

RELY ON EXCELLENCE

SPA

Seal Supply Systems | Buffer/barrier fluid systems



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).

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.

Advantages

- 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)

Operating range

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.

Max. operating temperature in the tank 80 °C (176 °F) (return line max. 90 °C 194 °F).

Materials

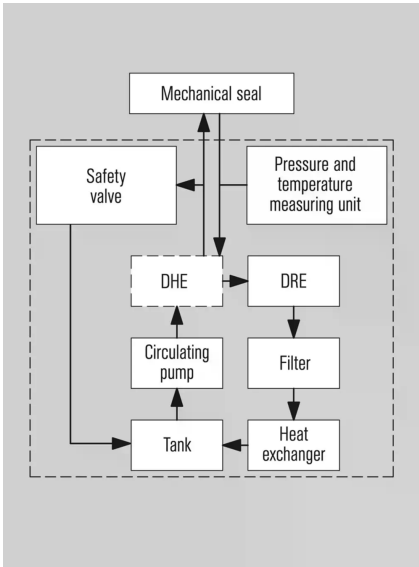
- Storage tank, measuring instruments, cooler and piping are made of stainless steel
- Fittings, distributor units, shut-off valves and tank lid are made of galvanized steel

Recommended applications

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

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Installation, details, options



Installation and operating diagram for a SPA system.

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Product variants

Designation	DRU2063/A001	DRU2063/A002	DRU2063/A101	DRU2063/A102
Design code	PED 2014/68/EU	PED 2014/68/EU	ASME VIII, Div. 1	ASME VIII, Div. 1
Integrated cooling coil	■	■	■	■
Transmission ratio	1:1.1	1:1.5	1:1.1	1:1.5
Volume, jacket (liters)	4	4	4	4
Volume, cooling coil (liters)	0.7	0.7	0.7	0.7
Allowable pressure ¹⁾	63 bar(913 PSI)	63 bar(913 PSI)	63 bar(913 PSI)	63 bar(913 PSI)
Allowable process/medium pressure at connections C1)	57 bar(827 PSI)	42 bar(609 PSI)	57 bar(827 PSI)	42 bar(609 PSI)
Allowable working temperature ¹⁾	-60 °C ... +200 °C(-76 °F ... +392 °F)	-60 °C ... +200 °C(-76 °F ... +392 °F)	-60 °C ... +200 °C(-76 °F ... +392 °F)	-60 °C ... +200 °C(-76 °F ... +392 °F)
Working volume, MAX-MIN (liters)	2	1.5	2	1.5
Cooling capacity – without cooling water (kW) ²⁾	0.5	0.5	0.5	0.5
Cooling capacity – natural circulation (kW) ²⁾	1.5	1.5	1.5	1.5
Cooling capacity – forced circulation (kW) ²⁾	4	4	4	4
Metal parts	1.4571	1.4571	1.4571	1.4571
Protective tube for piston rod	Borosilicate	Borosilicate	Borosilicate	Borosilicate
Seal	PTFE	PTFE	PTFE	PTFE
Net weight (approx.)	51 kg(112 lb)	51 kg(112 lb)	51 kg(112 lb)	51 kg(112 lb)

Other versions on request.

- 1) Design data, permissible working values depend on the actual conditions of service.
 2) The cooling performance depends on the available fluids, their temperatures and flow rates. Please contact EagleBurgmann for professionally selecting the correct heat exchanger.

SPA4000 versions for water and other media available as an option.