


# MANNOL Turbine 46

## 2302

High-quality turbine (circulating) oil with an increased replacement age designed for the lubrication and cooling of bearings in stationary steam and water turbines at normal and elevated temperatures and manufactured on a highly-purified base.

Properties properties:
- A modern additives package combined with a highest-quality mineral base with an optimal viscosity in a wide range of temperatures ensure excellent antifriction, antiwear and anti-scuffing properties that significantly extend the expected life of the equipment in all even most extreme operation modes in a wide range of ambient temperatures and ensure a significant extension of the expected life of the equipment;
- It has a great ability of a heat removal from the bearing system thus extending the service life of bearings;
- They are characteristic of a highest resistance to oxidation even at high temperatures and, as a result, of an increased resistance to ageing during long operation, which allows preserving operating properties throughout the entire period between replacements thus reducing turbine maintenance costs;
- They are characteristic of a low tendency towards the formation of deposits which minimises the formation of lacquers on friction type bearings and reduces the possibility of an unplanned equipment shutdown;
- They have exceptional anticorrosion properties even at the presence of water/vapours and condensate, which reduces spare parts buying costs;
- A high hydrolytic stability, a reliable water segregation (including vapours with the condensed water exudation) prevent the formation of stable emulsions thus preserving the operating efficiency of the lubrication system and extending the expected life of the equipment;
- A quick deaeration (air separation) ensures the lubrication film stability, extends the expected life of the equipment;
- A low foam formation ensures the continuity of the oil supply into fraction subsystems that reduces the possibility of overheating;
- An excellent filtering ability reduces maintenance costs of the technical equipment;
- They ensure a replacement age not less than 5,000 hours.

They were designed for steam and water turbines as well as various hydraulic industrial circulating systems. They may be used for axial-flow and radial turbo compressors and water pumps, turbine hydraulic control systems.
They may be used in gas turbines if oils of such grade are indicated in the user's manual of the equipment.
In order to properly use them, thoroughly read the user's manual of the equipment!

**Specifications**
ISO Viscosity Grade 46
DIN 51524-1
DIN 51524-2
DIN 51524-3
DIN 51517-2
DIN 51506 (VBL, VCL, VDL)
DIN 51515-1 (L-TD), 51515-2 (TG)
ISO DP 6521 (DAA, DAB, DAH, DAG)
**Recommendation**
AFNOR FRANCE NF E 48-603
BSI GB BS 489
CEGB 207001
MIL L 17672 D
VDMA 24568
BROWN BOVERI HTGD 90117
GE GEK 32568 A/GEK 32568 C
MAG CINCINNATI P-38
MAG CINCINNATI P-55
MAG CINCINNATI P-54
MAG CINCINNATI P-57
MAG CINCINNATI P-62
MITSUBISHI E00-87182
PARKER DENISON HF-0
SIEMENS TLV 9013
US STEEL 120

## PACKAGING

| | | | |
|---|---|---|---|
| 208L | MN2302-DR | Drum | |
| 1000L | MN2302-IBC | Pallet tank | |
| 60L | MN2302-60 | Drum | |