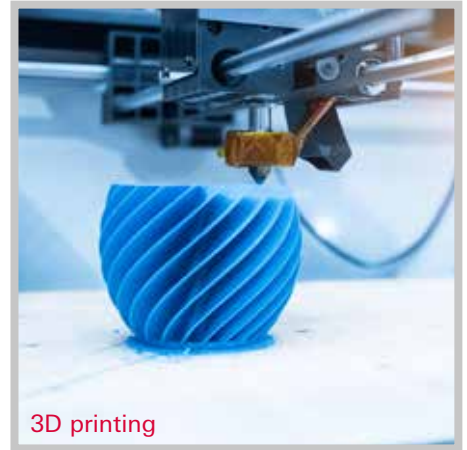




**HiScroll®**

The ultra-quiet, efficient, oil-free pumps.  
To reduce your carbon footprint.



3D printing



Mass spectrometry



Accelerator

# HiScroll®

The extremely quiet, efficient,  
oil-free pumps.  
To reduce your carbon footprint.



**High comfort,  
low noise level, low vibration.**

**Your added value**



**Absolutely dry as  
well as oil-free  
vacuum pump**

## **HiScroll - the oil-free vacuum pumps**

The HiScroll series consists of three dry scroll pumps with a nominal pumping speed of 6–20 m<sup>3</sup>/h. The pumps are characterized by their high performance when evacuating against atmosphere. Their powerful IPM<sup>1)</sup> synchronous motors with sensorless INFORM<sup>®</sup> control<sup>2)</sup> achieve up to 15% higher efficiency compared to conventional drives. This enables highest performance at low operating temperature and helps to save electricity costs.

## **Intelligent control**

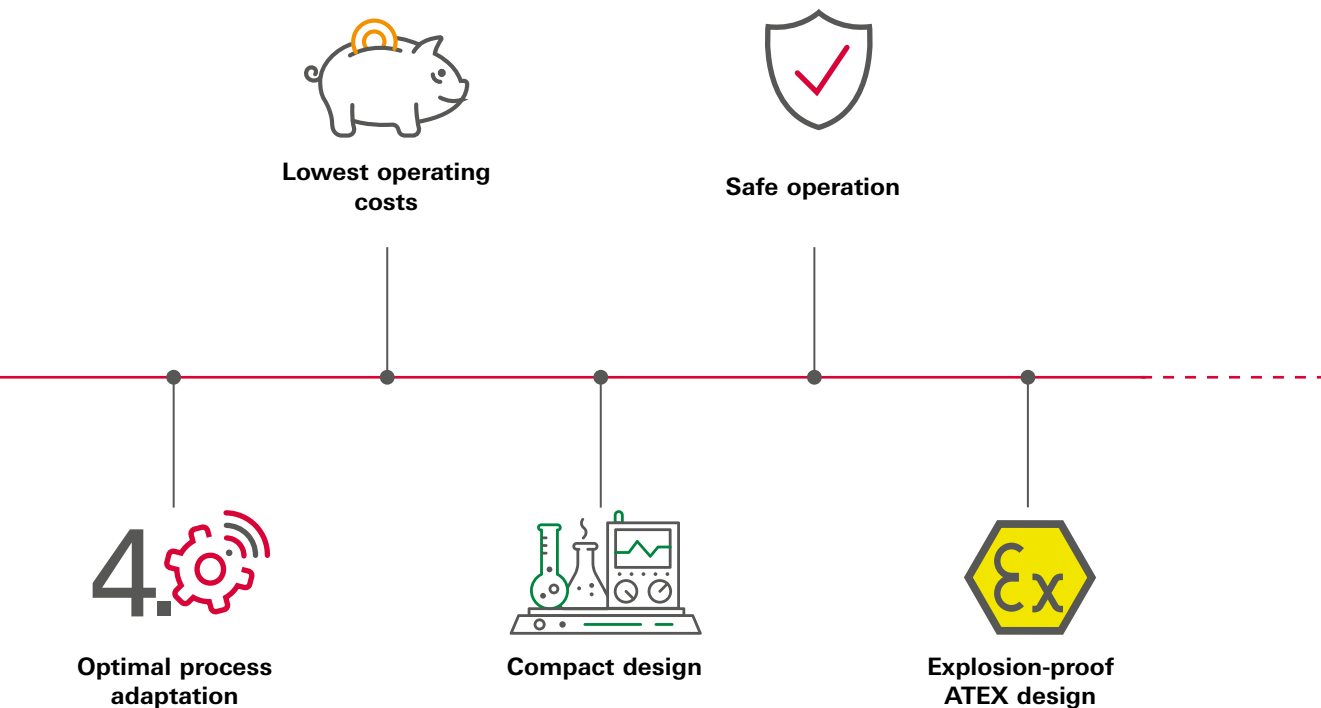
The HiScroll's adaptive fan control provides optimal cooling in all operating conditions and reduces noise emissions. By using the optional integrated pressure sensor, maintenance cycles can be significantly extended as the intelligent pressure and speed control reduces energy consumption, wear and tear as well as noise emission.

HiScroll pumps can be easily connected via RS-485 or ProfiNet to e.g. turbopumps or display units as well as to a higher-level external control system.

The standardized AccessLink accessory ports allow the use of many optional accessories, which are automatically recognized by the HiScroll electronics. For more comfort and safety of our customers.

<sup>1)</sup> Interior Permanent Magnet

<sup>2)</sup> INFORM<sup>®</sup> process according to Prof. Schrödl



#### Lowest noise emission on the market

HiScroll pumps are extremely quiet at <47 dB[A] (<42 dB[A] in stand-by mode). Their low-vibration operation and compact design make them ideal for use in quiet and highly integrated working environments, such as on mass spectrometers, in research institutes or leak detection systems.

#### High safety

For safe use, the hermetically sealed HiScroll features a check valve. The two-stage gas ballast valve ensures high water vapor compatibility and enables individual process adaptation of the pump.

The proven quality of Pfeiffer Vacuum components assures a long service life. Pump maintenance is simple and enables short service times.

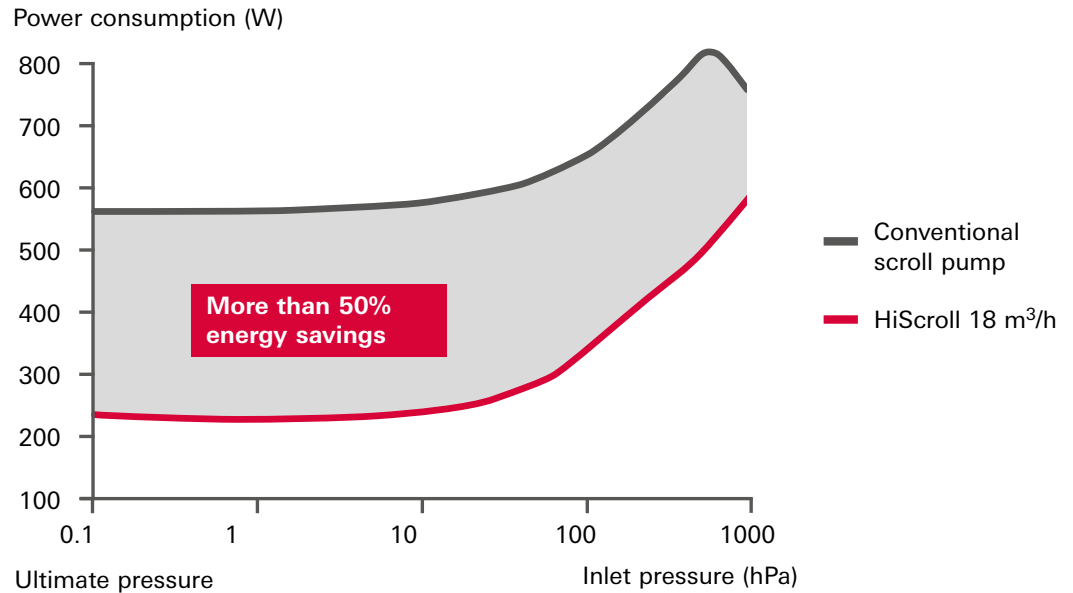
#### ATEX certification:

HiScroll pumps are already certified to ATEX II 3/-G Ex h IIC T4 Gc X +5° C ≤ Ta ≤ +40 °C as standard. This means they can be used with internal explosion protection of equipment category 3G for Ex zone 2 with gas types IIC. These versions are only available without the optional integrated pressure sensor.

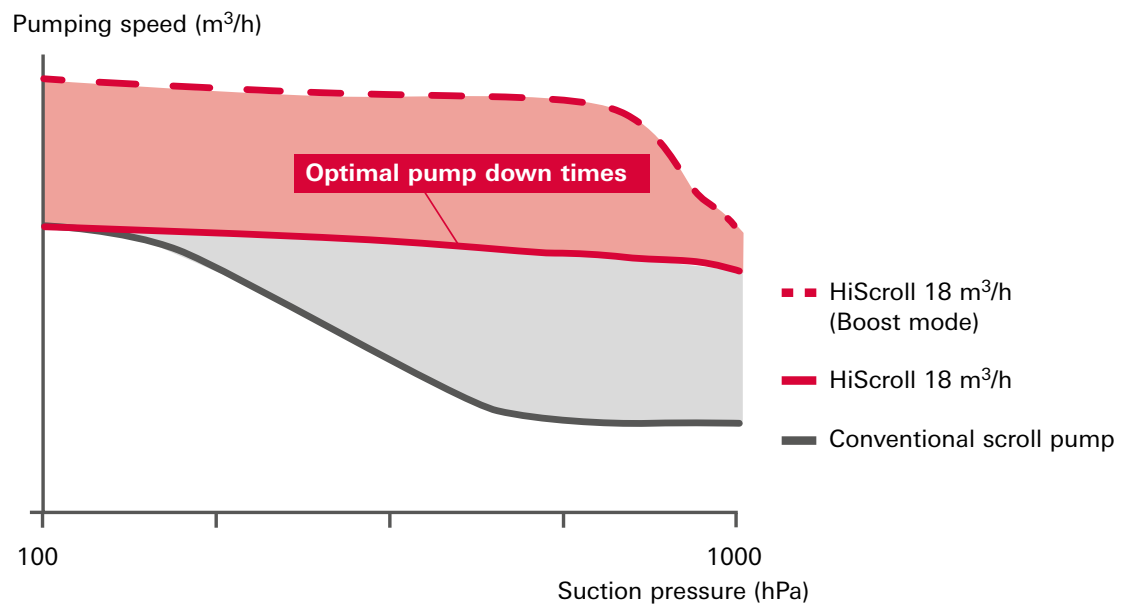
# HiScroll®

The extremely quiet, efficient,  
oil-free pumps.  
To reduce your carbon footprint.

## Best energy efficiency



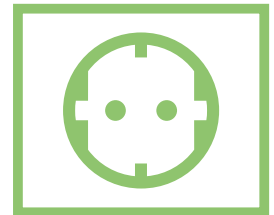
## Constant pumping speed



# We drive sustainable solutions

## Environmentally friendly

The use of novel IPM<sup>1)</sup> synchronous motors with sensorless INFORM<sup>®</sup> control<sup>2)</sup> in HiScroll pumps allows their power consumption to be significantly reduced despite high pumping performance. This not only results in lower operating costs for the user: the motor also achieves premium efficiency and significantly exceeds the minimum values of efficiency level IE3 as applicable to standard asynchronous motors. Everyone benefits from this.



In addition, significantly smaller product dimensions are achieved by using the new IPM motor technology.

## Conserving resources

However, benefits for the environment are not limited exclusively to the pump's performance and installation dimensions. Our HiScroll already scores points in production through deliberate material savings. For example, less copper is used and advanced technologies mean that additional sensors are not required. The pump housing, like the hood and the housing of the electronics, is manufactured by casting, which avoids excessive production waste.

Even in the packaging, thought has been given to conserving resources: Weight-optimized and space-saving insulating materials effectively protect our HiScroll from transport damage while also ensuring optimized transport weight.

## Sustainable

Last but not least, man and machine benefit equally from the use of state-of-the-art technologies: HiScroll series scroll pumps emit less waste heat and also have a longer service life thanks to innovative standby operation. They run extremely quietly and with low vibration, making their working environment safe and comfortable.

<sup>1)</sup> Interior Permanent Magnet

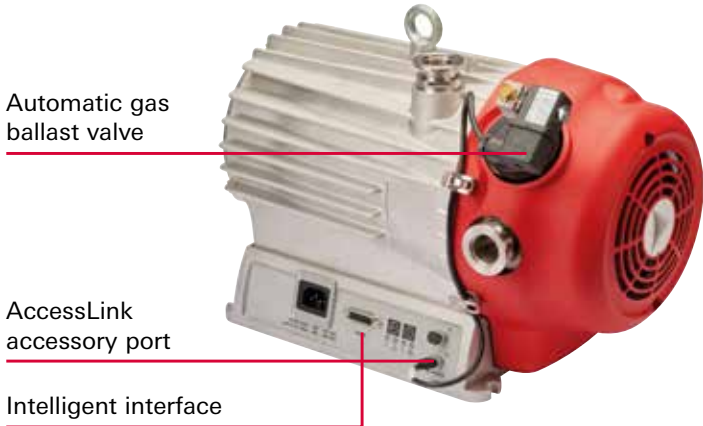
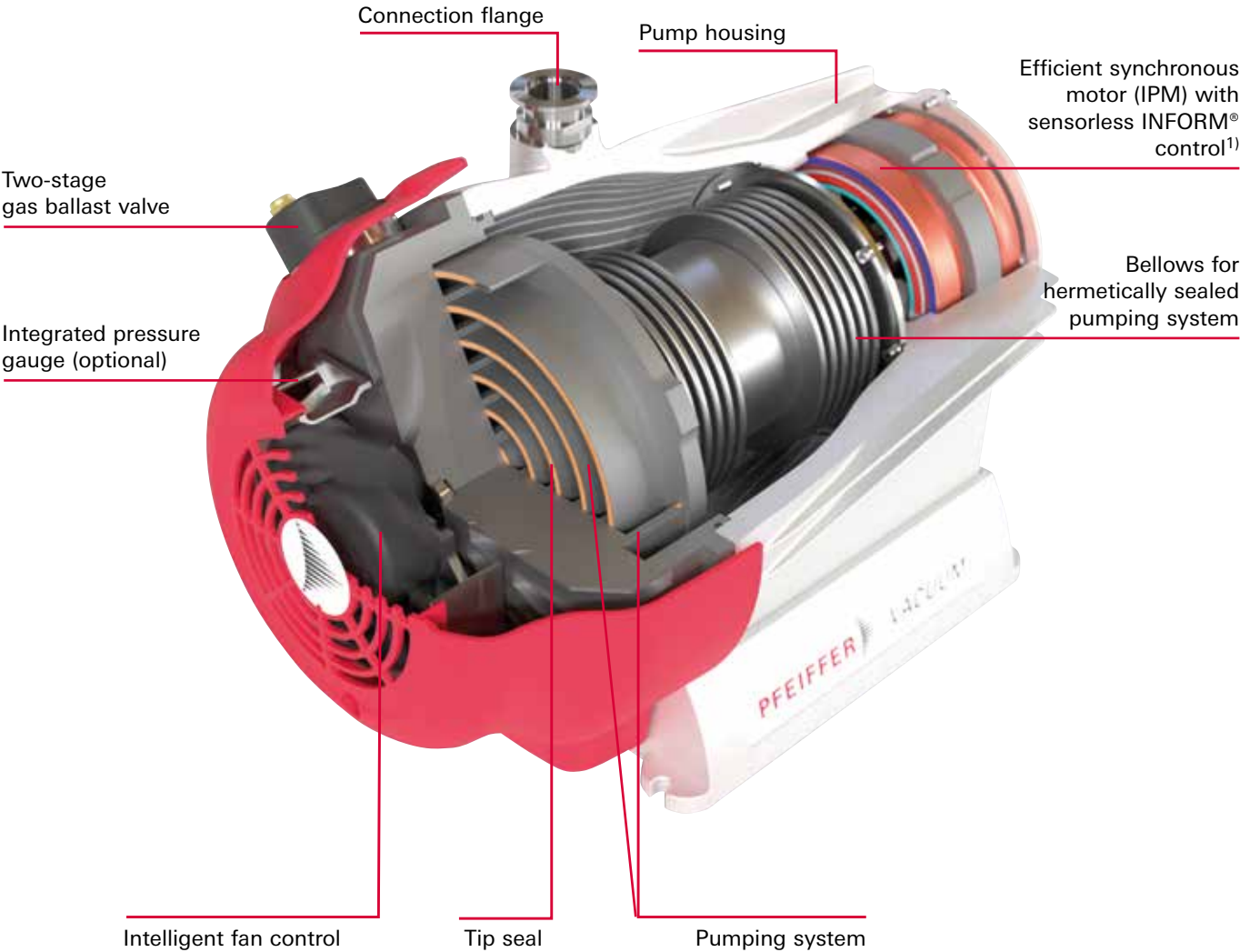
<sup>2)</sup> INFORM<sup>®</sup> process according to Prof. Schrödl



# HiScroll®

## Details and application examples

### Explosion drawing



<sup>1)</sup> INFORM® process according to Prof. Schrödl

**Typical applications**

- Mass spectrometry
- Accelerator
- Laboratories
- Leak detection
- Semiconductor technology
- Coating
- Gas recovery
- Vacuum drying

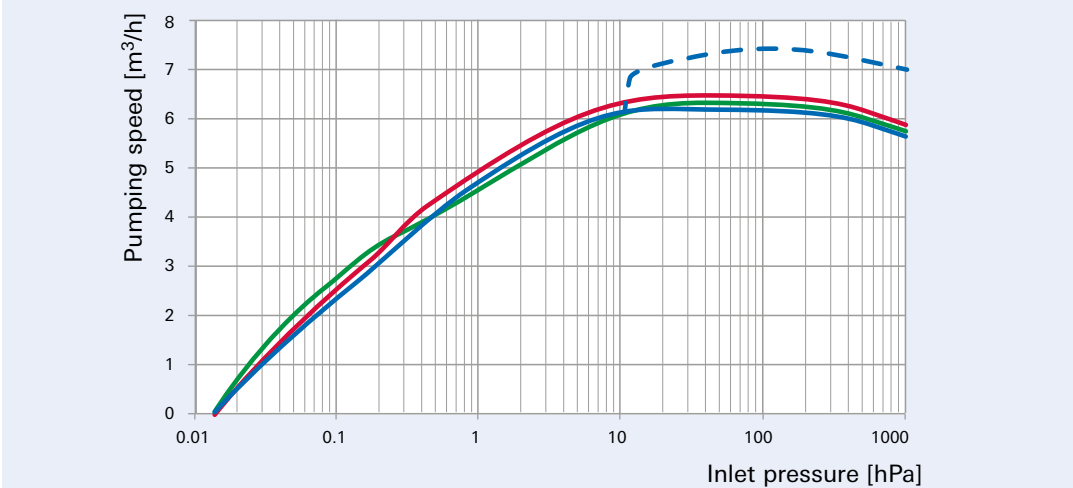


# HiScroll®

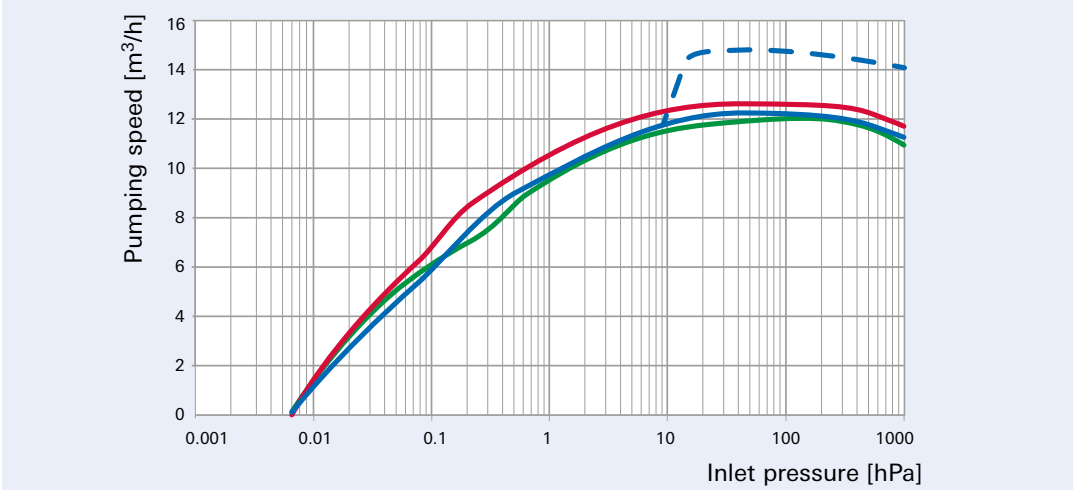
## Pumping speed, dimensional drawings

### Pumping speed

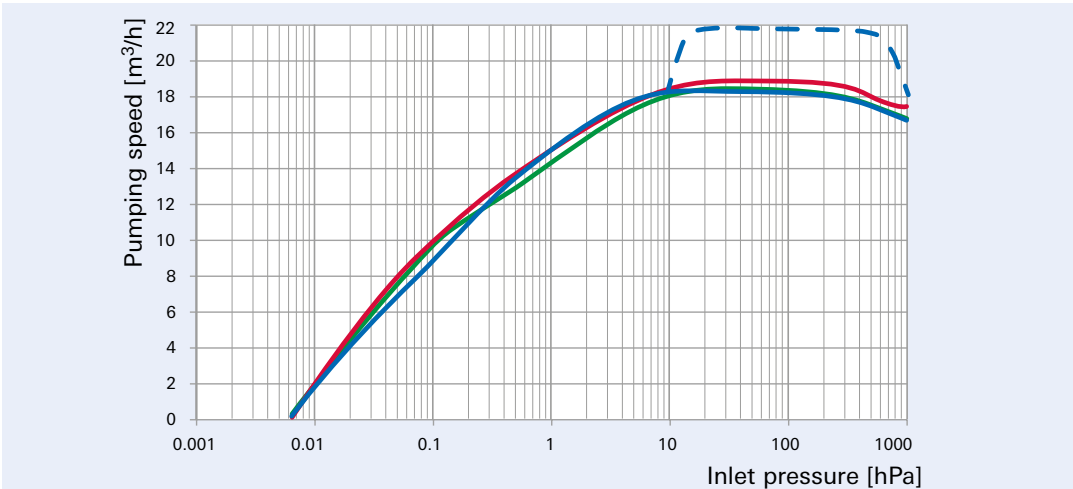
HiScroll 6



HiScroll 12



HiScroll 18

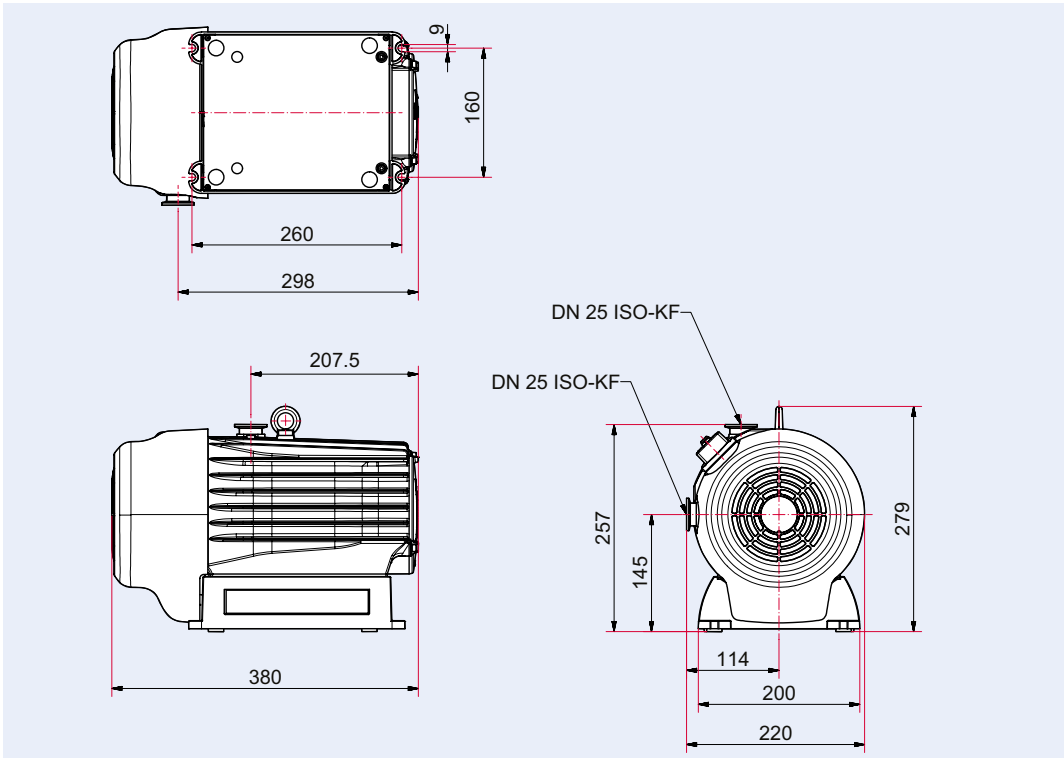


Boost mode - - -  
N₂ —  
Ar —  
He —

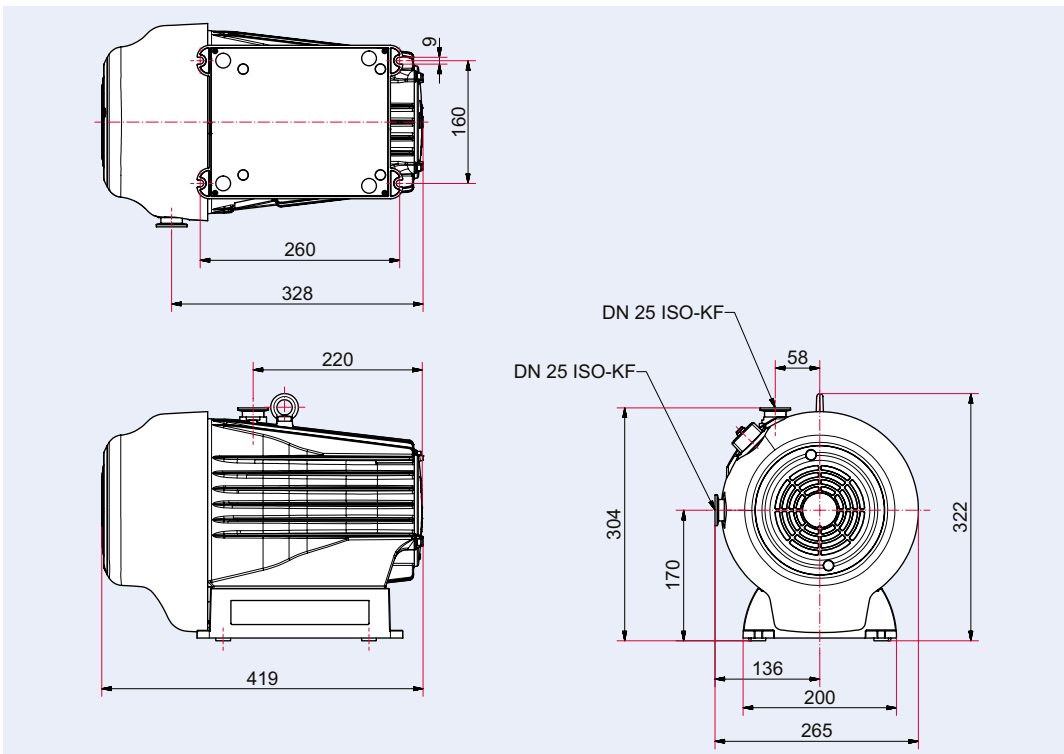


**Dimensional drawings**

HiScroll 6



HiScroll 12 / HiScroll 18



Dimensions in mm

# HiScroll®

Technical data, order number matrix,  
accessories

## Technical data

	HiScroll 6	HiScroll 12	HiScroll 18
Pumping speed	6.1 m <sup>3</sup> /h	12.1 m <sup>3</sup> /h	18.1 m <sup>3</sup> /h
Tested base pressure <sup>2)</sup>	1.5 · 10 <sup>-2</sup> hPa	6 · 10 <sup>-3</sup> hPa	6 · 10 <sup>-3</sup> hPa
Ultimate pressure with gas ballast stage 1 <sup>1)</sup>	7 · 10 <sup>-2</sup> hPa	5 · 10 <sup>-2</sup> hPa	3 · 10 <sup>-2</sup> hPa
Ultimate pressure with gas ballast stage 2 <sup>1)</sup>	4 · 10 <sup>-1</sup> hPa	4 · 10 <sup>-1</sup> hPa	2 · 10 <sup>-1</sup> hPa
Gas ballast flow stage 1	11 l/min	18 l/min	23 l/min
Gas ballast flow stage 2	16 l/min	30 l/min	30 l/min
Leakage rate	5 · 10 <sup>-7</sup> Pa m <sup>3</sup> /s		
Intake pressure, max.	1100 hPa		
Exhaust pressure, max.	1500 hPa		
Connection flange (inlet)	DN 25 ISO-KF		
Connection flange (output)	DN 25 ISO-KF		
I/O interfaces	RS-485		
Mains connection	100–127/200–240 V AC (±10 %), 50/60 Hz		
Current max.	10.0 A		
Speed	1,000–3,000 rpm	624–1,870 rpm	624–1,870 rpm
Rated speed	2,500 rpm	1,560 rpm	1,560 rpm
Protection class	IP20		
Certifications	cTUVus tested according to UL / CSA 61010-1 Semi S2 compatible Semi S8 compatible		
Switch	Yes		
Ambient temperature	5–40 °C		
Temperature: Storage	-10–50 °C		
Temperature: Shipping	-25–55 °C		
Cooling type	Air, Forced convection		
Emission sound pressure level (EN ISO 2151)	48 dB(A)	47 dB(A)	47 dB(A)
Weight	19 kg	24 kg	23 kg
Gas ballast	Yes		
Operating height, max.	2500 m		

HiScroll

<47 dB(A)  
Acoustic emission

5 · 10<sup>-7</sup> Pa m<sup>3</sup>/s  
Leakage rate



<sup>1)</sup> The final pressure is usually reached after a certain running time.

The run-in process can be accelerated by using gas ballast and/or nitrogen.

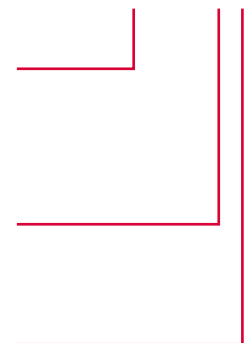
<sup>2)</sup> Tested base pressure during quality control before shipment according to ISO 21360.

Quality control is performed with a calibrated gas type independent pressure gauge.

## Order number matrix HiScroll

Size	a
HiScroll 6	1
HiScroll 12	2
HiScroll 18	3
Equipment	b
Standard, ATEX certified	0
Integrated pressure sensor RPT010	1
Gas ballast	c
2-stage manual gas ballast	0
Gas ballast permanently closed	1
Automatic gas ballast valve	2

PD Sa0 0bc



**Accessories**

	Order number
<b>Accessory cable</b>	
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 ZL
Interface cable M12 m straight/M12 m, straight,	PM 061 283 -T
USB RS-485 converter	PM 061 207 -T
Adapter, RS-485 M12	PE 100 150 -X
Y-distributor M12 for RS-485	P 4723 010
Connecting cable HiScroll / HiPace / TC 400, 3 m	PM 071 732 -T
Connecting cable HiScroll / HiPace / TC 110 / TPS, 3 m	PM 071 733 -T
<b>Remote controller</b>	
OmniControl 001, rack unit without integrated power supply unit	PE D42 100 0
HPU 001, Handheld Programming Unit	PM 051 510 -T
<b>Monitoring</b>	
Pressure Sensor RPT 010, Digital Piezo/Pirani Sensor	PD 100 100 AT
<b>Filter</b>	
SAS 25 S, Dust collector with polyester filter insert	PK Z60 507
<b>Silencer</b>	
ES 25 M, External silencer HiScroll	PD Z10 000
ES 25 L, External silencer HiScroll	PD Z10 001
<b>Components</b>	
Push-in fitting G 1/8" including gasket for hose connection (8/6 mm)	P 4131 029
Closing cap for gas ballast valve	PD 100 067
<b>Valves</b>	
Vacuum safety valve HiScroll 12/18	PD Z10 051 in combination with 115902 (Both articles must be purchased together!)
Vacuum safety valve HiScroll 6	PD Z10 050
Automatic gas ballast valve	PD Z10 100
<b>Spare parts packages</b>	
Maintenance kit Level 1, TipSeal Kit, HiScroll 6	PD E10 000 -T
Maintenance kit Level 1, TipSeal Kit, HiScroll 12/18	PD E20 000 -T
O-ring lifter	PV A00 778

**Tip:**

**Spare parts packages**

With the original Pfeiffer Vacuum spare parts packages and the appropriate tools, you can change the tip seal of your HiScroll yourself in about 15 minutes.





HiScroll with mounted automatic gas ballast valve

Additional accessories can be found on our website at [www.pfeiffer-vacuum.com](http://www.pfeiffer-vacuum.com).

## Your Success. Our Passion.

We give our best for you every day –  
worldwide!

Are you looking for your  
optimized vacuum solution?  
Please contact us:

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Germany  
T +49 6441 802-0



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