



# Solvancer 제품 소개

## (주식) 솔지

Presented by:

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# Outline:

- 플루이텍 회사 소개
- 제품 라인업
- 주요 제품
  - ❖ 오염 제어
  - ❖ 윤활유 향상 – Solvancer
  - ❖ 무한터빈오일 (Infinity Turbine Oil)
  - ❖

# 플루이텍은?

- 1955년 벨기에에서 설립
- 산업용 윤활유와 유압유 기술의 선도회사
- 5 개 대륙에 걸쳐 100 개 이상의 국가에 기술이 구축
- 윤활유 수명 모니터링 및 유지 보수를 위한 여러 기술 개발
- 윤활유의 잔존수명을 결정하는 특허 기술인 RULER 기기 (ASTM D6971)의 OEM 업체
- ESP (전기-물리적 분리 프로세스) 및 Solvancer (Boost & Infinity TO)라는 윤활제 바니시 감소 기술 개발

# Global Presence



# Our Products Category

Infinity Fluids



Fluid  
Enhancement



Contamination  
Control



Condition  
Monitoring

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Fluid  
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**Provides Cradle-to-Grave  
Support For Your  
Lubricants**



Contamination  
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# Our Products Category

## Infinity Fluids



## Fluid Enhancement

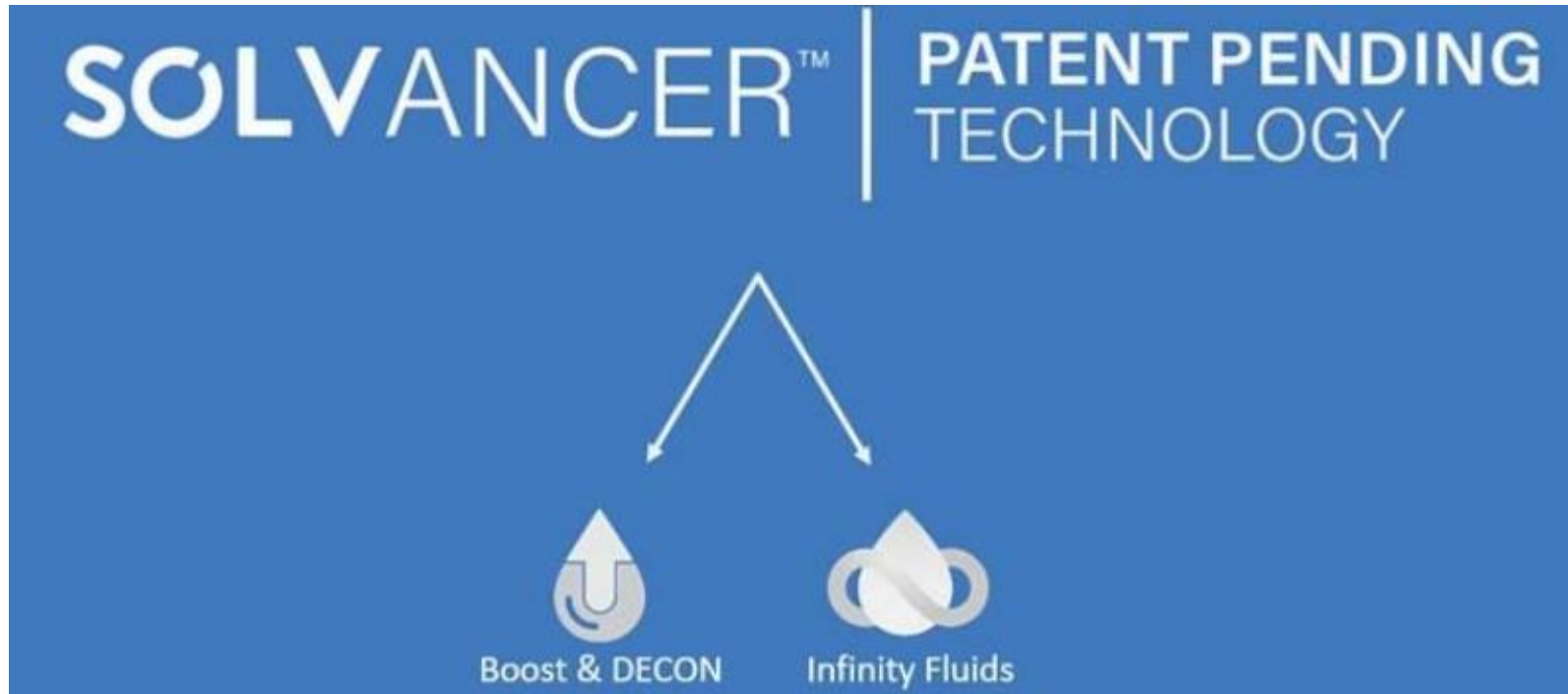


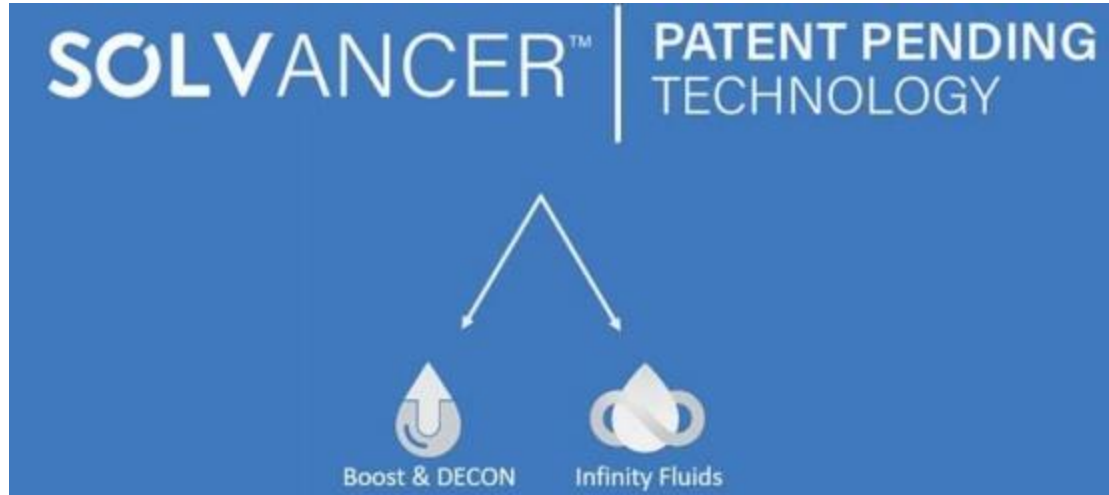
## Condition Monitoring

# Key Products

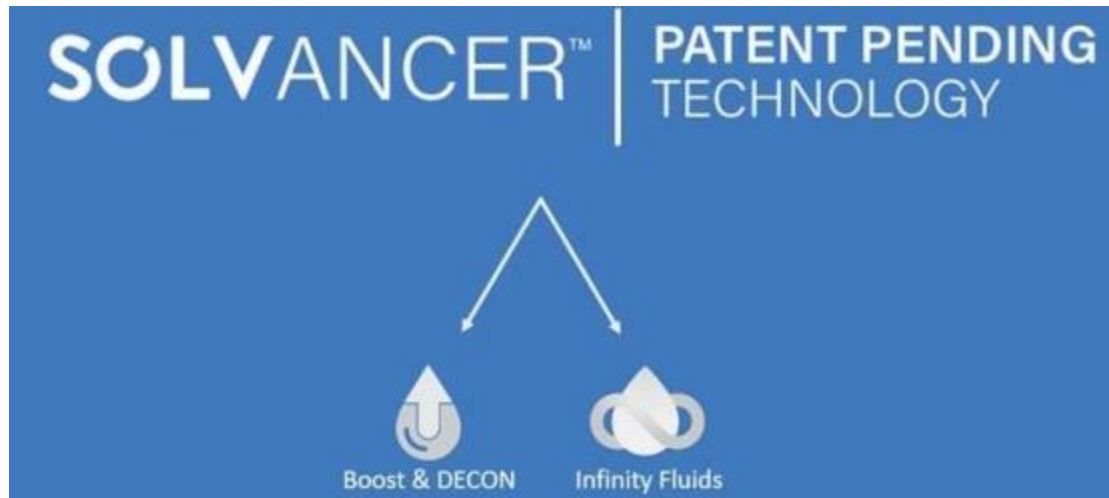


# Fluid Enhancement - Solvancer





- **SOLVANCER** : it is a patent pending technology of Fluitec
- It is a blend of specialized synthetic API Group V chemistries and has outstanding solubility characteristics
- It is compatible with a wide range of base oils and fully formulated lubricants
- It doesn't impact system materials such as seals, filters or paint
- It has excellent oxidation stability and long-term deposit control characteristics
- And most importantly, it does not cause any adverse impact on fluid properties and does not use surface-active chemistry.



**Products using the SOLVANCER technology :**

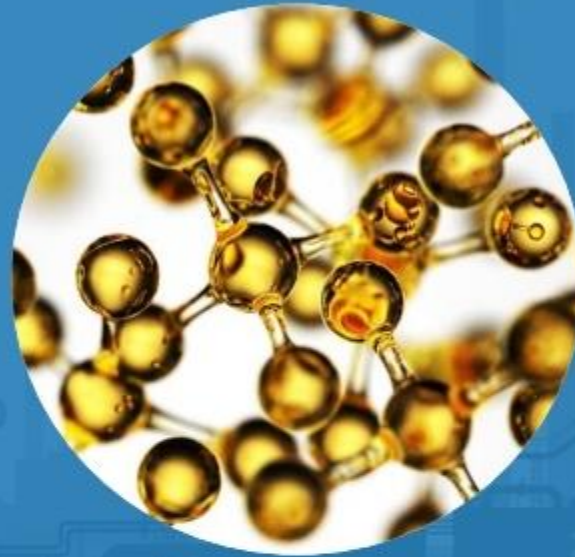
- Boost products (Boost VR+, Boost AO)
- DECON
- Infinity Fluids (Infinity Turbine Oil ISO 32 & 46)

# Boost VR+ vs DECON: When to Use Which Product



Other possible factors:

- Costs of varnish mitigation system VS Volume
- Skeptical mindset of users
- Functionality of requirements (e.g. space constraints)



# BOOST VR

SYSTEM DECONTAMINATION TECHNOLOGY



# WHAT IS A “FLUSH?”

# WHAT DOES FLUSHING MEAN?

There are different definitions for flushing.

“Circulation of liquid through the lubrication system or a component, when the turbine is not operating, to remove contaminant.” -ASTM D6349 (Standard Guide for Cleaning, Flushing, and Purification of Steam, Gas, and Hydroelectric Turbine Lubrication Systems)

“A fluid circulation process that is designed to remove contamination and decomposition from a lubrication- based system.” -Noria

**Flushing is a catch-all term used to describe a variety of activities that removes lube system contamination and cleans the internals of your system.**





# WHY FLUSH?

# WHY FLUSH? FLUSHES ARE USUALLY REQUIRED BECAUSE OF A MAINTENANCE PROBLEM.

- Commissioning new machines
- Re-commissioning machines
- System component failure that leaves broken pieces in the lube system
- After a filter collapses, releasing contaminants back into the system
- When an incompatible fluid has been inadvertently added to the system.
- Changing to a new brand or formulation of turbine oil and the compatibility is not well understood.
- When oil degradation products such as sludge and varnish are in the system

# Would you take a bath in a dirty bath tub?



- Adding new oil to a dirty reservoir will significantly shorten the life and performance of the new oil.
- Sludge and varnish are reactive. They deplete fresh antioxidants.
- Antioxidants determine the life and performance of the oil.



# Example of putting new oil in a dirty reservoir



	UsedOil	NewOil	1-weekafterOil change
WaterContent,ASTMD6304,ppm	39	20	45
Ruler,ASTMD6971,Phenolic(%)	28%	100%	74%
MembranePatchColorimetry,ASTMD7843	58	1	16
FoamingCharacteristics,ASTMD892	480/0	20/0	140/0
RPVOT,ASTMD2272,minutes	469	1600	1295

# Example of putting new oil in a dirty reservoir



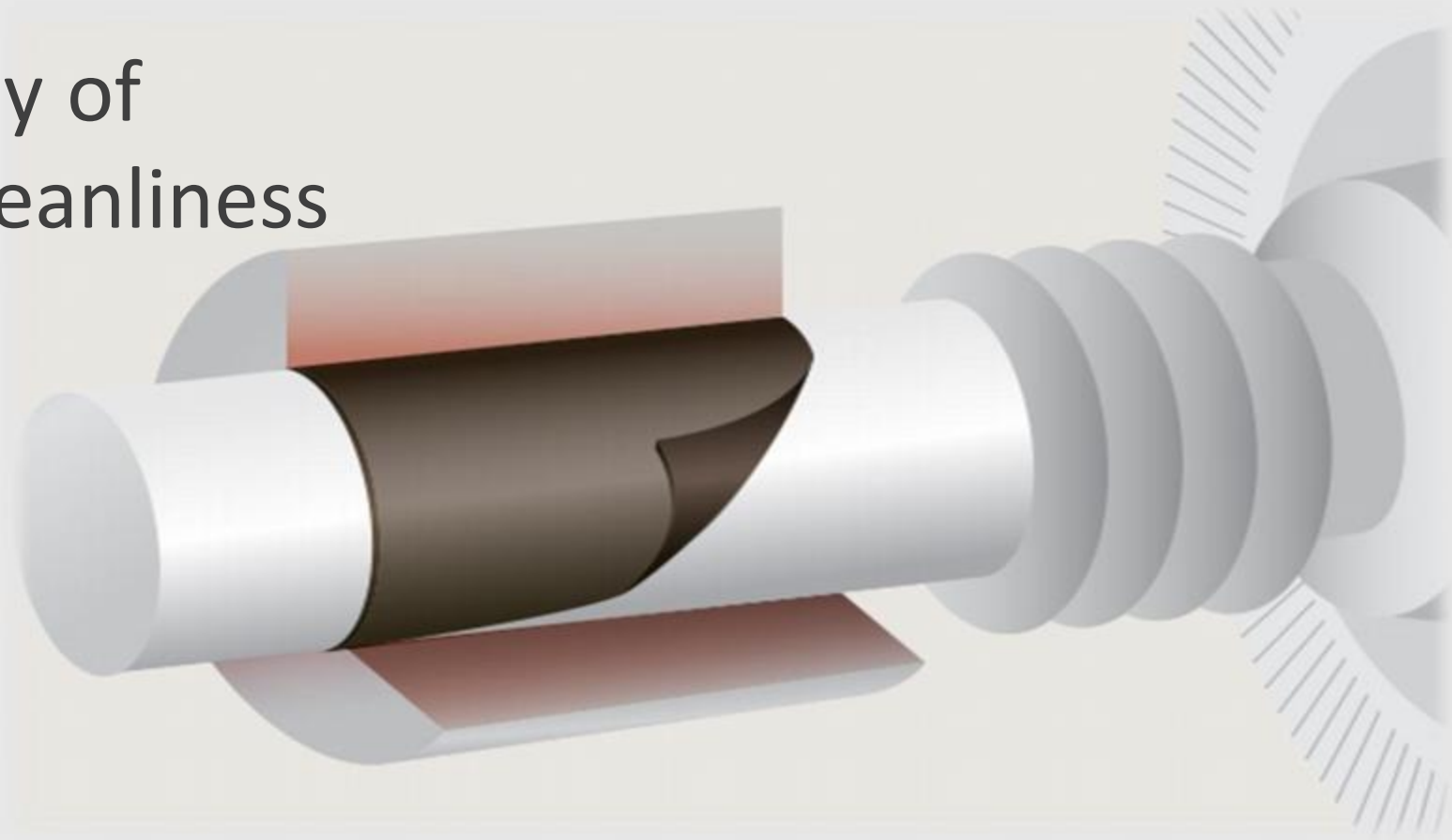
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Life of the new oil is approximately 30% less due to not cleaning the system.

# FLUSHING IS NOT REQUIRED BETWEEN OIL CHANGES IF:

1. The lubricant system is free of sludge, varnish and other deposits, and,
2. The majority of old oil can be removed from the system, and
3. The new turbine oil is of the same type and brand as the in-service oil or if extensive compatibility tests (ASTM D7155) have been done to verify compatibility.

Boost VR is a proven way of restoring lube system cleanliness during oil changes.





# APPLICATION OF BOOST VR+

Treat rate of BVR: **5% to 10%**

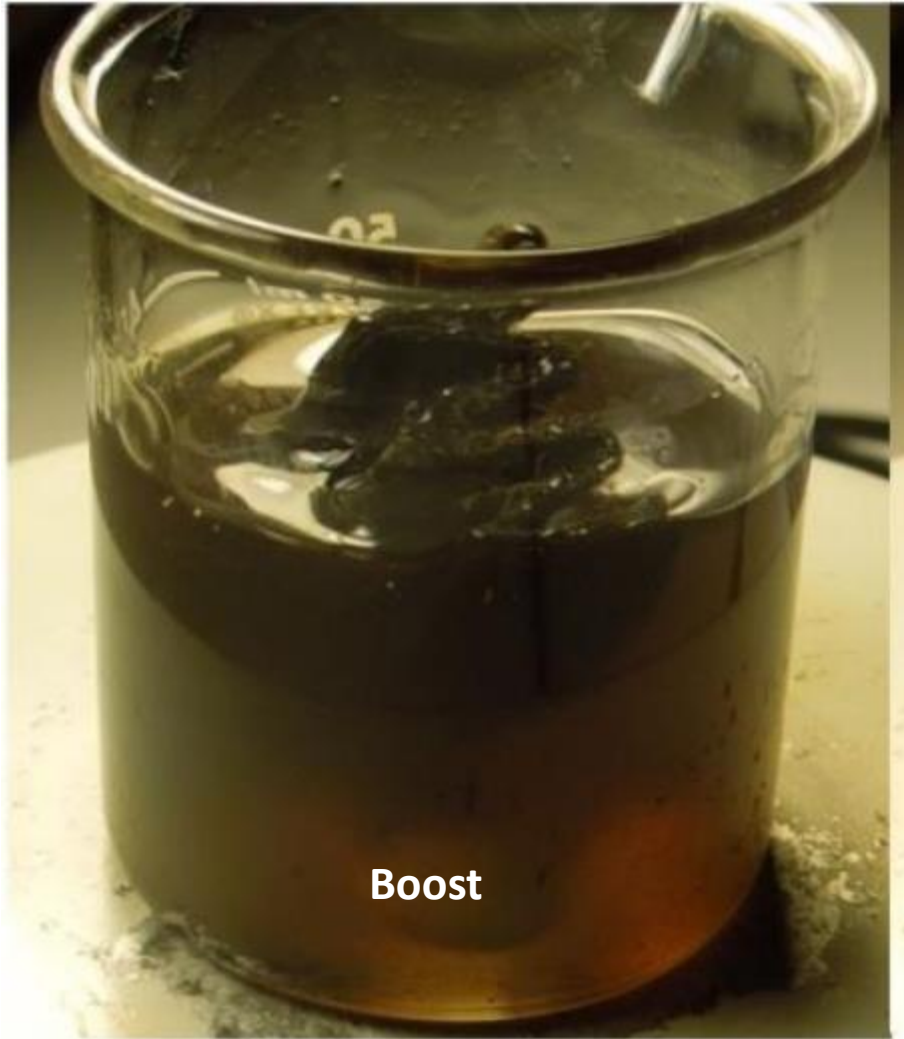
Treatment Period: **1-6 months**

Maximum length of time for using Boost VR: **6 months**

ESP recommend? **Recommended but not required**

Compatibility: **Fully compatible in API G1 → G4**

# HIGHLY EFFECTIVE



# IMPACT OF BOOST VR

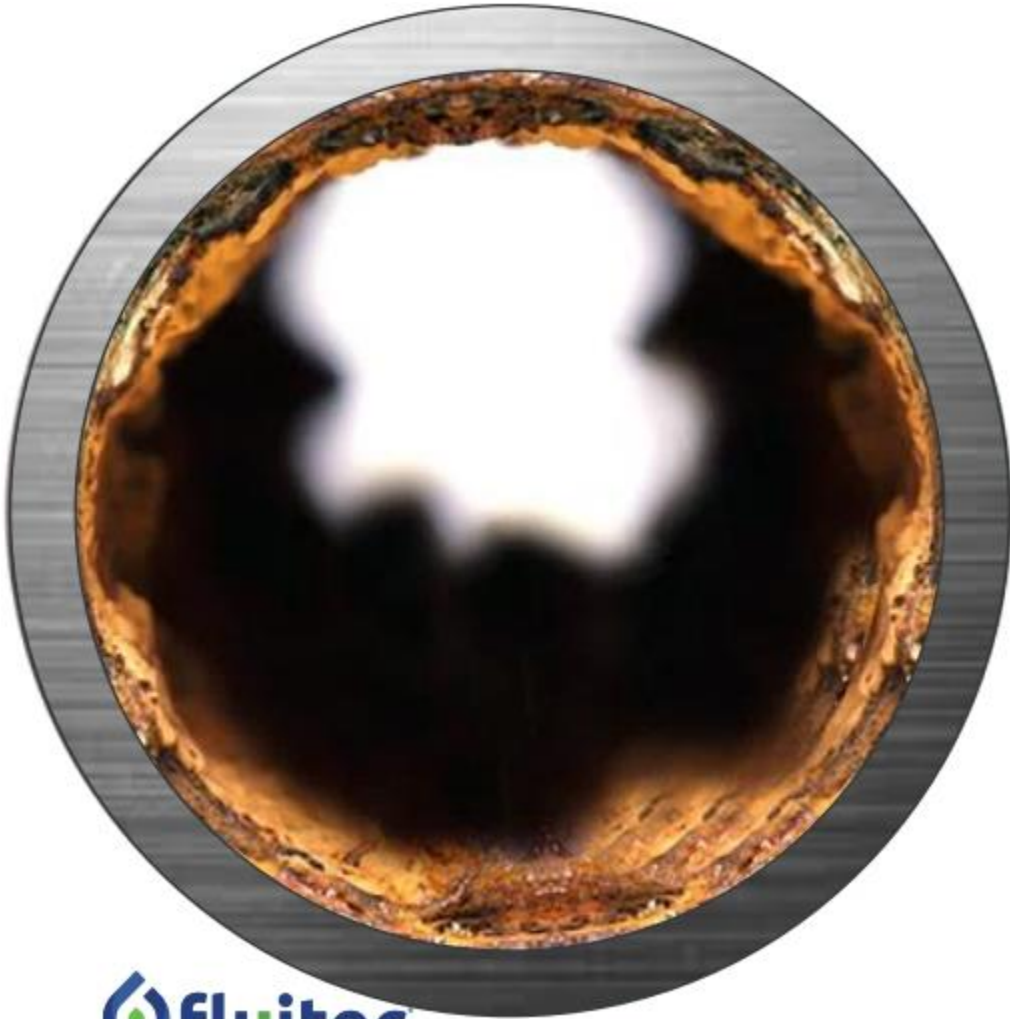


Dirty filters prior to adding Boost VR



One week after adding Boost VR

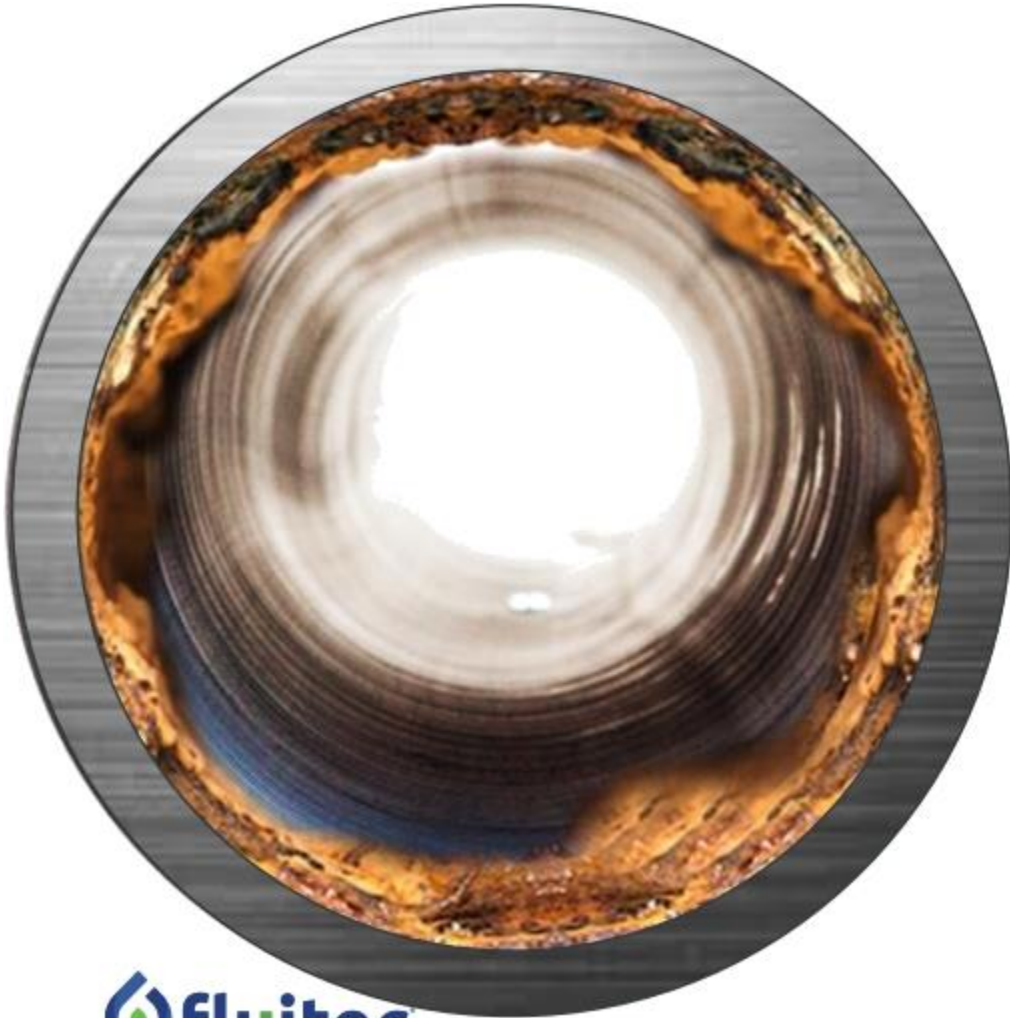
# BOOST VR PROCESS



Boost VR works by increasing the solubility of the oil, allowing stubborn deposits to be dissolved.



# BOOST VR PROCESS

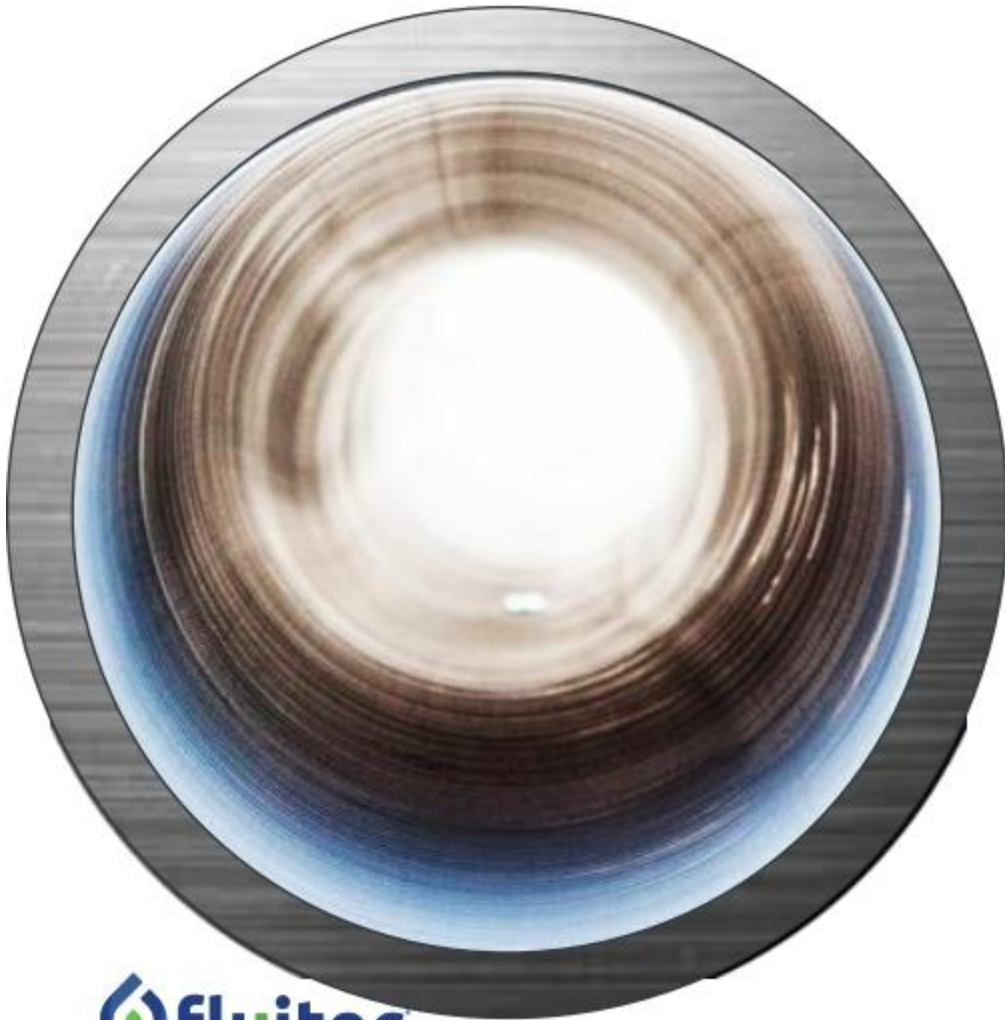


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Varnish is removed one layer at a time is removed. No sudden “dump” of contaminants occurs.

Boost chemistry is 100% compatible with the in-service lubricant.

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**No Flushing – No Downtime – No Risk**

# RISK-FREE PERFORMANCE

- Unlike competing products, Boost VR uses *no surface-active chemistry*.
- Boost VR is **warranted** to have no compatibility impact on the chemistry of the in-service oil.





# BOOST VR+: SOLUBILITY ENHANCED FLUSH

## Overview

- Add a compatible fluid to the in-service oil to enhance its solubility and dissolve contaminants.
- A controlled process to deconstruct deposits without adding incompatible chemistry to the system.
- Does not require a dilution flush.

# BOOST VR+: HOW TO USE

## Steps

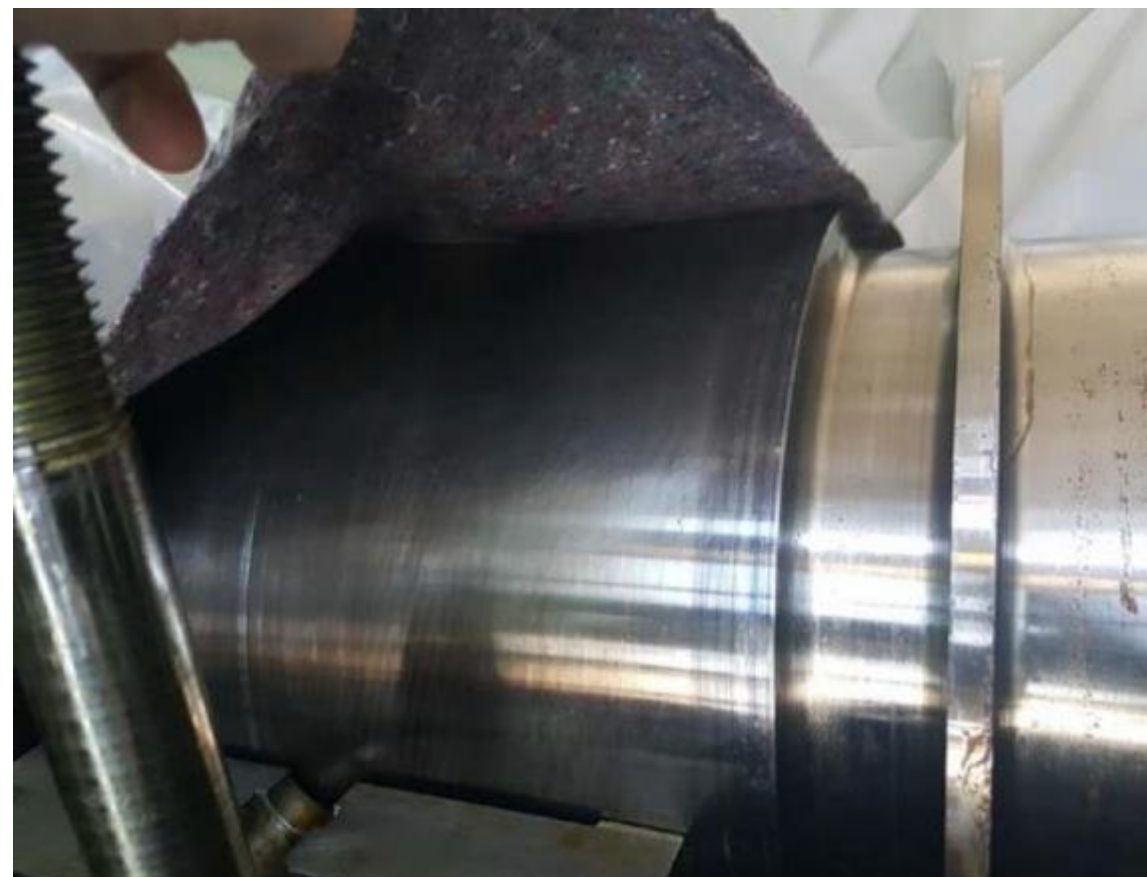
1. Add 5-10% of Boost VR to the fluid 1 to 3 months prior to an outage
2. An ESP filtration system is often installed to accelerate the cleaning process. ( *because the filters can take up the varnish and other deposits, cleaning the oil, and re-circulate to resolubilize varnish on the surface of the machine parts* )
3. During the outage, drain the old oil and recharge the system with new oil.

# CASE STUDY 1: BOOST VR IN SIEMENS STEAM TURBINE

A concentration of 7.5% Boost VR was added to the heavily varnish turbine oil reservoir 8-weeks prior to the planned outage.

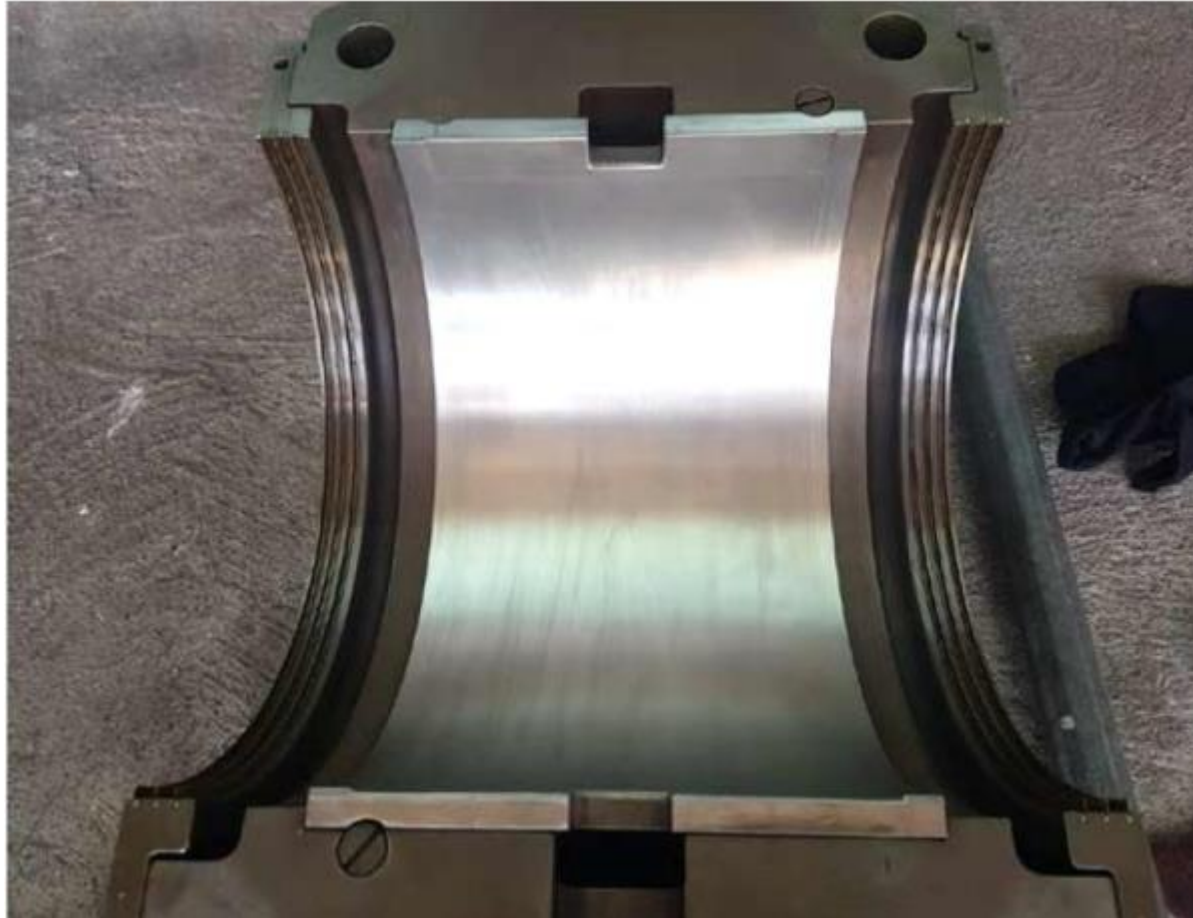


# OUTAGE OBSERVATIONS: SHAFT WAS FREE OF VARNISH





# OUTAGE OBSERVATIONS: JOURNAL AND THRUST BEARINGS WERE FREE OF DEPOSITS



# OUTAGE OBSERVATIONS: OTHER OIL-WETTED SURFACES ALSO HAD VARNISH DISSOLVED





# CASE STUDY 2: OBSERVATIONS OF USING BOOST VR IN A COMPRESSOR AT A CHEMICAL PLANT

**Before** 6% treatment of  
Boost VR





# CASE STUDY 2: OBSERVATIONS OF USING BOOST VR IN A COMPRESSOR AT A CHEMICAL PLANT

**After** Boost VR treatment, the sludge has been dissolved from the reservoir bottom.



Thank you!