INDUSTRIAL LUBRICANTS | MINERAL-BASED HYDRAULIC FLUIDS

HYDROFLOW HV

High Viscosity Index Mineral Hydraulic Oil

Product Description

HYDROFLOW HV is a range of high viscosity index mineral-based hydraulic oils designed for power transmission, lubrication and component protection in hydraulic systems operating under variable temperature conditions.

The formulation combines mineral base oils, viscosity index improvers and selected additives to provide viscosity stability and protection against wear, oxidation and corrosion. The viscosity grade should be selected in accordance with the equipment manufacturer's recommendations and the hydraulic pump's permissible viscosity range.

Performance Classifications

According to the technical data sheets, these products are classified as HVLP under DIN 51524-3 and HV under ISO 6743-4 and ISO 11158.

Importance of a High Viscosity Index

Oil viscosity affects flow, system energy losses, internal leakage and lubricating film formation. Excessive viscosity can hinder starting and circulation at low temperatures, while insufficient viscosity at high temperatures can compromise lubrication and volumetric efficiency. A high viscosity index limits viscosity changes as operating temperature varies.

Operating Performance

The oil transmits hydraulic power to the actuators and lubricates moving surfaces. Its viscosity stability under variable temperatures supports efficient power transmission. Antiwear additives and corrosion inhibitors protect metal surfaces, while oxidation stability helps maintain oil quality during service.

Foam control and water separation properties support hydraulic system maintenance and contamination management. Oil cleanliness, effective filtration and condition monitoring are essential to achieve these benefits.

Features

- A high viscosity index limits temperature-related viscosity changes and supports consistent system performance.
- Antiwear additives protect contacting surfaces and help reduce hydraulic component wear.
- Oxidation stability helps preserve oil quality and supports service life.
- Corrosion inhibitors help protect metal components in the hydraulic system.
- Foam control properties help reduce foam formation.
- Water separation properties facilitate the removal of water contamination from the oil.

Applications

- Pressurised industrial hydraulic systems.
- Mining and construction machinery, and hydraulic presses.
- Plastic injection moulding, die-casting and mould-making equipment.
- Machine tools and hydraulic systems in production equipment.
- Equipment used in steelmaking, ceramics and tile manufacturing.
- Agricultural equipment and marine hydraulic systems.
- Outdoor equipment exposed to significant temperature variations.

Technical Data and Physical Properties

Property	Grade 46	Grade 68	Unit	Test Method
Kinematic viscosity at 40 °C	46	65.5	cSt	ASTM D445
Kinematic viscosity at 100 °C	9	10.45	cSt	ASTM D445
Viscosity index	172	160	—	ASTM D2270
Density at 15 °C	0.8609	0.884	g/cm^3	ASTM D4052
Pour point	−42	−39	°C	ASTM D97
Flash point	—	>220	°C	ASTM D92
Demulsibility	—	40/40/0	mL	ASTM D1401

Selection and Maintenance

Select the viscosity grade in accordance with the pump and equipment manufacturers' recommendations. Before changing oils, assess fluid compatibility and the need for flushing. Control water and particulate contamination, and determine oil change intervals using the manufacturer's instructions and used-oil analysis.

Safety

Avoid prolonged skin contact and contact with eyes. Wear suitable gloves and eye protection, and provide adequate ventilation where oil mist is generated. Collect spills with absorbent material and prevent release to drains or the environment. Follow the safety data sheet for the relevant grade for first aid, firefighting and disposal.

Storage

Store in a dry location away from direct sunlight at 5–40 °C. The stated shelf life is two years in a sealed container. Keep the packaging of both grades intact and closed, and prevent the ingress of water and environmental contaminants.