Pall Corporation

Pall VRF
Varnish Remediation System

When varnish forms in combustion turbine lubrication and control systems, the effects can be devastating. Significant varnish build-up leads to:

- Sluggish control and/or equipment reliability issues
- Unscheduled maintenance operations/excessive parts replacement
- Problematic start-ups and/or shut-downs
- Forced equipment outages and lost production time

As the leader in gas turbine lubrication and hydraulic fluid control, Pall introduces a very efficient, simple, and proven varnish removal system. Pall VRF (Varnish Removal Filter) will dramatically reduce the varnish potential of the fluid, ensuring long, healthy operation, and control of gas turbines.

Performance

Field experience with Pall VRF on gas turbines showed a rapid and stable reduction in varnish potential rating (VPR℠)[1] well below the recommended levels. Pall VRF will maintain low varnish potential as the entire system gets cleaned up over time, literally pulling varnish off surfaces for removal. A turbine can be rid of varnish issues in a matter of a few weeks. The combination of Pall SRT filter technology to control varnish formation and the Pall VRF to remove existing varnish will ensure elimination of varnish-related problems.

Features

- Conforms to the ANSI B31.1 - Power Piping Code and the ANSI B31.3 - Process Piping Code
- Varnish removal vessel with specially designed adsorptive media, optimized for removal of varnish-forming precursors from the oil
- Outlet filtration with Pall Ultipleat® SRT technology, antistatic and rated at ß12(c) >1000 for additional protection and cleanliness
- Control system designed to maintain optimum oil temperature for the most efficient removal of varnish
- Simple, reliable operation requiring minimal operator attention

Benefits

- Simple, automated, and proven long-term efficiency
- Applicable to all turbine reservoir sizes

[1] VPR℠ is a registered service mark of Analysts Incorporated.

Pall VRF equipped with standard cooler option.

- Faster system clean-up, usually within a few weeks
- Low energy consumption

Applications

- Combustion turbine lubricating and control systems
- Steam turbine lubricating and control systems
- Industrial hydraulic fluids

Dimensions

Width: 40″ (1,016.0 mm)
Length: 76″ (1,930.4 mm)
Height: 66″ (1,676.4 mm)
Weight: Approx. 1,570 lb. (712.2 kg)

Design Characteristics

Flow Rate: 11 gpm (41.6 lpm) @ 60Hz
Maximum Inlet Viscosity: 500 SUS (100 cSt)
Inlet Pressure Range: –14″ Hg (–0.47 Barg) to 10 psig (0.69 Barg)
Maximum design temperature: 160°F (71°C)
Standard electrical: 480V, 3 phase, 60 Hz; FLA = 8.0 amps
Cooler motor power: 2 HP
Pump motor power: 1.5 HP
Connection size: Inlet – 1.0 NPT, Discharge – 0.75 NPT
Piping: Stainless Steel Tubing – no flexible hoses

Materials of Construction

Materials of construction and paint are compatible with mineral-based fluids and include carbon steel, stainless steel, copper, brass, aluminum, bronze, and fluorocarbon seals. Consult factory for synthetic fluids.

Ordering information

VRF11-■-●-▲-◆-▼

■	Voltage options
W	480/3P/60Hz
1	575/3P/60Hz
R	380/3P/50Hz
T	415/3P/50Hz

●	Mechanical design
0	non coded
XX	Special: ASME/ANSI, PED, CRN, etc. Please consult factory.

▲	Cooler options
N	None
S	Standard air-over-oil cooler
HC	High-capacity water-over-oil cooler

◆	Mobility options
N	None
C	Casters
P	Tow package (rubber tires)

▼	Electrical design options
N	Standard = non-hazardous/non-explosion proof
ZZ	Special: NEC, IEC, CSA, ATEX, etc. Please consult factory.

Spare Parts	Pall Part Number
Varnish removal cartridges	VRF-PGG
Polishing filter element	UE219AS08Z
VRF vessel sealing gasket	55856
Spare o-rings (62mm x 4mm VITON 70 DURO) (used for cartridges, sealing lid, and center post)	54789

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