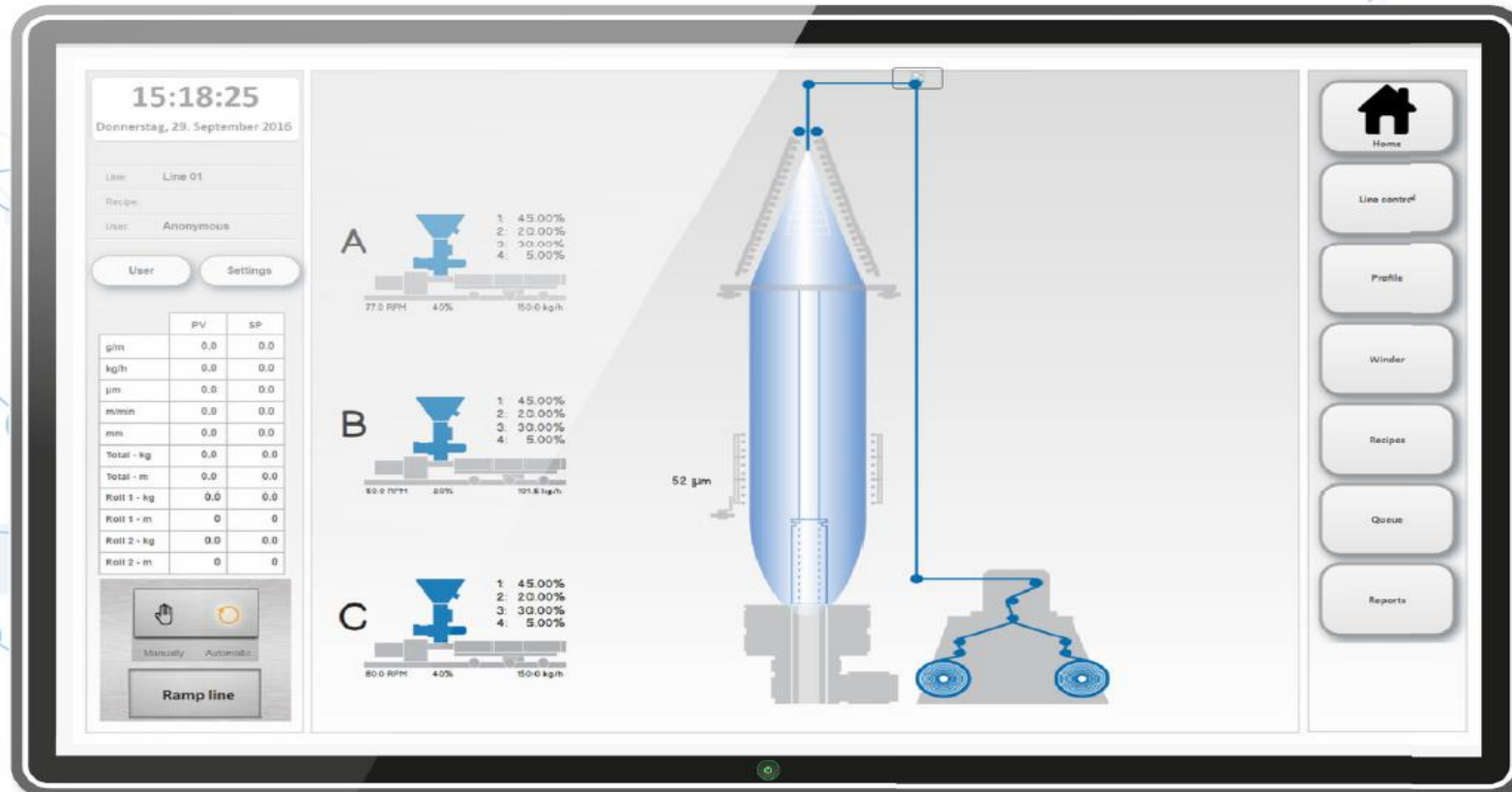


LINEVIEW

Line Management and Control

MATERIAL MANAGEMENT
Blending | Control | Analytics

TSM



LINEVIEW

Line Management and Control

MATERIAL MANAGEMENT
Blending | Control | Analytics

TSM

TSM's new Line Management and Control system provides a supervisory and single window to all key operating parameters associated with the extrusion production process. All information is presented in an intuitive interface allowing for easy operator navigation. Systems can be provided with core functionality and add-on configurable options.

TSM Line View hardware platform is 100% web-enabled, ethernet ready and is equipped with the latest "pinch and grab" graphic interface.

- 100% Web Enabled
- Native Ethernet Communications
- Easy to Customise
- New Look and Feel
- 'Pinch and Drag' functionality
- Onboard OPC-UA server
- Upward Integration
- Multiple Communication Protocols

LINE VIEW

TSM's new Line management system provides supervisory view of all key operating parameters associated with extrusion production processes and is presented in high definition graphics and easy operator navigation

KEY PARAMETERS

- Process Monitoring
- Recipe Management
- Reporting
- Alarm Monitoring
- Display
- Layer Ratio Management
- Haul off Control



LINEVIEW

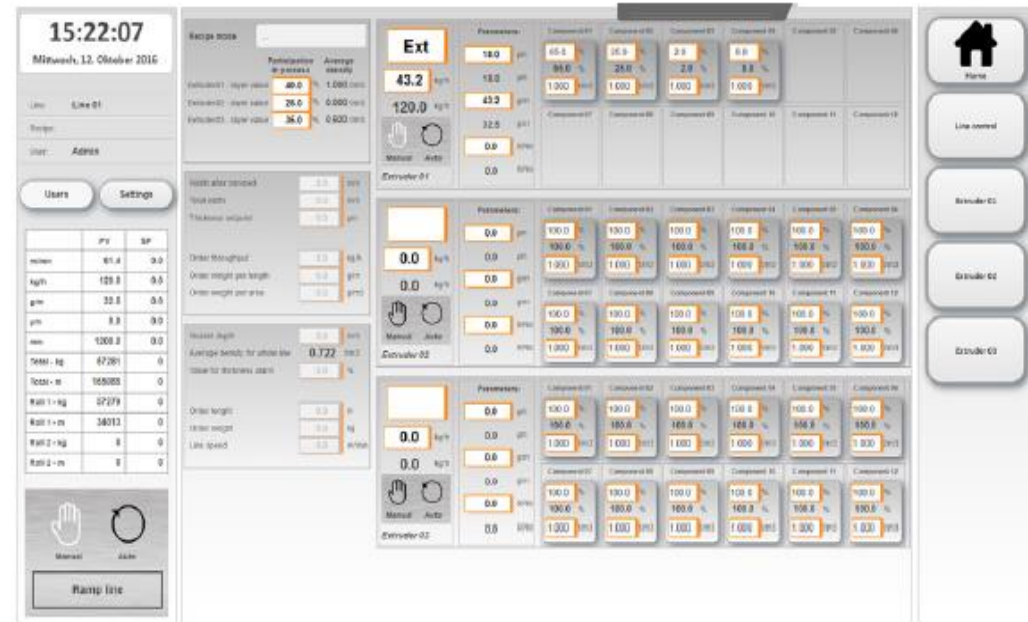
Line Management and Control

MATERIAL MANAGEMENT
Blending | Control | Analytics

TSM

TSM Line View

- Layer Ratio Control (max 11 layers)
- Gravimetric Blending (max 12 components)
- Yield Control
- Job Queing / Order sequencing
- Roll, Order, Shift, Reporting
- Trending and History Management
- Start-up and Warm-up Sequence Control
- Alarm Monitoring
- Synchronised multi-drive Speed Control



Home Screen

14:46:36
7 April 2017

LineView mode:

Throughput & percent

Line: Line 01

Recipe:

User: tsm

Settings

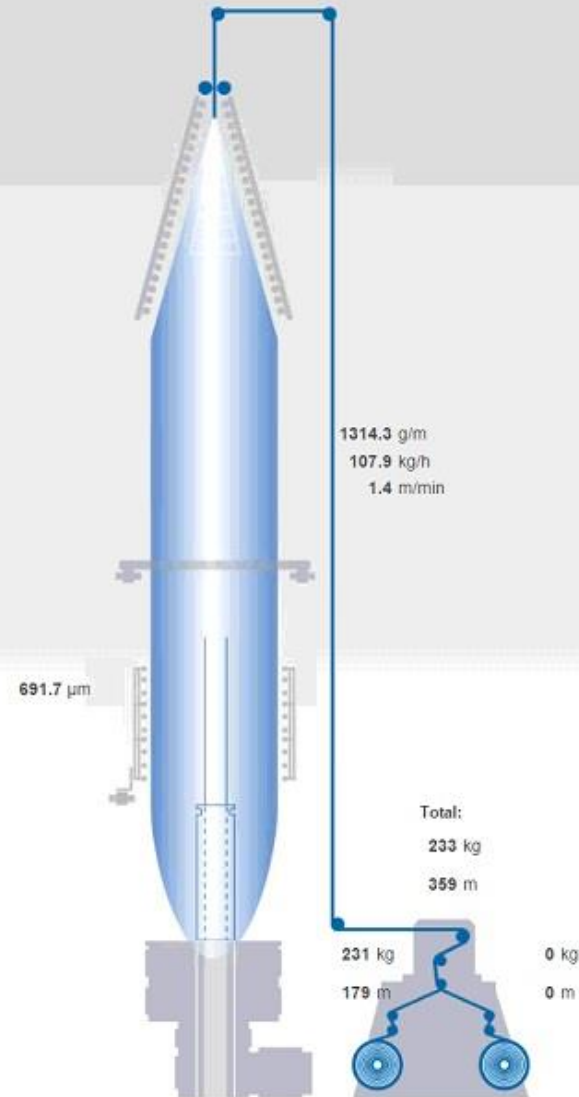
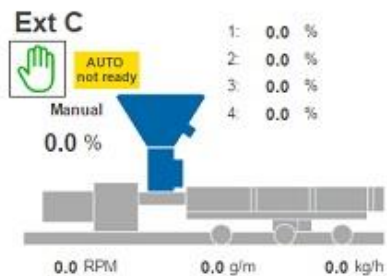
Users

	SP	PV
g/m	75.0	1314.3
kg/h	50.0	107.9
µm	39.5	691.7
m/min	11.1	1.4
mm	1000.0	1000.0
Total - kg	0	233
Total - m	0	359



Manual

Ramp line



Home



Line control



Queue



Recipes



Reports



Alarms

Extruder Info Screen

15:03:52
7 April 2017

LineView mode:

Density & microns

Line: Line 01

Recipe: 123.xml

User: tsm

Settings

Users

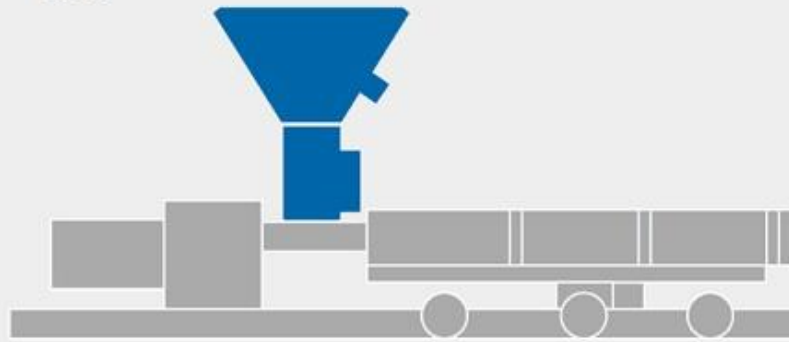
	SP	PV
g/m	95.0	107.7
kg/h	150.0	20.6
µm	50.0	56.7
nr/min	26.3	1.4
mm	1000.0	1000.0
Total - kg	0	2
Total - m	0	22



Manual

Ramp line

Ext A



- Communication with SEI module
- Communication with low level sensor
- Communication with haul off module

Total weight	0.0	kg
Total length	6.0	m
Roll 1 weight	0.0	kg
Roll 1 length	6.0	m
Roll 2 weight	0.0	kg
Roll 2 length	0.0	m

Width after trimmed **900.0** mm
0.0 mm

Total width **1000.0** mm
1000.0 mm

Order length **0.0** m
6.0 m

Order weight **0.0** kg
0.0 kg

AUTO not ready

Manual

0.950 g/cm3

45.00 kg/h

0.00 kg/h

Parameters:

15 µm
0 µm

28.5 g/m
0.0 g/m

100 Max RPM
0.0 RPM
0.0 RPM

Comp 01	Comp 02	Comp 03	Comp 04
100.0 % 0.0%	0.0 % 0.0%	0.0 % 0.0%	0.0 % 0.0%
0.950 g/cm3	0.000 g/cm3	0.000 g/cm3	0.000 g/cm3



Home



Line control



Queue



Recipes



Extruder 01



Extruder 02



Extruder 03

Recipe Management Screen

15:02:57
7 April 2017

LineView mode:

Density & microns

Line: Line 01

Recipe: 123.xml

User: tsm

Settings

Users

	SP	PV
g/m	95.0	107.7
kg/h	150.0	20.6
µm	50.0	56.7
m/min	26.3	1.4
mm	1000.0	1000.0
Total - kg	0	2
Total - m	0	19



Manual

Ramp line

Recipe Management

- 123.xml
- 234.xml
- _DWIE.xml
- current_20170124.xml
- current_20170125.xml
- current_20170207.xml
- CurrentConfig.xml
- CurrentRecipe.xml

Page up

Page down

Open selected recipe file

Delete selected recipe file

Save 'Recipe View' as:

Create recipe

Recipe View

123.xml

Main line parameters

Order throughput	150.00	kg/h
Thickness setpoint	50	µm
Order weight per length	95.0	g/m
Line speed	26.3	m/min
Width after trimmed	900.0	mm
Total width	1000.0	mm
Average density for whole line	0.950	g/cm ³
Value for thickness alarm	0.0	%
Order length	0.0	m
Order weight	0.0	kg

Ext A

Parameters:	15	µm
	28.5	g/m
	100	Max RPM
	0.0	RPM
30.0	%	
0.950	g/cm ³	
45.00	kg/h	

Comp 01	Comp 02	Comp 03	Comp 04
100.0 %	0.0 %	0.0 %	0.0 %
0.950 g/cm ³	0.000 g/cm ³	0.000 g/cm ³	0.000 g/cm ³

Ext B

Parameters:	20	µm
	38.0	g/m
	123	Max RPM
	3.2	RPM
40.0	%	
0.950	g/cm ³	
60.00	kg/h	

Comp 01	Comp 02	Comp 03	Comp 04	Comp 05	Comp 06
100.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
0.950 g/cm ³	0.950 g/cm ³	0.950 g/cm ³	0.950 g/cm ³	0.950 g/cm ³	0.950 g/cm ³

Ext C

Parameters:	15	µm
	28.5	g/m
	120	Max RPM
	1.2	RPM
30.0	%	
0.950	g/cm ³	
45.00	kg/h	

Comp 01	Comp 02	Comp 03	Comp 04
100.0 %	0.0 %	0.0 %	0.0 %
0.950 g/cm ³	1.982 g/cm ³	1.410 g/cm ³	0.966 g/cm ³

Run recipe



Home



Line control



Queue



Recipes



Extruder 01



Extruder 02



Extruder 03

Recipe Queue Screen


15:01:59
7 April 2017

LineView mode:
Density & microns

Line: **Line 01**
Recipe: **123.xml**
User: **tsm**

Settings Users

	SP	PV
g/m	95.0	107.7
kg/h	150.0	20.6
µm	50.0	56.7
nv/min	26.3	1.4
mm	1000.0	1000.0
Total - kg	0	2
Total - m	0	6


Manual

Ramp line

Recipe

123.xml
234.xml
_DWIE.xml
current_20170124.xml
current_20170125.xml
current_20170207.xml
CurrentConfig.xml
CurrentRecipe.xml
CurrentRecipe01.xml
CurrentRecipe02.xml
HaulOff_test_20170214.xml
HaulOff_test_20170217.xml
HaulOff_test_20170221.xml
Jordan.xml
knix123.xml

Queue

123.xml

Page up

Add to queue

Page down


Up


Delete from queue


Queue popup


Down


Start queue



Home



Line control


Queue


Recipes


Extruder 01


Extruder 02


Extruder 03

Line Control Screen

14:59:57
7 April 2017

LineView mode:

Density & microns

Line: **Line 01**

Recipe: **123.xml**

User: **tsm**

Settings

Users

	SP	PV
g/m	95.0	35.8
kg/h	150.0	14.7
µm	50.0	18.8
m/min	26.3	1.3
mm	1000.0	1000.0
Total - kg	0	2
Total - m	0	2



Manual

Ramp line

Main line parameters

Order throughput **150.00** kg/h
 Thickness setpoint **50** µm
 Order weight per length **95.0** g/m
 Line speed **26.3** m/min
 Width after trimmed **900.0** mm
 Total width **1000.0** mm
 Average density for whole line **0.950** g/cm³
 Value for thickness alarm **0.0** %
 Order length **0.0** m
 Order weight **0.0** kg

Haul off

40.0 Max m/min
1.7 m/min
1.3 m/min

Master control

26.3 m/min
150.0 kg/h
14.7 kg/h
95.0 g/m
35.8 g/m

Copy to recipe

Ext A

30.0 %
0.950 g/cm³
45.00 kg/h
0.00 kg/h
AUTO not ready
 Manual

Parameters:
15 µm
0 µm
28.5 g/m
0.0 g/m
100 Max RPM
0.0 RPM
0.0 RPM

Comp 01	Comp 02	Comp 03	Comp 04
100.0 %	0.0 %	0.0 %	0.0 %
0.0 %	0.0 %	0.0 %	0.0 %
0.950 g/cm ³	0.000 g/cm ³	0.000 g/cm ³	0.000 g/cm ³

Ext B

40.0 %
0.950 g/cm³
60.00 kg/h
2.72 kg/h
AUTO not ready
 Manual

Parameters:
20 µm
17 µm
38.0 g/m
32.5 g/m
123 Max RPM
3.2 RPM
3.2 RPM

Comp 01	Comp 02	Comp 03	Comp 04	Comp 05	Comp 06
100.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
100.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
0.950 g/cm ³	0.950 g/cm ³	0.950 g/cm ³	0.950 g/cm ³	0.950 g/cm ³	0.950 g/cm ³

Ext C

30.0 %
0.950 g/cm³
45.00 kg/h
11.99 kg/h
AUTO not ready
 Manual

Parameters:
53 µm
2 µm
28.5 g/m
3.3 g/m
120 Max RPM
1.2 RPM
1.2 RPM

Comp 01	Comp 02	Comp 03	Comp 04
100.0 %	0.0 %	0.0 %	0.0 %
0.0 %	0.0 %	0.0 %	0.0 %
0.950 g/cm ³	1.982 g/cm ³	1.410 g/cm ³	0.966 g/cm ³



14.7

150.0 kg/h

19

50 µm

35.8

95.0 g/m



Home



Line control



Queue



Recipes



Extruder 01



Extruder 02



Extruder 03

Ramp Extruder Screen

15:06:48
7 April 2017

LineView mode:

Density & microns

Line: Line 01

Recipe: 123.xml

User: tsm

Settings

Users

	SP	PV
g/m	95.0	3.3
kg/h	150.0	12.0
µm	50.0	1.7
m/min	26.3	4.0
mm	1000.0	1000.0
Total - kg	0	2
Total - m	0	29



Manual

Ramp line

Width after trimmed

Total width

Order length

Order weight

Ramp Line

<p style="text-align: center;">Line 01</p> <p style="text-align: center;">STOP +1%</p> <p>Extruders speed 18.0 %</p> <p style="text-align: center;">-1%</p>	<p style="text-align: center;">Haul off</p> <p style="text-align: center;">+0.1 40.0 Max m/min</p> <p style="text-align: center;">4.3 m/min</p> <p style="text-align: center;">-0.1 4.0 m/min</p> <p style="text-align: center;"> Manual</p>	<p style="text-align: center;">Master control</p> <p style="text-align: center;">Parameters counted from recipe</p> <p style="text-align: center;">26.3 m/min</p> <p style="text-align: center;">150.0 kg/h 95.0 g/m</p> <p style="text-align: center;">12.0 kg/h 3.3 g/m</p> <p style="text-align: center;"> Manual</p>			
<p style="text-align: center;">Ext A</p> <p style="text-align: center;">45.00 kg/h</p> <p style="text-align: center;">0.00 kg/h</p> <p style="text-align: center;"> AUTO not ready</p> <p style="text-align: center;">Manual</p>	<p style="text-align: center;">Parameters</p> <p style="text-align: center;">15.0 µm</p> <p style="text-align: center;">0.0 µm</p> <p style="text-align: center;">28.5 g/m</p> <p style="text-align: center;">0.0 g/m</p> <p style="text-align: center;">100 Max RPM</p> <p style="text-align: center;">0.0 RPM</p>	<p style="text-align: center;">Ext B</p> <p style="text-align: center;">60.00 kg/h</p> <p style="text-align: center;">0.00 kg/h</p> <p style="text-align: center;"> AUTO not ready</p> <p style="text-align: center;">Manual</p>	<p style="text-align: center;">Parameters</p> <p style="text-align: center;">20.0 µm</p> <p style="text-align: center;">0.0 µm</p> <p style="text-align: center;">38.0 g/m</p> <p style="text-align: center;">0.0 g/m</p> <p style="text-align: center;">123 Max RPM</p> <p style="text-align: center;">0.0 RPM</p>	<p style="text-align: center;">Ext C</p> <p style="text-align: center;">45.00 kg/h</p> <p style="text-align: center;">11.99 kg/h</p> <p style="text-align: center;"> AUTO not ready</p> <p style="text-align: center;">Manual</p>	<p style="text-align: center;">Parameters</p> <p style="text-align: center;">53.0 µm</p> <p style="text-align: center;">1.7 µm</p> <p style="text-align: center;">28.5 g/m</p> <p style="text-align: center;">3.3 g/m</p> <p style="text-align: center;">120 Max RPM</p> <p style="text-align: center;">1.2 RPM</p>
<p style="text-align: center;">STOP +1 RPM</p> <p>Extruder speed 18.0 RPM</p> <p style="text-align: center;">-1 RPM</p>	<p style="text-align: center;">STOP +1 RPM</p> <p>Extruder speed 0.0 RPM</p> <p style="text-align: center;">-1 RPM</p>	<p style="text-align: center;">STOP +1 RPM</p> <p>Extruder speed 0.0 RPM</p> <p style="text-align: center;">-1 RPM</p>			



Home



Line control



Queue



Recipes



Extruder 01



Extruder 02



Extruder 03

Extruder Stop Screen

15:07:25

7 April 2017

LineView mode:

Density & microns

Line: Line 01

Recipe: 123.xml

User: tsm

Settings

Users

	SP	PV
g/m	95.0	3.3
kg/h	150.0	12.0
µm	50.0	1.7
m/min	26.3	4.1
mm	1000.0	1000.0
Total - kg	0	2
Total - m	0	34



Manual

Ramp line

Ramp Line

Line 01	Haul off	Master control
STOP +1% Extruders speed 18.0 % -1%	+0.1 40.0 Max m/min 4.3 m/min -0.1 4.1 m/min Manual	Parameters counted from recipe 26.3 m/min 150.0 kg/h 95.0 g/m 12.0 kg/h 3.3 g/m Manual

Ext A	Ext B	Ext C
45.00 kg/h 0.00 kg/h Manual AUTO not ready	15.00 kg/h 25.00 kg/h Manual not ready	53.0 µm 1.7 µm 28.5 g/m 3.3 g/m 120 Max RPM 1.2 RPM Manual AUTO not ready

Ext A	Ext B	Ext C
STOP +1 RPM Extruder speed 18.0 RPM -1 RPM	STOP +1 RPM Extruder speed 0.0 RPM -1 RPM	STOP +1 RPM Extruder speed 0.0 RPM -1 RPM

STOP Extruder STOP



Do you want stop Extruder01?

Yes

No

Alarm Screen

15:10:15
7 April 2017

LineView mode:

Density & microns

Line: Line 01

Recipe: 123.xml

User: tsm

Settings

Users

	SP	PV
g/m	95.0	3.3
kg/h	150.0	12.0
µm	50.0	1.7
m/min	26.3	4.1
mm	1000.0	1000.0
Total - kg	0	3
Total - m	0	67



Manual

Ramp line

Category	TimeStamp	Name	Message	Code	Active/Active	Ackn	Ackn

Page Up



Home



Line control



Queue



Recipes



Reports



Alarms

Page Down

Acknowledge

Group acknowledge

Refresh

Extruder Report Screen

15:09:01
7 April 2017

LineView mode:

Density & microns

Line: Line 01

Recipe: 123.xml

User: tsm

Settings

Users

	SP	PV
g/m	95.0	3.3
kg/h	150.0	12.0
µm	50.0	1.7
m/min	26.3	4.1
mm	1000.0	1000.0
Total - kg	0	3
Total - m	0	57



Manual

Ramp line

Order report

Start time: 00.04.07 13:54:00
End time: 00.04.07 13:58:00
Duration: 00:04:00

Order No:
Customer code: Xc,žÄ

Component 01	100.0 %	0.00 kg
Component 02	0.0 %	0.00 kg
Component 03	0.0 %	0.00 kg
Component 04	0.0 %	0.00 kg

Front roll number: 1
Back roll number: 1
Order length: 0.1 m
Order weight: 0.0 kg
Roll width: 1000.0 mm

Throughput setpoint: 3.0 kg/h
Line speed: 13.3 m/min
Order weight per length: 6.0 g/m
Order weight per area: 0.0 g/m²

Front roll

Start time: 00.00.00 00:00:00
End time: 00.00.00 00:00:00
Duration: 00:00:00

Order No:
Customer code:

Roll number: 0
Roll width: 0.0 mm
Roll length: 0.0 m
Roll weight: 0.0 kg
Trim rate: 0.0 mm
Trim weight: 0.0 kg

Throughput setpoint: 0.0 kg/h
Line speed: 0.0 m/min
Order length: 0.0 m
Order weight: 0.0 kg
Order weight per length: 0.0 g/m
Order weight per area: 0.0 g/m²

Back roll

Start time: 00.00.00 00:00:00
End time: 00.00.00 00:00:00
Duration: 00:00:00

Order No:
Customer code:

Roll number: 0
Roll width: 0.0 mm
Roll length: 0.0 m
Roll weight: 0.0 kg
Trim rate: 0.0 mm
Trim weight: 0.0 kg

Throughput setpoint: 0.0 kg/h
Line speed: 0.0 m/min
Order length: 0.0 m
Order weight: 0.0 kg
Order weight per length: 0.0 g/m
Order weight per area: 0.0 g/m²

Report shift 1 Shift length: 0 m

Start time: 2017.00.00 00:00:00
End time: 2017.00.00 00:00:00

Component 01	0.0 %	0.00 kg
Component 02	0.0 %	0.00 kg
Component 03	0.0 %	0.00 kg
Component 04	0.0 %	0.00 kg
Component 05	0.0 %	0.00 kg
Component 06	0.0 %	0.00 kg
Component 07	0.0 %	0.00 kg
Component 08	0.0 %	0.00 kg
Component 09	0.0 %	0.00 kg
Component 10	0.0 %	0.00 kg
Component 11	0.0 %	0.00 kg
Component 12	0.0 %	0.00 kg

Shift weight: 0.00 kg

Report shift 2 Shift length: 0 m

Start time: 2017.00.00 00:00:00
End time: 2017.00.00 00:00:00

Component 01	0.0 %	0.00 kg
Component 02	0.0 %	0.00 kg
Component 03	0.0 %	0.00 kg
Component 04	0.0 %	0.00 kg
Component 05	0.0 %	0.00 kg
Component 06	0.0 %	0.00 kg
Component 07	0.0 %	0.00 kg
Component 08	0.0 %	0.00 kg
Component 09	0.0 %	0.00 kg
Component 10	0.0 %	0.00 kg
Component 11	0.0 %	0.00 kg
Component 12	0.0 %	0.00 kg

Shift weight: 0.00 kg

Report shift 3 Shift length: 0 m

Start time: 2017.00.00 00:00:00
End time: 2017.00.00 00:00:00

Component 01	0.0 %	0.00 kg
Component 02	0.0 %	0.00 kg
Component 03	0.0 %	0.00 kg
Component 04	0.0 %	0.00 kg
Component 05	0.0 %	0.00 kg
Component 06	0.0 %	0.00 kg
Component 07	0.0 %	0.00 kg
Component 08	0.0 %	0.00 kg
Component 09	0.0 %	0.00 kg
Component 10	0.0 %	0.00 kg
Component 11	0.0 %	0.00 kg
Component 12	0.0 %	0.00 kg

Shift weight: 0.00 kg

Report shift 4 Shift length: 0 m

Start time: 2017.00.00 00:00:00
End time: 2017.00.00 00:00:00

Component 01	0.0 %	0.00 kg
Component 02	0.0 %	0.00 kg
Component 03	0.0 %	0.00 kg
Component 04	0.0 %	0.00 kg
Component 05	0.0 %	0.00 kg
Component 06	0.0 %	0.00 kg
Component 07	0.0 %	0.00 kg
Component 08	0.0 %	0.00 kg
Component 09	0.0 %	0.00 kg
Component 10	0.0 %	0.00 kg
Component 11	0.0 %	0.00 kg
Component 12	0.0 %	0.00 kg

Shift weight: 0.00 kg



Home



Reports



Report - extruder 01



Report - extruder 02



Report - extruder 03

Line Report Screen

15:08:19
7 April 2017

LineView mode:

Density & microns

Line: Line 01

Recipe: 123.xml

User: tsm

Settings

Users

	SP	PV
g/m	95.0	3.3
kg/h	150.0	12.0
µm	50.0	1.7
m/min	26.3	4.1
mm	1000.0	1000.0
Total - kg	0	3
Total - m	0	42



Manual

Ramp line

Order report

Start time	00.04.07 13 : 54 : 00	Front roll number:	1	Throughput setpoint	52.0 kg/h
End time	00.04.07 13 : 58 : 00	Back roll number:	1	Line speed	13.3 m/min
Duration	00 : 04 : 00	Order length	0.1 m	Order weight per length	42.5 g/m
Order No		Order weight	0.2 kg	Order weight per area	0.0 g/m2
Customer code	X+_3A	Roll width	1000.0 mm		

Front roll

Start time	00.00.00 00 : 00 : 00	Roll number:	0	Throughput setpoint	0.0 kg/h
End time	00.00.00 00 : 00 : 00	Roll width	0.0 mm	Line speed	0.0 m/min
Duration	00 : 00 : 00	Roll length	0.0 m	Order length	0.0 m
Order No		Roll weight	0.0 kg	Order weight	0.0 kg
Customer code		Trim rate	0.0 mm	Order weight per length	0.0 g/m
		Trim weight	0.0 kg	Order weight per area	0.0 g/m2

Back roll

Start time	00.00.00 00 : 00 : 00	Roll number:	0	Throughput setpoint	0.0 kg/h
End time	00.00.00 00 : 00 : 00	Roll width	0.0 mm	Line speed	0.0 m/min
Duration	00 : 00 : 00	Roll length	0.0 m	Order length	0.0 m
Order No		Roll weight	0.0 kg	Order weight	0.0 kg
Customer code		Trim rate	0.0 mm	Order weight per length	0.0 g/m
		Trim weight	0.0 kg	Order weight per area	0.0 g/m2



Home



Reports



Report - extruder 01

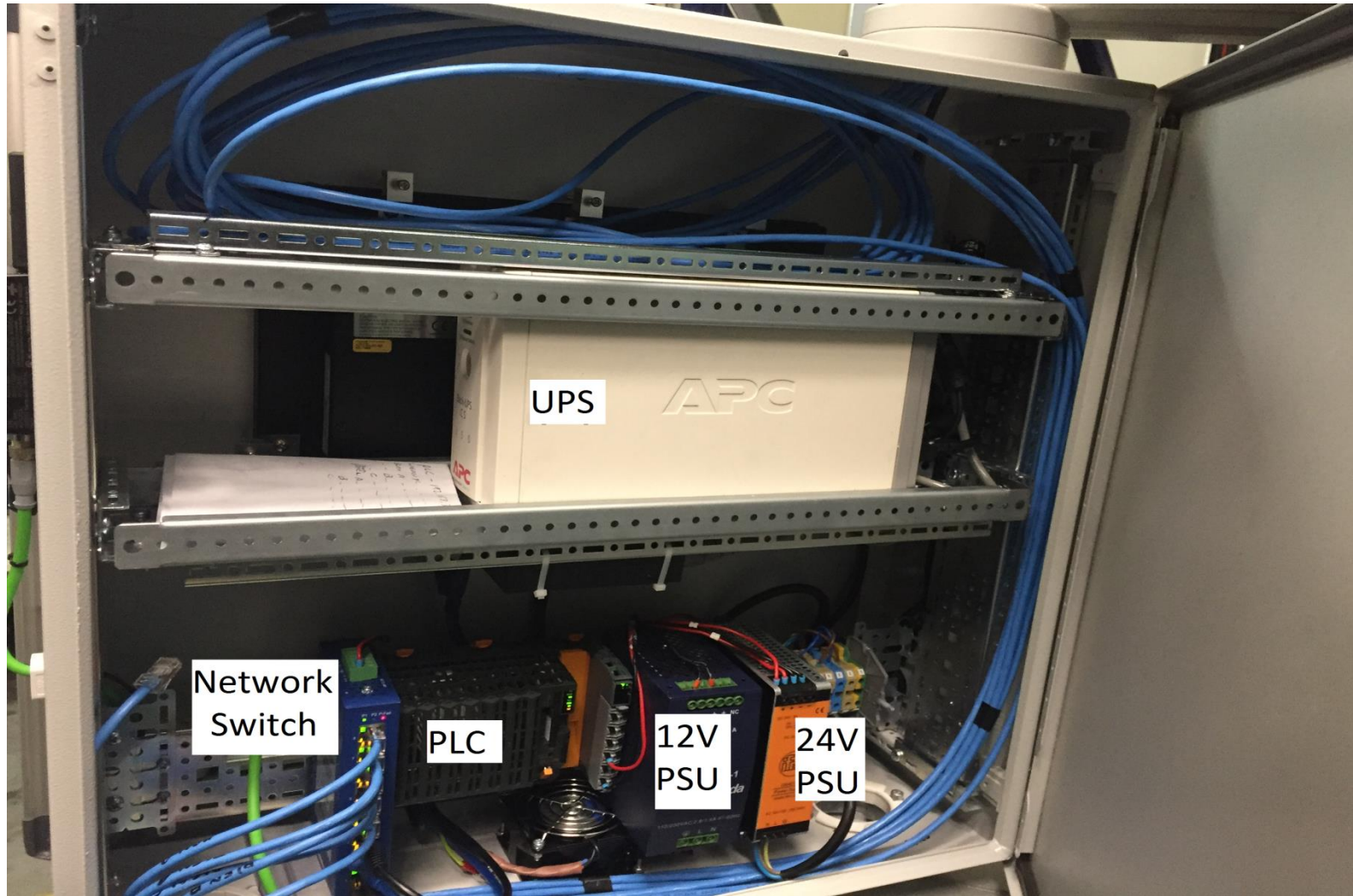


Report - extruder 02



Report - extruder 03

Line View Components



Line View Components

Automation Panel 21.5" Full HD TFT

- 1920 x 1080 pixels (16:9)
- Multi-touch (projected capacitive)
- Cabinet-mounted devices
- Landscape format
- For PPC900/PPC2100/link modules

Panel PC 2100

- Intel Atom E3827 1.75 GHz
- Dual core
- 4 GB SDRAM
- For Automation Panel 923/933

CFast 32 GByte MLC

Connector 24 VDC

- 3-pin female
- Cage clamps 3.31 mm²

Windows 7 Professional SP1

- 32-bit
- English
- DVD

Automation Runtime Windows TG License

- mapp Technology flat rate includes "1TGMPYYYY.02" single licenses per plc



Line View PLC

- Intel® Atom™ 600 MHz processor with an additional I/O processor
- Onboard Ethernet, POWERLINK with poll response chaining and USB
- 1 slot for modular interface expansion
- CompactFlash as removable application memory
- 256 MB DDR2-SDRAM
- Fanless

Product description:

Description:

USB, Ethernet, POWERLINK and removable CompactFlash are all included as standard features. A Gigabit Ethernet interface is a standard feature. For even more real-time network performance, the onboard POWERLINK interface supports poll response chaining mode (PRC).

The CPU has a slot available for X20 communication modules. Various bus and network systems can easily be integrated into the X20 system through the use of communication modules.



Line View Latest Tech



67% faster machine software development

- Focus on innovations
- Higher efficiency
- Opening of new market potential

Reduced development risk

- Increased capacity to plan development activities
- Distributed know-how regarding basic functions

Increased machine availability

- Increased quality of machine software due to use of standards

Reduction in software maintenance costs