	
Control cable for valve	PM 061 687 -T
HiPace - ACP connection cable	PM 071 142 -X
<b>Air cooling</b>	
Air cooling for HiPace 300/450, 115 V	PM Z01 308
Air cooling for HiPace 300/450, 230 V	PM Z01 309
Air cooling for HiPace 300/450 with TC 110/120	PM Z01 301
<b>CF-F, Mounting kit</b>	
Set of hexagon screws for through hole, DN 100 CF-F	PM 016 690 -T
Set of stud screws for tapped hole, DN 100 CF-F	PM 016 866 -T
Set of stud screws for through hole, DN 100 CF-F	PM 016 734 -T
<b>CF-F, Sealings, splinter shields, protection screens</b>	
Protection screen for DN 100 CF-F	PM 016 336
Splinter shield for turbopumps, DN 100 CF-F	PM 016 315
<b>Connection cables</b>	
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
<b>Control and display units</b>	
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
<b>DCU with integrated power supply</b>	
DCU 180, Display control unit incl. power supply	PM C01 821
<b>Fore-vacuum safety valves</b>	
TVV 001 fore-vacuum safety valve, 115 V AC	PM Z01 206
TVV 001 fore-vacuum safety valve, 230 V AC	PM Z01 205
<b>Heating suitable for TC 110 and TC 400</b>	
Heating jacket for HiPace 300 with TC 110, 115 V AC, UL plug	PM 061 365 -T
Heating jacket for HiPace 300 with TC 110, 208 V AC, UL plug	PM 061 364 -T
Heating jacket for HiPace 300 with TC 110, 230 V AC, safety plug	PM 061 363 -T

Accessories	
<b>Interface and extension cables</b>	
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
<b>Mains cables</b>	
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
<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>Relay boxes</b>	
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
<b>RS-485</b>	
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
<b>Sealing gas</b>	
Sealing gas throttle for HiPace 300 - 800	PM Z01 317
Sealing gas valve, shielded for HiPace 300/450 with TC 110/120	PM Z01 311
<b>TPS-19" rack module</b>	
Front panel kit for TPS 181	PM 061 394 -T
TPS 181, mains pack 19" rack module 3HU	PM 061 345 -T
<b>TPS wall rail fitting</b>	
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
<b>Venting accessory with small flange, G 1/8", hoses, air drier</b>	
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
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
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
<b>Venting valve (normally closed)</b>	
Venting valve, shielded, 24 V DC, G 1/8", for connection to TC 110/120	PM Z01 290
<b>Vibration damper</b>	
Vibration damper for HiPace 300/400, DN 100 CF-F	PM 006 488 -X

Accessories	
<b>Water cooling</b>	
Water cooling for HiPace 300 with 6 mm push-in fitting	<b>PM 016 636 -T</b>
Water cooling for HiPace 300 with hose nozzle, 9.5 mm	<b>PM 016 655 -T</b>
Water cooling for HiPace 300 with push-in fitting 8 mm	<b>PM 016 624 -T</b>
Water cooling for HiPace 300 with tube fitting 1/4"	<b>PM 016 637 -T</b>