

DuoLine™

Two-stage rotary vane pumps for low and medium vacuum



DuoLine™

DuoLine rotary vane pumps with a pumping speed of 1.3 to 250 m³/h cover all applications in the low and medium vacuum range of up to 10⁻³ hPa. These pumps operate reliably either as a stand-alone pump or a backing pump in Roots or turbo pumping stations even for critical industrial applications such as drying procedures, metallurgical processes or resin casting systems.

The use of a magnetic coupling reduces maintenance and generates significant cost savings per pump and maintenance interval.

The innovative drive concept, alternatively available with a magnetic coupling, means that these pumps are hermetically sealed and therefore clean and environmentally friendly. Oil leakages found in pumps with a conventional radial shaft seal ring no longer occur.

Customer benefits

- High operating safety
- Optimal adjustment to processes
- Easy system integration
- Low maintenance costs

Typical applications

- Electron microscopy
- Optical coating
- Hard disk coating
- Electron beam welding
- Biotechnology
- Heat treatment
- Vacuum drying
- Vacuum furnaces
- Nanotechnology
- Mass spectrometry



Optical coating



Electron microscopy



Electron beam welding



DUO 1.6

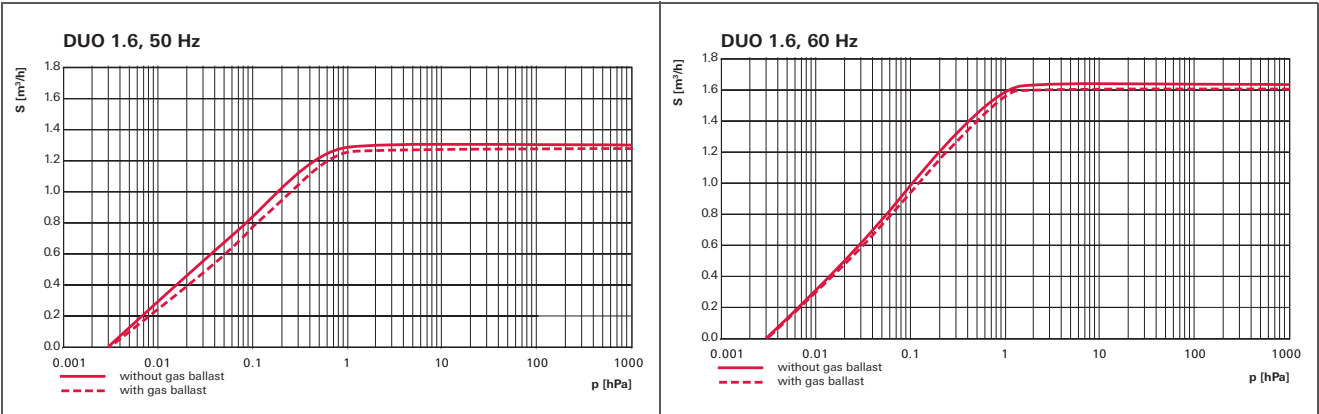
Dual-stage rotary vane pumps with a pumping speed of 1.5 m³/h:



- Dual-stage, high-performance rotary vane pump with a pumping speed of 1.5 m³/h
- With Single-phase motor
- Integrated gas ballast and safety valve
- For all low and medium vacuum applications
- With magnetic coupling
- Special feature: Various motor voltages for worldwide employment
- Other motor voltages available on request

M = Magnetically coupled

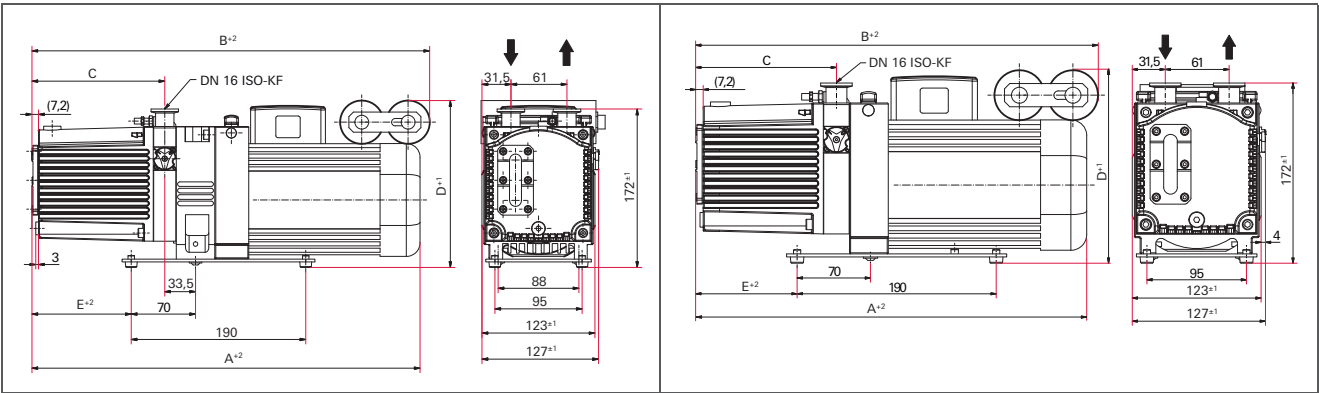
Pumping speed



DUO 1.6, 1-phase motor

DUO 1.6, 1-phase motor

Dimensions (in mm)



DUO 1.6 M, 1-phase motor

DUO 1.6, 1-phase motor

	DUO 1.6 M, 1-phase motor, 100-105 V, 50 Hz; 100-130 V, 60 Hz	DUO 1.6 M, 1-phase motor, 220-240 V, 50/60 Hz	DUO 1.6, 1-phase motor, 100-105 V, 50 Hz; 100-130 V, 60 Hz	DUO 1.6, 1-phase motor, 220-240 V, 50/60 Hz
A	357 mm	357 mm	315 mm	315 mm
B	376 mm	357 mm	335 mm	315 mm
C	123 mm	123 mm	123 mm	123 mm
D	192 mm	189 mm	192 mm	189 mm
E	85.5 mm	85.5 mm	85.5 mm	85.5 mm

Technical data	DUO 1.6 M, 1-phase motor, 100-105 V, 50 Hz; 100-130 V, 60 Hz	DUO 1.6 M, 1-phase motor, 220-240 V, 50/60 Hz	DUO 1.6, 1-phase motor, 100-105 V, 50 Hz; 100-130 V, 60 Hz	DUO 1.6, 1-phase motor, 220-240 V, 50/60 Hz
Flange (out)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF
Exhaust pressure, max.	1500 hPa	1500 hPa	1500 hPa	1500 hPa
Exhaust pressure, min.	250 hPa	250 hPa	250 hPa	250 hPa
Operating fluid	P3	P3	P3	P3
Operating fluid filling	0.4 l	0.4 l	0.4 l	0.4 l
Rotation speed at 50 Hz	1500 min ⁻¹	1500 min ⁻¹	1500 min ⁻¹	1500 min ⁻¹
Rotation speed at 60 Hz	1800 min ⁻¹	1800 min ⁻¹	1800 min ⁻¹	1800 min ⁻¹
Emission sound pressure level without gas ballast at 50 Hz	≤ 48 dB (A)	≤ 48 dB (A)	≤ 48 dB (A)	≤ 48 dB (A)
Ultimate pressure with gas ballast	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa
Ultimate pressure without gas ballast	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa
Weight	10.5 kg	10.5 kg	9.6 kg	9.6 kg
Cooling method, standard	Air	Air	Air	Air
Leak rate safety valve	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s
Magnetic coupling	Yes	Yes		
Rated power 50 Hz	0.075 kW	0.075 kW	0.075 kW	0.075 kW
Rated power 60 Hz	0.090 kW	0.090 kW	0.090 kW	0.090 kW
Mains requirement: voltage 50 Hz	100-105 V	220-240 V	100-105 V	220-240 V
Mains requirement: voltage 60 Hz	110-130 V	220-240 V	110-130 V	220-240 V
Mains cable	No	No	No	No
Pumping speed at 50 Hz	1.25 m ³ /h	1.25 m ³ /h	1.25 m ³ /h	1.25 m ³ /h
Pumping speed at 60 Hz	1.50 m ³ /h	1.50 m ³ /h	1.50 m ³ /h	1.50 m ³ /h
Switch	Yes	Yes	Yes	Yes
Protection category	IP 40	IP 40	IP 40	IP 40
Ambient temperature	12-40 °C	12-40 °C	12-40 °C	12-40 °C

Order number				
DUO 1.6	PK D56 107	PK D56 112	PK D56 707	PK D56 712

Accessories				
KAS 16, condensate separator for pumping speeds from 1.6 to 12 m ³ /h	PK Z10 003	PK Z10 003	PK Z10 003	PK Z10 003
ONF 16 S, oil mist filter for pumping speeds up to 12 m ³ /h	PK Z40 001	PK Z40 001	PK Z40 001	PK Z40 001
Oil return unit from ONF 16 S to DUO 1.6 / DUO 3	PK 005 986 -T	PK 005 986 -T	PK 005 986 -T	PK 005 986 -T
ONF 16 M, oil mist filter for pumping speeds of up to 12 m ³ /h	PK Z40 003	PK Z40 003	PK Z40 003	PK Z40 003
ZFO 16, zeolite trap	PK Z70 003	PK Z70 003	PK Z70 003	PK Z70 003
Operations monitoring unit 3 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 141 -T	PK 196 141 -T	PK 196 141 -T	PK 196 141 -T
Operations monitoring unit 2 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 142 -T	PK 196 142 -T	PK 196 142 -T	PK 196 142 -T
Operations monitoring unit 1 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 157 -T	PK 196 157 -T	PK 196 157 -T	PK 196 157 -T
Mains cable 230 V with safety plug CEE 7, right angle IEC 320/C13 socket, 2 m	PK 050 109	PK 050 109	PK 050 109	PK 050 109
Mains cable 115 V with NEMA-plug, right angle IEC 320/C13 socket, 2 m	PK 050 110	PK 050 110	PK 050 110	PK 050 110
SAS 16, DN 16 ISO-KF, polyester filter	PK Z60 506	PK Z60 506	PK Z60 506	PK Z60 506
Oil return unit from ONF 16 M to DUO 1.6, 3	PK 006 080 -T	PK 006 080 -T	PK 006 080 -T	PK 006 080 -T
Mains cable 115 / 230 V without plug, right angle IEC 320/C13 socket, 3 m	PK 050 111	PK 050 111	PK 050 111	PK 050 111



DUO 3

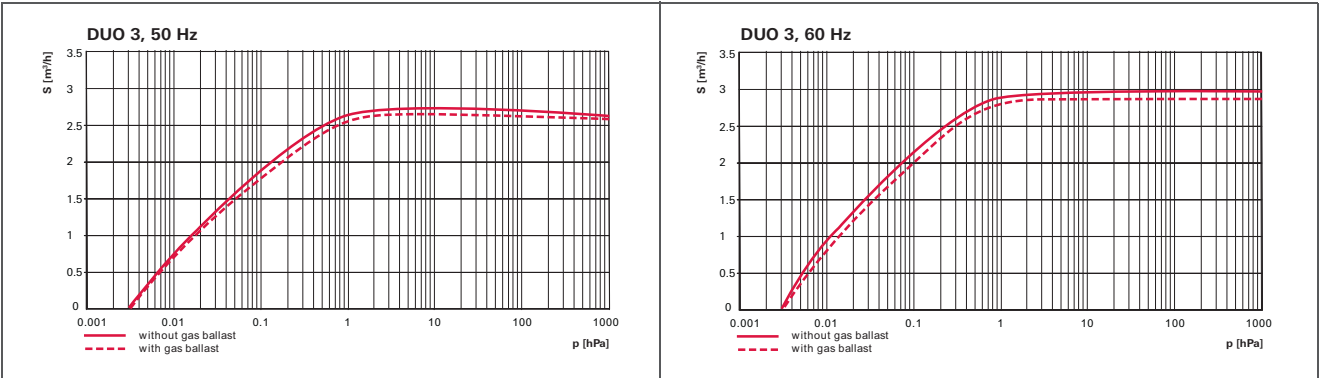
Dual-stage rotary vane pumps with a pumping speed up to 2.9 m³/h:



- Dual-stage, high-performance rotary vane pump with a pumping speed up to 2.9 m³/h
- With Single-phase motor
- Integrated gas ballast and safety valve
- For all low and medium vacuum applications
- Magnetic coupling
- Special feature: Various motor voltages for worldwide employment
- Other motor voltages available on request

M = Magnetically coupled

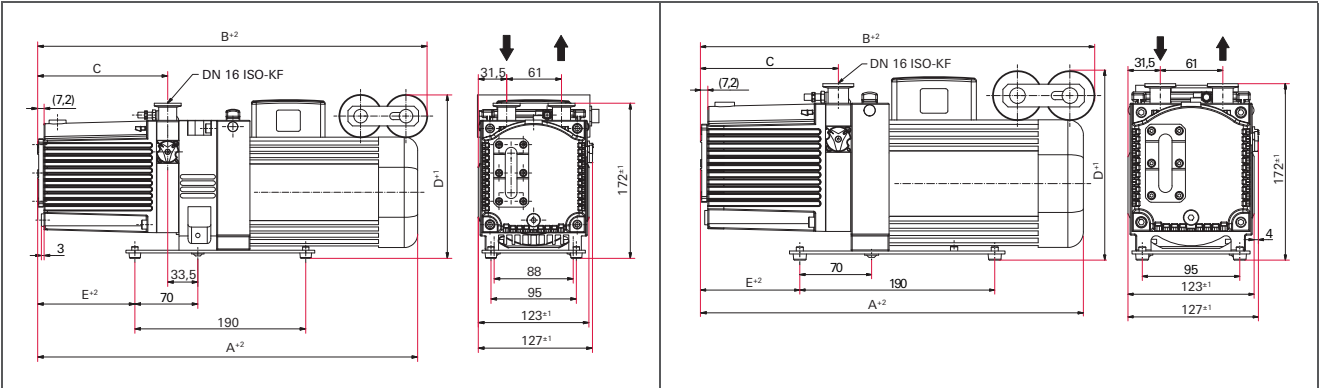
Pumping speed



DUO 3, 1-phase motor

DUO 3, 1-phase motor

Dimensions (in mm)



DUO 3 M, 1-phase motor

DUO 3, 1-phase motor

	DUO 3 M, 1-phase motor, 115/230 V, 50/60 Hz	DUO 3 M, 1-phase motor, 220-240 V, 50/60 Hz	DUO 3, 1-phase motor, 115/230 V, 50/60 Hz	DUO 3, 1-phase motor, 220-240 V, 50/60 Hz
A	351 mm	351 mm	309 mm	309 mm
B	386 mm	351 mm	344 mm	309 mm
C	123 mm	123 mm	123 mm	123 mm
D	176 mm	176 mm	176 mm	176 mm
E	85.5 mm	85.5 mm	85.5 mm	85.5 mm

Technical data	DUO 3 M, 1-phase motor, 115/230 V, 50/60 Hz	DUO 3 M, 1-phase motor, 220-240 V, 50/60 Hz	DUO 3, 1-phase motor, 115/230 V, 50/60 Hz	DUO 3, 1-phase motor, 220-240 V, 50/60 Hz
Flange (out)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF
Exhaust pressure, max.	1500 hPa	1500 hPa	1500 hPa	1500 hPa
Exhaust pressure, min.	250 hPa	250 hPa	250 hPa	250 hPa
Operating fluid	P3	P3	P3	P3
Operating fluid filling	0.4 l	0.4 l	0.4 l	0.4 l
Rotation speed at 50 Hz	3000 min ⁻¹	3000 min ⁻¹	3000 min ⁻¹	3000 min ⁻¹
Rotation speed at 60 Hz	3600 min ⁻¹	3600 min ⁻¹	3600 min ⁻¹	3600 min ⁻¹
Emission sound pressure level without gas ballast at 50 Hz	≤ 53 dB (A)	≤ 53 dB (A)	≤ 53 dB (A)	≤ 53 dB (A)
Ultimate pressure with gas ballast	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa
Ultimate pressure without gas ballast	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa
Weight	12 kg	12 kg	11.5 kg	11.3 kg
Cooling method, standard	Air	Air	Air	Air
Leak rate safety valve	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s
Magnetic coupling	Yes	Yes		
Rated power 50 Hz	0.15 kW	0.15 kW	0.15 kW	0.15 kW
Rated power 60 Hz	0.18 kW	0.18 kW	0.18 kW	0.18 kW
Mains requirement: voltage (selectable)	230 V		230 V	
Mains requirement: voltage 50 Hz	115 V	220-240 V	115 V	220-240 V
Mains requirement: voltage 60 Hz	115 V	220-240 V	115 V	220-240 V
Mains cable	No	No	No	No
Pumping speed at 50 Hz	2.5 m ³ /h	2.5 m ³ /h	2.5 m ³ /h	2.5 m ³ /h
Pumping speed at 60 Hz	2.9 m ³ /h	2.9 m ³ /h	2.9 m ³ /h	2.9 m ³ /h
Switch	Yes	Yes	Yes	Yes
Protection category	IP 55	IP 55	IP 55	IP 55
Ambient temperature	12-40 °C	12-40 °C	12-40 °C	12-40 °C

Order number				
DUO 3	PK D57 111	PK D57 112	PK D57 711	PK D57 712

Accessories				
KAS 16, condensate separator for pumping speeds from 1.6 to 12 m ³ /h	PK Z10 003	PK Z10 003	PK Z10 003	PK Z10 003
ONF 16 S, oil mist filter for pumping speeds up to 12 m ³ /h	PK Z40 001	PK Z40 001	PK Z40 001	PK Z40 001
Oil return unit from ONF 16 S to DUO 1.6 / DUO 3	PK 005 986 -T	PK 005 986 -T	PK 005 986 -T	PK 005 986 -T
ONF 16 M, oil mist filter for pumping speeds of up to 12 m ³ /h	PK Z40 003	PK Z40 003	PK Z40 003	PK Z40 003
ZFO 16, zeolite trap	PK Z70 003	PK Z70 003	PK Z70 003	PK Z70 003
Operations monitoring unit 3 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 141 -T	PK 196 141 -T	PK 196 141 -T	PK 196 141 -T
Operations monitoring unit 2 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 142 -T	PK 196 142 -T	PK 196 142 -T	PK 196 142 -T
Operations monitoring unit 1 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 157 -T	PK 196 157 -T	PK 196 157 -T	PK 196 157 -T
Mains cable 230 V with safety plug CEE 7, right angle IEC 320/C13 socket, 2 m	PK 050 109	PK 050 109	PK 050 109	PK 050 109
Mains cable 115 V with NEMA-plug, right angle IEC 320/C13 socket, 2 m	PK 050 110	PK 050 110	PK 050 110	PK 050 110
SAS 16, DN 16 ISO-KF, polyester filter	PK Z60 506	PK Z60 506	PK Z60 506	PK Z60 506
Oil return unit from ONF 16 M to DUO 1.6, 3	PK 006 080 -T	PK 006 080 -T	PK 006 080 -T	PK 006 080 -T
Mains cable 115 / 230 V without plug, right angle IEC 320/C13 socket, 3 m	PK 050 111	PK 050 111	PK 050 111	PK 050 111



DUO 6

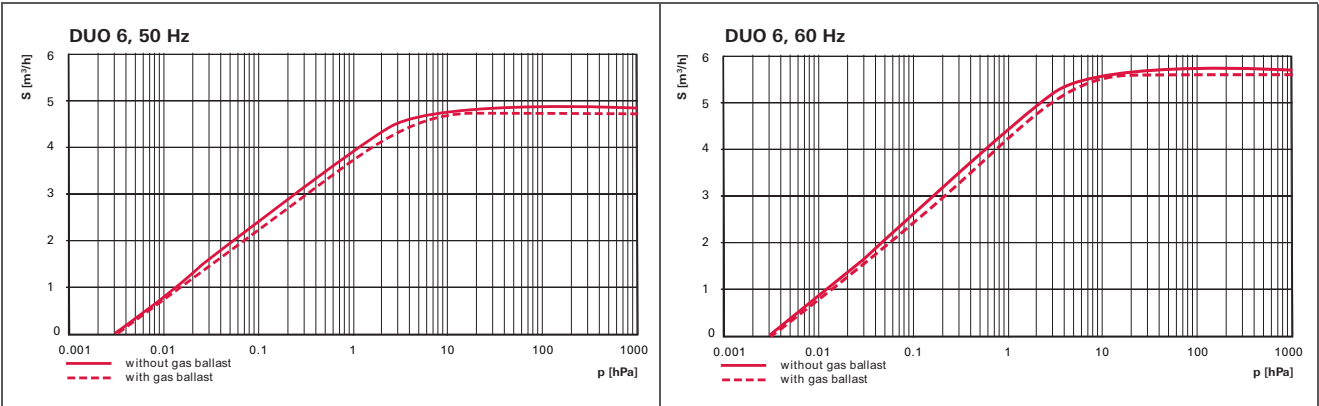
Dual-stage rotary vane pumps with a pumping speed up to 6 m³/h:



- Dual-stage, high-performance rotary vane pump with a pumping speed up to 6 m³/h
- With Single-phase motor
- Integrated gas ballast and HV safety valve
- For all low and medium vacuum applications
- With magnetic coupling
- Other motor voltages available on request

M = Magnetically coupled

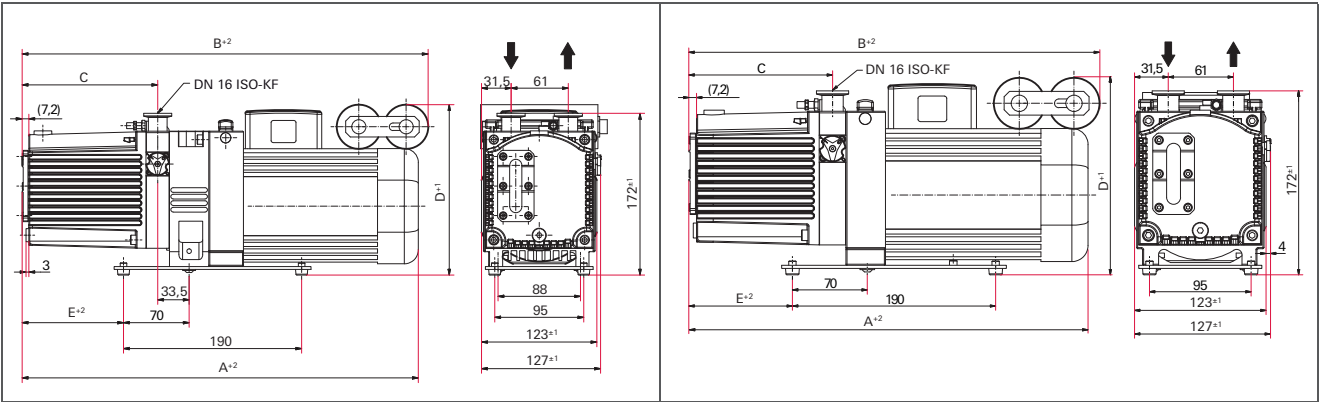
Pumping speed



DUO 6, 1-phase motor

DUO 6, 1-phase motor

Dimensions (in mm)



DUO 6 M, 1-phase motor

DUO 6, 1-phase motor

	DUO 6 M, 1-phase motor, 95-115, 50 Hz; 95-130, 60 Hz	DUO 6 M, 1-phase motor, 220-265 V, 50/60 Hz	DUO 6, 1-phase motor, 95-115, 50 Hz; 95-130, 60 Hz	DUO 6, 1-phase motor, 200-265 V, 50/60 Hz
A	423 mm	413 mm	381 mm	371 mm
B	433 mm	413 mm	391 mm	371 mm
C	145 mm	145 mm	145 mm	145 mm
D	182 mm	177.5 mm	182 mm	177 mm
E	108.5 mm	108.5 mm	107.5 mm	107.5 mm

Technical data	DUO 6 M, 1-phase motor, 95-115, 50 Hz; 95-130, 60 Hz	DUO 6 M, 1-phase motor, 220-265 V, 50/60 Hz	DUO 6, 1-phase motor, 95-115, 50 Hz; 95-130, 60 Hz	DUO 6, 1-phase motor, 200-265 V, 50/60 Hz
Flange (out)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF
Exhaust pressure, max.	1500 hPa	1500 hPa	1500 hPa	1500 hPa
Exhaust pressure, min.	250 hPa	250 hPa	250 hPa	250 hPa
Operating fluid	P3	P3	P3	P3
Operating fluid filling	0.5 l	0.5 l	0.5 l	0.5 l
Rotation speed at 50 Hz	3000 min ⁻¹	3000 min ⁻¹	3000 min ⁻¹	3000 min ⁻¹
Rotation speed at 60 Hz	3600 min ⁻¹	3600 min ⁻¹	3600 min ⁻¹	3600 min ⁻¹
Emission sound pressure level without gas ballast at 50 Hz	≤ 53 dB (A)	≤ 53 dB (A)	≤ 53 dB (A)	≤ 53 dB (A)
Ultimate pressure with gas ballast	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa
Ultimate pressure without gas ballast	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa
Weight	17.5 kg	17.5 kg	16 kg	16 kg
Cooling method, standard	Air	Air	Air	Air
Leak rate safety valve	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s
Magnetic coupling	Yes	Yes		
Rated power 50 Hz	0.25 kW	0.25 kW	0.25 kW	0.25 kW
Rated power 60 Hz	0.30 kW	0.30 kW	0.30 kW	0.30 kW
Mains requirement: voltage 50 Hz	95-115 V	200-265 V	95-115 V	200-265 V
Mains requirement: voltage 60 Hz	95-130 V	200-265 V	95-130 V	200-265 V
Mains cable	No	No	No	No
Pumping speed at 50 Hz	5 m ³ /h	5 m ³ /h	5 m ³ /h	5 m ³ /h
Pumping speed at 60 Hz	6 m ³ /h	6 m ³ /h	6 m ³ /h	6 m ³ /h
Switch	Yes	Ja	Yes	Yes
Protection category	IP 55	IP 55	IP 55	IP 55
Ambient temperature	12-40 °C	12-40 °C	12-40 °C	12-40 °C

Order number				
DUO 6	PK D58 107	PK D58 112	PKD58 707	PK D58 712

Accessories				
KAS 16, condensate separator for pumping speeds from 1.6 to 12 m ³ /h	PK Z10 003	PK Z10 003	PK Z10 003	PK Z10 003
ONF 16 S, oil mist filter for pumping speeds up to 12 m ³ /h	PK Z40 001	PK Z40 001	PK Z40 001	PK Z40 001
Oil return unit from ONF 16 S to DUO 1.6 / DUO 3	PK 005 986 -T	PK 005 986 -T	PK 005 986 -T	PK 005 986 -T
ONF 16 M, oil mist filter for pumping speeds of up to 12 m ³ /h	PK Z40 003	PK Z40 003	PK Z40 003	PK Z40 003
ZFO 16, zeolite trap	PK Z70 003	PK Z70 003	PK Z70 003	PK Z70 003
Operations monitoring unit 3 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 141 -T	PK 196 141 -T	PK 196 141 -T	PK 196 141 -T
Operations monitoring unit 2 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 142 -T	PK 196 142 -T	PK 196 142 -T	PK 196 142 -T
Operations monitoring unit 1 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 157 -T	PK 196 157 -T	PK 196 157 -T	PK 196 157 -T
Mains cable 230 V with safety plug CEE 7, right angle IEC 320/C13 socket, 2 m	PK 050 109	PK 050 109	PK 050 109	PK 050 109
Mains cable 115 V with NEMA-plug, right angle IEC 320/C13 socket, 2 m	PK 050 110	PK 050 110	PK 050 110	PK 050 110
SAS 16, DN 16 ISO-KF, polyester filter	PK Z60 506	PK Z60 506	PK Z60 506	PK Z60 506
Oil return unit from ONF 16 M to DUO 1.6, 3	PK 006 080 -T	PK 006 080 -T	PK 006 080 -T	PK 006 080 -T
Mains cable 115 / 230 V without plug, right angle IEC 320/C13 socket, 3 m	PK 050 111	PK 050 111	PK 050 111	PK 050 111



DUO 11

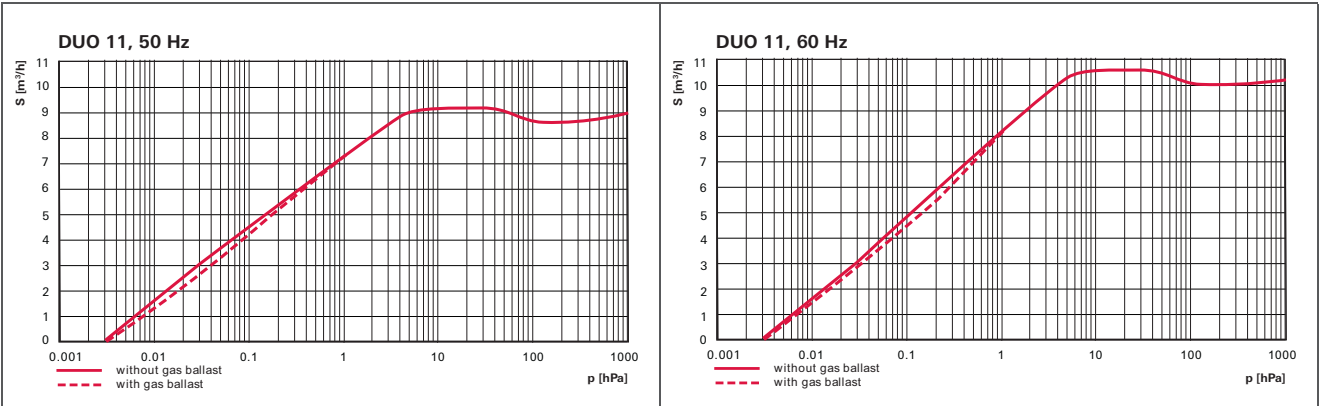
Dual-stage rotary vane pumps with a pumping speed up to 10.5 m³/h:



- Dual-stage, high-performance rotary vane pump with a pumping speed up to 10.5 m³/h
- With Single-phase motor
- Integrated gas ballast and HV safety valve
- For all low and medium vacuum applications
- With magnetic coupling
- Other motor voltages available on request

M = Magnetically coupled

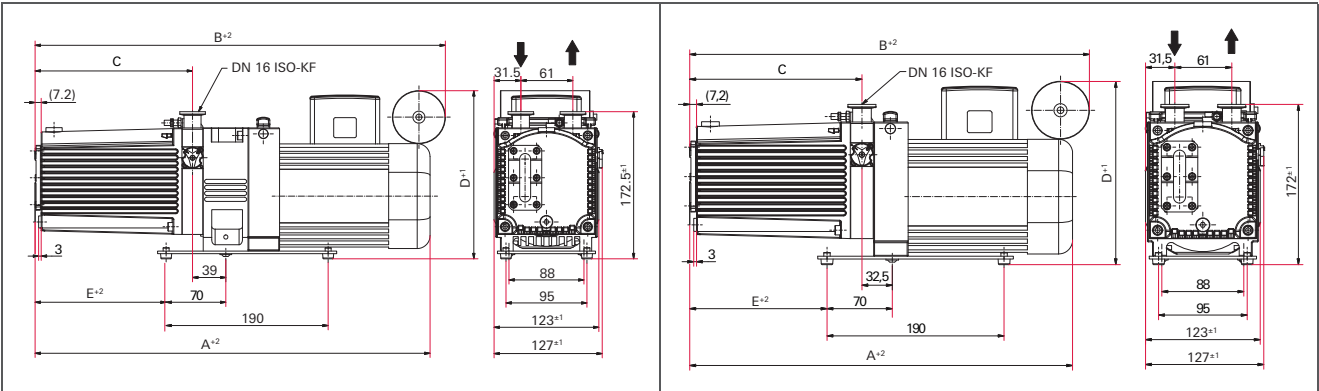
Pumping speed



DUO 11, 1-phase motor, 90-130 V

DUO 11, 1-phase motor, 90-130 V

Dimensions (in mm)



DUO 11 M, 1-phase motor

DUO 11, 1-phase motor, 90-130 V

	DUO 11 M, 1-phase motor, 90-130 V, 50/60 Hz	DUO 11 M, 1-phase motor, 180-265 V, 50/60 Hz	DUO 11, 1-phase motor, 90-130 V, 50/60 Hz	DUO 11, 1-phase motor, 180-265 V, 50/60 Hz
A	463 mm	463 mm	411 mm	411 mm
B	481 mm	460 mm	429 mm	409 mm
C	185 mm	185 mm	185 mm	185 mm
D	154 mm	154 mm	197 mm	191 mm
E	197 mm	192 mm	147.5 mm	147.5 mm

Technical data	DUO 11 M, 1-phase motor, 90-130 V, 50/60 Hz	DUO 11 M, 1-phase motor, 180-265 V, 50/60 Hz	DUO 11, 1-phase motor, 90-130 V, 50/60 Hz	DUO 11, 1-phase motor, 180-265 V, 50/60 Hz
Flange (out)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF
Exhaust pressure, max.	1500 hPa	1500 hPa	1500 hPa	1500 hPa
Exhaust pressure, min.	250 hPa	250 hPa	250 hPa	250 hPa
Operating fluid	P3	P3	P3	P3
Operating fluid filling	0.6 l	0.6 l	0.6 l	0.6 l
Rotation speed at 50 Hz	3000 min ⁻¹	3000 min ⁻¹	3000 min ⁻¹	3000 min ⁻¹
Rotation speed at 60 Hz	3600 min ⁻¹	3600 min ⁻¹	3600 min ⁻¹	3600 min ⁻¹
Emission sound pressure level without gas ballast at 50 Hz	≤ 55 dB (A)	≤ 55 dB (A)	≤ 55 dB (A)	≤ 55 dB (A)
Ultimate pressure with gas ballast	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa
Ultimate pressure without gas ballast	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa
Weight	19 kg	19 kg	17 kg	17 kg
Cooling method, standard	Air	Air	Air	Air
Leak rate safety valve	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s
Magnetic coupling	Yes	Yes		
Rated power 50 Hz	0.25 kW	0.25 kW	0.25 kW	0.25 kW
Rated power 60 Hz	0.30 kW	0.30 kW	0.30 kW	0.30 kW
Mains requirement: voltage 50 Hz	90-130 V	180-265 V	90-130 V	180-265 V
Mains requirement: voltage 60 Hz	90-130 V	180-265 V	90-130 V	180-265 V
Mains cable	No	No	No	No
Pumping speed at 50 Hz	9.0 m ³ /h	9.0 m ³ /h	9.0 m ³ /h	9.0 m ³ /h
Pumping speed at 60 Hz	10.5 m ³ /h	10.5 m ³ /h	10.5 m ³ /h	10.5 m ³ /h
Switch	Yes	Yes	Yes	Yes
Protection category	IP 55	IP 55	IP 55	IP 55
Ambient temperature	12-40 °C	12-40 °C	12-40 °C	12-40 °C

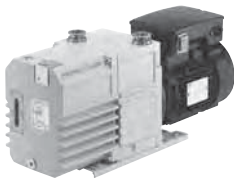
Order number				
DUO 11	PK D59 107	PK D59 112	PK D59 707	PK D59 712

Accessories				
KAS 16, condensate separator for pumping speeds from 1.6 to 12 m ³ /h	PK Z10 003	PK Z10 003	PK Z10 003	PK Z10 003
ONF 16 S, oil mist filter for pumping speeds up to 12 m ³ /h	PK Z40 001	PK Z40 001	PK Z40 001	PK Z40 001
Oil return unit from ONF 16 S to DUO 1.6 / DUO 3	PK 005 986 -T	PK 005 986 -T	PK 005 986 -T	PK 005 986 -T
ONF 16 M, oil mist filter for pumping speeds of up to 12 m ³ /h	PK Z40 003	PK Z40 003	PK Z40 003	PK Z40 003
ZFO 16, zeolite trap	PK Z70 003	PK Z70 003	PK Z70 003	PK Z70 003
Operations monitoring unit 3 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 141 -T	PK 196 141 -T	PK 196 141 -T	PK 196 141 -T
Operations monitoring unit 2 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 142 -T	PK 196 142 -T	PK 196 142 -T	PK 196 142 -T
Operations monitoring unit 1 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 157 -T	PK 196 157 -T	PK 196 157 -T	PK 196 157 -T
Mains cable 230 V with safety plug CEE 7, right angle IEC 320/C13 socket, 2 m	PK 050 109	PK 050 109	PK 050 109	PK 050 109
Mains cable 115 V with NEMA-plug, right angle IEC 320/C13 socket, 2 m	PK 050 110	PK 050 110	PK 050 110	PK 050 110
SAS 16, DN 16 ISO-KF, polyester filter	PK Z60 506	PK Z60 506	PK Z60 506	PK Z60 506
Oil return unit from ONF 16 M to DUO 1.6, 3	PK 006 080 -T	PK 006 080 -T	PK 006 080 -T	PK 006 080 -T
Mains cable 115 / 230 V without plug, right angle IEC 320/C13 socket, 3 m	PK 050 111	PK 050 111	PK 050 111	PK 050 111



DUO 20 M

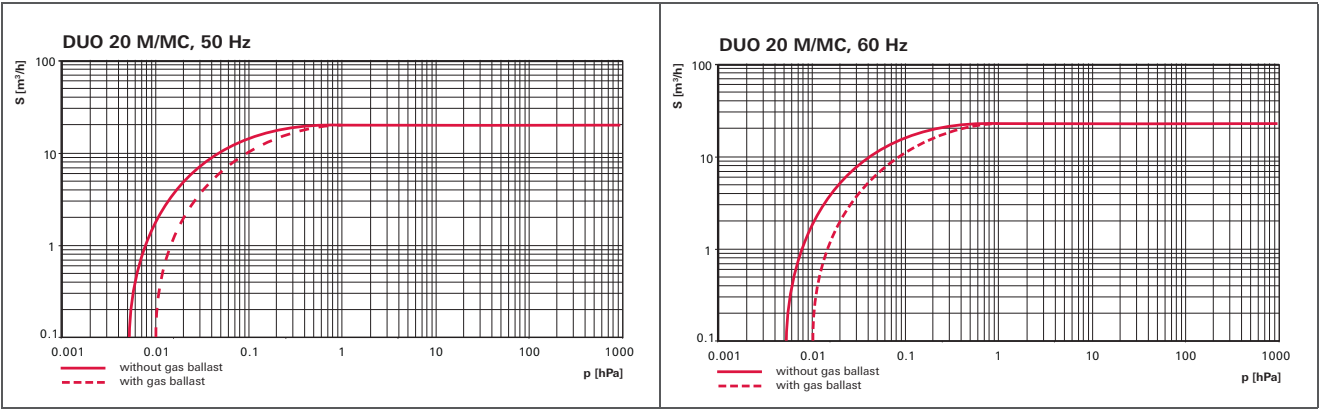
Dual-stage rotary vane pumps with a pumping speed up to 24 m³/h :



- Dual-stage, high-performance rotary vane pump with a pumping speed up to 24 m³/h
- With 3-phase motor
- With temperature sensor (3TF) for optimum motor protection
- Integrated gas ballast and HV safety valve
- For all low and medium vacuum applications
- Magnetically coupled
- Special feature: Various motor voltages for worldwide employment
- Other motor voltages available on request

M = Magnetically coupled
MC = Corrosive gas version, magnetically coupled
TF = Temperature sensor

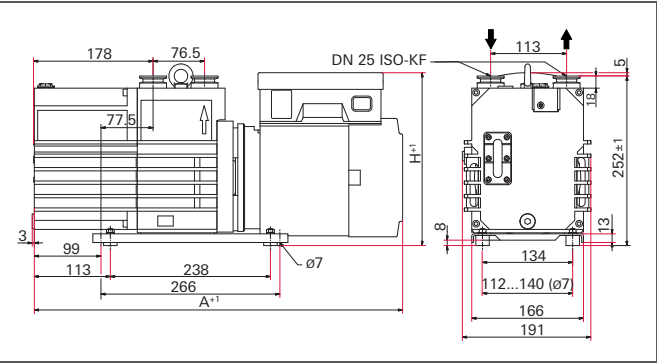
Pumping speed



DUO 20 M, 3-phase motor, 3TF

DUO 20 M, 3-phase motor, 3TF

Dimensions (in mm)



	DUO 20 M, 3-phase motor, 3TF, 220-240/380-420 V, 50 Hz; 250-277/440-480 V, 60 Hz	DUO 20 M, 1-phase motor, 100-110 V, 50 Hz; 100-120 V, 60 Hz	DUO 20 M, 1-phase motor, 200-230 V, 50 Hz; 200-240 V, 60 Hz
A	542 mm	548 mm	548 mm
H	212 mm	257 mm	257 mm

Technical data	DUO 20 M, 3-phase motor, 3TF, 220-240/380-420 V, 50 Hz; 250-277/440-480 V, 60 Hz	DUO 20 M, 1-phase motor, 100-110 V, 50 Hz; 100-120 V, 60 Hz	DUO 20 M, 1-phase motor, 200-230 V, 50 Hz; 200-240 V, 60 Hz
Flange (out)	DN 25 ISO-KF	DN 25 ISO-KF	DN 25 ISO-KF
Flange (in)	DN 25 ISO-KF	DN 25 ISO-KF	DN 25 ISO-KF
Exhaust pressure, max.	1500 hPa	1500 hPa	1500 hPa
Exhaust pressure, min.	250 hPa	250 hPa	250 hPa
Operating fluid	P3	P3	P3
Operating fluid filling	1.1 l	1.1 l	1.1 l
Rotation speed at 50 Hz	1500 min ⁻¹	1500 min ⁻¹	1500 min ⁻¹
Rotation speed at 60 Hz	1800 min ⁻¹	1800 min ⁻¹	1800 min ⁻¹
Emission sound pressure level without gas ballast at 50 Hz	≤ 55 dB (A)	≤ 57 dB (A)	≤ 57 dB (A)
Ultimate pressure with gas ballast	4 · 10 ⁻³ hPa	4 · 10 ⁻³ hPa	4 · 10 ⁻³ hPa
Ultimate pressure without gas ballast	2 · 10 ⁻³ hPa	2 · 10 ⁻³ hPa	2 · 10 ⁻³ hPa
Weight	33 kg	44 kg	44 kg
Cooling method, standard	Air	Air	Air
Leak rate safety valve	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s
Magnetic coupling	Yes	Yes	Yes
Motor protection	3TF		
Rated power 50 Hz	0.55 kW	0.75 kW	0.75 kW
Rated power 60 Hz	0.66 kW	0.90 kW	0.90 kW
Mains requirement: voltage (selectable)		200-230, 50 Hz; 200-240, 60 Hz V	100-110, 50 Hz; 100-120, 60 Hz V
Mains requirement: voltage 50 Hz	220-240/380-420 (± 5 %) V	100-110 (± 5 %) V	200-230 (± 5 %) V
Mains requirement: voltage 60 Hz	250-277/440-480 (± 5 %) V	100-120 (± 5 %) V	200-240 (± 5 %) V
Mains cable	No	Yes	Yes
Pumping speed at 50 Hz	20 m ³ /h	20 m ³ /h	20 m ³ /h
Pumping speed at 60 Hz	24 m ³ /h	24 m ³ /h	24 m ³ /h
Switch	No	Yes, with 2 m mains cable and US plug	Yes, with 2 m cable and safety plug
Protection category	IP 55	IP 54	IP 54
Ambient temperature	12-40 °C	12-40 °C	12-40 °C

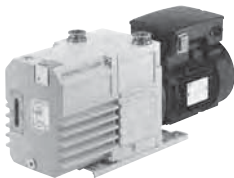
Order number			
DUO 20 M	PK D63 105	PK D63 707	PK D63 712

Accessories			
SAS 25, DN 25 ISO-KF, polyester filter	PK Z60 508	PK Z60 508	PK Z60 508
KAS 25 L, condensate separator for pumping speeds up to 34 m ³ /h	PK Z10 033	PK Z10 033	PK Z10 033
ONF 25 L, oil mist filter for pumping speeds of up to 30 m ³ /h	PK Z40 158	PK Z40 158	PK Z40 158
Oil return unit from ONF 16 M to DUO 5 M, from ONF 25 M to DUO 10 M, from ONF 25 L to DUO 20 M, standard version	PK 196 172 -T	PK 196 172 -T	PK 196 172 -T
ZFO 025, zeolite trap	PK Z70 006	PK Z70 006	PK Z70 006
FAK 025, activated carbon filter	PK Z30 006	PK Z30 006	PK Z30 006
KLF 025, cold trap	PK Z80 006	PK Z80 006	PK Z80 006
URB 025, catalytic trap, 230 V	PT U10 760	PT U10 760	PT U10 760
URB 025, catalytic trap, 115 V	PT U10 761	PT U10 761	PT U10 761
Oil pressure switch for DUO 5/10/20 M and Penta 20/35	PK 196 484 -T	PK 196 484 -T	PK 196 484 -T
PTC-resistor tripping device	P 4768 051 FQ	P 4768 051 FQ	P 4768 051 FQ
Operations monitoring unit 3 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 141 -T	PK 196 141 -T	PK 196 141 -T
Operations monitoring unit 2 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 142 -T	PK 196 142 -T	PK 196 142 -T
Operations monitoring unit 1 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 157 -T	PK 196 157 -T	PK 196 157 -T



DUO 20 MC

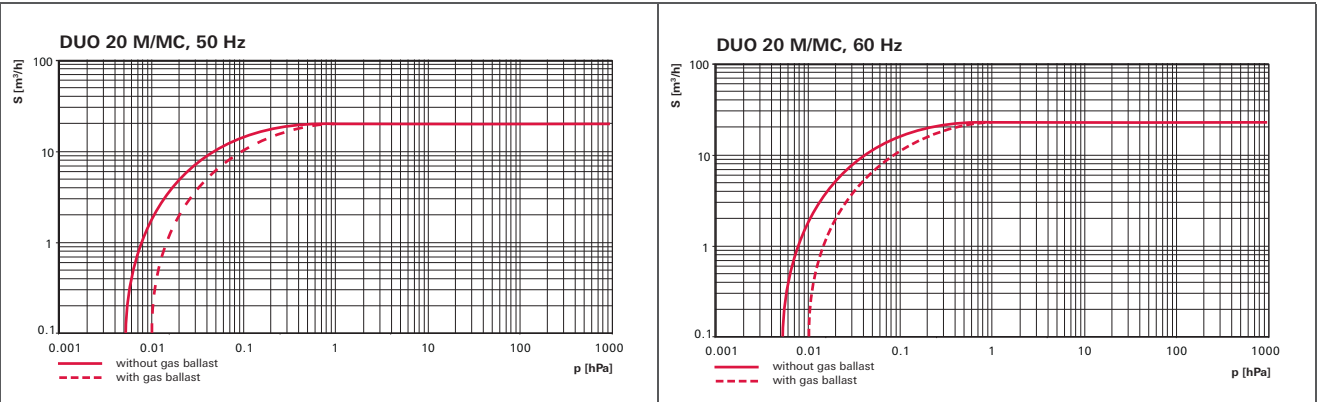
Dual-stage rotary vane pumps with a pumping speed up to 24 m³/h :



- Dual-stage, high-performance rotary vane pump with a pumping speed up to 24 m³/h
- With 3-phase motor
- With temperature sensor (3TF) for optimum motor protection
- Integrated gas ballast and HV safety valve
- For all low and medium vacuum applications
- Magnetically coupled
- Special feature: Various motor voltages for worldwide employment
- Other motor voltages available on request

M = Magnetically coupled
MC = Corrosive gas version, magnetically coupled
TF = Temperature sensor

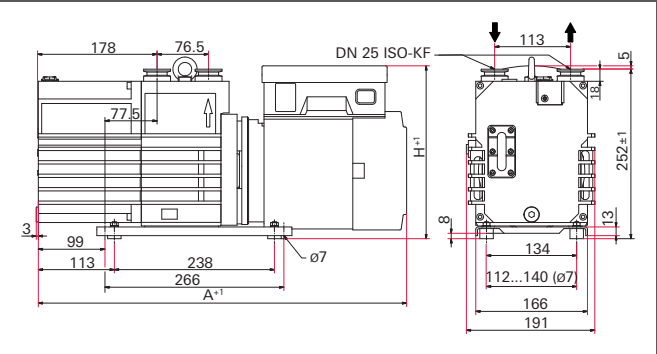
Pumping speed



DUO 20 MC, 3-phase motor, 3TF

DUO 20 MC, 3-phase motor, 3TF

Dimensions (in mm)



	DUO 20 MC, 1-phase motor, 100-110 V, 50 Hz; 100-120 V, 60 Hz	DUO 20 MC, 1-phase motor, 200-230 V, 50 Hz; 200-240 V, 60 Hz
A	548 mm	548 mm
H	257 mm	257 mm

Technical data	DUO 20 MC, 1-phase motor, 100-110 V, 50 Hz; 100-120 V, 60 Hz	DUO 20 MC, 1-phase motor, 200-230 V, 50 Hz; 200-240 V, 60 Hz
Flange (out)	DN 25 ISO-KF	DN 25 ISO-KF
Flange (in)	DN 25 ISO-KF	DN 25 ISO-KF
Exhaust pressure, max.	1500 hPa	1500 hPa
Exhaust pressure, min.	250 hPa	250 hPa
Operating fluid	F4	F4
Operating fluid filling	1.1 l	1.1 l
Rotation speed at 50 Hz	1500 min ⁻¹	1500 min ⁻¹
Rotation speed at 60 Hz	1800 min ⁻¹	1800 min ⁻¹
Emission sound pressure level without gas ballast at 50 Hz	≤ 57 dB (A)	≤ 57 dB (A)
Ultimate pressure with gas ballast	7 · 10 ⁻³ hPa	7 · 10 ⁻³ hPa
Ultimate pressure without gas ballast	4 · 10 ⁻³ hPa	4 · 10 ⁻³ hPa
Weight	44 kg	44 kg
Corrosive gas version	Yes	Yes
Cooling method, standard	Air	Air
Leak rate magnetic coupling	≤ 1 · 10 ⁻⁶ Pa m ³ /s	≤ 1 · 10 ⁻⁶ Pa m ³ /s
Leak rate safety valve	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s
Magnetic coupling	Yes	Yes
Rated power 50 Hz	0.75 kW	0.75 kW
Rated power 60 Hz	0.90 kW	0.90 kW
Mains requirement: voltage (selectable)	200-230, 50 Hz; 200-240, 60 Hz V	100-110, 50 Hz; 100-120, 60 Hz V
Mains requirement: voltage 50 Hz	100-110 (± 5 %) V	200-230 (± 5 %) V
Mains requirement: voltage 60 Hz	100-120 (± 5 %) V	200-240 (± 5 %) V
Mains cable	Yes	Yes
Pumping speed at 50 Hz	20 m ³ /h	20 m ³ /h
Pumping speed at 60 Hz	24 m ³ /h	24 m ³ /h
Switch	Yes, with 2 m mains cable and US plug	Yes, with 2 m mains cable and safety plug
Protection category	IP 54	IP 54
Ambient temperature	12-40 °C	12-40 °C

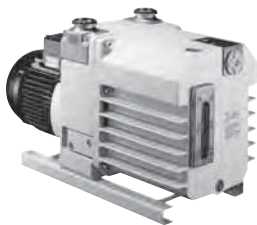
Order number		
DUO 20 MC	PK D63 727	PK D63 732

Accessories		
SAS 25, DN 25 ISO-KF, polyester filter	PK Z60 508	PK Z60 508
KAS 25 L, condensate separator for pumping speeds up to 34 m ³ /h	PK Z10 033	PK Z10 033
ONF 25 L, oil mist filter for pumping speeds of up to 30 m ³ /h	PK Z40 158	PK Z40 158
Oil return unit from ONF 16 M to DUO 5 M, from ONF 25 M to DUO 10 M, from ONF 25 L to DUO 20 M, standard version	PK 196 172 -T	PK 196 172 -T
ZFO 025, zeolite trap	PK Z70 006	PK Z70 006
FAK 025, activated carbon filter	PK Z30 006	PK Z30 006
KLF 025, cold trap	PK Z80 006	PK Z80 006
URB 025, catalytic trap, 230 V	PT U10 760	PT U10 760
URB 025, catalytic trap, 115 V	PT U10 761	PT U10 761
Oil pressure switch for DUO 5/10/20 M and Penta 20/35	PK 196 484 -T	PK 196 484 -T
PTC-resistor tripping device	P 4768 051 FQ	P 4768 051 FQ
Operations monitoring unit 3 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 141 -T	PK 196 141 -T
Operations monitoring unit 2 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 142 -T	PK 196 142 -T
Operations monitoring unit 1 for DUO 1.6/3/6/11 and DUO 5/10/20 M	PK 196 157 -T	PK 196 157 -T
KAS 40 C, condensate separator, corrosive version for pumping speeds up to 34 m ³ /h	PK Z10 406	PK Z10 406
ONF 025 C, oil mist filter, corrosive gas version up to 24 m ³ /h	PK Z40 406	PK Z40 406



DUO 35

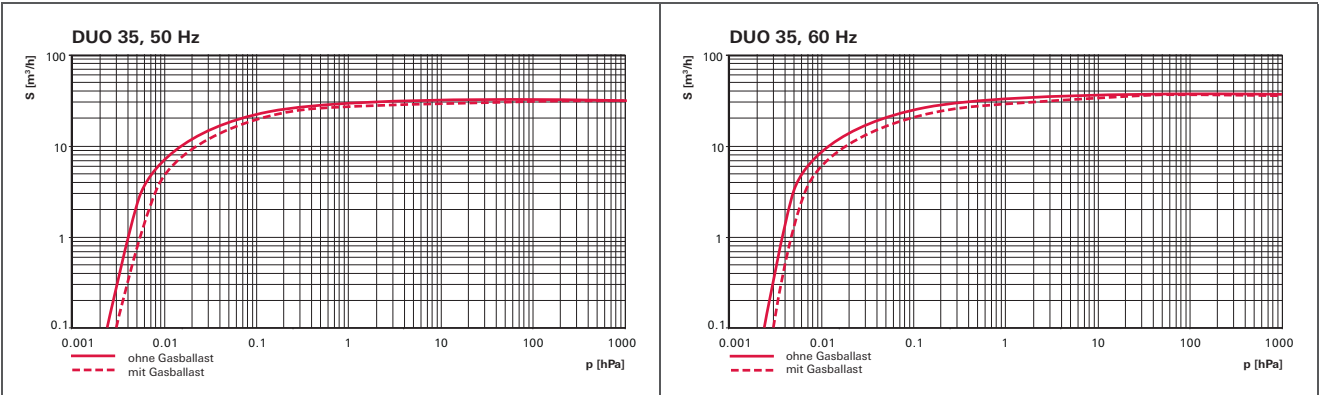
Dual-stage rotary vane pumps with a pumping speed up to 36 m³/h:



- Dual-stage, high-performance rotary vane pump with a pumping speed up to 36 m³/h
- With 3-phase motor
- With temperature sensor (3TF) for optimum motor protection
- Integrated gas ballast and HV safety valve
- For all low and medium vacuum applications
- Special feature: Various motor voltages for worldwide employment
- Other motor voltages available on request

M = Magnetically coupled
 MC = Corrosive gas version with magnetic coupling
 TF = Temperature sensor

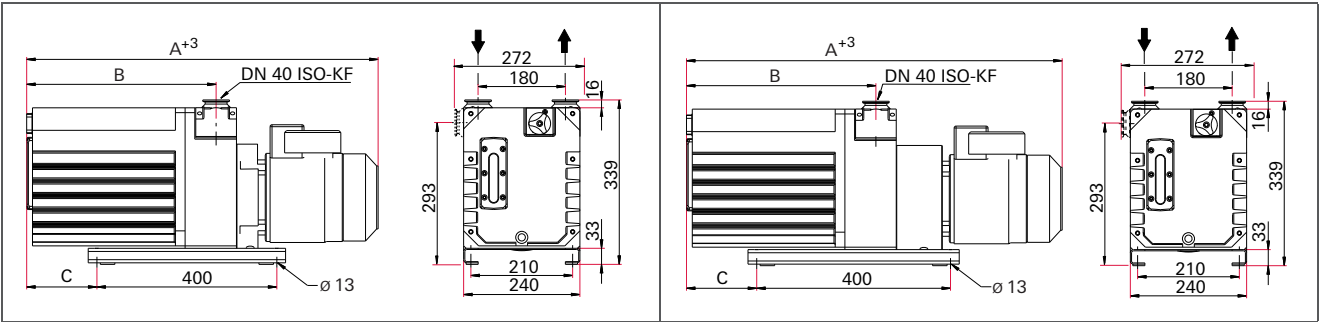
Pumping speed



DUO 35, 3-phase motor, 3TF

DUO 35, 3-phase motor, 3TF

Dimensions (in mm)



DUO 35, 3-phase motor, 3TF

DUO 35 M, 3-phase motor, 3TF

	DUO 35, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz	DUO 35 M, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz	DUO 35 MC, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz
A	658 mm	704 mm	739 mm
B	312 mm	312 mm	312 mm
C	66 mm	66 mm	66 mm

Technical data	DUO 35, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz	DUO 35 M, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz	DUO 35 MC, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz
Flange (out)	DN 40 ISO-KF	DN 40 ISO-KF	DN 40 ISO-KF
Flange (in)	DN 40 ISO-KF	DN 40 ISO-KF	DN 40 ISO-KF
Exhaust pressure, max.	1500 hPa	1500 hPa	1500 hPa
Exhaust pressure, min.	250 hPa	250 hPa	250 hPa
Operating fluid	P3	P3	F5
Operating fluid filling	3.2 l	3.2 l	3.2 l
Rotation speed at 50 Hz	1500 min ⁻¹	1500 min ⁻¹	1500 min ⁻¹
Rotation speed at 60 Hz	1800 min ⁻¹	1800 min ⁻¹	1800 min ⁻¹
Emission sound pressure level without gas ballast at 50 Hz	≤ 61 dB (A)	≤ 61 dB (A)	≤ 61 dB (A)
Ultimate pressure with gas ballast	3 · 10 ⁻³ hPa	≤ 3 · 10 ⁻³ hPa	≤ 4 · 10 ⁻³ hPa
Ultimate pressure without gas ballast	2 · 10 ⁻³ hPa	≤ 2 · 10 ⁻³ hPa	≤ 3 · 10 ⁻³ hPa
Weight	68 kg	70 kg	74 kg
Cooling method, standard	Air	Air	Air
Leak rate magnetic coupling		≤ 1 · 10 ⁻⁷ Pa m ³ /s	≤ 1 · 10 ⁻⁷ Pa m ³ /s
Leak rate safety valve	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s
Magnetic coupling		Yes	Yes
Motor protection	3TF	3TF	3TF
Rated power 50 Hz	1.1 kW	1.1 kW	1.1 kW
Rated power 60 Hz	1.3 kW	1.3 kW	1.3 kW
Mains requirement: voltage 50 Hz	230/400 (± 5 %) V	230/400 (± 5 %) V	230/400 (± 5 %) V
Mains requirement: voltage 60 Hz	265/460 (± 5 %) V	265/460 (± 5 %) V	265/460 (± 5 %) V
Mains cable	No	No	No
Pumping speed at 50 Hz	32 m ³ /h	32 m ³ /h	32 m ³ /h
Pumping speed at 60 Hz	36 m ³ /h	36 m ³ /h	36 m ³ /h
Switch	No	No	No
Protection category	IP 55	IP 55	IP 55
Ambient temperature	12-40 °C	12-40 °C	12-40 °C

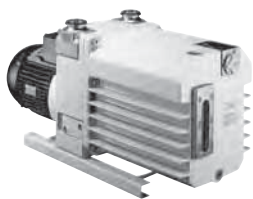
Order number			
DUO 35	PK D45 602	PK D45 028	PK D45 027

Accessories			
SAS 40, DN 40 ISO-KF, polyester filter	PK Z60 510	PK Z60 510	
KAS 40, condensate separator for pumping speeds up to 100 m ³ /h	PK Z10 008	PK Z10 008	
ONF 35/65, oil mist filter for DUO 35/65, DUO 35/65 M	PK Z40 150	PK Z40 150	
Oil return unit from ONF 35/65 to DUO 35/65	PK 005 950 -T	PK 005 950 -T	PK 005 950 -T
ONFR 35/65, oil mist filter with oil return to pump for DUO 35/65, DUO 35/65 M	PK Z40 151	PK Z40 151	
OFC 35/65, chemical oil filter	PK Z90 320	PK Z90 320	PK Z90 320
OFM 35/65, mechanical oil filter	PK Z90 321	PK Z90 321	
ZFO 040, zeolite trap	PK Z70 008	PK Z70 008	
FAK 040, activated carbon filter	PK Z30 008	PK Z30 008	
KLF 040, cold trap	PK Z80 008	PK Z80 008	PK Z80 008
URB 040, catalytic trap, 230 V	PT U10 260	PT U10 260	
URB 040, catalytic trap, 115 V	PT U10 261	PT U10 261	
Oil pressure switch for DUO 35/65; DUO 35/65 MC	PK 223 720 -U	PK 223 720 -U	PK 223 720 -U
Oil pressure switch for DUO 35/65 with OFC/OFM	PK 223 741 -U	PK 223 741 -U	PK 223 741 -U
PTC-resistor tripping device	P 4768 051 FQ	P 4768 051 FQ	P 4768 051 FQ
Operations monitoring unit 3 for DUO 35/65, DUO 125/255	PK 223 739 -U	PK 223 739 -U	PK 223 739 -U
Operations monitoring unit 1 for DUO 35/65	PK 223 718 AU	PK 223 718 AU	PK 223 718 AU
KAS 40 C, condensate separator, corrosive version for pumping speeds up to 100 m ³ /h			PK Z10 408
ONF 35/65 C, oil mist filter, corrosive gas version for DUO 35/65 MC			PK Z40 152
ONFR 35/65 C, oil mist separator with oil return to pump, corrosive gas version for DUO 35/65 MC			PK Z40 153



DUO 65

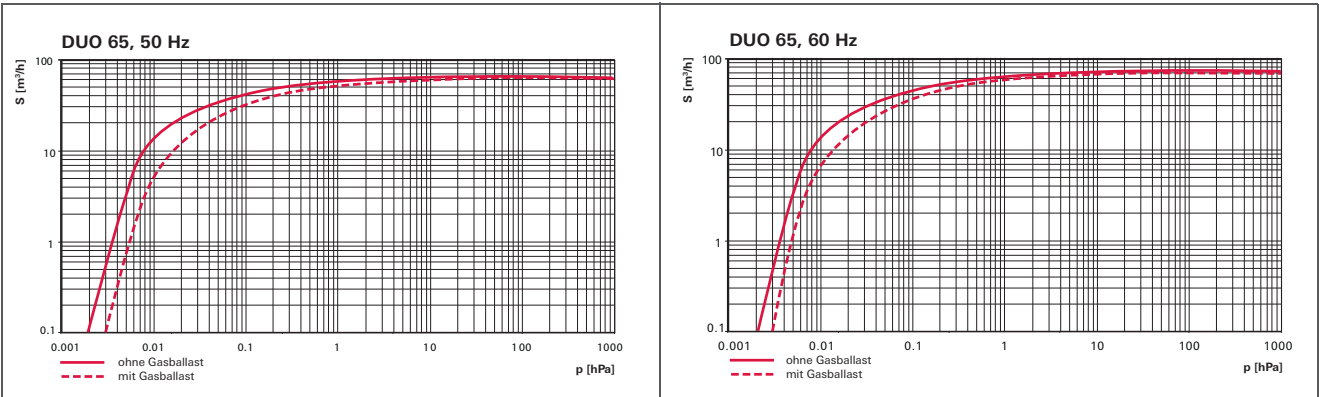
Dual-stage rotary vane pumps with a pumping speed up to 70 m³/h:



- Dual-stage, high-performance rotary vane pump with a pumping speed up to 70 m³/h
- With 3-phase motor
- With temperature sensor (3TF) for optimum motor protection
- Integrated gas ballast and HV safety valve
- For all low and medium vacuum applications
- Special feature: Various motor voltages for worldwide employment

M = Magnetically coupled
MC = Corrosive gas version, magnetically coupled
TF = Temperature sensor

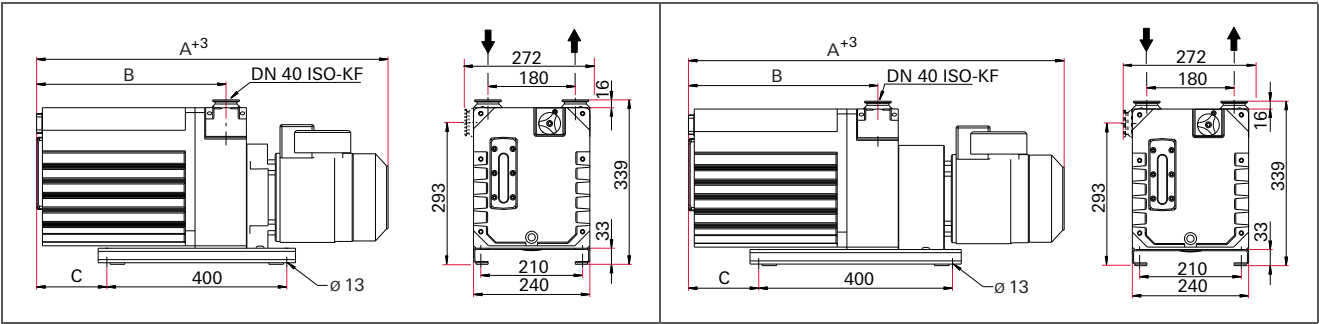
Pumping speed



DUO 65, 3-phase motor, 3TF

DUO 65, 3-phase motor, 3TF

Dimensions (in mm)



DUO 65, 3-phase motor, 3TF

DUO 65 M, 3-phase motor, 3TF

	DUO 65, 3-phase motor, 3TF, 230/400 V, 50 Hz; 465/460 V, 60 Hz	DUO 65 M, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz	DUO 65 MC, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz
A	738 mm	784 mm	819 mm
B	392 mm	392 mm	392 mm
C	146 mm	146 mm	146 mm

Technical data	DUO 65, 3-phase motor, 3TF, 230/400 V, 50 Hz; 465/460 V, 60 Hz	DUO 65 M, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz	DUO 65 MC, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz
Flange (out)	DN 40 ISO-KF	DN 40 ISO-KF	DN 40 ISO-KF
Flange (in)	DN 40 ISO-KF	DN 40 ISO-KF	DN 40 ISO-KF
Exhaust pressure, max.	1500 hPa	1500 hPa	1500 hPa
Exhaust pressure, min.	250 hPa	250 hPa	250 hPa
Operating fluid	P3	P3	F5
Operating fluid filling	4.2 l	4.2 l	4.2 l
Rotation speed at 50 Hz	1500 min ⁻¹	1500 min ⁻¹	1500 min ⁻¹
Rotation speed at 60 Hz	1800 min ⁻¹	1800 min ⁻¹	1800 min ⁻¹
Emission sound pressure level without gas ballast at 50 Hz	≤ 61 dB (A)	≤ 61 dB (A)	≤ 61 dB (A)
Ultimate pressure with gas ballast	≤ 3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa	4 · 10 ⁻³ hPa
Ultimate pressure without gas ballast	≤ 2 · 10 ⁻³ hPa	2 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa
Weight	75 kg	78 kg	83 kg
Cooling method, standard	Air	Air	JA
Leak rate magnetic coupling		≤ 1 · 10 ⁻⁷ Pa m ³ /s	≤ 1 · 10 ⁻⁷ Pa m ³ /s
Leak rate safety valve	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s
Magnetic coupling		Yes	JA
Motor protection	3TF	3TF	3TF
Rated power 50 Hz	1.5 kW	1.5 kW	1.5 kW
Rated power 60 Hz	1.8 kW	1.8 kW	1.8 kW
Mains requirement: voltage 50 Hz	230/400 (± 5 %) V	230/400 (± 5 %) V	230/400 (± 5 %) V
Mains requirement: voltage 60 Hz	265/460 (± 5 %) V	265/460 (± 5 %) V	265/460 (± 5 %) V
Mains cable	No	No	No
Pumping speed at 50 Hz	62 m ³ /h	62 m ³ /h	62 m ³ /h
Pumping speed at 60 Hz	70 m ³ /h	70 m ³ /h	70 m ³ /h
Switch	No	No	No
Protection category	IP 55	IP 55	IP 55
Ambient temperature	12-40 °C	12-40 °C	12-40 °C

Order number			
DUO 65	PK D46 602	PK D46 035	PK D46 036

Accessories			
SAS 40, DN 40 ISO-KF, polyester filter	PK Z60 510	PK Z60 510	
KAS 40, condensate separator for pumping speeds up to 100 m ³ /h	PK Z10 008	PK Z10 008	
ONF 35/65, oil mist filter for DUO 35/65, DUO 35/65 M	PK Z40 150	PK Z40 150	
Oil return unit from ONF 35/65 to DUO 35/65	PK 005 950 -T	PK 005 950 -T	PK 005 950 -T
ONFR 35/65, oil mist filter with oil return to pump for DUO 35/65, DUO 35/65 M	PK Z40 151	PK Z40 151	
OFC 35/65, chemical oil filter	PK Z90 320	PK Z90 320	PK Z90 320
OFM 35/65, mechanical oil filter	PK Z90 321	PK Z90 321	
ZFO 040, zeolite trap	PK Z70 008	PK Z70 008	
FAK 040, activated carbon filter	PK Z30 008	PK Z30 008	
KLF 040, cold trap	PK Z80 008	PK Z80 008	PK Z80 008
URB 040, catalytic trap, 230 V	PT U10 260	PT U10 260	
URB 040, catalytic trap, 115 V	PT U10 261	PT U10 261	
Oil pressure switch for DUO 35/65; DUO 35/65 MC	PK 223 720 -U	PK 223 720 -U	PK 223 720 -U
Oil pressure switch for DUO 35/65 with OFC/OFM	PK 223 741 -U	PK 223 741 -U	PK 223 741 -U
PTC-resistor tripping device	P 4768 051 FQ	P 4768 051 FQ	P 4768 051 FQ
Operations monitoring unit 3 for DUO 35/65, DUO 125/255	PK 223 739 -U	PK 223 739 -U	PK 223 739 -U
Operations monitoring unit 1 for DUO 35/65	PK 223 718 AU	PK 223 718 AU	PK 223 718 AU
KAS 40 C, condensate separator, corrosive version for pumping speeds up to 100 m ³ /h			PK Z10 408
ONF 35/65 C, oil mist filter, corrosive gas version for DUO 35/65 MC			PK Z40 152
ONFR 35/65 C, oil mist separator with oil return to pump, corrosive gas version for DUO 35/65 MC			PK Z40 153



DUO 125

Dual-stage rotary vane pumps with a pumping speed up to 135 m³/h:

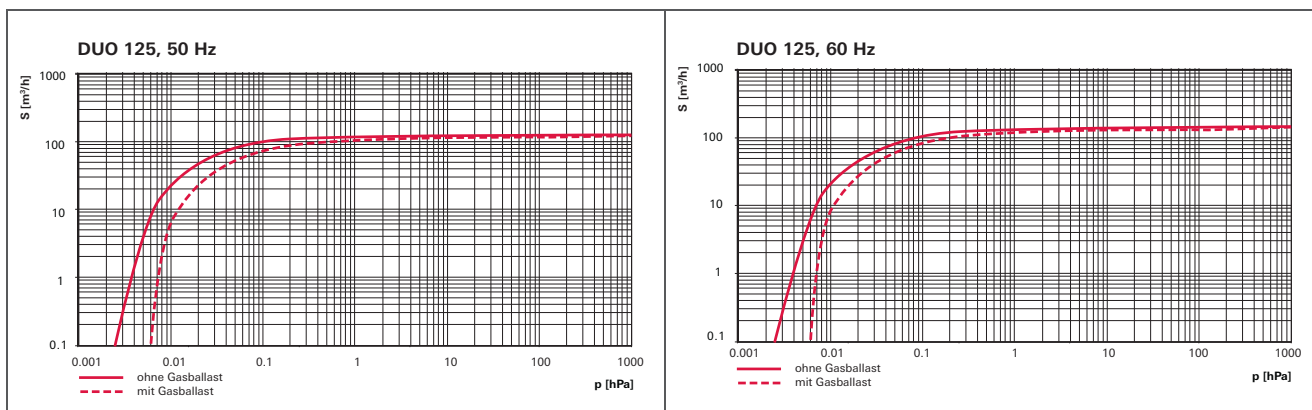


- Dual-stage, high-performance rotary vane pump with a pumping speed up to 135 m³/h
- With 3-phase motor
- With temperature sensor (3TF) for optimum motor protection
- Integrated gas ballast and HV safety valve
- For all low and medium vacuum applications
- Special feature: Various motor voltages for wide application field
- Other motor voltages available on request

TF = Temperature sensor

M = Magnetic coupling

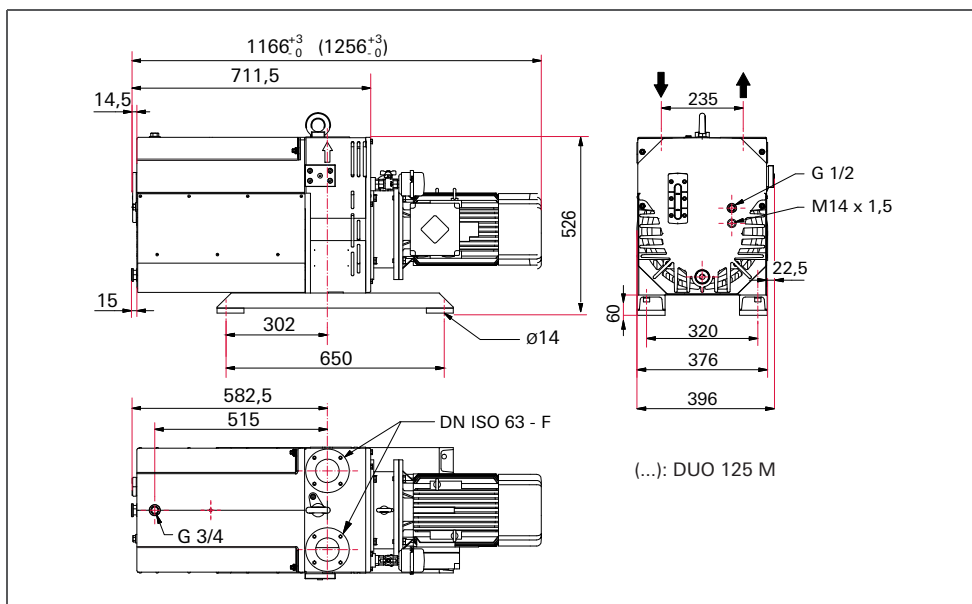
Pumping speed



DUO 125, 3-phase motor

DUO 125, 3-phase motor

Dimensions (in mm)



Technical data	DUO 125, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz	DUO 125 M, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz
Flange (out)	DN 63 ISO-F	DN 63 ISO-F
Flange (in)	DN 63 ISO-F	DN 63 ISO-F
Exhaust pressure, max.	1500 hPa	1500 hPa
Exhaust pressure, min.	250 hPa	250 hPa
Operating fluid	P3	P3
Operating fluid filling	14 l	14 l
Rotation speed at 50 Hz	1000 min ⁻¹	1000 min ⁻¹
Rotation speed at 60 Hz	1200 min ⁻¹	1200 min ⁻¹
Emission sound pressure level without gas ballast at 50 Hz	≤ 75 dB (A)	≤ 75 dB (A)
Ultimate pressure with gas ballast	4 · 10 ⁻³ hPa	4 · 10 ⁻³ hPa
Ultimate pressure without gas ballast	2 · 10 ⁻³ hPa	2 · 10 ⁻³ hPa
Weight	225 kg	245 kg
Cooling method, standard	Air	Air
Leak rate magnetic coupling		≤ 1 · 10 ⁻⁷ Pa m ³ /s
Leak rate safety valve	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s
Magnetic coupling		Yes
Motor protection	3TF	3TF
Rated power 50 Hz	4.0 kW	4.0 kW
Rated power 60 Hz	4.5 kW	4.5 kW
Mains requirement: voltage 50 Hz	230/400 V	230/400 V
Mains requirement: voltage 60 Hz	265/460 V	265/460 V
Mains cable	No	No
Pumping speed at 50 Hz	115 m ³ /h	115 m ³ /h
Pumping speed at 60 Hz	135 m ³ /h	135 m ³ /h
Switch	No	No
Protection category	IP 55	IP 55
Ambient temperature	12-40 °C	12-40 °C

Order number		
DUO 125	PK D47 602	PK D47 152

Accessories		
SAS 63, DN 63 ISO-K, polyester filter	PK Z60 511	PK Z60 511
KAS 63, condensate separator for pumping speeds up to 250 m ³ /h	PK Z10 010	PK Z10 010
ONF 63, oil mist filter for pumping speeds of up to 135 m ³ /h	PK Z40 010	PK Z40 010
Oil return unit, ORF 005, standard version	PK Z90 065	PK Z90 065
OFM 125, mechanical oil filter	PK Z90 340	PK Z90 340
ZFO 063, zeolite trap	PK Z70 010	PK Z70 010
FAK 063, activated carbon filter	PK Z30 010	PK Z30 010
KLF 063, cold trap	PK Z80 010	PK Z80 010
Oil pressure switch for DUO 125/255	PK 223 806 -T	PK 223 806 -T
PTC-resistor tripping device	P 4768 051 FQ	P 4768 051 FQ
Operations monitoring unit 3 for DUO 35/65, DUO 125/255	PK 223 739 -U	PK 223 739 -U
Operating fluid level monitoring	PK 006 001 -T	PK 006 001 -T
Temperature sensor for operating fluid	PK 006 040 -T	PK 006 040 -T



DUO 255

Dual-stage rotary vane pumps with a pumping speed up to 300 m³/h:

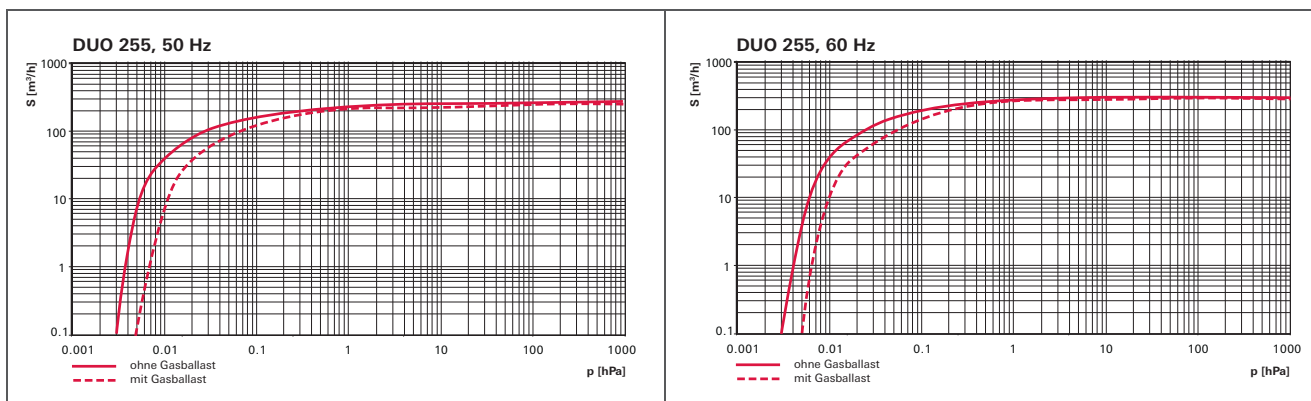


- Dual-stage, high-performance rotary vane pump with a pumping speed up to 255 m³/h
- 3-phase motor for 230/400 V (± 5 %) 50 Hz or 265/460 V (± 5 %) 60 Hz supply voltages
- With temperature sensor (3TF) for optimum motor protection
- Integrated gas ballast and HV safety valve
- For all low and medium vacuum applications
- Special feature: Various motor voltages for worldwide employment
- Other motor voltages available on request

TF = Temperature sensor

M = Magnetic coupling

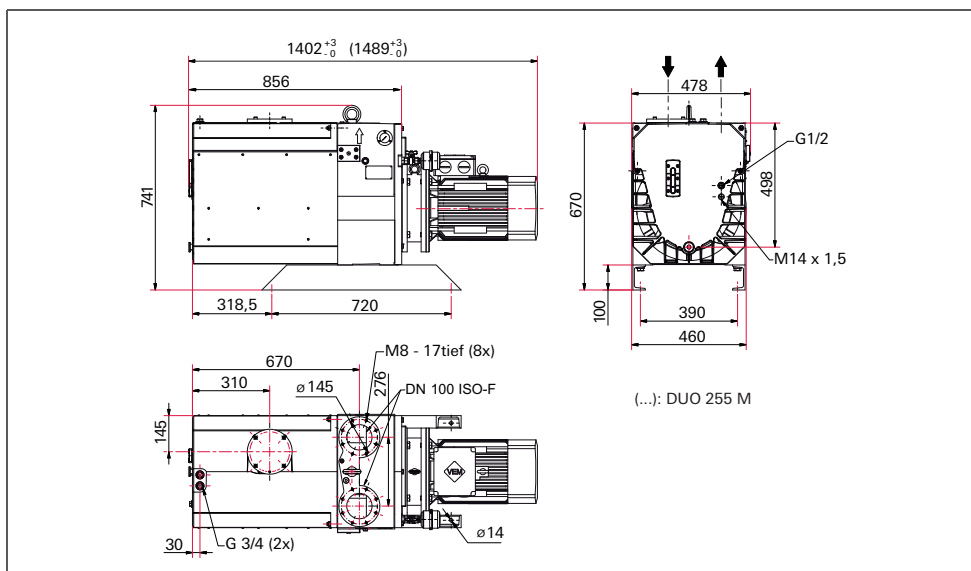
Pumping speed



DUO 255, 3-phase motor, 3TF

DUO 255, 3-phase motor, 3TF

Dimensions (in mm)



Technical data	DUO 255, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz	DUO 255 M, 3-phase motor, 3TF, 230/400 V, 50 Hz; 265/460 V, 60 Hz
Flange (out)	DN 100 ISO-F	DN 100 ISO-F
Flange (in)	DN 100 ISO-F	DN 100 ISO-F
Exhaust pressure, max.	1500 hPa	1500 hPa
Exhaust pressure, min.	250 hPa	250 hPa
Operating fluid	P3	P3
Operating fluid filling	25 l	25 l
Rotation speed at 50 Hz	1000 min ⁻¹	1000 min ⁻¹
Rotation speed at 60 Hz	1200 min ⁻¹	1200 min ⁻¹
Emission sound pressure level without gas ballast at 50 Hz	≤ 75 dB (A)	≤ 75 dB (A)
Ultimate pressure with gas ballast	4 · 10 ⁻³ hPa	4 · 10 ⁻³ hPa
Ultimate pressure without gas ballast	3 · 10 ⁻³ hPa	3 · 10 ⁻³ hPa
Weight	360 kg	397 kg
Cooling method, standard	Air	Air
Leak rate magnetic coupling		≤ 1 · 10 ⁻⁷ Pa m ³ /s
Leak rate safety valve	≤ 1 · 10 ⁻⁵ Pa m ³ /s	≤ 1 · 10 ⁻⁵ Pa m ³ /s
Magnetic coupling		Yes
Motor protection	3TF	3TF
Rated power 50 Hz	7.5 kW	7.5 kW
Rated power 60 Hz	9.0 kW	9.0 kW
Mains requirement: voltage 50 Hz	230/400 V	230/400 V
Mains requirement: voltage 60 Hz	265/460 V	265/460 V
Mains cable	No	No
Pumping speed at 50 Hz	250 m ³ /h	250 m ³ /h
Pumping speed at 60 Hz	300 m ³ /h	300 m ³ /h
Switch	No	No
Protection category	IP 55	IP 55
Ambient temperature	12-40 °C	12-40 °C

Order number		
DUO 255	PK D48 602	PK D48 152

Accessories		
SAS 100, DN 100 ISO-K, polyester filter	PK Z60 512	PK Z60 512
KAS 100, condensate separator for pumping speeds up to 630 m ³ /h	PK Z10 012	PK Z10 012
ONF 100, oil mist filter for pumping speeds up to 300 m ³ /h	PK Z40 012	PK Z40 012
Oil return unit, ORF 005, standard version	PK Z90 065	PK Z90 065
OFM 255, mechanical oil filter	PK Z90 341	PK Z90 341
FAK 100, activated carbon filter	PK Z30 012	PK Z30 012
Oil pressure switch for DUO 125/255	PK 223 806 -T	PK 223 806 -T
PTC-resistor tripping device	P 4768 051 FQ	P 4768 051 FQ
Operations monitoring unit 3 for DUO 35/65, DUO 125/255	PK 223 739 -U	PK 223 739 -U
Operating fluid level monitoring	PK 006 001 -T	PK 006 001 -T
Temperature sensor for operating fluid	PK 006 040 -T	PK 006 040 -T



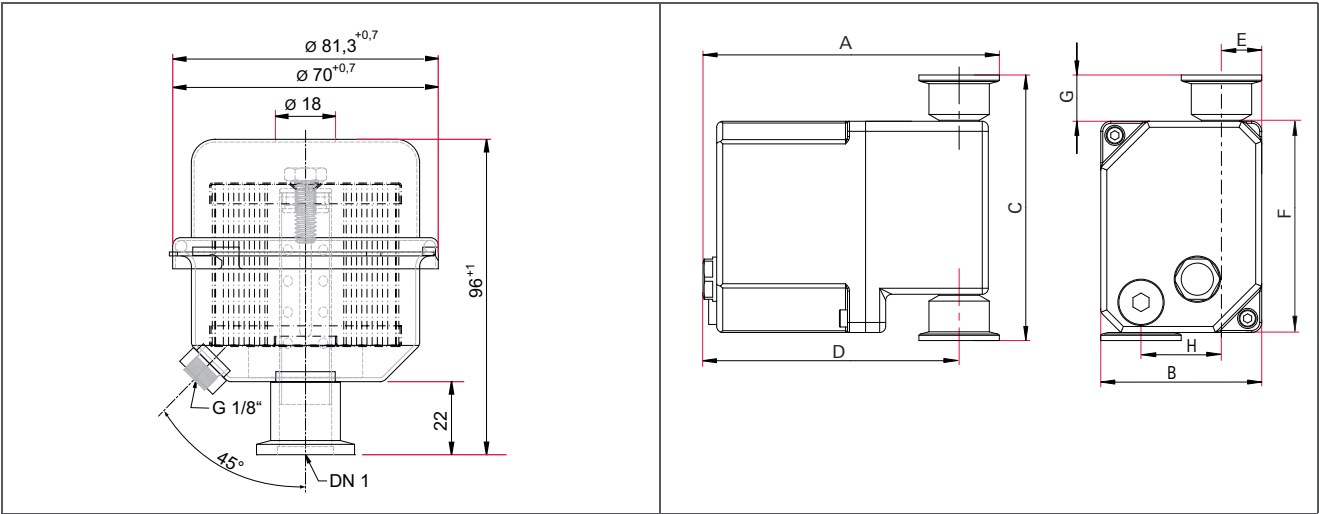
Oil mist filter

Mounted on the pump's exhaust port, they prevent contamination of the air by oil mist. Satisfies the limits established by the German Clean Air Ordinance if a clean filter is employed (separation rate > 99.98 %).

- Sits on the pump's exhaust port and sustainably prevents contamination of the air by oil mist



Dimensions (in mm)



ONF 16 S, oil mist filter

ONF 16 M, oil mist filter

	ONF 16 M, oil mist filter for pumping speeds of up to 12 m³/h
A	142 mm
B	80 mm
C	120 mm
D	127 mm
E	16 mm
F	105 mm
G	17 mm
H	48 mm

Technical data	ONF 16 S, oil mist filter for pumping speeds up to 12 m³/h	ONF 16 M, oil mist filter for pumping speeds of up to 12 m³/h
Flange (out)		DN 16 ISO-KF
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF
Degree of separation	99.98 %	99.98 %
Pressure max. (absolute)	1500 hPa	1500 hPa
Capacity	0.02 l	0.15 l
For pumping speed	12 m³/h	12 m³/h
Weight	0.35 kg	1.35 kg

Order number		
Oil mist filter	PK Z40 001	PK Z40 003

Accessories		
Oil return unit from ONF 16 S to DUO 1.6 / DUO 3	PK 005 986 -T	
Oil return unit from ONF 16 S / ONF 25 S to DUO 5 M / DUO 10 M	PK 005 987 -T	
Oil return unit from ONF 16 M to DUO 5 M, from ONF 25 M to DUO 10 M, from ONF 25 L to DUO 20 M, standard version		PK 196 172 -T
Oil return unit from ONF 16 M to DUO 1.6, 3		PK 006 080 -T



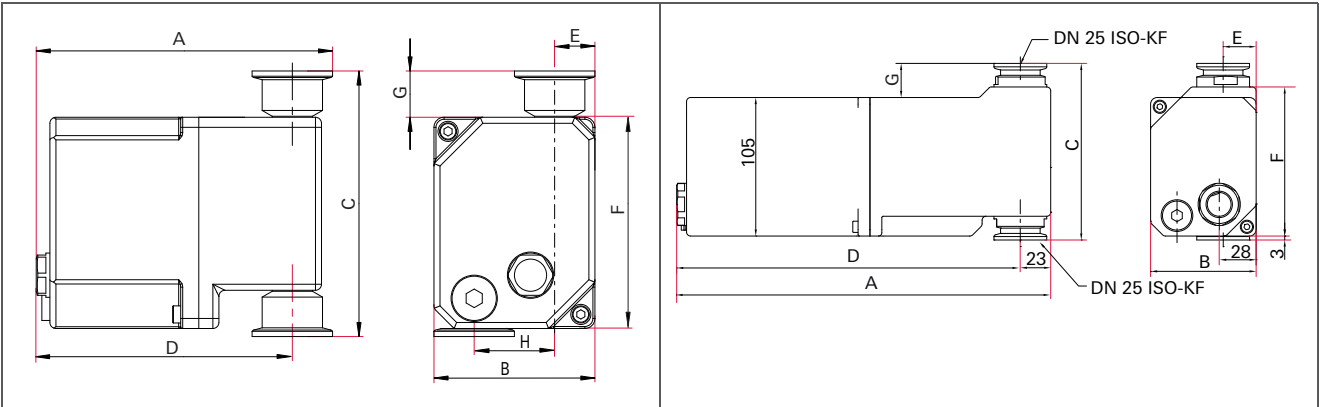
Oil mist filter

Mounted on the pump's exhaust port, they prevent contamination of the air by oil mist. Satisfies the limits established by the German Clean Air Ordinance if a clean filter is employed (separation rate > 99.98 %).

- Sits on the pump's exhaust port and sustainably prevents contamination of the air by oil mist

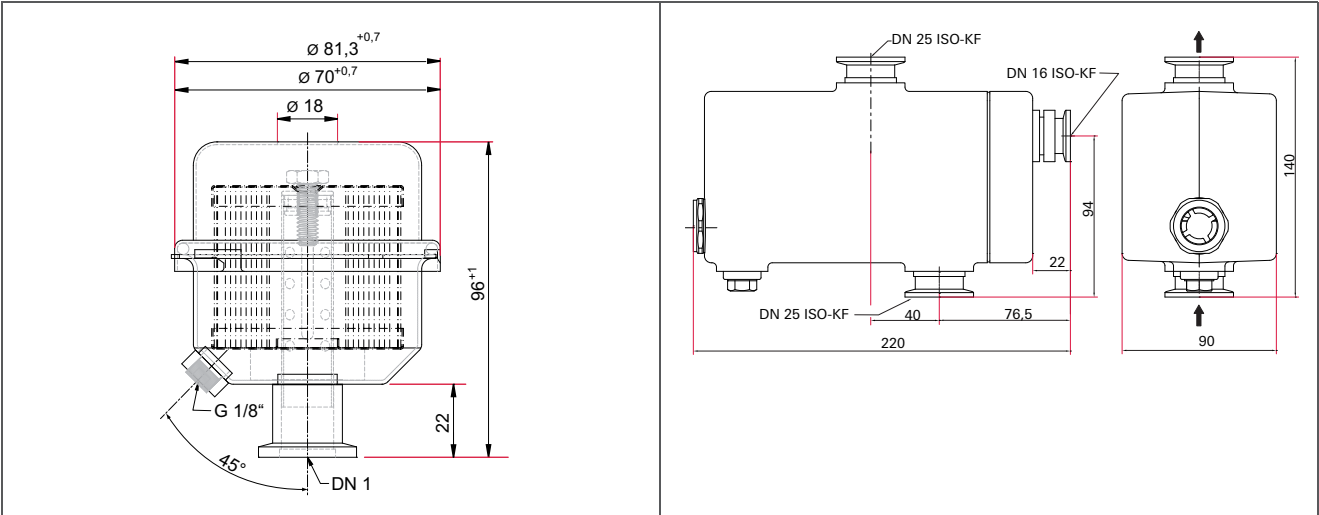


Dimensions (in mm)



ONF 25 M, oil mist filter
ONF 25 L, oil mist filter

ONF 25 XL, oil mist filter



ONF 25 S, oil mist filter

ONF 025 C, oil mist filter

	ONF 25 M, oil mist filter for pumping speeds of up to 12 m³/h	ONF 25 L, oil mist filter for pumping speeds of up to 30 m³/h	ONF 25 XL, oil mist filter for pumping speeds up to 42 m³/h
A	147 mm	218 mm	284 mm
B	80 mm	80 mm	80 mm
C	132 mm	134 mm	134 mm
D	127 mm	182 mm	261 mm
E	16 mm	25 mm	25 mm
F	105 mm	105 mm	105 mm
G	23 mm	27 mm	26 mm
H	48 mm		

Technical data	ONF 25 M, oil mist filter for pumping speeds of up to 12 m³/h	ONF 25 S, oil mist filter for pumping speeds of up to 12 m³/h	ONF 25 L, oil mist filter for pumping speeds of up to 30 m³/h
Flange (out)	DN 25 ISO-KF	No	DN 25 ISO-KF
Flange (in)	DN 25 ISO-KF	DN 25 ISO-KF	DN 25 ISO-KF
Degree of separation	99.98 %	99.98 %	99.98 %
Pressure max. (absolute)	1500 hPa	1500 hPa	1500 hPa
Capacity	0.15 l	0.02 l	0.25 l
For pumping speed	12 m³/h	12 m³/h	30 m³/h
Weight	1.4 kg	0.35 kg	1.6 kg

Order number			
Oil mist filter	PK Z40 157	PK Z40 004	PK Z40 158

Accessories			
Oil return unit from ONF 16 S / ONF 25 S to DUO 5 M / DUO 10 M		PK 005 987 -T	
Oil return unit from ONF 16 M to DUO 5 M, from ONF 25 M to DUO 10 M, from ONF 25 L to DUO 20 M, standard version	PK 196 172 -T		PK 196 172 -T

Technical data	ONF 25 XL, oil mist filter for pumping speeds up to 42 m³/h	ONF 025 C, oil mist filter, corrosive gas version up to 24 m³/h
Flange (out)	DN 25 ISO-KF	DN 25 ISO-K
Flange (in)	DN 25 ISO-KF	DN 25 ISO-K
Degree of separation	99.98 %	98 %
Pressure max. (absolute)	1500 hPa	1500 hPa
Capacity	0.35 l	0.20 l
For pumping speed	42 m³/h	24 m³/h
Weight	1.9 kg	1.8 kg

Order number		
Oil mist filter	PK Z40 160	PK Z40 406

Accessories		
Oil return unit from ONF 25 M, 25 L, 25 XL	PK 198 545 -T	PK 196 177 -T



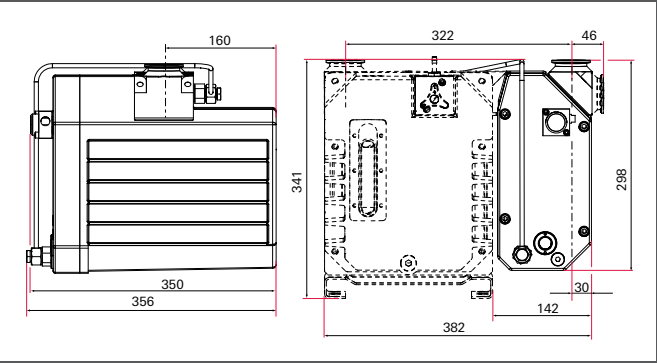
Oil mist filter



Mounted on the pump's exhaust port, they prevent contamination of the air by oil mist. Satisfies the limits established by the German Clean Air Ordinance if a clean filter is employed (separation rate > 99.98 %).

- Sits on the pump’s exhaust port and sustainably prevents contamination of the air by oil mist

Dimensions (in mm)



ONFR 35/65, oil mist filter

Technical data	ONF 35/65, oil mist filter for DUO 35/65, DUO 35/65 M	ONF 35/65 C, oil mist filter, corrosive gas version for DUO 35/65 MC	ONFR 35/65, oil mist filter with oil return to pump for DUO 35/65, DUO 35/65 M	ONFR 35/65 C, oil mist separator with oil return to pump, corrosive gas version for DUO 35/65 MC
Flange (out)	DN 40 ISO-KF	DN 40 ISO-KF	DN 40 ISO-KF	DN 40 ISO-KF
Flange (in)	DN 40 flange	DN 40 flange	DN 40 flange	DN 40 flange
Degree of separation	98 %	98 %	98 %	98 %
Pressure max. (absolute)	1500 hPa	1500 hPa	1500 hPa	
Capacity	0.7 l	0.7 l	0.7 l	0.7 l
For pumping speed	35-70 m³/h	35-70 m³/h	35-70 m³/h	35-70 m³/h
Weight	11 kg	11 kg	11 kg	11 kg

Order number				
Oil mist filter	PK Z40 150	PK Z40 152	PK Z40 151	PK Z40 153

Accessories				
Oil return unit from ONF 35/65 to DUO 35/65	PK 005 950 -T	PK 005 950 -T		
Oil return unit - conversion kit ONFR 35/65 in gas ballast to suction side of DUO 35/65	PK 005 951 -T	PK 005 951 -T		
Saturation indicator, optical/electrically for ONF 35/65	P 0991 684	P 0991 684	P 0991 684	P 0991 684



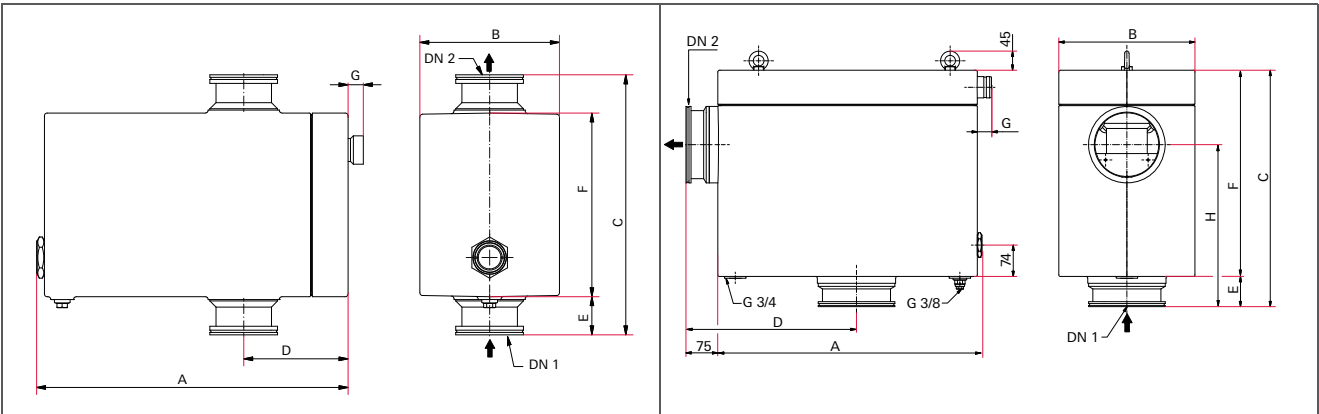
Oil mist filter



Mounted on the pump's exhaust port, they prevent contamination of the air by oil mist. Satisfies the limits established by the German Clean Air Ordinance if a clean filter is employed (separation rate > 99.98 %).

- Sits on the pump's exhaust port and sustainably prevents contamination of the air by oil mist

Dimensions (in mm)



ONF 63, oil mist filter
ONF 100, oil mist filter

ONF 160, oil mist filter

	ONF 63, oil mist filter for pumping speeds of up to 135 m³/h	ONF 100, oil mist filter for pumping speeds up to 300 m³/h	ONF 160, oil mist filter for pumping speeds of up to 500 m³/h
A	440 mm	457 mm	621 mm
B	196 mm	260 mm	320 mm
C	366 mm	494 mm	556 mm
D	147 mm	150 mm	401 mm
F	260 mm	400 mm	485 mm
G	22 mm	22 mm	34 mm
H			381 mm

Technical data	ONF 63, oil mist filter for pumping speeds of up to 135 m³/h	ONF 100, oil mist filter for pumping speeds up to 300 m³/h	ONF 160, oil mist filter for pumping speeds of up to 500 m³/h
Flange (out)	DN 63 ISO-K	DN 100 ISO-K	DN 160 ISO-K
Flange (in)	DN 63 ISO-K	DN 100 ISO-K	DN 160 ISO-K
Degree of separation	99.98 %	99.98 %	99.98 %
Pressure max. (absolute)	1500 hPa	1500 hPa	1500 hPa
Capacity	1.7 l	2.3 l	7.0 l
Capacity ONF with ORF	1.7 l	2.2 l	3.7 l
For pumping speed	135 m³/h	300 m³/h	500 m³/h
Weight	13.5 kg	27 kg	41 kg

Order number			
Oil mist filter	PK Z40 010	PK Z40 012	PK Z40 014

Accessories			
Oil return unit, ORF 005, standard version	PK Z90 065	PK Z90 065	PK Z90 065



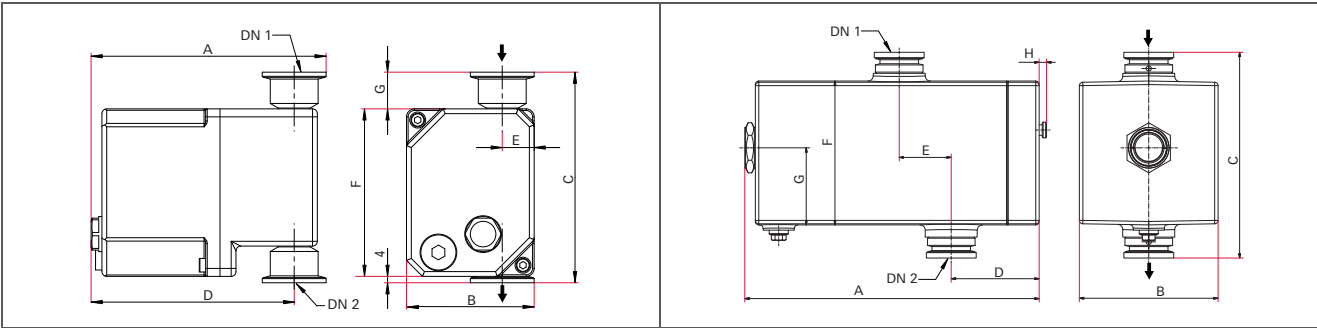
Condensate separators

Sits on the pump's intake port and prevent condensate from entering the pump.



- For inlet and outlet ports
- Protects the rotary vane pump against sucked in liquids and condensate return

Dimensions (in mm)



KAS 16, condensate separator
KAS 25, condensate separator
KAS 25 L, condensate separator

KAS 40, condensate separator

	KAS 16, condensate separator for pumping speeds from 1.6 to 12 m³/h	KAS 25, condensate separator for pumping speeds up to 12 m³/h	KAS 25 L, condensate separator for pumping speeds up to 34 m³/h	KAS 40 C, condensate separator, corrosive version for pumping speeds up to 34 m³/h	KAS 40, condensate separator for pumping speeds up to 100 m³/h
A	142 mm	147 mm	202 mm	195 mm	340 mm
B	80 mm	80 mm	80 mm	90 mm	160 mm
C	120 mm	132 mm	132 mm	140 mm	237 mm
D	127 mm	127 mm	182 mm	54 mm	102 mm
DN 1	DN 16 ISO-KF	DN 25 ISO-KF	DN 25 ISO-KF	DN 25 ISO-KF	DN 40 ISO-KF
DN 2	DN 16 ISO-KF	DN 25 ISO-KF	DN 25 ISO-KF	DN 25 ISO-KF	DN 40 ISO-KF
E	20 mm	20 mm	20 mm	40 mm	60 mm
F	105 mm	105 mm	105 mm	100 mm	166 mm
G	17 mm	23 mm	23 mm	22 mm	89 mm

Technical data	KAS 16, condensate separator for pumping speeds from 1.6 to 12 m³/h	KAS 25, condensate separator for pumping speeds up to 12 m³/h	KAS 25 L, condensate separator for pumping speeds up to 34 m³/h	KAS 40 C, condensate separator, corrosive version for pumping speeds up to 34 m³/h	KAS 40, condensate separator for pumping speeds up to 100 m³/h
Flange (out)	DN 16 ISO-KF	DN 25 ISO-KF	DN 25 ISO-KF	DN 25 ISO-KF	DN 40 ISO-KF
Flange (in)	DN 16 ISO-KF	DN 25 ISO-KF	DN 25 ISO-KF	DN 25 ISO-KF	DN 40 ISO-KF
Pressure max. (absolute)	1500 hPa	1500 hPa	1500 hPa	1500 hPa	1500 hPa
Capacity	0.2 l	0.2 l	0.3 l	0.5 l	3 l
For pumping speed	<12 m³/h	< 12 m³/h	< 34 m³/h	< 34 m³/h	< 100 m³/h
Weight	1.35 kg	1.4 kg	1.5 kg	1.6 kg	6.1 kg
Leak rate	< 1 · 10 ⁻⁶ Pa m³/s	< 1 · 10 ⁻⁶ Pa m³/s	< 1 · 10 ⁻⁶ Pa m³/s	< 1 · 10 ⁻⁶ Pa m³/s	< 1 · 10 ⁻⁶ Pa m³/s

Order number					
Condensate separators	PK Z10 003	PK Z10 032	PK Z10 033	PK Z10 406	PK Z10 008

Condensate separators

Sits on the pump's intake port and prevent condensate from entering the pump.

- For inlet and outlet ports
- Protects the rotary vane pump against sucked in liquids and condensate return



	KAS 40 C, condensate separator, corrosive version for pumping speeds up to 100 m³/h	KAS 63, condensate separator for pumping speeds up to 250 m³/h	KAS 63 C, condensate separator, corrosive version for pumping speeds up to 250 m³/h	KAS 100, condensate separator for pumping speeds up to 630 m³/h	KAS 63 C, condensate separator, corrosive version for pumping speeds up to 630 m³/h
A	340 mm	436 mm	436 mm	457 mm	457 mm
B	160 mm	196 mm	196 mm	260 mm	260 mm
C	237 mm	366 mm	366 mm	494 mm	494 mm
D	102 mm	146 mm	146 mm	150 mm	150 mm
E	60 mm				
F	166 mm	260 mm	260 mm	400 mm	400 mm

Technical data	KAS 40 C, condensate separator, corrosive version for pumping speeds up to 100 m³/h	KAS 63, condensate separator for pumping speeds up to 250 m³/h	KAS 63 C, condensate separator, corrosive version for pumping speeds up to 250 m³/h	KAS 100, condensate separator for pumping speeds up to 630 m³/h	KAS 63 C, condensate separator, corrosive version for pumping speeds up to 630 m³/h
Flange (out)	DN 40 ISO-KF	DN 63 ISO-K	DN 63 ISO-KF	DN 100 ISO-K	DN 100 ISO-K
Flange (in)	DN 40 ISO-KF	DN 63 ISO-K	DN 63 ISO-KF	DN 100 ISO-K	DN 100 ISO-K
Pressure max. (absolute)	1500 hPa	1500 hPa	1500 hPa	1500 hPa	1500 hPa
Capacity	3 l	12 l	12 l	19 l	19 l
For pumping speed	< 100 m³/h	< 250 m³/h	< 250 m³/h	< 630 m³/h	< 630 m³/h
Weight	6.1 kg	13.2 kg	13.2 kg	25 kg	25 kg
Leak rate	< 1 · 10 ⁻⁶ Pa m³/s	< 1 · 10 ⁻⁶ Pa m³/s	< 1 · 10 ⁻⁶ Pa m³/s	< 1 · 10 ⁻⁶ Pa m³/s	< 1 · 10 ⁻⁶ Pa m³/s

Order number					
Condensate separators	PK Z10 408	PK Z10 010	PK Z10 410	PK Z10 012	PK Z10 412



Adsorption filter

Filters for employment in conjunction with nitrous gases, acids and bases in the pump.



- For adsorption of inorganic media
- Protects rotary vane pump and operating fluid against gaseous contaminants when installed on the intake side
- Reduces the concentration of harmful exhaust products in combination with oil mist separator when installed on the outlet side
- For employment in conjunction with gases, acids and bases

Technical data	FAK 025, activated carbon filter	FAK 040, activated carbon filter	FAK 063, activated carbon filter	FAK 100, activated carbon filter
Flange (out)	DN 25 ISO-KF	DN 40 ISO-KF	DN 63 ISO-K	DN 100 ISO-K
Flange (in)	DN 25 ISO-KF	DN 40 ISO-KF	DN 63 ISO-K	DN 100 ISO-K
Mounting orientation	Vertical	Vertical	Vertical	Vertical
Filling quantity	1 l	2 l	7.5 l	20 l
For pumping speed up to	30 m³/h	65 m³/h	120 m³/h	500 m³/h
Weight with contents	4 kg	5.5 kg	16 kg	40 kg
Conductance	1 · 10 ⁻² hPa: 2 l/s; 1 hPa: 10 l/s; 100 hPa: 500 l/s	1 · 10 ⁻² hPa: 16 l/s; 1 hPa: 150 l/s; 100 hPa: 1000 l/s	1 · 10 ⁻² hPa: 5 l/s; 1 hPa: 9 l/s; 100 hPa: 400 l/s	1 · 10 ⁻² hPa: 5 l/s; 1 hPa: 6 l/s; 100 hPa: 100 l/s

Order number				
Adsorption filter	PK Z30 006	PK Z30 008	PK Z30 010	PK Z30 012

Technical data	ZFO 16, zeolite trap	ZFO 025, zeolite trap	ZFO 040, zeolite trap	ZFO 063, zeolite trap
Flange (out)	DN 16 ISO-KF	DN 25 ISO-KF	DN 40 ISO-KF	DN 63 ISO-K
Flange (in)	DN 16 ISO-KF	DN 25 ISO-KF	DN 40 ISO-KF	DN 63 ISO-K
Mounting orientation	Horizontal	Vertical	Vertical	Vertical
Filling quantity	0.5 l	2 l	2.3 l	4.3 l
For pumping speed up to	5 m³/h	30 m³/h	65 m³/h	120 m³/h
Weight with contents	1.5 kg	7 kg	13 kg	17 kg
Heating rod	No	Voltage: 230 V, power input: 200 W, weight: 1.7 kg	Voltage: 230 V, power input: 300 W, weight: 2.7 kg	Voltage: 230 V Power input: 400 W Weight: 3.4 kg
Conductance	1 · 10 ⁻² hPa: 0,3 l/s; 1 hPa: 0,7 l/s; 100 hPa: 31 l/s	1 · 10 ⁻² hPa: 4 l/s; 1 hPa: 40 l/s; 100 hPa: 900 l/s	1 · 10 ⁻² hPa: 7 l/s; 1 hPa: 80 l/s; 100 hPa: 1300 l/s	1 · 10 ⁻² hPa: 22 l/s; 1 hPa: 600 l/s; 100 hPa: 4000 l/s

Order number				
Adsorption filter	PK Z70 003	PK Z70 006	PK Z70 008	PK Z70 010

Technical data		Heating rod for ZFO 025, 220 V, 50/60 Hz	Heating rod for ZFO 040, 220 V, 50/60 Hz	Heating rod for ZFO 063, 220 V, 50/60 Hz
Power consumption		200 W	300 W	400 W
Mains requirement		220 V, 50/60 Hz	220 V, 50/60 Hz	220 V, 50/60 Hz

Order number				
Zeolite trap heating		PK Z90 012 A	PK Z90 020 A	PK Z90 030 A

Technical data	KLF 025, cold trap	KLF 040, cold trap	KLF 063, cold trap
Flange (out)	DN 25 ISO-KF	DN 40 ISO-KF	DN 63 ISO-K
Flange (in)	DN 25 ISO-KF	DN 40 ISO-KF	DN 63 ISO-K
Mounting orientation	Vertical	Vertical	Vertical
Filling quantity condensate max.	0,1 l	0,4 l	0,75 l
Filling quantity coolant	0,7 l	1,5 l	3,8 l
For pumping speed up to	30 m³/h	65 m³/h	120 m³/h
Weight	3,5 kg	6,5 kg	11,5 kg
Conductance	1 · 10 ⁻² hPa: 10 l/s; 1 hPa: 60 l/s; 100 hPa: 800 l/s	1 · 10 ⁻² hPa: 16 l/s; 1 hPa: 150 l/s; 100 hPa: 1000 l/s	1 · 10 ⁻² hPa: 30 l/s; 1 hPa: 800 l/s; 100 hPa: 3000 l/s

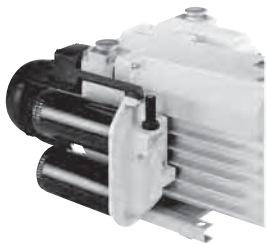
Order number			
Adsorption filter	PK Z80 006	PK Z80 008	PK Z80 010

Technical data	URB 025, catalytic trap, 115 V	URB 025, catalytic trap, 230 V	URB 040, catalytic trap, 115 V	URB 040, catalytic trap, 230 V
Flange (in)	DN 25 ISO-KF	DN 25 ISO-KF	DN 40 ISO-KF	DN 40 ISO-KF
Mounting orientation	Any	Any	Normal operation: any/with water cooling: vertical	Normal operation: any/with water cooling: vertical
Filling quantity	180 g	180 g	480 g	480 g
Weight with contents	1,8 kg	1,8 kg	3,6 kg	3,6 kg
Cooling			Water	Water
Power consumption	25 W	25 W	50 W	50 W
Conductance	1 · 10 ⁻² hPa: 3 l/s; 1 hPa: 9 l/s	1 · 10 ⁻² hPa: 3 l/s; 1 hPa: 9 l/s	1 · 10 ⁻² hPa: 9 l/s; 1 hPa: 45 l/s	1 · 10 ⁻² hPa: 9 l/s; 1 hPa: 45 l/s
Voltage	115 V	230 V	115 V	230 V

Order number				
Adsorption filter	PT U10 761	PT U10 760	PT U10 261	PT U10 260



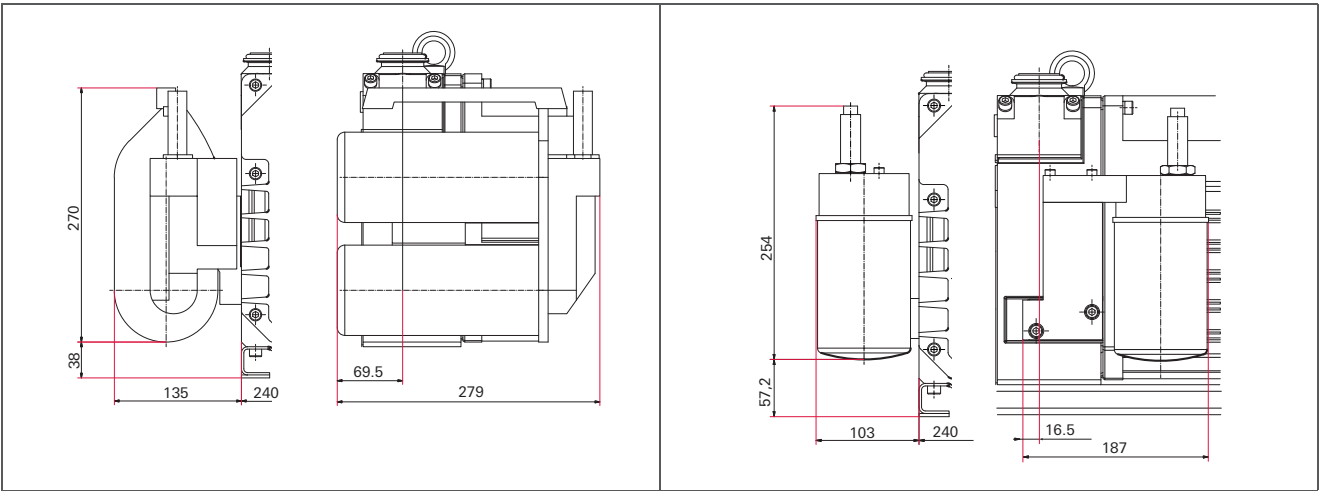
Oil filter



The oil filters are designed for partial-flow installation in the rotary vane pump's oil circulation system: The oil filters filter out dust and particulate matter from the production process in the operating fluid. This reduces pump wear.

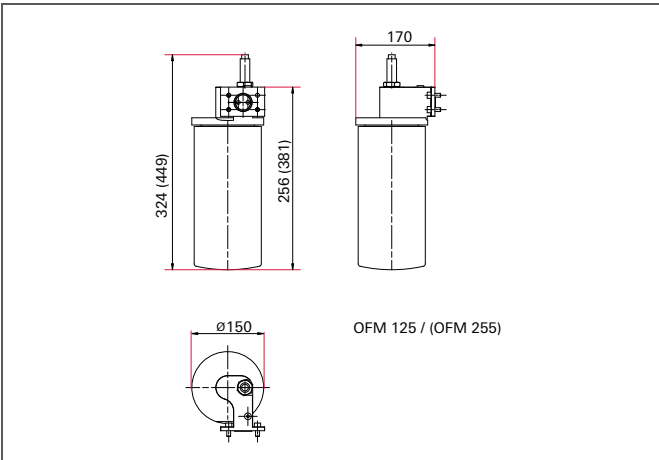
- The chemical oil filter is designed for partial-flow installation in the oil circulation system of rotary vane pumps
- The oil filter filters out dust and particulate matter from the production filter in the operating fluid
- Moreover, corrosive substances are also adsorbed from the operating fluid. This reduces pump wear

Dimensions (in mm)



OFC 35/65, chemical oil filter

OFM 35/65, mechanical oil filter



OFM 125, mechanical oil filter

OFM 255, mechanical oil filter

Technical data	OFC 35/65, chemical oil filter	OFM 35/65, mechanical oil filter	OFM 125, mechanical oil filter	OFM 255, mechanical oil filter
Capacity		0.8 l	2.2 l	4.0 l
Capacity chem. filter	0.8 l			
Capacity mech. filter	1.2 l	0.8 l	2.2 l	4.0 l
Filter poresize	12 µm	12 µm	10 µm	10 µm
For	Duo 35/65	Duo 35/65	Duo 125	Duo 255
For pumping speed	35-65 m³/h	35-65 m³/h	125 m³/h	255 m³/h
Weight	8 kg	3.2 kg	2.0 kg	2.5 kg

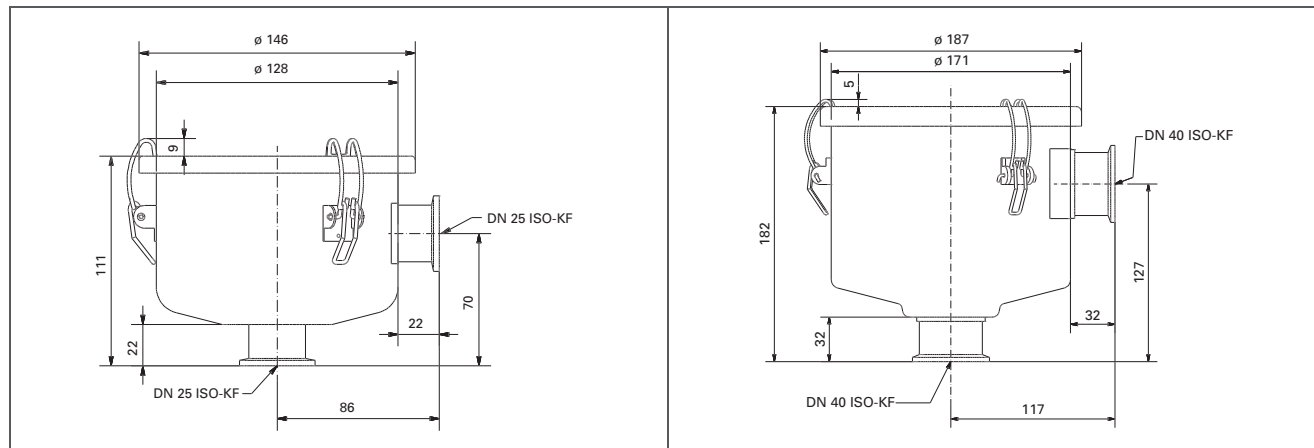
Order number				
Oil filter	PK Z90 320	PK Z90 321	PK Z90 340	



Dust separators

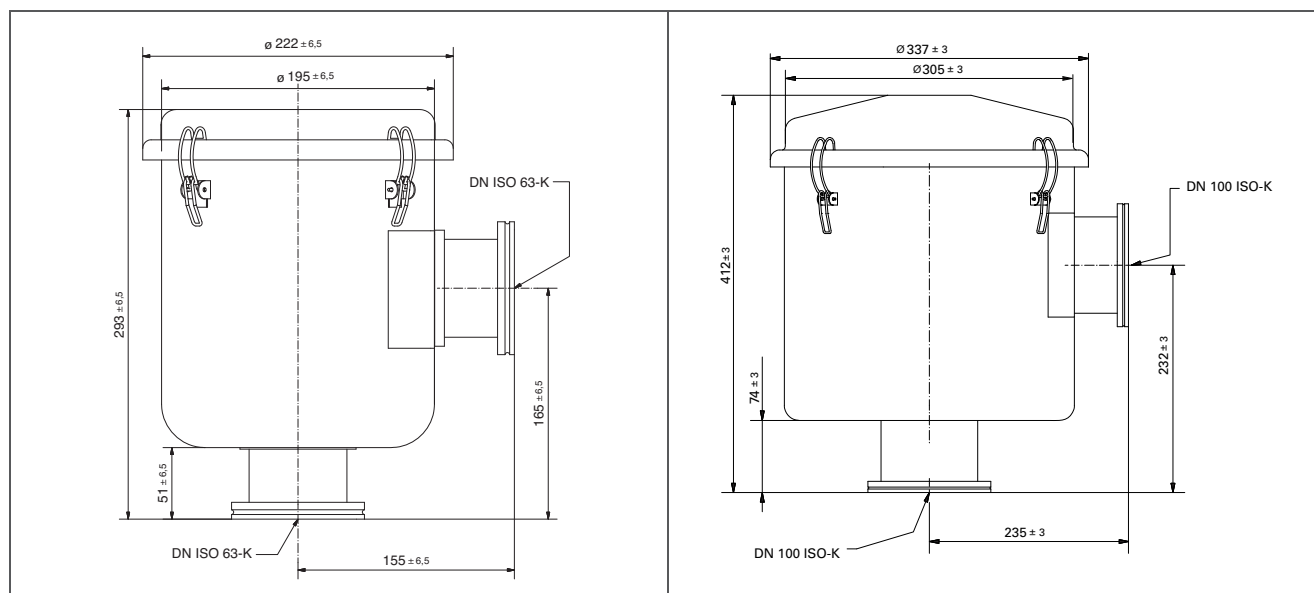
Prevents dust from reaching the pump through the intake tract.

Dimensions (in mm)



SAS 25, DN 25 ISO-KF

SAS 40, DN 40 ISO-KF



SAS 63, DN 63 ISO-K

SAS 100, DN 100 ISO-K

Technical data	SAS 25, DN 25 ISO-KF	SAS 40, DN 40 ISO-KF	SAS 63, DN 63 ISO-K	SAS 100, DN 100 ISO-K
Flange (out)	DN 25 ISO-KF	DN 40 ISO-KF	DN 63 ISO-K	DN 100 ISO-K
Flange (in)	DN 25 ISO-KF	DN 40 ISO-KF	DN 63 ISO-K	DN 100 ISO-K
Degree of separation	99.7 %	99.7 %	99.7 %	99.7 %
Operating range	1.0 abs.	1.0 abs.	1.0 abs	1.0 abs
Mounting orientation	Vertical/horizontal	Vertical/horizontal	Vertical/horizontal	Vertical/horizontal
For pumping speed up to	20 m³/h	90 m³/h	250 m³/h	630 m³/h
Weight	1.055 kg	2.06 kg	5.95 kg	12.8 kg
Grain size limit (separable)	5 µm	5 µm	5 µm	5 µm
Leak rate	< 1 · 10 ⁻⁵ Pa m³/s	< 1 · 10 ⁻⁵ Pa m³/s	< 1 · 10 ⁻⁵ Pa m³/s	< 1 · 10 ⁻⁵ Pa m³/s
Conductance	1 hPa: 150 l/s, 100 hPa: 750 l/s	1 hPa: 380 l/s, 100 hPa: 2250 l/s	1 hPa: 2500 l/s, 100 hPa: 20000 l/s	1 hPa: 2000 l/s, 100 hPa: 30000 l/s
Ambient temperature	-26-+104 °C	-26-+104 °C	-26-+104 °C	-26-+104 °C

Order number				
Dust separators	PK Z60 508	PK Z60 510	PK Z60 511	PK Z60 512



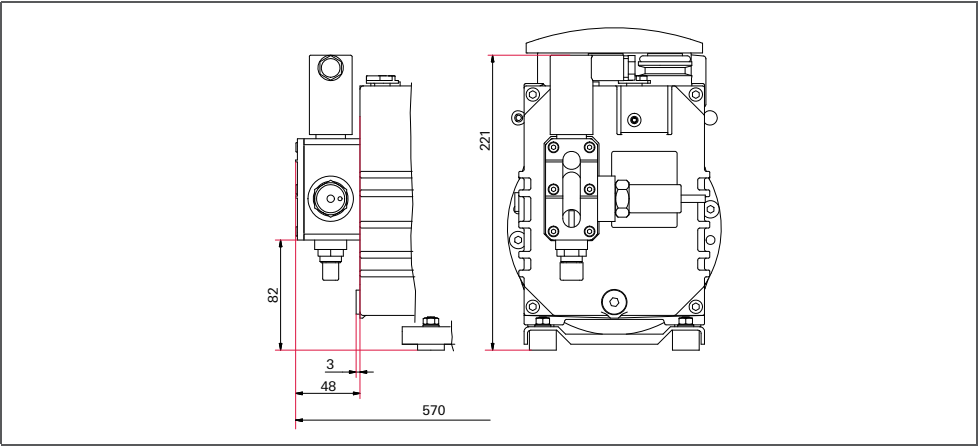
Operations monitoring unit

For integration into control and process monitoring system

- Monitors operating fluid level/temperature and exhaust pressure
- Mounted at the sight glass



Dimensions (in mm)



Order number	Operations monitoring unit 3 for DUO 1.6/3/6/11 and DUO 5/10/20 M	Operations monitoring unit 2 for DUO 1.6/3/6/11 and DUO 5/10/20 M	Operations monitoring unit 1 for DUO 1.6/3/6/11 and DUO 5/10/20 M	Operations monitoring unit 3 for DUO 35/65, DUO 125/255	Operations monitoring unit 1 for DUO 35/65
Operations monitoring unit	PK 196 141 -T	PK 196 142 -T	PK 196 157 -T	PK 223 739 -U	PK 223 718 AU
Accessories					
Operating fluid level monitoring	PK 006 001 -T	PK 006 001 -T	PK 006 001 -T	PK 006 001 -T	PK 006 001 -T
Temperature sensor for operating fluid	PK 006 040 -T	PK 006 040 -T		PK 006 040 -T	
Exhaust pressure	PK 196 380 -T			PK 196 380 -T	

Operating fluid level monitoring

Level switch

- Monitors the operating fluid level
- Mounted at sight glass adapter or casing depending on the pump model

Technical data	Operating fluid level monitoring
Contact	Closing contact, normally open at min. filling level
Contact rating	PNP output, max. 20 mA
Protection category	IP 67
Current max.	35 mA
Supply: Voltage	12-30 V DC
Order number	
Operating fluid level monitoring	PK 006 001 -T

Exhaust pressure

- Monitors the exhaust pressure
- Mounted at the sight glass adapter

Technical data	Exhaust pressure
Contact	Two-way contact
Set point	500 hPa
Switching voltage	250 V AC
Switching current V AC	6 A
Protection category	IP 55

Order number	
Exhaust pressure	PK 196 380 -T

Pressure monitoring

Pressure switch

- Monitors the oil pressure of the rotary vane pump
- Mounted at the stand

Technical data	Oil pressure switch for DUO 35/65; DUO 35/65 MC	Oil pressure switch for DUO 35/65 with OFC/OFM	Oil pressure switch for DUO 125/255	Oil pressure switch for DUO 5/10/20 M and Penta 20/35
Contact	Closing contact, normally open	Closing contact, normally open	Closing contact, normally open	Closing contact, normally open
Set point	1500 hPa	1500 hPa	1500 hPa	1000 hPa
Switching voltage	250 V	250 V	250 V	250 V
Switching current V AC	2 A	2 A	2 A	2 A
Protection category	IP 55	IP 55	IP 55	IP 55

Order number				
Pressure monitoring	PK 223 720 -U	PK 223 741 -U	PK 223 806 -T	PK 196 484 -T

Temperature monitoring

- Monitors the operating fluid temperature
- Mounted at sight glass adapter or casing depending on the pump model

Technical data	Temperature sensor
Method of measurement	PT 100
Protection category	IP 65
Temperature range	-50-+300 °C

Order number	
Temperature monitoring	PK 006 040 -T

