



 HiPace™ M

**Compact, magnetically levitated turbopumps  
with integrated electronic drive unit**

## Compact, magnetically levitated turbopumps with integrated electronic drive unit

### Leading

Outstanding performance data in terms of pumping speed, compression and gas throughput, along with smooth operation, are but a few of the features we focused on in developing the new HiPace M. This makes it the perfect solution for non-corrosive applications and processes in the fields of analytics, coating and semiconductors, as well as research & development.

### Compatible

Are differing interface standards making your work more difficult? What we have developed for all HiPace pumps with magnetic or hybrid bearing is an integrated electronic drive unit with a consistent panel solution: Standardized connections, parameters and interfaces make for maximum compatibility, regardless of whether the need is for E74 or Remote, RS 485, Profibus or DeviceNet.

### Reliable

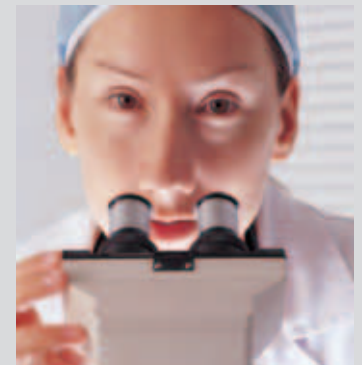
Our maintenance-free HiPace M incorporates only high-quality safety bearings. They do not require any service until after more than 20 full runouts from nominal speed to halt. Cycled venting and automatic out-of-balance compensation are further advantages that assure extremely reliable service. And thanks to Protection Class IP 54, even applications involving the most punishing environmental conditions are no problem for our pumps. Our product tests under ISO 27892 confirm the low crash torque we achieve with our unique hybrid rotor design.

### Technically perfect

The HiPace M is equipped with an active 5-axis magnetic levitation system and an electric brake. Its low energy consumption and low service costs assure cost-effective operation.



Research & development



Analytics



#### Advantages at a glance

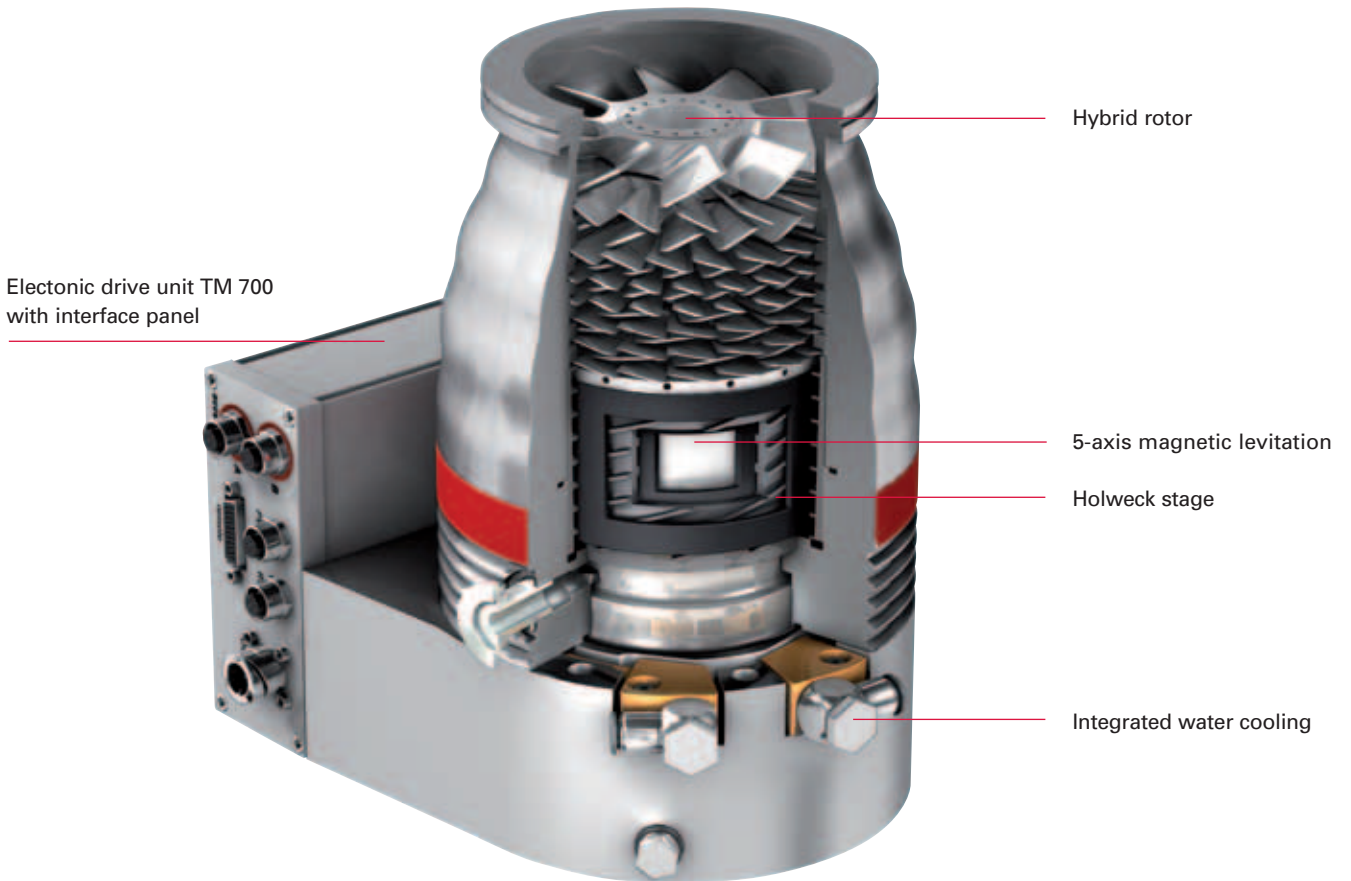
- Extremely simple installation – installation in any orientation; venting valve included
- Long service life and reliability – automatic unbalance compensation and patented, cycled venting
- Innovative bearing system – extremely low vibration and low magnetic stray field
- Very high foreline pressure – backing pump selection, can be easily optimized to the application
- Maximum operating safety – superior safety bearing durability
- Protection Class IP 54, making it suitable for industrial environments

## Overview of models and applications

	Analytical Industry					Semiconductors & Electronics					Coating	Industry			Research & Development									
	Electron microscopy	Leak detection	Mass spectrometry	Surface analysis	Residual gas analysis	Coating (PVD)	Implantation - Beamline	Inspection	Bonding	Transfer chambers / Load-locks	Handling systems	Hard disk coating	CD / DVD / Blu-ray manufacturing (PVD)	Optical coatings (PVD)	Medical technology	Industrial leak detection	Electron beam welding	Lamp and tube manufacturing	Nuclear research	Plasma research	Particle accelerators	Cryotechnology	Nanotechnology	Biotechnology
HiPace™ 300 M	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
HiPace™ 700 M			■	■	■	■	■	■	■	■	■	■	■	■			■		■	■	■	■	■	■
HiPace™ 800 M			■		■	■	■			■	■	■	■	■			■		■	■	■	■	■	■

■ Recommended

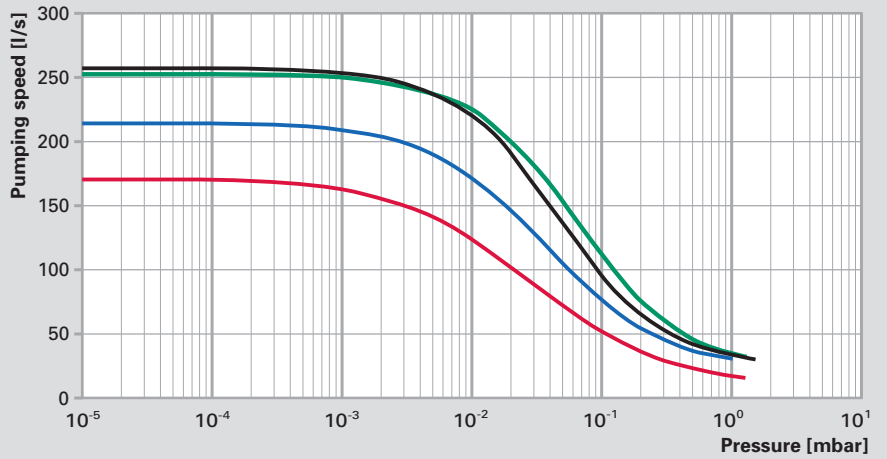
## Technic in detail



## Pumping speed

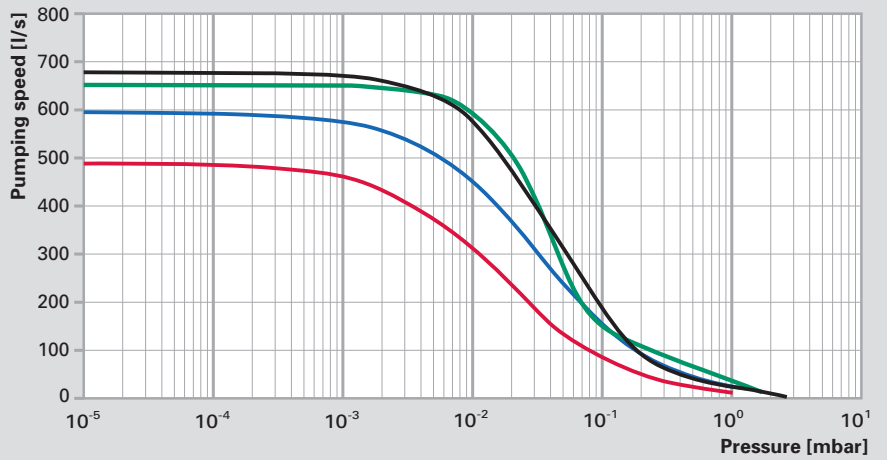
HiPace 300 M  
DN 100

N<sub>2</sub> —  
He —  
H<sub>2</sub> —  
Ar —



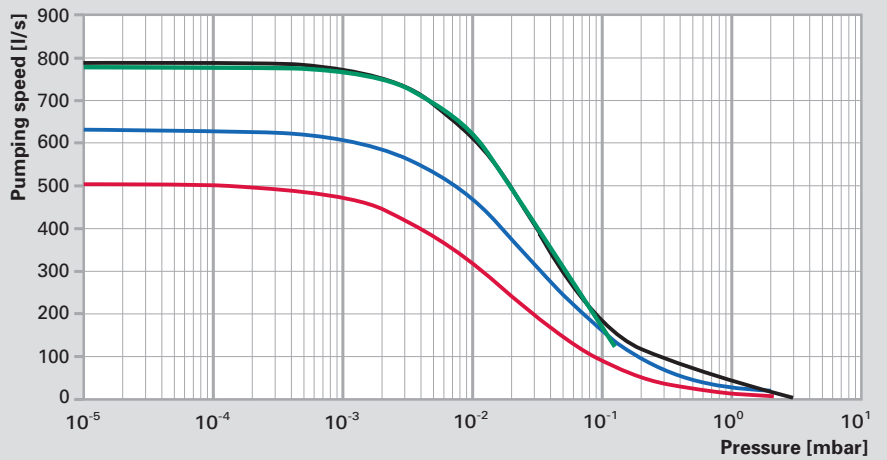
HiPace 700 M  
DN 160

N<sub>2</sub> —  
He —  
H<sub>2</sub> —  
Ar —



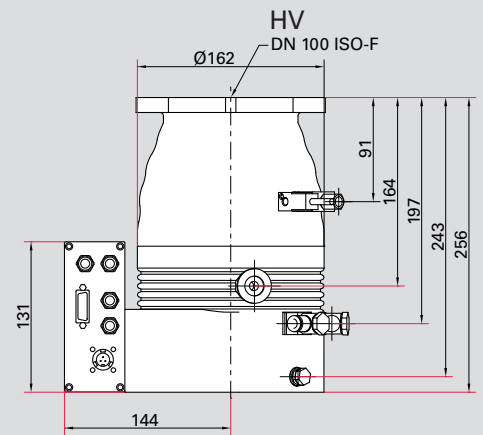
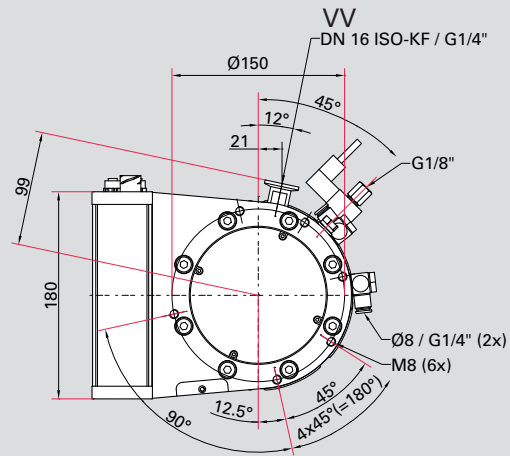
HiPace 800 M  
DN 200

N<sub>2</sub> —  
He —  
H<sub>2</sub> —  
Ar —

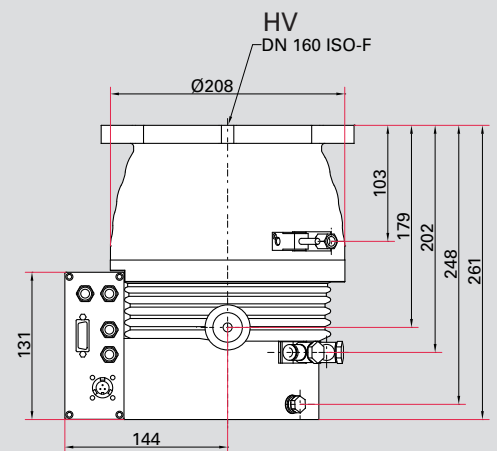
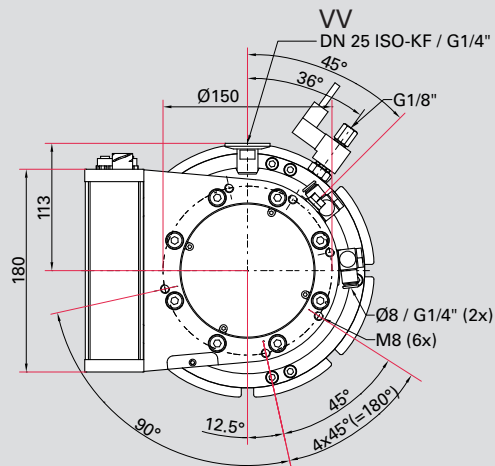


## Dimensions

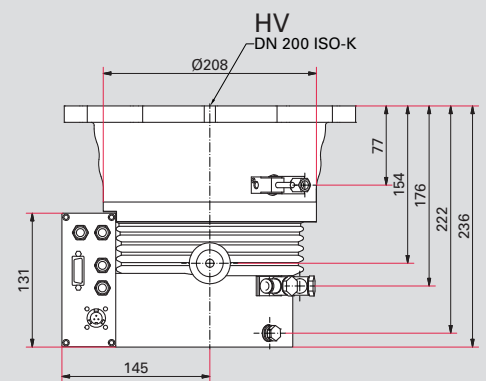
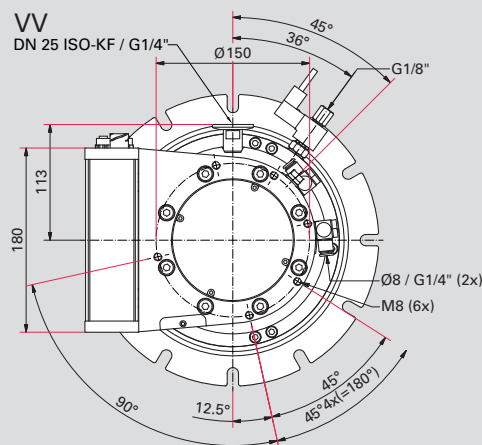
### HiPace 300 M DN 100 ISO-F



### HiPace 700 M DN 160 ISO-F



### HiPace 800 M DN 200 ISO-F



HV: High vacuum  
VV: Backing vacuum

Dimensions in mm

## Technical data

Pump Model		HiPace 300 M	HiPace 700 M	HiPace 800 M
<b>Nominal connection diameter</b>				
Inlet		DN 100	DN 160	DN 200
Outlet	ISO-KF	DN 16	DN 25	DN 25
Venting connection		G 1/8"	G 1/8"	G 1/8"
Run-up time	min	< 2	4.5	4.5
<b>Pumping speeds for</b>				
Nitrogen (N <sub>2</sub> )	l/s	255	685	790
Helium (He)	l/s	215	600	625
Hydrogen (H <sub>2</sub> )	l/s	170	480	500
Argon (Ar)	l/s	250	660	775
<b>Compression ratios for</b>				
Nitrogen (N <sub>2</sub> )		> 10 <sup>11</sup>	> 10 <sup>11</sup>	> 10 <sup>11</sup>
Helium (He)		> 10 <sup>8</sup>	> 10 <sup>7</sup>	> 10 <sup>7</sup>
Hydrogen (H <sub>2</sub> )		1 · 10 <sup>5</sup>	2 · 10 <sup>5</sup>	2 · 10 <sup>5</sup>
Argon (Ar)		> 10 <sup>11</sup>	> 10 <sup>11</sup>	> 10 <sup>11</sup>
<b>Maximum backing pressure</b>				
Nitrogen (N <sub>2</sub> )	mbar	20	8	8
<b>Max. gas throughput at rated speed</b>				
Nitrogen (N <sub>2</sub> )	mbar l/s	28	13	14
Argon (Ar)	mbar l/s	13	8	8
Input voltage, controller	V DC	48 ± 5%	48 ± 5%	48 ± 5%
Max. power consumption	W	360	360	360
Weight	kg	13.1 – 17.2	15.7 – 20.8	17.1 – 21.5

## Order number

Pump	HiPace 300 M			HiPace 700 M			HiPace 800 M		
	DN 100	DN 100	DN 100	DN 160	DN 160	DN 160	DN 200	DN 200	DN 200
	ISO-K	ISO-F	CF-F	ISO-K	ISO-F	CF-F	ISO-K	ISO-F	CF-F
RS-485	PM P03 950	PM P03 951	PM P03 952	PM P04 450	PM P04 451	PM P04 452	PM P04 460	PM P04 461	PM P04 462
Profibus	PM P03 953	PM P03 954	PM P03 955	PM P04 453	PM P04 454	PM P04 455	PM P04 463	PM P04 464	PM P04 465
DeviceNet	PM P03 956	PM P03 957	PM P03 958	PM P04 456	PM P04 457	PM P04 458	PM P04 466	PM P04 467	PM P04 468

## Accessories

### Extensive range of accessories:

- Power supply units
- Cables
- Sealing gas valve and sealing gas throttle
- Cooling and heating accessories
- Backing pump control
- Mounting hardware

For more detailed information see  
[www.pfeiffer-vacuum.com](http://www.pfeiffer-vacuum.com)

**Leading. Dependable.  
Customer Friendly.**

Pfeiffer Vacuum stands for innovative and custom vacuum solutions worldwide, for German engineering art, competent advice and reliable service.

Ever since the invention of the turbopump, we've been setting standards in our industry and this claim to leadership will continue to drive us in the future.

**Are you looking for a  
perfect vacuum solution?  
Please contact us:**

**Germany (Headquarters)**  
Pfeiffer Vacuum GmbH  
Phone: +49 (0) 6441 802-0  
info@pfeiffer-vacuum.de

**Austria**  
Pfeiffer Vacuum Austria GmbH  
Phone: +43 1 894 17 04  
office@pfeiffer-vacuum.at

**Benelux**  
Pfeiffer Vacuum GmbH  
Sales & Service Benelux  
Phone: +800-pfeiffer  
benelux@pfeiffer-vacuum.de

**Brazil**  
Pfeiffer Vacuum Brasil Ltda.  
Tel.: +55 11 3130 7999  
info@pfeiffer-vacuum.com.br

**China**  
Pfeiffer Vacuum  
(Shanghai) Co., Ltd.  
Phone: +86 21 3393 3940  
info@pfeiffer-vacuum.cn

**France**  
Pfeiffer Vacuum France SAS  
Phone: +33 169 30 92 82  
info@pfeiffer-vacuum.fr

**India**  
Pfeiffer Vacuum India Ltd.  
Phone: +91 40 2775 0014  
pfeiffer@vsnl.net

**Italy**  
Pfeiffer Vacuum Italia S.p.A.  
Phone: +39 02 93 99 05 1  
contact@pfeiffer-vacuum.it

**Korea**  
Pfeiffer Vacuum Korea Ltd.  
Phone: +82 31 266 0741  
sales@pfeiffer-vacuum.co.kr

**Russia**  
OOO Pfeiffer Vacuum Rus  
Phone: +7 495 411 7962  
office@pfeiffer-vacuum.ru

**Sweden**  
Pfeiffer Vacuum Scandinavia AB  
Phone: +46 8 590 748 10  
sales@pfeiffer-vacuum.se

**Switzerland**  
Pfeiffer Vacuum (Schweiz) AG  
Phone: +41 44 444 22 55  
info@pfeiffer-vacuum.ch

**United Kingdom**  
Pfeiffer Vacuum Ltd.  
Phone: +44 1908 500600  
sales@pfeiffer-vacuum.co.uk

**USA**  
Pfeiffer Vacuum Inc.  
Phone: +1 603 578 6500  
contact@pfeiffer-vacuum.com