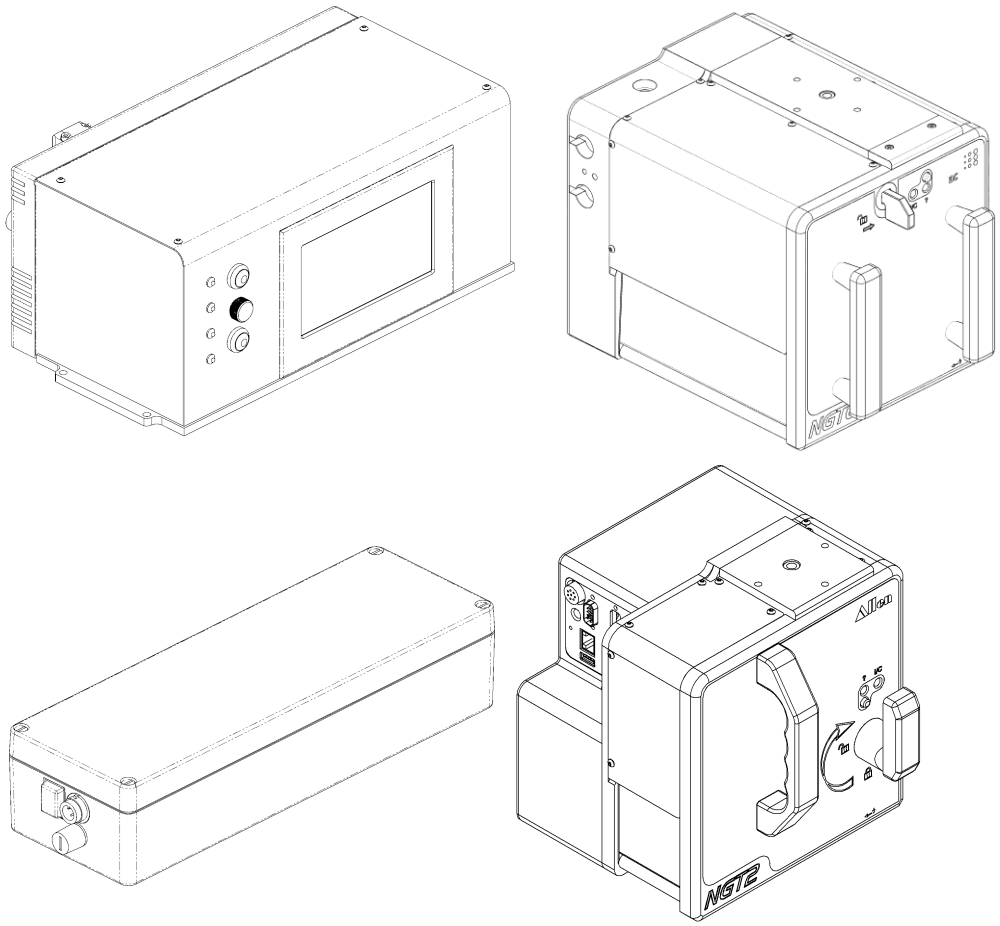
ALLEN CODING
A DIVISION OF ITW

NGT-Series

THERMOTRANSFER-PRINTING SYSTEMS



OPERATING INSTRUCTIONS

Important Notes

Operating instructions

Description	Version
NGT-series	M00601108EN0817

The operating manual is a translation of the original operating instructions.

Applicability

The present operating instructions apply to the device with the following part number.

Standard NGT (Controller / Printer)

Part number	Description
N.0003.G0800	Universal controller with Touch Display
N.0002.G0800	Universal controller without Touch Display
N.0001.G0100	NGT6 IM/CM (Left-hand version)
N.0000.G1100	NGT6 IM/CM (Right-hand version)
N.0000.GE100	NGT6E IM (Left-hand version)
N.0000.G0300	NGT8 IM/CM (Left-hand version)
N.0000.G1300	NGT8 IM/CM (Right-hand version)
N.0000.GE300	NGT8E IM (Left-hand version)

NGT+ (Printer)

Part number	Description
N.0000.GP800	Universal power supply
103568	NGT2+ IM/CM - Standard
103569	NGT2+ IM/CM - Opposite
103570	NGT4+ IM/CM - Standard
103571	NGT4+ IM/CM - Opposite

Using this manual

- First read the Chapter on “Safety Information” before you begin work with the device.
- The operating manual enables safe working on and with the device. It is essential that you comply with all safety instructions contained therein.
- Read the complete operating manual before installing and commissioning the device.
- The operating manual is a part of the device. It has to be stored so that every person that works on and with the device has access to it at all times. The manual must be complete and in an easily readable condition.
- When the device is passed on, you have to enclose the operating manual.
- If the operating manual is lost, please ask for a replacement. Information on the current version of the operating manual may be found on our website www.AllenCoding.com.
- The information provided in these Operating Instructions relate to the devices described under “Applicability”.
- For additional technical information on the device, please refer to the service manual.

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1 Product Identification

1.1 Characteristic data

1.1.1 Standard NGT

Universal controller

Part no. (with Touch Display)	N.0003.G0800
Part no. (without Touch Display)	N.0002.G0800
Printer – internal barcodes	GS1-Datamatrix, Datamatrix (ECC200), GS1-128, Code 128, EAN 13, EAN 8, UPC-A, UPC-E, Code39, Code 2/5 Interleaved, ITF14, QR-Code, GS1-QR-Code, GS1-Databar
Printer – internal fonts	OCR-A, OCR-B, Gill Bold, Helvetica Medium, Century Gothic, Arial Bold, Arial Medium
Material	Stainless steel, anodized aluminum, plastic

Touch-Display		
Visible surface	[mm]	123 x 68
Resolution (W x H)	[Pixels]	240 x 128
Vibration (5 Hz – 100 Hz)	[m/s^2]	2.45 (0.25 G)
Shock	[m/s^2]	29.4 (3.0 G)

Printer

NGT6 IM/CM			
Part no. (Left-hand version)			N.0001.G0100
Part no. (Right-hand version)			N.0000.G1100
Operating modes			Intermittent (IM) Continuous (CM)
Max. print area (width x length)	IM	[mm]	160 x 100
	CM	[mm]	160 x 1000
Max. printing speed	IM	[mm/Sec]	min. 50 – max. 300
	CM	[m/Min]	min. 3 – max. 17
Print resolution		[dpi]	ca. 300 (corresponds to 12 dots/mm)
Thermal print head (corner edge)		[inches] ([mm])	6 (160)
Ribbon width		[mm]	166
Ribbon length		[m]	max. 450
Diameter, ribbon roll		[mm]	max. 80
Material		Stainless steel, anodized aluminum, plastic	

NGT6E IM			
Part no. (Left-hand version)			N.0000.GE100
Operating modes			Intermittent (IM)
Max. print area (width x length)	IM	[mm]	160 x 155
Max. printing speed	IM	[mm/Sec]	min. 50 – max. 300
Print resolution		[dpi]	ca. 300 (corresponds to 12 dots/mm)
Thermal print head (corner edge)		[inches] ([mm])	6 (160)
Ribbon width		[mm]	166
Ribbon length		[m]	max. 600
Diameter, ribbon roll		[mm]	max. 85
Material		Stainless steel, anodized aluminum, plastic	

NGT8 IM/CM			
Part no. (Left-hand version)			N.0000.G0300
Part no. (Right-hand version)			N.0000.G1300
Operating modes			Intermittent (IM) Continuous (CM)
max. print area	IM	[mm]	213 x 100
(width x length)	CM	[mm]	213 x 1000
max. printing speed	IM	[mm/Sec]	min. 50 – max. 250
	CM	[m/Min]	min. 3 – max. 14
Print resolution		[dpi]	ca. 300 (corresponds to 12 dots/mm)
Thermal print head (corner edge)		[inches] ([mm])	8 (213)
Ribbon width		[mm]	220
Ribbon length		[m]	max. 450
Diameter, ribbon roll		[mm]	max. 80
Material		Stainless steel, anodized aluminum, plastic	

NGT8E IM			
Part no. (Left-hand version)			N.0000.GE300
Operating modes			Intermittent (IM)
Max. print area (width x length)	IM	[mm]	213 x 155
Max. printing speed	IM	[mm/Sec]	min. 50 – max. 250
Print resolution		[dpi]	ca. 300 (corresponds to 12 dots/mm)
Thermal print head (corner edge)		[inches] ([mm])	8 (213)
Ribbon width		[mm]	220
Ribbon length		[m]	max. 600
Diameter, ribbon roll		[mm]	max. 85
Material		Stainless steel, anodized aluminum, plastic	

1.1.2 NGT+

NGT2+			
Part no. Standard (Left-hand version)			103568
Part no. Opposite (Right-hand version)			103569
Operating modes			Intermittent (IM) Continuous (CM)
Max. print area (width x length)	IM	[mm]	53 x 75
	CM	[mm]	53 x 1000
Max. printing speed	IM	[mm/Sec]	min. 50 – max. 600
	CM	[m/Min]	min. 3 – max. 35
Print resolution		[dpi]	ca. 300 (corresponds to 12 dots/mm)
Thermal print head (corner edge)		[inches] ([mm])	2 (53)
Ribbon width		[mm]	55
Ribbon length		[m]	max. 450
Diameter, ribbon roll		[mm]	max. 76
Material		Stainless steel, anodized aluminum, plastic	
Printer – internal barcodes		GS1-Datamatrix, Datamatrix (ECC200), GS1-128, Code 128, EAN 13, EAN 8, UPC-A, UPC-E, Code39, Code 2/5 Interleaved, ITF14, QR-Code, GS1-QR-Code, GS1-Databar	
Printer – internal writing		OCR-A, OCR-B, Gill Bold, Helvetica Medium, Century Gothic, Arial Bold, Arial Medium	

NGT4+			
Part no. Standard (Left-hand version)			103570
Part no. Opposite (Right-hand version)			103571
Operating modes			Intermittent (IM) Continuous (CM)
Max. print area (width x length)	IM	[mm]	107 x 90
	CM	[mm]	107 x 1000
Max. printing speed	IM	[m/sec]	min. 50 – max. 500
	CM	[m/Min]	min. 3 – max. 29
Print resolution		[dpi]	ca. 300 (corresponds to 12 dots/mm)
Thermal print head (corner edge)		[inches] ([mm])	4 (107)
Ribbon width		[mm]	110
Ribbon length		[m]	max. 450
Diameter, ribbon roll		[mm]	max. 76
Material		Stainless steel, anodized aluminum, plastic	
Printer – internal barcodes		GS1-Datamatrix, Datamatrix (ECC200), GS1-128, Code 128, EAN 13, EAN 8, UPC-A, UPC-E, Code39, Code 2/5 Interleaved, ITF14, QR-Code, GS1-QR-Code, GS1-Databar	
Printer – internal writing		OCR-A, OCR-B, Gill Bold, Helvetica Medium, Century Gothic, Arial Bold, Arial Medium	

1.1.3 Pneumatic service unit

Pneumatic service unit		
Part number		3.0000.08564
Filter	5 micron with manual water separator	
Material	Stainless steel, anodized aluminum, plastic	

1.2 Compliant Use

1.2.1 Ambient conditions

Standard NGT			
Ambient temperature, operation		[°C]	5 to 40
Relative humidity, operation (non-condensing)		[%]	20 to 75
Ambient temperature, transport and storage		[°C]	0 to 60
Rel. Humidity, transport and storage (non-condensing)		[%]	20 to 75
Protection class	Printer (installed)		IP 20
	Control		IP 40

NGT+			
Ambient temperature, operation		[°C]	5 to 40
Relative humidity, operation (non-condensing)	Printer	[%]	20 to 75
	Mains adapter	[%]	20 to 100
Ambient temperature, transport and storage		[°C]	0 to 60
Rel. humidity, transport and storage (non-condensing)	Printer	[%]	20 to 75
	Mains adapter	[%]	20 to 100
Protection class	Printer (installed)		IP 20
	Mains adapter		IP 65

1.2.2 Designated use

- The NGT-Series Printing Systems operate with a thermo transfer printing method.
- The Printing System can transfer, save and process alpha-numeric and graphic information and apply it to materials suitable for this printing method.
- The Printing Systems can be operated in intermittent or in continuous mode.
- The Printing Systems are intended for commercial or industrial use.
- The Printing Systems may not be used outdoors or in a non-explosion-safe environment (Ex-area).
- Only materials suitable for the printing method may be used for printing.
- The Printing System must be permanently installed into a frame designed for this purpose (machine frame/machinery holder).
- No modifications to the Printing System are allowed.
- Operation and set-up of the Printing System may only be performed by trained personnel authorized by the operator.
- Working on the Printing System (installation, maintenance, cleaning) may only be performed by fully qualified and trained technical personnel.
- The applicable safety requirements, the ambient conditions and technical data specified in these Instructions must be observed at all times.
- Operation of the Printing System may only proceed with the specified accessories/consumable material/replacement parts. Only use original accessories and original replacement parts.

Potential misuse of the device:
Operation/use of the Printing System other than in compliance with the conditions established by the manufacturer may result in hazards to personnel and/or property damage.

1.2.3 Qualification of personnel

Operation and set-up:
Operation and set-up of the device may only be performed by sufficiently qualified and trained personnel that have been authorized by operator to perform these tasks.

Installation, cleaning and maintenance:
Installation, cleaning and maintenance of the device may only be performed by fully qualified and trained technical personnel.

Maintenance:
Maintenance of the device may only be performed by the manufacturer's technical personnel or by fully trained and qualified technical personnel.

1.3 Technical data

This Section contains information on the mechanical and electrical properties of the Printing System and its accessories.

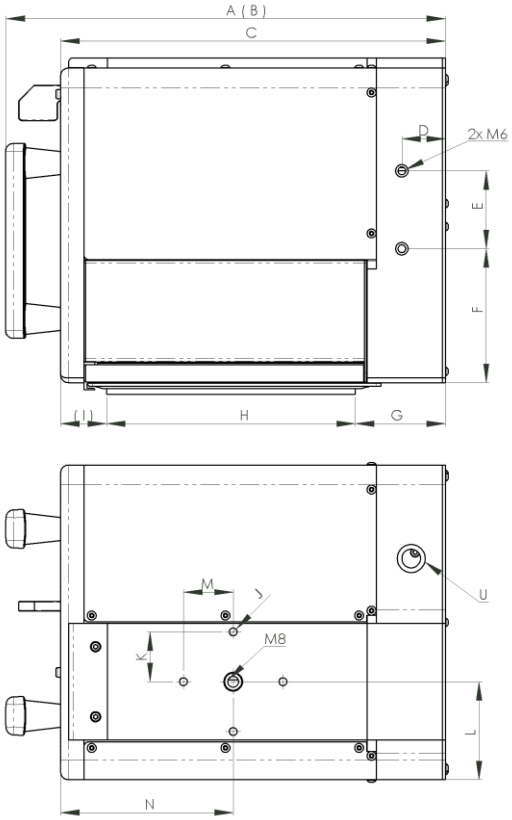
1.3.1 Mechanical data

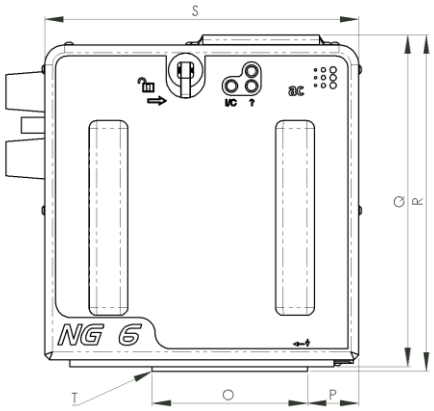
NOTE

Additional space for cable access and cable outlet
When assembling the device, please consider the requirement for additional space for cable access and cable outlet on each component.

Dimensions of Printer, Standard NGT

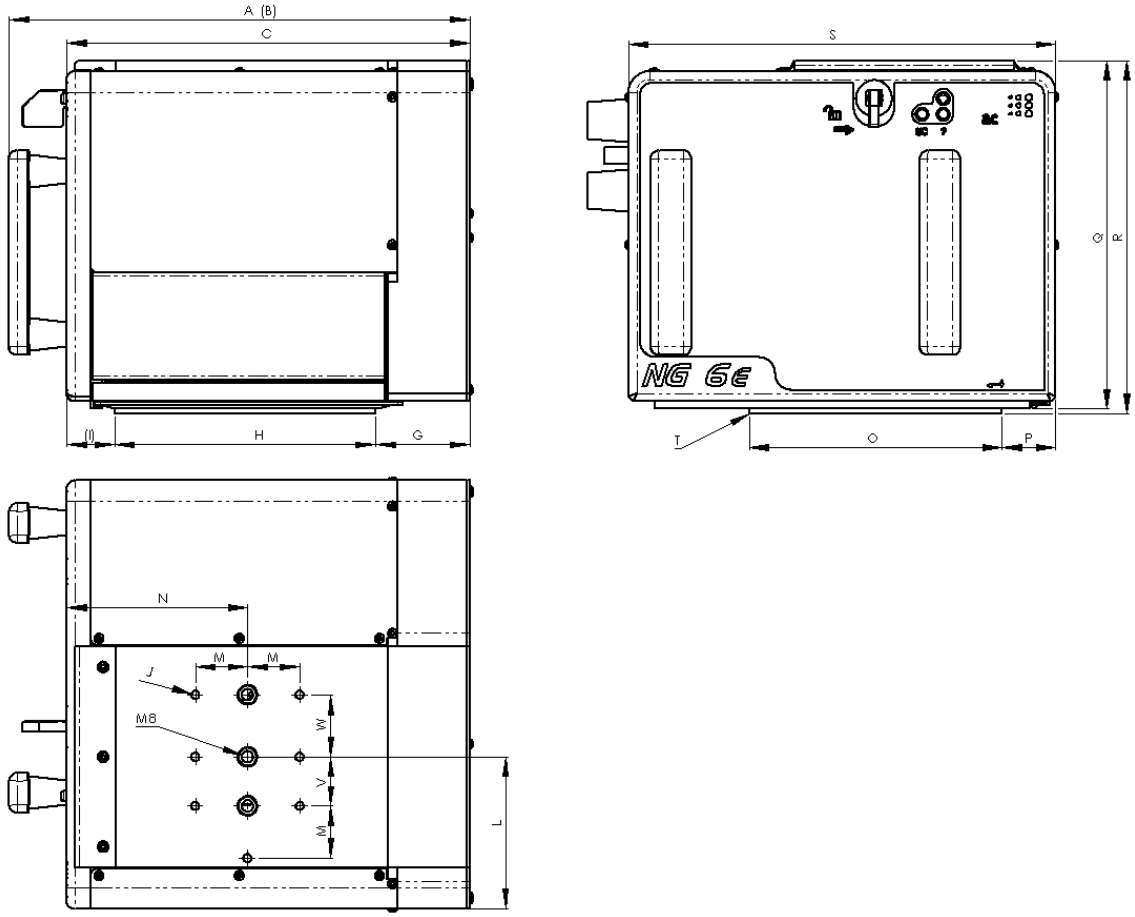
NGT6/8:





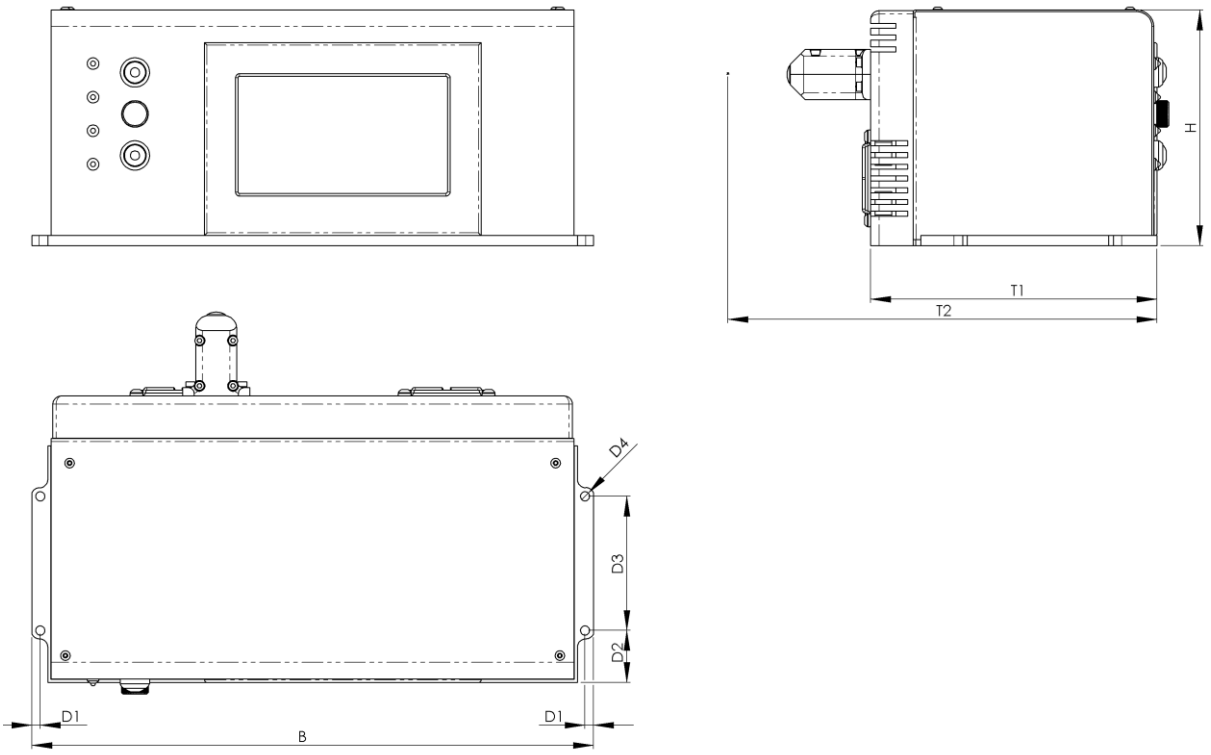
		NGT6 IM/CM (Left hand/right hand)	NGT8 IM/CM (Left hand/right hand)
(Q) Equipment height	[mm]	213	213
(R) Equipment height with distance to printing substrate	[mm]	216	216
(S) Equipment width	[mm]	202	202
(A) Equipment depth	[mm]	283	337
(B) Min. space requirement to remove the cassette plus equipment depth	[mm]	+ 205	+ 260
(C)	[mm]	248	302
(T) Print area (L x W)	[mm]	100 x 160	100 x 213
(H) Width of printed area	[mm]	160	213
(O) Length of printed area	[mm]	100	100
(U) Connection to encoder (CM mode)			
(D)	[mm]	28	28
(E)	[mm]	50	50
(F)	[mm]	86	86
(G)	[mm]	58	58
(I)	[mm]	(30)	(31)
(J)		4xØ5	4xØ5
(K)	[mm]	32	32
(L)	[mm]	63	63
(M)	[mm]	32	32
(N)	[mm]	111	138
(P)	[mm]	33	33

NGT6E/8E:



		NGT6E IM (Left hand)	NGT8E IM (Left hand)
(Q) Equipment height	[mm]	213	213
(R) Equipment height with distance to printing substrate	[mm]	216	216
(S) Equipment width	[mm]	262	262
(A) Equipment depth	[mm]	283	337
(B) Min. space requirement to remove the cassette plus equipment depth	[mm]	+ 205	+ 260
(C)	[mm]	248	302
(T) Print area (L x W)	[mm]	155 x 160	155 x 213
(H) Width of printed area	[mm]	160	213
(O) Length of printed area	[mm]	155	155
(G)	[mm]	58	58
(I)	[mm]	(30)	(31)
(J)		7xØ5	7xØ5
(L)	[mm]	93	93
(M)	[mm]	32	32
(N)	[mm]	111	138
(P)	[mm]	33	33
(V)	[mm]	30	30
(W)	[mm]	38	38

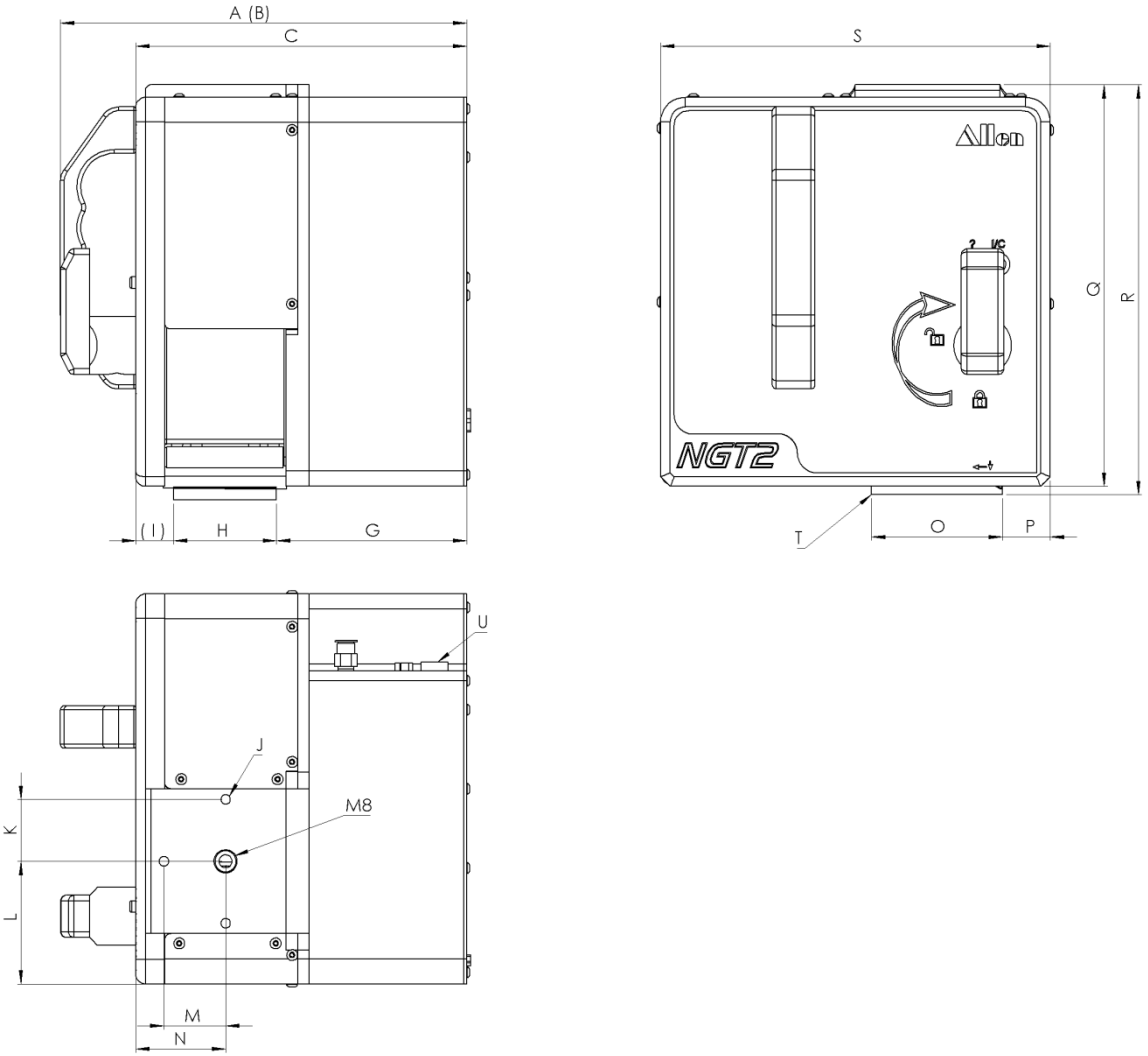
Dimensions, Standard NGT Controller



(H)	[mm]	141
(B)	[mm]	335
(T1) Equipment depth	[mm]	171
(T2) Equipment depth + space for cable connections	[mm]	T1 + 85
D1	[mm]	5
D2	[mm]	31
D3	[mm]	80
D4		4xØ5.5
Space requirement to open the controller	[mm]	T1 + 140

Dimensions, Printer NGT+

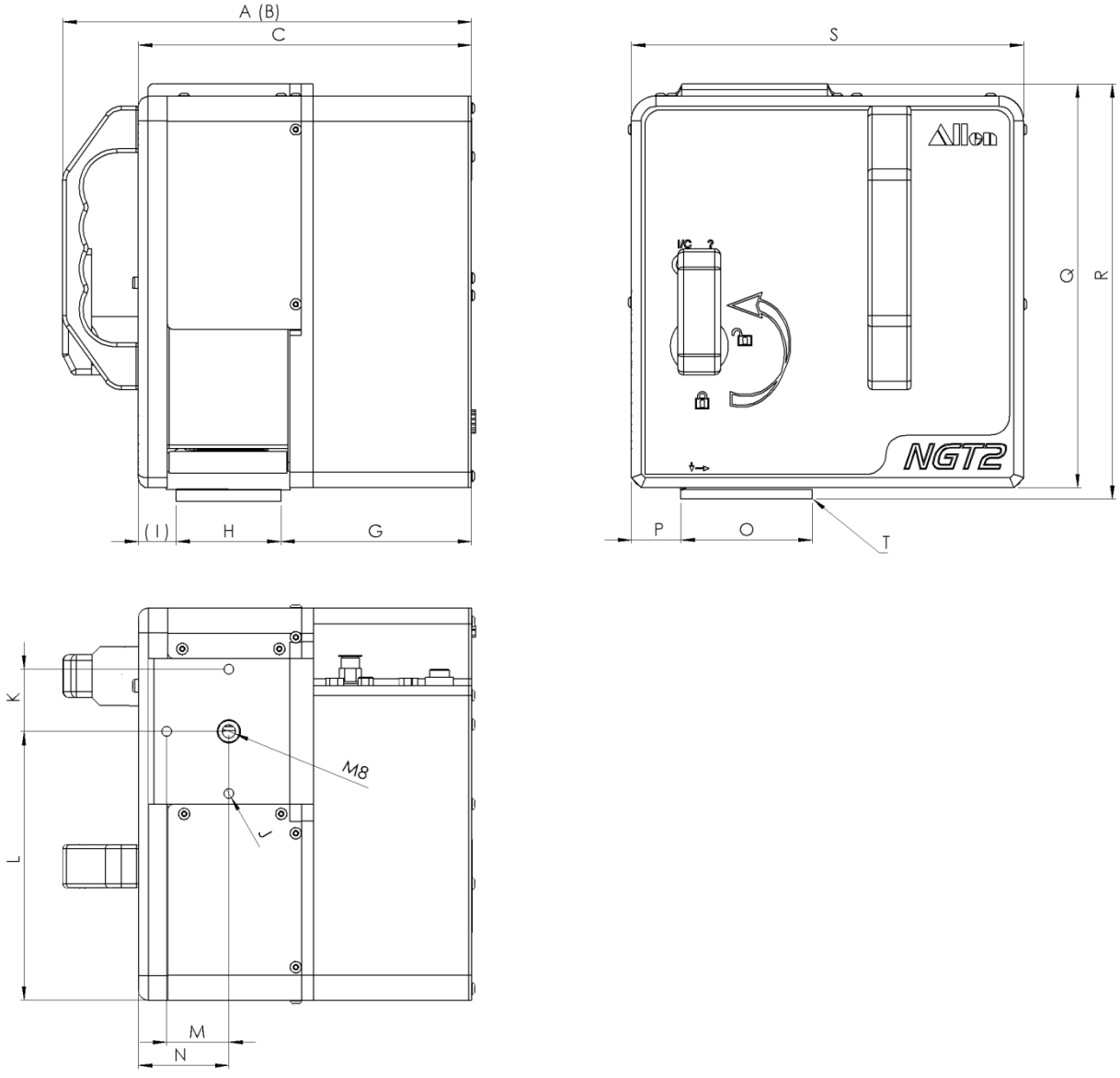
NGT2+/4+ Standard:



		NGT2+ IM/CM Standard	NGT4+ IM/CM Standard
(Q) Equipment height	[mm]	208	208
(R) Equipment height with distance to printing substrate	[mm]	213	213
(S) Equipment width	[mm]	202	202
(A) Equipment depth	[mm]	210,5	266,5
(B) min. space requirement to remove the cassette plus equipment depth	[mm]	+ 88	+ 150
(C)	[mm]	171,5	227,5
(T) Print area (L x W)	[mm]	75 x 53	90 x 107
(H) Width of printed area	[mm]	53	107
(O) Length of printed area	[mm]	75	90
(U) Connection to encoder (CM mode)			
(G)	[mm]	98,5	99,5
(I)	[mm]	(20)	(22)
(J)	[mm]	3x Ø5	4x Ø5
(K)	[mm]	32	32

(L)	[mm]	63,5	63,5
(M)	[mm]	32	32
(N)	[mm]	46,5	74,5
(P)	[mm]	31	31

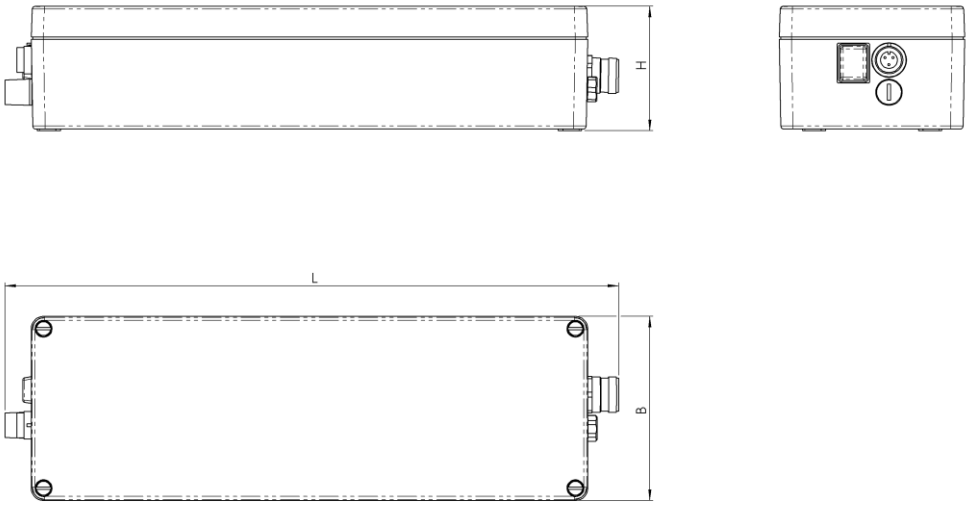
NGT2+/4+ Opposite:



		NGT2+ IM/CM Opposite	NGT4+ IM/CM Opposite
(Q) Equipment height	[mm]	208	208
(R) Equipment height with distance to printing substrate	[mm]	213	213
(S) Equipment width	[mm]	202	202
(A) Equipment depth	[mm]	210,5	266,5
(B) min. space requirement to remove the cassette plus equipment depth	[mm]	+ 88	+ 150
(C)	[mm]	171,5	227,5

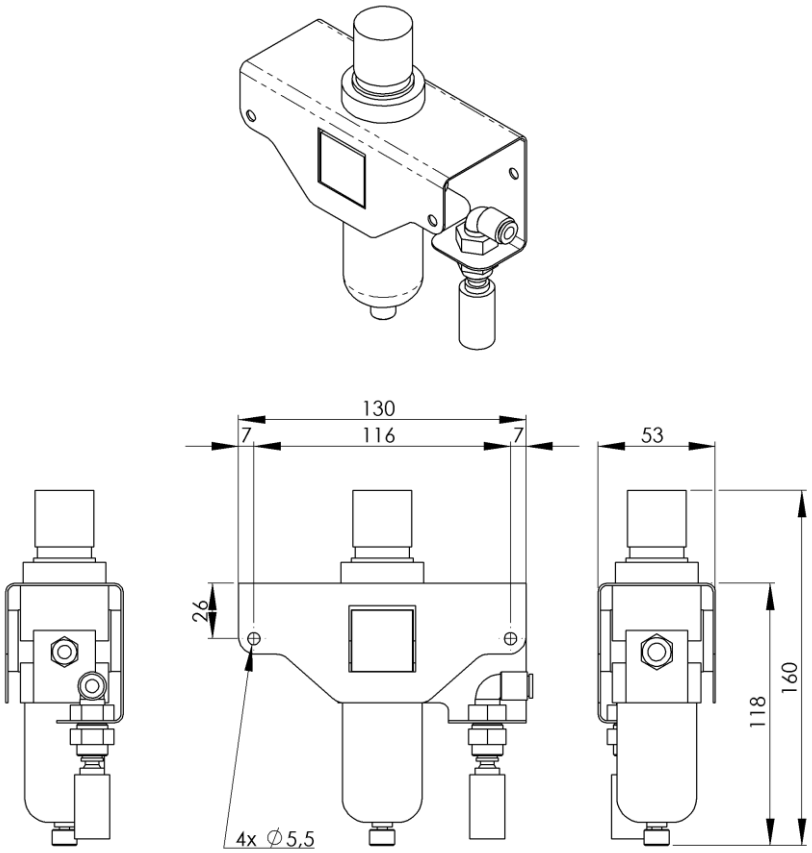
(T) Print area (L x W)	[mm]	75 x 53	90 x 107
(H) Width of printed area	[mm]	53	107
(O) Length of printed area	[mm]	75	90
(U) Connection to encoder (CM mode)			
(G)	[mm]	98,5	99,5
(I)	[mm]	(20)	(22)
(J)		3x Ø5	4x Ø5
(K)	[mm]	32	32
(L)	[mm]	138,5	138,5
(M)	[mm]	32	32
(N)	[mm]	46,5	74,5
(P)	[mm]	31	31

Dimensions, Power Supply NGT+



(H) Equipment height	[mm]	81
(L) Equipment length	[mm]	397
(B) Equipment width	[mm]	120
Space needed to open the housing	[mm]	H + 180

Dimensions, Pneumatic Service Unit



Weight

NOTE

Weight of Printer

The weight information pertains to the printer plus the ribbon replacement cassette without ribbon. In the NGT2+/4+ printer the weight information does not include the relevant connection cable.

Standard NGT

Weight of printer		
NGT6 IM/CM	[kg]	11,6
NGT6E IM	[kg]	14
NGT8 IM/CM	[kg]	14,2
NGT8E IM	[kg]	15

Weight of controller		
Controller with Touch Display	[kg]	6,6
Controller without Touch Display	[kg]	6,3

NGT+

Weight of printer		
NGT2+	[kg]	9,1
NGT4+	[kg]	10,3

Weight of power supply		
Weight	[kg]	2,8

Pneumatic service unit

Weight	[kg]	0,5

Cable lengths

Standard NGT		
Power supply cable, controller	[m]	2,6
Connection cable Controller –printer NGT6/6E/8/8E	[m]	3

NGT+		
Power supply cable length	[m]	2,6
Power supply cable - printer	[m]	max. 10

1.3.2 Electrical data on Printing System

Standard NGT / NGT+

Rated voltage	[V_{AC}]	110 - 240
Mains frequency	[Hz]	50 / 60
Power consumption	[A]	max.1.7
Equipment fuse		5 x 20 mm/ 6.3 A, slow-blow / 240 V_{AC}
Fuse, external	[A]	16
Power consumption:	[VA]	max. 400
Average power consumption, stand-by	[VA]	80
Average power consumption, print mode	[VA]	110

1.3.3 Pneumatic data on Printing System

Printer/printer (all Printing Systems)		
Compressed air connection (inlet)	[bar]	min. 1.5 – max. 5
Connection diameter	[mm]	6
Compressed air consumption	[ccm/cycle] ([l/cycle])	2,8 (0.0028)
Requirements for compressed air supply	Oil-free, clean and dry air	

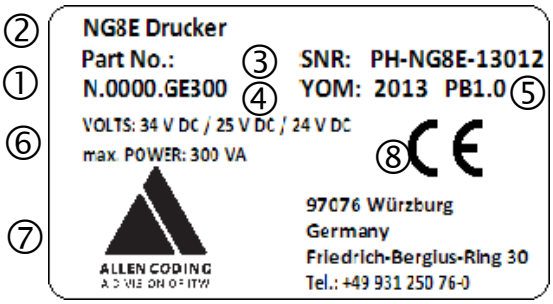
Pneumatic service unit			
Compressed-air connection	Input	[bar]	min. 0 – max. 10
	Output	[bar]	min. 0 – max. 10
Connection diameter	Input	[mm]	8
	Output	[mm]	6

1.4 Identification of the device

Type plate

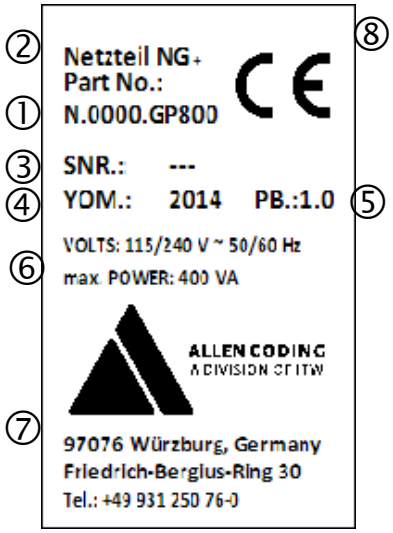
The nameplate attached to the device contains the following data:

Printer (Standard NGT / Printer NGT+):



①	Part number	⑤	Production Build
②	Equipment type	⑥	Electrical data: voltage max. Power consumption
③	Serial number	⑦	Manufacturer
④	Year built	⑧	CE-identifier

Controller (Standard NGT) / Power supply (NGT+):



①	Part number	⑤	Production Build
②	Equipment type	⑥	Electrical data: Voltage, frequency, max. power consumption
③	Serial number	⑦	Manufacturer
④	Year built	⑧	CE-identifier

1.5 Compliance Information

CE-compliance

NOTE

CE-conformity
The product's CE conformance is certified by attachment of the CE symbol to the name plate and by the conformity statement included with the product. A sample of the declaration is found in the Appendix to these Operating Instructions; see "***EC-Compliance Statement***".

The device meets the requirements of the following European EC-Guidelines:

- Machine guideline **2006/42/EG**
- EMC guideline **2004/108/EG**
- The low-voltage guideline 2006/95/EC was adhered to in regards to its protection objectives

European Union (EU) Electromagnetic Compatibility Directive Compliance Statement

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EG on the approximation of the laws of the Member States relating to electromagnetic compatibility.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to the European Standard EN 55022.

Warning: This is an EN 55022 Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

2 Product Specifications

In this Chapter you will find information on the deliverable items and on the furnishings of the device.

2.1 Safety Requirements

NOTE

Please always follow the safety instructions.
See "***Safety Information***" Chapter.

2.2 Deliverable Items

NOTE

Check the deliverable items for completeness and condition.
After receipt of the shipment, please check immediately to see whether all items listed on the delivery ticket are included and are undamaged. The manufacturer does not accept liability for deficiencies that have been claimed subsequently. Complain against:

- Transport damages directly to the shipping service.
- Deficiencies and/or incompleteness immediately to the manufacturer or your distributor.

The following components belong to the standard deliverable items for the device

Standard NG

Position	Quantity	Part number	Specification
1	1		**Options, printer:**
		N.0001.G0100	NGT6 IM/CM (left hand)
		N.0000.G1100	NGT6 IM/CM (right hand)
		N.0000.GE100	NGT6E IM (left hand)
		N.0000.G0300	NGT8 IM/CM (left hand)
		N.0000.G1300	NGT8 IM/CM (right hand)
		N.0000.GE300	NGT8E IM
2	1		**Option, Universal Controller:**
		N.0003.G0800	With Touch Display
		N.0002.G0800	Without Touch Display
3	1	3.0000.08564	Pneumatic service unit
4	1	N.0000.00509	Connection set, universal NGT controller
5	1	190234-1	USB flash drive with Operating instructions and software tools

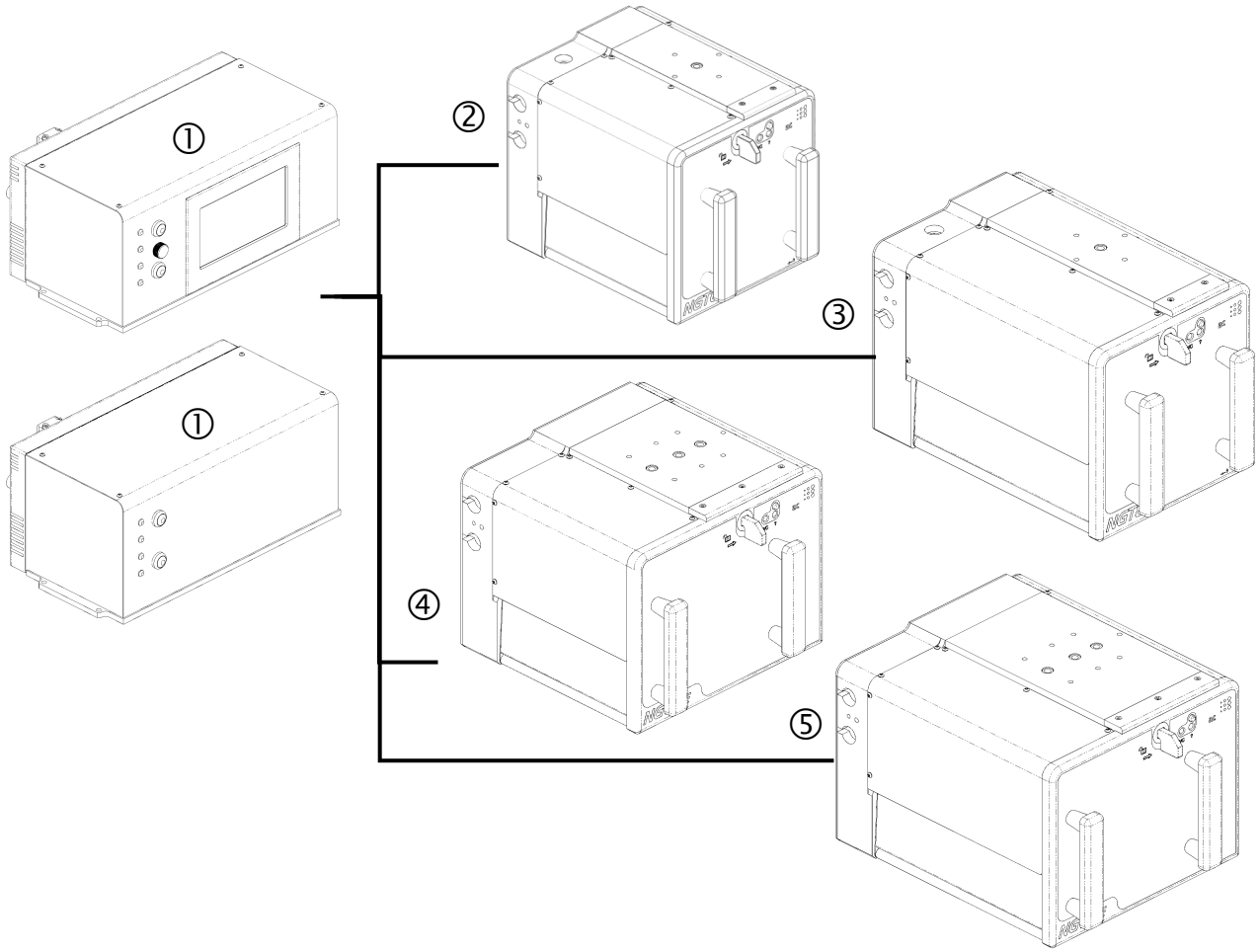
NGT2+ / NGT4+

Position	Quantity	Part number	Specification
1	1		**Options, printer:**
		103568	NGT2+ IM/CM printer head - Standard
		103569	NGT2+ IM/CM printer head - Opposite
		103570	NGT4+ IM/CM printer head - Standard
		103571	NGT4+ IM/CM printer head - Opposite
2	1	N.0000.GP800	Mains adapter
3		N.0000.00670	Power cable
4	1	3.0000.08564	Pneumatic service unit
5		N.0000.00674	Power supply cable – printer head
6	1	190234-1	USB flash drive with Operating instructions and software tools

2.3 Description of Components

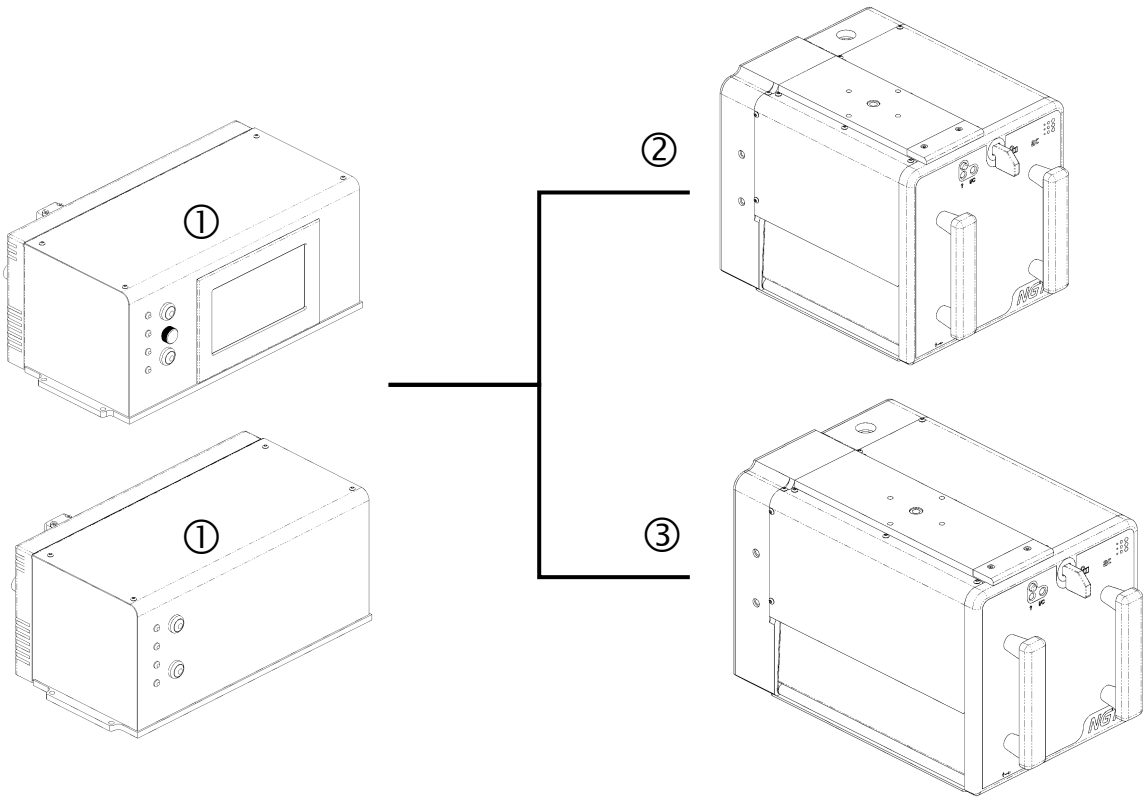
2.3.1 Equipment Overview, NGT Series

Standard NGT (left-hand version):



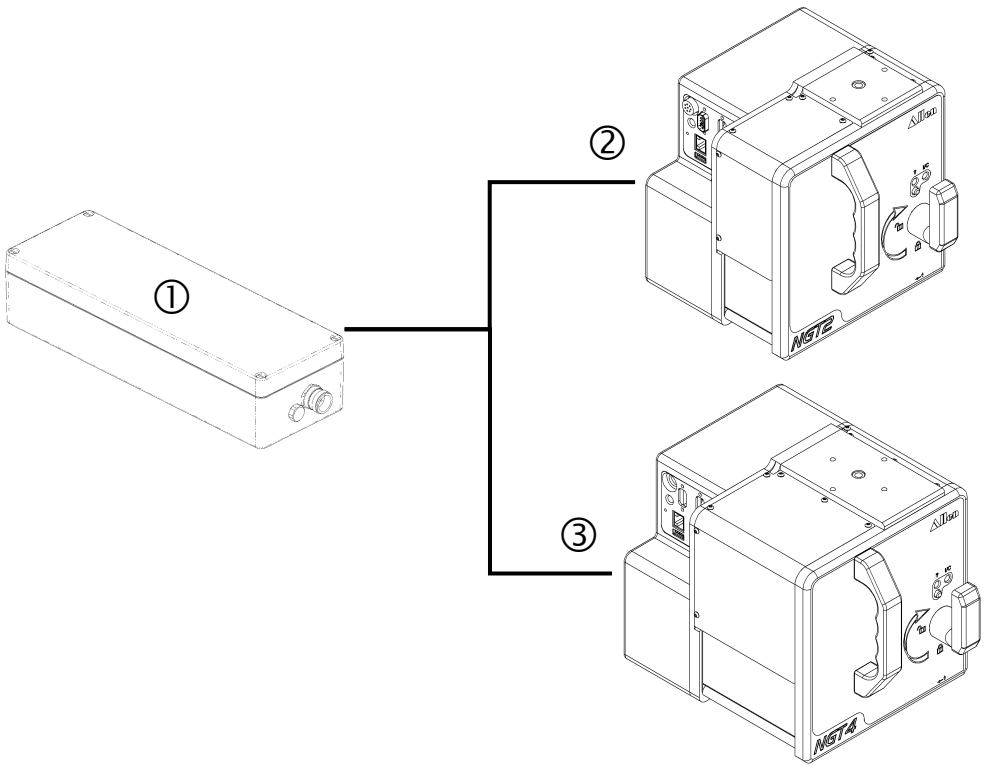
①	Universal controller (with or without Touch Display)	④	NGT6E IM
②	NGT6 IM/CM	⑤	NGT8E IM
③	NGT8 IM/CM		

Standard NGT (right-hand version):



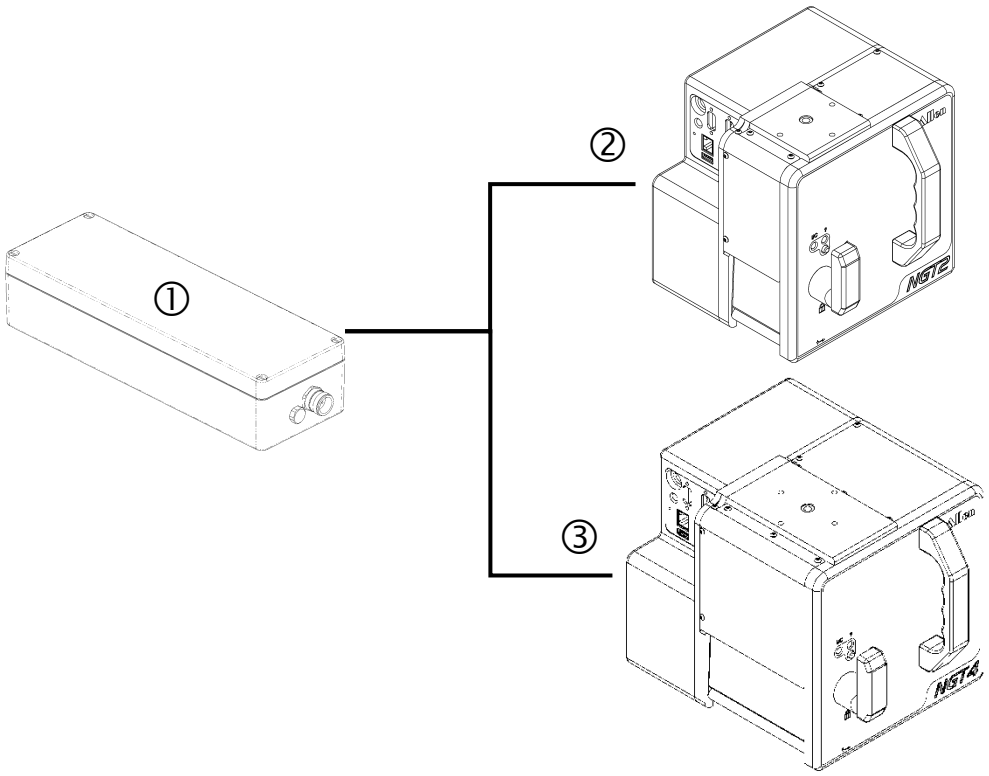
①	Universal controller (with or without Touch Display)	③	NGT8 IM/CM
②	NGT6 IM/CM		

NGT+ Standard (Left-hand version):



①	Mains adapter	③	NGT4+ IM/CM printer head - Standard
②	NGT2+ IM/CM printer head - Standard		

NGT+ Opposite (Right-hand version):

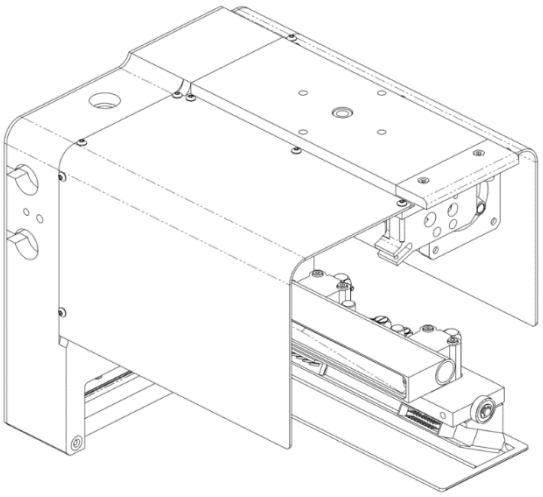


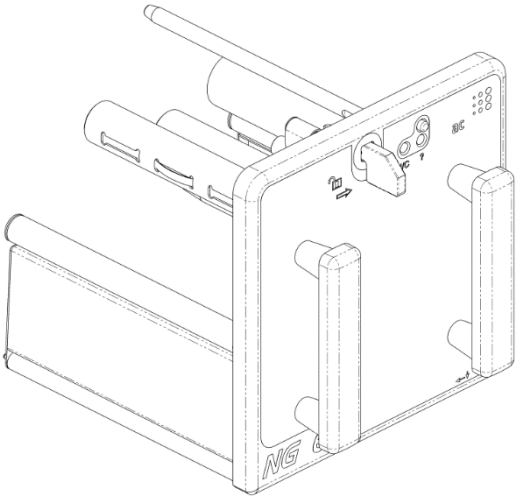
①	Mains adapter	③	NGT4+ IM/CM printer head - Opposite
②	NGT2+ IM/CM printer head - Opposite		

2.3.2 Standard NGT

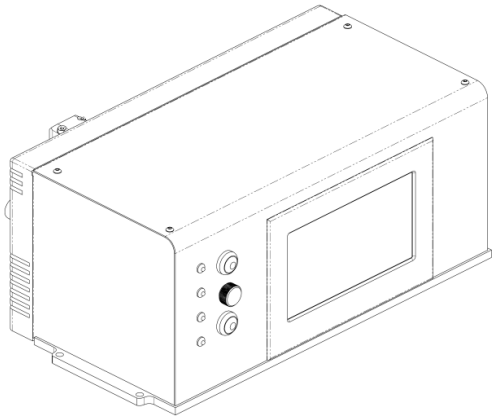
The Standard NGT Printing System is composed of the following components:

Printer (printer base unit + ribbon replacement cassette)

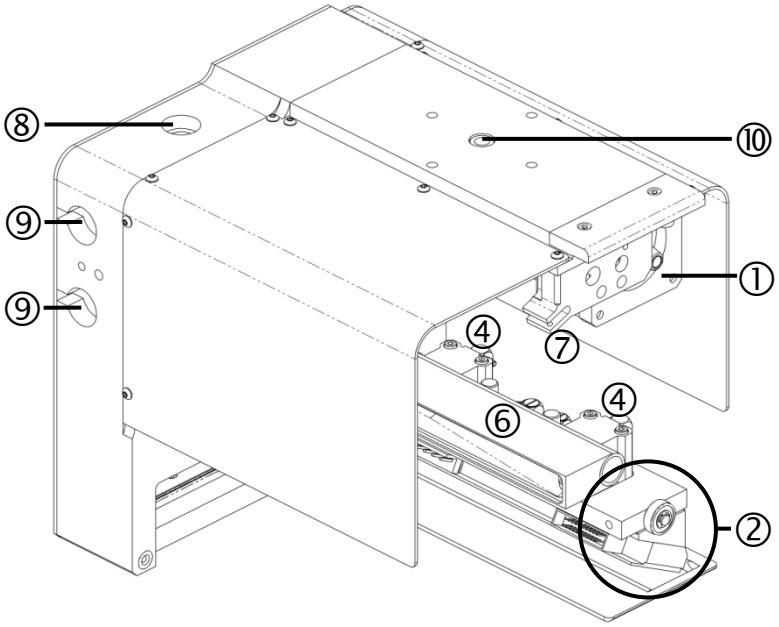


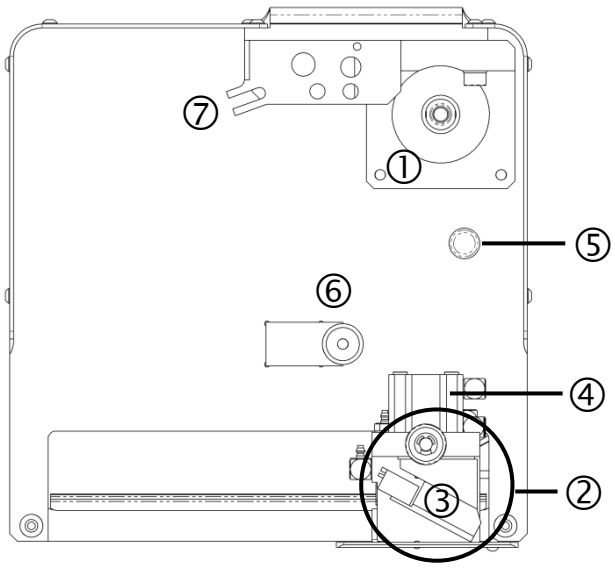


Control system:



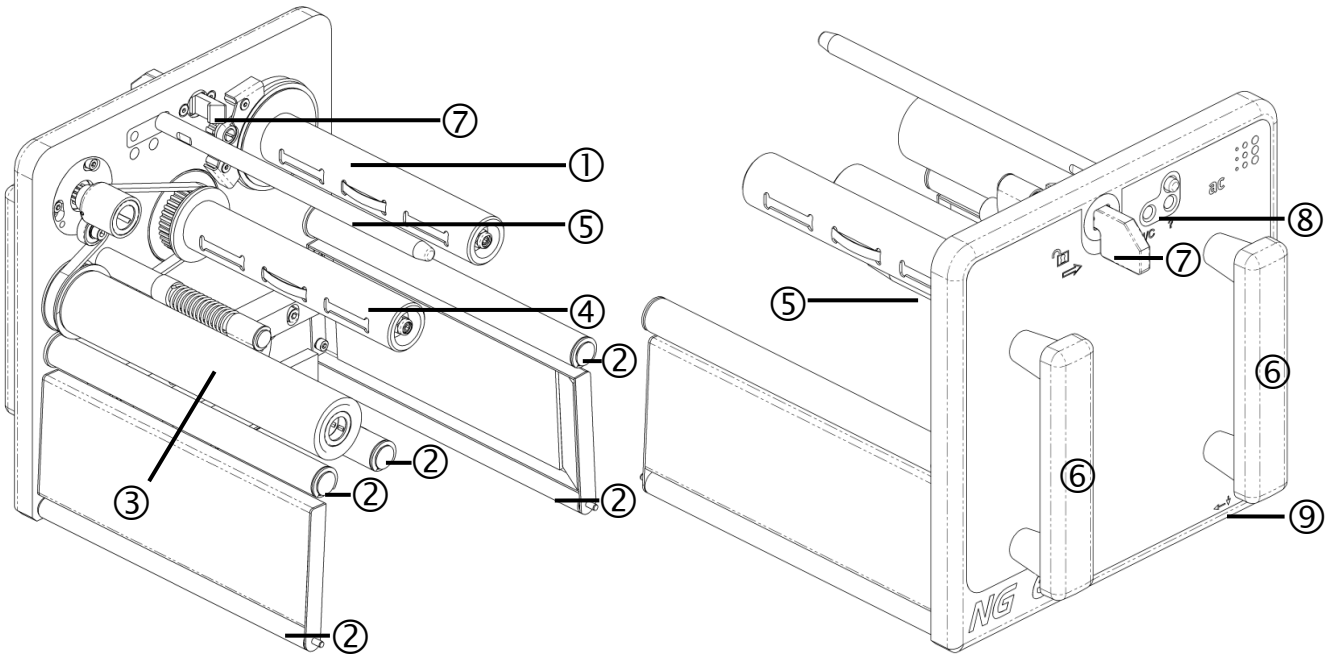
Printer base units, NGT 6/8/6E/8E





①	Motor drive, ribbon (motor shaft visible) in front of motor drive carriage	⑥	Guide bushing cassette with thermal print head connector
②	Carriage unit with thermal print head	⑦	Sensor for end of ribbon (in cassette locking unit)
③	Thermal print head	⑧	Bushing-encoder connector (for CM mode only)
④	Compressed air cylinder (2x)	⑨	Connection cable printer (2x)
⑤	Positioning pin for rubber drive roller	⑩	Printer mounting bracket

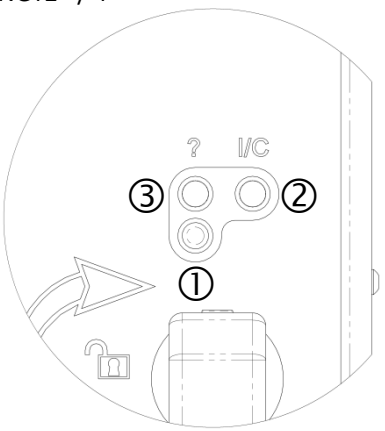
Ribbon replacement cassette NGT 6/8/6E/8E



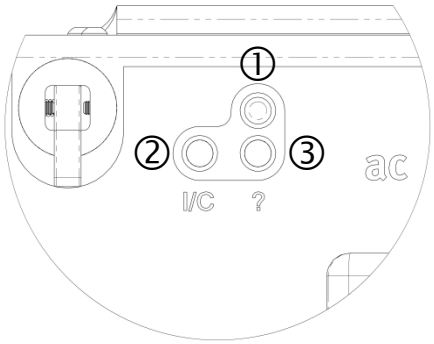
①	Ribbon unwinder	⑥	Handle (2x)
②	Guide rollers (5x)	⑦	Cassette lock
③	Rubber driver roller	⑧	Display/operator element
④	Ribbon winder	⑨	Marking, print begin/print direction
⑤	Positioning rods (2x)		

Function indicator/control elements for ribbon replacement cassette

NGT2+ / 4+



NGT6 / 6E / 8 / 8E



① Reset button

Function	Description
Error acknowledge	Acknowledge the error in the print system by pressing the button
Initiate a test print	If there is no error in the print system, press the button to initiate a test print
Reset the ribbon counter (only if no test format is loaded)	Press the button for about 3 seconds to perform the two functions on the left.
Exit test format mode (only when test format is loaded)	

② LED - Printing System Operating Mode

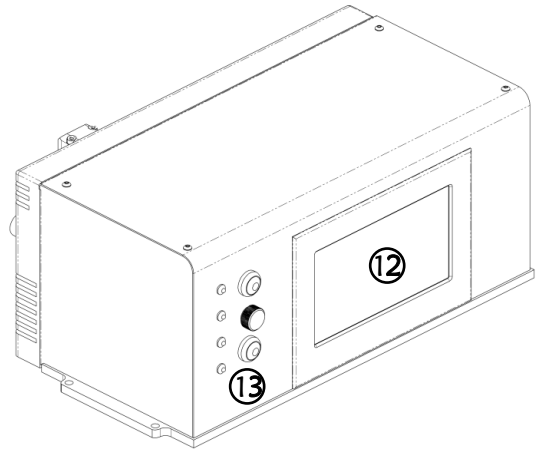
Color	Status LED	Operating mode
None	Does not light up	No power
Green	Stays on	Intermittent mode (IM)
Blue	Stays on	Continuous mode (CM)

③ LED Status, Printing System

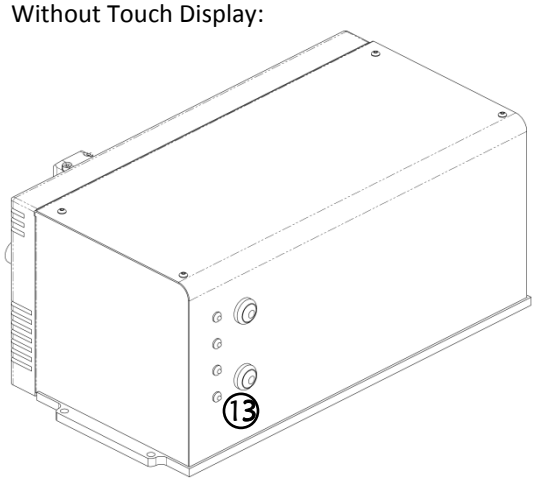
Color	Status LED	Status
None	Does not light up	No power
Green	Slowly flashing	No format
Green	Fast flashing	Data are loaded
Green	Stays on	Ready to print, valid format loaded
Red	Blinking:	Ribbon pre-warning
Red	Stays on	Fault

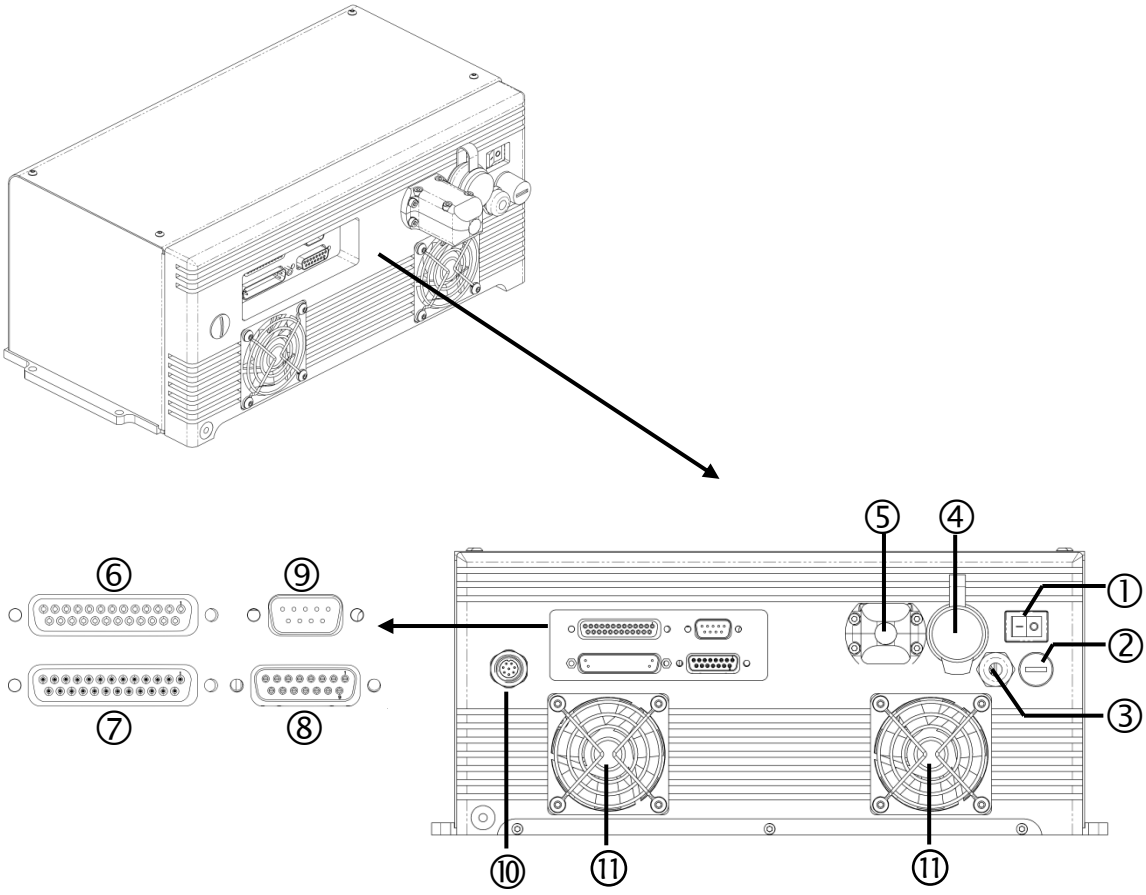
Universal controller

With Touch Display:



Without Touch Display:





①	Mains switch	⑧	I/O interface, Printing System (D-sub bushing, 15 pole)
②	Equipment fuse (5 x 20 mm; 6.3A, slo-blo/230 V)	⑨	Serial communications interface RS-232 (D-sub plug, 9 pole)
③	Cable, power connector	⑩	8-pole built-in receptacle
④	USB connector (type A)	⑪	Fan (2x)
⑤	Ethernet terminal (10/100 base TX)	⑫	Touch-Display
⑥	Printer connector (D-sub bushing, 25 pole)	⑬	Display/control elements
⑦	Printer connector (D-sub plug, 25 pole)		

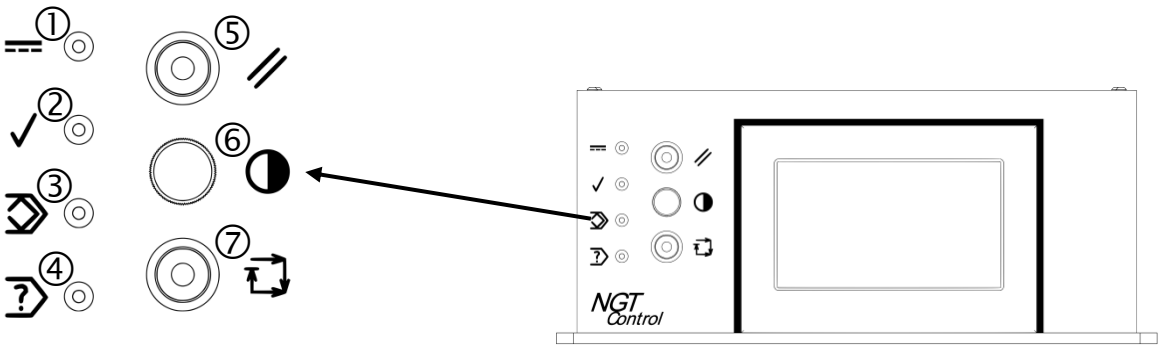
Functions of Display / Control Elements for Universal Controller

NOTE

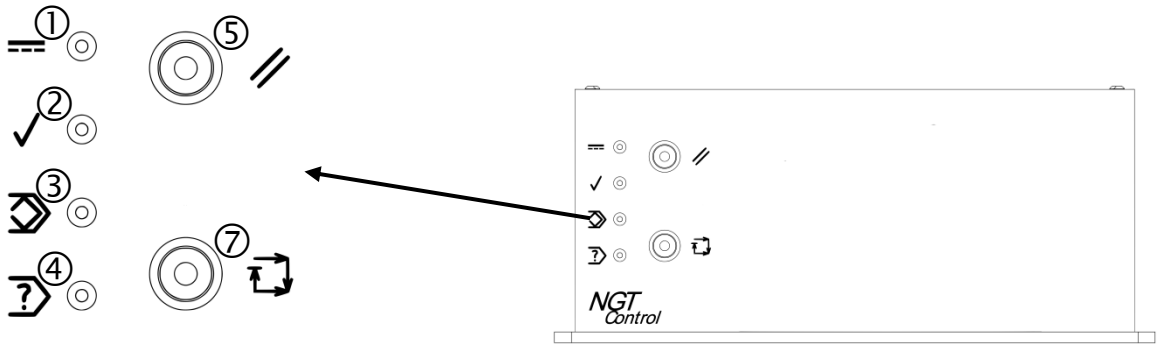
Display/control elements

A number of the functions of the display/control elements of the controller are also available on the display/control panel on the front side of the ribbon replacement cassette. See **"*Function indicator/control elements for ribbon replacement cassette*"**.

With Touch Display:



Without Touch Display:



①	LED power supply, Printing System	⑤	Reset button
②	LED Printer ready	⑥	Contrast control, Touch Display (only for controller with Touch Display)
③	LED Format loaded	⑦	Test print button
④	LED error, Printing System		

- **LED Status display**

LED				Meaning	Corrective measures
①	②	③	④		
OFF	**OFF**	**OFF**	**OFF**	No power to Printing System	Check the power supply and equipment fuse.
ON	**OFF**	**OFF**	**OFF**	Printing System is started (state may last max. one minute).	Switch the unit off and back on if the state lasts longer than one minute. If condition recurs, consult the manufacturer.
ON	**OFF**	**ON**	**OFF**	Printing System is processing data (for large formats, e.g. 213x500 mm, can take several minutes) When beginning a print job, the LED goes out for the duration of the printing process.	-----
ON	**ON**	**ON**	**OFF**	Printing System operational, valid format loaded.	-----
ON	**ON**	**flashes quickly**	**OFF**	format/data are loaded/ready	-----
ON	**ON**	**flashes slowly**	**OFF**	Printing System operational, valid format not loaded.	Transfer/load a valid format.
ON	**ON**	**flashes slowly**	**flashes slowly**	Ribbon pre-warning, no valid format loaded.	Correct the fault (e.g. check ribbon transport, check air pressure) Acknowledge the present fault message. Transfer/load a valid format.
ON	**ON**	**flashes slowly**	**ON**	Fault (e.g. ribbon- or air pressure fault...) no valid format loaded.	
ON	**ON**	**ON**	**flashes slowly**	Ribbon pre-warning, valid format loaded.	Correct the fault (e.g. check ribbon transport, check air pressure) Acknowledge the present fault message.
ON	**ON**	**ON**	**ON**	Fault (e.g. ribbon- or air pressure fault...) valid format loaded.	

- **Button Functions**

button		Functions during operation	Functions during initializing the controller	
⑤	**Reset**	Operate briefly: Acknowledge fault in Printing System Longer operation (min. 3 seconds): Reset the ribbon counter / exit test format mode (only with loaded test format)	None	Keep both buttons pressed: Reset to default values / delete all formats. This means: ▪ Delete all formats ▪ Set thermal print head resistance to 1000 Ohms. ▪ Set detection for all configurable inputs to Rising Edge ▪ Set output circuits to N/O - contact ▪ Reset communication to SERIAL (COM1)
⑦	**Test print**	Operate briefly: Initiate a test print	Operate: Switch between Ethernet (network) and serial communication	

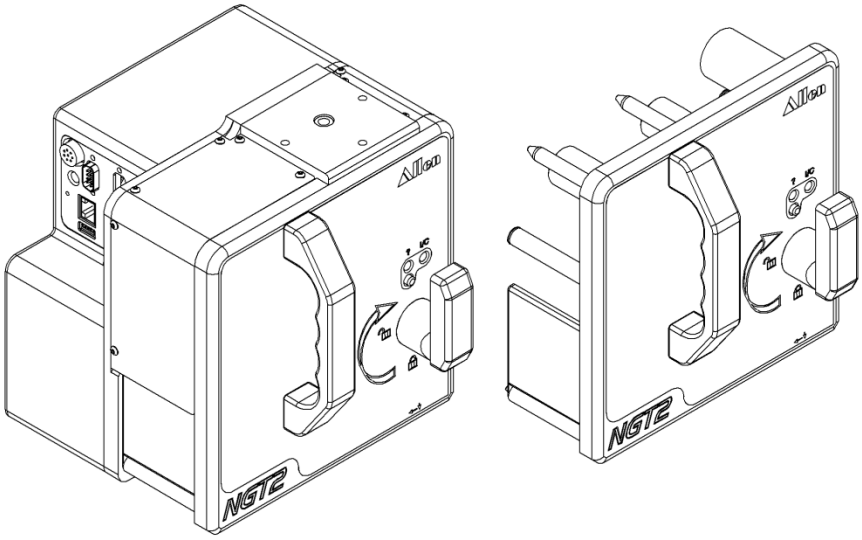
- **Contrast Control Function** (during operation)

By carefully turning the contrast controller, the contact in the Touch Display can be adapted to the installed site for the controller and to the ambient brightness.

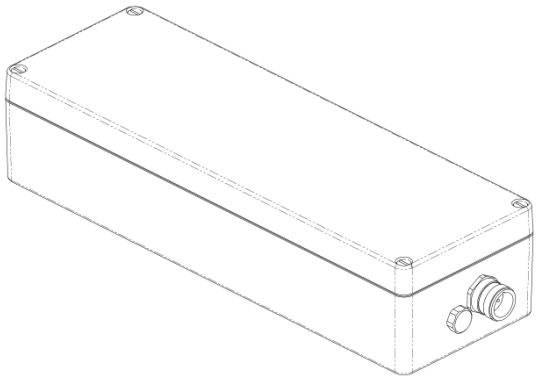
2.3.3 NGT+

The NGT+ Printing System is composed of the following components:

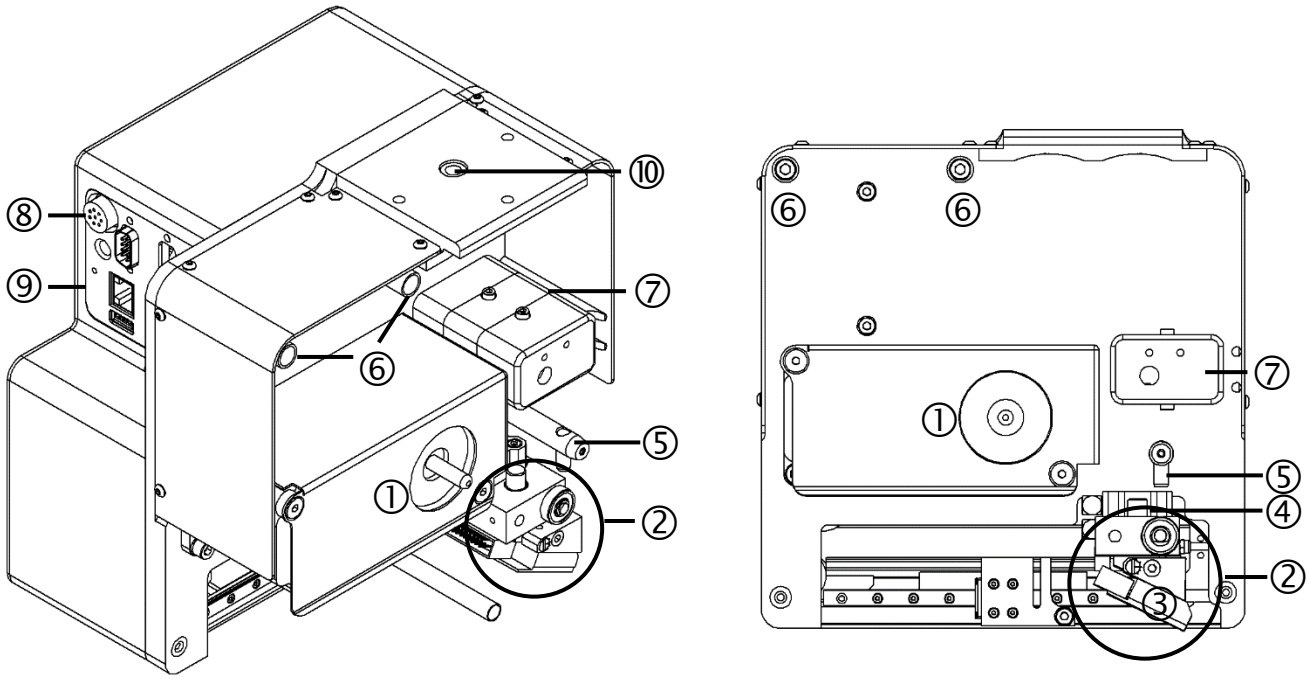
Printer (printer base unit + ribbon replacement cassette)



Mains adapter:

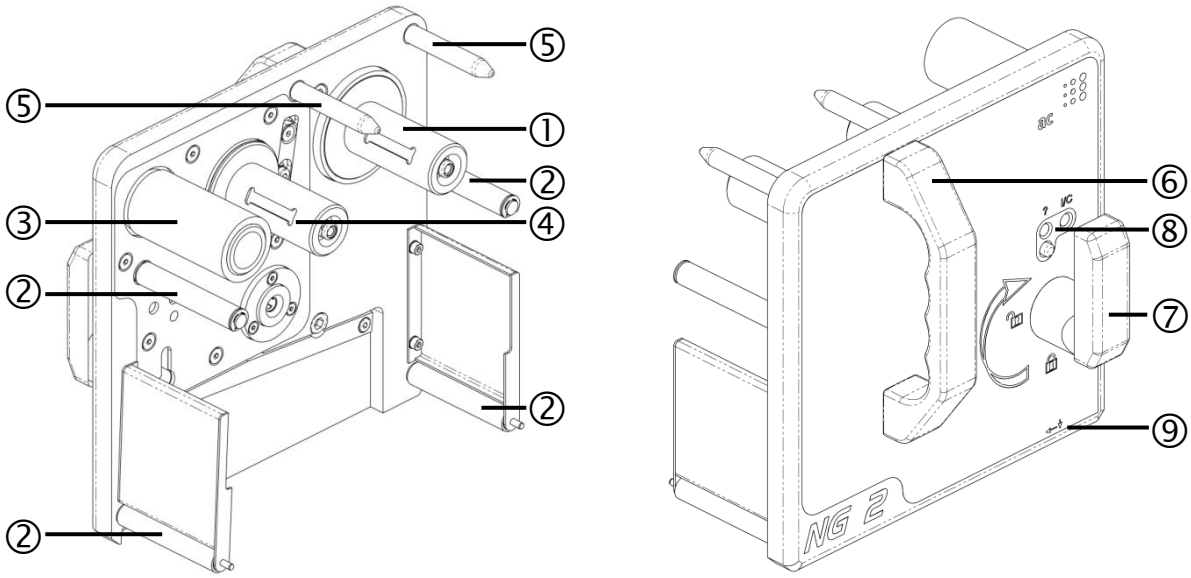


Printer Base Units NGT2+ / NGT4+



①	Motor drive, ribbon (motor shaft visible) and motor drive carriage in protective housing	⑥	Guide bushing, cassette (2x)
②	Carriage unit with thermal print head	⑦	Sensor for end of ribbon (in the housing)
③	Thermal print head	⑧	Bushing-encoder connector (for CM mode only)
④	Compressed air cylinder	⑨	Connector, printer
⑤	Cassette lock	⑩	Printer mounting bracket

Ribbon replacement cassette NGT2+/NGT4+

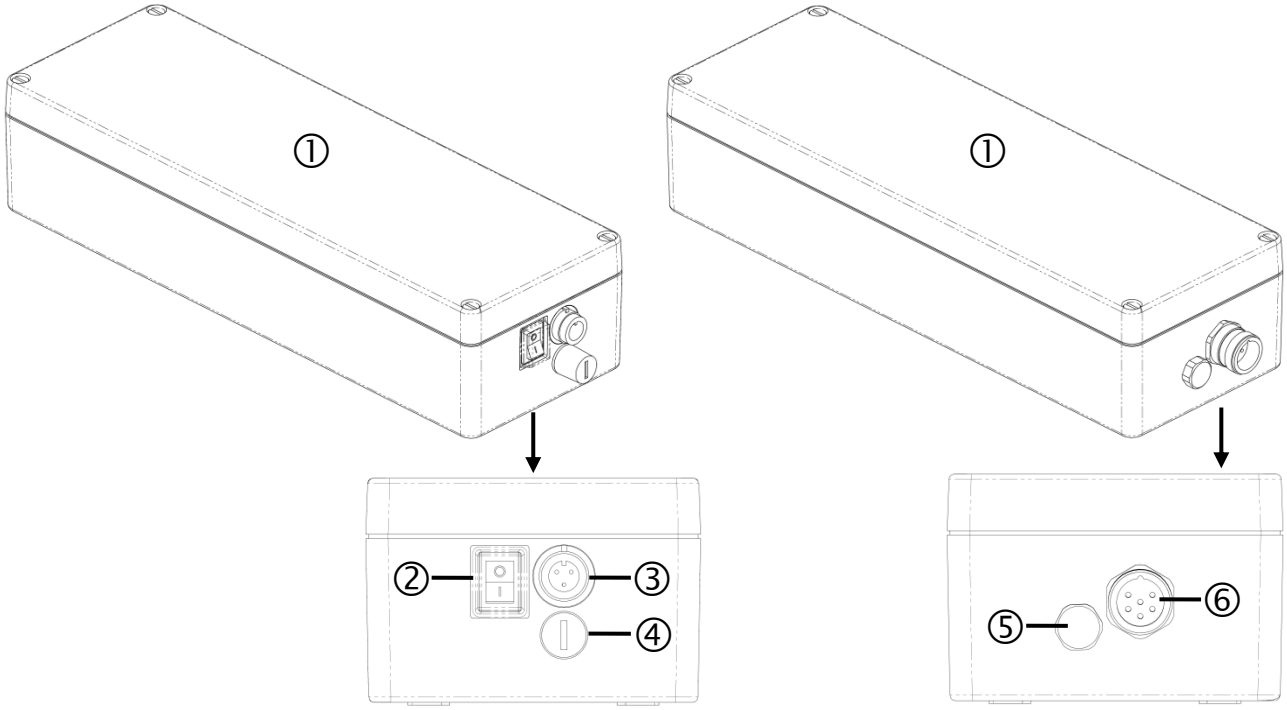


①	Ribbon unwinder	⑥	Handle
②	Guide rollers (4x)	⑦	Cassette lock
③	Rubber driver roller	⑧	Display/operator element
④	Ribbon winder	⑨	Marking, print begin/print direction
⑤	Positioning rods (2x)		

Function indicator/control elements for ribbon replacement cassette

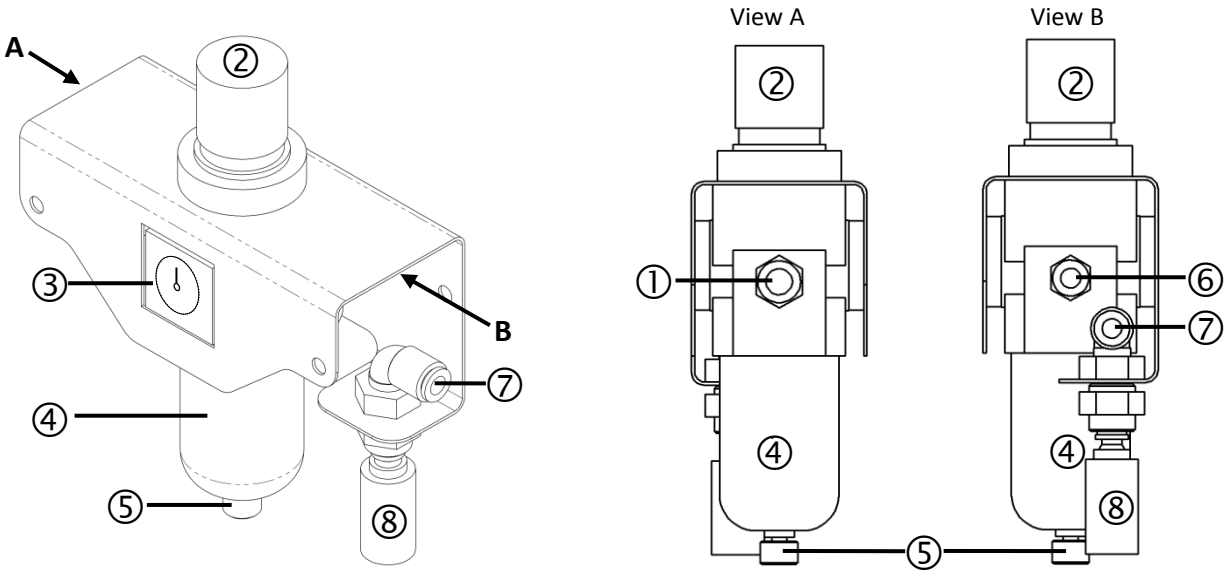
See "***Function indicator/control elements for ribbon replacement cassette***" of the Standard NGT.

Mains adapter



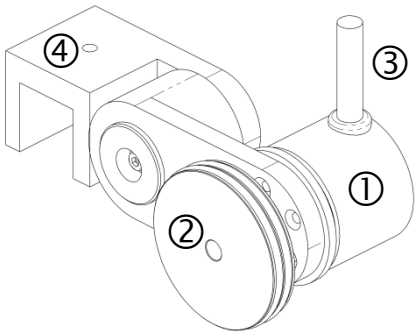
①	Power supply housing	④	Equipment fuse (5 x 20 mm; 6.3A, slow-blow/230 V)
②	Mains switch	⑤	Pressure equalizing element
③	Mains connection	⑥	Connector – power supply to printer

2.3.4 Pneumatic service unit



①	Connection – air pressure supply (Ø 8 mm)	⑤	Manual draining valve
②	Pressure control	⑥	Connection – air supply (Ø 6 mm)
③	Manometer	⑦	Connection – exhaust (Ø 6 mm)
④	Water separator basin	⑧	Sound damper connector - exhaust

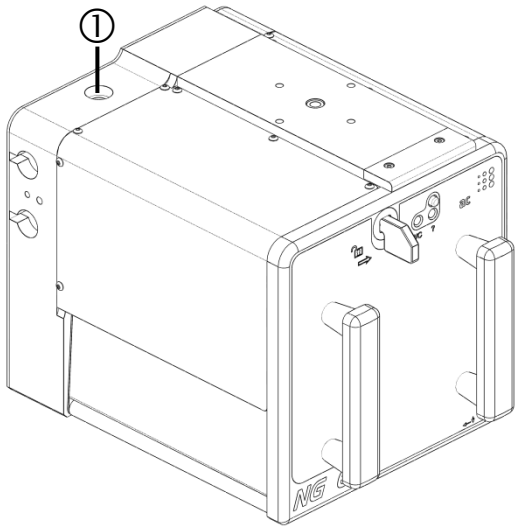
2.3.5 Encoder (CM mode)



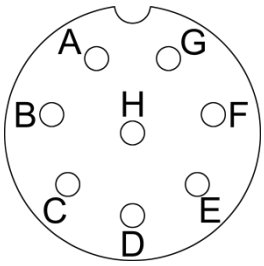
①	Encoder	③	Connection cable
②	Rotor	④	Retaining device

2.3.6 Interfaces to the Standard NGT

Printer

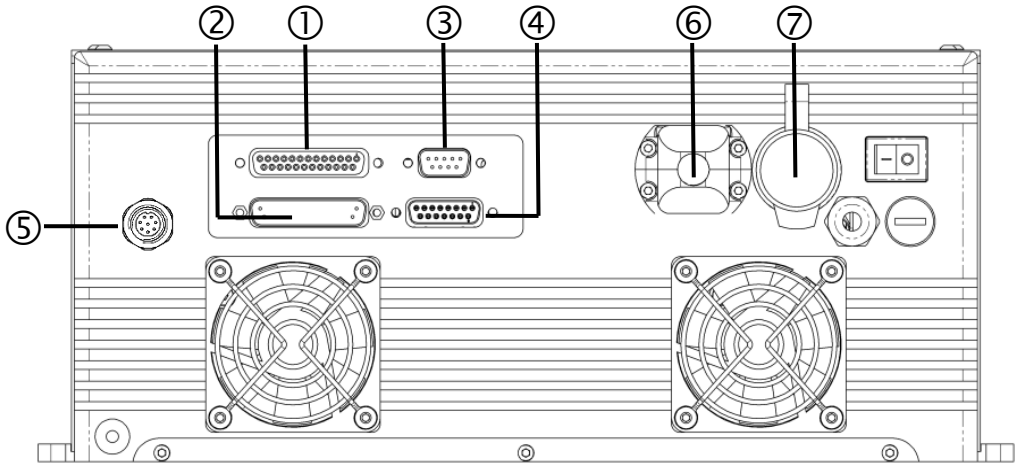


1. Encoder interface (round bushing, 8-pole):



PIN	Description/function
A	VCC (+5V)
B	GND (VCC)
C	Signal B (+5V)
D	no function
E	Signal B (+5V)
F	no function
G	no function
H	no function

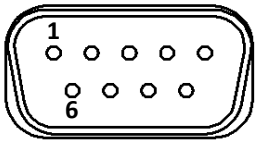
Control unit



1. **Printer connector (D-sub bushing, 25 pole)**
   Connect the appropriate cable between printer and controller.

2. **Printer connector (D-sub plug, 25 pole)**
   Connect the appropriate cable between printer and controller.

3. **Communications interface RS-232 (D-sub plug, 9-pole)**



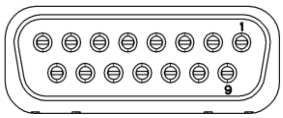
PIN	Description/function
1	DCD - reception signal level
2	RxD – reception data
3	TxD – transmission data
4	DTR – terminal ready
5	GND – signal ground
6	DSR - ready
7	RTS – switch on transmission unit
8	CTS – transmitter ready
9	RI – incoming call

4. **I/O-interface (D-sub bushing, 15-pole)**

NOTE

Power rating of the outputs:
The following limits for power to the outputs must not be exceeded:

$U_{max.}$ = 24 V
$I_{max.}$ = 50 mA (recommended 30 mA)



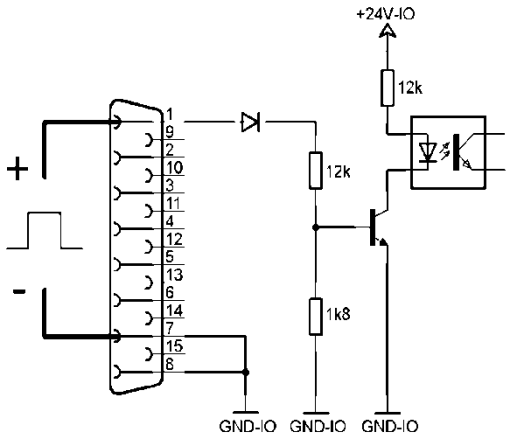
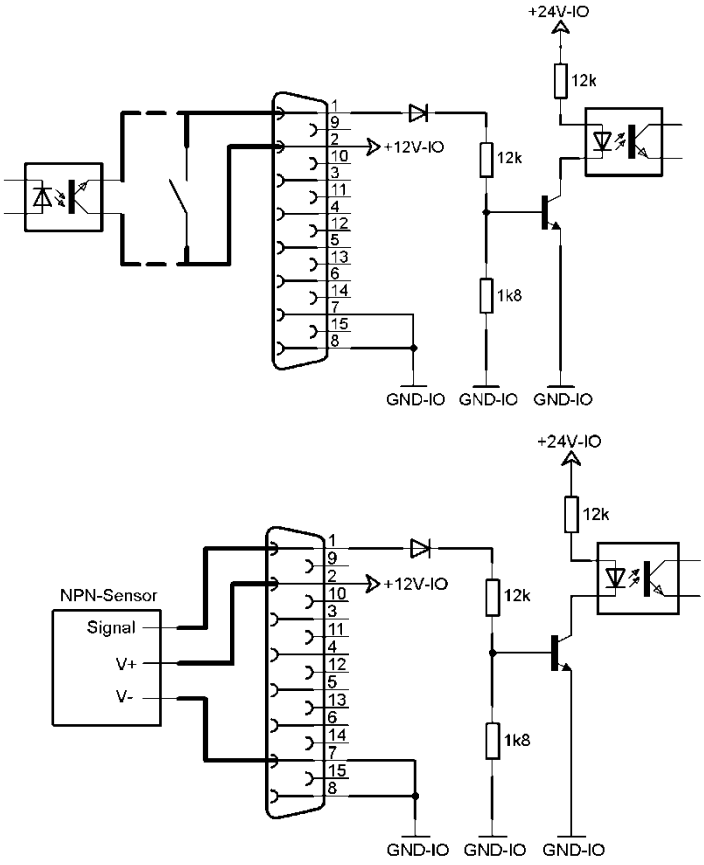
PIN	Type	Description/function
1	Input	**Print signal** Printing is initiated via the signal input. Signal pulse length must be between min. 10 ms and max. 40 ms.
2		**+12V-IO**
3	Input	**Trigger counter** A counting step can be run or the counter can be reset to the starting value via the signal input and in accordance with the configuration of the print format. Note: The minimum time between two trigger pulses is 50 ms.
4	Input	**External reset** A fault in the Printing System can be reset via the signal input.
5		no function
6		no function
7		**Reference potential +12V-IO (GND-IO) / external ground connection**
8		**Reference potential +12V-IO (GND-IO) / external ground connection**
9	Output	**General faults** Signal output will be triggered for the following faults: ▪ End / tear in ribbon ▪ Error in print format ▪ Air pressure out of permissible limits (min. 1.5 bar – max. 5 bar). ▪ Home sensor - error ▪ Printer voltage too great
10	Output	**Ribbon end (FRO)** Signal output triggered when the ribbon installed in the Printing System is consumed or a tear/fault occurs in the Printing System. The output is tripped in addition to the “general fault” signal output.
11	Output	**Inhibit** The signal output is tripped during the printing process. The output can be used to lock up the master machine during printing or for the time when the Printing System is not ready.
12	Output	**Pre-warning – ribbon end (Low Foil)** The signal output is tripped when the ribbon installed in the Printing System falls below the pre-warning value (default: 25 m). Note: After installing a new ribbon roll, the counter must be reset. Then the counter will begin to count down from 450 m.
13		no function
14	Output	**Print job - Ready** The signal output is tripped when the value set in Print Volume reaches zero. By polling the signal output, loading of a new print format can be automated.
15		no function

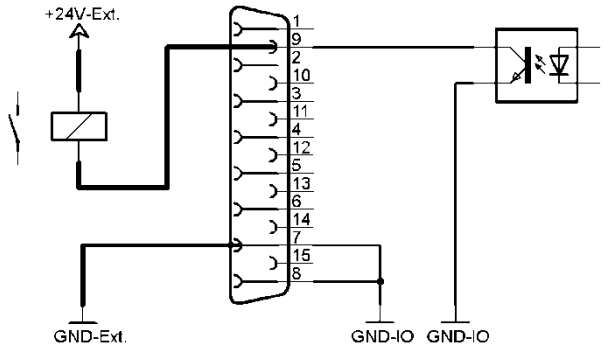
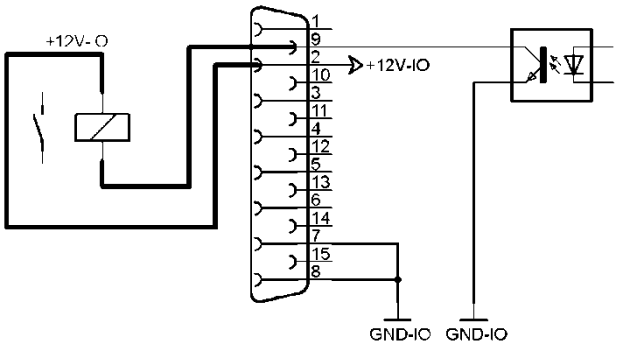
Circuit examples:

NOTE

Input / Output circuit examples

The following circuit examples apply to all signal inputs or Signal outputs in the Printing System.

Input	**Print signal**	
	Print signal (use printer-internal voltage)	

Output	**General faults**	
	General faults (use printer-internal voltage)	

5. Built-in receptacle (round plug, 8-pole)

NOTE

Power rating of relay signal outputs “General Faults” and “Inhibit”

The following limits for power to the relay-signal outputs must not be exceeded:

$U_{max.}$ = 24 V

$I_{max.}$ = 1 A

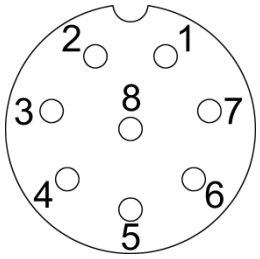
NOTE

Power rating of “Print Signal” input

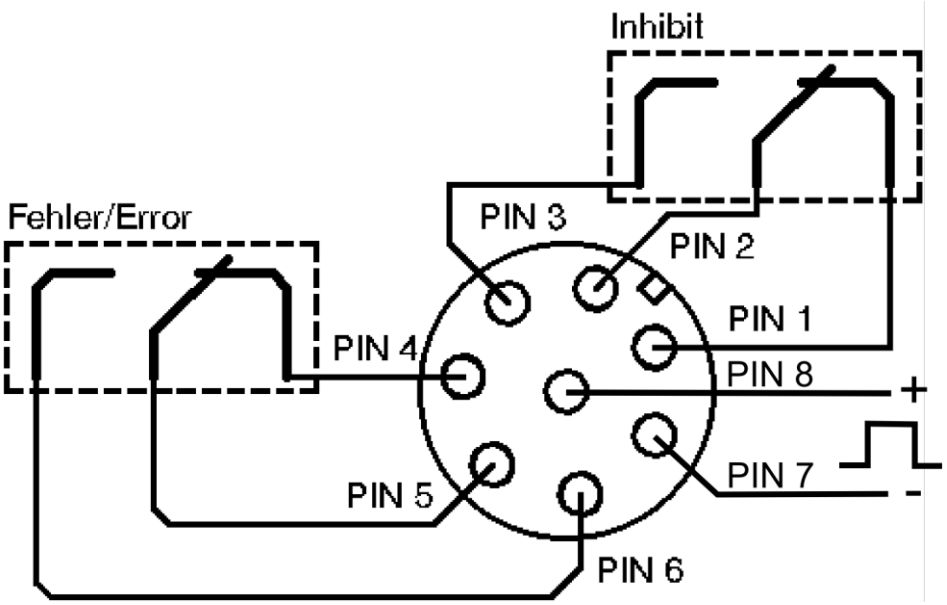
The following limits for power to the signal inputs must not be exceeded:

$U_{max.}$ = 24 V

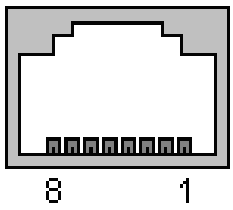
$I_{max.}$ = 50 mA (recommended 30 mA)



PIN	Type	Description/function	
1	Output	Inhibit	N/O
2			Middle tap (Wechsler contact)
3			N/O
4	Output	General faults	N/O
5			Middle tap (Wechsler contact)
6			N/O
7		Reference potential for print signal (-)	
8	Input	Print signal (+)	

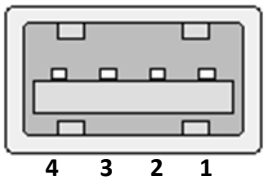


6. Network Connection (bushing RJ45)



PIN	Description/function
1	D1+
2	D1-
3	D2+
4	D3+
5	D3-
6	D2-
7	D4+
8	D4-

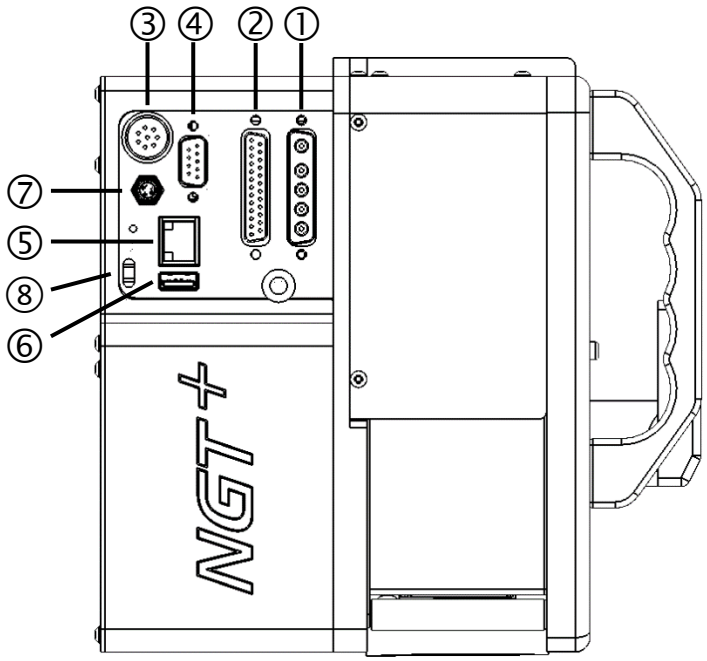
7. USB Connector (bushing type A)



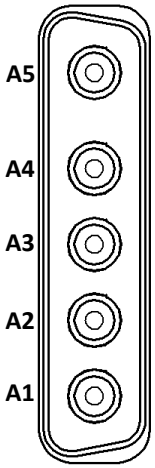
PIN	Description/function
1	+ 5V
2	Data -
3	Data +
4	GND (EARTH)

2.3.7 Interfaces of the NGT+

Printer



1. Power supply (D-sub plug, 5-pole):



PIN	Description/function
A1	+24V
A2	GND (+24V)
A3	Thermal print head voltage +24.5 V
A4	GND (thermal print head voltage) / GND (motor voltage)
A5	Motor voltage +34V

2. I/O-interface (D-sub bushing, 25-pole):

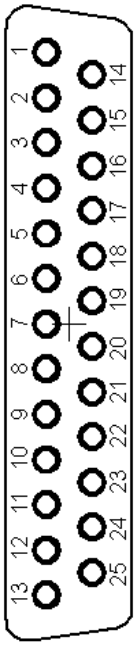
NOTE

Power rating of the outputs:

The following limits for power to the inputs/outputs must not be exceeded:

$U_{max.}$ = 24 V

$I_{max.}$ = 50 mA (recommended 30 mA)



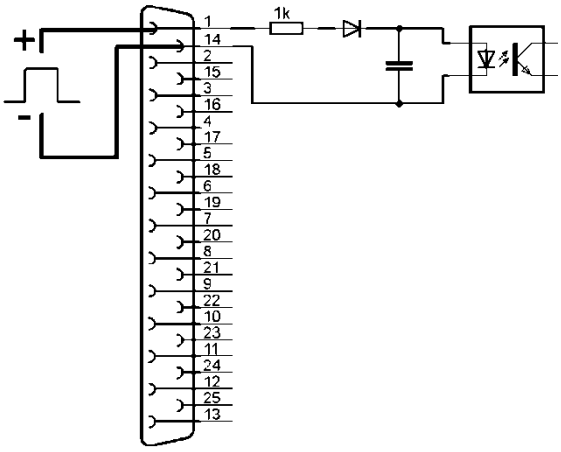
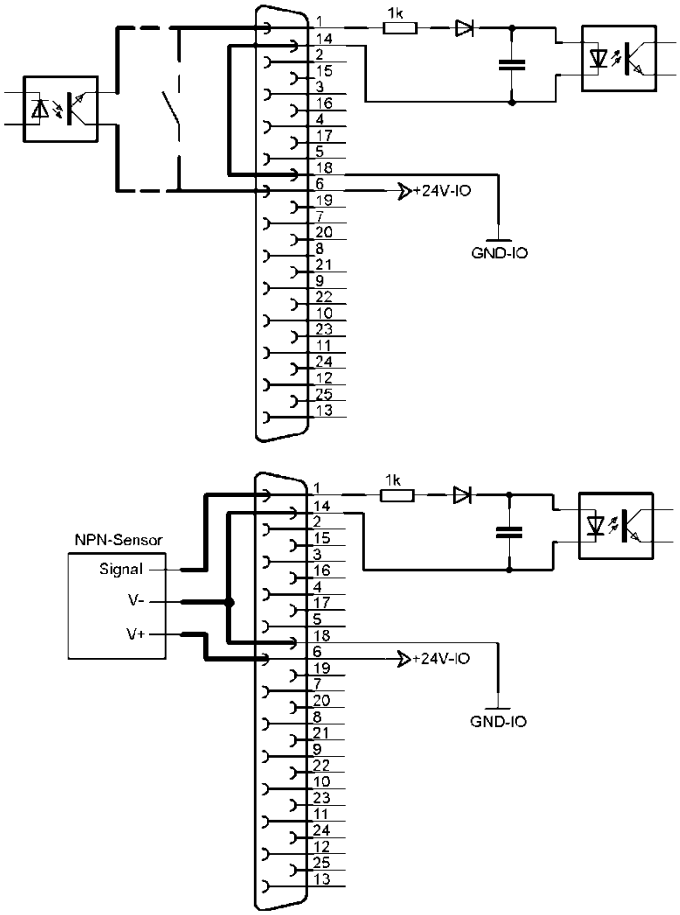
PIN	Type	Description/function
1	Input	Print signal (+)
14	Input	Print signal (-)
2	Input	External reset (+)
15	Input	External reset (-)
3	Input	Trigger counter (+)
16	Input	Trigger counter (-)
4	Input	Encoder (+), 5V – 24V
17	Input	Encoder (-)
5	Input	Print signal, no potential
6		**+24V-IO**
18		**Reference potential +24V-IO (GND-IO)**
7	Output	General faults (+)
19	Output	General faults (-)
8	Output	Ribbon end (+)
20	Output	Ribbon end (-)
9	Output	Inhibit1 (+)
21	Output	Inhibit1 (-)
10	Output	Pre-warning, ribbon end (+)
22	Output	Pre-warning, ribbon end (-)
11	Output	Inhibit2 (+)
23	Output	Inhibit2 (-)
12	Output	Print job – ready (+)
24	Output	Print job – ready (-)
13	Output	no function
25	Output	no function

Circuit examples:

NOTE

Input circuit examples

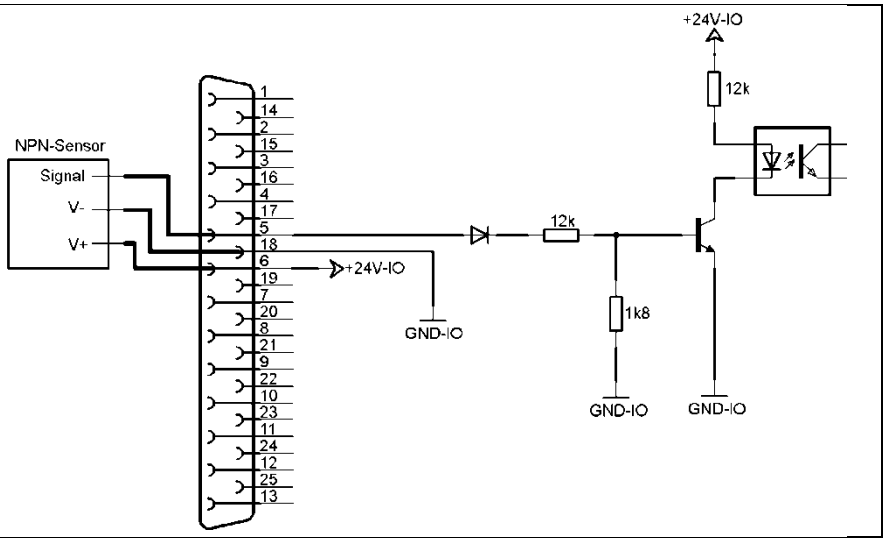
The following circuit examples apply to all signal inputs to the Printing System, except for the “print signal – no potential” signal input.

Input	**Print signal**	
	Print signal (use printer-internal voltage)	

NOTE

Circuit examples, print signal – no potential

The signal input described below is available only for the print signal.

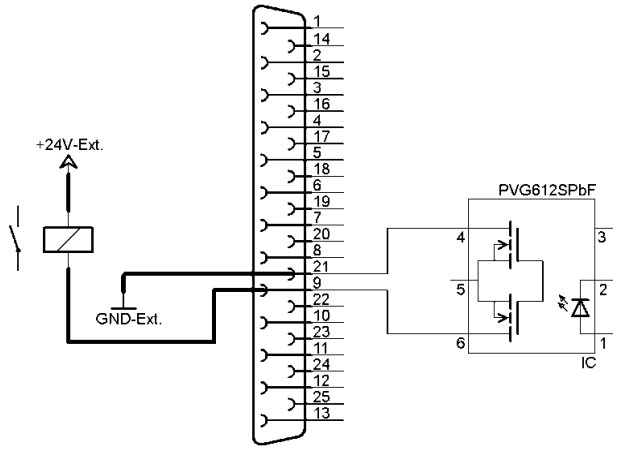
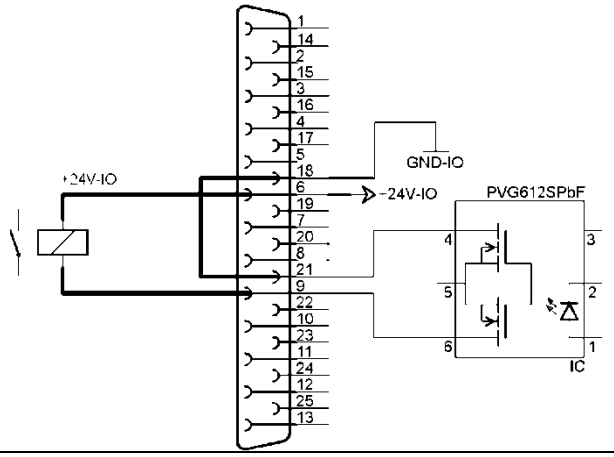
Input	**Print signal input, no potential**	

NOTE

Circuit examples - Outputs

The following circuit examples apply to the signal outputs:

- General faults
- Inhibit 1

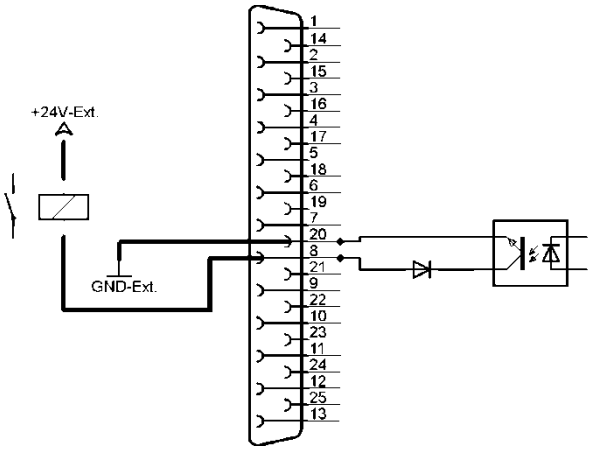
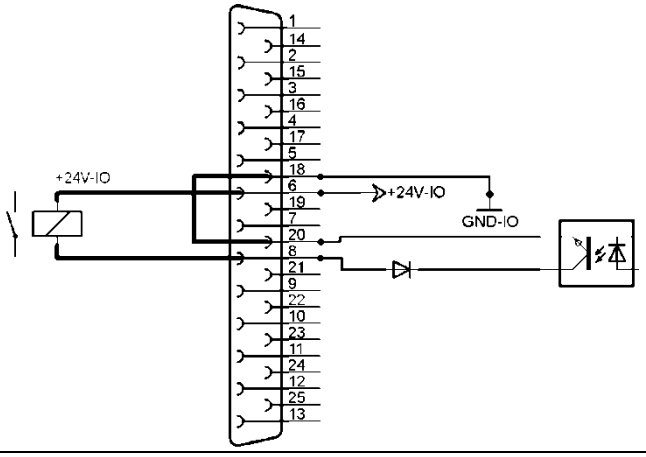
Output	**Inhibit 1**	
	Inhibit 1 **(use printer-internal voltage)**	

NOTE

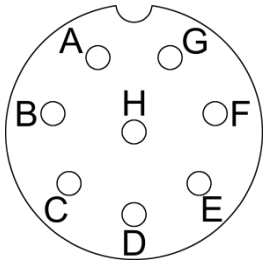
Circuit examples - Outputs

The following circuit examples apply to the signal outputs:

- Ribbon end (FRO)
- Pre-warning – ribbon end (Low Foil)
- Inhibit 2
- Print job - Ready

Output	**Ribbon end (FRO)**	
	Ribbon end (FRO) (use printer-internal voltage)	

3. Encoder interface (round bushing, 8-pole):



PIN	Description/function
A	VCC (+24V)
B	GND (VCC)
C	Signal B (+24V)
D	no function
E	Signal B (+24V)
F	no function
G	no function
H	no function

4. Communication interface RS-232 (D-sub plug, 9-pole)

See **"*Communications interface RS-232*"** page 43.

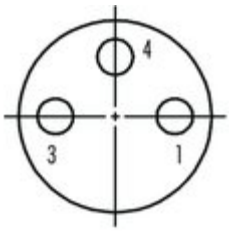
5. Network Connection (bushing RJ45)

See **"*Network Connection*"** page 48.

6. USB Connector (bushing type A)

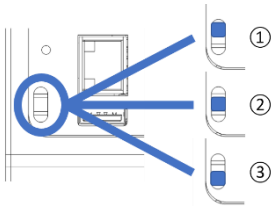
See **"*USB Connector*"** page 48.

7. Auxiliary power supply



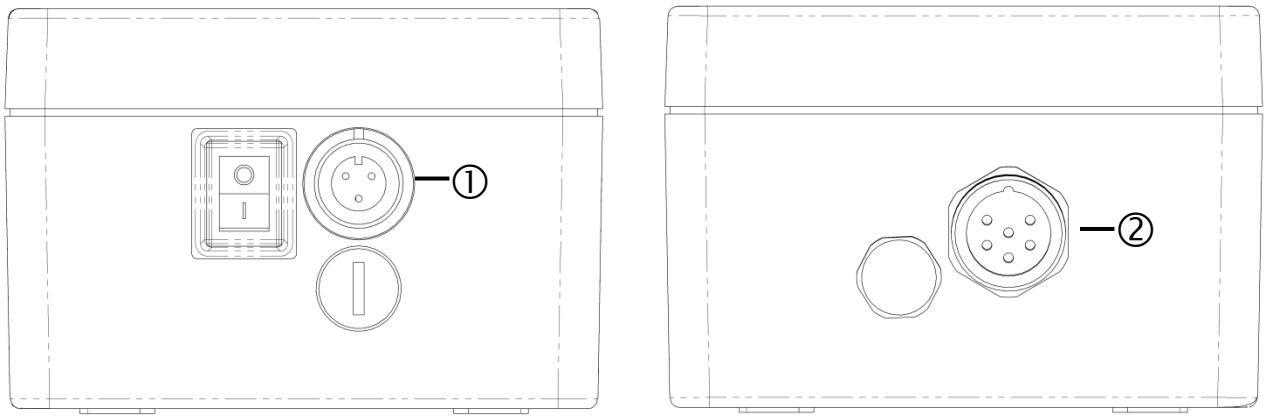
PIN	Description/function
1	VCC (+ 5 V)
3	GND
4	no function

8. Communication interface select

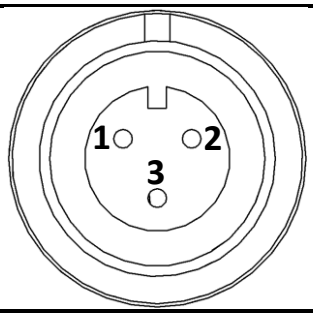


Switch setting	Description/mode of operation
①	Printer starts with communication interface RS-232 selected
②	Printer starts with saved communication interface
③	Printer starts with communication interface Network selected

Mains adapter

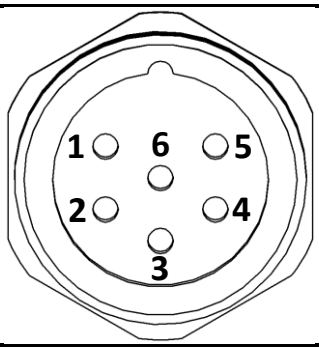


1. Power connector (round plug, 3-pole)



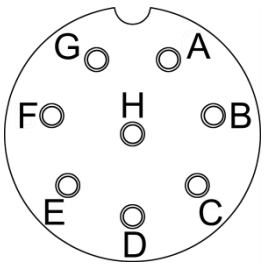
PIN	Description/function
1	L (Phase)
2	N (Neutral line)
3	PE (fused conductor)

2. Connector – power supply to printer



PIN	Description/function
1	24V
2	GND (24V)
3	Thermal print head voltage 24.5 V
4	GND (thermal print head voltage)
5	Motor voltage 34V
6	GND (motor voltage)

Encoder (round plug, 8-pole)



PIN	Description/function
A	VCC (5V - 24V)
B	GND (VCC)
C	Signal B (bridged with Pin E) (5V – 24V)
D	no function
E	Signal B (bridged with Pin C) (5V – 24V)
F	no function
G	no function
H	no function

3 Safety Information

This Chapter contains information on the configuration and relevance of the safety information presented in these operating instructions, and also information on possible hazards which may occur even for compliant usage of the device.

3.1 Configuration of the safety instructions

⚠ SIGNAL WORD

Type and source of hazard

Explanation of the hazard and information on possible consequences of non-compliance

- Activities/prohibited actions to help prevent accidents.

	The pictogram denotes the type of hazard		
	The safety sign ⚠ before the signal word indicates a possibility of personal injury		
	The **signal word** denotes the severity of the hazard		
	SIGNAL WORD	**Consequences when hazard occurs**	**Probability of occurrence**
	HAZARD	Severe physical injury or death (irreversible)	imminent
	WARNING	Severe physical injury or death (irreversible)	possible
	CAUTION	Slight/minor physical injury (reversible)	possible
	ATTENTION	Property damage to machinery and/or to nearby assets	possible
	The reference text describes: ▪ type and source of hazard, ▪ the possible consequences of disregarding the safety instruction, ▪ measures or restraints to prevent the hazard.		

3.2 Used pictograms

Pictogram	Meaning
	Warning of hazardous electrical voltages
	Warning of a general hazard
	Caution – Hot Surfaces
	Warning of possible property damages
	Before performance, observe the corresponding information in the operating manual
	Pull the mains plug before opening
	General note

3.3 Hazards during compliant use

WARNING

Dangerous electrical voltage!

There are potentially lethal voltages in the controller (Standard NGT) / power supply (NGT+) of the Printing System when it is switched on. Contact may result in electric shock.

- Make certain that the controller / power supply is switched off and disconnected from the power mains before working on them.
- Working on the voltage supply unit may be performed exclusively by professional electronic technicians.

WARNING

Hot machine parts!

The thermal print head can have high surface temperatures when in operation. Contact with the surface may cause burns.

- Avoid direct contact with the surface of the thermal print head, especially during maintenance work.
- After switching off the unit, wait until the surface of the thermal print head has cooled off.

CAUTION

Potential hazard caused by incorrect accessories and spare parts!

The use of accessories and spare parts that are not recommended by the manufacturer may compromise safety, functionality and efficiency of the device. Any liability and warranty for any damages caused by not recommended accessories and spare parts or non-intended use is excluded by the manufacturer.

- Thus use manufacturer recommended accessories and spare parts exclusively.

4 Installation

In the following Chapter you will find information on installation of the device.

⚠ CAUTION

Potential hazard due to incorrect or non-compliant installation!

An incorrect or improper assembly of the device may impair safety, functionality and efficiency of the device.

- The installation of the device may be performed exclusively by qualified technical expert personnel.
- Follow the relevant instructions in the operating manual.

⚠ CAUTION

Falling equipment components represent an impact hazard in event of improper handling!

The locking mechanism between ribbon replacement cassette and equipment base unit may open or may not be properly locked. When carrying or lifting the printer by using the handle provided on the ribbon replacement cassette, this may result in the equipment base unit dropping to the ground. Falling equipment components may result in impact injury.

- Do not use the handle provided on the ribbon replacement cassette for lifting or carrying the printer.
- Wear safety gloves during the installation.
- Follow the relevant instructions in the operating manual.

NOTE

Additional space for cable access and cable outlet

When assembling the device, please consider the requirement for additional space for cable access and cable outlet on each component.

4.1 Unpacking

⚠ CAUTION

Hazards due to defects or transport damage!

Transport damage to the device may result in unforeseeable hazards to personnel and/or property.

- When unpacking the device, check for any visible damage.
- Never ever connect a damaged device to the voltage supply.
- In case of transport damage, consult with the manufacturer or your distributor.

NOTE

Check the deliverable items for completeness and condition.

After receipt of the shipment, please check immediately to see whether all items listed on the delivery ticket are included and are undamaged. The manufacturer does not accept liability for deficiencies that have been claimed subsequently. File complaints with:

- Transport damages directly to the shipping service.
- Deficiencies and/or incompleteness immediately to the manufacturer or your distributor.

NOTE

Recycling of transport packing

The transport packaging may be stored for later recycling, e.g. transport or storage.

Step1: Open the transport packing.

Step 2: Check whether all items listed on the delivery slip are included and undamaged.

Step 3: Remove all components of the device carefully from the transport packing.

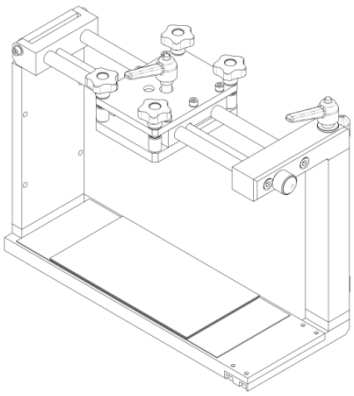
4.2 Overview of Machine Frame options

Machine frames are model-dependent and are available in widths from 500 mm – 1500 mm (outside dimension). The machine frame includes the unit transverse adjuster, alignment unit and print substrate.

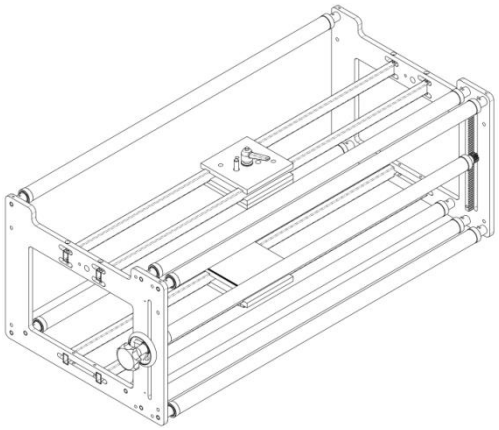
NOTE

Machine frame.
If you have questions about the machine frame, please consult with Allen Coding GmbH.

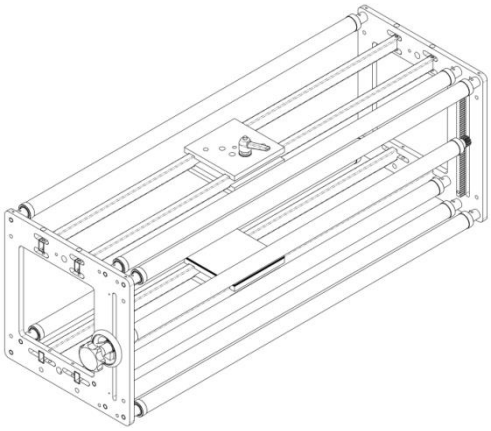
Machine frame with hinge mechanism



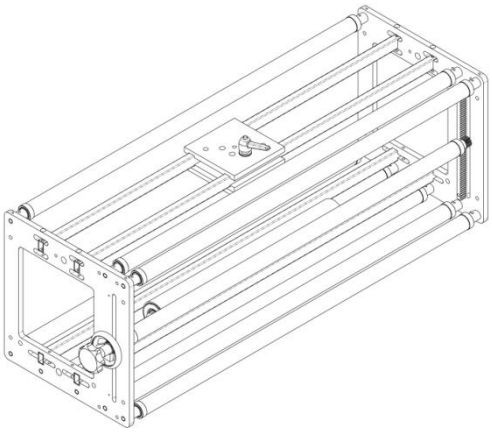
Universal machine frame – wide (IM version)



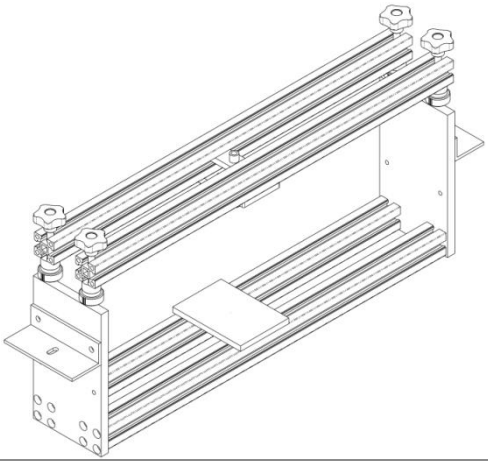
Universal machine frame – narrow(IM version)



Universal machine frame – narrow(CM version)



Machine frame (IM version)



4.3 Installing the printer

CAUTION

Safety risks from incorrect or improper assembly of the Printing System

An incorrect or improper assembly of the Printing System may impair safety, functionality and efficiency of the Printing System. Any liability and warranty for any damages caused by incorrect or improper assembly of the Printing System is excluded by the Allen Coding GmbH.

- The installation of the Printing System may be performed exclusively by qualified technical expert personnel.
- Ensure the operating- and maintenance personnel have safe access to the Printing System.

ATTENTION

Failure to follow the operating instructions may result in damage to the Printing System

Failure to observe the information in the operating instructions may cause damage to the Printing System or to other property during the installation.

- Read the operating instructions before beginning the installation.
- Follow the relevant safety instructions in the operating manual.
- Familiarize yourself with the mode of operation of the Printing System.

ATTENTION

Damage and interference due to operation without grounding the chassis of the Printing System

Operating the Printing System without grounding the chassis can yield damage (e.g. damage the thermal bar) and an increase of electromagnetic disturbance.

- Ground the chassis of the Printing System via the machine frame or one of the existing drill holes.

NOTE

Installation of the machine frame

The machine frame is integrated into the packing system so that any desired print position can be adjusted on the print material and the ribbon replacement cassette can be removed from and installed into the printer without any hindrance.

NOTE

Additional space required for power supply cable

Depending on the installation situation and the printer used, an additional space of up to 207mm for the power supply cable is to be allowed for.

4.3.1 Mechanical Installation

ATTENTION

Proper assembly position and operating mode

An improper assembly position for the operating mode of the Printing Systems can cause damage to the Printing System.

- Make certain that the assembly position of the printer and the adjusted operating mode are correctly tailored to each other before you start the machine.
- If necessary, change the assembly position or change the operating mode.
- Follow the instructions in the operating manual.

Permissible alignment / assembly position of the Printing System and of the machine frame

any

Installation of the printer in the machine frame

Positioning and securing the printer

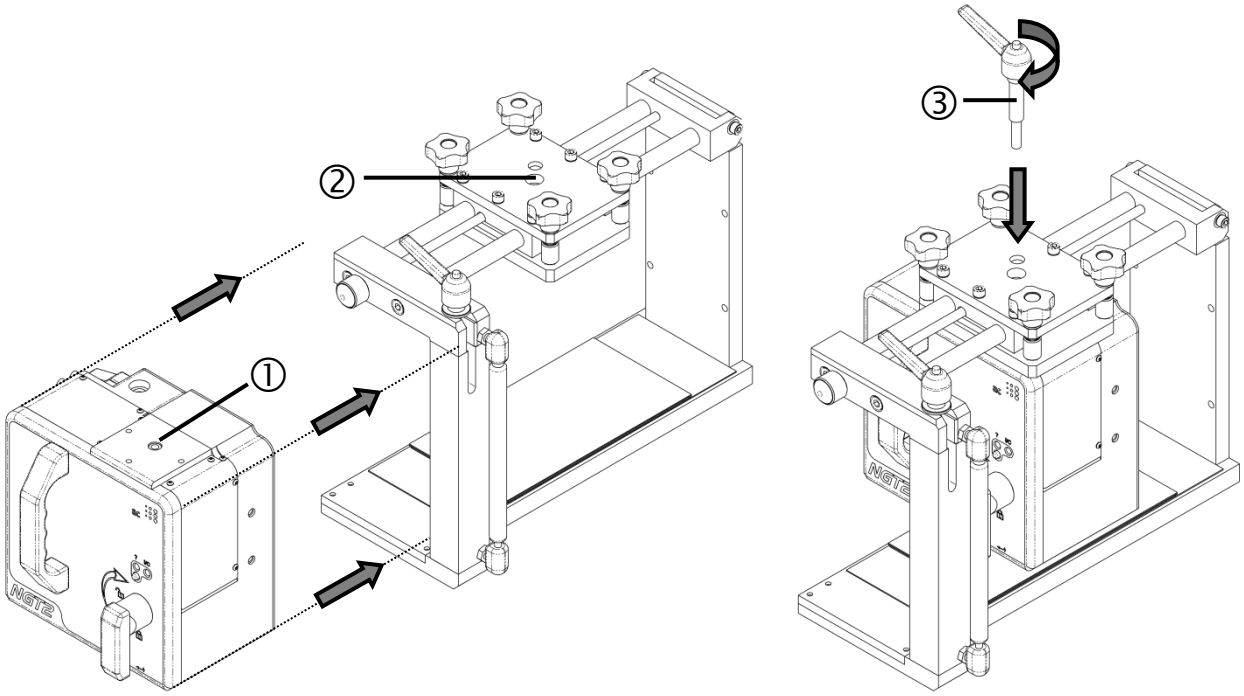
ATTENTION

Warning of possible property damage.

Using overlong screws or catches for fixing the printer in the machine frame may result in damage to the Printing System.

- Use screws or catches that can be screwed down no deeper than 8 mm.

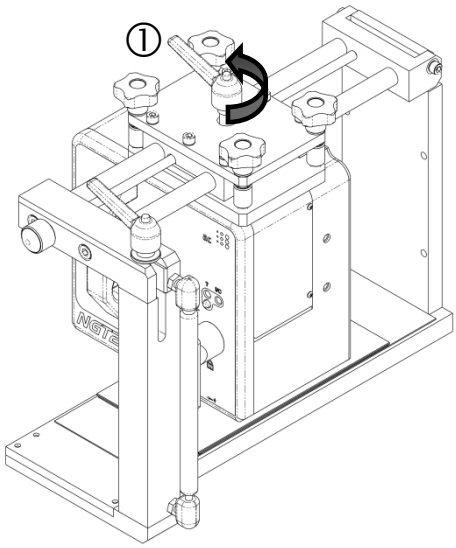
Position the printer in the machine frame. Make sure that the assembly hole in the printer ① is located below the hole in the machine frame ②.
Insert the catch ③ through the hole in the machine frame and screw it into the assembly hole of the printer.

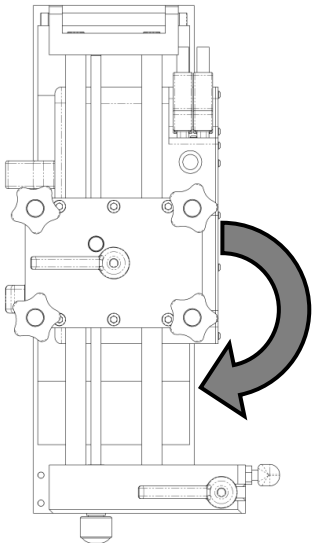


Alignment of printer

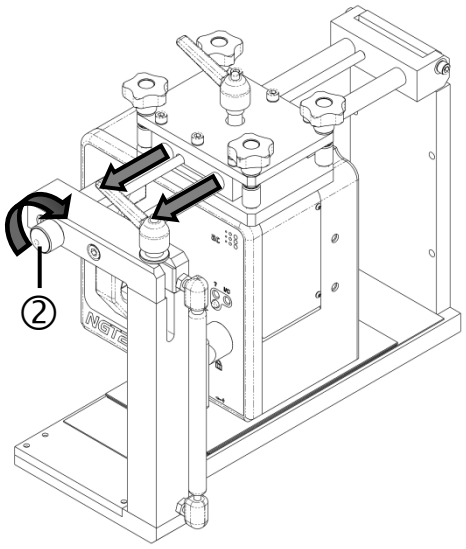
Rotate or displacement of printer

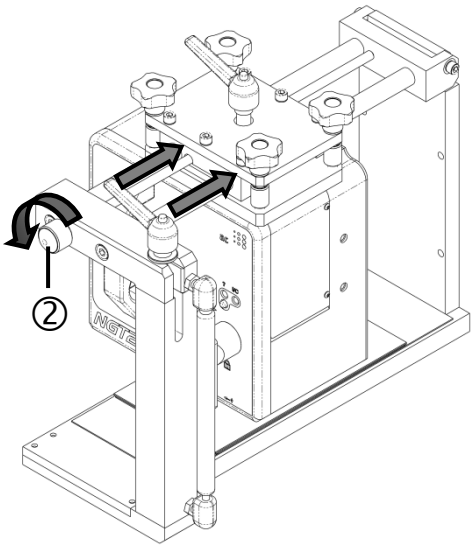
Open the catch ($^1/_2$ to 1 full rotation). The printer may now be rotated to the left or to the right by 90°. When the setting has been completed, rotate the catch until it is closed in order to fix the printer to the adjusted position.



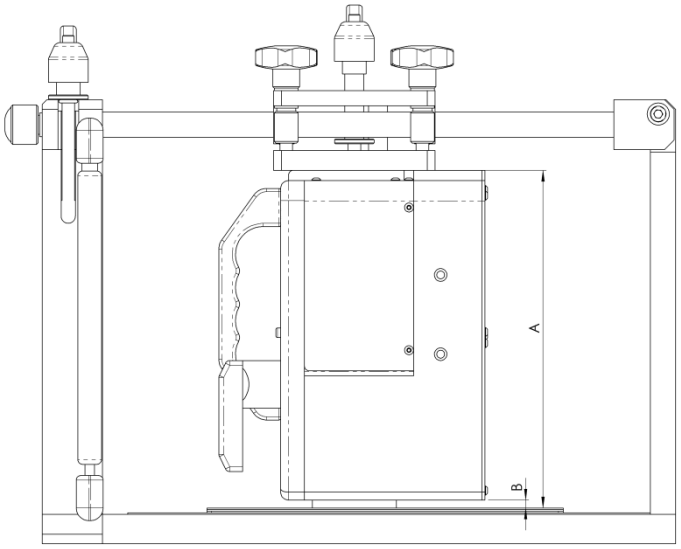


Rotate the equipment transverse setting to shift the printer in the machine frame.





Set distance to the printed material (folding monotube frame)
Default setting of machine frame:

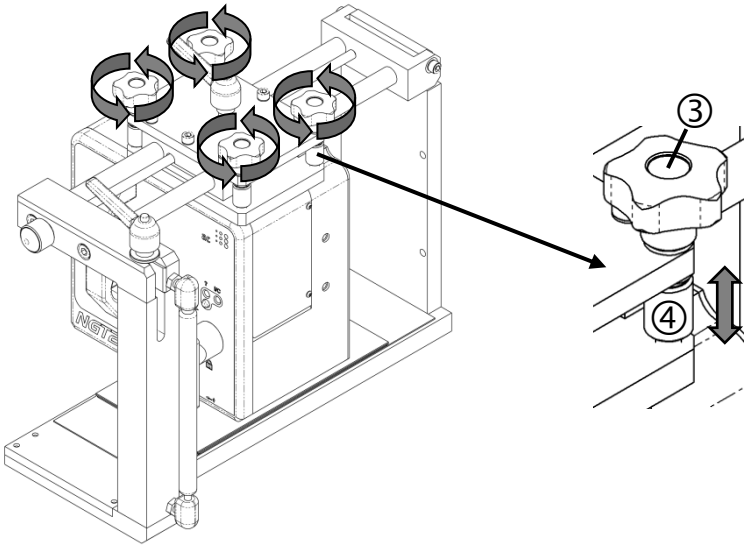


Recommended distance, lower edge of assembly plate – machine frame to upper edge of printed material		
NGT2+/4+	[mm]	
A	[mm]	213
B	[mm]	5
NGT6/8/6E/8E		
A	[mm]	216
B	[mm]	7.5

Setting the distance to the product:

Loosen the star handle ③ at the machine frame. Turn the knurled nuts ④ up or down to adjust the correct distance to the printed material. Be sure that the printer is aligned horizontally in the machine frame and/or to the printed material. Retighten the star handle after the setting has been completed.

Recommended distance, thermal print head - product	[mm]	2



Check if the setting is correct (trial print). Adjust the settings as required in order to achieve a good printing result.

4.4 Controller (Standard NGT)

4.4.1 Mechanical Installation

NOTE

Distance between assembly position of printer and controller

Note that the distance between printer and controller may not be greater than the length of the connecting cable.

NOTE

Distance to adjoining parts of the machinery

To ensure easy removal of the controller cover, the required distances to the adjoining parts of the machinery must be assured.

Installed position

any

Assembly

Use the four assembly holes in the base plate of the controller for attachment

4.4.2 Electrical Installation

ATTENTION

Attachment of the cable

With the Printing System switched on, disconnection or slippage of a cable may cause damage to the Printing System. Allen Coding GmbH assumes no liability and provides no warrantee for any resulting damage.

- Make certain that all cables to the controller and to the printer are tightly secured before you switch on the Printing System.

Make connections between controller and printer (Standard NGT)

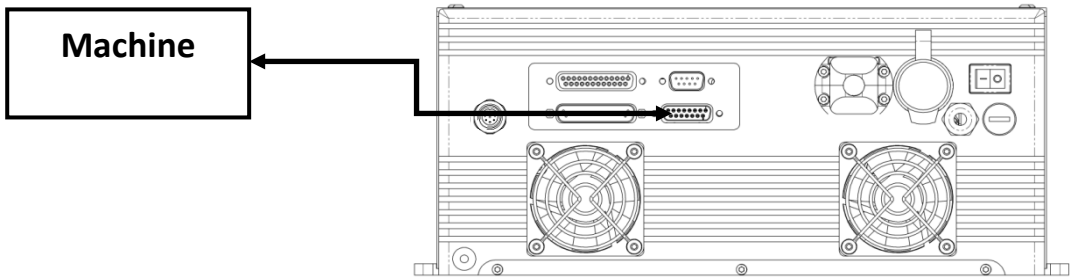
Establish the connection between controller and printer by joining them using the two 25-pole connection cable.

NOTE

Connecting cable NGT6/8/6E/8E
The two connecting cables in the NGT6/8/TE/8E printers are securely attached to the printer.

Connect the machine to the I/O Interfaces of the Printing System

Place the connecting cable - according to your requirements - onto the D-sub 15-pole plug. It is located in the included connection set. Signal assignments for the I/O interface of the Printing System (D-sub bushing 15 pole) are found in ***"2.3.6 Interfaces to the Standard NGT"***. Use the previously configured connector cable to establish the connection between the machine and the I/O-interfaces of the Printing System.



Establish connection to the power supply

Plug the mains plug of the controller into an appropriately fused power receptacle.

4.5 Mains adapter

4.5.1 Mechanical Installation

WARNING

Dangerous electrical voltage!

The mains adapter must be open for the assembly. There are potentially lethal voltages present in the mains adapter of the NGT+ when it is switched on. Contact may result in electric shock.

- Make certain that the mains adapter is switched off and disconnected from the power supply before you open the housing for assembly purposes.
- Assembly of the mains adapter should be performed by a trained electrician.

NOTE

Distance between assembly position of printer and of the mains adapter

Note that the distance between printer and mains adapter may not be greater than the length of the connecting cable.

NOTE

Distance to adjoining parts of the machinery

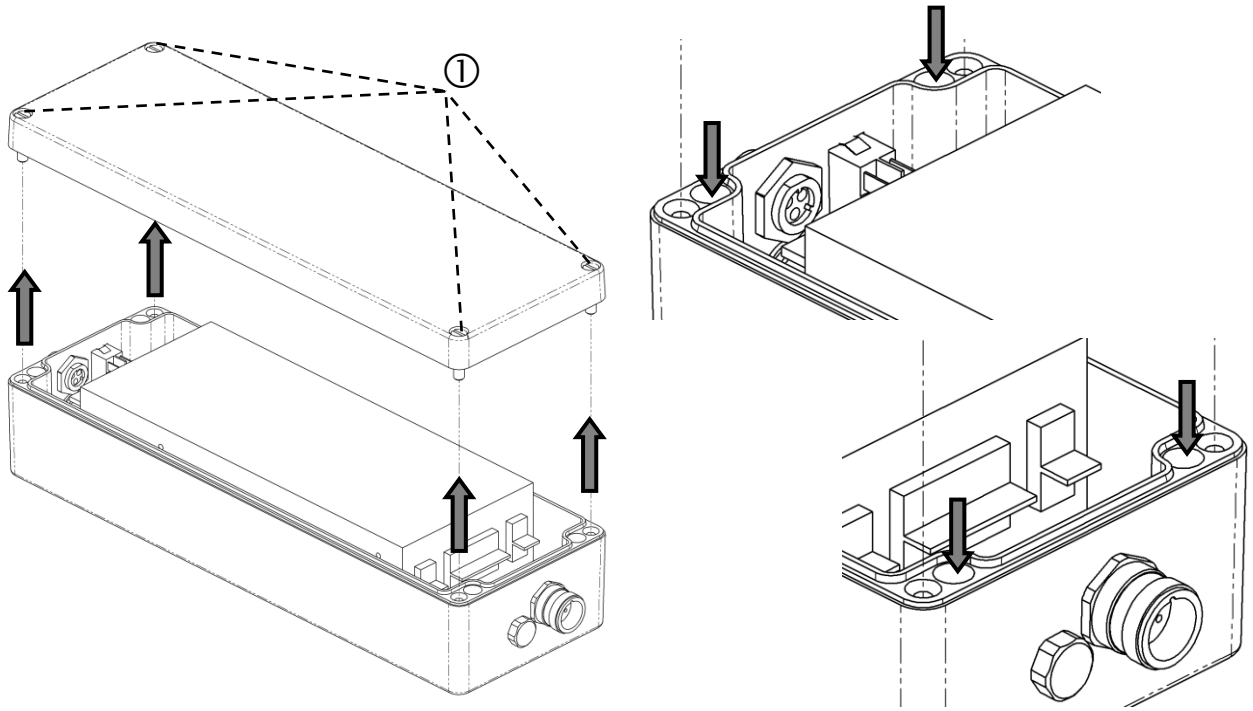
To ensure easy opening of the housing of the mains adapter, the required distances to the adjoining parts of the machinery must be assured.

Installed position

any

Assembly

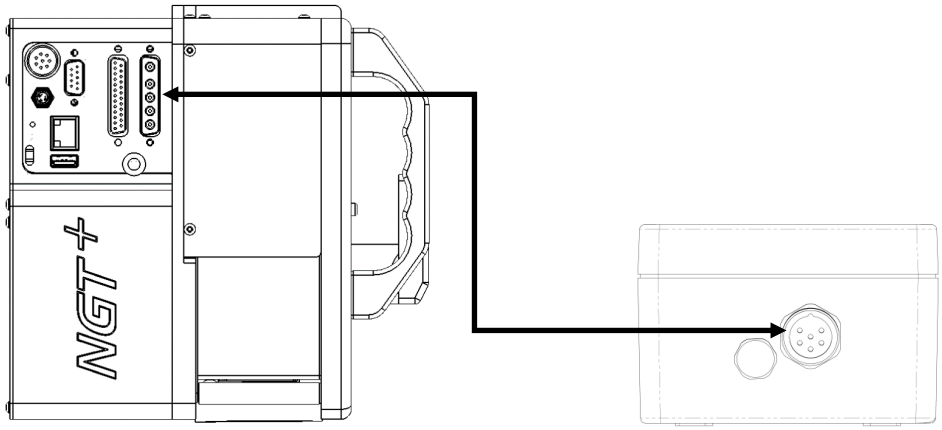
Open the housing of the mains adapter by removing the four screws ① on the housing cover. Use four screws to screw on the lower part of the housing. Then reclose the housing.



4.5.2 Electrical Installation

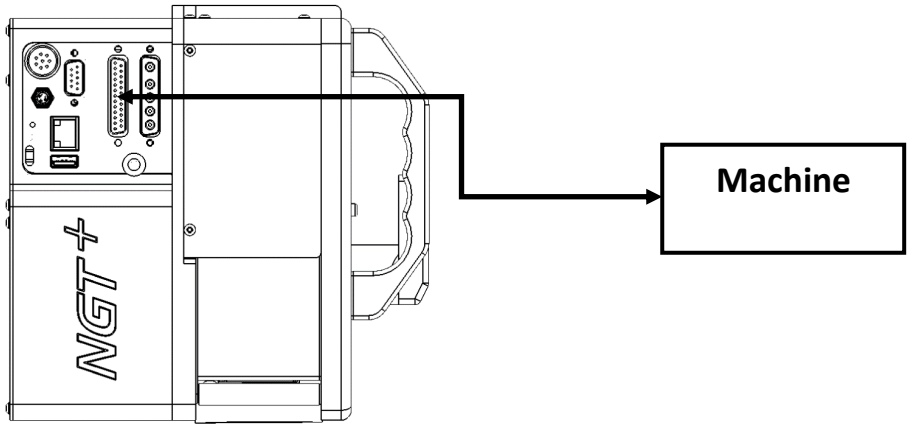
Establish connection between mains adapter and printer (NGT+)

Establish the connection between mains adapter and printer by joining them using the two 6-pole connection cables.



Connect the machine to the I/O Interfaces of the Printing System

Place the connecting cable - according to your requirements - onto the D-sub 25-pole plug. It is located in the included connection set. Signal assignments for the I/O interface of the Printing System (D-sub bushing 25 pole) are found in **"*2.3.7 Interfaces of the NGT+*"**. Use the previously configured connector cable to establish the connection between the machine and the I/O-interfaces of the Printing System.

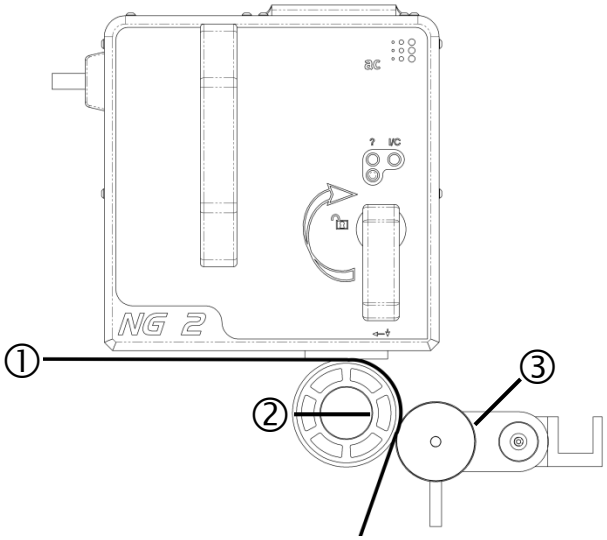


Establish connection to the power supply

Plug the mains plug of the controller into an appropriately fused power receptacle.

4.6 Encoder (CM mode)

4.6.1 Mechanical Installation



Assemble the encoder to the machine frame so that the printed material ① runs between rubber transport roller ② and rotor wheel of the encoder ③.
Make sure that the rotor of the encoder is pressed tightly against the rubber transport roller of the machine frame.

4.6.2 Electrical Installation

NOTE

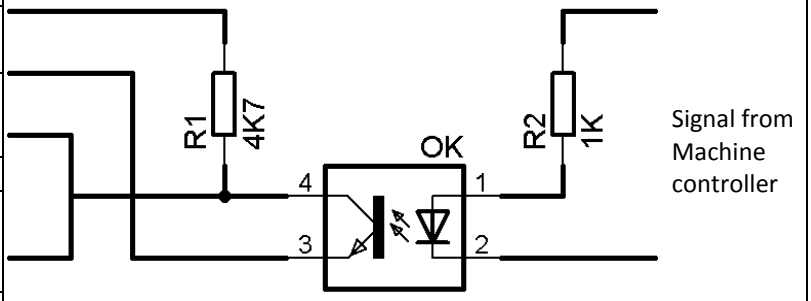
Placement of the encoder connector cable
When laying the encoder connection cable, make sure that a change in printer position or pulling of the ribbon replacement cassette will not be a hindrance.

Use of the Standard Encoder

Connect the encoder and printer via the 8-pole encoder interface on the printer.

Use of a speed signal from the machine controller

Standard NGT:

Encoder interface to printer (8-pole round bushing)		plug 8-pole round	External circuitry of machine
PIN	Description	PIN	
A	VCC from printer Standard NGT + 5V	A	
B	GND (VCC) from printer	B	
C	Encoder/clock input	C	
D	-----	D	
E	Encoder/clock input	E	
F	-----	F	
G	-----	G	
H	-----	H	

NGT+:

In the NGT+ Printing System the 24V signal from the machine controller can be connected directly via the encoder interface. See ***„Interfaces of the NGT+“***

4.7 Pneumatic service unit

4.7.1 Mechanical Installation

Installed position
Install the service-pneumatic unit in a vertical position. Make sure that the water separator basin points downwards.

Assembly

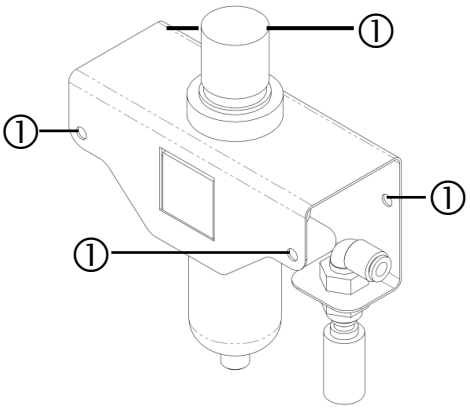
CAUTION

Danger due to improper assembly site!

Incorrect assembly site for the pneumatic-service unit can result in unforeseeable hazards to personnel and/or property.

- When selecting the assembly site, make sure that a safe access is available to the pneumatic service unit for adjustment and maintenance purposes.

Use the predrilled assembly holes (Ø 5.5 mm) for attaching the pneumatic service unit.



① Assembly holes (4 x Ø 5.5 mm)

4.7.2 Establish compressed air connections

NOTE

Compressed air supply

Adjust the compressed air supply to the recommended value of 2.5 bar before switching on the Printing System.

Step 1: Establish connection to compressed air supply

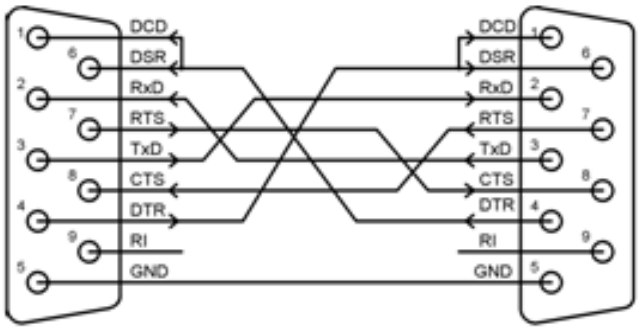
Connect the connector for the compressed air supply to the pneumatic service unit. Use a flexible pressurized air connection with an external diameter of 8mm.

Step 2: Establish compressed air connection to the printer

Connect the air supply for the pneumatic service unit to the compressed air connection of the Printing System. Use a flexible pressurized air connection with an external diameter of 6 mm.

4.8 Connect Printing System via the serial interface (RS-232)

Use the supplied connecting cable to connect the Printing System to the PC via the serial interface. The connecting cable is a “zero modem or cross-link cable”, individual wires in the cable are twisted.



Sub-D
9-pin, bushing

Sub-D
9-pin, bushing

The serial interface (RS-232) between PC and print server must be configured as follows

Pin assignments, serial interface					
Printer NGT series		**Print server**		**PC (Host)**	
PIN	Signal	PIN	Signal	PIN	Signal
1	DCD	1	DCD	1	DCD
2	RxD	2	TxD	2	RxD
3	TxD	3	RxD	3	TxD
4	DTR	4	DSR	4	DTR
5	GND	5	GND	5	GND
6	DSR	6	DTR	6	DSR
7	RTS	7	CTS	7	RTS
8	CTS	8	RTS	8	CTS
9	RI	9	RI	9	RI
Settings: not variable!		Settings:		Settings:	
Transmission rate: 115.2 Kbit/s No parity 8 data bits 1 stop bit Flow control: Hardware CTS Handshaking on DSR Handshaking on DSR Test off RTS Handshake DTR Handshake XON/XOFF: OFF		Transmission rate: 115.2 Kbit/s No parity 8 data bits 1 stop bit Flow control: Hardware FIFO-Buffer: OFF CTS Handshaking on DSR Handshaking on DSR Test off RTS Handshake DTR Handshake XON/XOFF: OFF		Transmission rate: 115.2 Kbit/s No parity 8 data bits 1 stop bit Flow control: Hardware FIFO-Buffer: OFF CTS Handshaking on DSR Handshaking on DSR Test off RTS Handshake DTR Handshake XON/XOFF: OFF	

HINWEIS

Serial port (RS-232) communication

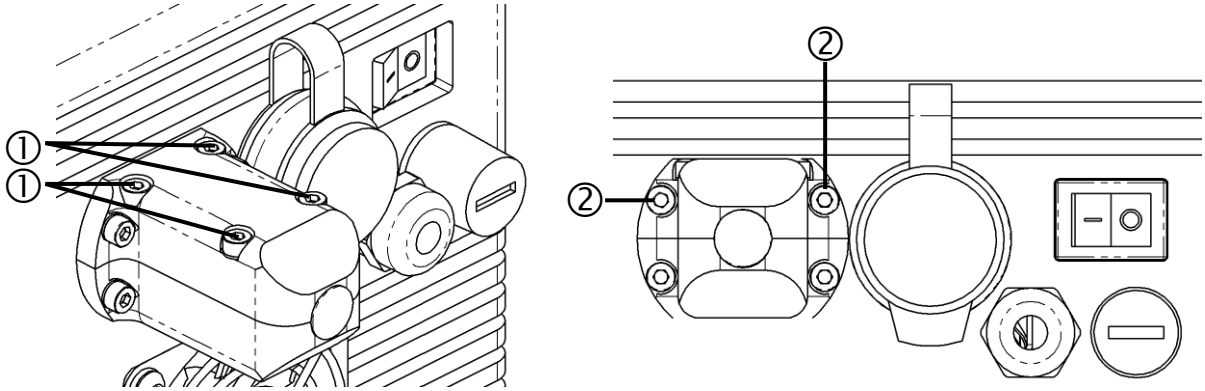
The system is set to serial communication by default. A main reset sets the system to serial communication automatically.

4.9 Connect Printing System to the network

4.9.1 Connect network cable (Standard NGT)

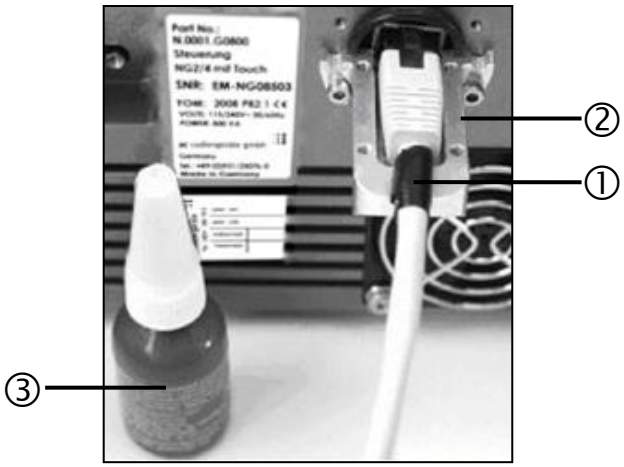
The network connection to the controller of the Printing System is equipped by the manufacturer with a shield (housing lead with gasket) against penetration of moisture and kinking of the cable.

Step 1: Remove the upper half of the shield by loosening the following attachment screws:



①	Screws (4 x)	②	Screws (2 x)

Step 2: Apply the self-adhesive sealing tape ① to the network cable at the lead through the shield. Connect the network cable to the network connector of the controller. Apply sealing fluid ③ to the connecting surface ② of the shield.



Step 3: Attach the upper half of the shield to the screws removed in step 1.

4.9.2 Perform network settings

NOTE

Network connection of the Printing System
Before you can use the network connection of the Printing System you must first activate it via the Touch-Display (Standard NGT) or by means of a:control. With the network connection activated, the serial interface of the Printing System (9-pole plug) is deactivated.

Required information

Hardware address:
For operation in a network you should know the hardware- or MAC-address of the network connection of the Printing System. The MAC address is found on the product label of the network connection.
The MAC address has the following format: 00-ZZ-ZZ-XX-XX-XX
(ZZ-ZZ = unit model; XX-XX-XX-XX = unique, product-specific number)

Hardware address: 00-_____-_____- _____ - _____ - _____

IP address:
The network address of the Printing System requires a unique IP address in the network. The default network interface card configuration of the system is as follows:

IP address: 192.168.173.50
IP port: 4001
Subnet mask: 255.255.252.0

Consult your network administrator if you need information on IP address, subnet mask and gateway (if necessary).

NOTE

IP address
The IP address must be supplied in the network, in the proper area in the same sub-net.

IP address: _____ _____ _____ _____

Subnet Mask: _____ _____ _____ _____

Gateway: _____ _____ _____ _____

Installation of the device installer

Use the Program Device Installer by Latronix (alternative a:control) to configure the network connection of the Printing System.
The Device Installer automatically detects all Printing Systems connected to the network.

NOTE

System prerequisites
Check whether the system prerequisites listed below are met before you begin the installation of the Device Installer.

Installation:

NOTE

Installation of the device installer
Installation of the Device Installer will add Microsoft .Net V1.1 software to your system.

Step 1: Insert the installation CD into the CD ROM drive.
Step 2: Click on **START** in the start panel and select **RUN**.
Step 3: Input the following information: **Disk drive letters, colon, backslash, setup.exe** (e.g. : **D:\Setup.exe**).
Step 4: The Device Installer installation window opens: **Welcome to the Device Installer Setup Wizard.** Click on **Next**.
Step 5: In the **Select Installation Folder** window, input the desired installation directory (Standard: **C:\Programme\Lantronix\DeviceInstaller**). You can either input the installation path directly or find it in **Browse.** Click on **Next**.
Step 6: Click on **Next** again in order to start the installation.
Step 7: The installation is complete when the **Installation Complete** window appears.
Step 8: Click on **CLOSE** to end the installation.

NOTE

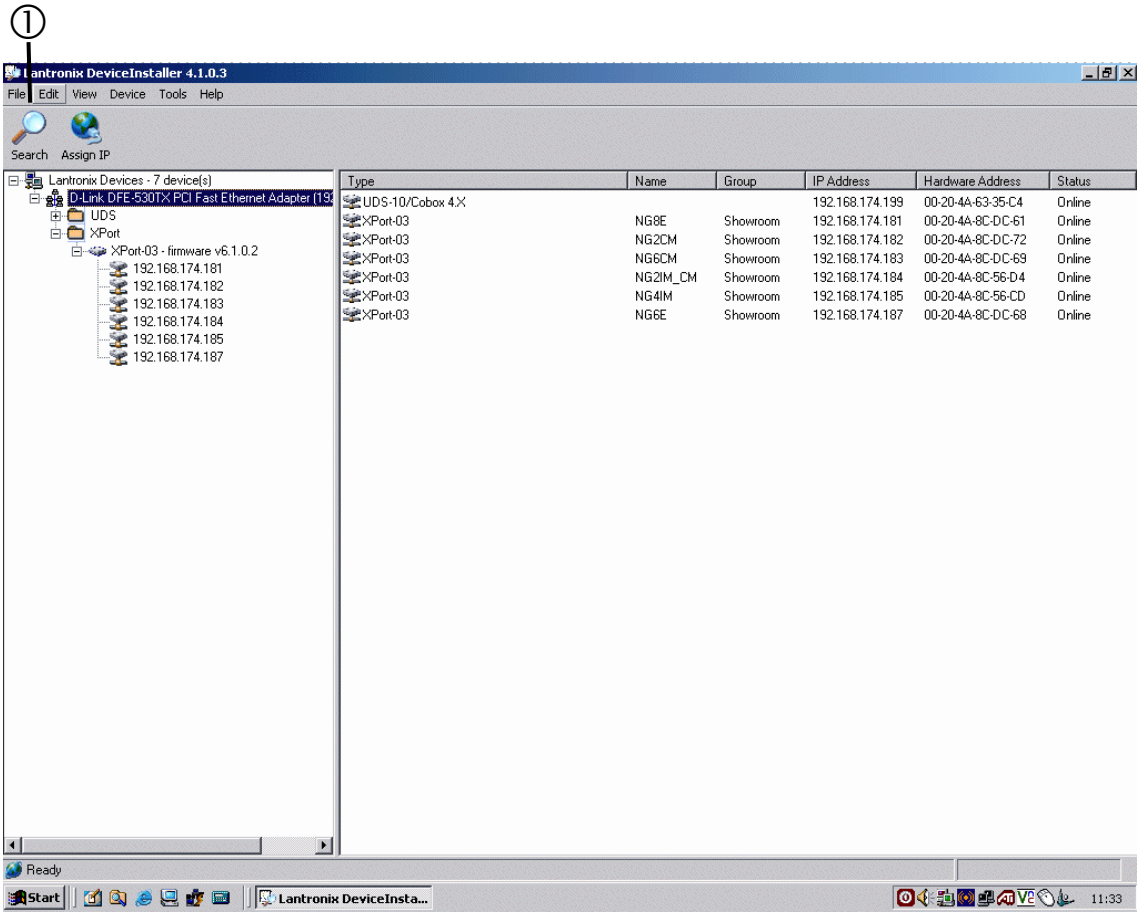
Updates for Microsoft.NET
After completion of the installation it is useful to look for updates for the Microsoft.NET software.

Assignment of IP address and other network settings

Start the Device Installer under:
START -> PROGRAMME -> LANTRONIX -> DEVICEINSTALLER -> DEVICEINSTALLER
The search process will begin automatically with program start. You can restart the search process by clicking on **Search** and/or on the button with the magnifying glass symbol.

NOTE

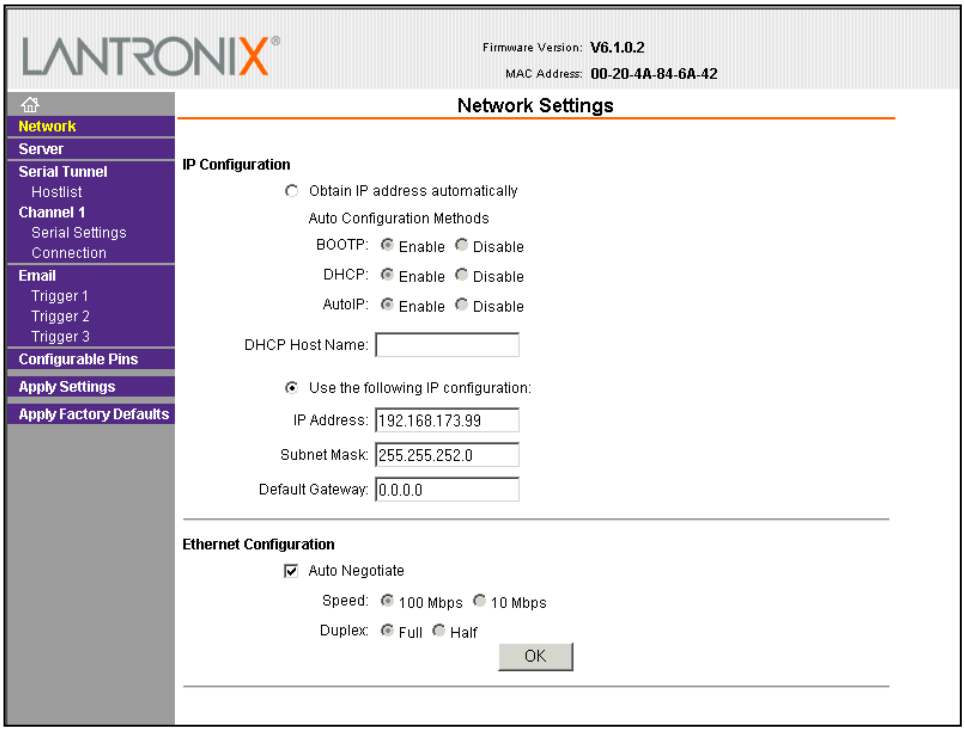
PC network settings
The PC used for configuration of the network connection (Printing System) should have the same sub-net mask and be located in the same IP area.



①		Button with magnifying glass symbol

The Device Installer displays the network connections of all Printing Systems connected to the network (XPORT-03) with their default IP address. Network connections displayed in Red cannot be configured. You can only assign an IP address to these network connections.

Click on **Network** to call up the network settings (**Network Settings**) for IP address, subnet mask and gateway.



Static assignment of IP address

Manual input of the IP address

- Click on **Network** in the main menu
- Select the menu item **Use the following IP configuration**
- Input the following information:

  IP address Enter the desired IP address here

  Subnet Mask: Enter the network mask here. This defines the number of bits in the IP address which are used by the network and/or by the subscriber.

  Default Gateway: Enter the gateway here if you wish to establish a connection to another network segment.
- Click on "**OK**"
- Click on **Apply Settings** in the main menu
  The established settings are saved and the network connection is restarted.

5 Operation

ATTENTION

Attachment of the cable

With the Printing System switched on, disconnection or slippage of a cable may cause damage to the Printing System. Allen Coding GmbH assumes no liability and provides no warrantee for any resulting damage.

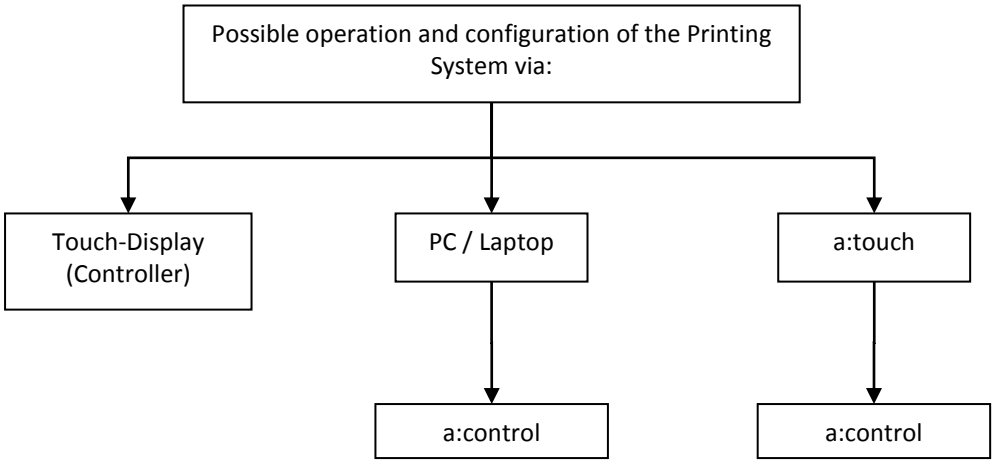
- With the Printing System switched on you may not connect or disconnect any cables on the Printing System.
- Make certain that all cables to the controller and to the printer are tightly secured before you switch on the Printing System.

5.1 Overview of Operating- and Configuration Potentials

NOTE

Preparation of print formats

Preparation of print formats occurs via the label configuration software a:design, NiceLabel or Codesoft.



5.2 Adjusting air pressure

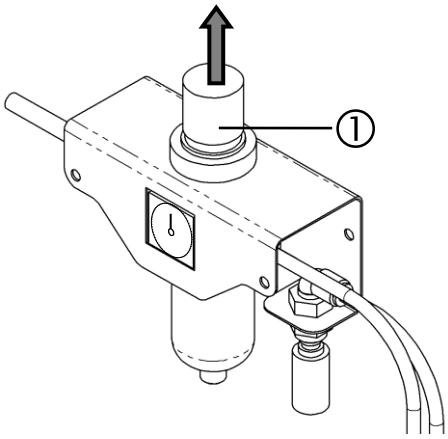
NOTE

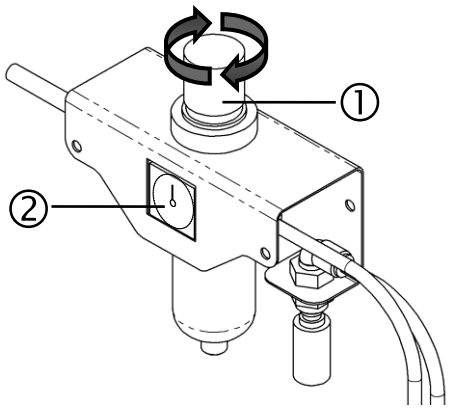
Compressed air setting

Adjust the air pressure on the pneumatic service unit to the recommended 2.5 bar before you switch on the printer.

Increase pressurized air

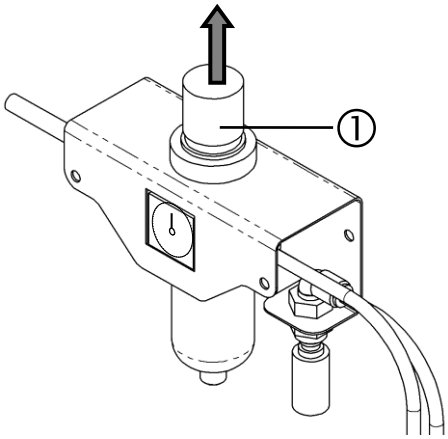
Lift the pressure control (1) and rotate it in clock-wise direction until the manometer (2) displays the desired pressure.

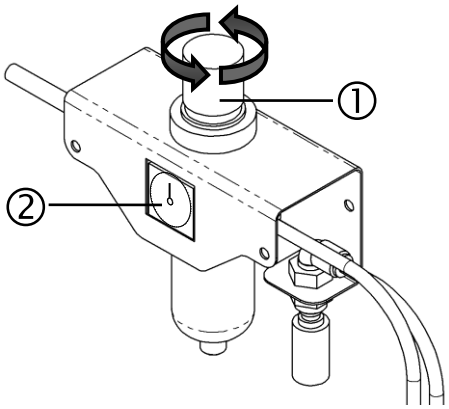




Reducing the pressurized air

Lift the pressure control (1) and rotate it in counter-clockwise direction until the manometer (2) displays the desired pressure.





5.3 Install / replace ribbon

ATTENTION

Use of ribbon with insufficient width

Use of ribbons with a width smaller than that of the thermal print head will cause excessive wear on the thermal print head.

- For your Printing System only use ribbons with the width specified by the manufacturer. Relevant information is found in ***"Characteristic data"*.**

NOTE

Ribbon

Always note the permissible ribbon width and the maximum permissible diameter of the ribbon roll for your printer. Relevant information is found in ***"Characteristic data"***.

NOTE

Reducing the non-operating periods during ribbon changes

In order to shorten the non-operating periods during the ribbon changes, we recommend to keep a spare cassette (replacement cassette) ready. It may be equipped in advance and may quickly replace an empty ribbon replacement cassette when required.

NOTE

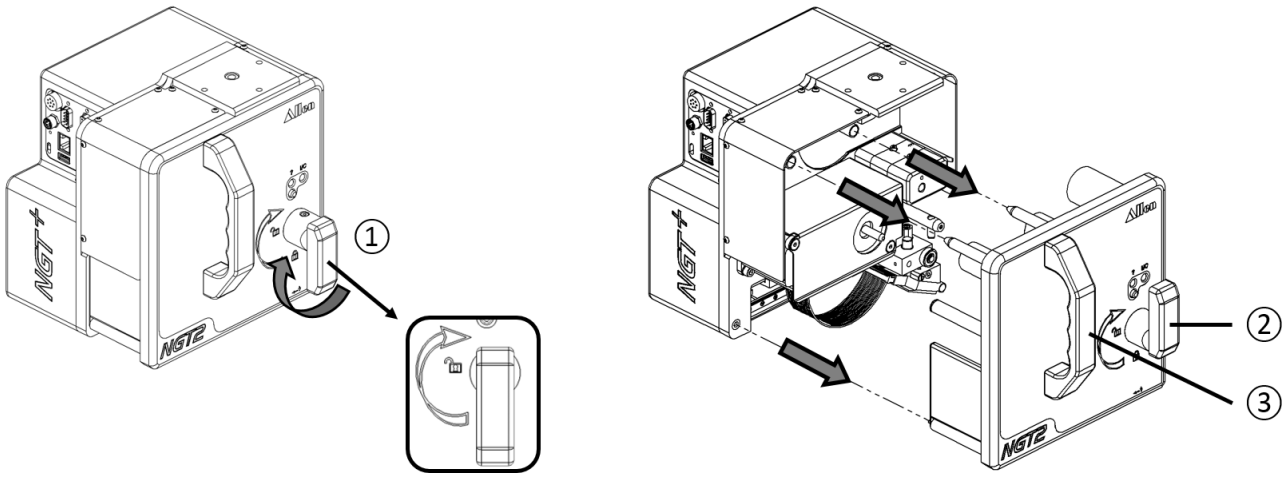
Removing the ribbon replacement cassette

In the installed state it may be necessary to detach the printer from the machine frame and to rotate it before you can remove the ribbon replacement cassette.

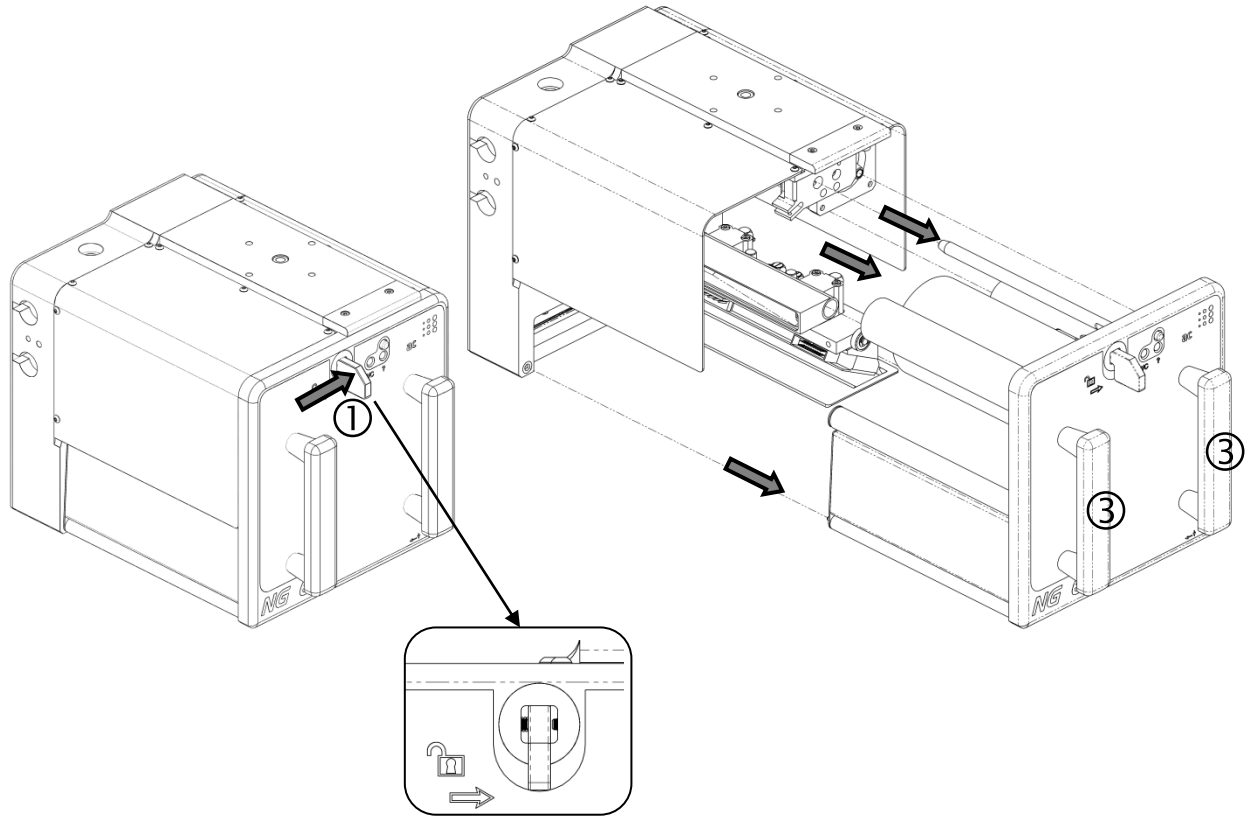
Description: Insert new ribbon into the cassette (ribbon change)

Step 1: Unlock ribbon replacement cassette and remove it from the printer base unit.
Unlock the ribbon replacement cassette. Then pull the cassette from the printer base unit by using the handle ③

NGT2+/4+:
Unlock the cassette by turning the cassette locking mechanism from the ***"locked"*** (1) position into the ***"open"*** (2) position in accordance with the figure presented on the cassette.



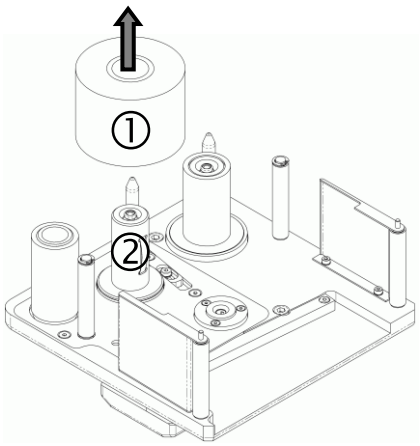
NGT6/8/6E/8E:
Unlock the cassette by turning the cassette locking mechanism (1) to the right in accordance with the figure presented on the cassette.



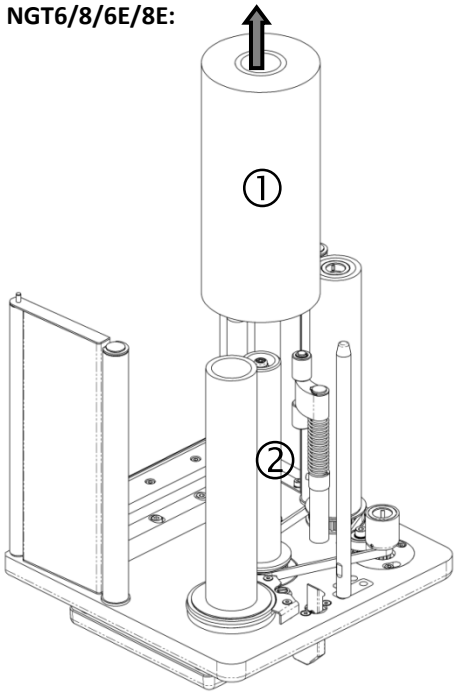
Step 2: Remove used ribbon

Remove the spent ribbon roll, including cardboard casing (1) from the ribbon winder (2).

NGT2+/4+:



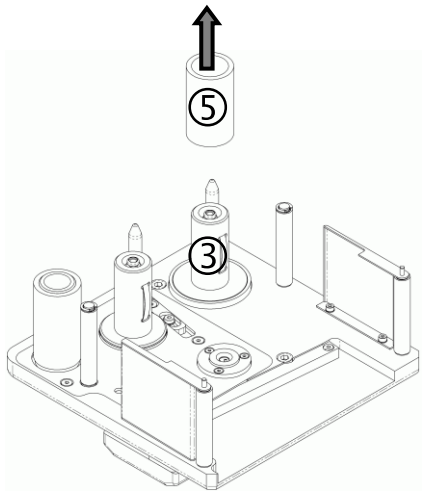
NGT6/8/6E/8E:



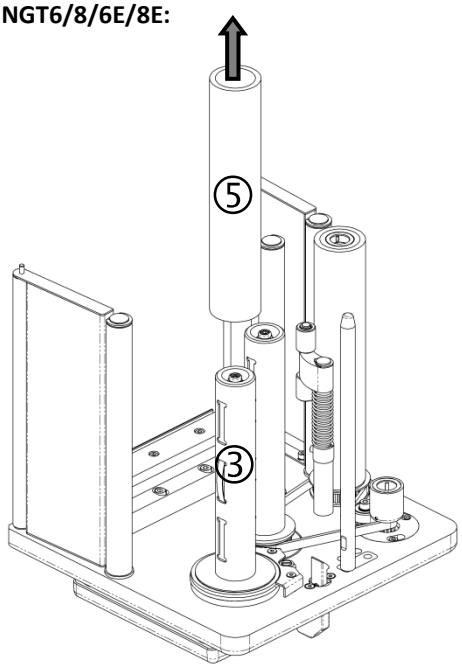
Step 3: Insert new cardboard sleeve

Remove the cardboard sleeve (5) from the ribbon dispenser (3).

NGT2+/4+:

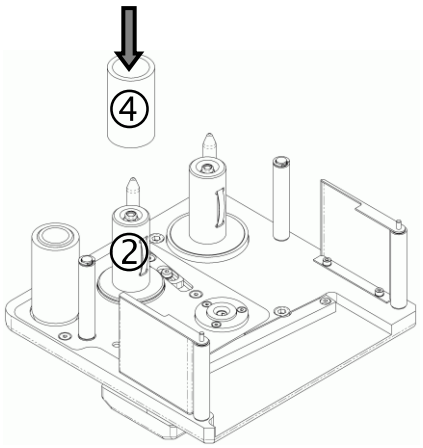


NGT6/8/6E/8E:

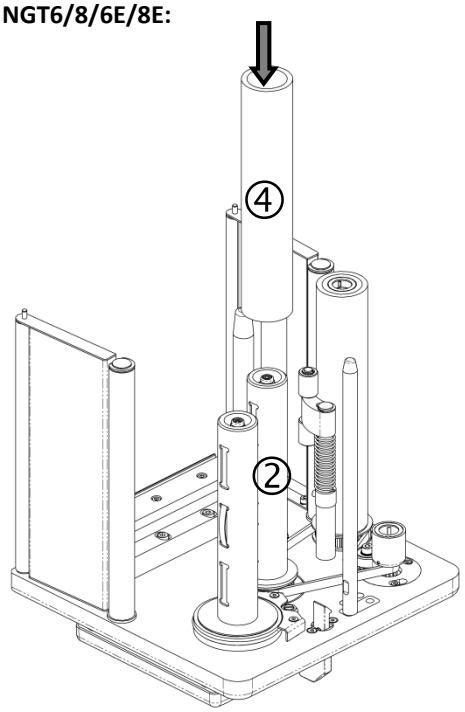


Move an empty cardboard sleeve (4) onto the ribbon winder (2). You may use the cardboard sleeve that was previously removed from the ribbon dispenser.

NGT2+/4+:



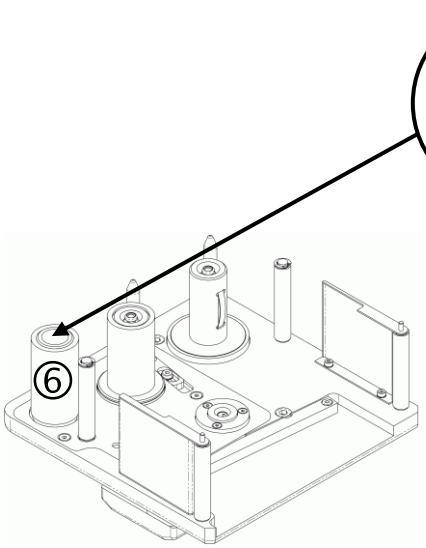
NGT6/8/6E/8E:



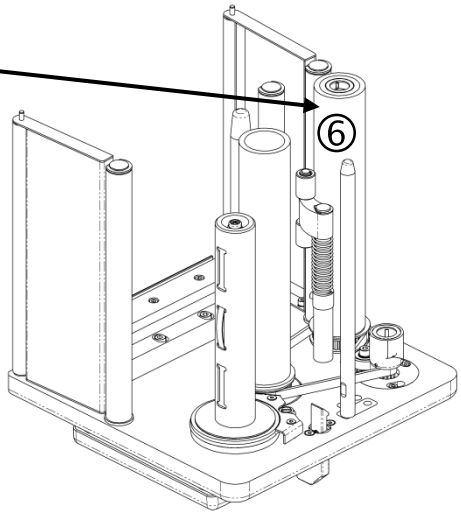
Step 4: Check rubber drive roller and clean if required

Check the condition of the rubber drive roller (6). If required, remove any present contamination. Only use recommended cleaning detergent (rubber roller cleaner Art-Nr.:1.0000.45007) for this.

NGT2+/4+:

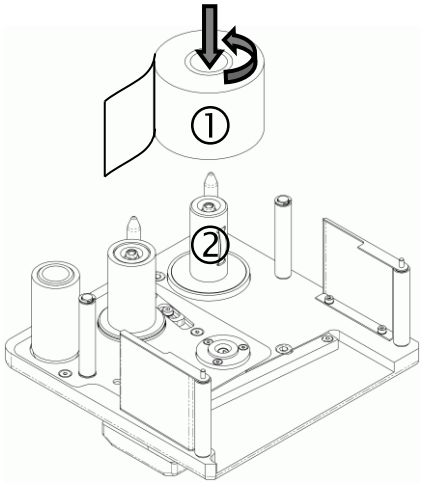


NGT6/8/6E/8E:

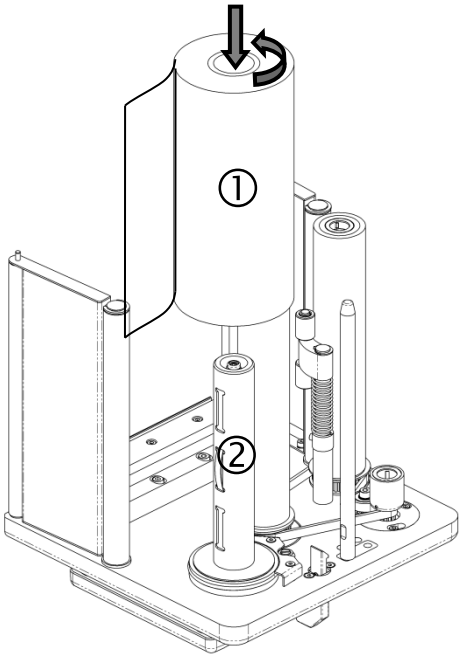


Step 5: Inserting new ribbon
Insert a new ribbon (1) into the ribbon unwinder (2) as shown in the following drawing.

NGT2+/4+:

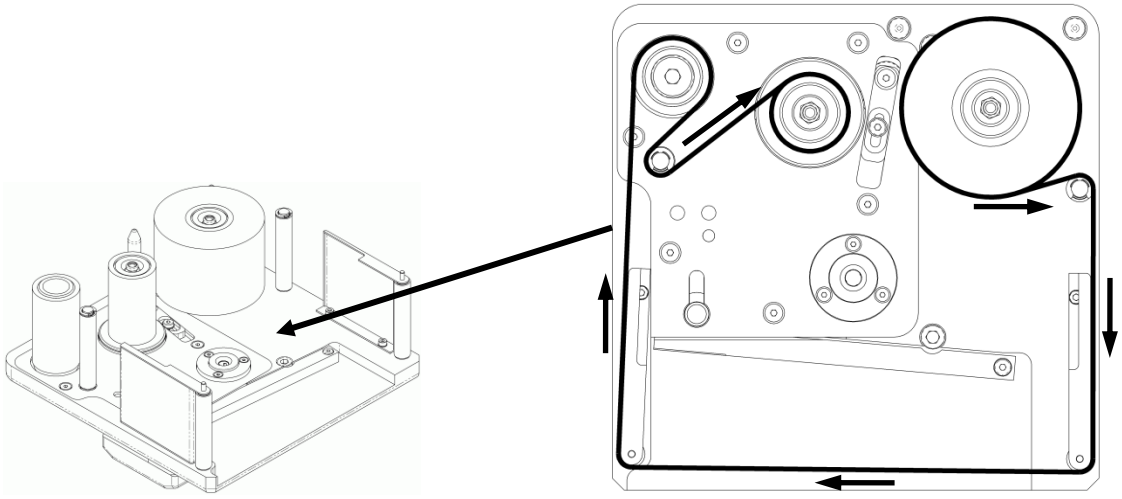


NGT6/8/6E/8E:

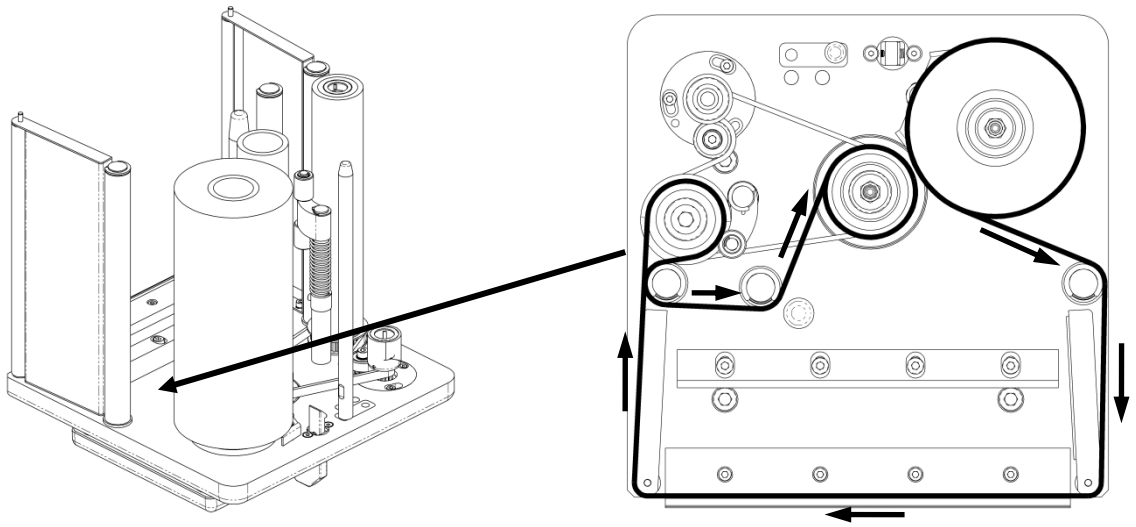


Step 6: Threading the ribbon
A label that indicates the correct direction of the ribbon can be found on the inside of the ribbon cassette. Thread in the ribbon corresponding to the indicated direction with respect to the ribbon winder. Fix the free end of the ribbon to the cardboard sleeve of the ribbon winder by using adhesive strips.

NGT2+/4+:



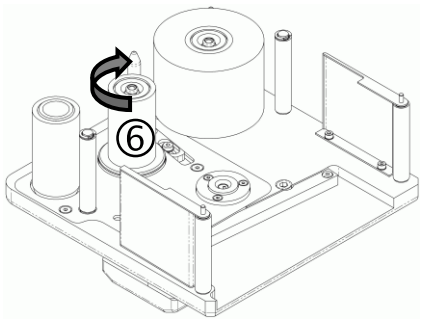
NGT6/8/6E/8E:



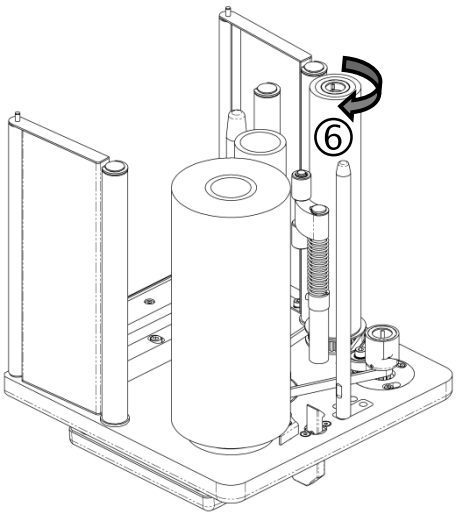
Step 7: Establish the correct starting tension

Rotate the rubber drive roller (6) in order to ensure that the ribbon is properly attached to the cardboard sleeve of the ribbon winder so that the correct starting tension is transmitted to the ribbon.

NGT2+/4+:



NGT6/8/6E/8E:



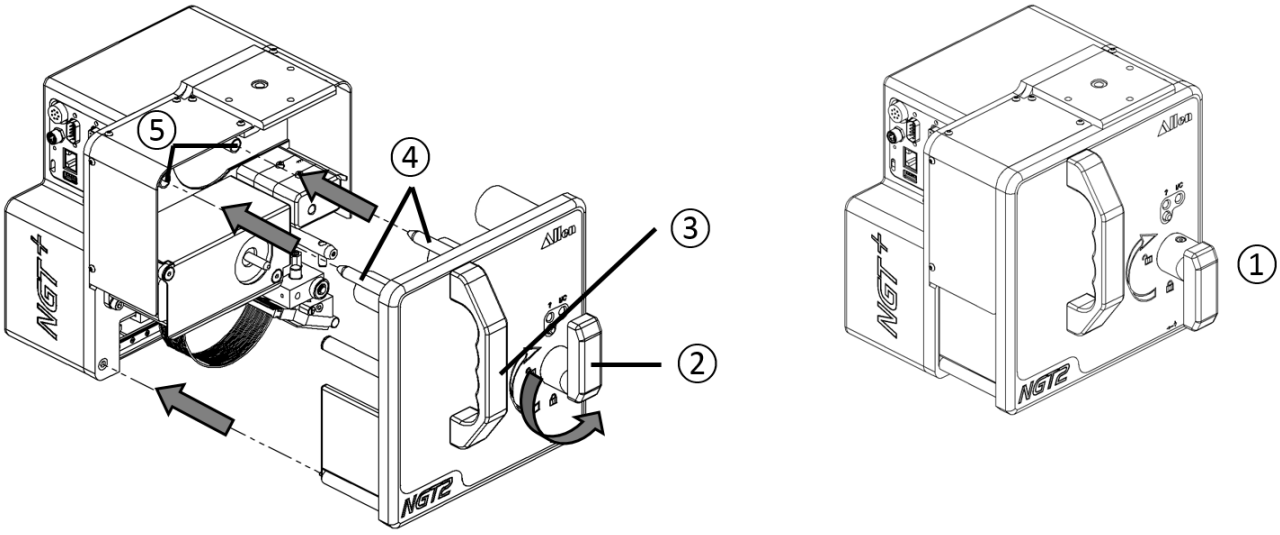
Step 8: Insert ribbon replacement cassette and lock

Place the cassette back into the printer according to the following description.

Push the cassette into the printer by using the handle (3). When sliding in the cassette, make sure that the two cassette guiding pins (4) are positioned in the corresponding holes (5) in the printer in order to ensure proper cassette alignment.

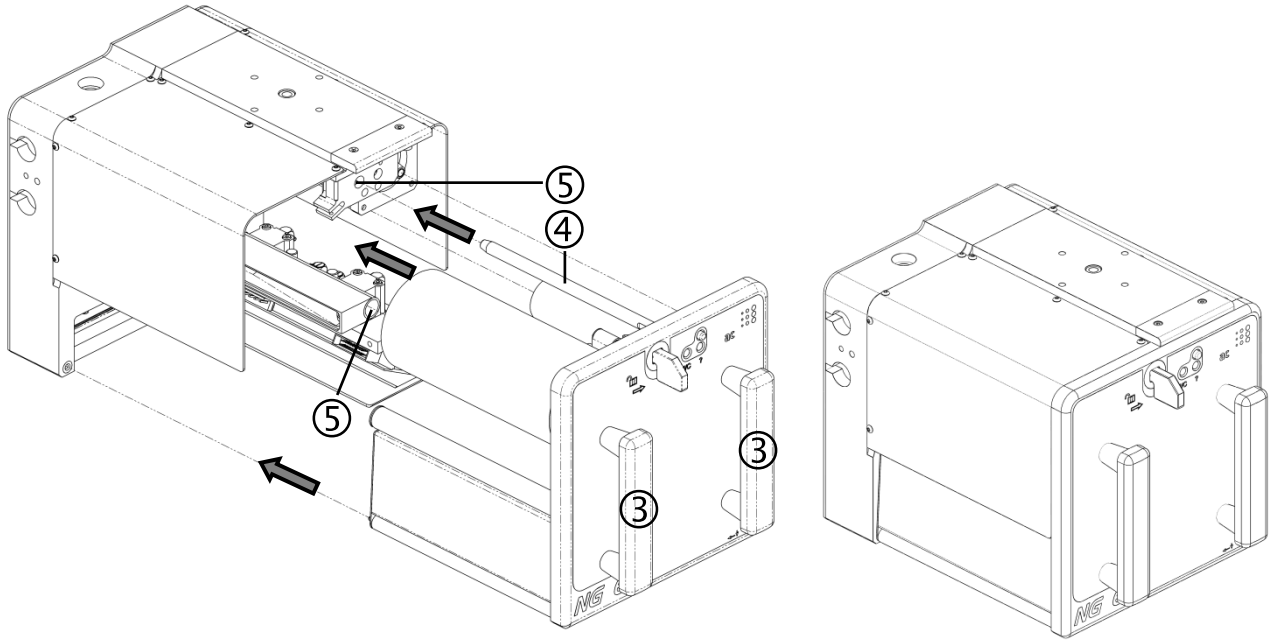
NGT2+/4+:

Lock the cassette by turning the cassette locking mechanism from the ***"open"*** (2) position into the ***"locked"*** (1) position.



NGT6/8/6E/8E:

The ribbon replacement cassette will lock automatically if it is fully inserted into the printer base unit.

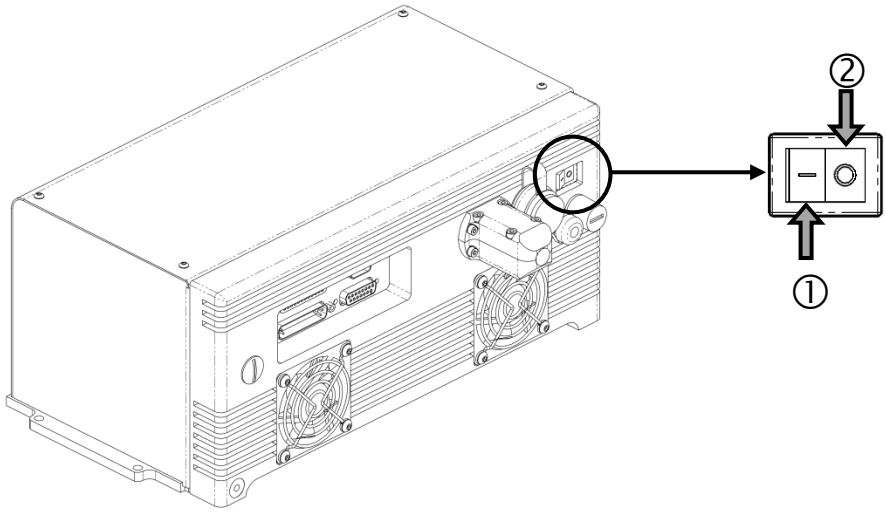


5.4 Switch Printing System on/off

Activate the mains switch in order to switch the Printing System on ① or off ②

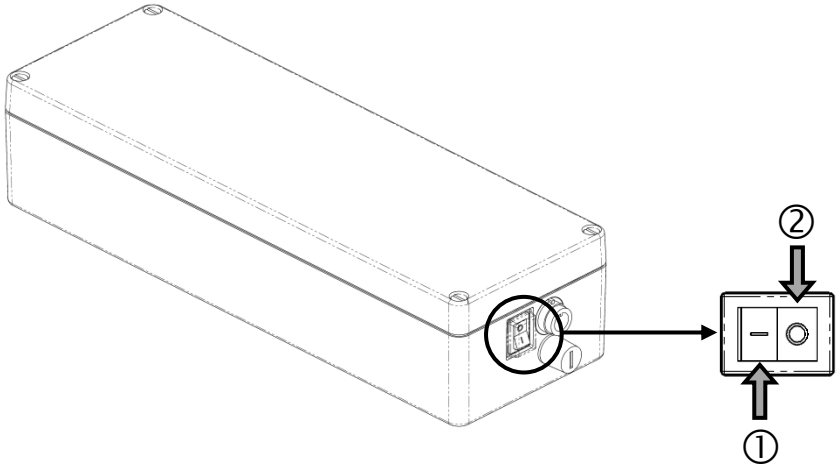
Standard NGT:

The power switch is located on the back side of the controller.



NGT+:

The power switch is located on the side of the mains adapter.



5.5 Transfer of printed formats

Use the operation/configuration software to select a free or unneeded memory area.

Transfer the prepared print image to the Printing System by using the configuration software.

NOTE

Transfer of print formats
As an alternative to the classical transfer of print formats, they can also be transferred over the USB port to the Printing System.

5.6 USB functions of the Printing System

NOTE

USB connection
Use the USB cable for connection of the USB stick to the Printing System. Always connect the USB stick directly.

5.6.1 Prerequisites

Prerequisites for use of the USB functions are:

- Software-Tool a:control available
- USB stick, formatted in the FAT file system
- Software tools to prepare a bootable USB stick
  (Recommendation: HP USB Tools Version 2.2.3 and FreeDOS. Both tools are available on the internet or directly from Allen Coding GmbH)

Prepare bootable USB stick

Copy the Software-Tools (HP USB Tools Version 2.2.3 and FreeDOS) to your PC.
Start the file HPUSBFW_v2.2.3.exe. Select the option ”Create a DOS startup disk“. Refer to “using system files located at“ on the FreeDOS-file. Click on “Start”

5.6.2 Configure USB stick with a:control

Insert the bootable USB stick into a USB port in your PC. Start the software Tool a:control. In the program, select one of the following options.

Overview of available functions for software tool a:control

NOTE

Software-Tool a:control
Detailed information on the functions of a:control are found in the online help for the software tool.

The following functions are available when using the software tool a:control:

	Available functions	Description/function
①	**Prepare USB stick for backup**	USB stick is configured for backup. After you insert the configured USB stick into the USB port of the Printing System, all print images and Printing System settings will be saved on the USB stick.
②	**Prepare USB stick for Restore**	USB stick is configured for Restore. A previously saved Backup (e.g. on hard disk) will be installed to the Printing System.
③	**Install formats**	By using the function you can install one or more print images on the Printing System with the USB stick.
④	**Flash firmware**	Use this function to update the firmware of the Printing System by means of the USB stick. You will need the current file ttng.exe from Allen Coding GmbH.

Prepare a Backup

This option allows you to prepare a backup of your Printing System.
After selecting the USB stick, the required data files are installed to the USB stick. The process is completed when the message on process completion is displayed. At completion of the process, remove the USB stick.

Regenerate a Backup

This option allows you to regenerate your Printing System by using a previously saved Backup.
The program shows you a list of all Backup files saved on the computer's hard drive. Select the corresponding Backup and click "continue." The corresponding files will be copied to the USB stick. At completion of the process, remove the USB stick.

Install formats

This option allows you to copy print images to the Printing System by using the USB stick. The print images must be present as text files. Use the function “print to file” in the label configuration program to save a print image as a text file. Choose one or several text files by adding them to a list.
After you have selected the print images, you can select from three options for how the print images are to be written to the USB stick.

1. **Overwrite existing files**
   The print images are listed by name, sorted beginning at disk space number 0.
   Any print images already saved on the USB stick will be overwritten.

2. **Try to fill empty disk space numbers**
   The print images are sorted by name and assigned to the available memory space. Existing print images are retained.

3. **Assign disk space numbers to formats**
   With this option you can assign your own disk space numbers to the individual print images. The print images are sorted alphabetically and one disk space number is suggested for each print image.
   Existing print images are retained, but can be overwritten.

In the following dialog you again have an opportunity to check the disk space allocation and/or in option 3, to assign your own disk space numbers using the „change“ button. New disk space numbers cannot be assigned to existing print images, but they can be overwritten. Click on “Continue” to finish the configuration of the USB stick.
At completion of the process, remove the USB stick.

Install NGT firmware

This option allows you to install new NGT firmware. Select the firmware (ttng.exe) that you wish to install on the Printing System. Click on "Open". The USB stick will be initialized for installation of firmware.
At completion of the process, remove the USB stick.

5.6.3 Use of the USB-Stick on the Printing System

Insert the previously configured USB-Stick into the USB-port of the **switched off** NGT-Printing System. After switch-on, the function saved on the USB-Stick will be executed on the Printing System.
During this process, the LED “Status-Printing System” on the printer will be flashing. As soon as the flashing ceases, the process is completed. After completion of the process, you have to switch off the Printing System and remove the USB-Stick. After removing the USB-Stick, switch on the Printing System again.

5.7 Operation of Standard NGT using the Touch Panel integrated into the controller

ATTENTION

Calibration of the Touch Display

Do not use sharp or pointed objects to operate the Touch Display. This may damage or destroy the Touch Display. Any liability and warranty for any damages caused by incorrect or improper use of the Touch Display is excluded by the Allen Coding GmbH.

- Only operate the Touch Display with suitable objects.

NOTE

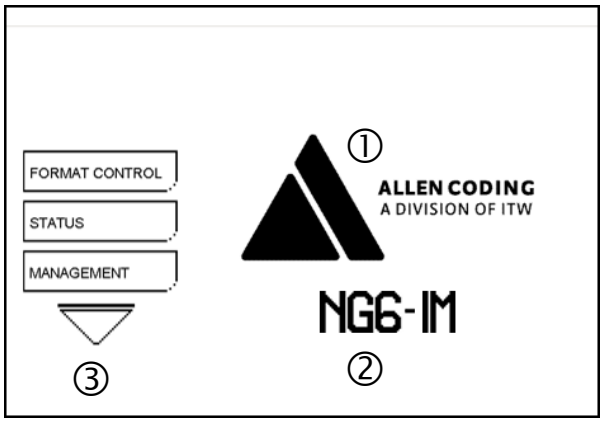
Description of control functions

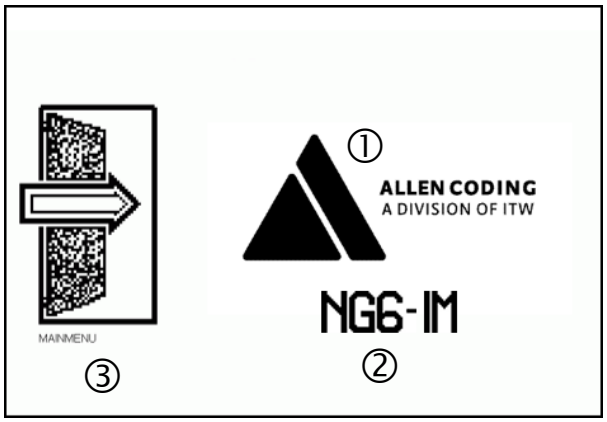
The control functions described below are available starting at firmware version V6.0.

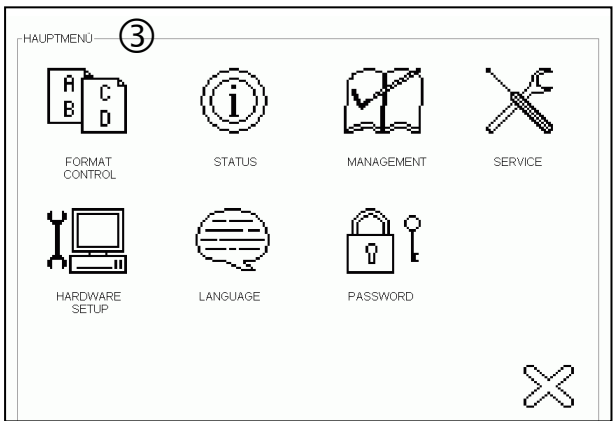
NOTE

Presentation of operator menu on the Touch Display

The operator menu can be displayed either in a classical view or in an icon-based view. In the following description, the display using a classical view appears on the left, the icon-based view on the right.

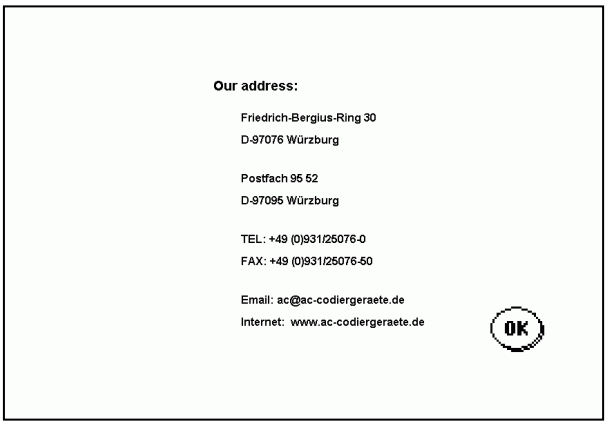




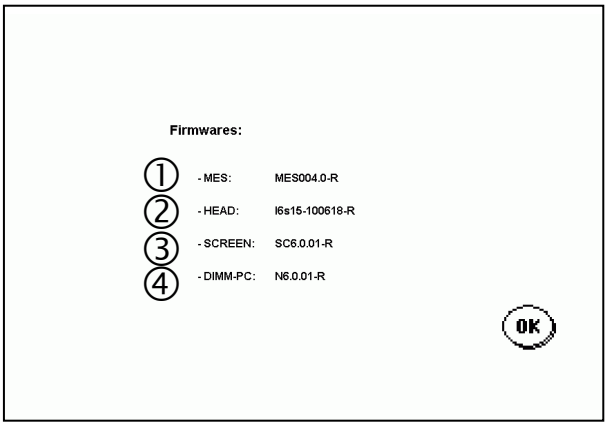


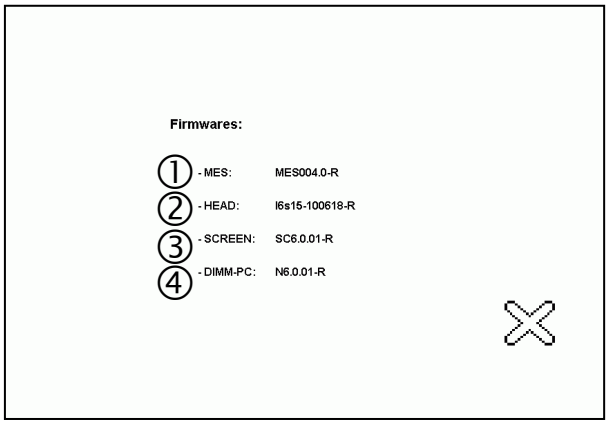
No.		Description/function
①	Allen Coding	Display of manufacturer's contact information. Press the displayed logo.
②	NG6-IM	▪ Displays the pushbutton connected to the controller. ▪ Displays the installed software version (MES, Printer, Touch-Panel, DIMM-PC). Press the displayed NGT logo (here: NG6-IM) for about 2 seconds.
③	-----	Controller main menu: Format Control, Status, Management, Service, Hardware Setup, Language, Password

Manufacturer's contact information:



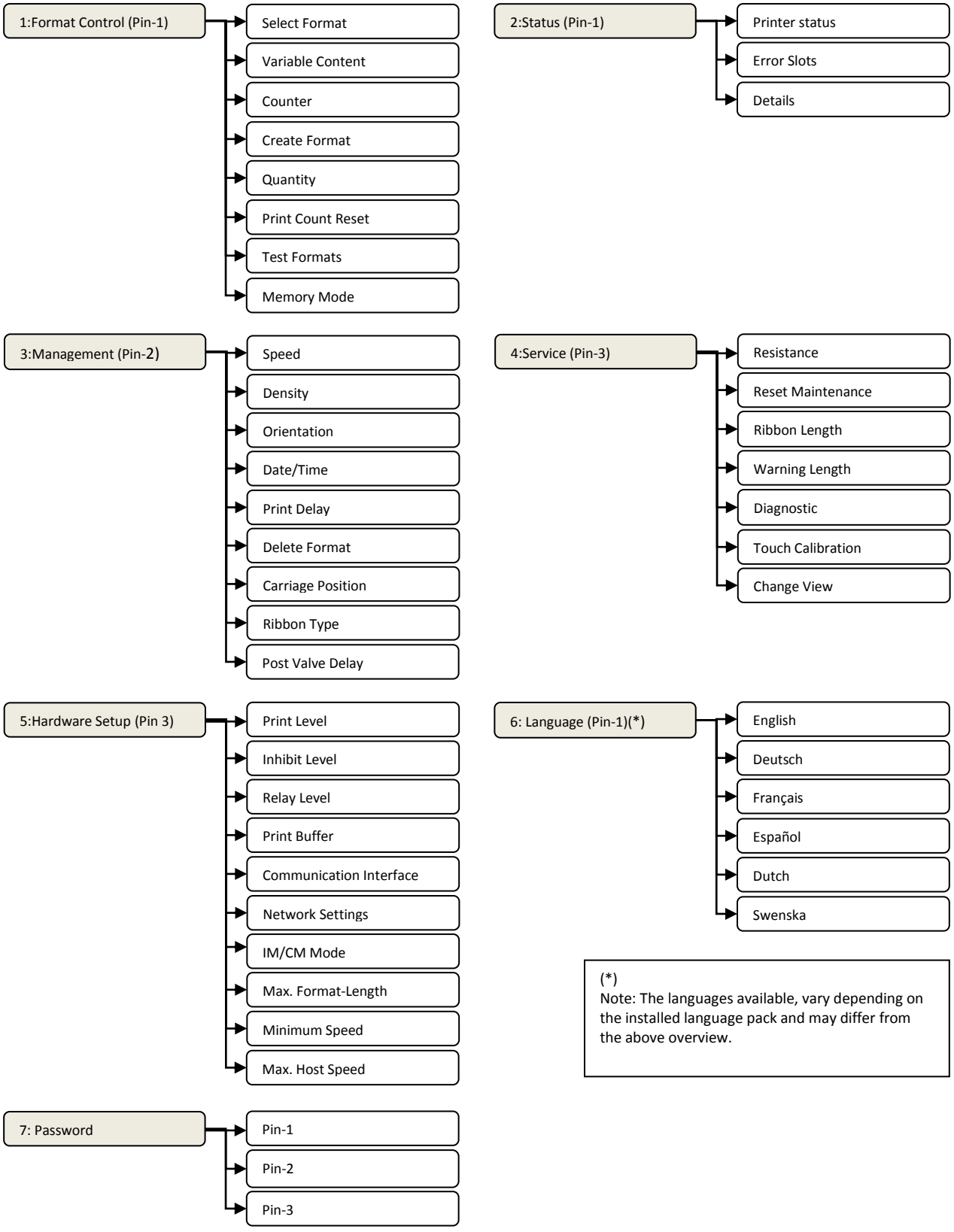
Firmware versions:





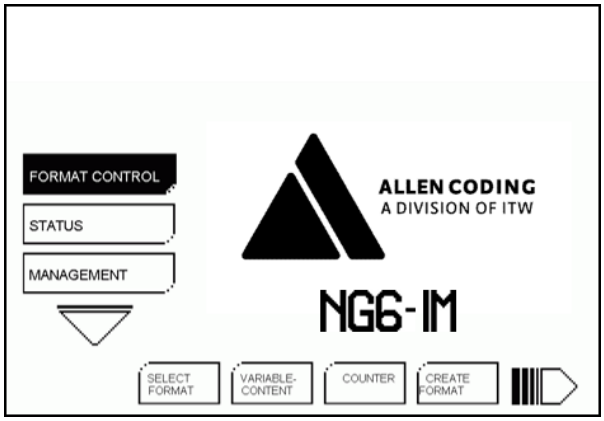
No.		Description/function
①	MES	Firmware version of motor end stage controller (e.g. MES004.0-R)
②	HEAD	Firmware version of printer (e.g. I6s15-100618-R)
③	Screen	Firmware version of Touch Panel (e.g. SC6.0.01-R)
④	DIMM-PC (or Main-PC))	Firmware version of controller's embedded PC (e.g. N6.0.01-R)

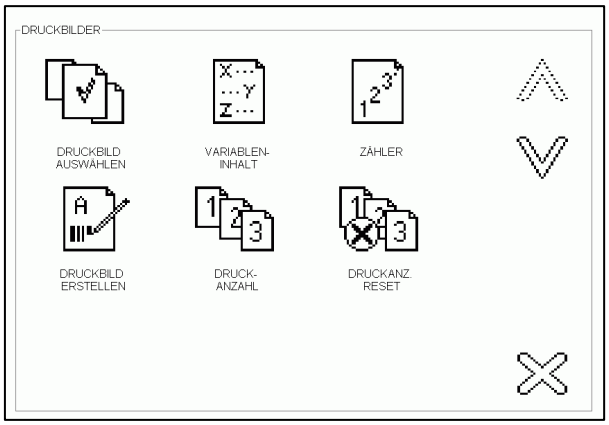
5.7.1 Functional overview of the Touch Panel

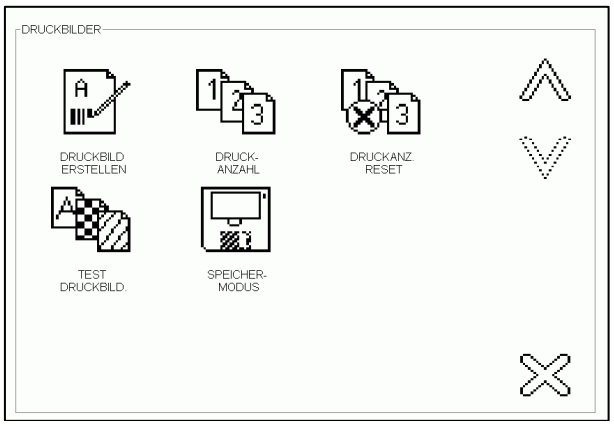


(*)
Note: The languages available, vary depending on the installed language pack and may differ from the above overview.

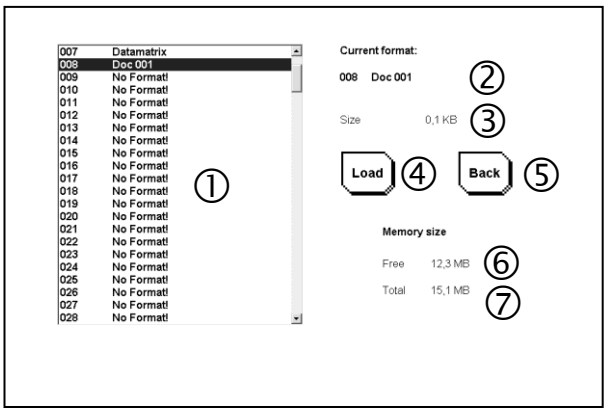
5.7.2 Format Control







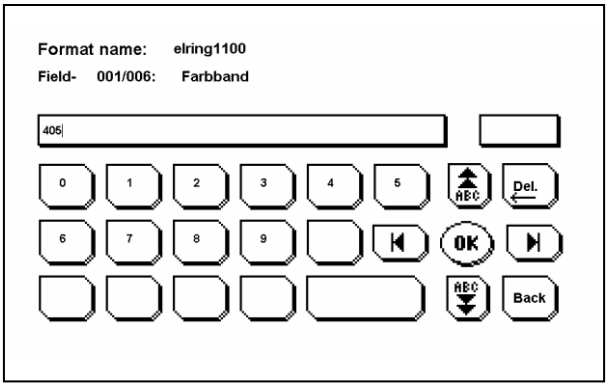
1. Select Format



No.	Input field/button	Description/function
①	-	List of formats available on the Printing System. Select the format by pressing the appropriate item in the list.
②	-	List item/name of selected format
③	-	File size of selected format
④	Load	Load format. Press the button to move the selected format to the connected printer.
⑤	Back	Exit the “select format” menu. Display switches to the higher menu item.
⑥	-	Available memory on the data media.
⑦	-	Maximum available memory on the data media.

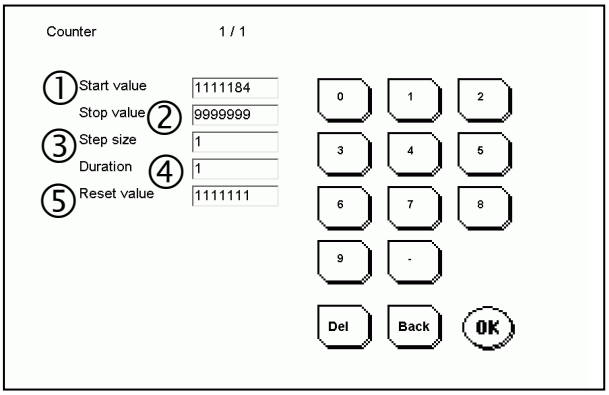
2. Variable Content

If variables are included in the loaded format, their values can be changed here.



3. Counter

If a counter is included in the loaded format, you can change or accept the following properties here:



No.	Input field/button	Description/function
①	Start value	Input value where the counter is to start.
②	Stop value	Input value where the counter is to stop, or where it will be reset to its initial value.
③	Step width	Input value which denotes the increment size for each counting step.
④	Duration	Input value which specifies how often the counter value of the current counting step is repeated before the counter is incremented or decremented.
⑤	Reset value	Input value where the counter is to start after reaching the stop value or after an ext. RESET.

4. Create format

Use this menu item to edit simple formats without the need for additional software or a computer. Formats can contain text and/or bar code elements whose content can be set up either as invariant or as input variables.

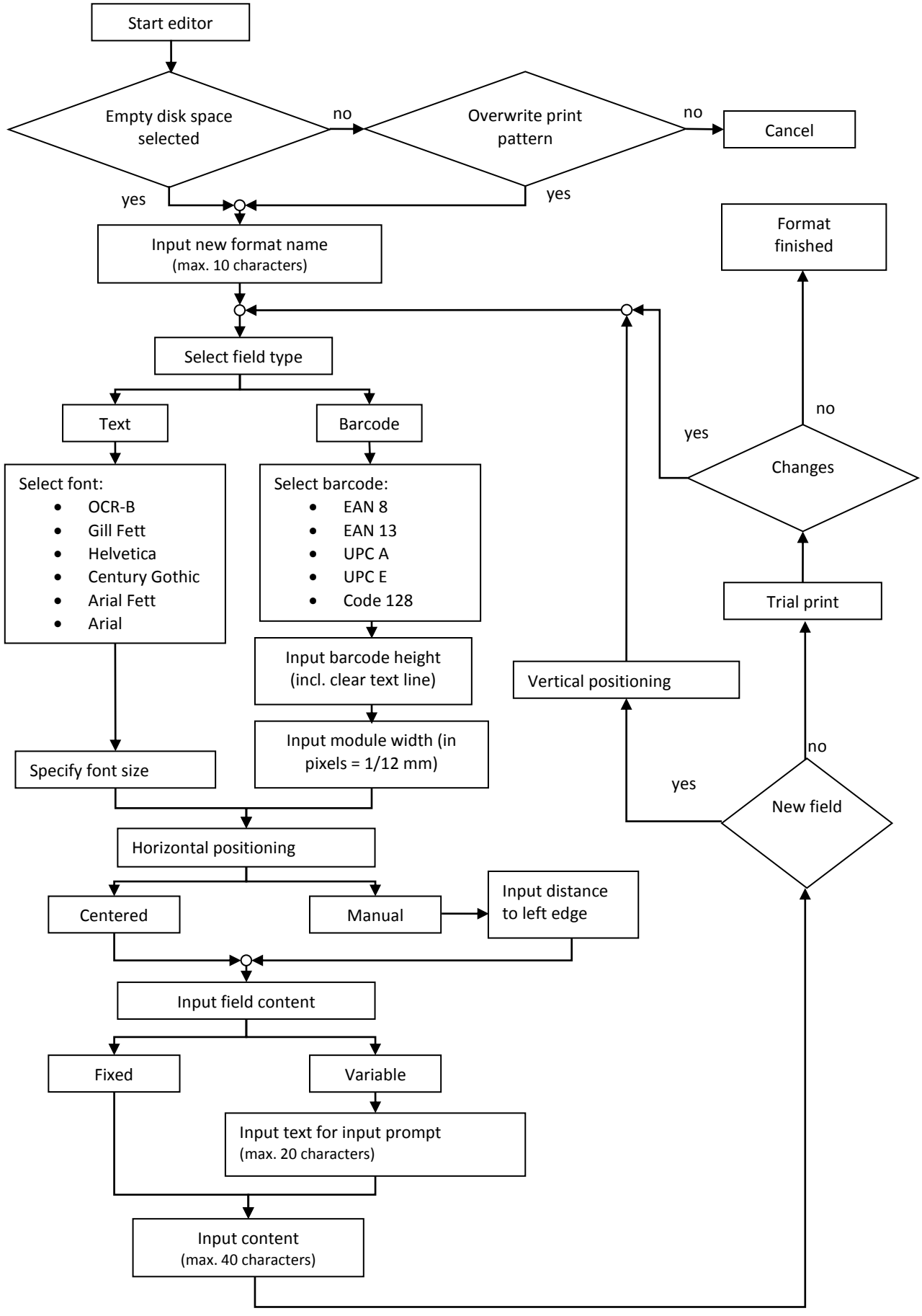
Limitations when using the editor:

- Only the fonts installed by the manufacturer are available.
- Selection of available barcodes is limited to: EAN 8/13, UPC A/E and Code 128
- A maximum of 10 elements per format can be set up, but a maximum of three elements may be barcodes.
- The format name is limited to max. 10 characters.
- The content length is limited to max. 40 characters.
- The length of the input prompt is limited to max. 20 characters.

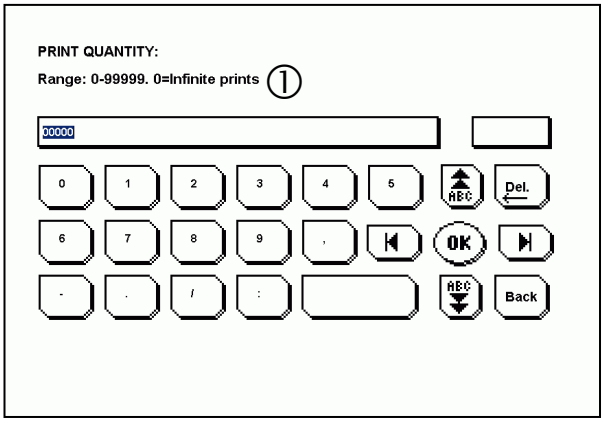
NOTE

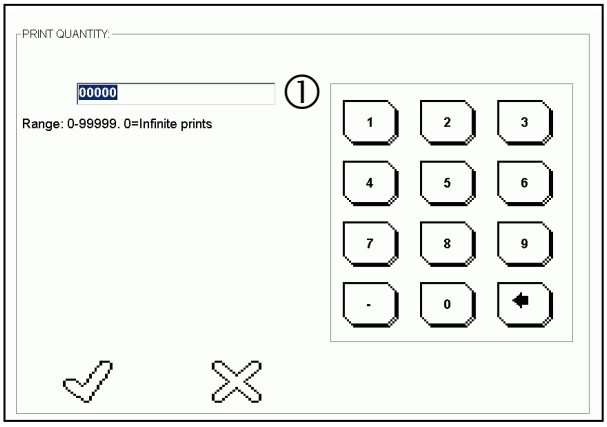
Selection of memory location

Before you start the editor, you should make sure that a free memory location is selected or that the format in the selected memory location is no longer needed. The format located at the selected memory site will be overwritten by the regeneration of a format.


Start editor
Empty disk space selected
no
Overwrite print pattern
no
Cancel
yes
yes
Input new format name
(max. 10 characters)
Format finished
Select field type
Text
Barcode
yes
no
Changes
Select font:
OCR-B
Gill Fett
Helvetica
Century Gothic
Arial Fett
Arial
Select barcode:
EAN 8
EAN 13
UPC A
UPC E
Code 128
Trial print
Input barcode height
(incl. clear text line)
Vertical positioning
Input module width (in
pixels = 1/12 mm)
Specify font size
no
yes
New field
Horizontal positioning
Centered
Manual
Input distance
to left edge
Input field content
Fixed
Variable
Input text for input prompt
(max. 20 characters)
Input content
(max. 40 characters)

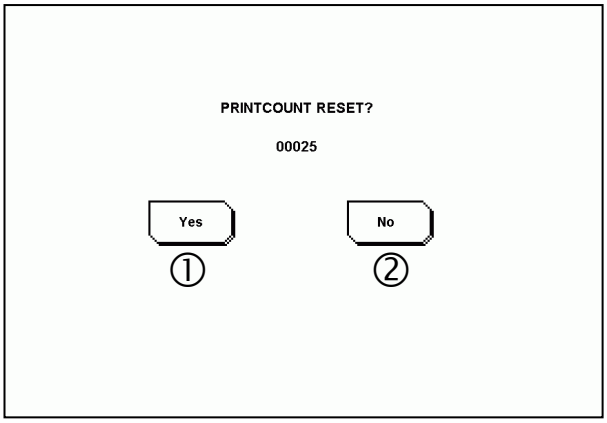
5. Quantity

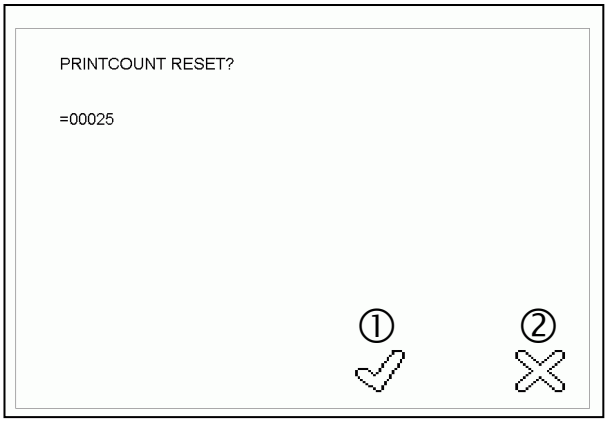




No.	Input field/button	Description/function
①	Input 0 – 99999	Available print qty (1-99999; 0 = unlimited). Once the input value is reached, the printer will only continue after the print quantity is reset by using the “Print Count Reset” button.

6. Print Count Reset

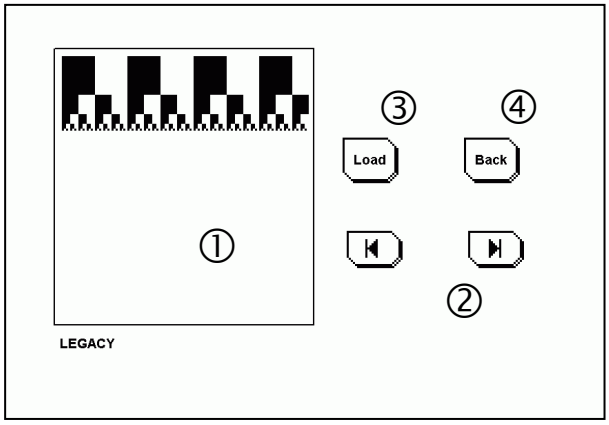




No.	Input field/button	Description/function
①	Yes	The quantity of print items is reset to zero.
②	No	The quantity of print items remains unchanged.

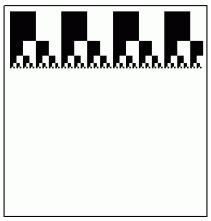
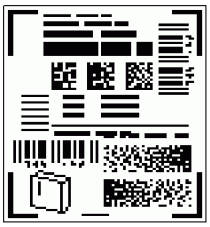
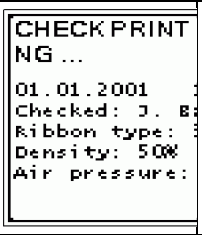
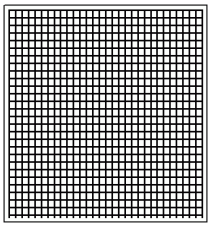
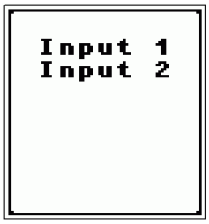
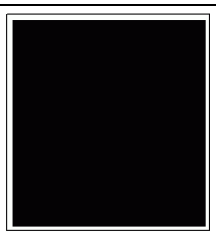
If the “KONDI” message appears, the permissible print quantity has been reached.

7. Test Formats

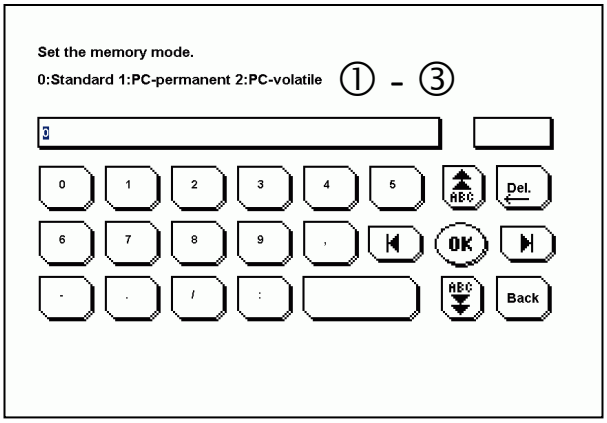


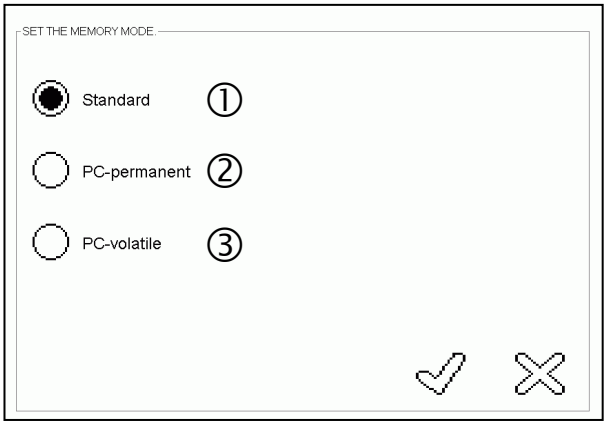
No.	Input field/button	Description/function
①	-	Preview test print format (image/designation)
②	◀ ▶	Navigation through the available test print formats Back/forward
③	Load	Use test print format. Press the button to move the selected test print format to the connected printer.
④	Back	Exit the “Test formats” menu. Display switches to the higher menu item.

The following test print formats are provided by the manufacturer for the Printing System.

Figure	Specification	Figure	Specification	Figure	Specification
	**„LEGACY“**		**„QUALITY“**		**„CHECK PRINT“**
	**„HATCH“**		**„TWO LINES“**		**„PARAMETERS“**
	**„BLOWN PIX-EL“**		**„DATE TIME“**		

8. Memory Mode

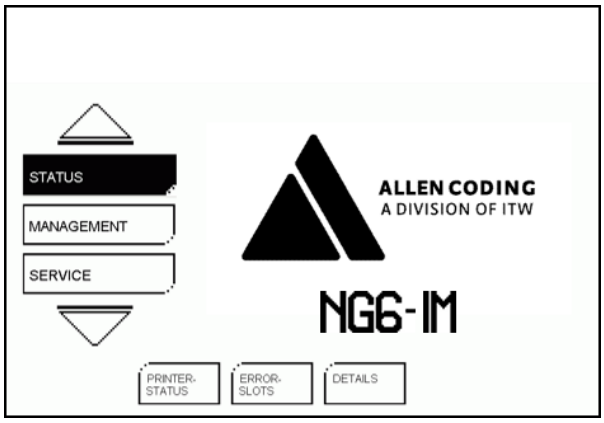


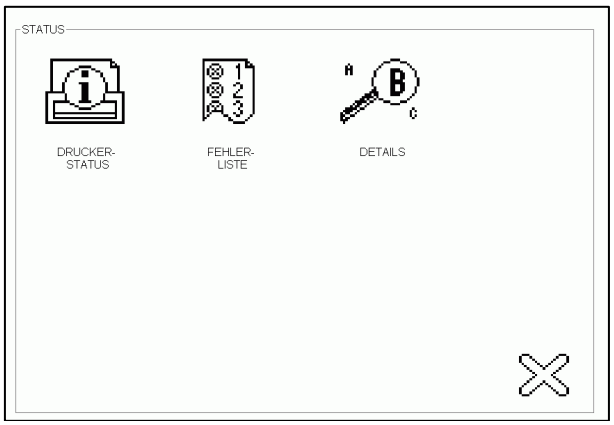


No.	Input field/button	Description/function
①	Input 0 / standard	Transferred print format is saved in the selected memory location. A print format already on the memory location will be overwritten.
②	Input 1 / PC continuous	Transferred print format is always saved on memory location 1. Print formats on other memory locations are thus protected against unintentional loading and erasing.
③	Input 2 / PC volatile	Transferred print format is available only as long as the Printing System is switched on. When the Printing System is switched off, the print format is deleted. The Printing System when switched on is always in a defined state with no print formats.

5.7.3 Status

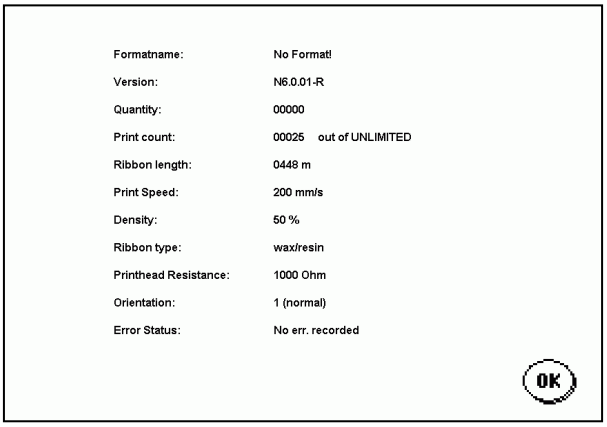
The *"**Status**"* menu item provides information about printer status and about any faults occurring to the Printing System.

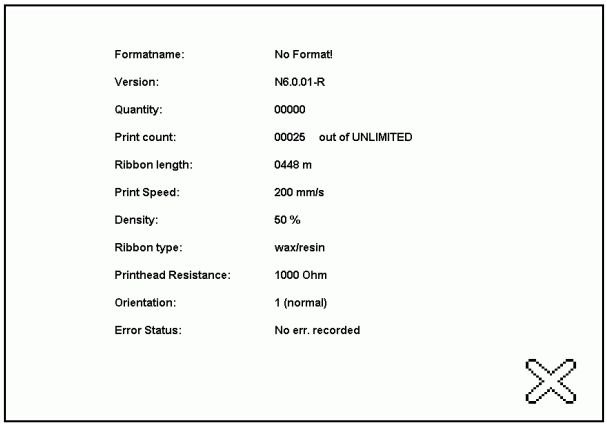




1. Printer Status

The following status information on the Printing System will appear on the display.

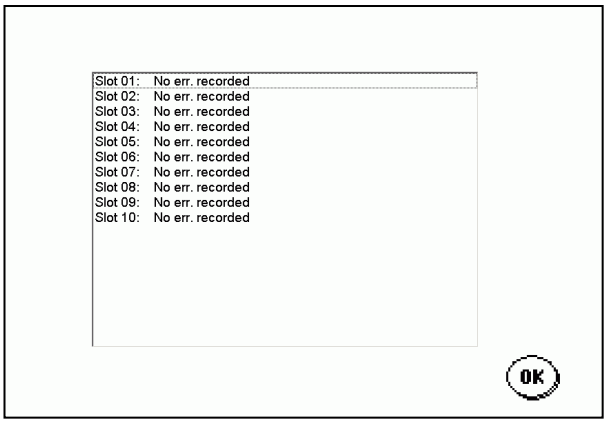


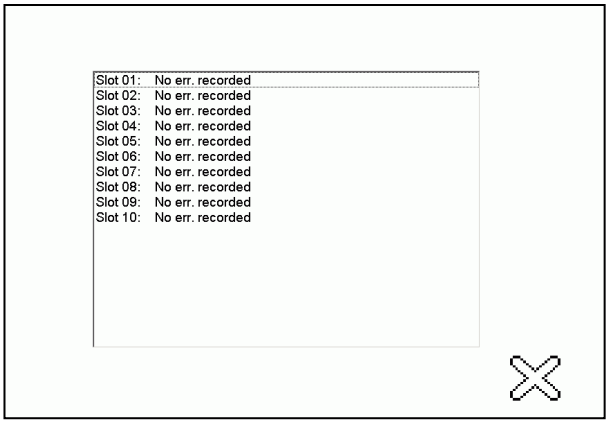


No.	Specification	Description/function
①	Format name	Name of currently loaded print pattern
②	Version	Firmware version of the Universal Controller (e.g. N6.0.01 - R)
③	Quantity	Quantity of print items (e.g. 00025 of UNLIMITED)
④	Print count	Length of used ribbon (e.g. 448 m)
⑤	Print speed	Printing speed (e.g. 200 mm/s)
⑥	Density	Adjusted print density (e.g. 50%)
⑦	Ribbon type	Type of ribbon (e.g. wax/resin)
⑧	Print head resistance	Resistance value of installed thermal print head (e.g. 1197 Ohm)
⑨	Orientation	Alignment of print format (e.g. 1(normal))
⑩	Error status	Display of current error status (e.g. no malfunction)

2. Error Slots

A list of the last ten faults occurring in the Printing System is displayed.





NOTE

Error messages

An overview of possible error messages from the Printing System is found under ***"Fault messages on the Printing System"***

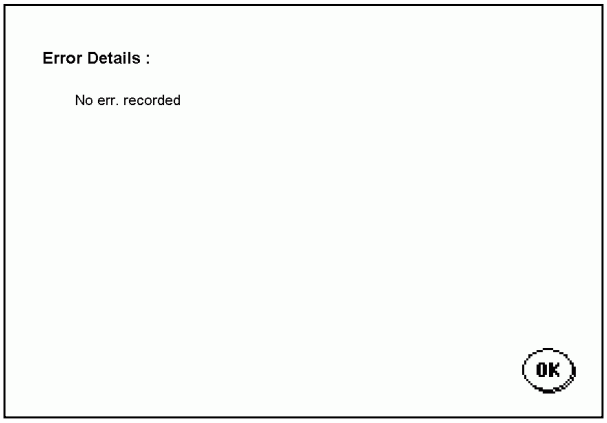
3. Details

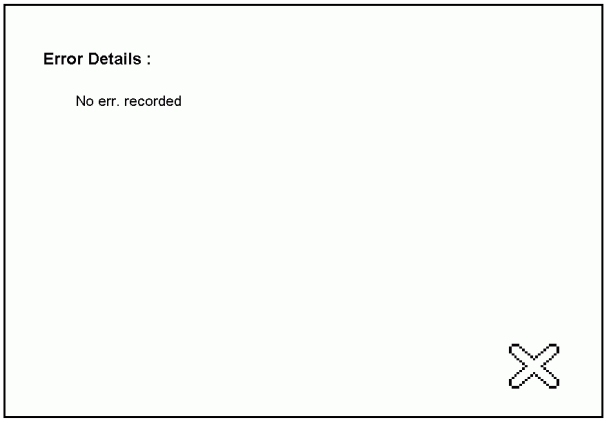
A detailed description of faults occurring in the Printing System is displayed.

NOTE

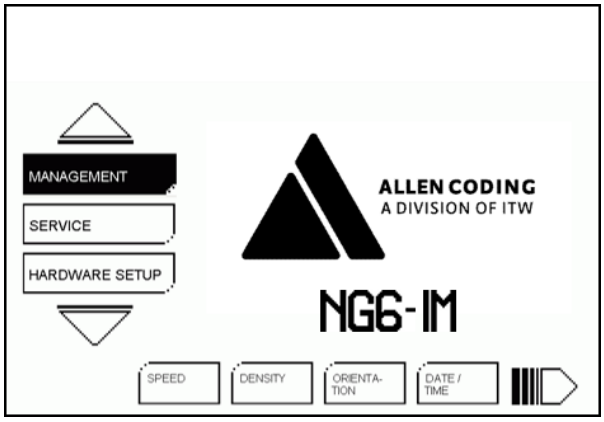
Malfunction details

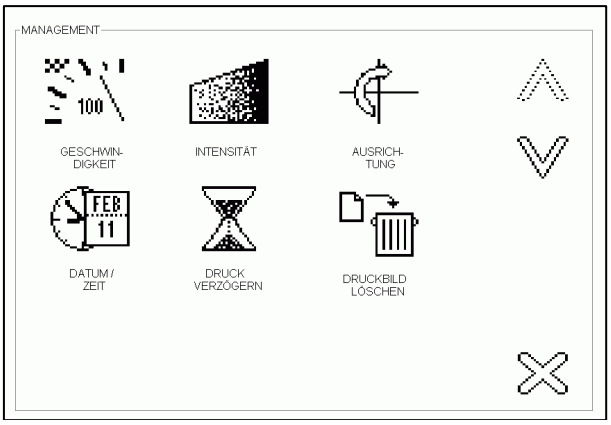
The detailed description of the occurring fault is only available in English.

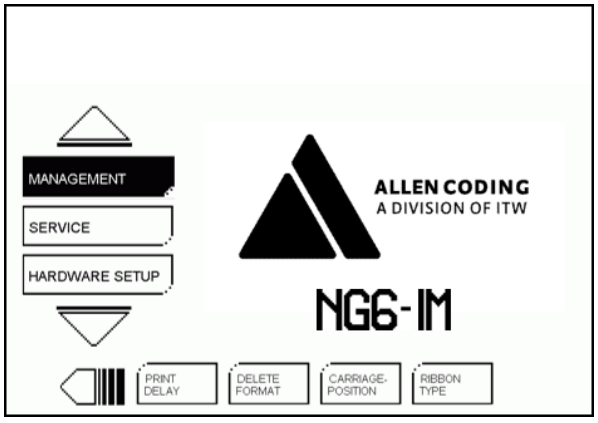


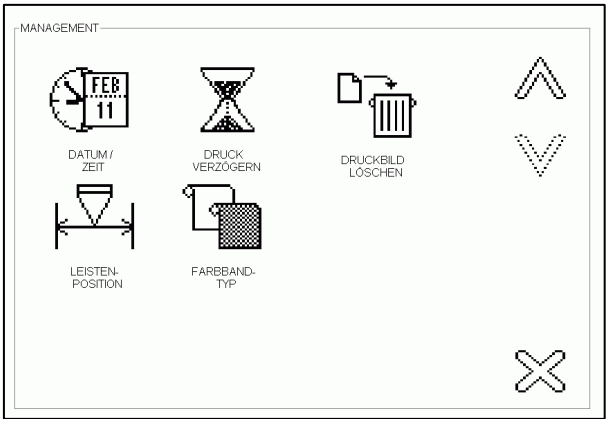


5.7.4 Management

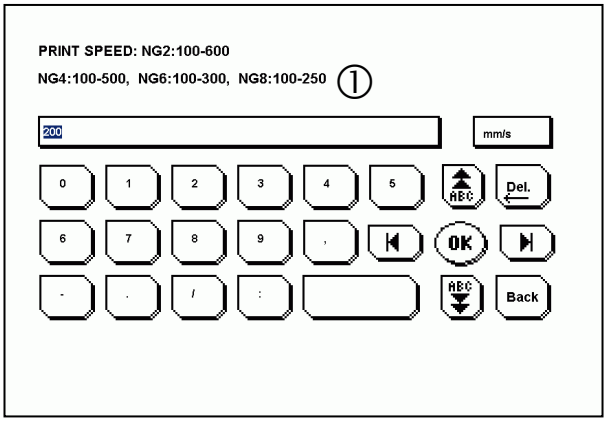


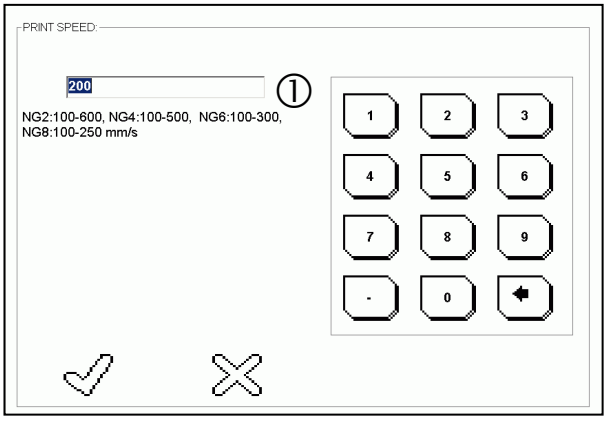






1. Speed





Operating mode IM:

NOTE

Input speed

The input or specification of speed is only used in IM mode.

NOTE

Minimum speed value

The minimum speed value displayed is dependent on the setting made in "***Hardware Setup\Minimum speed.***"

The minimum speed range is defined as follows: 50 - 100 mm/s

NOTE

Changing the speed value

The input value is only accepted when it is confirmed by the *"**OK**"* button.

No.	Input field/button	Description/function
①	Input [mm/s] NGT6/6E: min. 50 – max. 300 NGT8/8E: min. 50 – max. 250	Speed range for IM mode

The following error message will appear on the display if an incorrect value is input:
*"**Invalid value**"* or *"**out of range**"*

Operating mode CM:

In CM mode a speed cannot be specified for the Printing System. The Printing System determines the current speed via the encoder connected to the Printing System.

NOTE

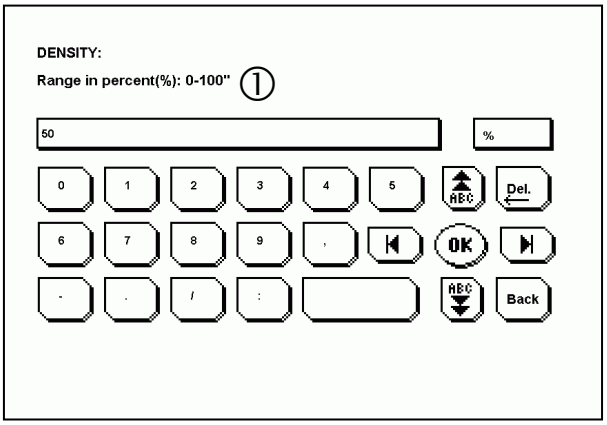
Speeds in CM mode

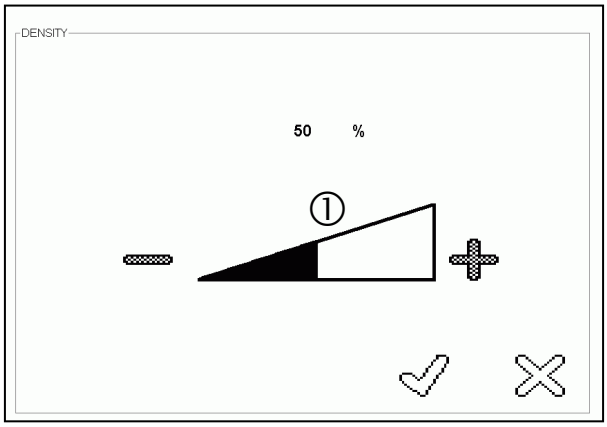
The speed values provided here pertain to theoretical values.
The actually attainable speed depends on various parameters for the particular application. This includes parameters such a machine type, model and width of packing foil, product length, length of print pattern, used ribbon, position of the encoder, additionally installed equipment like punches
etc.

Guideline values for speed in CM mode

NGT6	[m/min]	min. 3 – max. 17
NGT8	[m/min]	min. 3 – max. 14

2. Density

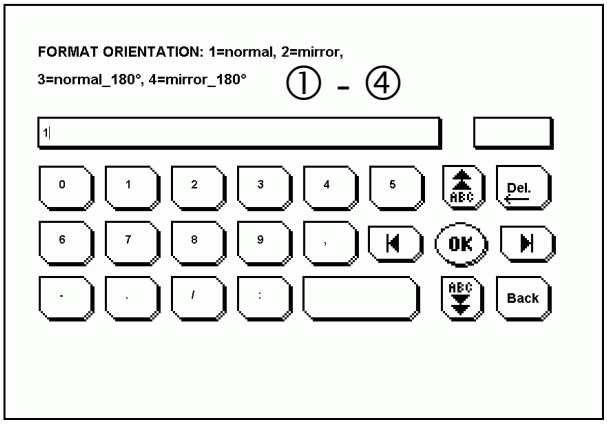


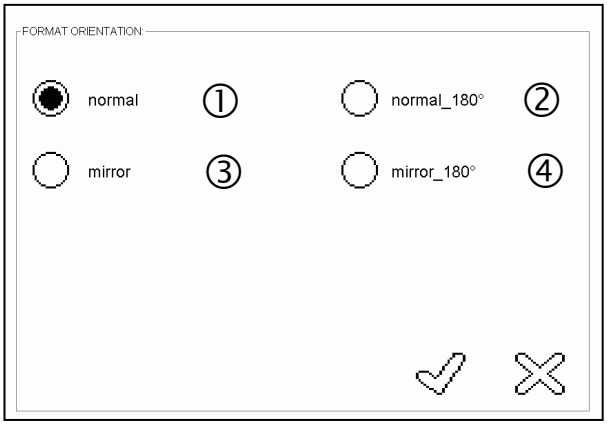


No.	Input field/button	Description/function
①	Input 0 – 100 [%]	Print Density In the icon-based view, the value can be increased or decreases in increments of one % by using the plus- or minus button.

The following error message will appear on the display if an incorrect value is input:
"Invalid value" or ***"out of range"***

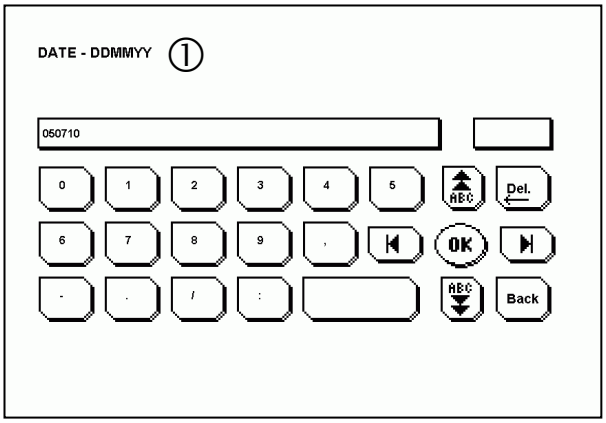
3. Orientation

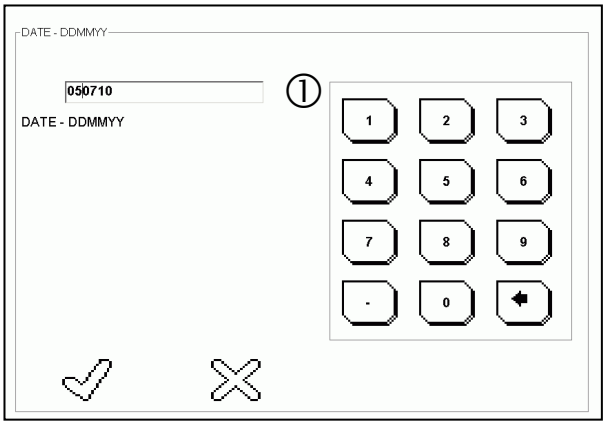




No.	Input field/button	Description/function
①	Input 1/normal	Select alignment of the print format (standard setting: normal)
②	Input 2/normal_180°	
③	Input 3/reflected	
④	Input 4/reflected_180°	

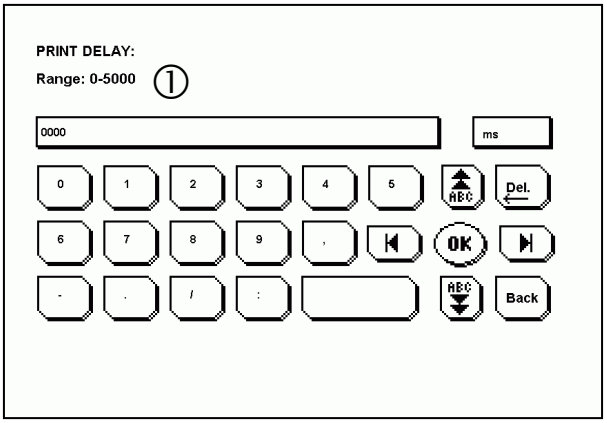
4. Date/Time

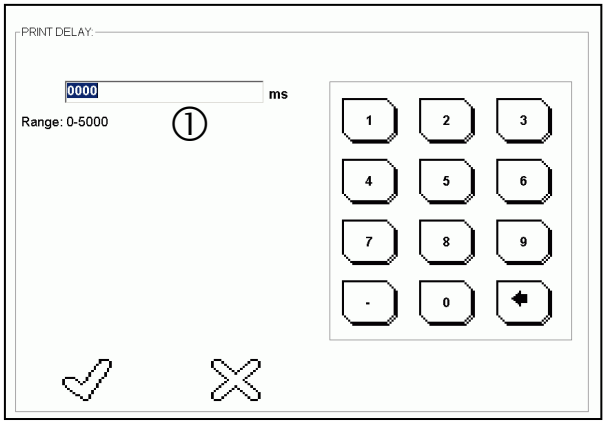




No.	Input field/button	Description/function
①	Input: Date format DDMMYY Time format HHMMSS	Date/time input. The corresponding date/time format (here: Day/month/year) is transferred for the print formats.

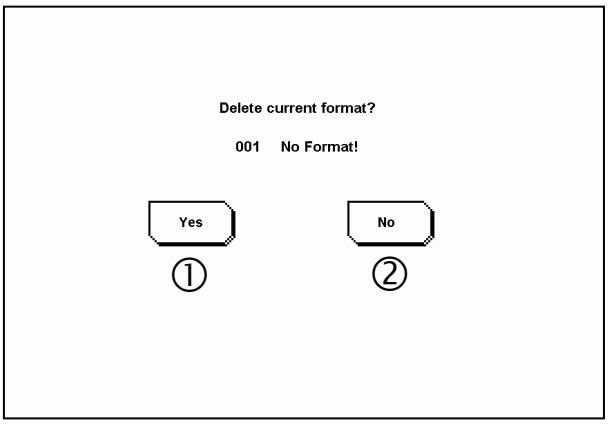
5. Print Delay

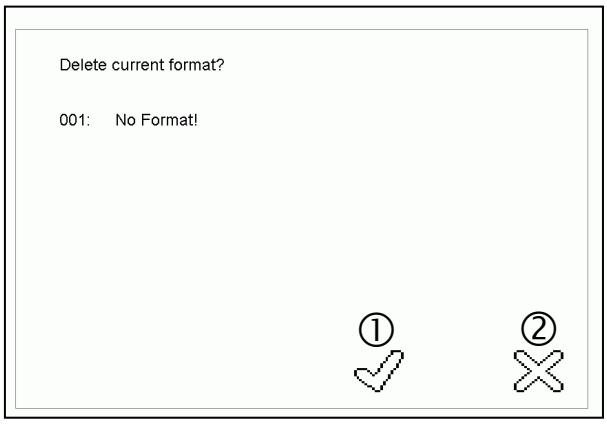




No.	Input field/button	Description/function
①	Input 0 – 5000 [ms]	Time delay for initiating the print

6. Delete Format





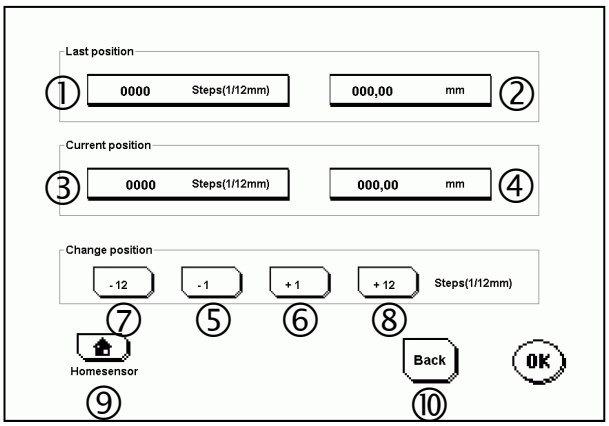
No.	Input field/button	Description/function
①	Yes / ✓ Yes	The currently loaded print pattern is deleted
②	No / ✗ No	Cancel - The currently loaded print pattern is not deleted

7. Carriage Position (in CM mode only)

NOTE

Change in carriage position in CM mode

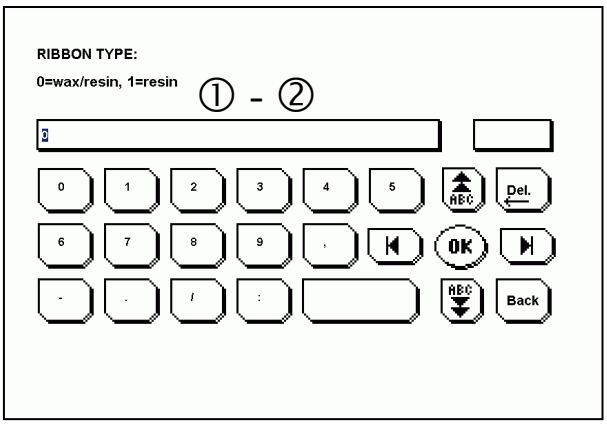
Before specifying a new carriage position, it is recommended to determine the reference point by using the “Home Sensor.”

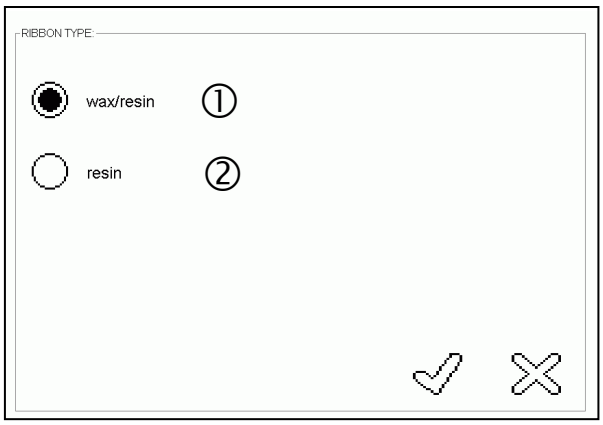


No.	Input field/button	Description/function	
①	-----	Display the last position (= position before the change) in	[1/12 mm]
②	-----		[mm]
③	-----	Display the current position (= last position + position changes) in Note: Value is accepted immediately during the input	[1/12 mm]
④	-----		[mm]
⑤	- 1	Change position Current position increased by 1-step (corresponds to 1/12 mm)	decreased
⑥	+ 1		increased
⑦	- 12	Change position Current position changed by 12-step (corresponds to 1 mm)	decreased
⑧	+ 12		increased
⑨		Carriage is moved to Home position (zero position). Thus all position variables are set to zero.	
⑩	Back	Exit “carriage position” menu. Display switches to the higher menu item.	

8. Ribbon Type

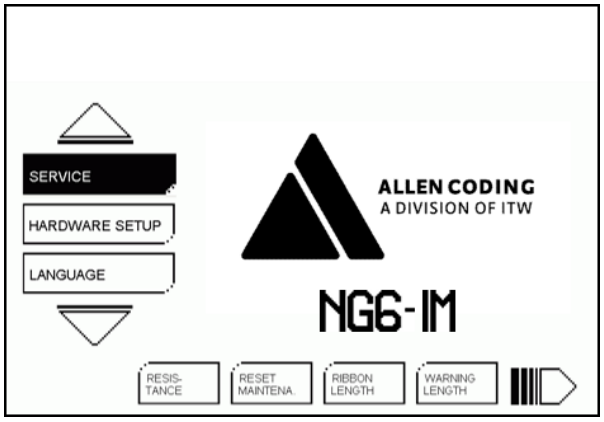
To optimize the print result the used type of ribbon can be adjusted.

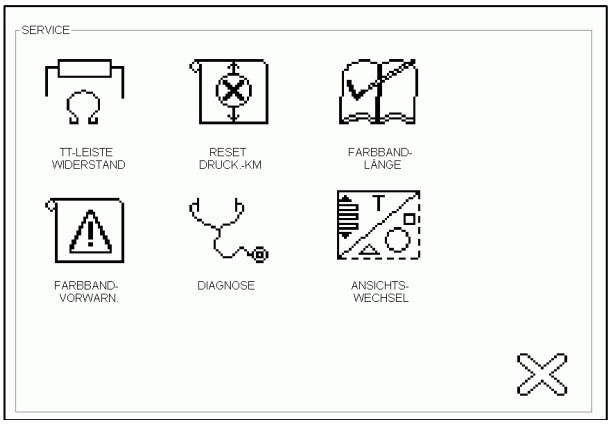


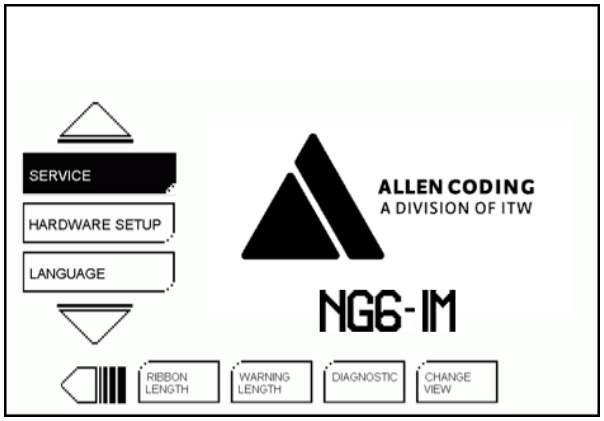


No.	Input field/button	Description/function
①	Input 0/wax/resin	Used type of ribbon wax/resin (standard setting). Precision adjustments.
②	Input 1/resin	Used type of ribbon: resin. Basically more power.

5.7.5 Service


SERVICE
HARDWARE SETUP
LANGUAGE
ALLEN CODING
A DIVISION OF ITW
NG6-IM
RESIS-TANCE
RESET MAINTENA.
RIBBON LENGTH
WARNING LENGTH


SERVICE
TT-LEISTE WIDERSTAND
RESET DRUCK.-KM
FARBBAND-LÄNGE
FARBBAND-VORWARN.
DIAGNOSE
ANSICHTS-WECHSEL


SERVICE
HARDWARE SETUP
LANGUAGE
ALLEN CODING
A DIVISION OF ITW
NG6-IM
RIBBON LENGTH
WARNING LENGTH
DIAGNOSTIC
CHANGE VIEW

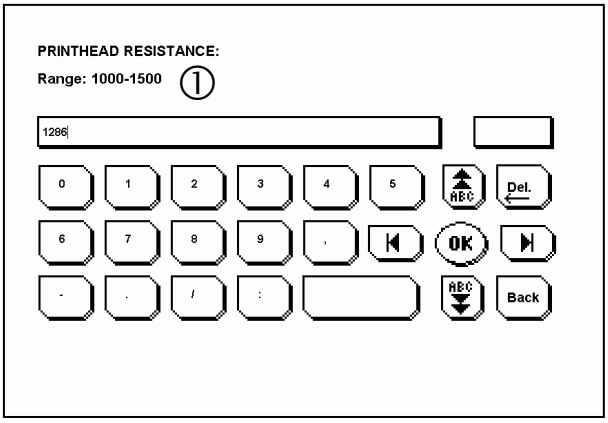
1. Resistance

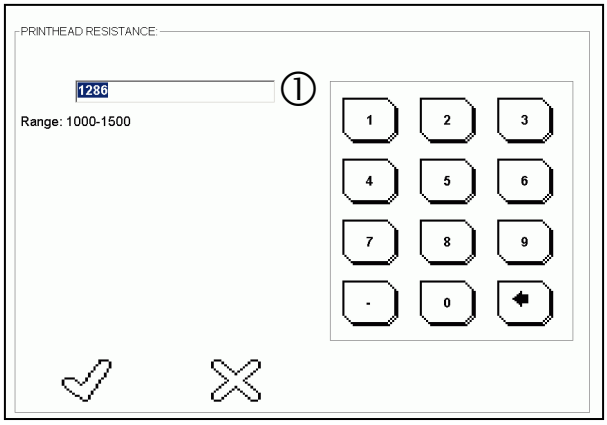
ATTENTION

Damage to the thermal print head due to wrong resistance value

The input resistance value must coincide with the value noted on the thermal print head. Otherwise the thermal print head can be prematurely damaged or destroyed. Any liability and warranty for any damages caused by incorrectly input resistance value is excluded by the Allen Coding GmbH.

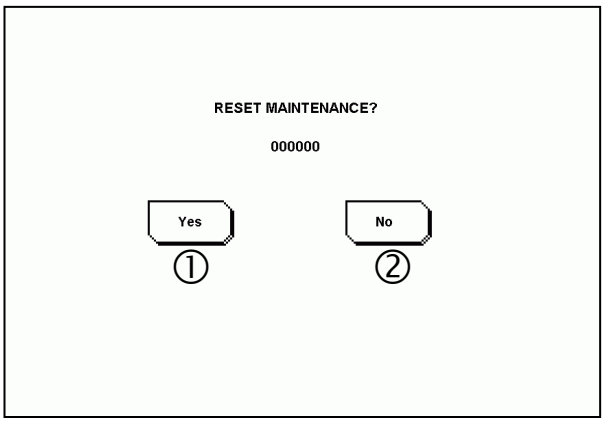
- Input the correct resistance value noted on the thermal print head before printing for the first time with the Printing System.

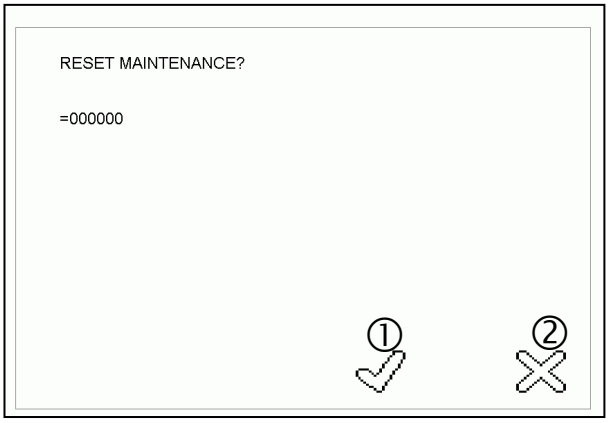




No.	Input field/button	Description/function
①	Input 1000 – 1500 [Ohm]	Resistance value of the thermal print head used in the Printing System.

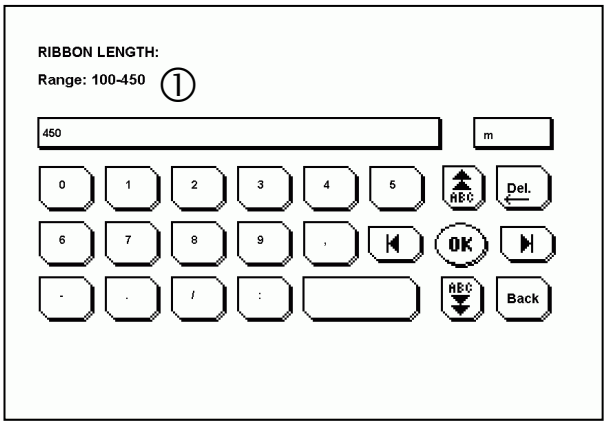
2. Reset Maintenance

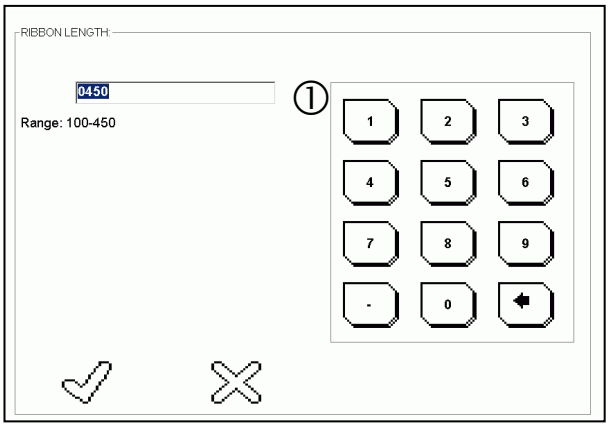




No.	Input field/button	Description/function
①	Yes	Reset counter for the entire printed length.
②	No	Cancel - Reset counter for the entire printed length.

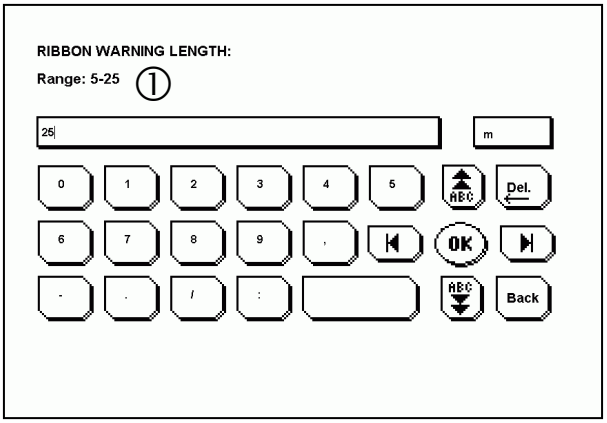
3. Ribbon Length

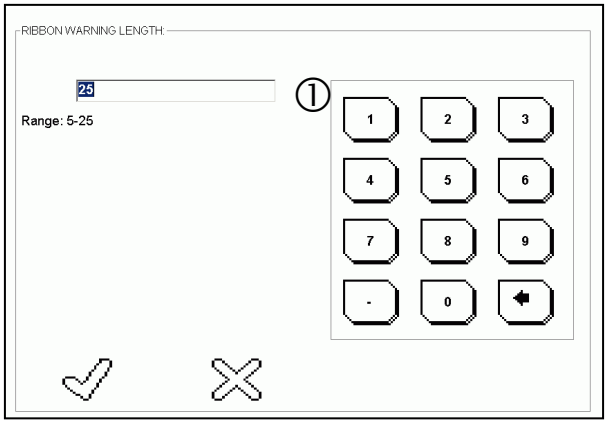




No.	Input field/button	Description/function
①	Input 100 – 450 [m]	Length of used ribbon (unused ribbon roll).

4. Warning Length





No.	Input field/button	Description/function
①	Input 5 – 25 [m]	Once the adjusted value is reached, the ribbon end-warning is output.

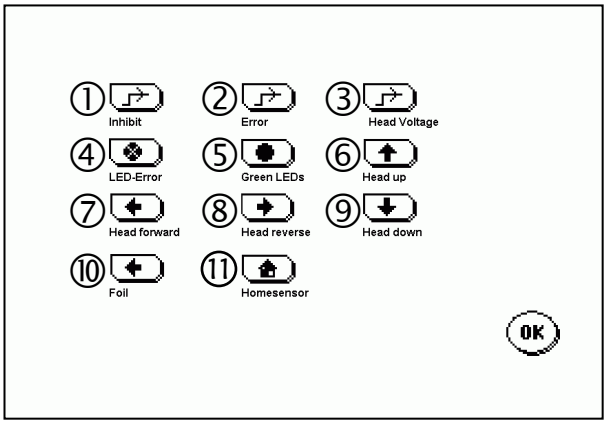
5. Diagnostic

In the Diagnosis menu item you can test the basic functions of the Printing System.

NOTE

Diagnosis Menu Item

- Before each test the thermal print head will be lifted upward.
- Exiting the Diagnosis menu item will automatically trigger the “Find Homesensor” function.



No.	Input field/button		Description/function
①		Inhibit	Switches on the Inhibit output for one second.
②		Fault	Switches on the Fault output for one second.
③		Strip voltage	Switches on the thermal print head voltage for one second.
④		LED error	The Error LED flashes for 5 seconds
⑤		Green LEDs	The two green LEDs flash for 5 seconds
⑥		Head upward	The thermal print head is lifted up (air pressure test)
⑦		Head forward	The thermal print head is extended and a print process of 2 cm length is simulated. (stepping motor test)
⑧		Head back	Thermal print head is retracted by 1 cm (stepping motor test)
⑨		Head down	The thermal print head is moved down (air pressure test)
⑩		Foil	Ribbon transported by 2 cm (foil motor test)
⑪		Homesensor	Thermal print head is moved to its starting position (stepping motor + home sensor test)

6. Touch Panel Calibration

ATTENTION

Calibration of the Touch Display

Do not use sharp or pointed objects to operate the Touch Display. This may damage or destroy the Touch Display. Any liability and warranty for any damages caused by incorrect or improper use of the Touch Display is excluded by the Allen Coding GmbH.

- Only operate the Touch Display with suitable objects.

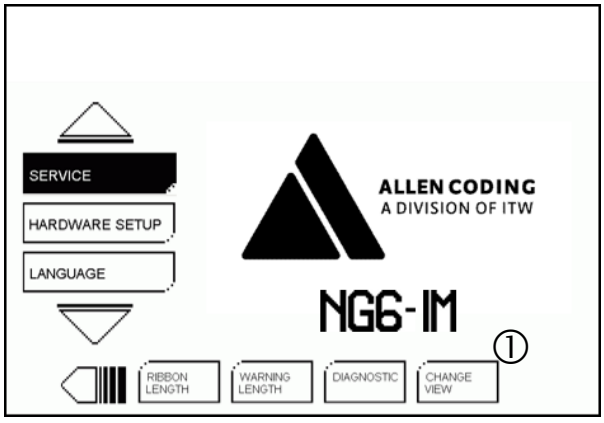
NOTE

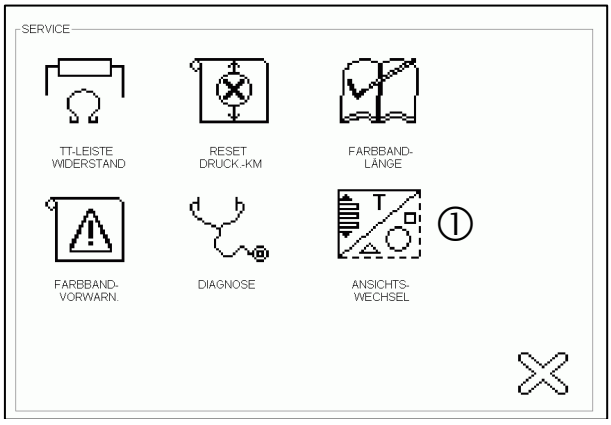
Calibration of the Touch Display

The calibration of the Touch Display must be performed as accurately as possible. If the calibration is inadequate, the Touch Display will operate imprecisely.

The procedure is self-explanatory; follow the on-screen instructions.
The calibration process is completed with the question “Calibration OK” by clicking on “Yes.”

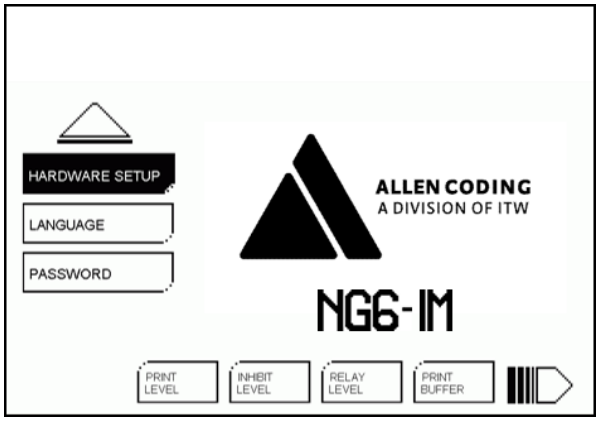
7. Change View

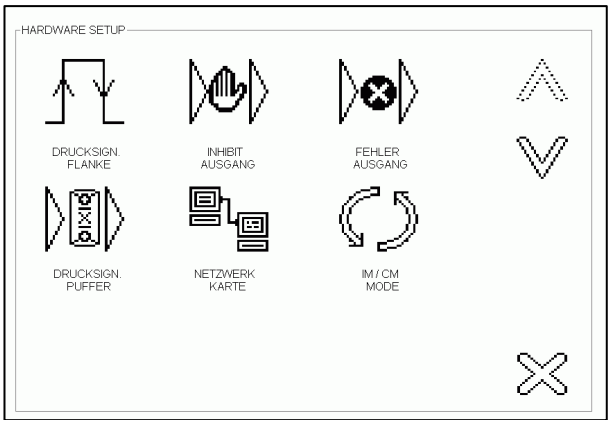


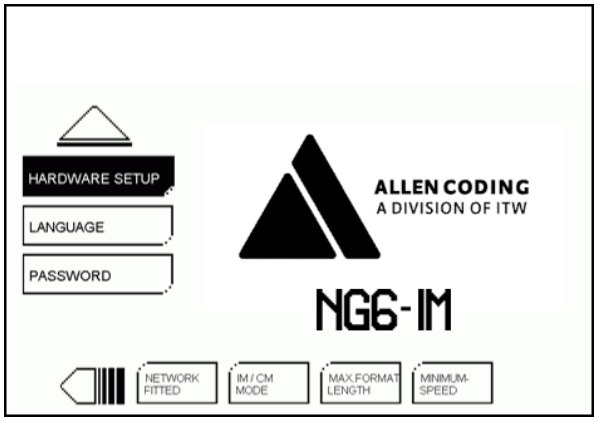


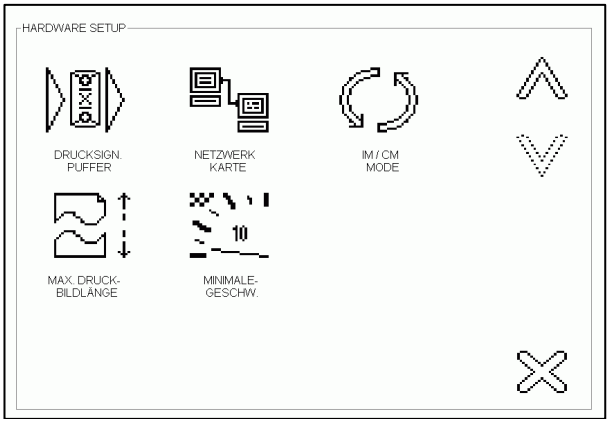
No.	Input field/button	Description/function
①	CHANGE VIEW / T — Change view	Press the “Change view” button to switch between the text-based and icon-based menu panel of the Touch Display.

5.7.6 Hardware Setup

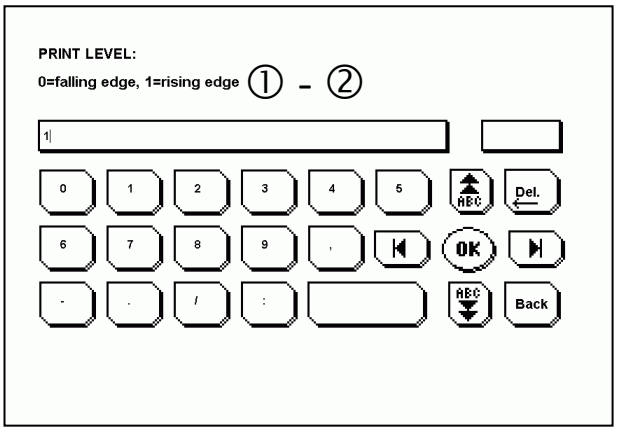


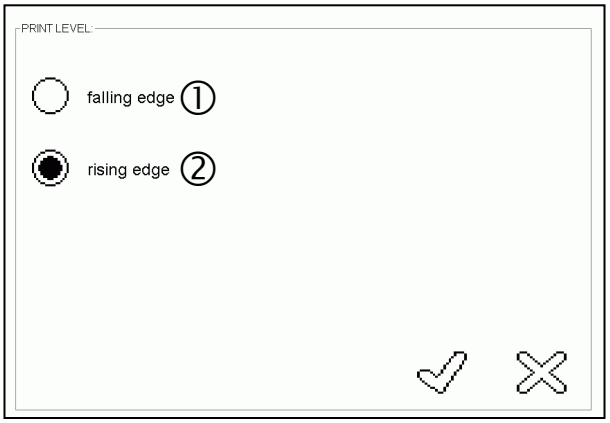






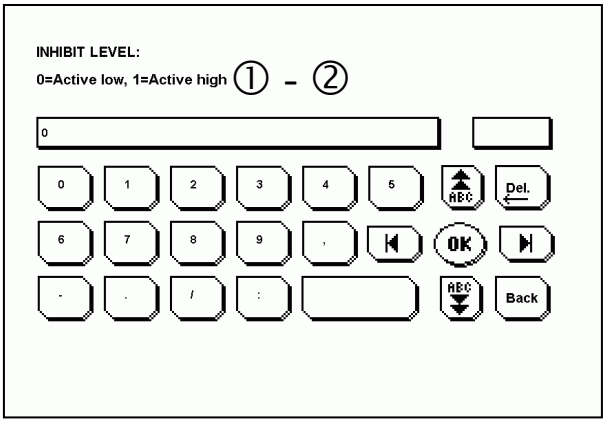
1. Print Level

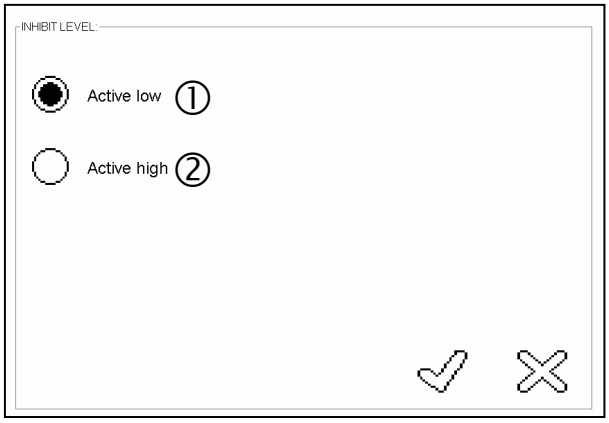




No.	Input field/button	Description/function	
①	Input 0/falling	Configuration print signal-input. Initiate the print for:	Falling signal edge
②	Input 1/rising		Rising signal edge

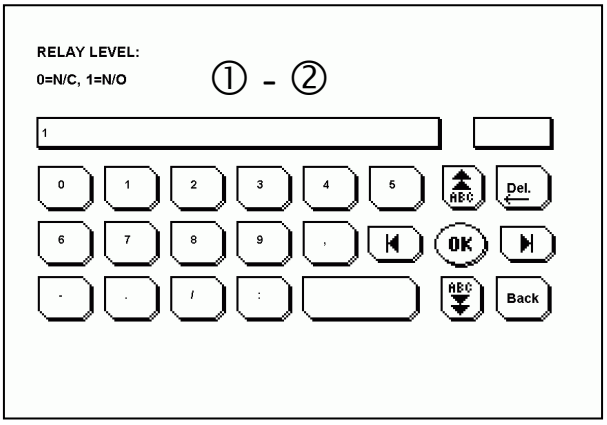
2. Inhibit Level

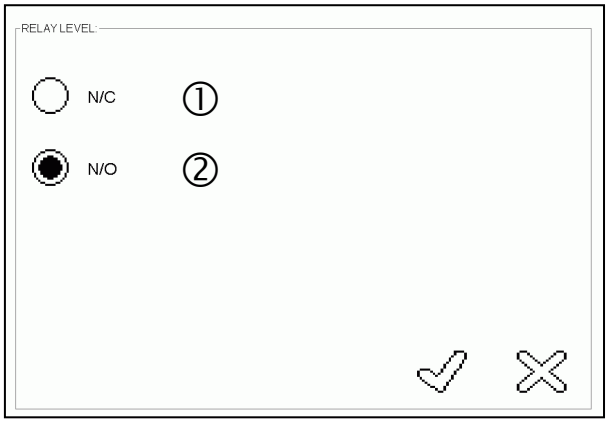




No.	Input field/button	Description/function	
①	Input 0 / active off	Configuration Inhibit output. Output operates as:	Opener / (N/C)
②	Input 1 / active on		Closer / (N/O)

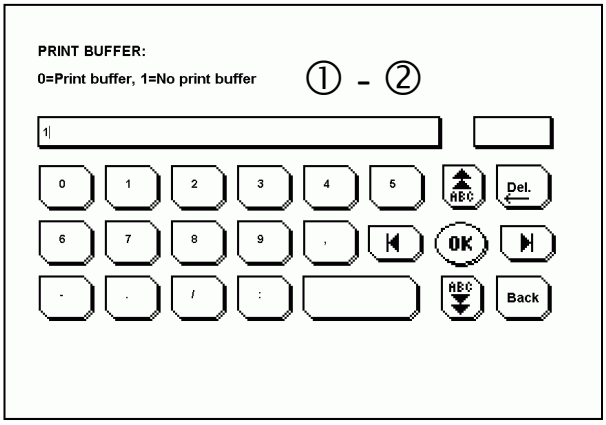
3. Relay Level

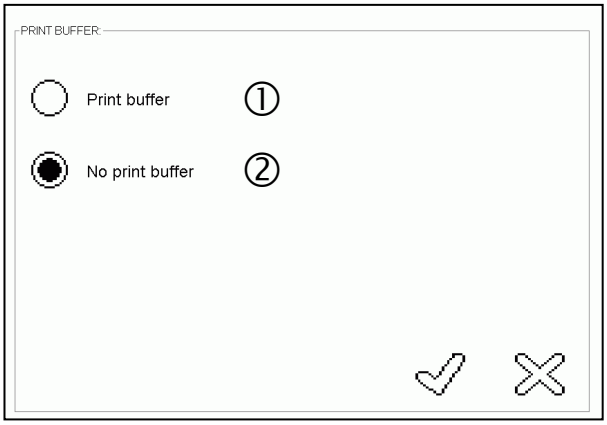




No.	Input field/button	Description/function	
①	Input 0/falling	Configuration Error output. Output operates as:	Opener / (N/C)
②	Input 1/rising		Closer / (N/O)

4. Print Buffer





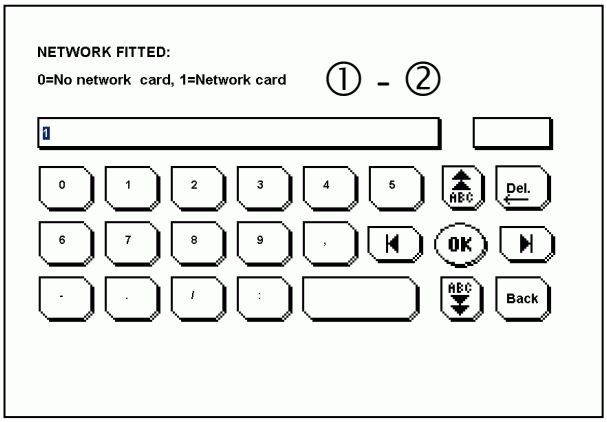
No.	Input field/button	Description/function	
①	Input 0 / Print Buffer	Print signal buffer is:	used
②	Input 1 / No print Buffer		not used

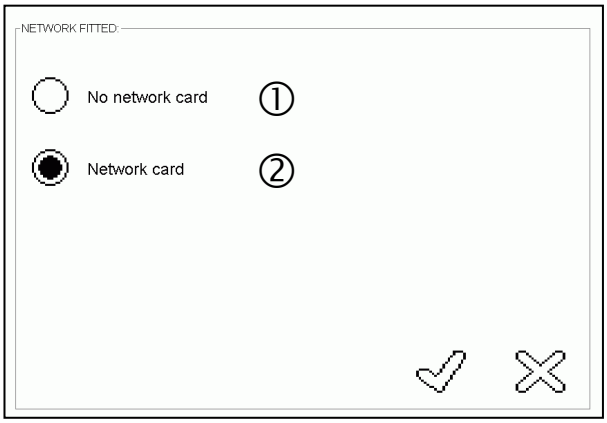
5. Network Fitted

NOTE

Change the communications interface

After switching the communications, the machine or the connected PC under certain circumstances cannot communicate with the Printing System.





No.	Input field/button	Description/function	
①	Input 0 / no network card	Select the network card as communications interface:	No (communication only over serial interface)
②	Input 1 / network card		Yes (communication only over network interface)

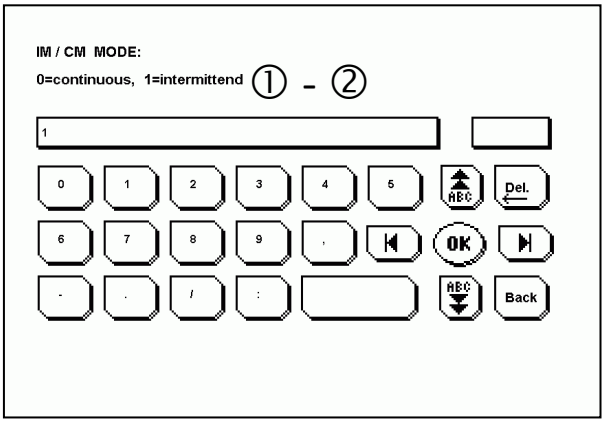
After confirmation of the selection by the *"**OK**"* button, the following message will appear on the display: ***"Confirm Change."*** If you want to use the selected communications interface, confirm the message with *"**YES**"*, otherwise, with *"**NO**."*

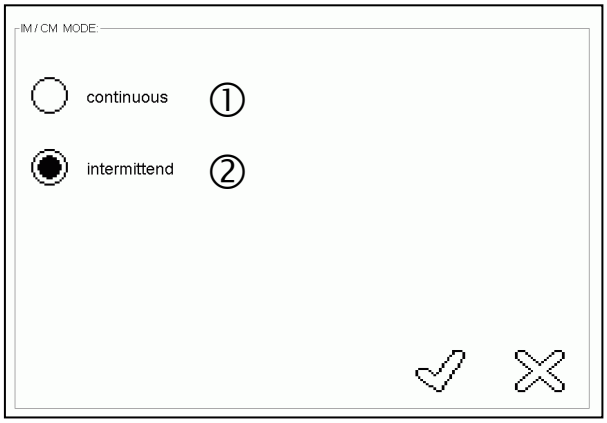
6. IM / CM Mode

NOTE

The Printing System must be restarted after a change in operating mode

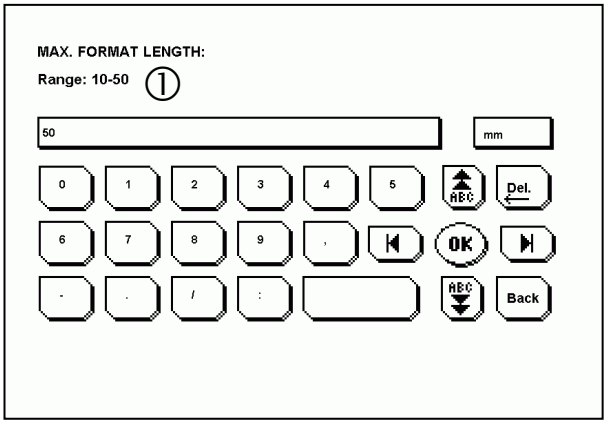
Switch off the controller after a change in operating mode. Wait about 5 s before turning on the controller again.

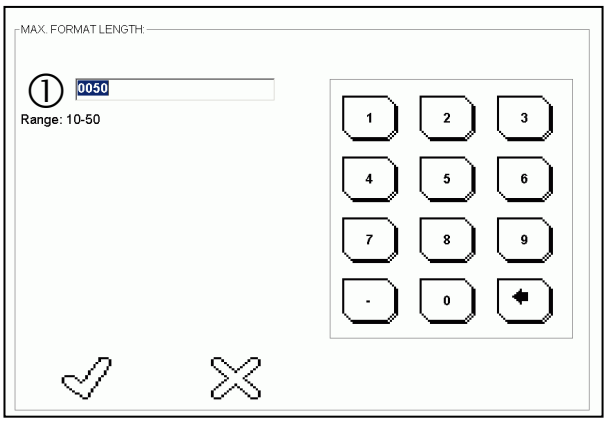




No.	Input field/button	Description/function	
①	Input 0 / continuous	Select Printing System Operating Mode:	Continuous (CM)
②	Input 1 / intermittent		Intermittent (IM)

7. Maximum Format Length





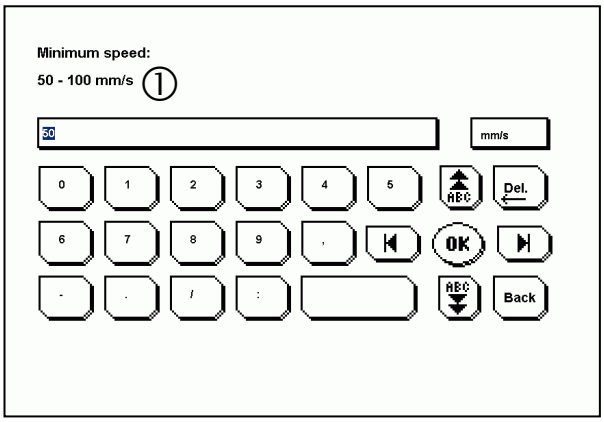
Operating mode IM:

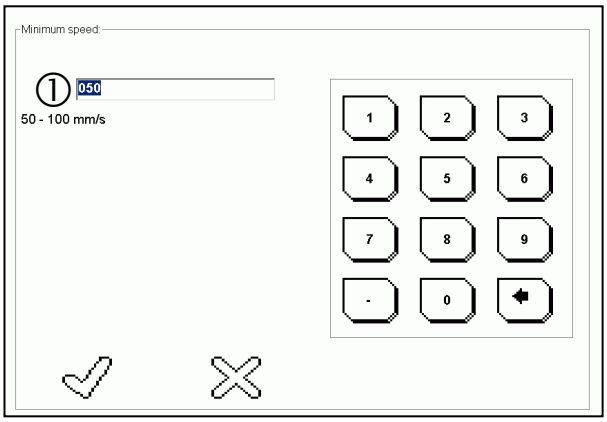
No.	Input field/button	Description/function
①	Input [mm] NGT6/8: min. 10 – max. 100 NGT6E/8E:min. 10 – max. 155	Maximum permissible length of format in IM mode

Operating mode CM:

No.	Input field/button	Description/function
①	Input [mm] NGT6: min. 10 – max. 1000 NGT8: min. 10 – max. 1000	Maximum permissible length of format in CM mode

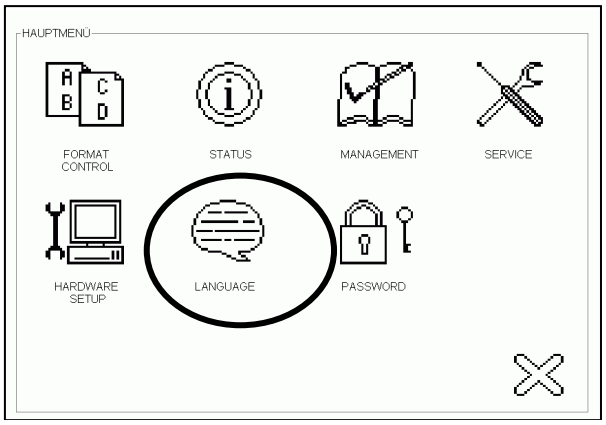
8. Minimum Speed (in IM mode only)





No.	Input field/button	Description/function
①	Input 50 – 100 [mm/sec]	Establish the lower limit for Printing System speed.

5.7.7 Language



Supported languages:

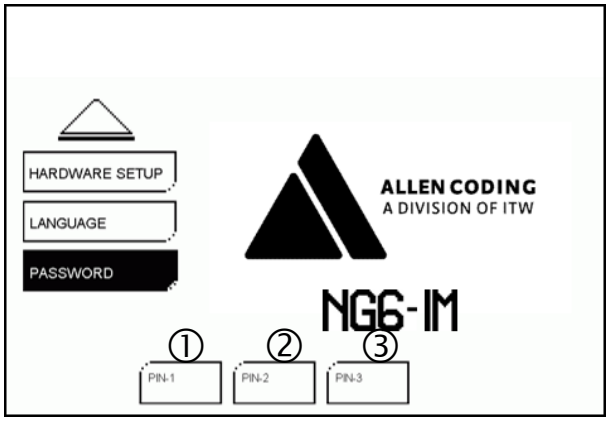
No.	Input field/button	Description/function
①	English	English
②	Deutsch	German
③	Français	French
④	Espanol	Spanish
⑤	Dutch	Dutch
⑥	Italiano	Italian

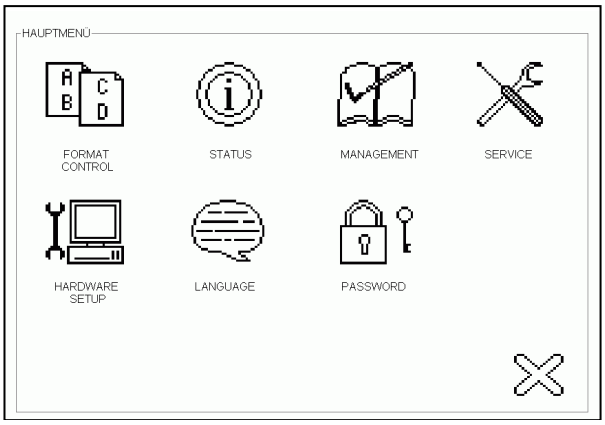
NOTE

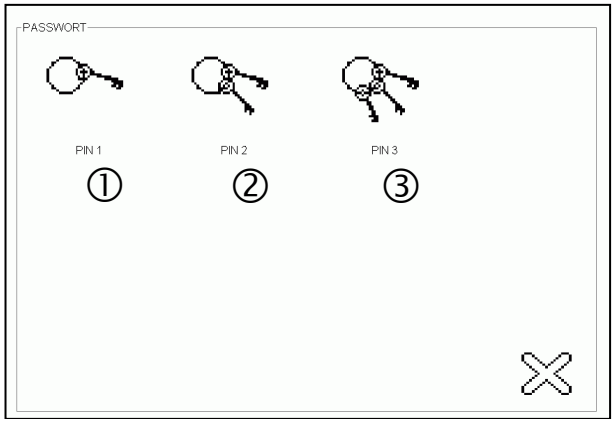
Languages – Touch Display

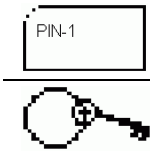
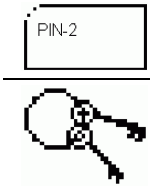
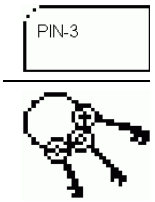
Please consult with Allen Coding GmbH if you need other languages.

5.7.8 Password







No.	Input field/button	Description/function	
①	 **PIN 1** (User PIN)	Input the PIN to gain access to the menu items:	Print patterns, status, language
②	 **PIN 2** (Management PIN)		Management and the areas protected by PIN 1.
③	 **PIN 3** (Service PIN)		Service, hardware setup and areas protected by PIN 1 and PIN 2.

6 Troubleshooting

The following Chapter is intended to help you understand fault messages, to identify their origin and to correct them.

NOTE

Troubleshooting on the Printing System
If the current fault in the Printing System cannot be corrected, then please consult with Allen Coding GmbH Service department.

6.1 Fault messages on the Printing System

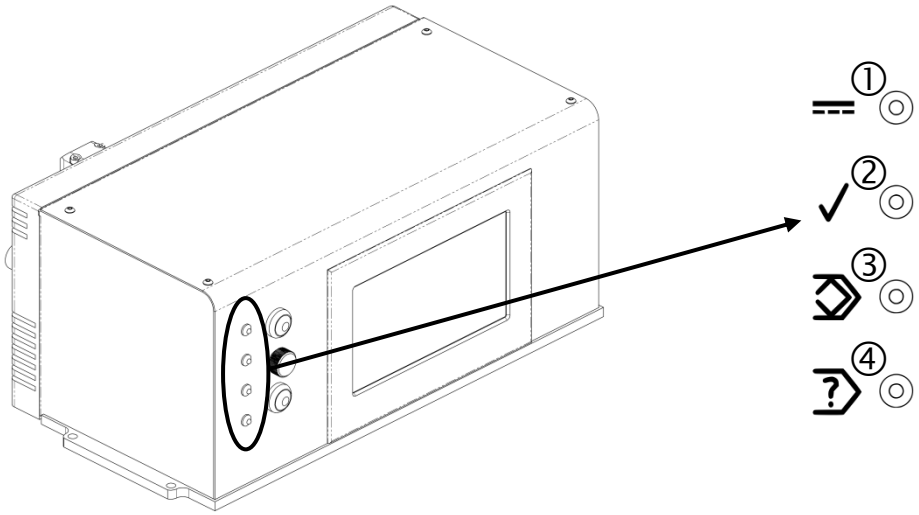
The following fault messages are displayed on the Printing System itself (Touch Display) or in the used configuration software (a:control).

Error ID	Description	Meaning	Corrective measures
0	No malfunction	No fault in Printing System.	-
1	Fault in Ribbon	Printer reports ribbon tear or absent color band	▪ Check the ribbon. Install a ribbon if needed.
3	Ribbon end pre-warning	Remaining ribbon insufficient	▪ Replace the ribbon ▪ Deactivate the pre-warning for ribbon end or reset it.
4	Graphic outside printed area	Graphic/image element outside the allowed print area	▪ Check whether the format was set up for a larger printer. ▪ Check the max. format length. ▪ Adjust the format.
5	Line/frame outside of print area	Box/line element outside the permissible print area	
6	Text outside printed area	Text element outside the allowed print area	
7	Barcode outside printed area	Barcode element outside the allowed print area	
8	Memory error	Memory capacity of flash memory exhausted	▪ Use a larger memory card; check with Allen Coding GmbH Service dept. ▪ Delete unneeded formats. ▪ Reduce the size of formats (e.g. remove graphics)
10	Comm. time limit error	Error in external communication with PC over serial interface or Ethernet	▪ Check the communications link. ▪ Repeat the data transmission.

Error ID	Description	Meaning	Corrective measures
17	Home sensor - error	Absent home sensor signal after error ack. (sledge moves short into the home sensor) or during the initializing	▪ Home sensor signal disrupted, check the connection ▪ Sledge hangs ▪ Sledge motor defective or not properly controlled (shaking)
30	Printer time limit error	Error in communication between processor module and printer	▪ Head firmware hangs, restart the Printing System. ▪ Controller sending erroneous data, restart the Printing System. ▪ Possible test: Input an error to the printer (e.g. open the magazine) – does the printer still respond?
31	DPRAM time limit error	Error in communication between processor module and Touch	▪ After acknowledging the error, check your previous settings.
33	SRAM memory error	Static memory exhausted	▪ Delete unneeded formats. ▪ Reduce the size of formats (e.g. remove variables and counters)
34	Print enable error	Printing not possible; additional information found in Details. Possible causes 1. No head detected 2. No printable format loaded 3. Format too short	Depends on source of error: ▪ Connect the printer, check the connection. ▪ Load a valid format; watch the status LED. ▪ Load a longer/shorter format.
36	ESC Seq. not supported	An unknown ESC-Sequence was used.	▪ Pay attention to the formatting of the ESC sequence. ▪ Upper and lower case letters are relevant. ▪ Do not use spaces in the ESC sequence ▪ Use more recent firmware that supports this ESC sequence.
46	Cassette error	Printer reports open cassette	▪ Lock the cassette ▪ Check the cassette sensor
47	Air pressure error	Printer reports too low or too high air pressure	▪ Check the adjusted air pressure
48	Head voltage error	Printer reports over- or under-voltage	(for Service personnel only) ▪ Check voltages to thermal print head. ▪ Check vehicle fuse in the controller.

Error ID	Description	Meaning	Corrective measures
51	Print signal too fast	In IM mode only: Print signal comes too early, sledge not yet reached the home sensor	▪ Reduce the cycle time. ▪ Increase the print speed. ▪ Reduce the format. ▪ See reference under home sensor error. ▪ Switch on print signal buffer.
56	In Home-position during print	In CM mode only: MES generates no print pulse, print interrupted since the sledge is still in the home position.	▪ Move sledge from the home sensor position for printing.
58	Print interrupt	MES needs too much time to send the latch signal	▪ MES contact problems. ▪ CM: Encoder signal missing, print material moves too slowly or not at all.
60	Format length exceeded	Check for details in the display - format grew towards the top - format too long	▪ Adjust the format. ▪ Adjust the max. format length.
61	Parameter out of range	Check for details in the display	▪ Autoprint function with invalid parameters. ▪ CM position out of range. ▪ IM/CM settings invalid; send/check ESC sequence again.
62	Invalid SRAM data	Data saved in SRAM is invalid or reset to default values	▪ Internal battery discharged. Leave the printing system on for at least 24 h to charge the battery.
99	Other faults	Check for details in the display	-

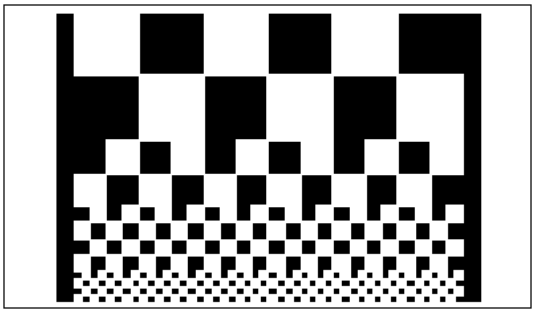
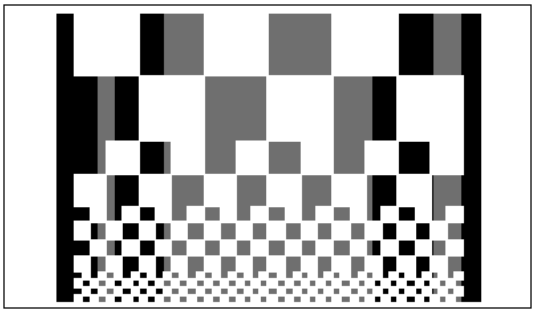
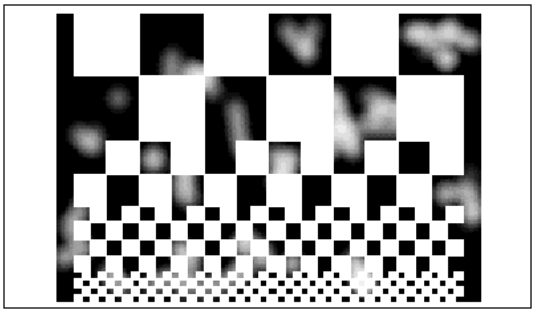
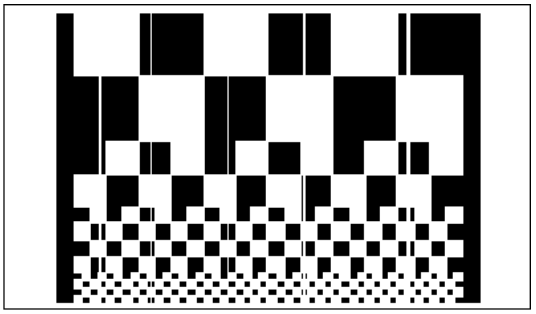
6.2 Identify source of fault using LED display on controller

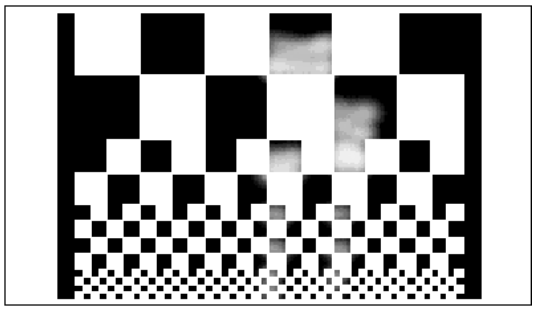
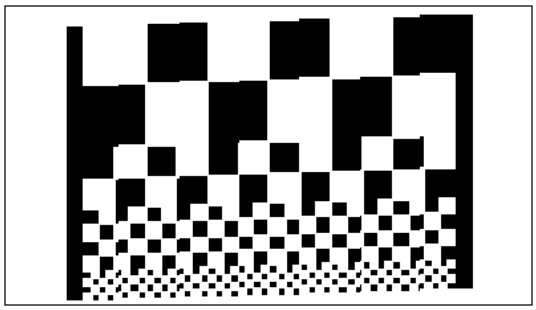
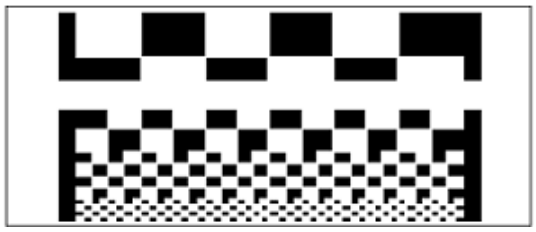
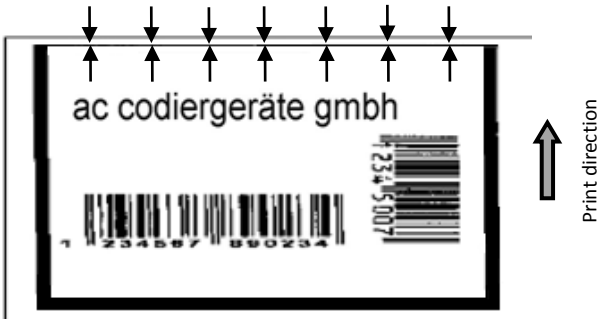


①	LED power supply, Printing System	③	LED Format loaded
②	LED Printer ready	④	LED error, Printing System

LED				Meaning	Corrective measures
①	②	③	④		
OFF	**OFF**	**OFF**	**OFF**	No power to Printing System	▪ Check whether the power plug to the controller is connected to a fused contact plug. ▪ Check the corresponding fuse in the plug. ▪ Check whether the power disconnect switch on the controller is switched on. ▪ Check the equipment fuse on the controller. **Note: Do not open the controller housing.**
ON	**OFF**	**OFF**	**OFF**	Printing System is started (state may last max. one minute). Invalid print data in printer memory.	▪ Switch the unit off and back on if the state lasts longer than one minute. ▪ Reload the format.
ON	**OFF**	**ON**	**OFF**	Printing System is processing data (in the case of large formats, e.g. 213 x 500 mm can last several minutes). When beginning a print job, the LED goes out for the duration of the printing process.	-
ON	**ON**	**ON**	**OFF**	Printing System operational, valid format loaded.	-
ON	**ON**	**flashes quickly**	**OFF**	Format/data are loaded/ready	-
ON	**ON**	**flashes slowly**	**OFF**	Printing System operational, valid format not loaded.	▪ Transfer/load a valid format.
ON	**ON**	**flashes slowly**	**ON**	Fault (e.g. general fault (e.g. ribbon- or air pressure fault...) no valid format loaded.	▪ Correct the fault and acknowledge the fault message. ▪ Transfer/load a valid format.
ON	**ON**	**ON**	**ON**	Fault (e.g. general fault (e.g. ribbon- or air pressure fault...) valid format loaded.	▪ Correct the fault (e.g. check fault message, replace ribbon, check ribbon cassette, ribbon transport and ribbon sensor, check air pressure, check connections – acknowledge fault message).

6.3 Identify source of fault by checking the print quality

Format (test format)	**Description**	**Cause**
	**Print quality: good** Edges sharply delimited and uniformly colored.	-----
	**washed out, vertical stripes in the quadrants**	Print substrate worn or misaligned. Check the print substrate and replace it if necessary.
	**White spots in the black quadrants**	Print substrate damaged. Check the print substrate and replace it if necessary.
	**Vertical white lines in the black quadrants**	Thermal print head contaminated or pixels of thermal print head damaged. Clean the thermal print head. If pixels are damaged, the thermal print head should be replaced.

Format (test format)	**Description**	**Cause**
	**Black squares slightly brighter in one direction**	Thermal print head or print substrate damaged.
	**Offset squares**	Printer not properly secured to machine frame or distance between printer and substrate is too large. Correct the settings on the machine frame. Printer should be aligned parallel and at the proper distance from the printed material.
	**Horizontal flaws**	Flat ribbon cable on thermal print head damaged.
	Part of format missing (first 2 to 4 pixels in format missing)	If the first 2 to 4 pixels are missing in the format, then the machine frame is set too high. Correct the settings on the machine frame. Printer should be aligned parallel and at the proper distance from the printed material.
	**Part of format missing** (last pixel in format is missing)	Machine frame improperly adjusted. Correct the settings. Printer should be parallel.

6.4 Other faults

Description	Cause	Corrective measures
Printer works, but no print visible on the consumed ribbon nor on the printed material.	Wrong type of ribbon used.	▪ Check that the proper ribbon is used, and not e.g. hot-embossing foil.
	Ribbon was improperly installed in the ribbon replacement cassette. The wrong side of the ribbon is in contact with the thermal print head.	▪ Make sure that the back side of the ribbon (shiny) is in contact with the thermal print head. If this is not the case, then change the ribbon. Thoroughly clean the thermal print head before reuse.
	Value for print intensity is too low.	▪ Check the setting for print intensity.
	Wrong thermal print head resistance	▪ Check the input thermal print head resistance against the resistance value specified for the used thermal print head.
	Flat ribbon cable on thermal print head not properly secured.	▪ Make sure that the flat ribbon cable is properly plugged into the receptacle on the thermal print head and is secured with a cable binder. **Caution: Switch off the Printing System before beginning this check. Otherwise the Printing System may be damaged.**
	Thermal print head is worn out	▪ Replace thermal print head if necessary.
	Ribbon is not transported	▪ Check whether the ribbon is properly inserted into the ribbon replacement cassette.
	System error	▪ Contact Allen Coding GmbH.
Right after switch-on the controller indicates an error or the two LEDs on the printer do not light up.	Printer not properly connected to the controller or Connecting cables were not properly installed (screwed together).	▪ Switch off the Printing System. Check the controller and printer to determine whether the connecting cables are properly installed and safety screws tightened.
Printer works, and print is visible on the consumed ribbon but not on the printed material.	Thermal print head is not lowered	▪ Check whether the air pressure is properly connected and adjusted (about 1.5 bar – 5.0 bar). Compressed air must be clean and dry.
	Thermal print head is lowered	▪ Wrong setting of machine frame for the printer. Thus thermal print head cannot reach the material being printed. Correct the settings.

Description	Cause	Corrective measures
Missing pixels in the print	Thermal print head is contaminated	▪ Clean the thermal print head in accordance with instructions in the operating manual.
	Thermal print head is worn out	▪ Replace thermal print head if necessary.
Poor print quality	Print intensity too low or too high.	▪ Adjust the print intensity.
	Machine frame not aligned or not closed (hinged frame)	▪ Align the machine frame or close it (hinged frame).
	Print substrate contaminated, worn or damaged	▪ Clean the print substrate or replace it as needed.
	Air pressure set too low	▪ Increase the air pressure.
	Wrong ribbon quality	▪ Use a different type of ribbon.
	Printing speed too great	▪ Adjust the print speed.
Parts of the print are missing across the printed width.	Break in flat ribbon cable between thermal print head and thermal print head connection.	▪ Replace the flat ribbon cable as needed
Ribbon keeps tearing or buckling.	Ribbon not properly installed in the ribbon replacement cassette.	▪ Make sure that the ribbon is installed according to the foil running direction indicated on the inside of the cassette and according to instructions in the operating manual. ▪ Ribbon in the installed cassette must be located between ribbon stripper plate and thermal print head.
Ribbons causes pleats	Wrong alignment of printer to print substrate	▪ Correct printer alignment.

7 Cleaning and Maintenance

⚠ CAUTION

Hazards during cleaning and maintenance activities!

Switch off the device during cleaning and maintenance work, otherwise personnel safety may be at risk and damage to the device or other nearby property may result.

- Always deactivate the power supply to the device during cleaning and maintenance activities. Pull the mains plug.
- During activities and during your absence, secure the device so that no changes may be performed by other persons or situations.
- Maintenance and cleaning work may only be performed by trained personnel.

⚠ WARNING

Hot machine parts!

Even after the Printing System is switched off, the thermal print head may still have high surface temperatures. Contact with the surface may cause burns.

- Avoid direct contact with the surface of the thermal print head, especially during maintenance work.
- Before performing maintenance and cleaning work, wait until the surface of the thermal print head has cooled.

ATTENTION

Use of lower quality ribbons

The use of lower quality ribbons may result is increased requirement for cleaning and in additional wear on the thermal print head.

- Only use ribbons specified by the manufacturer.

NOTE

Regular checking and cleaning of the thermal print head

Regular checking and cleaning is needed to maintain the life, efficiency and performance of the thermal print head. Optimum printing results can only be achieved with a clean, undamaged thermal print head.

The NGT Series Printing Systems are designed for long-term use in a commercial environment and thus require only a minimum maintenance effort.
Nonetheless, parts subject to wear (e.g. thermal print head) must be regularly inspected for wear, contamination or damage, and must be cleaned or replaced as necessary.

7.1 Cleaning

CAUTION

Hazards when handling cleaning towels

Improper handling of cleaning towels may result in injury to personnel and/or property damage.

- Follow the relevant warning instructions on the packing label of the cleaning towels.

ATTENTION

Damage to the device due to improper cleaning

Use of improper cleaning methods and the use of incorrect cleaning agents may result in damage to electronic and mechanical components of the device.

- Disconnect the device from the power supply before you begin the cleaning.
- Follow the cleaning instructions described in the operating manual.
- Only use cleaning agents specified by the manufacturer.

NOTE

Cleaning of the Printing System

Regular cleaning will prevent the collection of foil particles which may result in problems with a smooth operation and proper printing.

Overview of cleaning activities:

Other parts		
Cleaning interval	**Recommended cleaning agent**	**Activity**
With each replacement of the color coil, no later than before and after each 8-hour shift **Note:** After a ribbon tear, additional cleaning may be necessary.	Cleaning towels Part No.: 1.0000.45008	Cleaning of the thermal print head Clean the thermal print head until no wax/resin residues can be seen on the used cleaning towel.
Depends on level of contamination (Recommendation: when replacing the ribbon)	Rubber roller cleaner Part No.: 1.0000.45007	Cleaning the drive roller
Depends on level of contamination (Recommendation: when replacing the ribbon)	Moist towel, metal parts: Ethanol	Cleaning the stripper plate
Depends on level of contamination		Cleaning the counter-print material
Depends on level of contamination	Moist towel, metal parts: Ethanol	Surface cleaning of ribbon replacement cassette, printer and controller

7.2 Maintenance

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NOTE

Print substrate

The print substrate is subject to operational wear. We thus recommend to store spare parts correspondingly.

NOTE

Draining the pneumatic service unit.

Before draining the pneumatic service unit, ensure that the air pressure supply to the unit is deactivated.

7.2.1 Overview of maintenance activities

NOTE

Performance of service on the Printing System
The manufacturer recommends service to the Printing System after 20000000 prints or after one year.

Regular inspection and maintenance intervals are necessary to detect any occurring damage and wear in a timely manner.

Ribbon replacement cassette		
Maintenance interval	**Unit**	**Activity**
When replacing the ribbon	mechanical	Check cassette seal for operation. Cassette must audibly snap into the base unit on installation. The guide pins must engage correctly.
When replacing the ribbon/daily	mechanical	Visual check of drive roller for contamination and damage
Daily	mechanical	Check bypass roller and positioning rods for tightness, contamination and operation.
Quarterly	mechanical	Check foil winder and dispenser for operation and proper settings.
Quarterly	mechanical	Visual check of toothed belt for wear and damage, especially at the load points.
Quarterly	mechanical	Check tension on the toothed belt.
Quarterly	mechanical	Check alignment of stripping roller It must be parallel to the thermal print head Distance between stripping roller and thermal print head -> ribbon infeed.
Semi-annually	mechanical	Check opposing strip of the sledge for smooth action.

Print unit – base element		
Maintenance interval	**Unit**	**Activity**
When replacing the ribbon	electrical	Visual check of thermal print head for contamination and damage
Quarterly	mechanical	Check belt for tightness and proper seating.
Semi-annually	mechanical	Visual inspection of toothed belt drive – sledge for damage and wear, esp. at the load points.
Semi-annually	mechanical	Functional check of linearity of holder for thermal print head. Movement of sledge to full extension possible without hooking (stick slip effect). Check for grinding noise and scratches.
Semi-annually	mechanical	Functional check of thermotransfer holder. Up/down motion smooth and no sticking
Annually	electrical	Check connector cable of thermal print head visually for damage and correct installation.

Other parts		
Maintenance interval	**Unit**	**Activity**
Daily	mechanical	Visual check of opposing print material for wear, damage and contamination.
Weekly	mechanical	Check adjustment of pneumatic service unit (min. 1.5 bar – max. 5 bar) / water separator basin, Remove liquid if needed.
Weekly	mechanical	Tightness, alignment and positioning of Printing System on the machine frame.
Quarterly	mechanical	Check pneumatic connections / hoses for damage, tightness, proper installation and mechanical tightness.
Semi-annually	electrical	Check connecting cable for controller – printer for damage and tightness (cable screw connection).
Annually	mechanical	Check screw connections on machine frame for tightness.

The manufacturer Allen Coding GmbH recommends replacement of components of the Printing System only when functional problems or damage occurs in the course of a regular inspection.

7.2.2 Replace the thermal print head (printer)

ATTENTION

Mechanical damage to thermal print head after improper handling

With the ribbon replacement cassette locked, the thermal print head protrudes a couple of millimeters from the printer. When parking the printer on excessively hard substrate, the thermal print head can suffer mechanical damage.

- Do not park the printer on excessively hard substrate.
- Rotate the cassette lock into the half open position. The thermal print head will no longer protrude from the printer.
- Follow the relevant instructions in the operating manual.

ATTENTION

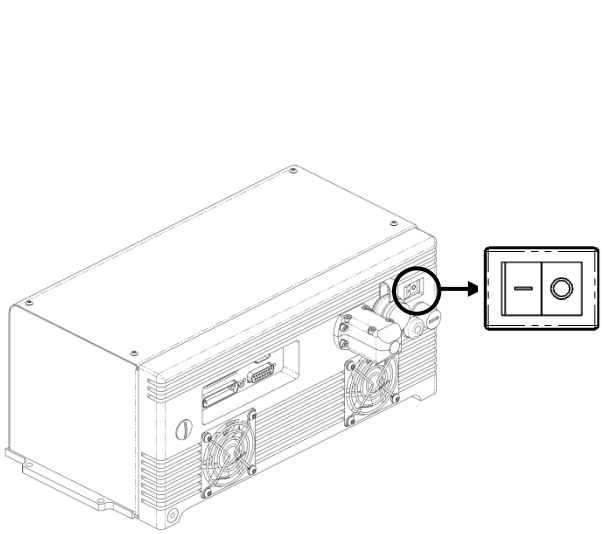
Electrical damage to thermal print head after improper handling

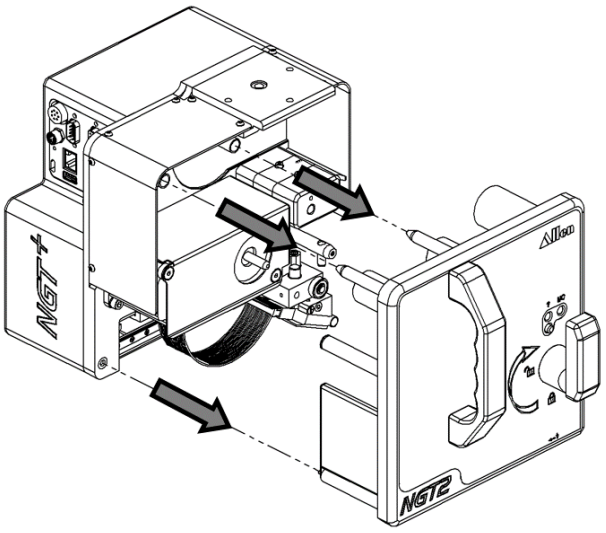
thermal print heads are electronic components sensitive to electrostatic discharge. In case of improper handling, the thermal print heads can be damaged or destroyed by ESD voltage arcs. Any liability and warranty for any damages caused by incorrect or improper use is excluded by the Allen Coding GmbH.

- Implement the relevant ESD precautions (e.g. wear ESD grounding belt) before beginning replacement of the thermal print head.
- Follow the relevant instructions in the operating manual.

Removal of thermal print head

Step 1: Switch off the Printing System at the main switch and disconnect it from the power supply.
Remove the ribbon replacement cassette from the printer.





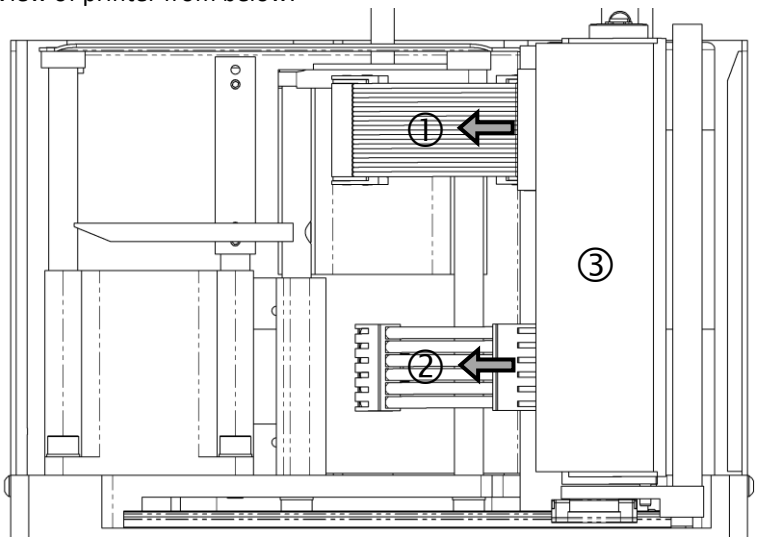
Step 2: Loosen the safety (cable binder) from the plug and plug bushing of the flat ribbon cable from the thermal print head. Remove the flat ribbon cable ① and the power supply cable ② from the thermal print head.

NOTE

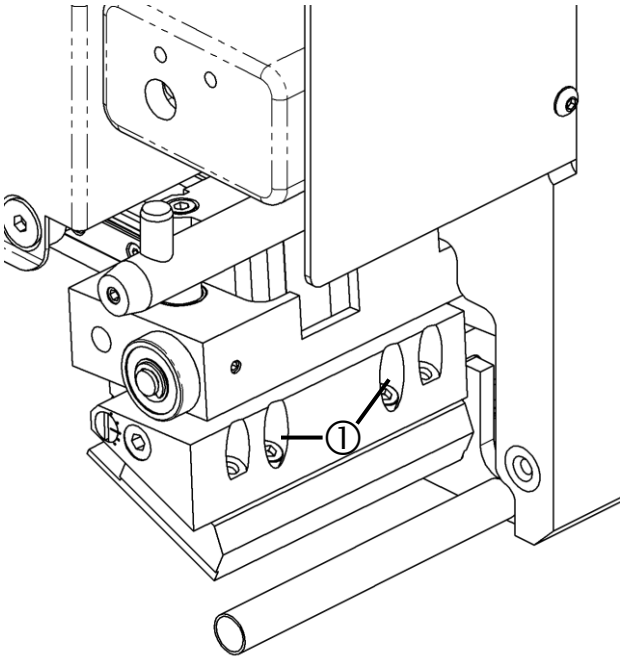
Connection cable – thermal print head

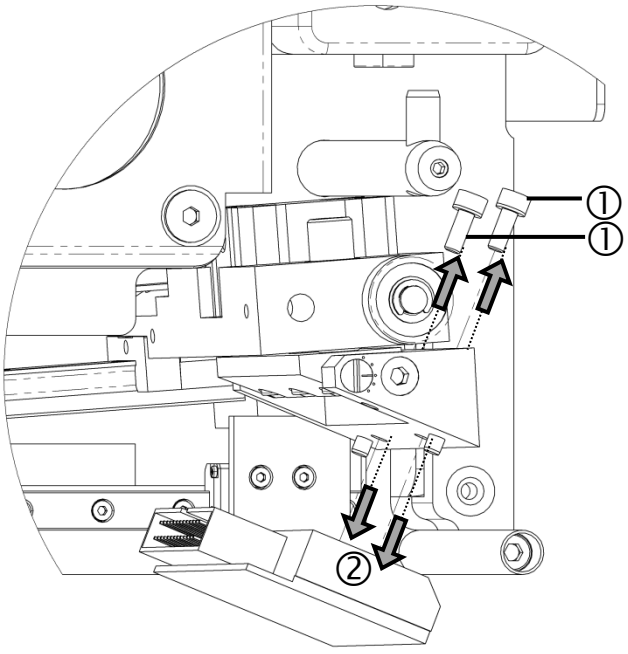
In Printing Systems with a 2 inch thermal print head, it is only connected via a flat ribbon cable. A separate power supply cable is not used.

View of printer from below:



Step 3: Loosen the two attachment screws ① of the thermal print head. Carefully remove the thermal print head ② from the mount.





Check thermal print head

ATTENTION

Damage to thermal print head after improper handling

Contact with the pixels (heating elements) can damage them permanently.

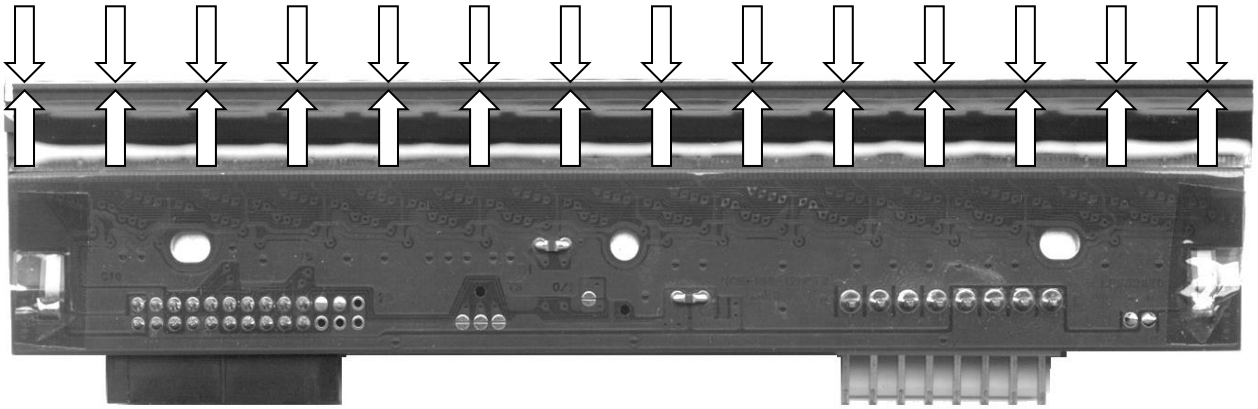
- Hold the thermal print head on the side. Do not touch the pixels.

NOTE

Damaged pixels (heating elements)

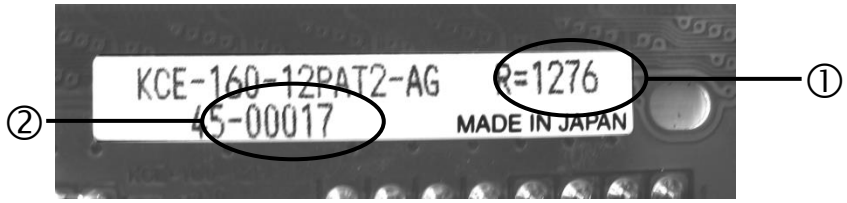
Individually damaged pixels can be difficult to identify with the unaided eye because their diameter is only 0.083 mm.

After removal of the thermal print head check it for contamination and damage.



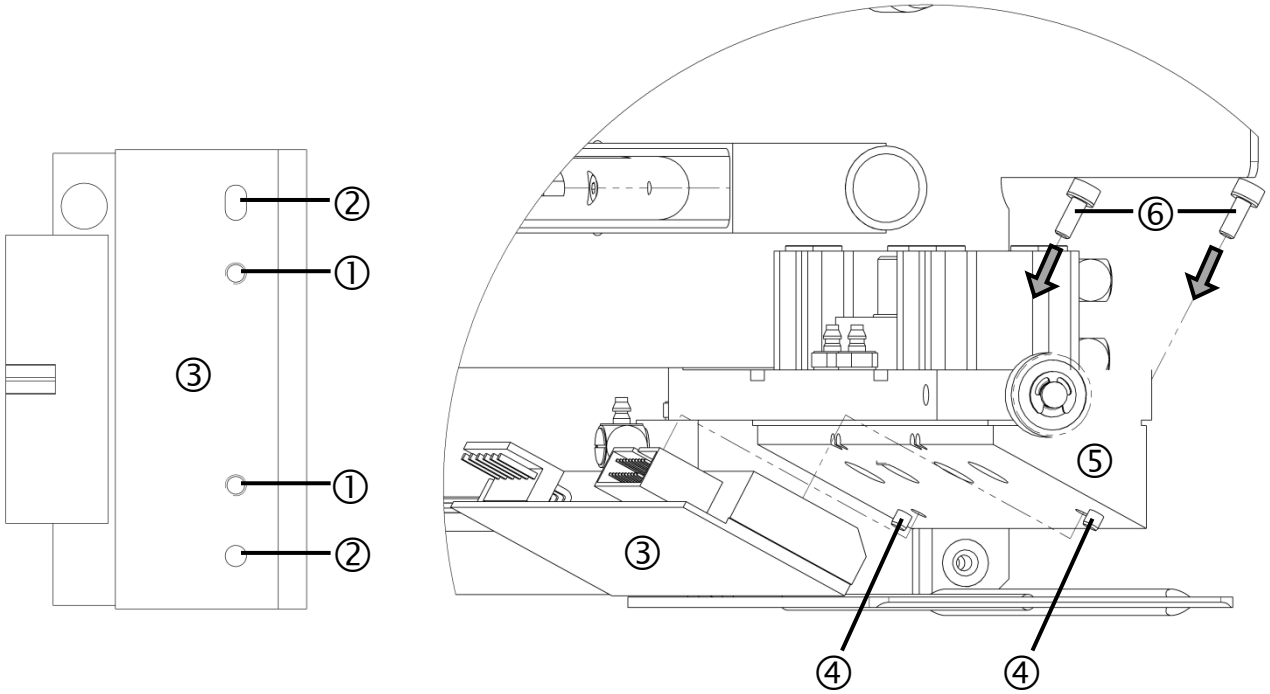
Installation of thermal print head

Step 1: Note the resistance value and serial number of the thermal print head before installing it. This information is found on the white label on the thermal print head.



①	Resistance value for the thermal print head (e.g. 1276)	②	Serial number

Step 2: Position the thermal print head ③ carefully into the two locking bolts ④ of the mount ⑤. Use the two previously removed screws ⑥ to secure the thermal print head ③ to the mount ⑤.



①	Threaded hole for attachment screws (2x)	④	Lock bolts (2x)
②	Hole for lock bolts (2x)	⑤	Mount for strip adjustment
③	thermal print head	⑥	Screws (2 x)

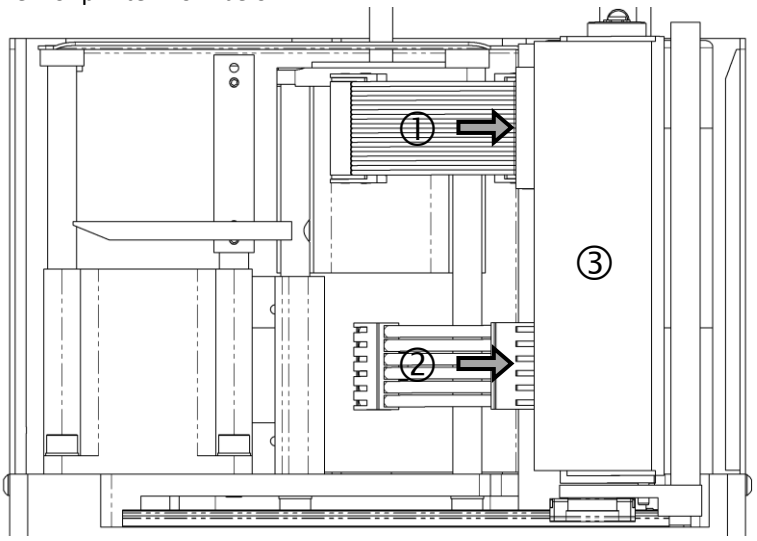
Step 3: Connect the flat ribbon cable ① and the power supply cable ② to the thermal print head ③. Secure the plug of the flat ribbon cable to the appropriate plug bushing of the thermal print head. Use a cable connector 2.5mm wide and 200 mm long.

NOTE

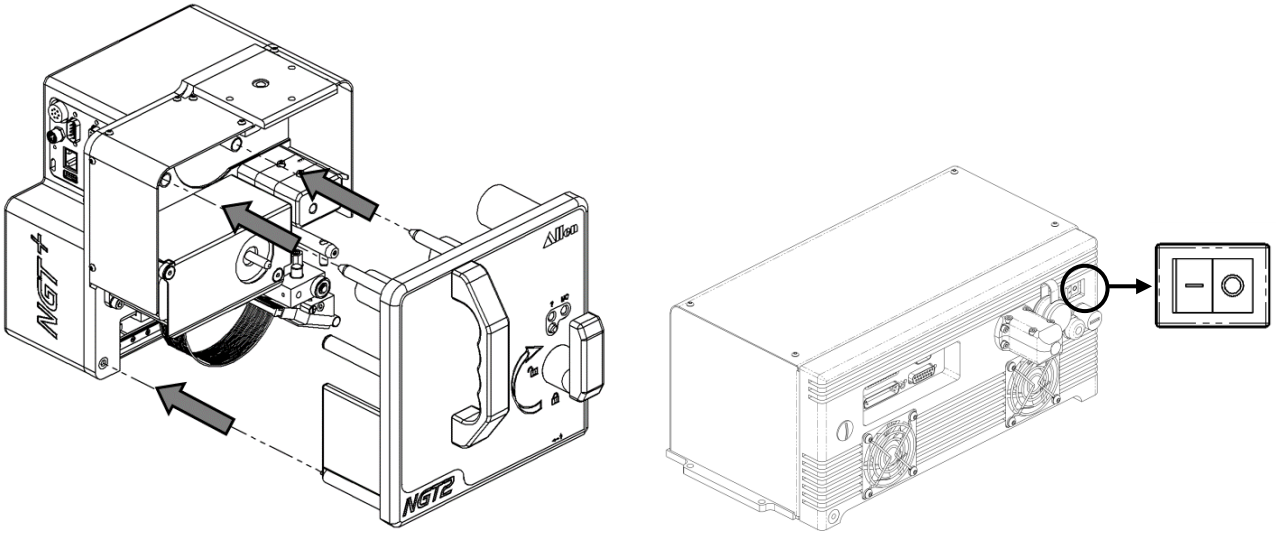
Connection cable – thermal print head

In Printing Systems with a 2 inch thermal print head, it is only connected via a flat ribbon cable. A separate power supply cable is not used.

View of printer from below:



Step 4: Replace the ribbon cassette into the printer. Connect the Printing System to the power supply. Switch on the Printing System at the mains switch.



Step 5: Input the previously noted resistance value. You can perform this input as follows:

- on the Touch Display of the controller (“service” menu item)
- a:config
- NG Remote Panel

ATTENTION

Damage to the thermal print head due to wrong resistance value

The input resistance value must coincide with the value noted on the thermal print head. An incorrect resistance value can damage or destroy the thermal print head. Any liability and warranty for any damages caused by incorrectly input resistance value is excluded by the Allen Coding GmbH.

- Input the correct resistance value noted on the thermal print head before printing for the first time with the Printing System.
- Follow the relevant instructions in the operating manual.

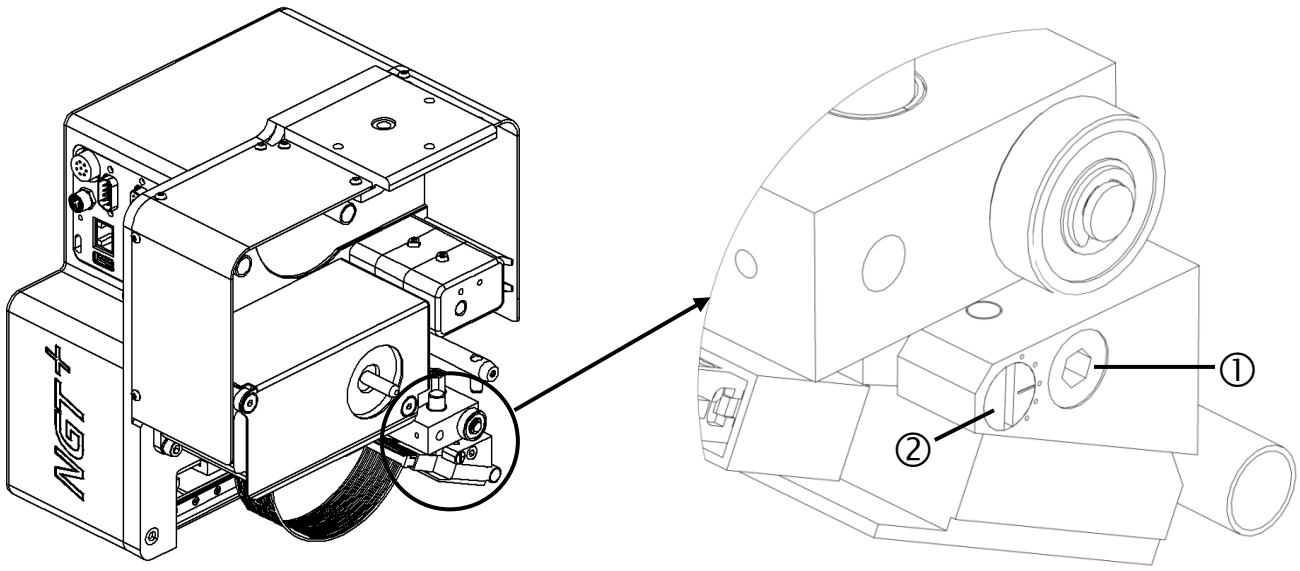
7.2.3 Adjusting the angle of the thermal print head

NOTE

Adjusting the angle of the thermal print head

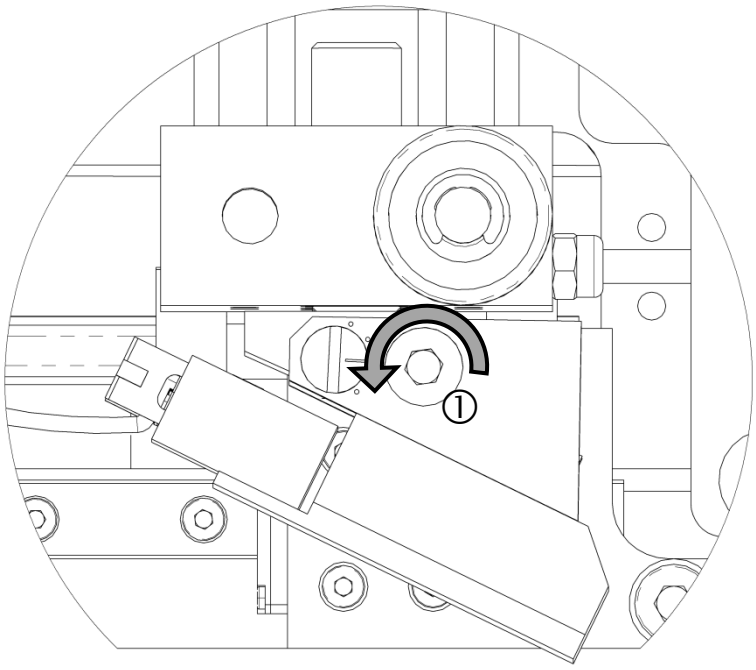
Adjusting the angle of the thermal print head will change the distance to the print substrate. May have to be re-adjusted.

The angle of the thermal print head can be adjusted in the NGT2+/4+ printing systems.

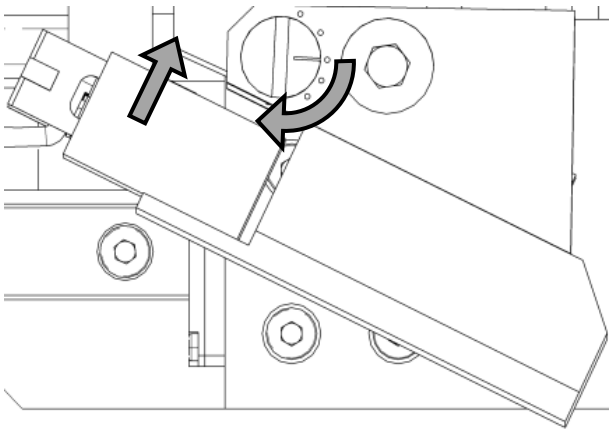
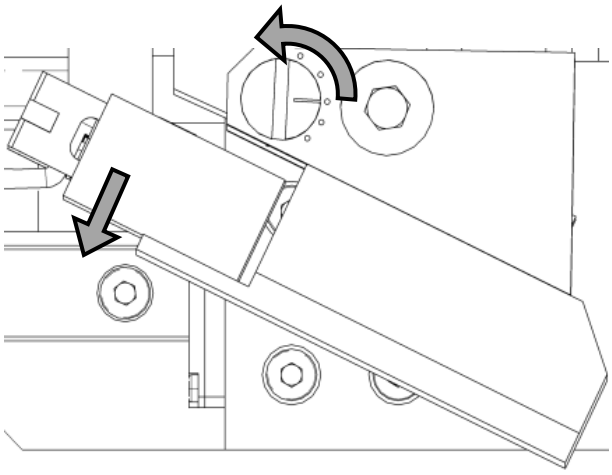


①	Locking screw	②	Angle adjustment, thermal print head

Step 1: Loosen the locking screw ① by turning it max. ½ turn counterclockwise. Use a 3 mm Allen wrench.



Step 2: The middle position is the default setting for the angle of the thermal print head (slot for screwdriver is vertical, marking for angle adjustment is horizontal).
The angle of the thermal print head can be adjusted by two marks in either direction.

Rotation of the angle adjustment	Angle of thermal print head
Clockwise: 	**steeper**
Counterclockwise 	**flatter**

Adjust the angle of the thermal print head by using a slotted screwdriver (0.8 mm) to set the angle adjustment in the appropriate direction.

Step 3: Then re-tighten the locking screw to ensure the angle adjustment.

7.2.4 Replace equipment fuse

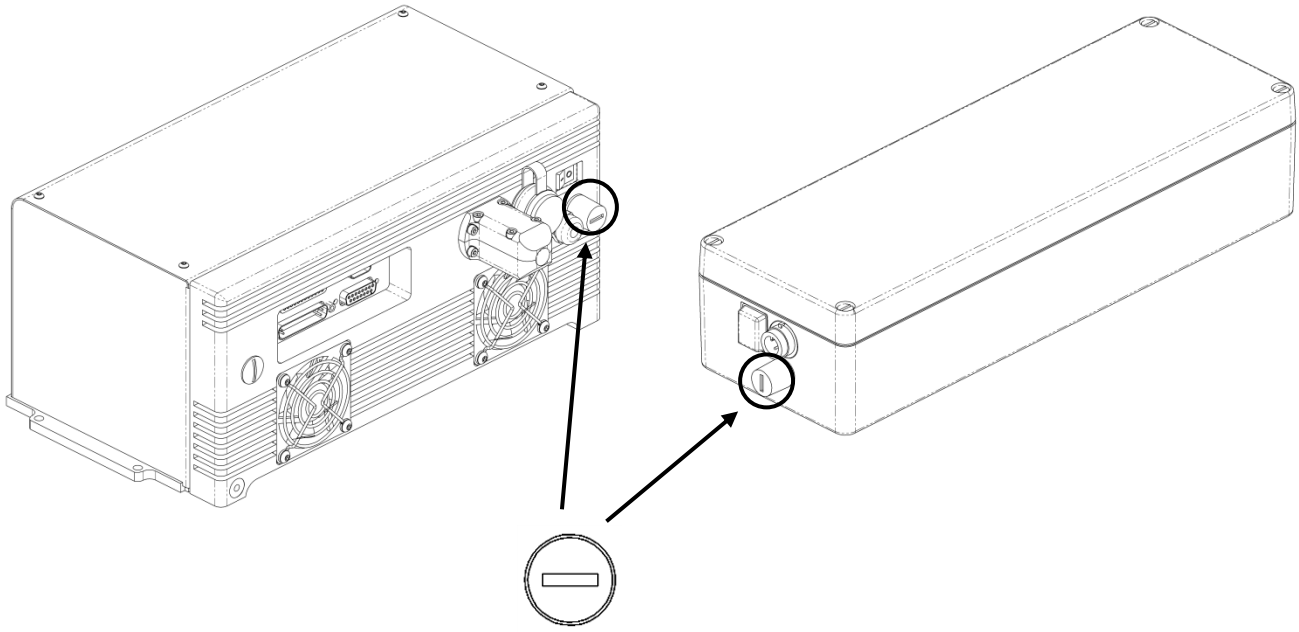
⚠ CAUTION

Dangerous electrical voltage!

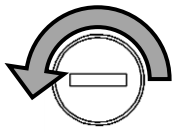
There are potentially lethal voltages in the controller (Standard NGT) / power supply (NGT+) of the Printing System when it is switched on. Contact with parts under voltage may result in electric shock.

- Switch off the Printing System at the mains switch. Disconnect the Printing System from the power supply before you begin to replace the fuse. Pull the mains plug.

Standard NGT: **NGT+:**

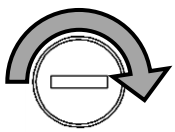


Step 1: Unscrew the fuse from the housing by using the appropriate size screwdriver.



Step 2: Replace the defective fuse with an identical one (5 x 20 mm; 230V / 6.3 A slow-blow).

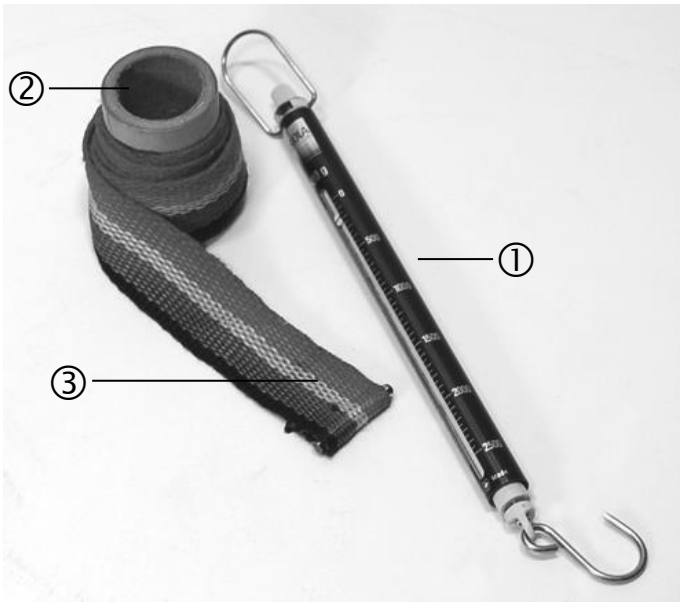
Step 3: Screw the fuse back into the housing.



7.2.5 Mechanical adjustment of the color foil replacement cartridge

Preparations

To check the mechanical adjustments of the color foil replacement cartridge the following tools should be available:



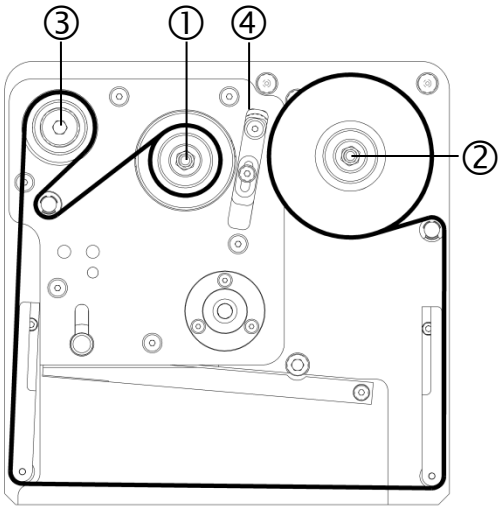
①	Precision spring scale up to 2,500 g
②	Empty color foil cardboard core
③	A flexible band or cord (length 300 mm)

Description:

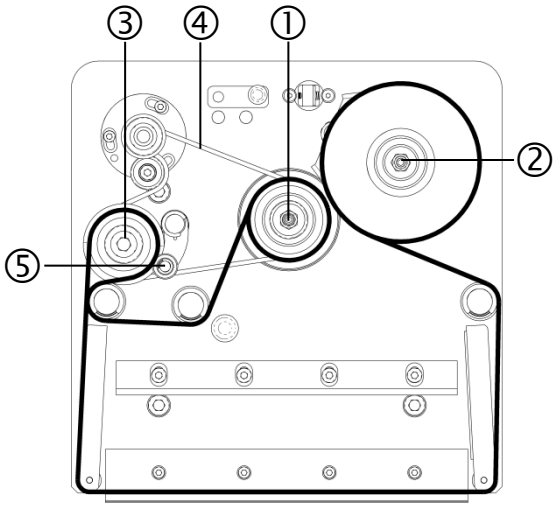
Cut a slit in the empty cardboard core of the color foil. Attach the flexible band or cord to it. Make a loop on the other end of the band or cord so that it can be hung on a precision spring scale.

Overview color foil replacement cartridge

NGT2+/4+:



NGT6/8/6E/8E:



①	Color foil rewind spindle	④	Timing belt (NGT2+/4+ under the cover)
②	Color foil supply spindle	⑤	Pressure roll pair (only NGT6/8/6E/8E)
③	Rubber drive roller		

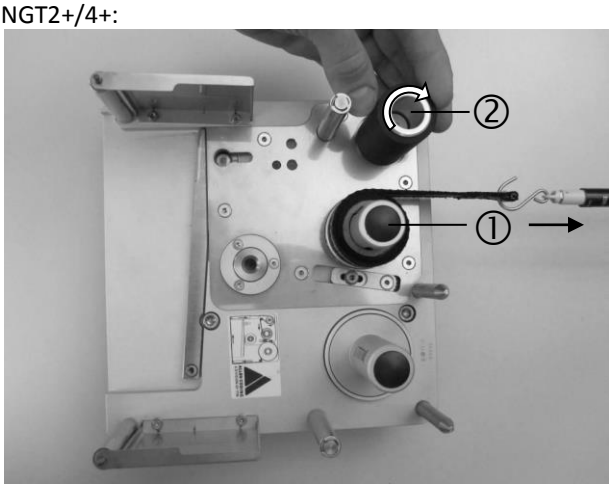
The color foil replacement cartridge is an important part of the printing system and must be adjusted correctly.

The most important adjustments of the color foil replacement cartridge include:

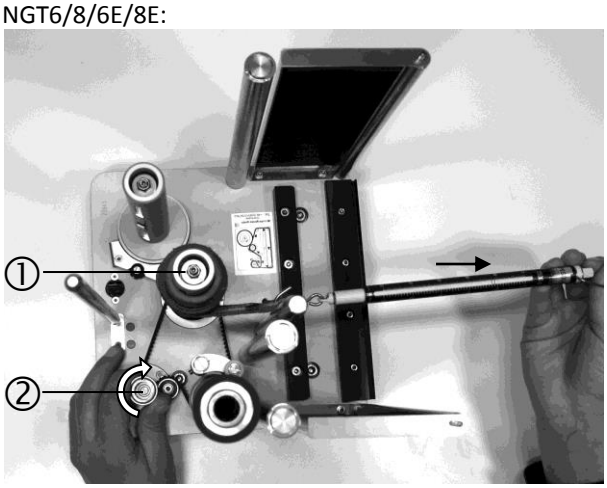
- Check and adjust the tension of the color foil replacement cartridge rewind spindle
- Check and adjust the tension of the color foil replacement cartridge supply spindle
- Check the condition of the timing belt, and adjust it if necessary
- Check drive roller for contamination (see "Cleaning")
- Check the pressure roller tension (for NGT6/8/6E/8E)

Check and adjust the tension of the color foil replacement cartridge rewind spindle

NGT2+/4+:



NGT6/8/6E/8E:



		nominal [kg]	min. [kg]	max. [kg]
NGT2+	Rated tension	0.80	0.70	0.90
NGT4+	Rated tension	1.20	1.00	1.30
NGT6 / NGT8 NGT6E / NGT8E	Rated tension	2.20	2.00	2.30

Step 1: Wrap the test band (test cord) on the color foil cardboard core. Hang the precision spring scale on the other end of the test band (test cord).

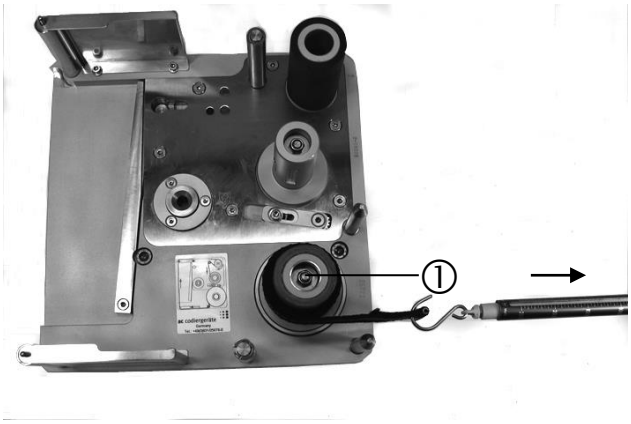
Step 2: Put the color foil cardboard core with the attached precision spring scale on the color foil rewind spindle.

Step 3: Slowly and evenly turn the rubber drive roller or main drive ② in a clockwise direction. The test band (test cord) winds up. When the friction clutch engages the rubber drive roller you can read the current value on the precision spring scale.

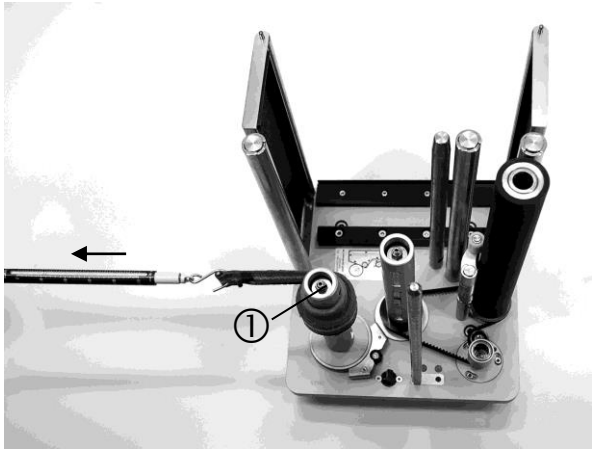
Step 4: If the reading is not within the acceptable range (min. - max.) it must be adjusted. Turn the bolt ① clockwise to increase it or counter-clockwise to decrease it.

Check and adjust the tension of the color foil replacement cartridge supply spindle

NGT2+/4+:



NGT6/8/6E/8E:



		nominal [kg]	min. [kg]	max. [kg]
NGT2+	Rated tension	0.70	0.60	0.80
NGT4+	rated tension	1.00	0.90	1.20
NGT6 / NGT8 NGT6E / NGT8E	Rated tension	0.90	0.90	1.00

Step 1: Wrap the test band (test cord) on the color foil cardboard core. Hang the precision spring scale on the other end of the test band (test cord).

Step 2: Put the color foil cardboard core with the attached precision spring scale on the color foil supply spindle.

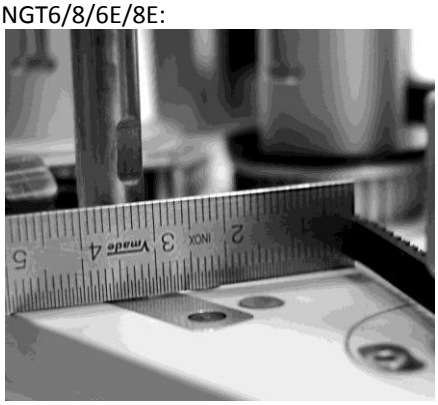
Step 3: Keep the tension on the precision spring balance. You can read the current value from the precision spring scale.

Step 4: If the reading is not within the acceptable range (min. - max.) it must be adjusted. Turn the bolt ① clockwise to increase it or counter-clockwise to decrease it.

Check the condition of the timing belt, and adjust it if necessary

NGT2+/4+:

NGT6/8/6E/8E:



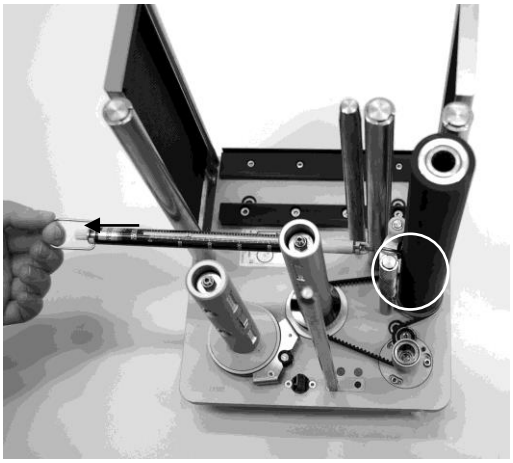
		nominal [mm]	min. [Mm]	max. [Mm]
NGT2+ NGT4+	Distance	30	28	31
NGT6 / NGT8 NGT6E / NGT8E	Deflection	4	3	5

NGT2+/4+:
Check the tension of the belt by measuring the distance between the outer edge of the color foil replacement cartridge and the center of the belt tensioner bolt.

NGT6/8/6E/8E:
Check the play of the drive belt between the guide mandrel 1 and the timing belt by determining the deflection.

The timing belt is made of reinforced nylon. Carefully check the entire belt for damage, particularly for frayed reinforcement wires.

Check and adjust tension of the pressure roller (only NGT6/8/6E/8E)



		nominal [kg]	min. [kg]	max. [kg]
NGT6 / NGT8 NGT6E / NGT8E	Rated tension	1.8	1.5	2.0

Step 1: Attach the test band (test cord) to the pressure roller. The attachment should be as close to the center as possible.

Step 2: Pull the pressure roller away from the rubber drive roller using the precision spring scale attached to the test band (test cord).

Step 3: Read the applied force from the precision spring scale while pulling the pressure roller from the rubber drive roller.

8 Maintenance

8.1 Spare parts

Refer to the Spare Parts List under "***Spare parts***" in the Appendix.

8.2 Service address

Germany

Allen Coding GmbH
Service-Abteilung
Friedrich-Bergius-Ring 30
D-97076 Würzburg
Tel.: +49 931 250 76 - 911
Fax +49 931 250 76 – 50
Email: support@AllenCoding.com

UK

Allen Coding Systems
Unit 9, Gateway 1000,
Whittle Way, Arlington Business Park,
Stevenage, Herfordshire SG1 2FP
Tel.: +44 1438 347 770
Fax +44 1438 347 771
Email: info@AllenCoding.com

Website: www.AllenCoding.com

NOTE

Important information in case of defects
In case of defects in equipment, please provide the following information:

- Serial number
- Equipment type
- Description of fault
- Software- / Firmware-version
- Any affected components/assemblies

9 Transport and storage

9.1 Transport

⚠ WARNUNG

Hazard due to improper securing of load

Improper securing of the device during transport can result in unpredictable hazards to persons and/or property damage.

- Secure the device in accordance with instructions.
- Note also the weight information on the device provided in the Operating Manual.
- Have the device transported by a company skilled in the process.

9.2 Storage

Store the device only under the stated, permissible ambient conditions of temperature and humidity. Relevant information is found in this operating manual under "***Ambient conditions***". Protect the device against dust and dirt.

If the Printing System will be stored for several months, please see below:

NOTE

Discharge of the internal battery

When storing the printing system for a long time, the internal battery can discharge. If the battery is discharged, several settings of the printing system will be set to default values. To save your settings and for fast and reliable restoring, please follow the steps below:

- Before storing your printing system, use a:control to make a backup of your settings.
- In case of a discharged battery, if necessary, use the switch to select the communication interface to establish a connection either over serial communication interface or over Ethernet.
- Use the restore feature of a:control to restore the beforehand saved backup of your settings.
- Leave your printing system on for at least 24 hours to charge the battery completely.

10 Disposal

The device consists of various materials which can be recycled and which have to be disposed of separately.

In the event of disposal of the device, follow the relevant legal guidelines. Since the disposal guidelines may differ from country to country, please consult with your supplier as necessary.

Notes to disposal:

- Material types should be disposed of separately. The objective should always be an environmentally compatible disposal which ensures maximum recycling of materials.
- Observe the material and disposal instructions that may be present on certain individual parts.
- Make use of the opportunity to return materials to the manufacturer or supplier.

Appendix

EC-Compliance Statement

EC-Declaration of Conformity
Printer NGT-Series

EC-Declaration of Conformity

according to EC machinery directive 2006/42/EC, Annex II A
(Translation of the EC Declaration of Conformity)

Hereby we declare that the machine named in the following adheres to the basic safety and health requirements of the EC guideline 2006/42/EC in regards to its concept, design and version that is marketed by us. Changes that have not been coordinated with us will invalidate this declaration.

Manufacturer

Allen Coding GmbH
Friedrich-Bergius-Ring 30
D-97076 Würzburg

Direct: +49 931 250 76-0
Fax: +49 931 250 76-50
E-Mail: info@AllenCoding.com
Website: www.AllenCoding.com

Machine description

Function:	Thermo-Transfer Direct Printing System NGT-Series
Type/Model:	NGT6 IM/CM
Serial number:	PH-NG6- xxxxxx
Year of construction:	2017

The conformity with addition guidelines/regulations that apply to the machine is declared

2014/30/EU (EMC-Directive);
The guideline 2014/35/EU was adhered to in regards to its protection objectives;
(s. Annex, No. 1.5.1 of guideline 2006/42/EC)

The object of the declaration described above is in conformity with Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

The conformity of the named machine with the rules of the EC guidelines named above is proved by conformity with the following standards:

Applied harmonized standards:

EN ISO 12100:2010;
EN 60204-1:2006 + A1:2009;
EN ISO 13857:2008; EN 349:1993 + A1:2008;
EN 61000-6-2:2005 + AC:2005; EN 61000-6-4:2007 + A1:2011
EN 61000-3-2:2014; EN 61000-3-3:2013

Additional applied standards:

Authorized person for the technical documentation

Dirk Beseke, Friedrich-Bergius-Ring 30 / D-97076 Würzburg
(Name, Address)

Details of signatory person

Thomas Franzke	Engineering Manager	Emely Übler	Quality Manager
(Name of signer)	(Position)	(Name of signer)	(Position)
Signature		Signature	
Würzburg, 09.05.2017		Würzburg, 09.05.2017	
(Place, Date)		(Place, Date)	

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Version: V1.02
Stand: 09.May 2017

Spare parts

Recommended Spare Parts and Replacement Parts

	Manufacturer's Recommendation		
A	Replacement part should always be on hand with customer		
B	For customers who perform their own basic service work on a regular basis		
C	For customers who perform all service work under their own responsibility		

For all Printing Systems

Part no.	Description	Quantity	Recommen-dation
1.0000.45007	Rubber roller cleaner	1	**A**
1.0000.45008	Cleaning towels (100 count)	1	**A**
3.0000.42500	Spring balance to 2,500 g	1	**B**
-----	Print substrate (size / material depends on Printing System and use)	1	**A**

Controller (Standard NGT)

Part no.	Description	Quantity	Recommen-dation
N.0000.00012	Fan (60x60x15)	2	**C**
N.0000.00108	Fuse 5x20 mm, 230V / 6.3 A slow-blow	1	**A**

Ribbon replacement cassette

Part no.	Description	Quantity	Recommen-dation
	NGT2+ Standard, NGT4+ Standard, NGT2+ Opposite, NGT4+ Opposite		
N.0000.00271	Toothed belt, drive cassette (415 - T2,5 - 6) NGT2/4	1	**B**
	NGT2+ Standard, NGT4+ Standard, NGT2+ Opposite, NGT4+ Opposite		
N.0000.00160	Brake spring 0.5 x 0.45 x 40 mm – NGT (in assembly N.0000.00276)	1	**B**
N.0000.00296	Felt washer (42x15x2.5mm) NGT2/4	2	**B**
N.0000.00311	Teflon washer (45x18x0.15 mm) NGT2/4	4	**B**
	NGT2+ Standard		
N.0000.00285	Assembly drive roller NGT2+ Standard	1	**B**
	NGT2+ Opposite		
N.0001.00285	Assembly drive roller NGT4+ Opposite	1	**B**
	NGT4+ Standard		
N.0000.00252	Assembly drive roller NGT4+ Standard	1	**B**
	NGT4+ Opposite		
N.0001.00252	Assembly drive roller NGT4+ Opposite	1	**B**

Part no.	Description	Quantity	Recommen-dation
	NGT6, NGT6R, NGT8, NGT8R		
N.0000.00093	Toothed belt (318 3M-A, 6mm) NGT6/8	1	**A**
N.0000.00160	Brake spring, 0.50 x 4.50 x 35mm – NGT6/8	1	**B**
N.0000.00376	Round belt drive-indicator, small NGT6/8	1	**A**
N.0000.00502	Felt washer (46 x 22 x 2.5mm) winding NGT6/8	1	**B**
N.0000.00503	Felt washer (44 x 18 x 2.5mm) winding NGT6/8	1	**B**
N.0000.00504	Felt washer (46 x 22 x 0.2mm) winding NGT6/8	2	**B**
N.0000.00505	Teflon-washer (44 x 24 x 0.2 mm) winding NGT6/8	1	**B**
N.0000.00506	Teflon-washer (46 x 12 x 0.2 mm) winding NGT6/8	1	**B**
	NGT6E, NGT8E		
N.0001.00377	Toothed belt (375 3M-A, 6mm) NGT6E/8E	1	**A**
N.0000.00403	Round belt drive-indicator, large NGT6E/8E	1	**A**
	NGT6, NGT6E		
N.0000.00089	Assembly drive roller NGT6	1	**B**
	NGT8, NGT8E		
N.0000.00143	Assembly drive roller NGT8	1	**B**
	NGT6R		
N.0001.00089	Assembly drive roller NGT6R	1	**B**
	NGT8R		
N.0001.00143	Assembly drive roller NGT8R	1	**B**

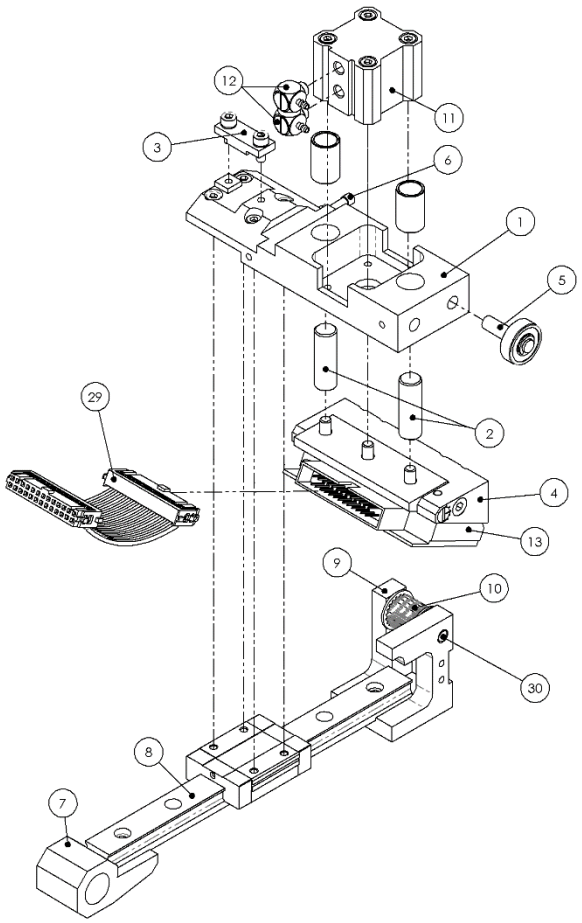
Basic equipment units

Part no.	Description	Quantity	Recommen-dation
	NGT2+ Standard, NGT4+ Standard, NGT2+ Opposite, NGT4+ Opposite		
N.0000.00203	D-sub 25-pole assembly, 3m (motor drive)	1	**B**
N.0000.00203	D-sub 25-pole assembly, 3m (data transfer)	1	**B**
N.0000.00213	Toothed belt drive, sledge (MLX-417-10) NGT2/4	1	**B**
N.0000.00217	Linear guide rail with sledge NGT2/4	1	**C**
N.0000.00233	Linear unit with sledge for stripper roller NGT2/4	1	**C**
N.0000.00237	Restoring spring, strip adjustment NGT2/4	1	**B**
N.0000.00420	Home sensor assembly, incl. Connecting cable NGT2/4	1	**C**
	NGT2+ Standard, NGT2+ Opposite		
N.0000.00198	Flex. Flat ribbon cable assembly, thermal print head NGT2	1	**A**
	NGT4+ Standard, NGT4+ Opposite		
N.0000.00117	Flat ribbon cable assembly, thermal print head NGT4	1	**A**
N.0000.00546	6-pole high-flex cable assembly, thermal print head NGT4 connector	1	**A**
	NGT2+ Standard, NGT2+ Opposite		
102378	thermal print head NGT2	1	**A**
	NGT4+ Standard, NGT4+ Opposite		
101936	thermal print head NGT4	1	**A**

Part no.	Description	Quantity	Recommen-dation
	NGT6, NGT6R, NGT6E, NGT8, NGT8R, NGT8E		
N.0000.00030	Home sensor assembly, incl. Connecting cable NGT6/8	1	**C**
N.0000.00032	Toothed belt, 1 drive, sledge (318 3M-A, 9mm) NGT6/8	1	**B**
N.0000.00113	D-sub 25-pole assembly, cable plug D-sub 3m (motor drive)	1	**C**
N.0000.00114	D-sub 25-pole assembly, cable bushing D-sub 3m (data transfer)	1	**C**
	NGT6, NGT6R, NGT8, NGT8R		
N.0000.00033	Toothed belt, 2 drive, sledge (363 3M-A, 9mm) NGT6/8	1	**B**
N.0000.00040	Linear guide rail with sledge NGT6/8	1	**C**
N.0000.00100	Opposing stripper plate NGT6/8	1	**B**
N.0000.00117	Flat ribbon cable assembly NGT6/8	1	**A**
N.0000.00118	8-pole high-flex cable assembly NGT6/8 R	1	**A**
	NGT6, NGT6E, NGT8, NGT8E		
N.0000.00115	Magnetic valve assembly, incl. Mounting NGT6/8	1	**C**
	NGT6E, NGT8E		
N.0000.00379	Opposing stripper plate NGT6E/8E	1	**B**
N.0000.00382	Linear guide rail with sledge NGT6E/8E	1	**C**
N.0000.00388	Toothed belt, 2 drive, sledge (486 3M-A, 9mm) NGT6E/8E	1	**B**
N.0000.00400	Flat ribbon cable assembly NGT6E/8E	1	**A**
N.0000.00401	8-pole high-flex cable assembly NGT6E/8E	1	**A**
	NGT6R, NGT8R		
N.0000.00458	Magnetic valve assembly, incl. Mounting NGT6R/8R	1	**C**
	NGT6, NGT6R, NGT6E		
102379	thermal print headNGT6	1	**A**
	NGT8, NGT8R, NGT8E		
102380	thermal print head NGT8	1	**A**

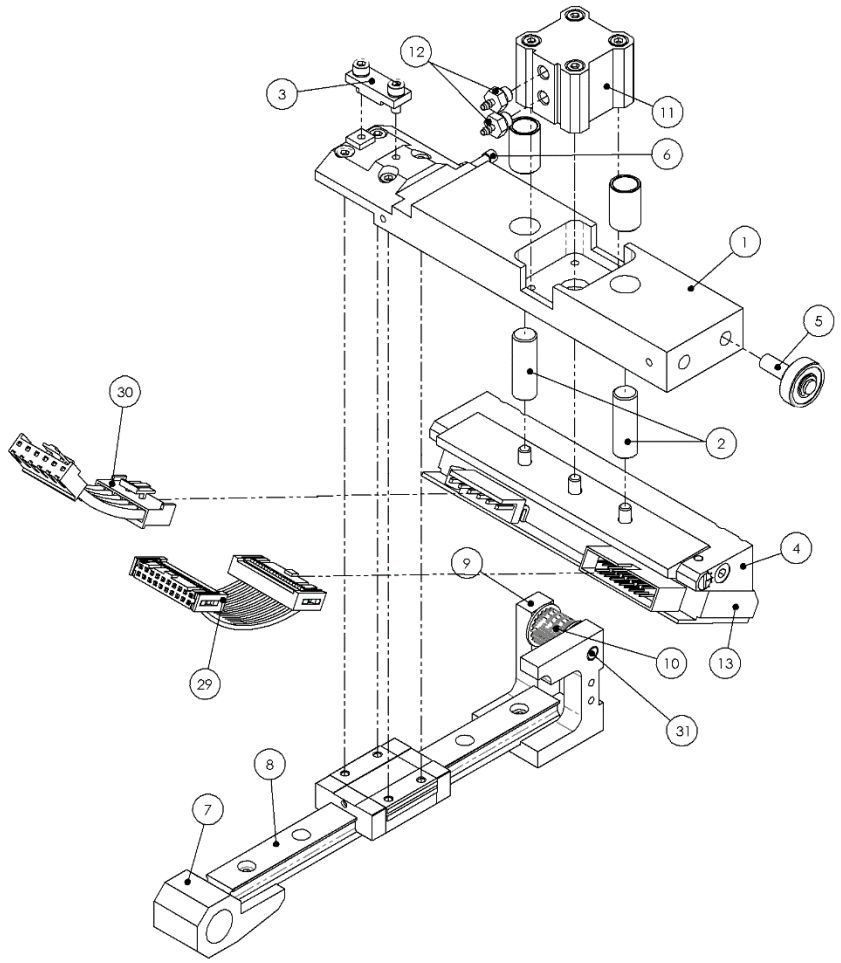
Sledge assembly with thermal print head

1. NGT2+ Standard, NGT2+ Opposite



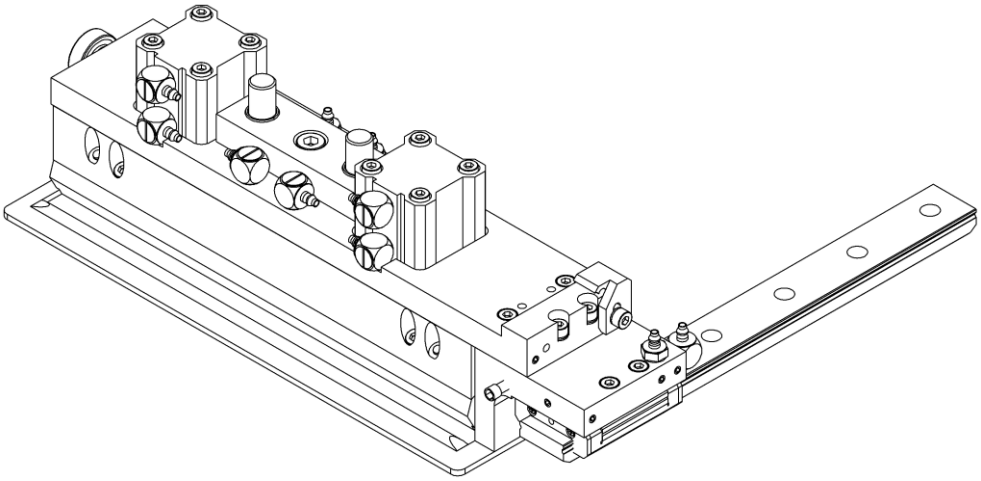
No.	NGT2+ Standard (N.0000.00238)	NGT2+ Opposite (N.0000.00607)	Description	Quantity
	Part no.	Part no.		
1	N.0000.00218		Basic sledge for cylinder – NGT2	1
2	N.0000.00247		Guide bolt, strip adjustment NGT2/4	2
3	N.0000.00219		Belt tang NGT2/4	1
4	N.0000.00209	N.0000.00605	Mounting assembly, thermal print head adjustment NGT2-NGT2R	1
5	N.0000.00220		Grooved ball bearing, incl. bolt NGT2/4	1
6	N.0000.00221		Home sensor screw NGT2/4	1
7	N.0000.00208		Articulation assy for linear guide NGT2/4	1
8	N.0000.00217		Linear guide rail with sledge NGT2/4	1
9	N.0000.00230	N.0000.00593	Abutment, locking, NGT2/4 – NGT2R/4R	1
10	N.0000.00338		Pulley Z15	1
11	N.0000.00202		Pneumatic cylinder, double-action, NGT2/4	1
12	N.0000.00390		Compressed air, screw in angle with grommet NGT2	2
30	102557		Parallel pin	1
The following parts are not included in the sledge assembly:				
13	102378		Thermal print head NGT2	1
29	N.0000.00198		Flex flat ribbon cable strip assy, 26-pole, NGT2	1

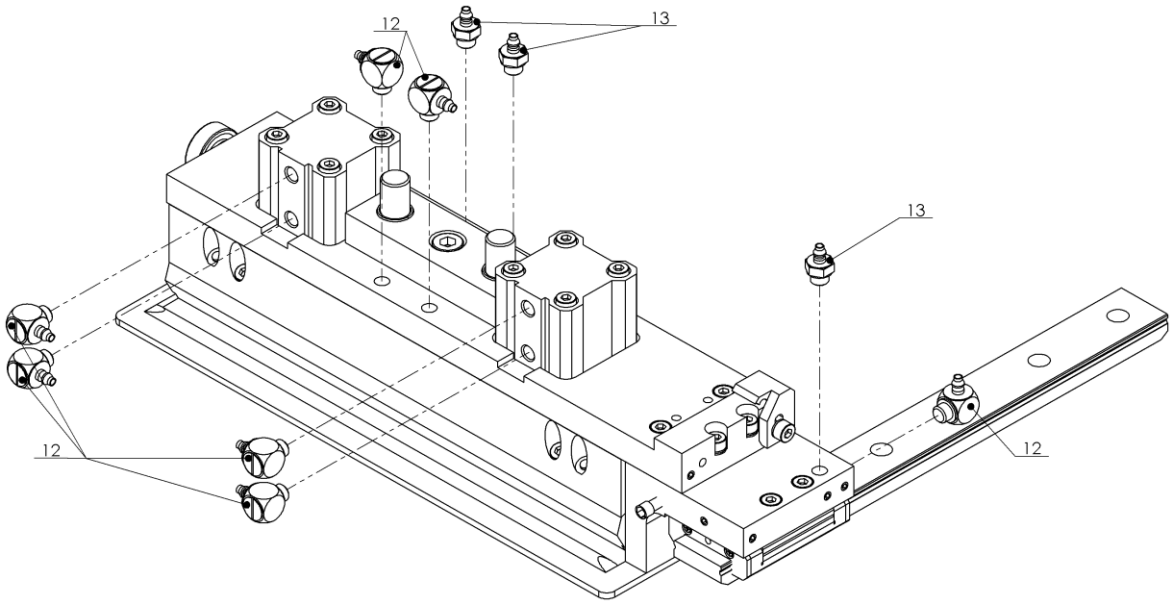
2. NGT4+ Standard, NGT4+ Opposite

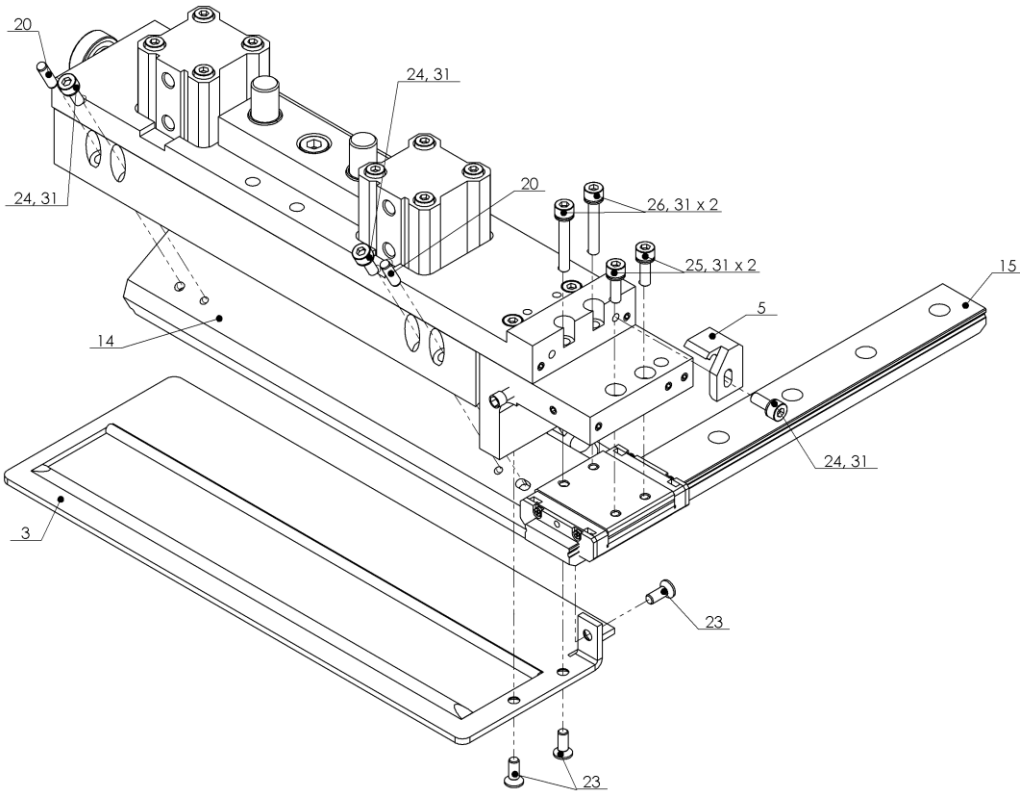


No.	NGT4+ Standard (N.0000.00426) Part no.	NGT4+ Opposite (N.0000.00608) Part no.	Description	Quantity
1	N.0000.00423		Basic sledge for cylinder – NGT4	1
2	N.0000.00247		Guide bolt, strip adjustment NGT2/4	2
3	N.0000.00219		Belt tang NGT2/4	1
4	N.0000.00425	N.0000.00606	Mounting assembly, thermal print head adjustment NGT4-NGT4R	1
5	N.0000.00220		Grooved ball bearing, incl. bolt NGT2/4	1
6	N.0000.00221		Home sensor screw NGT2/4	1
7	N.0000.00208		Articulation assy for linear guide NGT2/4	1
8	N.0000.00217		Linear guide rail with sledge NGT2/4	1
9	N.0000.00230	N.0000.00593	Abutment, locking, NGT2/4 – NGT2R/4R	1
10	N.0000.00338		Pulley Z15	1
11	N.0000.00202		Pneumatic cylinder, double-action, NGT2/4	1
12	N.0000.00227		Compressed air connector, straight NGT2/4	2
31	102557		Parallel pin	1
The following parts are not included in the sledge assembly:				
13	101936		Thermal print head NGT4	1
29	N.0000.00117		Flex flat ribbon cable strip assy, 20-pole, NGT	1
30	N.0000.00546		6-pole high-flex cable assembly, thermal print headNGT4 connector	1

3. NGT6, NGT6R, NGT6E, NGT8, NGT8R, NGT8E



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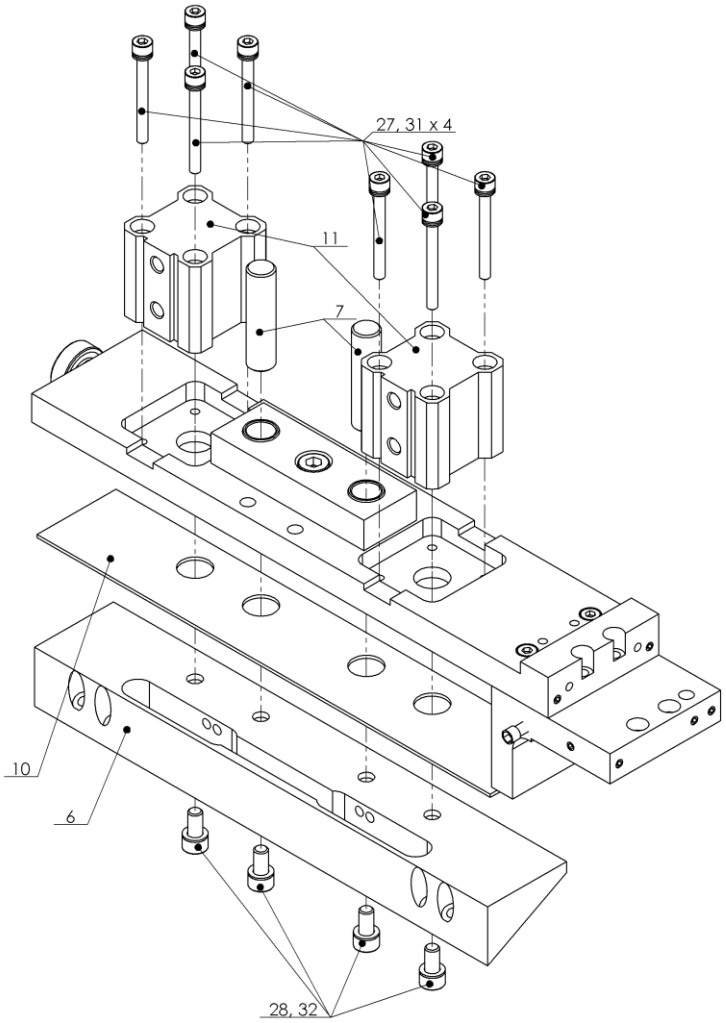
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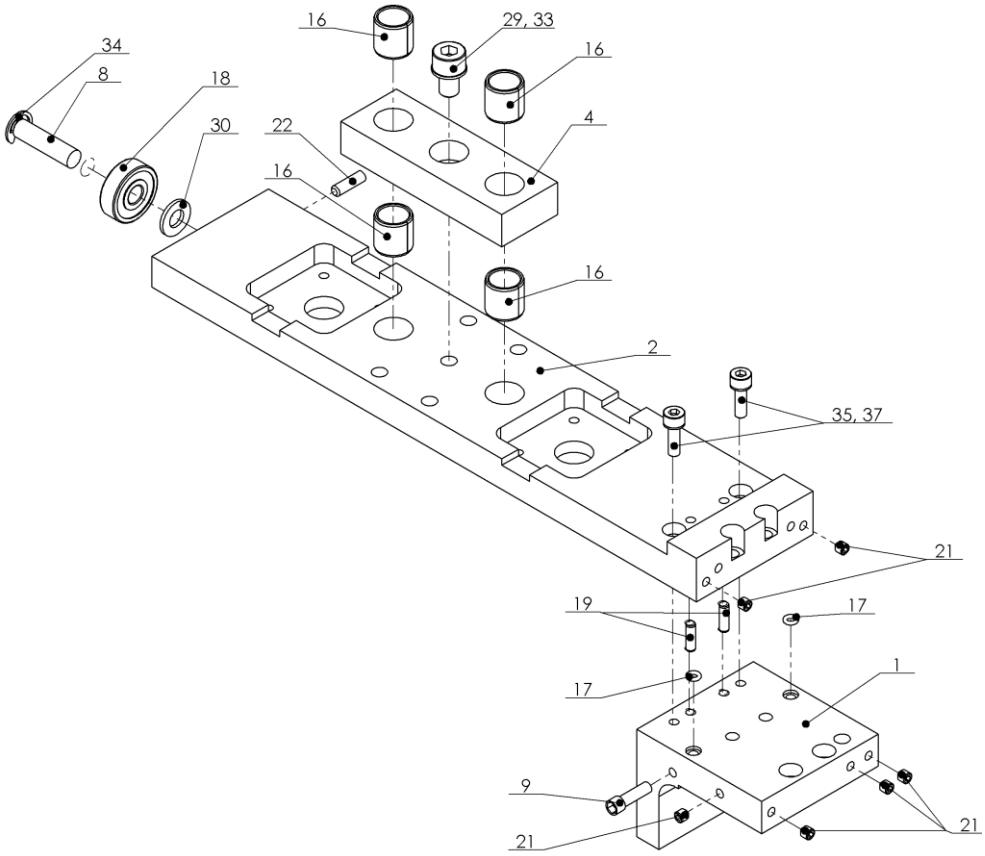
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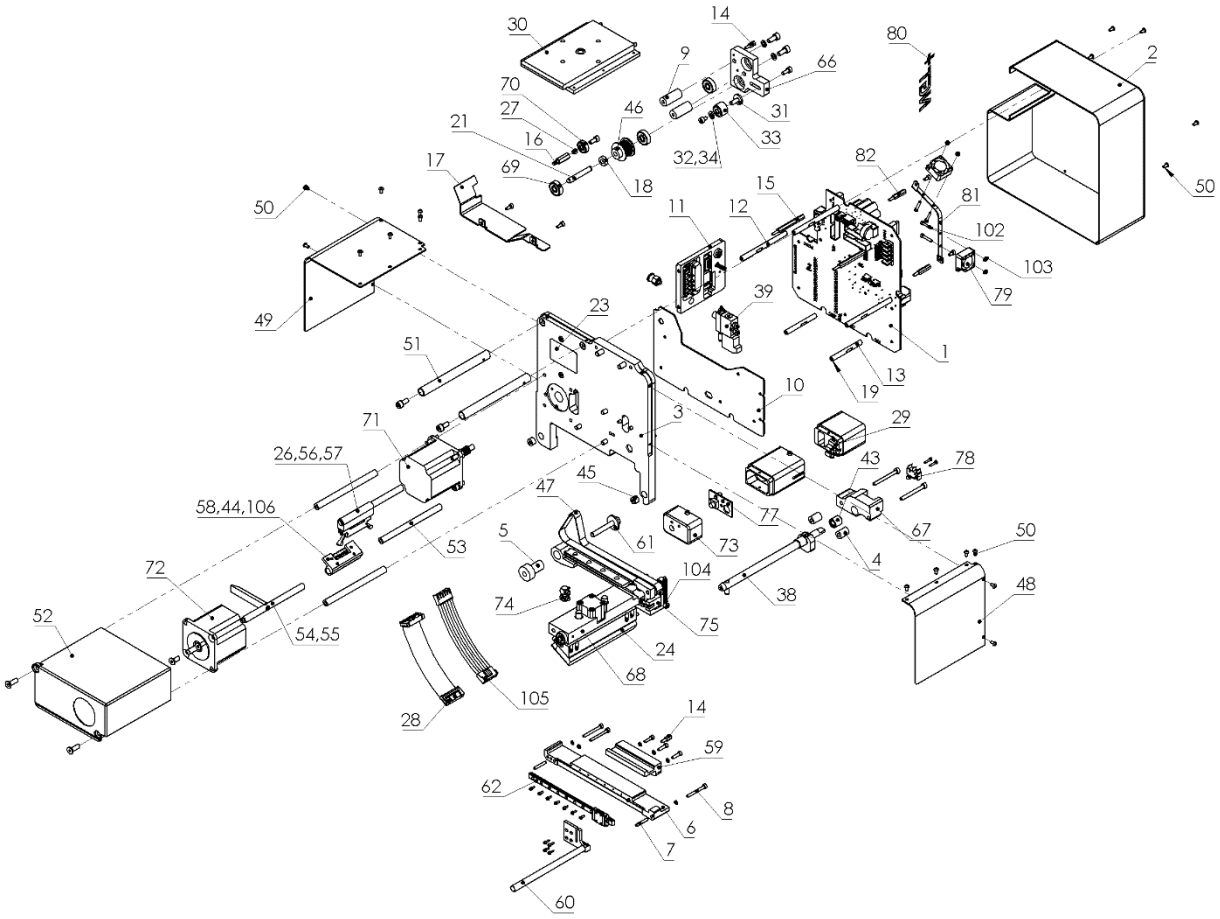
No.	NGT6 (N.0000.00119)	NGT6R (N.0000.00455)	NGT6E (N.0000.00394)	Description	Quantity
	Part no.	Part no.	Part no.		
1	N.0100.00041	N.0000.00476	N.0100.00041	Basic sledge, part 1 NGT6/8	1
2	N.0200.00041			Basic sledge, part 2	1
3	N.0001.00048	N.0001.00453	N.0001.00048	Foil stripper plate NGT6	1
4	N.0000.00124			Guide block	1
5	N.0000.00043	N.0000.00452	N.0000.00043	Belt tang NGT6/8	1
6	N.0000.00051			Mount, thermal print head NGT6	1
7	N.0000.00049			Guide bolt NGT6/8	2
8	N.0000.00415			Bolt	1
9	N.0000.00047			Home sensor screw NGT6/8	1
10	N.0000.00053			Rubber spacer (172 x 30 mm) NGT6	1
11	N.0000.00042			Pneumatic cylinder, double-action, NGT6/8	2
12	N.0000.00045			Compressed air, screw in angle with grommet	7
13	0.0000.M0810			Air connection	3
14	102379			Thermal print head NGT6	1
15	N.0000.00040		N.0000.00382	Linear guide rail with sledge	1

No.	NGT8 (N.0000.00129)	NGT8R (N.0000.00480)	NGT8E (N.0000.00395)	Description	Quantity
	Part no.	Part no.	Part no.		
1	N.0100.00041	N.0000.00476	N.0100.00041	Basic sledge, part 1 NGT6/8	1
2	N.0100.00133			Basic sledge, part 2	1
3	N.0001.00134	N.000100477	N.0001.00134	Foil stripper plate NGT8	1
4	N.0000.00124			Guide block	1
5	N.0000.00043	N.0000.00452	N.0000.00043	Belt tang NGT6/8	1
6	N.0000.00136			Mount, thermal print head NGT8	1
7	N.0000.00049			Guide bolt NGT6/8	2
8	N.0000.00415			Bolt	1
9	N.0000.00047			Home sensor screw NGT6/8	1
10	N.0000.00137			Rubber spacer (226 x 30 mm) NGT8	1
11	N.0000.00042			Pneumatic cylinder, double-action, NGT6/8	2
12	N.0000.00045			Compressed air, screw in angle with grommet	7
13	0.0000.M0810			Air connection	3
14	102380			Thermal print head NGT8	1
15	N.0000.00040		N.0000.00382	Linear guide rail with sledge	1

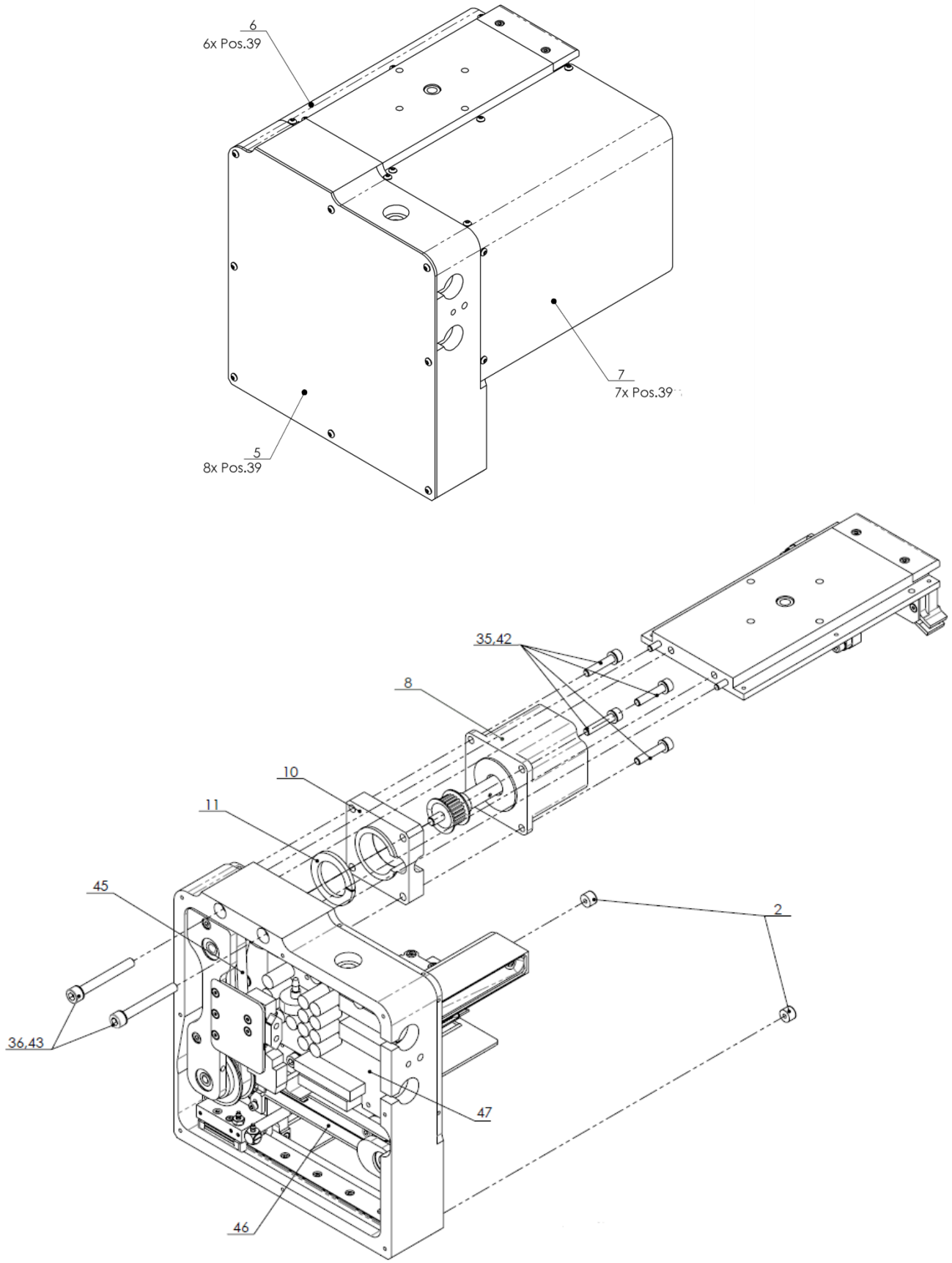
Printer assembly – basic unit

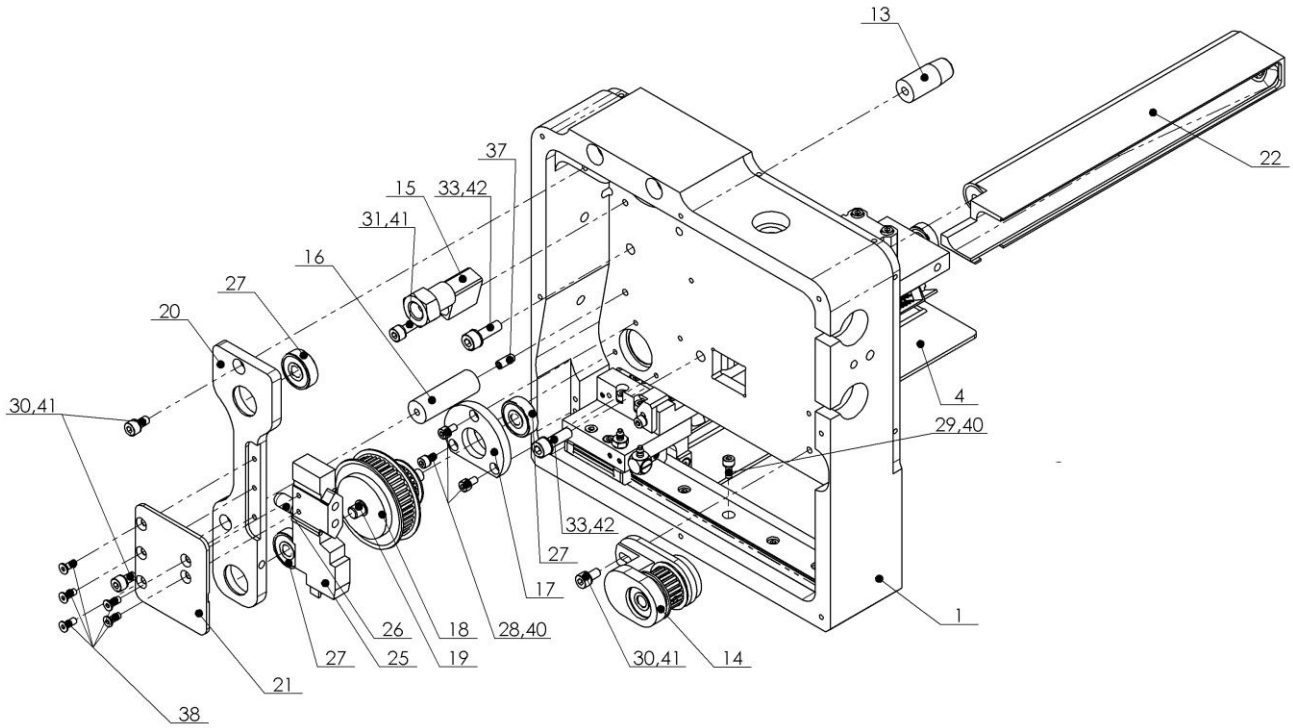
1. NGT2+ Standard / NGT2+ Opposite / NGT4+ Standard / NGT4+ Opposite



No.	NGT2+ (Stand.) (103564)	NGT2+ (Opp.) (103565)	NGT4+ (Stand.) (103566)	NGT4+ (Opp.) (103567)	Description	Quanti-ty
	Part no.	Part no.	Part no.	Part no.		
1	N.0000.00658				Board assembly NG+	1
2	103522				Sheet metal housing	1
3	103488	103523	103488	103523	Base unit	1
10	103520	103530	103520	103530	Protective cover	1
11	103515				Plug holder	1
17	103500	103527	103500	103527	Screen	1
28	N.0000.00198		N.0000.00117		Flat ribbon cable strip assy	1
30	N.0000.00204		N.0000.00250		Mounting plate assembly, housing	1
31, 33	N.0000.00205				Toothed belt tensioning assy, sledge drive	1
38	N.0000.00207	N.0001.00207	N.0000.00428	N.0001.00428	Cassette locking assembly	1
39	N.0001.00240				Magnetic valve assembly, incl. Mounting	1
46	N.0000.00211				Pulley, 32 teeth, NGT2/4	1
47	N.0000.00213				Toothed belt drive, sledge	1
48	N.0000.00215	N.0000.00595	N.0000.00422	N.0000.00597	Cover small	1
49	N.0000.00214	N.0000.00594	N.0000.00421	N.0000.00596	Cover large	1
51	N.0000.00224		N.0000.00444		Guide casing assy	2
52	N.0000.00225	N.0000.00598	N.0000.00445	N.0000.00599	Motor cover	1
53	N.0000.00226		N.0000.00446		Mount for cassette/sledge motor	4
59	N.0000.00229				Guide block, linear unit (plastic)	1
60	N.0000.00206	N.0000.00613	N.0000.00424	N.0000.00616	Foil stripper roller assembly	1
62	N.0000.00233				Linear unit with sledge for stripper roller	1
66	N.0000.00234	N.0000.00589	N.0000.00234	N.0000.00589	Bearing plate for abutment	1
67	N.0000.00236	N.0000.00591	N.0000.00236	N.0000.00591	Abutment wedge, locking unit	1
68	N.0000.00238	N.0000.00607	N.0000.00426	N.0000.00608	Sledge assembly	1
71	103555	103558	103555	103558	Stepping motor sledge	1
72	103556	103557	103556	103557	Motor	1
73	N.0000.00266	N.0001.00266	N.0000.00473	N.0001.00473	Foil sensor housing assy	1
75	N.0000.00420				Home sensor assy, incl. connecting cable	1
78	103552				Cassette locking button	1
105			N.0000.00546		6-pole high-flex cable	1

2. NGT6, NGT6R, NGT6E, NGT8, NGT8R, NGT8E

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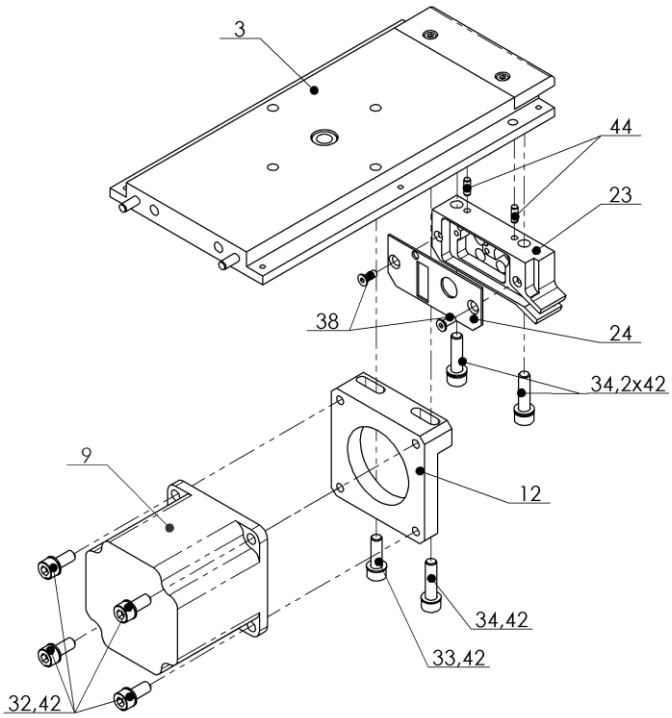
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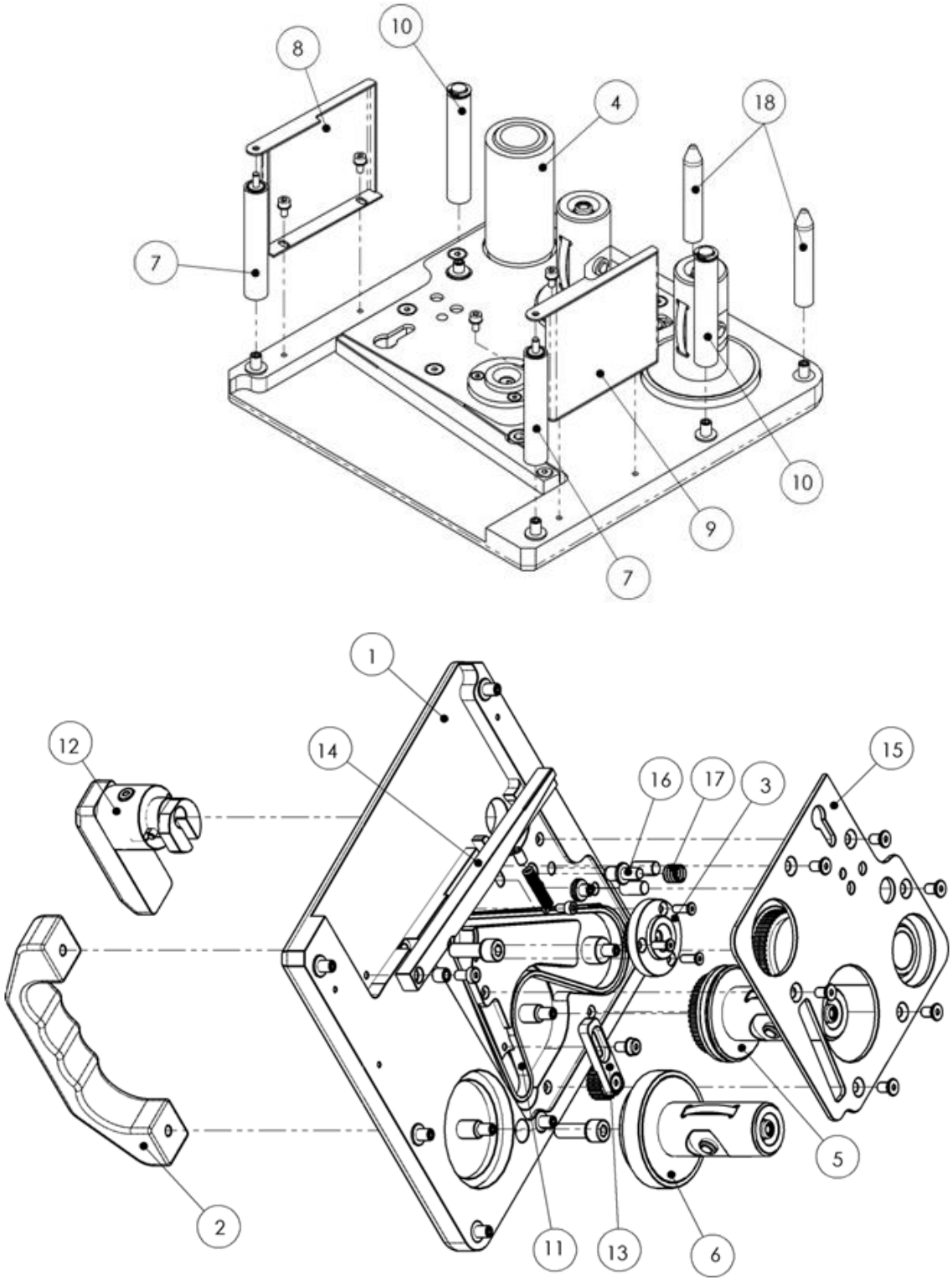
No.	NGT6 (N.0000.G0150)	NGT6R (N.0000.G1150)	NGT6E (N.0000.GE150)	Description	Quantity
	Part no.	Part no.	Part no.		
1	N.0000.00024	N.0000.00470	N.0000.00385	Basic unit	1
2	N.0000.00469			Positioning bushing	2
3	N.0000.00025		N.0000.00384	Assembly plate	1
4	N.0000.00119	N.0000.00455	N.0000.00394	Sledge assembly	1
5	N.0000.00037		N.0000.00381	Rear cover	1
6	N.0000.00035	N.0000.00467	N.0000.00035	Left cover	1
7	N.0000.00036	N.0000.00468	N.0000.00036	Right cover	1
8	N.0000.00111			Stepping motor drive, sledge	1
9	N.0000.00112			Stepping motor, foil drive	1
10	N.0000.00027			Assembly plate, sledge drive	1
11	N.0000.00132			Plastic tension ring	1
12	N.0000.00028			Assembly plate, foil drive	1
13	N.0000.00105			Drive roller guide	1
14	N.0000.00104			Tensioner, toothed belt 2	1
15	N.0000.00103			Tensioner, toothed belt 1	1
16	N.0000.00327			Spacer	1
17	N.0000.00371			Flange, double pulley	1
18	N.0000.00034			Double pulley	1
19	N.0000.00567			Shaft, double pulley	1
20	N.0000.00031	N.0000.00463	N.0000.00031	Bearing plate	1
21	N.0000.00064	N.0001.00064	N.0000.00064	Retaining plate, magnetic valve	1
22	N.0000.00072	N.0000.00461	N.0000.00072	Guide casing	1
23	N.0001.00162	N.0001.00464	N.0001.00383	Cassette locking block	1
24	N.0000.00540	N.0000.00543	N.0000.00540	Rear cover – cassette locking block	1
25	N.0000.00059			Magnetic valve	1
26	N.0000.00062			Sound absorber	1
45	N.0000.00032			Flat toothed belt 1	1
46	N.0000.00033		N.0000.00388	Flat toothed belt 2	1
47	N.0000.00337	N.0000.00450	N.0000.00337	Printer board assembly NG6/8 / NG6R/8R	1
48	-----		N.0000.00561	Guide tube	1
49	-----		N.0000.00457	Attachment bolt	1

No.	NGT8 (N.0000.G0350)	NGT8R (N.0000.G1350)	NGT8E (N.0000.GE350)	Description	Quantity
	Part no.	Part no.	Part no.		
1	N.0000.00024	N.0000.00470	N.0000.00385	Basic unit	1
2	N.0000.00469			Positioning bushing	2
3	N.0000.00117		N.0000.00389	Assembly plate	1
4	N.0000.00129	N.0000.00480	N.0000.00395	Sledge assembly	1
5	N.0000.00037		N.0000.00381	Rear cover	1
6	N.0000.00130	N.0000.00474	N.0000.00130	Left cover	1
7	N.0000.00131	N.0000.00475	N.0000.00131	Right cover	1
8	N.0000.00111			Stepping motor drive, sledge	1
9	N.0000.00112			Stepping motor, foil drive	1
10	N.0000.00027			Assembly plate, sledge drive	1
11	N.0000.00132			Plastic tension ring	1
12	N.0000.00028			Assembly plate, foil drive	1
13	N.0000.00105			Drive roller guide	1
14	N.0000.00104			Tensioner, toothed belt 2	1
15	N.0000.00103			Tensioner, toothed belt 1	1
16	N.0000.00327			Spacer	1
17	N.0000.00371			Flange, double pulley	1
18	N.0000.00034			Double pulley	1
19	N.0000.00567			Shaft, double pulley	1
20	N.0000.00031	N.0000.00463	N.0000.00031	Bearing plate	1
21	N.0000.00064	N.0001.00064	N.0000.00064	Retaining plate, magnetic valve	1
22	N.0000.00139	N.0000.00483	N.0000.00139	Guide casing	1
23	N.0001.00162	N.0001.00464	N.0001.00383	Cassette locking block	1
24	N.0000.00540	N.0000.00543	N.0000.00540	Rear cover – cassette locking block	1
25	N.0000.00059			Magnetic valve	1
26	N.0000.00062			Sound absorber	1
45	N.0000.00032			Flat toothed belt 1	1
46	N.0000.00033		N.0000.00388	Flat toothed belt 2	1
47	-----		N.0000.00562	Guide tube	1
48	-----		N.0000.00457	Attachment bolt	1

Ribbon replacement cassette

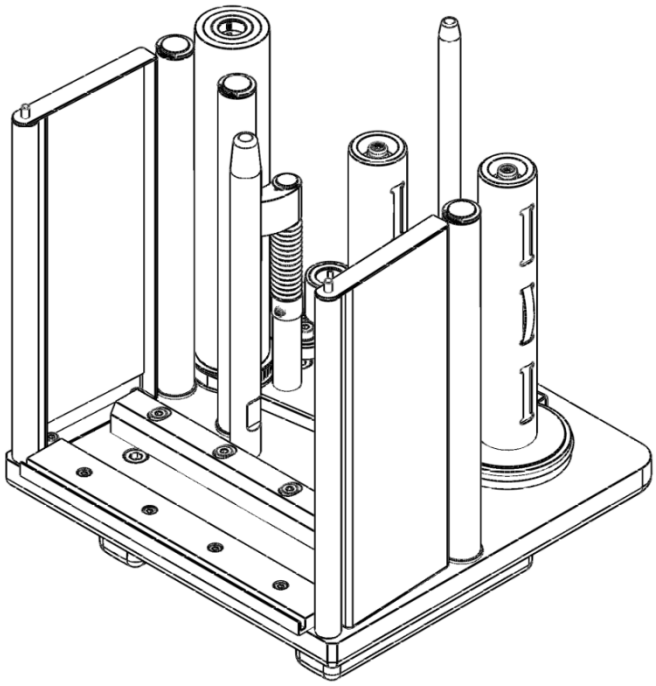
1. NGT2+ Standard / NGT2+ Opposite / NGT4+ Standard / NGT4+ Opposite

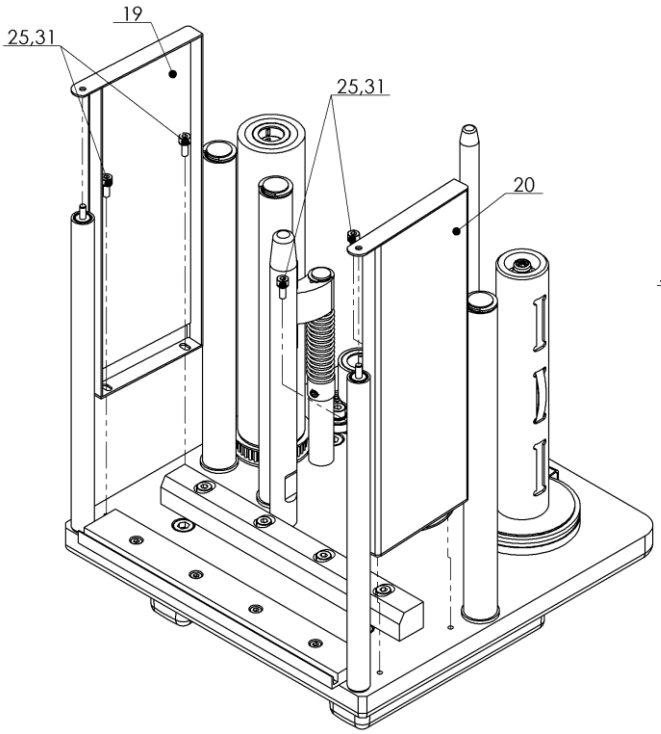


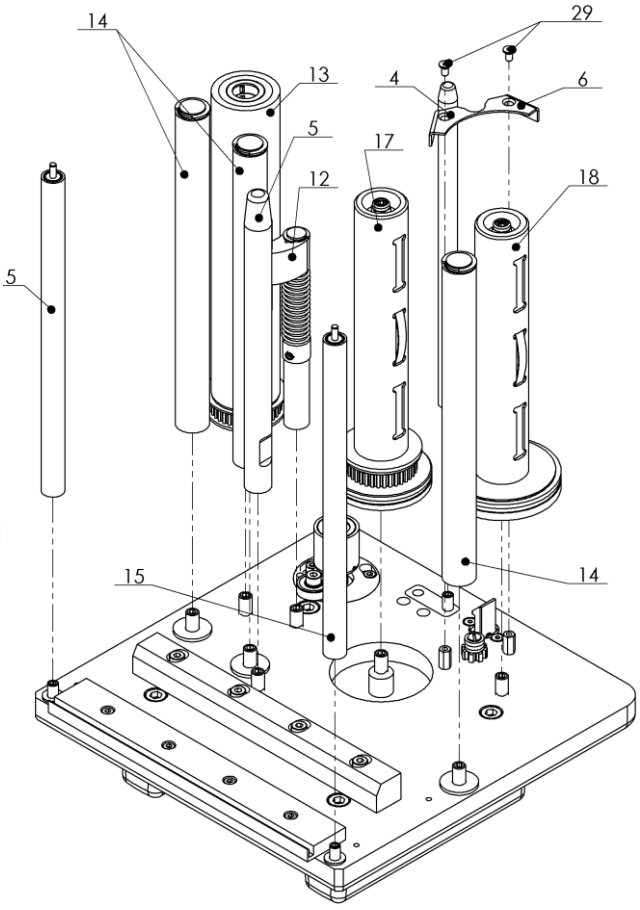
No.	NGT2+ Stand. (N.0000.G0650)	NGT2+ Opp. (N.0000.G1650)	Description	Quantity
	Part no.	Part no.		
1	N.0000.00270	N.0000.00581	Base plate, ribbon cassette NGT2/4 - NGT2R/4R	1
2	N.0000.00267		Handle, ribbon cassette NGT2/4	1
3	N.0000.00280	N.0001.00280	Cassette drive assembly, NGT2/4 – NGT2R/4R	1
4	N.0000.00285	N.0001.00285	Drive roller assembly, NGT2 – NGT2R	1
5	N.0000.00290	N.0001.00290	Winding assembly NGT2/4 - NGT2R/4R	1
6	N.0000.00276		Dispensing assembly NGT2/4	1
7	N.0000.00300		Bypass roller assembly 2 NGT2	2
8	N.0000.00273		Stabilization plate, left (stainless steel) NGT2	1
9	N.0000.00274		Stabilization plate, right (stainless steel) NGT2	1
10	N.0000.00301		Bypass roller assembly 1 NGT2	2
11	N.0000.00271		Toothed belt (415 - T2,5 - 6) NGT2/4	1
12	N.0000.00275	N.0000.00447	Cassette locking assembly, NGT2/4 – NGT2R/4R	1
13	N.0000.00295		Tensioner assembly for toothed belt, cassette NGT2/4	1
14	N.0000.00305	N.0000.00604	Abutment strip assembly, sledge NGT2/4 - NGT2R/4R	1
15	N.0000.00269	N.0000.00582	Cover plate, toothed belt NGT2/4 - NGT2R/4R	1
16	N.0000.00537		Reset button, replacement cassette NGT2/4	1
17	N.0000.00427		Spring reset button NGT2/4	1
18	N.0000.00272		Positioning rod (NGT2)	2

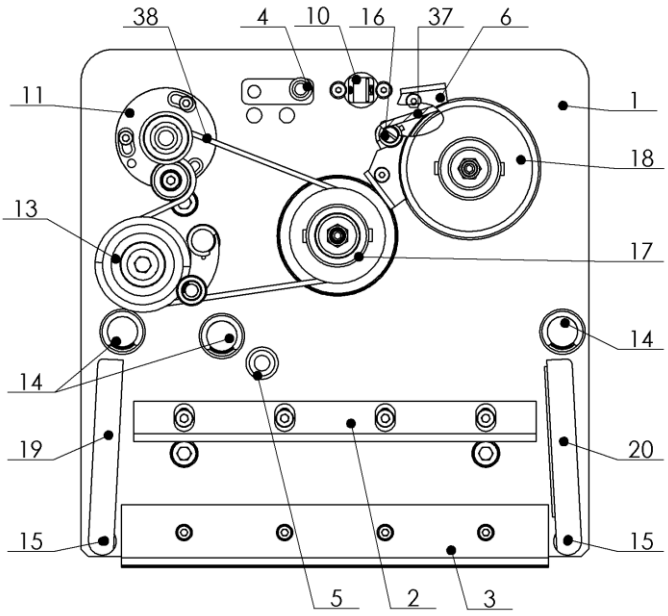
No.	NGT4+ Stand. (N.0000.G0850)	NGT4+ Opp. (N.0000.G1850)	Description	Quantity
	Part no.	Part no.		
1	N.0000.00270	N.0000.00581	Base plate, ribbon cassette NGT2/4 - NGT2R/4R	1
2	N.0000.00267		Handle, ribbon cassette NGT2/4	1
3	N.0000.00280	N.0001.00280	Cassette drive assembly, NGT2/4 – NGT2R/4R	1
4	N.0000.00252	N.0001.00252	Drive roller assembly, NGT4 – NGT4R	1
5	N.0000.00290	N.0001.00290	Winding assembly NGT2/4 - NGT2R/4R	1
6	N.0000.00276		Dispensing assembly NGT2/4	1
7	N.0000.00430		Bypass roller assembly 2 NGT4	2
8	N.0000.00432		Stabilization plate, left (stainless steel) NGT4	1
9	N.0000.00433		Stabilization plate, right (stainless steel) NGT4	1
10	N.0000.00431		Bypass roller assembly 1 NGT4	2
11	N.0000.00271		Toothed belt (415 - T2,5 - 6) NGT2/4	1
12	N.0000.00275	N.0000.00447	Cassette locking assembly, NGT2/4 – NGT2R/4R	1
13	N.0000.00295		Tensioner assembly for toothed belt, cassette NGT2/4	1
14	N.0000.00305	N.0000.00604	Abutment strip assembly, sledge NGT2/4 - NGT2R/4R	1
15	N.0000.00269	N.0000.00582	Cover plate, toothed belt NGT2/4 - NGT2R/4R	1
16	N.0000.00537		Reset button, replacement cassette NGT2/4	1
17	N.0000.00427		Spring reset button NGT2/4	1
18	N.0000.00434		Positioning rod (NGT4)	2

2. NGT6, NGT6R, NGT6E, NGT8, NGT8R, NGT8E





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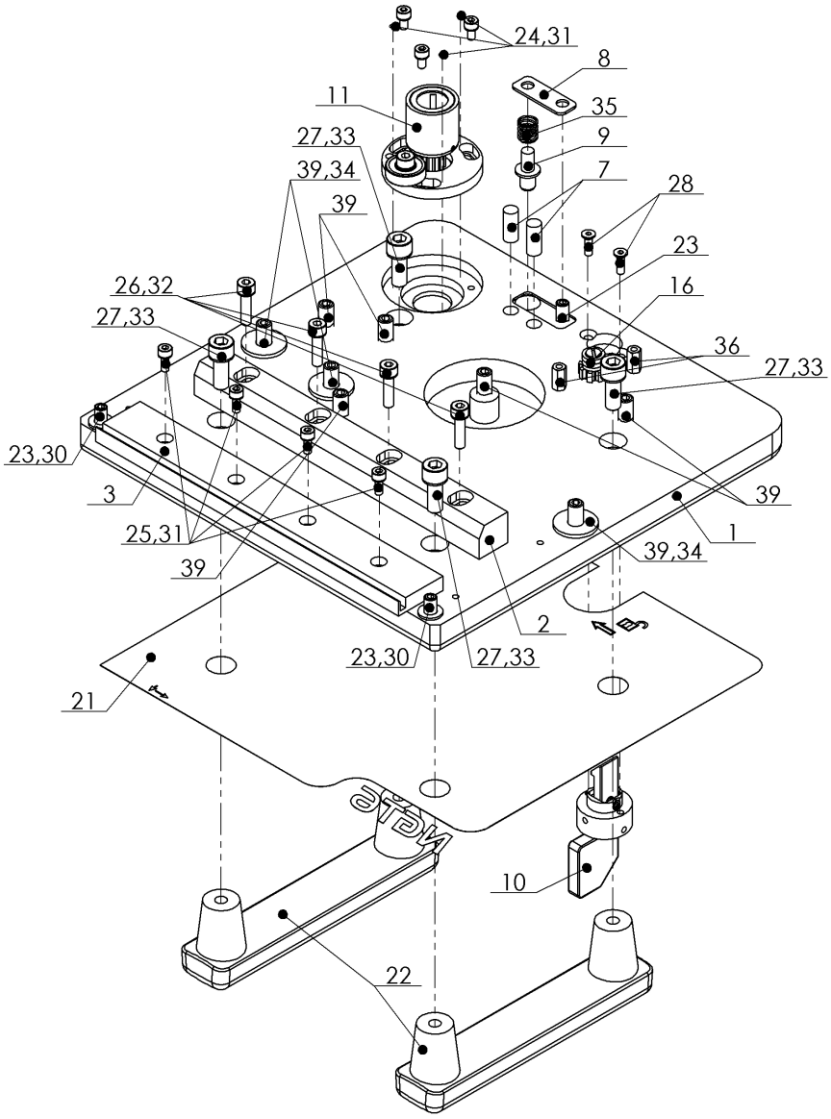
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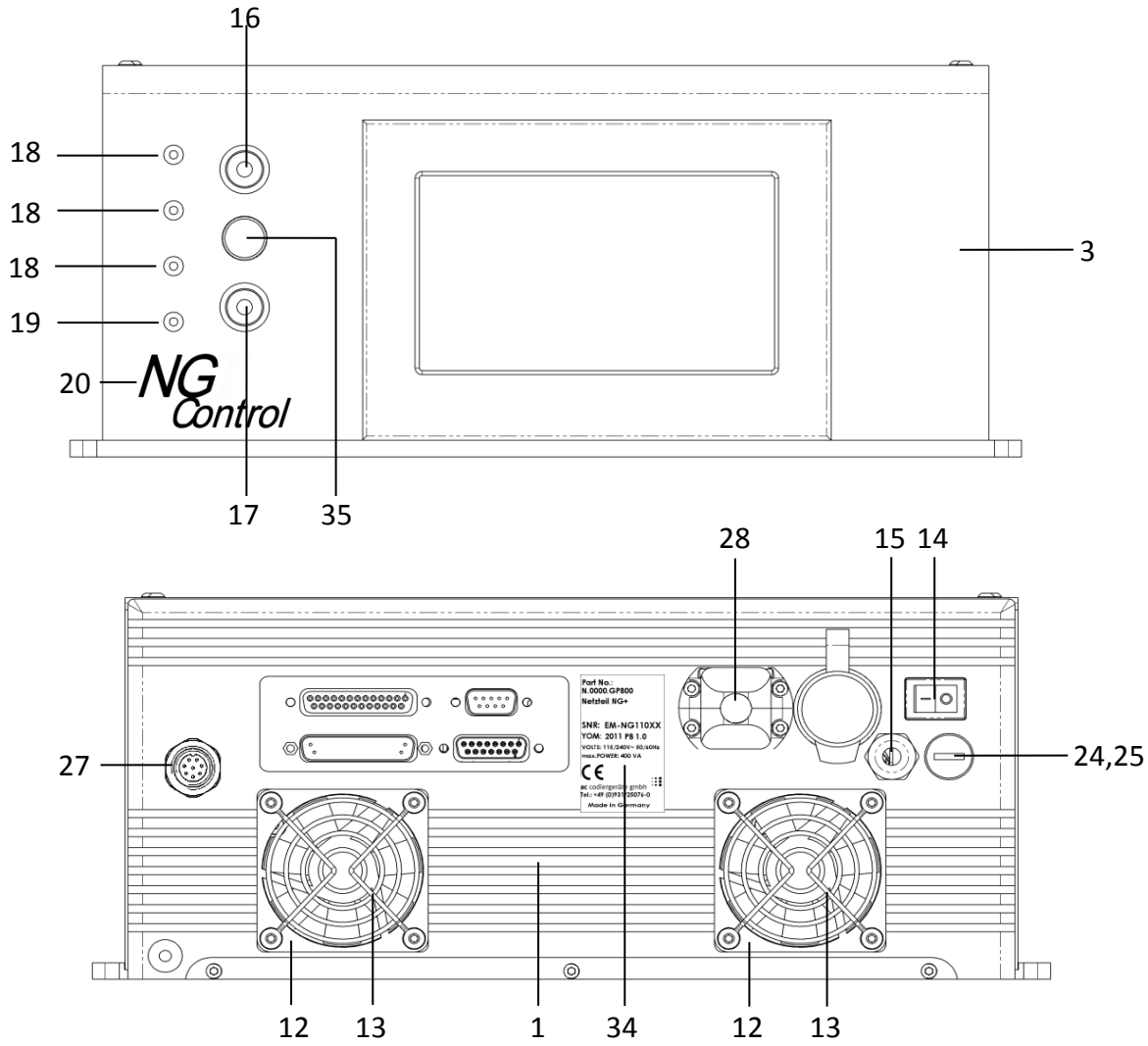
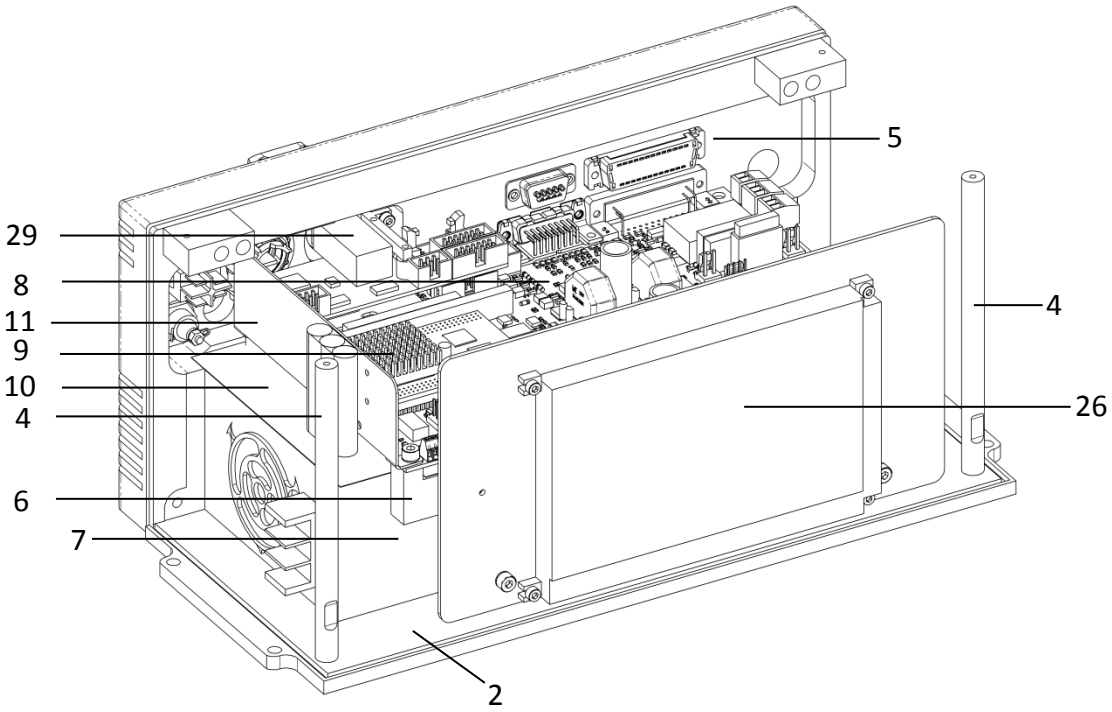
No.	NGT6 (N.0001.G0250)	NGT6R (N.0001.G1250)	NGT6E (N.0001.GE250)	Description	Quantity
	Part no.	Part no.	Part no.		
1	N.0000.00085	N.0001.00472	N.0001.00380	Plate, ribbon cassette	1
2	N.0000.00099		N.0000.00378	Abutment strip, sledge	1
3	N.0000.00100		N.0000.00379	Abutment strip, stripper plate	1
4	N.0000.00095			Positioning rod 1 NGT6	1
5	N.0001.00096			Positioning rod 2 NGT6	1
6	N.0000.00538		N.0000.00299	Cover plate, round belt	1
7	N.0000.00539			Plexiglas waveguide LED	2
8	N.0000.00532			Cover plate – spring reset button	1
9	N.0000.00537			Reset button, replacement cassette	1
10	N.0000.00087	N.0001.00087	N.0000.00087	Cassette lock	1
11	N.0000.00088	N.0001.00088	N.0000.00088	Cassette drive unit	1
12	N.0000.00090	N.0001.00090	N.0000.00090	Contact roller	1
13	N.0000.00089	N.0001.00089	N.0000.00089	Drive roller	1
14	N.0000.00097			Bypass roller 1	3
15	N.0000.00098			Bypass roller 2	2
16	N.0000.00367	N.0001.00367	N.0000.00367	Indicator	1
17	N.0001.00091	N.0002.00091	N.0001.00091	Winder	1
18	N.0001.00094			Dispenser	1
19	N.0001.00550	N.0001.00560	N.0001.00550	Stabilization plate, left	1
20	N.0000.00550	N.0000.00560	N.0000.00550	Stabilization plate, right	1
21	N.0000.00573	N.0000.00575	N.0000.00574	Front foil NGT6	1
22	N.0000.00086			Handle	2
37	N.0000.00376		N.0000.00403	Rubber ring	1
38	N.0000.00093		N.0001.00377	Flat toothed belt	1
39	-----		N.0001.00096	Positioning rod 2 NGT6	1

No.	NGT8 (N.0001.G0450)	NGT8R (N.0001.G1450)	NGT8E (N.0001.GE450)	Description	Quantity
	Part no.	Part no.	Part no.		
1	N.0001.00085	N.0001.00472	N.0001.00380	Plate, ribbon cassette	1
2	N.0000.00099		N.0000.00378	Abutment strip, sledge	1
3	N.0000.00100		N.0000.00379	Abutment strip, stripper plate	1
4	N.0000.00144			Positioning rod 1 NGT8	1
5	N.0001.00145			Positioning rod 2 NGT8	1
6	N.0000.00538		N.0000.00299	Cover plate, round belt	1
7	N.0000.00539			Plexiglass waveguide LED	2
8	N.0000.00532			Cover plate – spring reset button	1
9	N.0000.00537			Reset button, replacement cassette	1
10	N.0000.00087	N.0001.00087	N.0000.00087	Cassette lock	1
11	N.0000.00088	N.0001.00088	N.0000.00088	Cassette drive unit	1
12	N.0000.00090	N.0001.00090	N.0000.00090	Contact roller	1
13	N.0000.00143	N.0001.00143	N.0000.00143	Drive roller	1
14	N.0000.00146			Bypass roller 1	3
15	N.0000.00147			Bypass roller 2	2
16	N.0000.00367	N.0001.00367	N.0000.00367	Indicator	1
17	N.0001.00091	N.0002.00091	N.0001.00091	Winder	1
18	N.0001.00094			Dispenser	1
19	N.0001.00549	N.0001.00559	N.0001.00549	Stabilization plate, left	1
20	N.0000.00549	N.0000.00559	N.0000.00549	Stabilization plate, right	1
21	N.0001.00573	N.0001.00575	N.0001.00574	Front foil NGT8	1
22	N.0000.00086			Handle	2
37	N.0000.00376		N.0000.00403	Rubber ring	1
38	N.0000.00093		N.0001.00377	Flat toothed belt	1
39	-----		N.0001.00096	Positioning rod 2 NGT6	1

Controller (Standard NGT)

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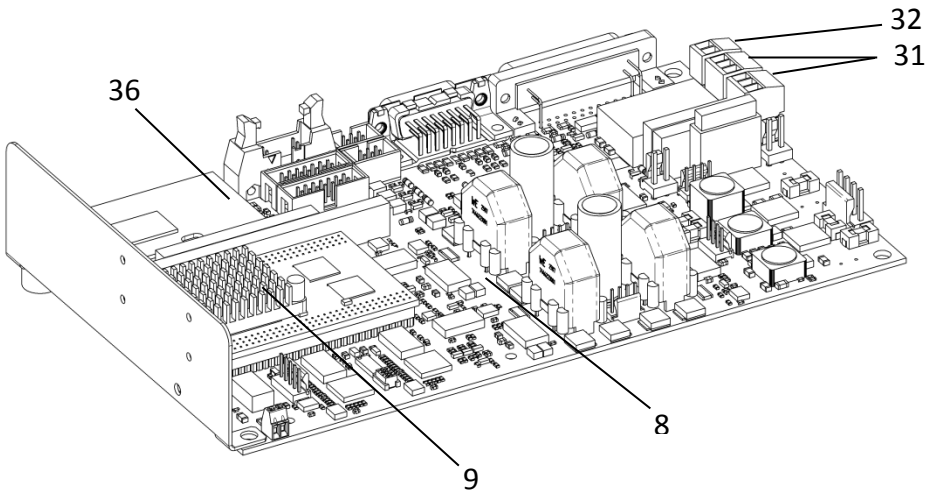
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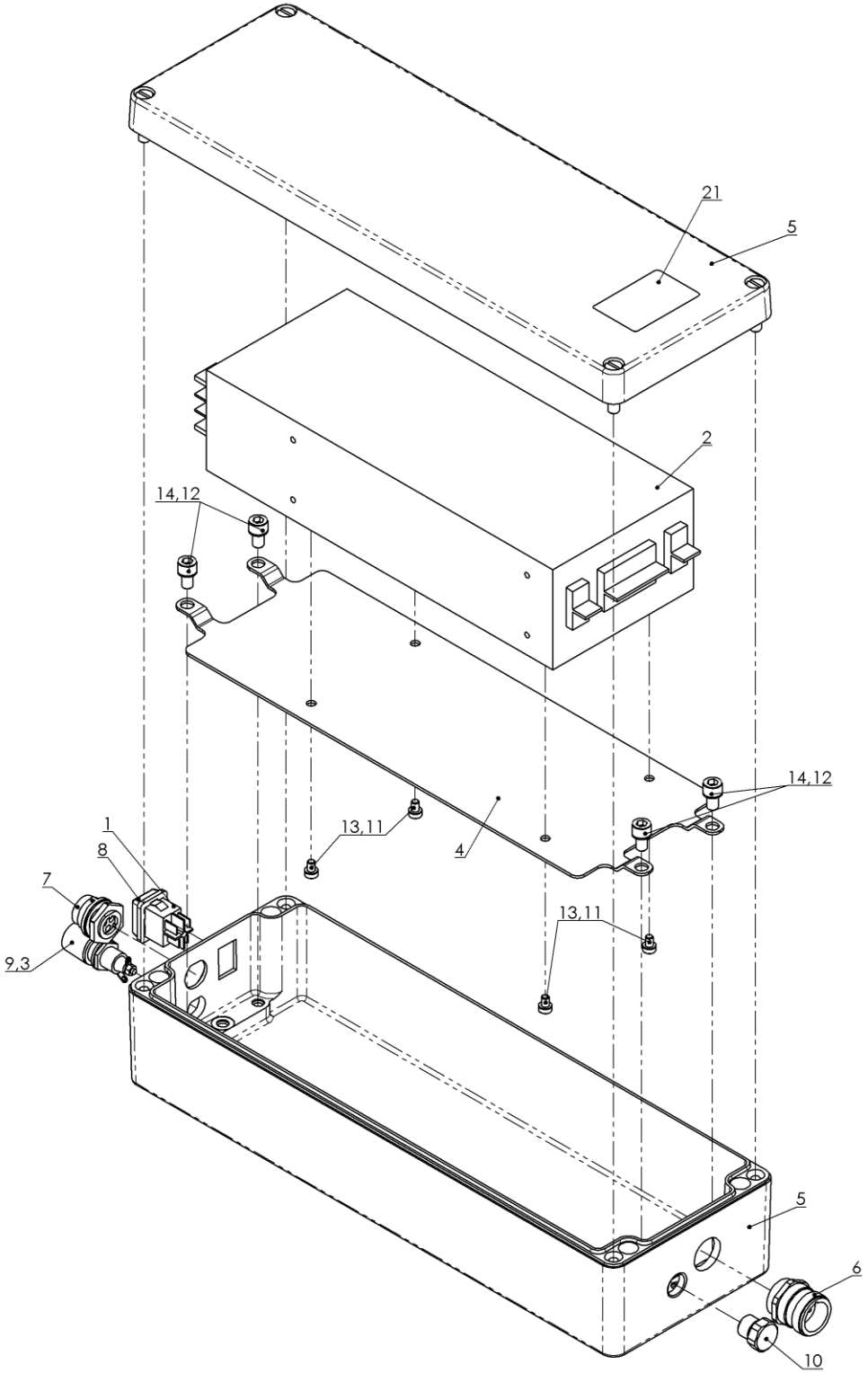
No.	With Touch (N.0003.G0800)	Without Touch (N.0002.G0800)	Description	Quantity
	Part no.	Part no.		
1	N.0002.00001		Cooling fin back wall, controller NGT (gray anodized)	1
2	N.0001.00002		Base plate, controller NGT (gray anodized)	1
3	N.0001.00153	N.0000.00076	Housing-cover assembly	1
4	N.0000.00004		Spacer bolt, housing-cover, controller NGT	2
5	N.0000.00347		Assembly plate unit	1
6	N.0000.00006		Board retaining strip, controller NGT	1
7	N.0000.00007		Mains adapter switch AC3-J2JH-00	1
8	N.0002.00008		Main board (printer control) NGT controller	1
9	N.0000.00643		Processor module, controller NGT	1
10	N 0000.00344		Shield plate (251 x 127 mm) NGT	1
11	N 0000.00343		Shield plate NGT	1
12	N.0000.00012		Fan 60 x 60 x 15, controller NGT	2
13	N.0000.00013		Fan grating, controller NGT	2
14	0.0000.H0127		Power switch for NX and NGT units	1
15	N.0000.00015		Power cable, 2m, controller NGT	1
16	N.0000.00016		Reset button, black, controller NGT	1
17	N.0000.00017		Green button, cycle begin, controller NGT	1
18	N.0000.00018		Green LED, outside reflector, 6 mm	3
19	N.0000.00019		Yellow LED, outside reflector, 6 mm	1
20	N.0001.00020	N.0002.00020	Self-adhesive symbol label, complete	1
21	N.0000.00142		Hood, solid metal, 15-pole (included)	1
22	N.0000.00022		15-pole cable plug, D-sub, without cable (included)	1
23	N.0000.00023		Rubber feet, 15 mm, controller NGT	4
24	N.0001.00107		Fuse housing (accessible from outside), controller NGT	1
25	N.0000.00108		Fuse 6.3 A, slow-blow, controller NGT	1
26	N.0000.00615	-----	Touchscreen assembly	1
27	N.0000.00631		Round plug connector – 8 pole	1
28	N.0001.00189		LAN plug, housing, natural anodized	1
29	N.0000.00179		Ethernet card assembly – controller NGT	
30	N.0000.00166	-----	Adapter board for Touchscreen	1
31	N.0000.00195		PCB cable terminal strip, 3-pole	2
32	N.0000.00651		PCB cable terminal strip, 2-pole	1
33	N.0000.00194		Data cable, serial, 3 m, 9-pole D-sub (included)	1
34	N.0000.00342		Model plate, controller NGT	1
35	N.0000.00634	-----	Potentiometer for contract control	1
36	N.0000.00642		SSD card, 512 MB	1

Power supply (NGT+)



No.	Mains adapter (N.0000.GP800) Part no.	Description	Quantity
1	0.0000.H0127	Rocker switch – 2 pole 10A / 250V AC	1
2	N.0000.00007	Power supply 300W	1
3	N.0000.00108	Fuse 5 x 20 mm, 6.3 A, slow-blow	1
4	N.0000.00681	Insertion plate	1
5	N.0000.00682	Housing	1
6	N.0000.00692	Flange bushing assembly	1
7	N.0000.00700	Flange plug assembly	1
8	N.0000.00686	Protective cover	1
9	N.0001.00107	Safety holder 5 x 20 mm	1
10	P.0000.00110	Pressure equalizing element	1
11	100123	Schnorr safety washer S - 4	4
12	100034	Schnorr safety washer S - 6	4
13	100124	Cylinder screw M4 x 6	4
14	100125	Cylinder screw M6 x 10	4