

SPA

Features

Barrier pressure units of the SPA range perform all the functions of a barrier system essential for operating double seals (circulation and cooling of the barrier medium, pressurization of the barrier fluid and compensation of leakage). The SPA range is available in 3 basic versions:

SPA1000: tank capacity 40 l, flow rate 6 l/min.

SPA2000: tank capacity 100 l, flow rate 12 l/min.

SPA3000: tank capacity 100 l, flow rate 23 l/min.

The three SPA ranges are designed for hydraulic oil with viscosity values of 12 to 90 mm²/s at operating temperature (tank temperature). The optimum viscosity of the class of the oil to be used has to be determined separately in accordance with the respective application.

Advantages

- Max. operating temperature in the tank 80 °C (return line max. 90 °C)
- Temperature monitoring with a return line and tank thermometer
- Barrier fluid directed through oil cooler
- Reversible double filter (SPA1000: single filter)
- Manual control of barrier fluid pressure
- Automatic relief valve for reducing barrier fluid pressure at standstill
- Level switch with contact for MIN level
- Measuring instrument connections suitable for fitting contact switching devices (NG160)
- Provision of an additional pressure connection for monitoring the pump discharge pressure (outside the circuit)



SPA (2)

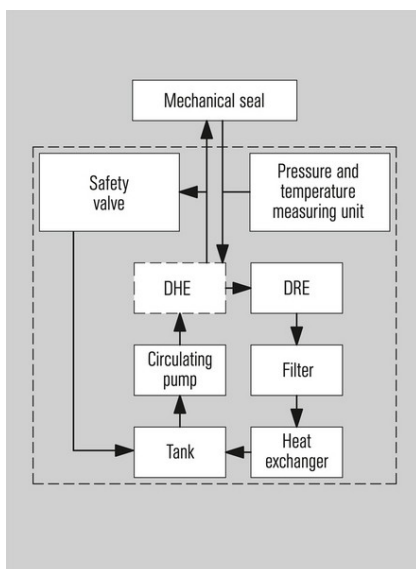
Recommended applications

- Chemical industry
- Petrochemical industry
- Refining technology
- Oil and gas industry

Functional description

The barrier pressure for circulation is generated by a gear pump. The setpoint barrier pressure is set on an overflow valve in the mechanical seal return line. From this point on the barrier fluid flows back without pressure through a filter and a heat exchanger to the storage tank. To enable systems (pump, agitator) to be stopped without causing damage to the seal in the event of a malfunction (e.g. power failure, damaged motor, etc.), the barrier pressure unit can be fitted with a pressure accumulator unit. To prevent the pressure in the accumulator discharging to the pressureless storage tank, the return line has a pilot-operated check valve, and the supply line also has a simple check valve. The barrier pressure is retained for a limited time. However, no circulation takes place and no heat is dissipated from the mechanical seal.

Installation, Details, Options



Installation and operating diagram for a SPA system.

Product variants

Version, Designation	Nominal pressure max. Barrier pressure	Flow rate (l/min)	Cooling capacity (kW) with hydraulic oil Δt = 10K	Pressure accumu- lator DHE	Tank	Dimensions overall (mm)			Net weight approx.	Motor data				
						Nominal capacity (liters)	Circulation volume (liters)	Height		Width	Depth	Nominal power (kW)	Voltage, Frequency	Speed (min ⁻¹)
SPA 1015/A01	15 bar (218 PSI)	6	1.8	-	40	12	650	610	380	125	1	400 V 50 Hz	1,500	Atex II2G EExPe IIT3 IP54
SPA 1015/A02	15 bar (218 PSI)	6	1.8		40	12	650	610	380	125	1			
SPA 1040/A01	40 bar (580 PSI)	6	1.8	-	40	12	650	610	380	125	1			
SPA 1040/A02	40 bar (580 PSI)	6	1.8		40	12	650	610	380	125	1			
SPA 1090/A01	90 bar (1,305 PSI)	6	1.8	-	40	12	650	610	380	125	2			
SPA 1090/A02	90 bar (1,305 PSI)	6	1.8		40	12	650	610	380	125	2			
SPA 2020/A01	20 bar (290 PSI)	12	3.6	-	100	20	750	800	555	140	1			
SPA 2020/A02	20 bar (290 PSI)	12	3.6		100	20	750	800	555	140	1			
SPA 2050/A01	50 bar (725 PSI)	12	3.6	-	100	20	750	800	555	140	2			
SPA 2050/A02	50 bar (725 PSI)	12	3.6		100	20	750	800	555	140	2			
SPA 2120/A01	120 bar (1,740 PSI)	12	3.6	-	100	20	750	800	555	140	3.6			
SPA 2120/A02	120 bar (1,740 PSI)	12	3.6		100	20	750	800	555	140	3.6			
SPA 3020/A01	20 bar (290 PSI)	23	6.9	-	100	20	750	800	555	140	2			
SPA 3020/A02	20 bar (290 PSI)	23	6.9		100	20	750	800	555	140	2			
SPA 3050/A01	50 bar (725 PSI)	23	6.9	-	100	20	750	800	555	140	3.6			
SPA 3050/A02	50 bar (725 PSI)	23	6.9		100	20	750	800	555	140	3.6			
SPA 3120/A01	120 bar (1,740 PSI)	23	6.9	-	100	20	750	800	555	140	6.8			
SPA 3120/A02	120 bar (1,740 PSI)	23	6.9		100	20	750	800	555	140	6.8			

SPA4000 versions

for water and other media available as an option.