



CITGO PACEMAKER® HV OILS

Date 1/09

DESCRIPTION: CITGO Pacemaker HV Oils are high quality, high boiling range, low vapor pressure, petroleum-based fluids. These oils are designed especially for use in high vacuum, vacuum pump applications where a mineral-type high quality vacuum pump oil is required.

QUALITIES: CITGO Pacemaker HV Oils have high initial boiling points and low vapor pressures. They are produced with special processes and quality assurance procedures to ensure proper vacuum pump performance.

These products have inherently high oxidation resistance and thermal stability and low chemical reactivity.

Special product handling assures very low moisture and volatiles contamination which could adversely affect vapor pressure characteristics. Care should be taken to keep containers of CITGO Pacemaker HV Oils tightly sealed and stored in areas that do not have wide variations in temperature.

APPLICATIONS: CITGO Pacemaker HV-32 is designed for direct drive vacuum pumps such as WELCH, PRECISION, LEYBOLD-HERAEUS, EDWARDS and ALCATEL where lower viscosity vacuum pump oil is required to prevent heat build-up, provide high ultimate vacuum, and handle high vacuum pump speeds.

Pacemaker HV-68 is designed for belt driven vacuum pumps such as WELCH and CENCO.

TYPICAL PROPERTIES:**CITGO PACEMAKER® HV OILS**

Grade	HV-32	HV-68
Material Code	634103001	634105001
ISO VG No.	32	68
Gravity, ASTM D 4052, °API	0.864	0.880
Density, lb/gal at 60°F	7.20	7.327
Flash Point, COC, ASTM D 92, °F (°C).	435 (224)	465 (241)
Fire Point, ASTM D 92, °F (°C)	419 (215)	500 (260)
Viscosity, ASTM D 445, cSt at 40°C	29.3	65.2
cSt at 100°C	5.1	8.4
ASTM D 2161, SUS at 100°F	151	338
SUS at 210°F	43	54
Viscosity Index, ASTM D 2270	102	92
Pour Point, ASTM D 97, °F(°C), Max.	+5 (-15)	+10 (-12)
Color, Max., ASTM D 1500	L1.0	L2.5
Neutralization No., ASTM D 974, mg KOH/ml	<0.05	<0.05
Copper Corrosion, ASTM D 130, 3 hours at 100°C	1A	1A
Carbon Residue, ASTM D 4530, wt, %	<0.01	<0.02
Vapor Pressure, ASTM D 5190, Torr. @ 100°F (37°C)	0.00012	0.00065