

# Balmerol<sup>®</sup> Protomac H Series

## Mineral Oil Based Hydraulic & Circulating Oils

Technical Data Sheet

### Product Description:

Balmerol Protomac H Series are high quality hydraulic oils, designed to meet the requirements of normal hydraulic & circulating systems. Balmerol Protomac H Series oils are formulated with superior quality mineral oil and synergistic additives for imparting anti-wear, anti-corrosion, oxidation inhibition and anti-foam properties.

Balmerol Protomac H Series oils meet the following specifications:

- Vickers V- 104 C for Vane Pump test
- IS: 10522 / 1983 - Reaffirmed 2004
- DIN 51524 Part 1
- IPSS: 1-09-002

### Benefits:

- Superior thermal stability
- Low deposit forming tendency
- High protection against wear ensuring maximum equipment life
- Very good oxidation stability ensuring long service life of fluid
- Very good rust protection & demulsibility characteristics
- Reduce maintenance and operating costs

### Applications / Recommendations:

- Balmerol Protomac H Series oils are designed for hydraulic power transmission systems operating at moderate to high pressures, speeds and temperature
- Recommended for all types of industrial as well as mobile equipments like forklift, trucks, dumpers, molding and various hydraulic equipments.
- Also used in circulation, ring oiling and splash lubrication systems in industrial machineries

For best performance, contamination of Balmerol Protomac H Series oils with other lubricants such as detergent motor oils should be avoided.

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### Typical Properties:

Balmerol Protomac H Series						
Properties	Protomac H 32	Protomac H 46	Protomac H 57	Protomac H 68	Protomac H 81	Protomac H 100
ISO VG Grade	32	46	-	68	81	100
Viscosity, ASTM D 445						
cst @ 40°C	29.5 - 34.5	44 - 50	52 - 61	63 - 72	80 - 85	90 - 110
Viscosity Index, ASTM D 2270	100 minimum	95 minimum	95 minimum	95 minimum	90 minimum	90 minimum
Pour Point, °C ASTM D 97	-6 max	-6 max	-6 max	-6 max	-6 max	-6 max
Flash Point, °C ASTM D 92	195	210	210	210	220	220
Copper Strip Corrosion, ASTM D 130, 3 hrs @ 100°C	Pass 1a	Pass 1a	Pass 1a	Pass 1a	Pass 1a	Pass 1a
Rust Characteristics, ASTM D665						
ASTM D 665/A	No Rust	No Rust	No Rust	No Rust	No Rust	No Rust
ASTM D 665/B	No Rust	No Rust	No Rust	No Rust	No Rust	No Rust
Foaming characteristics, quantity of foam after 10 minute settling time, ml max.						
a) At 24°C	Nil	Nil	Nil	Nil	Nil	Nil
b) At 93.5°C	Nil	Nil	Nil	Nil	Nil	Nil
c) At 24°C after testing at 93.5°C	Nil	Nil	Nil	Nil	Nil	Nil

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Properties	Protomac H 121	Protomac H 150	Protomac H 176	Protomac H 220	Protomac H 320	Protomac H 460
ISO VG Grade	-	150	-	220	320	460
Viscosity, ASTM D 445						
cst @ 40°C	111 -130	135 - 165	170 -180	200 -230	315 -350	420 - 500
Viscosity Index, ASTM D 2270	90 minimum	90 minimum	90 minimum	90 minimum	90 minimum	90 minimum
Pour Point, °C ASTM D 97	-6 max	-6 max	-6 max	-3 max	-3 max	0
Flash Point, °C ASTM D 92	220	230	230	230	230	240
Copper Strip Corrosion, ASTM D 130, 3 hrs @ 100°C	Pass 1a	Pass 1a	Pass 1a	Pass 1a	Pass 1a	Pass 1a
Rust Characteristics, ASTM D665						
ASTM D 665/A	No Rust	No Rust	No Rust	No Rust	No Rust	No Rust
ASTM D 665/B	No Rust	No Rust	No Rust	No Rust	No Rust	No Rust
Foaming characteristics, quantity of foam after 10 minute settling time, ml max.						
a) At 24°C	Nil	Nil	Nil	Nil	Nil	Nil
b) At 93.5°C	Nil	Nil	Nil	Nil	Nil	Nil
c) At 24°C after testing at 93.5°C	Nil	Nil	Nil	Nil	Nil	Nil

### Health and Safety:

Balmerol Protomac H Series oils are not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. For MSDS please contact your local Balmer Lawrie Marketing / Technical Service team.

For Further Information, contact:

**Balmer Lawrie & Co. Ltd.**  
SBU: Greases & Lubricants (G&L) Division  
P- 43, Hide Road Extension  
Kolkata: 700088  
www.balmerlawrie.com