

Operator: Validation Manager Vessel: Hydrostat  
 Process: Validation Product: Food  
 Session Start: 21-01-2014 14:55:06 Time Zone: UTC offset 01:00:00  
 Session Stop: 21-01-2014 14:55:13  
 Session Name: Hydrostatic Retort Validation  
 Session Text:



## Statistics

Name: Statistics - Temp in Holding  
 Description:

### Input parameters

Data Series Type: Temperature  
 Data series: LC 7, LA 6, LC 2, LC 5, LC 9, LC 4, LC 1, LC 3, LC 8  
 Start Time: 17-11-2009 15:03:38  
 Stop Time: 17-11-2009 15:24:42  
 Output: Data Series analysis, Global Data analysis  
 Functions: Min., Max., Average, Delta

### Global Data analysis

Min. 122,02 °C 17-11-2009 15:03:40 LC 3  
 Max. 122,69 °C 17-11-2009 15:19:30 LA 6  
 Average 122,47 °C  
 Delta 0,67 °C

### Data Series analysis

Min average 122,45 °C LC 8  
 Max average 122,48 °C LC 9

ID	Name	Min.	Max.	Average	Delta
85452	LC 7	122,21 °C	122,66 °C	122,47 °C	0,45 °C
86013	LA 6	122,28 °C	122,69 °C	122,48 °C	0,41 °C
86143	LC 2	122,26 °C	122,67 °C	122,47 °C	0,41 °C
86310	LC 5	122,14 °C	122,67 °C	122,47 °C	0,53 °C
89264	LC 9	122,28 °C	122,68 °C	122,48 °C	0,40 °C
89267	LC 4	122,14 °C	122,68 °C	122,47 °C	0,54 °C
89271	LC 1	122,24 °C	122,66 °C	122,46 °C	0,42 °C
89274	LC 3	122,02 °C	122,68 °C	122,47 °C	0,66 °C
89293	LC 8	122,24 °C	122,65 °C	122,45 °C	0,41 °C

Operator: Validation Manager Vessel: Hydrostat  
 Process: Validation Product: Food  
 Session Start: 21-01-2014 14:55:06 Time Zone: UTC offset 01:00:00  
 Session Stop: 21-01-2014 14:55:13  
 Session Name: Hydrostatic Retort Validation  
 Session Text:



## Statistics

Name: Statistics - Fo in holding  
 Description:

### Input parameters

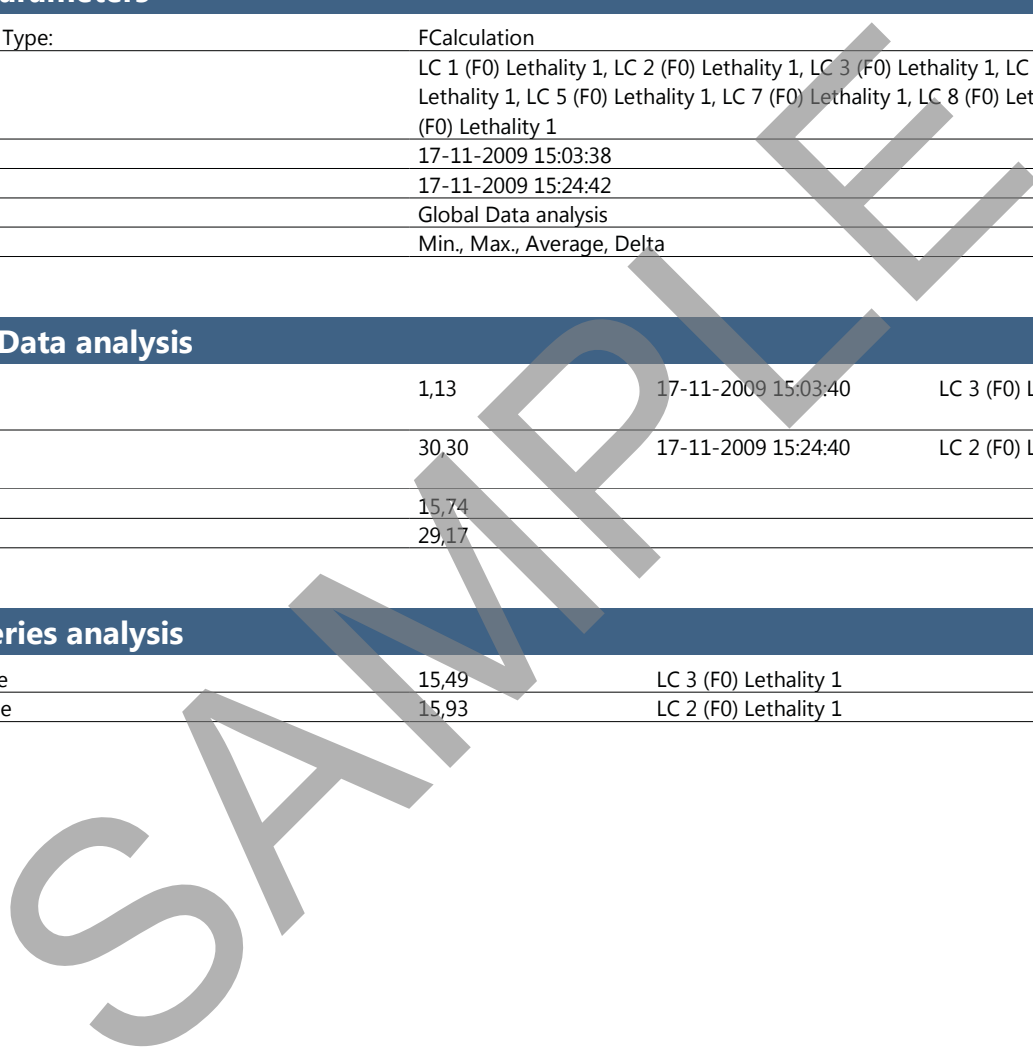
Data Series Type: FCalculation  
 Data series: LC 1 (F0) Lethality 1, LC 2 (F0) Lethality 1, LC 3 (F0) Lethality 1, LC 4 (F0) Lethality 1, LC 5 (F0) Lethality 1, LC 7 (F0) Lethality 1, LC 8 (F0) Lethality 1, LC 9 (F0) Lethality 1  
 Start Time: 17-11-2009 15:03:38  
 Stop Time: 17-11-2009 15:24:42  
 Output: Global Data analysis  
 Functions: Min., Max., Average, Delta

### Global Data analysis

Min.	1,13	17-11-2009 15:03:40	LC 3 (F0) Lethality 1
Max.	30,30	17-11-2009 15:24:40	LC 2 (F0) Lethality 1
Average	15,74		
Delta	29,17		

### Data Series analysis

Min average	15,49	LC 3 (F0) Lethality 1
Max average	15,93	LC 2 (F0) Lethality 1



Operator: Validation Manager Vessel: Hydrostat  
Process: Validation Product: Food  
Session Start: 21-01-2014 14:55:06 Time Zone: UTC offset 01:00:00  
Session Stop: 21-01-2014 14:55:13  
Session Name: Hydrostatic Retort Validation  
Session Text:



## Limit Report

Name: Limit Report holding  
Description: Limit Report Number 1

## Input parameters

Criteria: Passed when 122,00 °C < Value  
Triggering : All, Temperature  
Data Series: LC 1, LC 2, LC 3, LC 4, LC 5, LA 6, LC 7, LC 8, LC 9

## Range

Time: 17-11-2009 15:03:38 to 15:24:42

## Triggering Interval

from	to
17-11-2009 15:03:40	17-11-2009 15:24:40

Summary Time: 00:21:00

SAMPLE

Operator:	Validation Manager	Vessel:	Hydrostat
Process:	Validation	Product:	Food
Session Start:	21-01-2014 14:55:06	Time Zone:	UTC offset 01:00:00
Session Stop:	21-01-2014 14:55:13		
Session Name:	Hydrostatic Retort Validation		
Session Text:			



## Advanced Validation Report



Name: Advanced Validation Report

Description:

Cycle:

**Total Test Result: Passed**

### Input parameters

Process Temperature:	121,11 °C
Process Band (K):	6,00
Process Upper Band (K):	3,00
Process Lower Band (K):	3,00
Maximum Process Time:	01:30:00
Mode:	Heat Distribution with Ambient and Core Heat Penetration with Core
Define Periods by:	Temperature
Maximum Temperature Fluctuation (K):	4,20
Maximum Temperature Difference (K):	4,20
Maximum Come Up Time:	00:25:00
Maximum Equilibration Time:	00:02:00
Minimum Holding Time (Total):	00:20:00
Minimum Holding Time (Continuous):	00:20:00
Maximum Holding Time (Total):	00:30:00
Maximum Cooling Time:	00:30:00

### Process Time

Process Start Time:	17-11-2009 14:39:57
Process End Time:	17-11-2009 15:51:31
Process Duration:	01:11:34
Max. Allowed Process Duration:	01:30:00
Process Test Result:	Passed

### Heat Distribution

Cold Zone:	118,53 °C	17-11-2009 15:02:45	LC 3
Hot Zone:	121,81 °C	17-11-2009 15:02:45	LC 2
Delta:	3,28 °C		

### Come Up Time

Come Up Start Time:	17-11-2009 14:39:57
Come Up End Time:	17-11-2009 15:02:45
Come Up Duration:	00:22:48
Max. Allowed Come Up Duration:	00:25:00
Come Up Test Result:	Passed

Operator: Validation Manager Vessel: Hydrostat  
 Process: Validation Product: Food  
 Session Start: 21-01-2014 14:55:06 Time Zone: UTC offset 01:00:00  
 Session Stop: 21-01-2014 14:55:13  
 Session Name: Hydrostatic Retort Validation  
 Session Text:



## Equilibration Time

Equilibration Start Time: 17-11-2009 15:02:15  
 Equilibration End Time: 17-11-2009 15:02:45  
 Equilibration Duration: 00:00:30  
 Max. Allowed Equilibration Duration: 00:02:00  
 Equilibration Test Result: Passed

## Holding Time

Holding Start Time: 17-11-2009 15:02:45  
 Holding End Time: 17-11-2009 15:24:55  
 All Holding Times (Start, End, Duration): 17-11-2009 15:02:45 17-11-2009 15:24:55 00:22:10  
 Holding Duration (Total): 00:22:10  
 Holding Duration (Cont.): 00:22:10  
 Min. Allowed Holding Duration (Total): 00:20:00  
 Min. Allowed Holding Duration (Cont.): 00:20:00  
 Max. Allowed Holding Duration (Total): 00:30:00  
 Holding Test Result: Passed

## Homogeneous Band

Homogeneous Temperature (K): 3,28  
 Max. Allowed Homogeneous Temperature (K): 4,20  
 Homogeneous Temperature Test Result: Passed

## Fluctuation Band

Temperature Fluctuation (K): 4,15  
 Max. Allowed Temperature Fluctuation (K): 4,20  
 Temperature Fluctuation Test Result: Passed

## Summary Report in Holding Time

Sensor ID	Name	Fluctuation (°C)
89271	LC 1	1,88
86143	LC 2	0,86
89274	LC 3	4,15
89267	LC 4	2,08
86310	LC 5	2,81
86013	LA 6	1,08
85452	LC 7	2,08
89293	LC 8	1,09
89264	LC 9	1,29

## Cooling Time

Cooling Time Start: 17-11-2009 15:24:55  
 Cooling Time End: 17-11-2009 15:51:31  
 Cooling Duration: 00:26:36  
 Max. Allowed Cooling Duration: 00:30:00  
 Cooling Test Result: Passed

Operator: Validation Manager Vessel: Hydrostat  
 Process: Validation Product: Food  
 Session Start: 21-01-2014 14:55:06 Time Zone: UTC offset 01:00:00  
 Session Stop: 21-01-2014 14:55:13  
 Session Name: Hydrostatic Retort Validation  
 Session Text:



## Lethality Calculation

Min. Allowed Lethality Value in Process Time:	30,00
Max. Allowed Lethality Value in Process Time:	32,00
Lethality - Reference Temperature:	121,11 °C
Min. Temperature for Lethality-Calculation:	91,11 °C
Lethality - Z-Value:	10 °C

## Individual Analysis

Name	Lethality value in Process Time	Lethality Status
Lethality - LC 1	31,04	Passed
Lethality - LC 2	31,16	Passed
Lethality - LC 3	31,04	Passed
Lethality - LC 4	31,04	Passed
Lethality - LC 5	31,08	Passed
Lethality - LC 7	31,06	Passed
Lethality - LC 8	30,98	Passed
Lethality - LC 9	31,43	Passed

Process Time		
Lethality Min.:	Lethality - LC 8	30,98
Lethality Max.:	Lethality - LC 9	31,43
Lethality Delta:		0,45

SAMPLE

Operator: Validation Manager Vessel: Hydrostat  
 Process: Validation Product: Food  
 Session Start: 21-01-2014 14:55:06 Time Zone: UTC offset 01:00:00  
 Session Stop: 21-01-2014 14:55:13  
 Session Name: Hydrostatic Retort Validation  
 Session Text:



Validation Solutions

## Lethality overview

Sensor ID	Name	Lethality value in Come Up Time	Lethality value in Holding Time	Lethality value in Cooling Time
89271	LC 1	0,26	30,15	0,63
86143	LC 2	0,39	30,26	0,51
89274	LC 3	0,13	30,09	0,82
89267	LC 4	0,23	30,17	0,65
86310	LC 5	0,16	30,13	0,79
85452	LC 7	0,26	30,18	0,63
89293	LC 8	0,45	30,11	0,42
89264	LC 9	0,26	30,34	0,83

### Come Up Time

Lethality Min.:	LC 3	0,13
Lethality Max.:	LC 8	0,45
Lethality Delta:		0,32

### Holding Time

Lethality Min.:	LC 3	30,09
Lethality Max.:	LC 9	30,34
Lethality Delta:		0,25

### Cooling Time

Lethality Min.:	LC 8	0,42
Lethality Max.:	LC 9	0,83
Lethality Delta:		0,41

SAMPLE

---

Operator:	Validation Manager	Vessel:	Hydrostat
Process:	Validation	Product:	Food
Session Start:	21-01-2014 14:55:06	Time Zone:	UTC offset 01:00:00
Session Stop:	21-01-2014 14:55:13		
Session Name:	Hydrostatic Retort Validation		
Session Text:			



---

## Test Equipment

---

TrackSense Pro Wireless Dataloggers

Master Reader Station - Ser.No. 1234

MINI Loggers - 9 pieces

ValSuite Pro Basic Software vers. 4.0

---





Operator: Validation Manager      Vessel: Hydrostat  
Process: Validation                  Product: Food  
Session Start: 21-01-2014 14:55:06      Time Zone: UTC offset 01:00:00  
Session Stop: 21-01-2014 14:55:13  
Session Name: Hydrostatic Retort Validation  
Session Text:



## Heat Penetration

TSP Mini Logger in Can



SAMPLE

Operator: Validation Manager  
Process: Validation  
Session Start: 21-01-2014 14:55:06  
Session Stop: 21-01-2014 14:55:13  
Session Name: Hydrostatic Retort Validation  
Session Text:

Vessel: Hydrostat  
Product: Food  
Time Zone: UTC offset 01:00:00



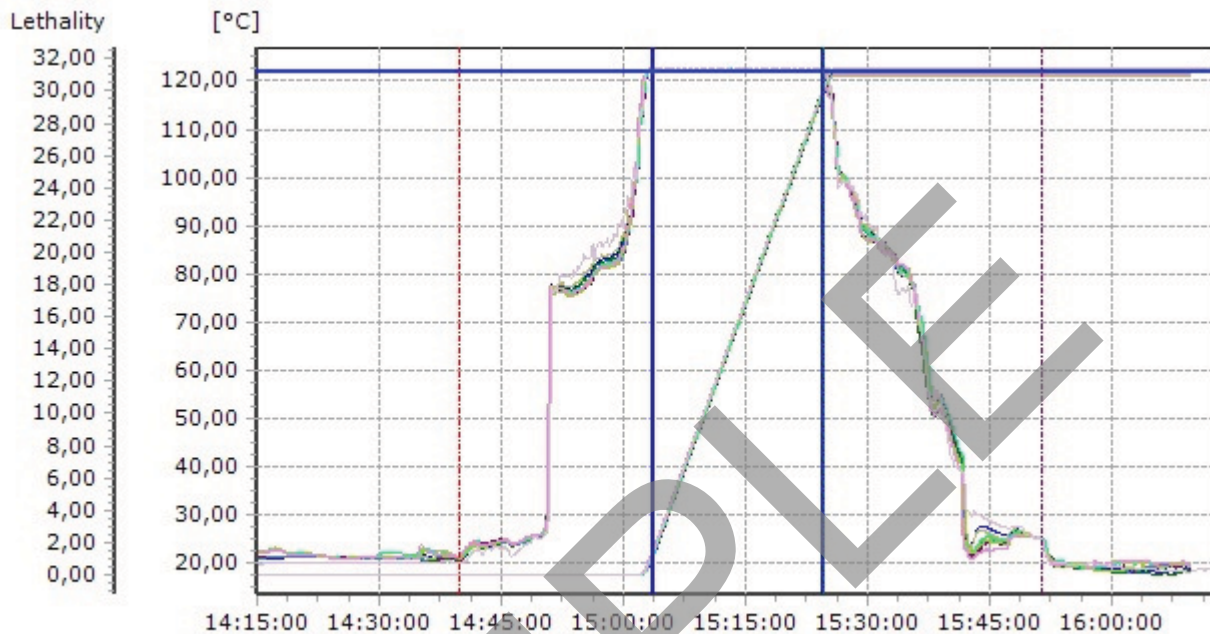
## FMC Hydrostatic Retort #3



Operator: Validation Manager      Vessel: Hydrostat  
Process: Validation                    Product: Food  
Session Start: 21-01-2014 14:55:06      Time Zone: UTC offset 01:00:00  
Session Stop: 21-01-2014 14:55:13  
Session Name: Hydrostatic Retort Validation  
Session Text:



## Graph



SAMPLE

Operator: Validation Manager      Vessel: Hydrostat  
 Process: Validation                  Product: Food  
 Session Start: 21-01-2014 14:55:06      Time Zone: UTC offset 01:00:00  
 Session Stop: 21-01-2014 14:55:13  
 Session Name: Hydrostatic Retort Validation  
 Session Text:



## Channel Overview

Sensor ID	Logger ID	Name	E-Val Flex S/N	Description	Sample Rate 1 (hh:mm:ss)	Sample Rate 2 (hh:mm:ss)
89271	89271	LC 1	N/A	Temperature	00:00:05	N/A
86143	86143	LC 2	N/A	Temperature	00:00:05	N/A
89274	89274	LC 3	N/A	Temperature	00:00:05	N/A
89267	89267	LC 4	N/A	Temperature	00:00:05	N/A
86310	86310	LC 5	N/A	Temperature	00:00:05	N/A
86013	86013	LA 6	N/A	Temperature	00:00:05	N/A
85452	85452	LC 7	N/A	Temperature	00:00:05	N/A
89293	89293	LC 8	N/A	Temperature	00:00:05	N/A
89264	89264	LC 9	N/A	Temperature	00:00:05	N/A

SAMPLE

Operator: Validation Manager      Vessel: Hydrostat  
 Process: Validation                    Product: Food  
 Session Start: 21-01-2014 14:55:06      Time Zone: UTC offset 01:00:00  
 Session Stop: 21-01-2014 14:55:13  
 Session Name: Hydrostatic Retort Validation  
 Session Text:



## Lethality Overview

### Input parameter

Start Date :	17-11-2009
Ref. Temperature:	121,11 °C
Min. Temperature :	91,11 °C
Z-Value:	10 °C
D-Value:	

### Sensor lethality overview

Name	Description	Start Time	End Time	Max. Value
LC 1 (F0) Lethality 1		14:15:00	16:09:35	31,04
LC 2 (F0) Lethality 1		14:15:00	16:09:35	31,16
LC 3 (F0) Lethality 1		14:15:00	16:09:35	31,04
LC 4 (F0) Lethality 1		14:15:00	16:09:35	31,04
LC 5 (F0) Lethality 1		14:15:00	16:09:35	31,08
LC 7 (F0) Lethality 1		14:15:00	16:09:35	31,06
LC 8 (F0) Lethality 1		14:15:00	16:09:35	30,98
LC 9 (F0) Lethality 1		14:15:00	16:13:05	31,43
Lethality - LC 1	L-Calculation	14:39:57	15:51:31	31,04
Lethality - LC 2	L-Calculation	14:39:57	15:51:31	31,16
Lethality - LC 3	L-Calculation	14:39:57	15:51:31	31,04
Lethality - LC 4	L-Calculation	14:39:57	15:51:31	31,04
Lethality - LC 5	L-Calculation	14:39:57	15:51:31	31,08
Lethality - LC 7	L-Calculation	14:39:57	15:51:31	31,06
Lethality - LC 8	L-Calculation	14:39:57	15:51:31	30,98
Lethality - LC 9	L-Calculation	14:39:57	15:51:31	31,43

