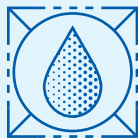




# CITGO<sup>®</sup> HyDurance<sup>®</sup> AW

## All Temp Fluids

### OVERVIEW



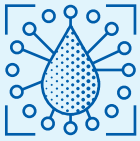
- Superior, high viscosity index, anti-wear hydraulic and circulating oils formulated to provide excellent service in high-pressure, high-output industrial hydraulic circuits over wide temperature ranges.
- Chemically stable with outstanding resistance to sludge formation. Excellent anti-wear protection and filterability.

### FEATURES & BENEFITS



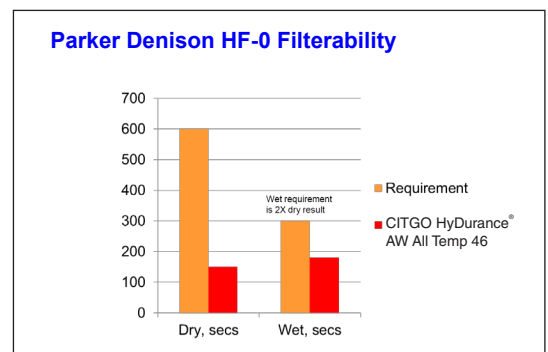
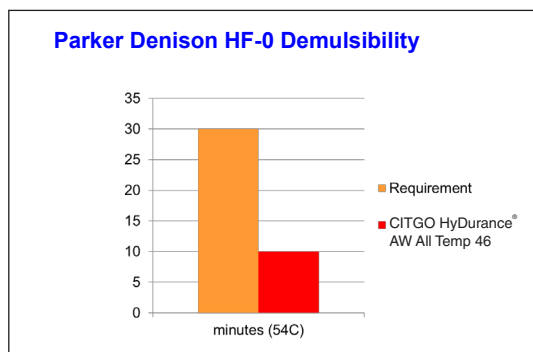
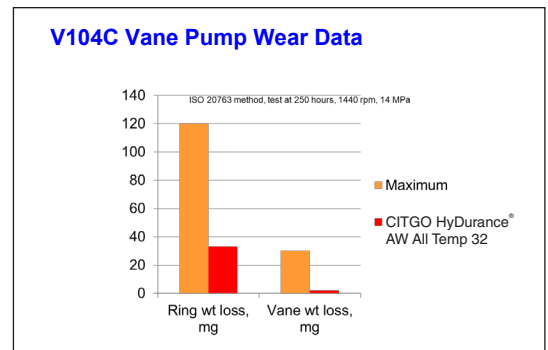
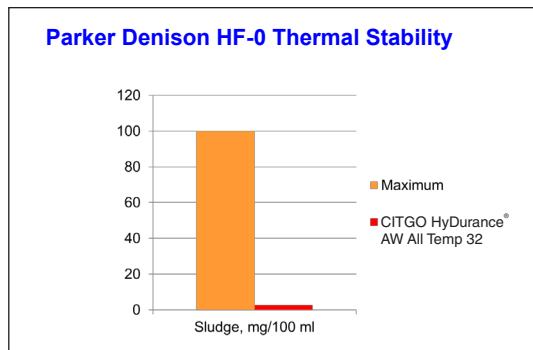
- Formulated with high-quality base stocks and premium additive components.
- Thermal stability for superior resistance to heat-related sludging in sensitive electro-hydraulic servos.
- Good hydrolytic stability means they will not contribute to the formation of metal-etching acids or corrosive reactants.
- Inhibited against rusting in both fresh and sea water, passing both A and B Procedures of the ASTM D665 Rust Test.
- Excellent anti-wear protection to pumps, motors, valves, and other hydraulic circuit components. Approved against stringent equipment performance requirements.
- Resistant to foaming and will not foster abnormal air entrainment in properly designed hydraulic circuits.
- Superior demulsibility to readily separate water, permitting draining of contaminating water from circulating systems.
- Premium performance in wet and dry filterability testing.

**APPLICATIONS**

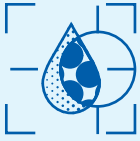


- Recommended for service in industrial and mobile hydraulic systems when used in accordance with equipment manufacturers' recommendations.
- Designed to provide maximum service life to vane, piston, and gear pumps as well as other circuit components such as motors and servos.
- Recommended for use as a gear and bearing lubricant in industrial applications where rust- and oxidation-inhibited oils are required.
- CITGO HyDurance AW All Temp 32 Fluid is a special multi-grade anti-wear fluid meeting FMC Hi-Performance Hydraulic Oil Grade 32 requirements.
- CITGO HyDurance AW All Temp Fluids 32 and 46 offer excellent low temperature pumpability and are recommended for use in mobile and other hydraulic equipment in heavy duty all-weather service.
- Recommended for equipment requiring the following specifications:
 

ASTM D6158 HM	Parker Denison HF-0
SO 11158 HV	JCMAS HK P041
DIN 51524-3 HVLP	US Steel 126, 127, 136
General Motors LS-4	SEB 181 222
Eaton Brochure 03-401-2010	Bosch Rexroth RDE-90235



## PROPERTIES



## Typical Properties for CITGO HyDurance AW Fluids:

Grade	32 <sup>(1)</sup>	46	68
Material Code	633621001	633622001	633620001
ISO VG. No.	32	46	68
Gravity, ASTM D4052, °API	33.4	32.3	30.9
Density, lb/gal	7.15	7.20	7.26
Flash Point, ASTM D92, COC, °F (°C)	385 (196)	423 (217)	399 (204)
Viscosity			
cP at -40°C <sup>(1)</sup>	13,900	39,770	—
cP at -35°C <sup>(1)</sup>	7,200	18,400	59,500
cP at -20°C <sup>(1)</sup>	—	2,424	4,660
cSt at 40°C	31.2	46.9	68
cSt at 100°C	6.31	8.1	10.8
Viscosity Index	159	147	149
FZG (A/8.3/90), pass load, ISO 14635-1	12	12	12
Pour Point, ASTM D97, °F (°C)	-54 (-48)	-49 (-45)	-44 (-42)
Color, ASTM D1500	L1.0	L1.0	L1.0
Water Separability, ASTM D1401	40-40-0	40-40-0 (15)	40-40-0 (15)
Oxidation Test, ASTM D943, Hrs.	4800	>4800	4800
Rust Test ASTM D665 A, B <sup>(3)</sup>	Pass	Pass	Pass

**Notes:** (1) Meets FMC Hi-Performance, Hydraulic Oil, Grade 32 requirements.

(2) ASTM D2893 Brookfield Viscosity.

(3) Pass - No Rust.

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