SUPPLY SYSTEM

FORCE LUBRICATION

Oil & Gas
Petrochemical
Energy
Water Treatment
Food & Beverage
Pulp & Paper
Pharmaceutical

HORAMAN SYSTEMS

Supply Systems & Forced Lubrication systems

About Horaman

Horsman's mechanical seal support Systems meet API 682 standards, offering reliable, easy-to-install systems that minimize leaks by avoiding pipe threads and limiting connections by using tube bending techniques.

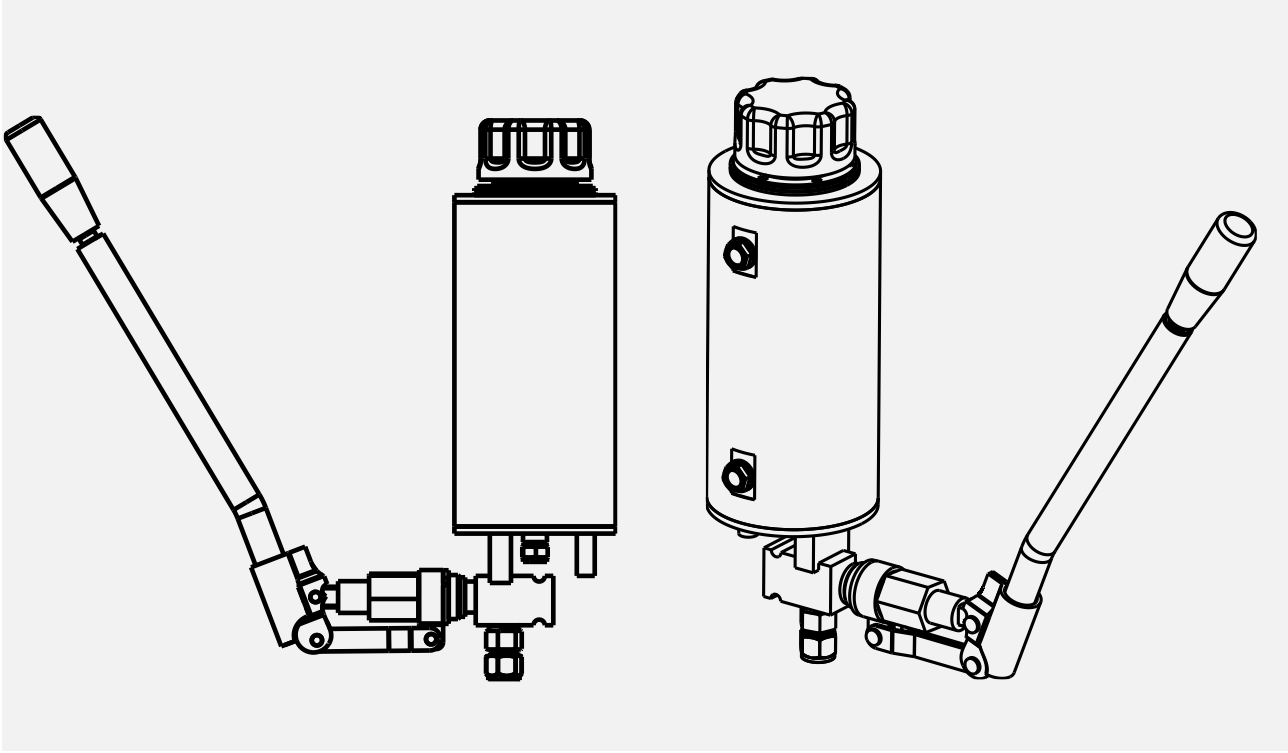
Horaman provides customizable seal plan assemblies, including panels and seal pots, tailored to specific applications. Designed for reliability, Horaman systems feature high-point vents to prevent air entrapment, low-point drains for safe purging, and pressure/temperature measurement points for troubleshooting.

Specifications

Supply system Seal plan	Plan 23, 53, 54, 65
Pressure Rating	40 (bar)
Seal Connection Sizes	3/8 in. to 3/4 in. NPT
Tubing Size Ranges	1/4 in. (6 mm) to 1 in. (25 mm)

Manual refill pump

Food & Beverage Pharmaceutical Oil & Gas Pharmaceutical



Description

Horaman refill pump used for filling support system including peressurized supply systems

- Vessel voume 3L

Standard/Approval

- Oil and Gas
- Petrochemical idustry
- Refineries
- Food industry

Additional designs

- According to the request

Material

Vesel	Staainless steel

Other materials available on request

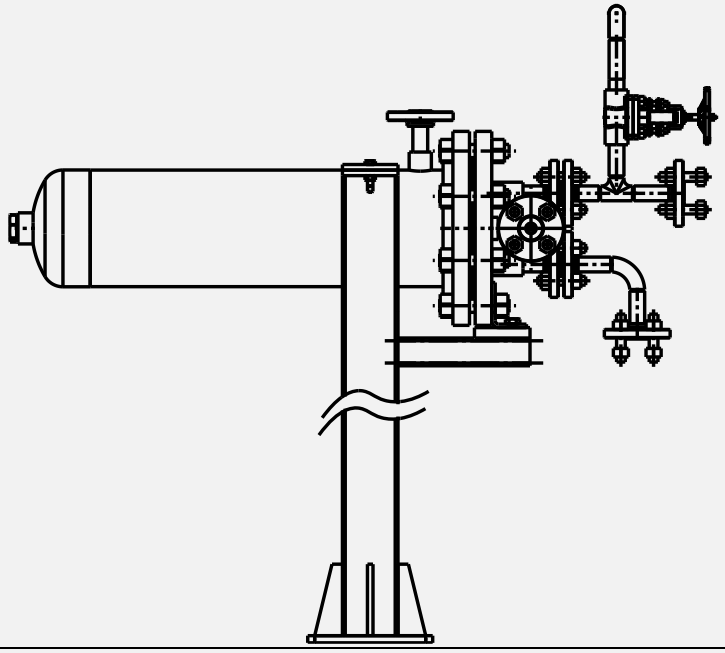
HORAMAN

Water cooler / Plan 23

Petrochemical Oil & Gas Pharmaceutica

Technical Data

	Tube	Shell
Connections	Flange 1/2", #300	Flange 6",#150
Drain/vent connection	NPT 1/2"	
Allowable pressure	16 bar	40 bar
Cooling capacity (kW)	10**, 3***	
Required cooling water quantity (m³/h)	0.6	



Allowable temperature cooling water side (shell side)	–29 °C … +150 °C
Allowable temperature process/ barrier medium side (tube side)	–29 °C … +260 °C

Description

Horaman water cooler reduces barrier fluid temperature on high temperature applications.

The cooling water circulates through pipes embedded inside the shell.

Fluid circulation is carried out by a pumping ring in the mechanical seal.

Temperature can be measured by instruments considered in entry and return line.

Material

SS316, SS316L

Standard/Approval

ASME VIII Div. 1

Typical applications

- Oil and Gas
- Petrochemical idustry
- Refineries
- Boiler feed water
- Where increasing seal chamber pressure to improve vapor pressure margin is not possible

Configurations

1CW-FL, 1CW-FX, 2CW-CW, 2CW-CS, 3CW-FB

Method of operation

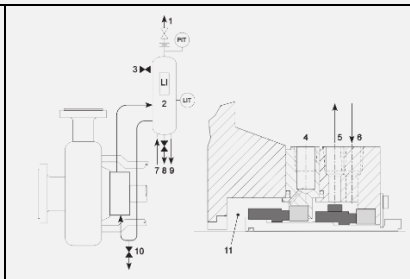
API plans 21, 22, 23, 41, 53B

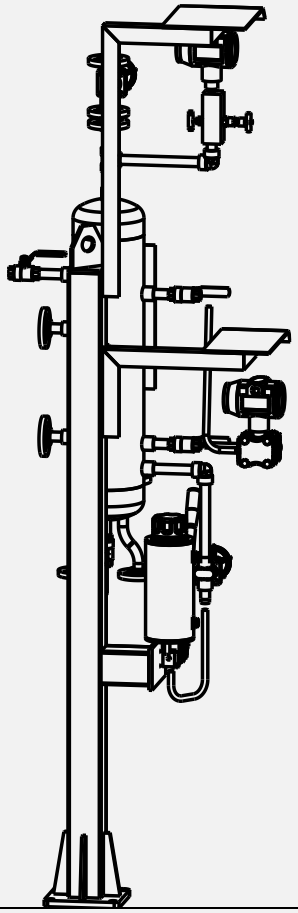
** Guidelines with buffer/barrier fluid water 60 °C (140 °F) – cooling water 20 °C (68 °F)

***Guidelines with buffer/barrier fluid oil 60 °C (140 °F) – cooling water 20 °C (68 °F)

Plan 52 / 53A

Energy | Pulp & Paper | Food & Beverage | Pharmaceutical | Petrochemical | Oil & Gas | Pharmaceutical

Technical Data		
For shaft diameters	≤ 60 mm	> 60 mm
Integrated cooling coil	Yes	Yes
Volume, vessel (liters)	15	26
Volume, tube (liters)	0.4	0.3
Allowable pressure – shell*	40 bar	40 bar
Allowable pressure – tube*	16 bar	16 bar
Liquid volume at NLL –Normal Liquid Level (liters)	12	20
Working volume MAX-MIN (liters)	4	6.5
Required cooling water quantity (m3/h)	0.4	0.7
PID acc. To API 682		
Allowable temperature – vessel*	-29 °C … +200 °C	
Allowable temperature – system*	-29 °C … +200 °C	



Description

Horaman Plan 52 is a dual pressurized mechanical seal support system designed to maintain a clean, pressurized barrier fluid between double-acting mechanical seals. It utilizes an external reservoir to supply lubricating/cooling fluid to the seals, ensuring optimal performance and extended service life.

Configurations

2CW-CW

Material

Vessel	SS316, SS316L

Standard/Approval

ASME VIII Div. 1

API 682 3rd./4th. Edition

Typical applications

- Oil and Gas
- Petrochemical idustry
- Refineries
- Chemical industry

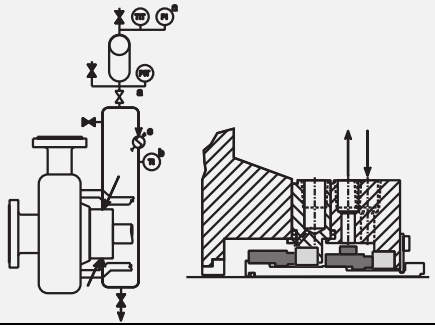
Method of operation

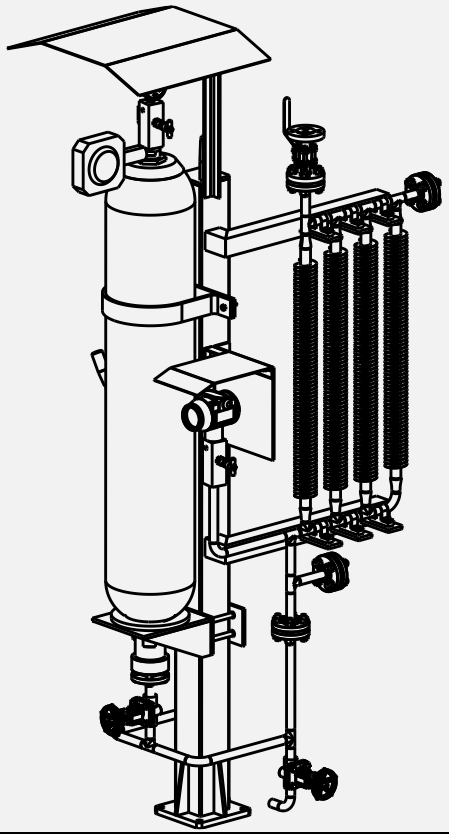
API plans 52, 53A

* The permissible operating parameters defined in the design rely on the specific conditions encountered during use

Plan 53B

Energy Pulp & Paper Food & Beverage Pharmaceutical Petrochemical Oil & Gas Pharmaceutical

Technical Data		
For shaft diameters	≤ 60 mm	> 60 mm
Type of heat exchanger	Air cooler	Water cooler
Bladder accumulator (liters)	18	35
Allowable pressure*	40 bar	
Allowable temperature bladder accumulator*	+90 °C	
Allowable temperature system*	+90 °C	
Cooling capacity (kW)	1.5	3
Required cooling water quantity (m3/h)		0.6
PID acc. To API 682		



Description

Horaman Plan 53B is a pressurized support system for double-acting mechanical seals, designed for high-pressure applications involving hazardous or environmentally sensitive fluids. It employs a closed-loop configuration to ensure safe and efficient barrier fluid circulation.

Pressurized Reservoir (Bladder Accumulator): Maintains stable pressure without requiring continuous external gas supply, compensates for pressure fluctuations, and mitigates leakage at rotating interfaces.

Integrated Cooling Unit: Dissipates heat using water-cooled or air-cooled (finned-tube) systems.

Standard/Approval

ASME VIII Div. 1

API 682 3rd./4th. Edition

Typical applications

- Oil and Gas
- Petrochemical idustry
- Refineries
- Chemical industry

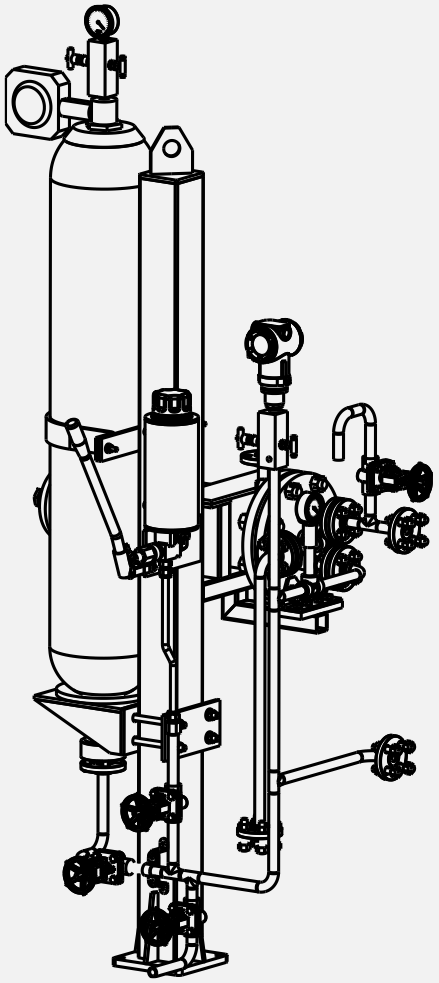
Barrier Fluid Circulation*:* Achieved via a motor-driven pump or thermosiphon effect (under suitable conditions).

Modular Design: Integrates with measuremEent instruments (e.g., pressure/temperature sensors) and auxiliary components for enhanced monitoring and control.

Barrier Fluid Replenishment*:* Manual (hand pump) or automated (remote/centralized systems).

Key Advantages*:* Isolation of barrier fluid from the process medium, contamination prevention, pressure stability, and environmental compliance.

This system is ideal for critical applications demanding high reliability, safety, and adherence to environmental standards.



Functions

- Maintain pressure within the buffer chamber
- Regulate seal temperature
- Fluid/Pressure loss compensation

Remarks

- Sunshades available on request
- Tubing or welded pipe construction (by Default)
- Flanged connections (optional)

Material

Accumulator	Carbon Steel
Tubing/piping	Stainless steel
Air cooler	Stainless steel

Configurations

3CW-FB, 3CW-BB, 3CW-FF

Method of operation

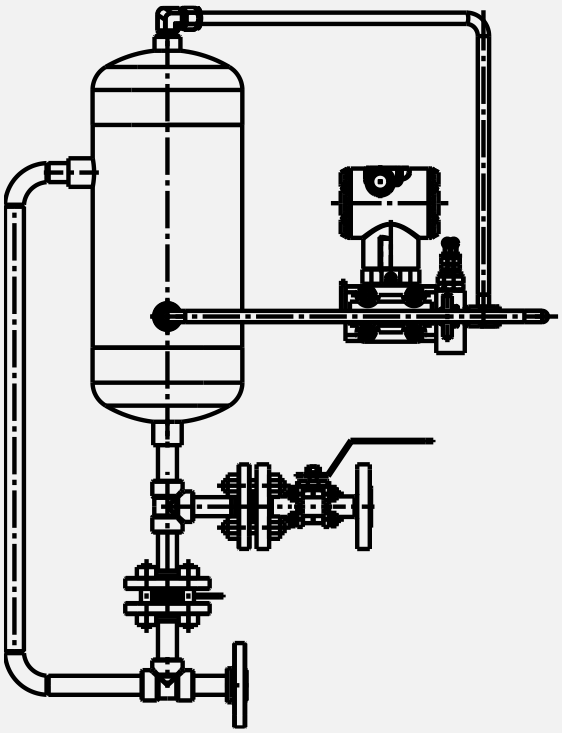
API plans 53B

* The permissible operating parameters defined in the design rely on the specific conditions encountered during use

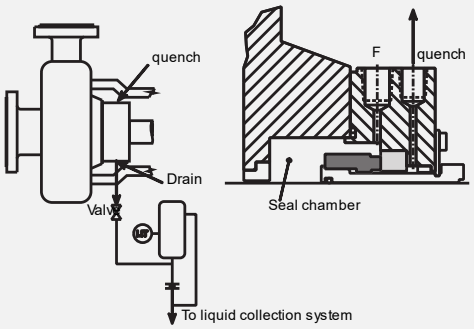
Plan 65

Energy Pharmaceutical Petrochemical Oil & Gas Pharmaceutical

Technical Data	
Volume of vessel (liters)	4
Allowable temperature	–20 °C … +120 °C
Allowable pressure*	40 bar
Connection	Flange 1/2" #300



PID acc. To API 682



Description

This advanced system incorporates an atmospheric leakage collection and monitoring mechanism specifically designed to manage condensing leaks. The automated operation of this plan promptly detects abnormal flow rates within the leakage management system.

Remarks

Possible utilizations that may be applied

2CW-CW, 3CW-FB, 3CW-BB, 3CW-FF

Material

Vessel	Stainless steel
Tubing/piping	Stainless steel

Standard/Approval

ASME VIII Div. 1

API 682 3rd./4th. Edition

Typical applications

- Oil and Gas
- Petrochemical idustry
- Refineries
- Chemical industry
- Power plant technology

Configurations

1CW-FL, 1CW-FX

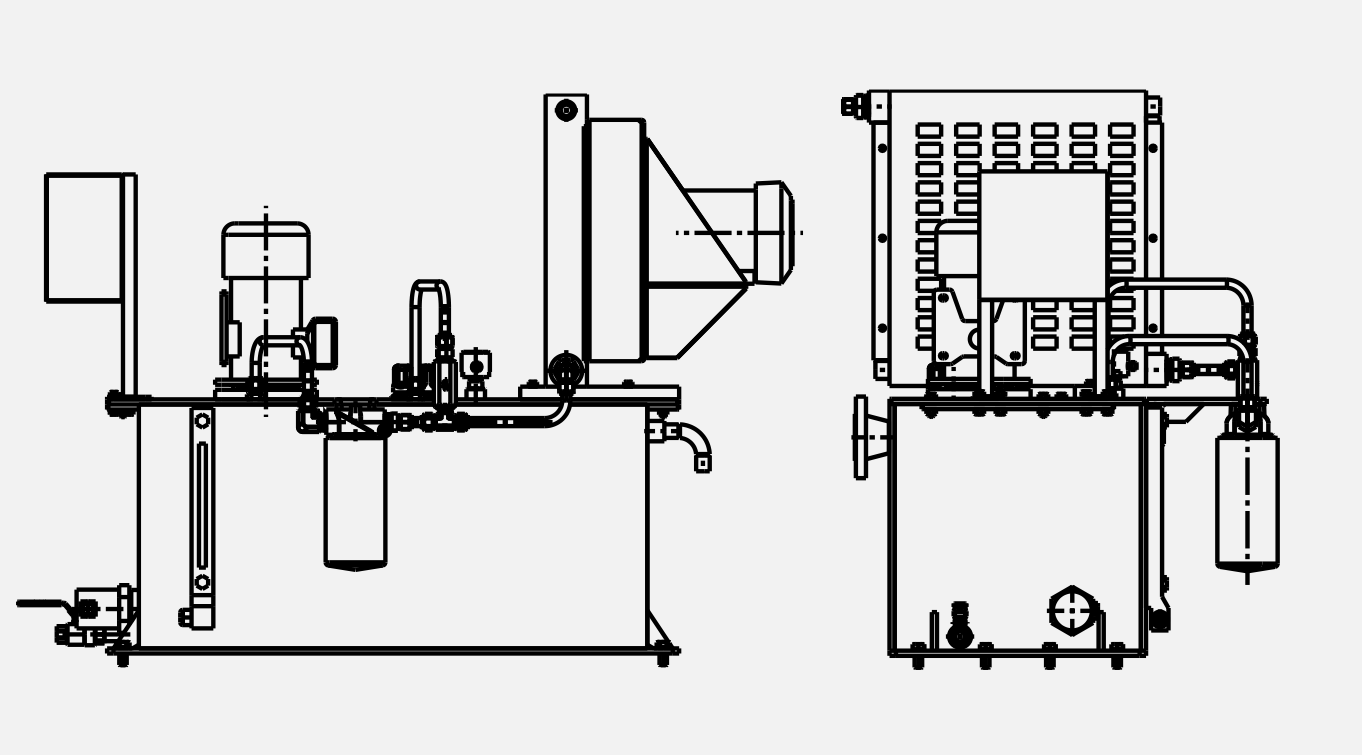
Method of operation

API plan 65A, 65B

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

Pressure systems Plan 54

Energy Petrochemical Oil & Gas Pharmaceutica



Description

Horaman forced lubrication system provide a controlled flow, pressure, and temperature of clean oil to bearings, significantly extending their lifespan. A high-efficiency pump, housed within the oil pan, delivers lubricant to the bearing surfaces. Additionally, this forced lubrication system is equipped with an oil filter to ensure optimal filtration

- Vessel voume 128L

Standard/Approval

- Oil and Gas
- Petrochemical idustry
- Refineries
- Chemistry
- Energy

Additional designs

- According to the request

Material

Vesel	Staainless steel, Carbon steel
Tubing/piping	Staainless steel

Other materials available on request

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