

# Balmerol<sup>®</sup> Protomac H SPL (ZF) Series

Premium Zinc Free Hydraulic Oil

Technical Data Sheet

## Product Description:

Balmerol Protomac H SPL (ZF) is premium quality hydraulic oil, blended from highly refined base stock and synergistic additive system. Balmerol Protomac H SPL (ZF) oil has outstanding anti-wear properties, excellent oxidation stability and high load carrying capacity as determined by FZG rating. Balmerol Protomac H SPL (ZF) oil shows low wear in vane pump wear test and has good filterability ensuring longer service life. Balmerol Protomac H SPL (ZF) oil is formulated to meet Cincinnati Milacron P 68, P 69 and P 70, DIN 51524 Part 2 and Denison HF-0, HF-2 specifications. More over this oil is zinc free and more environment friendly.

## Features & Benefits:

Superior oxidation & thermal stability	Ensuring longer service life of fluid under operating conditions
Low deposit forming tendency	Components remain clean during operation, lesser clogging of filters, control valves etc.
Better Anti-wear properties	Reduction in wear of components like pumps, valves etc leading to higher equipment reliability. Provides equivalent protection as that of Zn based hydraulic oil.
Very good Rust protection & Demulsibility characteristics	Easily sheds off water from the oil and ensures better component protection

Balmerol Protomac H SPL (ZF) Series provides excellent protection to hydraulic systems and ensures lower equipment failures, longer oil drain intervals and overall lower maintenance cost.

## Applications / Recommendations:

Balmerol Protomac H SPL (ZF) oil is recommended for use in high pressure hydraulic systems for industrial and mobile applications. Balmerol Protomac H SPL (ZF) oil is ideally suited for equipment employed in under-ground and open cast mines, foundries, steel plants etc and operating under severe conditions of pressure, speed and temperatures. It is also suitable for sophisticated high performance Electro Hydraulic and Numerically Controlled machines.

Balmerol Protomac H SPL (ZF) Series fully confirms to DIN 51524 Part 2 (HLP) specifications. Super clean Balmerol Protomac H SPL (ZF) is available in special lacquer coated or HDPE drums.

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## Typical Properties:

Balmerol Protomac H SPL (ZF) Series		
Properties	Protomac H SPL (ZF) 46	Protomac H SPL (ZF) 68
ISO VG Grade	46	68
Viscosity, ASTM D 445		
cst @ 40°C	46.0	66.5
cst @ 100°C	7.00	9.24
Viscosity Index, ASTM D 2270	> 110	> 110
Pour Point, °C ASTM D 97	- 30	- 27
Flash Point, °C ASTM D 92	228	230
Specific Gravity, ASTM D 1298	0.848	0.855
Copper Strip Corrosion, ASTM D 130, 3 hrs @ 100°C	1b	1b
Rust Characteristics, ASTM D665		
ASTM D 665/A	Pass	Pass
ASTM D 665/B	Pass	Pass
FZG Test (A/8.3/90), Fail Stage, DIN 51354	11	11
Foam Stability, ASTM D 892		
Sequence I	Nil	Nil
Sequence II	Nil	Nil
Sequence III	Nil	Nil
Neutralization No, TAN mg KOH/ gm	< 1	< 1
Demulsibility, ASTM D 1401 , minutes to 40 -37 -3	10	10

## Health and Safety:

Balmerol Protomac H SPL (ZF) 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:

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