

# HiCube™ Turbo pumping stations



**The HiCube™ Innovation.**

**The complete solution for high vacuum applications:  
The modular pumping station for clean vacuum.  
Flexible. Compact. Versatile.**

**PFEIFFER**  **VACUUM**

# HiCube™ Turbo pumping stations

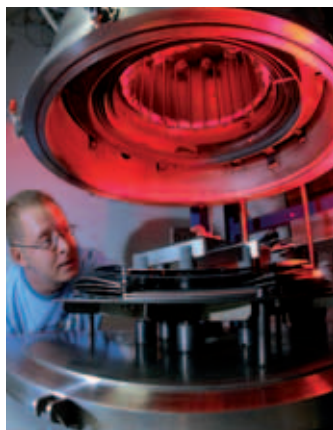
## Innovation HiCube™

Pfeiffer Vacuum continues to embrace innovation. And this is why we have developed reliable turbopumping stations for your applications in the fields of research and development, accelerators, analysis and surface physics, as well as vacuum process technology, electron beam welding and leak detection systems.

With the modular design principle of the new HiCube series, the never-before-seen versatility will satisfy the widest range of requirements in the pumping speed range from 35 l/s to 685 l/s. Fully configured and ready for immediate employment, the turbopump and backing pump offer a perfect interplay: "Plug and Play" the way you want it.



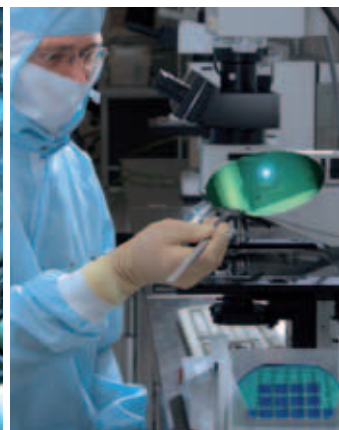
*Accelerators*



*Vacuum furnaces*



*Glass coater*



*Wafer production*

### **What is HiCube?**

The HiCube mobile turbopumping station sets new standards: It offers a convincing combination that consists of a new turbopump from the HiPace series and a backing pump designed for the user's specific application needs.

We offer you the new HiCube in Pro and Classic versions; available with dry or oil-sealed backing pump and an ultimate pressure of up to  $5 \cdot 10^{-10}$  mbar.

All of the solutions provide a simple way to generate high vacuum. Thanks to the HiCube's robust housing and ready-to-connect, fully automated pump unit, there are virtually no limits to its flexibility.

### **Where are the advantages?**

With the HiPace, we are incorporating the latest generation of turbopump technology in a compact pumping station. What this means for you: Reliability, high performance, long service life and trouble-free integration into your application.

Whether your need is for ISO-KF, ISO-K or CF-F, we can offer you the matching flange versions.

And for the most demanding requirements we can offer the HiCube Pro, a professional grade turbopumping station that is characterized by its fast pump-down times.

#### **Are there additional advantages?**

All connections are consolidated at the rear. In addition, the turbopump can easily be removed from the housing and connected to a chamber or system, as all of the individual components are easily accessible.

And oil changes are simple to perform on the rotary vane pumps, without the need for any special tools or disassembly.

Moreover, with our PentaLine, XtraDry and the diaphragm pumps MVP we employ backing pumps that also afford you standby or interval mode operation. With this function, our pumping stations offer an energy-saving, quiet operation and a longer service life.



*HiCube™ Classic*

#### **And last but not least!**

The right solution for your application: The HiCube's modular concept stands for optimally inter-coordinated components and with the modular design principle we are able to satisfy even the most specific needs. Depending upon the application, all HiCube Classic and HiCube Pro pumping stations are also optionally available with water cooling and heating jacket.

Available as a version within the HiCube series that offers especially compact dimensions is the HiCube Eco with pumping speeds of 35 l/s to 67 l/s.

**HiCube. Flexible. Compact. Versatile.**



*HiCube™ Pro*

## **Advantages at a glance**

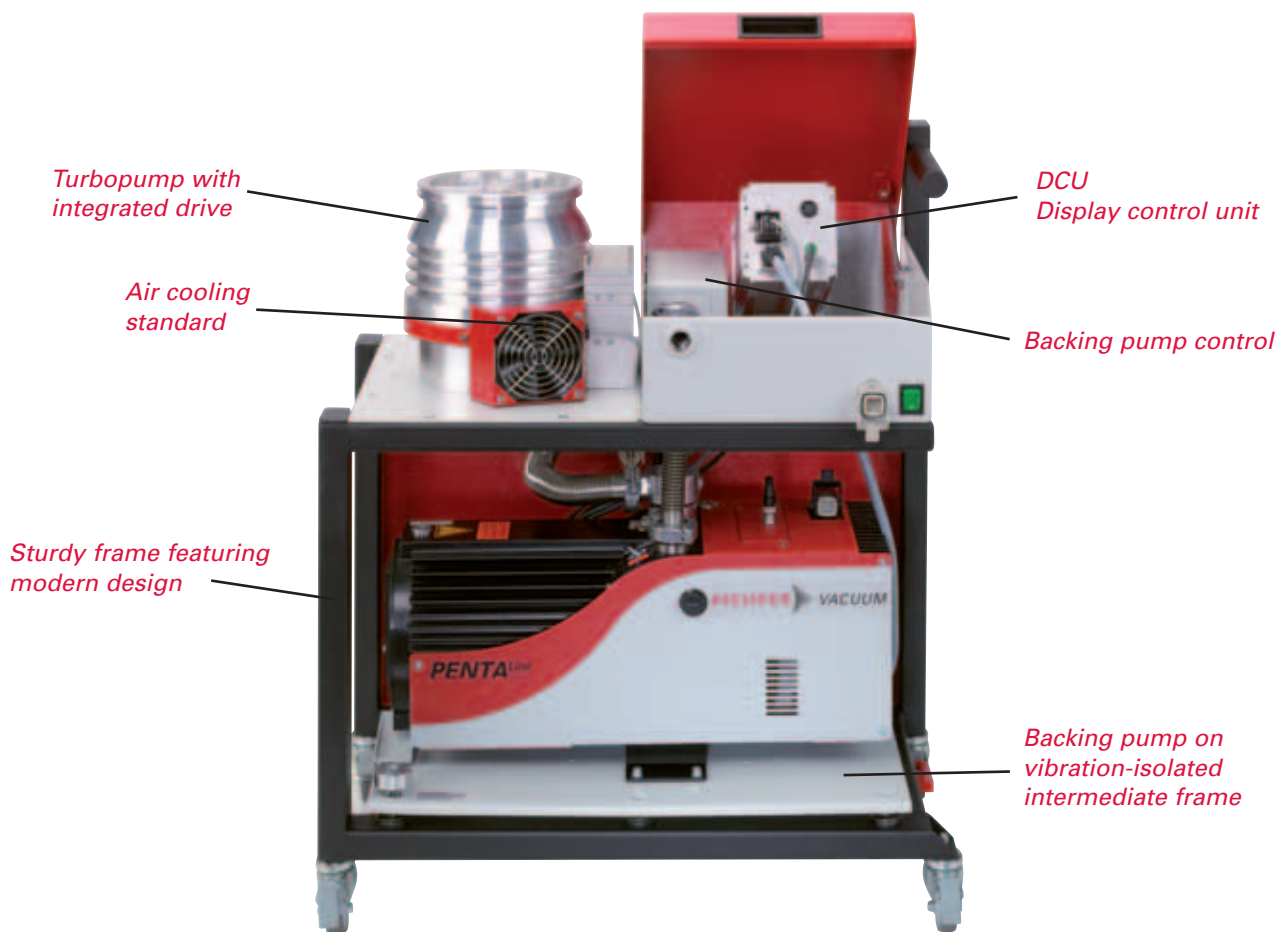
- ▶ Optimally inter-coordinated combination of turbopump and backing pump; for the widest range of applications
- ▶ Modular design affords simple customization for the application in question
- ▶ Service friendly, due to good accessibility of the individual components
- ▶ Integrated drive electronics; no additional control system needed
- ▶ "Plug and Play" – no installation or cabling required
- ▶ Robust engineering makes for long service life and high reliability
- ▶ Fore-vacuum safety valve (optional) prevents the recipient from venting in the event of a power failure
- ▶ Direct connection of vacuum gauges possible

## Applications

- ▶ Research and development
- ▶ Accelerators
- ▶ Analysis and surface physics
- ▶ Vacuum process technology
- ▶ Electron beam welding
- ▶ Leak detection systems

## Scope of delivery

- ▶ Sturdy frame featuring modern design
- ▶ Turbopump with integrated drive
- ▶ Backing pump on vibration-isolated intermediate frame
- ▶ Modern worldwide power supply in accordance with applicable standards
- ▶ Backing pump control
- ▶ Electromagnetic venting valve
- ▶ DCU control unit
- ▶ Air cooling standard
- ▶ Oil filling (for rotary vane pumps)



*HiCube™ Pro with HiPace 700 and PentaLine*

## Comparison of pump-down times HiCube™ Classic vs. HiCube™ Pro

Pump-down time from 1,000 mbar to  $1 \cdot 10^{-5}$  for vacuum chamber sizes of 10, 100 or 1,000 l.  
(Calculated values at 50 Hz, run-up time not taken into account)

		HiCube 80 Classic			HiCube 80 Pro			
Turbopump	Backing pump	10 l	100 l	1,000 l	Backing pump	10 l	100 l	1,000 l
HiPace 80, DN 63	MVP 040	98 s	978 s	9778 s	XtraDry 150*	33 s	–	–
	MVP 070	59 s	594 s	5941 s	Penta 10	23 s	229 s	2289 s
	Duo 2.5	77 s	774 s	7737 s	Penta 20	13 s	134 s	1339 s
	Duo 5 M	43 s	426 s	4257 s	Penta 35	10 s	99 s	990 s

		HiCube 300 Classic			HiCube 300 Pro			
Turbopump	Backing pump	10 l	100 l	1,000 l	Backing pump	10 l	100 l	1,000 l
HiPace 300	MVP 040	87 s	867 s	8670 s	XtraDry 150*	26 s	–	–
	MVP 070	50 s	499 s	4992 s	Penta 10	17 s	173 s	1728 s
	Duo 2.5	68 s	682 s	6820 s	Penta 20	9 s	93 s	934 s
	Duo 5 M	35 s	350 s	3500 s	Penta 35	7 s	66 s	663 s

		HiCube 400 Classic			HiCube 400 Pro			
Turbopump	Backing pump	10 l	100 l	1,000 l	Backing pump	10 l	100 l	1,000 l
HiPace 400	–	–	–	–	XtraDry 150*	25 s	–	–
	MVP 070	48 s	485 s	4847 s	Penta 10	17 s	169 s	1687 s
	Duo 2.5	67 s	669 s	6691 s	Penta 20	9 s	90 s	898 s
	Duo 5 M	34 s	342 s	3416 s	Penta 35	6 s	64 s	644 s

		HiCube 700 Classic			HiCube 700 Pro			
Turbopump	Backing pump	10 l	100 l	1,000 l	Backing pump	10 l	100 l	1,000 l
HiPace 700	–	–	–	–	XtraDry 150*	24 s	–	–
	MVP 070	47 s	474 s	4743 s	Penta 10	16 s	160 s	1598 s
	Duo 2.5	65 s	653 s	6534 s	Penta 20	8 s	84 s	838 s
	Duo 5 M	33 s	332 s	3317 s	Penta 35	6 s	58 s	582 s

\* XtraDry 150 not applicable for evacuation of vacuum chambers > 30 l

# HiCube™ Turbo pumping stations

## Technical data HiCube™ Classic

Pumping station		HiCube 80 Classic		
Flange (in)		DN 40 ISO-KF	DN 63 ISO-K	DN 63 CF-F
Pumping speed for Nitrogen N <sub>2</sub>	l/s	35	67	67
Ultimate pressure				
with Rotary vane pump DuoLine	mbar	< 1 · 10 <sup>-7</sup>	< 1 · 10 <sup>-7</sup>	< 5 · 10 <sup>-10</sup>
with Diaphragm pump MVP	mbar	< 1 · 10 <sup>-7</sup>	< 1 · 10 <sup>-7</sup>	< 1 · 10 <sup>-8</sup>
Pumping speed backing pump at 50 Hz				
Diaphragm pump MVP 015	m <sup>3</sup> /h	0.9	0.9	0.9
Diaphragm pump MVP 040	m <sup>3</sup> /h	2.3	2.3	2.3
Diaphragm pump MVP 070	m <sup>3</sup> /h	3.8	3.8	3.8
Rotary vane pump Duo 2.5	m <sup>3</sup> /h	2.5	2.5	2.5
Rotary vane pump Duo 5 M	m <sup>3</sup> /h	5	5	5
Weight pumping station: <sup>1)</sup>				
with Diaphragm pump MVP 015	kg	31.5	31.5	32.9
with Diaphragm pump MVP 040	kg	36.4	36.4	37.8
with Diaphragm pump MVP 070	kg	41.4	41.4	42.8
with Rotary vane pump Duo 2.5	kg	35.5	35.5	36.9
with Rotary vane pump Duo 5 M	kg	44.0	44.0	45.4
Power consumption				
with Diaphragm pump MVP 015	W	230	230	230
with Diaphragm pump MVP 040	W	290	290	290
with Diaphragm pump MVP 070	W	360	360	360
with Rotary vane pump Duo 2.5	W	270	270	270
with Rotary vane pump Duo 5 M	W	360	360	360

Ultimate pressure in a measuring dome 48 hours after bake-out, can be attained only with metallic seal of the high vacuum flange. (Ultimate pressure with elastomer seal (standard, not bakeable): < 1 · 10<sup>-7</sup> mbar.)

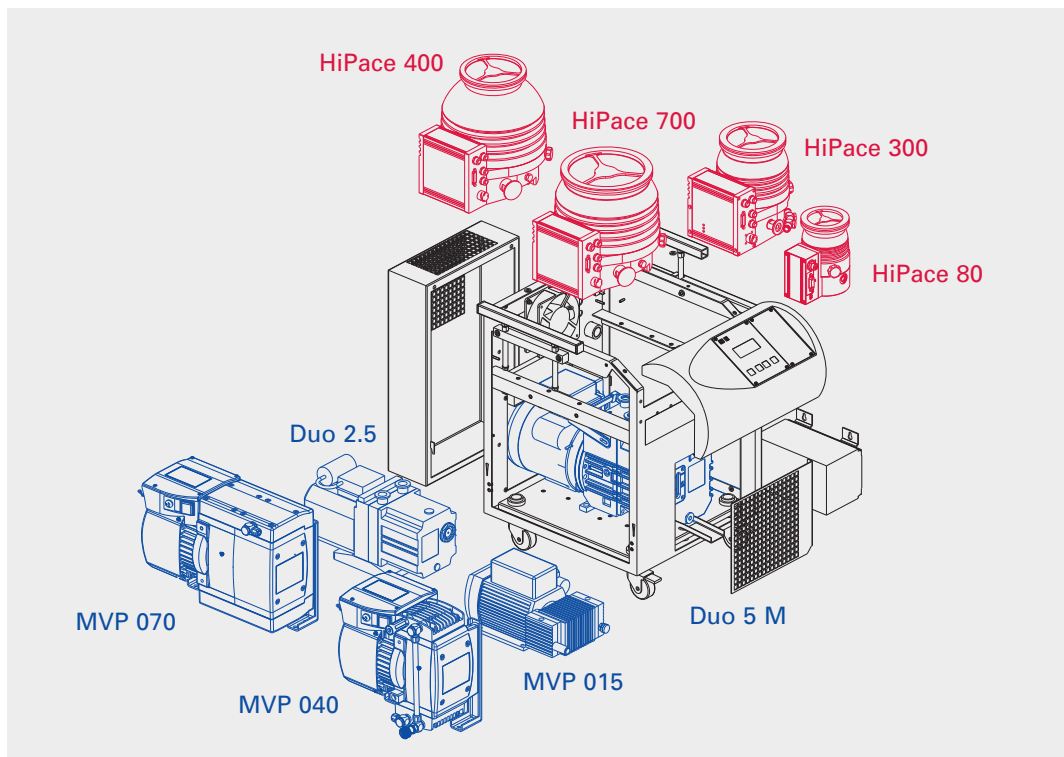
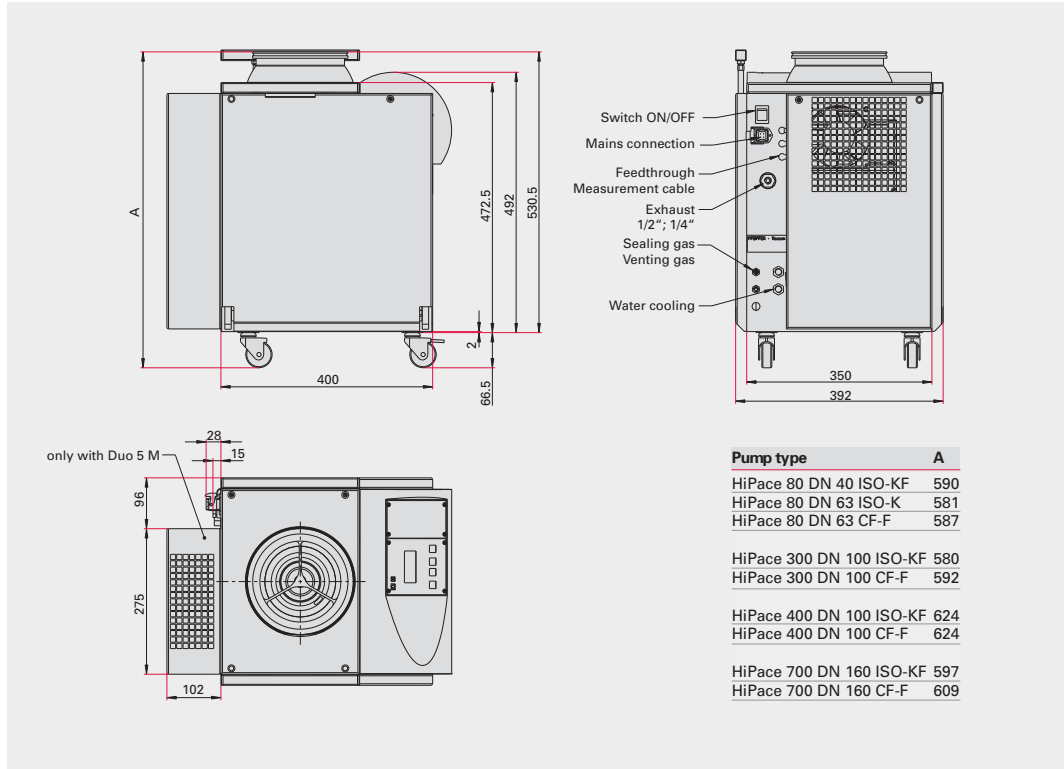
<sup>1)</sup> without fore-vacuum safety valve

	HiCube 300 Classic		HiCube 400 Classic		HiCube 700 Classic	
	DN 100 ISO-K	DN 100 CF-F	DN 100 ISO-K	DN 100 CF-F	DN 160 ISO-K	DN 160 CF-F
	260	260	355	355	685	685
	$< 1 \cdot 10^{-7}$	$< 5 \cdot 10^{-10}$	$< 1 \cdot 10^{-7}$	$< 5 \cdot 10^{-10}$	$< 1 \cdot 10^{-7}$	$< 5 \cdot 10^{-10}$
	$< 1 \cdot 10^{-7}$	$< 1 \cdot 10^{-8}$	$< 1 \cdot 10^{-7}$	$< 1 \cdot 10^{-8}$	$< 1 \cdot 10^{-7}$	$< 1 \cdot 10^{-8}$
	–	–	–	–	–	–
	2.3	2.3	–	–	–	–
	3.8	3.8	3.8	3.8	3.8	3.8
	2.5	2.5	2.5	2.5	2.5	2.5
	5	5	5	5	5	5
	–	–	–	–	–	–
	41.2	43.2	–	–	–	–
	46.2	48.2	51.6	57.5	52.0	57.9
	40.3	42.3	45.7	51.6	46.1	52.0
	48.8	50.8	54.2	60.1	54.6	60.5
	–	–	–	–	–	–
	480	480	–	–	–	–
	550	550	670	670	670	670
	460	460	580	580	580	580
	550	550	670	670	670	670



# HiCube™ Turbo pumping stations

## Dimensions HiCube™ Classic





# Order matrix HiCube™ Classic

Order number  
PM S aa bb c d e

				aa
Turbopump	TC 110	HiPace 80	DN 40 ISO-KF	20
		HiPace 80	DN 63 ISO-K	21
		HiPace 80	DN 63 CF-F	22
	TC 400	HiPace 300	DN 100 ISO-K	23
		HiPace 300	DN 100 CF-F	24
		HiPace 400	DN 100 ISO-K	25
		HiPace 400	DN 100 CF-F	26
		HiPace 700	DN 160 ISO-K	27
		HiPace 700	DN 160 CF-F	28

				bb	
Diaphragm pump	MVP 015	110 V AC	50/60 Hz	20	
	MVP 015	230 V AC	50/60 Hz	21	
	MVP 040	110 V AC	60 Hz	22	
	MVP 040	230 V AC	50/60 Hz	23	
	MVP 070	110 V AC	60 Hz	24	
	MVP 070	230 V AC	50/60 Hz	25	
	MVP 015	110 V AC	50/60 Hz	with TVV 001 <sup>1)</sup>	26
	MVP 015	230 V AC	50/60 Hz	with TVV 001 <sup>1)</sup>	27
	MVP 040	110 V AC	60 Hz	with TVV 001 <sup>1)</sup>	28
	MVP 040	230 V AC	50/60 Hz	with TVV 001 <sup>1)</sup>	29
	MVP 070	110 V AC	60 Hz	with TVV 001 <sup>1)</sup>	30
	MVP 070	230 V AC	50/60 Hz	with TVV 001 <sup>1)</sup>	31
Rotary vane pump	Duo 2.5	110 V AC	50/60 Hz	32	
	Duo 2.5	230 V AC	50/60 Hz	33	
	Duo 5 M	110 V AC	50/60 Hz	34	
	Duo 5 M	230 V AC	50/60 Hz	35	
	Duo 2.5	110 V AC	50/60 Hz	with AVC 016 <sup>1)</sup>	36
	Duo 2.5	230 V AC	50/60 Hz	with AVC 016 <sup>1)</sup>	37
	Duo 5 M	110 V AC	50/60 Hz	with AVC 016 <sup>1)</sup>	38
	Duo 5 M	230 V AC	50/60 Hz	with AVC 016 <sup>1)</sup>	39

<sup>1)</sup> Fore-vacuum safety valve

		c/d/e	
Options	General	Standard, on rubber feet	0
		On rollers, 4 guiding rollers, 2 brakes	1
		Air drier TTV 001, with connectin to the venting valve	2
		On rollers + air drier TTV 001	3
	Cable	Standard (without cable set for external use)	0
		Cable set and fore-vacuum line 3 m (for external use of the turbopump)	1
		Cable set and fore-vacuum line 5 m (for external use of the turbopump)	2
		Cable set and fore-vacuum line 10 m (for external use of the turbopump)	3
	Cooling	Standard, air cooling	0
		Water cooling	1
		Water cooling + heating jacket	2

# HiCube™ Turbo pumping stations

## Order numbers HiCube™ Classic

Backing pump	Turbopump	HiPace 80		
		DN 40 ISO-KF	DN 63 ISO-K	DN 63 CF-F
MVP 015; 110 V AC, 50/60 Hz	PM S	20 20 000	21 20 000	22 20 000
MVP 015; 230 V AC, 50/60 Hz	PM S	20 21 000	21 21 000	22 21 000
MVP 040; 110 V AC, 60 Hz	PM S	20 22 000	21 22 000	22 22 000
MVP 040; 230 V AC, 50/60 Hz	PM S	20 23 000	21 23 000	22 23 000
MVP 070; 110 V AC, 60 Hz	PM S	20 24 000	21 24 000	22 24 000
MVP 070; 230 V AC, 50/60 Hz	PM S	20 25 000	21 25 000	22 25 000
MVP 015; with TVV 001; 110 V AC, 50/60 Hz	PM S	20 26 000	21 26 000	22 26 000
MVP 015; with TVV 001; 230 V AC, 50/60 Hz	PM S	20 27 000	21 27 000	22 27 000
MVP 040; with TVV 001; 110 V AC, 60 Hz	PM S	20 28 000	21 28 000	22 28 000
MVP 040; with TVV 001; 230 V AC, 50/60 Hz	PM S	20 29 000	21 29 000	22 29 000
MVP 070; with TVV 001; 110 V AC, 60 Hz	PM S	20 30 000	21 30 000	22 30 000
MVP 070; with TVV 001; 230 V AC, 50/60 Hz	PM S	20 31 000	21 31 000	22 31 000
Duo 2.5; 110 V AC, 50/60 Hz	PM S	20 32 000	21 32 000	22 32 000
Duo 2.5; 230 V AC, 50/60 Hz	PM S	20 33 000	21 33 000	22 33 000
Duo 5 M; 110 V AC, 50/60 Hz	PM S	20 34 000	21 34 000	22 34 000
Duo 5 M; 230 V AC, 50/60 Hz	PM S	20 35 000	21 35 000	22 35 000
Duo 2.5; with AVC 016 MA; 110 V AC, 50/60 Hz	PM S	20 36 000	21 36 000	22 36 000
Duo 2.5; with AVC 016 MA; 230 V AC, 50/60 Hz	PM S	20 37 000	21 37 000	22 37 000
Duo 5 M; with AVC 016 MA; 110 V AC, 50/60 Hz	PM S	20 38 000	21 38 000	22 38 000
Duo 5 M; with AVC 016 MA; 230 V AC, 50/60 Hz	PM S	20 39 000	21 39 000	22 39 000

Options	Order numbers
Standard, on rubber feet	PM S aa bb <b>0de</b>
On rollers, 4 guiding rollers, 2 brakes	PM S aa bb <b>1de</b>
Air drier TTV 001, with connectin to the venting valve	PM S aa bb <b>2de</b>
On rollers + air drier TTV 001	PM S aa bb <b>3de</b>
Standard (without cable set for external use)	PM S aa bb <b>c0e</b>
Cable set and fore-vacuum line 3 m (for external use of the turbopump)	PM S aa bb <b>c1e</b>
Cable set and fore-vacuum line 5 m (for external use of the turbopump)	PM S aa bb <b>c2e</b>
Cable set and fore-vacuum line 10 m (for external use of the turbopump)	PM S aa bb <b>c3e</b>
Standard, air cooling	PM S aa bb <b>cd0</b>
Water cooling	PM S aa bb <b>cd1</b>
Water cooling + heating jacket	PM S aa bb <b>cd2</b>

	HiPace 300		HiPace 400		HiPace 700	
	DN 100 ISO-K	DN 100 CF-F	DN 100 ISO-K	DN 100 CF-F	DN 160 ISO-K	DN 160 CF-F
	-	-	-	-	-	-
	-	-	-	-	-	-
	23 22 000	24 22 000	-	-	-	-
	23 23 000	24 23 000	-	-	-	-
	23 24 000	24 24 000	25 24 000	26 24 000	27 24 000	28 24 000
	23 25 000	24 25 000	25 25 000	26 25 000	27 25 000	28 25 000
	-	-	-	-	-	-
	-	-	-	-	-	-
	23 28 000	24 28 000	-	-	-	-
	23 29 000	24 29 000	-	-	-	-
	23 30 000	24 30 000	25 30 000	26 30 000	27 30 000	28 30 000
	23 31 000	24 31 000	25 31 000	26 31 000	27 31 000	28 31 000
	23 32 000	24 32 000	25 32 000	26 32 000	27 32 000	28 32 000
	23 33 000	24 33 000	25 33 000	26 33 000	27 33 000	28 33 000
	23 34 000	24 34 000	25 34 000	26 34 000	27 34 000	28 34 000
	23 35 000	24 35 000	25 35 000	26 35 000	27 35 000	28 35 000
	23 36 000	24 36 000	25 36 000	26 36 000	27 36 000	28 36 000
	23 37 000	24 37 000	25 37 000	26 37 000	27 37 000	28 37 000
	23 38 000	24 38 000	25 38 000	26 38 000	27 38 000	28 38 000
	23 39 000	24 39 000	25 39 000	26 39 000	27 39 000	28 39 000

# HiCube™ Turbo pumping stations

## Technical data HiCube™ Pro

Pumping station		HiCube 80 Pro		
Flange (in)		DN 40 ISO-KF	DN 63 ISO-K	DN 63 CF-F
Pumping speed for Nitrogen N <sub>2</sub>	l/s	35	67	67
Ultimate pressure				
with Piston pump XtraDry 150	mbar	< 1 · 10 <sup>-7</sup>	< 1 · 10 <sup>-7</sup>	< 5 · 10 <sup>-10</sup>
with Rotary vane pump PentaLine	mbar	< 1 · 10 <sup>-7</sup>	< 1 · 10 <sup>-7</sup>	< 5 · 10 <sup>-10</sup>
Pumping speed backing pump at 50 Hz				
Piston pump XtraDry 150	m <sup>3</sup> /h	7.5	7.5	7.5
Rotary vane pump Penta 10	m <sup>3</sup> /h	11	11	11
Rotary vane pump Penta 20	m <sup>3</sup> /h	22	22	22
Rotary vane pump Penta 35	m <sup>3</sup> /h	34	34	34
Weight pumping station: <sup>1)</sup>				
with Piston pump XtraDry 150	kg	69.2	69.2	70.6
with Rotary vane pump Penta 10	kg	81.2	81.2	82.6
with Rotary vane pump Penta 20	kg	82.2	82.2	83.6
with Rotary vane pump Penta 35	kg	84.2	84.2	85.6
Power consumption				
with Piston pump XtraDry 150	W	660	660	660
with Rotary vane pump Penta 10	W	665	665	665
with Rotary vane pump Penta 20	W	1100	1100	1100
with Rotary vane pump Penta 35	W	1585	1585	1585

Ultimate pressure in a measuring dome 48 hours after bake-out, can be attained only with metallic seal of the high vacuum flange. (Ultimate pressure with elastomer seal (standard, not bakeable): < 1 · 10<sup>-7</sup> mbar.)

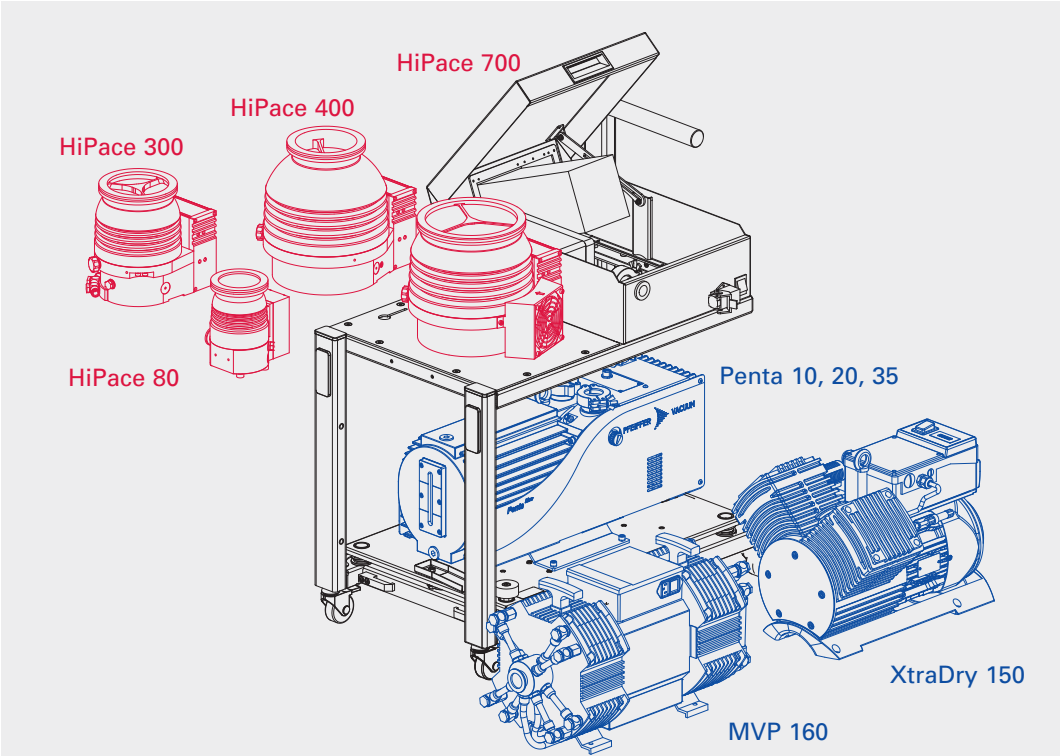
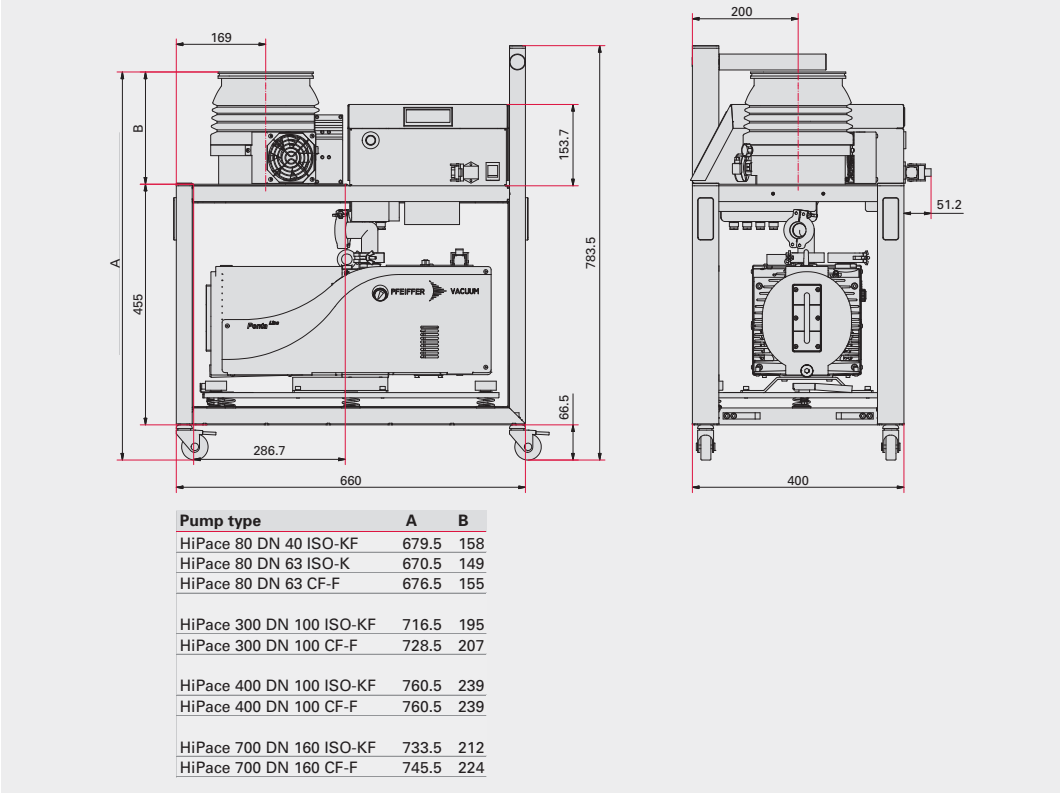
<sup>1)</sup> without fore-vacuum safety valve

	HiCube 300 Pro		HiCube 400 Pro		HiCube 700 Pro	
	DN 100 ISO-K	DN 100 CF-F	DN 100 ISO-K	DN 100 CF-F	DN 160 ISO-K	DN 160 CF-F
	260	260	355	355	685	685
	$< 1 \cdot 10^{-7}$	$< 5 \cdot 10^{-10}$	$< 1 \cdot 10^{-7}$	$< 5 \cdot 10^{-10}$	$< 1 \cdot 10^{-7}$	$< 5 \cdot 10^{-10}$
	$< 1 \cdot 10^{-7}$	$< 5 \cdot 10^{-10}$	$< 1 \cdot 10^{-7}$	$< 5 \cdot 10^{-10}$	$< 1 \cdot 10^{-7}$	$< 5 \cdot 10^{-10}$
	7.5	7.5	7.5	7.5	7.5	7.5
	11	11	11	11	11	11
	22	22	22	22	22	22
	34	34	34	34	34	34
	74.0	76.0	79.4	85.3	79.8	85.7
	86.0	88.0	91.4	97.3	91.8	97.7
	87.0	89.0	92.4	98.3	92.8	98.7
	89.0	91.0	94.4	100.3	94.8	100.7
	850	850	970	970	970	970
	855	855	975	975	975	975
	1290	1290	1410	1410	1410	1410
	1775	1775	1895	1895	1895	1895



# HiCube™ Turbo pumping stations

## Dimensions HiCube™ Pro



# Order matrix HiCube™ Pro

Order number  
PM S aa bb c d e

				aa
Trubopump	TC 110	HiPace 80	DN 40 ISO-KF	40
		HiPace 80	DN 63 ISO-K	41
		HiPace 80	DN 63 CF-F	42
	TC 400	HiPace 300	DN 100 ISO-K	43
		HiPace 300	DN 100 CF-F	44
		HiPace 400	DN 100 ISO-K	45
		HiPace 400	DN 100 CF-F	46
		HiPace 700	DN 160 ISO-K	47
		HiPace 700	DN 160 CF-F	48

				bb	
Piston pump	XtraDry 150	90–110 V AC	50/60 Hz	40	
	XtraDry 150	104–127 V AC	50/60 Hz	41	
	XtraDry 150	207–253 V AC	50/60 Hz	42	
Dia- phragm pump	MVP 160	230 V AC	50/60 Hz	43	
	MVP 160	110 V AC	60 Hz	44	
Rotary vane pump	Penta 10	110 V AC	50/60 Hz	46	
	Penta 10	230 V AC	50/60 Hz	47	
	Penta 20	110 V AC	50/60 Hz	48	
	Penta 20	230 V AC	50/60 Hz	49	
	Penta 35	110 V AC	50/60 Hz	50	
	Penta 35	230 V AC	50/60 Hz	51	
	Penta 10	110 V AC	50/60 Hz	with AVC 025 MA <sup>1)</sup>	52
	Penta 10	230 V AC	50/60 Hz	with AVC 025 MA <sup>1)</sup>	53
	Penta 20	110 V AC	50/60 Hz	with AVC 025 MA <sup>1)</sup>	54
	Penta 20	230 V AC	50/60 Hz	with AVC 025 MA <sup>1)</sup>	55
	Penta 35	110 V AC	50/60 Hz	with AVC 025 MA <sup>1)</sup>	56
	Penta 35	230 V AC	50/60 Hz	with AVC 025 MA <sup>1)</sup>	57

<sup>1)</sup> Fore-vacuum safety valve

				c/d/e
Options	General	Standard, 4 rollers		0
		4 rollers, venting valve		1
		4 rollers, venting valve, air drier TTV 001, with connection to the venting valve		2
		4 rollers, oil mit filter (ONF)		3
		4 rollers, venting valve, oil mist filter (ONF)		4
		4 rollers, venting valve, air drier TTV 001, with connection to the venting valve, oil mist filter (ONF)		5
	Cable	Standard (without cable set for external use)		0
		Cable set and fore-vacuum line 3 m (for external use of the turbopump)		1
		Cable set and fore-vacuum line 5 m (for external use of the turbopump)		2
		Cable set and fore-vacuum line 10 m (for external use of the turbopump)		3
	Cooling	Standard, air cooling		0
		Water cooling		1
		Water cooling + heating jacket		2

# HiCube™ Turbo pumping stations

## Order numbers HiCube™ Pro

Backing pump	Turbopump	HiPace 80		
		DN 40 ISO-KF	DN 63 ISO-K	DN 63 CF-F
XtraDry 150; 90-110 V AC, 50/60 Hz	PM S	40 40 000	41 40 000	42 40 000
XtraDry 150; 104-127 V AC, 50/60 Hz	PM S	40 41 000	41 41 000	42 41 000
XtraDry 150; 207-253 V AC, 50/60 Hz	PM S	40 42 000	41 42 000	42 42 000
Penta 10; 110 V AC, 50/60 Hz	PM S	40 46 000	41 46 000	42 46 000
Penta 10; 230 V AC, 50/60 Hz	PM S	40 47 000	41 47 000	42 47 000
Penta 20; 110 V AC, 50/60 Hz	PM S	40 48 000	41 48 000	42 48 000
Penta 20; 230 V AC, 50/60 Hz	PM S	40 49 000	41 49 000	42 49 000
Penta 35; 110 V AC, 50/60 Hz	PM S	40 50 000	41 50 000	42 50 000
Penta 35; 230 V AC, 50/60 Hz	PM S	40 51 000	41 51 000	42 51 000
Penta 10; with AVC 025 MA; 110 V AC, 50/60 Hz	PM S	40 52 000	41 52 000	42 52 000
Penta 10; with AVC 025 MA; 230 V AC, 50/60 Hz	PM S	40 53 000	41 53 000	42 53 000
Penta 20; with AVC 025 MA; 110 V AC, 50/60 Hz	PM S	40 54 000	41 54 000	42 54 000
Penta 20; with AVC 025 MA; 230 V AC, 50/60 Hz	PM S	40 55 000	41 55 000	42 55 000
Penta 35; with AVC 025 MA; 110 V AC, 50/60 Hz	PM S	40 56 000	41 56 000	42 56 000
Penta 35; with AVC 025 MA; 230 V AC, 50/60 Hz	PM S	40 57 000	41 57 000	42 57 000

Options	Order numbers
Standard, 4 rollers	PM S aa bb <b>0de</b>
4 rollers, venting valve	PM S aa bb <b>1de</b>
4 rollers, venting valve, air drier TTV 001, with connectin to the venting valve	PM S aa bb <b>2de</b>
4 rollers, oil mist filter (ONF)	PM S aa bb <b>3de</b>
4 rollers, venting valve, oil mist filter (ONF)	PM S aa bb <b>4de</b>
4 rollers, venting valve, air drier TTV 001, with connectin to the venting valve, oil mit filter (ONF)	PM S aa bb <b>5de</b>
Standard (without cable set for external use)	PM S aa bb <b>c0e</b>
Cable set and fore-vacuum line 3 m (for external use of the turbopump)	PM S aa bb <b>c1e</b>
Cable set and fore-vacuum line 5 m (for external use of the turbopump)	PM S aa bb <b>c2e</b>
Cable set and fore-vacuum line 10 m (for external use of the turbopump)	PM S aa bb <b>c3e</b>
Standard, air cooling	PM S aa bb <b>cd0</b>
Water cooling	PM S aa bb <b>cd1</b>
Water cooling + heating jacket	PM S aa bb <b>cd2</b>



	HiPace 300		HiPace 400		HiPace 700	
	DN 100 ISO-K	DN 100 CF-F	DN 100 ISO-K	DN 100 CF-F	DN 160 ISO-K	DN 160 CF-F
	43 40 000	44 40 000	45 40 000	46 40 000	47 40 000	48 40 000
	43 41 000	44 41 000	45 41 000	46 41 000	47 41 000	48 41 000
	43 42 000	44 42 000	45 42 000	46 42 000	47 42 000	48 42 000
	43 46 000	44 46 000	45 46 000	46 46 000	47 46 000	48 46 000
	43 47 000	44 47 000	45 47 000	46 47 000	47 47 000	48 47 000
	43 48 000	44 48 000	45 48 000	46 48 000	47 48 000	48 48 000
	43 49 000	44 49 000	45 49 000	46 49 000	47 49 000	48 49 000
	43 50 000	44 50 000	45 50 000	46 50 000	47 50 000	48 50 000
	43 51 000	44 51 000	45 51 000	46 51 000	47 51 000	48 51 000
	43 52 000	44 52 000	45 52 000	46 52 000	47 52 000	48 52 000
	43 53 000	44 53 000	45 53 000	46 53 000	47 53 000	48 53 000
	43 54 000	44 54 000	45 54 000	46 54 000	47 54 000	48 54 000
	43 55 000	44 55 000	45 55 000	46 55 000	47 55 000	48 55 000
	43 56 000	44 56 000	45 56 000	46 56 000	47 56 000	48 56 000
	43 57 000	44 57 000	45 57 000	46 57 000	47 57 000	48 57 000

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Pfeiffer Vacuum – A name that stands for reliable high-tech products and innovative solutions that support our customers in their applications and pave the way to their success.

**Our vacuum technology developments always keep us a step ahead!**



All data subject to change without prior notice. PT 0130 PE (September 2009/10)

## Sales, service and consulting

- ▶ Worldwide on-site service
- ▶ Comprehensive in-factory and on-site training programs
- ▶ Modular service concept ranging from spare parts to maintenance contracts



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