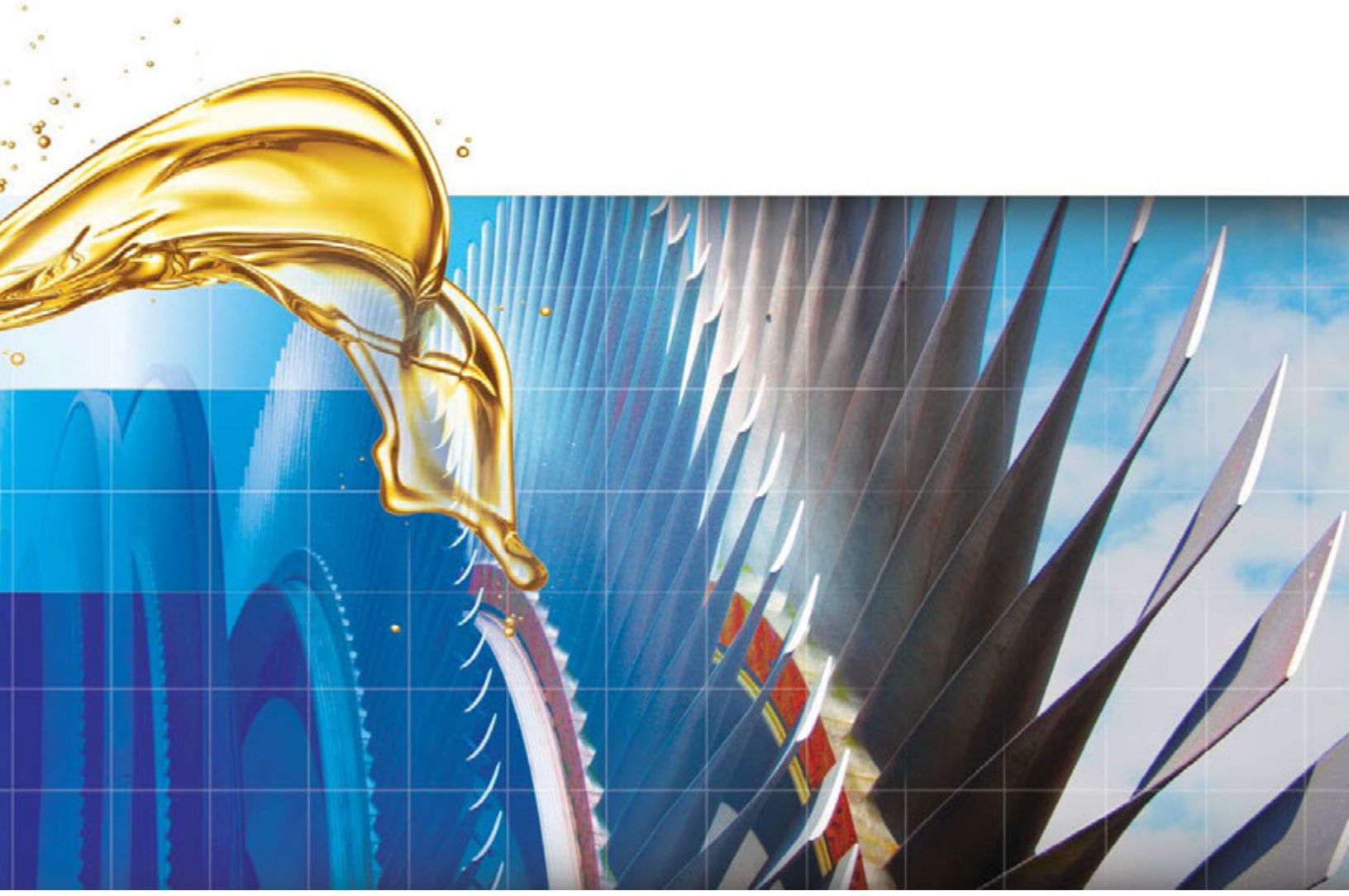
Pall Corporation

www.pall.com

Sentry™ Fluid Treatment System

For Varnish Removal in Oil Systems



*Filtration. Separation. Solution.*SM

Varnish Removal

Varnish is the thin, insoluble film deposit that forms on oil-wetted surfaces inside a turbine lube system, including bearings and servo valves. It's formation is often attributed to higher operating temperatures, smaller fluid reservoirs, high cyclic service, and fluid base stocks that have lower solvency for varnish precursors.

You can't see it, but you know it's there taking your hydraulics system down one component at a time.

When varnish forms in turbine oils, the effects can be devastating to the operation and availability of the equipment, and may include:

- Sluggish controls and servo valves stiction, which can lead to expensive repairs or replacement
- Costly downtime from unscheduled outages
- Start-up delays from unresponsive control systems

The demand for reliability, availability, and seamless operation of today's power turbines requires an efficient, easy, and reliable method for removing varnish not only from the oil, but also from the wetted metal surfaces inside the machine.

Pall Sentry™ Varnish Removal System

The Pall Sentry™ resin-based system is designed to efficiently remove varnish precursors from the oil. Doing this forces varnish deposits on metal surfaces back into the solution for further removal by the Sentry treatment skid. Treatment continues while the turbine operates, until the entire oil system is free of varnish, as shown by consistently low MPC value in the oil.

Sentry system... providing peace of mind and guarding against unnecessary downtime.

Efficiency and Ease-of-Use

Other filtration/adsorption or electrostatic removal methods are very dependent on operating conditions such as operating temperature, cycling rates, and the chemical make-up of the oil.

The Pall Sentry resin-based varnish removal skid can remove varnish precursors with greater reliability and efficiency because it is largely temperature independent and does not rely on mechanical interception of the varnish precursors.

The stand-alone system uses a specially formulated resin in a semi-dry package. The skid uses three resin bags stacked in the vessel, which can easily be changed and disposed of as varnish is removed.

Operation

The Pall Sentry fluid treatment system is connected to the main lube or control oil reservoir and circulates the fluid at a rate of 3 gpm (11.35 l/m) through the resin and a high-efficiency Pall Ultipleat® SRT particulate removal filter, the latest generation in machine lube protection. With each pass through the system, varnish precursors are removed and the fluid is returned to the reservoir. Once used, the resin bags can be easily replaced and disposed of.

Efficient and Easy to Use

Resin bags XBG-PGG: easy to install and remove

Specifications

Dimensions[1]

Height:	72 in (1829 mm)
Width:	29 in (737 mm)
Length:	41 in (1041 mm)
Dry Weight:	660 lbs (297 kg)

[1] All dimensions are nominal.

Flow Rate:	3.0 GPM (0-11.36 LPM)
Inlet Pressure Range:	-14 in Hg to 10 psig (-0.47 bar to 0.69 bar)
Maximum Inlet Viscosity:	500 cSt
Maximum System Pressure:	80 psi (5.4 bar)
Maximum Fluid Temperature at Inlet:	140°F (59.4 °C)
Inlet Pump Pressure Relief Setting:	80 psi (5.5 bar)
Outlet Pump Pressure Relief Setting:	80 psi (5.5 bar)
Ambient Temperature Range:	60 °F to 140 °F (16.6 °C to 59.4 °C)
Filter Change-out (both the bags & particulate):	30 psid (1.8 bar) DP

Materials of Construction

Item	Description
Vessel Material	Carbon steel
Vessel Surface Finish	Powder coated exterior, color Pall blue. Paint is compatible with phosphate esters.
System Seals	Fluoroelastomer or equivalent resistance to phosphate ester hydraulic fluid – *i.e.* Viton.
Electrical	Refer to the skid wiring diagram for power requirements. All electrical components within the system are rated NEMA 4. Wiring methods meet the requirements of NFPA 70.
Inlet/Outlet Connection Sizes	1/2"

Ordering Information

Filter Housing Assembly Part Number: XFP [1] [2] [3] [4] [5] [6] [7] [8]

(Resin Bag Kit must be purchased separately.)

Replacement Element Part Number: UE219AS08Z

Table 1:

Code	Electrical Options
G6	115 VAC 60 Hz 1P
M5	220 VAC 50 Hz 1P
W4	480 VAC 60 Hz 3P
14	575 VAC 60 Hz 3P
T3	415 VAC 50 Hz 3P
R3	380 VAC 50 Hz 3P

Table 2:

Code	Filter Grade Options
AS	12 microns

$ß_{12(c)}$ ≥1000 based on ISO 16889
Other filter ratings available on request.

Table 3:

Code	Seal Options
Z	Fluorocarbon

Table 4:

Code	Mounting Options
C	Caster
N	Floor mount

Table 5:

Code	Connection Options
P	BSP
T	NPT

Table 6:

Code	Manufacturing Region
W	Americas
A	Asia
E	EMEA

Table 7:

Code	Language
EN	English
ES	Spanish
FR	French
PR	Portuguese

Table 8: Fluid Used

Code	Fluid Used
X1	Synthetic fluid
X2	Mineral oil

Replacement Resin Bag	Part No.
Resin Bag Kit (complete set of three)	XBG-PGGKIT
Resin Bag (individual)	XBG-PGG

Pall Corporation

Process Technologies

25 Harbor Park Drive
Port Washington, New York 11050
+1 516 484 3600 telephone
+1 888 873 7255 toll free US

Portsmouth - UK
+44 (0) 23 9233 8000 telephone
+44 (0) 23 9233 8811 fax
industrialeu@pall.com

Filtration. Separation. Solution.SM

Better Lives. Better Planet.SM

To see how Pall is helping enable a greener, safer and more sustainable future, visit www.pall.com/green.

Visit us on the Web at www.pall.com

Pall Corporation has offices and plants throughout the world. For Pall representatives in your area, please go to www.pall.com/contact.

Because of technological developments related to the products, systems, and/or services described herein, the data and procedures are subject to change without notice. Please consult your Pall representative or visit www.pall.com to verify that this information remains valid.

PGSENTRYVEN Produced in the USA June 2013