Hydraulic oils contain specific additive formulas designed to meet the specific needs of hydraulic systems and typically focus on anti-wear (AW), rust and oxidation (RO) or multi-viscosity (MV) formulas.

HydraSUM is a balanced formula designed to blend with these oils to complement and enhance the protection of equipment under difficult performance requirements where the oil alone proves inadequate.

Power transfer may still occur when using oil which has surpassed useful service life. When this occurs many of the key performance aspects of the oil are no longer functioning.

HydraSUM reduces operating temperature, eliminates 'Stick Slip," enhances cold flow, improves viscosity index, provides improved water separation and unparalleled anti-wear and rust and corrosion protection. HydraSUM also uses seal conditioning agents, reducing the long-term effects of heat exposure to elastomer seals and hydraulic hoses.

HydraSUM is compatible with mineral based (Group II + III) and synthetic-based polyalphaolefin and diester (Group IV) hydraulic oils. HydraSUM is not recommended for use with water-based fluids, phosphate esters or polyglycol fluids.

HydraSUM: Use with hydraulic oils. 5% HydraSUM to oil volume ratio is the recommended concentration for most applications. For extreme cold applications higher concentrations may be needed to obtain desired results.

Product ID#	**3103-1-12 (1L x 12)** **3103-4-4 (4L x 4L)** **3103-10-2 (10L x 2)**	**3103-20-1 (20L Pail)** **3103-205-1 (205L Drum)**

Over the life of a fluid the additive package depletes. HydraSUM can extend fluid life and slow the process of oil degradation. Hydraulic systems rely on high quality oils performing a dual role: lubricating the system and providing fluid power transfer. Modern high-pressure pump systems require anti-wear protection, coupled with the prevention of rust, corrosion, varnish buildup, foaming and air entrainment. HydraSUM provides superior performance and protection for demanding hydraulic applications.

HydraSUM is recommended for all hydraulic circulating systems and is compatible with Nitrile, Neoprene and Fluorocarbon elastomer seals. HydraSUM may also be used in automatic transmissions at 1% HydraSUM to oil volume. Oil Sampling is recommended when extending fluid service life. HydraSUM can be used to enhance existing additive packages or for creating custom blends. Always ensure oil blends meet the minimum requirements as outlined by the OEM.

DESIGNED FOR PERFORMANCE

- Reduces operating temperature.
- Eliminates 'Stick Slip'.
- Extends oil service life.
- Integrates well with synthetic and conventional hydraulic oils.
- Contains no zinc and can be used with hydraulic systems requiring zinc-free oils.
- Separates water from hydraulic oils.
- Enhances cold weather operation.
- Reduces ultrasonic noise caused by component wear.
- Reduces fuel and / or electrical power consumption in many applications.
- Improves filtration efficiency by reducing the generation of large wear particles.
- Increases equipment availability; extends component life.
- Provides long term protection for pumps, valves, motors, cylinders, seals, and hoses.

Product Manufactured in Canada
HydraSUM AwSUM Outcomes Inc.,
Manufactured to ISO 9001:2015
Revised 6.29.2022

HydraSUM

ADDITIVE PACKAGE OVERVIEW

Viscosity Index (VI) Improvers: Enhanced VI maintains lubricant flow and improves shear stability of the oil, especially at extreme temperatures.

Extreme Pressure/Anti Wear additives: Fluid strength increased to provide unequaled protection in high load, high friction conditions. Polarized film protects during start up conditions.

Pour Point Depressants: Reduces the pour point and improves flow at low temperatures.

Water Demulsifiers: Improves fluid's ability to separate from water, virtually eliminating hydraulic issues related to water.

Detergents and Dispersants: Maintains cleanliness and keeps contaminants in suspension.

Seal Conditioners: Reduces the long-term effects of heat exposure to elastomer seals, keeping seals pliable.

Oxidation Inhibitors and Acid Neutralizers: Enhanced alkaline reserve prevents oil breakdown during service life. Increased stability and performance of the basic lubricating components of the oil.

Rust and Corrosion Inhibitors: Protects against adverse effects of moisture and oil oxidation caused by free wear metals present in oil.

This carefully balanced formula is designed to complement and enhance the existing hydraulic oil formulations. HydraMaxx should be mixed with oil prior to adding to hydraulic oil reservoir. May be added to component directly when needed. TREAT RATIO 5% of oil volume. For extreme cold, higher concentrations may be used.

TYPICAL PROPERTIES	ASTM METHOD	HydraSUM	TYPICAL EFFECT ON HYDRAULIC OILS
Appearance		Clear, Light, Amber, Liquid	No Change
Viscosity @ 40°C (cSt)	D 445	76	No Change
Viscosity @ 100°C (cSt)	D 445	10	No Change
Density @ 20°C (g/ml)	D 941	0.982	No Change
Pour Point (°C)	D 97	-30	Decrease ~ 10
Flash Point COC (°C) D 92	D 92	185	No Change
Fire Point COC (°C)	D 92	195	No Change
Base Number TBN (mg KOH/g)	D 4739	1.5	Increase ~5%
Acid Number TAN (mg KOG/g)	D 664	0.5	Decrease ~15%
Solid Particles (Zinc, Lead, PTFE, Graphite, MoS2)		None	No Change
Rust Prevention	D 665	Pass	Pass
Copper Corrosion	D 130	1B	1B
Elastomer Compatibility (5% in ISO 32 paraffinic oil)			
Nitrile, Neoprene, Fluorocarbon	D 4289	Pass, Pass, Pass	Pass, Pass, Pass
Hydrolytic Stability (5% in ISO 32 paraffinic oil)			No Viscosity Change
Copper weight loss (mg/cm²)	D 2619		0.67
Copper appearance	D 2619		1B - 2B Shiny
Acid number change (mg KOH/g)	D 2619		0

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