

Pasteurizer Recorder and Recorder Controller

C1950 (STLR & HTST)



- **Dedicated Pasteurizer Recorder/Controller**
 - designed to meet requirements of the pasteurization processes
- **High clarity digital displays**
 - continuous indication of hot product and divert temperature
- **Compliance review**
 - meets PMO requirements
- **Pasteurizer status indicator**
 - LED indication to show forward or diverted flow
- **True time event pen**
 - 4-position event, records divert and forward flow plus optional CIP (clean in process) and secondary divert
- **Up to eight diversion set points**
 - local or remote selection of hot product divert temperature settings
- **Hot product pen calibration**
 - optimization of pen reading to independent thermometer
- **Second resistance thermometer option**
 - allows checking for sensor error and gives additional alarm/divert protection



The complete recording and control solution for pasteurization processes



Introduction

The C1951 recorder and 1952/1953 recorder/controllers have been designed specifically for pasteurization applications.

The **Model C1951** records the hot product temperature and either divert set point or cold product temperature.

Model C1952 is a recorder/controller, recording hot product and either divert set point or cold product temperature and controlling hot water temperature.

Model C1953 is the top of the range recorder/controller, combining all the capabilities of the **C1952** with cold water temperature control from the cold product temperature probe.

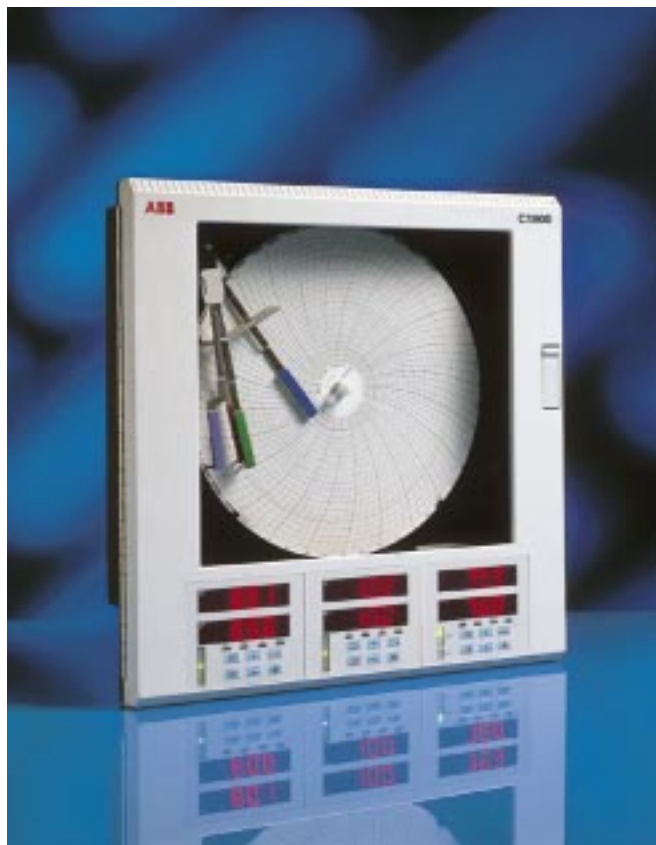
All versions are fitted with a 4-position true time event pen which indicates forward flow, divert, CIP and secondary divert (if required) via a digital input from valves etc.

The **C1951** model has eight diversion set points to activate the event pen. The **C1952/1953** models have eight pairs of diversion and hot water set points for the controller and event pen.

On the **C1952/1953** versions the multiple divert/hot water set points can be used to preset sterilizing and CIP temperature to enable remote selection of these functions from the customer's control panel.

All models are fully password protected and can be sealed, as required by the FDA.

The **C1950** series recorder is a totally self-contained unit suitable for panel, wall or post mounting. As standard, the case is rated NEMA4X (IP66), making it suitable for use in almost any location in a modern dairy where cleaning of all surfaces takes place.



Features

		C1951	C1952	C1953
DISPLAY	Flow/Divert Status	✓	✓	✓
	Hot Product Temperature	✓	✓	✓
	Divert Temperature	✓	✓	✓
	Cold Product Temperature	○		✓
	Heating Loop PV & SP		✓	✓
	Cooling Loop PV Auxiliary Input	○		✓
RECORDING	Hot Product	Red	Red	Red
	Divert Set Point or Cold Product (option on 1952)	Green	Green	Green
	Auxiliary Input (optional)	(Blue)	(Blue)	Blue
	Flow/Divert/CIP Status (True Time event pen)	Violet	Violet	Violet
CONTROL	Heating Loop		✓	✓
	Cooling Loop			✓

✓ = Standard ○ = Optional

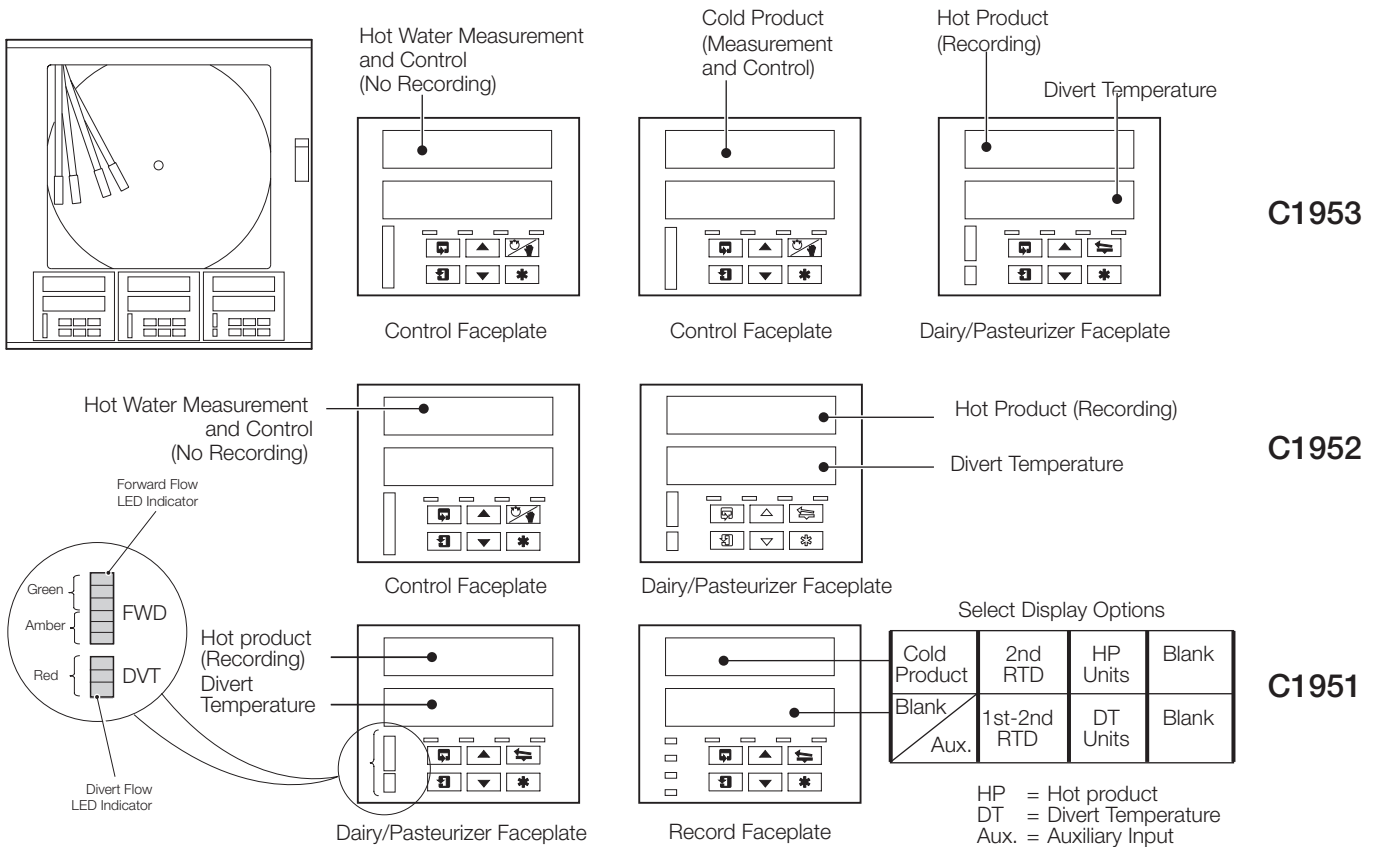
Red Pen (1) – Hot Product

Green Pen (2) – Select (None), Divert Set Point or Cold Product

Blue Pen (3) – Trace for auxiliary input only (display available on C1951)

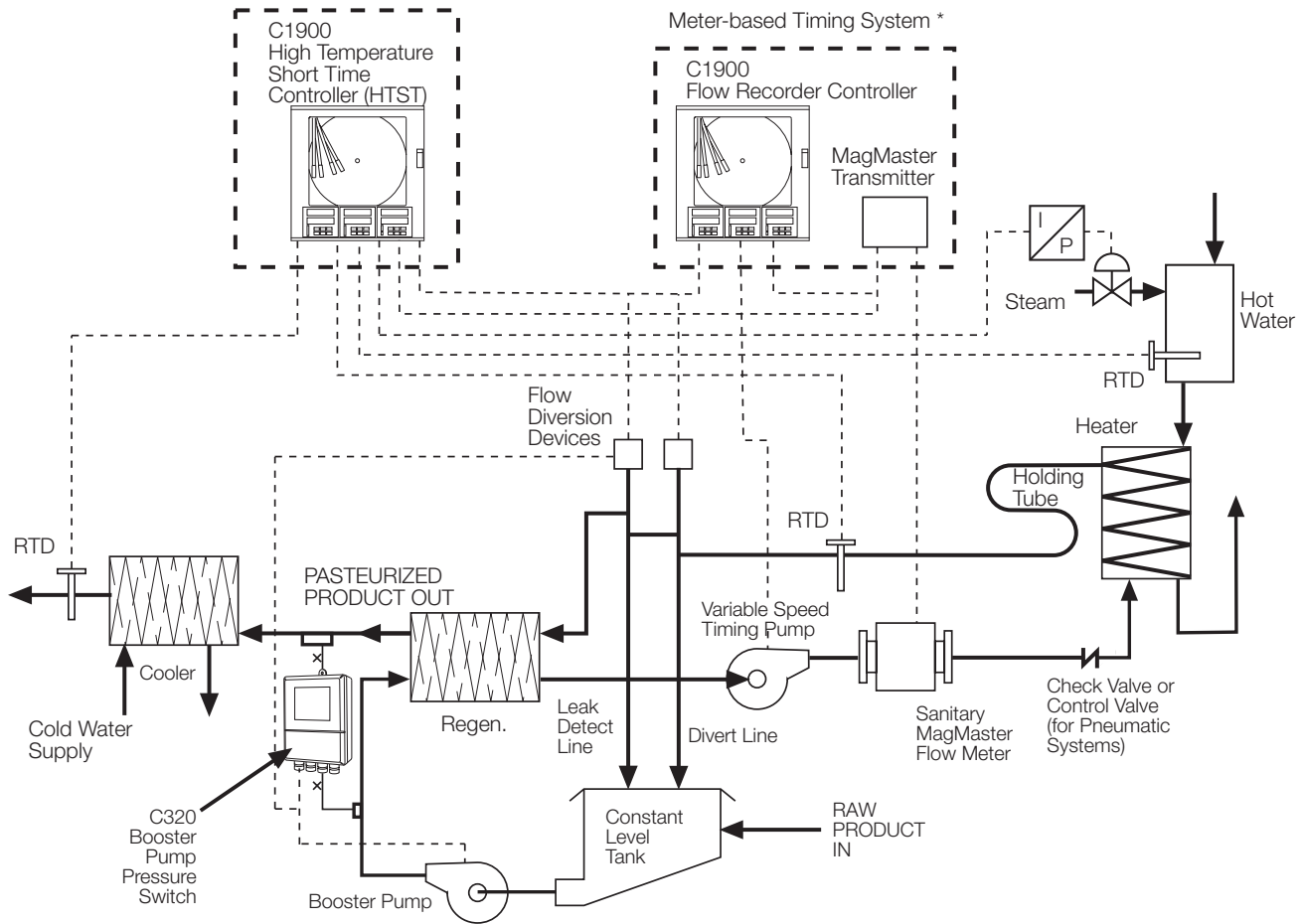
– Optional auxiliary input for pressure, second RTD, Flow etc. traced but not displayed (C1952/C1953)

Violet Pen – 4-Position True Time Forward/Divert Event



Principle of Operation – Pasteurization

Raw product is pumped from the constant level tank to the heating section where the temperature is raised to exceed the pasteurization low limit. The hot product temperature is measured and recorded at the end of the holding tube. Until the pasteurization limit is exceeded, the product is recycled to the constant level tank by the FDD. Once pasteurization temperature is exceeded, the hot product, through the forward flow port, is routed to the regenerator and cooling sections of the heat exchanger. The red pen records and monitors the hot product pasteurization temperature. The violet pen records the position of the flow diversion valve, FDD. Both of these pens record on the same time line. The green pen records the selected diversion temperature, on multiple divert systems, where up to eight may be selected. The event pen can also indicate when the process is in CIP or secondary divert due to low pressure.

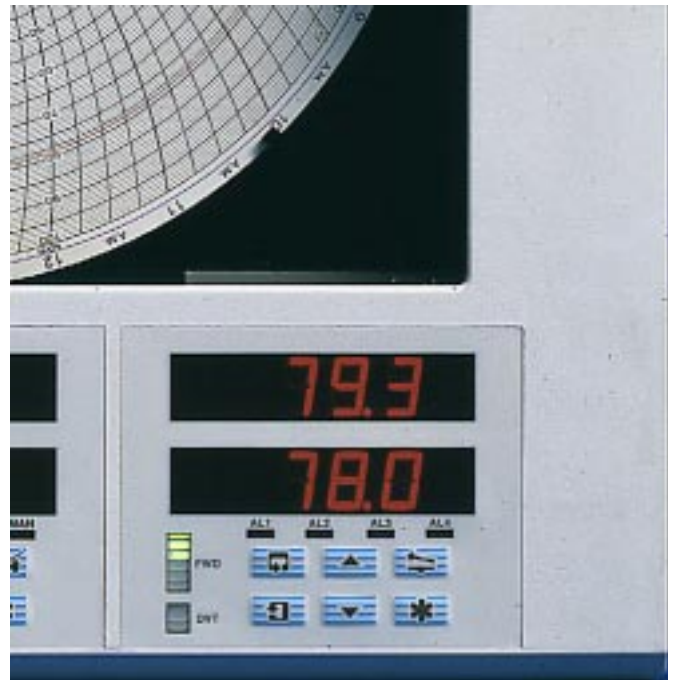


Meter-based Timing System *

The MagMaster Flowmeter measures flow rate and sends the signal to the C1900 Controller. In turn, the C1900 regulates the flow by throttling the variable speed timing pump based on the comparison of product flow rate to the C1900's set point. The maximum set point is the volumetric flow rate that provides the minimum necessary pasteurization time in the holding tube.

As a safeguard in the system setup, the C1900 provides alarms for high and low flow and loss of signal. These alarms notify operators when conditions, such as loss of flow, power failure, damaged cable or similar situations arise. When triggered, the integral alarm relay changes state, causing the flow diversion valve to move to its divert position until the condition is corrected and the time delay has expired

* For additional information on the Meter-based Timing System contact your local ABB representative.



Ordering Information

PART 1 – General Details

C1950 (STLR & HTST) Pasteurizer Recorder and Recorder Controller	XXXXX	X	X	X	X	X	X	0	X	X	X	XXX
Safety Thermal Limit Recorder (STLR)												
2 pens (red and green) plus true time event pen (violet)												
Taylor (ER/C) charts	1951J											
KPC 105, Kent PX and Kent PXR type charts	1951K											
High Temperature Short Time (HTST) Recording Controllers												
1 control unit, 2 pens (red and green), plus true time event (violet)												
Taylor (ER/C) charts	1952R											
KPC 105, Kent PX and Kent PXR type charts	1952S											
2 control units, 3 pens (red, green and blue), plus true time event pen (violet)												
Taylor (ER/C) charts	1953R											
KPC 105, Kent PX and Kent PXR type charts	1953S											
Electrical Code												
Standard		A										
CSA approved		B										
Additional Modules												
None			0									
Additional modules – Part 2			A									
Options												
None							0					
Door Lock												
Not fitted											1	
Fitted											2	
Power Supply												
115V AC											1	
230V AC											2	
24V AC											3	

* CSA approval is not available on units with module type '9' fitted – see below

PART 2 – Modules

	XXXXX	X	X	X	X	X	X	0	X	X	X	XXX
Module Position 2*												
1952 Enter code 1 for optional cold product module		0	1									
1951 and 1953 Enter code 0 cold product module always fitted												
Module Position 3*												
1952 and 1953 Enter code 0, hot water module always fitted		0										
1951 No option permitted												
Module Position 4												
Enter code 1 or 2 for auxiliary input module		0	1	2	3	4	5					
For other options see key below												
Module Position 5												
Enter option 9 for FDA dairy applications (115V only)		0	-	2	3	4	-				9	
For other options see key below												
Module Position 6												
If option 9 is selected above, no other option is permitted		0	-	2	-	4	5				8	
Programming/Special Features												
Configured to factory standard												STD
Configured to customer requirements												CUS
Special features												SXX

Key to Module Types

- | | | | |
|----|---|---|--|
| *0 | No module fitted / Pen input channel | 4 | 8 Digital Inputs |
| 1 | Standard Input/Output | 5 | 8 Digital Outputs |
| 2 | Analog Input (Remote set point) + Relay | 8 | Modbus RS485 Communications |
| 3 | 4 Relays | 9 | Dairy Module (FDA) (takes up module positions 5 and 6) |

For full technical specifications refer to Data Sheets SS/C1900R & SS/C1900RC.

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Printed in UK (09.02)

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ABB Inc.
125 E. County Line Road
Warminster
PA 18974
USA
Tel: +1 215 674 6000
Fax: +1 215 674 7183

ABB Limited
Howard Road, St Neots
Cambridgeshire
PE19 8EU
UK
Tel: +44 (0)1480 475321
Fax: +44 (0)1480 217948