



Product Description

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

PBS system is employed for applications in sealing systems with a wide variety of operating parameters for supplying quench buffer fluid to double and tandem mechanical seals. PBS system is equipped as a standard with all the necessary system connections and brackets. Modular design combination available with a wide variety of system components.

The maximum operating pressure of the PBS system applies to the housing of the pressure booster, i.e. the process/medium pressure at the connection must be lower and is conditional on the transmission ratio

Technical Features

1. Simple and reliable operation is achieved due to automatic setting of the barrier pressure through reference pressure
2. Barrier pressure is achieved without any need for connection to a nitrogen supply source
3. Hassle free maintenance of simple and quick cleaning is achieved in operation as the housing can be dismantled
4. Modular design combination available with a wide variety of system components possible
5. Optimum level of monitoring is achieved due to the protective pipe made in borosilicate glass
6. Safe operation even in case of pressure changes
7. Sockets are designed with recessed gasket to avoid contamination of the circuit by thread sealant

Recommended applications

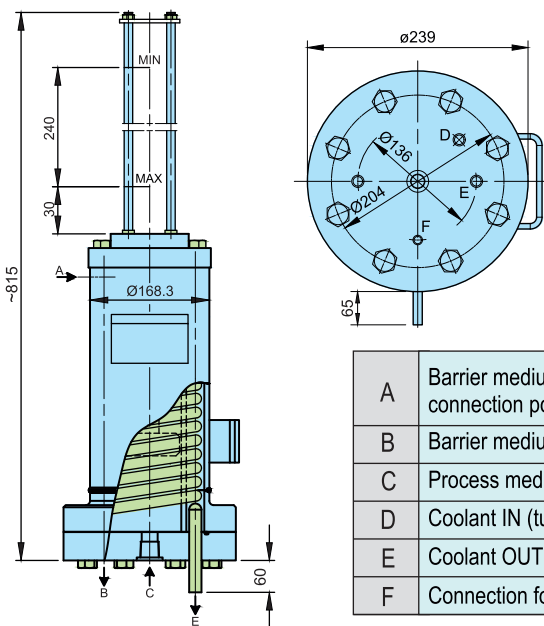
Refining technology
Oil and gas industry
Chemical industry
Petrochemical industry

Standards

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

Functional Description

The function of the PBS system is similar in principle to the BFS system. The difference is that the barrier pressure is created by the reference pressure without any additional superimposition of nitrogen. The pressure booster is for storing and cooling the barrier fluid. Pressurization is by means of a piston in dependency on the process/medium pressure. Automatic pressure increase in accordance with the transmission ratio.



A	Barrier medium IN (G1/2") connection possible for Measuring unit
B	Barrier medium OUT (G1/2")
C	Process medium (G1/2")
D	Coolant IN (tube 15 x 1.5)
E	Coolant OUT (tube 15 x 1.5)
F	Connection for HRP (G1/8")

Technical Features

Designation	PBS2000
Pressure Equipment Directive	PED
Integrated cooling coil	Yes
Transmission ratio	1:1.1
Volume, jacket (litres)	4
Volume, cooling coil (litres)	0.7
Allowable pressure ¹⁾	63 bar (913 PSI)
Allowable process/medium pressure at connections C ¹⁾	57 bar (827 PSI)
Allowable working temperature ¹⁾	-60 °C ... +200 °C (-76 °F ... +392 °F)
Working volume, MAX-MIN (litres)	2
Cooling capacity – without cooling water (kW) ³⁾	0.5
Cooling capacity – natural circulation (kW) ²⁾	1.5
Cooling capacity – forced circulation (kW) ²⁾	4
Required cooling water quantity (m ³ /h)	0.4
Metal parts	1.4571
Protective tube for piston rod	Borosilicate
Seal	PTFE
Net weight (approx.)	51 kg (112 lb)

Other versions on request.

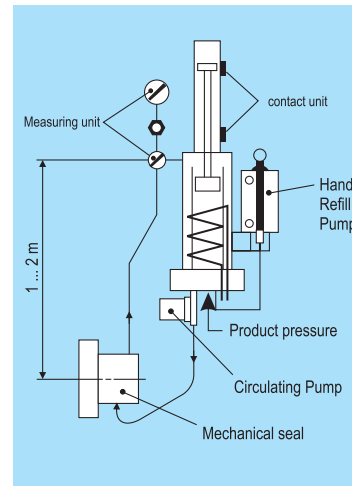
¹⁾ Design data, permissible working values depend on the actual conditions of service

²⁾ Guidelines with barrier fluid water 60 °C – cooling water 20 °C

³⁾ Guidelines with barrier fluid water 60 °C – ambient temperature 20 °C

(valid for pressure booster systems without cooling water with natural circulation resp. forced circulation)

Installation, Details, Options



Operating and installation diagram for a PBS system.

The PBS pressure booster must always be installed higher than the mechanical seal. The barrier fluid flows via the return pipe into the vessel and is cooled. The exchange of fluid takes place by the thermosiphon principle or by forced circulation, e.g. with a pumping screw. Connection pipes to the seal should be designed with as little resistance as possible.

The specifications, drawings, images etc included in this catalogue are intended to be generic and must be interpreted as equivalent or functionally equivalent, more specifically the performance capabilities mentioned in this catalogue is based on optimum values, however the performance of the product is dependent on size, material of construction, media, pressure, temperature, sliding velocity etc and it shall vary from size to size or application to application. Customers are requested to consult with Sealmatic before employing the product from this catalogue for any application.