# StackPulse Controller™
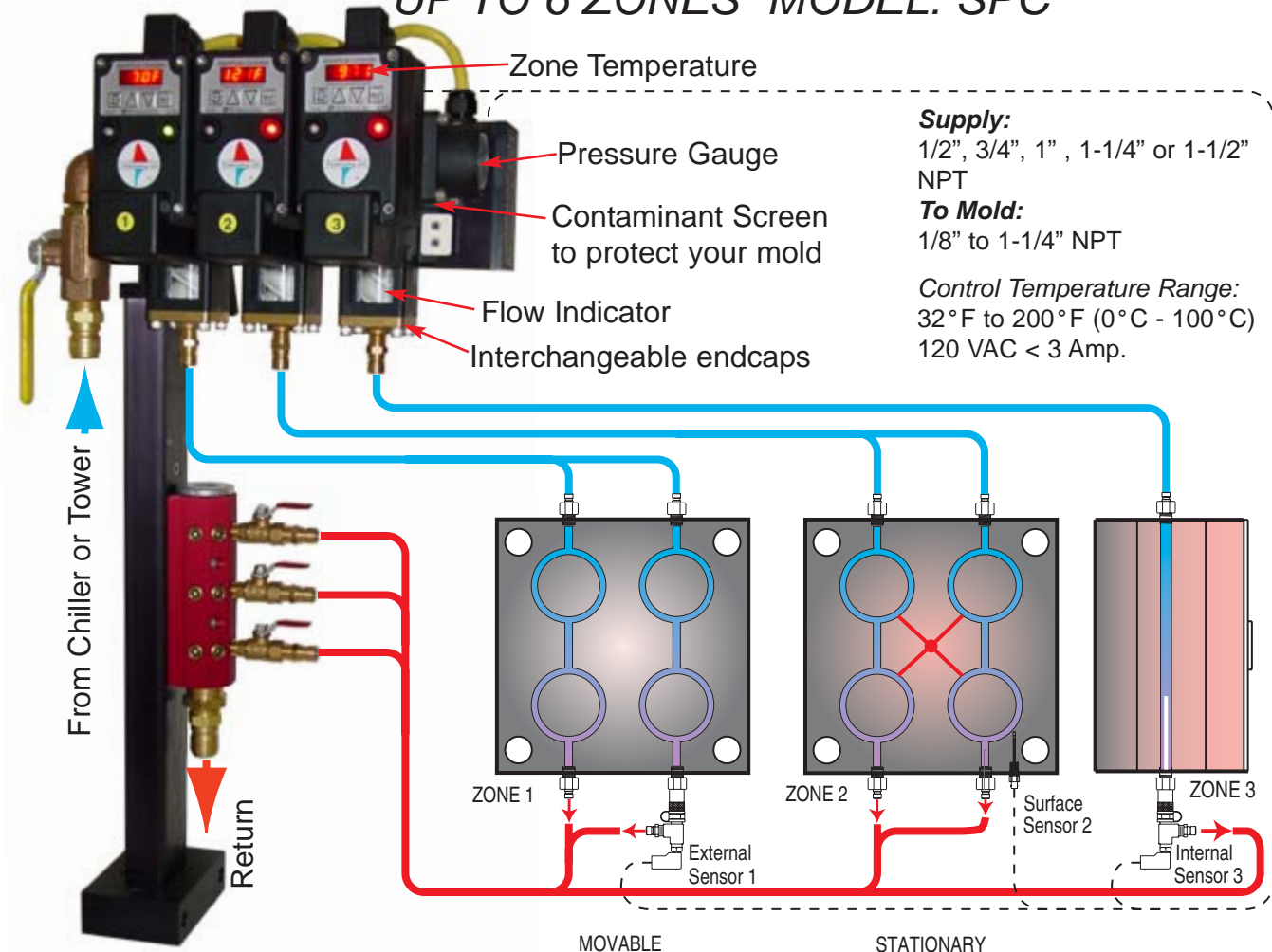
## PulseCooling™

*LOW COST*
*HIGH PERFORMANCE MOLD COOLING*

**Better Cycle**
**Higher Parts Quality**
**Adaptation to any mold**
**Excellent Return On Investment**
**Used with Mold Surface Temperature Sensors**
**Internal Waterline Sensors**
**External Waterline Sensors**

## UP TO 6 ZONES  MODEL: SPC

Zone Temperature

Pressure Gauge

Contaminant Screen
to protect your mold

Flow Indicator

Interchangeable endcaps

**Supply:**
1/2", 3/4", 1" , 1-1/4" or 1-1/2" NPT
**To Mold:**
1/8" to 1-1/4" NPT

*Control Temperature Range:*
32°F to 200°F (0°C - 100°C)
120 VAC < 3 Amp.

From Chiller or Tower

Return

ZONE 1

ZONE 2

ZONE 3

External
Sensor 1

Surface
Sensor 2

Internal
Sensor 3

MOVABLE

STATIONARY

## CITO PRODUCTS, INC.

# StackPulse Controller™

The SPC - **StackPulse Controller**™ is the newest addition to the PulseCooling in process temperature controls. The SPC has embedded microchip technology for compactness, longevity and high performance.

## DESCRIPTION OF StackPulse Controller™

The **StackPulse Controller**™ controls the mold surface, not just the water line. Now you can have a Real Time read out and direct precision control of the mold surface temperature.

## PRINCIPLE OF OPERATION

As heat is induced into the mold, with the melt, at the start of the cycle, the temperature increase of the mold surface is detected by a sensor and stored for reference in the StackPulse Controller. The microprocessor converts this into a cooling pulse, which is a timed injection of coolant, occurring at the beginning of each cycle, immediately after the mold has been filled. The coolant injection (-BTU) exactly matches the melt (+BTU) thus compensating for all variables that can influence part quality. This cooling technology will results in the highest quality parts quality at the best possible cycle time with a minimum of water consumption and energy use.

Remember, high quality molding is the result of what happens in the machine and the mold, not in the inspection after the molding is completed.

## ADVANTAGES OF PULSE MODULATED COOLING

### INCREASED PRODUCTION

Use of cold water provides a high temperature differential between mold surface and coolant. This high delta t  results in efficient mold cooling with a improved cycle.

### HIGHER QUALITY PRODUCTION

During the OFF period of the pulse modulated cooling cycle, the mold will seek thermal equilibrium. This heat gradient dissipation results in consistent quality molded parts.

### AUTOMATED PRODUCTION

After the operator chooses and sets the mold surface temperature, the StackPulse Controller™ will determine the cooling requirements of each molding cycle, and automatically repeat the selected temperature. Each cooling pulse will compensate changes in cycle time, melt temperature, cycle interruption, water pressure, ambient  temperature and platen temperatures changes.

### PROCESS LIMITS WARNING

A visual alarm warns if the process temperature is above or below the selected limits.

### COOLING FLUID SOURCE

The **StackPulse Controller**™ valve is supplied with cold process water from tap, tower or chiller.

### WATER CONSUMPTION

A Minimum amount of water is used; since the maximum of BTU is absorbed from the cold process water, and during the off pulse period the dormant water will absorb heat. This reduces the total amount of water used. Thus more Process water is available for the area with the greatest demand of cooling.

### ADVANCED FEATURES

Additional features such as maximum and minimum temperature alarms can be displayed. The measured values can be displayed in either English or Metric units. All selections are done digitally on the keyboard.