



RW
REAL WAHL

Oil

motor
Lubricants Antifreeze
Industrial Marine

RW HYDRAULIC FORCE HM-D

DESCRIPTION

RW Hydraulic Force HM-D fluids are high performance detergent based hydraulic fluids for use where emulsifiable fluids are preferred. Using proven ashless anti-wear technology they provide reliable performance in applications where contamination by aqueous fluids, such as cutting fluids, or where cleanliness or control of solid contaminants is important.

PERFORMANCE PERFORMANCE FEATURES AND BENEFITS

- **Protection in severe environments**

The established detergent and modern ashless anti-wear technology in RW Hydraulic Force HM-D fluids provides extra protection in challenging environments by:

- Preventing water accumulation
- Dispersing solid contaminants
- Preventing corrosion in presence of water
- Providing low-friction anti-wear performance

Outstanding anti-wear and load-carrying properties in hydraulic and geared systems, especially under high load and low speed boundary lubrication conditions.

- **Fluid life – Maintenance saving**

RW Hydraulic Force HM-D fluids have good resistance to thermal and chemical breakdown to ensure consistent performance and protection throughout the fluid drain interval.

- **Maintaining system efficiency**

Superior cleanliness in severe environments helps keep the hydraulic system functioning efficiently. This is supported by excellent air release and anti-foam characteristics.

In addition, RW Hydraulic Force HM-D provides excellent filterability allowing the use of fine filters for extra protection and long equipment life.

Smooth operation of the hydraulic system is supported by the low-friction additive system that helps reduce stick-slip behaviour under high loads or poorly lubricated contacts.

APPLICATIONS

- **Industrial hydraulic systems**

RW Hydraulic Force HM-D fluids are suitable for a wide range of industrial and manufacturing applications including:

- Injection moulding machines
- Electronically controlled hydraulic equipment
- Mobile equipment
- Headstocks and hydraulic controls in automatic lathes (when a synthetic or semi-synthetic water-extendible metal working fluid is used)

Where low start up and high service temperatures are encountered the use of RW Hydraulic Force HV-D is recommended.

SPECIFICATIONS AND APPROVALS

DIN 51524, 2 HLPD; FZG 11; Vickers Vane Pump

COMPATIBILITY

RW Hydraulic Force HM-D 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 HM-D 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 HM-D 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 HM-D				
		10	22	32	46	68
Kinematic Viscosity at 40°C, mm ² /s	ASTM D 445	9,6	22	32	46	68
Kinematic Viscosity at 100°C, mm ² /s	ASTM D 445	2,6	4,3	5,35	6,9	8,7
Viscosity Index	ISO 2909	107	96	98	103	102
Density at 15°C, kg/m ³	ISO 12185	856	865	875	866	882
Flash Point, °C	ISO 2592	160	195	205	215	215
Pour Point, °C	ISO 3016	-34	-34	-32	-30	-30
Acid number, mgKOH/	ASTM D 664	4,8	4,8	4,8	1,2	4,8

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