CONTROVAL

TECHNICAL DATA SHEET

POWER AND UTILITIES

Lube oil skids

Lube oil conditioning for turbines, compressors and engines: humidity, viscosity, pressure and temperature.



Lubricity skid for Qatari Energy & Industrial Services, Doha

AT A GLANCE

Clean oil at the right temperature and pressure.

01
Controls humidity, viscosity, pressure and temperature

02
For turbines, compressors and engines

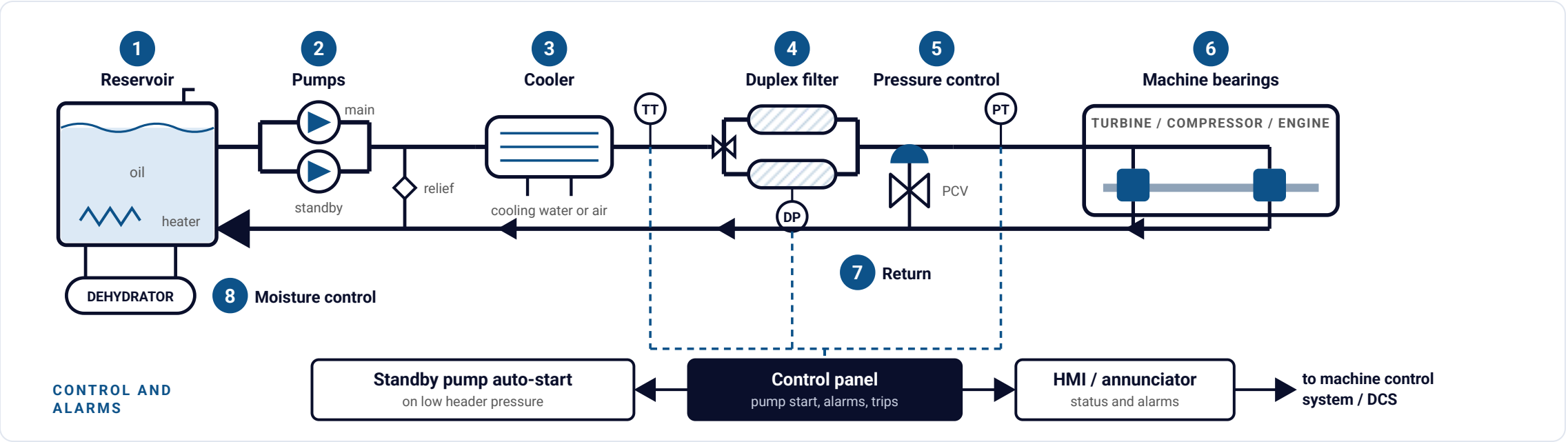
03
Detailed engineering and factory acceptance tests

04
Remote support

How it works

Turbines, compressors and engines depend on lube oil in good condition.
Our lube oil skids control its humidity, viscosity, pressure and temperature.

We have also delivered a lubricity skid for Qatari Energy & Industrial Services in Doha, with detailed engineering, factory acceptance testing and remote support.



Typical schematic configuration, shown for reference only. The final design, equipment, instrumentation and applicable codes depend on the client's process conditions, specification and project requirements, and are defined during engineering.

Step by step

In the order the fluid passes through it.

1 Reservoir and heater
Stores the oil and lets air and water settle. A heater brings cold oil to working viscosity before start-up.

2 Main and standby pumps
The main pump supplies the oil. The standby pump starts automatically on low pressure, so the machine is not left without oil.

3 Cooling and temperature
The cooler removes the heat taken from the machine. A temperature control valve holds the viscosity the bearings need.

4 Filtration
Duplex filters can be switched and serviced while the system runs. Differential pressure shows when a cartridge needs changing.

5 Pressure control
A control valve holds the header pressure steady and spills the excess back to the reservoir. A relief valve protects the system.

6 Machine bearings
The oil lubricates bearings and gears and carries heat away. Supply pressure and temperature are monitored at the machine.

7 Return
Used oil drains by gravity back to the reservoir through sloped return lines.

8 Moisture control
A vapor extractor, breather or offline dehydration loop removes water and vapors, protecting the bearings and the oil.

CONTROL AND RECORDS

Instruments and control panel
Transmitters, switches and gauges feed a panel with pump start, alarms and trips. Signals go to the machine control system or your DCS.

Typical configurations and options

Oil and grade	Mineral or synthetic oil; ISO VG grade as the machine builder requires
Reservoir	Carbon or stainless steel; heater, level indication, breather or vapor extractor
Pumps	Main and standby motor-driven; or shaft-driven main with auxiliary pump
Emergency supply	Optional DC emergency pump or elevated run-down tank for critical machines
Cooling	Water-cooled shell and tube or plate; or air-cooled; with temperature control valve
Filtration	Duplex transferable filters, or simplex with bypass; rating per machine builder
Pressure control	Pressure control valve with spill-back to the reservoir; relief valve
Moisture control	Vapor extractor, breather, or offline dehydration loop
Instrumentation	Pressure, temperature, level and differential-pressure transmitters, switches and local gauges
Control panel	Relay or PLC logic for pump start, alarms and trips; signals to machine control or DCS
Area classification	Motors, instruments and panels selected for the classified area
Piping and cleanliness	Carbon or stainless steel piping and tubing; cleaned and flushed before shipping
Mounting	Skid-mounted with drip pan; reservoir integrated or separate
Instrument brands	We integrate Yokogawa, Flowserve, Magnetrol, Samson and Swagelok, and consider your preference

Standards and documentation

Designed to ASTM, ASME, ISO and API standards. The applicable codes are agreed per project.

TYPICAL REFERENCES

API 614 / ISO 10438	Lubrication, shaft-sealing and oil-control systems
ISO 4406	Coding of oil cleanliness (particle counts)
ISO 3448	ISO viscosity grades (ISO VG) for industrial oils
ASTM D445 · D6304	Oil viscosity; water in oil by Karl Fischer
ASME B31.3	Process piping
ASME VIII Div. 1	Pressure vessels, such as coolers and filter housings

TYPICAL DOCUMENTATION PACKAGE

- ✓ P&ID
- ✓ Equipment and instrument datasheets
- ✓ Instrument index
- ✓ Piping cleanliness record
- ✓ General arrangement
- ✓ Hydraulic and thermal calculations
- ✓ FAT procedure and report
- ✓ Operation and maintenance manual

> Factory acceptance test (FAT) in our workshops and site acceptance test (SAT) at the installation site.

Our work

Lubricity skid delivered in Doha, Qatar



Lubricity skid for Qatari Energy & Industrial Services, Doha

Additive dosing package with duplex metering pumps and control cabinet, delivered with detailed engineering, FAT and remote support.

Lubricity skid project. Client: Qatari Energy & Industrial Services. Consignee: QatarEnergy. Detailed engineering, materials logistics and procurement, frame manufacture, instrument and equipment arrangement, FAT, crating and delivery. Deliverables: mechanical, civil, electrical and instrumentation drawings and documents, detailed engineering, FAT protocol and Data Book. Managed with remote communication and a dynamic project update methodology with the client.

DELIVERED

Lubricity skid, Doha, Qatar	**Qatari Energy & Industrial Services**

Need one built for your process?

controval.com

Send us fluid, flow, pressure and temperature, or just your idea. An engineer returns a proposed configuration.

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