



# HiPace<sup>®</sup> 300 with TC 110, DN 100 CF-F

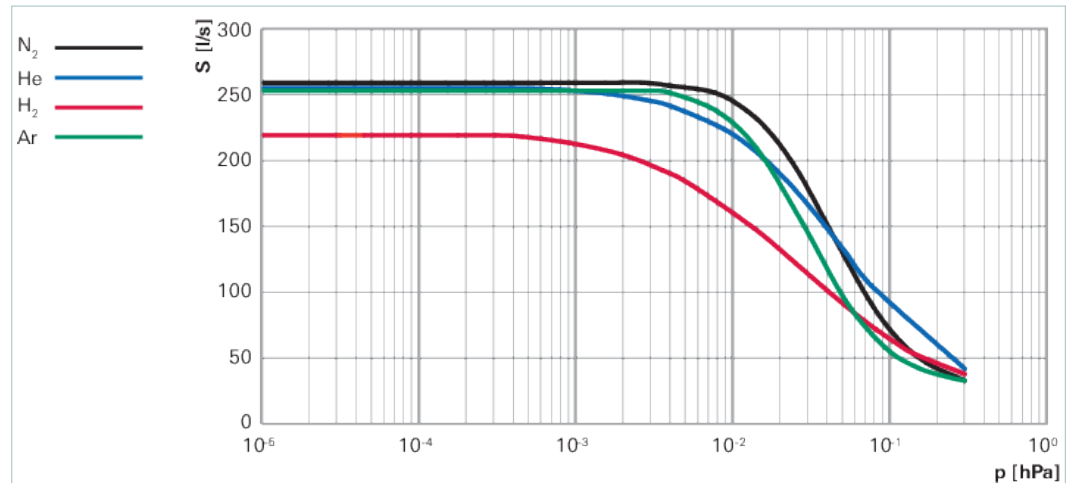




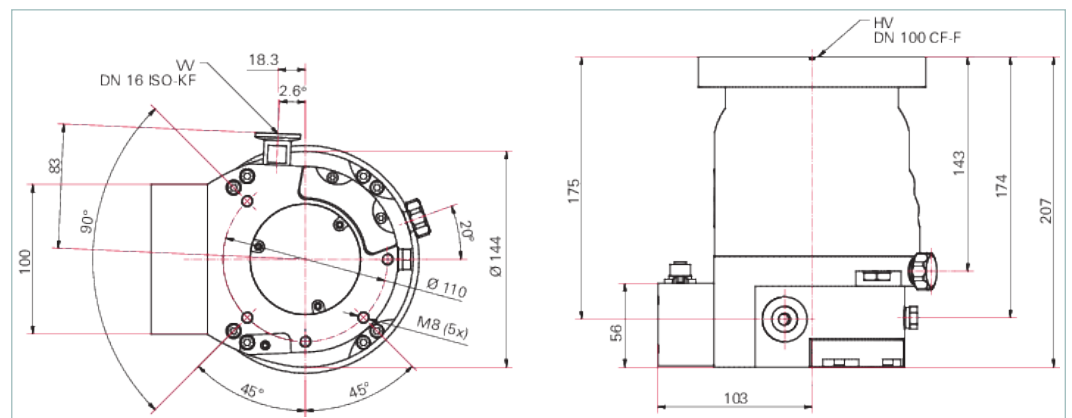
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## HiPace® 300 with TC 110, DN 100 CF-F

- 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



### 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>	$> 1 \cdot 10^{11}$
Connection flange (in)	DN 100 CF-F
Connection flange (out)	DN 16 ISO-KF/G 1/4"
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

Technical Data	HiPace® 300 with TC 110, DN 100 CF-F
Electronic drive unit	with TC 110
Final pressure without gas ballast	$< 5 \cdot 10^{-10}$ hPa   $< 3.75 \cdot 10^{-10}$ Torr   $< 5 \cdot 10^{-10}$ mbar
Fore-vacuum max. for N <sub>2</sub>	15 hPa   11.25 Torr   15 mbar
Gas throughput at full rotational speed for Ar	2 hPa·l/s
Gas throughput at full rotational speed for H <sub>2</sub>	$> 14$ hPa·l/s
Gas throughput at full rotational speed for He	8 hPa·l/s
Gas throughput at full rotational speed for N <sub>2</sub>	5 hPa·l/s
I/O interfaces	RS-485, Remote
Interface, extended	Profibus, DeviceNet, E74
Mounting orientation	Any
Operating voltage: V DC	24 (± 5 %) V DC
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 <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 %	60,000 rpm   60,000 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	$< 5 \cdot 10^{-10}$ hPa   $< 3.75 \cdot 10^{-10}$ Torr   $< 5 \cdot 10^{-10}$ mbar
Venting connection	G 1/8"
Weight	8.2 kg   18.08 lb

Order number
HiPace® 300
PM P03 991

<b>Accessories</b>	
<b>Adapters (electrical) Remote</b>	
Housing for plug, spraywater-protected, 15-pole, D-Sub	<b>P 0998 016</b>
Mains power plug for TC 110/120 and mating plug for E74 interface, straight	<b>P 4723 110</b>
Mains power plug angled for TC 110/120 and mating plug for interface E74	<b>P 4723 111</b>
TCS 11, adapter for TC 110/120 with RS-485 interface	<b>PM 061 636 -U</b>
TCS 12, adapter for TC 110/120 with interface RS-485, 4 accessory ports and coupling set	<b>PM 061 638 -U</b>
TCS 13, adapter for TC 110/120 with interface RS-485, 2 accessory ports and coupling set	<b>PM 061 856 -U</b>
<b>Adapters (electrical) RS-232/485</b>	
Y-distributor M12 to RS-485	<b>P 4723 010</b>
USB RS-485 converter	<b>PM 061 207 -T</b>
Coupling M12 for RS-485	<b>PM 061 270 -X</b>
Termination resistor for RS-485	<b>PT 348 105 -T</b>
Power separator for RS-485	<b>PT 348 132 -T</b>
<b>Cables Backing pump control cables</b>	
Control cable for valve	<b>PM 061 687 -T</b>
HiPace – ACP connection cable	<b>PM 071 142 -X</b>
<b>Cables Connection cables</b>	
Connection cable with RS-485 interface for MVP to power supply pack	<b>PM 061 350 -T</b>
Connection cable with RS-485 interface and 2 accessory ports for TC110/120 to power supply pack	<b>PM 061 351 -T</b>
Connection cable with RS-485 interface and 3 accessory ports for TC110/120 to power supply pack	<b>PM 061 512 -T</b>
Connection cable for HiPace with TC 110/120	<b>PM 061 543 -T</b>
Connection cable incl. 2 accessory ports for TC 110/120 to power supply pack	<b>PM 061 552 -T</b>
<b>Cables Extension cables</b>	
Extension cable M8 on M8	<b>PM 061 783 -T</b>
<b>Cables Mains cables / Power cords</b>	
Mains cable 230 V AC, CEE 7/7 to C13, 3 m	<b>P 4564 309 ZA</b>
Mains cable 115 V AC, NEMA 5-15 to C13, 3 m	<b>P 4564 309 ZE</b>
Mains cable 208 V AC, NEMA 6-15 to C13, 3 m	<b>P 4564 309 ZF</b>
<b>Cables RS-485 Interface cables</b>	
Interface cable, M12 m straight/M12 m straight, 3 m	<b>PM 061 283 -T</b>
Interface cable, M12 m straight/ M12 m angled, 0.7 m	<b>PM 061 791 -T</b>
<b>Control Devices Backing pump</b>	
Relay box for backing pumps, 1-phase 20 A for TC 110/120 and TCP 350, plug M8	<b>PM 061 373 -T</b>
Relay box, shielded, for backing pumps, 1-phase 7A for TC 110/120 and TCP 350, plug M8	<b>PM 071 282 -X</b>

Accessories	
<b>Control Devices Power supplies and control displays</b>	
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 installation	PM 061 341 -T
TPS 181, power supply pack 19" plug-in unit 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
<b>Cooling Air cooling</b>	
Air cooling for HiPace 300/450 with TC 110/120	PM Z01 301
Air cooling for HiPace 300, 115 V	PM Z01 308
Air cooling for HiPace 300, 230 V	PM Z01 309
<b>Cooling Water cooling</b>	
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
<b>FKM cut from sheet material</b>	
Elastomer seal, FKM, DN 100 CF	402DFL100-S2
<b>FKM with centering lip; heat-molded</b>	
Elastomer seal, FKM, DN 100 CF	402DFL100-Z
<b>Heating Heating jackets</b>	
Heating sleeve for HiPace® 300 with TC 110, 230 V AC, safety plug	PM 061 363 -T
Heating sleeve for HiPace® 300 with TC 110, 208 V AC, ul plug	PM 061 364 -T
Heating sleeve for HiPace® 300 with TC 110, 115 V AC, ul plug	PM 061 365 -T
<b>Monitoring Pressure Sensors</b>	
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 CF-F, Mounting kits</b>	
Hexagon Screw Set for Flanges with Through-Holes, DN 100 CF-F	PM 016 690 -T
Set of stud screws for flanges with through-hole, DN 100 CF-F	PM 016 734 -T
Set of stud screws for flanges with a threaded hole, DN 100 CF-F	PM 016 866 -T
<b>Mounting Wall rail fittings</b>	
Wall rail fitting for TPS 110/180/310/400	PM 061 392 -T
<b>OFHC Copper (Oxygen Free)</b>	
Copper Gasket, OFHC-copper, DN 100 CF	490DFL100-S10
<b>OFHC Copper (Oxygen Free), Silver-plated</b>	
Copper Gasket, Silver-Plated, DN 100 CF	490DFL100-S-S5
<b>OFHC Copper (Oxygen Free), Silver-plated, Vacuum-annealed</b>	
Copper Gasket, Silver-plated, Vacuum-Annealed, DN 100 CF	490DFL100-S-G-S5

<b>Accessories</b>	
<b>OFHC Copper (Oxygen Free), Vacuum-annealed</b>	
Copper Gasket, Vacuum-annealed, DN 100 CF	<b>490DFL100-G-S5</b>
<b>Other</b>	
TIC 010, adapter for two sensors	<b>PT R70 000</b>
<b>Protection CF-F, splinter shields, protection screens</b>	
Splinter shield for turbopumps, DN 100 CF-F	<b>PM 016 315</b>
Protection screen for DN 100 CF-F	<b>PM 016 336</b>
<b>Protection Sealing gas throttles</b>	
Sealing gas throttle for HiPace 300	<b>PM Z01 317</b>
<b>Valves Fore-vacuum safety valves</b>	
TVV 001, fore-vacuum safety valve, 230 V AC	<b>PM Z01 205</b>
TVV 001, fore-vacuum safety valve, 115 V AC	<b>PM Z01 206</b>
<b>Valves Sealing gas valves, shielded (normally closed)</b>	
Sealing gas valve, shielded for HiPace 300 with TC 110/120	<b>PM Z01 311</b>
<b>Venting Power failure venting units (normally open)</b>	
Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120	<b>PM Z01 330</b>
<b>Venting Venting accessories</b>	
Flange with Pipe Thread, DN 16 ISO-KF, G 1/8"	<b>PM 016 780 -T</b>
Push-in fitting for 6 mm tube, G 1/8"	<b>PM 016 781 -T</b>
Push-in fitting for 8 mm tube, G 1/8"	<b>PM 016 782 -T</b>
Hose nozzle for 9 mm hose, G 1/8"	<b>PM 016 783 -T</b>
Banjo fitting	<b>PM 016 787 -T</b>
Screw-in flange, DN 10 ISO-KF, G 1/8"	<b>PM 033 737 -T</b>
Banjo fitting, small	<b>PM 143 877 -T</b>
TTV 001, Drier for Venting Turbopumps	<b>PM Z00 121</b>
<b>Venting Venting valves (normally closed)</b>	
Venting valve, shielded, 24 V DC, G 1/8", for connection to TC 110/120	<b>PM Z01 290</b>
<b>Vibration Reduction Vibration dampers</b>	
Vibration damper for HiPace 300/400, DN 100 CF-F	<b>PM 006 488 -X</b>



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