A PASSION FOR PERFECTION

PFEIFFER VACUUM

PentaLine™

A New Generation of
Two-Stage Rotary Vane Pumps!

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What is PentaLine™?

The innovative two-stage PentaLine rotary vane pumps that offer pumping speeds of up to 35 m3/h are the perfect solution for applications in the low- and medium-vacuum ranges of down to 10^{-3} mbar. They live up to their promise of reliability and dependability under even the most punishing conditions. PentaLine pumps are able to capably handle both industrial tasks like drying and metallurgical processes, analytical environments, coating or research & development applications.

Where are the advantages?

The optimized drive system that is used in these pumps affords you cost-effectiveness that is convincing and environmentally friendly. The approximate 50 % reduction in power consumption compared to ordinary rotary vane pumps makes for significantly lower operating costs. Space-saving and hermetically sealed – the innovative PentaLine is super clean and requires only little maintenance.

Are there additional advantages?

Both man and machine benefit equally from these new generation rotary vane pumps. They give off less heat, for example, and offer longer service life thanks to their innovative standby operating mode. As a further innovation, they incorporate a motor concept that makes them easy to deploy anywhere in the world and satisfies the ecological engineering requirements of EU Directive 2005/32/EC. This enables the motor to achieve premium efficiency and even today surpass the minimums stipulated in the IE3 efficiency level that will become mandatory in 2017.
The PentaLine pumps run extremely quiet and with a minimum of vibration. They offer a work environment that is very pleasant and highly conducive to concentration.

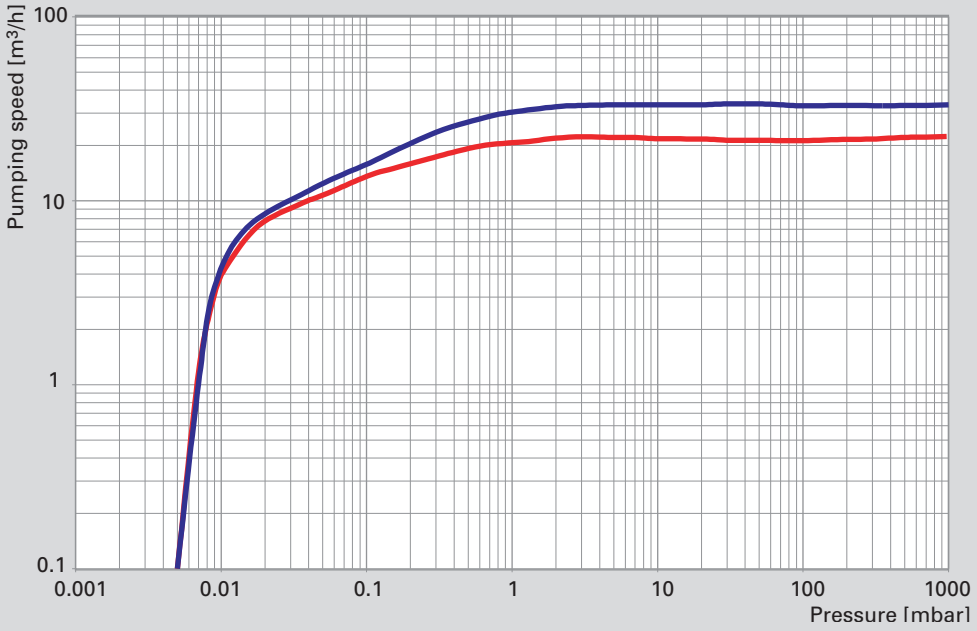
PentaLine™ – A New Generation of Two-Stage Rotary Vane Pumps!

Analytics

Research & Development

Industry

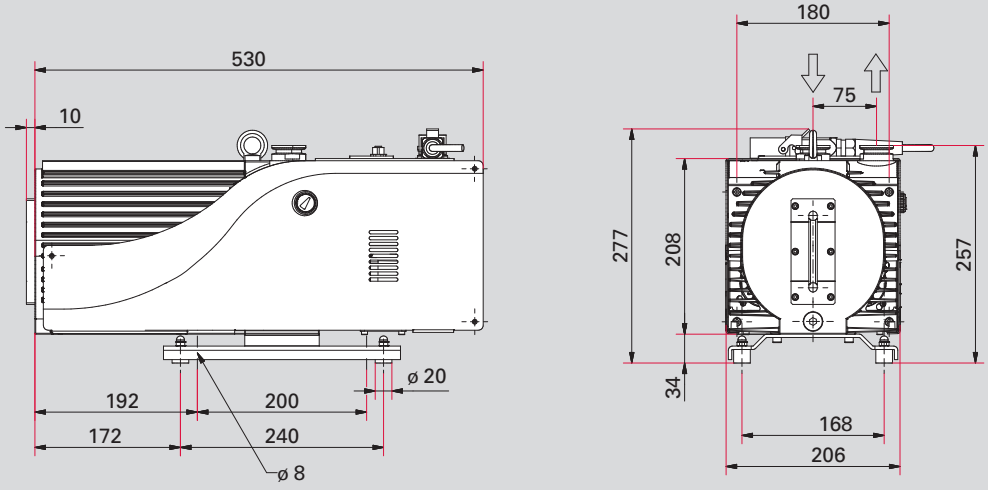
Pumping speed



Penta 35

Penta 20

Dimensions



Penta 20–35

Dimensions in mm

Applications

- **Analytics**
  - Mass spectrometry
  - Electron microscopy
  - Leak detection
  - Gas analysis
- **Research & Development**
- **Coating**
  Used as backing pumps for turbopumps in wear protection, solar technology and ophthalmics
- **Industry**
  - Freeze drying
  - Metallurgy
  - Vacuum degassing

Technical data

Pump model	Penta 20	Penta 35
Power supply (range)	1~, 100–120 V ±10 %, 50/60 Hz 1~, 200–240 V ±10 %, 50/60 Hz	1~, 100–120 V ±10 %, 50/60 Hz 1~, 200–240 V ±10 %, 50/60 Hz
Connection flange, inlet	DN 25 ISO-KF	DN 25 ISO-KF
Connection flange, outlet	DN 25 ISO-KF	DN 25 ISO-KF
Pumping speed max.	22 m^3/h	34 m^3/h
Ultimate pressure, without gas ballast	$\leqslant 5 \cdot 10^{-3}$ mbar	$\leqslant 5 \cdot 10^{-3}$ mbar
Ultimate pressure, with gas ballast	$\leqslant 1 \cdot 10^{-2}$ mbar	$\leqslant 1 \cdot 10^{-2}$ mbar
Water vapor tolerance max.	18 mbar	17 mbar
Water vapor capacity max.	300 g/h	370 g/h
Noise level, without gas ballast	58 dB (A)	58 dB (A)
P3 operating fluid volume	1.8 l	1.5 l
Power consumption at 1 mbar, without gas ballast	410 W	410 W
Power consumption at standby operation	225 W	225 W
Maximum current 230 V, 50/60 Hz	4.8 A	7 A
Weight with motor	43 kg	45 kg

Order numbers

Pump model	Penta 20	Penta 35
	PK D74 010	**PK D75 010**

Accessories

Pump model	Penta 20	Penta 35
Oil pressure switch	**PK196449**	**PK196449**
KAS 25 L, Condensate separator	**PKZ10033**	**PKZ10033**
Customizable release connector	**PK198548**	**PK198548**
Mains cable 230 V AC, with Euro-style safety plug, 3 m	**P 4564 309 HA**	**P 4564 309 HA**
Oil return unit from oil mist filter	**PK198545-T**	**PK198545-T**
ONF, oil mist filter	**PKZ40158**	**PKZ40160**
STP 025, dust separator, single-stage for minor contamination	**PKZ60206**	**PKZ60206**
URB 025, catalytic trap, 115 V	**PTU10761**	**PTU10761**
URB 025, catalytic trap, 230 V	**PTU10760**	**PTU10760**
Power supply socket	**PM061200-T**	**PM061200-T**
ZFO 025, zeolite trap	**PKZ70006**	**PKZ70006**

Advantages at a glance

■ Standby mode	– Longer service life, intelligent process control
■ Power-saving	– Lower operating costs (-50 %), environmentally friendly
■ Worldwide power supply systems	– Simple logistics, connects to all standard power supply
■ Lowest switch-on current	– Easy system integration, cost reduction
■ Hermetically sealed	– No oil leakage, significantly improved leak rate versus conventional rotary vane pumps
■ Runs cooler	– Gives off less heat in standard operation
■ Quiet	– Low vibration, peaceful work environment
■ High water vapor tolerance	– Process reliability thanks to temperature control
■ Simple service concept	– Minimum maintenance costs

PFEIFFER VACUUM

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 have 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:

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