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RELY ON EXCELLENCE

SPB (Plan 53B)

Seal Supply Systems | Closed loop systems

Features

Pressurized barrier system (closed circuit) for use in seal systems with high pressures and/or for hazardous/environmentally harmful processes. The SPB (Plan 53B) range is available with a pressure accumulator, cooler (finned tube, water or air cooler with fan) and a wide range of instruments.

Circulation in accordance with API 682 / ISO 21049: Plan 53B

Functional description

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

- to pressurize the barrier chamber
- leakage compensation
- to cool the seal

Pressurization (> process pressure) prevents the process medium from getting into the barrier circuit or the atmosphere.
Pressurization is supplied by a pressure accumulator which is pre-loaded with nitrogen.
Circulation in the barrier circuit takes place by the thermosiphon principle or by forced circulation, e.g. with a pumping screw.

Advantages

- Pressurization is by means of a pre-loaded bladder accumulator
- The nitrogen is separated from the barrier medium by membranes in the accumulator: nitrogen cannot get into the barrier medium or process medium
- 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

Standards and approvals

- PED 2014/68/EU (Design and production in accordance with EU Pressure Equipment Directive)
- ASME VIII, Div. 1 (Design, calculation and production)

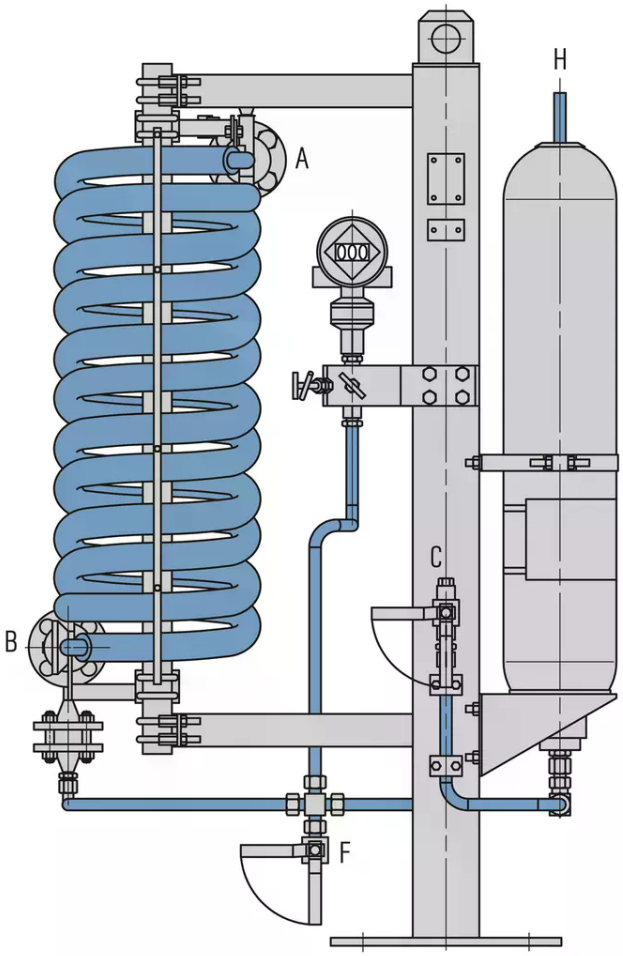
Recommended applications

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

eagleburgmann.com
info@eagleburgmann.com

Notes

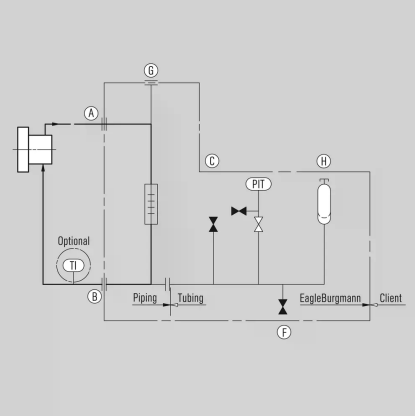
A refilling unit has to be provided.



SPB6002A4 with air cooler

A From mechanical seal
B To mechanical seal
C Fill
F Drain
H N2 Precharge

Installation, details, options



Operating and installation diagram for a SPO (Plan 53).

A From mechanical seal
B To mechanical seal
C Fill
F Drain
G Vent
H N2 Precharge

Product variants

Designation	SPB6M0003-00	SPB6M0004-00	SPB6M0024-00	SPB6M0029-00	SPB6M0030-00	SPB6M0031-00
Design: 50barg @ 95°C(725PSI @ 203°F)	■	■	■	■	■	■
TubingPiping	■	■	■	■	■	■
air heat exchanger	WEL6			WEL6/td>		
water heat exchanger		WEF6	WEF6		WEF6	WEF6
Cooling capacity [kW]1)/ [kW]2)Process media water	1,4 / 1,8	8,2 / 12,4	7,1 / 10,8	1,4 / 1,8	8,2 / 12,4	7,1 / 10,8
Cooling capacity [kW]1)/ [kW]2)Process media Oil ISO VG10	1,1 / 1,5	2,7 / 4,1	2,1 / 3,2	1,1 / 1,5	2,7 / 4,1	2,1 / 3,2
Bubble memory: CrMo-StahlBubble: Nitril	35 Liter	35 Liter	35 Liter	35 Liter	35 Liter	
Floating alarm	■	■	■	■	■	■

Air cooler:
1) Low Flow: 8 l/min (Process Fluid), 0,7 m/s (Air Velocity), △T = 40K
2) High Flow: 15 l/min (Process Fluid), 1,0 m/s (Air Velocity), △T = 40K

Water cooler:
1) Low Flow: 8 l/min (Process Fluid), 10 l/min (Cooling Water), △T = 40K
2) High Flow: 15 l/min (Process Fluid), 20 l/min (Cooling Water), △T = 40K

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

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SPO with a water cooler