



## DuoVane

The next generation of rotary vane pumps



# DuoVane

The next generation  
of rotary vane pumps



Your added value



Powerful



Efficient and  
highly  
economical

## Powerful

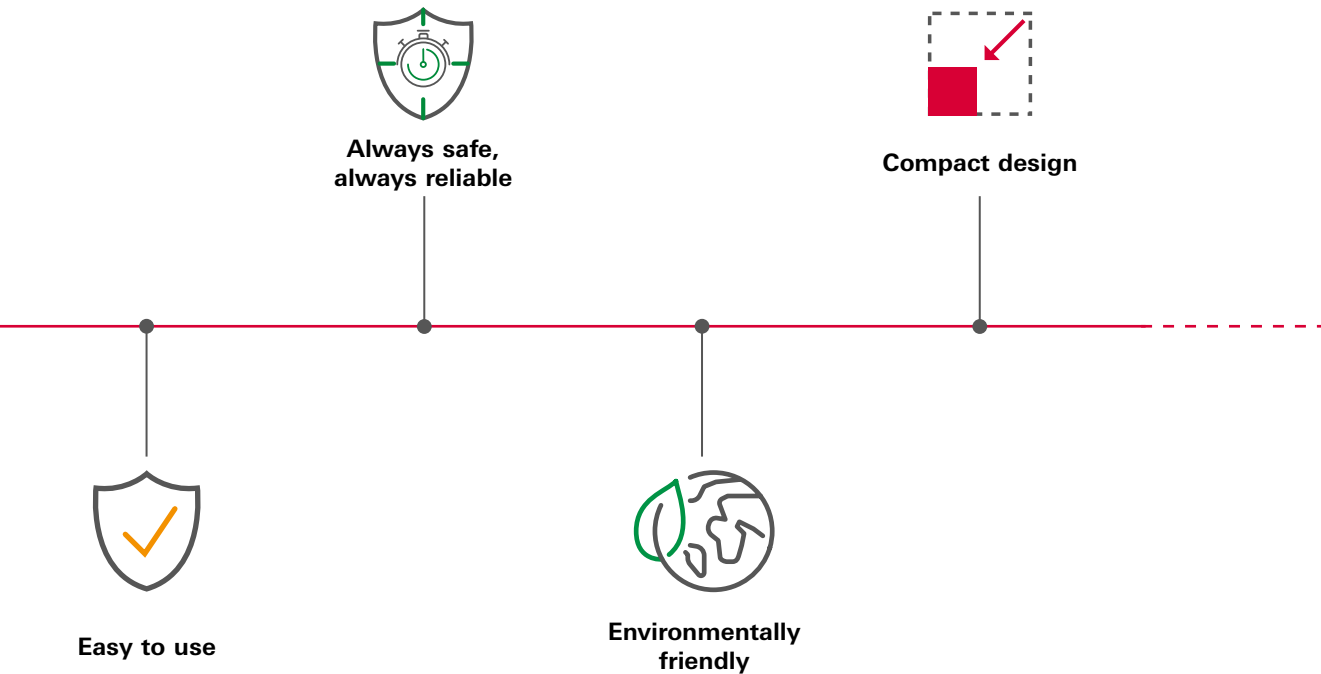
The DuoVane is an innovative rotary vane pump that unites the best of two product lines: Combining the strengths of Pfeiffer Vacuum's DuoLine and Pascal series, it leverages over 50 years of pump engineering expertise to deliver unparalleled reliability and performance.

## Efficient and highly economical

Designed to reduce energy costs by 20% compared to other rotary vane pumps for 24-hour continuous operation, it excels in its class. The DuoVane's efficiency ensures a rapid descent from atmospheric to set pressure, making it an economical choice for a variety of applications.

## Always safe, always reliable

Equipped with a reliable safety valve at the inlet, DuoVane pumps provide enhanced protection in case of application errors or system failures. This built-in safety feature ensures process integrity without additional investment, making DuoVane pumps a reliable choice for your needs.



#### Easy to use

DuoVane pumps feature adjustable flanges and all interfaces on one side for simplified installation as well as operation. The universal motor ensures compatibility with various standard voltages worldwide.

#### Compact design

The compact design of the DuoVane, paired with the smallest footprint on the market, enhances usability and installation flexibility.

#### Environmentally friendly

The new DuoVane pumps are engineered for maximum efficiency, reducing power requirements and achieving premium efficiency class IE2. This commitment to sustainability reflects Pfeiffer Vacuum's dedication to a greener future and how we contribute to greater efficiency – together with you.

#### Expertise you can trust

With over 50 years of experience in rotary vane vacuum pump engineering, Pfeiffer Vacuum guarantees that every DuoVane pump delivers the high reliability and performance customers expect.

# DuoVane

The next generation  
of rotary vane pumps

The best of two product lines

**Improved cost of ownership**  
Less maintenance

**Robustness**  
High water vapor capacity

**Performance**  
Suction speed at high pressure

**Widely compatible**  
One motor for the entire world

**Easy integration**  
Small size / footprint

**Highly economical**  
Minimized power consumption



DuoLine



Pascal

## Size comparison



DuoVane 12 vs. DuoLine 10



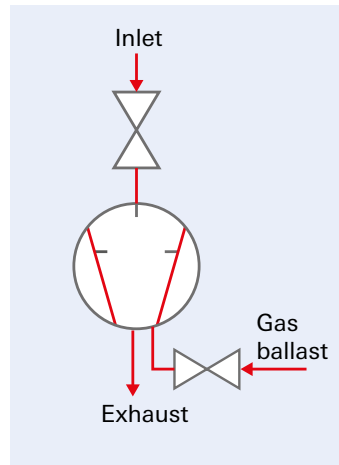
DuoVane 22 vs. DuoLine 20



DuoVane 12 vs. Pascal 2010



DuoVane 22 vs. Pascal 2021



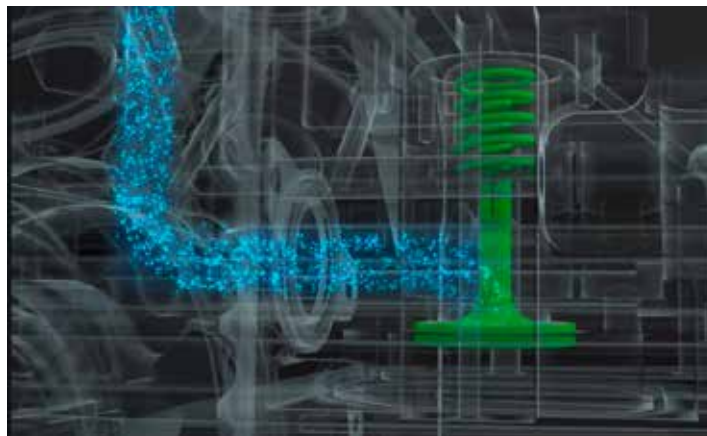
**Always safe,  
always reliable:  
vacuum safety valve**

The vacuum safety valve ensures that the vacuum is maintained in the event of a power outage – without the need for an additional valve in front of the vacuum pump. This built-in safety valve remains securely closed during power loss, guaranteeing the integrity of your process. The feature not only reduces installation complexity and costs for customers who previously

required additional valves, but also ensures precise control over the process state. This is especially crucial for processes involving sensitive materials, such as freeze-drying fruit or pharmaceuticals, as it prevents air from entering and compromising the vacuum during a power failure.



Vacuum safety valve open



Vacuum safety valve closed

# DuoVane

## Accessories

### Comprehensive accessories portfolio

#### Enhance your vacuum pump performance

Rotary vane pumps are the backbone of many industrial applications, and their efficiency and longevity are paramount. Our advanced optional accessories provide the necessary protection and enhancements to keep your pumps running at their best:



#### Need more cleanliness? Use an oil mist filter/eliminator.

To maintain a clean working environment and protect air quality, our oil mist filter/eliminator is essential. This accessory

- prevents air contamination by capturing oil mists expelled from the exhaust port.
- utilizes a cylindrical filter element made of porous ceramic material, ensuring efficient filtration and long-lasting performance.



#### Dusty process? Use a dust separator.

In processes that generate dust, protecting your vacuum pump is crucial. Our dust separator

- captures dust particles, preventing them from entering and damaging the pump.
- increases the lifetime of the pump and its oil, reducing maintenance needs as well as costs.
- has a durable construction to handle various industrial applications.





**Liquids in process?  
Use a condensate separator.**

Condensates forming in the intake and exhaust lines can severely impact pump performance. Our condensate separator

- protects the pump from condensates, ensuring its smooth operation.
- increases the lifetime of both the pump and its oil by preventing moisture-related damage.
- enables easy installation in both intake and exhaust lines for comprehensive protection.



**Need a clean process?  
Use a catalyzer trap.**

For processes requiring a high level of purity, the catalyzer trap is indispensable. This accessory

- prevents hydrocarbon back streaming, maintaining the cleanliness of your process.
- utilizes catalytic combustion for self-cleaning, making it low-maintenance and efficient.
- requires water cooling when fitted directly to the intake port of single-stage rotary vane vacuum pumps, ensuring optimal performance.

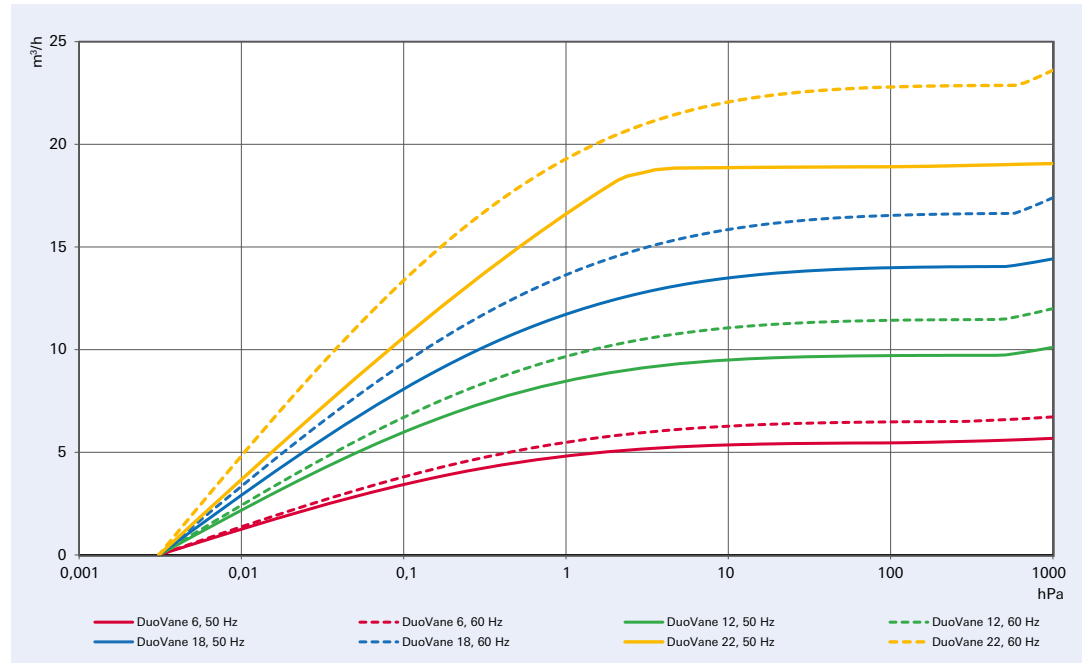


Invest in these accessories to maximize the efficiency, reliability, and durability of your rotary vane pumps. By doing so, you not only enhance performance but also ensure cost-effective and trouble-free operation.

# DuoVane

## Pumping speed and dimensions

### Pumping speed

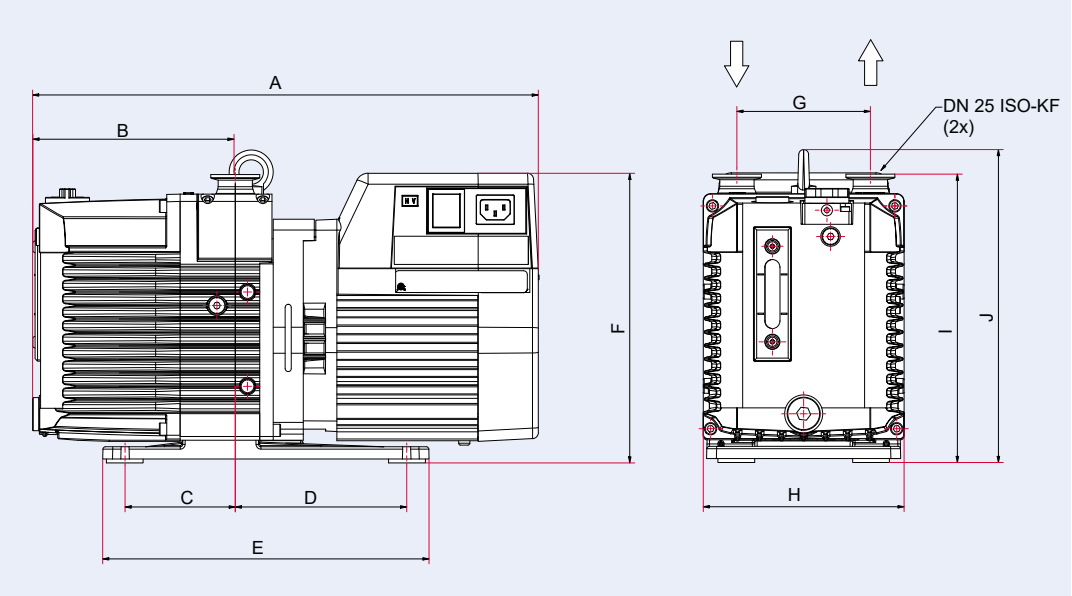


Flywheels



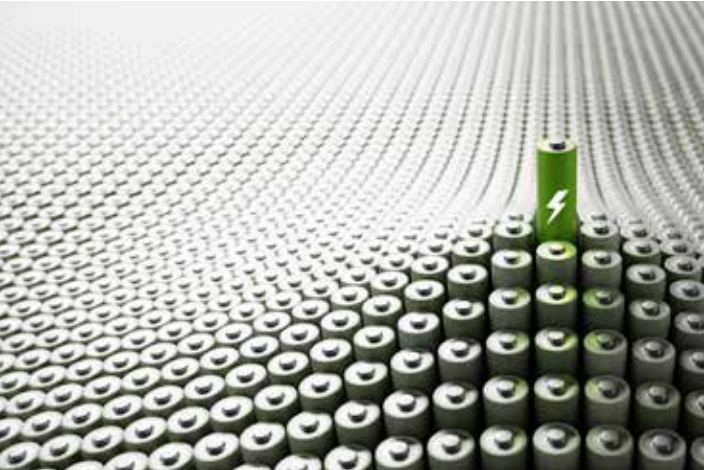
Accelerators

Dimensions



|   | DuoVane 6,<br>3-phase motor | DuoVane 6,<br>1-phase motor | DuoVane 12,<br>3-phase motor | DuoVane 12,<br>1-phase motor | DuoVane 18,<br>3-phase motor | DuoVane 18,<br>1-phase motor | DuoVane 22,<br>3-phase motor | DuoVane 22,<br>1-phase motor |
|---|-----------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| A | 413                         | 413                         | 427                          | 428                          | 422                          | 465                          | 261                          | 283                          |
| B | 165                         | 164                         | 180                          | 180                          | 195                          | 195                          | 213                          | 213                          |
| C | 90                          | 90                          | 90                           | 90                           | 90                           | 90                           | 90                           | 90                           |
| D | 140                         | 140                         | 140                          | 140                          | 140                          | 140                          | 140                          | 140                          |
| E | 267                         | 267                         | 267                          | 267                          | 267                          | 267                          | 267                          | 267                          |
| F | 237                         | 237                         | 237                          | 237                          | 237                          | 240                          | 237                          | 240                          |
| G | 109                         | 109                         | 109                          | 109                          | 109                          | 109                          | 109                          | 109                          |
| H | 164                         | 164                         | 164                          | 164                          | 164                          | 164                          | 164                          | 164                          |
| I | 236                         | 236                         | 236                          | 236                          | 236                          | 236                          | 236                          | 236                          |
| J | 256                         | 256                         | 256                          | 256                          | 256                          | 256                          | 256                          | 256                          |

Dimensions in mm



Batteries



Lab Grown Diamonds

# DuoVane

## Technical data

### Technical data

|                                    | DuoVane 6,<br>3-phase motor                                               | DuoVane 6,<br>1-phase motor                                                  | DuoVane 12,<br>3-phase motor                                              | DuoVane 12,<br>1-phase motor                                                 |  |
|------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------|--|
| Connection flange (in)             | DN 25 ISO-KF                                                              | DN 25 ISO-KF                                                                 | DN 25 ISO-KF                                                              | DN 25 ISO-KF                                                                 |  |
| Connection flange (out)            | DN 25 ISO-KF                                                              | DN 25 ISO-KF                                                                 | DN 25 ISO-KF                                                              | DN 25 ISO-KF                                                                 |  |
| Pumping speed at 50 Hz             | 5.5 m³/h                                                                  | 5.5 m³/h                                                                     | 9.5 m³/h                                                                  | 9.5 m³/h                                                                     |  |
| Pumping speed at 60 Hz             | 6.5 m³/h                                                                  | 6.5 m³/h                                                                     | 11.8 m³/h                                                                 | 11.8 m³/h                                                                    |  |
| Gas ballast                        | Yes                                                                       | Yes                                                                          | Yes                                                                       | Yes                                                                          |  |
| Final pressure with gas ballast    | $\leq 1 \cdot 10^{-2}$ hPa                                                | $1 \cdot 10^{-2}$ hPa                                                        | $1 \cdot 10^{-2}$ hPa                                                     | $1 \cdot 10^{-2}$ hPa                                                        |  |
| Final pressure without gas ballast | $3 \cdot 10^{-3}$ hPa                                                     | $3 \cdot 10^{-3}$ hPa                                                        | $3 \cdot 10^{-3}$ hPa                                                     | $3 \cdot 10^{-3}$ hPa                                                        |  |
| Leak rate safety valve             | $\leq 1 \cdot 10^{-5}$ Pa m³/s                                            | $\leq 1 \cdot 10^{-5}$ Pa m³/s                                               | $\leq 1 \cdot 10^{-5}$ Pa m³/s                                            | $\leq 1 \cdot 10^{-5}$ Pa m³/s                                               |  |
| Rotation speed at 50 Hz            | 1,500 rpm                                                                 | 1,500 rpm                                                                    | 1,500 rpm                                                                 | 1,500 rpm                                                                    |  |
| Rotation speed at 60 Hz            | 1,800 rpm                                                                 | 1,800 rpm                                                                    | 1,800 rpm                                                                 | 1,800 rpm                                                                    |  |
| Ambient temperature                | 12–40°C                                                                   | 12–40°C                                                                      | 12–40°C                                                                   | 12–40°C                                                                      |  |
| Motor type                         | 3-phase motor                                                             | 1-phase motor                                                                | 3-phase motor                                                             | 1-phase motor                                                                |  |
| Protection degree                  | IP43                                                                      | IP40                                                                         | IP43                                                                      | IP40                                                                         |  |
| Rated power 50 Hz                  | 0.55 kW                                                                   | 0.45 kW                                                                      | 0.55 kW                                                                   | 0.45 kW                                                                      |  |
| Rated power 60 Hz                  | 0.66 kW                                                                   | 0.55 kW                                                                      | 0.66 kW                                                                   | 0.55 kW                                                                      |  |
| Input voltage(s)                   | 200–220 / 240 /<br>380–415 VAC, 50 Hz  <br>280 / 480 VAC (±5 %),<br>60 Hz | 100–115 /<br>200–230 VAC, 50 Hz  <br>100–115 / 200–230 VAC<br>(±10 %), 60 Hz | 200–220 / 240 /<br>380–415 VAC, 50 Hz  <br>280 / 480 VAC (±5 %),<br>60 Hz | 100–115 /<br>200–230 VAC, 50 Hz  <br>100–115 / 200–230 VAC<br>(±10 %), 60 Hz |  |
| Operating fluid amount             | 1.1 l                                                                     | 1.1 l                                                                        | 1.2 l                                                                     | 1.2 l                                                                        |  |
| Weight: with motor                 | 25 kg                                                                     | 25.5 kg                                                                      | 27 kg                                                                     | 27.5 kg                                                                      |  |

<sup>1)</sup> more oil types available soon



### Order number matrix DuoVane

| Model series                   | aa |
|--------------------------------|----|
| DuoVane 6                      | 91 |
| DuoVane 12                     | 92 |
| DuoVane 18                     | 93 |
| DuoVane 22                     | 94 |
| Oil type                       | c  |
| P3 (Mineral)                   | 0  |
| D2                             | 4  |
| Drive                          | f  |
| 3-phase motor, Euro/US         | 1  |
| 1-phase motor, Euro/US         | C  |
| Connection                     | g  |
| C14 connection (1-phase motor) | 0  |
| PG-connection (3-phase motor)  | g  |

### PK Daa0 c20 fg

| DuoVane 18,<br>3-phase motor                                              | DuoVane 18,<br>1-phase motor                                                 | DuoVane 22,<br>3-phase motor                                              | DuoVane 22,<br>1-phase motor                                                 |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------|
| DN 25 ISO-KF                                                              | DN 25 ISO-KF                                                                 | DN 25 ISO-KF                                                              | DN 25 ISO-KF                                                                 |
| DN 25 ISO-KF                                                              | DN 25 ISO-KF                                                                 | DN 25 ISO-KF                                                              | DN 25 ISO-KF                                                                 |
| 14 m <sup>3</sup> /h                                                      | 14 m <sup>3</sup> /h                                                         | 19.5 m <sup>3</sup> /h                                                    | 19.5 m <sup>3</sup> /h                                                       |
| 16.9 m <sup>3</sup> /h                                                    | 16.9 m <sup>3</sup> /h                                                       | 22.5 m <sup>3</sup> /h                                                    | 22.5 m <sup>3</sup> /h                                                       |
| Yes                                                                       | Yes                                                                          | Yes                                                                       | Yes                                                                          |
| 1 · 10 <sup>-2</sup> hPa                                                  | 1 · 10 <sup>-2</sup> hPa                                                     | 1 · 10 <sup>-2</sup> hPa                                                  | 1 · 10 <sup>-2</sup> hPa                                                     |
| 3 · 10 <sup>-3</sup> hPa                                                  | 3 · 10 <sup>-3</sup> hPa                                                     | 3 · 10 <sup>-3</sup> hPa                                                  | 3 · 10 <sup>-3</sup> hPa                                                     |
| ≤ 1 · 10 <sup>-5</sup> Pa m <sup>3</sup> /s                               | ≤ 1 · 10 <sup>-5</sup> Pa m <sup>3</sup> /s                                  | ≤ 1 · 10 <sup>-5</sup> Pa m <sup>3</sup> /s                               | ≤ 1 · 10 <sup>-5</sup> Pa m <sup>3</sup> /s                                  |
| 1,500 rpm                                                                 | 1,500 rpm                                                                    | 1,500 rpm                                                                 | 1,500 rpm                                                                    |
| 1,800 rpm                                                                 | 1,800 rpm                                                                    | 1,800 rpm                                                                 | 1,800 rpm                                                                    |
| 12–40 °C                                                                  | 12–40 °C                                                                     | 12–40 °C                                                                  | 12–40 °C                                                                     |
| 3-phase motor                                                             | 1-phase motor                                                                | 3-phase motor                                                             | 1-phase motor                                                                |
| IP43                                                                      | IP40                                                                         | IP43                                                                      | IP40                                                                         |
| 0.55 kW                                                                   | 0.55 kW                                                                      | 0.55 kW                                                                   | 0.55 kW                                                                      |
| 0.66 kW                                                                   | 0.65 kW                                                                      | 0.66 kW                                                                   | 0.65 kW                                                                      |
| 200–220 / 240 /<br>380–415 VAC, 50 Hz  <br>280 / 480 VAC (±5 %),<br>60 Hz | 100–115 /<br>200–230 VAC, 50 Hz  <br>100–115 / 200–230 VAC<br>(±10 %), 60 Hz | 200–220 / 240 /<br>380–415 VAC, 50 Hz  <br>280 / 480 VAC (±5 %),<br>60 Hz | 100–115 /<br>200–230 VAC, 50 Hz  <br>100–115 / 200–230 VAC<br>(±10 %), 60 Hz |
| 1.3 l                                                                     | 1.3 l                                                                        | 1.3 l                                                                     | 1.3 l                                                                        |
| 28 kg                                                                     | 31 kg                                                                        | 29 kg                                                                     | 32 kg                                                                        |

### DuoVane 22

**22.5 m<sup>3</sup>/h**

Pumping speed at 60 Hz

**≤ 3 · 10<sup>-3</sup> hPa**

Final pressure  
without gasballast



## Your Success. Our Passion.

We give our best for you every day –  
worldwide!

Are you looking for an  
optimal vacuum solution?  
Please contact us:

**Pfeiffer Vacuum GmbH**  
Germany  
T +49 6441 802-0



Errors excepted. All data subject to change without prior notice. PD 0067 PEN (March 2024/PoD)

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