



# HiPace® 300 M with TC 700, DeviceNet, DN 100 ISO-F

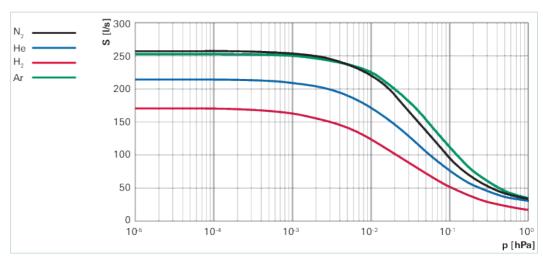




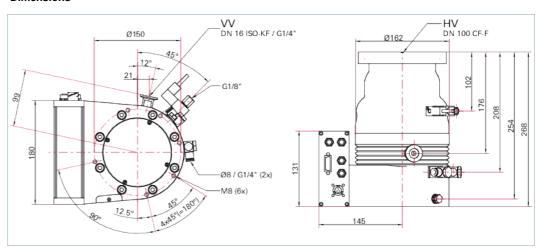
Similar Image

### HiPace® 300 M with TC 700, DeviceNet, DN 100 ISO-F

- 5-axis magnetically levitated turbopump with a pumping speed of 255 l/s for N<sub>2</sub>
- Integrated digital magnetic bearing controller TM 700
- Installation in any orientation; flexible through connectivity of up to 4 accessory parts
- With integrated water cooling for maximum gas throughput
- Interface: DeviceNet and Remote
- The turbopump features extremely low vibration and is oil-free
- With In-field sensor calibration
- Including venting valve for pulsed venting
- Protection Class: IP 54
- Extensive accessories expand the range of applications



### **Dimensions**



Technical Data	HiPace® 300 M with TC 700, DeviceNet, DN 100 ISO-F
Bearing	Magnetically
Compression ratio for Ar	> 1 · 10 <sup>11</sup>
Compression ratio for H <sub>2</sub>	5 · 10 <sup>5</sup>
Compression ratio for He	> 1 · 10 <sup>8</sup>
Compression ratio for N <sub>2</sub>	> 1 · 10 <sup>11</sup>
Cooling method, optional	Air/convection
Cooling method, standard	Water

Cooling water flow, max         80 l/h           Cooling water flow, min         80 l/h           Cooling water temperature         15-35 °C   59-95 °F   288-308 K           Electronic drive unit         TM 700           Flange (in)         DN 100 CF-F           Flange (out)         DN 16 ISO-KF           Fore-vacuum max. for N₂         20 hPa   15 Torr   20 mbar           Gas throughput at 0.1 hPa HV for Ar         11 hPa-l/s           Gas throughput at 0.1 hPa HV for He         8 hPa-l/s           Gas throughput at 0.1 hPa HV for N₂         10 hPa-l/s           Gas throughput at full rotational speed for Ar         13 hPa-l/s           Gas throughput at full rotational speed for N₂         28 hPa-l/s           I/O interfaces         RS-485, Remote, DeviceNet           Interface, extended         DeviceNet           Low vibrations         YES           Mounting orientation         Any           Operating voltage: V DC         48 (± 5 %) V DC           Permissible magnetic field max.         5 mT           Protection category         IP54           Pumping speed for Ar         250 l/s           Pumping speed for N₂         255 l/s           Rotation speed ± 2 %         60,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable <th>Technical Data</th> <th>HiPace® 300 M with TC 700, DeviceNet, DN 100 ISO-F</th>	Technical Data	HiPace® 300 M with TC 700, DeviceNet, DN 100 ISO-F
Cooling water flow, min  Cooling water temperature  15-35 °C   59-95 °F   288-308 K  Electronic drive unit  TM 700  Flange (in)  DN 100 CF-F  Flange (out)  Fore-vacuum max. for N <sub>2</sub> Gas throughput at 0.1 hPa HV for Ar  Gas throughput at 0.1 hPa HV for H <sub>2</sub> Gas throughput at 0.1 hPa HV for N <sub>2</sub> Gas throughput at 0.1 hPa HV for N <sub>2</sub> Gas throughput at 0.1 hPa HV for N <sub>2</sub> Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for N <sub>2</sub> (Fore-vacuum max. for N <sub>2</sub> Cas throughput at full rotational speed for Ar  Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas throughput at full rotational speed for N <sub>2</sub> Cas thra-l/s  Cas throughput at full rotational speed for N <sub>2</sub> Cas thra-l/s  Cas throughput at full rotational speed for N <sub>2</sub> Cas thra-l/s  Cas throughput at 0.1 hPa   < 3.75 · 10-10 Torr    Cas throughput at 0.1 hPa   < 3.75 · 10-10 Torr    Cas throughput at 0.1 hPa   < 3.75 · 10-10 Torr    Cas throughput at 0.1 hPa   < 3.75 · 10-10 Torr    Cas throughput at 0.1 hPa   < 3.75 · 10-10 Torr    Cas throughput at 0.1 hPa   < 3.75 · 10-10 Torr    Cas throughput at 0.1 hPa   < 3.75 · 10-10 Torr    Cas throughput at 0.1 hPa   < 3.75 · 10-10 Torr    Cas throughput at 0.1 hPa   < 3.75 · 10-10 Torr    Cas throughput at 0.1 hPa   < 1.50 hPa    Cas	Cooling water flow	80 l/h
Cooling water temperature    15-35 °C   59-95 °F   288-308 K	Cooling water flow, max	80 l/h
Electronic drive unit TM 700   Flange (in) DN 100 CF-F   Flange (out) DN 16 ISO-KF   Fore-vacuum max. for $N_2$ 20 hPa   15 Torr   20 mbar   Gas throughput at 0.1 hPa HV for Ar 11 hPa·l/s   ShPa·l/s   Gas throughput at 0.1 hPa HV for $N_2$ 10 hPa·l/s   Gas throughput at 0.1 hPa HV for $N_2$ 10 hPa·l/s   Gas throughput at 0.1 hPa HV for $N_2$ 10 hPa·l/s   Gas throughput at full rotational speed for Ar 13 hPa·l/s   Gas throughput at full rotational speed for Ar 13 hPa·l/s   I/O interfaces   RS-485, Remote, DeviceNet   Interface, extended   DeviceNet   DeviceNet   DeviceNet   Interface, extended   DeviceNet   Dev	Cooling water flow, min	80 l/h
Flange (in)  DN 100 CF-F  Flange (out)  DN 16 ISO-KF  Fore-vacuum max. for N2  20 hPa   15 Torr   20 mbar  Gas throughput at 0.1 hPa HV for Ar  Gas throughput at 0.1 hPa HV for H2  Gas throughput at 0.1 hPa HV for H2  Gas throughput at 0.1 hPa HV for N2  Gas throughput at 0.1 hPa HV for N2  Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for N2  Gas throughput at full rotational speed for N2  Gas throughput at full rotational speed for N2  B hPa-I/s  Gas throughput at full rotational speed for N2  B hPa-I/s  Gas throughput at full rotational speed for N2  B hPa-I/s  Gas throughput at full rotational speed for N2  B hPa-I/s  Gas throughput at full rotational speed for N2  B hPa-I/s  Gas throughput at 0.1 hPa HV for N2  B hPa-I/s  Gas throughput at 0.1 hPa HV for N2  B hPa-I/s  Gas throughput at 0.1 hPa HV for N2  B hPa-I/s  Gas throughput at 0.1 hPa HV for N2  B hPa-I/s  Gas throughput at 0.1 hPa HV for N2  B hPa-I/s  Gas throughput at 0.1 hPa HV for N2  B hPa-I/s  Gas throughput at 0.1 hPa HV for N2  B hPa-I/s  Gas throughput at 0.1 hPa HV for N2  B hPa-I/s  Gas throughput at 0.1 hPa HV for N2  B hPa-I/s  Gas throughput at 0.1 hPa HV for N2  B hPa-I/s  B hPa-	Cooling water temperature	15-35 °C   59-95 °F   288-308 K
Flange (out)  DN 16 ISO-KF  Fore-vacuum max. for N2  Qa hPa   15 Torr   20 mbar  Gas throughput at 0.1 hPa HV for Ar  Gas throughput at 0.1 hPa HV for H2  Gas throughput at 0.1 hPa HV for H2  Gas throughput at 0.1 hPa HV for N2  Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for N2  Gas throughput at full rotational speed for N2  Gas throughput at full rotational speed for N2  Bay HPa-I/s  Gas throughput at full rotational speed for N2  Cas throughput at full rotational speed for N2  Bay HPa-I/s  Wo interfaces  RS-485, Remote, DeviceNet  DeviceNet  DeviceNet  Low vibrations  YES  Mounting orientation  Any  Operating voltage: V DC  Permissible magnetic field max.  5 mT  Protection category  IP54  Pumping speed for Ar  Pumping speed for Ar  250 I/s  Pumping speed for H2  Pumping speed for H2  Pumping speed for N2  Rotation speed 4 2 %  Rotation speed variable  Run-up time  Sound pressure level  Ultimate pressure according to PNEUROP  Venting connection  Voltage: Range  Voltage: Range	Electronic drive unit	TM 700
Fore-vacuum max. for N <sub>2</sub> Gas throughput at 0.1 hPa HV for Ar  Gas throughput at 0.1 hPa HV for Ar  Gas throughput at 0.1 hPa HV for H <sub>2</sub> Gas throughput at 0.1 hPa HV for He  Gas throughput at 0.1 hPa HV for He  Gas throughput at 0.1 hPa HV for N <sub>2</sub> Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for N <sub>2</sub> Gas throughput at full rotational speed for N <sub>2</sub> Gas throughput at full rotational speed for N <sub>2</sub> Gas throughput at full rotational speed for N <sub>2</sub> Gas throughput at full rotational speed for N <sub>2</sub> Gas throughput at full rotational speed for N <sub>2</sub> Gas throughput at full rotational speed for N <sub>2</sub> Gas throughput at full rotational speed for N <sub>2</sub> Gas throughput at full rotational speed for N <sub>2</sub> RS-485, Remote, DeviceNet  DeviceNet  DeviceNet  Any  Operating voltage: V DC  48 (± 5 %) V DC  Permissible magnetic field max.  Foretection category  IP54  Pumping speed for Ar  Pumping speed for Ar  Pumping speed for H <sub>2</sub> Pumping speed for H <sub>2</sub> Pumping speed for H <sub>2</sub> Pumping speed for N <sub>2</sub> Rotation speed ± 2 %  Go,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable  20 - 100 %  Run-up time  < 2 min  Sound pressure level  445 dB(A)  Ultimate pressure according to PNEUROP  45 · 10 <sup>-10</sup> mbar  Venting connection  G 1/8"  Voltage: Range	Flange (in)	DN 100 CF-F
Gas throughput at 0.1 hPa HV for Ar  Gas throughput at 0.1 hPa HV for Ar  Gas throughput at 0.1 hPa HV for H2  Gas throughput at 0.1 hPa HV for H2  Gas throughput at 0.1 hPa HV for H2  Gas throughput at 0.1 hPa HV for N2  Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for N2  Gas throughput at full rotational speed for N2  Gas throughput at full rotational speed for N2  Bas HPa-I/s  Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for N2  Bas HPa-I/s  13 hPa-I/s  28 hPa-I/s  RS-485, Remote, DeviceNet  DeviceNet  Low vibrations  YES  Mounting orientation  Any  Operating voltage: V DC  48 ( $\pm$ 5 %) V DC  Permissible magnetic field max.  5 mT  Protection category  IP54  Pumping speed for Ar  Pumping speed for Ar  Pumping speed for Ar  Pumping speed for H2  170 I/s  Pumping speed for N2  Rotation speed $\pm$ 2 %  60,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable  20 - 100 %  Run-up time $\pm$ 2 min  Sound pressure level $\pm$ 45 dB(A)  Ultimate pressure according to PNEUROP  Voltage: Range  90 - 265 V AC	Flange (out)	DN 16 ISO-KF
Gas throughput at 0.1 hPa HV for H $_2$ 5 hPa-l/s Gas throughput at 0.1 hPa HV for H $_2$ 8 hPa-l/s Gas throughput at 0.1 hPa HV for H $_2$ 10 hPa-l/s Gas throughput at full rotational speed for Ar 13 hPa-l/s Gas throughput at full rotational speed for Ar 13 hPa-l/s Gas throughput at full rotational speed for N $_2$ 28 hPa-l/s l/O interfaces RS-485, Remote, DeviceNet Interface, extended DeviceNet Low vibrations YES Mounting orientation Any Operating voltage: V DC 48 ( $\pm$ 5 %) V DC Permissible magnetic field max. 5 mT Protection category IP54 Pumping speed for Ar 250 l/s Pumping speed for H $_2$ 170 l/s Pumping speed for H $_2$ 170 l/s Pumping speed for N $_2$ 255 l/s Rotation speed $\pm$ 2 % 60,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable 20 – 100 % Run-up time $<$ 2 min Sound pressure level $\leq$ 45 dB(A) Ultimate pressure according to PNEUROP $<$ 5 $\cdot$ 10 <sup>-10</sup> hPa   $<$ 3.75 $\cdot$ 10 <sup>-10</sup> Torr   $<$ 5 $\cdot$ 10 <sup>-10</sup> mbar Voltage: Range 90 – 265 V AC	Fore-vacuum max. for N <sub>2</sub>	20 hPa   15 Torr   20 mbar
Gas throughput at 0.1 hPa HV for He  Gas throughput at 0.1 hPa HV for N2  Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for N2  Gas throughput at full rotational speed for N2  Basel NPa-I/s  Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for N2  Basel NPa-I/s  10 hPa-I/s  11 hPa-I/s  28 hPa-I/s  28 hPa-I/s  28 hPa-I/s  Any  28 hPa-I/s  48 +5 %) V DC  28 hPa-I/s  48 +5 $\%$ OviceNet  48 ( $\pm$ 5 %) V DC  48 (	Gas throughput at 0.1 hPa HV for Ar	11 hPa·l/s
Gas throughput at 0.1 hPa HV for $N_2$ 10 hPa·l/s  Gas throughput at full rotational speed for Ar 13 hPa·l/s  Gas throughput at full rotational speed for Ar 28 hPa·l/s  I/O interfaces RS-485, Remote, DeviceNet  Interface, extended DeviceNet  Low vibrations YES  Mounting orientation Any  Operating voltage: V DC 48 ( $\pm$ 5 %) V DC  Permissible magnetic field max. 5 mT  Protection category IP54  Pumping speed for Ar 250 l/s  Pumping speed for He 215 l/s  Pumping speed for N <sub>2</sub> 255 l/s  Rotation speed $\pm$ 2 % 60,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable 20 - 100 %  Run-up time $\pm$ 2 min  Sound pressure level $\pm$ 45 dB(A)  Ultimate pressure according to PNEUROP $\pm$ 61/8"  Voltage: Range $\pm$ 90 - 265 V AC	Gas throughput at 0.1 hPa HV for H <sub>2</sub>	5 hPa·l/s
Gas throughput at full rotational speed for Ar  Gas throughput at full rotational speed for Nz  Gas throughput at full rotational speed for Nz  28 hPa·l/s  RS-485, Remote, DeviceNet  Interface, extended  DeviceNet  Low vibrations  YES  Mounting orientation  Operating voltage: V DC  48 $(\pm 5\%)$ V DC  Permissible magnetic field max.  Frotection category  IP54  Pumping speed for Ar  Pumping speed for Hz  Pumping speed for He  215 l/s  Pumping speed for Nz  Rotation speed $\pm 2\%$ Rotation speed variable  Sound pressure level  Ultimate pressure according to PNEUROP  Voltage: Range  13 hPa·l/s  28 hPa·l/s  14 hPa·l/s  28 hPa·l/s  14 hPa·l/s  28 hPa·l/s  16 hPa·l/s  21 hPa·l/s  21 hPa·l/s  22 hin  24 hB(A)  Ultimate pressure according to PNEUROP  25 · 10·10 hPa·l/s · 3.75 · 10·10 Torr · 2 · 5 · 10·10 mbar  Voltage: Range	Gas throughput at 0.1 hPa HV for He	8 hPa·l/s
Gas throughput at full rotational speed for $N_2$ 28 hPa·l/s  l/O interfaces RS-485, Remote, DeviceNet  Interface, extended DeviceNet  Low vibrations YES  Mounting orientation Any  Operating voltage: V DC 48 ( $\pm$ 5 %) V DC  Permissible magnetic field max. 5 mT  Protection category IP54  Pumping speed for Ar 250 l/s  Pumping speed for He 215 l/s  Pumping speed for N <sub>2</sub> 255 l/s  Rotation speed $\pm$ 2 % 60,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable 20 – 100 %  Run-up time < 2 min  Sound pressure level $\pm$ 45 dB(A)  Ultimate pressure according to PNEUROP $\pm$ 1/8"  Voltage: Range 90 – 265 V AC	Gas throughput at 0.1 hPa HV for N <sub>2</sub>	10 hPa·l/s
/O interfaces   RS-485, Remote, DeviceNet     Interface, extended   DeviceNet     Low vibrations   YES     Mounting orientation   Any     Operating voltage: V DC   48 ( $\pm$ 5 %) V DC     Permissible magnetic field max.   5 mT     Protection category   IP54     Pumping speed for Ar   250  /s     Pumping speed for He   215  /s     Pumping speed for He   215  /s     Pumping speed for N <sub>2</sub>   255  /s     Rotation speed $\pm$ 2 %   60,000 rpm   60,000 min <sup>-1</sup>     Rotation speed variable   20 – 100 %     Run-up time   < 2 min     Sound pressure level   $\leq$ 45 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"     Voltage: Range   90 – 265 V AC	Gas throughput at full rotational speed for Ar	13 hPa·l/s
Interface, extended         DeviceNet           Low vibrations         YES           Mounting orientation         Any           Operating voltage: V DC         48 (± 5 %) V DC           Permissible magnetic field max.         5 mT           Protection category         IP54           Pumping speed for Ar         250 l/s           Pumping speed for H₂         170 l/s           Pumping speed for He         215 l/s           Pumping speed for N₂         255 l/s           Rotation speed ± 2 %         60,000 rpm   60,000 min⁻¹           Rotation speed variable         20 − 100 %           Run-up time         < 2 min	Gas throughput at full rotational speed for N <sub>2</sub>	28 hPa·l/s
Low vibrations         YES           Mounting orientation         Any           Operating voltage: V DC         48 (± 5 %) V DC           Permissible magnetic field max.         5 mT           Protection category         IP54           Pumping speed for Ar         250 l/s           Pumping speed for H₂         170 l/s           Pumping speed for N₂         215 l/s           Pumping speed for N₂         255 l/s           Rotation speed ± 2 %         60,000 rpm   60,000 min⁻¹           Rotation speed variable         20 − 100 %           Run-up time         < 2 min	I/O interfaces	RS-485, Remote, DeviceNet
Mounting orientation         Any           Operating voltage: V DC         48 (± 5 %) V DC           Permissible magnetic field max.         5 mT           Protection category         IP54           Pumping speed for Ar         250 l/s           Pumping speed for He         170 l/s           Pumping speed for Ne         215 l/s           Pumping speed for Ne         255 l/s           Rotation speed ± 2 %         60,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable         20 - 100 %           Run-up time         < 2 min	Interface, extended	DeviceNet
Operating voltage: V DC       48 (± 5 %) V DC         Permissible magnetic field max.       5 mT         Protection category       IP54         Pumping speed for Ar       250 l/s         Pumping speed for H₂       170 l/s         Pumping speed for He       215 l/s         Pumping speed for N₂       255 l/s         Rotation speed ± 2 %       60,000 rpm   60,000 min⁻¹         Rotation speed variable       20 − 100 %         Run-up time       < 2 min	Low vibrations	YES
Permissible magnetic field max. 5 mT  Protection category IP54  Pumping speed for Ar 250 l/s  Pumping speed for H <sub>2</sub> 170 l/s  Pumping speed for He 215 l/s  Pumping speed for N <sub>2</sub> 255 l/s  Rotation speed $\pm 2$ % 60,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable 20 – 100 %  Run-up time < 2 min  Sound pressure level $\pm 45$ dB(A)  Ultimate pressure according to PNEUROP $\pm 45$ dB(A)  Venting connection $\pm 45$ dB(A)  Voltage: Range 90 – 265 V AC	Mounting orientation	Any
Protection category IP54  Pumping speed for Ar 250 l/s  Pumping speed for H <sub>2</sub> 170 l/s  Pumping speed for He 215 l/s  Pumping speed for N <sub>2</sub> 255 l/s  Rotation speed $\pm 2$ % 60,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable 20 – 100 %  Run-up time < 2 min  Sound pressure level $\pm 45$ dB(A)  Ultimate pressure according to PNEUROP $\pm 5 \cdot 10^{-10}$ hPa   < 3.75 $\cdot 10^{-10}$ Torr   < 5 $\cdot 10^{-10}$ mbar  Venting connection G 1/8"  Voltage: Range 90 – 265 V AC	Operating voltage: V DC	48 (± 5 %) V DC
Pumping speed for Ar $250 \text{ l/s}$ Pumping speed for He $170 \text{ l/s}$ Pumping speed for He $215 \text{ l/s}$ Pumping speed for N2 $255 \text{ l/s}$ Rotation speed $\pm 2 \%$ $60,000 \text{ rpm} \mid 60,000 \text{ min}^{-1}$ Rotation speed variable $20 - 100 \%$ Run-up time $< 2 \text{ min}$ Sound pressure level $\leq 45 \text{ dB(A)}$ Ultimate pressure according to PNEUROP $< 5 \cdot 10^{-10} \text{ hPa} \mid < 3.75 \cdot 10^{-10} \text{ Torr} \mid < 5 \cdot 10^{-10} \text{ mbar}$ Venting connection       G 1/8"         Voltage: Range $90 - 265 \text{ V AC}$	Permissible magnetic field max.	5 mT
Pumping speed for $H_2$ 170 l/s  Pumping speed for He 215 l/s  Pumping speed for $N_2$ 255 l/s  Rotation speed $\pm 2$ % 60,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable 20 - 100 %  Run-up time < 2 min  Sound pressure level $\leq 45$ 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"  Voltage: Range 90 - 265 V AC	Protection category	IP54
Pumping speed for He 215 l/s  Pumping speed for N <sub>2</sub> 255 l/s  Rotation speed $\pm 2$ % 60,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable 20 - 100 %  Run-up time < 2 min  Sound pressure level $\pm 45$ dB(A)  Ultimate pressure according to PNEUROP $\pm 5 \cdot 10^{-10}$ hPa   < 3.75 $\cdot 10^{-10}$ Torr   < 5 $\cdot 10^{-10}$ mbar  Venting connection G 1/8"  Voltage: Range 90 - 265 V AC	Pumping speed for Ar	250 l/s
Pumping speed for N2       255 l/s         Rotation speed ± 2 %       60,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable       20 – 100 %         Run-up time       < 2 min	Pumping speed for H <sub>2</sub>	170 l/s
Rotation speed ± 2 %       60,000 rpm   60,000 min <sup>-1</sup> Rotation speed variable       20 − 100 %         Run-up time       < 2 min	Pumping speed for He	215 l/s
Rotation speed variable $20-100\%$ Run-up time $< 2 \text{ min}$ Sound pressure level $\leq 45 \text{ dB(A)}$ Ultimate pressure according to PNEUROP $< 5 \cdot 10^{-10} \text{ hPa} \text{   } < 3.75 \cdot 10^{-10} \text{ Torr   } < 5 \cdot 10^{-10} \text{ mbar}$ Venting connection $= 6 \text{ J/8}$ "  Voltage: Range $= 90-265 \text{ V AC}$	Pumping speed for N <sub>2</sub>	255 l/s
Run-up time $< 2 \text{ min}$ Sound pressure level $\leq 45 \text{ dB(A)}$ Ultimate pressure according to PNEUROP $< 5 \cdot 10^{-10} \text{ hPa}$ $< 3.75 \cdot 10^{-10} \text{ Torr}$ $< 5 \cdot 10^{-10} \text{ mbar}$ Venting connection $< G 1/8"$ Voltage: Range $< 2 \text{ min}$	Rotation speed ± 2 %	60,000 rpm   60,000 min <sup>-1</sup>
Sound pressure level $\leq$ 45 dB(A)  Ultimate pressure according to PNEUROP $< 5 \cdot 10^{-10}  \text{hPa}$ $  < 3.75 \cdot 10^{-10}  \text{Torr}$ $  < 5 \cdot 10^{-10}  \text{mbar}$ Venting connection $= 0.018  \text{m}$ Voltage: Range $= 0.018  \text{m}$	Rotation speed variable	20 – 100 %
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"         Voltage: Range       90 – 265 V AC	Run-up time	< 2 min
< 5 · 10 <sup>-10</sup> mbar         Venting connection       G 1/8"         Voltage: Range       90 – 265 V AC	Sound pressure level	≤ 45 dB(A)
Voltage: Range 90 – 265 V AC	Ultimate pressure according to PNEUROP	·
· · · · ·	Venting connection	G 1/8"
Weight 17.2 kg   37.92 lb	Voltage: Range	90 – 265 V AC
	Weight	17.2 kg   37.92 lb

Order number	
HiPace® 300 M	PM P03 958

Accessories	
Adapters (electrical) Profibus	
Remote adapter for RS-485	PM 061 649 -X
Adapters (electrical) PV-Can	
TIC 010, Adapter for two sensors	PT R70 000
Adapters (electrical) Remote	
Supply socket TC 400/TM 700, straight	P 4723 100
Supply bushing, angled, for TC 400/TM 700	P 4723 101
Cables Backing pump control cables	
HiPace – ACP connection cable	PM 071 142 -X
Cables Connection cables	
Connection cable for HiPace with TC 400/TM 700 to power supply pack TPS/DCU 310/311/400/401	PM 061 352 -T
Cables Extension cables	
Extension cable M12 on M12	PM 061 747 -T
Cables Mains cables / Power cords	
Mains cable 208 V AC, NEMA 6-15 to C13, 3 m	P 4564 309 ZF
Control Devices Backing pump	
Relay box, shielded, for backing pumps, 1-phase 20 A for TC 400/1200, TM 700 and TCP 350, M12	PM 071 285 -X
Control Devices Power supplies and control	
displays	
Accessories package for HPU 001/PC	PM 061 005 -T
TPS 400, power supply pack 48 V DC, for wall/standard rail fitting	PM 061 343 -T
TPS 401, power supply pack 48 V DC, 19"	
partial plug-in 3HU	PM 061 347 -T
Front panel kit for TPS 401	PM 061 396 -T
DCU 400, Display control unit incl. power supply pack 19"	PM C01 823
Control Units without Power supply	
HPU 001, Handheld programming unit	PM 051 510 -T
DCU 002, Display Control Unit	PM 061 348 -T
Cooling Air cooling	
Air cooling, shielded, for HiPace 300 with TC 400 PB	PM Z01 362
FKM cut from sheet material	
Elastomer seal, FKM, DN 100 CF	402DFL100-S2
FKM with centering lip; heat-molded	
Elastomer seal, FKM, DN 100 CF	402DFL100-Z
Heating Heating jackets	
Heating jacket, shielded, for HiPace 300 with TC 400 PB/TM 700, 230 V AC, with safety plug	PM 071 266 -T
Heating jacket shielded, for HiPace 300 with TC 400 PB/TM 700, 208 V AC, UL plug	PM 071 267 -T
Heating jacket shielded, for HiPace 300 with TC 400 PB/TM 700, 115 V AC, UL plug	PM 071 268 -T
Monitoring Pressure Sensors	
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
Monitoring Sealing gas monitoring units	
Sealing gas monitoring unit G 1/8"	PM 016 911 -U

Accessories	
Mounting CF-F, Mounting kits	
Hexagon Screw Set for Flanges with Through- Holes, DN 100 CF-F	PM 016 690 -T
Set of stud screws for flanges with a threaded hole, DN 100 CF-F	PM 016 692 -T
Set of stud screws for flanges with through-hole, DN 100 CF-F	PM 016 734 -T
OFHC Copper (Oxygen Free)	
Copper Gasket, OFHC-copper, DN 100 CF	490DFL100-S10
OFHC Copper (Oxygen Free), Silver-plated	
Copper Gasket, Silver-Plated, DN 100 CF	490DFL100-S-S5
OFHC Copper (Oxygen Free), Silver-plated, Vacuum-annealed	
Copper Gasket, Silver-plated, Vacuum- Annealed, DN 100 CF	490DFL100-S-G-S5
OFHC Copper (Oxygen Free), Vacuum- annealed	
Copper Gasket, Vacuum-annealed, DN 100 CF	490DFL100-G-S5
Protection CF-F, splinter shields, protection screens	
Splinter shield for turbopumps, DN 100 CF-F	PM 016 315
Protection screen for DN 100 CF-F	PM 016 336
Protection Sealing gas throttles	
Sealing gas throttle for HiPace 300	PM Z01 317
Turbopumps	
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
Y-Connector M12 to RS-485	P 4723 010
USB converter to RS-485 interface	PM 061 207 -T
Turbopumps/Measurement	
Interface cable, M12 m straight/M12 m straight, 3 m	PM 061 283 -T
Valves Fore-vacuum safety valves	FW 001 203 -1
TVV 001, fore-vacuum safety valve, 230 V AC	PM Z01 205
TVV 001, fore-vacuum safety valve, 115 V AC	PM Z01 206
Valves Sealing gas valves, shielded (normally closed)	
Sealing gas valve, shielded for HiPace 300 with	
TC 400 and TM 700, TCP 350	PM Z01 312
Venting Power failure venting units (normally open)	
Power failure venting valve, shielded, 24 V DC, G 1/8" for connection to TC 400, TM 700 and	
TC 1200	PM Z01 331
Venting Venting accessories	DM 040 707 T
Banjo fitting	PM 016 787 -T
Banjo fitting, small TTV 001, Drier for Venting Turbopumps	PM 143 877 -T PM Z00 121
Venting Venting valves (normally closed)	FIVI ZUU 1Z1
Venting valve, shielded, 24 V DC, G 1/8", for	
connection to TC 400/1200 and TM 700	PM Z01 291
Vibration Reduction Vibration dampers	
Vibration damper for HiPace 300/400, DN 100	
CF-F	PM 006 488 -X

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