



2534-A Shell Road

Georgetown, TX 78628

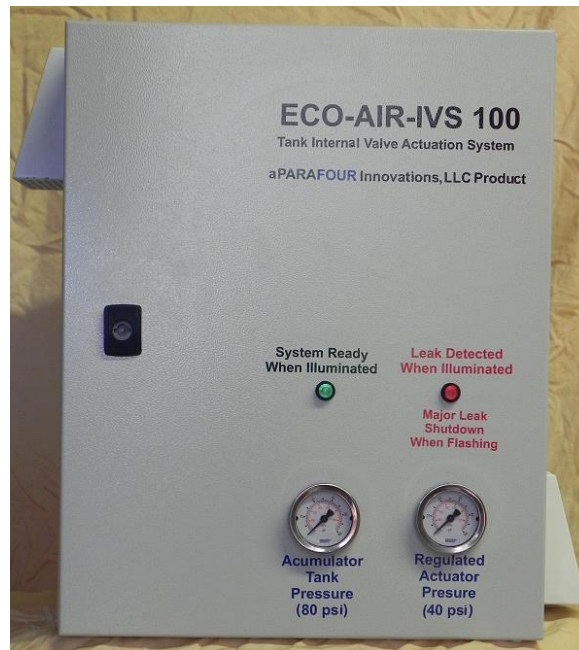
www.parafour.com 512-626-4099

Operators Manual

ECO-AIR-IVS

Internal Valve Actuation System

Ver 1.0



Warnings:

!! This device is electrically operated and should only be installed by a qualified and competent electrician

!! Improper handling, installation and operation may result in electrical shock and injury

!! This device operates under pressure. Risk of pressure related injury is possible if improperly handled, installed or operated

!! This unit must be installed OUTSIDE of the Class 1, Division 1 & 2 area

Specifications:

Enclosure – NEMA 4/12, weather and rain seal. Suitable for exterior mounting. Installer must seal mounting points and unused openings.

Dimensions: Length 16", Width 10.5", Height 20"

Power – 120vac, 60 Hz. 6 amp protected circuit, panel mounted breaker

Compressor – 100psi maximum output, 1.5 scfm at 80 psi. 100% duty cycle, oil free and maintenance free with automatic tank drain. Compressor cut in at nominal 40 psi and cutout at nominal 80 psi.

Reservoir – 2 gallon capacity, ASME rated for 150 psi operating pressure. Nominal 80 psi operating pressure

Control – TEECO PLC, pre-programmed

Cooling – Convection with inlet and outlet louvres

Operating Temperature - -40F to 125F

Options:

Rack mount, 4 mounting holes in cabinet (Standard)

Pedestal mounting with knockout for electrical conduit (Optional)

Installation:

Location - This unit is not rated for installation within the hazardous area. It must be installed OUTSIDE of the Class 1, Division 1 & 2 area. Recommended installation is 20 – 30' from the pneumatic actuators and/o control solenoid, outside of the hazardous area (minimum 48" above ground level, minimum 15' from any opening in the tank or possible venting point in the system. Typical installation is on or near the electrical service rack for the station system.

Electrical – Connect a 120vac/60HZ line to the 6 amp circuit breaker. Connect neutral to the open WHITE DIN rail connector. Connect ground to the open GREEN/YELLOW DIN rail connector

Pneumatic – Connect the pneumatic line from the internal valve actuators and/or the control solenoid to the ¼" poly tube pneumatic fitting on the lower, right rear of the enclosure. Ensure all connections are secure and check the entire system for leaks before placing the unit in service. A 24 hour leak-down pressure decay test at

124% of design operating pressure is recommend. Use caution not to exceed the maximum pressure rating of the valve actuators to prevent damage. NOTE: most connector used for pneumatics are rated for a maximum of 100psig, Recommended pressure test is for 80 psig.

Configuration & Set-up:

The ECO-AIR is pre-assembled and programed and ready for operation upon delivery and installation. The default programming and adjustment is for a nominal 40 psi operating pressure regulated output to internal valves. The output pressure may be adjusted to a maximum of 65psi if required. Most commonly used actuators require between 25 and 60 psi, thus 40 psi should be more than adequate for most applications. For a typical system the storage reservoir should supply sufficient air at 40 psi to open and close a standard 3 internal valve system 8-12 cycles, depending on control tubing length and solenoid usage. The pressure regulator is located in the upper right hand corner of the enclosure, above the compressor, and can be manually adjusted by pulling back on the adjustment know (slight click) to unlock and turning clockwise to increase the pressure and counter clockwise to decrease the pressure. Pressure is indicated on the right hand indicator gauge labeled "Regulated Actuator Pressure".

Operation:

When the unit is powered, the compressor will activate within 5 seconds and continue to run until the compressor "cut-out" setting is reached. This is a nominal 80 psig. The storage reservoir stores 2 gallons of compressed air at 80 psi during normal operation.

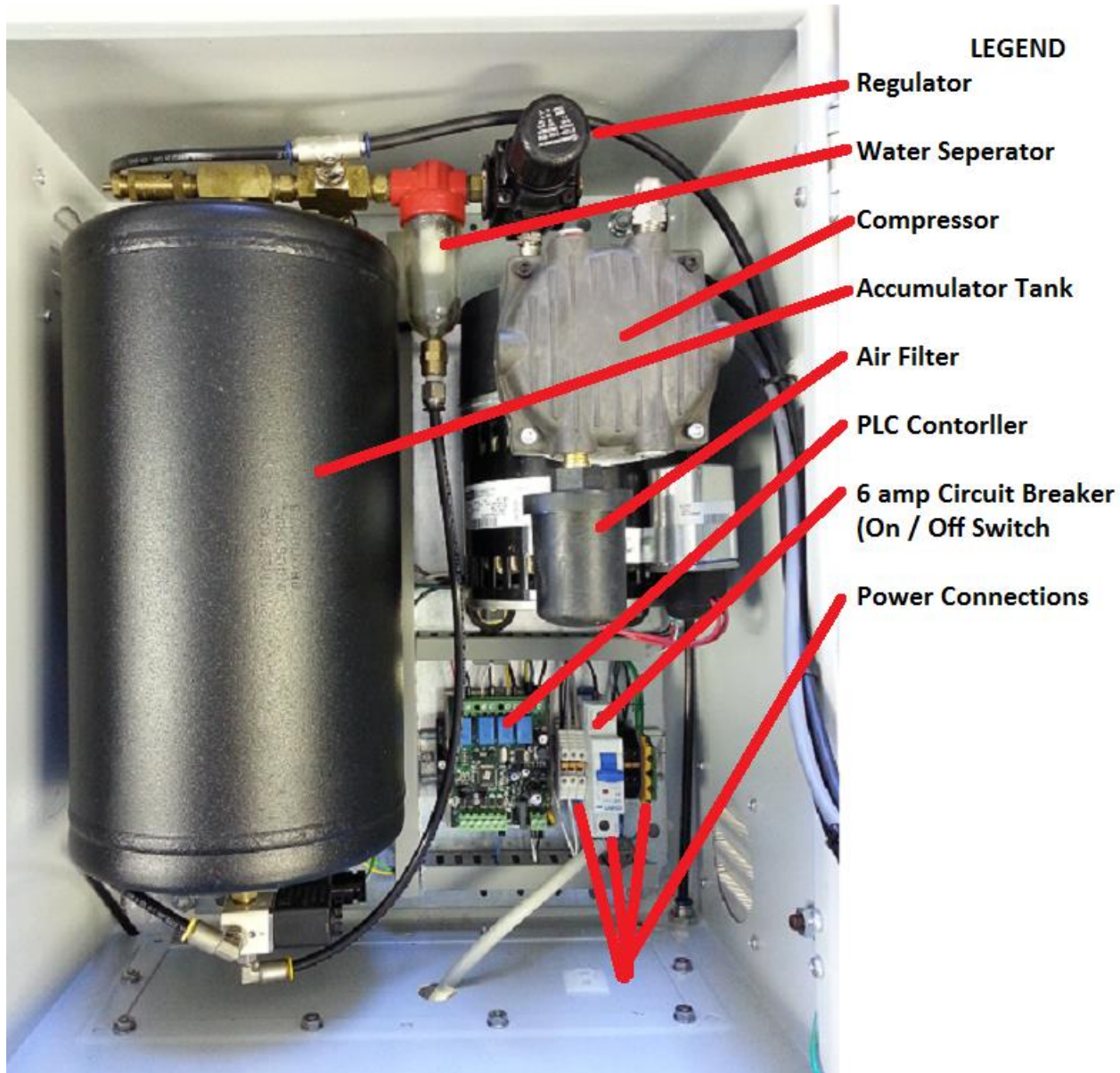
The storage tank pressure will be indicated on the left hand gauge labeled "Accumulator Tank Pressure" which should remain between 40 & 80 psig when the compressor is off.

The PLC monitors pressure during all operation whenever the unit is powered. When the pressure drops to 40psig or less, the PLC will turn on the compressor and it will refill the accumulator tank until it reaches 80psig and then turn off.

During the first 2 seconds of compressor operation, on every start cycle, the PLC will open the automatic tank drain valve to discharge any accumulate water in the tank from the atmosphere. This is discharged through a ¼" poly tube located in the lower, left rear of the enclosure. This drain should NEVER be blocked.

As long as the unit is operating normally, the GREEN LED labeled "System Ready" will remain lit. If a minor leak is detected by the PLC monitor (Minor leak implies that the leak is sufficient enough to be recognized, but the compressor is capable of maintaining sufficient operating pressure) the RED LED, labeled "Leak Detected" will be illuminated. When this condition is seen, the system will continue to operate sufficiently to control internal valves, but the leak MUST be identified and repaired as soon as possible. If a major leak is detected (Major leak implies that the leak is severe enough that the compressor must run 100% of the time and cannot reach programmed operating pressure of 80psig) the PLC will shut-down the compressor, and the RED and GREEN LED's will flash alternately until the leak is identified and repaired and the power is reset to the unit (this is accomplished by turning off the 6 amp circuit breaker for 3 seconds and turning back on.

Internal Layout:



Warranty:

The ECO-AIR-IVS is warranted by Parafour Innovations, LLC, to be free from defects in workmanship for a period of 12 months from date of Installation. Warranty covers parts only. Parafour reserves the right to use new, rebuilt, remanufactured or inspected used equipment at their discretion for warranty parts. Warranty does not cover damage resulting from improper installation, poor maintenance, improper use, local environmental conditions outside of nominal specifications, corrosive local environmental conditions, etc. Warranty does not cover losses resulting from field failures and resultant down time of station.

To activate warranty, please send the site name, address and installation date to sales@parafour.com, or fax to 512-879-6908

Eco-Air IVS-100 Electrical Schematic

