

# HENGSTLER



**Y O U R   T H E R M A L**  
**P R I N T E R   P A R T N E R**



## Versatility and Competence

### ■ HENGSTLER TODAY

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- is a leading European manufacturer of industrial components for counting and control applications, such as counters, encoders, industrial and temperature controllers, relays, as well as printers and cutters.

With the acquisition of the BDT thermoprinter business unit in 2002 the printer and cutter division was expanded and supplemented by an ideal range of matching products.

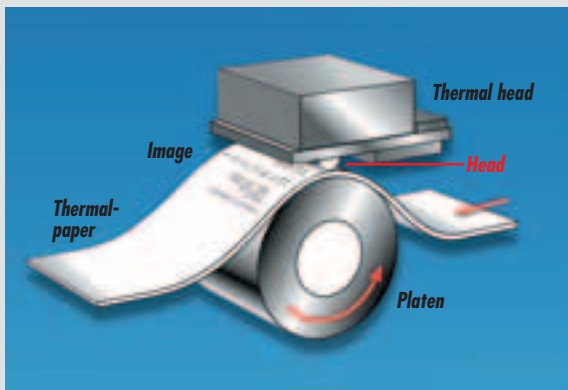
As a result of our very specific and diversified know-how and experience, printer system solutions have become our particular strength.

ATMs, kiosk systems, automatic ticket dispensers, as well as applications in the fields of banking, industry and commerce, use needle (impact) printers and thermoprinters supplied by HENGSTLER. Print widths range from 2 - 8.5 inches and paper weights from 60 to 200 g/m<sup>2</sup>. The printer program is supported by a range of useful accessories, such as winding/retracting units and cutters.

Our components and systems solutions are focused on quality, reliability and safety, added by a high level of user convenience and service-friendliness: from exchanging paper rolls to obtaining and handling the right types of ink ribbon cartridges. Another extra: everything is maintenance-free.

So, if you want to talk about viable systems solutions for tomorrow's printer technology, it's worthwhile talking to HENGSTLER.





## The fundamentals of direct thermal printing

### THE IMAGING PROCESS

In the direct thermal printing a black and white image is created through the direct transfer of heat (thermal energy) to color forming elements contained within the paper. Bi-color thermal image is also possible. Therefore additional coating layers are necessary. The degree to which these color elements (leuco dyes, developers) react is precisely controlled by special melting point regulators. In this way various mono-color shades can be created according to the amount of energy transferred.

A thermal head in the thermal printer transfers the required amount of heat to the thermal paper. A thermal head consists of a multitude of miniature heating elements distributed along its printing width. Each heating element is electronically controlled to deliver the right amount of energy to the right place for the right amount of time. The individual dots thus created, together form the final image – text, graphs, barcodes, etc. A platen roll ensures contact of the thermal head and thermal paper ensuring optimum printing quality.

*Source: Kanzan Spezialpapiere GmbH*

### ADVANTAGES:

- **very high reliability**
- **small, compact printing unit**
- **easy handling in all applications**
- **few moving parts and only one consumable (no toner, inks, ribbons, etc.)**
- **low maintenance costs**
- **low noise because non-impact printing**
- **fast** (up to 100 mm/sec)
- **high functionality under different environmental conditions**



## TPM 54 Thermal Printer Modules

### ■ TECHNICAL DATA

<b>Print width</b>	56 mm ( $\pm 0.2$ )
<b>Resolution</b>	203 dpi
<b>Print speed</b>	Up to 60 mm/sec
<b>Printer lifetime</b>	Electrical: 50 million dot pulses Abrasion: 50 km paper length
<b>Paper specification</b>	Paper weight: 55 to 80 g/m <sup>2</sup> Paper width: 58 mm (-0.5)
<b>Power</b>	5V $\pm 10\%$
<b>Graphics</b>	Full graphics
<b>Dimensions</b>	W 91 x D 53 x H 21,5 mm

### ■ APPLICATIONS

- Hand Held Systems
- Portable Terminals
- Requirements for battery operation



## TPM 80 with integrated cutter

### TECHNICAL DATA

<b>Print width</b>	80 mm
<b>Resolution</b>	203 dpi
<b>Print speed</b>	Up to 100 mm/sec.
<b>Head lifetime</b>	Electrical: 50 million dot pulses Abrasion: 50 km paper length
<b>Printer lifetime</b>	50.000 h
<b>Paper specification</b>	Paper weight: 80 to 120 g/m <sup>2</sup> Paper width: 86 mm
<b>Cutter lifetime</b>	1 million cuts minimum with 80 g/m <sup>2</sup> paper
<b>Environment</b>	Operation: Temperature: +5 °C to +45 °C Humidity: 20% to 80%
<b>Power</b>	+24 VDC, ± 10 %
<b>Graphics</b>	Full graphics 640 dots per line
<b>Dimensions</b>	W 141 x H 101,5 x D 93 mm

### OPTIONS

**Loop Presenter, Dual Paper Roll Chassis,  
Memory Extension, Format Control**

### APPLICATIONS

- Ticketing
- Coupons
- Receipts
- Transportation
- Banking



## TPM 100 with integrated cutter

### ■ TECHNICAL DATA

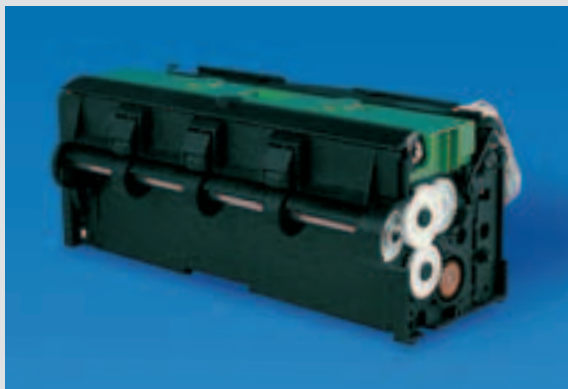
<b>Print width</b>	104 mm
<b>Resolution</b>	203 dpi
<b>Print speed</b>	Up to 100 mm/sec.
<b>Head lifetime</b>	Electrical: 50 million dot pulses Abrasion: 50 km paper length
<b>Printer lifetime</b>	50.000 h
<b>Paper specification</b>	Paper weight: 80 to 120 g/m <sup>2</sup> Paper width: 112 mm
<b>Cutter lifetime</b>	1 million cuts minimum with 80 g/m <sup>2</sup> paper
<b>Environment</b>	Operation: Temperature: +5 °C to +45 °C Humidity: 20% to 80%
<b>Power</b>	+24 VDC, ± 10%
<b>Graphics</b>	Full graphics 832 dots per line
<b>Dimensions</b>	W 170 x H 101,5 x D 93 mm

### ■ OPTIONS

**Loop Presenter, Bundler, Dual Paper Roll Chassis, Memory Extension, Format Control**

### ■ APPLICATIONS

- Ticketing
- Coupons
- Receipts
- Transportation
- Banking



## TPM 150 with integrated cutter

### ■ TECHNICAL DATA

<b>Print width</b>	144 mm
<b>Resolution</b>	203 dpi
<b>Print speed</b>	Up to 100 mm/sec.
<b>Head lifetime</b>	Electrical: 50 million dot pulses, Abrasion: 50 km paper length
<b>Printer lifetime</b>	50.000 h
<b>Paper specification</b>	Paper weight: 80 to 120 g/m <sup>2</sup> Paper width: 156 mm
<b>Cutter lifetime</b>	1 million cuts minimum with 80 g/m <sup>2</sup> paper
<b>Environment</b>	Operation: Temperature: +5 °C to +45 °C Humidity: 20% to 80%
<b>Power</b>	+24 VDC, ± 10 %
<b>Graphics</b>	Full graphics, 1152 dots per Line
<b>Dimensions</b>	W 287 x H 103,5 x D 101.5 mm

### ■ OPTIONS

**Loop Presenter, Dual Paper Roll Chassis,  
Memory Extension, Format Control**

### ■ APPLICATIONS

- Ticketing
- Information Kiosks
- Transportation
- Banking



## TPM 200 with integrated cutter

### ■ TECHNICAL DATA

<b>Print width</b>	216 mm
<b>Resolution</b>	203 dpi or 300 dpi
<b>Print speed</b>	Up to 40 mm/sec.
<b>Head lifetime</b>	Electrical: up to 50 million dot pulses Abrasion: up to 50 km paper length
<b>Printer lifetime</b>	50.000 h
<b>Paper specification</b>	Paper weight: 80 to 120 g/m <sup>2</sup> Paper width: 220 mm
<b>Cutter lifetime</b>	1 million cuts with 80 g/m <sup>2</sup> paper
<b>Environment</b>	Operation: Temperature: +5 °C to +45 °C Humidity: 20% to 80%
<b>Power</b>	+24 VDC, ± 10%
<b>Graphics</b>	Full graphics 1728 or 2592 dots per line
<b>Dimensions</b>	W 287 x H 103,5 x D 101.5 mm

### ■ OPTIONS

Loop Presenter, Flatpresenter with retract, Bundler  
Dual Paper Roll Chassis, Memory Extension,  
Format Control

### ■ APPLICATIONS

- Ticketing
- Information Kiosks
- Transportation
- Banking



## Thermal Printer Controllers

### TECHNICAL DATA

<b>Control Range</b>	Control of all functions such as printing, paper motion, cutting, and control of all peripherals
<b>Environment</b>	Operation: Temperature: +5 °C to +45 °C Humidity: 20% to 80%
<b>Power</b>	24 VDC, $\pm 10\%$ Standby: approx. 0.5 A In operation: 5.5 A to 10 A nominal
<b>Barcodes Printing</b>	Code 2 of 5, EAN 8, EAN 13, Code ALPHA 39, Code 128, Codabar
<b>Flash Prom 512 kB</b>	For downloading firmware, character generators, logos
<b>Character Set</b>	IBM™ character set II with international variations
<b>Emulation</b>	Epson ESC/PTM line oriented, Line emulation in page mode
<b>RAM 256 KB</b>	Print buffer download memory
<b>EEProm</b>	Non volatile memory for saving interface parameters, energizing values for the line operating parameters of the optical sensors
<b>Dimensions</b>	W 157 x D 170 x H 32 mm

### OPTIONS

<b>Format Control</b>	
<b>Memory Interface</b>	External memory card up to 4 MB Centronics parallel, bi-directional, RS 232 serial up to 19.200 baud, Parallel IEEE-1284
<b>Printer Drivers</b>	Windows 95,/98/2000, Windows NT 4.0



**Full range of controller boards,  
perfectly tuned for the wide range  
of the configurations and applications  
shown in this leaflet**



The Hengstler Direct Thermal Printer Family can be combined with various paper handling modules, e.g. bundler unit, loop presenter, flatbed presenter, dual feed unit and many others.

In addition, Hengstler offers turn-key solutions for various applications.



## APPLICATIONS

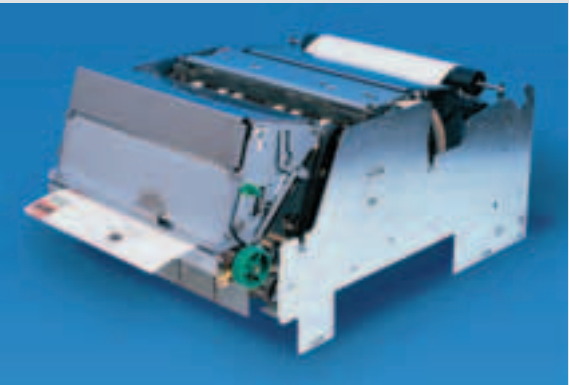
- Ticketing
- Coupons
- Receipts
- Information Kiosks
- Transportation
- Banking





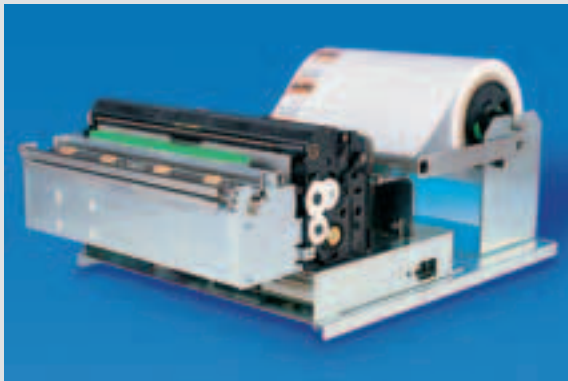
## TPM 200 with bundler

- TPM 200 Thermal Printer Mechanism with integrated cutter
- Bundling Module for up to 10 documents
- Controller and power supply 24 V DC
- Paper Management for paper rolls up to 300 mm diameter and fanfold paper
- Paper width from 140 - 216 mm
- Adjustable near end paper sensor
- Front and rear paper loading capability
- Open Frame Design



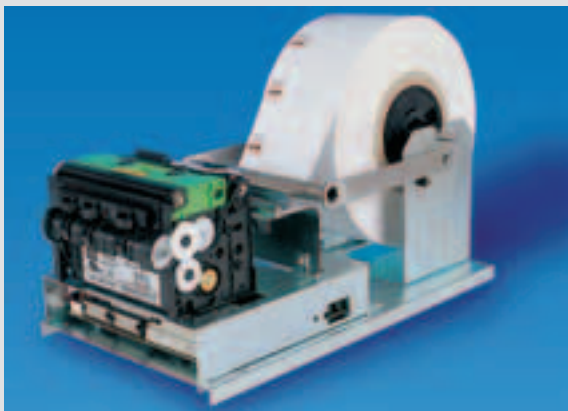
## TPM 200 S with dual input and bundler

- TPM 200 Thermal Printer Mechanism with integrated cutter and dual input
- Bundling Module for up to 10 documents
- Open Frame Design, e. g. for kiosk integration



## **TPM 200 with loop presenter on system chassis**

- TPM 200 Thermal Print Module with integrated cutter and loop presenter
- Print speed up to 40 mm
- For paper roll up to 250 mm diameter
- Open frame design
- System chassis also suitable for TPM 150



## **TPM 80 as turn-key solution (System Chassis)**

- TPM 80 Thermal Printer with integrated cutter and optional loop presenter
- Print speed up to 100 mm
- Paper Management for paper roll up to 250 mm diameter
- Open frame design



## **TPM 80 (in horizontal position)**

- TPM 80 Thermal Printer with integrated cutter and dual feed module
- Print speed up to 100 mm/sec
- Compact Design for mobile usage
- Barcode Scanner (optional)
- Minimum ticket length 20 mm
- Control of two paper rolls (in horizontal position)
- Paper Management for paper roll up to 150 mm diameter



## **TPM 80 (in vertical position)**

- TPM 80 Thermal Printer with integrated cutter and dual feed module
- Barcode Scanner (optional)
- Print speed up to 100 mm per second
- Control of two rolls of paper (in vertical position)
- Minimum ticket length 20 mm
- Paper Management for paper roll up to 298 mm diameter



## TPM 80 with Unique Triple Paper Feed Unit and with Integrated Cutter

### Triple Feeder

- Three independent paper paths
- Automatic paper path selection, park position

### Dimensions of the Tickets

- Width: -Adjustable by stepper motor  
-Default width 30, 54, 82.5 mm
- Length: -Adjustable, minimum 30 mm
- Paper Weight: 80 to 280g/m<sup>2</sup>

### Option

- MC Encoder: Read after Write System
- Track Width: Writing 7.06 mm, Reading 2.05 mm
- Magnetic Tracks: ISO Track 2 / ISO Track 3
- Edmonson Format: Centered Track Position
- Coding density: 30 bpi to 210 bpi

### Applications

- Ticketing, Transportation



## PIXXO Thermo Receipt Printer

### ■ TECHNICAL DATA

#### Print mechanism

<b>Paper width</b>	60/82.5/114 mm
<b>Print width</b>	56/80/104 mm
<b>Resolution</b>	203 dpi = 8 dots/mm
<b>Print speed</b>	100 mm/sec
<b>Paper weight</b>	80 - 120 g/m <sup>2</sup>
<b>Paper capacity</b>	230 m for 80 g/m <sup>2</sup> paper
<b>Cutter</b>	Full cut and partial cut

#### Controller

<b>Interface</b>	Parallel Centronics bi-directional
<b>Print buffer</b>	64 KB
<b>Emulation</b>	GDI - Graphics Device Interface
<b>Control</b>	In graphics mode only Windows drivers 95/98/2000/NT 4.0

#### Complete unit

<b>Operating voltage</b>	24 VDC +-5%
<b>Power consumption</b>	3.5 A, max. 10 A (short-term)

#### Service life

<b>Printer</b>	up to 100 km paper length at a density of 25%
<b>Cutter</b>	1 million cuts

#### Options

<b>Paper capacity</b>	Vertical, horizontal, vertical to horizontal
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### ■ FIELDS OF APPLICATION

Kiosk terminals, ATMs, ticket dispensers



## PIXI Thermo Receipt Printer

### ■ TECHNICAL DATA

#### Print mechanism

<b>Paper width</b>	58/82.5 mm
<b>Print width</b>	56/80 mm
<b>Resolution</b>	203 dpi = 8 dots/mm
<b>Print speed</b>	50 mm/sec
<b>Paper weight</b>	60 - 100 g/m <sup>2</sup>
<b>Paper capacity</b>	100 m for 60 g/m <sup>2</sup> paper
<b>Cutter</b>	Full cut and partial cut

#### Controller

<b>Interface</b>	Serial RS 232 or parallel Centronics
<b>Print buffer</b>	8 KB
<b>Character set</b>	IBM - character set 2, in four sizes
<b>Emulation</b>	Similar to EPSON LQ 850
<b>Drivers</b>	Windows 95, 98, 2000, NT 4.0

#### Complete unit

<b>Operating voltage</b>	24 VDC +-5%
<b>Power consumption</b>	2/3 A

#### Service life

<b>Printer</b>	up to 50 km paper length at a density of 25%
<b>Cutter</b>	1 million cuts

#### Options

<b>Paper capacity</b>	With external paper holder (provided by customer). Paper roll length up to 500 m at 60 g/m <sup>2</sup>
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### ■ FIELDS OF APPLICATION

Cash register systems, kiosk terminal, ATMs



## PIXI Thermo Journal Printer

### ■ TECHNICAL DATA

#### Print mechanism

<b>Paper width</b>	58 mm
<b>Print width</b>	56 mm
<b>Resolution</b>	203 dpi = 8 dots/mm
<b>Print speed</b>	37.5 mm/sec
<b>Paper weight</b>	60 - 100 g/m <sup>2</sup>
<b>Paper capacity</b>	40 m for 60 g/m <sup>2</sup> paper
<b>Winder</b>	Integrated functional unit

#### Controller

<b>Interface</b>	Serial RS 232
<b>Print buffer</b>	8 KB
<b>Character set</b>	IBM - character set 2 in four sizes
<b>Emulation</b>	Similar to EPSON LQ 850

#### Complete unit

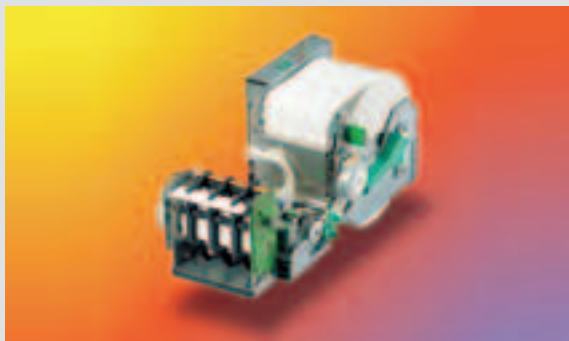
<b>Operating voltage</b>	24 VDC +-5%
<b>Power consumption</b>	2 A

#### Service life

<b>Printer</b>	up to 50 km paper length at a density of 25%
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### ■ FIELDS OF APPLICATION

Automatic cash registers, kiosk terminals, ATMs



## PRIMA Thermo Receipt Printer

### ■ TECHNICAL DATA

#### Print mechanism

<b>Paper width</b>	80 mm
<b>Print width</b>	76 mm
<b>Resolution</b>	203 dpi = 8 dots/mm
<b>Print speed</b>	50 mm/sec
<b>Paper weight</b>	60 - 90 g/m <sup>2</sup>
<b>Paper capacity</b>	Up to 180 mm roll diameter
<b>Cutter</b>	Full cut
<b>Presenter</b>	Paper buffer of 70-210mm paper length

#### Controller

<b>Interface</b>	Serial RS 232
<b>Print buffer</b>	8 KB
<b>Character set</b>	IBM - character set 2 in four sizes
<b>Emulation</b>	Similar to EPSON LQ 850

#### Complete unit

<b>Operating voltage</b>	24 VDC +-5%
<b>Power consumption</b>	2 - 3.5 A

#### Service life

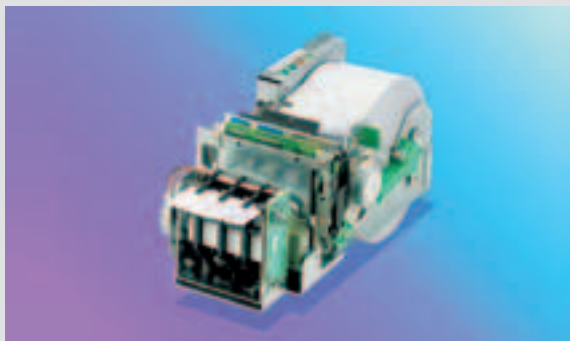
<b>Printer</b>	up to 50 km paper length at a density of 12.5%
<b>Cutter</b>	1 million cuts

#### Options

<b>Paper capacity</b>	Up to 260 mm paper roll diameter
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### ■ FIELDS OF APPLICATION

Automatic cash registers; kiosk terminals, ATMs



## **PRINTO Receipt Printer (Dot Matrix Printer)**

### ■ **TECHNICAL DATA**

#### **Print mechanism**

<b>Paper width</b>	70, 78, 82.5 mm
<b>Print width</b>	65.7 mm for 200 dots
<b>Resolution</b>	0.33 mm horizontal 0.353 mm vertical
<b>Print speed</b>	3.2 lines/s bi-directional
<b>Paper weight</b>	60 - 90 g/m <sup>2</sup>
<b>Paper capacity</b>	Up to 180 mm roll diameter
<b>Cutter</b>	Full cut

#### **Controller**

<b>Interface</b>	Serial RS 232
<b>Print buffer</b>	2 KB
<b>Character set</b>	IBM - character set 2
<b>Emulation</b>	Similar to EPSON LQ 850

#### **Complete unit**

<b>Operating voltage</b>	24 VDC +-5%
<b>Power consumption</b>	Max. 3.5 A

#### **Service life**

<b>Printer</b>	200 million characters
<b>Cutter</b>	1 million cuts

#### **Options**

<b>Paper capacity</b>	Up to 260 mm roll diameter
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### ■ **FIELDS OF APPLICATION**

**Automatic cash registers, kiosk terminals, ATMs**



## PRINTO Ticket Printer (Dot Matrix Printer)

### ■ TECHNICAL DATA

#### Print mechanism

<b>Paper width</b>	Adjustable from 50 to 90 mm
<b>Print width</b>	Max. 84.4 mm
<b>Resolution</b>	0.33 mm horizontal 0.353 mm vertical
<b>Print speed</b>	3.2 lines/s bi-directional
<b>Paper weight</b>	60 - 200 g/m <sup>2</sup>
<b>Paper pre-loading</b>	Provided by customer
<b>Cutter</b>	Full cut

#### Controller

<b>Interface</b>	Serial RS 232 + parallel Centronics
<b>Print buffer</b>	2 KB
<b>Character set</b>	IBM - character set 2
<b>Emulation</b>	Similar to EPSON FX 80

#### Complete unit

<b>Operating voltage</b>	24 VDC +-5%
<b>Power consumption</b>	Max. 3.5 A

#### Service life

<b>Printer</b>	100 million characters
<b>Cutter</b>	0.5 million cuts

### ■ FIELDS OF APPLICATION

Automatic ticket dispensers for mobile and stationary use; kiosk terminals, ATMs

## Technical Data

### 685.4 CUTTER B



<b>Paper width</b>	64 mm to 120 mm
<b>Max. paper weight</b>	120 g/m <sup>2</sup>
<b>Operating Voltage</b>	12 V DC / 24 V DC
<b>Type of cut</b>	full cut or partial cut
<b>Cutting speed</b>	550 ms

### 685.5 CUTTER C



<b>Paper width</b>	64 mm to 222 mm
<b>Max. paper weight</b>	200 g/m <sup>2</sup>
<b>Operating Voltage</b>	5 V DC / 12 V DC 24 V DC
<b>Type of cut</b>	full cut or partial cut
<b>Cutting speed</b>	800 ms

### 685.0 CUTTER G



<b>Paper width</b>	64 mm to 120 mm
<b>Max. paper weight</b>	300 g/m <sup>2</sup>
<b>Operating Voltage</b>	12 V DC / 24 V DC
<b>Type of cut</b>	full cut
<b>Cutting speed</b>	800 ms

### 685.56 CUTTER D



<b>Paper width</b>	60 mm to 500 mm
<b>Max. paper weight</b>	400 g/m <sup>2</sup>
<b>Operating Voltage</b>	24 V DC
<b>Type of cut</b>	full cut
<b>Cutting speed</b>	800 ms

## Technical Data

### 685.70 CUTTER F

<b>Paper width</b>	63 mm, 90 mm, 118 mm
<b>Max. paper weight</b>	120 g/m <sup>2</sup>
<b>Operating Voltage</b>	12 V DC / 24 V DC
<b>Type of cut</b>	full cut and partial cut
<b>Cutting speed</b>	400 ms



### 685.72 CUTTER F

<b>Paper width</b>	63 mm, 90 mm, 118 mm
<b>Max. paper weight</b>	170 g/m <sup>2</sup>
<b>Operating Voltage</b>	12 V DC / 24 V DC
<b>Type of cut</b>	full cut
<b>Cutting speed</b>	400 ms



### 685.2 CUTTER H

(Successor for Cutter C 685.5)

<b>Paper width</b>	64 mm to 222 mm
<b>Max. paper weight</b>	200 g/m <sup>2</sup>
<b>Operating Voltage</b>	12 V DC / 24 V DC
<b>Type of cut</b>	full cut or partial cut
<b>Cutting speed</b>	800 ms



### 685.74 CUTTER L (Linerless)

<b>Paper width</b>	63 mm, 90 mm, 118 mm
<b>Max. paper weight</b>	98 g/m <sup>2</sup>
<b>Operating Voltage</b>	12 V DC / 24 V DC
<b>Type of cut</b>	full cut
<b>Cutting speed</b>	400 ms



# YOUR THERMAL TECHNOLOGY PARTNER

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DQS-certified to DIN EN ISO 9001  
Reg. No. 1540-01

#### DOC 1323.01

Printer overview - 2/2003 - Printed by: HohlDruck. Printed in Germany on environmentally friendly paper (free from chlorine and acid).

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