

OL10

Engineering Data

Bore:	3.54"&3.54"&3.54"	Max PSIG:	125	Aircooled Aftercooler CTD:	10° F
Stroke:	2.6"	Max RPM:	1175	(Package performance)	
Inlet Size:	0.75" NPT	Sheave OD:	18	Number of Belts:	2
Discharge Size:	0.75" NPT	Sheave PD:	17.75	Belt Section:	A

Performance*							Nameplate Amp Ratings							
Bare	Motor HP	PSI	RPM	PD	ACFM	BHP								
OL10	10	50	1175	52.2	36.7	8.7	10HP	200-3-60	230-1-60	230-3-60	460-3-60	575-3-60		
OL10	10	100	1175	52.2	32.0	10.3		30.6	26.6	13.3	10.6			
OL10	10	125	1175	52.2	30.2	11.1								
Duplex units multiply capacity by two.							Dba Sound Level (**)							
							84.0							
* Above ratings in accordance with CAGI/Pneurop acceptance test codes PN2CPTC1 and PN2CPTC2							**Sound levels based on CAGI/Pneurop PN8NTC2.3 test codes							

Basic Design

The Ingersoll-Rand OL10 Oilless air compressor is single stage, 125 psi maximum, continuous duty designed to produce 100% oilfree air. It's basic construction is as follows:

Bare Pump Detailed Specifications

FRAME—Completely cast iron with cylinders bolted directly to the frame. Frame is primed throughout to prevent corrosion. No oil is used inside frame.

CRANKSHAFT—Large diameter ductile iron crankshaft with oversized, permanently sealed ball bearings, located on the front and rear, support crankshaft in the frame. Entire shaft is balanced with integral counterweight to insure smooth operation.

CONNECTING RODS—Single piece aluminum connecting rods with sealed needle bearings on piston pin end and sealed ball bearings on crankshaft end require no maintenance or adjustment and provide smooth operation for reliable, long life.

PISTONS, RINGS & Rider Bands— Aluminum pistons with two (2) compression rings and two (2) rider bands. Rings and rider bands are made of Teflon®. A unique thermal insulator prevents transferring the heat of compression from the piston to the piston pin bearing.

CYLINDERS—Anodized aluminum cylinders are supplied with a mirror surface finish. This increases ring life to 6000 hours in constant duty operation.

Dual Cooling—Cast iron flywheel directs a high volume of cooling air across the frame and cylinders. Squirrel cage fan mounted on front of crankshaft directs air across heads to provide additional cooling for valves. Dual cooling enables the Ingersoll-Rand Oilless Series to run in continuous duty applications.

VALVES—Aluminum heads are mounted on top of efficient stainless steel strip valves. These patented valves offer long life (8000 hours) and do not require any lubrication.

LUBRICATION—None required. The Ingersoll-Rand Oilless Series is 100% oilfree.

INLET FILTERS—The filters have a durable canister with a dry type 4 micron inlet filter/silencer as standard.

Simplex Detailed Specifications

BASEPLATE MOUNTED—Oilless compressor is aligned with motor on a heavy steel baseplate. A silencer pad between compressor and baseplate minimizes noise.

RECEIVER MOUNTED—Unit is mounted on an ASME, National Board coded receiver and includes discharge check valve, pressure gauge, automatic drain valve, service valve and relief valve.

DRIVE—V-belt drive provides quiet, smooth and simple operation. A slotted base allows for easy adjustment of belt slack. A totally enclosed wire belt guard is provided as standard.

MOTOR—Standard AC motors are 1800 rpm, NEMA T frame with open drip-proof enclosure, Class B insulation, 1.15 Service Factor, and grease lubricated ball bearings. Three phase available in 200, 230, 460 or 575 volt.

STARTER—Units are provided with UL and CSA approved NEMA 1, full voltage starter complete with on/off switch, hourmeter and control voltage transformer with a fused control circuit which complies with National Electric Code. Starters also contain thermal relays to protect the motor from harmful currents and resultant temperature rises caused by low line voltage, stalled rotor or overloaded motor.

CONTROLS—Units are equipped for automatic start and stop operation with NEMA 1 unloading pressure switch.

AFTERCooler—A fan mounted on the motor provides cooling air to an aircooled aftercooler. This lowers discharge temperature into the receiver to within 10°F of ambient air. Protection from over pressurization is provided with an ASME, National Board approved relief valve.

AUTOMATIC DRAIN VALVE (ADV)—An automatic drain valve is furnished to provide automatic drainage of condensate (not included on baseplate mounted units).

Duplex Detailed Specifications

RECEIVER MOUNTED—The duplex unit includes two bare compressors with two motors mounted on a single receiver. Each compressor/motor configuration is designed to operate as an independent unit. Drive, motor and controls are same as simplex units. An aftercooler is provided for each compressor motor configuration and an auto drain valve is furnished to drain condensate from receiver tank.

COMBINATION ALTERNATOR—A Nema 1 combination alternator panel is furnished to enable both compression units to operate basis system demand. Mounted panel includes two (2) motor starters with thermal overload relays, a control relay for alternation to insure equal wear and provide back-up air, two (2) on/off switches and two (2) hourmeters. Additional safety features include two (2) fused disconnect switches with door interlock, two (2) 120V control transformers, and two (2) reset buttons. Panel is UL and CSA approved.

DUAL CONTROL—Units will be equipped with both constant speed control and automatic start and stop with a solenoid valve for unloading.

HIGH AIR TEMPERATURE SHUTDOWN—This system senses the temperature in the cylinder head discharge connection. HATS are mounted on each of the cylinder heads and wired to the starter. HATS protects the compressor and all of its components against the damage due to high discharge air temperature (Simplex and Duplex units).

NFPA-99 Duplex Package

DUPLEX RECEIVER COMPRESSOR MODULE—This duplex oilless compressor module is designed in accordance with NFPA-99 (2002 Edition) for a Level 1 Medical Air Compressor System to the following scope: (2) oilless air cooled air compressors with high air temperature shutdown sensor for each compression cylinder discharge, (1) inlet air manifold and (4) micron inline air filters for each compressor, (2) full voltage open drip-proof motors, (2) air cooled aftercoolers, moisture separator and timed auto condensate drain and unload valve, (2) control pressure switches, (1) epoxy coated

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TPT style ASME air receiver with two valve full port by-pass system, (1) electric and manual receiver drain valve, (1) receiver liquid sight gauge to show any moisture in receiver, compression isolation and check valves, stainless steel discharge tubing and fittings along with brass and copper pipe, fittings and valves.

MOUNTED DUPLEX COMBINATION ALTERNATOR/DUPLEXING CONTROL PANEL—The panel includes mounted and wired NEMA 12 enclosure, common power terminals, (2) RK5 fusible disconnects, (2) DOL starters, (2) 120 volt control transformers and control circuit fusing, (1) alternating relay, condensate drain timer, auto start and stop control, (2) hand-off-auto selector switch (spring return from hand to off), (2) hourmeters, (2) run lights, (2) high air temperature shutdown and (1) lag compressor run alarm package with light, (1) N.O. and 1 N.C. dry contacts, horn and silence/reset button. Package will require one point electrical connection, one point compressed air connection and condensate drain connections.

OPTIONAL INSTALLATION KIT— Installation kits contains (2) inlet flexible stainless steel hose for inlet manifold, discharge flexible stainless steel hose from service valve to system and (4) vibration pads for receiver feet.

NOTES—Maximum discharge pressure is 125 PSIG. Oilless products ordered for NFPA-99 applications meet or exceed the current NFPA-99 specification (2002 edition) unless otherwise noted. The healthcare module is just one component of a complete medical air system. The customer/installer has the responsibility for providing the air compressor remote air inlet system as well as downstream filters, dryers and monitors in accordance with the NFPA-99 Section 5.1.3.5.13 (2002 Edition). Upon completion of installation of the NFPA-99 equipment, facility system and compressor piping must be cleaned to meet NFPA-99 Section 5.1.3.5.3.2(6) (2002 Edition) requirements which states "Piping between the compressor and the source shutoff valve compatible with oxygen, that does not contribute to contaminant levels and is cleaned for oxygen service." Minimum diameter of the remote inlet piping shall match the inlet manifold connection size at the compressor. Remote piping must be increased one pipe size for every 25' of run-length. For example, if the remote inlet pipe is 100' long, it's diameter should be four diameters larger than the compressor connection point. Undersizing the remote air inlet pipe will reduce the compressor's performance, can overheat the compressor and can cause catastrophic compressor failure not covered under warranty. Occasionally a particular remote inlet system can create harmful acoustical resonance resulting in compressor damage. One symptom of this problem is premature valve failure. "Volume Bottles" are used to protect the compressor from this acoustical resonance. Consult your IR representative for more details. System dryers, separators and system alarms other than High Temperature and Lag Unit Run are not provided in this scope of supply.