

# DID YOU KNOW?

NO: 290

JANUARY 14, 2015

## PSS9 CYCLE SETTINGS FOR FACTORY ACCEPTANCE TESTING (FAT)

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### Introduction

This is the sixth in a series of Did You Know? bulletins that will cover various topics concerning the operation of PRIMUS' Pri-Matic® PSS9 control system.

The PRIMUS Pri-Matic® control system's first three cycle recipes (i.e., the cycle parameter data) are programmed during the PRIMUS Factory Acceptance Test (FAT). There are numerous parameters which can be set to allow the Pri-Matic® controls to support virtually any sterilization requirement.

These three cycles will be immediately available to the end user when the sterilizer is installed. The end user is responsible for programming any additional cycle recipes to meet their specific needs (or reprogramming values for the three cycles already present).

### Three Factory Programmed Cycles

The three named cycles are:

HARDGOODS           (Uses a Gravity Cycle)

LIQUIDS               (Uses a Liquid Cycle)

WRAPPED GOODS   (Uses a Vacuum Cycle)

They are programmed into the controller as Cycles 1, 2, and 3, respectively, and are used to test the sterilizer as part of the standard PRIMUS FAT protocol.

Unlike the PSS5 and the PSS8 Trinity controls, the PSS9 Pri-Matic® controls do not have a factory reset function for the cycle recipes.

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### **Programming Flexibility**

Due to the flexibility of the controls, it is easy to end up with significant variances in the parameter settings based on the load type, the facility requirements and the size of the sterilizer.

The facility should always print out their cycle data for reference and keep it somewhere easily accessible before changing any values.

In some instances, the facility may wish to restore the cycle data to the factory standard, especially if incorrect values have been accidentally saved.

The following tables show the standard values entered into the controls as recipes during the PRIMUS FAT:

#### **Note**

**Some of the available values will not apply to every sterilizer. For example, if the Air Over option was not purchased for a sterilizer, then the Air Over parameter settings will have no function. Also, due to the sterilizer chamber size, there may be some minor differences in the factory values and the tables listed below.**

#### **Warning!**

**Improperly setting values can cause unanticipated results!**

**As an example, if the sterilizer is not equipped with a Load Probe, then telling the sterilizer to use the Af0 settings will not work to control the end of the sterilization phase. If the cycle was set to use Af0 rather than Time as the end condition for a run, then the sterilizer will remain in the Sterilize phase waiting indefinitely for the Af0 setpoint, as reported by the Load Probe, to be reached. This will never happen. Therefore, with no Load Probe, the ST END setting should always be set for 0 (Time).**



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### Creating New Cycles

An easy way to create new cycles is covered in DYK # 276 Copying PSS9 Cycle Parameters.

### Tables

**Table 1 Standard Cycle Parameters**

CYCLE RECIPE PARAMETER LIST	UNIT	HARDGOODS	LIQUIDS	WRAPPED GOODS
PR Purge Time (sec)	SEC	240	240	240
PR Purge Pressure (psi)	PSIA	25	25	25
PR Number of prePulses	UM	0	0	3
PR preCharge Timeout (min)	MIN	20	20	20
PR preVacuum Timeout (min)	MIN	20	20	20
CG Initial Ramp Rate (psi/min)	PSI/MIN	10	10	10
CG Final Ramp Rate (deg/min)	°C/MIN	2	2	2
CG Ramp Switch Offset (deg)	°C	2	4	4
CG Boost Offset (deg)	°C	2	4	4
CG Charge Timeout (Min)	MIN	20	45	20

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Table 1 Standard Cycle Parameters (continued)

CYCLE RECIPE PARAMETER LIST	UNIT	HARDGOODS	LIQUIDS	WRAPPED GOODS
ST End by 0=time, 1=Af0	NUM	0	1	0
ST Maximum Temperature (deg)	°C	118.0	121.1	132.0
ST Maximum Pressure (psi)	PSIA	35	40	50
ST Sterilize Time (min)	MIN	15	15	15
ST Over Temp Offset (deg)	°C	1.5	1.5	1.5
ST Under Temp Offset (deg)	°C	1.5	1.5	1.5
ST Jacket Temp Offset (deg)	°C	2	2	2
ST Af0 Setpoint	NUM	0	12	0
ST Af0 Dwell Temperature (deg)	°C	0	118.0	0
EX Exhaust Rate (psi/min)	PSI/MIN	55	1	55
EX Exhaust End Pressure (psi)	PSIA	10	13.0	10
EX Dry Time (min)	MIN	2	3	3
EX Timeout (min)	MIN	20	20	20
AI rate (psi/min)	PSIA/MIN	55	55	55
AI timeout (min)	MIN	20	20	20
CS Vac 1=deep, 2=flow	NUM	1	2	1
CS AO Exh Jkt 0=on, 1=off, 2=AO	NUM	0	1	0
CS Load Opt: 0/AA, 1/AB, 2/BA, 3/BB	NUM	0	0	0



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Table 1 Standard Cycle Parameters (continued)

PARAMETERS	UNIT	HARDGOODS	LIQUIDS	WRAPPED GOODS
PP1 Charge End pressure	PSIA	0	0	25
PP1 Charge Rate	PSI/MIN	0	0	6
PP1 Vacuum End Pressure	PSIA	0	0	12
PP1 Vacuum End Rate	PSI/MIN	0	0	6
PP1 Vacuum Hold Time	SEC	0	0	0
PP2 Charge End pressure	PSIA	0	0	220
PP2 Charge Rate	PSI/MIN	0	0	6
PP2 Vacuum End Pressure	PSIA	0	0	10
PP2 Vacuum End Rate	PSI/MIN	0	0	6
PP2 Vacuum Hold Time	SEC	0	0	0
PP3 Charge End pressure	PSIA	0	0	20
PP3 Charge Rate	PSI/MIN	0	0	6
PP3 Vacuum End Pressure	PSIA	0	0	10
PP3 Vacuum End Rate	PSI/MIN	0	0	6
PP3 Vacuum Hold Time	SEC	0	0	10
PP4 Charge End pressure	PSIA	0	0	0

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PARAMETRS	UNIT	HARD GOODS	LIQUIDS	WRAPPED GOODS
PP4 Charge Rate	PSI/MIN	0	0	0
PP4 Vacuum End Pressure	PSIA	0	0	0
PP4 Vacuum End Rate	PSI/MIN	0	0	0
PP4 Vacuum Hold Time	SEC	0	0	0
PP5 Charge End pressure	PSIA	0	0	0
PP5 Charge Rate	PSI/MIN	0	0	0
PP5 Vacuum End Pressure	PSIA	0	0	0
PP5 Vacuum End Rate	PSI/MIN	0	0	0
PP5 Vacuum Hold Time	SEC	0	0	0
PP6 Charge End pressure	PSIA	0	0	0
PP6 Charge Rate	PSI/MIN	0	0	0
PP6 Vacuum End Pressure	PSIA	0	0	0
PP6 Vacuum End Rate	PSI/MIN	0	0	0
PP6 Vacuum Hold Time	SEC	0	0	0

\* Pre-Pulses 4-6 are available to the end user, but not programmed by PRIMUS during the Factory Acceptance Test.

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Table 2 Global and Special Parameters

GLOBAL PARAMETERS	UNIT	FACTORY
GLB Max Chamber Pressure	PSIA	55
GLB Drain Delta Temperature (deg)	°C	0
GLB Charge Gasket Time (sec)	SEC	10
GLB Retract Gasket Time (sec)	SEC	15
GLB Buzzer Off Time (sec)	SEC	10
GLB Print Interval (sec)	SEC	60
GLB Cycle Interrupt Timeout (sec)	SEC	30
GLB Water in Drain Delay (min)	MIN	5
GLB Self Clean Drain Time (sec)	SEC	30
VLT Minimum Vacuum Needed	PSIA	5
VLT Timeout (mins)	MIN	20
VLT Leak Test Time (mins)	MIN	20
VLT Allow Leak Rate (Psi/Min)	PSI/MIN	0.019
VLT Stabilization Time (min)	MIN	10
SF Time (min)	MIN	5
SF Temperature (deg)	°C	121.1



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