

OILS FOR ROTARY VANE PUMPS

■ Oils for rotary vane pumps have to meet high requirements, especially in circumstances of continuous operation:

- low vapor pressure even at high temperatures
- excellent lubricating properties
- low oil backflow
- excellent resistance to aging
- resistant to break-down
- minimum oxidation



■ Rotary-vane Pump Oil B

This standard oil has excellent viscosity characteristics. Its good chemical resistance, as well as its better stability when pumping oxidants such as acid and alkaline vapors, makes it superior compared to standard mineral oils. This oil is used for the first filling of RE / RZ / RC series pumps.

Many pumped substances can cause deterioration of common pump oil, leading to mechanical problems. **Special oils** should be used as a prevention. **Special oils may maintain lubricating properties but only provide limited protection against corrosion.**

■ Rotary-vane Pump Oil K 8

This oil is especially designed for pumping acid vapors, but is very hygroscopic and has limited capacity for water vapor. The alkaline additive is consumed during operation, making it necessary to change the fluid regularly - even if the pump is not used for several days. Pump Oil K 8 does not have the vapor pressure and the viscosity characteristics of Pump Oil B. Pumps will not reach the stated ultimate vacuum and may not start up well at temperatures < 18°C.

■ Silicone Oil SI 2

This oil is characterized by extremely high aging resistance. This oil is stable against many aggressive gases (especially chlorine and hydrochloric acid).

■ Perfluoropolyether Oil

This synthetic oil has excellent chemical resistance and is certified for pumping pure oxygen. Therefore it is used for pumping strong oxidants (halogenides, nitrogen oxides, etc.). For these applications, the rotary vane pump must be prepared (completely disassembled, cleaned and filled with perfluoropolyetheroil) by VACUUBRAND.

TECHNICAL DATA	Vapor pressure at operating temperature of pump	Flashpoint °C	Viscosity at 40°C mm²/sec	Density at 20°C g/cm³	
Rotary-vane Pump Oil B	< 1 × 10 ⁻³	264	94	0.87	
Rotary-vane Pump Oil K 8	< 5 × 10 ⁻³	264	128	0.89	
Silicone Oil SI 2	< 1 × 10 ⁻³	> 255	75	0.96	
Perfluoropolyether Oil	< 3 × 10 ⁻⁵	-	60	1.89	
ORDERING INFORMATION	0.5l bottle	1l bottle	5l canister	20l canister	200l barrel
Rotary-vane Pump Oil B	-	687010	687011	687012	687013
Rotary-vane Pump Oil K 8	-	687100	687101	687102	-
Silicone Oil SI 2	-	687500	687502	-	-
Perfluoropolyether Oil	687600	-	-	-	-

Further information at www.vacuubrand.com

PROTECT YOUR PUMP AND THE ENVIRONMENT...

...at the inlet

■ Cold traps (models SKF and GKF)

At inlet pressures below 1 mbar, cold traps using dry ice or liquid nitrogen as coolant provide important protection for your pump by separating condensates and aggressive media. Cold traps using liquid nitrogen may be essential with very volatile solvents, and may reduce the backflow of oil molecules. Furthermore, a cold trap will considerably increase the effective pumping speed by reducing vapor load on the pump.

■ Separator (AK)

Separators at the inlet protect pumps from particulates and droplets which may shorten service intervals and even reduce the lifetime and the operating performance of oil-sealed rotary vane pumps.

- direct mounting at the inlet, compact and leak-tight
- high conductance
- direct visibility of condensate through the transparent catchpot
- easy draining of condensate

...at the outlet

■ Oil mist filter (FO)

Exhaust gases from oil-sealed rotary vane pumps always carry a certain quantity of oil mist. This is extremely unpleasant, and even harmful, for those working nearby. VACUUBRAND oil mist filters separate nearly 100% of oil mist at the ultimate vacuum of the pump.

- very high degree of separation
- optimal control by transparent catchpot
- easy draining of oil
- direct mounting on the oil reservoir outlet
- integrated pressure relief valve for burst protection in case of blocked filter

... inside the pump

■ Full-flow oil filter (HF, only for R 8/9/16)

Particles reduce the lifetime of the oil and increase service demands. The HF full-flow oil filter efficiently filters micro particles out of the oil. The service indicator helps to avoid unnecessary filter changes.

Tips to obtain the best vacuum

- set up the vacuum tubing with maximum cross section. If the cross-section is smaller than the pump inlet, the volume flow rate may be very limited, especially near ultimate vacuum.
- keep vacuum tubing between your application and the pump as short as possible. The hose length has a major impact on effective volume flow rate.
- we recommend PTFE corrugated hoses for operations requiring extra chemical resistance

AK AND FO

- Separators (AK) protect the vacuum pump at the inlet. Oil mist filters (FO) protect air, both inside and outside the laboratory, from contaminated oil mist. Both have catchpots made of plastic (PMP) with good chemical resistance.



TECHNICAL DATA		AK R 2/2.5	AK R 5/6	AK R 8/9/16
Inlet		Small flange KF DN 16	Small flange KF DN 16	Small flange KF DN 25
Outlet		directly mountable	directly mountable	directly mountable
Wetted materials		Aluminum, PMP	Aluminum, PMP	Aluminum, PMP
Volume catchpot	ml	250	250	500
Dimensions (L x W x H)	mm	200 x 80 x 161	223 x 80 x 161	163 x 110 x 161
Weight	kg	0.65	0.7	1.1
For VACUUBRAND pumps		RE 2, RZ 2, RE 2.5, RZ 2.5	RE 5, RZ 5, RE 6, RZ 6	RE 8, RZ 8, RE 9, RZ 9, RE 16, RZ 16

TECHNICAL DATA		FO R 2/2.5/5/6	FO R 8/9/16
Inlet		directly mountable	directly mountable
Outlet		Hose nozzle DN 10 mm	Small flange KF DN 25
Permissible volume flow rate (FO)	m ³ /h	6	20
Wetted materials		Aluminum, PMP, fiberglass epoxy	Aluminum, PMP, fiberglass epoxy
Volume catchpot	ml	250	500
Dimensions (L x W x H)	mm	119 x 80 x 181	163 x 110 x 196
Weight	kg	0.8	1.3
For VACUUBRAND pumps		RE 2, RZ 2, RE 2.5, RZ 2.5, RE 5, RZ 5, RE 6, RZ 6	RE 8, RZ 8, RE 9, RZ 9, RE 16, RZ 16

ORDERING INFORMATION	
AK R 2/2.5	698000
AK R 5/6	698006
AK R 8/9/16	698007

ORDERING INFORMATION	
FO R 2/2.5/5/6	698003
FO R 8/9/16	698017

COLD TRAPS (MODELS SKF AND GKF)

■ At inlet pressures below 1 mbar, cold traps using dry ice or liquid nitrogen as coolant provide important protection for your pump by separating condensates and aggressive media. Cold traps using liquid nitrogen may be essential with very volatile solvents, and may reduce the backflow of oil molecules. Furthermore, a cold trap will considerably increase the effective pumping speed by reducing vapor load on the pump.

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SKF H 25



PERFORMANCE FEATURES

Cold trap SKF

- sturdy, easy to clean
- easy to disassemble
- two-wall design with good conductance
- long operating time per coolant filling
- easy condensate drainage without disassembling

Cold trap GKF

- highly-reflective insulation jacket for extended coolant life
- vertical window: Direct observation of condensate and coolant levels
- PTFE stopcock: Drain condensate without disassembly
- sheet-metal shield for protection against external damage and implosion

Inline oil filter HF

- extended oil lifetime, full-flow design
- reduced service demands
- easy space-saving mounting
- simple filter change, service indicator

GKF 1000i



TECHNICAL DATA		SKF H 25	SKF H 40	GKF 1000i
Inlet		Small flange KF DN 25	Small flange KF DN 40	NS 29/32 female ground joint
Outlet		Small flange KF DN 25	Small flange KF DN 40	Glass tube 22 mm
Materials		Stainless steel, FPM, NBR	Stainless steel, FPM, NBR	Borosilicate glass, PTFE, FPM
Volume catchpot	ml	500	500	250
Coolant capacity	ml	1000	1000	1000
Typ. coolant life	h	12 h	12 h	14 h
Dimensions (L x W x H)	mm	166 x 140 x 303	166 x 140 x 319	D 148 x 580

TECHNICAL DATA		HF R 8/9/16
Nominal flow	l/h	700
Opening pressure service indicator	bar	1
Additional oil amount	l	0.35
For VACUUBRAND pumps		RE 8, RZ 8, RE 9, RZ 9, RE 16, RZ 16

ORDERING INFORMATION	
SKF H 25	667051
SKF H 40	667053
GKF 1000i	667056
HF R 8/9/16	698010
Spare filter element HF	698011

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