



CITGO® Pacemaker® Oils

OVERVIEW



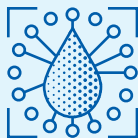
- Rust- and oxidation-inhibited (R&O) general purpose lubricants manufactured with high viscosity index base stocks.
- Contain antifoam additives and readily separate from water.

FEATURES & BENEFITS



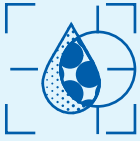
- Made from high-quality, paraffinic base stocks.
- High viscosity index imparts superior temperature-viscosity characteristics.
- Low carbon-forming tendency and excellent resistance to oxidation, rusting, and foaming ensure long service life in closed circulating systems.

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
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)

CITGO and Pacemaker are registered trademarks of CITGO Petroleum Corporation. Viton is a registered trademark of DuPont Dow Elastomers. Teflon is a registered trademark of DuPont. Values shown are typical values only and do not constitute a specification. The information contained herein is subject to change without notice.