



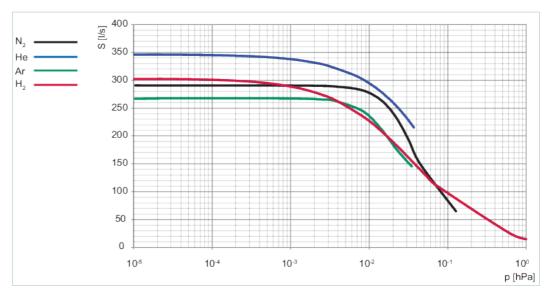
# HiPace® 350 with TC 110, DN 100 ISO-K



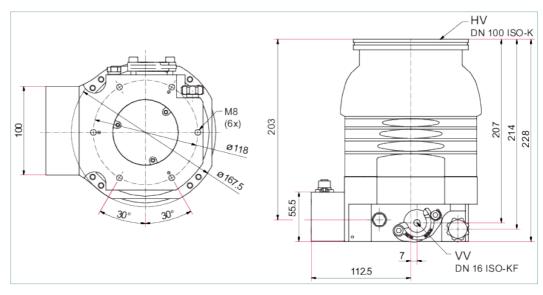


#### HiPace® 350 with TC 110, DN 100 ISO-K

- $\blacksquare$  Robust, high-performance turbopump with a pumping speed of up to 300 l/s for  $\mathrm{N}_2$
- Compact and powerful
- Exceptional pumping speed for light gases
- Laser balancing technology
- For installation in any orientation
- TC 110 integrated electronic drive unit
- Comprehensive accessories extend the range of applications



#### **Dimensions**



Technical Data	HiPace® 350 with TC 110, DN 100 ISO-K
Bearing	Hybrid
Compression ratio for Ar	> 1 · 10 <sup>11</sup>
Compression ratio for H <sub>2</sub>	2 · 10 <sup>6</sup>
Compression ratio for He	> 1 · 108
Compression ratio for N <sub>2</sub>	> 1 · 10 <sup>11</sup>
Connection flange (in)	DN 100 ISO-K

Technical Data	HiPace® 350 with TC 110, DN 100 ISO-K
Connection flange (out)	DN 16 ISO-KF / G 3/8"
Cooling method	Convection
Cooling method, optional	Air Water
Cooling water flow	100 l/h
Cooling water flow, max.	100 l/h
Cooling water flow, min.	100 l/h
Cooling water temperature	15-25 °C   59-77 °F   288-298 K
Current, max.	7.5 A
Electronic drive unit	with TC 110
Final pressure without gas ballast	1 · 10 <sup>-7</sup> hPa   7.5 · 10 <sup>-8</sup> Torr   1 · 10 <sup>-7</sup> mbar
Fore-vacuum max. for N <sub>2</sub>	10 mbar
Gas throughput at final rotation speed for Ar	0.7 mbar l/s
Gas throughput at final rotation speed for H <sub>2</sub>	11 mbar l/s
Gas throughput at final rotation speed for He	7 mbar l/s
Gas throughput at final rotation speed for N <sub>2</sub>	2 mbar l/s
I/O interfaces	RS-485, Remote
Mounting orientation	Arbitrary
Permissible axial magnetic field max.	20 mT
Permissible radial magnetic field max.	4.5 mT
Power consumption max.	180 W
Protection degree	IP54; Type 12
Pumping speed for Ar	270 l/s
Pumping speed for H <sub>2</sub>	300 l/s
Pumping speed for He	350 l/s
Pumping speed for N <sub>2</sub>	300 l/s
Rotation speed ± 2 %	66,000 rpm   66,000 min <sup>-1</sup>
Rotation speed variable	60 – 100 %
Run-up time	5.3 min
Sound pressure level	≤50 dB(A)
Venting connection	G 1/8"
Weight	7.2 kg   15.87 lb

Order number	
HiPace® 350	PM P070 401 20

Accessories	
Adapters (electrical) PV-Can	
	DT D70 000
TIC 010, adapter for two sensors  Adapters (electrical) Remote	PT R70 000
TCS 17 for control of backing pumps	PM 071 093 -U
D-Sub mains power plug, 15-pin, straight	FWI 07 I 093 -0
outgoing cable	P 4723 110
D-Sub mains power plug, 15-pin, angled	
outgoing cable	P 4723 111
Housing for plug, spraywater-protected, 15-	
pole, D-Sub	P 0998 016
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	1 W 00 1 030 -0
RS-485, 2 accessory ports and coupling set	PM 061 856 -U
Adapters (electrical) RS-232/485	
USB RS-485 converter	PM 061 207 -T
Coupling M12 for RS-485	PM 061 270 -X
Terminal resistor for RS-485	PT 348 105 -T
Power separator for RS-485	PT 348 132 -T
Y-connector M12 for RS-485	P 4723 010
Cables Backing pump control cables	
Control cable for valve	PM 061 687 -T
HiPace – ACP connection cable	PM 071 142 -X
Control cable for pumping stations 0.7 m	PM 061 675 AT
Cables Connection cables	
Connection cable with RS-485 interface and 2 accessory ports for TC110/120 to power supply	
pack	PM 061 351 -T
Connecting cable from 24V/48V power supply	
pack to electronic drive unit. With RS-485	
interface	PM 061 350 -T
Connection cable for HiPace with TC 110/120	PM 061 543 -T
Connection cable incl. 2 accessory ports for TC	DM 004 550 T
110/120 to power supply pack	PM 061 552 -T
Connection cable with RS-485 interface and 3 accessory ports for TC110/120 to power supply	
pack	PM 061 512 -T
Cables Extension cables	
Extension cable M8 on M8	PM 061 783 -T
Extension cable M12 on M12	PM 061 747 -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
Control Devices Backing pump	
Relay box for backing pumps, 1-phase 20 A for	DM 064 272 -T
TC 110/120 and TCP 350, plug M8 Relay box, shielded, for backing pumps, 1-	PM 061 373 -T
phase 7A for TC 110/120 and TCP 350, plug	
M8	PM 071 282 -X
Relay box, shielded, for backing pumps, 1-	
phase 7 A for TC 400/1200, TM 700 and TCP	
350, M12	PM 071 284 -X
Relay box, shielded, for backing pumps, 1-	
phase 20 A for TC 400/1200, TM 700 and TCP 350, M12	PM 071 285 -X
000, M12	VI 1 200 A

Accommented	
Accessories	
Control Devices Power supplies and control	
displays	
TPS 180, power supply pack for wall/standard rail installation	PM 061 341 -T
TPS 181, power supply pack 19" plug-in unit	FWI 001 341 -1
3HU	PM 061 345 -T
Front panel kit for TPS 181	PM 061 394 -T
Accessories package for HPU 001/PC	PM 061 005 -T
OmniControl 001, rack unit without integrated	
power supply pack	PE D42 100 0
OmniControl 001 Mobile, control units	PE D22 000 0
OmniControl 200, rack unit with integrated	
power supply pack	PE D52 110 0
OmniControl 200, table unit with integrated	
power supply pack	PE E52 110 0
Cooling Air cooling	
Air cooling, shielded, for HiPace 350/450 with TC 110/120	PM Z01 373
Shielded air cooling for HiPace 400/700/800	1 10 201 373
and 300 M/700 M/800 M with TC 400 PB/TM	
700	PM Z01 363
Cooling Water cooling	
Water cooling for HiPace 60 P / 80 / 350 / 450	
and for SplitFlow 50 / 80 with push-in fitting, 8	
mm	PM 016 623 -T
Water cooling for HiPace 350   HiPace 400	
HiPace 450   HiPace 700   HiPace 800 with push-in fitting 8 mm	PM 026 068 -T
Monitoring Pressure Sensors	1 W 020 000 -1
RPT 010, digital Piezo/Pirani sensor	PT R71 100
IKT 010, digital cold cathode sensor, low current	
IKT 011, digital cold cathode sensor, high	
current	PT R73 100
Mounting DN ISO-K, Mounting kits, bracket	
screws	
Mounting kit for HiPace with DN 160 ISO-K,	
including coated centering ring and bracket	DM 040 275 T
screws Mounting kit for HiPace 400, DN 100 ISO-K,	PM 016 375 -T
1900 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
including coated centering ring, splinter shield, bracket screws	PM 016 381 -T
including coated centering ring, splinter shield,	PM 016 381 -T
including coated centering ring, splinter shield, bracket screws  Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, protection	PM 016 381 -T
including coated centering ring, splinter shield, bracket screws  Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, protection screen, bracket screws	PM 016 381 -T PM 016 382 -T
including coated centering ring, splinter shield, bracket screws  Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K,	
including coated centering ring, splinter shield, bracket screws  Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K, including coated centering ring, protection	PM 016 382 -T
including coated centering ring, splinter shield, bracket screws  Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K, including coated centering ring, protection screen, bracket screws	
including coated centering ring, splinter shield, bracket screws  Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K,	PM 016 382 -T
including coated centering ring, splinter shield, bracket screws  Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K, including coated centering ring, protection screen, bracket screws	PM 016 382 -T
including coated centering ring, splinter shield, bracket screws  Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K, including coated centering ring, splinter shield	PM 016 382 -T PM 016 377 -T
including coated centering ring, splinter shield, bracket screws  Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K, including coated centering ring, splinter shield and bracket screws  Mounting DN ISO-K/-F, sealings  Centering ring with multifunction coating, DN	PM 016 382 -T PM 016 377 -T
including coated centering ring, splinter shield, bracket screws  Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K, including coated centering ring, splinter shield and bracket screws  Mounting DN ISO-K/-F, sealings	PM 016 382 -T PM 016 377 -T
including coated centering ring, splinter shield, bracket screws  Mounting kit for HiPace 400, DN 100 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K, including coated centering ring, protection screen, bracket screws  Mounting kit for HiPace with DN 160 ISO-K, including coated centering ring, splinter shield and bracket screws  Mounting DN ISO-K/-F, sealings  Centering ring with multifunction coating, DN	PM 016 382 -T  PM 016 377 -T  PM 016 376 -T

Accessories	
Mounting DN ISO-K/-F Mounting kits	
Mounting kit for DN 160 ISO-K to ISO-F, with	
collar flange, coated centering ring, hexagon	DM 046 050 T
bolts	PM 016 950 -T
Mounting kit for DN 160 ISO-K to ISO-F, with collar flange, coated centering ring with splinter	
shield, hexagon bolts	PM 016 951 -T
Mounting kit for DN 160 ISO-K to ISO-F, with	
collar flange, coated centering ring with	
protection screen, hexagon bolts	PM 016 952 -T
Mounting kit for DN 160 ISO-K to ISO-F, with	
collar flange, coated centering ring, stud screws	PM 016 955 -T
Mounting kit for DN 160 ISO-K to ISO-F, with	
collar flange, coated centering ring with splinter	
shield, stud screws	PM 016 956 -T
Mounting kit for DN 160 ISO-K to ISO-F, with	
collar flange, coated centering ring with protection screen, stud screws	PM 016 957 -T
Protection Screen, stud screws  Protection IDN ISO-K/-F, sealings, splinter	1 W 0 10 337 - 1
shields, protection screens	
Centering ring with multifunction coating and	
integrated protection screen, DN 100 ISO-K/-F	PM 016 212 AU
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 splinter shield, DN 160 ISO-K/-F	PM 016 217 AU
Centering ring with multifunction coating and	
integrated protection screen, DN 160 ISO-K/-F	PM 016 218 AU
Protection Sealing gas throttles	
Spaling gas throttle for HiDage 200	
Sealing gas throttle for HiPace 300	PM Z01 317
Stainless steel and FKM	PM Z01 317
Stainless steel and FKM Connection kit for mounting of pumps, DN 16	
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF	120SWS016-1000
Stainless steel and FKM  Connection kit for mounting of pumps, DN 16 ISO-KF  Valves Fore-vacuum safety valves	120SWS016-1000
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC	120SWS016-1000 PM Z01 205
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC	120SWS016-1000
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded	120SWS016-1000 PM Z01 205
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed)	120SWS016-1000 PM Z01 205
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with	120SWS016-1000  PM Z01 205  PM Z01 206
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120	120SWS016-1000 PM Z01 205
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with	120SWS016-1000  PM Z01 205  PM Z01 206
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units	120SWS016-1000  PM Z01 205  PM Z01 206
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open)	120SWS016-1000  PM Z01 205  PM Z01 206
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open) Shielded power failure venting unit, 24 V DC, G	120SWS016-1000  PM Z01 205  PM Z01 206  PM Z01 311
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open) Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120 Venting Venting accessories TTV 001, Drier for venting turbopumps	120SWS016-1000  PM Z01 205  PM Z01 206  PM Z01 311
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open) Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120 Venting Venting accessories TTV 001, Drier for venting turbopumps Screw-in flange, DN 10 ISO-KF, G 1/8"	120SWS016-1000  PM Z01 205  PM Z01 206  PM Z01 311  PM Z01 330
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open) Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120 Venting Venting accessories TTV 001, Drier for venting turbopumps	120SWS016-1000  PM Z01 205  PM Z01 206  PM Z01 311  PM Z01 330  PM Z00 121
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open) Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120 Venting Venting accessories TTV 001, Drier for venting turbopumps Screw-in flange, DN 10 ISO-KF, G 1/8" Banjo fitting Banjo fitting, small	120SWS016-1000  PM Z01 205  PM Z01 206  PM Z01 311  PM Z01 330  PM Z00 121  PM 033 737 -T
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open) Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120 Venting Venting accessories TTV 001, Drier for venting turbopumps Screw-in flange, DN 10 ISO-KF, G 1/8" Banjo fitting	120SWS016-1000  PM Z01 205  PM Z01 206  PM Z01 311  PM Z01 330  PM Z00 121  PM 033 737 -T  PM 016 787 -T
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open) Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120 Venting Venting accessories TTV 001, Drier for venting turbopumps Screw-in flange, DN 10 ISO-KF, G 1/8" Banjo fitting Banjo fitting, small	120SWS016-1000  PM Z01 205  PM Z01 206  PM Z01 311  PM Z01 330  PM Z00 121  PM 033 737 -T  PM 016 787 -T  PM 143 877 -T
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open) Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120 Venting Venting accessories TTV 001, Drier for venting turbopumps Screw-in flange, DN 10 ISO-KF, G 1/8" Banjo fitting Banjo fitting, small Flange with pipe thread, DN 16 ISO-KF, G 1/8"	120SWS016-1000  PM Z01 205  PM Z01 206  PM Z01 311  PM Z01 330  PM Z00 121  PM 033 737 -T  PM 016 787 -T  PM 143 877 -T  PM 016 780 -T
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open) Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120 Venting Venting accessories TTV 001, Drier for venting turbopumps Screw-in flange, DN 10 ISO-KF, G 1/8" Banjo fitting Banjo fitting, small Flange with pipe thread, DN 16 ISO-KF, G 1/8" Push-in fitting for 6 mm tube, G 1/8"	120SWS016-1000  PM Z01 205  PM Z01 206  PM Z01 311  PM Z01 330  PM Z00 121  PM 033 737 -T  PM 016 787 -T  PM 143 877 -T  PM 016 780 -T  PM 016 781 -T
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open) Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120 Venting Venting accessories TTV 001, Drier for venting turbopumps Screw-in flange, DN 10 ISO-KF, G 1/8" Banjo fitting Banjo fitting Banjo fitting Flange with pipe thread, DN 16 ISO-KF, G 1/8" Push-in fitting for 8 mm tube, G 1/8" Push-in fitting for 8 mm tube, G 1/8" Hose nozzle for 9 mm hose, G 1/8" Venting Venting valves (normally closed)	120SWS016-1000  PM Z01 205  PM Z01 206  PM Z01 311  PM Z01 330  PM Z00 121  PM 033 737 -T  PM 016 787 -T  PM 016 780 -T  PM 016 781 -T  PM 016 782 -T
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open) Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120 Venting Venting accessories TTV 001, Drier for venting turbopumps Screw-in flange, DN 10 ISO-KF, G 1/8" Banjo fitting Banjo fitting Banjo fitting Flange with pipe thread, DN 16 ISO-KF, G 1/8" Push-in fitting for 6 mm tube, G 1/8" Push-in fitting for 8 mm tube, G 1/8" Hose nozzle for 9 mm hose, G 1/8" Venting Venting valves (normally closed) Venting valve, shielded, 24 V DC, G 1/8", for	120SWS016-1000  PM Z01 205  PM Z01 206  PM Z01 311  PM Z01 330  PM Z00 121  PM 033 737 -T  PM 016 787 -T  PM 143 877 -T  PM 016 780 -T  PM 016 781 -T  PM 016 782 -T  PM 016 783 -T
Stainless steel and FKM Connection kit for mounting of pumps, DN 16 ISO-KF Valves Fore-vacuum safety valves TVV 001, fore-vacuum safety valve, 230 V AC TVV 001, fore-vacuum safety valve, 115 V AC Valves Sealing gas valves, shielded (normally closed) Sealing gas valve, shielded for HiPace 300 with TC 110/120 Venting Power failure venting units (normally open) Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120 Venting Venting accessories TTV 001, Drier for venting turbopumps Screw-in flange, DN 10 ISO-KF, G 1/8" Banjo fitting Banjo fitting Banjo fitting Flange with pipe thread, DN 16 ISO-KF, G 1/8" Push-in fitting for 8 mm tube, G 1/8" Push-in fitting for 8 mm tube, G 1/8" Hose nozzle for 9 mm hose, G 1/8" Venting Venting valves (normally closed)	120SWS016-1000  PM Z01 205  PM Z01 206  PM Z01 311  PM Z01 330  PM Z00 121  PM 033 737 -T  PM 016 787 -T  PM 016 780 -T  PM 016 781 -T  PM 016 782 -T

Accessories	
Vibration Reduction Vibration dampers	
Vibration damper for HiPace 300/400, DN 100 ISO-K/F	PM 006 459 AX
Vibration damper for HiPace with DN 160 ISO-K/F	PM 006 492 AX

#### **VACUUM SOLUTIONS FROM A SINGLE SOURCE**

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