EagleBurgmann
a member of EKK and FREUDENBERG

RELY ON EXCELLENCE

SPC6 Barrier fluid system with piston accumulator

API 682 4th edition | Seal supply systems | Barrier/buffer fluid systems

Features

Pressurized barrier system (closed circuit) for use in seal systems with high pressures and/or for hazardous/environmentally harmful processes.
The SPC6000A4 (API Plan 53C) range is available with a pressure booster, cooler (finned tube, water or air cooler with fan) and a wide range of instruments.
A refilling unit must be provided.

Functional description

The SPC6000A4 is designed to perform the following functions of a barrier system:

- To pressurize the buffer chamber
- As leakage compensation
- To cool the seal

Pressurization (> process pressure) prevents the process medium from getting into the barrier circuit or the atmosphere. Circulation in the barrier circuit occurs via the thermosiphon principle or by forced circulation, e.g., with a pumping screw.

Notes

Design and production in accordance with EU Pressure Equipment Directive PED 2014/68/EU

Advantages

- Pressurization occurs by means of a pressure booster
- Automatic setting of the barrier pressure via reference pressure:
  simple and reliable mode of operation
- Safe operation even in case of pressure changes
- Barrier pressure is created without any need for connection to a nitrogen supply
- Available with finned tube, water or air coolers with fan
- Modular system: combination with a wide range of system components/instruments possible

Operating range

Pressure ratio depending on stuffing box pressure range:
• 4 bar (58 PSI) ... <10 bar (145 PSI)
\= piston ratio 1:1.5
• 10 bar (145 PSI) ... <22 bar (319 PSI)
\= piston ratio 1:1.2
• 22 bar (319 PSI) ... 40 bar (580 PSI)
\= piston ratio 1:1.1
For stuffing box pressures less than 4 bar (58 PSI) or above 40 bar (580 PSI) consult EagleBurgmann.

Materials

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

Standards and approvals

- API 682 / ISO 21049
- API 682 4th ed. Cat. 2/3 - 3CW-FB
- API 682 4th ed. Cat. 2/3 - 3CW-BB
- API 682 4th ed. Cat. 2/3 - 3CW-FF
- API 682 4th ed. Cat. 1 - 3CW-FB
- Compliant to TA Luft (German Clean Air Act)

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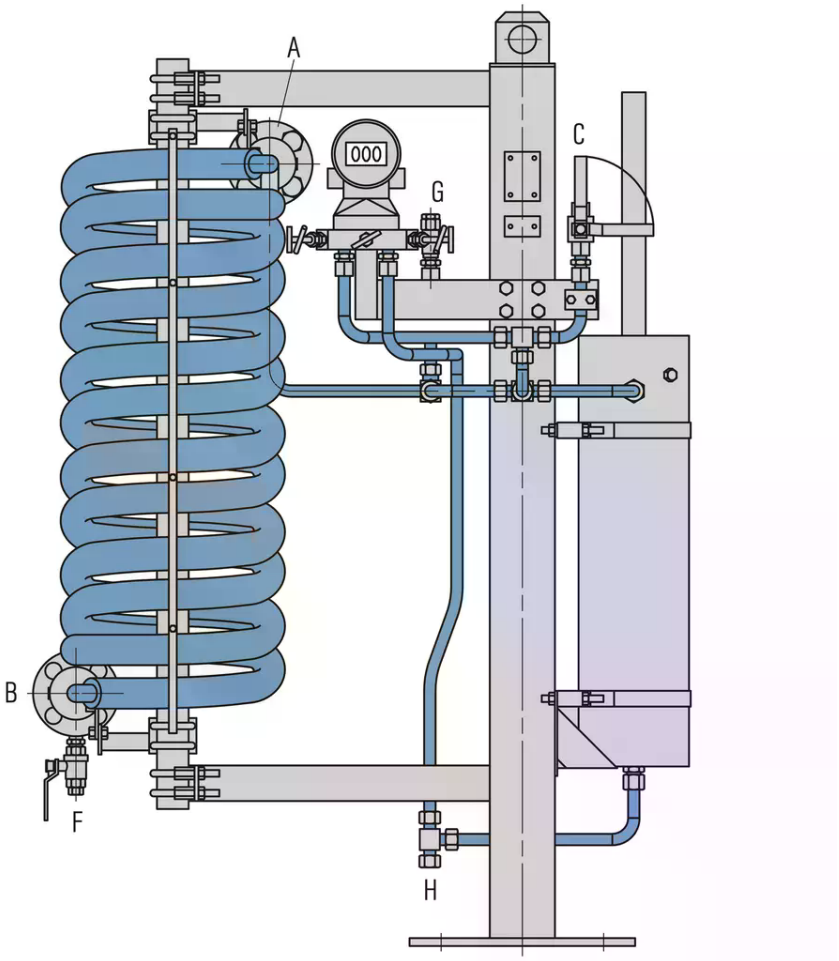
available.
Design, calculation and production acc. to ASME VIII, Div. 1 available.

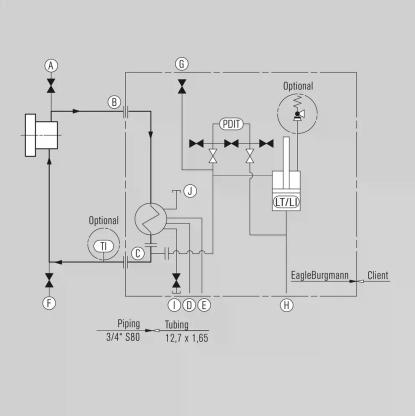
3rd party inspection, ASME U-stamp on request.



SPC6002A4 with air cooler

A From mechanical seal
B To mechanical seal
C Fill
G Vent
H Pressure reference

Installation, details, options



P&ID for SPC6000A4
Barrier fluid system with piston accumulator

A Vent
B From mechanical seal
C To mechanical seal
D Cooling water IN
E Cooling water OUT
F Drain
G Filling connection
H Pressure reference
I Cooling water drain
J Cooling water vent

Product variants

Designation	SPC6000A4	SPC6001A4	SPC6002A4	SPC6003A4
Design code	ASME VIII, Div. 1	PED 2014/68/EU	ASME VIII, Div. 1	PED 2014/68/EU
Type of heat exchanger	Aircooler a)	Watercooler b)	Aircooler a)	Watercooler b)
For shaft diameters≤60 mm (acc. to API 682)	■	■		
For shaft diameters>60 mm (acc. to API 682)			■	■
Piston accumulator (liters)	2.8	2.8	5.1	5.1
Allowable pressure1)	44 bar (638 PSI)	44 bar (638 PSI)	44 bar (638 PSI)	44 bar (638 PSI)
Allowable temperature – piston accumulator1)	-20 °C ... +90 °C(-4 °F ... +194 °F)	-20 °C ... +90 °C(-4 °F ... +194 °F)	-20 °C ... +90 °C(-4 °F ... +194 °F)	-20 °C ... +90 °C(-4 °F ... +194 °F)
Allowable temperature – system1)	-20 °C ... +90 °C(-4 °F ... +194 °F)	-20 °C ... +90 °C(-4 °F ... +194 °F)	-20 °C ... +90 °C(-4 °F ... +194 °F)	-20 °C ... +90 °C(-4 °F ... +194 °F)
Cooling capacity –with water cooled heat exchanger (kW)2)	10		10	
Cooling capacity –with air cooled heat exchanger (kW)2)	2.0		2.0	
Metal parts	316/316L	316/316L	316/316L	316/316L

Other versions and connections (flanged, threaded, welded) 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.

a) WEL6002A4
b) WEF6100A4