



# CITGO® Pacemaker® Oils

## OVERVIEW



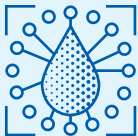
- Rust- and oxidation-inhibited (R&O) general purpose lubricants manufactured with high viscosity index base stocks.
- Contain antifoam additives and readily separate from water.

## FEATURES & BENEFITS



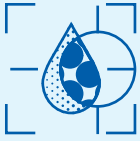
- Made from high-quality, paraffinic base stocks.
- High viscosity index imparts superior temperature-viscosity characteristics.
- Low carbon-forming tendency and excellent resistance to oxidation, rusting, and foaming ensure long service life in closed circulating systems.

## APPLICATIONS



- Appropriate viscosity grade Pacemaker oils can be used as:
  - Air line oil
  - Circulating oil
  - Gear oil
  - Compressor oil
  - Rust- and oxidation-inhibited (R&O) oil
  - Low pressure hydraulic oil
  - Non-detergent oil

**PROPERTIES**



**Typical Properties for CITGO Pacemaker Oils:**

Grade	19	32	46	68	100	150	220	320	460
Material Code	633013001	633001001	633002001	633003001	633006001	633008001	633009001	633010001	633012001
Gravity, ASTM D4052, °API	34.3	32.6	31.5	31.0	30.3	29.5	28.2	27.0	26.5
Pounds Per Gallon	7.11	7.18	7.23	7.26	7.28	7.32	7.37	7.43	7.46
Flash Point, ASTM D92, °F (°C)	395 (202)	395 (202)	395 (202)	442 (228)	442 (228)	442 (228)	442 (228)	442 (228)	579 (304)
Viscosity, ASTM D445									
cSt at 40°C	22	32	45	68	100	150	220	320	456
cSt at 100°C	4.55	5.2	6.7	8.3	10.5	16.5	18.2	23.6	30.1
Viscosity Index ASTM D2270	102	110	103	104	102	98	98	96	95
Pour Point, ASTM D97, °F (°C)	-22 (-30)	-33 (-36)	-22 (-30)	-27 (-33)	-22 (-30)	0 (-18)	0 (-18)	0 (-18)	10 (-12)
Color, ASTM D1500	L0.5	L0.5	L0.5	L0.5	L1.0	L5.0	L5.0	L5.5	L5.5
Neutralization No. ASTM D974	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	
Rust Test ASTM D665	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Cincinnati Lamb Requirement	P-45	P-38	P-55	P-54	—	P-57	—	—	—
ISO VG No.	22	32	46	68	100	150	220	320	460
AGMA Grade	—	—	1	2	3	4	5	6	7

**Notes:** (1) Procedure A (distilled water) and Procedure B (synthetic sea water) - 24 hrs  
 (2) Procedure A (distilled water)

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