



# POINT OF USE COOLER



EFFORTLESS TEMPERATURE CONTROL  
**SMART TECHNOLOGY**

# INTRODUCTION

The POU Cooler is designed to deliver cooled WFI instantaneously at a very low pressure drop and production cost. Our POU Coolers meet the high quality requirements and hygienic design of the pharmaceutical industry. They feature compact, high performance sanitary shell and tube heat exchangers in double tube sheet configuration, which achieve a very high efficiency of the heat transfer.

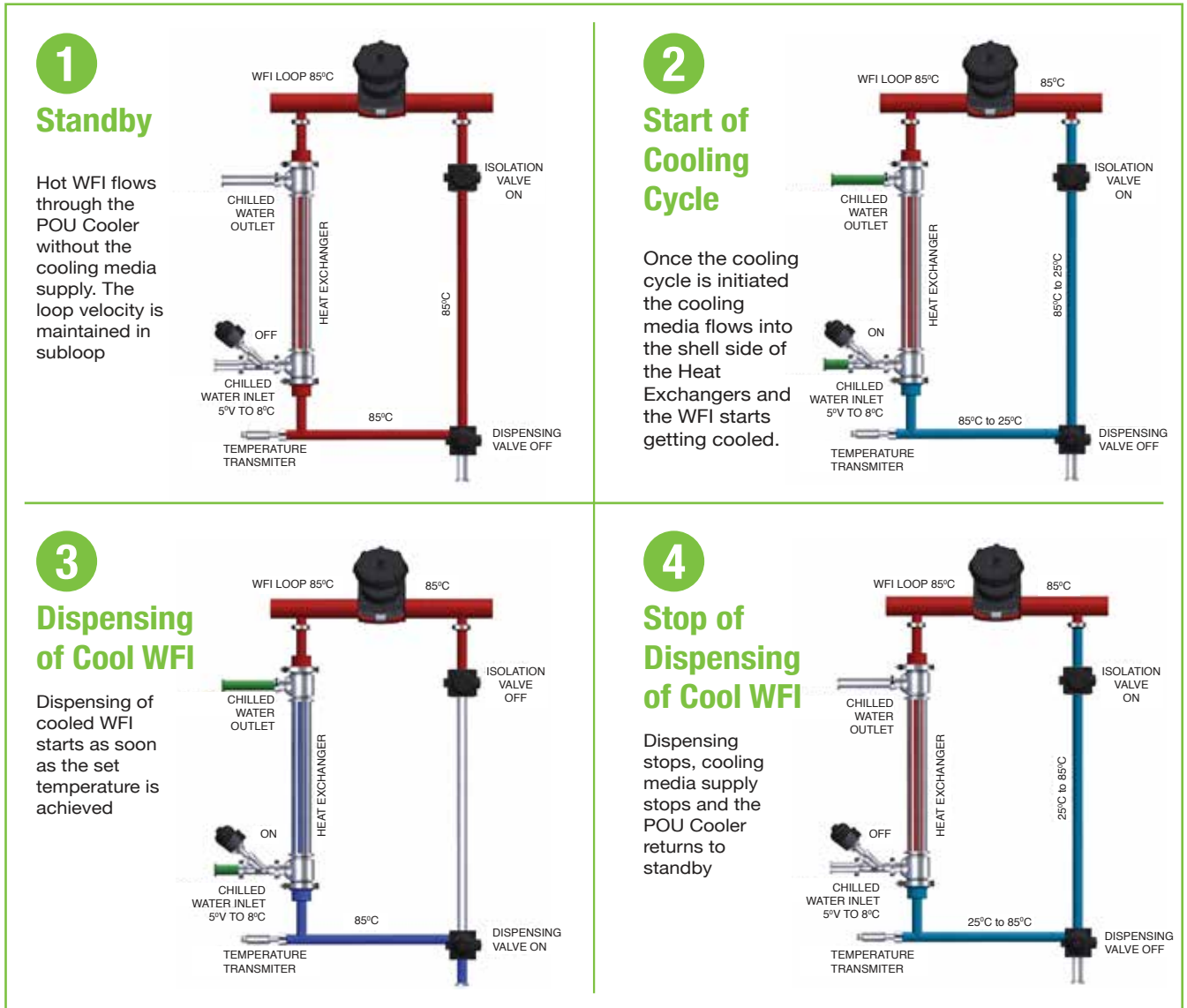


## WHY PUREX

- Complies with ASME BPE guidelines of maintaining velocity of 1.2 m/s to ensure that there is no microbial breeding in the system
- POU Performance remains unaffected by the loop pressure variations
- Each and every unit undergoes FAT to ensure 100% validation
- The use of single pass straight tube heat exchangers allows 100% drainability on product side
- PUREX uses double tube sheet heat exchanger which eliminates the risk of cross contamination
- PUREX offers the optional feature of communication between two or more POU's which enables excellent synchronisation and optimisation of the dispensing process
- Compliance to CFR 21, Part 11 guidelines (optional)
- Meets the NEMA 4X guidelines
- PUREX offers optional regulated CW flow through PID control which enables use of dispensing water at the different dispensing temperatures as per choice
- PUREX can dispense flow rates of 100 lph (0.5 gpm) to 6000 lph (25 gpm) at any range of temperatures

# PROCESS FLOW DESCRIPTION

The different stages of operation in the POU Cooler are explained below:



## CONSTRUCTION FEATURES

|                                   |   |
|-----------------------------------|---|
| <b>Heat Exchangers</b>            | Sanitary double tube sheet shell and tube                                   |
| <b>POU Cabinet</b>                | SS 304 construction with matt finish to meet Pharma clean room requirements |
| <b>Electrical Enclosure</b>       | CE and UL compliant   |
| <b>Contact Surface</b>            | Contact surfaces finish are as per Pharma requirements                      |
| <b>Cleaning &amp; Passivation</b> | POU Coolers are cleaned & passivated  |
| <b>Instruments</b>                | Process instruments are provided for the safe POU Operation                 |
| <b>Valves</b>                     | Sanitary diaphragm valves are provided for POU Operation                    |
| <b>Insulation</b>                 | Chloride free PVDF insulation   |

# PUREX ECONOMY



PUREX ECONOMY is a simplest version of POU Coolers and dispenses the WFI at the set temperature instantly. The dispensing temperature is visible on the display meter mounted on the cabinet door. This is a standalone unit and operates with a single ON/OFF Switch. It has very small foot print and is very easy to install with wall or skid mount option.

## FEATURES

- Very easy to operate
- Single/Constant flow dispense
- Single/Constant temperature dispense
- UL & CE Certified
- ASME BPE complaint

## PRODUCT INFORMATION

|                 |                                 |
|-----------------|---------------------------------|
| MODEL NO        | STEC 05                         |
| CAPACITY        | 100 - 1200 LPH (0.5 to 5 gpm)   |
| DISPENSING MODE | Hot Dispense & Cold Dispense    |
| OPERATION       | Fully Automatic (ON/OFF Switch) |

# PUREX ADVANCED

PUREX ADVANCED is a standalone POU model and works in fully automatic and in manual mode. The POU process is controlled with onboard PLC and HMI helps to perform any operation or to know the status of POU operation.

## FEATURES

- Fully automatic operation
- Single/Constant flow rate dispense
- Single/Constant temperature dispense
- PLC/HMI based control panel for smooth operation
- UL & CE Certified
- ASME BPE complaint

## PRODUCT INFORMATION

|                 |                                      |                                 |
|-----------------|--------------------------------------|---------------------------------|
| Model No        | STAC 05                              | STAC 15                         |
| Capacity        | 100 – 1200 LPH (0.5 to 5 gpm).       | 300 - 3500 LPH (1.25 to 15 gpm) |
| DISPENSING MODE | Hot Dispense & Cold Dispense         |                                 |
| OPERATION       | Fully Automatic & Manual through HMI |                                 |
| COMMUNICATION   | WFI unhealthy input                  |                                 |



# PUREX CUSTOM

PUREX CUSTOM is designed to meet the client's custom requirement with respect to their application and process needs.

PUREX CUSTOM can dispense the WFI at varied temperature and flow rates. Its operation is PLC based fully automatic and can communicate with other PLCs or SCADA.

The features and functions can be customised as per the customer's requirements; some of the features which can be provided on request are as below:

## FEATURES

- Multiple flow rate dispense
- Multiple temperature dispense
- Dump to drain
- Zero Dead Leg isolation valves at header
- NEMA 4X complaint cabinet
- ASME BPE compliant
- CE & UL certification is optional

## PRODUCT INFORMATION

|                 |  |
|-----------------|--|
| Series          | PUREX CUSTOM   |
| Model No        | STCC XXXX  |
| Capacity        | 100 – 6000 LPH or higher   |
| APPLICATION     | Cooling OR Heating   |
| DISPENSING MODE | Hot Dispense & Cold Dispense   |
| OPERATION       | Fully Automatic & Manual through HMI   |
| COMMUNICATION   | WFI unhealthy input  |
| Control Options | <ul style="list-style-type: none"><li>• Remote START/STOP</li><li>• POU to POU Communication</li><li>• Communication with Other System PLC</li><li>• Communication with SCADA/DCS System</li></ul> |



# CONTROLS OPTIONS



## Option 1:

### Fully Automatic Stand Alone System

This is a standalone unit which works independently without any communication with other systems

## Option 2:

### Remote Start/Stop Operation

This is an additional feature to stand alone system, using this feature, the user can start/stop the POU remotely. This is useful when POU unit is not accessible to the user, i.e. either it is installed at higher elevation or other room

## Option 3:

### POU to POU Communication

When there are multiple POU's installed in series in loop, the simultaneous operation of POU's has to be controlled to ensure the minimum required loop velocity as per Pharma guidelines. This is achieved by the POU to POU communication feature in which all POU's communicate with each other using Ethernet protocol and the user can limit maximum number of POU's in operation to ensure the loop velocity is maintained.

## Option 4:

### Communication with Other System PLC

This feature is used for communication between POU PLC and Client PLC. This is useful when the client wants to control the POU operation from their own Control Room remotely.

## Option 5:

### Communication with SCADA/DCS System

This feature is beneficial when user want to operate POU system using their existing SCADA or DCS System. POU is capable of communicating with any SCADA or DCS system on Modbus TCP/IP protocol, the user has to define in advance which IP address to be configured in POU to make it compatible with user System

## Communication Architecture



# DOCUMENTATION & TESTS

The Technical Documentation includes the following:

**Section 1**  
General  
Documentation

**Section 2**  
Component  
Description

**Section 3**  
Hardware and  
Software  
Documentation

**Section 4**  
Piping, Fitting  
and Welding  
Documentation

**Section 5**  
Operating  
and Instruction  
Manuals

**Section 6**  
Validation  
Protocols

## FAT

**Test B**  
Electrical  
Acceptance Test

**Test A**  
Mechanical  
Component  
Acceptance Test

**Test C**  
Functional  
Test



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