

Vacuum Generation - Rotary Vane Pumps

Rotary Vane Pumps

ILMVAC has been developing and producing rotary vane pumps for 60 years. You can rely on our competence and experience. Our superior material selection and optimized design ensures the best performance and reliability. The result is a professional solution for research and industry.

Rotary vanes and bearings are lubricated automatically at an optimized oil pressure. This results in lower ultimate pressures and stabilizes the temperature of the pump. Hence, the lifetime is extended even under extreme conditions. The selected materials have good chemical resistance, making even the standard models suitable for chemical applications. The bearings are resistant against NH_3 , amines and many solvents.

Ranges of application:

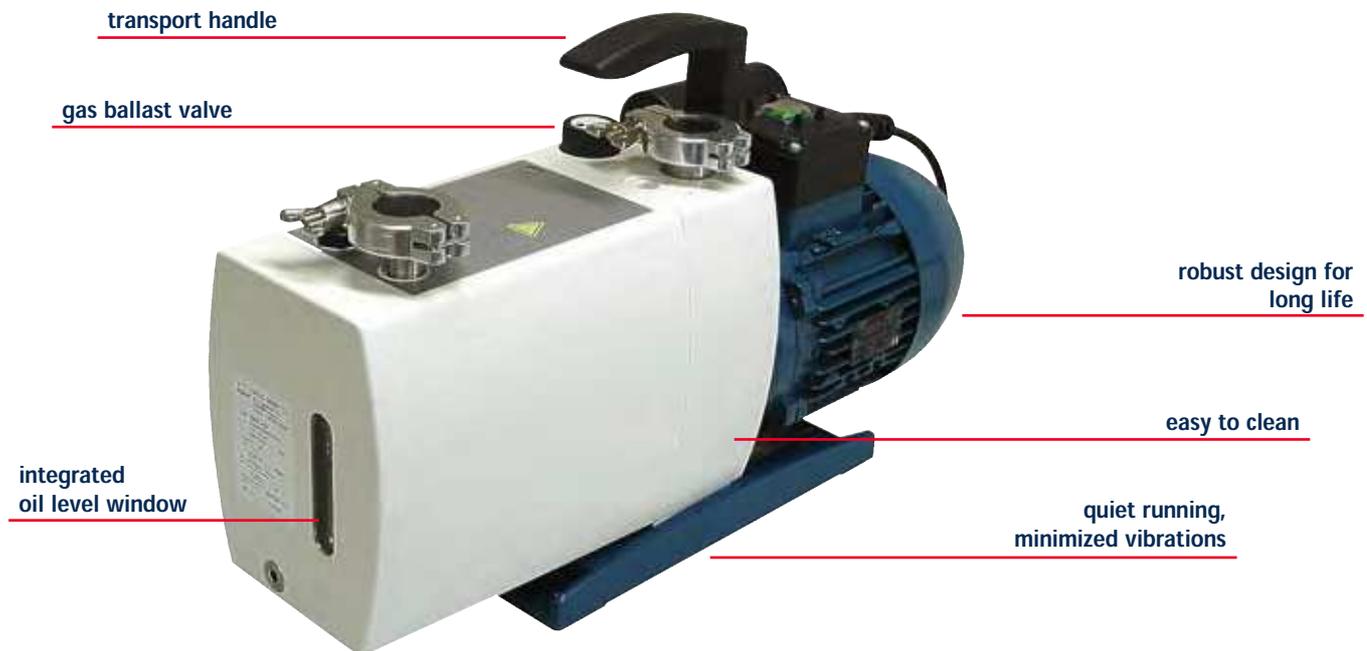
- vacuum drying
- freeze drying
- vacuum concentration

Scope of delivery:

Rotary vane pump complete with oil charging, centering ring and clamping ring.

On request:

- rotary vane pumps helium-tight
- rotary vane pumps with special oil
- rotary vane pumps with other voltages



Special characteristics

- high water vapor tolerance for chemical applications
- compact, robust and functional construction
- low noise emission
- minimized oil contamination of the chamber by migration or suck-back
- high pumping speed
- free of non-ferrous metals
- low ultimate pressures are reached quickly
- direct drive with elastic coupling
- long service intervals
- low energy consumption
- easy reassembly when servicing
- continuous operation possible
- attach simply and switch on



Two-stage
Rotary Vane Pumps
P - Z Series
Page 20 - 21



Two-stage
Rotary Vane Pump
PK 2 DC
Page 22



Two-stage
Rotary Vane Pump
P 65 D
Page 23



Two-stage
Rotary Vane Pumps
P-DF
with variable pumping speed
Page 24 - 25



One-stage
Rotary Vane Pumps
PS Series
Page 26 - 27

For accessories
see
page 122 - 130

Two-stage Rotary Vane Pumps, Types PZ and PK

The rotary vane pumps of the PZ and PK series from ILMVAC are characterized by their high water vapor tolerance and reliability. These pumps are ideally suited for use in the laboratory. They are low maintenance, compact and exceptionally quiet.

Special characteristics:

- low maintenance
- compact
- low weight
- small dimensions
- high water vapor tolerance
- high pumping speed
- easy to service
- high reliability
- quiet running

Ranges of application:

- in the rough and fine vacuum range
- chemical laboratories
- backing pump for turbomolecular pumps, roots pumps and diffusion pumps
- freeze drying
- process engineering

Two-stage Rotary Vane Pumps, Types P4Z, P6Z, P8Z, P12Z, P17Z, P23Z

NEW

The new series of rotary vane pumps P-Z have a high water vapor tolerance and a very compact design. With a comprehensive range of accessories these pumps are applicable to a wide range of applications. Due to their low weight, small dimensions and the high pumping speed, these chemically resistant pumps are ideal for use in laboratories. They are low maintenance, compact and exceptionally quiet. To prevent accidental damage the oil control glass is integrated into the housing. The casings of the pumps are easy to clean.

Ranges of application:

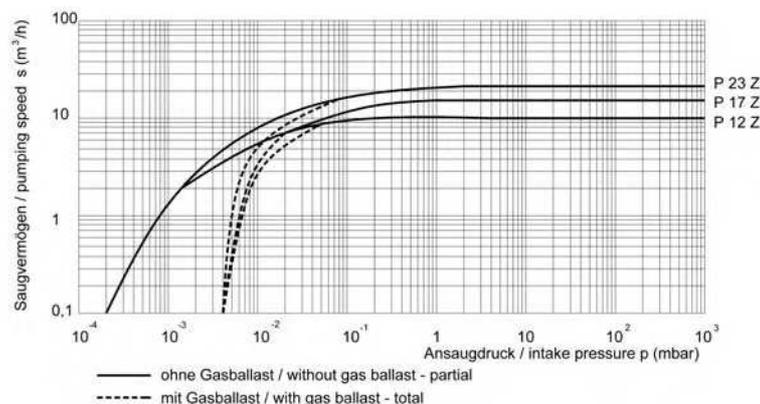
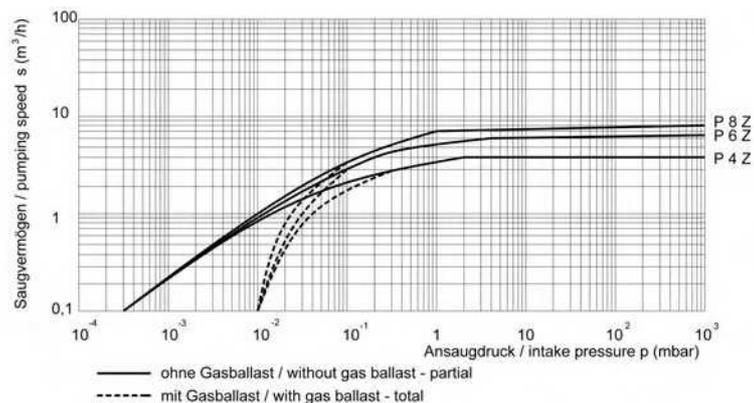
- in the rough and fine vacuum range
- chemical laboratories
- as backing pump
- freeze drying
- process engineering

Scope of delivery:

Rotary vane pump complete with anti-suck back valve, oil charging, centering ring, clamping ring and motor overload protection.

Note:

Country specific mains connection cable must be ordered separately, see page 146.



Special characteristics:

- two stage rotary vane pump
- high pumping speed
- high water vapor tolerance (60 mbar for P4Z, P6Z, P8Z and 35 mbar for P12Z, P17Z, P23Z)
- max. leak rate of inlet valve 7×10^{-5} mbar l/sec
- integrated oil control glass
- high temperature heat dissipation
- very low noise when running
- high reliability
- small dimensions
- low weight
- easy to service
- low maintenance
- easy to clean



Technical Features

Type	Ult. pressure w/o. gas ballast total mbar	Ult. pressure w/o. gas ballast partial mbar	Ult. pressure w. gas ballast total mbar	Pumping speed pneurop 50/60 Hz		Dimensions (W/D/H) mm	Weight kg	Motor power W	Oil charge ml	Connections suction/pressure side
				m ³ /h	l/min					
P4Z	2×10^{-3}	2×10^{-4}	1×10^{-2}	4.6/5.5	77/92	405/150/215	17.5	370	1100	DN 16 KF
P6Z	2×10^{-3}	2×10^{-4}	1×10^{-2}	5.8/6.6	97/110	415/150/215	19.5	370	1000	DN 16 KF
P8Z	2×10^{-3}	2×10^{-4}	1×10^{-2}	7.2/8.6	120/143	430/150/215	21.5	370	1200	DN 25 KF
P12Z	2×10^{-3}	1.5×10^{-4}	3×10^{-3}	11.0/13.2	183/220	522/166/256	30.0	550	1400	DN 25 KF
P17Z	2×10^{-3}	1.5×10^{-4}	3×10^{-3}	16.0/19.2	267/320	522/171/256	33.0	750	1200	DN 25 KF
P23Z	2×10^{-3}	1.5×10^{-4}	3×10^{-3}	21.0/25.2	350/420	522/171/256	33.5	750	1000	DN 25 KF

Ordering Information

Type	Mains supply V / Hz	Mandatory accessories Connection cable	PU pcs.	Order-No.
P4Z	230 / 50/60	yes	1	302102
P4Z	115 / 50/60	yes	1	302102-01
P4Z	230/400V / 50/60Hz CEE	no	1	302102-02
P6Z	230 / 50/60	yes	1	302103
P6Z	115 / 50/60	yes	1	302103-01
P6Z	230/400V / 50/60Hz CEE	no	1	302103-02
P8Z	230 / 50/60	yes	1	302104
P8Z	115 / 50/60	yes	1	302104-01
P8Z	230/400V / 50/60Hz CEE	no	1	302104-02
P12Z	230 / 50/60	yes	1	302314
P12Z	115 / 50/60	yes	1	302314-01
P12Z	230/400V / 50/60Hz CEE	no	1	302314-02
P17Z	230 / 50/60	yes	1	302315
P17Z	115 / 50/60	yes	1	302315-01
P17Z	230/400V / 50/60Hz CEE	no	1	302315-02
P23Z	230 / 50/60	yes	1	302316
P23Z	115 / 50/60	yes	1	302316-01
P23Z	230/400V / 50/60Hz CEE	no	1	302316-02



Note:
Country specific mains connection cable separately to the device, see page 146.

Two-Stage Rotary Vane Pump, Type PK 2 DC

Very small, highly efficient and chemically resistant rotary vane pump for laboratory applications.

Special characteristics:

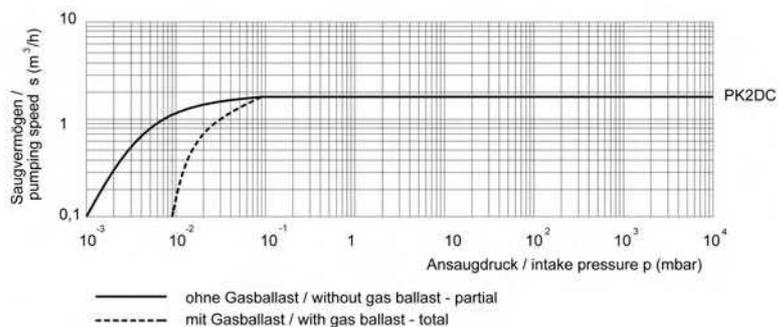
- free of non-ferrous metals
- media contacting parts made of chemically resistant material
- all elastomers in Viton
- vanes of special plastics
- overload protected motor, IP 54 splash-proof
- water vapor tolerance 33 mbar

Ranges of application:

- vacuum distillation
- vacuum filtration
- vacuum drying
- refrigeration technique etc.

Scope of delivery:

Rotary vane pump ready-to-use with oil charging, centering ring, clamping ring, motor protection, main power switch, mains connection cable and plug.



Technical Features

Type	Ult. pressure w/o gas ballast total mbar	Ult. pressure w/o gas ballast partial mbar	Ult. pressure w. gas ballast total mbar	Pumping speed pneurop m ³ /h	Pumping speed 50/60 Hz l/min	Dimensions (W/D/H) mm	Weight kg	Motor power W	Oil charge ml	Connections suction/pressure side
PK 2 DC	1x10 ⁻²	1x10 ⁻³	0.5	1.8/2.2	30/36	300/120/150	8	120	250	DN 16 KF

Ordering Information

Type	Mains supply V / Hz	Mandatory accessories Connection cable	PU pcs.	Order-No.
PK 2 DC	230 / 50/60 CEE	no	1	302010
PK 2 DC	230 / 50/60 UK	no	1	302010-05
PK 2 DC	230 / 50/60 CH	no	1	302010-06
PK 2 DC	115 / 50/60 US	no	1	302010-02



Two-stage Rotary Vane Pump, Type P 65 D

The rotary vane pump P 65 D is low maintenance and is characterized by its high pumping speed. The pump is ideally suited for use in industry applications.

Special characteristics:

- two-stage rotary vane pump
- high pumping speed
- max. leak rate of inlet valve 7×10^{-5} mbar l/sec
- high water vapor tolerance, 33 mbar
- high temperature heat dissipation
- easy to service
- oil control glass
- very low noise when running
- compact
- low weight
- low maintenance
- high reliability
- easy to clean

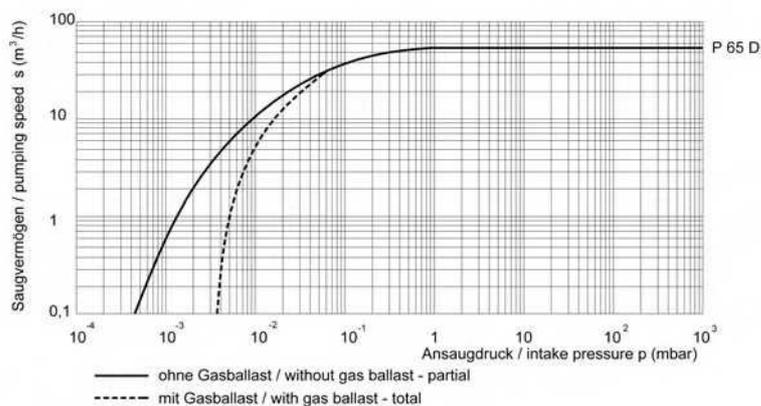
Ranges of application:

- rough and fine vacuum range
- industry
- as backing pump for roots pumps
- freeze drying
- process engineering

Scope of delivery:

Rotary vane pump complete with oil charging, centering ring and clamping ring, without motor protection and mains connection cable.

The pump must be installed by an electrician.



Technical Features

Type	Ult. pressure w/o. gas ballast total mbar	Ult. pressure w/o. gas ballast partial mbar	Ult. pressure w. gas ballast total mbar	Pumping speed pneurop 50/60 Hz m³/h l/min	Dimensions (W/D/H) mm	Weight kg	Motor power W	Oil charge ml	Connections suction/pressure side
P 65 D	3×10^{-3}	5×10^{-4}	6×10^{-2}	60/72 1000/1200	735/242/365	90	2200	4500	DN 40 KF

Ordering Information

Type	Mains supply V / Hz	Mandatory accessories Connection cable	PU pcs.	Order-No.
P 65 D	230/400 / 50/60	no	1	302140

Tel.: +44(0)1444 254762
 Fax: +44(0)1444 254763

E-Mail: info@ilmvac.co.uk
 url: www.ilmvac.co.uk

Tel.: +86 (0)21 50396223/4/5
 Fax: +86 (0)21 50396221

E-Mail: sales@ilmvac.com.cn
 url: www.ilmvac.com.cn

Two-Stage Rotary Vane Pumps, Type P-DF, variable pumping speed

For some technical or laboratory applications we recommend these rotary vane pumps with variable pumping speed. The pumping speed is controlled without any complicated valve mechanism. They are used when pumping speed needs to be varied without the expense of complex down stream flow control. The individual parameters can be easily setup by the end-user or our technicians if requested. The parameters may be optimized to the process. The variable pumping speed pumps are energy saving and have an extended life time as well as longer service intervals. Rotary vanes and bearings are lubricated automatically at an optimized oil pressure. This results in lower ultimate pressures and stabilizes the temperature of the pump. Selected materials guarantee good chemical resistance. Even for many chemical applications the standard model is suitable.

Special characteristics:

- speed controlled to match performance to demand
- low, ultimate pressures are reached quickly
- high water vapor tolerance, 30 mbar
- low noise emission
- high temperature heat dissipation
- low maintenance
- low weight
- compact, robust and functional construction
- an intake valve prevents oil back-streaming
- direct drive with elastic coupling
- easy reassembly when servicing and cleaning
- continuous operation due to high technology design
- integrated oil control glass
- high reliability

Ranges of application:

- in the rough and fine vacuum range
- chemical laboratories
- backing pump for turbomolecular pumps, roots pumps and diffusion pumps
- freeze drying
- process engineering

Scope of delivery:

Rotary vane pump with frequency converter ready-to-use with oil charging, centering ring, clamping ring, mains switch, mains cable and plug.

Technical Features

Type	Ult. pressure w/o. gas ballast total mbar	Ult. pressure w/o. gas ballast partial mbar	Ult. pressure w. gas ballast total mbar	Pumping speed pneurop 50/60 Hz		Dimensions (W/D/H) mm	Weight kg	Motor power W	Oil charge ml	Connections suction/pressure side
P 30 DF	2×10^{-3}	1.5×10^{-4}	3×10^{-3}	30	500	650/270/270	38	1100	1100	DN 25 KF
P 40 DF	2×10^{-3}	1.5×10^{-4}	3×10^{-3}	37	617	650/270/270	39	1500	1100	DN 25 KF

Ordering Information

Type	Mains supply V / Hz	Mandatory accessories Connection cable	PU pcs.	Order-No.
P 30 DF	230 / 50/60 CEE	no	1	302473
P 40 DF	230 / 50/60 CEE	no	1	302472



Rotary Vane Pump Systems

ILMVAC produces customized rotary vane pump systems for applications in research, development and industry.

Examples are to be found from page 84 in this catalog.



Tel.: +44(0)1444 254762
Fax: +44(0)1444 254763

E-Mail: info@ilmvac.co.uk
url: www.ilmvac.co.uk



Tel.: +86 (0)21 50396223/4/5
Fax: +86 (0)21 50396221

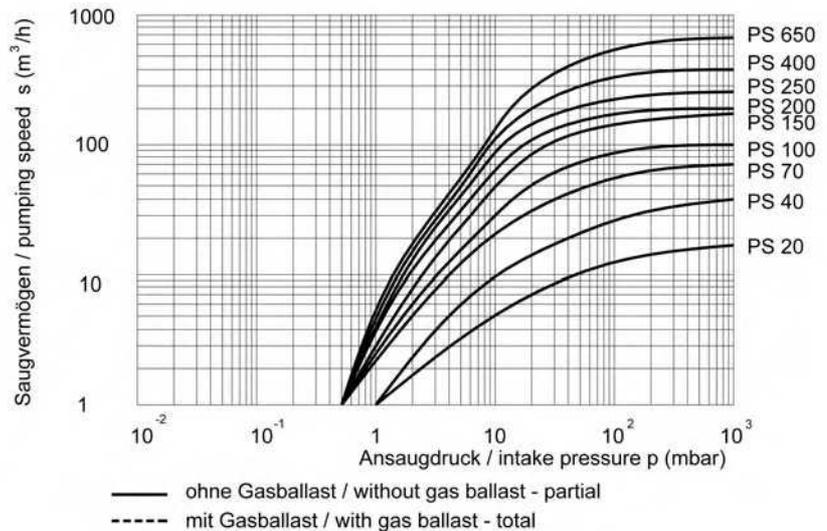
E-Mail: sales@ilmvac.com.cn
url: www.ilmvac.com.cn

One-stage Rotary Vane Pumps, Type PS 20 - PS 650

The robust rotary vane pumps of the PS-series are well suited for applications in the rough vacuum range. Recommended for routine use in industry as well as for research and development. The highly reproducible CNC manufacturing process guarantees production of high precision components. The PS-series is constructed for continuous operation.

Special characteristics:

- suction pressure range 0.5 (1) - 1000 mbar
- high pumping speed
- quiet running
- low noise level depending on type 63 - 80 dB(A)
- reliable air cooling
- functional and safe, even in continuous operation
- low maintenance requirements
- motors acc. to IEC-standard



Scope of delivery:

Rotary vane pump with integrated exhaust filter and anti-suck back valve, oil charging, centering ring and clamping ring, without motor protection and mains connection cable.

The pump must be installed by an electrician.



Technical Features

Typ	Ultimate pressure w/o gas ballast total mbar	Pumping speed pneurop 50 Hz		Dimensions (W/D/H) mm	Weight kg	Motor power W	Oil charge ml	Connections suction/pressure side
		m ³ /h	l/min					
PS 20	1.0	18	300	245/338/219	20	550	1000	DN 25 KF
PS 40	1.0	40	667	300/485/285	38	1500	1000	DN 40 KF
PS 70	0.5	70	1167	374/800/380	65	2400	2000	DN 40 KF
PS 100	0.5	100	1667	374/850/380	77	2400	2000	DN 63 ISO-K
PS 150	0.5	160	2667	531/970/480	135	4000	7000	DN 63 ISO-K
PS 200	0.5	190	3167	513/1070/480	158	5500	7000	DN 63 ISO-K
PS 250	0.5	240	4000	531/1160/480	181	7800	7000	DN 63 ISO-K
PS 400	0.5	400	6667	672/1392/565	400	11000	14000	DN 100 ISO-K
PS 650	0.5	630	10500	682/1610/565	525	15000	14000	DN 100 ISO-K

Ordering Information

Type	Mains supply V / Hz	Mandatory accessories Connection cable	PU pcs.	Order-No.
PS 20	230 / 50 CEE	no	1	301861
PS 20	3x230/400 / 50/60	no	1	301851
PS 40	230 / 50 CEE	no	1	301862
PS 40	3x230/400 / 50/60	no	1	301852
PS 70	3x230/400 / 50/60	no	1	301853
PS 100	3x230/400 / 50/60	no	1	301854
PS 150	3x230/400 / 50/60	no	1	301855
PS 200	3x230/400 / 50/60	no	1	301856
PS 250	3x400/690 / 50/60	no	1	301857
PS 400	3x400/690 / 50/60	no	1	301858
PS 650	3x400/690 / 50/60	no	1	301859



 Tel.: +44(0)1444 254762
Fax: +44(0)1444 254763

E-Mail: info@ilmvac.co.uk
url: www.ilmvac.co.uk

 Tel.: +86 (0)21 50396223/4/5
Fax: +86 (0)21 50396221

E-Mail: sales@ilmvac.com.cn
url: www.ilmvac.com.cn