



RW
REAL WAHL

Oil

motor
Lubricants Antifreeze
Industrial Marine

RW HYDRAULIC FORCE HV

DESCRIPTION

RW Hydraulic Force HV fluids are high performance hydraulic fluids that use Real Wahl's unique patented technology with excellent viscosity control under both severe mechanical stress and across a wide range of temperatures. They provide outstanding protection and performance in most mobile equipment and other applications subjected to wider ranges of ambient or operating temperatures.

APPLICATIONS

- **Mobile/exterior hydraulic applications**

Hydraulic and fluid power transmission systems in exposed environments can be subject to wide variations in temperature. The high viscosity index of RW Hydraulic Force HV helps deliver responsive performance from cold start conditions to full load, severe duty operation.

- **Precision hydraulic systems**

Precision hydraulic systems require excellent control of fluid viscosity over the operating cycle. RW Hydraulic Force HV provides greater temperature-viscosity stability compared to ISO HM fluids that can help improve the performance of such systems.

For more severe operating conditions, longer fluid life and enhanced efficiency, the RW Hydraulic Force HV-ZF ranges offer additional performance benefits.

PERFORMANCE PERFORMANCE FEATURES AND BENEFITS

- **Long fluid life – Maintenance saving**

RW Hydraulic Force HV fluids help extend equipment maintenance intervals by resisting thermal and chemical breakdown. This minimizes sludge formation and provides excellent performance in the industry standard ASTM D 943 TOST test (Turbine Oil Stability Test), providing better reliability and system cleanliness.

RW Hydraulic Force HV fluids also have good stability in the presence of moisture, which ensures long fluid life and reduces the risk of corrosion and rusting, particularly in moist or humid environments.

Highly shear stable viscosity modifiers help minimize variations in the fluid properties throughout the fluid drain interval.

- **Outstanding wear protection**

Proven zinc-based anti-wear additives are incorporated to be effective throughout the range of operating conditions, including low load and severe duty high load conditions. Outstanding performance in a range of piston and vane pump tests, demonstrates how RW Hydraulic Force HV fluids can help system components last longer.

- **Maintaining system efficiency**

The extended temperature range capability of RW Hydraulic Force HV allows efficient operation of mobile equipment from cold start to normal operating conditions.

Excellent filterability and high performance water separation, air release and anti-foam characteristics all help contribute to maintaining or enhancing the efficiency of hydraulic systems.

The unique additive system in RW Hydraulic Force HV, helps reduce the impact of contaminants on filter blocking, allowing both extended filter life and use of finer filtration for extra equipment protection.

RW Hydraulic Force HV fluids are formulated for fast air release without excessive foaming to help efficient hydraulic power transfer and minimise fluid and equipment impacts of cavitation-induced oxidation that can shorten fluid life.

SPECIFICATIONS AND APPROVALS

DIN 51524, 3 HVLP: FZG 12; Vickers Vane Pump

COMPATIBILITY

RW Hydraulic Force HV fluids are suitable for use with most hydraulic pumps. However, please consult your Real Wahl Representative before using in pumps containing silver plated components.

- **Fluid Compatibility**
RW Hydraulic Force HV fluids are compatible with most other mineral oil based hydraulic fluids. However, mineral oil hydraulic fluids should not be mixed with other fluid types (e.g. environmentally acceptable or fire resistant fluids).
- **Seal & Paint Compatibility**
RW Hydraulic Force HV fluids are compatible with seal materials and paints normally specified for use with mineral oils.

ADVICE

Advice on applications not covered in this leaflet may be obtained from your Real Wahl Representative.

HEALTH AND SAFETY

Guidance on Health and Safety are available on the appropriate Material Safety Data Sheet which can be obtained from your Real Wahl representative.

PROTECT THE ENVIRONMENT

Take used oil to an authorized collection point. Do not discharge into drains, soil or water.

TYPICAL PHYSICAL CHARACTERISTICS

PROPERTY	METHOD	RW Hydraulic FORCE HV									
		7	10	15	22	32	37	46	52	68	100
Kinematic Viscosity at 40°C, mm ² /s	ASTM D 445	7,01	10,8	15,0	22,0	32,0	37,0	46,0	52,0	68,0	100,0
Kinematic Viscosity at 100°C, mm ² /s	ASTM D 445	2,36	3,00	3,75	5,00	6,44	7,4	8,35	9,2	11,2	14,4
Viscosity Index	ISO 2909	190	150	147	163	159	166	159	159	157	149
Density at 15°C, kg/m ³	ISO 12185	834	843	859	860	868	864	864	861	869	882
Pour Point, °C	ISO 2592	138	-	180	180	190	206	200	204	210	215
Flash Point (COC), °C	ISO 3016	-35	-35	-35	-40	-40	-38	-40	-35	-35	-30
Acid number, mgKOH/g	ASTM D 664	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4

These characteristics are typical of current production. Whilst future production will conform to Real Wahl's specification, variations in these characteristics may occur.