



# MAKER HYDRAULIC SC

## Description

Top quality oils for hydraulic circuits. Manufactured from paraffinic bases using ashless technology. They include special additives for hydraulic systems with extremely fine tolerance servo-valves where an excellent filterability in the hydraulic fluid is required.

## Properties

- High resistance to ageing and sludge formation.
- High viscosity index.
- Excellent EP properties.
- Very easy water separation.
- High capacity to eliminate air.
- Excellent filterability.
- Excellent anti-foam properties.
- Good anti-rust and anti-corrosion capacity.
- Compatible with joints and elastomers.

## Quality levels, approvals and recommendations

- ARBURG\* (ISO 46)
  - MANULI: Hydraulics\* (ISO 46)
  - AFNOR: NFE 48603-HM (ISO 32, ISO 46, ISO 68)
  - FIVES CINCINNATI: P-68 (ISO 32)
  - FIVES CINCINNATI: P-70 (ISO 46)
  - PARKER DENISON: HF0, HF1, HF2 (ISO 32, ISO 46, ISO 68)
  - KRAUSS-MAFFEI: Hydraulic Oil\* (ISO 46, ISO 68)
  - SIEMENS: zinc free hydraulic oils HLP 46\* (ISO 46)
  - DIN: 51524-HLP (ISO 32, ISO 46, ISO 68)
  - FIVES CINCINNATI: P-69 (ISO 68)
  - ISO: 6743/4 HM, 11158 HM (ISO 32, ISO 46, ISO 68)
- \*Formal approval



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## Technical specifications

	UNIT	METHOD	VALUE			
ISO Viscosity Grade			20	32	46	68
Viscosity at 40 °C	cSt	ASTM D445	20	32	46	68
Viscosity at 100 °C	cSt	ASTM D445	4.1	5.1	6.6	8.7
Viscosity index	-	ASTM D2270	106	100	98	98
Flash point, open cup	°C	ASTM D92	195	226	231	246
Pour point	°C	ASTM D97	-33	-27	-27	-24
Water separability at 54 °C	min	ASTM D1401	20	20	20	20
Corrosion Cu, 3hrs 100 °C	-	ASTM D130	1	1	1	1
Rust resistance, method A	-	ASTM D665	Pass	Pass	Pass	Pass
TAN	mg KOH/g	ASTM D974	0.60	0.26	0.26	0.26
Air release at 50 °C	min	ASTM D3427	2	2	3	6
Oxidation (TAN = 2)	h	ASTM D943	>2,000	>2,000	>2,000	>2,000
FZG, damage stage	-	DIN 51583	11	11	11	11
Four ball wear, scar diameter (1h, 40 kg, 75 °C)	mm	ASTM D4172	-	0.35	0.30	0.30
Four-ball engine, wear load index	-	ASTM D2783	-	28	34	35

The above mentioned characteristics are typical values and should not be considered product specifications.