

S3 Specification Document

Version overview

Version	Date	Reason for modification	Author
000	11/05/2023	Initial version	KB
000	25/05/2023	Update	KT
001	03/08/2023	Update	KT

Notice

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1 Introduction

The S3™ range of cutters has been designed to produce computer-generated graphic designs on cut sheet or roll vinyl media. Using the integrated optical positioning system (OPOS X) allows contour cutting of printed sheets of material. By replacing the knife with a pen, these cutters can also be used to produce inexpensive previews of new graphic designs on paper.

2 Models

The S3™ series are available in different sizes and different configurations. Depending on the region, certain sizes and or configurations may not be available. Also branding may be different. In this section we refer to the basic model names S3 75, S3 120, S3 140 and S3 160. Where known, it is marked if a specification is configuration depended.

3 Feature List

3.1 Hardware

- Drag head (model name extension: 'D' e.g. S3D75), Tangential head (model name extension: 'T' e.g. S3T75) or PRO CAM head (model name extension: 'TC' e.g. S3TC75).
- Integrated roll feed system with media flanges.
- Fully adjustable media widths.
- Stand with basket.
- Cutting strip.
- Strip for extra tool (only to be used on model names with extension 'TC').
- Pressure on outer pinch rollers can be reduced.
- Extra pinch rollers upgradable in the field.
- Separate cut off knife.
- One front and two back media sensors for media detection.
- Integrated OPOS positioning and alignment system.
or white light sensor automatically raised and lowered with barcode recognition and OPOS X[n]-line detection on model names with extension 'D' or 'T'.
or integrated camera with barcode recognition and OPOS X[n]-line detection on model names with extension 'TC'.
- USB memory stick slot.
- USB, Ethernet and WiFi communication interfaces.
- Integrated SMARC module on model names with extension 'TC'.

3.2 Interface

- 3.5" colored touch screen panel for convenient operator control.
- English, Spanish, French, German, Italian and Dutch.
- Metric or English units.

3.3 Functionality

- Eight separate user configurations stored in the non-volatile memory: (inclusive X&Y Calibration / exclusive OPOS parameters).
- Autoload for automatic media pull from roll.
- OptiCut drag-movement optimization.
- Overcut for easy weeding.

- FlexCut for cutting through.
- Panelling.
- Vector Sorting.
- Multiple recut feature (up to 999).
- Automatic cut sheet after job.
- Sheet cut function: use the cutter to cut rolls to sheets with predefined size.

3.4 Software

- GoSign
 - Finishing software for cut and print&cut jobs
 - Material Database
 - Windows 7, Windows 8 or Windows 10 (no home version)
 - Action sets to automate the workflow
 - Sorting facilities to shorten the output time
 - Material Database
 - Vector clean up
- MacSign™
 - Plugin for Illustrator, for direct cutting to Summa roll cutter
 - MacOS X (10.2 or higher)
 - Connection by USB or TCP/IP
 - OPOS support
 - Registration required.
- Summa Cutter Control
 - Program to control cutter parameters
 - Windows 7, 8,10 and 11
 - Utility to upgrade firmware
 - Possibility to store user configurations on hard disk
 - OPOS Barcode Server

4 Accessories and consumables

The following accessories and consumables are available for your S Class 3 cutter:

Part description	Part number	Included	Picture
Fuse	MF9003	-	
Power cable (Regional differences, contact local dealer for exact part number)		1	
USB cable	399-111	1	
Ethernet shielded cable 5m	MC1200	-	
Razor blade (set of 10)	391-146	2 blades	
Core holders (set of 2)	391-510	1 set	
Strip extra tool S Class 3 PRO CAM (1,83m)	395-840	-	
Cutting strip	1NC40-67032	-	
Storage compartment	395-805	1	

Table 4-1 S CLASS 3 GENERAL ACCESSORIES

Part description	Part number	Included	Picture
Standard drag knife holder for drag head	393-1008	1	
Standard drag knife (36°) (set of 5)	391-360	1	
60° Blade (1pc)	391-231	-	
Drag knife holder for sandblast knife	391-363	-	
Sandblast drag knife (55°) (set of 5)	391-358	-	
Rollerball pen (set of 5)	395-430	-	

Table 4-2 S CLASS 3 ACCESSORIES FOR DRAG SERIES

Part description	Part number	Tangential	PRO CAM	Picture
Tangential knife holder	395-322	1	1	
Standard tangential knife (36°) (set of 5)	390-534	1 knife	1 knife	
Sandblast tangential knife (60°)	390-550	1 knife	1 knife	
Double sided tangential knife (36°)	390-551	-	-	
Double wedge knife (45°) (1pc)	390-560	-	-	
Insertion tool for tangential knife	390-553	1	1	
Nose piece for standard knife	395-348	1	1	
Nose piece for Sandblast knife	395-347	1	1	
Ballpoint pen holder	395-324	1	1	
Ballpoint	395-325	1	1	

Nose piece for drag knife	395-330	1	1	
Drag knife holder for tangential head	395-323	1	1	
Standard drag knife (36°) (set of 5)	391-360	1	1	
60° Blade (1pc)	391-231	-	-	
Fiber pen for PRO CAM head (1pc)	395-376	-	-	
Creasing tool for PRO CAM head	395-758	-	1	

Table 4-3 S CLASS 3 ACCESSORIES FOR TANGENTIAL AND PRO CAM SERIES

5 Options

The following options are available for your Summa S Class 3 cutter:

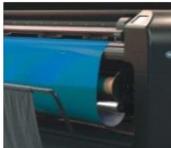
Part description	Part number	Picture
Roll-Up System (on 140 and 160)	Model dependent	

Table 5-1 S CLASS 3 OPTIONS

6 Technical Specifications

6.1 Machine dimensions

	S3 75		S3 120		S3 140		S3 160	
	mm	inch	mm	inch	mm	inch	mm	inch
Height	1110	43.7	1110	43.7	1110	43.7	1110	43.7
Width	1410	55.5	1870	73.6	2021	79.6	2250	88.6
Depth folded basket	690	27.2	690	27.2	690	27.2	690	27.2
Depth open basket	1185	46.7	1185	46.7	1185	46.7	1185	46.7
	Kg	pounds	Kg	pounds	Kg	pounds	Kg	pounds
Weight	49.5	109	61.5	135.6	65.5	144.5	71	156.5

Table 6-1 S CLASS 3 MACHINE DIMENSIONS

6.2 Shipping dimensions

	S3 75		S3 120		S3 140		S3 160	
	mm	inch	mm	inch	mm	inch	mm	inch
Height	670	26.4	670	26.4	670	26.4	710	28.0
Width	1540	60.6	2000	78.7	2150	84.6	2390	94.1
Depth	560	22.0	560	22.0	560	22.0	560	22.0
	Kg	pounds	Kg	pounds	Kg	pounds	Kg	pounds
Weight	69	152	86	189	90	198	114	251

* All boxes are on a wooden pallet (Shipping dimensions include pallet).

Table 6-2 S CLASS 3 SHIPPING DIMENSIONS

6.3 Media handling

	S3 75		S3 120		S3 140		S3 160	
	mm	inch	mm	inch	mm	inch	mm	inch
Media Width								
Minimum	60	2.4	115	4.5	170	6.7	170	6.7
Maximum	840	33.0	1300	51.1	1450	57.0	1680	66.1
Pinch rollers	2		3		4		4	
Maximum cutting width⁽¹⁾	742	29.2	1200	47.2	1350	53.1	1580	62.2
Oversized⁽²⁾⁽³⁾	812	31.9	1270	50.0	1420	55.9	1650	64.9
Min margin left/right⁽²⁾	25	1	25	1	25	1	25	1
Front margin	45	1.8	45	1.8	45	1.8	45	1.8
Rear margin								
Sensor on	45	1.8	45	1.8	45	1.8	45	1.8
Sensor off	33	1.3	33	1.3	33	1.3	33	1.3
Tracking Performance⁽⁴⁾	± 0.1mm up to 12 m (vinyl < 760mm)				± 0.1mm up to 4 m (vinyl >760mm)			
	± 0.004" up to 40 feet (vinyl < 30")				± 0.004" up to 13 feet (vinyl >30")			
Media Thickness	0.05mm to 0.25mm		Up to 0.8mm (0.03") with sandblast drag knife					
	0.002" to 0.01"		Up to 1.2mm (0.047") with sandblast tangential knife					
Cutter Media – Roll specifications	Maximum roll diameter, 16,5 cm – 6.5 inch							
	Maximum weight 45 kg – 99.2 lbs							
	When using core holders, inner core diameter 7,5 cm – 3 inch							
Roll Up Media – Roll specifications	Maximum media diameter 16,5 cm – 6.5 inch							
	Maximum weight 25 kg – 55.1 lbs							
	Inner core diameter 7,5 cm – 3 inch							

⁽¹⁾ Maximum cutting width in normal mode, 'oversize mode' allows a wider cutting area.

⁽²⁾ For positioning of the pinch rollers, these margins can be minimized using "oversized" mode.⁽³⁾

⁽³⁾ In "Oversized" mode the tracking performance is no longer guaranteed.

⁽⁴⁾ Media lengths greater than the specified length can be handled, but compliance with specifications is not guaranteed (will be dependent on media type, media size and other parameters).

⁽⁵⁾ In contrast to the standard S Class, dual head machines have no "oversized" mode.

Table 6-3 S CLASS 3 MEDIA SPECIFICATIONS

6.4 Performance

Cutting specifications on 0.05 mm (0.002") wax-based vinyl, total media thickness not greater than 0.25 mm (0.010").

Axial speed	50 to 1000 mm/s	2 to 40 ips
Maximum speed	Up to 1440 mm/s	Up to 56 ips
Default speed	800 mm/s	32 ips
Acceleration	Up to 4.2 G	
Addressable resolution	0.025 mm, 0.1 mm	0.001", 0.005"
Default resolution	0.025 mm	0.001"
Mechanical resolution	6.3 µm	0.25 mil
Accuracy	0.2% of move or 0.25 mm, whichever is greater (*)	0.2% of move or 0.010", whichever is greater (*)
Knife pressure for drag head	0 to 400 gr.	
Pen pressure for drag head	0 to 400 gr.	
Knife pressure in tangential head	0 to 1000 gr.	
Pen pressure in tangential head	0 to 1000 gr.	
Pressure on optional extra pen or extra creaser	0 to 1000 gr.	

* Valid within the guaranteed tracking length (see table 6-3). Not valid in 'Oversized' Mode. Excludes differences due to media expansion, stretching, etc.

Table 6-4 S CLASS 3 PERFORMANCES

6.5 Noise level

35 dBA Cutter switched on and fan off.

48 dBA Cutter switched on and fan on.

68 dBA Cutter performing job.

Cutter was mounted on a stand equipped with a basket.

The cutting speed was set to 700 mm/s.

The media used was MacTac MacCal 8900 Pro.

6.6 Interface

Communication		
USB	I/O Port connector Mating connector Version	USB series "B" receptacle (female plug) USB series "B" plug (male plug) 1.1
Ethernet	I/O Port connector	RJ45 female connector
WIFI ⁽¹⁾		802.11 b/g/n
USB Flash Drives	USB A receptacle	FAT32, max 16GB and max 100 files per folder. Only cut files (DMPL and HPGL files with extension .plt, .dmpl or .hpgl) or firmware files (files with extension .summa1).
Buffer size		8 MB

⁽¹⁾ WiFi only available in Europe, US and Canada.

Table 6-6 S CLASS 3 INTERFACE SPECIFICATIONS

6.7 Firmware

Language	DM/PL, HP-GL (758x emulation), HP-GL/2
Internal cut files	Confidence test, DIN test

Table 6-7 S CLASS 3 FIRMWARE

6.8 Environmental

(Cutter without media)

Operating Temperature	15 to 35° C	59 to 95° F
Storage temperature	-30 to 70° C	-22 to 158° F
Relative humidity	35 - 75 %, non-condensing	

Table 6-8 S CLASS 3 ENVIRONMENTAL SPECIFICATIONS



IMPORTANT: The use of dimensionally stable media is an essential pre-requisite to obtain high cut quality. Additionally, media expansion or contraction may occur as a result of temperature variations. To improve the dimensional stability of media, let it stabilize to the current environmental conditions before use, for a minimum period of 24 hours.

6.9 Electrical

Voltage	Frequency	Fuse
100-240 VAC	50/60 Hz	T2AH 250V

Table 6-9 S CLASS 3 ELECTRICAL SPECIFICATIONS

Power consumption in typical applications: 85W maximum.

7 Certifications

Fulfils the requirements of:

IEC 62368-1:2018,

ANSI/UL Standard 62368-1:2019 and CAN/CSA Standard C22.2 No 62368-1:2019.

Complies with:

FCC Class A

CAN ICES-3(A)/NMB-3(A)

Contains:

FCC ID: 2ADHKATWINC1500

IC: 20266-WINC1500PB

CE Marking

Applicable legislation:

Directive 2014/53/EU on radio equipment (RED), as amended,

Directive 2011/65/EU on the restriction of the use of certain hazardous substances
in electrical and electronic equipment (RoHS2), as amended.

Standards to which Conformity is declared:

EN 62368-1:2014 + AC:2015,

EN IEC 62368-1:2020 + A11:2020,

ETSI EN 301 489-1 V2.2.3 (2019-11),

ETSI EN 301 489-17 V3.1.1 (2017-02),

ETSI EN 300 328 V2.2.2 (2019-07),

EN IEC 63000:2018.

Fulfils the requirements of:

Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE), as amended,

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and
Restriction of Chemicals (REACH), as amended.