Industrial Systems-Light
Davidson, NC 28036

OL25

Ref: 9823.00
Sheet: 110
Date: 31 July 2003
Cancels: 15 Sept 1998

Engineering Data

Bore:	5.24"&5.24"&5.24"&5.24"	**Min/Max PSIG:**	90/125	**Aircooled Aftercooler CTD:**	15° F
Stroke:	2.83"	**Max RPM:**	1100	(Package performance)	
Inlet Size:	1.5" NPT	**Sheave OD:**	15.53	**Number of Belts:**	2
Discharge Size:	1" NPT	**Sheave PD:**	15.18	**Belt Section:**	B

Performance*

Bare	Motor HP	PSI	RPM	PD	ACFM	BHP
OL25	25	100	1100	116.8	93.0	25.0
OL25	25	125	1100	116.8	92.2	27.3

* Above ratings in accordance w ith CAGI/Pneurop acceptance test codes PN2CPTC1 and PN2CPTC2

Nameplate Amp Ratings

	200-3-60	230-3-60	460-3-60	575-3-60		
25HP	78.4	59	29.5	23.8		
1/4HP	1.3	1.3	0.65	0.53		

Dba Sound Level (**)

85 (25HP)

**Sound levels based on CAGI/Pneurop PN8NTC2.3 test codes

Basic Design

The Ingersoll-Rand OL25 Oilless air compressor is single stage, 125 psi maximum, continuous duty designed to produce 100% oilfree air. Its 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 cast iron 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— Aluminium pistons with one (1) compression ring and two (2) rider bands on first stage and three (3) compression rings and two (2) rider bands on second stage. 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.
COOLING—A high efficiency fan, which is a direct drive off of the compressor crankshaft and is inline with the cylinders, directs a high volume of cooling air around the cylinders and over the heads. This highly effective method of cooling enables this Ingersoll-Rand Oilless compressor to run in continuous duty applications. Radiator-style intercooler assembly is mounted in front of the fan.
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.

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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.
DRIVE—V-belt drive provides quiet, smooth and simple operation. A slotted base allows for easy adjustment of belt slack. A totally enclosed 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 a solenoid valve for unloading.
AFTERCOOLER— The aircooled aftercooler lowers discharge temperature into the receiver to within 15°F of ambient air. It utilizes a 1/4 HP motor, which will be supplied with same voltage supplied with the package voltage (standard AC motors are 1725 RPM, NEMA size 48 frame with TEFC enclosure, Class B insulation, 1.35 service factor and grease lubricated ball bearings). Protection from over pressurization is provided with an ASME, National Board approved relief valve.

NFPA-99 Baseplate Package

COMPRESSOR UNIT—Two (2) baseplate two-stage oilless compressors are required and each designed in accordance with NFPA-99 (2002 Edition) for a Level 1 Medical Air Compressor System to the following scope: Each baseplate will be supplied with air cooled oilless air compressor with high air temperature shut down sensor for each compression cylinder, inlet air manifold and 4 micron inline air filters, full voltage open drip-proof motor, air cooled aftercooler with dedicated fan motor, moisture separator and timed auto condensate drain and unload valve. The 240-gallon receiver will be epoxy coated vertical style ASME air receiver with two valve full port bypass system, control pressure switches, receiver gauge and relief valve, system gauge and relief valve, receiver liquid sight gauge to show any moisture in the receiver, brass and copper pipe, fittings and valves. The receiver tank is “shipped loose” for field mounting and piping.
DUPLEX COMBINATION ALTERNATOR/DUPLEXING CONTROL PANEL—The panel is a NEMA 12 enclosure shipped loose” for wall mounting, common power terminals, (2) RK5 fusible disconnects, (2) DOL starters, (2) 120 volt control transformers, (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 (1) lag compressor run alarm package with light, (1) N.O. and (1) N.C. dry contacts, horn and silence/reset button.
OPTIONAL INSTALLATION KIT— Installation kits contains an inlet flexible stainless steel hose for inlet manifold, discharge flexible stainless steel hose from compressor discharge port to system receiver and (4) vibration pads for mounting of the baseplate package.

NOTES—The OL25 NFPA-99 package will be shipped as four items – (2) OL25X25 baseplate units, (1) 240 gallon vertical receiver and (1) combination alternator panel. No interconnecting piping, tubing or wiring assemblies will be supplied with the OL25 NFPA-99 model.

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 containant 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. 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.