

Compressor Oil

AMSOIL ISO 46 100% SYNTHETIC COMPRESSOR OIL

Product Code: PCIQT-EA

Extend compressor life and cut maintenance with this synthetic oil--resists varnish, reduces wear, and lasts up to 8,000 hours.



Product Description

AMSOIL PC Series ISO 46 Synthetic Compressor Oil delivers extended drain intervals up to 8,000 hours and measurably lower oil consumption in rotary screw, rotary vane, centrifugal and reciprocating compressors. It is built on thermally stable synthetic base oils with non-detergent additive technology designed specifically for the demands of continuous-duty compressed air systems.

Compressors run hot, often with oil discharge temperatures at or above 200 degF for thousands of hours at a stretch. At those temperatures, conventional petroleum oils break down quickly, forming varnish on valve plates and internal passages, thickening from oxidation and losing the ability to separate from water. The result is increased energy consumption, unplanned downtime and shortened compressor life. A synthetic compressor oil formulated for this environment is not an upgrade. It is the baseline for reliable operation.

SUPERIOR VARNISH RESISTANCE

Varnish buildup restricts oil flow, fouls valves and degrades compressor efficiency over time. In a head-to-head test against a leading competitor's ISO 46 synthetic compressor oil, both products were run in industrial rotary screw compressors at a 200 degF oil discharge temperature and evaluated using the Membrane Patch Colorimetry Test (ASTM D7843). The competitor oil reached critical varnish potential after just 6,228 hours. AMSOIL PC Series ISO 46 maintained ultra-low varnish potential through the full 8,000-hour test period. That difference can mean the gap between a scheduled oil change and an unscheduled teardown.

REDUCED OIL CONSUMPTION

Frequent top-offs waste oil and labor hours. In the same 8,000-hour rotary screw compressor comparison, AMSOIL PC Series ISO 46 required 35% less top-off oil than the leading competitor synthetic. The oil's excellent foam resistance and air-release properties help keep oil where it belongs, in the compressor, rather than being carried out with the discharge air.

CONTROLS FOAM AND REDUCES WEAR

Foam in a compressor oil accelerates oxidation and heat buildup while starving bearing surfaces of lubrication. AMSOIL PC Series ISO 46 is formulated with anti-foam additives and produces 0/0 foam tendency and stability across all three sequences of ASTM D892 testing. It is also anti-wear fortified, recording a 0.42mm wear scar in Four-Ball Wear testing (ASTM D4172, 40 kg, 1200 rpm, 75 degC, 1 hour). Many competing compressor oils omit anti-wear additives entirely.

RESISTS WATER CONTAMINATION

Condensation is unavoidable in compressor systems, and water that emulsifies with the oil promotes rust, corrosion and acid formation. AMSOIL PC Series ISO 46 separates cleanly from water in just 10 minutes in ASTM D1401 demulsibility testing (40/40/0 at 10 minutes). It passes both fresh water and synthetic sea water rust testing per ASTM D665 A and B, and its hydrolytic stability

resists acid formation even in the presence of moisture. Water can be drained from the sump without pulling usable oil with it.

HIGH FLASH POINT AND SAFETY

Carbon deposits inside a compressor discharge system can create ignition-promoting hot spots. AMSOIL PC Series ISO 46 is an ashless formulation with a flash point of 500 degF and a fire point of 550 degF (ASTM D92). Its very low carbon-forming tendencies reduce the risk of deposit-related ignition events. While it provides improved fire safety over petroleum compressor oils, it is not classified as fire-resistant.

SPECIFICATIONS AND COMPATIBILITY

AMSOIL PC Series ISO 46 (PCI) meets ISO VG 46 viscosity requirements and is compatible with PAO-based, ester-based and petroleum-based compressor oils. It is compatible with common compressor seal materials including fluoroelastomer (Viton), nitrile (Buna N), polyacrylate, TFE/P and polyurethane. It is also compatible with epoxy, oil-resistant alkyd and acrylic enamel paints, as well as a wide range of plastics including PTFE (Teflon), Delrin, ABS, phenolic, nylon and polyester. It is not compatible with polyalkylene glycol or silicone-based oils. Not recommended for breathing air compressors, refrigeration compressors, or use with polycarbonate plastic that is not metal-covered, PVC plastic, or butyl, ethylene-propylene and SBR rubber.

SERVICE LIFE

In rotary compressor applications (screw, vane, centrifugal), drain intervals of up to 8,000 hours can be expected at discharge temperatures up to 200 degF under normal operating conditions. Drain intervals are subject to operating conditions and maintenance practices. Oil analysis monitoring is recommended. For best results when converting from another oil, flush the compressor system, remove any existing carbon deposits per the manufacturer's guidelines and change all filters before installing PC Series Oil.

Technical Specifications

Property	ISO 46 (PCI)	Test Method
ISO VG	46	ASTM D2422
Kinematic Viscosity @ 100 degC	7.3 cSt	ASTM D445
Kinematic Viscosity @ 40 degC	43.0 cSt	ASTM D445
Viscosity Index	132	ASTM D2270
Specific Gravity	0.8529	ASTM D1298
Density (lbs/gal)	7.1	ASTM D1298
Flash Point degC (degF)	260 (500)	ASTM D92
Fire Point degC (degF)	288 (550)	ASTM D92
Pour Point degC (degF)	-38 (-36)	ASTM D97
Four-Ball Wear Test (40 kg, 1200 rpm, 75 degC, 1 hr.)	0.42 mm	ASTM D4172
Copper Strip Corrosion	1A	ASTM D130
Rust Test (Fresh and Synthetic Sea Water)	Pass	ASTM D665 A & B
Foam (Sequence I, II, III)	0/0, 10/0, 0/0	ASTM D892
Demulsibility (oil/water/cuff, minutes)	40/40/0 (10)	ASTM D1401

Frequently Asked Questions

Q1: What types of compressors and equipment is AMSOIL ISO 46 100% Synthetic Compressor Oil designed for?

AMSOIL ISO 46 PC Series Synthetic Compressor Oil is recommended for use in single and multistage rotary screw, vane, centrifugal, and reciprocating compressor crankcases and cylinders. It is also suitable for vacuum pumps, pressure washer pumps, gears, bearings, blowers, and pumps. However, it is not recommended for breathing air compressors or refrigeration compressors.

Q2: How does AMSOIL ISO 46 Synthetic Compressor Oil help improve compressor efficiency and reduce wear?

AMSOIL ISO 46 PC Series Oil has low friction properties and resists viscosity increase from oxidation, which helps improve operating efficiency over time. Unlike some competing compressor oils, it is anti-wear fortified and contains anti-foam additives. Good foam control reduces heat, oxidation, and wear, protecting high-contact regions for increased compressor life and lower maintenance costs.

Q3: What makes AMSOIL ISO 46 Synthetic Compressor Oil safer than petroleum compressor oils in high-temperature applications?

AMSOIL ISO 46 PC Series Oil is an ashless, high-flash-point formulation with very low carbon-forming tendencies. This minimizes the incidence of ignition-promoting "hot spots" that can form inside compressors during high-temperature operation. It combines premium synthetic base oils with specialized anti-oxidant additives to resist varnish, carbon, and acid formation. While it provides improved fire safety compared to petroleum oils, it cannot be considered non-flammable.

Q4: How does AMSOIL ISO 46 Synthetic Compressor Oil compare to conventional petroleum compressor oils?

AMSOIL ISO 46 PC Series Oil is formulated to protect compressors better and last significantly longer in service than petroleum oils, especially during hot operating conditions. It lasts up to 8,000 hours compared to much shorter intervals typical of petroleum compressor oils, effectively reducing maintenance and waste oil disposal costs. Customer reviews consistently note that compressors run notably cooler with AMSOIL PC Series Oil, particularly during long run times.

Q5: How long can I go between oil changes with AMSOIL ISO 46 Synthetic Compressor Oil?

AMSOIL ISO 46 PC Series Synthetic Compressor Oil can last up to 8,000 hours or more under normal compressor operation. Drain intervals are subject to operating conditions and maintenance practices, and monitoring by oil analysis is recommended. For best performance when converting to AMSOIL PC Series Oil, flush the compressor of the old oil, change all filters, and remove any carbon deposits on internal components following the compressor manufacturer's recommendations.

Q6: Is AMSOIL ISO 46 Synthetic Compressor Oil compatible with other oils, seals, and gases used in compressor systems?

AMSOIL ISO 46 PC Series Synthetic Compressor Oil is compatible with petroleum oils and most synthetic oils, seals, paints, and materials. It is compatible with a wide range of gases including nitrogen, hydrogen, natural gas, propane, carbon dioxide (dry), and many others. It works with elastomers like Viton, Nitrile (Buna N), and PTFE (Teflon). However, it is not compatible with polyalkylene glycol or silicone oils, and it should not be used with polycarbonate plastic that is not metal covered, PVC plastic, or butyl, ethylene-propylene, or SBR rubber.

Available Product Codes

Product Code	Package Size	Unit of Measure
PCIQT-EA	Quart Bottle	Each
PCIQT-CA	Quart Bottle	Case of 12
PCI05-EA	5 Gallon Pail	Each
PCI55-EA	55 Gallon Drum	Each

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