

(S)ORIT to CDS CONVERSION KITS



The (S)ORIT-12, -15 and -20 Evaporator Pressure Regulating Valves were developed by Sporlan as the first of a new generation of evaporator pressure regulators. The (S)ORIT series of valves are mechanical regulators which use highside system pressure as a source of operating power. They were developed specifically for systems where accurate control and minimum pressure drop are important requirements.

The CDS valves are electronically operated step motor evaporator pressure regulating valves. Synchronized signals to the motor provide discrete angular movement, which translates into precise linear positioning of the valve piston. Valve pistons and ports are uniquely characterized, providing superb flow resolution and performance. The CDS valves are easily interfaced with microprocessor based controllers, including Sporlan supplied controllers.

Since supermarket equipment is evolving towards electronic control, Sporlan has created a product to allow update of the older mechanical (S)ORIT Evaporator Pressure Regulator (EPR) valves to CDS style Electric Evaporator Pressure Regulator (EEPR) valves.

FEATURES AND BENEFITS

- No need to remove the existing SORIT or ORIT-12, -15 or -20 valve body from the piping
- Economical equipment update, fast installation
- Step motor for precise control
- Tight seating for defrost and pumpdown application
- No pilot gas flow required
- Increased efficiency
- No pressure drop required for operation
- Field proven reliability
- Sporlan quality



FOR USE ON REFRIGERATION and/or AIR CONDITIONING SYSTEMS ONLY

The Conversion Kits are available in three sizes to allow conversion of SORIT or ORIT-12, -15 and -20 to step motor operation. The Conversion Kits have been engineered for direct, drop in replacement with a minimum of disruption to the system. The conversion kits maintain, or slightly increase, the capacity of the valve. In some instances stability of the system may improve due to the high resolution and accuracy of step motor control.

The Conversion Kits are based on the well proven CDS step motor EEPR operator and include new pistons, adaptors, gaskets and mounting bolts, where needed. Refer to Table 1 for a complete listing of supplied parts

All kits are supplied with an integral 20 foot cable that may be cut to a convenient length when installed.

A complete rack conversion to electronic control will involve the proper quantity and size SORIT Conversion kit, and driver circuit boards designed for the CDS style motor. Most supermarket rack control manufacturers offer controllers or interfaces for this purpose, and should be consulted for proper wiring and controller configuration. Sporlan can also supply interface boards that will accept 0-10 volt or 4-20 milliamp inputs from third party controllers to position the valve, request Bulletin 100-50-2.

Most CDS controllers will directly control discharge air temperature in the merchandiser. Properly configured controllers will allow rapid pulldown after defrost by driving the valve fully open until air setpoint is reached. Electronic control also allows case air setpoint to be remotely changed without mechanically resetting the valves.

SPECIFICATIONS

- Motor Type:**
2-phase permanent magnet, 2 coil bipolar
- Supply voltage:**
12 VDC, -5% +10%, measured at the valve leads
- Connections:**
4 lead, 18 AWG, PVC insulation jacketed cable
- Phase Resistance:**
75 ohms per winding ± 10%
- Current Range:**
.131 to .215 amps per winding (.262 to .439 amps with two windings energized, depending on temperature)
- Maximum Power:**
4 watts
- Inductance Per Winding:**
62 ± 20% MHz
- Required step rate:**
200 steps per second, other rates must be tested and approved
- Number of steps:**
6386
- Resolution:**
.0000783 inches/step (.002 mm/step)
- Total Stroke:**
.50 inches (12.7 mm)
- Suggested overdriving steps for initialization:**
7000

Kits are operation and leak tested to all specifications used for complete CDS valves. Proper installation is required for best external leak resistance. Refer to Installation Instructions, SD-297.

ORDERING INSTRUCTIONS

Table 1

(S)ORIT Model	Kit Model	Kit Part Number	Parts Included
(S)ORIT-12	Kit SORIT-12 to CDS	901656	Motor, adaptor, lock nut and 2645-000 seal gasket, SD-297 instructions
(S)ORIT-15	Kit SORIT-15 to CDS	901654	Motor, adaptor with hex cap screws and 0621-129 o-ring, SD-297 instructions
(S)ORIT-20	Kit SORIT-20 to CDS	901655	Motor, adaptor with hex cap screws and 2539-000 gasket, SD-297 instructions



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