



HYDRAULIC OIL ADDITIVE

HydraMaxx is specially designed for use in hydraulic systems, where piston, gear or vane pumps are used to circulate oil and transmit power. **HydraMaxx** is the first hydraulic oil treatment specifically designed to maintain maximum operating efficiency of your hydraulic system. This unique hydraulic system treatment from Power Up works with your existing oil to provide long term wear and corrosion protection for metal components and extend seal and hose life.

At low application rates, **HydraMaxx** provides a wear-reducing, protective film inside pumps and valves that helps to reduce operating temperatures and extend equipment life. **HydraMaxx** also improves the corrosion inhibiting properties and the low temperature flow properties of hydraulic oils to provide long-term protection in the most demanding applications.

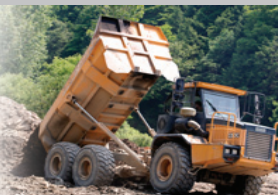
Primary Benefits of HydraMaxx:

HydraMaxx reduces friction within the boundary lubrication regime where metal-to-metal contact occurs, primarily in the pump, cylinder rod and control valve areas of the hydraulic system. Reducing friction lowers operating temperatures and improves component performance, efficiency and longevity.

Secondary Benefits of HydraMaxx:

- *Supplements protection against rust and corrosion*
- *Improves low temperature fluidity.*
- *Improves the oil's ability to demulsify (separate) water*
- *Emulsifies trace water to maintain a protective oil film that resists rupture.*
- *Improves the oil's ability to clean and disperse contaminants.*
- *Improves filtration efficiency by reducing the generation of large wear particles.*

**LOWERS
OPERATING
TEMPERATURES**



Viscosity - A 5% application of **HydraMaxx** in typical ISO 32, 46 and 68 hydraulic oils results in little or no change in the viscosity or viscosity index of the oil.

Boundary Lubrication Protection - **HydraMaxx** enhances the protection of your equipment and its components while they experience conditions of high friction and wear in the boundary lubrication regime. Lower friction provides users lower operating temperatures. Calculated estimates suggest that the use of **HydraMaxx** will extend equipment life up to 2.39 times by reducing wear up to 58%.



Inhibits Rust and Corrosion - **HydraMaxx** is formulated to provide excellent corrosion protection. This can be evaluated using the Copper Corrosion test, ASTM D130, and the Rust Prevention Characteristics test, ASTM D665. Paraffinic oils additized with 5% **HydraMaxx** display excellent copper corrosion ratings of 1b (slight tarnish) and easily pass the rusting characteristics requirements of ASTM D665.

Cold Weather Fluid Flow (Pour Point) - **HydraMaxx** imparts a positive influence to the pour point of most hydraulic oils. This benefit is evaluated using the ASTM method D97. Table 1 clearly shows the improvements in the pour points of hydraulic fluids additized with **HydraMaxx**, where the average pour point is lowered by up to 18°F (10°C).

Table 1 - Fluid Pour Point Data		
Fluid	Neat Oil	+5% Hydra Maxx
A ISO 22 ISO 32 ISO 68	-69°F (-56°C)	-76°F (-60°C)
	-44°F (-42°C)	-58°F (-50°C)
	-36°F (-38°C)	-51°F (-46°C)
B ISO 32 ISO 68 ISO 100	-4°F (-20°C)	-22°F (-30°C)
	-4°F (-20°C)	-20°F (-29°C)
	-6°F (-21°C)	-18°F (-28°C)
C ISO 32	-26°F (-32°C)	-44°F (-42°C)
D ISO 32	-31°F (-35°C)	-47°F (-44°C)
E ISO 32 (HVI 36)	-54°F (-48°C)	-67°F (-55°C)

Demulsibility - **HydraMaxx** improves an oil's ability to separate water. This benefit is evaluated using the ASTM method D1401. Table 2 clearly shows the improvements in demulsibility of hydraulic fluids additized with **HydraMaxx**.

Table 2 - ASTM D1401 Water Separability		
Fluid	Neat Oil	+5% Hydra Maxx
W	41-39-0 mL (15 min.)	42-38-0 mL (5 min.)
X	40-37-3 mL (25 min.)	40-38-2 mL (15 min.)
Y	41-39-0 mL (15 min.)	40-38-2 mL (5 min.)
Z	No Separation	40-37-3 mL (25 min.)

These results provide the volume of oil-water-emulsion phases (and the time required) for separation.

Call today for more information **1-800-897-6937**
or visit us online at **www.powerupusa.net**



PROVIDES LONG TERM PROTECTION FOR PUMPS, MOTORS, VALVES, CYLINDERS, SEALS AND HOSES

Typical Properties of HydraMaxx		
Property	Method	Result
Appearance		Clear, light amber liquid
Color	ASTM D1500	1.7
Viscosity @ 40°C (104°F) @ 100°C (212°F)	ASTM D445	42 cSt 6 cSt
Specific Gravity	ASTM D941	0.98 (H ₂ O=1)
Density @ 68°F (20°C)	ASTM D941	0.98 g/mL
Pour Point	ASTM D97	-22°F (-30°C)
Flash Point	ASTM D92	284°F (150°C)
Base Number	ASTM D4739	1.5 mg KOH/g
Acid Number	ASTM D664	0.5 mg KOH/g
Zinc and Lead Content		Nil
Colloidal Suspensions (Solid particles, PTFE, graphite, MoS ₂)		None

Test Data on HydraMaxx		
Property	Method	Result
Copper Strip Corrosion (130°C x 2 hours)	ASTM D130	1b
Rust Preventing Properties	ASTM D665	PASS
Elastomer Compatibility (5% in ISO 32 Paraffinic oil)	ASTM D4289 (Modified)	
• Nitrile		PASS
• Neoprene		PASS
• Fluorocarbon		PASS
Hydrolytic Stability (5% in ISO 32 Paraffinic oil)	ASTM D2619	
• Viscosity change		Negligible
• Copper weight loss		0.67 mg/cm ²
• Copper appearance		1b - 2b, shiny
• Acid number change		0 mg KOH/g

Special Notations on HydraMaxx	
Viscosity:	A 5% application of HydraMaxx in typical ISO 32, 46 and 68 hydraulic oils results in little or no change in viscosity or viscosity index of the oil.
Pour Point:	HydraMaxx imparts a positive influence to the pour point of most hydraulic oils. A typical ISO 32 oil with a pour point of -22°F (-30°C) improved to -36°F (-38°C) with the addition of 5% HydraMaxx.
Demulsibility:	HydraMaxx improves an oil's ability to separate water. A typical ISO 32 oil which normally requires 25 minutes for complete separation (using ASTM D1401) improved to only 15 minutes when 5% HydraMaxx was mixed with the oil.
Application:	HydraMaxx is recommended in hydraulic system applications where gear, piston and vane pumps are used to circulate oil and transmit power.

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"Before using Hydra Maxx in our automatic transmissions, we were going through 30 transmissions annually. Now with the addition of Hydra Maxx, we go through less than 5 transmissions per year. On top of that, we have now gone from 3000 to 6000 miles on an oil change and at our old oil change rate were were losing engines every year. Now I can't remember the last time we lost an engine."

John Heard, Caddo Parish Sheriffs Department - Shreveport, LA

Product Application:

HydraMaxx is recommended in all hydraulic circulating systems at a 3% ratio for ambient temperatures above 0°C (32°F) and a 5% ratio in operating conditions where the temperature may drop below 0°C (32°F). HydraMaxx is recommended for use with mineral oils and polyalphaolefin and diester based synthetic fluids. HydraMaxx is not recommended for use with water based fluids, phosphate esters or polyglycol fluids.

Power Up HydraMaxx Application Quick Reference Chart	
Component	Amount HydraMaxx to Add
Automatic Transmissions	1% (1/3 oz qt)
Power Steering Pumps	3-5% (1 oz / qt - 1.7 oz qt)
Hydrostatic Drives	3-5% (1 oz / qt - 1.7 oz qt)
Powershift Transmissions	3-5% (1 oz / qt - 1.7 oz qt)
Ag-Tractor TDH Systems	3-5% (1 oz / qt - 1.7 oz qt)
Hydraulic Systems	3-5% (1 oz / qt - 1.7 oz qt)
Compressors	3-5% (1 oz / qt - 1.7 oz qt)
Hydraulics/Compressors with Water Separator	3-5% (1 oz / qt - 1.7 oz qt)

HydraMaxx is available in the following convenient sizes:

- 1 Liter (35 oz.) Bottle
- 1 Gallon (128 oz.) Jug
- 20 Liter (5.5 Gallon / 700 oz.) Pail
- 205 Liter (56.05 Gallon / 7,175 oz.) Drum



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