kortho

TT-SERIES
THERMAL TRANSFER

TT-32

TT-53

TT-107

1.800 METERS OF RIBBON AND BULLETPROOF RELIABILITY

Ribbon that breaks, wrinkles or is wound too tight and stuck on the take-up spool. Notorious TTO problems that are caused by accumulating, abrupt or too loose ribbon tension. The longer the ribbon, the worse these issues get. However with our patented *SMARTFORCE*™ technology all ribbon problems belong to the past. This system keeps the tension equal and optimal through constant electronic regulation. Even when not printing! The result: no more ribbon issues and by far the longest ribbon on the market. Downtime due to ribbon errors and roll changes has never been lower!

OPTIMAL PRINTQUALITY UNDER ANY CONDITION

The same patented *SMARTFORCE*™ technology is also used to electronically actuate the printhead onto the substrate. By regulating the pressure in real-time a perfect contact with the product is guaranteed under any condition. Even if the print surface is uneven, bumpy or sloped! The printhead will compensate any imperfection by flawlessly following the print surface trajectory at a constant pressure. This makes the TT-Series' print quality completely impervious to changing, non-optimal conditions. Making it the most forgiving, reliable and user friendly TTO printer on the market!

> ### INDUSTRY 4.0 IS NOW A TURN-KEY AVAILABLE COMMODITY!

SLIMLINE™

SMART, OMNICOMPATIBLE AND 100% INDUSTRY 4.0 READY

Next to offering our own Kortho Control Center LMS software for free, Kortho also specializes in being omnicompatible with as much third party label and control software as possible. This makes you free to objectively choose the best software and control method for your application! Smart, tailored and error-free coding has never been so accessible. From standalone use to full Industry 4.0 cloud ERP integration: A Kortho printer makes any custom requirement easy to implement by adjusting itself to your coding need, and not the other way around!

SLIMLINE: SAVE UP TO 50% ON EQUIPMENT COSTS

Like with our software, also the use of our Printer-face IoT controller is optional. Just install our free Kortho Control Center app on any PC, server or (mobile)device and control any number of printers from there! This makes the ratio between printers and controllers 100% flexible: From an individual controller for each printer, to full factory control from one single terminal. The more centralized control, the more you save on HMI's! We call this *SLIMLINE™*, which stands for Smart, Less Is More: Save up to 50% on unnecessary equipment by using the infrastructure that you already have!

HIGHLIGHTS

MADE IN HOLLAND

Kortho was founded in Amsterdam in 1926 and is still a Dutch family owned business today. The TT-Series is our third generation TTO and, like all our printers, 100% made in Holland.

1.800 METER RIBBON

Patented **SMARTFORCE**™ technology actively regulates ribbon tension. Avoiding all ribbon related problems, but also allowing for the longest ribbon on the market.
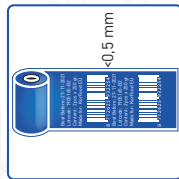
ULTRASONIC INDEXING

Real-time ultrasonic ribbon indexing offers extreme ribbon transport accuracy and foolproof reliability by no longer needing the use of moving (encoder) parts.
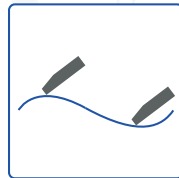
SMALLEST RIBBON GAP

Ribbon waste gap in between prints is kept on a constant value no wider than 0,5mm on average. Optimizing ribbon consumption by minimizing waste.
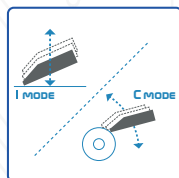
BEST SUBSTRATE CONTACT

Patented **SMARTFORCE**™ technology actively regulates the pressure of the printhead onto the substrate. Ensuring an optimal substrate contact and print quality at all times.

EXTREMELY FORGIVING

Automatic printhead positioning sets the printhead in optimal position in relation to the substrate. Making the printer extremely forgiving to changing conditions.
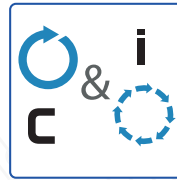
LONGEST PRINTHEAD LIFE

Printhead is kept on operating temperature mechanically without dotline activation. Extending its lifespan drastically and producing perfect prints in cold or moist environments.

C & i WITH SAME PRINTER

Printhead orientation can be easily changed so that next to Intermittent the printer can also print Continuous Left and Right handed, making it suited for all applications.

NO AIR FEED NEEDED

100% electric operation so no compressed air is needed anymore. Enabling a quick and easy installation, but also maximum reliability by not depending on air quality.
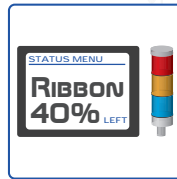
SAVE ON CONTROLLERS

Built according to **SLIMLINE**™ Smart, Less Is More philosophy. Save costs on controllers by operating multiple printers from one single terminal. Maximizing central control benefits.

LED-STRIP SIGNALING

Printer integrated dual RGB LED strips and full color status screen facilitates the use without (nearby) HMI, but also avoids the need for additional signaling equipment.

KORTHO CONTROL CENTER GUI

Operated with Kortho Control Center (KCC) software. Free and very complete platform designed to make Industry 4.0 coding easy and quick to implement. See separate KCC leaflet for details.

100% INDUSTRY 4.0 READY

Open platform and Windows native OS. Especially designed for extended communication options with third party software. Including Windows generic network driver and 350+ commands protocol.
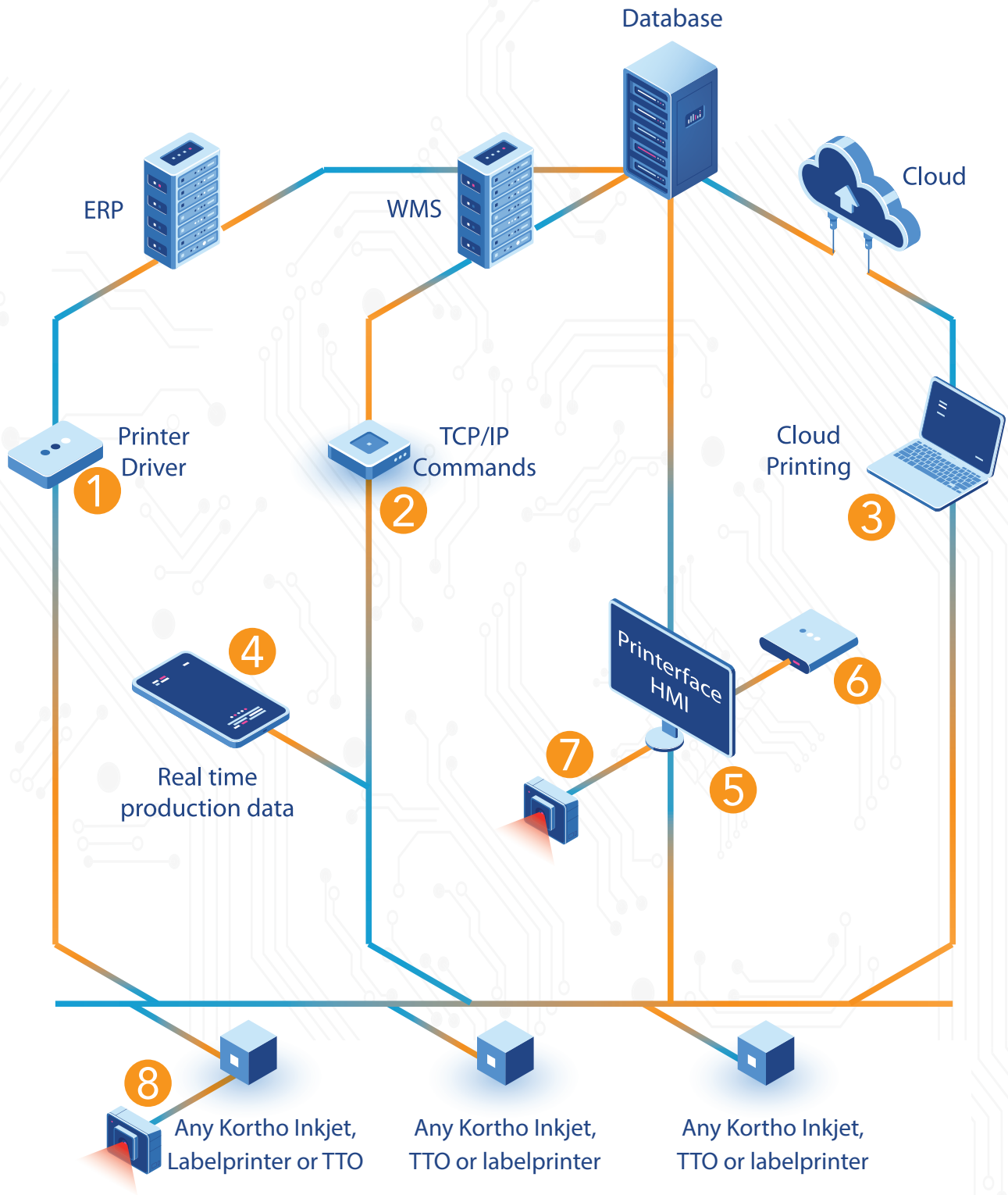
REMOTE DIAGNOSTICS

Full printer diagnostics including real-time scope traces of the physical status, position, speed and trajectory of all internal wearing and moving parts.

yet to be established or unlocked with future firmware releases

COMMUNICATION AND NETWORKING

Database

Cloud

ERP

WMS

Printer Driver — 1

TCP/IP Commands — 2

Cloud Printing — 3

4

Printerface HMI

6

Real time production data

7

5

8

Any Kortho Inkjet, Labelprinter or TTO

Any Kortho Inkjet, TTO or labelprinter

Any Kortho Inkjet, TTO or labelprinter

1 Print directly from an ERP or WMS* by sending your own labels through the Windows printer driver.

4 Monitor production data and statistics from the printer. Use the free variable Machine ID's to see your real time production status.

7 Use a barcode scanner to select your label template from an LMS with the correct product information from a database and update the variable data.

2 Select labels, update label data or choose any of 350+ TCP/IP commands to communicate to the printer.

5 Let operators control the printer by using Kortho Control Center on the Printerface or an (previously purchased) third party HMI.

8 Connect a barcode scanner directly to the printer to select the correct label from the label library by scanning a barcode from a production sheet.

3 Print directly from the cloud or use *LMS to collect your data from the cloud to print real time information.

6 Connect PLC's, checkweighers, metal detectors or other in-line equipment to the Printerface and use LMS to read or send data.

Enterprise Resource Planning (ERP) / Warehouse Management Software (WMS) / Label Management Software (LMS)

TECHNICAL SPECIFICATIONS

		TT-32	TT-53	TT-107
Printing	Max. print area I-mode	32 x 60 mm	53 x 95 mm	107 x 95 mm
	Max. print speed I-mode	600 mm/sec	600 mm/sec	600 mm/sec
	Min. print speed I-mode	50 mm/sec	50 mm/sec	50 mm/sec
	Max. throughput I-mode	t.b.e.	280 ppm	t.b.e.
	Max. print area C-mode	32 x 60 mm	53 x 200 mm	107 x 200 mm
	Max. print speed C-mode	600 mm/sec	600 mm/sec	600 mm/sec
	Min. print speed C-mode	50 mm/sec	50 mm/sec	50 mm/sec
	Max. throughput C-mode	t.b.e.	t.b.e.	t.b.e
	Resolution	300 DPI	300 DPI	300 DPI
Physical	Printunit dimensions	165 x 244 x 231 mm	195 x 294 x 249 mm	195 x 294 x 303 mm
	Printunit weight	8,5 kg	10,3 kg	11,5 kg
	Power supply dimensions	183 x 183 x 75 mm		
	Power supply weight	1,2 kg		
	Print modes	Intermittent and Continuous L & R in any orientation (omnidirectional)		
	Connectors	Free configurable I/O port - Ethernet - USB - Power - Encoder		
	Power supply	External IP-67, 230V AC main cable 300 cm, 42V DC main cable 500 cm		
	Air supply	None needed		
	Signaling	Integrated full color status display and dual RGB LED strip beacons		
	Ribbon system	Cassette based system with simple 2 axle ribbon trajectory		
	Ribbon indexing	Real-time indexing through ultrasonic sensors		
	Printhead preheat	Printhead is kept on operating temperature with external heating element		
	Printhead pressure	SMARTFORCE keeps the printhead pressure on a exact value while printing		
	SLIMLIME concept	No controller needed, operation from any Windows (10+) system		
	Material	Stainless steel and aluminum		
Consumables	Ribbon length	1.000 m	1.800 m	1.800 m
	Ribbon width	35 mm	55 mm	110 mm
	M2 on roll	35 m2	99 m2	198 m2
	Compounds	Standard (4.5 μ wax) - Premium (4 μ wax/resin) - Excellence (4 μ resin)		
	Ribbon print gap	< 0.5 mm consistent		
	Ribbon save functions	Standard*		
	Core material	Plastic without notches - Extra core included with each ribbon		
HMI	Kortho HMI/GUI**	See separate KCC leaflet for label design and (printer) control functions		
	Third party HMI/GUI	Any Windows based LMS - Nicelabel, Bartender or other		
	ERP direct	Direct printer control through ERP output files - SAP, Navision or other		
Coms	Wired communication	Ethernet - I/O - USB		
	Wireless communication	Bluetooth - RFID		
	Supported protocols	Escape protocol - Communication Protocol with 350+ commands		
	Driver	Generic Windows network driver		
Accessoiries	Kortho Printerface IoT	Optional: Kortho Branded Windows 10 Industrial tablet + bracket		
	Ethernet cable	Industrial ethernet cable 5 meters + M12/RJ45 coupling		
	Ethernet Switch	Fast ethernet switch 16 ports		
	I/O cable	I/O cable 5 meters		
	Encoder	Pulse encoder - can be mounted on Kortho bracket		
	Universal bracket I- & C-mode	770mm x 440mm x 310mm - can be cut to size on location-		
	Pressure roller kit	Combine with universal bracket for continuous applications		
	Pressure platen kit	Combine with universal bracket for intermittent applications		
	Bracket cutting kit	Set to cut bracket to size on location without the need of power tools		
	Custom bracket size	Available on request		

*   *yet to be established or (new features) unlocked with future firmware releases*

**   *LMS = Label Management Software, HMI = Human Machine Interface, GUI = Graphical User Interface*

SLIMLINE CONCEPT · kortho CONTROL CENTER · Loftware NiceLabel · SMART FORCE

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100% MADE IN HOLLAND