

↑ **SAVE ENERGY** up to 11% 

↓ **REDUCE LABOR** by 50% 

# Proven Value of Electronic Suction Control



## SORIT to CDS Conversion Study Results

Data verifies that implementing a SORIT to CDS electronic conversion in today's supermarket improves temperature control and saves energy.

To meet the supermarket industry's evolving equipment needs, Sporlan has developed a conversion kit to economically upgrade mechanical (S)ORIT Evaporator Pressure Regulator (EPR) valves to the energy efficient and precise control of electronic CDS step motor technology.

The CDS conversion assembly mounts directly to the SORIT body in the refrigeration line – no need to remove the valve bodies, no need to

braze in new valves, reducing installation labor and component cost.

A study conducted by a supermarket chain shows that the converted mechanical valve has all the proven benefits of the Sporlan step motor CDS valve including more precise temperature control, quick pull-down, and energy efficiency.

Refer to Tables 1 and 2 below, as well as Figures 1 – 4 on pages 2 and 3.



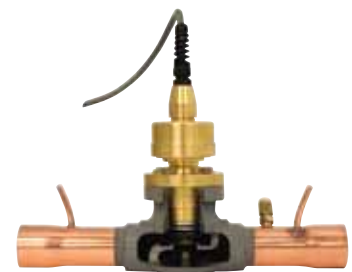
Table 1 - Case Control Temperature Comparison

Set Point (Average)	Rack 3 (Low Temperature)	Rack 4 (Medium Temperature)
Goal	0°F	27°F
Before CDS Conversion Kit	-8.8°F	33.1°F
After CDS Conversion Kit	-1.1°F	28.4°F

Table 2 - Suction Pressure Comparison

Set Point (Average)	Rack 3	Rack 4
Goal	15 psi	14 psi
Before CDS Conversion Kit	10.7 psi	11.1 psi
After CDS Conversion Kit	15.1 psi	15.7 psi

*"I have been very impressed with the improvement in performance at the store . . . we will most likely see substantial energy consumption improvement in this store over the next few months. Additionally, store management has noticed improved product quality."*



SORIT to CDS



ENGINEERING YOUR SUCCESS.

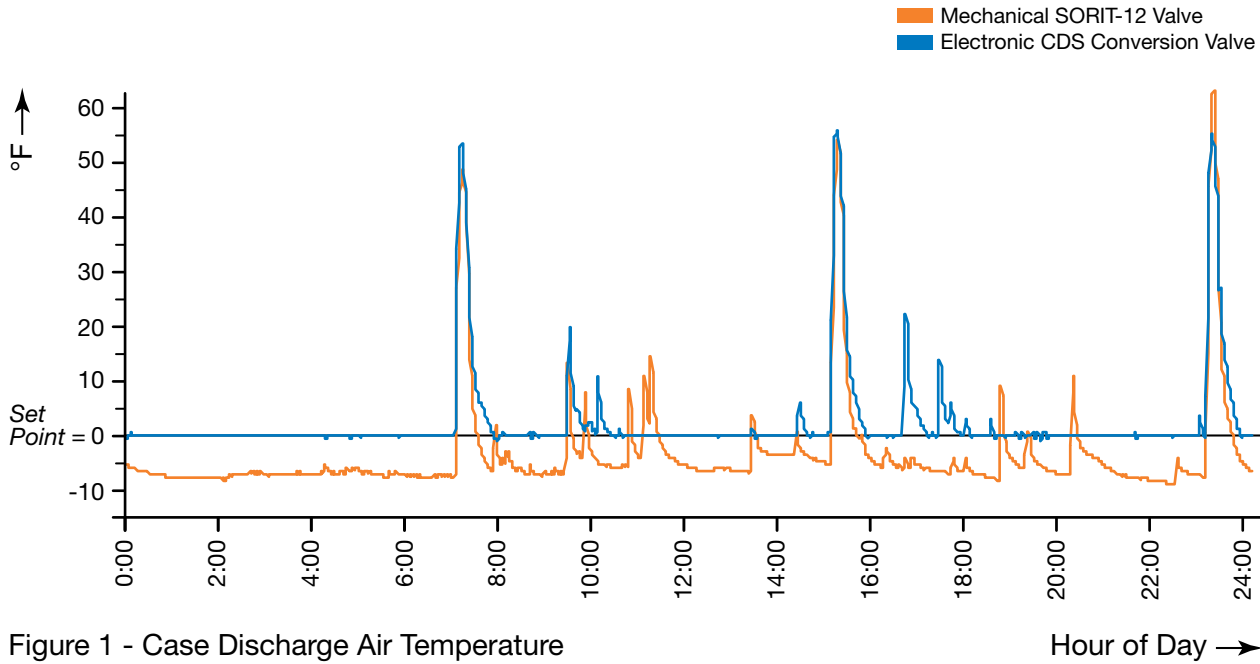


Figure 1 - Case Discharge Air Temperature

Hour of Day →



Figure 1 - Case Discharge Air Temperature (Above)

Installation of SORIT to CDS conversion kit shows consistent case temperature in operating range which will help to eliminate wasted energy.

Figure 2 - Low Temperature Rack, Suction Pressure (Below)

Depicts less fluctuation in suction pressure with installation of SORIT to CDS conversion kit. Also indicates that a raise in suction pressure from 11 to 15 psi can be achieved and still maintain steady case temperature.

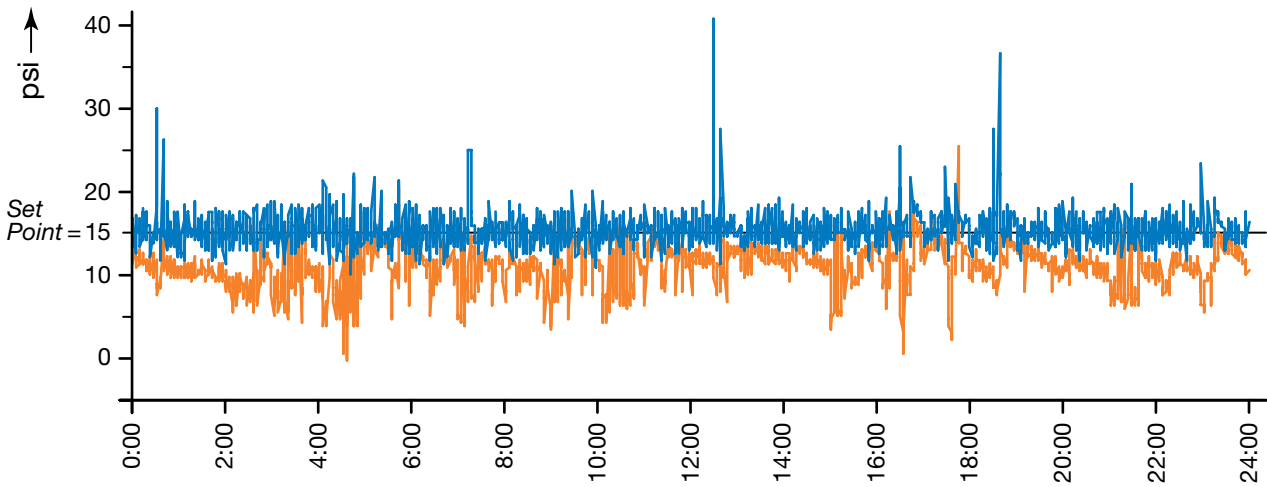


Figure 2 - Low Temperature Rack, Suction Pressure

Hour of Day →

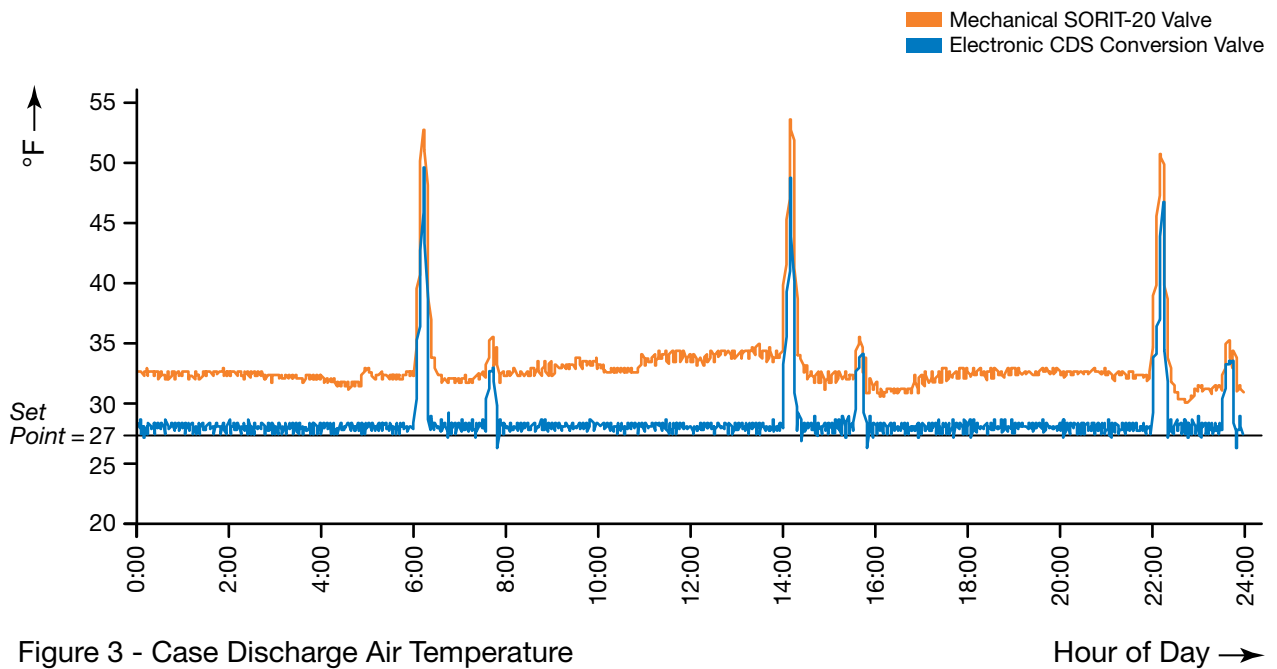


Figure 3 - Case Discharge Air Temperature

Figure 3 - Case Discharge Air Temperature (Above)

Graph reflects the precision with which the CDS valve controls discharge air temperature resulting in consistent product core temperature.

Figure 4 - Medium Temperature Rack, Suction Pressure (Below)

As a result of SORIT to CDS valve conversion, the graph indicates pressures not fluctuating as much due to the desired set point being maintained. Additionally, a higher average suction pressure is achieved.

**REDUCE LABOR**  
by at least **50%**

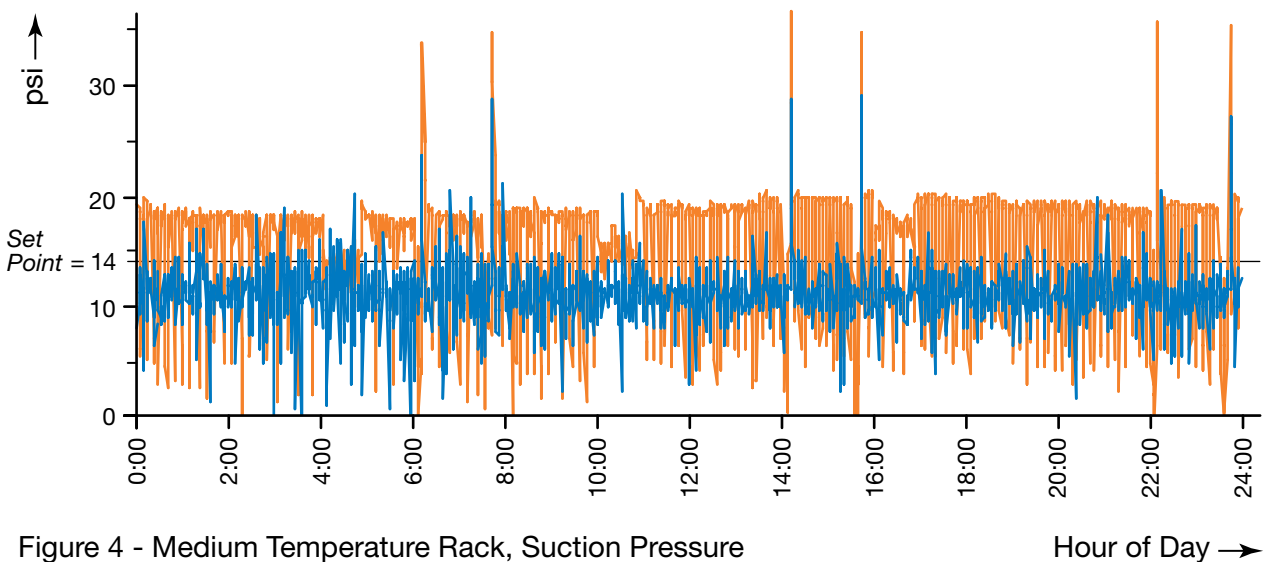


Figure 4 - Medium Temperature Rack, Suction Pressure

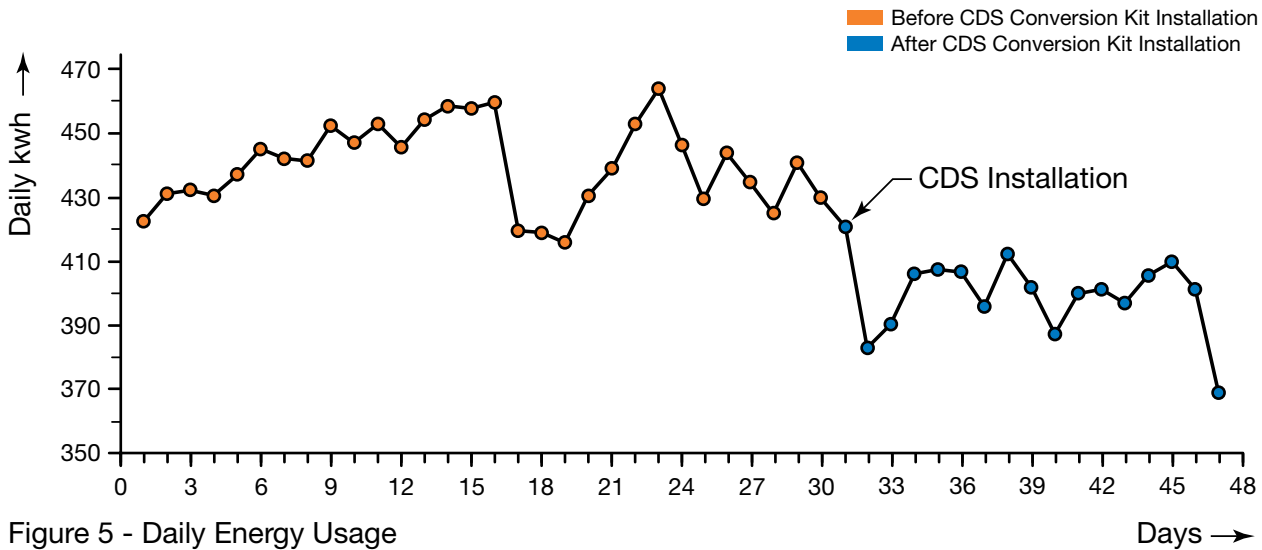


Figure 5 - Daily Energy Usage

**Energy Savings**

Based on energy savings realized after the conversion to CDS valves, an **annual savings of \$6,592.00** is anticipated per store.

Refer to Table 3 and Figure 5.

**Material and Labor Cost Associated with Installation**

Based on entire store replacement, an approximate 12% reduction in materials and 57% reduction in labor will be seen with the installation of the SORIT to CDS conversion kit vs. the replacement of whole CDS valve with body for an average total reduction savings of 26.5%.

**Comments on SORIT to CDS Valve Performance:**

“I have been very impressed with the improvement in performance

*For more information on the SORIT to CDS conversion kit, refer to Sporlan Bulletin 100-40-1 or contact your local Sporlan Sales Engineer.*

Table 3 - Energy Usage Comparison

Energy Usage (Average kwh)	Rack 3 (Low Temperature)	Rack 4 (Medium Temperature)
Before CDS Conversion Kit	441.0 kwh	293.2 kwh
After CDS Conversion Kit	390.8 kwh	288.8 kwh
Daily kwh Reduction	50.2 kwh	4.4 kwh
<b>Daily Energy Savings</b>	<b>11.4 %</b>	<b>1.5 %</b>

at the store with the limited SORIT to CDS conversions. With only the remote header converted to CDS, we are seeing the low temperature side of Rack B floating and cycling compressors. We never saw this before. I think we will most likely see substantial energy consumption improvement in this store over the next few months. Additionally, store management has noticed improved product quality.”



SORIT to CDS field conversion

