LEIBINGER
COUNTING FOR THE FUTURE

Manual

LEIBINGER JET2 neo

1.1 Table of contents

1.1 Table of contents 1
1.2 Group directory 9
1.3 Publisher 10
1.4 Introduction 12
1.5 Document information 13
1.6 Guarantee 13
2. Safety 14
2.1 Dangers 14
2.2 Safety instructions and recommendations 14
2.3 Intended use 16
2.4 Safety sticker 17
2.5 Operating staff 18
2.6 Dangers due to electric energy 18
2.7 Personal protective equipment 18
2.8 Protective devices and safety concept 18
2.9 Safety measures at the place of installation 19
2.10 Dangers through consumables 20
2.11 Conformity 21
3. Accident prevention 22
3.1 Storage and handling (normal use) 22
3.2 First aid measures 23
3.3 Fire fighting measures 23
3.4 Measures in the event of accidental release (spillage) 24
4. Technical data 25
4.1 Housings, dimensions, weights 25
4.2 Electrical connection values 26
4.3 Ambient conditions 26
4.4 Interfaces, Inputs, Outputs 26
4.5 Performance parameter 27
4.6 Fonts 27
4.7 Types of writing 27
4.8 Font combinations 27
4.9 Function 28
4.10 Software 28

5. Transport/Start up 29
5.1 Transport, storage, shipping 29
5.2 Mounting 29
5.3 Installation 31
5.3.1 Mains supply 31
5.3.2 Grounding (Potential equalization) 31
5.3.3 Explosion protection 33
5.3.4 Print head 33
5.4 Starting 35
5.4.1 Remove transportation safety devices 35
5.4.2 Fill reservoir tank 37
5.4.3 Carry out fill up routine 40
5.5 Interfaces 43
5.5.1 Interface X1 (Encoder) 44
5.5.1.1 Description and configuration 44
5.5.1.2 Mechanical installation 45
5.5.2 Interface X5 (PrintGo) 45
5.5.3 Interface X3 (Outputs) 47
5.5.4 Interface X4 (Inputs) 48
5.5.5 USB-Connection 49
6. Operation 50
6.1 Construction/Structure of the device 50
6.2 Functional principle 51
6.2.1 Method of working 51
6.2.2 Drop creation 51
6.2.3 Drop charging 52
6.2.4 Drop deflection 52
6.2.5 Creation of a character 52
6.2.6 Summary of the individual procedures 53
6.2.7 Example of use 54
6.3 Safety instructions 54
6.4 Essential operating- and information elements 55
6.4.1 Number blocks 60
6.4.2 Keyboard fields 61
6.5 Basic operating processes 62
6.5.1 General 62

6.5.2 Initialization of the device 62
6.5.3 Switch on device 63
6.5.3.1 Switching on without password protection....63
6.5.3.2 Switching on with password protetction....64
6.5.4 Reset product counter 66
6.5.5 Change product counter 67
6.5.6 Product counter – pre-defined print stop....68
6.5.7 Switch off device 69
6.6 Menu layout 70
6.7 Other settings and functions 72
6.7.1 Carry out Hardware Reset....72
6.7.2 Interval operation (integrated clock timer)....73
7. Data entry/Programming....74
7.1 General....74
7.2 Main menu....74
7.2.1 Functional area Job....75
7.2.1.1 Create a new job....75
7.2.1.2 Edit current job....76
7.2.1.3 Open job to edit 76
7.2.1.4 Create a new job list 78
7.2.1.5 Load job to print....78
7.2.1.6 Reset all job counters 79
7.2.1.7 Save counter states 80
7.2.2 Functional area Extra 81
7.2.2.1 Graphic editor 81
7.2.2.1.1 Organization tools 83
7.2.2.1.2 Drawing tools 84
7.2.2.1.3 Edit tools 85
7.2.2.1.4 Display tools....85
7.2.2.1.5 Load an existing graphic 86
7.2.2.1.6 Save graphic 87
7.2.2.1.7 Create and process graphic elements....88
7.2.2.1.8 Set editor size 91
7.2.2.2 Explorer 92
7.2.2.2.1 Start explorer 92
7.2.2.2.2 Menu structure 93

7.2.2.2.3 Explorer tools 94
7.2.2.2.4 Delete jobs 95
7.2.2.3 Login/Logout 96
7.2.2.3.1 Login user and carry out user change 96
7.2.2.3.Logout user 97
7.2.2.4 Product counter 99
7.2.2.4.1 Product counter settings 100
7.2.2.4.2 Stop after x products (Pre-defined print stop) 102
7.2.2.5 Macro generator 104
7.2.2.6 Direct printstart 106
7.2.3 Functional area Settings 107
7.2.3.1 Basic settings 108
7.2.3.1.1 Language and units 109
7.2.3.1.2 Date and time 111
7.2.3.1.3 Interval operation (Set interval time) 113
7.2.3.1.4 Interfaces (Encoder interface) 114
7.2.3.1.5 IP-Address 116
7.2.3.1.6 Factory Settings 118
7.2.3.2 Interface settings 119
7.2.3.2.1 Set connection type and port 120
7.2.3.3 Hydraulic settings 121
7.2.3.3.1 Pressure (System pressure) 122
7.2.3.3.2 Suction pump 122
7.2.3.3.3 Viscosity meter correction value 122
7.2.3.3.4 Fall time 123
7.2.3.3.5 Oscillator voltage 123
7.2.3.3.6 Set oscillator voltage 123
7.2.3.3.7 Select ink no. and display of the solvent no. 124
7.2.3.3.8 Set nozzle diameter 124
7.2.3.4 Password settings and user authorizations 125
7.2.3.4.1 Menu password settings 125
7.2.3.4.2 Selection of user level 127
7.2.3.4.3 Definition of password 127
7.2.3.4.4 Definition of user rights 129
7.2.3.4.5 Lost password 129
7.2.3.5 Password protection (Password query) 129

7.2.3.6 I/O-settings 131
7.2.3.6.1 Inputs 132
7.2.3.6.2 Outputs 133
7.2.4 Functional area Service 134
7.2.4.1 Info 135
7.2.4.1.1 Save info file 136
7.2.4.2 I/O Test (Signaltest) 137
7.2.4.3 Data logging (Log Datei) 138
7.2.4.3.1 Call up and save log file 139
7.2.4.4 Hydraulic-/Printhead- and special functions 140
7.2.4.4.1 Hydraulic functions 142
7.2.4.4.2 Special functions 144
7.2.4.4.3 Printhead functions 149
7.2.4.5 Touch-calibration 154
7.2.4.6 Test print 155
7.2.4.7 Service interval 157
7.3 Edit current job (Direct selection) 158
7.4 Load job to print (Direct selection) 159
8. Job editor 161
8.1 Structure 161
8.2 Job editor tools 164
8.2.1 Creation tools 164
8.2.2 Edit tools 165
8.3 Parameter setting tools 166
8.4 Object settings 168
8.4.1 Font selection 169
8.4.2 Contrast value 170
8.4.3 Position settings 171
8.4.4 Bold level (Bold text) 171
8.4.5 ICG-value 172
8.4.6 Orientation 172
8.4.7 Display settings 173
8.5 Parameter settings 174
8.5.1 Printstyle position and Printstyle (values) 174
8.5.1.1 Print height 175
8.5.1.2 Font width (Stroke distance) 175

8.5.1.3 Orientation 176
8.5.1.4 Printing mode....177
8.5.2 PrintGo-Parameter 179
8.5.2.1 Functional area PrintGo 1 179
8.5.2.1.1 PrintGo-delay 180
8.5.2.1.2 PrintGo-distance 180
8.5.2.1.3 PrintGo-repetitions 181
8.5.2.1.4 PrintGo-holdoff distance....182
8.5.2.1.5 Drop flighttime....183
8.5.2.2 Functional area PrintGo 2 183
8.5.2.2.1 PrintGo-source....184
8.5.2.2.2 PrintGo-Gate....185
8.5.2.2.3 Monitoring functions....186
8.5.2.2.4 Printstop settings....187
8.5.3 Encoder parameter....188
8.5.3.1 Encoder source....189
8.5.3.2 Internal speed....190
8.5.3.3 Rotating direction....190
8.5.3.4 Resolution....190
8.5.3.5 Return stop....191
8.5.4 Date changing parameter....192
8.6 Printing elements....193
8.6.1 Barcode....193
8.6.1.1 Barcode informations....193
8.6.1.2 Barcode selection and insertions 195
8.6.1.2.1 Barcode type....196
8.6.1.2.2 Content 196
8.6.1.2.3 Textposition....196
8.6.1.2.4 Barcode format....197
8.6.1.2.4 Pasting of … 197
8.6.1.3 Barcode parameter 198
8.6.1.3.1 Bar and gaps (space)....199
8.6.1.3.2 Character space (ICG) 199
8.6.1.3.3 Bar height....199
8.6.1.3.4 Styles (Selection of the barcode styles)....199
8.6.1.3.5 Default settings of styles (Changing of the barcode style sett.)....199

8.6.1.4 Integration of printing elements into barcodes....200
8.6.1.5 Replacements in barcodes....200
8.6.2 Date/time and expiry time....201
8.6.2.1 Insert date- and time specifications....201
8.6.2.2 Carry out replacements....205
8.6.3 Counter....205
8.6.3.1 Functional area Counter parameter 1....206
8.6.3.1.1 Number of digits (Counter digits)....206
8.6.3.1.2 Step width....207
8.6.3.1.3 Repetitions....207
8.6.3.1.4 Leading zeros (left-hand zeros)....207
8.6.3.1.5 Counting direction....207
8.6.3.1.6 Counter increment (methods)....208
8.6.3.2 Functional area Counter parameter 2....209
8.6.3.2.1 Start value....209
8.6.3.2.2 Initialization value....210
8.6.3.2.3 End value....210
8.3.3.2.4 End value control....211
8.6.3.2.5 Counter reset (methods)....211
8.6.3.3 Carry out Replacements....211
8.6.4 Shift code....212
8.6.4.1 Construction of the functional area Shift code....212
8.6.4.2 Compile shift times and integrate shift codes....213
8.6.4.3 Remove shift times....215
8.6.5 Text....216
8.6.6 External text....216
8.7 Replacements....217
8.7.1 Carry out replacements....218
8.8 Job (editor) management....220
8.8.1 Save job/Save job as....220
8.8.2 Close job editor....222
9. Disturbances/Trouble shooting....223
9.1 General....223
9.2 Display of device messages....223
9.3 Error messages....224
10. Equipping/Maintenance....226

10.1 Equipping....226
10.1.1 Refilling of ink and solvent....226
10.1.2 Working with TAGs....229
10.2 Service/Maintenance....230
10.2.1 Daily servicing work....230
10.2.2 Weekly servicing work....231
10.2.3 Anual servicing work....231
10.2.4 Other servicing work....232
10.2.4.1 Replacement of the battery....232
10.2.4.2 Adjusting the ink jet....233
10.3 Cleaning....234
10.3.1 Cleaning the print head....234
11. Taking out of operation/Dismantling....235
11.1 Taking out of operation....235
11.2 Dismantling/Disposal....235
12. Appendix....236
12.1 Circuit diagrams of the interfaces....236
12.2 Connection examples of the interfaces....238
12.2.1 Interface X3 (Outputs)....238
12.2.2 Interface X4 (Inputs)....239
12.2.2.1 Increment Counter Signal (PIN 2)....239
12.2.3.2 Reset Counter Signal....239
12.2.2.3 Jobselect Input....240
12.2.2.4 Inputs....241
12.2.4.5 ON Input....241
12.3 Drawings....242
12.3.1 Print head....242
12.3.2 Cabinet JET2 neo....243
List of keywords/Index....244
List of illustrations....251

1.2 Group directory

The group directory serves as a guide through the device manual at hand to be able to find specific subject areas quickly.

Group	Directory	Page
1	**Overview**	**1**
	Table of contents	1
	Group directory	9
	Publisher	10
	Introduction	12
2	**Safety**	**14**
3	**Accident prevention**	**22**
4	**Technical data**	**25**
5	**Transport/start up**	**29**
6	**Operation**	**50**
	Construction/Structure	50
	Functional principle	51
7	**Data entry**	**74**
8	**Job editor**	**161**
9	**Disturbances/Trouble shooting**	**223**
10	**Equipping/Maintenance**	**226**
11	**Taking out of operation/Dismantling**	**235**
12	**Appendix**	**236**
	Circuit diagrams of the interfaces	236
	Connection examples of the interfaces	238
	Drawings	242
	List of keywords/Index	**244**
	List of illustrations	**251**

1.3 Publisher

For questions regarding the operation and running of the LEIBINGER JET2 neo as well as in service case please contact the listed dealer address.

Dealer address

Paul Leibinger GmbH & Co. KG
Special factories for numbering machines
Daimlerstraße 14
D-78532 Tuttlingen
Federal Republic of Germany

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American Branch Office
Paul Leibinger
Numbering Machine LTD
2702-B Buell Drive
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Phone +01 262.642-4030
Fax +01 262.642.4033
email: info@leibingerusa.com

part of this manual must be reproduced or distributed and stored through the use of electronic data processing systems or made accessible to third parties in any form (redrawn, photocopied, microfilmed or through any other process) without the written consent of the publisher.

We reserve the right to make alterations to the scope of delivery at any time in the form of technology, hardware, software as well as the corresponding materials (and manual extracts) as a result of innovative further development of our devices.

Texts, illustrations and technical drawings have been compiled with the greatest of care. Nevertheless errors cannot be excluded. Consequently no guarantee can be assumed for the correctness of the content of this manual and no claims can be asserted against Paul Leibinger GmbH & Co. KG.

We shall be grateful for information regarding possible printing errors as well as for suggestions for the further optimisation of the device manual.

Authoritative for the scope of delivery is not the manual but rather the written order confirmation.

1.4 Introduction

We are pleased that you have decided in favour of a LEIBINGER JET2 neo device and welcome you as one of our customers.

You now own a LEIBINGER JET2 neo device that has been developed and constructed on the basis of many years of experience and using the latest Leibinger technology. This results in a high degree of quality and the renowned Leibinger reliability.

This manual shows you the fundamental advantages of the Leibinger Jet system manufactured by us, such as for example the fully automatic working, low maintenance etc..

The manual must be read thoroughly prior to first start up in order to ensure that no damage to the device and/or endangering of the operating personnel results from a defective electrical connection and/or from incorrect operation.

Please pay particular attention to the safety instructions of the groups **Safety instructions** and **accident prevention** when handling consumables (ink and solvent).

Our devices are subjected to a quality control in our plant prior to delivery. If despite this the device or parts of it should be damaged or their function disturbed please advise us of this as fast as possible.

It is only through the use of inks and solvents from Paul Leibinger GmbH & Co. KG that optimum operating characteristics can be achieved. **Should other inks and solvents be used all guarantee claims will expire.**

Product liability!

No alterations whatsoever must be carried out on the entire LEIBINGER JET2 neo device. No liability will be accepted for damage or dangers resulting from inadmissible alterations.

Caution – danger of explosion!

The device should be only operated outside of explosive areas!

The installation has to be carried out according to the installation instructions of the manufacturer!

1.5 Document information

The instruction Release R1.00e of 15th.November.2011 is valid for LEIBINGER JET2 neo machine with the given below serial number.

Seriennummer einkleben
Stick in serial number

1.6 Guarantee

The guarantee conditions for the LEIBINGER JET2 neo can be seen from the order confirmation. The warranty presupposes that the device or the installation is operated correctly in accordance with the available guarantee manual and any possible additional manuals and descriptions prepared by us.

At this point we wish to make explicit reference to the fact that it is only when using solvent and ink from Paul Leibinger GmbH & Co. KG that the optimum operating characteristics can be achieved. **In the event of use of other inks and solvents all guarantee entitlements shall cease to apply.**

2. Safety

2.1 Dangers

The high performance printer LEIBINGER JET2 neo has been built in accordance with state-of-the-art standards and recognized safety requirements and has been equipped with protective devices.

Operational and safety checks of the installation were carried out before it left the factory. In case of improper handling or misuse, however, there are dangers for

- the health of the operating staff
- the high performance printer JET2 neo and other real assets of the plant operator
- the efficient operation of the high performance printer

All persons entrusted with the putting into service, the operation, the maintenance and the overhauling of the high performance printer must

- have the necessary qualification and
- strictly comply with this operating manual.

YOUR safety matters!

2.2 Safety instructions and recommendations

This operating manual use the following SYMBOLS with DANGER WARNINGS:

Indicates impending electrical danger!

Failure to observe this instruction can lead to **serious** injuries or to **death**!

Indicates a dangerous situation through pressurised media!

Failure to observe this instruction can cause injuries!

Indicates a dangerous situation!

Failure to observe this instruction can lead to material damage or to injuries!

Indicates a dangerous situation!

Failure to observe this instruction can cause **serious** hand injuries!

Indicates a dangerous situation through flammable materials!

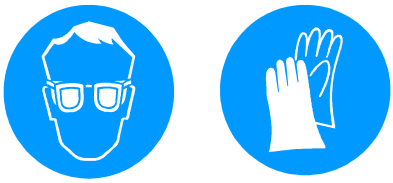
Failure to observe this instruction can lead to material damage, to **serious** burns or to **death**!

Describes a dangerous situation by an explosive atmosphere and/or by an electrostatic discharge!

The non-observance of this advice can cause explosions and therefore damages to property, **serious** burnings or **serious** damages to person!

Indicates a dangerous situation through irritating materials!

Failure to observe this instruction can lead to poisoning and to irritation of the eyes, the skin as well as of the respiratory organs!

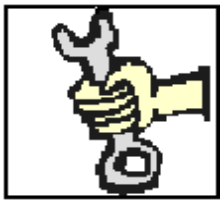


Indicates the necessity of personal protective clothing!

Sufficient protective equipment must be worn. Failure to observe this instruction can lead to injury!

Indicates the necessity of observing the device manual and other instructions!

Failure to observe this instruction can lead to material damage, the loss of guarantee and to injury!



Indicates service activities!

This work may only be carried out by trained personnel or Leibinger-service technicians!

Indicates important user information

for safe and effective working.

Indicates recommendations for use

and other useful pieces of information.

2.3 Intended use

The high performance printer JET2 neo serves exclusively the contact-free marking, inscribing and coding of surfaces using the continuous ink jet process.

The high performance printer can be used on the most varying materials (e.g. metal, synthetic material, glass, paper, wood, pressed materials, rubber etc.) with both, smooth as well as uneven, rough and stepped surfaces.

Only non pigmented inks can be processed!

The intended use of this device also includes the observance of all instructions in this manual.

Using the installation for other purposes is considered contrary to its intended use!

For safety reasons conversions and alterations are only admissible following consultation with the manufacturer. Repairs to the device must only be carried out with original replacement parts. The manufacturer shall not be liable for damage resulting from use for other than the intended purpose or misuse.

Caution – Danger of explosion!

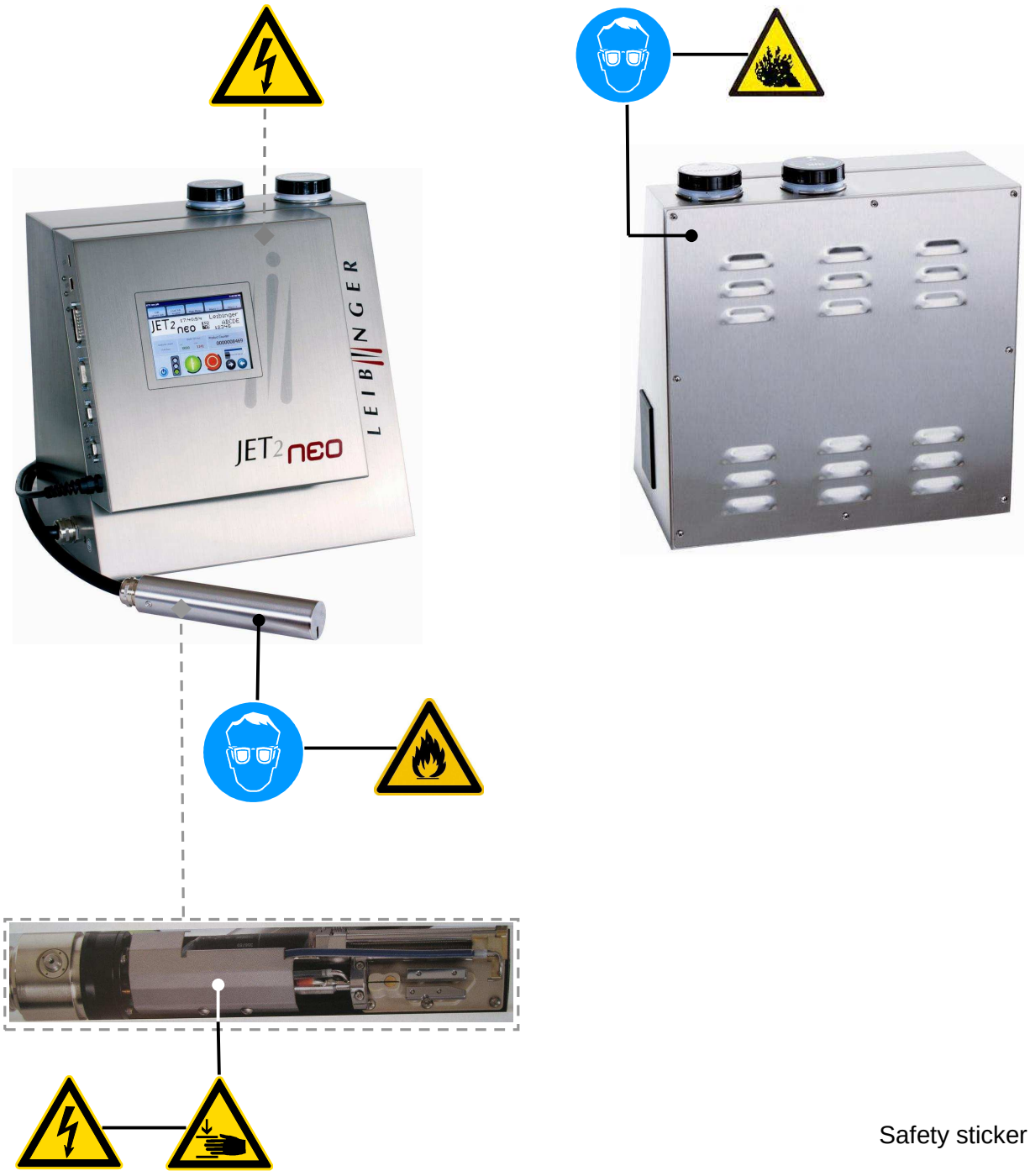
- *The device should be only operated outside of explosive areas!*
- *The installation has to be carried out according to the installation instructions of the manufacturer!*

Caution – Danger of explosion!

Precautions regarding electrostatics have to be carried out!

2.4 Safety sticker

Figure 1



Safety sticker

2.5 Operating staff

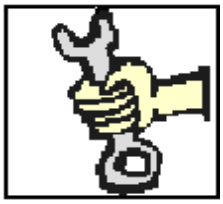
Only trained personnel must operate the device. The personnel must have appropriate training to enable them to be able to operate the JET2 neo high performance printer professionally.

Within the working area of the LEIBINGER JET2 neo device the operator is responsible with regard to third parties.

The operator must

- put this operating manual at the operating staff's disposal and
- make sure that they have read and understood them.

2.6 Dangers due to electric energy



The electrical and electronic components of the high performance printer are under voltage. The device must only be opened by trained personnel or by Leibinger service technicians.

Prior to the opening of the device the device must be switched off and the mains plug removed.

2.7 Personal protective equipment

Materials are processed in this device that cause irritations and which are under pressure. In order to avoid injury and damage the personnel must wear the following personal protective equipment during certain work procedures:

- suitable work clothing
- suitable eye protection
- suitable hand protection

More detailed information can be found in the corresponding chapters of this manual as well as possibly in information and data leaflets of consumables.

2.8 Protective devices and safety concept

In **an emergency** the device is placed idle by removal of the mains plug.

The device is equipped with the following safety concept to provide explosion protection:

- Bottom tub as collecting tray
- Jet monitoring in the gutter circuit

- Ventilation in the hydraulic cabinet
- Plastic containers are arranged in the field of metal surfaces (PE-potential)
- HV-cutoff at creepage current
- HV- and ink cutoff as well as nozzle sealing at HV-flashovers

2.9 Safety measures at the place of installation

Mains connection!

The device has no mains switch and must only be connected to a easy accessible plug socket in the direct vicinity of the place of setting up!

Installation of the device

The device must be installed in a well ventilated room only and must be kept away from any source of heat, flame or sparks, e.g. radiant heater, etc.

Caution – Danger of explosion!

- *The device should be only operated outside of explosive areas!*
- *The installation has to be carried out according to the installation instructions of the manufacturer!*
- *The device has to be integrated in the lightning protection concept of the operator!*
- *Precautions regarding electrostatics have to be carried out!*

A place of setting up must be selected with sufficient load bearing capacity and stability. When setting up it must be observed that sufficient movement space is available for the operating and service personnel. Solvents are processed in the device, sufficient room ventilation must be ensured!

Prior to assembly the place of setting up must be cleaned of dirt and contamination (residue of lubricants etc.). The working place surroundings should be kept clean at all times in order to ensure unrestricted access to the LEIBINGER JET2 neo device.

2.10 Dangers through consumables

Inks are coloured liquids on a solvent basis. The safety instructions on the containers of the consumables as well as the instructions in the group **Accident prevention** must be especially adhered to in order to exclude dangers for persons and the surroundings. Further instructions can be found in the Safety Data Sheets.

When handling consumables (inks/solvents) the danger instructions and safety advice on the containers (transport, storage, distribution and correct disposal) must be observed!

In addition we recommend **observance of the safety information leaflets** of the inks and solvents used.

In the following you will find examples for the marking of inks and solvents.

Figure 2

Examples: Labels for the marking of inks and solvents.

2.11 Conformity

Abstract of declaration of conformity

according to machinery directive (2006/42/EG), Appendix II 1.A
according to low-voltage directive (2006/95/EG)
according to EMC directive (2004/108/EG)

CE

…complies with the provisions of the above mentioned directives –including the changes which valid at that time of the declaration. The following harmonized standards have been applied:

EN ISO 12100-1	Safety of machinery; basic concepts, general principles for design; part 1: basic terminology, methodology
EN ISO 12100-2	Safety of machinery; basic concepts, general principles for design; part 2: technical principles
EN 60950-1	Information technology equipment – Safety; part 1: General requirements
EN 61000-6-2	Electromagnetic compatibility (EMC) – part 6-2: Generic standards – Immunity for industrial environments
EN 61000-6-3	Electromagnetic compatibility (EMC) – part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments

For that product the relevant technical documentation was compiled according to Annex VII part A of the machinery directive, on a resent request this document can be transmitted to national authorities per CD.

Name and address of the person who is authorised to arrange the technical documentation: Kurt Strittmatter, authorised documentation agent, Paul Leibinger GmbH & Co. KG, D-78532 Tuttlingen (Germany)

Annotation:

The device is intended only for use outside of explosive areas.

This declaration is only valid for the components which are included in the delivery range of the manufacturer. The installation and works which have been carried out by the customer either the distributor as well as its components and modules are not the responsibility of the manufacturer. The adherence of the valid standards and regulations of the technology are generally the responsibility of the customer either of the distributor.

3. Accident prevention

The following presentation shows the measures in the event of an accident with **ink** and **solvent** with the **danger marking**,

- slightly ignitable
- irritates the eyes and the respiratory organs.

3.1 Storage and handling (normal use)

GENERAL

These products must only used at points that are free from open flames and other ignition sources. Do not use pressure for emptying – the container is not a pressure vessel. Good household practice and regular, safe removal of the waste materials restrict the danger of self-ignition and other risks of fire to a minimum. The product can charge statically. When pouring from one container to another use a mass lead. The workers must wear anti-static shoes and clothing and the floors must be conductive.

STORAGE

Observe the marking information. Store at 5 to 25℃ in a warm, well ventilated location at a safe distance from heat and ignition sources and direct sunlight.

Do not smoke! Do not grant access to unauthorised persons. Open containers must be properly closed and stored upright in order to avoid leakage.

Smoking, eating and drinking must be forbidden in the storage and working areas. Always keep in containers from the same material as the delivery containers.

HANDLING

The development of combustible or explosive vapour concentrations must be prevented and vapour concentrations avoided that are above the threshold values of the employers liability insurance association. Keep containers closed tightly.

Keep sources of heat and sparks as well as open flames well away.

Use only spark-free tools. Electrical devices must be protected in accordance with the corresponding standard.

Avoid contact with the skin and eyes. Do not inhale vapours and spray mist.

3.2 First aid measures

EYES	Contact lenses must be removed. Rinse thoroughly with pure, fresh water for at least 10 minutes, keep eyelids spread and call a doctor.
SKIN	Remove contaminated clothes. Wash skin thoroughly with soap and water or with a branded skin cleansing agent. **DO NOT** use solvents or thinners.
INHALING	Take patient into the fresh air and keep warm and calm. In the event of irregular breathing or of breath being missed resuscitate artificially. Do not give anything orally, place unconscious patients on their side and call a doctor.
MISCELLANEOUS	In case of doubt or with persistent symptoms call a doctor. Never give anything orally to unconscious patients.

3.3 Fire fighting measures

EXTINGUISHING AGENTS	Recommended: Alcohol-resistant foam, spray water/mist, CO_2 or powder **DO NOT** use water jets. Cool closed containers exposed to the fire with spray water.
RISK OF FIRE AND EXPLOSION	As the product contains combustible organic constituents, a thick, black smoke develops in the event of fire that contains dangerous combustion products. Decomposition products can constitute a danger to health. Extinguishing waste water must not enter the waste water channels or waters.
PROTECTIVE MEASURES	If necessary suitable, independent breathing apparatus is required.

3.4 Measures in the event of accidental release (spillage)

PRECAUTIONARY MEASURES Switch off sources of ignition and ventilate room. Keep personnel that are not absolutely necessary away. Do not inhale any vapour. Observe the protective measures listed.

ENVIRONMENTAL PROTECTION MEASURES **DO NOT** allow to enter waste water channels or waters.

Should the product enter waste water channels or the drainage system the local water supply authority must be informed immediately. In the event of contamination of streams, rivers or lakes inform the national water authorities. Vapour is heavier than air and can spread out on the ground. In combination with air it can form an explosive mixture.

RESTORATION Restrict and suck up spilled substances with a non-combustible absorbent material *(e.g. sand, earth, vermiculite, infusorial earth)* and collect in a suitable container for removal. Preferably clean areas with spilled substances with a detergent. Avoid solvents.

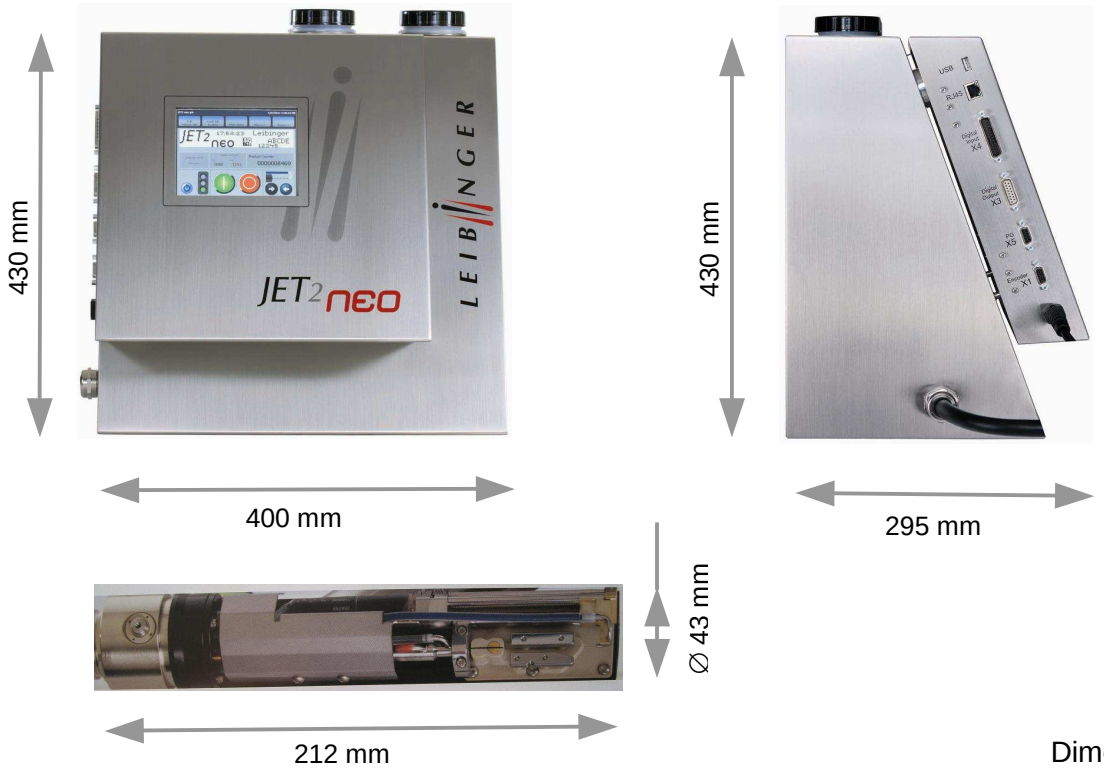
4. Technical data

4.1 Housings, dimensions, weights

Cabinet : Stainless steel
Width 400 mm, depth 295 mm, height 430 mm
Weight: 17 kg

Print head: Stainless steel cabinet
Length (total) 212 mm, diameter 43 mm
Length of the print head lead 3 m
Weight: 1,5 kg
Any fitting position, also for overhead conveyor applications

Figure 3



Dimensions

Protection class: IP 54

4.2 Electrical connection values

Input voltage (voltage range):	100 - 240 V AC ,50-60 Hz
Current consumption:	max. 0,33 A at 100 V AC max. ,020 A at 240 V AC
Power consumption:	max. 35 VA at 100 V AC max. 33 VA at 240 V AC
Stand By:	3 W at 100 V AC 4 W at 240 V AC

4.3 Ambient conditions

Temperature range:	+ 5°C to + 45°C (no rapid chan ge of temperature)
Relative humidity:	max. 90 % relative humidity (non-condensating)

4.4 Interfaces, Inputs, Outputs

Product sensor input:	NPN/PNP 24V
Incremental encoder input:	TTL 5V, HTL 24V, RS422 5V
Inputs:	3 digitals, free selectable 8 inputs for ext. job selection
Outputs:	4 digitals, e.g. for alarm, re-filling, etc.
Interfaces:	USB

4.5 Performance parameter

Printing capacity:

Character height: approx.

- min.: 1,2 mm
- max.:11 mm

Depending on font, distance of head, nozzle diameter, ink, product surface and type of print head

Up to 3200 characters/sec.

Printing speed: Up to 6,6 m/sec (10 cpi)

4.6 Fonts

All fonts can be combined arbitrarily

Printing of 1-3 lines

Capitals and lower case letters, umlauts, special characters

Fonts 5x5 up to 24x18

Multistage contrast- and bold text

All common Barcodes (Barcode 39, Code 128C, Postnet etc.) and Data-Matrix-Codes (ECC 200), GS1-Data-Matrix (EAN/ECC)

4.7 Types of writing

Double distance

Texts backwards

Symbols mirror-inverted

Symbols mirror-inverted and upside down

Symbols mirror-inverted, upside down and text backwards

Alternating readable font, reverse, bold text, inverse

4.8 Font combinations

All fonts can be presented in one writing in the requested matrix.

4.9 Function

Full automatic function by:

- The automatic nozzle seal guarantees that the print head is ready to print immediately after starting.
- Automatic, electronic drop control for compensation of changing ambient- and operating temperatures
- Automatic viscosity control
- Splash-free re-filling of ink and solvent during the printing operation

4.10 Software

Functions:

- Selectable print delay or print repetition
- Any combination of constant and variable texts within a printing line
- 3 individually programmable counters
- Current date- and time printing, original date
- Free programmable graphics/logos, creatable in the integrated editor
- Job editor allows the saving and calling of texts and all printing relevant parameters
- Programmable batch processing of jobs and bonding of several jobs
- „External-Text“ function
- Variable text (Data base processing)
- Replacements: all date-, time- and counter functions are codable by replacements
- Shift operation

5. Transport/Start up (Putting into service)

5.1 Transport, storage, shipping

In order to avoid damage during transport the following instructions must be observed.

The LEIBINGER JET2 neo must only be transported in a standing position. It is packed in a cardboard box with special polystyrene inserts for safe dispatch during delivery. Transport of the device must only be made in this packing in order to avoid damage.

The printer should be only transported <u>in an empty condition</u>! Two special draining routines ("Main menu ▶ Service ▶ Hydraulic/Printhead ▶ Special functions ▶ Deplete ink resp. Deplete solvent") are available for the draining of the device.

You will find further information in the group ***Data/Programming*** in the **chapter *Special functions*** under the **point *Drain routine*** (page 148)!

Note! Storage temperatures below +5℃ and above +50℃ as well as storage at outside are not admissible and can lead to damage!

5.2 Mounting

Caution – Danger of explosion!

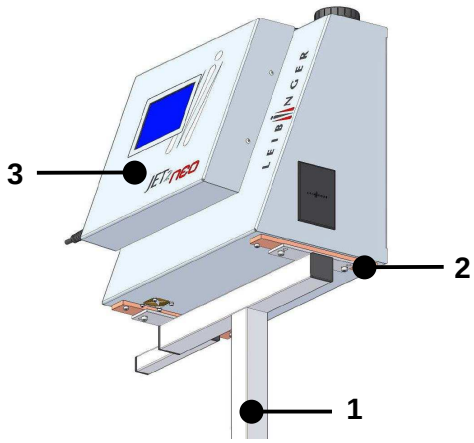
- *The device should be only operated outside of explosive areas!*
- *The installation has to be carried out according to the installation instructions of the manufacturer!*
- *Precautions regarding electrostatics have to be carried out!*

Installation of the device

The device must be installed in a well ventilated room only and must be kept away from any source of heat, flame or sparks, e.g. radiant heater, etc.

Check device for damage! When determining a suitable place of setting up, the necessary additional space requirement for the movement room of the operating and service personnel must be taken into consideration. Solvents are processed in the device, adequate room ventilation must be ensured!

Figure 4



1 – Movable underframe
2 – Adapter plate JET2 neo (2x)
3 – Printer JET2neo

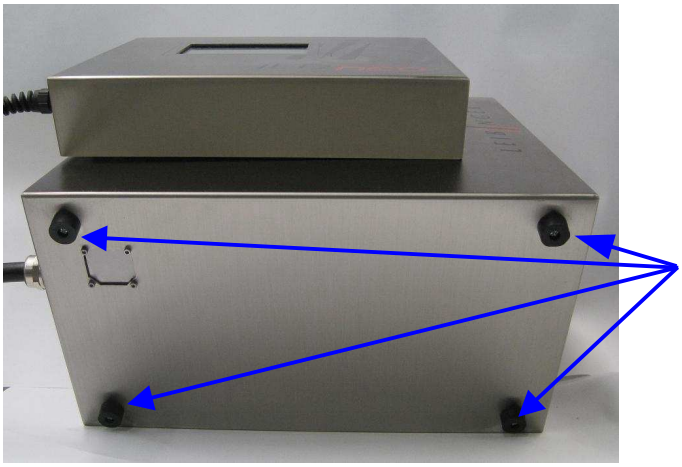
Movable underframe for JET2 Neo

For this it is expedient to place the device on a device support.

Remark: *Device carrier set is available as an accessory.*

The device has four fastening possibilities for secure setting up and should be screw connected at the place of setting up.

Figure 5



Fastening possibilities

A place of setting up with sufficient load bearing capacity and stability must be chosen. Prior to assembly the place of setting up must be cleaned of dirt and contamination (residue of lubricants etc.) .

5.3 Installation

For adaption to the production line several works have to be carried out and operating parameters have to be set before start of operation.

5.3.1 Mains supply

Mains supply!

The device does not have a mains switch and should be only connected to an easy accessible socket close to the installation location!

The LEIBINGER JET2 neo should be connected to AC voltage 100-240 V AC, 50-60 Hz with an appropriate plug. **The socket should be provided with a clear designation (e.g.: JET2 neo).**

After connecting to the mains power supply the initialization of the device will be carried out automatically. After this process the JET2 neo is ready for operation.

You will find further information regarding the initialization in the **chapter *Initialization of device***!

5.3.2 Grounding (Potential equalization)

Grounding (Potential equalization)!

In case of a non existing grounding or that the grounding of the printer is not carried out properly, this could cause serious injury or death and it can also cause malfunctions or damages at the printer!

These dangers or demolitions can happen for example because of electrostatic discharge (ESD) or potential difference.

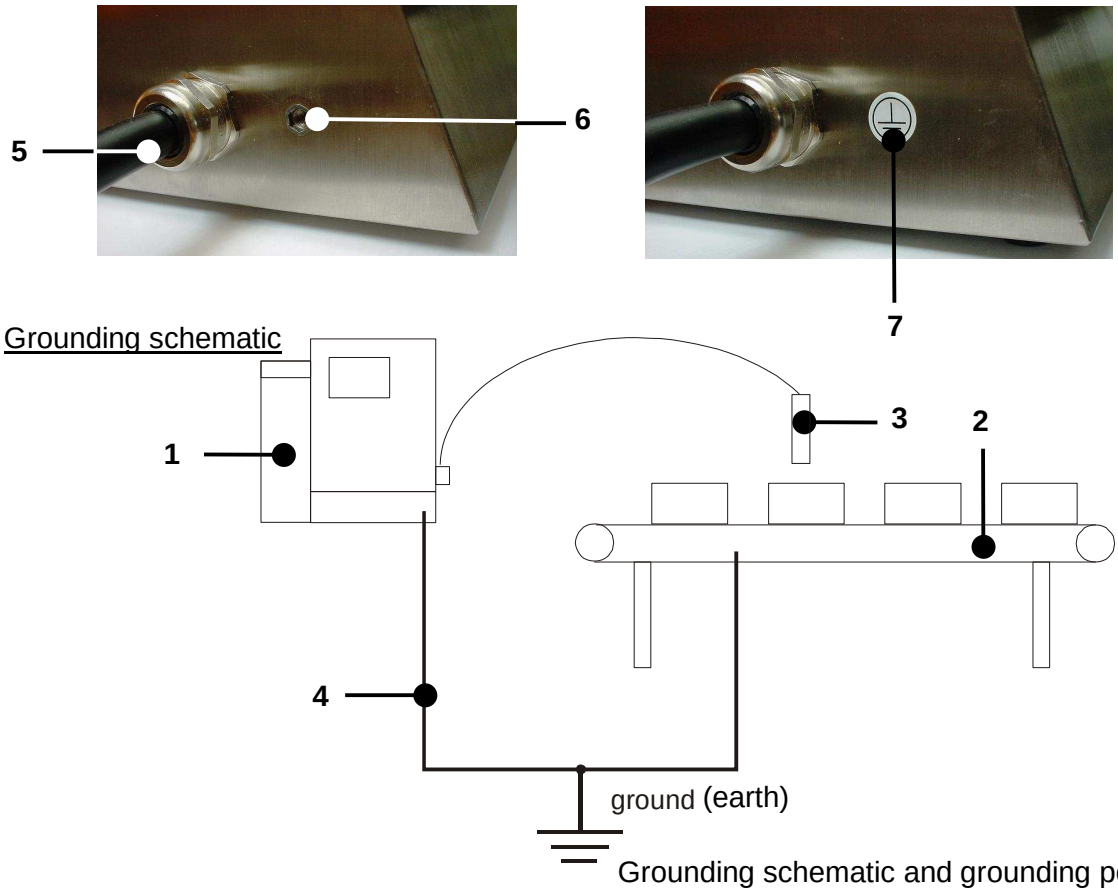
Specially for countries without existing protected earth connection, there is a special grounding point located at the side of the printer.

This threaded socket must be connected to ground if there is no ground pin in the mains socket/plug.

The threaded case is sealed inwards and thus IP 65 conform. With a screw and a ring terminal (cable lug) the grounding can be fixed easily.

Please note, that the grounding point (6) is hidden behind the round grounding-symbol-label (7) on the lower left hand side of the cabinet of the printer.

Figure 6



Grounding schematic and grounding point

1 – Printer cabinet
2 – Installation (machine)
3 – Print head
4 – Grounding line
5 – Umbilical
6 – Grounding point (M6)
7 – Grounding symbol *(label)*

Grounding instructions

- A separate grounding line (min. cable cross-section 2.00 mm^2) to the printer cabinet must be installed **before** the print head is mounted in the installation and **before** the printer is plugged to the power supply.
- The connection must be carried with a solid bonding that corresponds with existing guidelines.

  Annotation: *A suitable grounding cable is available optionally (accessories).*
- The installation (machine) and the printer must have the same potential/ground.

The printer must be always be switched off and the mains plug must be always unplugged if you plug and/or unplug any connectors!

5.3.3 Explosion protection

The device has to be integrated in the lightning protection concept of the operator!

Further more protection measures regarding electrostatics have to be made!

5.3.4 Print head

Inflammable (Risk of fire)!

Combustible gases and liquids cause serious burns. Sources of ignition must be kept away from the print head!

Risk of injury!

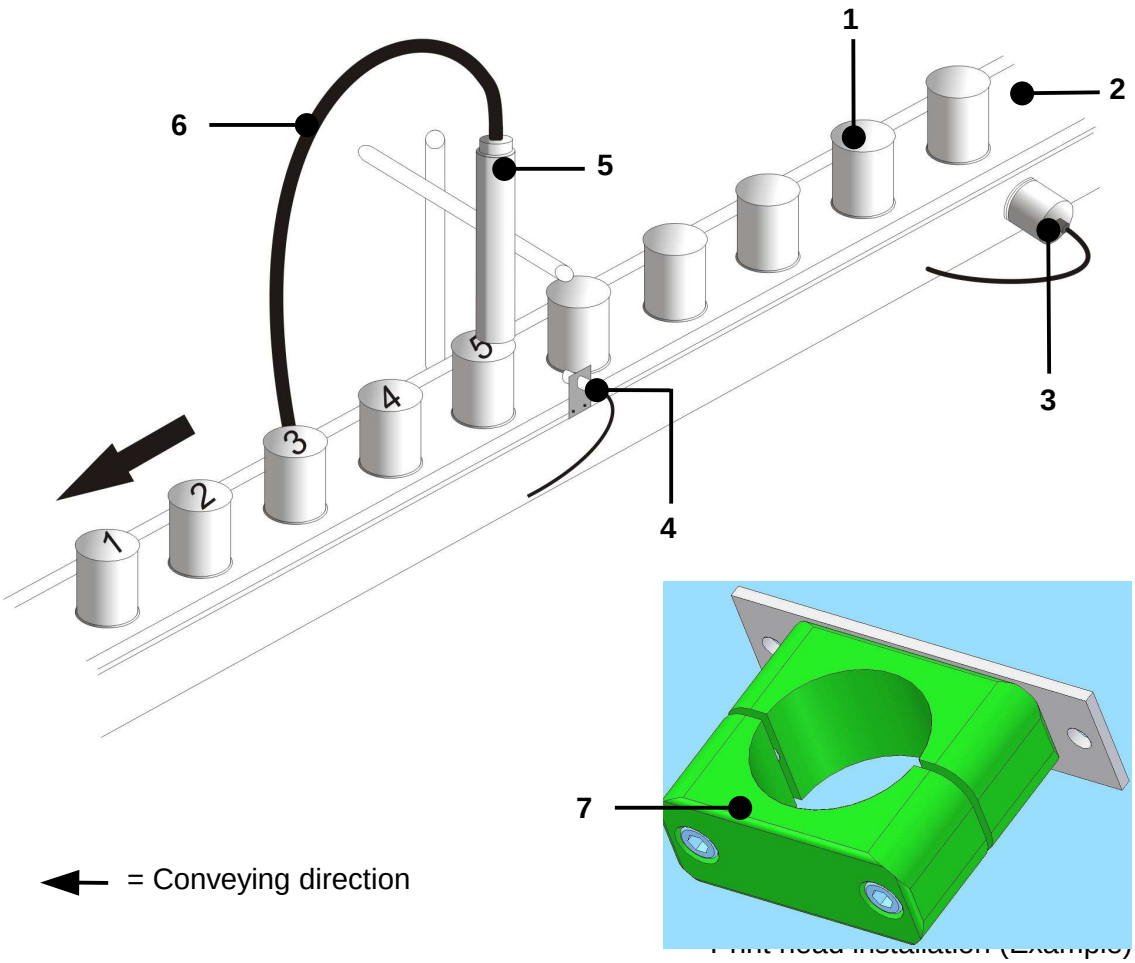
Ink escapes from the head aperture. Spraying of ink into the eyes can cause blindness. Eye protection is necessary!

The print head should be mounted to the printed product that the notch in the head cover is placed vertical to the moving direction of the product. It can be installed horizontal, vertical, from the top or from the bottom.

For installation from the bottom it has to be prevented that dirt can enter in the print head. For this a head ventilation is required which can be purchased optionally.

The print head mounting should be carried out that a fast separation of the print head from the device for cleaning purposes is possible.

Figure 7



Print head installation (Example)

1 – Product
2 – Conveyor belt
3 – Encoder
4 – Sensor
5 – Print head
6 – Umbilical (Hose connection)
7 – Print head adapter *(accessories)*

The print head should be attached vibration-free. The hose connection of the print head should not be smaller as a radius of R60 statistically and dynamically not below R100!

The distance of the print head to the product depends on the required character height. As smaller the required character height, as smaller the distance of the print head to the product (smaller distances produce better type quality)

***Note:* In general a distance of round about 8-10 mm is recommended.**

Installation of print head

During an installation of a device in a production line, the operating staff should be not endangered. Due to moving products under the print head danger of bruising and shearing can be caused. The regulations of the machinery directives should be observed!

5.4 Starting (Commissioning)

For a safe transport some hydraulic components are supplied with transportation protection (cable ties) and the reservoir tanks are evacuated. The following steps have to be carried out before the initial operation

- Remove the transportation protection (cable ties) (Step 1)
- Fill the reservoir tank (Step 2)
- Carry out the function **<Fill up routine>** (Step 3).

5.4.1 Remove transportation safety devices (Step 1)

The pumps of the hydraulic system are secured with cable ties. These **have to be** absolutely removed.

Proceeding:

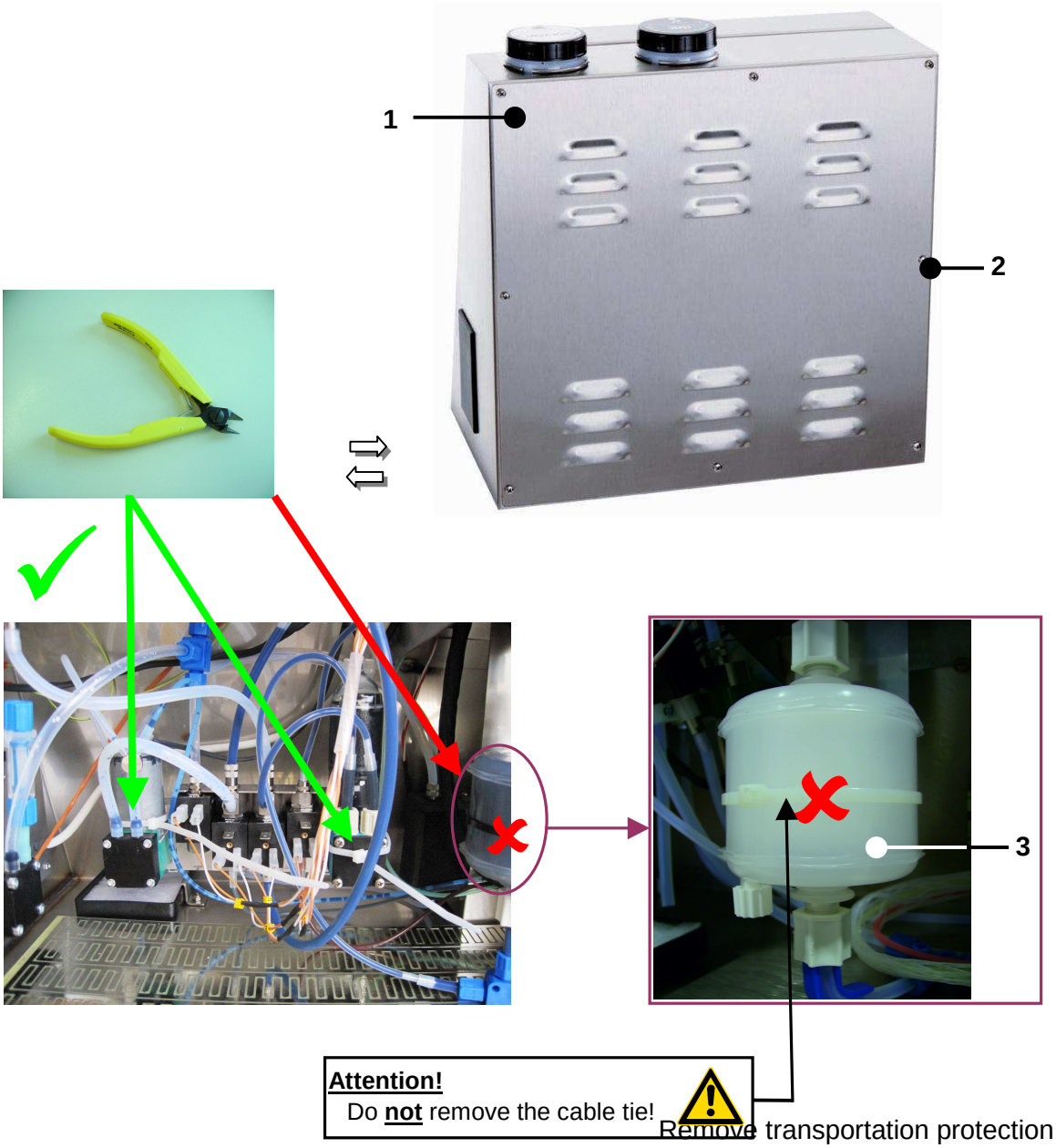
- Dismantle the back cover of the hydraulic cabinet (1) by loosing the fixing screws (2).

Attention!

The cable tie at the main filter (3) should not be removed!

- Remove the transportation protection (cable ties).
- Now attach the back cover of the hydraulic cabinet again with the according fixing screws.

Figure 8



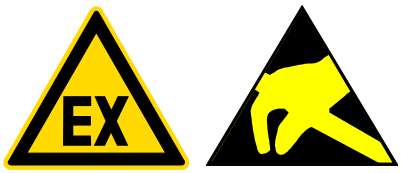
1 – Back cover (Hydraulic cabinet)
2 – Fixing screws (8x)
3 – Main filter *(Do **not** remove the cable tie)*

5.4.2 Fill reservoir tank (Step 2)

To avoid damages of the device during the transportation the reservoir tanks should be evacuated and have to be filled before the initial operation.

Caution – Danger of explosion!

Before filling the device with the consumables, measures for the electrostatic discharge have to be made!



The operator can carry out a discharge either by the direct touching of the JET2 neo cabinet or by standing with the appropriate ESD-shoes on an grounded surface!

Dangerous material in the machine!

Danger of serious damage through burns, skin irriation and poisoning! Read the safety leaflets and the regulations on personal safety equipment!

The two reservoir tanks are always unpressurized and can be opened in every device condition.

The reservoir tanks and the sealing cap are color-coded and labelled to avoid any mistakes in filling. Additionally the sealing caps are marked with the ink-no. or solvent-no. which are admissible for the device.

For correct handling the LEIBINGER re-filling system allows an odor- and splash free refilling of the consumables.

Proceeding

(Example: Filling of solvent)

Inflammable (Risk of fire)!

Combustible gases and liquids cause serious burns. Sources of ignition must be kept away from the device!

Attention!

- Before the filling process a static discharge has to be carried out **necessarily**! For this you have to touch the cabinet of the printer directly or you have to stand with ESD-shoes on an grounded surface before the filling or during the process!
- The sealing of the refill bottle **should be not opened**!

- Open the screw cap of the solvent tank (1) and of the re-filling bottle (2).
- Put the re-filling bottle on the solvent tank. The seal of the bottle will be breached and the closing valve of the tank will open automatically and the reservoir tank is filled up.
- Wait until the re-filling bottle is completely empty.
- Take out the empty re-filling bottle. The closing valve of the reservoir tank will be closed automatically.
- Finally screw off the sealing cap of the reservoir tank as well as the empty refill bottle carefully.

After filling the reservoir tanks as well as the empty refill bottles, they have to be closed carefully again.

Figure 9

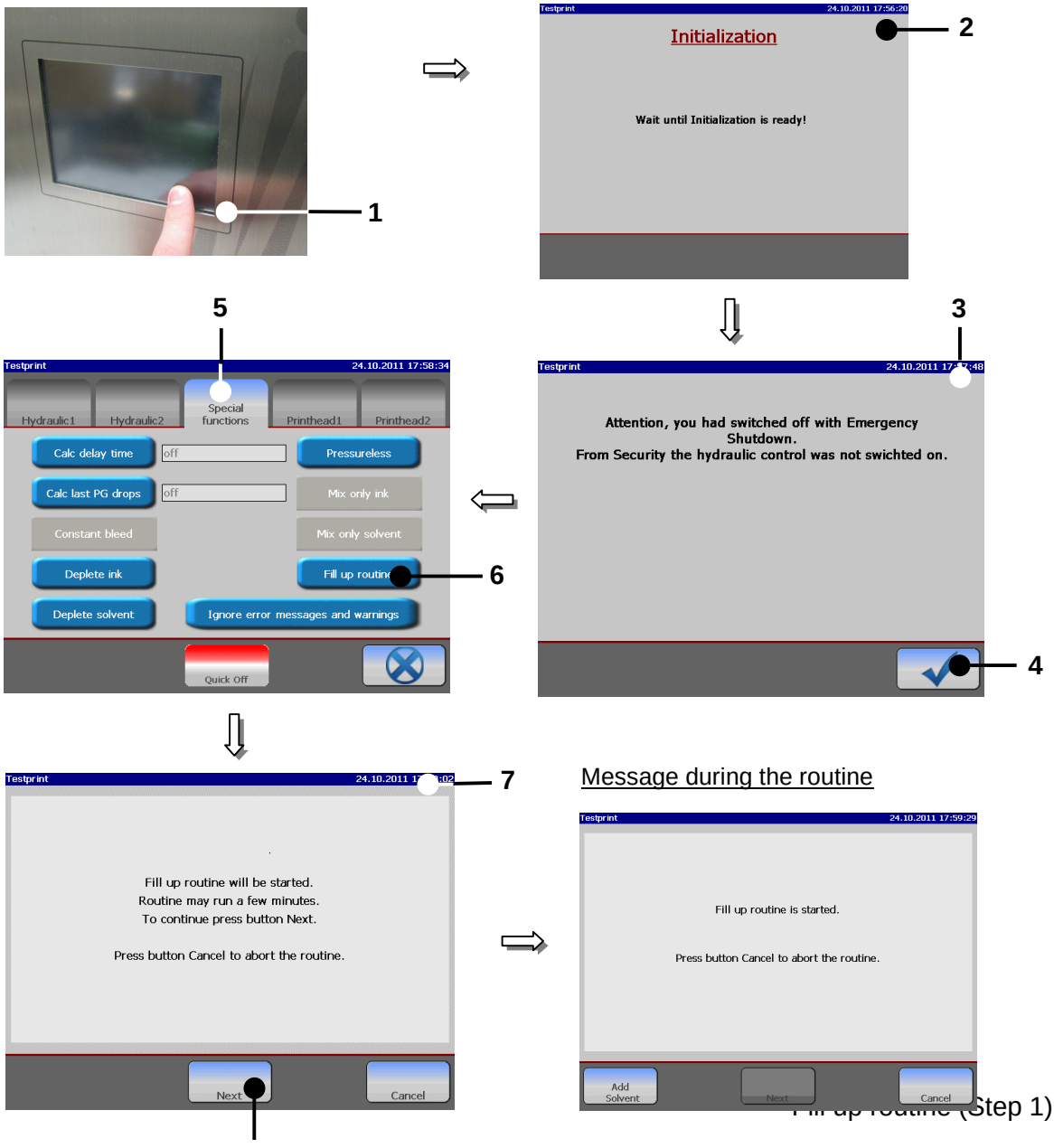
1 – Reservoir tank „Ink“
2 – Reservoir tank „Solvent“
3 – Re-filling bottle „Solvent“
4 – Seal of re-filling bottle

5.4.3 Carry out fill up routine (Step 3)

After filling the consumables (ink and solvent) you have to carry out the fill up routine.

Proceeding:

Figure 10



Fill up routine (Step 1)

1 – TFT-Touch-Display
2 – Message <Initialization>
3 – Message <Emergency Shutdown>
4 – Schaltfläche <OK (✓)>
5 – Register card <Special funktions>
6 – Button <Fill up routine>
7 – Message <Fill up routine>
8 – Button <Next>

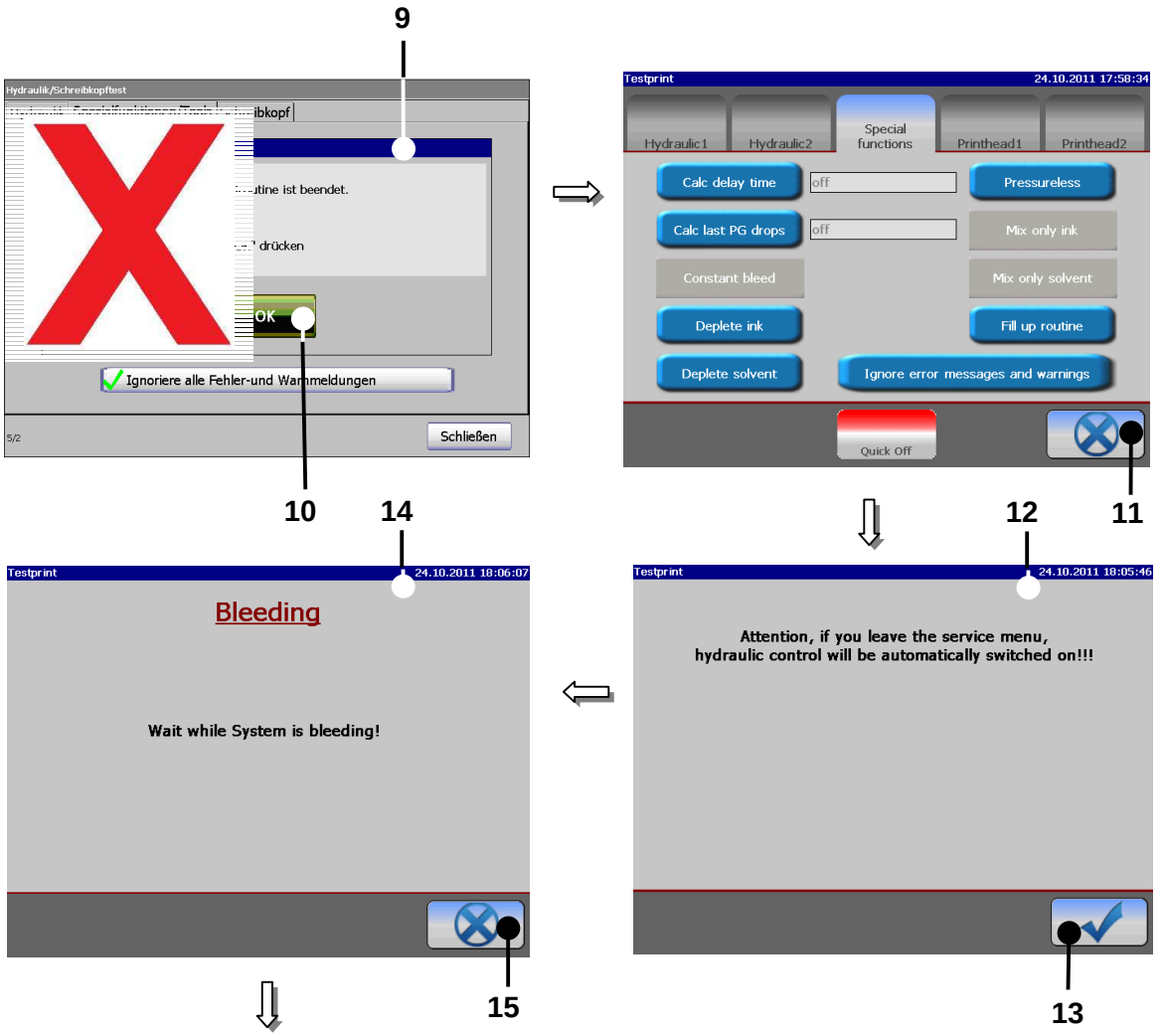
- Turn on the printer. For this touch the dark **touch-display** (1) at any position for approx. 2 sec.
- The device turns on and the **message<Initialization>** (2) is displayed. Wait until the initialization is finished. After this process the **message <Emergency Shutdown>** (3) is displayed.
- Press the button **<OK (✓)>** (4).
- Go to the "**Special functions"** area by clicking on the appropriate register card (5).
- Now press the button **<Fill up Routine>** (6). The **message <Fill up Routine>** (7) is faded-in.
- Press the button **<Next>** (8) to start the filling routine.

  Note: *This process takes approx. 10 minutes.*
- After finishing the process an according message (9) is displayed. Press the button **<OK>** (10) to finish the routine.
- Press the **<Close>** button (11) to exit the **<Special functions>** area.
- The message **<Hydraulic control>** (12) is faded-in.

  Note: *For leaving the service menu the hydraulic control will be turned on again automatically.*
- Press the button **<OK (✓) >** (13) to close the service menu.
- If required the device starts automatically with the bleeding of the system.

  During the process the message **<Bleeding>** (14) is displayed. The bleeding takes between 1–5 min. The process can be canceled by pressing the button **<Cancel>** (15).
- The **basic menu** (16) is now displayed and the printer is ready to operate.

Figure 11



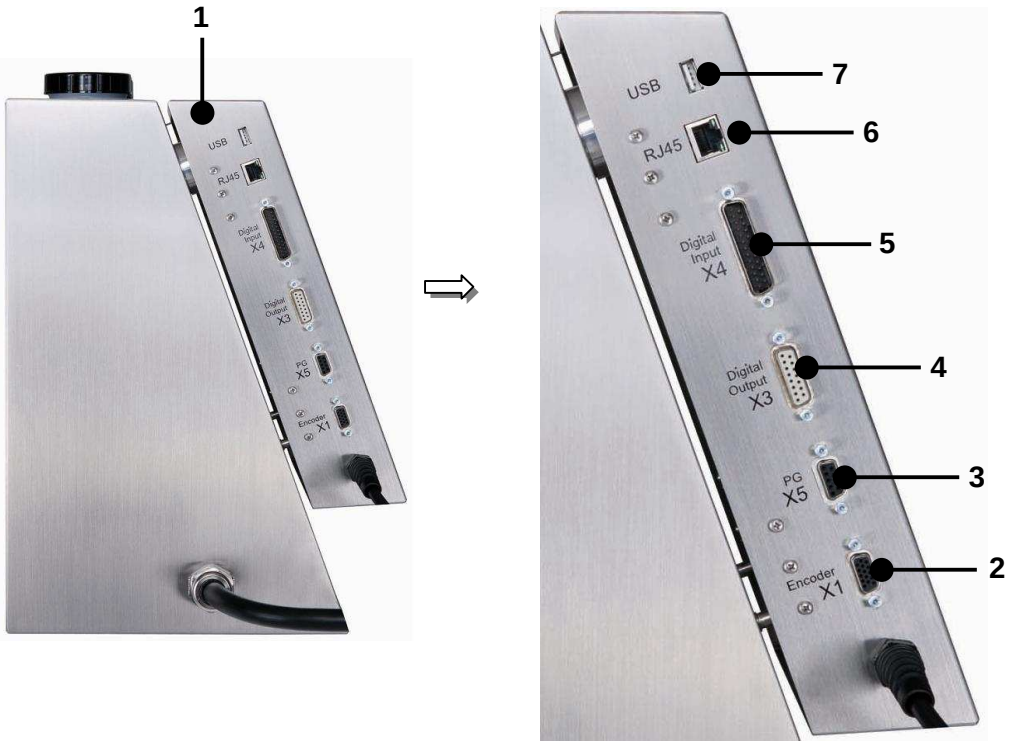
Fill up routine (Step 2)

9 – Message <Fill up routine finished>
10 – Button <OK (✓)>
11 – Button <Close>
12 – Message <Hydraulic control>
13 – Button <OK (✓)>
14 – Message <Bleeding>
15 – Button <Cancel>
16 – Basic menu

5.5 Interfaces

The following interfaces are available on the rear side of the electronics cabinet.

Figure 12



Interfaces

1 – Electronic cabinet
2 – Interface X1 – Encoder
3 – Interface X5 – PrintGo
4 – Interface X3 – digital outputs
5 – Interface X4 – digital inputs
6 – Network connection RJ 45
7 – USB connection

5.5.1 Interface X1 (Encoder)

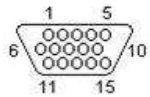
5.5.1.1 Description and configuration

The interface “X1” provides the connection of a shaft encoder.

Due to the input for which you can set the software individually, the encoders can be connected according to different norms without an additional converter.

Note: *For variable product speed you have to use a shaft encoder to synchronize the printing speed or to control the constant font width.*

Plug assignment:



HD-D-sub 15 Male

Pin connection:

Pin	Designation		Pin	Designation
1	+5 V (max. 400 mA)		7	Encoder port /B RS422
2	GND		8	Encoder port A TTL (5V)
3	+24 V (1)		9	Encoder port B TTL (5V)
4	Encoder_port A RS422		10	Encoder port A HTL (24V)
5	Encoder port /A RS422		11	Encoder port B HTL (24V)
6	Encoder port B RS422			

Basic data/Recommended working conditions:

Signal type	Parameter	Value
RS422	Input level	Difference input ≥ +/-200mV Input voltage range: -0.3 up to 5.5V
	Max. frequency	10 MHz
	Terminating resistor	100 Ohm
TTL	Input level High	2,4V up to 5,5V
	Input level Low	-0,5V up to 0,7V
	Max. frequency	500 kHz
	Input resistance	1 MOhm
HTL	Input level High	12 up to 28V
	Input level Low	-0,5 up to 3,5V
	Max. frequency	500 kHz
	Input resistance	4 kOhm

(1) All 24V inputs which are designated with (1) are protected by a self-reset fuse with 700 mA.

The signal type which should be used as encoder source has to be set in the software of the JET2 neo under **Main menu ▶ Settings ▶ Basic settings ▶ Interfaces**.

You will find a circuit diagram of the interface in the appendix of this manual!

5.5.1.2 Mechanical installation

For the mechanical installation of the shaft encoder you have to pay attention in any case that the encoder is protected against axial and radial strain during the mounting and the continuous operation. For this a rubber gaiter or a plastic coupling is used.

If the conditions allow it, the shaft encoder can be also adapted to a production line with a friction wheel.

Caution – Risks of injury!

The shaft encoder has to be installed or mounted that no risks of injury can occur!

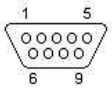
5.5.2 Interface X5 (PrintGo)

The interface “X5” provides the connection of an external PrintGo-signal. All common product detectors (*e.g. light barrier, product sensor etc.)*, 24V NPN- as well as 24V PNP-switching can be connected.

Regarding the software you can select additionally if the positive edge or the negative edge should be used for the release of the print out.

Note: *To inform the JET2 neo when a print text should be printed, you require a so-called Print-Go signal.*

Plug assignment:



D-sub 9 Male

Pin connection:

Pin	Designation		Pin	Designation
1	+24 V (1)		4	PrintGo
2	/PrintGo		5	PrintGo_Gate
3	GND			

Basic data/Recommended working conditions:

Signal	Parameter	Value
PrintGo	Input level High	15 up to 30V
	Input level Low	-3,5V up to 3,5V (or high resistance)
	Minimum pulse duration	100µS
	Input resistance	6,8 kOhm
/PrintGo	Input level High	20 up to 28V (or high resistance)
	Input level Low	-6V up to 9V
	Minimum pulse duration	100µS
	Input resistance	6,8kOhm
PrintGo Gate	Input level High	15 up to 30V
	Input level Low	-3,5V up to 3,5V (or high resistance)
	Minimum pulse duration	100µS
	Input resistance	6,8 kOhm

You will find a circuit diagram of the interface in the appendix of this manual!

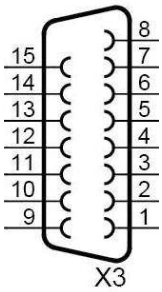
(1) All 24V inputs which are designated with (1) are protected by a self-reset fuse with 700 mA.

5.5.3 Interface X3 (Outputs)

4 outputs which can be freely selected are available for special functions. The outputs 1-3 are predefined as a standard and should be not changed.

- Output 1 = Print stop error
- Output 2 = Refill warning
- Output 3 = Ready to print

Plug assignment:



Pin connection:

Pin	Designation		Pin	Designation
1	Output 1		9	
2	Output 2		10	
3	Output 3		11	
4	Output 4		12	
5	+24V (1)		13	Reserved
6	Reserved		14	Reserved
7	Reserved		15	GND
8	GND			

Reserved = Do not connect

Specifications Output 1-4:

Parameter	Value
Driver type	24V high side driver ON = +24V OFF = high resistance
Output current	max. 700mA/output max 700 mA totally(1)
Max. switching frequency	2 kHz (2)
Max. delay time	100µs
Turn on resistance	max. 0,28 Ohm
Features	■ Short-circuit-proof ■ Overcurrent- and excess temperature –proof

The function allocations of the outputs are carried out with the software of the JET2 neo in the menu **Main menu ▶ Settings ▶ I/O-settings ▶ Outputs**.

You will find a circuit diagram of the interface in the appendix of this manual!

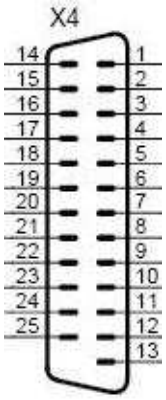
(1) *All 24V inputs which are designated with (1) are protected by a self-reset fuse with 700mA, that means the sum of all output currents which are supplied of this 24V should not exceed 700mA.*

(2) *Depending on the set function.*

5.5.4 Interface X4 (Inputs)

13 inputs for special functions are available whereof the connections of 3 inputs can be freely selected.

Plug assignment: Pin connection:



Pin	Designation		Pin	Designation
1	+Reset Counter		14	+24V (1)
2	+Increment Counter		15	GND Reset Counter / Increment Counter
3	+Jobselect 0		16	+Jobselect 1
4	+Jobselect 2		17	+Jobselect 3
5	+Jobselect 4		18	+Jobselect 5
6	+Jobselect 6		19	+Jobselect 7
7			20	
8	GND Jobselect 0-9		21	GND Input 0-5
9	+Input 0		22	+Input 1
10	+Input 2		23	
11			24	
12			25	
13	GND 24V			

Basic data /Recommended working conditions:

Signal	Parameter	Value
All signals	Input level High	15 up to 30V
	Input level Low	-3,5V up to 3,5V (or high resistance)
	Input resistance	6,8kOhm
Increment Counter/ Reset Counter	Minimum pulse width	250µs
Power ON	Minimum pulse width	2,5 s
Jobselect 0-9	Maximum duration of bounce	10 ms (2)
Input 0-5	Minimum pulse widths	Depending on assigned function *(see following table)*

1) All 24V inputs which are designated with (1) are protected by a self-reset fuse with 700 mA.

(2) For a change of the Jobselect inputs it has to be carried out within the duration of bounce, that means only after termination of this period of time the new Jobselect No. is validated.

In the following table you will find the minimum pulse widths which are required to release the assigned function at the X4 plug.

Function	Minimum pulse width
Open nozzle	300ms
Close nozzle	300ms
Print start	500ms
Print stop	500ms
Turn off printer	750ms
Mirrored horizontally	200ms
Gauger synchronization signal	200ms

The function allocations of the inputs 0 up to 5 happen by the software of the JET2 neo in the menu **Main menu ▶ Settings ▶ I/O settings ▶ Inputs**.

You will find a circuit diagram of the interface in the appendix of this manual!

5.5.5 USB-Connection

By the USB-connection you can connect all common USB-devices as e.g. mouse, keyboard or USB-stick very simply. All data can be exchanged comfortable and simply by the USB-connection. Software updates, exchange of variable printing data or memory expansions can be carried out simply with the USB-stick.

Plug assignment:

Pin connection:

Pin	Designation		Pin	Designation
1	+V (+5V)		3	Data +
2	Data -		4	GND

(1) All 24V inputs marked by (1) are fused by a common self-resetting 700mA fuse.

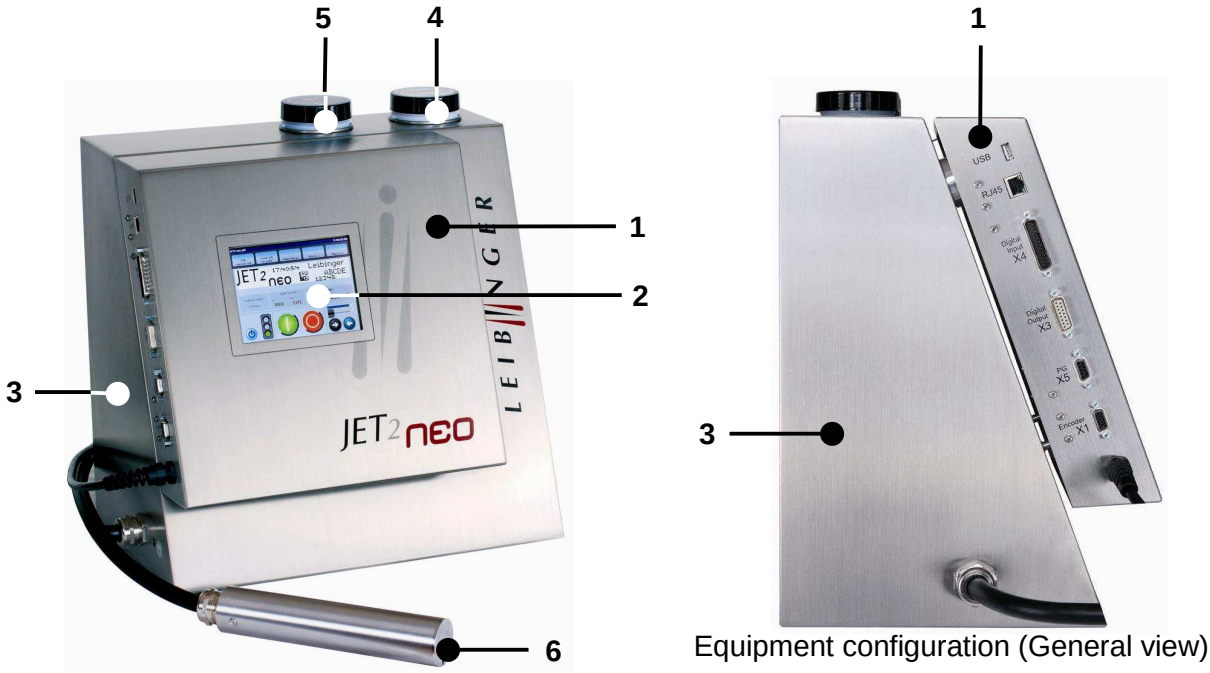
(2) When changing the Jobselect inputs, the change must have been made within the bounce time, i.e. the new Jobselect no. is not detected as valid until the end of this time.

6. Operation

6.1 Construction/Structure of the device

The high-performance LEIBINGER JET2 neo is manufactured of a solid two parts stainless steel cabinet. Due to the two parts construction you will get a thermal separation between the hydraulic- and electronic section. The device consists of the following main components.

Figure 13



Equipment configuration (General view)

1 – Electronic cabinet
2 – TFT – Touch Display
3 – Hydraulic cabinet
4 – Reservoir tank „Solvent“
5 – Reservoir tank „Ink“
6 – Print head with umbilical

In the closed **electronic cabinet** you will find the essential electronic components as power supply, the TFT-Touch Display as well as the controller board.

The central arranged **TFT-Touch Display** describes the interactive interface for the operator. This central entry medium with its 5.7” color display with backlight allows clear, self-explaining operator guidance without additional keys and switches.

In the **hydraulic cabinet** you find all components which are required for the transportation and preparation of ink as well as the two reservoir tanks for ink and solvent. The unpressurized tanks can be refilled without interrupt procedure, odorless and splash-free during the operation.

The **print head** contains all mechanical, electronic and hydraulic components which are required for the creation of print out. It is connected with the hydraulic cabinet by a flexible umbilical.

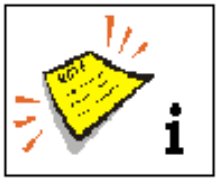
6.2 Functional principle

6.2.1 Method of working

The JET2 Neo works in accordance with the continuous ink jet process. In this a constant ink jet is emitted from a jet nozzle which is broken down into a series of equal size drops under the influence of mechanical oscillations.

If required these drops are individually charged up electrostatically and deflected into a constant electrical field depending on the charge. As a result not just one point but rather a line of points can be applied contact-free with one jet. If the product used is moved vertically to the drop deflection two-dimensional patterns (characters) can be created.

The drops that are not required for a programmed inscription are not charged and flow uninfluenced through the electrical deflection field into a gutter. In the gutter the drops are sucked up by a suction pump and fed back into the ink tank. Depending on the application alphanumeric data and graphics can be entered with the TFT touch display.



Data for font and texts are stored in the device (even in the event of power failure). If required it can be called up, altered or deleted quickly and easily.

Further more, all jobs, fonts and graphics can be saved as a back-up e.g. on a USB-stick.

6.2.2 Drop creation

During the drop creation the ink is pressed through a jet nozzle under pressure and at the same time modulated in such a way by highly frequent sinus oscillations that are imposed on the drop that it attaches itself to the nodal points of the oscillations and breaks down into individual drops at a specific distance l_A *(please see the following figure "Creation of a character")* from the jet. The oscillations are created with an oscillatory system that is excited by a Piezo oscillator.

6.2.3 Drop charging

In order to be able to charge the drops it is necessary for the ink to have electrical conductivity. This is possible through the use of specific salts that dissociate in the solvent used. The drop brake-off point of the modulated jet is automatically set in such a manner that this happens inside the charging electrode.

The drops can now be charged up by creation of voltage between jet and charging electrode, because they are given a negative charge through the charge shift resulting in the charge electrode gap. A specific charge voltage is clearly allocated for each drop charge.

6.2.4 Drop deflection

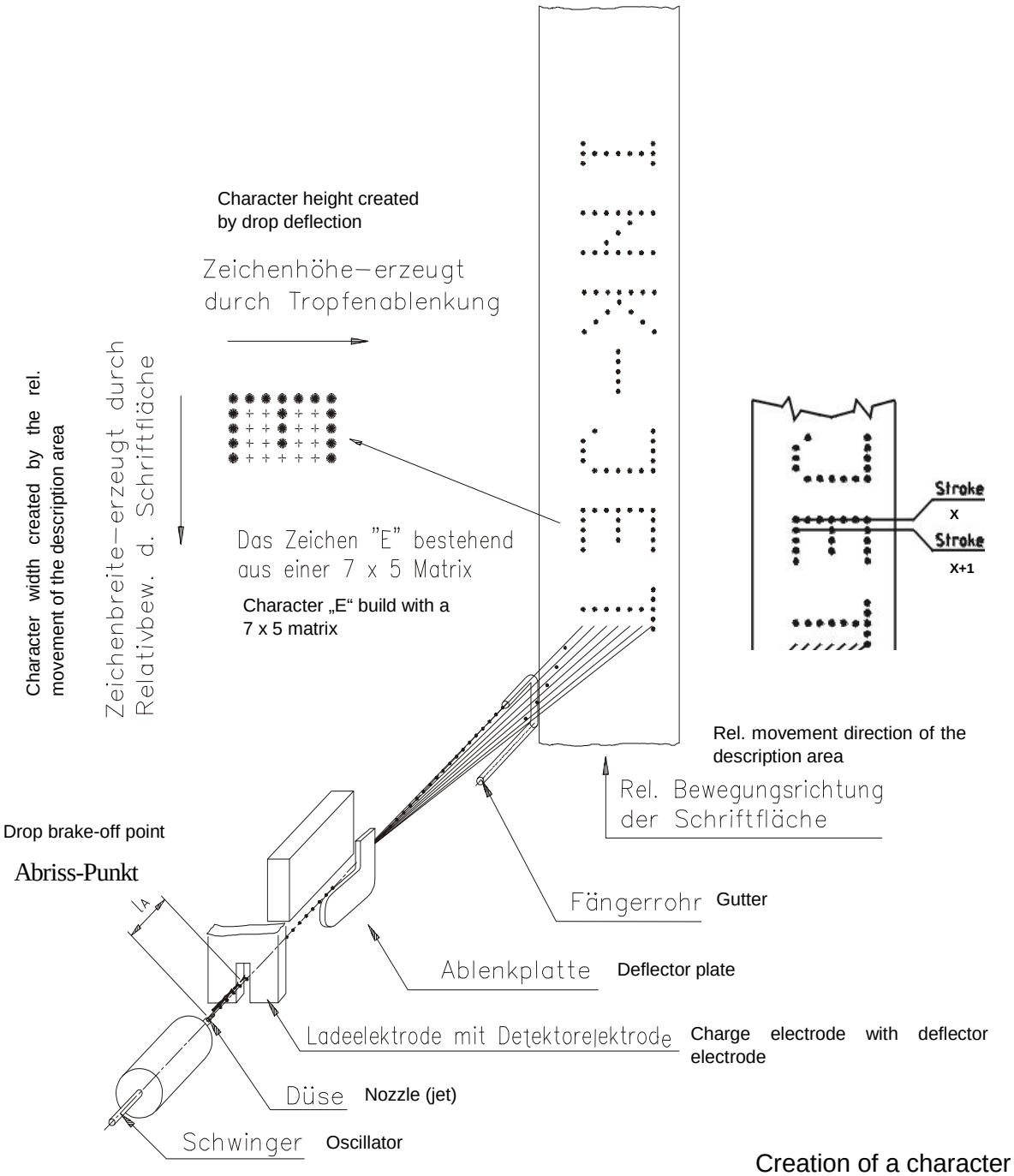
After the drops have left the charging electrode they fly through an electrical field. Here, those droplets that were previously charged in the charging electrode are deflected. The drops that have not been charged fly straight ahead into the gutter. Here they are sucked up and fed back to the circular flow of ink. The charged drops are only deflected in one direction, the other direction is performed by the product to be inscribed.

6.2.5 Creation of a character

Each character is defined by a two-dimensional matrix, e.g. 7 x 5. An ink drop can be assigned to every point of intersection. The character is formed by deflecting the ink drops in a vertical direction and by moving the product which is to be imprinted horizontally. The ink drops which are not to be positioned are not given electrostatic charges in the charging electrode, and pass through the electrical field without being deflected and on into the gutter tube. The controller (CPU) of the printer calculates the values which are required for the generation of charging voltages of the single characters.

6.2.6 Summary of the individual procedures

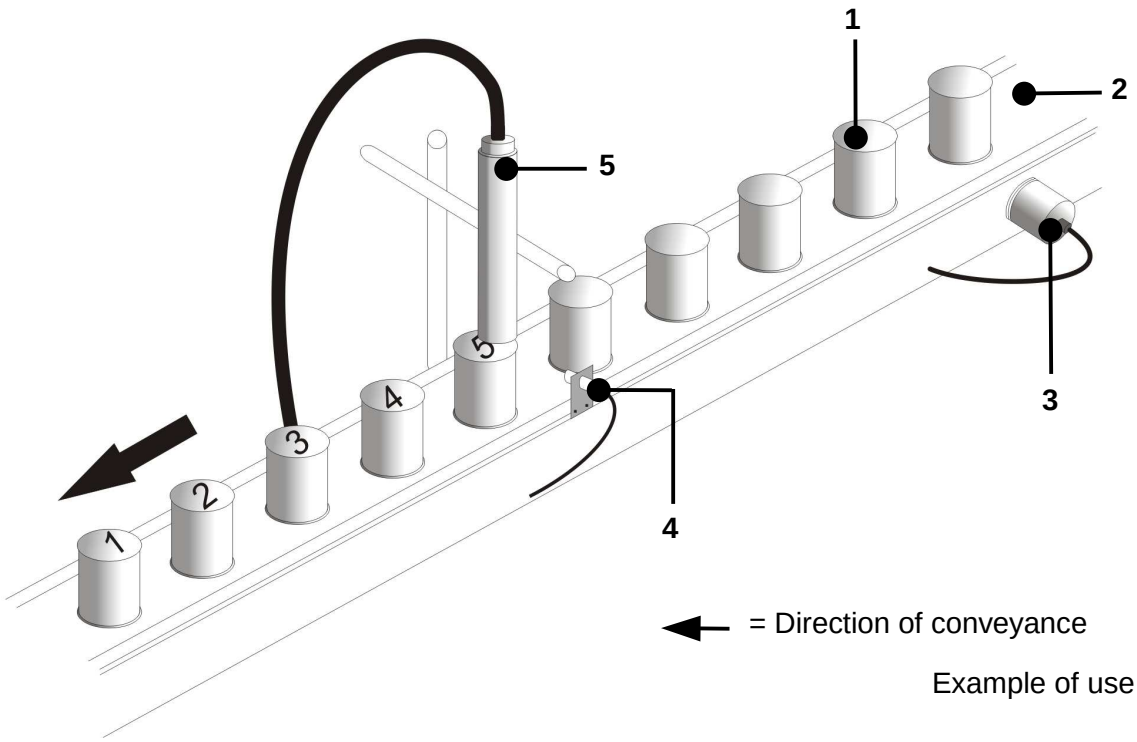
Figure 14



Creation of a character

6.2.7 Example of use

Figure 15



Example of use

1 – Product
2 – Conveyor belt
3 – Encoder
4 – Sensor
5 – Print head

6.3 Safety instructions

Inflammable (Risk of fire)!

Combustible gases and liquids cause serious burns. Sources of ignition must be kept away from the print head!

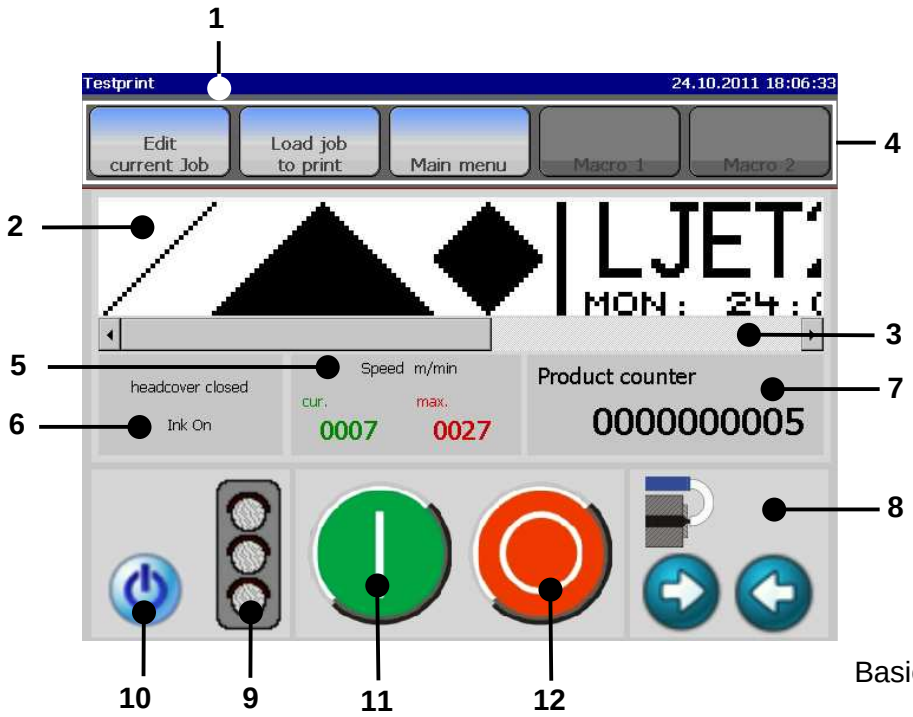
Risk of injury!

Ink escapes from the head aperture. Spraying of ink into the eyes can cause blindness. Eye protection is necessary!

6.4 Essential operating- and information elements

This chapter describes the essential operating- and information elements of the LEIBINGER JET2 neo basic menu.

Figure 16



Basic menu (Construction)

1 – Title bar
2 – Display area
3 – Scroll bar of the display area
4 – Menu bar
5 – Status field <Printing speed>
6 – Status field <General>
7 – Status field <Product counter>
8 – Status field <Nozzle>
9 – Device status (traffic light)
10 – Button <Off/Shut down>
11 – Button <Printstart>
12 – Button <Printstop>

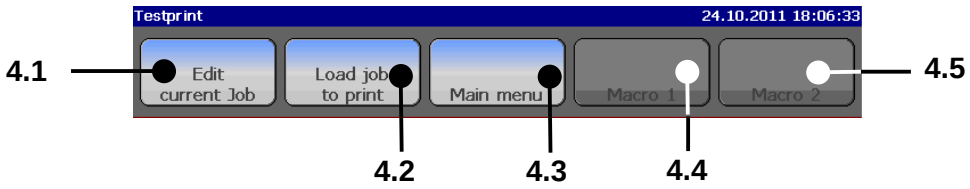
- **Title bar (1):** The title bar is displayed at the top of the main menu and contains the name of the active print job, the current date and the current time as well as the appropriate information if the password prompt is activated.

- **Display area (2):** In this area the printing data of the loaded job which should be currently printed or loaded is displayed in the WYSIWYG-mode.

- **Scroll bar of the display area (3):** You can view the whole display area if necessary by using the scroll bar.

- **Menu bar (4):** The appropriate menus or specific functions of the JET2 Neo can be opened with the buttons in the menu bar. The following buttons are available:

Figure 17



Menu bar

Pos.	Button	Description
4.1	Edit current Job	Editor with the current loaded job opens.
4.2	Load job to print	Job selection menu opens.
4.3	Main menu	Main menu opens
4.4	Macro 1	Freely definable button 1
4.5	Macro 2	Freely definable button 2

If a button appears in grey, it is not available at the moment.

Example:

The two **<Macro…>** buttons can be freely defined to call frequently used menus or functions directly for example.

Further information about the macro buttons can be found in the **chapter *Macro generator*** (page 148)!

- **Status field <Printing speed> (5):** In this field the current reached printing speed as well as the max. possible printing speed under consideration of the made settings are displayed. The display is carried out in the measurement m/min or inch/min, de-pending on the selected adjustments in the basic settings.

- **Status field <General> (6):** In this field the current operating condition of the nozzle as well as the status of the head cover and the ink supply are displayed.

Operating conditions nozzle	Status head cover	Status ink supply
■ Opening nozzle	■ Headcover open	■ Ink on
■ Closing nozzle	■ Headcover closed	■ Ink off
■ Nozzle open		
■ Nozzle closed		

- **Status field <Product counter> (7):** The current value of the production counter is displayed in the field. By pressing on the field you can change or reset the value of the counter.

  If a print stop is defined after a pre-defined amount of prints, the value is also shown in the status field. For better visualization that a pre-defined print stop has been defined, the field is displayed with a red frame.

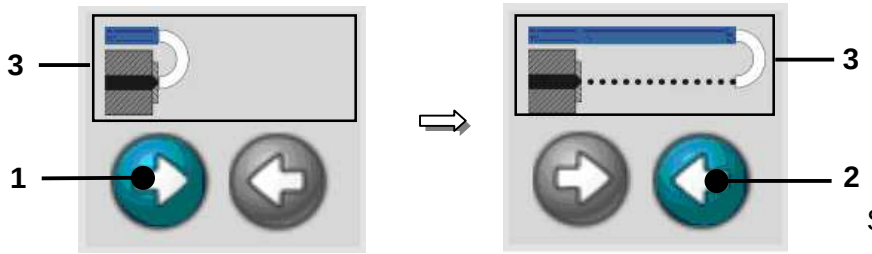
Figure 18

Status field <Product counter>

You will find further information also in the **chapters *Reset production counter*** *and* ***Change production counter*** as well as in the **chapter *Pre-defined print stop***!

- **Status field <Nozzle> (8):** This field enables the opening or closing of the nozzle and shows additional the current operating condition of the nozzle by an active visualization graphic.

Figure 19



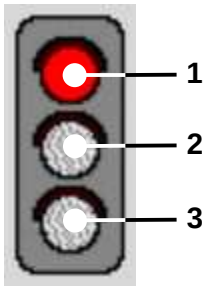
Status field <Nozzle>

1 – Button <Opening nozzle>
2 – Button <Closing nozzle>
3 – Visualization field

With the buttons **<Opening nozzle>** (1) and **<Closing nozzle>** (2) you can open or close the nozzle. The executable button is backgrounded blue-grey.

- **Device status (traffic light) (9):** The status traffic light visualizes the current condition of the JET2 neo.

Figure 20



1 – red LED
2 –yellow LED
3 – green LED

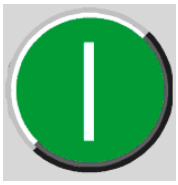
Status traffic light

Display	Device status	Causation/Comment
all LEDs off	No errors or warnings are pending, but the JET2 Neo is not ready to change to the print mode.	e.g.: Nozzle is closed, head cover is open, etc.
red LED on	An error is pending which requires an immediate intervention of the operator to get the print readiness or to continue an active print process.	e.g.: Phasing error, PrintGo-error, HV-error, etc.
yellow LED on	An intervention of the operator is required in the foreseeable future because an warning is pending. If the JET2 Neo is in the print mode, the print process will be continued.	e.g..: Refill, Leakage, etc. If the message is acknowledged without changing the condition (e.g. no refill has been carried out) the message will appear again after one minute.
green LED on	The printer signalizes the readiness to print or that it can be switched to the active print mode.	The button **<Print stop>** is illuminated.

- **Button <Off> (10):** With this button you can switch off the device.

You will find further information also in the **Chapter *Switch off device!***

- **Button <Printstart> (11):** With this button the print job will be released for processing. If a print job is activated, the button is displayed backlighted. It will be printed as soon as a PrintGo is released.



= Print start inactive (Print job is not released for processing)

= Print start active (Printer is in active print mode)

To carry out a print process, you have to enter a text or you have to select an existing job. You will find further information regarding this topic in the **group *Job editor***.

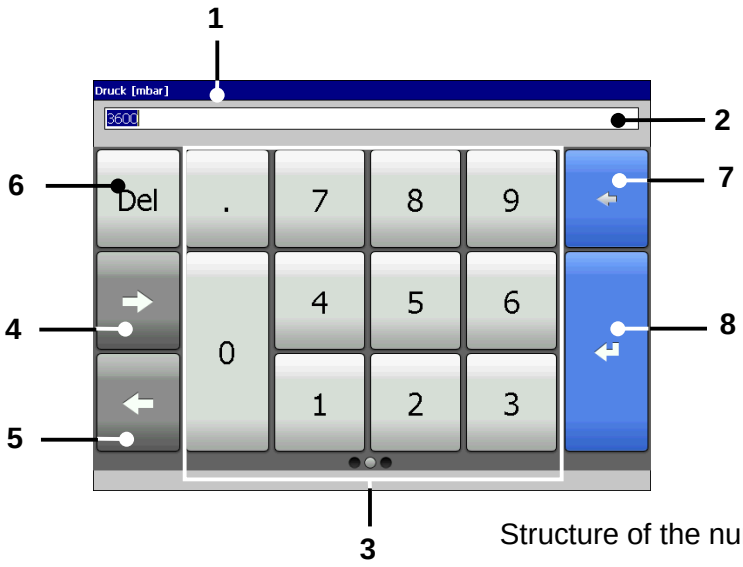
- **Button <Printstop> (12):** The released print job is stopped with this button. If a print stop is activated, the button is displayed backlighted.

= Print stop inactive

= Print stop active (current print job is stopped or no job for processing is released)

6.4.1 Number blocks

Figure 21



Structure of the number blocks *(Example view)*

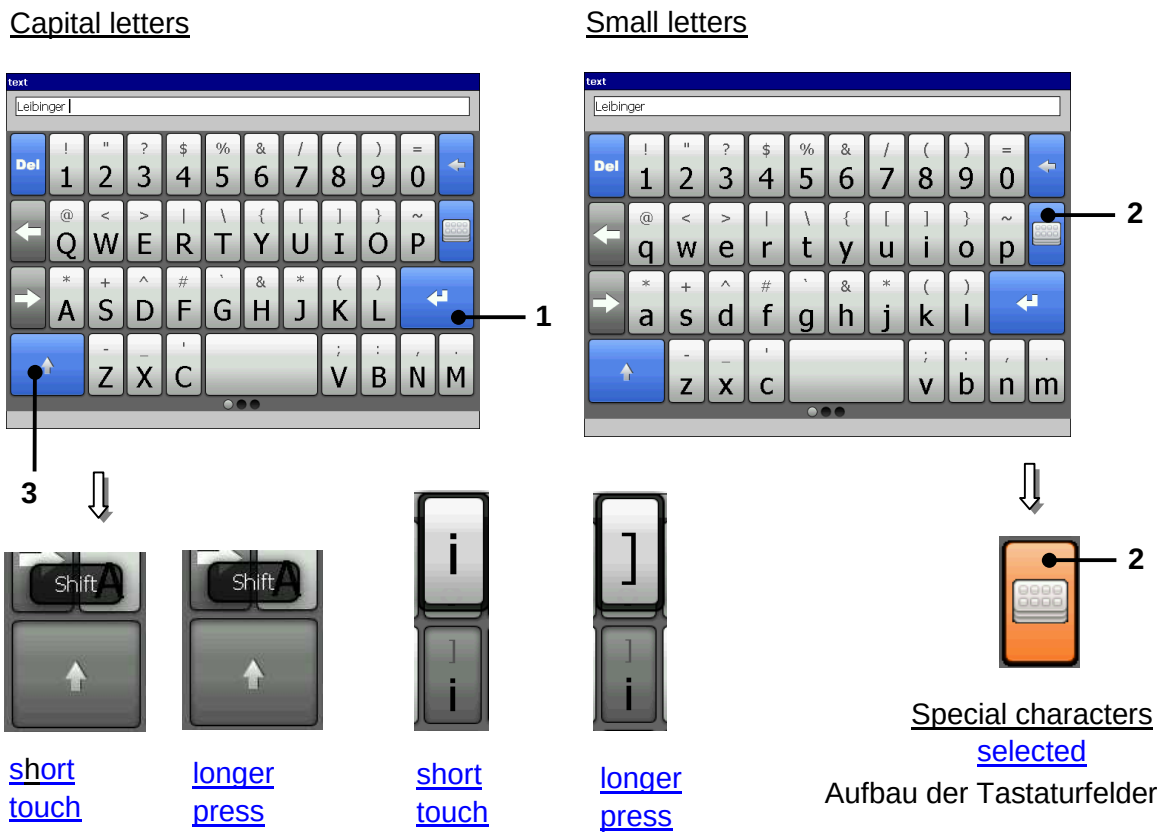
1 – Title bar
2 – Display
3 – Figures (Digits)
4 – Button <➡>
5 – Button <⬅>
6 – Button <Del>
7 – Button <Backspace>
8 – Button <Return ↵>

The required values (figures) are entered with the number blocks.

- In the title bar (1) of a number block the name of the parameter currently to be entered and its unit if necessary is displayed.
- The entered value is shown in the **Display** (2).
- The button **< Backspace ⬅>** (7) deletes the character in front of (to the left of) the current cursor position.
- The button **<Del>** (6) enables the deletion of the characters behind (to the right of) the current cursor position.
- With the button **<➡>** (4) you can shift the current cursor position by one digit to the right..
- With the button **<⬅>** (5) yi ou can shift the current cursor position by one digit to the left.
- With the button **<Return ↵>** (8) you can take over the input and the number block closes.

6.4.2 Keyboard fields

Figure 22



1 – Button <Return ↵>
2 – Button <Special characters>
3 – Button <Shift/Caps Lock>

The characters are entered with the keyboard fields. The structure of the keyboard fields corresponds to the common computer keyboards. The character keys have double assignments. The character displayed respectively when pressing a character key (selection is made by short touch or longer press) is entered.

Note: *Depending on the installed language package (e.g. Cyrillic) the structure can vary from the shown display.*

- With the button **<Return ↵>** (1) the input is taken over and the number block will be closed.
- With the button **<Special characters>** (2) you can change between the standard characters and the special characters (advanced font).
- The button **<Shift/Caps Lock>** (3) corresponds to the functions of the computer keyoards. A brief touch activates the Shift mode and a longer press the Caps Lock mode.

6.5 Basic operating processes

This paragraph describes the basic operating processes of the LEIBINGER JET2 NEO.

6.5.1 General

The complete control of the JET2 Neo can be carried out with a connected PC-mouse or directly with the TFT-Touch-Display.

For the operation with the Touch-Display the control of the device happens by a slight touch on the buttons (touch-fields) with the finger or with the touch pin (included in the delivery). Here the targeted precision is decisive and not the pressure.

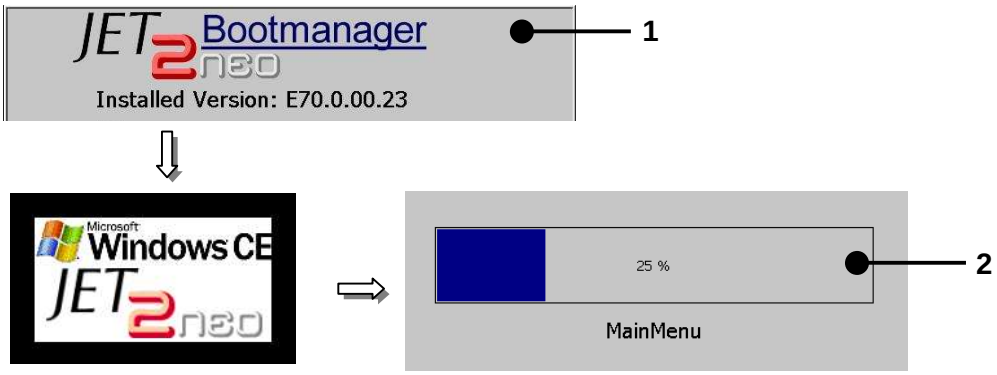
The operation with the touch-display is described subsequently.

Accidentally touching can release unintentional device conditions.

6.5.2 Initialization of the device

After connection to the mains power or after a power interruption, the initialization of the device will be carried out automatically. For this procedure the boot-manager is started. The progress of the initialization is shown by a bar. After finishing the process the device is switched to the standby-mode (monitor is dark) and the JET2 Neo is now ready to switch on by pressing the touch screen.

Figure 23



Initialization process

1 – Bootmanager 2 – Progress display

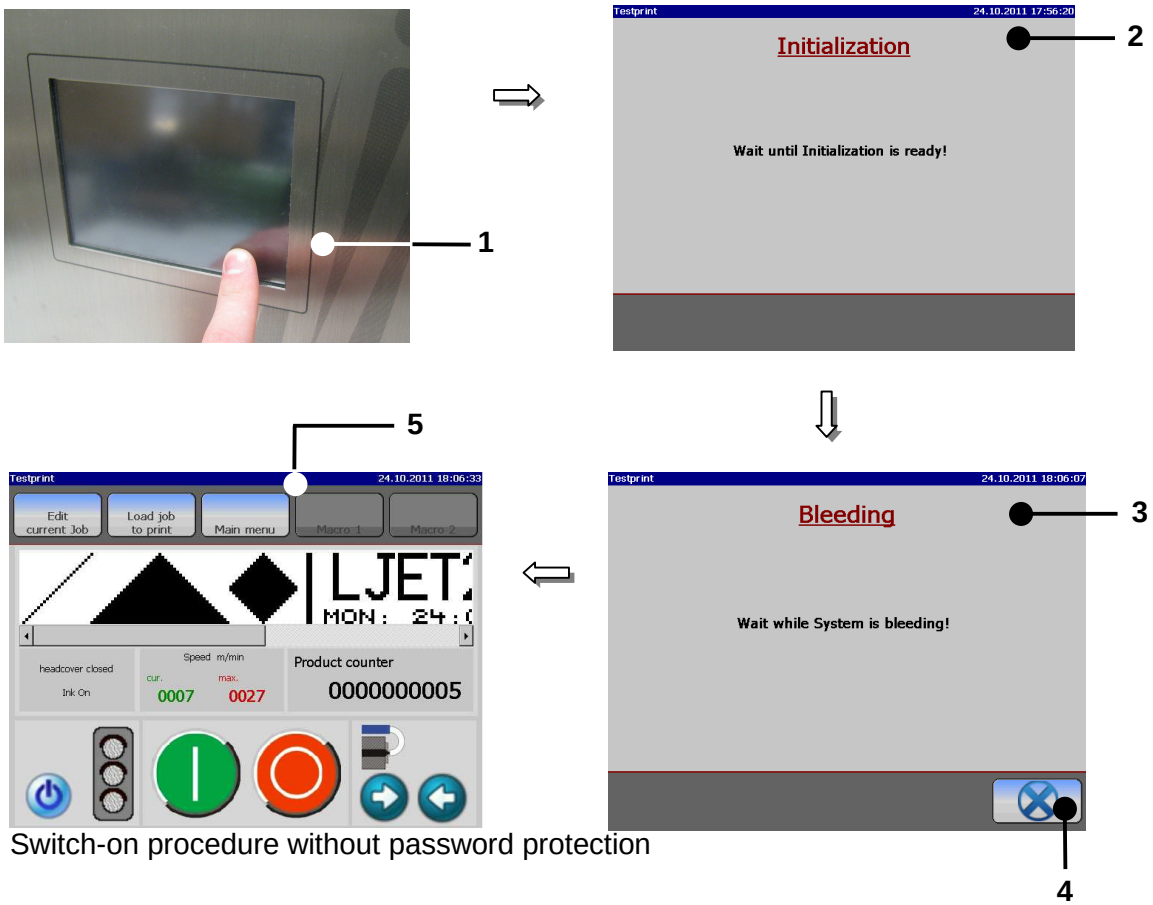
6.5.3 Switch on device

6.5.3.1 Switching on without password protection

Proceeding:

- Touch the dark **Touch-Display** (1) at any point. Period of touching approx. 2 sec..
- The devices turns on and the **message <Initialization>** (2) is displayed.
- After the initialization the device starts with the bleeding of the system automatically.
- During the process the message **<Bleeding>** (3) is displayed. The bleeding takes between 1 – 5 min. The process can be canceled by pressing the button **<Cancel>** (4).

Figure 24



Switch-on procedure without password protection

1 – TFT-Touch-Display
2 – Message <Initialization>
3 – Message <Bleeding>
4 – Button <Cancel>
5 – Basic menu

- At the end of the bleeding process or after cancelling the process, the **basic menu** (5) opens.

  Note: *For starting the device the job which has been used at last will be loaded automatically.*

6.5.3.2 Switching on with password protection

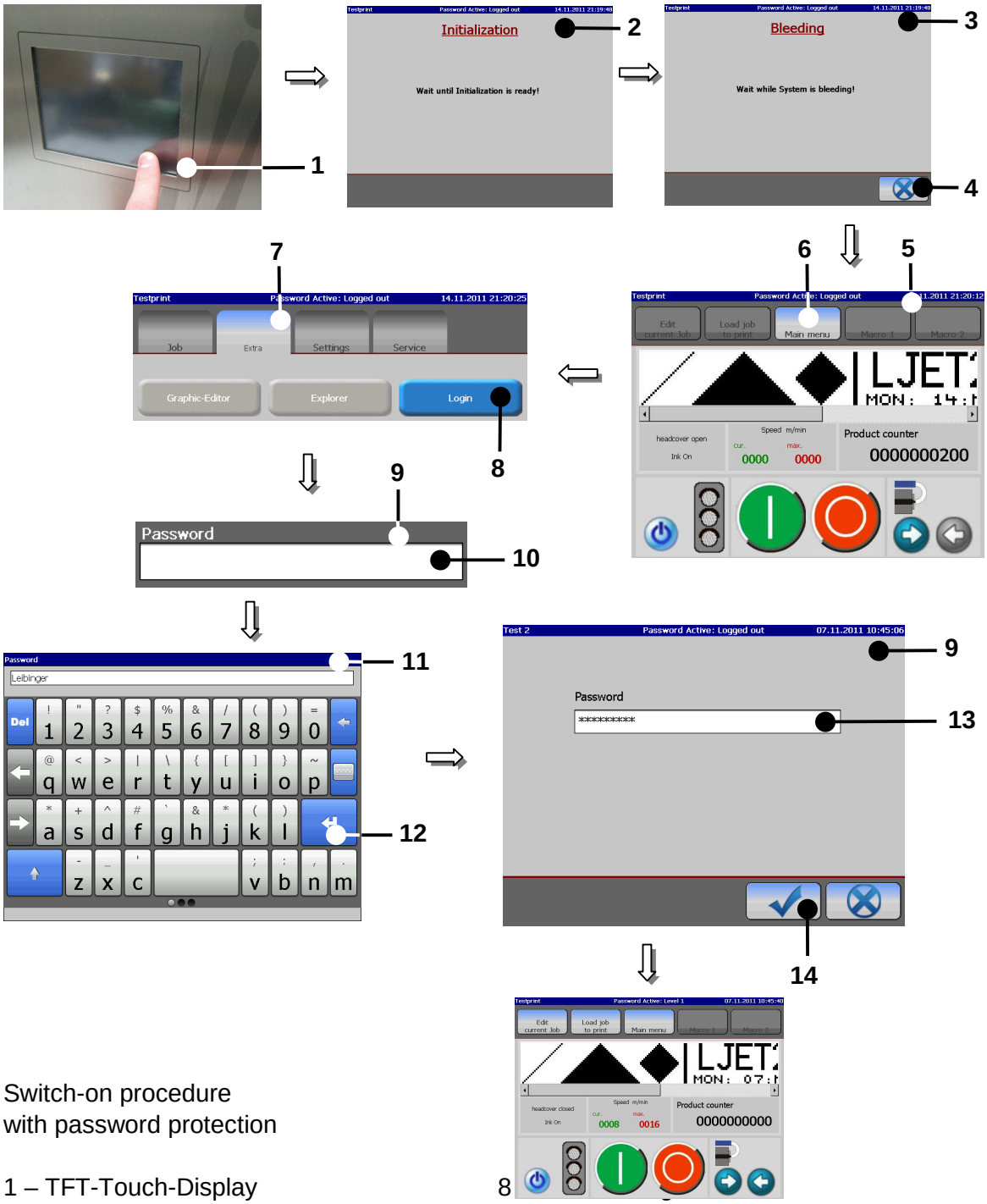
Procedure:

- Touch the dark **Touch-Display** (1) at any point. Period of touching approx. 2 sec..
- The devices turns on and the **message <Initialization>** (2) is displayed.
- After the initialization the device starts with the bleeding of the system automatically.
- During the process the message **<Bleeding>** (3) is displayed. The bleeding takes between 1 – 5 min. The process can be canceled by pressing the button **<Cancel>** (4).
- At the end of the bleeding process or after cancelling the process, the **basic menu** (5) opens.

  Note: *The start of the device happens in the logged-out status (no operator will be logged on) but the job which has been used at last will be loaded automatically.*
- Press the button **<Main menu>** (6) in the menu bar. Call up the functional area „Extra“ (7) by pressing on the corresponding register card.
- Press the button **<Login>** (8).
- The window **<Password query>** (9) is called up.
- Click into the input field **<Password>** (10) of the window. A keyboard field (11) opens for entry.
- Enter your defined password.
- Press the button **<Return ↵>** (12) of the keyboard field to finish the input.

You will find further information regarding the operation with keyboard fields in the **chapter *Keyboard fields*** (page 61)!

Figure 25



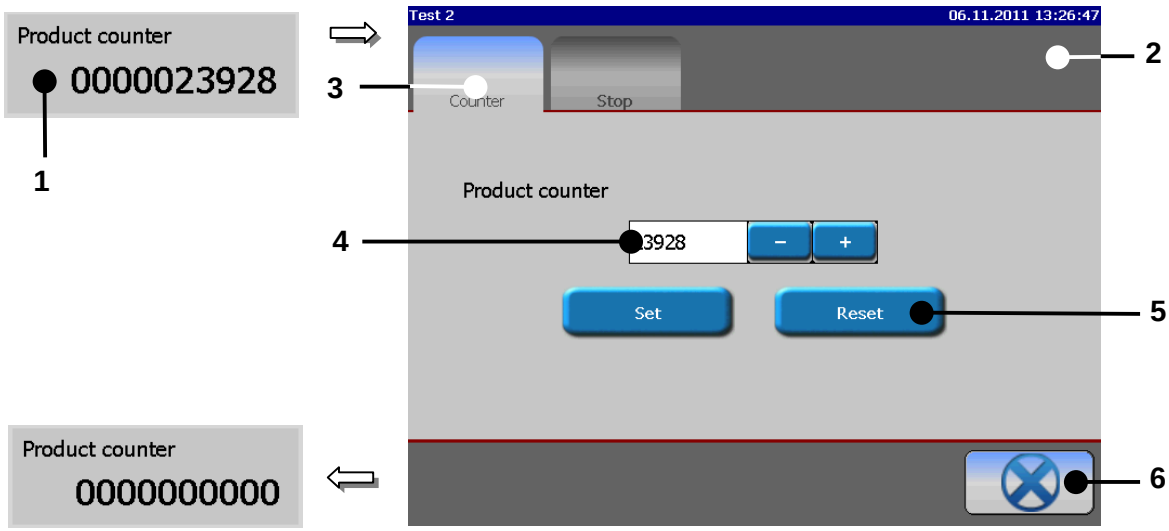
Switch-on procedure
with password protection

1 – TFT-Touch-Display
2 – Message <Initialization>
3 – Message <Bleeding>
4 – Button <Cancel>
5 – Basic menu
6 – Button <Main menu>
7 – Register card <Extra>
8
9 – Window <Password query>
10 – Input field <Password>
11 – Keyboard field
12 – Button <Return ↵>
13 – Entry field <Password>
14 – Button <OK (✓)

- The input is now displayed with placeholders (wildcards) in the input field **<Password>** (13).
- Now press the button **<OK** (✓)**>** (14) to carry out the login process. The dialog field is closed and the new user is logged in.

6.5.4 Reset product counter

Figure 26



Reset product counter

1 – Status field <Product counter>
2 – Menu <Product counter>
3 – Register card <Counter>
4 – Display “Product counter”
5 – Button <Reset>
6 – Button <Cancel>

Proceeding:

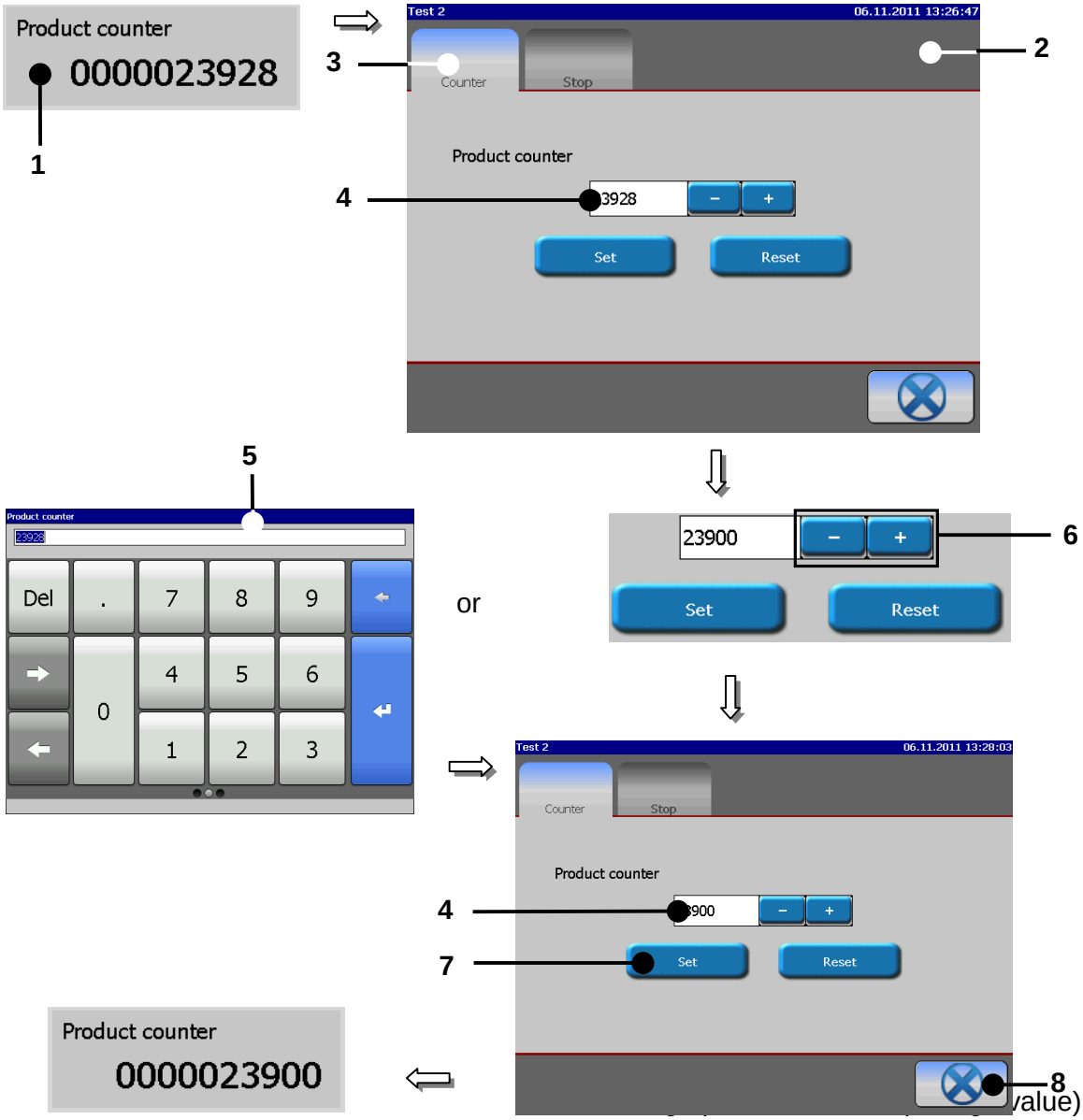
- Press on the status field **<Product counter>** (1).
- The menu **<Product counter>** (2) is faded in. As standard the register card **<Counter>** (3) is activated and the current value of the counter appears in the display **„Product counter“** (4) display.
- Confirm the reset of the counter again by pressing on the button **<Reset>** (5) or cancel the process with the button**<Cancel>** (6).

Attention! If job counters (object counters) whose existing settings **<Counter reset>** have been applied with the attribute „Product Counter“ are available in the current job, they will be also reset.

You will find further information also in the **chapter *Change product counter*** (page 67) as well as in the **chapter *Product counter*** (page 99)!

6.5.5 Change product counter (Change value)

Figure 27



1 – Status field <Product counter>
2 – Menu <Product counter>
3 – Register card <Counter>
4 – Display “Product counter”
5 – Number block <Product counter>
6 – +/- buttons
7 – Button <Set>
8 – Button <Close>

Proceeding:

- Press on the status field **<Product counter>** (1).
- The menu **<Product counter>** (2) is faded in. As standard the register card **<Counter>** (3) is activated and the current value of the counter appears in the display **„Product counter“** (4).
- Change the value of the counter with the **+/- buttons** (6). The value of the counter is increased or reduced in increments of one by pressing the appropriate key and the change is shown directly in the display (4).

  or

- Click in the **product counter display field** (4). The number block **<Product counter>** (5) opens for input.

You will find further information regarding the operation with number blocks in **chapter *Number blocks*** (page 60)!

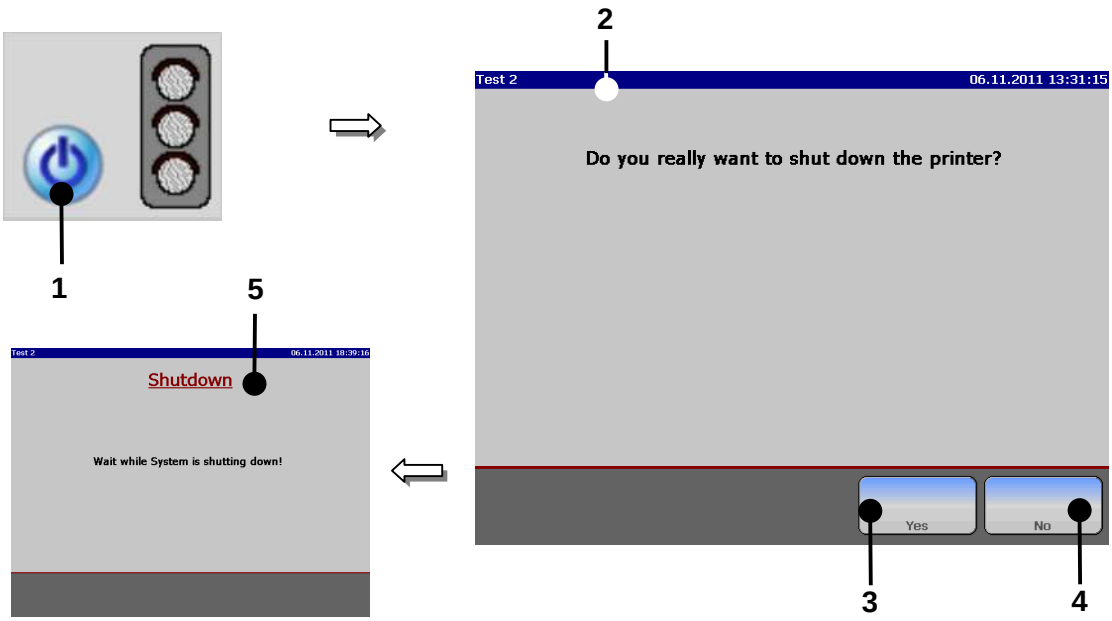
- Confirm the change of values by pressing on the button **<Set>** (7).
- Then press the button **<Close>** (8) to complete the process and exit the menu.

6.5.6 Product counter – pre-defined print stop

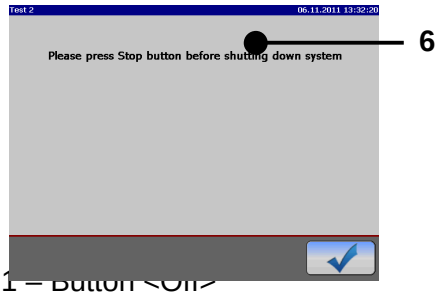
Further information about setting up a pre-defined print stop can be found in the **chapter *Stop after x products (pre-defined print stop)*** (page 102)!

6.5.7 Switch off device

Figure 28



Message „*Carry out print stop*“



Switch-off procedure

1 – Button <Off>
2 – Message <Safety query>
3 – Button <Yes>
4 – Button <No>
5 – Message <Shutdown>
6 – Message <Carry out print stop>

Proceeding:

- Press the button **<Off>** (1).
- A **safety query** (2), if the printer should be really switched off is faded in.
- Confirm the shut down of the device by pressing the button **<Yes>** (3) or cancel the process with the button **<No>** (4).
- Now the device is turned off. During the shut down the message **<Shutdown>** (5) is displayed.

  Comment: *If the nozzle is still open during the turn-off procedure, it will be closed automatically.*

Turning off the device is only possible after a print stop has been carried out! If necessary a corresponding message (6) is faded in.

After turning off you have to wait approx. 5 sec. to turn on the device again.

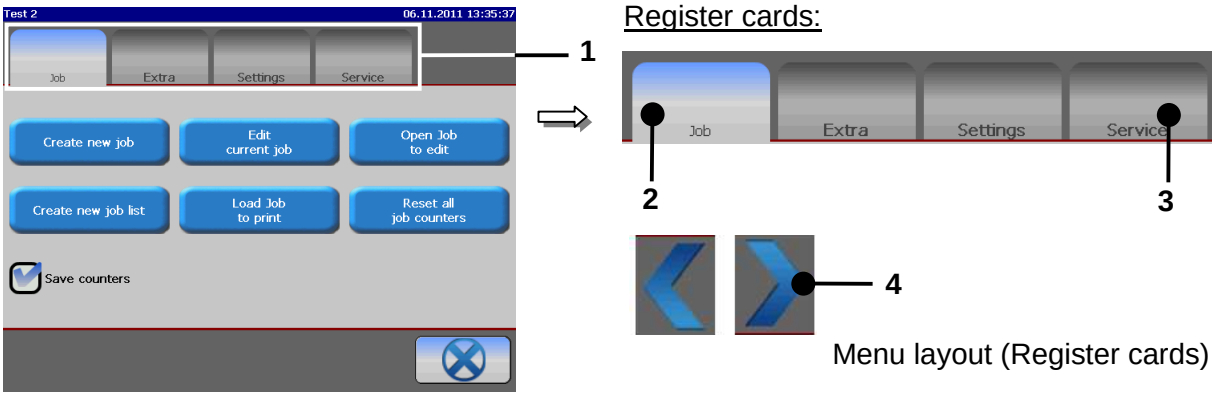
6.6 Menu layout

Register cards:

Complex menus are divided into so-called registers to get a better clearness. A register arranges the several menu points to logical functional areas. The selection of a functional area happens by clicking on the corresponding register card. If more register cards are available than can be displayed at the same time on the display, appropriate arrow keys are displayed for scrolling.

Comment: *The proceeding corresponds to the Window™-standard procedure.*

Figure 29



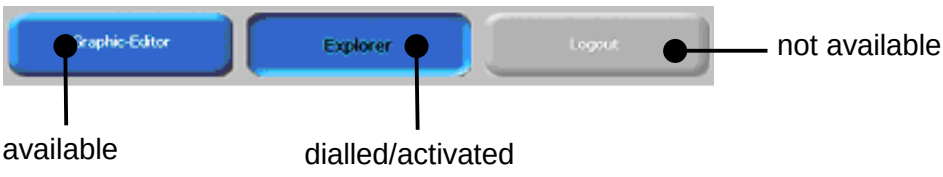
Menu layout (Register cards)

1 – Register cards
2 – Selected register
3 – Non-selected register
4 – Arrow keys

Display of functions:

If a function (menu item) is displayed blue, it is available. If a function is displayed grey, it is not available at the moment
If a function is activated or currently being performed, the button is disabled (negative) during the process.

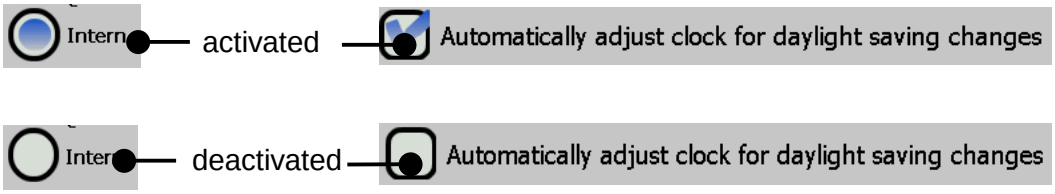
Example:



Function of control boxes:

Individual settings can be selected by control boxes.

Examples:

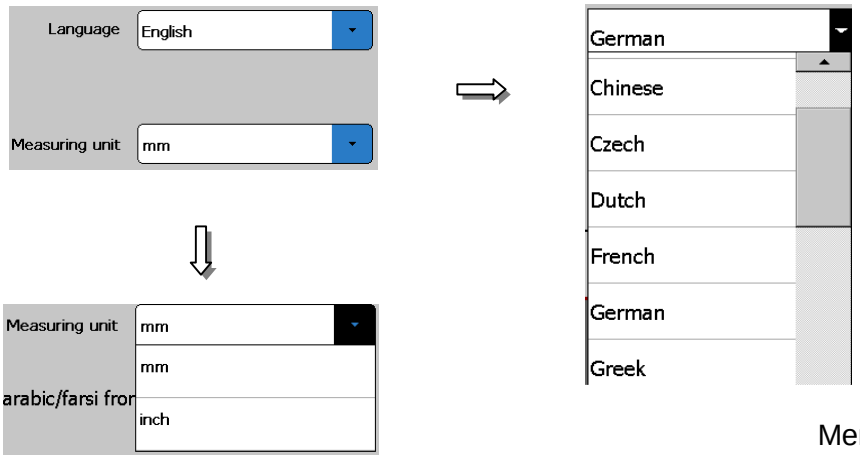


Pop-up window:

If several functions can be selected in one menu point or different parameters can be set, the selection happens by a so-called pop-up window.

If a pop-up window is bigger than the available display area, a vertical scroll bar is also displayed.

Figure 30



Menu layout (Pop-up window)

Control elements:

Serve for saving settings or exiting menus. The following commands are assigned to the elements depending on the menu or function:

Control elements (Buttons)	Assignment/Occupancy
⊗	Cancel Close No
✓	Overtake Carry out OK/Yes

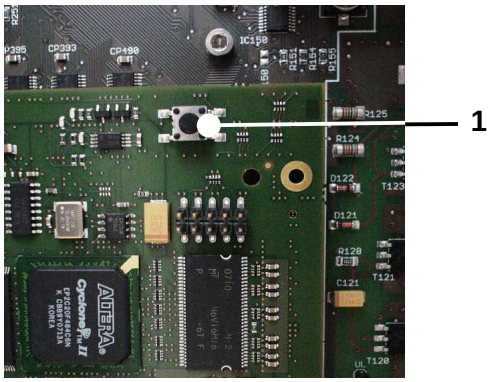
6.7 Other settings and functions

6.7.1 Carry out Hardware Reset

Reset-switch:

Enables the reset of the electronic in case of error. It is placed in the electronic-cabinet on the main board (controller board).

Figure 31



1 – Reset-switch

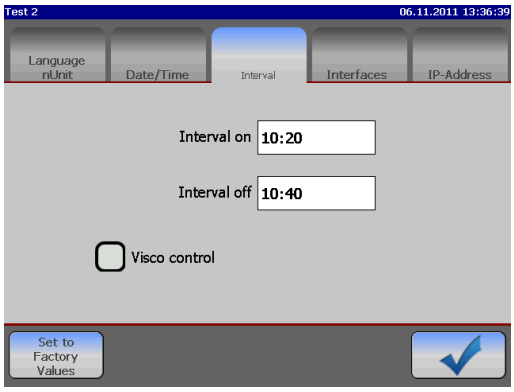
Reset-switch (Hardware reset)

6.7.2 Interval operation (integrated clock timer)

The device has to be connected to the mains supply.

The device turns on automatically irrespectively of the ambient conditions!

The integrated interval function activates the LEIBINGER JET2 neo automatically in the on-state according to the times which have been set under the register card **<Interval>** (“Main menu ▶ Settings ▶ Basic settings ▶Interval“).



The circulation of the ink prevents a drying up of ink and accumulation of ink components. The viscosity of the ink is constant.

You will find further information regarding setting of interval times in the **chapter *Interval operation*** (page 113)!

7. Data entry/Programming

7.1 General

Data which should be printed by the LEIBINGER JET2 neo can be entered, called, changed and saved with several input devices, e.g. TFT-Touch display, mouse etc.

Further more the LEIBINGER JET2 neo can also carry out several functions (e.g. job selection) by the control with digital signals (e.g. out of a SPS) and can be therefore also controlled locally.

In the following the operation and programming with the TFT-Touch display are described.

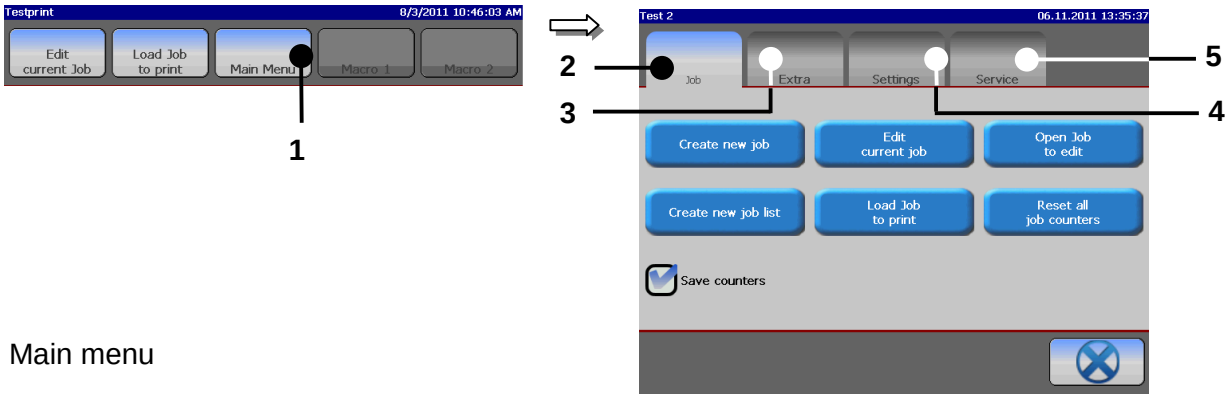
7.2 Main menu

With the button **<Main menu>** in the main menu bar the „Main menu“ is called up. The following functional areas are available:

- Job
- Extra
- Settings
- Service

The selection of a functional area happens by clicking on the corresponding register card.

Figure 32



Main menu

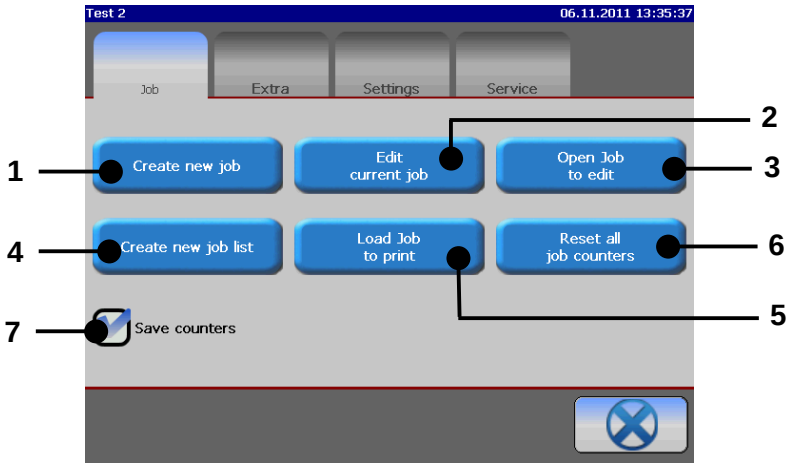
1 – Button <Main Menu>
2 – Register card <Job>
3 – Register card <Extra>
4 – Register card <Settings>
5 – Register card <Service>

7.2.1 Functional area Job

In the functional area **<Job>** following options are available:

- Create new job
- Edit current job
- Open job to edit
- Create new job list
- Load job to print
- Reset all job counters
- Save counter (states)

Figure 33



Functional area „Job“

1 – Option <Create new job>
2 – Option <Edit current job >
3 – Option <Open job to edit>
4 – Option <Create new job list>
5 – Option <Load job to print>
6 – Option <Reset all job counters>
7 – Control box <Save counters>

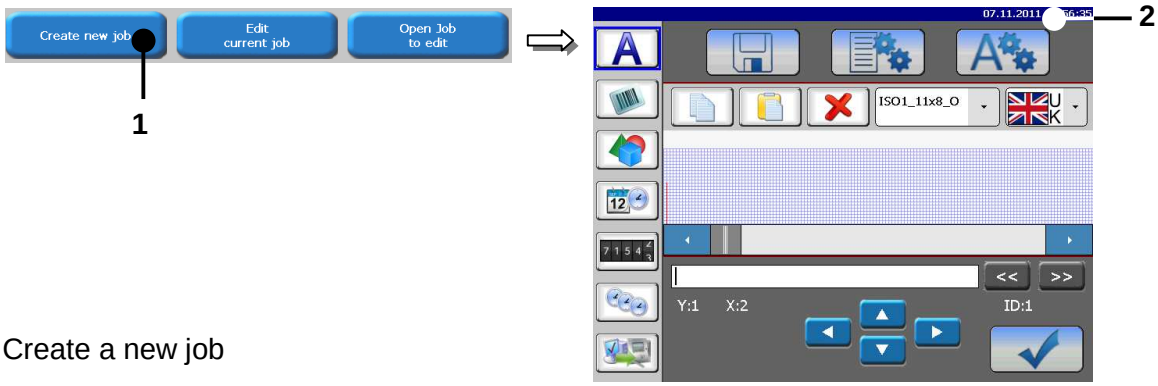
7.2.1.1 Create a new job

With the option **<Create new job>** you can create a new job. For creation the job editor opens where you can create the printing data and save it as a job. A variety of Windows® similar tools make the operation easier.

Proceeding:

- Press the button **<Create new job>** (1).
- The menu **<Job editor>** (2) opens to create the printing data.
- Carry out the requested inputs and save the job data. You will find further information regarding the memory process in the **group *Job editor*** in the **chapter Save *job/Save job as*** (page 220).

Figure 34



Create a new job

1 – Button <Create new job> 2 – Menu <Job editor>

You will find further information regarding the operation of the job editor in the **group *Job editor*.**

7.2.1.2 Edit current job

With the option **<Edit current job>** you can edit the current job.

Further information about the procedure can be found in the **chapter *Edit current job (Direct selection)*** (page 158) and in the **group *Job editor***!

7.2.1.3 Open job to edit

With the option **<Open job to edit>** you can open an existing job for editing. For selection of a job the window „Job selection“ is faded in.

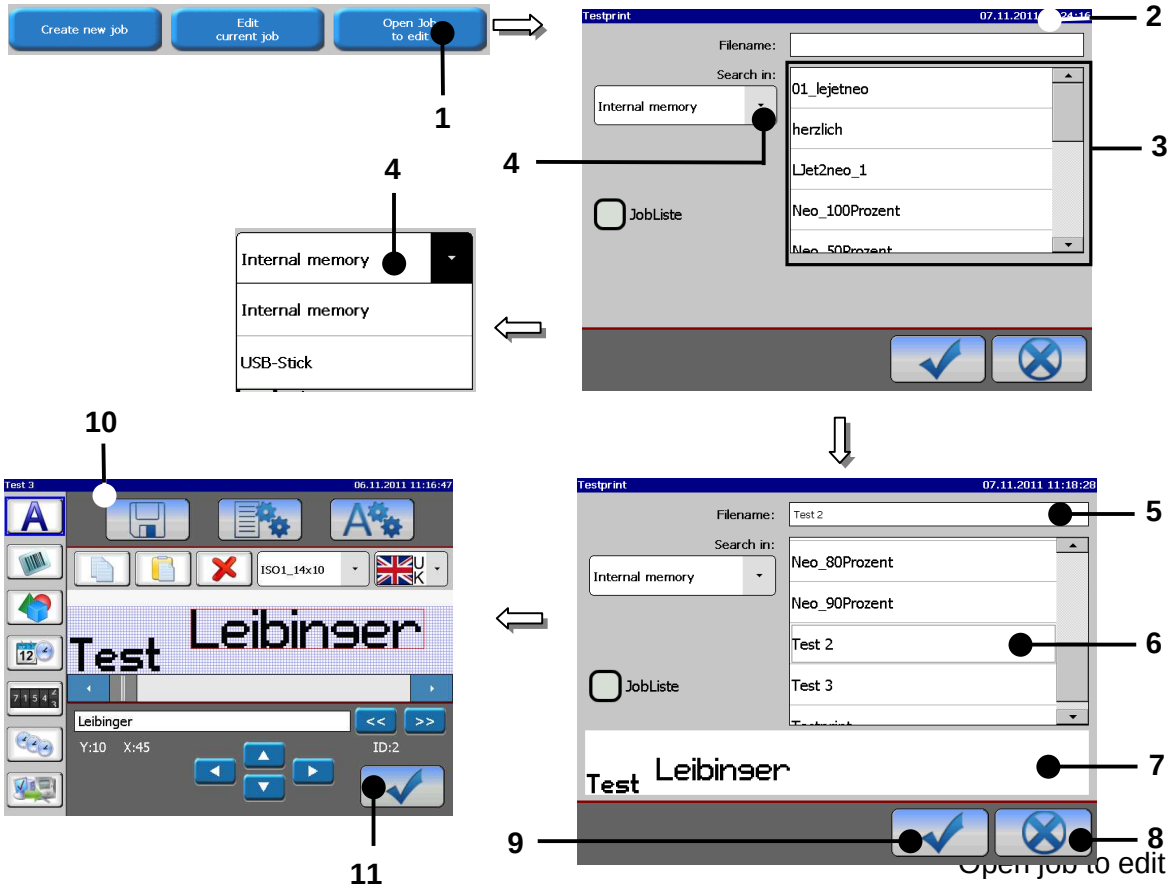
Proceeding:

- Press the button **< Open job to edit>** (1). The window **<Job selection>** (2) is faded in.
- Select the requested job in the selection field **<Job list>** (3). With the pop-up window **<Search in>** (4) you can select the various memory locations.
- The name of the selected job is now shown on the display **<Filename>** (5). Additionally a preview of the printing job is faded in on the display **<Job preview>** (7).

- Press the button **<OK (✓)>** (9) to take over the selected job or press the button **<Cancel>** (8) to cancel the process.
- The menu **<Jobeditor>** (10) opens to change the printing data. The name of the opened job is displayed in the title bar of the editor.
- Carry out the requested changes and save it. You will find further information regarding the memory process in the **group *Job editor*** in the **chapter *Save job/Save job as*** (page 220).

You will find further information regarding the operation of the job editor in the **group *Jobeditor*.**

Figure 35



1 – Button <Open job to edit >
2 – Window <Job selection>
3 – Selection field <Job list>
4 – Pop-up window <Search in>
5 – Display <Filename>
6 – Selected job
7 – Display <Job preview>
8 – Button <Cancel>
9 – Button <OK (✓)>
10 – Menu <Job editor>
11 – Button <OK (✓)>

7.2.1.4 Create a new job list (Extern job selection)

Attention! For further information pleas contact the Leibinger-Service Department or your authorised dealer!

7.2.1.5 Load job to print

With the option **<Load Job to print>** you can load (open) a saved job directly for printing. For selection of a job the window “Job selection” opens.

For further information about the procedure, see the **chapter *Load job to print (Direct selection)*** (page 159)!

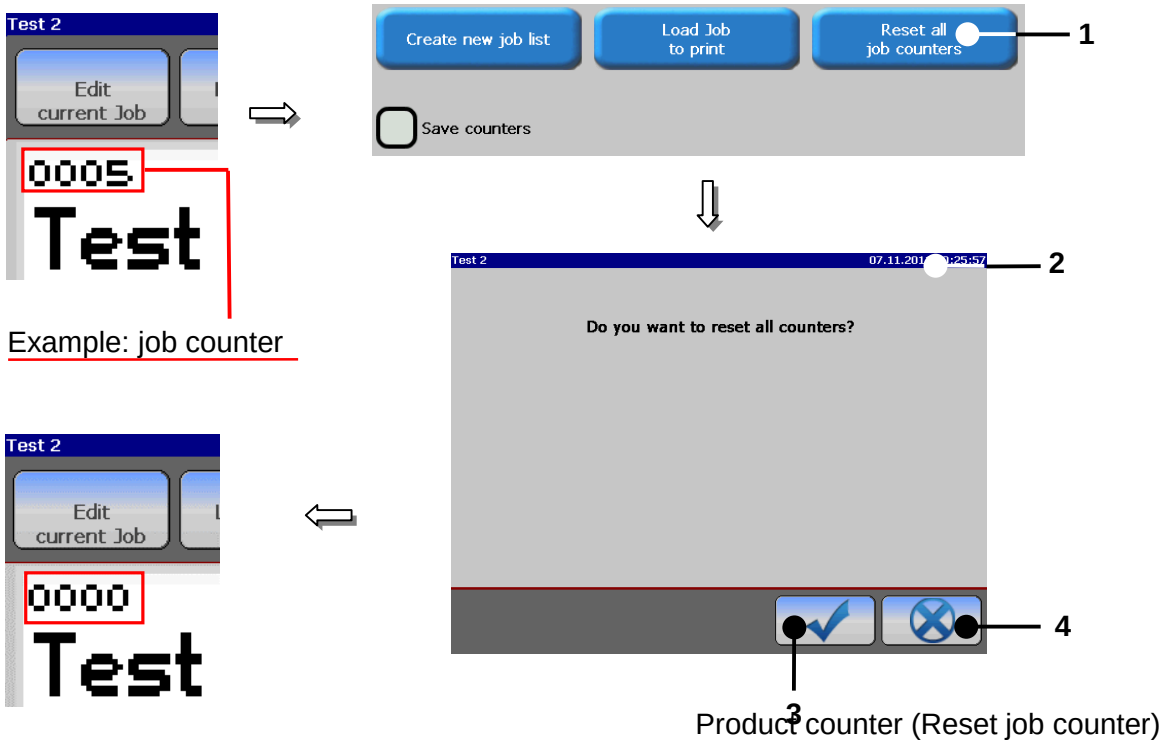
7.2.1.6 Reset all job counters

With this function, all existing job counters in the current loaded job can be reset.

Proceeding:

- Press the option **<Reset all job counters>** (1).
- A **safety query** (2), if all job counters have been reset is faded in.
- Confirm the reset by pressing the button **<OK (✓)>** (4) or cancel the process with the button **<Cancel>** (5).
- All job counters are reset.

Figure 36



1 – Button <Reset all job counters>
2 –Message <Safety query>
3 – Button <OK (✓)>
4 – Button <Cancel>

Attention! The reset of the job counter is irrevocably!

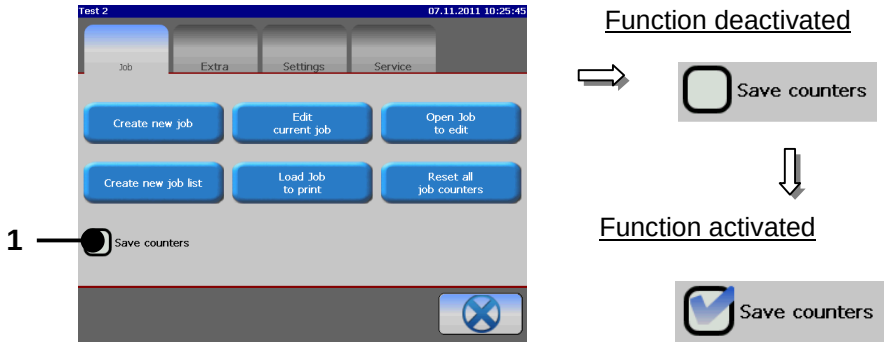
7.2.1.7 Save counter states

For leaving a job, the counter status of integrated job counters are normally not saved, that means for calling this job again, the counter states are 0 respectively set to the predefined start values.

If the print should be continued with already existing counter states for calling the job again, you have to activate the function **<Save counters>**.

The function is activated or deactivated by clicking on the control box. If this function is activated it is displayed by a ✓ in the control box.

Figure 37



Save counter states

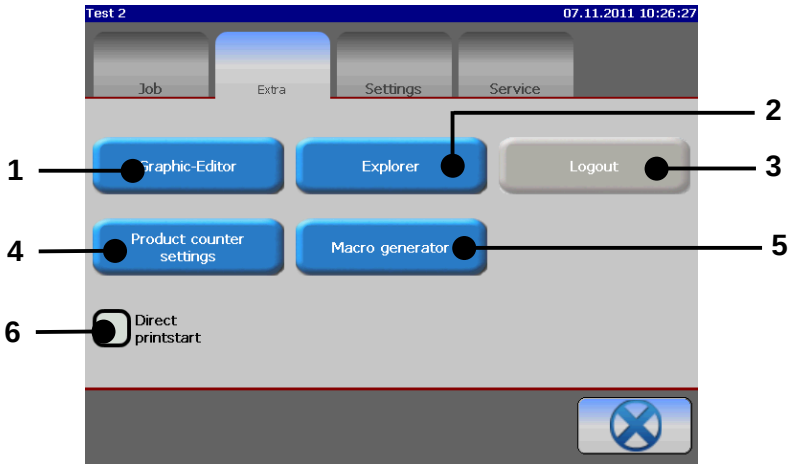
1 – Control box <Save counters>

7.2.2 Functional area Extra (Additional functions)

In the functional area **<Extra>** following options are available:

- Graphic-Editor
- Explorer
- Production counter settings
- Logout
- Macro generator
- Direct printstart

Figure 38



Functional area „Extra“

1 – Option <Graphic-Editor>
2 – Option <Explorer>
3 – Option <Logout>
4 – Option <Production counter settings>
5 – Option <Macro generator>
6 – Controlbox <Direct printstart>

7.2.2.1 Graphic editor

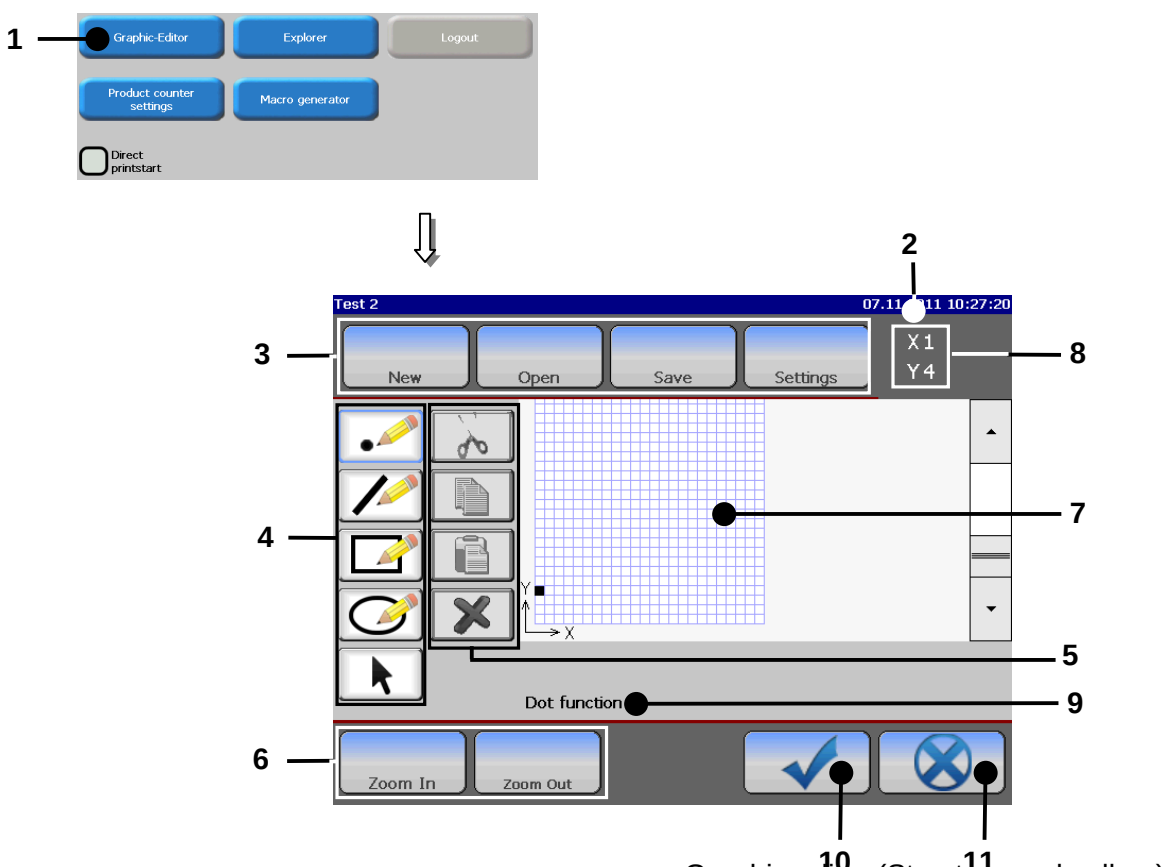
In the graphic editor you can create and change complex logos, pattern or writings easily. For the usage of a mouse you will get a comparable ease of use for the PC-surroundings. Typical functions as Copy&Paste, Zoom in/out as well as tools for the drawing of circles, lines and rectangles make the creation and changes of graphics easier.

- The graphic editor menu (2) can be opened with the button **<Graphic-Editor>** (1).
- With the input field **<Graphic>** (7) you can create a graphic.
- In the display **<Coordinates>** (8) the current or the last cursor position is displayed.
- In the display **<Activities to carry out>** (9) the input (activity) which is expected next from the operator is displayed.
- The button **<OK (✓)>** (10) closes the menu. If the inputs have been not saved yet, a safety query is faded in.

- With the button **<Close>** (11) the graphic editor will be closed without a further safety query and without storage.

Further information about the organization, character, editing and viewing tools of the Graphic Editor can be found in the following chapters!

Figure 39



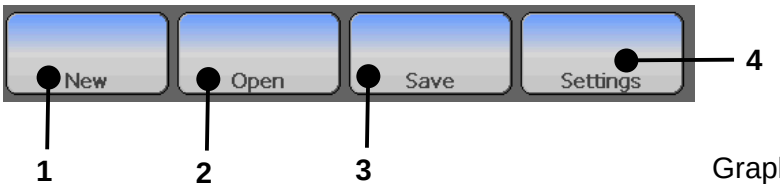
Graphic editor (Structure and call up)

1 – Button <Graphic editor>
2 – Menu <Graphic editor>
3 – Organization tools
4 – Drawing tools
5 – Edit tools
6 – Input field <Graphic>
7 – Display tools
8 – Display <Coordinates>
9 – Display <Activities to carry out>
10 – Button <OK (✓)>
11 – Button <Close>

7.2.2.1.1 Organization tools

With the buttons in the menu bar you can select the organization tools of the editor.

Figure 40



Graphic editor (Organization tools)

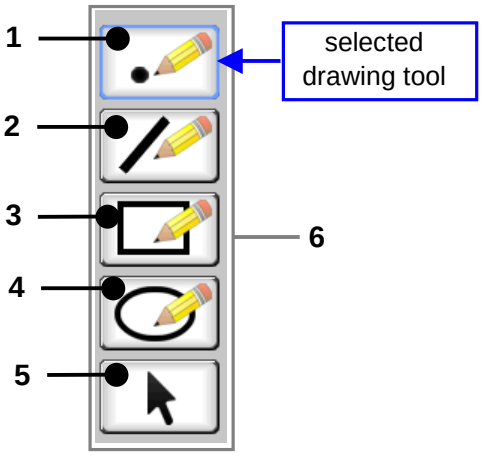
1 – Organization tool <New>
2 – Organization tool <Open>
3 – Organization tool <Save>
4 – Organization tool <Settings>

Pos.	Organization-tool	Function
1.	New	Provides the creation of a new graphic. An empty input field is created.
2.	Open	Provides opening of an existing graphic.
3.	Save (as)	Saves the current loaded graphic under the existing name respectively saves the current loaded or new created graphic under a new name.
4.	Settings	Enables the settings of the editor size (width and height of the drawing area).

You will find further information regarding the function of the organization tool **<Settings>** in the **chapter *Set editor size*** (page 91)!

7.2.2.1.2 Drawing tools

Figure 41



1 – drawing tool <Dot>
2 – drawing tool <Line>
3 – drawing tool <Rectangle>
4 – drawing tool <Ellipse>
5 – drawing tool <Selection>
6 – direct buttons (Icons)

Graphic editor (Drawing tools)

With the icons (direct buttons) you can select the tools to create graphic elements and you can select (mark) the graphic segments.

Note: *The function of the tools refers to the Windows™-drawing tools.*

A selected tool is displayed in a blue frame.

Irrespectively of the set raster size, points are always created with a raster size 1x1 and lines- and circle elements are created with a raster width 1.

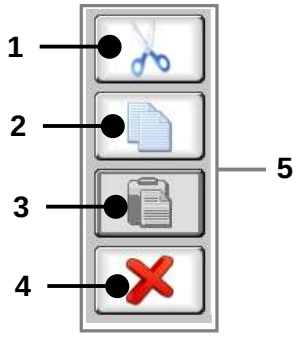
Pos.	Drawing tool	Function
1.	Dot	Provides the creation of a point.
2.	Line	Provides the creation of a line in the requested length.
3.	Rectangle	Provides the creation of a rectangle or quad in the requested size.
4.	Ellipse	Provides the creation of a circle or an ellipse in the requested size.
5.	Selection	Provides the marking of a created graphic segment for editing.

7.2.2.1.3 Edit tools

With the icons (direct buttons) you can select the several edit tools.

Note: *The function of the tools corresponds to the Windows™-functions.*

Figure 42



Graphic editor (Edit tools)

1 – Edit tool <Cut>
2 – Edit tool <Copy>
3 – Edit tool <Paste>
4 – Edit tool <Delete>
5 – Direct buttons (Icons)

7.2.2.1.4 Display tools

Figure 43

Graphic editor (Display tools)

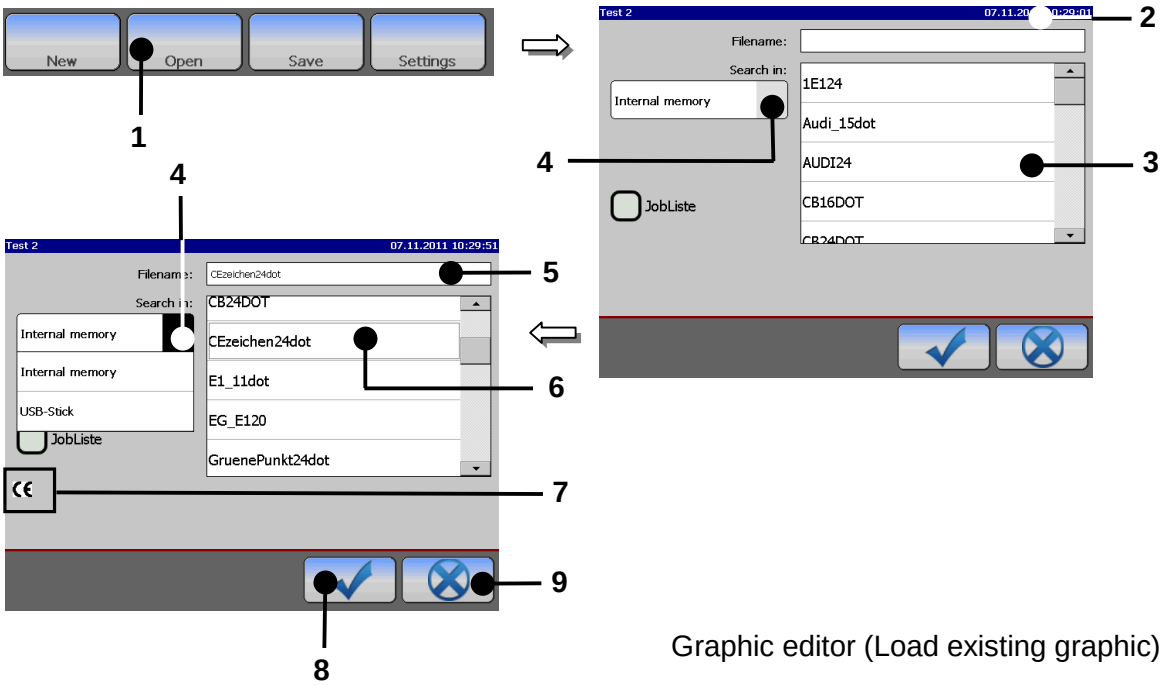
1 – Button <Zoom in>
2 – Button <Zoom out>

Pos.	Display tool	Function
1.	Zoom In	Enlarges the display in the input field **<Graphic>.**
2.	Zoom Out	Reduces the display in the input field **<Graphic>.**

7.2.2.1.5 Load an existing graphic

With the button **<Open>** With the option **<Open>** you can open an existing graphic for processing. For selection of a graphic the window „Load graphic“ opens.

Figure 44



Graphic editor (Load existing graphic)

1 – Button <Open>
2 – Window<Load Graphic>
3 – Selection field <Graphic list>
4 – Pop-up window<Search in>
5 – Display <Filename>
6 – Selected graphic
7 – Preview of the selected graphic
8 – Button <OK (✓)>
9 – Button <Cancel>

Proceeding:

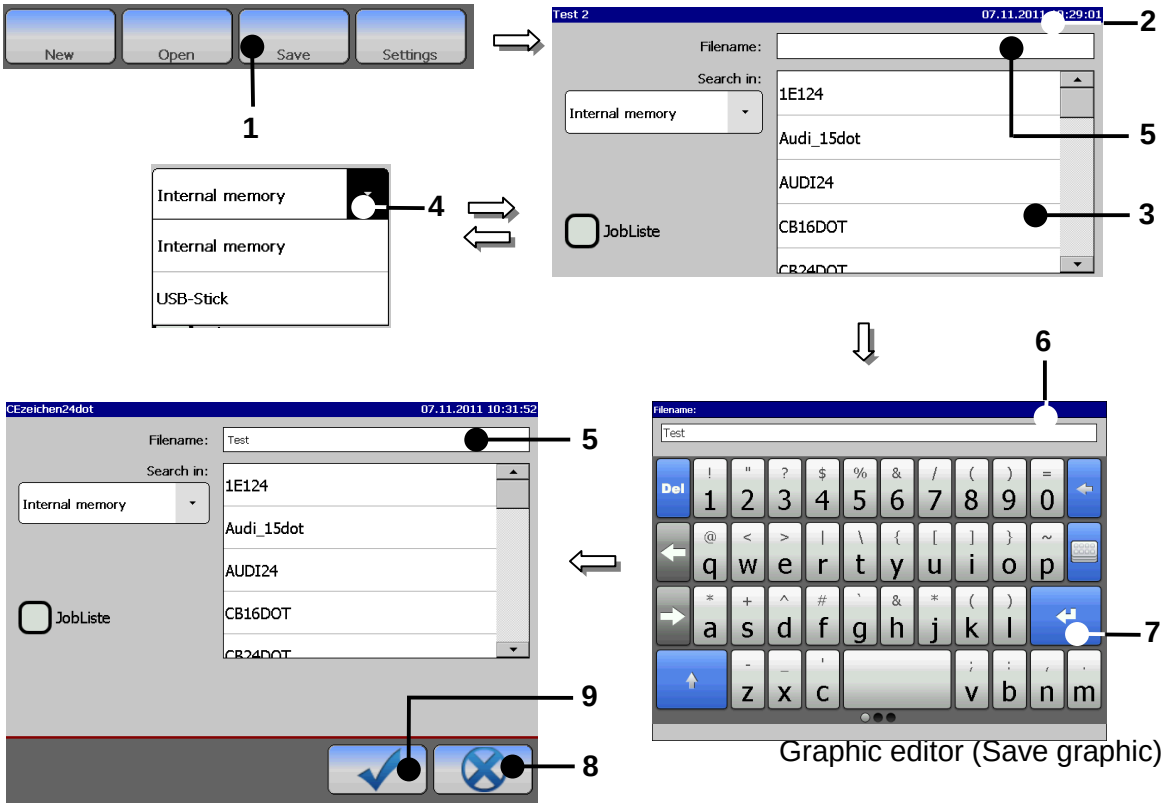
- Press the button **<Open>** (1).
- The window **<Load Graphic>** (2) is faded in.
- Select the requested graphic in the selection field **<Graphic list>** (3). With the Pop-up window **<Search in>** (4) you can select the different memory locations.
- The name of the selected graphic is now shown on the display **<Filename>** (5) and a preview (7) of the graphic is displayed.
- Press the button **<OK (✓)>** (8) to load the selected graphic for processing or press the button **<Cancel>** (9) to cancel the process.

7.2.2.1.6 Save graphic

With the button **<Save>** an open graphic is saved under the current name or a new created graphic is saved under a new name.

Attention! If the graphic is saved under an existing filename, no safety query is generated. The existing data will be overwritten.

Figure 45



Graphic editor (Save graphic)

1 – Button <Save>
2 – Window <Save graphic>
3 – Selection field <Graphic list>
4 – Pop-up window <Search in>
5 – Display <Filename>
6 – Keyboard field
7 – Button <Return ↵>
8 – Button <Cancel>
9 – Button <OK (✓)>

1. Save an open existing graphic:

Proceeding:

Press the button **<Save>** (1) in the menu bar of the editor. The graphic will be saved under the existing filename.

2. Save a newly created graphic:

Proceeding:

- Press the button **<Save>** (1) in the menu bar of the editor.
- The window **<Save Graphic>** (2) is faded in.
- The names of the already existing graphics are displayed in the selection field **<Graphic list>** (3). With the pop-up window **<Search in>** (4) you can select the different memory locations.
- Click in the display **<Filename>** (5). A keyboard field (6) opens for input.

You will find further information regarding the working with keyboard fields in the **chapter *Keyboard fields*** (page (61)!

- Enter the requested name.
- Press the button **<Return ↵>** (7) of the keyboard field. The entered name will be taken over to the display **<Filename>** (5).
- Press the button **<OK (✓)>** (9) to finish the storage process or press the button **<Cancel>** (8) to cancel the process.

7.2.2.1.7 Create and process graphic elements

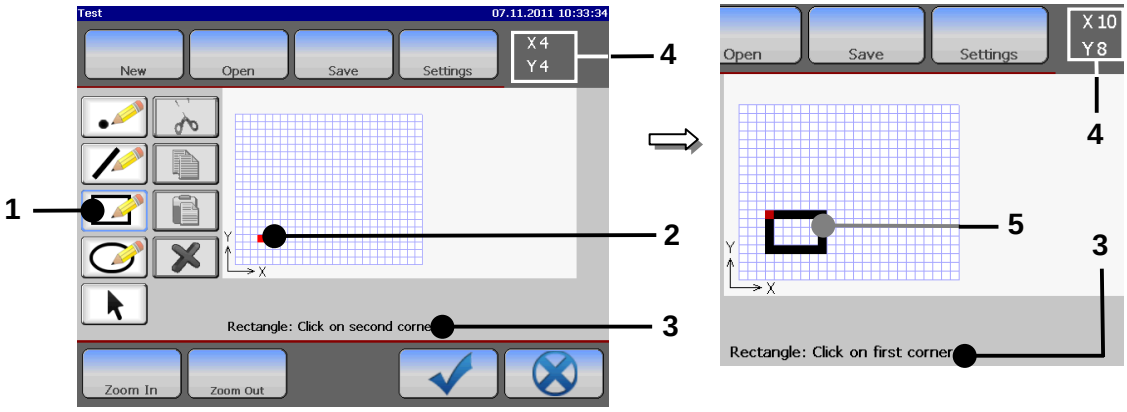
1. Creation of a graphic element:

(Example.:A rectangle should be created)

Proceeding:

- Press on the drawing tool **<Rectangle>** (1).
- Click in the grid of the input field on the requested start point (2).
- The requested start point is placed and is marked red. At the same time on the display **<Coordinates>** (4) the coordinates of the start points are shown and on the display <**Activities to carry out**> (3) you can see the next required or possible activity.
- Now click in the grid on the requested position of the end point (5). The rectangle is now created.

Figure 46



Graphic editor (Create graphic)

1 – Drawing tool <Rectangle>
2 – Start point
3 – Display <Activities to carry out>
4 – Display <Coordinates>
5 – End point (Rectangle)

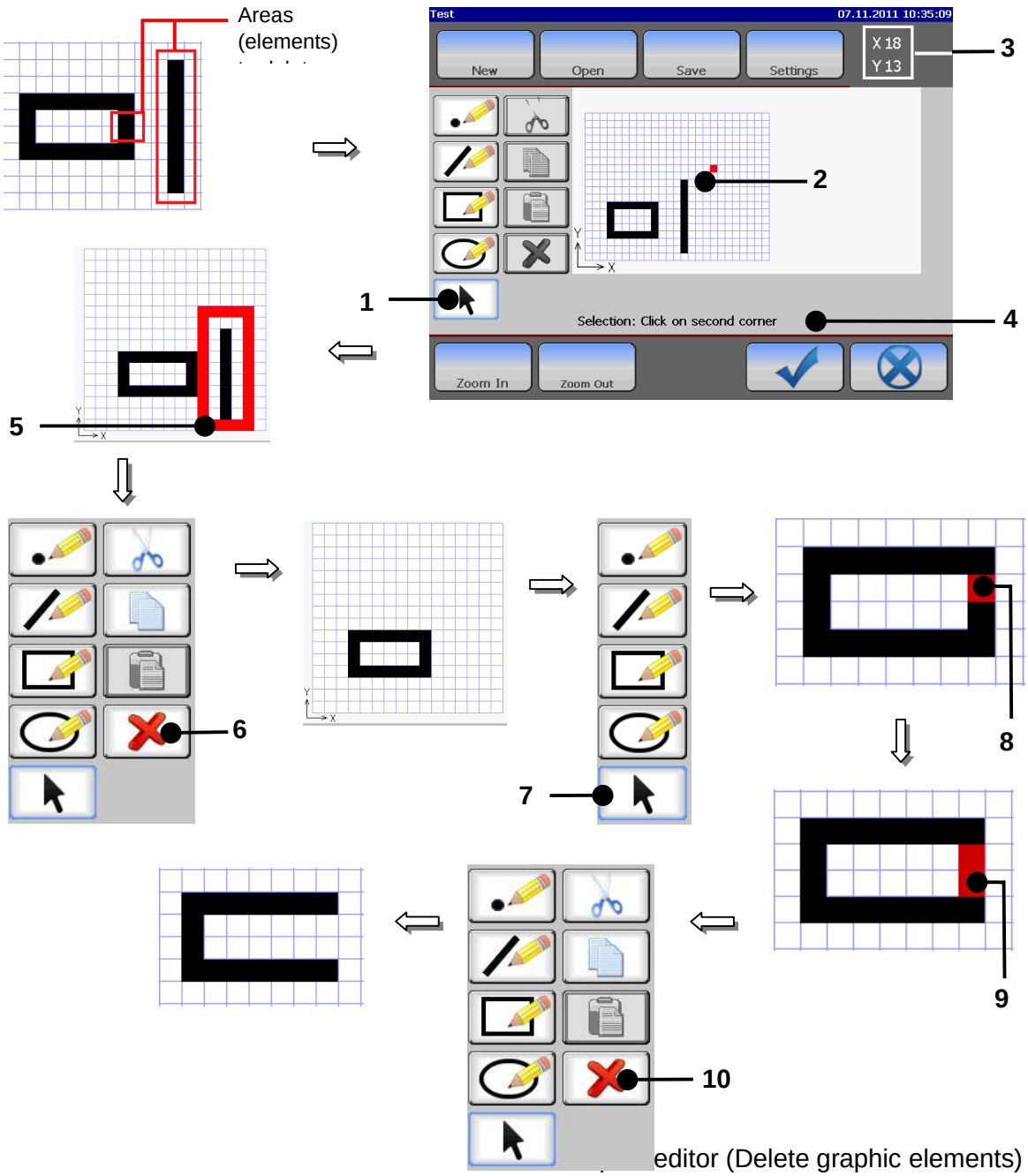
2. Deletion of a graphic element or graphic segment:

(Example: A rectangle should be interrupted and a line should be deleted)

Proceeding:

- Press on the drawing tool **<Selection>** (1).
- Click in the grid of the input field on an empty point close to the line which should be deleted. The start point (2) of the catch frame is displayed red. At the same time in the display **<Coordinates>** (3) the coordinates of the object frame start point are shown and in the display <**Activities to carry out**> (4) the next required or possible activity.
- Now click in the grid on an empty point on the other side of the line which should be deleted to define an end point (5) for the catch frame. The catch frame is now created.
- Now press on the edit tool **<Delete>** (6). The line will be deleted.
- Press again on the drawing tool **<Selection>** (7) to work on the rectangle.
- Click on the grid field (8) where the interruption of the rectangle should happen. The start point of the catch frame is displayed red.
- Now click on the grid field (9) where the interruption should be finished. The catch frame is generated.
- Finally press on the edit tool **<Delete>** (10). The marked area will be deleted.

Figure 47



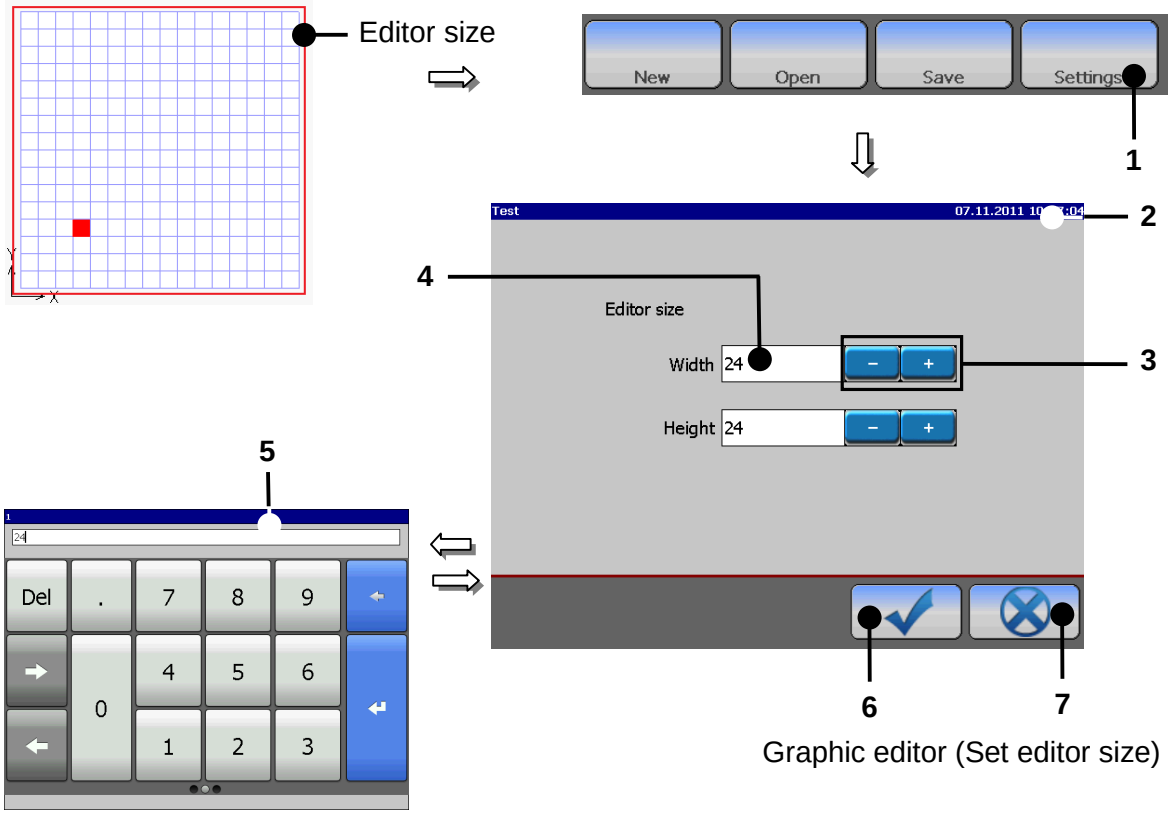
editor (Delete graphic elements)

1 – Drawing tool <Selection>
2 – Start point (catch frame)
3 – Display <Coordinates>
4 – Display <Activities to carry out>
5 – End point (catch frame)
6 – Edit tool <Delete>
7 – Drawing tool <Selection>
8 – Start point (catch frame)
9 – End point (catch frame)
10 – Edit tool <Delete>

7.2.2.1.8 Set editor size

With the button **<Settings>** you can set the editor size (width and height of the drawing area).

Figure 48



Graphic editor (Set editor size)

1 – Button <Settings>
2 – Menu <Editor settings>
3 – +/- buttons
4 – Display fields
5 – Number block
6 – Button <OK (✓)>
7 – Button <Cancel>

Proceeding:

- Press the button **<Settings>** (1) in the menu bar.
- The menu **<Editor settings>** (2) is faded in.
- With the **+/- buttons** (3) you can increase or reduce the values of the editor size by one step.

  alternatively

- Click in the appropriate display field (4) of the value which you would like to change. A number block (5) opens for input. Now enter the requested value.

You will find further information regarding the working with number blocks in the **chapter *Number block*** (page 60)!

- The button **<OK (✓)>** (6) closes the menu.

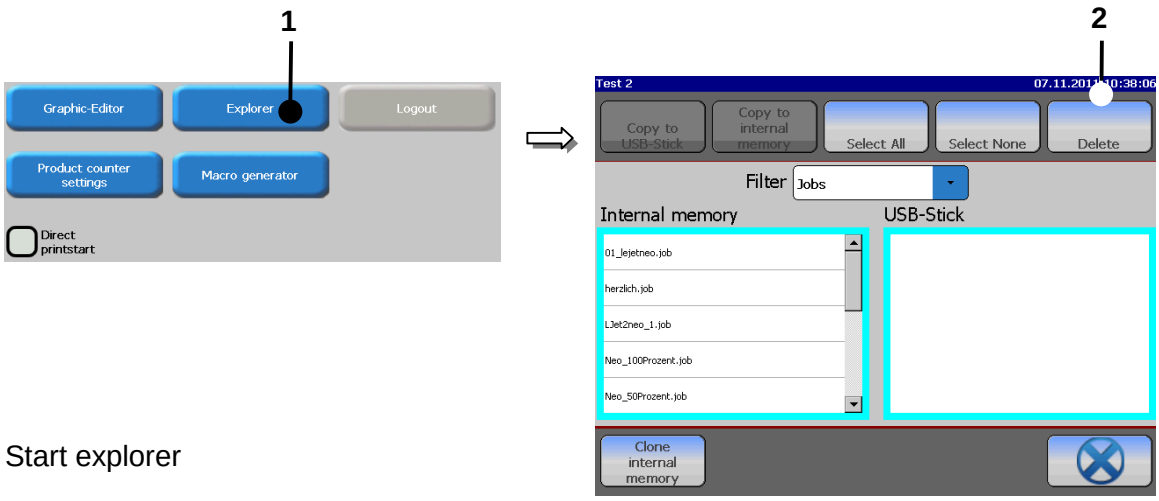
7.2.2.2 Explorer

The explorer administrates the data of the LEIBINGER JET2 neo. As the explorer of the PCs, the explorer in the JET2 neo allows the deletion of data as well as the free saving and loading of data on different media (e.g. USB-stick) or of the internal memory. Selection window and filter functions allow a clear and easy to operate data management.

7.2.2.2.1 Start explorer

Press the button **<Explorer>** (1) to open the menu **<Explorer>** (2).

Figure 49

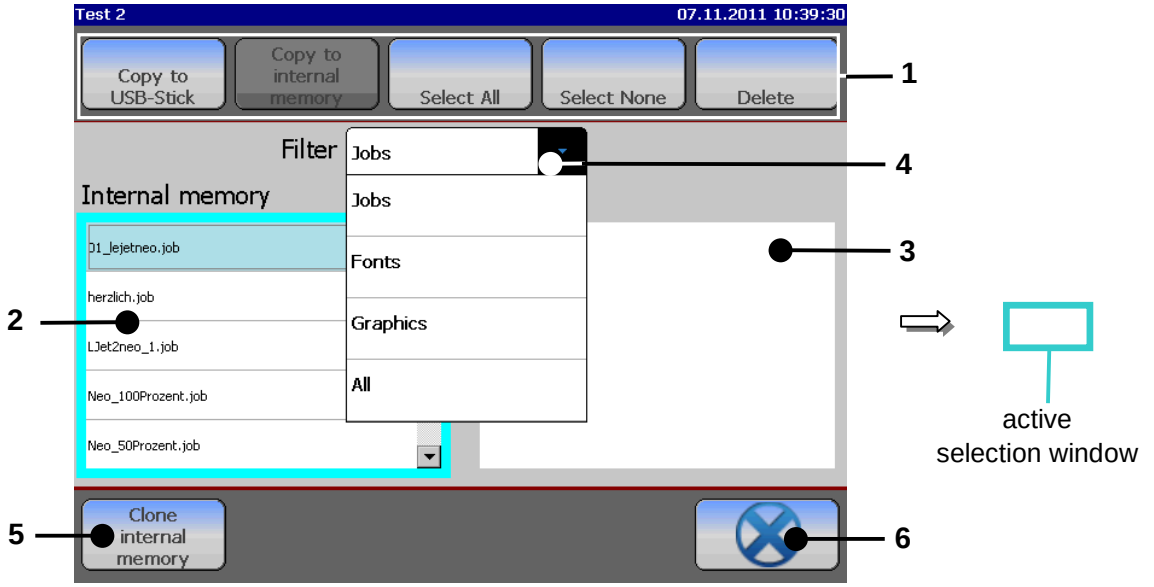


Start explorer

1 – Button <Explorer> 2 – Menu <Explorer>

7.2.2.2.2 Menu structure

Figure 50



Explorer (Menu structure)

1 – Buttons <Tools>
2 – Selection window <Internal memory>
3 – Selection window <USB-Stick>
4 – Pop-up window <Filter>
5 – Button <Clone internal memory>
6 – Button <Close>

- **Buttons <Tools> (1):** With the buttons you can select the several tools of the explorer.
- **Selection window <Internal memory> (2):** In the selection window the data or the filtered data of the internal memory of the JET2 Neo are displayed.
- **Selection window <USB-Stick> (3):** In the selection window the data or the filtered data of the external data carrier are displayed.

  Annotation: *A selection window is activated by clicking on the display area of the window. The active window is marked by a turquoise border.*

- **Filter (4):** With the pop-up window you can select the several data fields which should be displayed or processed. If a filter has been used, only the accordant data is shown in the two selection windows.

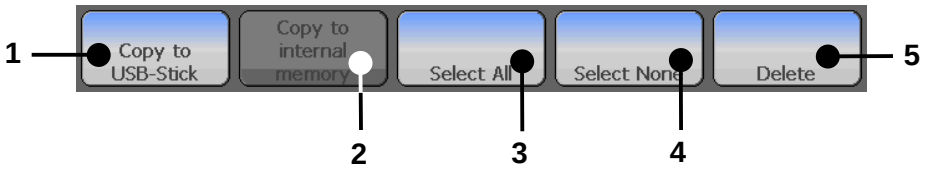
  The following filters are available:

  - All
  - Jobs
  - Fonts
  - Graphics

- With the button **<Clone internal memory>** (5) all data of the JET2 Neo are duplicated to an external data carrier.
- The button **<Close>** (6) closes the explorer.

7.2.2.2.3 Explorer tools

Figure 51



Explorer (Tools)

1 – Tool <Copy to USB-Stick>
2 – Tool <Copy to internal memory>
3 – Tool <Select all >
4 – Tool <Select none>
5 – Tool <Delete>

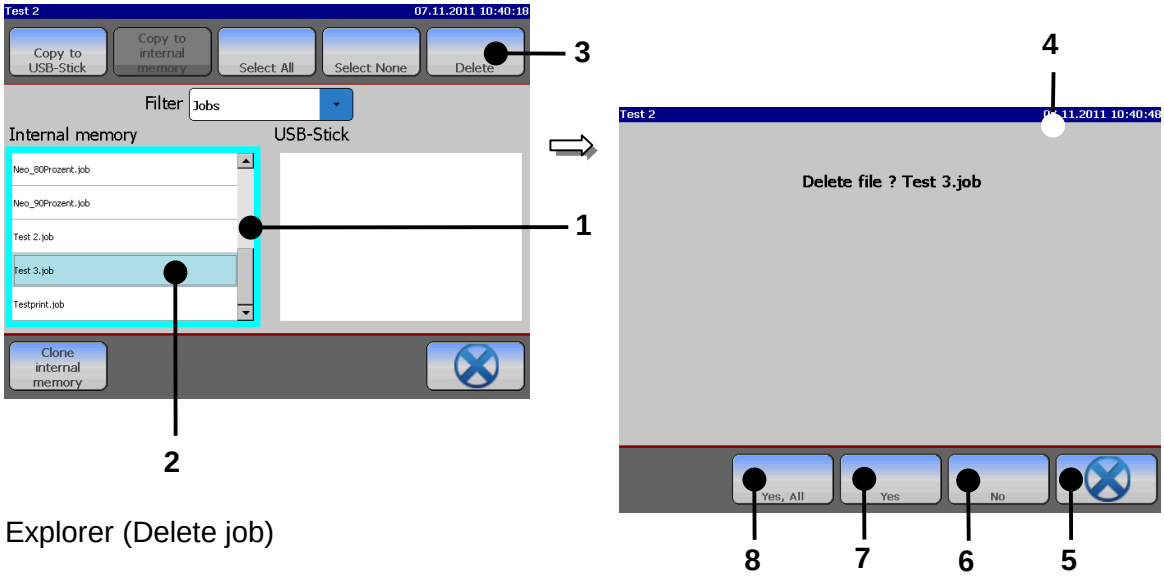
Pos.	Tool	Function
1.	Copy to USB-Stick	Copy marked data to an external memory device.
2.	Copy to internal memory	Copy marked data from an external memory device to the internal memory of the JET2 Neo.
3.	Select all	Selects all data in the active selection window. ***Annotation:*** *The selection of several data happens by clicking on the accordant designation.*
4.	Select none	Cancels the selection of all data of the active selection window. ***Annotation:*** *The selection of several data is cancelled by clicking on the accordant designation.*
5.	Delete	Deletes all marked data in the active selection window.

7.2.2.2.4 Delete jobs

A job can only be deleted in the explorer!

(Example: The job „Test 3“ should be deleted in the internal memory.)

Figure 52



Explorer (Delete job)

1 – Slection window <Internal memory>
2 – Marked job
3 – Tool <Delete>
4 – Message <Delete file>
5 – Button <Cancel>
6 – Button <No>
7 – Button <Yes>
8 – Button <Yes, All>

Proceeding:

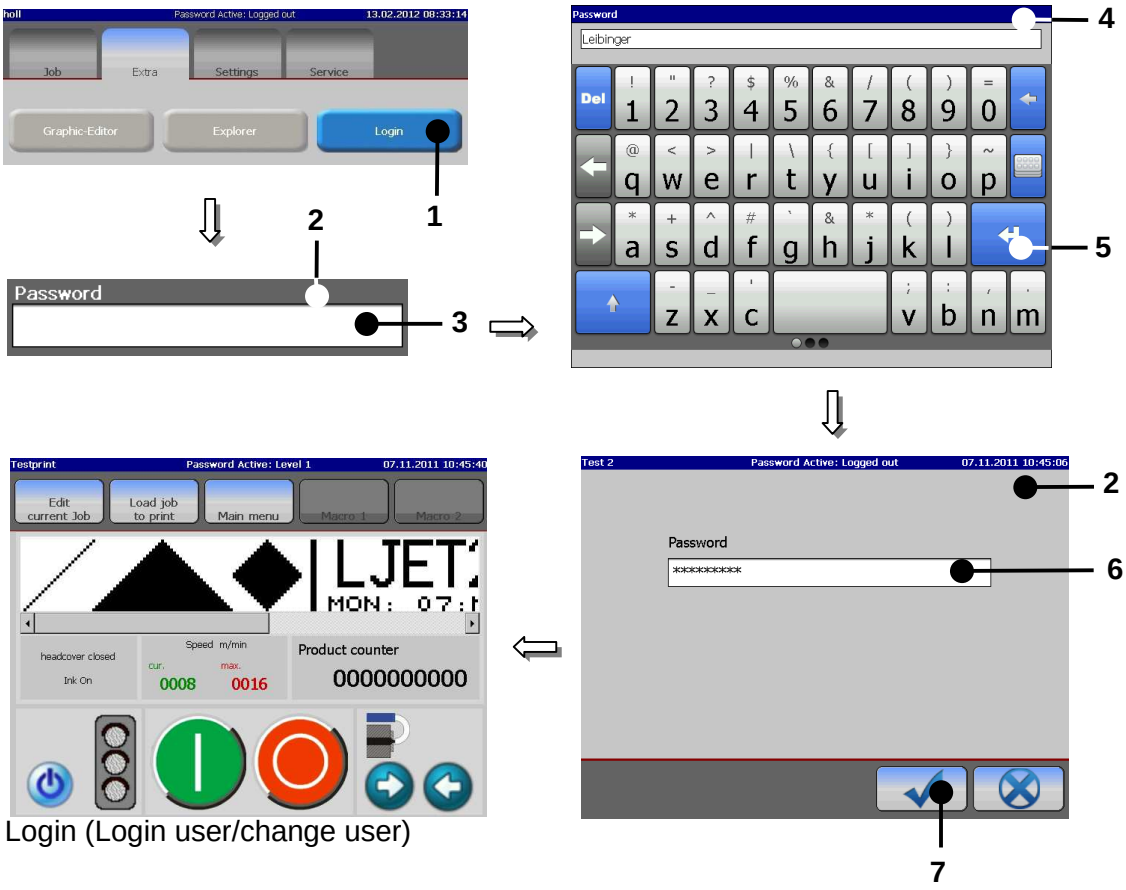
- Click on the display area of the selection window **<Internal memory>** (1) to activate it. The border of the window is now displayed turquoise.
- Select (mark) the job with the designation „Test 3“ (2) by clicking on the designation. The selected job is displayed with a light green background for vivid identification.
- Press the button of the tool **<Delete>** (3).
- The message **<Delete file>** (4) is faded in.
- Press the button **<Yes>** (7) to delete the selected job or press the button **<No>** (6) respectively the button **<Cancel>** (5) to abort the process.

7.2.2.3 Login/Logout

With the button **<Login>** the user can log in when starting the device or a new user can log in during operation to perform functions for which the originally logged in operator is not authorized for example. Further more the logged in user can logout also during the operation with the button **<Logout>** and can therefore prevent a change of the settings by unauthorized staff.

7.2.2.3.1 Login user and carry out user change

Figure 53



Login (Login user/change user)

1 – Button <Login>
2 – Window <Password query>
3 – Input field <Password>
4 – Keyboard field
5 – Button <Return ↵>
6 – Input field <Password>
7 – Button <OK (✓)

Proceeding:

- Press the button **<Login>** (1).
- The window **<Password query>** (2) is called up.
- Click into the input field **<Password>** (3) of the window. A keyboard field (4) opens for entry.
- Enter the defined password of your access right.
- Press the button **<Return ↵>** (5) of the keyboard field to finish the input.

You will find further information regarding the operation with keyboard fields in the **chapter *Keyboard fields*** (page 61)!

- The input is now displayed with placeholders (wildcards) in the input field **<Password>** (6).
- Finally press the button **<OK** (✓)**>** (7) to carry out the login process. The window closes and the user is logged in.

7.2.2.3.Logout user

Proceeding:

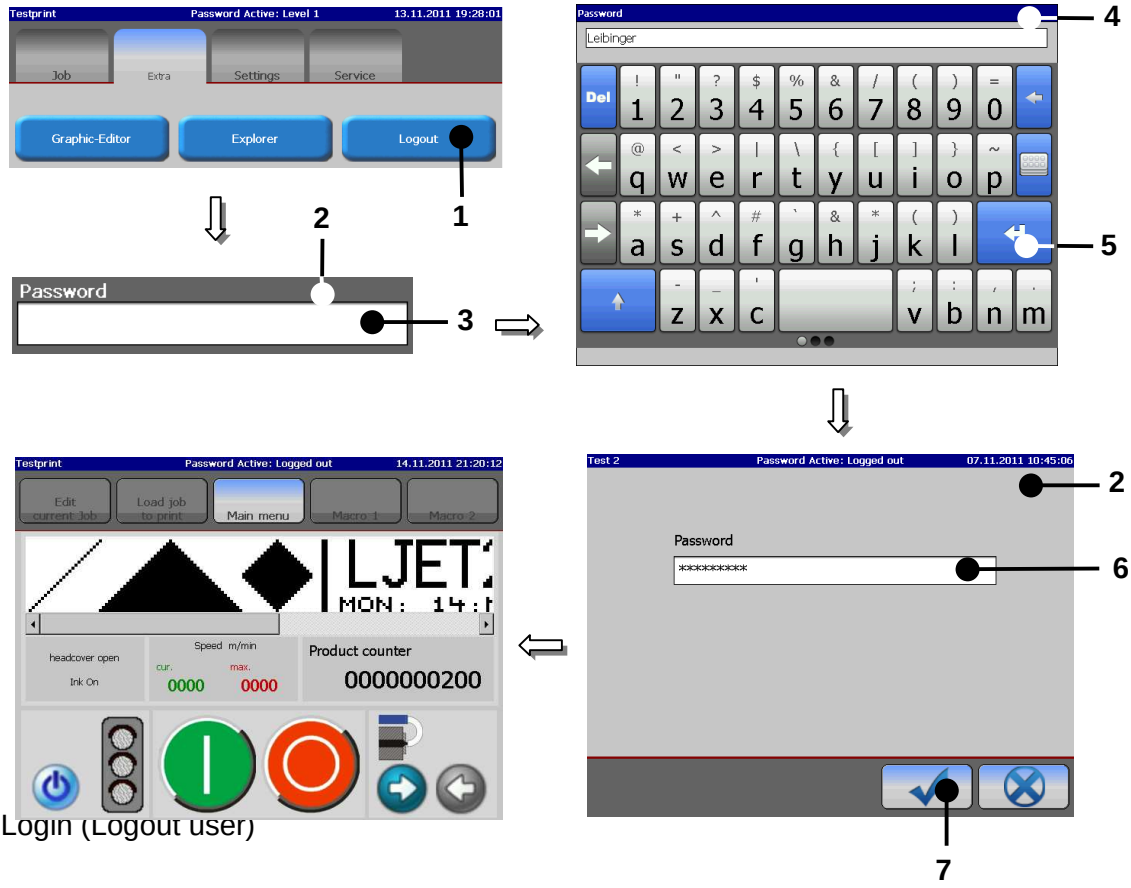
- Press the button **<Logout>** (1).
- The window **<Password query>** (2) is called up.
- Click into the input field **<Password>** (3) of the window. A keyboard field (4) opens for entry.
- Enter the defined password of your access right.
- Press the button **<Return ↵>** (5) of the keyboard field to finish the input.

You will find further information regarding the operation with keyboard fields in the **chapter *Keyboard fields*** (page 61)!

- The input is now displayed with placeholders (wildcards) in the input field **<Password>** (6).
- Finally press the button **<OK** (✓)**>** (7) to carry out the logout process. The window closes and the user is logged out.

After logging-out of the user, only the function **<Login>** is available.

Figure 54



Login (Logout user)

1 – Button <Logout>
2 – Window <Password query>
3 – Input field <Password>
4 – Keyboard field
5 – Button <Return ↵>
6 – Input field <Password>
7 – Button <OK (✓)

7.2.2.4 Product counter

With the button **<Product counter settings>** (1) the menu „Product counter “ (2) opens.

This menu serves the setting of

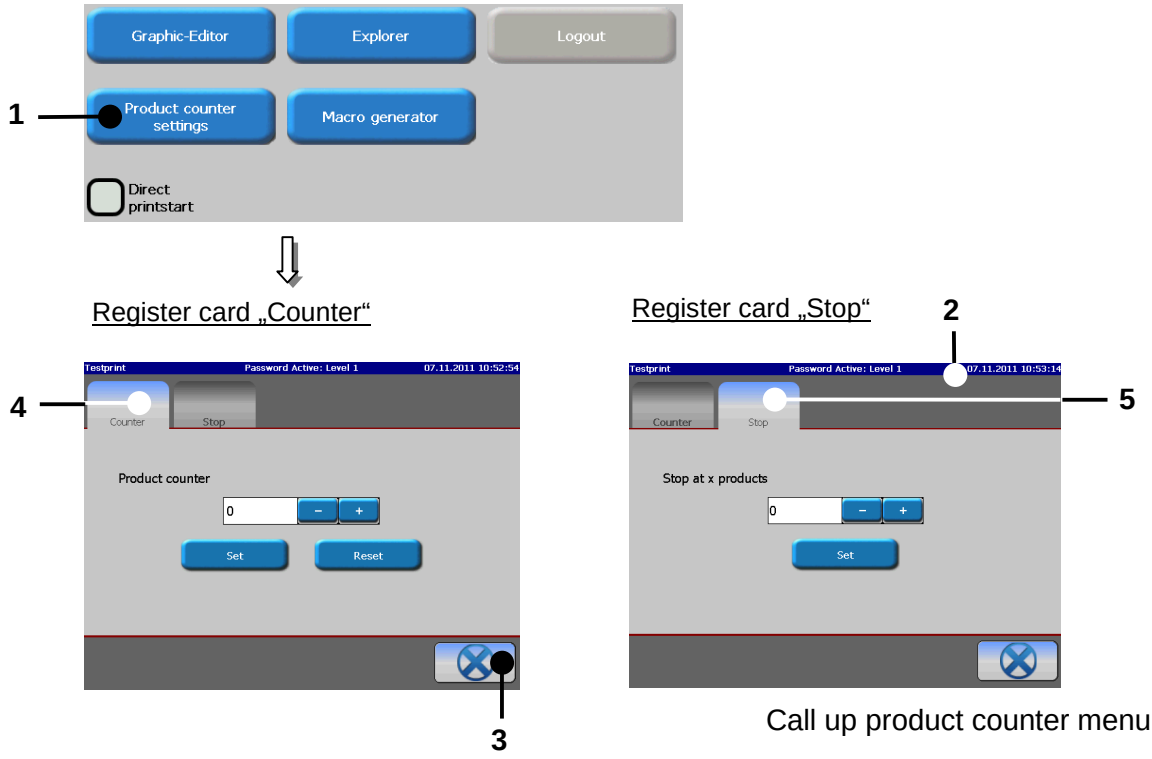
- the product counter
- a pre-defined print stop

The selection of a functional area happens by clicking on the corresponding register card.

Comment: *The proceeding corresponds to the Window™-standard procedure.*

The button **<Cancel>** (3) closes the menu.

Figure 55



Call up product counter menu

1 – Button <Product counter settings>
2 – Menu „Product counter”
3 – Button <Cancel>
4 – Register card <Counter>
5 – Register card <Stop>

7.2.2.4.1 Product counter settings

Proceeding:

- Press on the status field **<Product counter> in the basic menu** (1) or press the button **<Product counter settings>** (2).
- The menu „Product counter“ (3) is faded in. As standard the register card **<Counter>** (4) is activated and the current value of the counter appears in the display **„Product counter“** (5).

1. Reset counter

- Press the button **<Reset>** (6) to reset the counter or cancel the process with the button **<Cancel>** (7).

  Note: *The resetting happens **without** a further safety query.*
- The „00000“ is now displayed in the status field **<Production Counter>** of the basic menu.

2. Change counter value

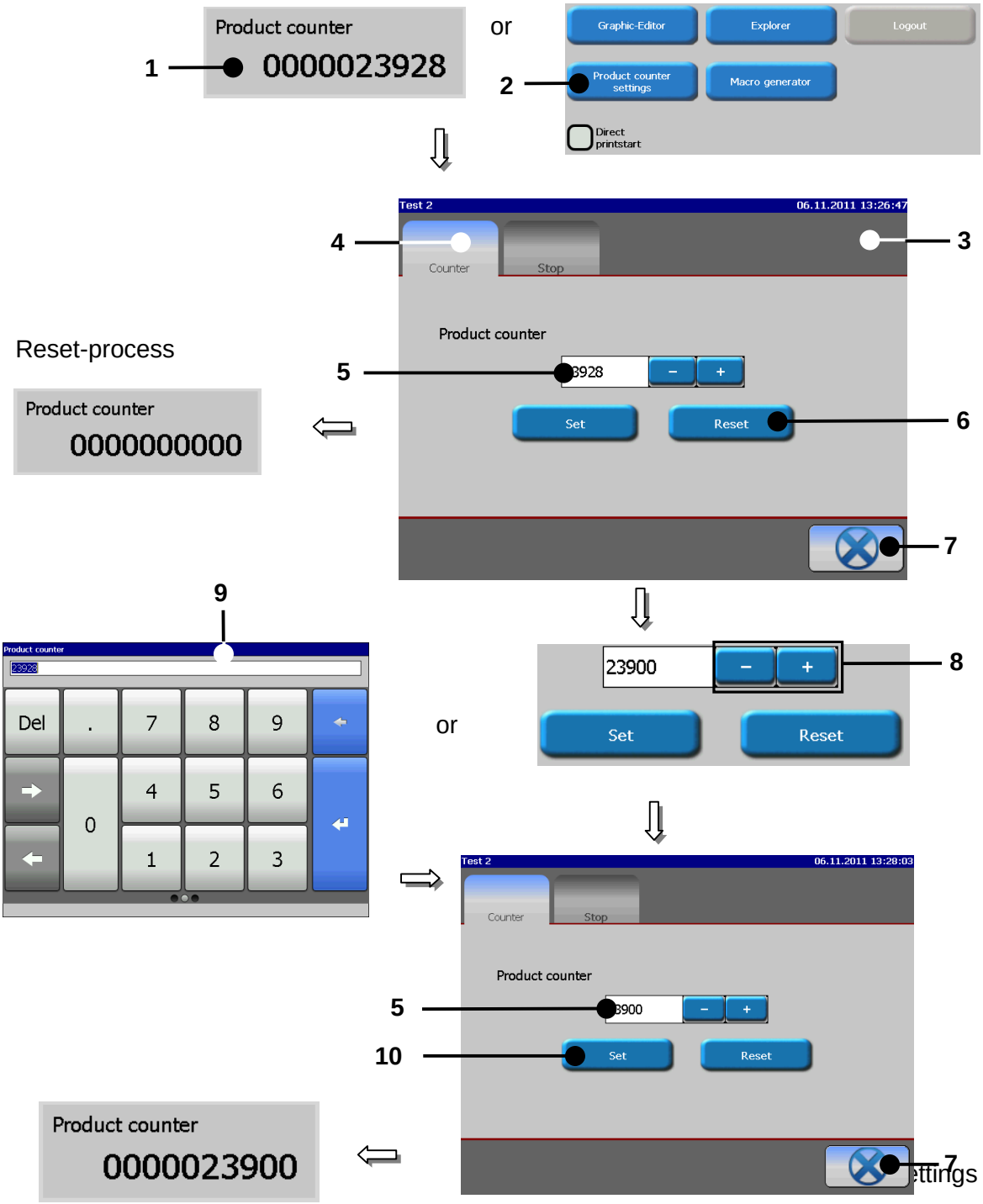
- Change the value of the counter with the **+/- buttons** (8). The value of the counter is increased or reduced in increments of one by pressing the appropriate key and the change shown directly on the display (5).

  or
- Click in the **counter display field** (5). The number block **<Product counter>**(9) opens for input.

You will find further information regarding the working with number blocks in the **chapter *Number block***!

- Confirm the value change by pressing the button **<Set>** (10) or cancel the process with the button **<Cancel>** (7).
- The set value is now displayed in the status field **<Production counter>** of the basic menu.

Figure 56



1 – Status field <Product counter>
2 – Button <Product counter settings>
3 – Menu „Product counter”
4 – Register card <Counter>
5 – Display “Product counter”
6 – Button <Reset>
7 – Button <Cancel>
8 – +/- buttons
9 – Number block <Product counter>
10 – Button <Set>

Attention! If job counters (object counters) whose settings **<Counter reset>** are applied with the attribute „production counter“ exist in the current job, they will be also reset.

You will find further information regarding the counter reset methods in the **chapter *Counter reset (methods)*** (page 66 and 211)!

7.2.2.4.2 Stop after x products (Pre-defined print stop)

With the option **<Stop after x products>** the amount of prints will be defined after the LEIBINGER JET2 neo should release an automatic print stop.

If a print stop has been pre-defined the value is displayed in the status field **<Production counter>** of the basic menu.

Attention! Before the re-start of the production, the production counter has to be necessarily reset to get a correct result.

Proceeding:

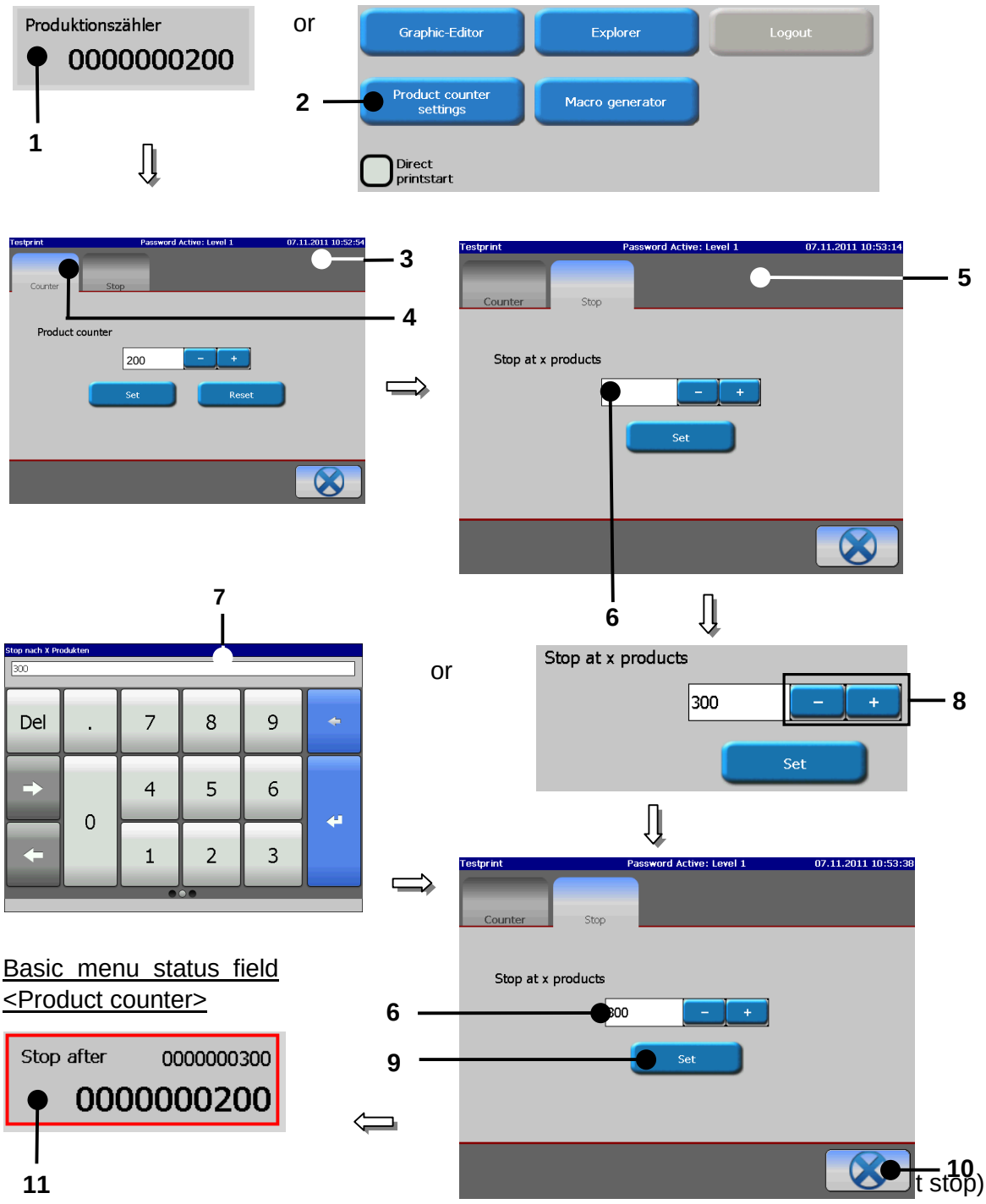
- Press on the status field **<Product counter> in the basic menu** (1) or press the button **<Product counter settings>** (2).
- The menu **<Product counter>** (3) is faded in. As standard the register card **<Counter>** (4) is activated.
- Now click on the register card **<Stop>** (5) and the current value of the print stop counter is shown in the display **„Stop after x products“** (6).
- Change the value of the print stop counter with the **+/- buttons** (8). The value of the counter is increased or reduced in increments of one by pressing the appropriate key and the change displayed directly on the display (9).

  or

- Click in the display **„Stop after x products “** (6). The number block **<Product counter>**(7) opens for input.

You will find further information regarding the working with number blocks in the **chapter *Number block*** (page 60)!

Figure 57



1 – Status field <Product counter
2 – Button <Product counter settings>
3 – Menu „Product counter”
4 – Register card <Counter>
5 – Register card <Stop>
6 – Display “Stop after x products”
7 – Number block <Stop after x prod.>
8 – +/- buttons
9 – Button <Set>
10 – Button <Cancel>
11 – Status field <Product counter> with pre-defined print stop

- Confirm the input by pressing the button **<Set>** (9) or cancel the process with the button **<Cancel>** (10).
- The set print stop value is now displayed in the status field **<Product counter>** (11) of the basic menu. For better visualization that a pre-defined print stop has been defined, the field is displayed with a red frame.

7.2.2.5 Macro generator

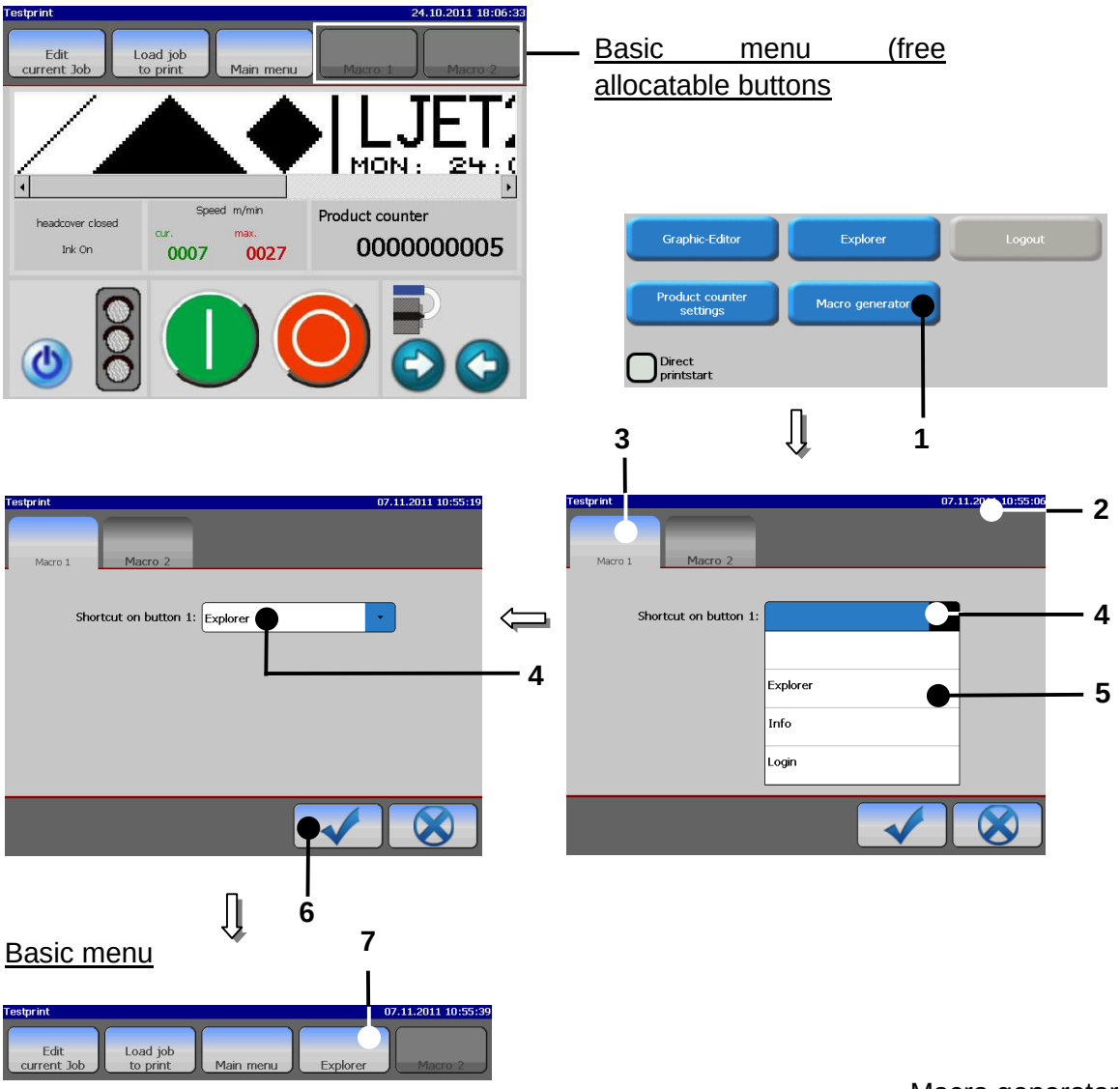
With the macro generator, pre-defined functions can be assigned to the two freely assignable buttons in the menu bar of the basic menu.

Proceeding:

(Example: The button <Macro 1> should be assigned the function "Start Explorer".)

- Press the button **<Macro generator>** (1).
- The menu **<Macro generator>** (2) is faded in. As standard the register card **<Macro 1>** (3) is activated.
- Press on the arrow button of the pop-up window **<Shortcut on …>** (4). The op-up will be opened for selection.
- Now select the desired function link (5), in this case „Explorer".
- Finally press the button **<OK** (✓)**>** (6) to save the link and exit the menu. In the basic menu the original button **<Macro 1>** is now activated and shown with the name **<Explorer>** (7). In future the Explorer of the JET2 neo can be opened directly with the button.

Figure 58



Macro generator

1 – Button <Macro generator>
2 – Menu <Macro generator>
3 – Register crad <Macro 1>
4 – Pop-up window <Short cut on button 1>
5 – Selected shortcut
6 – Button <OK (✓)>
7 – Button <Explorer>

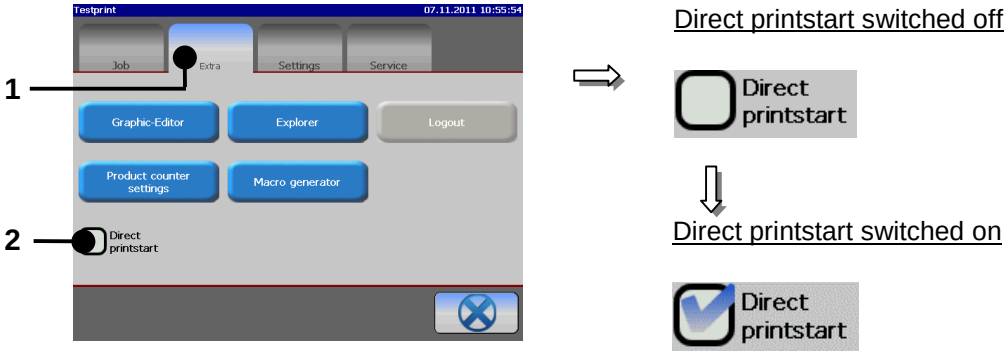
7.2.2.6 Direct printstart

With this function the printing process of a job can be started directly after loading without further intervention by the user.

Proceeding:

- Activate the automatic print start by clicking on the control box (2). Whether the function is activated is displayed by a ✓ in the control box.

Figure 59



Direct printstart

1 – Register card <Extra> 2 – Control box <Direct printstart>

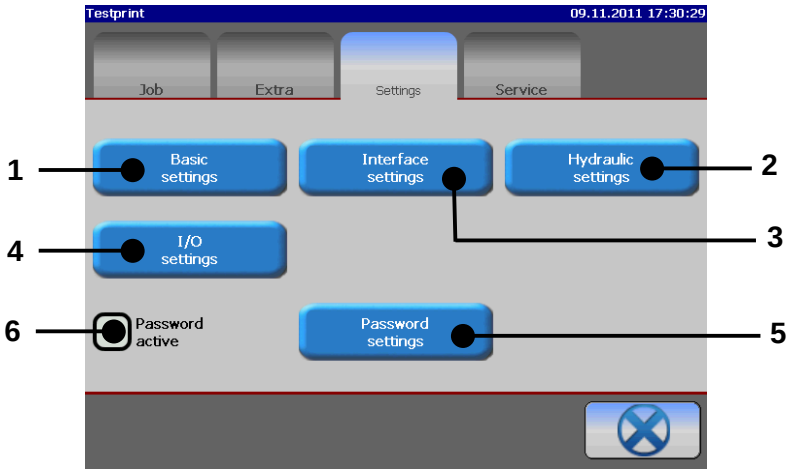
7.2.3 Functional area Settings

In the functional area **<Settings>** the following submenus are available:

- Basic settings
- Interface settings
- Hydraulic settings
- I/O settings
- Password settings

Furthermore the password prompt can be activated or deactivated.

Figure 60



Functional area „Settings“

1 – Button <Basic settings>
2 – Button <Interface settings>
3 – Button <Hydraulic settings>
4 – Button <I/O settings>
5 – Button <Password settings>
6 – Control box <Password active>

7.2.3.1 Basic settings

With the button **<Basic settings>** (1) the menu „Basic settings“ (2) opens.

This menu serves as setting of

- Language/Unit (Measurement)
- Interval function
- IP-address
- Date /Time
- Encoder interface

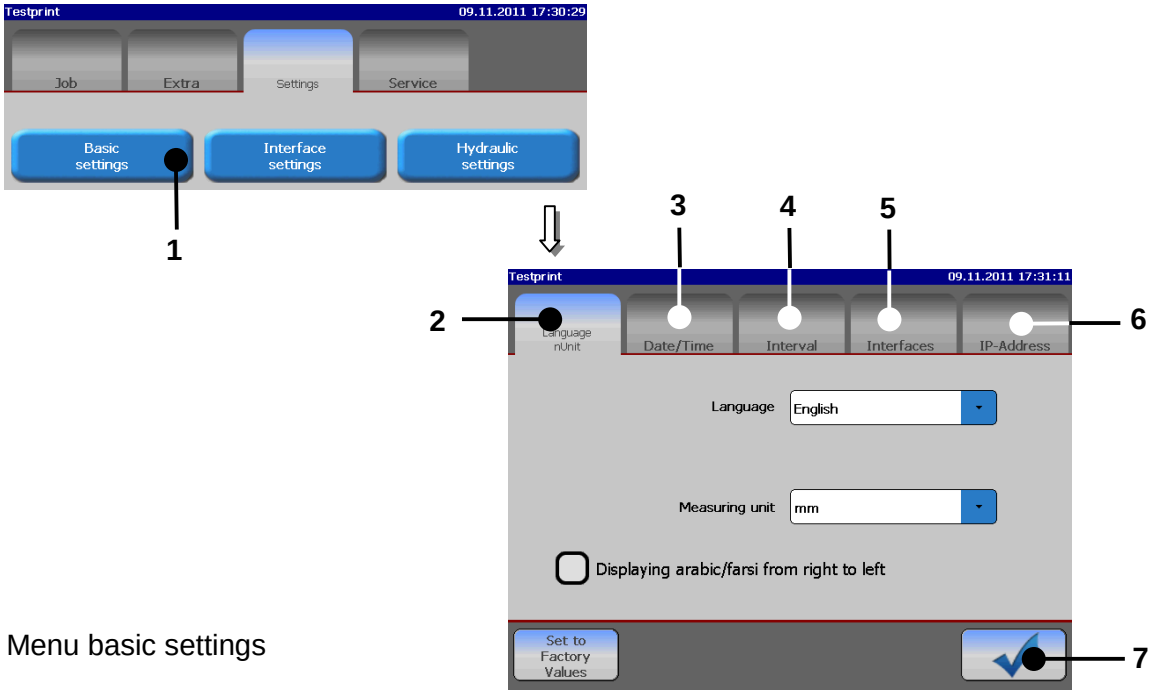
and to reset the device to the factory settings.

The selection of a functional area happens by clicking on the accordant register card.

Note: *The proceeding corresponds to the Windows™-standard procedure.*

The button **<OK (✓)>** closes the menu.

Figure 61



Menu basic settings

1 – Button <Basic settings>
2 – Register card <Language/Unit>
3 – Register card<Date/Time>
5 – Register card<Interval>
5 – Register card <Interfaces>
6 – Register card <IP-Address>
7 – Button <OK (✓)>

7.2.3.1.1 Language and units

The JET2 neo allows the selection of the operation language and of the used measuring unit. The parameters which are set currently are displayed in the pop-up windows.

1. Menu language:

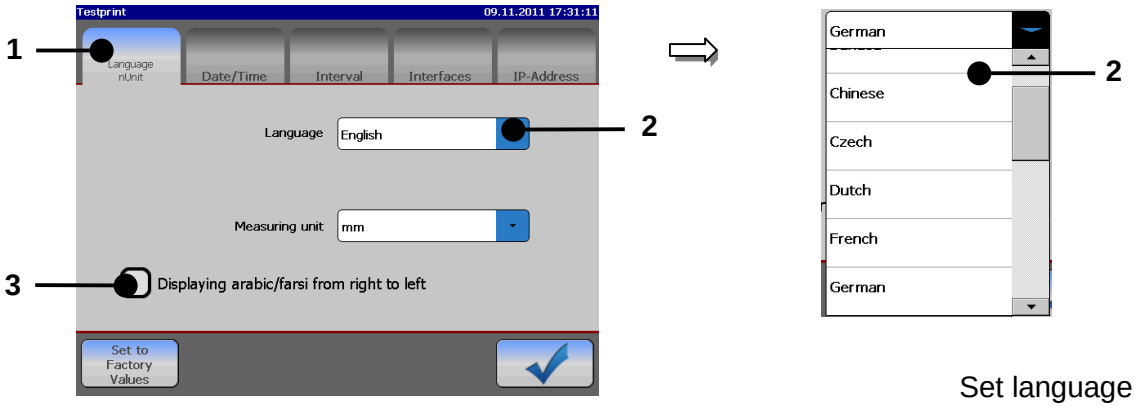
The available menu languages are listed in the pop-up window. The available languages depend on the ordered version of the printer.

Note: *The function is also helpful to simplify the communication (e.g. in case of service) with the dealer or the LEIBINGER service-hotline because English language can be generally selected irrespectively of the installed language package.*

With the selected language the accordant ISO-font is assigned automatically to the keyboard.

If the control box **<Displaying arabic/farsi…>** (3) is activated the text elements are display from right to left.

Figure 62



Set language

1 – Register card <Language/Unit>
2 – Pop-up window <Language>
3 – Control box <Displaying arabic …>

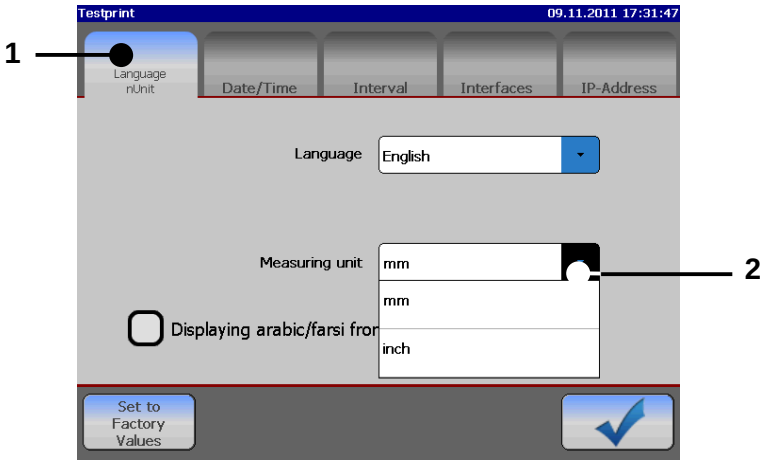
Proceeding:

- Press on the register card **<Language/Unit>** (1) to select the functional area.
- Press on the arrow button of the pop-up window **<Language>** (2). The pop-up window opens for selection.
- Now select the requested language.

2. Measuring unit:

The two different measuring units „mm“ and „inch“ are available.

Figure 63



Set measuring unit

1 – Register card <Language/Unit> 2 – Pop-up window <Measuring unit>

Proceeding:

- Press on the register card **<Language/Unit>** (1) to select the functional area.
- Press on the arrow button of the pop-up window **<Measuring unit>** (2). The pop-up window opens for selection.
- Now select the requested measuring unit.

7.2.3.1.2 Date and time

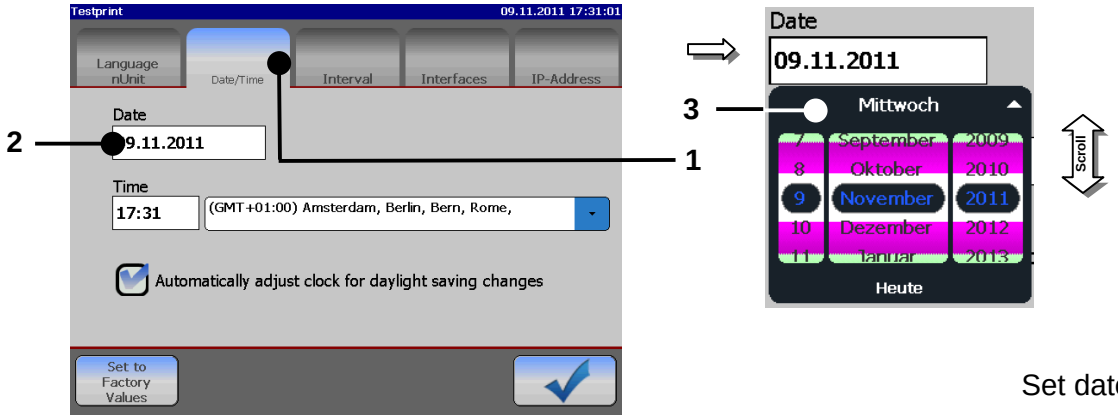
Under the register card **<Date/Time>** you can set the current time, the time zone and the current date as well as the automatic change to summer-/wintertime.

1. Set date:

Proceeding:

- Press on the register card **<Date/Time>** (1) to select the functional area.
- Press on the display window **<Date>** (2). A calender (3) opens.
- Select the desired date by scrolling. The calendar is cloased by clicking on the calendar again or on the display window **<Date>** and the selected date is saved.

Figure 64



Set date

1 – Register card <Date/Time>
2 – Display window <Date>
3 – Calender

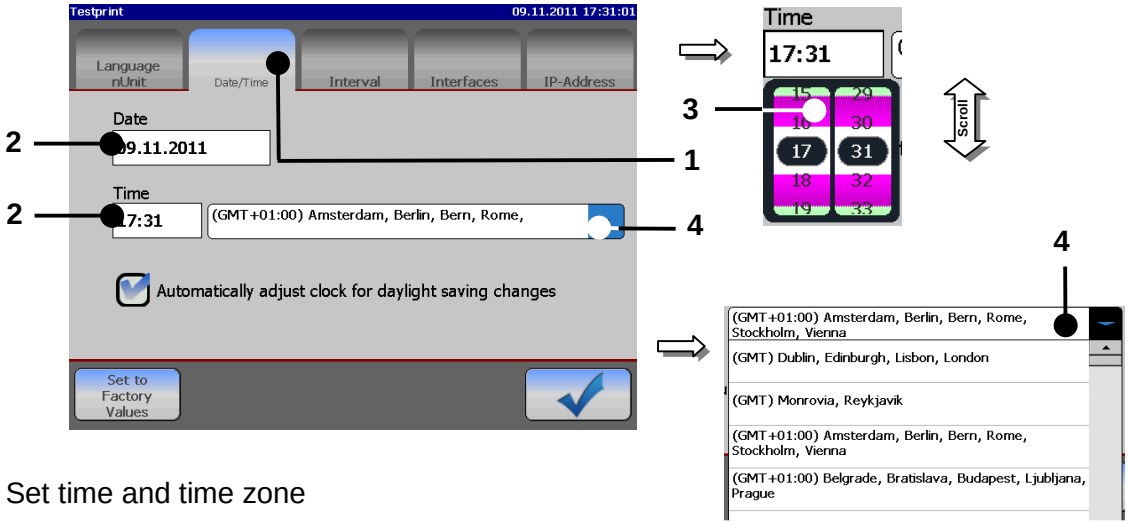
2. Set time and time zone:

Procedure:

- Press on the register card **<Date/Time>** (1) to select the functional area.
- Press on the display window **<Time>** (2). A setting block (3) opens.

- Select the required time by scrolling the hour and minute block. The setting block is closed by clicking on the block again or on the display window **<Time>** (2) and the time is saved.
- To define the time zone press on the pop-up window **<Time zone>** (4). The pop-up window opens for selection.
- Now select the requested time zone.

Figure 65



Set time and time zone

1 – Register card <Date/Time>
2 – Display window <Time>
3 – Setting block <Time>
4 – Pop-up window <Zeitzone>

3. Automatic clock change:

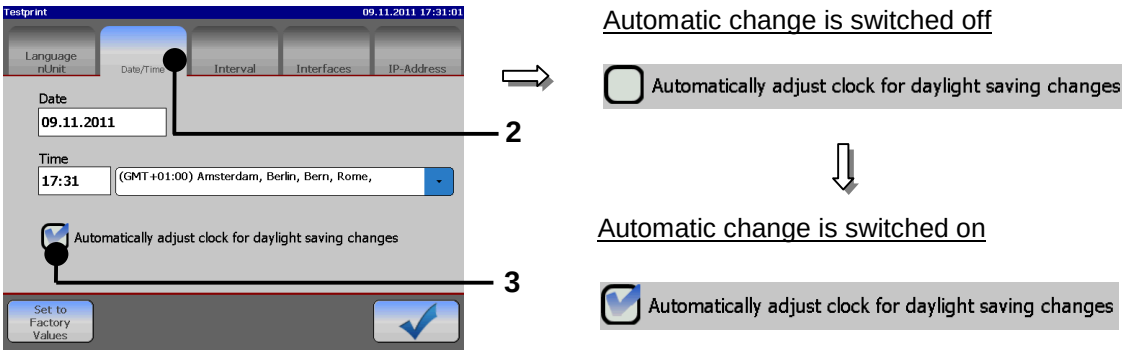
The function enables you to activate or deactivate the automatic change to summer- and wintertime (daylight savings time [DST]).

Proceeding:

E.g.:The automatic change to summer- and wintertime should be activated.

- Press on the register card **<Date/Time>** (1) to select the functional area.
- Now activate the automatic clock change by clicking on the control box (2). An activated automatic change is displayed by ✓ in the control box.

Figure 66



Automatic clock change (Summer-/Wintertime)

1 – Register card <Date/Time> 2 – Control box <Summer-/Wintertime>

7.2.3.1.3 Interval operation (Set interval time)

The mode **<Interval operation>** enables the input of start- and end times when the LEIBINGER JET2 neo urns on or off automatically (e.g. 10.20 pm, the device turns on / 10.40 pm, the device turns off). to circulate the ink.

This function prevents that the ink dries up or sediments as well as the jamming of the nozzle if the printer is turned off for a longer time.

As standard the interval operation is carried out without viscosity control. In case of need the viscosity control can be also activated for the interval operation.

Attention! The viscosity control should be only activated for special operating conditions of the JET2 neo or after consultation with the LEIBINGER-service department.

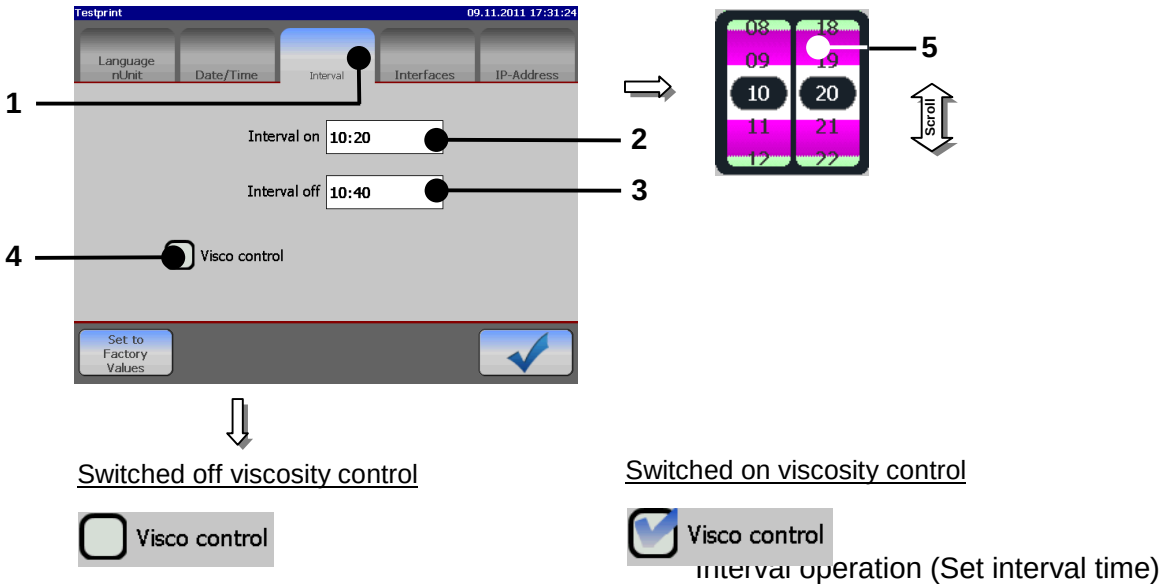
You should set an interval time of at least 20 minutes.

Proceeding:

- Press on the register card **<Interval>** (1) to select the functional area.
- Press on the display window **<Interval on>** (2). A setting block (4) opens.

- Select the desired time by scrolling the hour and minute block. The setting block is closed by clicking on the block again or on thes display window **<Interval on>** and the time is saved.
- Now carry out the settings in the display window **<Interval off>** (3) accordingly.
- Now activate <u>if necessary</u> the viscosity control by clicking on the control box (5). An activated control is displayed by a <u>✓</u> in the control box.

Figure 67



1 – Register card <Interval>
2 – Display field <Interval on>
3 – Display field <Interval off>
4 – Setting block
5 – Control box <Visco control>

7.2.3.1.4 Interfaces (Encoder interface)

Under the register card **< Interfaces>** you can set the interface for the incremental encoder and you can also switch on or off the bounce time delay. The bounce time delay is required for working with external jobs.

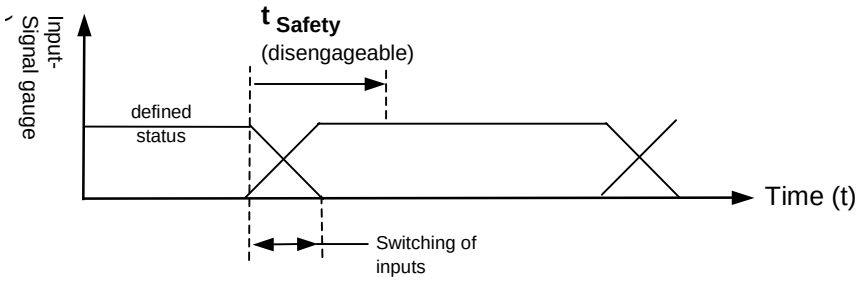
How can you explain the terms „bounce time“ and „bounce time delay“?

Bounce time: Describes the period which a signal requires after an input has been switched to reach a defined status (0 or 1) again.

Bounce time delay: Describes a predefined safety time. That means if an input is switched, the signal will be only valid after this safety time.

At the LEIBINGER JET2 neo you can switch on or off this safety time.

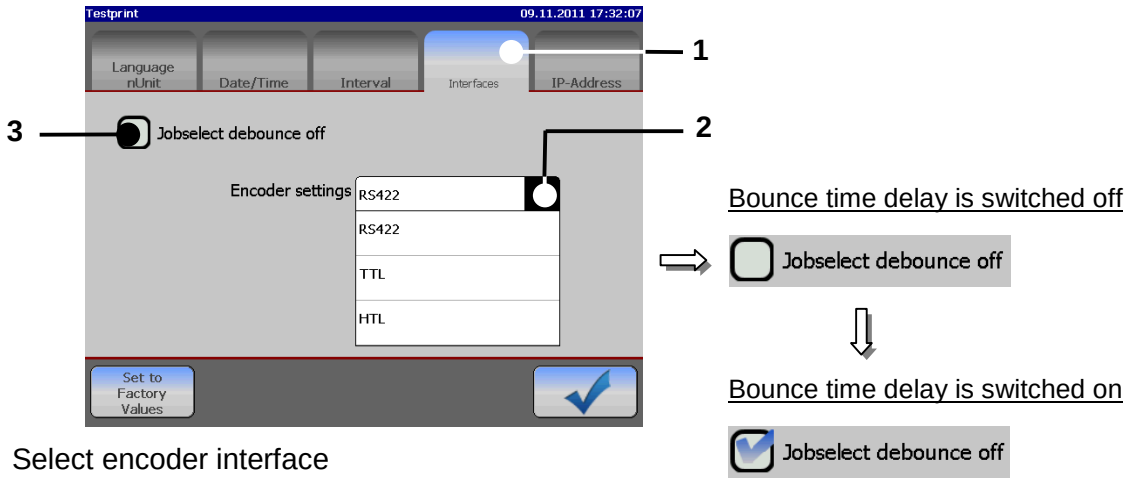
Figure 68



Bounce time delay

Bounce time delay	Advantages	Disadvantages
off	Faster change of jobs	No safety for bouncing signals afterwards
on	High safety for bouncing signals afterwards	Slower change of jobs

Figure 69



Select encoder interface

1 – Register card <Interfaces>
2 – Pop-up window <Encoder settings>
3 – Control box <Jobselect debounce off>

Proceeding:

- Press on the register card**< Interfaces>** (1) to select the functional area.
- Press on the arrow button of the pop-up window **<Encoder settings>** (2). The pop-up window opens for selection.
- Now select the required interface.
- If required activate now the bounce time delay by clicking on the control box (3). An activated delay is displayed by a ✓ in the control box.

Pos.	Interface	Description
1.	RS422	5V / 4 Signals (A, $\bar{A}$, B, $\bar{B}$)
2.	TTL	5V TTL / 2 Signals (A, B)
3.	HTL	24V / 2 Signals (A, B)

7.2.3.1.5 IP-Address

With the register card **<IP-Address>** you can carry out the addressing of the device.

If the LEIBINGER JET2 neo will be integrated in a network which is based on an internet protocol, an IP-address has to be assigned to the device.

As standard the IP-address is preallocated by the company Leibinger and can be adjusted to the customer demands.

Proceeding:

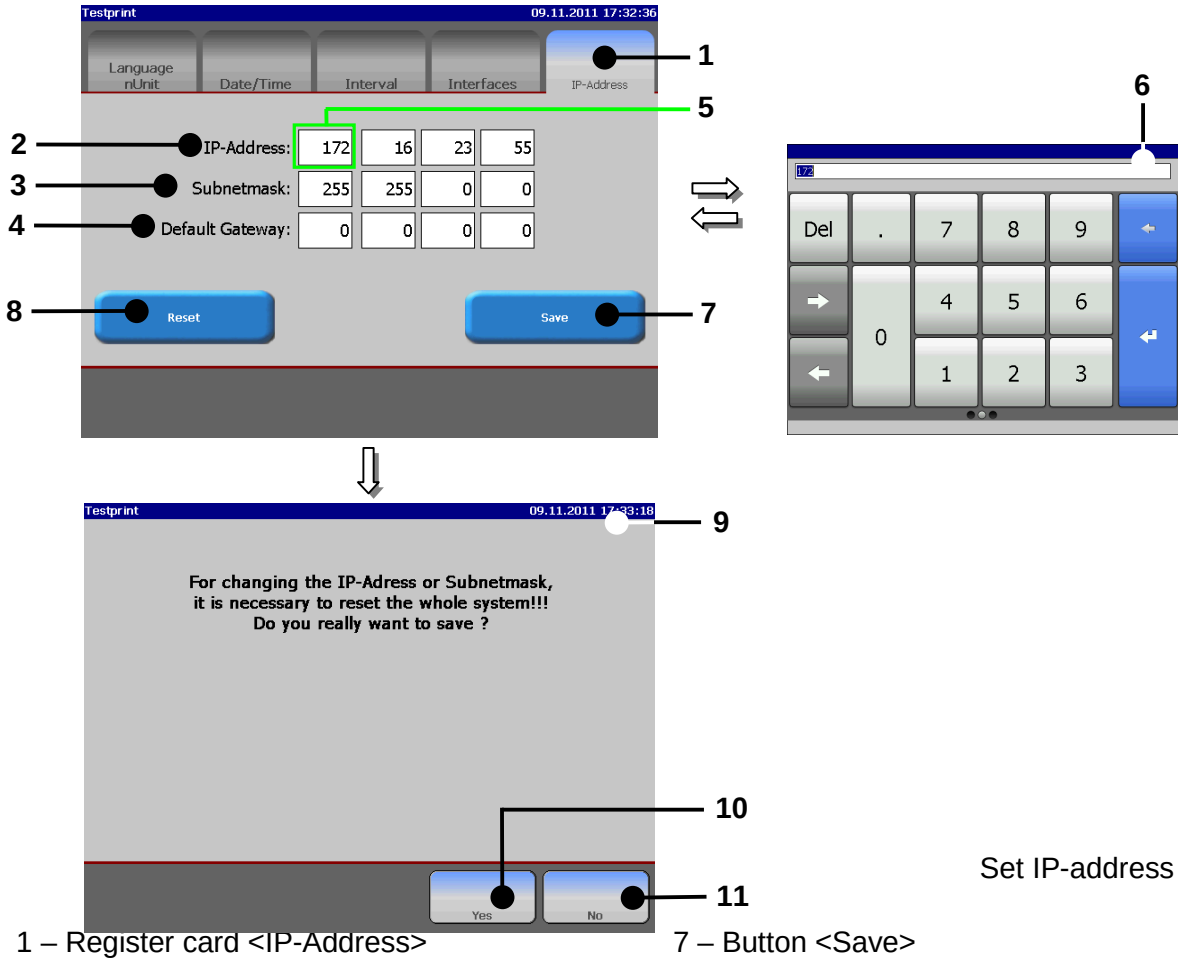
- Press on the register card **<IP-Address>** (1) to select the functional area.
- Click in the setting field which should be changed on the requested address block (5). A number block (6) opens for input in which you can enter the required value.

You will find further information regarding working with number blocks in the **chapter *Number block*** (page 60)!

- Now carry out the settings for every further address block accordingly.

- Press the button **<Save>** (7) to save the settings or press the button **<Reset>** (8) to reset the values to the last settings.
- If the settings are to be saved, the message **<Restart/ Save>** (9) is displayed.
- Confirm saving by pressing the button **<Yes>** (10) or pressing the button **<No>** (11) to cancel the process and return to the menu.
- After confirmation, the device is shut down automatically and reinitialized to save the IP settings. Then the JET2 neo must be restarted.

Figure 70



Set IP-address

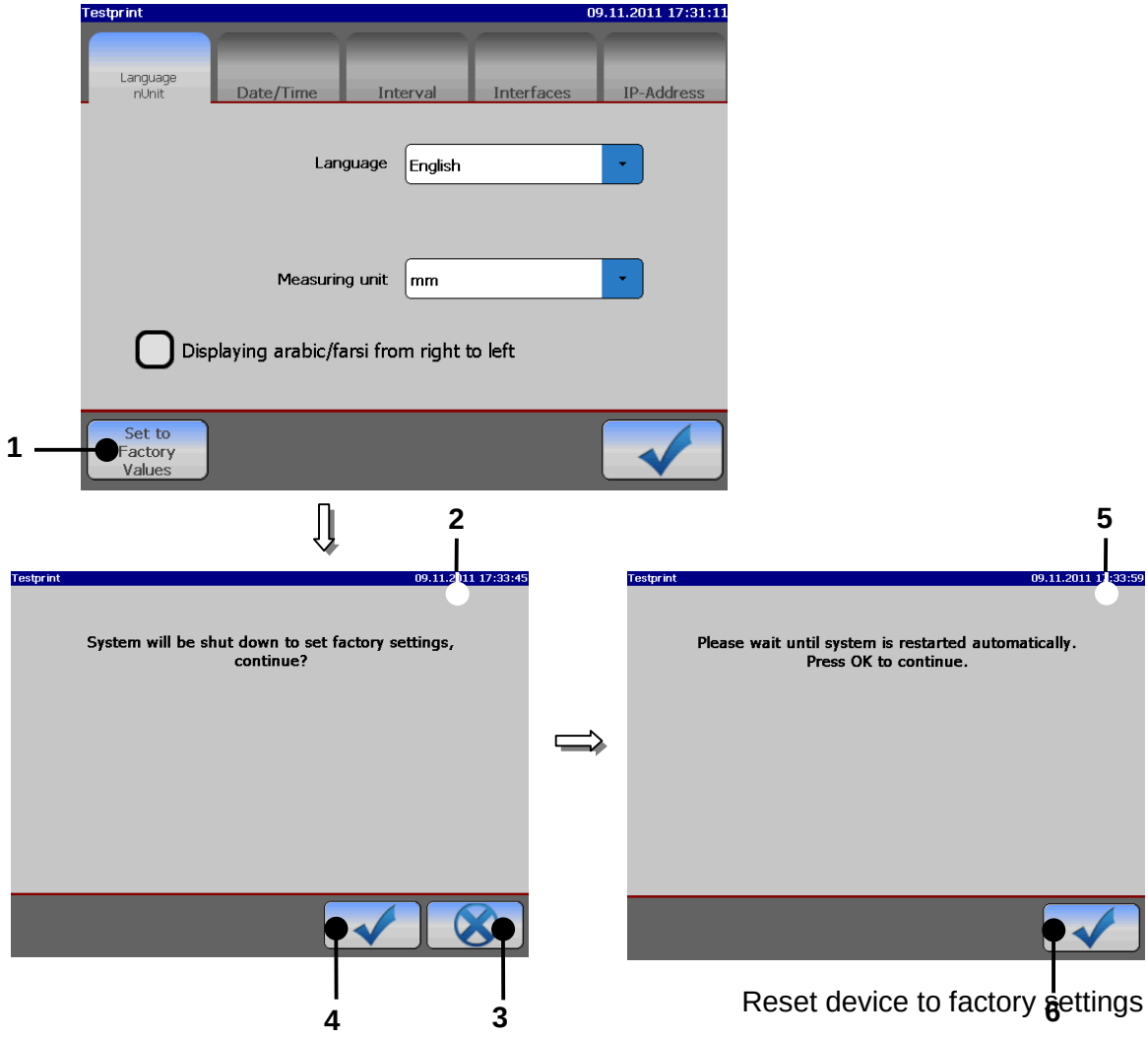
1 – Register card <IP-Address>
2 – Setting field <IP-Address>
3 – Setting field <Subnet mask>
4 – Setting field <Standard gateway>
5 – Address block (Example)
6 – Number block
7 – Button <Save>
8 – Button <Reset>
9 – Message <Restart/Save>
10 – Button <Yes>
11 – Button <No>

7.2.3.1.6 Factory Settings

With the button **<Set to Factory Values>** you can reset the printer adjustments to the standard settings.

The consequences of resetting to the factory settings should be considered!

Figure 71



1 – Button <Set to Factory Values>
2 – Safety query <Continue>
3 – Button <Cancel>
4 – Button <OK (✓)>
5 – Message <Restart>
6 – Button <OK (✓)>

Proceeding:

- Press the button **<Set to Factory Values>** (1).
- A **safety query** (2) if you would like to continue with the process is faded in. Now press the button **<Cancel>** (3) to abort the process or press the button **<OK** (✓)**>** (4) to reset the device.
- The message **<Restart>** (5) is faded in.
- Press the button **<OK** (✓)**>** (8). The device is shut down automatically and will be new initialized. After this process the JET2 neo is reset to the standard settings and can be started again.

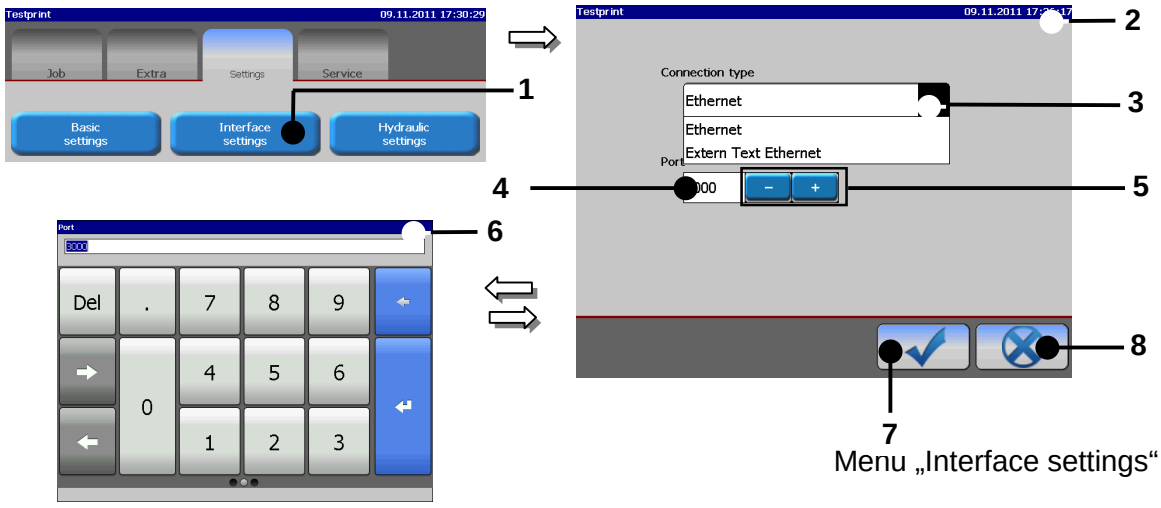
7.2.3.2 Interface settings

With the button **<Interface settings>** (1) the menu „Interface settings“ (2) will be displayed.

In this menu you can set whether the JET2 neo is to be operated in a standard LAN network or in a special network intended only for the provision of external texts to be processed.

Annotation: *An appropriate protocol is used depening on the selected connection type.*

Figure 72



Menu „Interface settings“

1 – Button <Interface settings>
2 – Menu <Interface settings>
3 – Pop-up window <Connection type>
4 – Display field <Port>
5 – +/- buttons
6 – Number block
7 – Button <OK (✓)>
8 – Button <Cancel>

7.2.3.2.1 Set connection type and port

Proceeding:

- Press on the arrow button of the pop-up window **<Connection type>** (3). The pop-up window opens for selection.
- Now select the requested connection type.
- Now change the connection value of the port if necessary. The change is made with the **+/- buttons** (5). The value is increased or reduced in increments of one by pressing the appropriate button.

  or

- To do this, click in the display field **<Port>** (4). A **number block** (6) opens for input.

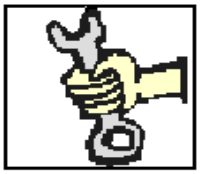
You will find further information regarding working with number blocks in the **chapter *Number block*** (page 60)!

- Confirm the inputs and exit the menu by pressing the button **<OK (✓)>** (7).

7.2.3.3 Hydraulic settings

With the button **<Hydraulic settings>** (1) the menu „Hydraulic settings“ will be displayed.

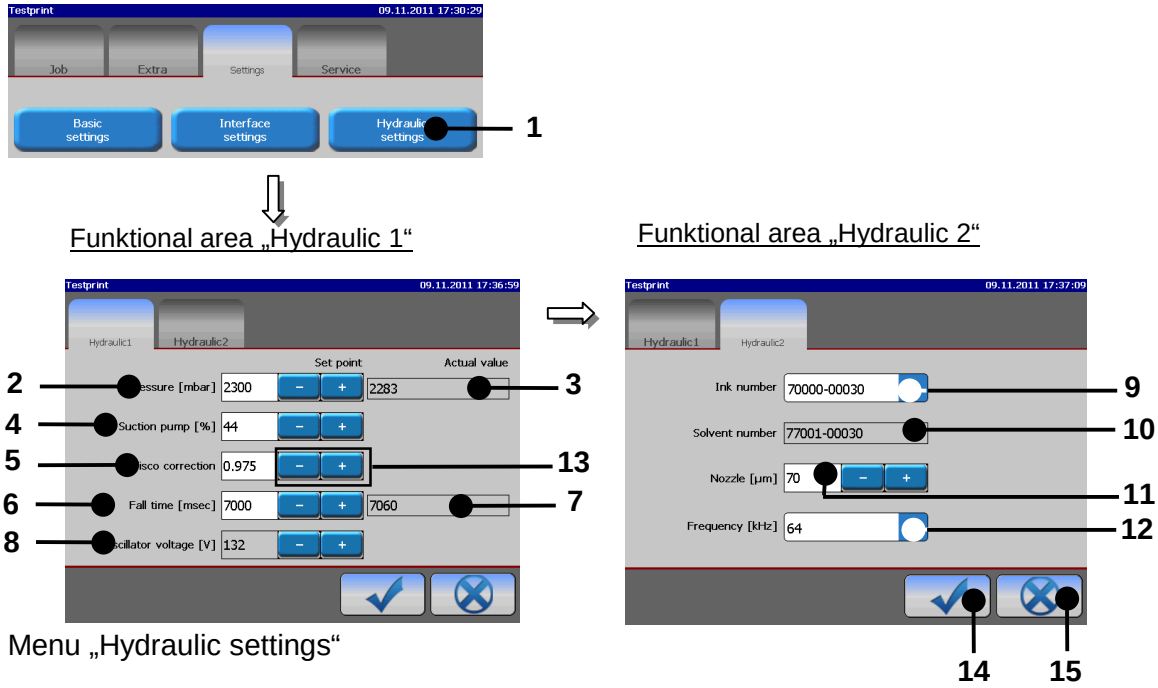
In this menu the basic hydraulic parameters of the device are set. The menu is divided into 2 function areas for better clarity.



Changing the preset parameters can cause serious malfunctions!

This work must only be carried out by trained personnel or by Leibinger service technicians!

Figure 73



Menu „Hydraulic settings“

1 – Button <Hydraulic settings>
2 – Display field <Pressure (Set point)>
3 – Display field <Pressure (Act. value)>
4 – Display field <Suction pump>
5 – Display field <Visco correction>
6 – Display field <Fall time (Set point)>
7 – Display field <Falltime (Act. value)>
8 – Display field <Oscillator voltage>
9 – Pop-up window <Ink number>
10 – Display field <Solvent number>
11 – Display field <Nozzle>
12 – Pop-up window <Freqency>
13 – +/- buttons
14 – Button <OK (✓)>
15 – Button <Cancel>

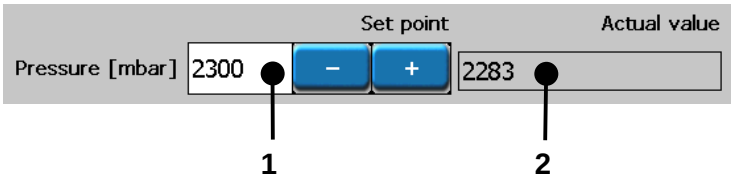
7.2.3.3.1 Pressure (System pressure)

The nominal pressure of the device is defined with the setting. The value is entered in mbar.

The set value is displayed in the corresponding display field (1).

In the display field **<Pressure (Actual value)>** (2) the currently reached system pressure in mbar is displayed.

Figure 74



Hydraulic (System pressure)

1 – Display field <Pressure (Set point)> 2 – Display field <Pressure (Act. value)>

7.2.3.3.2 Suction pump

With the display field **<Suction pump>** you can change the setting of the suction pump. The entry is in %.

The set value is displayed in the corresponding display field.

The standard values are "…" for devices without head ventilation and "..." for devices with head ventilation.

7.2.3.3.3 Viscosity meter correction value

The display field **<Visco correction>** s required for the entry of the viscosity meter correction value. The entry is necessary following the replacement of the viscosity meter pipe. The value engraved on the viscosity meter must be entered here. Viscosity meters without a engraving have the value "1000".

7.2.3.3.4 Fall time

The fall time is changed with the setting. The entry is in msec.

The set value is displayed in the display field **<Fall time (Set point)>** (1). In the display field **<Fall time (Actual value)>** (2) the currently measured fall time in msec. is displayed. After approx. 15 seconds the value is updated.

Figure 75

Hydraulic (Fall time)

1 – Display field <Fall time (Set point)> 2 – Display field <Fall time (Act. value)>

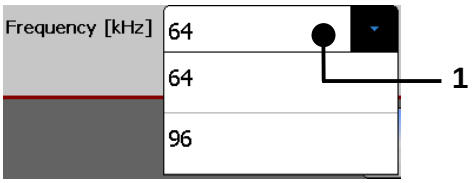
7.2.3.3.5 Oscillator voltage

For further information please contact the Leibinger-Service Department or your authorized dealer!

7.2.3.3.6 Set oscillator voltage

Depending on the used ink, the necessary oscillator frequency must be set. The appropriate frequencies are listed in the pop-up window **<Oscillator voltage>** (1).

Figure 76



Hydraulic (Oscillator voltage)

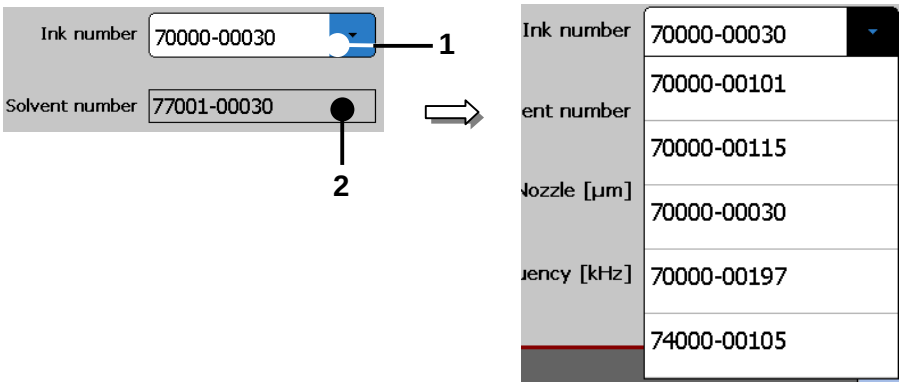
1 – Pop-up window <Oscillator voltage>

7.2.3.3.7 Select ink no. and display of the solvent no.

For correct TAG detection it is absolutely essential to set the numbers of the used ink. All the inks approved for the device are listed in the pop-up window **<Ink number>** (1).

The corresponding thinner no. is displayed in the display field **<Solvent number>** (2).

Figure 77



Hydraulic (Ink- and solvent no.)

1 – Display field <Ink number)> 2 – Display field <Solvent number>

7.2.3.3.8 Set nozzle diameter

Different nozzle sizes are also used depending on the used ink.

In the display field **<Nozzle>** the corresponding value of the installed nozzle can be entered. The entry is in µm.

7.2.3.4 Password settings and user authorizations

The LEIBINGER JET2 neo offers different access levels which are protected by passwords from faulty operation or non-authorized access. Five levels of access authorization are available. For each level any functions can be enabled or blocked to apply access rights for e.g. operator or supervisor (free definable).

7.2.3.4.1 Menu password settings

With the button **<Password settings>** (1) the menu „Password settings“ (2) opens.

This menu provides

- Selection of user levels (Level of access right)
- Definition of access rights.
- Definition of passwords

In the several functional areas you can enable or lock the functions in the current access levels. An enabled function is displayed by a √ in the accordant control box.

The selection of a functional area happens by clicking on the accordant register card (4).

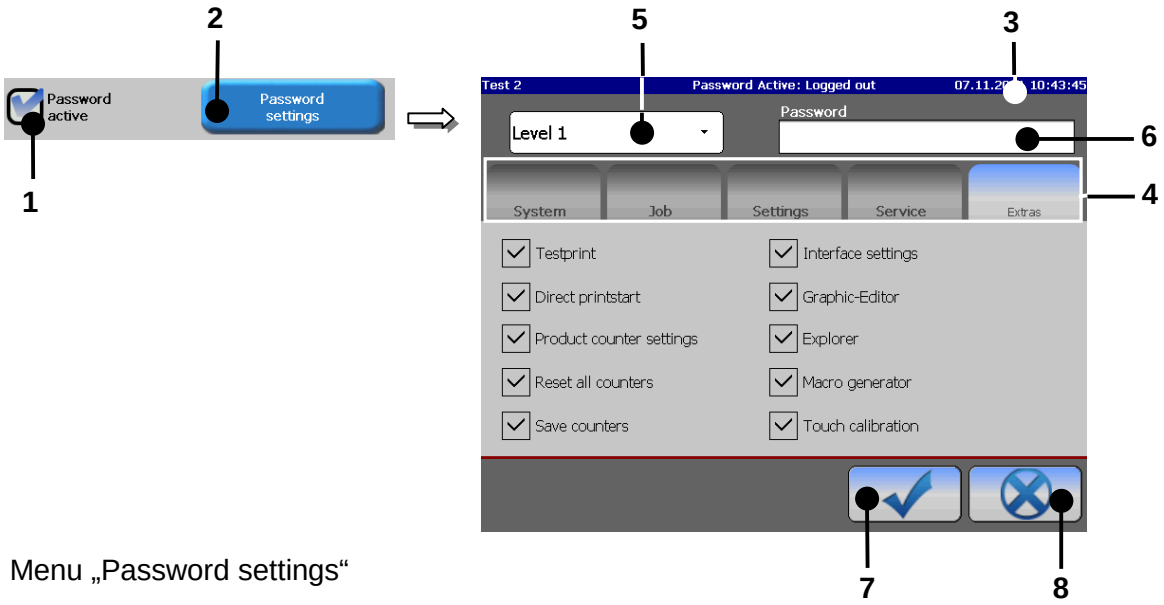
With the pop-up window **<Level>** (5) you can select the user level for which you would like to carry out the settings.

In the input field **<Password>** (6) you can enter the password for the current user level or you can display an already defined password.

With the button **<OK** (✓)**>** (7) the menu closes and the settings will be saved.

The button **<Cancel>** (8) closes the menu without taking over the carried out changes.

Figure 78



Menu „Password settings“

1 – Control box <Password active>
2 – Button <Password settings>
3 – Menu <Password settings>
4 – Register cards
5 – Pop-up window <Level>
6 – Input field <Password>
7 – Button <OK (✓)>
8 – Button <Cancel>

Proceeding:

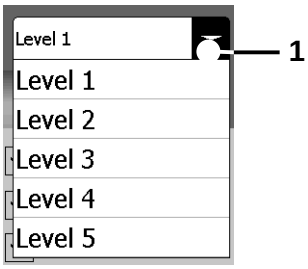
- Press on the control box **<Password active>** (1) to activate the function. An activated function is displayed by √ in the control box.
- Now press the button **<Password settings>** (2).
- The menu **<Password settings>** (3) is faded in.

Attention! The function „Password active“ must be activated to be able to save the settings in the menu „Password settings“!

7.2.3.4.2 Selection of user level Level of access authorization)

With the pop-up window **<Level>** (1) you can select the user level for which the user rights should be activated as well as how the password should be defined.

Figure 79



Selection of user level (Level of access authorization)

1 – Pop-up window <Level>

7.2.3.4.3 Definition of password

In the input field **<Password>** (1) you can enter the password for the current user level or you can display an already defined password.

Proceeding:

Example: The password „Leibinger“ should be defined.

- Click in the input field **<Password>** (1). A keyboard field (2) opens for input.

You will find further information regarding the operation with keyboard fields in the **chapter *Keyboard field*** (page 61)!

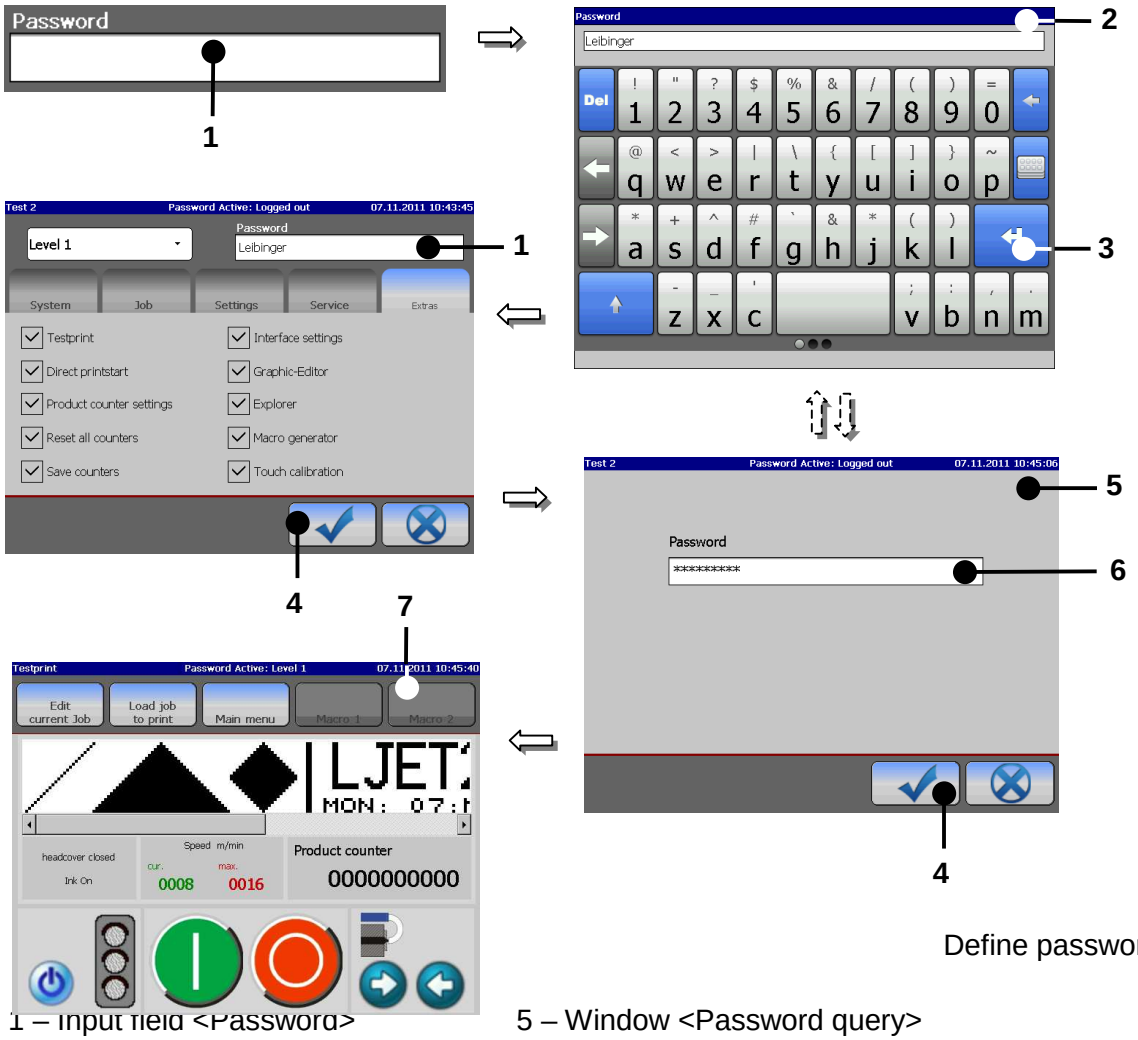
- Enter the password „Leibinger“.
- Press the button **<Return ↵>** (3) of the keyboard field to finish the input. The input is displayed in the input field **<Password>** (1).

Attention! A final taking over does only happen if the menu is closed with the button **<OK** (✓)**>** (4)!

- Press the button **<OK** (✓)**>** to close the menu and take over the settings.
- The window **<Password query>** (5) opens.

- Click into the input field **<Password>** (6) of the window. A keyboard field (2) opens for input.
- Enter the defined password of the access authorization.
- Press the button **<Return ↵>** (3) of the keyboard field to finish the input.
- Now the input is displayed with placeholders (wildcards) in the input field **<Password>** (6.
- Finally press the button **<OK** (✓)**>** (4) to carry out the login process. The window is closed and the user is logged in.

Figure 80



Define password

1 – Input field <Password>
2 – Keyboard field
3 – Button <Return ↵>
4 – Button <OK (✓)>
5 – Window <Password query>
6 – Input field <Password>
7 – Basic menu with password level display

7.2.3.4.4 Definition of user rights

In the several functional areas of the menu you can enable or lock the functions of the current access levels. An enabled function is displayed by a √ in the control box.

The selection of a functional area happens by clicking on the accordant register card.

Note: *If a function is blocked in a specific level, it will be deactivated in the menus insofar as it is technically possible.*

If this is not possible, a ***safety message <Access authorisation>*** *(see picture „Password level display and safety messages“) is faded in by calling up a function for which the active level has no access authorisation.*

7.2.3.4.5 Lost password

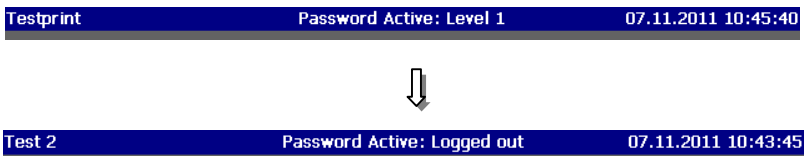
If the password of the highest defined access right (Supervisor) has been lost special measures are required. In this case please contact the dealer address which is listed in the **chapter *Publisher*** (page 10).

7.2.3.5 Password protection (Password query)

If the password protection of the LEIBINGER JET2 neo is activated a password enquiry is carried out for every start of the device.

Further more the function **<Login**> respectively **<Logout>** under the functional area „Extra“ in the main menu is activated. With this function an user can login during the operation to e.g. carry out functions which are still not enabled and can logout and can therefore prevent changes of the settings by unauthorized staff.

The message „Password active“ is still displayed in the title bar of the menu with a status display ort he logged in user level.



If the device is switched off during an activated password query, the current password level will be logged-out automatically. By switching on the device, the LEIBINGER JET2 neo s always in the logged-out status.

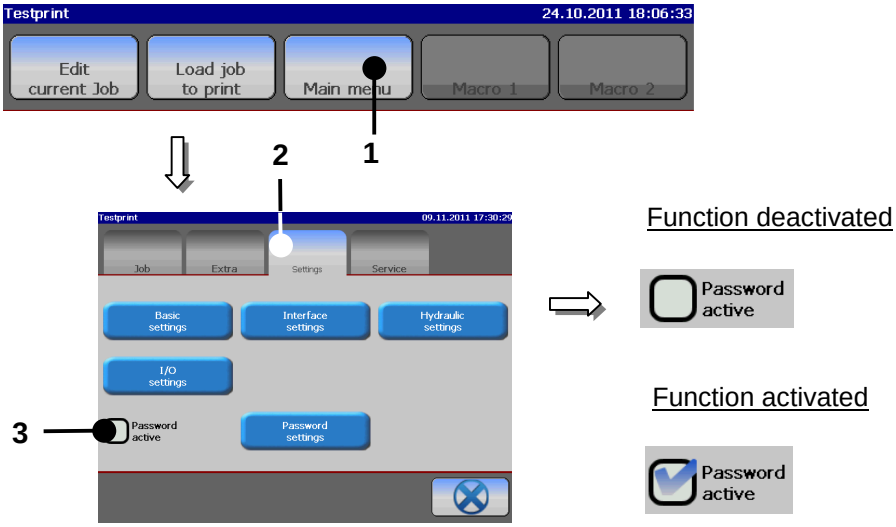
Note: *If no password has been entered for activated password query during the start of the device, only the function* ***<Login>*** *in the functional area „Extra“ of the main menu is available for the current user.*

After logging-out the user, this function is still only available.

The function is activated or deactivated as following:

- Press the button **<Main menu>** (1). The menu opens.
- Press on the register card **<Settings>** (2).
- Now press on the control box **<Password active>** (3). The function is activated or deactivated depending on the already existing status. If the function is activated, this is displayed by a ✓ in the control box.

Figure 81



Activate/deactivate password query

1 – Button <Main menu>
2 – Register card <Settings>
3 – Control box <Password active>

You will find further information regarding login/logout and switching on the device in the **chapters *Login/Logout*** (page 96) and ***Switching on with password protection*** (page 64)!

7.2.3.6 I/O-settings

With the button **<I/O settings>** (2) you can open the menu „I/O-settings“ (3).

This menu provides the setting of the assignment of the available digital inputs and outputs.

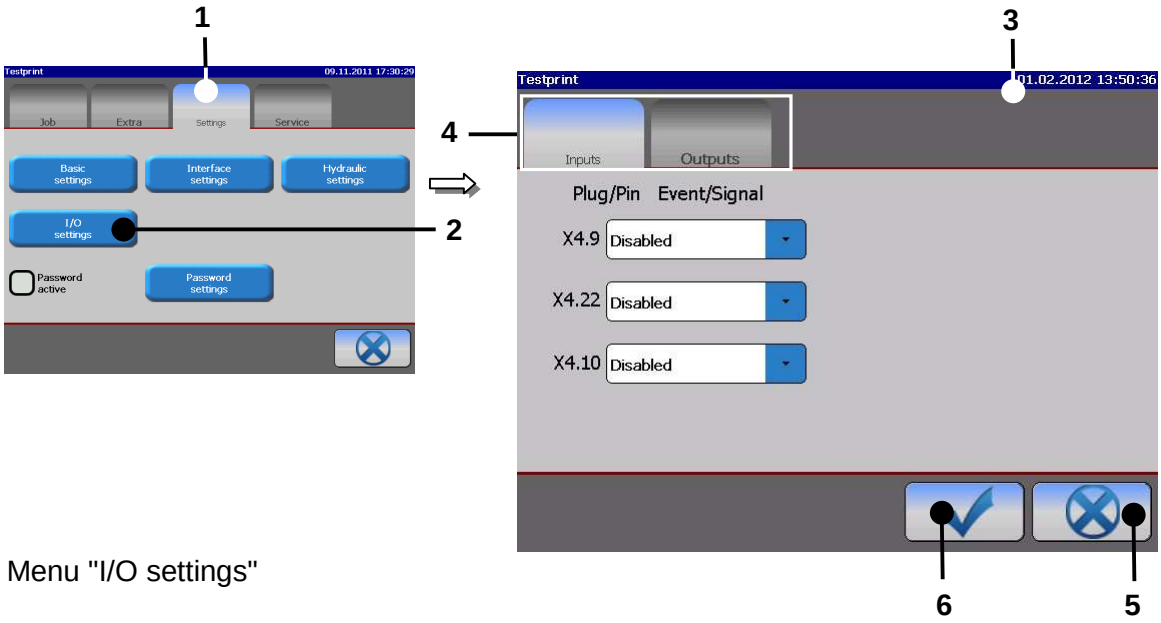
3 inputs and 4 outputs are available.

The selection of the functional area „Inputs“ and „Outputs“ happens by clicking on the accordant register card (4).

With the button **<OK** (✓)**>** (5) you can close the menu and you can save the settings.

The button **<Cancel>** (6) closes the menu without taking over the carried out changes.

Figure 82



Menu "I/O settings"

1 – Register card <Settings>
2 – Button <I/O settings>
3 – Menu <I/O settings>
4 – Register cards
5 – Button <OK (✓)>
6 – Button <Cancel>

7.2.3.6.1 Inputs

With the register card **<Inputs>** you can define the assignment of the available inputs.

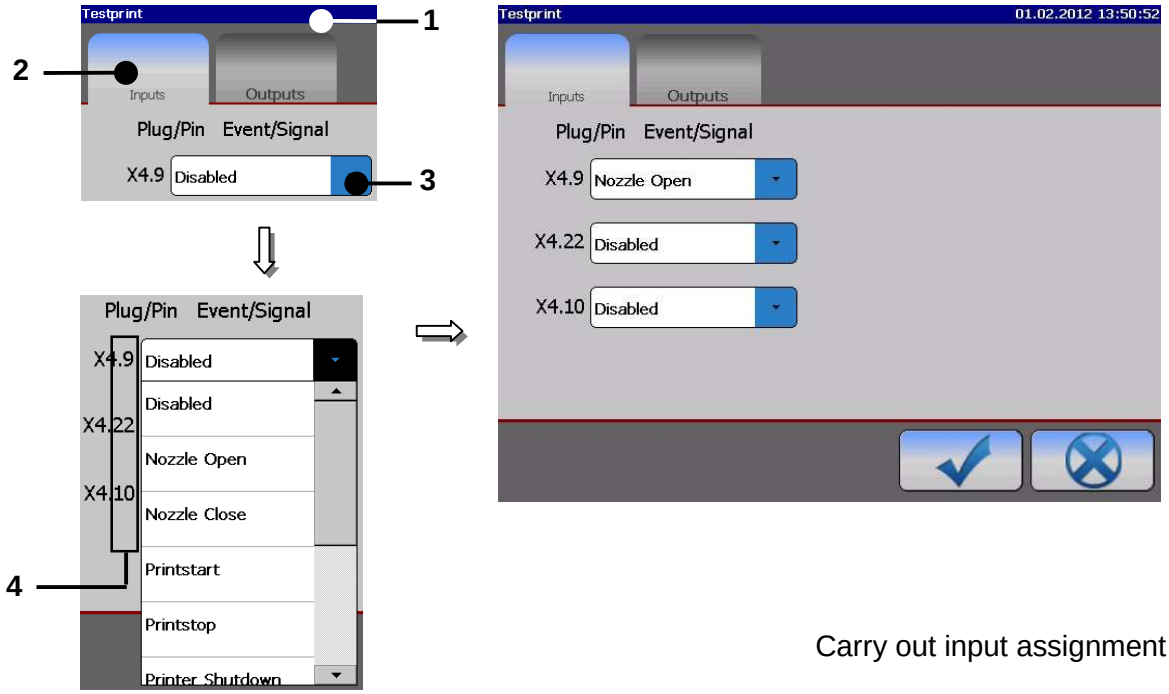
E.g.: Input 1 (X4.9 (of the Pin No. 9 of interface X4)) should be assigned.

Proceeding:

- Press on the register card **<Inputs>** (2) to select the functional area.
- Press on the **arrow button of the pop-up window of the input 1 [X4.9]** (3). The pop-up window opens for selection.
- Now select the required event/signal.

You will find further information in the **chapter *Interface X4 (Inputs)*** (page 48)!

Figure 83



Carry out input assignment

1 – Menu <I/O-settings>
2 – Register card <Inputs>
3 – Pop-up Fenster <X4.9>
4 – Pin designation

7.2.3.6.2 Outputs

With the register card **<Outputs>** you can define the assignment of the available outputs.

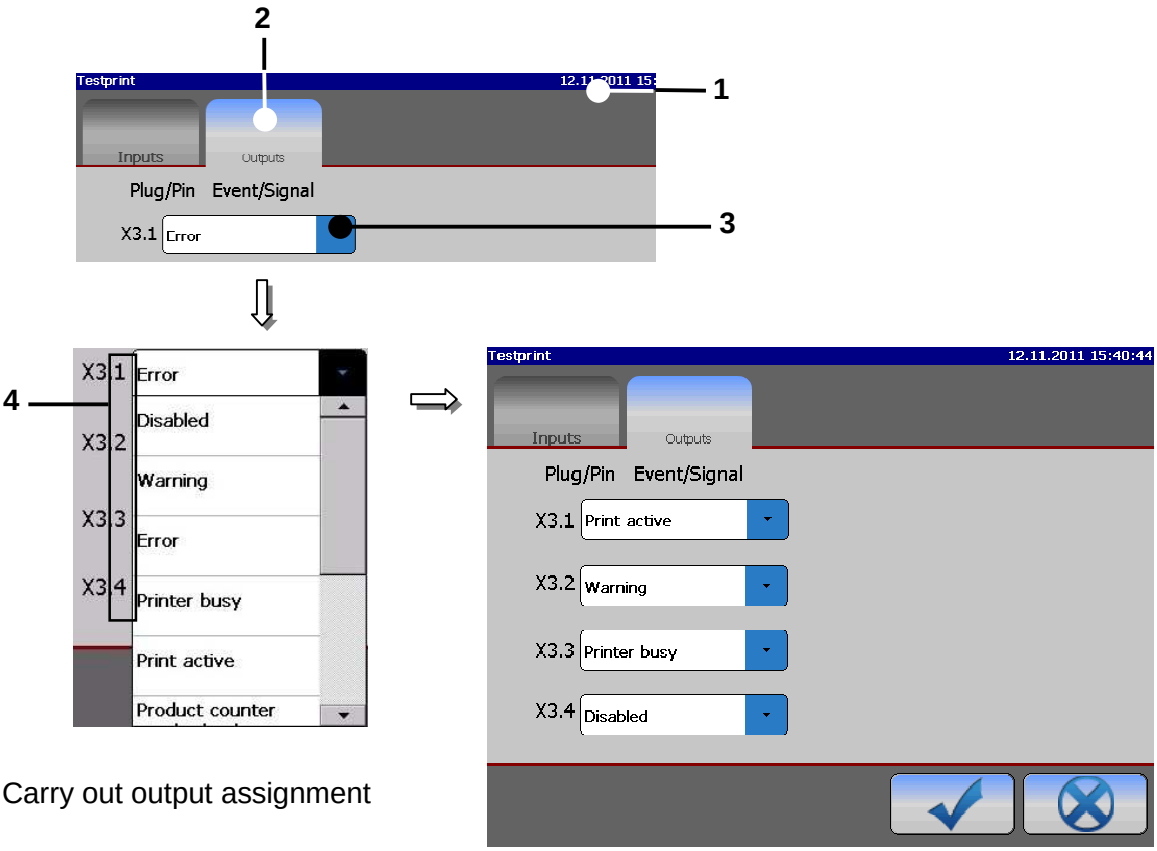
Attention! Standardly the outputs 1-3 are already predefined !

- Output 1 (X3.1) = Print stop error
- Output 2 (X3.2) = Refill warning
- Output 3 (X3.3) = Ready to print

E.g.: The output 1 (X3.1 (of the Pin No. 1 of interface X3)) should be assigned.

Proceeding:

Figure 84



Carry out output assignment

1 – Menu <I/O-settings>
2 – Register card <Outputs>
3 – Pop-up window <X3.1>
4 – Pin designation

- Press on the register card **<Outputs>** (2) to select the functional area.
- Press on the **arrow button of the pop-up window of the output 1 [X3.1]** (3). The pop-up window opens for selection.
- Now select the required event/signal.

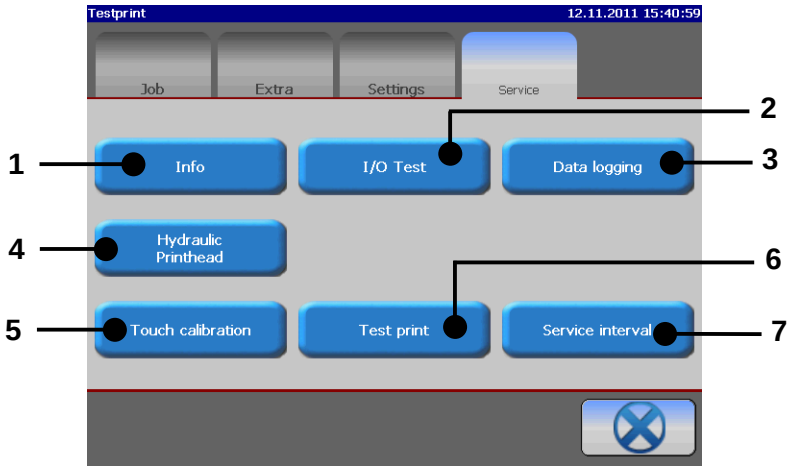
You will find further information also in the **chapter *Interface X3 (Outputs)*** (page 47)!

7.2.4 Functional area Service (Service functions)

In the functional area **<Service>** the following submenus are available:

- Info
- I/O Signal(test)
- Data logging
- Hydraulic/Printhead
- Touch calibration
- Test print
- Service interval

Figure 85



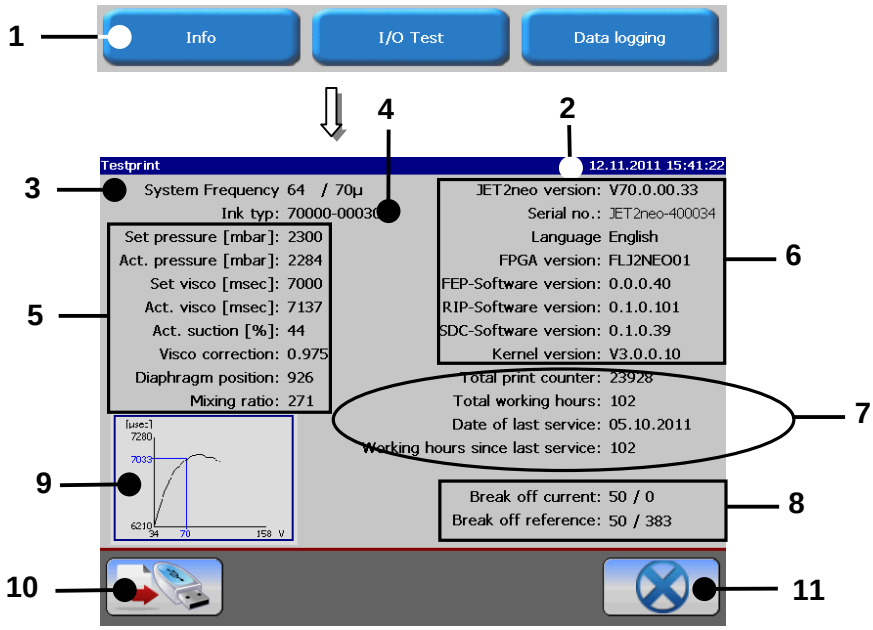
Functional area „Service"

1 – Button <Info>
2 – Button <I/O Test>
3 – Button <Data logging>
4 – Button <Hydraulic/Printhead>
5 – Button <Touch calibration>
6 – Button <Test print>
7 – Button <Service interval>

7.2.4.1 Info

With the button **<Info>** (1) you can open the display window „Information“ (2).

Figure 86



System info window

1 – Button <Info>
2 – Display window <Information>
3 – Display <System frequency>
4 – Display <Filled ink>
5 – Display <Curr. hydraulic para.>
6 – Display <Version/Software ver.>
7 – Display<Operation hours/inspection>
8 – Display <Parameter break off point>
9 – Drop break off curve (if available)
10 – Button <Export>
11 – Button <Close>

The following system information are displayed in the window:

- Oscillator frequency of the device (3)
- The ink which has been filled in the device (4)
- The nominal values and the current actual values of the hydraulic system (5+8)
- The JET2 neo Version number and the software versions (6)
- The operation hour counter and information for inspection (7)
- The drop break off curve (9) [if available]

With the button **<Export>** (10) you can save the system information on an external memory device.

The button **<Close>** (11) closes the window.

7.2.4.1.1 Save info file

The displayed system information can be swapped out to an external memory device (USB-stick).

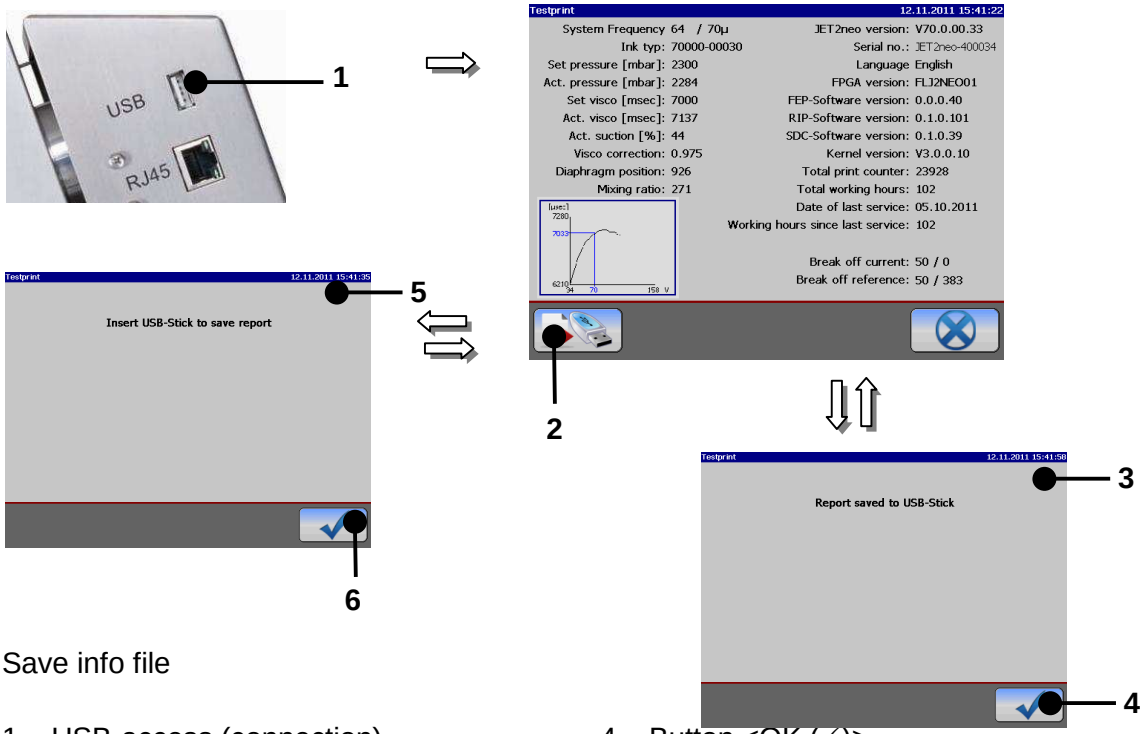
Proceeding:

- Plug an USB-Stick in the USB-access (1) of the device.
- Press the button **<Export>** (2).
- The data is saved on the connected medium and the **Message** (3), that the process has been carried is faded in.

  The memory happens with the designation „info_LJ2neo-*(“serial number of the printer”)*.txt“.
- Finally confirm the message with the button **<OK** (✓)**>** (4).

*If no storage medium (memory device) is connected, the **Message** (5) is faded in. Confirm the message with the button **<OK (✓)>** (6). Connect a memory device and repeat the complete process.*

Figure 87



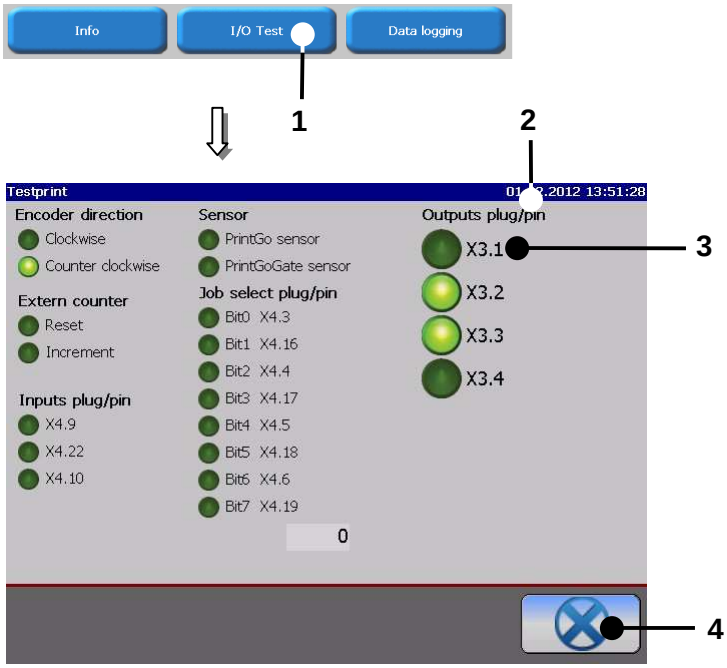
Save info file

1 – USB-access (connection)
2 – Button <Export>
3 – Message <Info file (Report) saved>
4 – Button <OK (✓)>
5 – Message <Insert storage medium>
6 – Button <OK (✓)>

7.2.4.2 I/O Test (Signaltest)

With the button **<I/O-Test>** (1) The menu „I/O-Signals (2) opens. In the menu the states of the inputs and outputs of the device are shown.

Figure 88



I/O Test (Signal test)

1 – Button <I/O Test>
2 – Menu <I/O-Signals>
3 – Status display <I/O active/inactive>
4 – Button <Close>

The button **<Close>** (4) ends the menu.

The menu allows to carry out a temporary test of the inputs and outputs of the LEIBINGER JET2 neo during the troubleshooting without any additional tools.

If signals are fed to the inputs the signal status are displayed in the menu. The functions which are assigned to the inputs are not carried out for feeding the signals!

Active in-/outputs are displayed by a light green status display.

For leaving the menu all carried out settings will be rejected, that means if outputs have been defined just for testing (activated) they will be deactivated again.

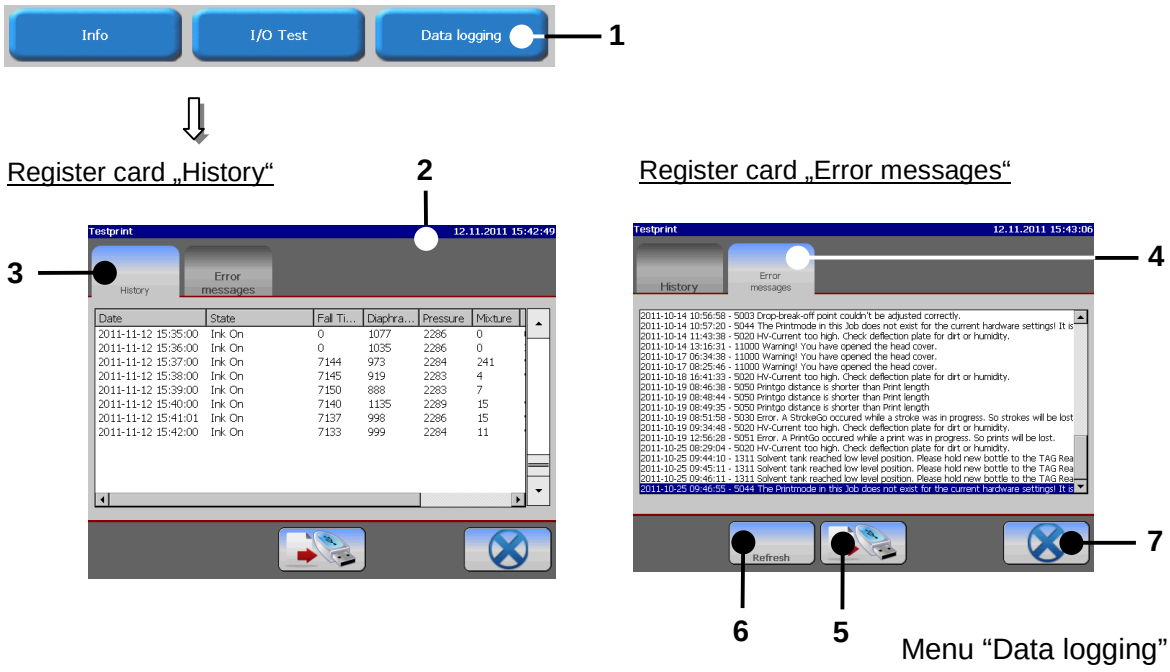
7.2.4.3 Data logging (Log File)

In the log file all events and reports of the last 72 hours are saved in cycles of approx. every minute. With the obtained history, processes can be reproduced and causes can be identified.

The menu is divided into two function areas by register cards for better clarity.

An additional function allows to select and export the current machine relevant data.

Figure 89



Menu “Data logging”

1 – Button <Data logging>
2 – Menu <Data logging>
3 – Register card <History>
4 – Register card <Error messages>
5 – Button <Export>
6 – Button <Refresh>
7 – Button <Close>

With the button **<Export>** (5) you can save the recorded machine relevant data on an external memory device.

With the button **<Refresh>** (6) the display of the error messages can refreshed.

The button **<Close>** (7) closes the menu.

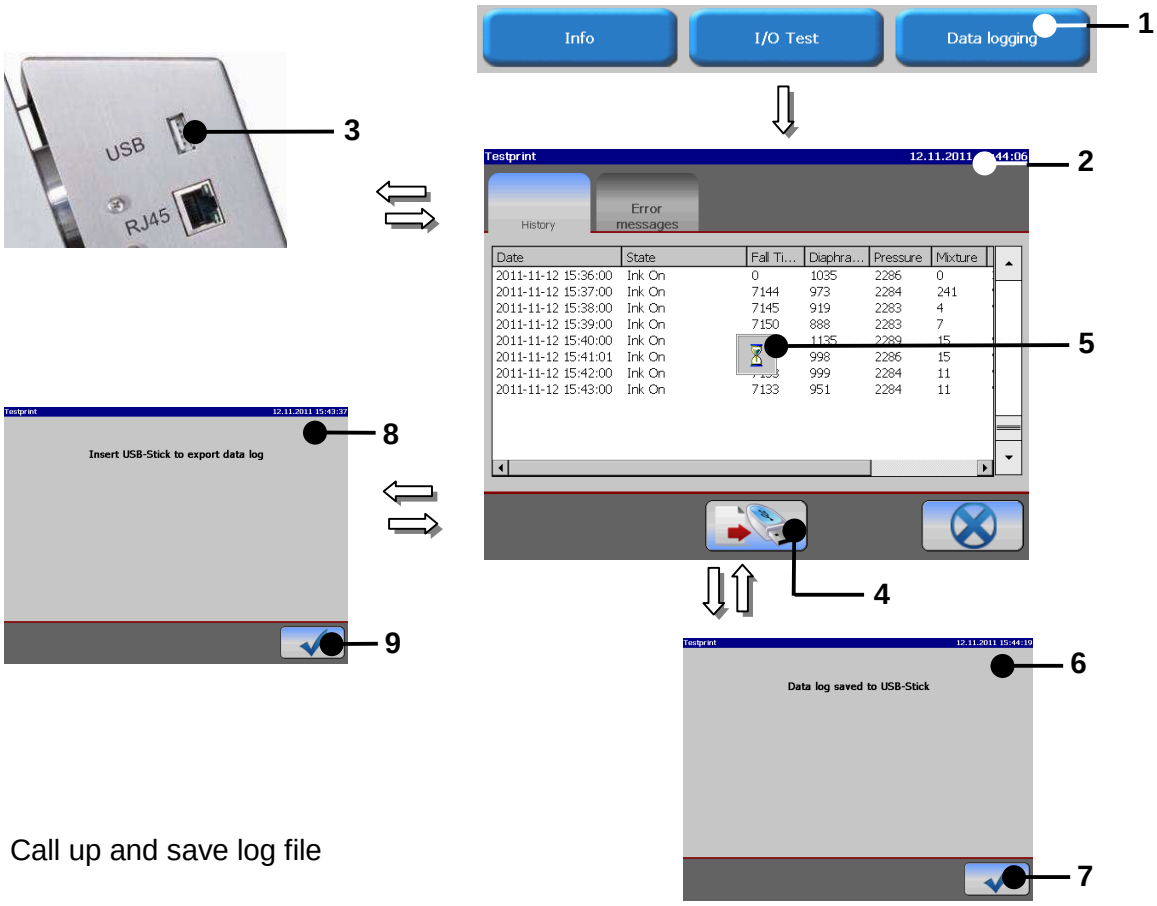
7.2.4.3.1 Call up and save log file

The recorded machine relevant data of the last 72 hours of operation can be saved on an external memory device (USB-stick).

Proceeding:

- Press the button **<Data logging>** (1) to open the menu „Data logging“ (2).
- Plug an USB-stick in the USB-connection (3) of the printer.
- Press the button **<Export>** (4).

Figure 90



Call up and save log file

1 – Button <Data logging>
2 – Menu “Data logging”
3 – USB-connection
4 – Button <Export>
5 – Symbol <Export is running>
6 – Message <Log file saved>
7 – Button <OK (✓)>
8 – Message <Insert storage medium>
9 – Button <OK (✓)>

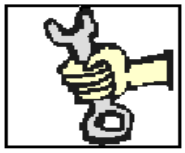
- Now the data are saved on the connected medium and the **symbol <Export is running (⌛)>** (5) is displayed during the process.
- After finishing the storage the **message** (6), that the process has been carried out is faded in. The saving happens with the description „datalog_Ljet2neo-*(“serial number of the printer”)*.txt“.
- Finally confirm the message with the button **<OK** (✓)**>** (7).

Indications!

*After exporting the logfile, the button **<Export>** is no longer displayed. The button is only provided again when the menu is re-opened.*

*If no storage medium (memory device) is connected, the **message** (8) is faded in. Confirm the message with the button **<OK** (✓)**>** (9). Connect a memory device and repeat the complete process.*

7.2.4.4 Hydraulic-/Printhead- and special functions



This work must only be carried out by trained personnel or by Leibinger service technicians!

With the button **<Hydraulic/Printhead>** (1) you can open the menu „Hydraulic/ Printhead/Special functions“ (2).

This menu provides the verification of hydraulic components, activation or deactivation and setting of print head functions as well as the processing of special functions. All changes have only a temporary effect, that means as long as the menu is open.

The selection of a functional area happens by clicking on the accordant register card (3).

Note: *The proceeding corresponds to the Windows™-standard procedure.*

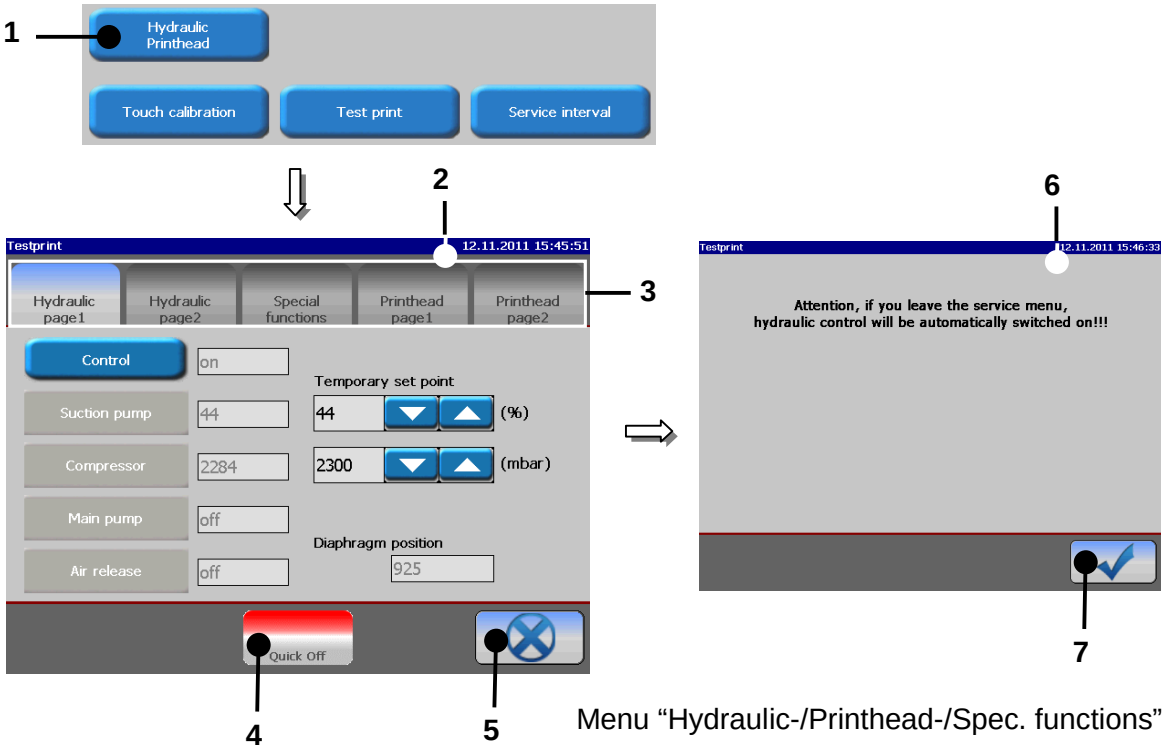
By pressing the button **<Quick Off>** (4) the JET2 neo is turned off immediately, without carrying out further actions (e.g. closing the nozzle).

The button **<Close>** (5) closes the menu.

By closing the menu all changes are reset to the normal/fully automatic operating condition!

If the menu closes an accordant message (6) is faded in which can confirm or cancel the quitting.

Figure 91



Menu “Hydraulic-/Printhead-/Spec. functions”

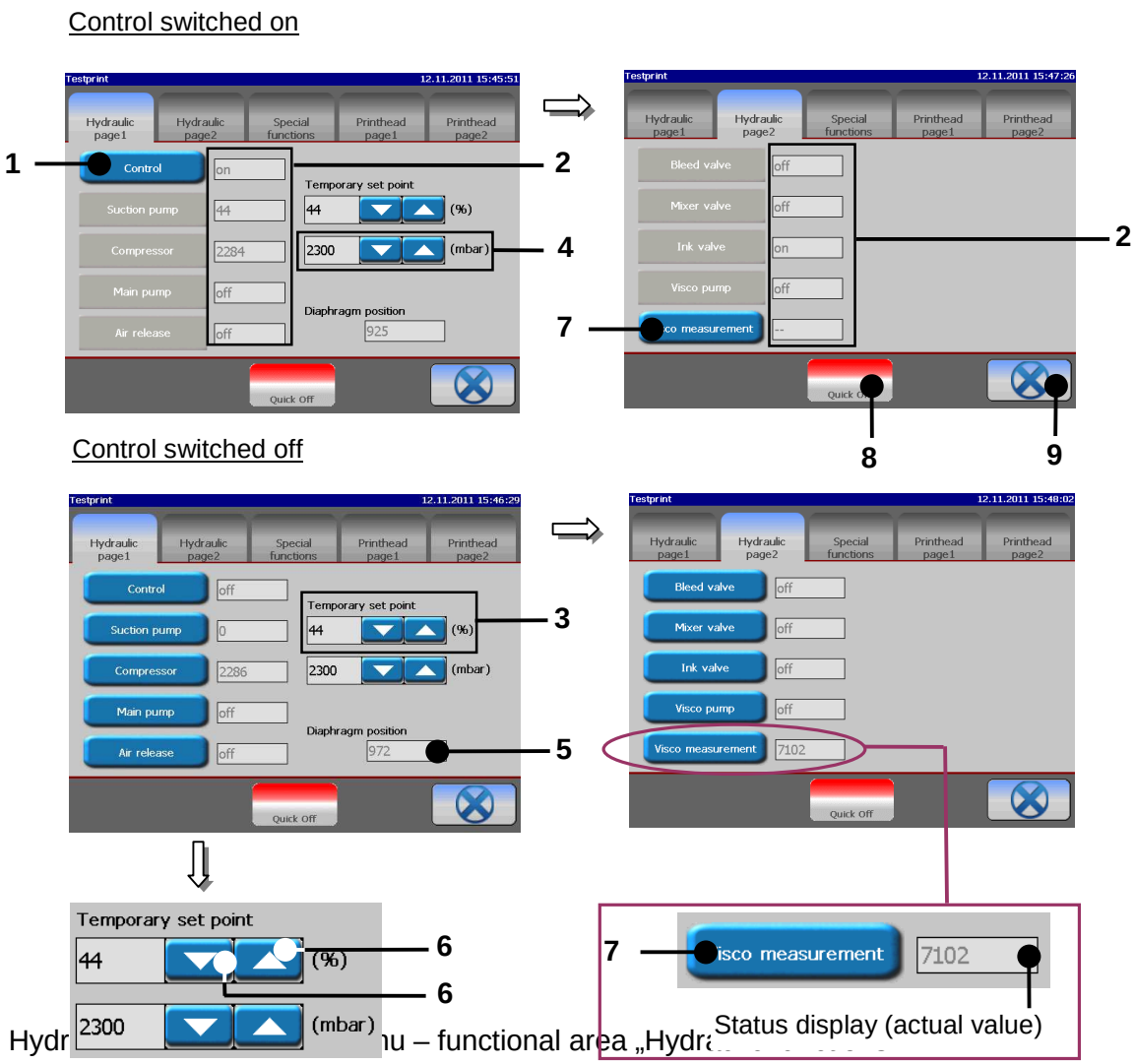
1 – Button <Hydraulic/Printhead>
2 – Menu <Hydraulic/Printhead/Spec.>
3 – Register cards
4 – Button <Quick Off>
5 – Button <Close>
6 – Message <Close menu>
7 – Button <OK (✓)>

7.2.4.4.1 Hydraulic functions

In this menu section the control can be switched off and individual components thus controlled separately and a viscosity measurement made.

In addition the nominal values of the suction pump and the system pressure can be changed temporarily.

Figure 92



Hydr nu – functional area „Hydra

1 – Button <Control>
2 – Status displays
3 – Display field <Suc. pump –temp. value>
4 – Display field <Compr. temp. pressure>
5 – Status display <Diaphragm position>
6 – Arrow buttons *(Example view)*
7 – Button <Visco measurement>
8 – Button <Quick Off>
9 – Button <Close>

1. Control switched on/off and actuate single components:

With the button **<Control>** (1) the control is switched on or off. If the control is deactivated, the buttons of the individual hydraulic components are activated.

The components can now be switched on or off and the compressor and the suction pump activated by pressing the respective button. The activated function of an individual component only remains active for as long as the respective button is kept pressed.

The respective status of a component (On/Off) and its values are shown in the **status displays** (2).

2. Compressor and suction pump (change temporary set point values):

With the appropriate **arrow buttons** (6) the nominal values of the individual components „compressor“ and „suction pump“ can be changed temporarily, whereby the values are increased or reduced by one step.

3. Diaphragm position:

In the status display **<Diaphragm position>** (5) the momentary position of the diaphragms is displayed.

4. Viscosity measurement:

The JET2 neo automatically carries out a viscosity measured at approx. 60 second intervals. The measured value is shown in the corresponding status display.

By pressing the button **<Visco measurement>** (7) a viscosity measurement can be made at the current time.

Attention! For further information please contact the Leibinger-Service Department or your authorized dealer!

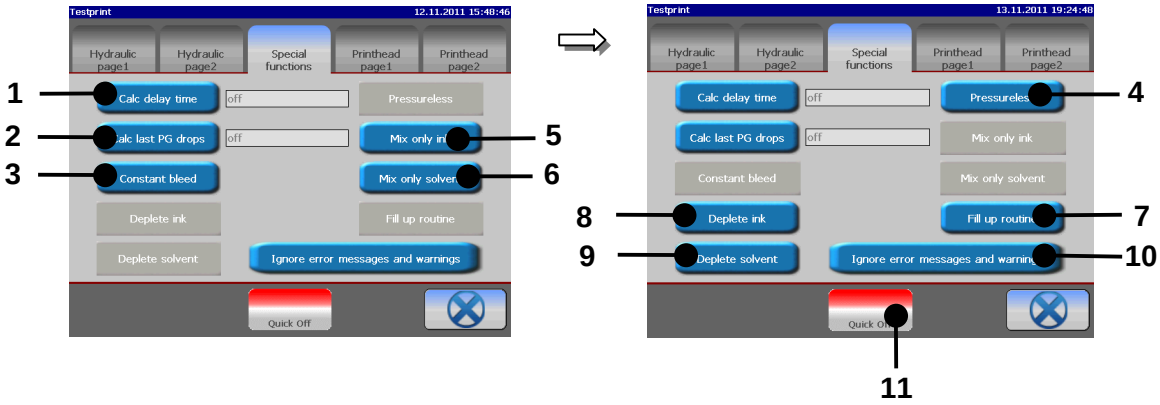
7.2.4.4.2 Special functions

Under the register card **<Special functions>** the following functions are available:

- Pressureless
- Constant bleed
- Fill up routine
- Mix only ink
- Mix only solvent
- Calc delay time
- Calc last PG drops
- Ignore error messages and warnings
- Drain routine (deplete ink/deplete solvent)

The availability of individual functions depends on the current device conditions.

Figure 93



Hydraulic-/Printhead test menu – functional area „Special functions”

1 – Button <Calc delay time>
2 – Button <Calc last PG-drops>
3 – Button <Constant bleed>
4 – Button <Pressureless>
5 – Button <Mix only ink>
6 – Button <Mix only solvent>
7 – Button <Fill up routine>
8 – Button <Deplete ink>
9 – Button <Deplete solvent>
10 – Button <Ignore error messages and warnings>
11 – Button <Quick Off>

1. Calc delay time:

With the button **<Calc delay time>** a new measurement of the current delay time is started. The value is updated after approx. 15 seconds. The value is output in msec.

2. Calc lat PG drops:

3. Constant bleed:

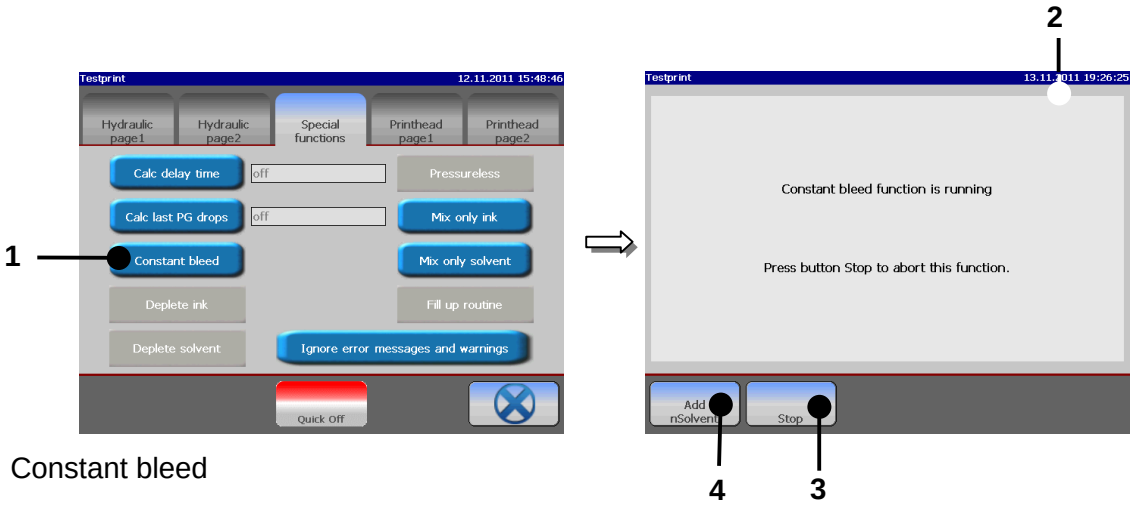
The function constant bleeding is only activated or functional under the following device conditions:

- **Ink suction is turned on**
- **Nozzle is closed**
- **Head cover has been detached**

By pressing the button **<Constant Bleed>** (1) the constant bleeding of the device is started. During the process the message **„Constant Bleed“** (2) is displayed. The bleeding can be canceled any time by pressing on the button **<Stop>** (3). During this process the visco pump is activated for 3 sec. every minute to ensure a purging of the pump.

With the button **<Add Solv>** (4) you can add only solvent. This function provides specially filling operations to bleed e.g. the solvent tube or to set the viscosity of the ink faster to a lower value

Figure 94



Constant bleed

1 – Button <Constant bleed>
2 – Message <Constant bleed>
3 – Button <Stop>
4 – Button <Add Solvent>

Attention!

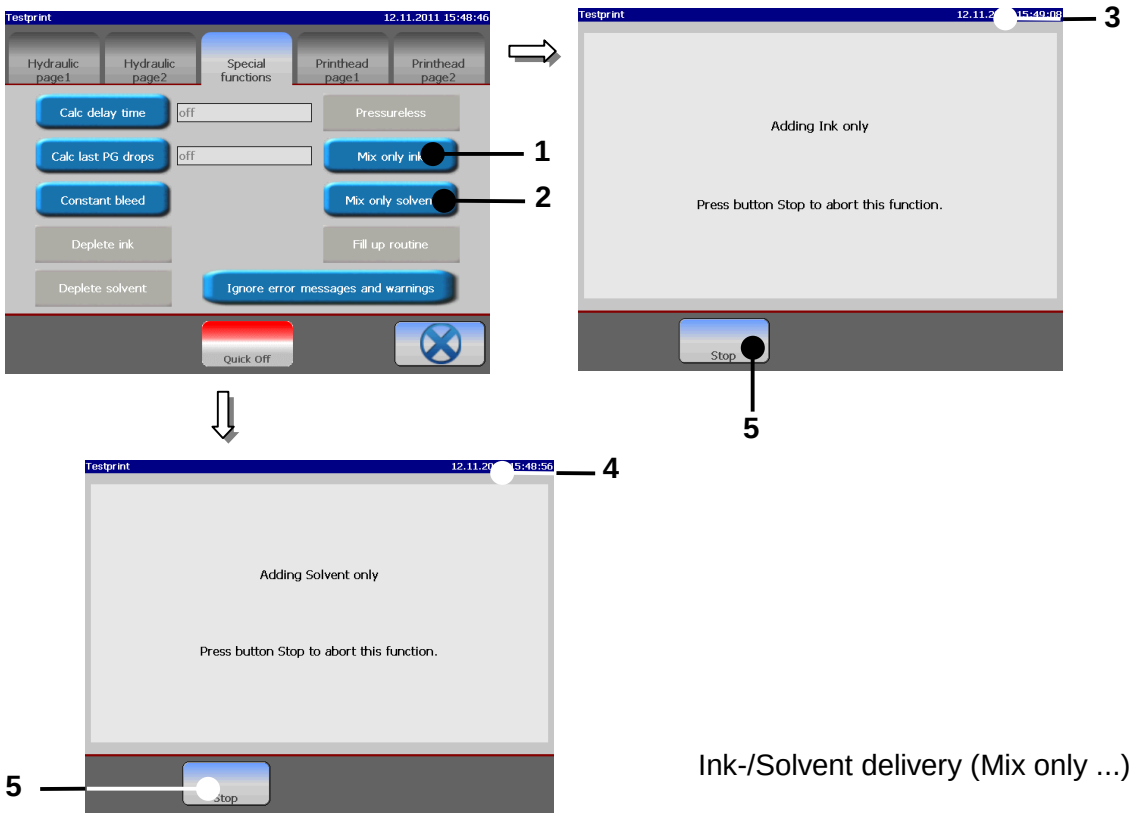
By adding the solvent the ink can be diluted too strong. Therefore this function should only be carried out by qualified personnel.

4. Pressureless:

With the button**<Pressureless>** the system pressure can be relieved. The function is only available when the control is deactivated!

5. Mix only ink/Mix only solvent:

Figure 95



Ink-/Solvent delivery (Mix only ...)

1 – Button <Mix only ink>
2 – Button <Mix only solvent>
3 – Message <Adding “Ink”>
4 – Message <Adding “Solvent”>
5 – Button <Stop>

With the two buttons **<Mix only ink >** (1) and **<Mix only solvent >** (2) only ink or solvent can be supplied to the hydraulic circuit.

These functions allow to set the viscosity of the ink fast to a lower or higher value.

The execution of addition of the selected medium is displayed by an accordant message (3 or 4).

With the button **<Stop>** (5) the particular process will be finished.

Attention!

By the addition of solvent or ink the ink can be diluted or concentrated too much! Therefore this function should be only carried out by qualified personnel.

6. Fill up routine:

The fill up routine must be carried out the first time the device is started up.

Further information about how to carry out the fill up routine can be found in the **chapter *Cary out fill up routine*** (page 40)!

7. Ignore all error messages and alarm messages:

With this function the error- and alarm messages of the device e.g. for starting up, filling, or for service works can be canceled.

By pressing the button **<Ignore error messages- and warnings>** the function is turned on or off.

8. Drain routine:

The drain routine consists of the individual functions **<Deplete ink>** and **<Deplete solvent>**. The functions serve to drain the two storage tanks and **must** be carried out when shutting down the device.

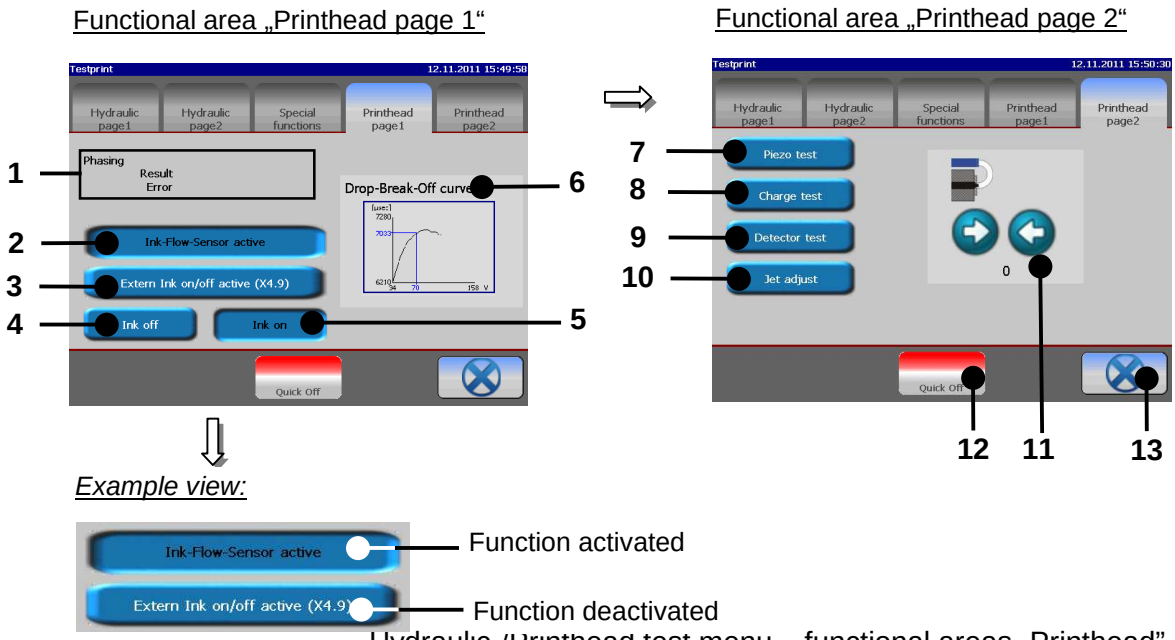
For further information please contact the Leibinger-Service Department or your authorized dealer!

7.2.4.4.3 Printhead functions

Under the two register cards **<Printhead page 1>** and **<Printhead page 2>** the following functions are available:

- Ink-Flow-Sensor active
- Extern ink on/off active
- Ink on/Ink off
- Piezo test
- Charge test
- Detector test
- Jet adjustment

Figure 96



Hydraulic-/Printhead test menu – functional areas „Printhead”

1 – Display field <Phasing>
2 – Button <Ink-Flow-Sensor active>
3 – Button <Extern Ink on/off active>
4 – Button <Ink off>
5 – Button <Ink on>
6 – Display field <Drop-Break-Off curve> (if available)
7 – Button <Piezo test>
8 – Button <Charge test>
9 – Button <Detector test>
10 – Button <Jet adjust>
11 – Status field <Nozzle>
12 – Button <Quick Off>
13 – Button <Close>

1. Phasing display:

2. Jet monitoring (Ink-Flow-Sensor active):

The ink jet monitoring provides highest operating reliability due to the additional monitoring of the ink backflow. The full automatic monitoring turns off the ink jet as soon as the ink backflow is interrupted. The nozzle seal will be closed automatically and head impurities are therefore prevented.

By pressing the button **<Ink-Flow-Sensor active>** the jet monitoring is turned on or off.

3. Ink on/off:

With the two buttons **<Ink on >** and **<Ink off >** the ink delivery to the nozzle is turned on or off.

This function can be generated also „remote-controlled“ by an electronic contact *(see also the informations under the following point „Extern ink on/off“).*

4. Extern ink on/off:

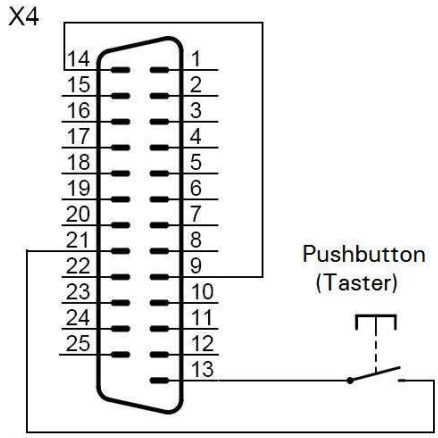
During cleaning works at the print head it can be helpful (e.g. in case of a long umbilical) that the ink delivery can be turned on/off externally. The JET2 neo requires impulses for the control.

This can be reached with a bridge between pin 9 and 14 and a switch contact (pushbutton) at the pins 21 and 13 of the I/O-interface **X4**.

Example:

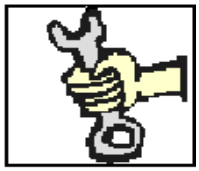
First impulse = switches off the ink delivery
Second impulse = switches on again the ink delivery

Diagram/Plug assignment:



The signal which is pending at the interface is only analyzed by the JET2 neo if the function **<Extern Ink on/off active>** is turned on.

5. Piezo test and charge test



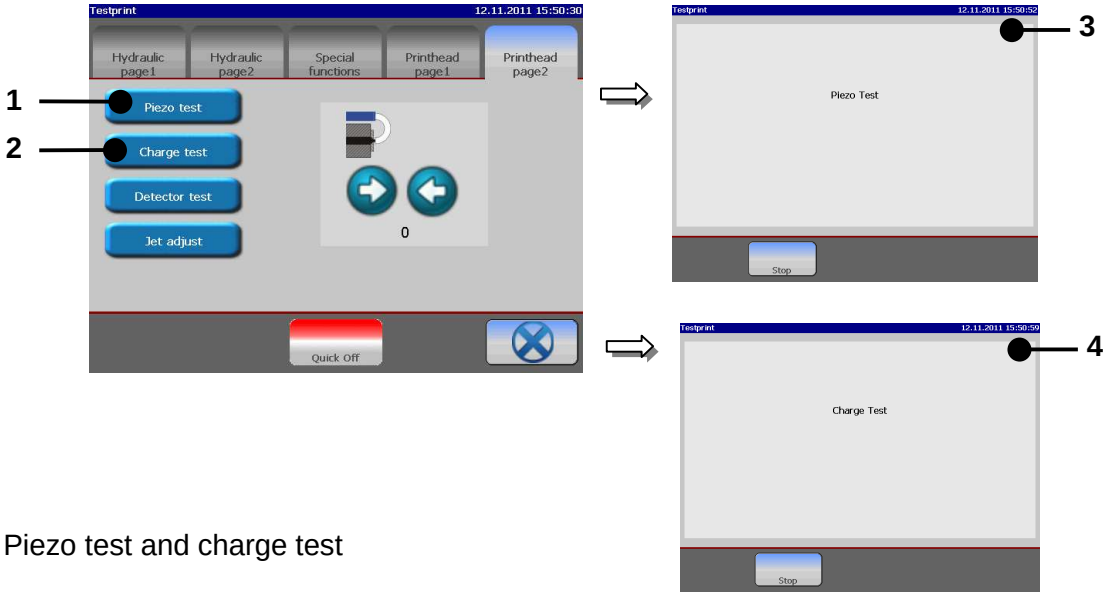
Dangerous electrical voltage in the printhead!

Have measurements on live parts done by qualified electricians only! This work may only be carried out by approved personnel or Leibinger Service technicians!

- **Oscillator voltage setting:** Output of a constant oscillator voltage which serves for matching with the oscillating voltage amplifier (pot TRM 1). The result of the setting can be read, in the form of a tear-off curve in the display field **<Drop-Break-Off curve>** of the functional area **„Printhead page 1“**.
- **Charge voltage setting:** Output of a constant charge voltage for adjustment of the charge voltage amplifier (offset TRM 2, gain TRM3).

The button **<Piezo test>** (1) serves to set the oscillator voltage and the button **<Charge test>** (2) to set the charge voltage.

Figure 97



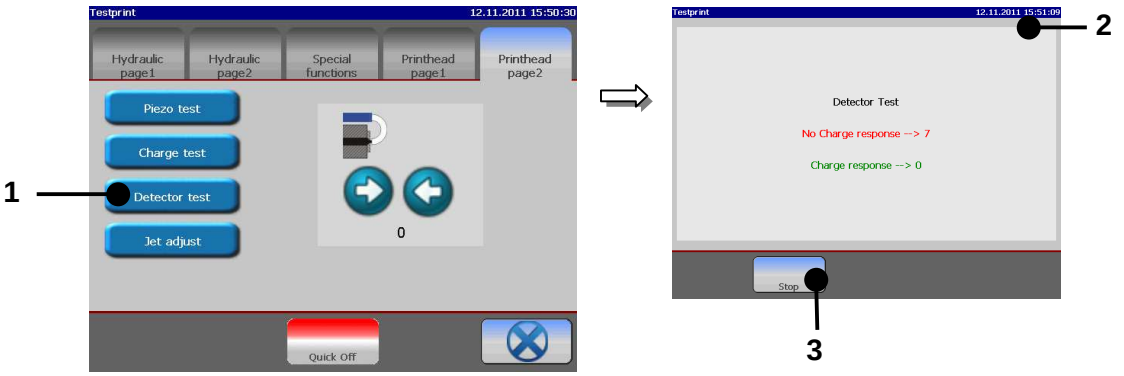
Piezo test and charge test

1 – Button <Piezo test>
2 – Button < Charge test>
3 – Message <Piezo test>
4 – Message <Charge test>

6. Detector test

With the button **<Detector test>** (1) you can start the test.

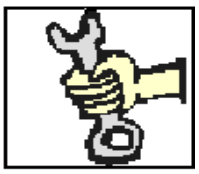
Figure 98



Detector test

1 – Button <Detector test>
2 – Message <Detector test>
3 – Button <Stop>

7. Jet adjustment



Dangerous electrical voltage in the printhead!

The jet adjustment can only be carried out by authorized staff or Leibinger service technicians!

Inflammable (Risk of fire)!

Combustible gases and liquids cause serious burns. Sources of ignition must be kept away from the print head!

Risk of injury!

Ink escapes from the head aperture. Spraying of ink into the eyes can cause blindness. Eye protection is necessary!

Risk of injury!

Upon contact the contents causes skin irritation. Protective equipment is necessary!

This function provides a support for a required correction of the jet position.

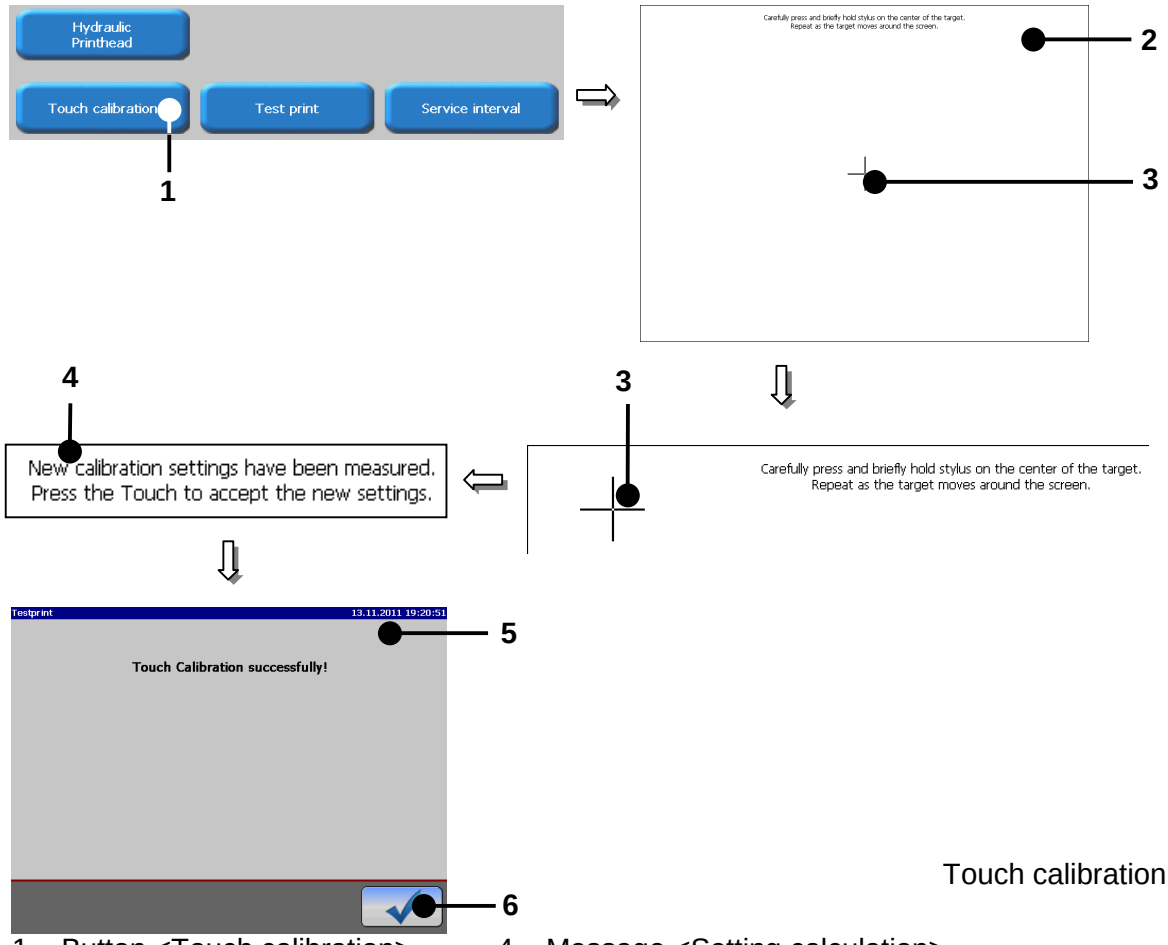
Proceeding:

For further information please contact the Leibinger-Service Department or your authorized dealer!

7.2.4.5 Touch-calibration

The function provides a calibration of the TFT-Touch-Display. For delivery of the device the display has been already calibrated.

Figure 99



Touch calibration

1 – Button <Touch calibration>
2 – Calibration window
3 – Calibration point)
4 – Message <Setting calculation>
5 – Message <Touch calibration successfully>
6 – Button <OK (✓)>

Attention! To avoid faulty operation you have to carry out the calibration carefully!

Proceeding:

- Press the button **<Touch calibration>** (1).
- The calibration window (2) opens.

- Now press carefully on the middle of the calibration point (3). Repeat the process as long as the calibration point moves on the display.
- If the settings are calculated an according message (4) is displayed on the upper area of the calibration window. Now press any point on the Touch-Display to accept the settings.
- The message **<Touch calibration successfully>** (5) is faded in.
- Finally press the button **<OK** (✓)**>** (6)) to finish the process.

7.2.4.6 Test print

With the function **<Test print>** a defined default job with set internal PrintGo-source is loaded.

This job can be used by the operator as basis to create a new job or to control the print function of the JET2 neo.

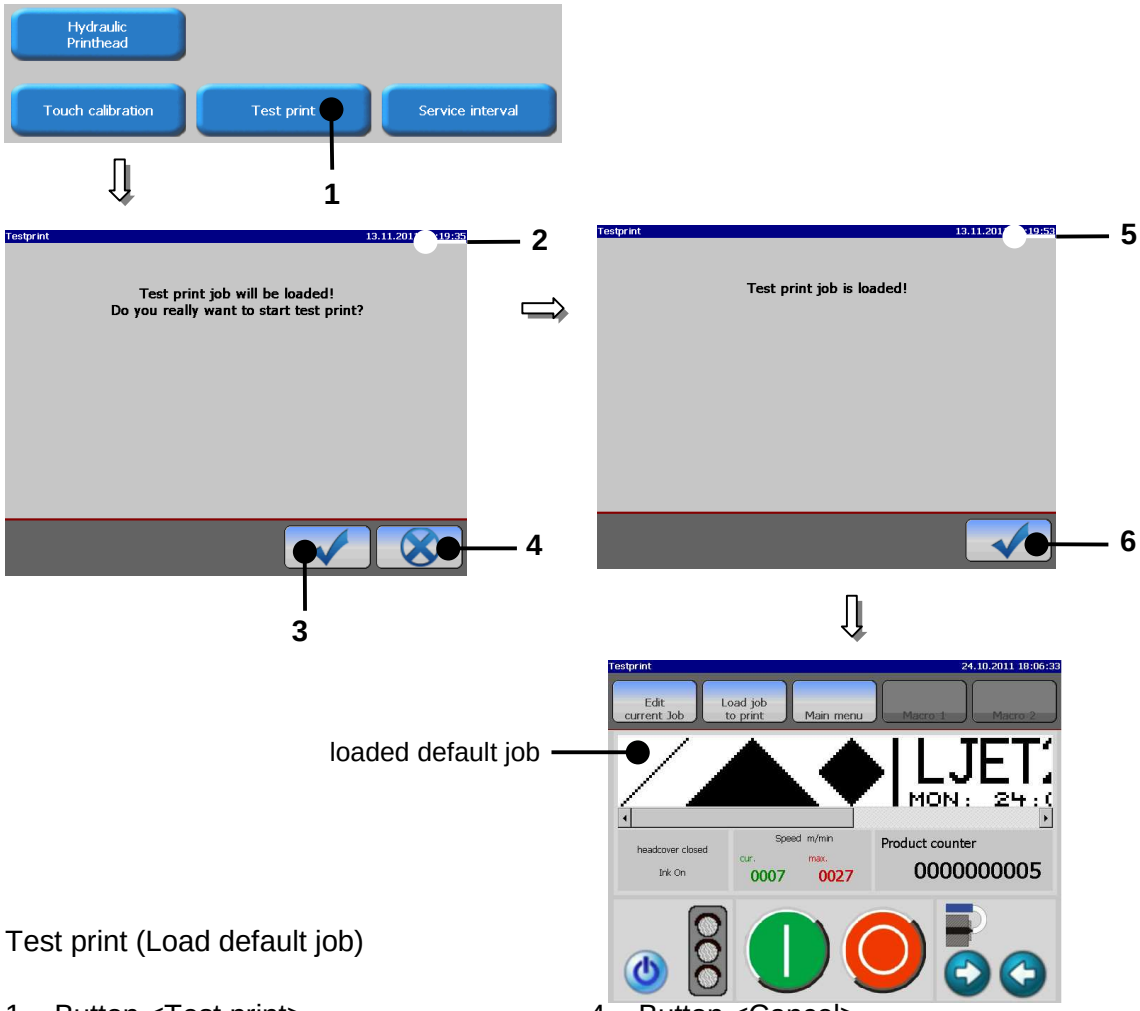
The default job is loaded as following:

Attention! If the test print is activated when a print start release did already happen for the previous loaded job, the JET2 neo, starts immediately with the print process because all signals are generated internally and no sensor or encoder are required.

Attention! Ink escapes immediately from the print head!

- Press the button **<Test print>** (1).
- A **safety query** (2), if the test print should be really started is faded in.
- Confirm the loading of the job by pressing the button **<OK (✓)>** (3) or cancel the process with the button **<Cancel>** (4).
- A **message** (5), that the test print-job is loaded is faded in.
- Confirm the message with the button **<OK (✓)>** (6). The job is now loaded and can be started for printing.

Figure 100



Test print (Load default job)

1 – Button <Test print>
2 – Message <Safety query>
3 – Button <OK (✓)>
4 – Button <Cancel>
5 – Execution message
6 – Button <OK (✓)>

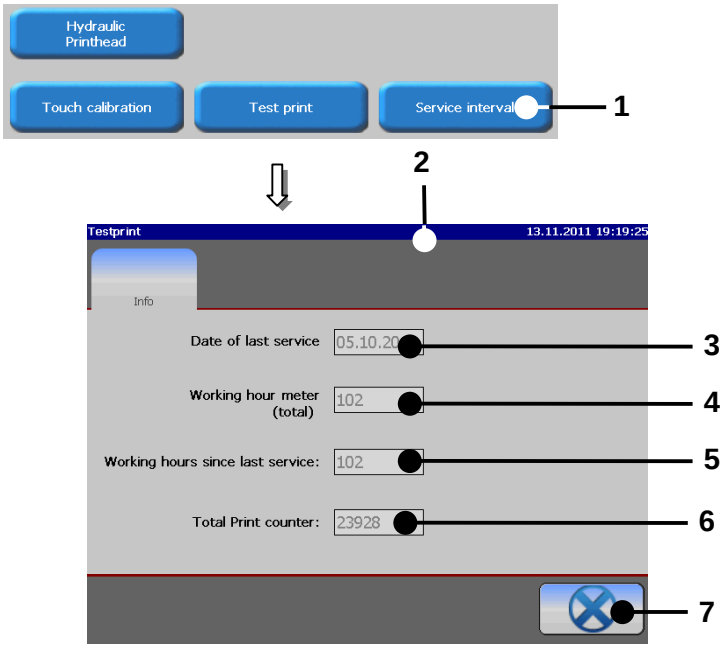
7.2.4.7 Service interval

With the button **<Service interval>** (1) you can open the display window „Service“ (2). The following parameters are displayed in this window:

- Date of the last inspection (3)
- Total amount of operation hours of device (4)
- Operation hours since the last inspection (5)
- Total print counter (6)

Thee button **<Close>** (7) closes the window.

Figure 101



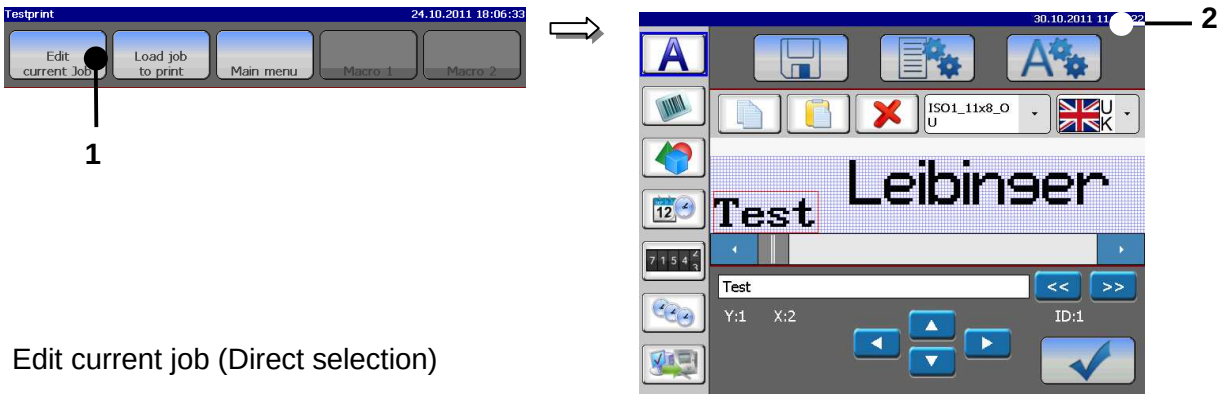
Service interval window

1 – Button <Service interval>
2 – Display window <Service>
3 – Display <Date of inspection>
4 – Display <Total operation hours>
5 – Display<Operation hours since ...>
6 – Display <Total print counter>
7 – Button <Close>

7.3 Edit current job (Direct selection)

With the button **<Edit current job>** in the menu bar you can edit the current job.

Figure 102



Edit current job (Direct selection)

1 – Button <Edit current job>

2 – Menu <Job editor>

Proceeding:

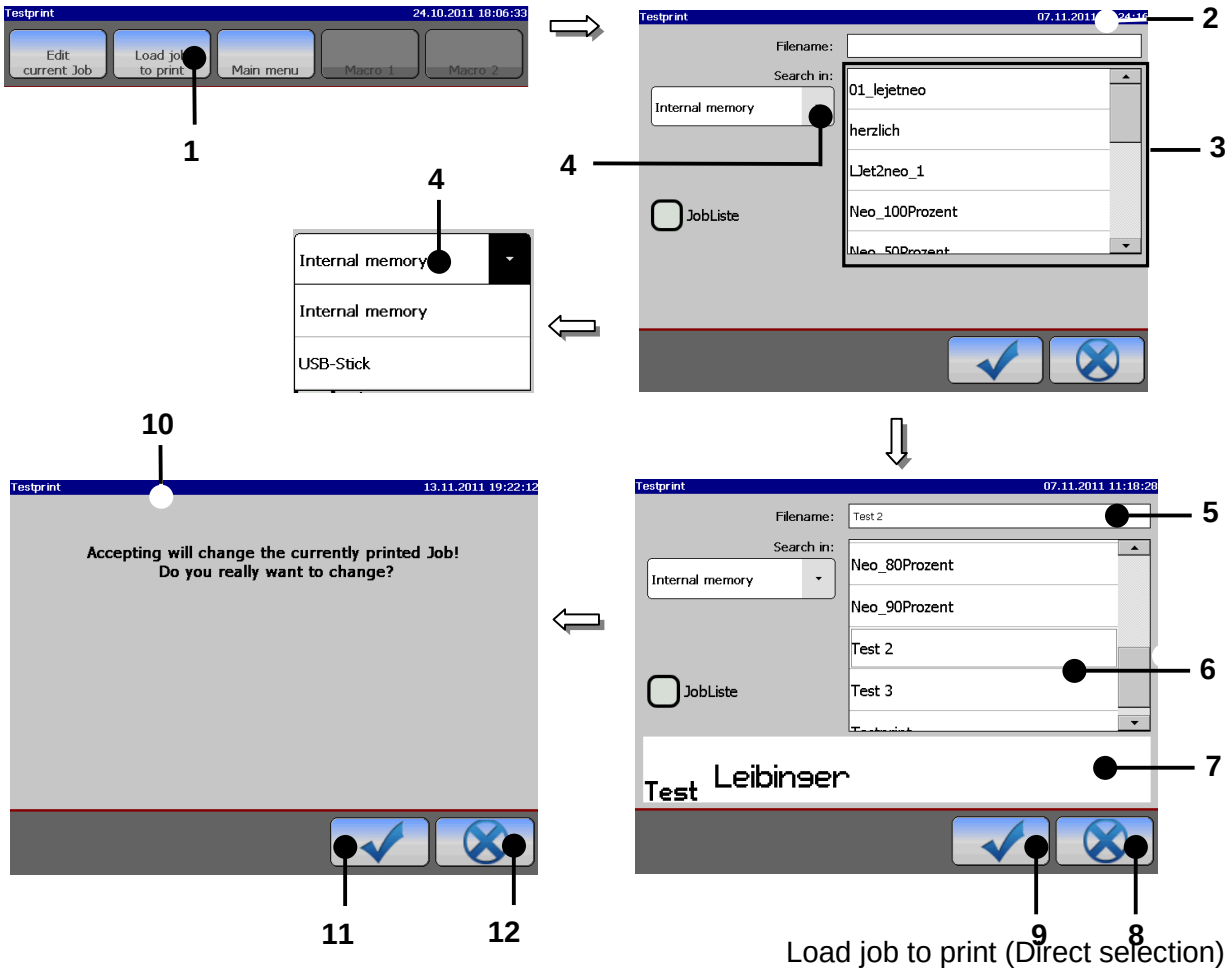
- Press the button **<Edit current job>** (1).
- The menu **<Job editor>** (2) opens to change the printing data.
- Carry out the requested changes and save it. You will find further information regarding the memory process in the **group *Jobeditor*** in the **chapter *Save job/Save job as*** (page 220).

You will find further information regarding the operation of the job editor in the **group *Job editor*.**

7.4 Load job to print (Direct selection)

With the button **<Load job to print>** in the menu bar you can load (open) a saved job directly for printing. For selection of a job the window „Job selection“ opens.

Figure 103



Load job to print (Direct selection)

1 – Button <Load job to print>
2 – Window <Job selection>
3 – Selection field <Job list>
4 – Pop-up window <Search in>
5 – Display <Filename>
6 – Selected Job
7 – Display <Job preview>
8 – Button <Cancel>
9 – Button <OK (✓)>
10 – Message <Change print job>
11 – Button <OK (✓)>
12 – Button <Cancel>

Proceeding:

- Press the button **<Load job to print>** (1).
- The window **<Job load>** (4) is faded in.
- Select the requested job in the selection field **<Job list>** (3). With the Pop-up window **<Search in>** (4) you can select different memory locations.
- The name of the selected job (6) is now shown on the display **<Filename>** (5). Additionally a preview of the printing job is faded in on the display **<Job preview>** (7).
- Press the button **<OK (✓)>** (9) to take over the selected job or press the button **<Cancel>** (9) to cancel the process.
- A **safety query** (10), if the printing job should be really changed is faded in.
- Confirm the change by pressing the button **<OK (✓)>** (11) or cancel the process with the button **<Cancel>** (12).

8. Job editor

The printing data is created and saved as a job in the job editor. A variety of Windows® similar tools make the operation easier. A job can consist of a lot different objects e.g. text blocks, graphics or barcodes whose contents and characters are changeable.

Functions as matrix, size, bold type, rotation etc. can be assigned to every single object irrespectively of each other. Current jobs can be edited or created new also during running production. All jobs are displayed in the WYSIWYG mode.

Note:

WYSIWYG = What you see is what you get (real display of print image)

8.1 Structure

- **Menu bar (1):** The following functions and the following Editor sub-menus can be opened with the buttons in the menu bar:
  - Save Job
  - Parameter settings
  - Object settings

  Button <Save> (2): This button saves the entries and changed made under the currently loaded job or under a new job name.

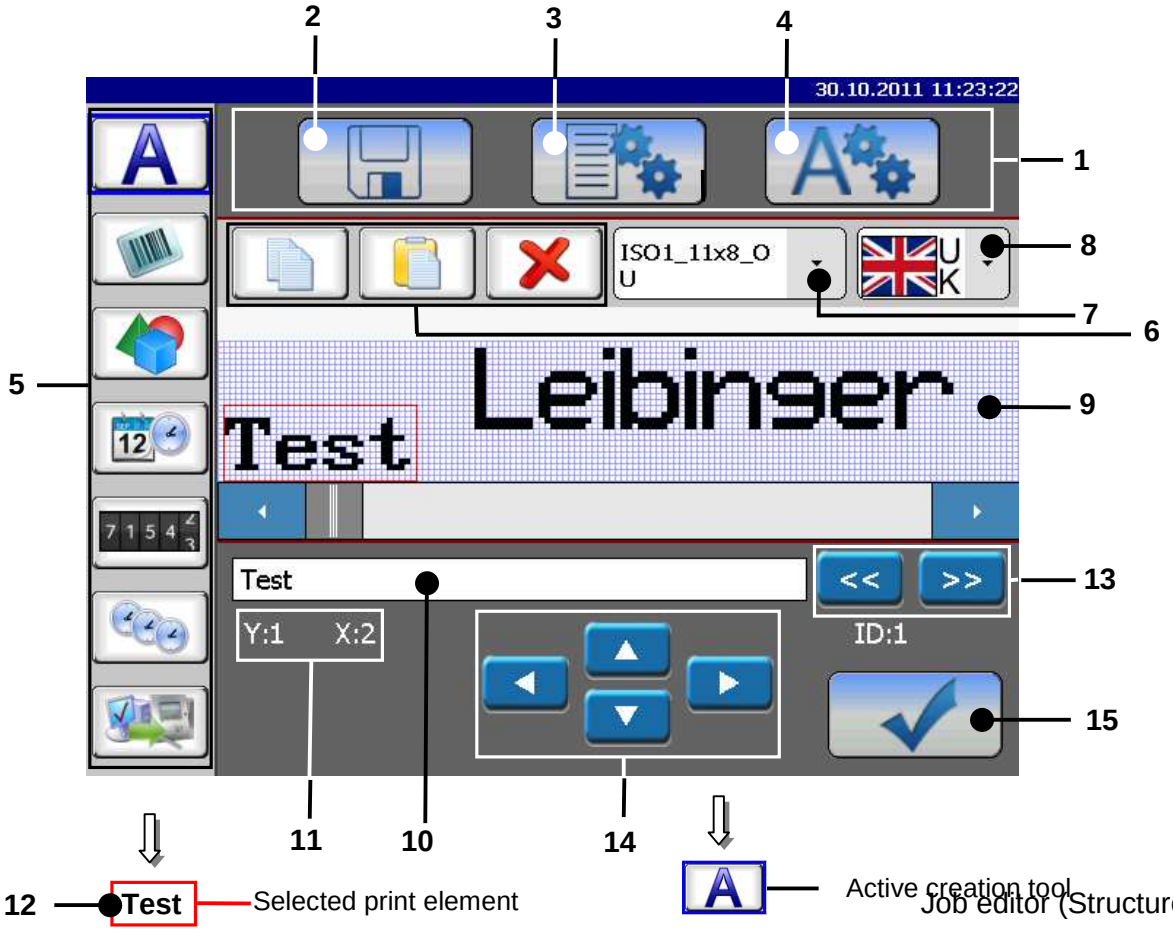
  Button <Parameter settings> (3): This button makes the job settings necessary for a print job *(e.g. PrintGo-Distance, rotary encoder source, alignment, etc.)*.

Further information about how to make the individual parameter settings and their effects can be found in the **chapters *Parameter setting tools*** and ***Parameter settings***!

Button <Object settings> (4): This button assigns various object settings (e.g. font, contrast, alignment etc.) to the selected print element.

You will find further information regarding the several parameter settings and its effects in the **chapter *Parameter settings*** (page 174)!

Figure 104



1 – Menu bar
2 – Button <Save>
3 – Button <Parameter settings>
4 – Button <Object settings>
5 – Direct buttons <Creation tools>
6 – Direct buttons <Edit tools>
7 – Pop-up window <Font selection>
8 – Pop-up window <Country-specific keyboard settings>
9 – Display area <Print image>
10 – Input field <Text>
11 – Display <Coordinates>
12 – Object frame
13 – Skip buttons
14 – Directional buttons
15 – Button <Close>

- **Direct buttons (5+6):** With the direct buttons (Icons) you can select the creation- and editing tools directly.

  You will find further information regarding these tools in the following chapters.

- **Font selection (7):** With the Pop-up window you can change a font for a new created element or for a selected element.

- **Country-specific keyboard setting (8):** A country-specific keyboard adaptation is made with this pop-up window. The selection is made by clicking on the appropriate flag icon.

- **Display area <Print image> (9):** In the display area the created printing data is displayed in the WYSIWYG-mode.

- **Input field <Text> (10):** In the field the text of the selected text print element is displayed. By clicking in the field a keyboard field opens to change the input.

- On the display **<Coordinates>** (11) the start position (bottom left corner) of the selected printing element is displayed.

  Note: *For the displayed position not the actual printing element but the position of the displayed object frame is decisive.*

- **Object frame (12):** A selected printing element is marked with a red object frame.

- **Skip buttons (13):** With the buttons you can skip from one printing element to the other.

- **Directional buttons (14):** With the four directional buttons you can shift a selected printing element easily and accurately (pixel accurate). With every pressing on the accordant directional button the element is shifted by one raster point to the particular direction.

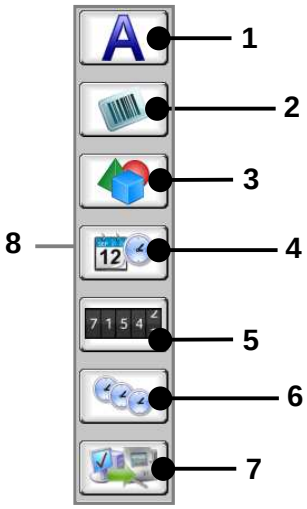
- The button **<Close>** (15) closes the editor menu. If the inputs have been not saved, an accordant safety query is faded in.

8.2 Job editor tools

8.2.1 Creation tools

With the icons (direct buttons) you can select tools to create printing elements (texts, graphics, counters etc.).

Figure 105



1 – Creation tool <Text>
2 – Creation tool <Barcode>
3 – Creation tool <Graphic>
4 – Creation tool <Date/Time>
5 – Creation tool <Counter>
6 – Creation tool <Shift Code>
7 – Creation tool <Extern Text>
8 – Direct buttons (Icons)

Job editor (Creation tools)

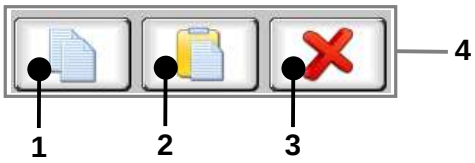
1.	Text	Provides the creation of text elements.
2.	Barcode	Provides the integration of barcodes and defines the certain parameters.
3.	Graphic	Provides the integration of an already existing graphic and defines the accordant parameters.
4.	Date/Time	Provides the integration of date- and time specification and defines the accordant parameters and requested replacements.
5.	Counter	Provides the integration of a counter as well as the definition of the accordant parameters and requested replacements.
6.	Shift Code	Provides the integration of a text element which is printed by predefined periods (shifts of time) as well the definition of the accordant parameters.
7.	Extern(al) Text	Provides the integration of an external text as well as the definition of the accordant parameters. By usage of this function an easy possibility is offered to integrate **variable data** in the printing text without any additional software- and programming works.

8.2.2 Edit tools

You can select the several edit tools with the available icons (direct buttons).

Note: *The function of the tools corresponds to the Windows™-functions*

Figure 106



Job editor (Edit tools)

1 – Edit tool <copy>
2 – Edit tool <paste>
3 – Edit tool <delete>
4 – Direct buttons (Icons)

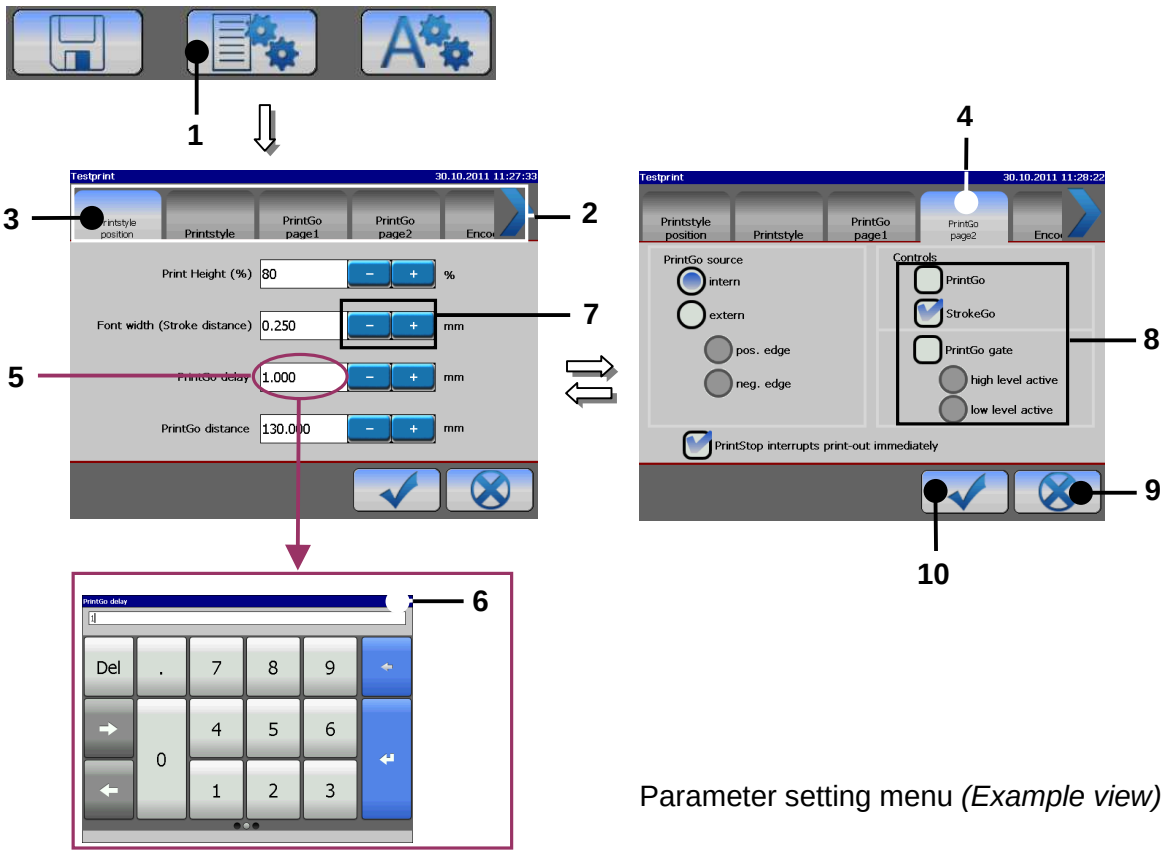
8.3 Parameter setting tools

With the button **<Parameter settings>** (1) the submenu „Parameter settings“ is displayed. The following functional areas are available:

- Printstyle position
- Printstyle
- PrintGo page 1
- PrintGo page 2
- Encoder
- Date change

In the functional areas you can carry out job settings which are necessary for the print *(e.g. PrintGo-distance, encoder source, alignment, etc.)*.

Figure 107



Parameter setting menu *(Example view)*

1 – Button <Parameter settings>
2 – Register cards
3 – Register card <Printstyle position>
4 – Register card <PrintGo page 2>
5 – Display field
6 – Number block
7 – +/- buttons
8 – Control boxes
9 – Button <Close>
10 – Button <OK (✓)>

Call up menu and carry out settings

(Example: The menu „Printing Parameter“ should be called)

Proceeding:

- Press the button **<Parameter settings>** (1) in the menu bar.
- The submenu **„Parameter settings“** is faded in. As standard, the **<Printstyle position>** (3) functional area is displayed.
- With the register cards (2) you can change between the several parameters (functional areas).
- Now press the register card **<PrintGo2>** (4) to open the desired functional area.
- Several functions can be activated or deactivated by clicking on the accordant control box (8) or on the designation.
- With the **+/- buttons** (7) you can increase or reduce the values of the several parameter settings by one step.

  alternatively

- By clicking in the accordant display field (5) of the value which should be changed. A number block (6) opens for input in which you can enter the requested value.

You will find further information regarding the working with number blocks in the **chapter *Number block*** (page 60)!

- The button **<Close>** (9) closes the menu without taking over the changes.
- The button **<OK (✓)>** (10) closes the menu and the carried out settings will be taken over.

You will find further information regarding the several parameter settings and its effects in the **chapter *Parameter settings*** (page 174)!

8.4 Object settings

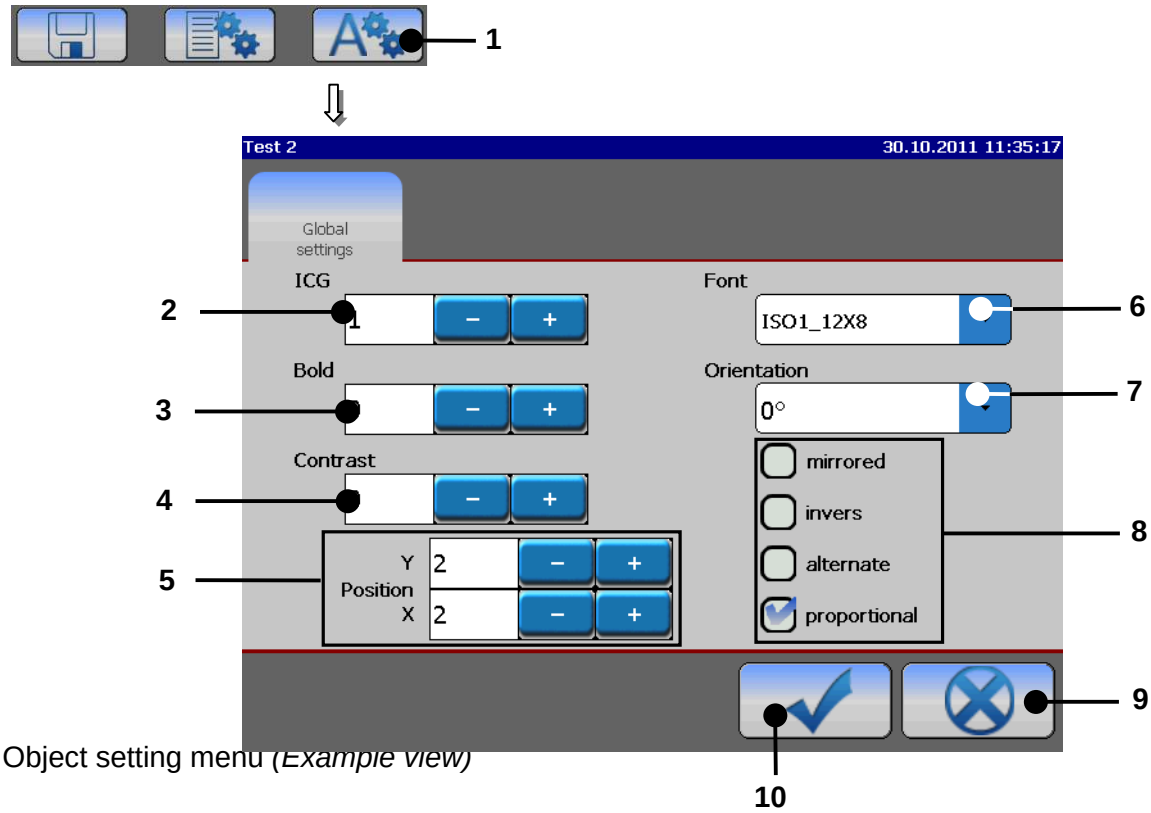
With the button **<Object settings>** (1) the submenu „Object settings “ is displayed.

In the menu **<Global settings>** you can assign several printing elements to different object settings *(e.g. font, contrast, alignment etc.).*

That means the carried out settings have only effects on the selected or applied printing element.

The form of the faded in menu always depends on the selected printing element *(e.g. text, graphic, barcode etc.)*. The menu may be divided into appropriate functional areas.

Figure 108



Object setting menu *(Example view)*

1 – Button <Object settings>
2 – Display field <ICG-value>
3 – Display field <Bold (level)>
4 – Display field <Contrast value>
5 – Display fields <Position X/Y>
6 – Pop-up window <Font>
7 – Display field <Orientation>
8 – Control box <Display options>
9 – Button <OK (✓)>
10 – Button <Close>

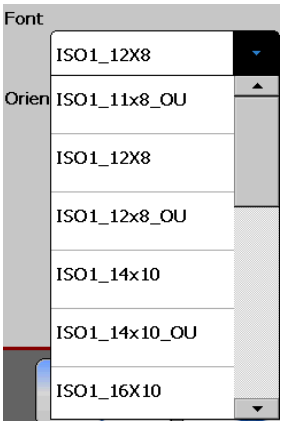
In the functional area **<Global settings>** the following settings can be carried out:

1.	ICG-value	Not available for barcodes and graphics
2.	Bold level	Not available for barcodes and graphics
3.	Contrast value	
4.	Position X/Y	
5.	Font selection	Not available for barcodes and graphics
6.	Orientation	
7.1	Display mirrored	
7.2	Display inverted	
7.3	Display alternating	
7.4	Display proportional	Not available for barcodes and graphics

8.4.1 Font selection

With the pop-up window **<Font>** you can assign the requested font to the printing element.

Figure 109



Font selection

8.4.2 Contrast value

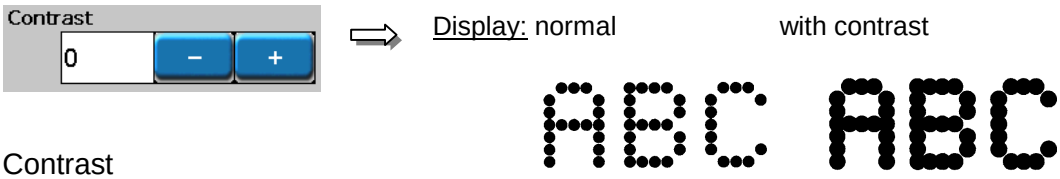
The setting determines the print contrast of the object. The value can be set between 0 – 7.

To get a contrast increasing of the print out, you have to place several dots on top of each other (on the same position).

Example 0 = no contrast increasing (single print out)
1 = 2 dots are placed on top of each other
2 = 3 dots are placed on top of each other
…..
7 = 8 dots are placed on top of each other

The set value is shown on the accordant display field.

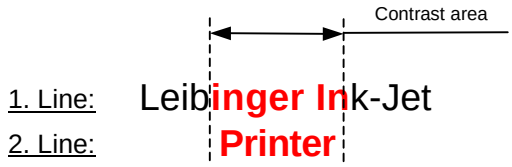
Figure 110



Contrast

Attention! From the technical side the function **<Contrast>** can only used for complete strokes (vertical dot line). This means that all further strokes which are placed above or below the attribute setting are also generated with the contrast additionally to the affected object.

Example: *For a double-spaced font only the lower line is reserved with the attribute „Contrast“. The elements of the first line which are placed above the attribute setting will be also printed automatically with the attribute “Contrast”.*



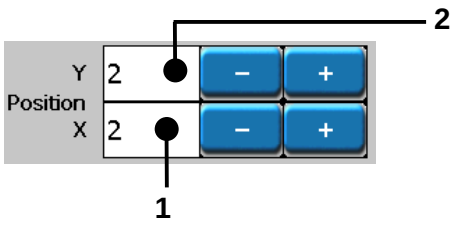
As higher the contrast has been set, as lower is the max. printing speed!

8.4.3 Position settings

With the position inputs you can position the printing object accurately (pixel accurate).

Note: *Important for the displayed position is not the printing element but the position of the displayed object frame.*

Figure 111



1 – Display field <X – Position>
2 – Display field <Y – Position>

Set object position

8.4.4 Bold level (Bold text)

To write a printing text “bold” you have to determine a bold level. The level can be between 0 – 7.

To get a bold text several dots are placed parallel (multiplication of strokes).

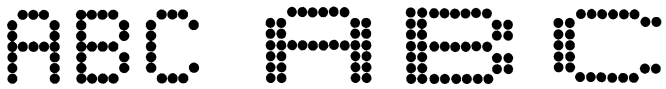
Example
0 = no bold text (single strokes)
1 = 2 dots are placed parallel (2 strokes)
2 = 3 dots are placed parallel (3 strokes)
…..
7 = 8 dots are placed parallel (8 strokes)

The set value is shown on the accordant display field.

Figure 112

⇨ Display: normal bold print

Bold text



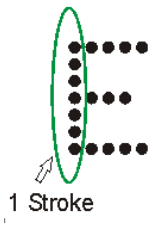
8.4.5 ICG-value

The setting determines the distance between the several characters. As larger the character distance has been selected, as more ***„Blank strokes“*** are inserted between the single characters. The value can be set between 0 – 7.

Example 0 = no distance between the characters
1 = 1 blank stroke is generated between the characters
…..
7 = 7 blank strokes are generated between the characters

The set value is shown on the accordant display field.

Explanation:



Example: Matrix 7x5

A stroke is a complete dot line in vertical direction (dot height).

Figure 113

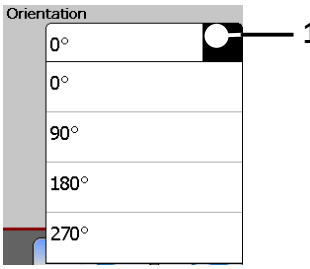
Display: ICG=0 ICG=1 ICG=7

Character pitch (ICG-value)

8.4.6 Orientation

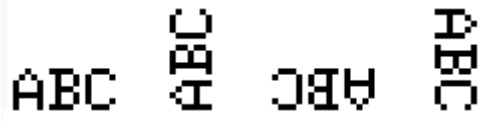
With the pop-up window **<Orientation>** (1) you can rotate the printing object by 90°/180° or 270°.

Figure 114



Display:

normal 90° 180° 270°



Orientation

1 – 1 – Pop-up window <Orientation>

8.4.7 Display settings

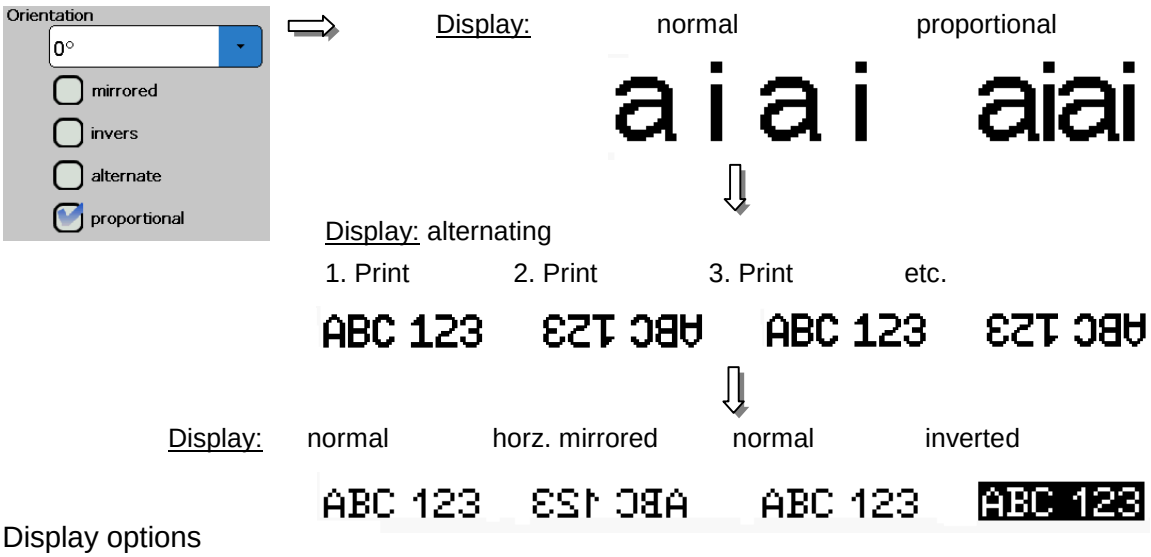
With this function you can activate different display options.

The following display options are available:

- mirrored
- inverted
- alternating
- proportional

An activated option is displayed with a ✓ in the control box.

Figure 115



Display options

- **Mirrored display:** The printing element is mirrored horizontally.
- **Inverse display:** The printing element is displayed inverse.

  Example: For printing a black ink is used on a white medium.

  ***Without** the option <Inverse> the letters of the printing text are written in black.*

  ***With** the option <Inverse> the area around the letters will be blacken and the characters stay white.*

- **Alternating display:** Every second print out is displayed mirrored horizontally and vertically.
- **Proportional display:** The printing object is displayed proportionally that means unneeded blank fields between the single characters of the printing element can be avoided.

8.5 Parameter settings

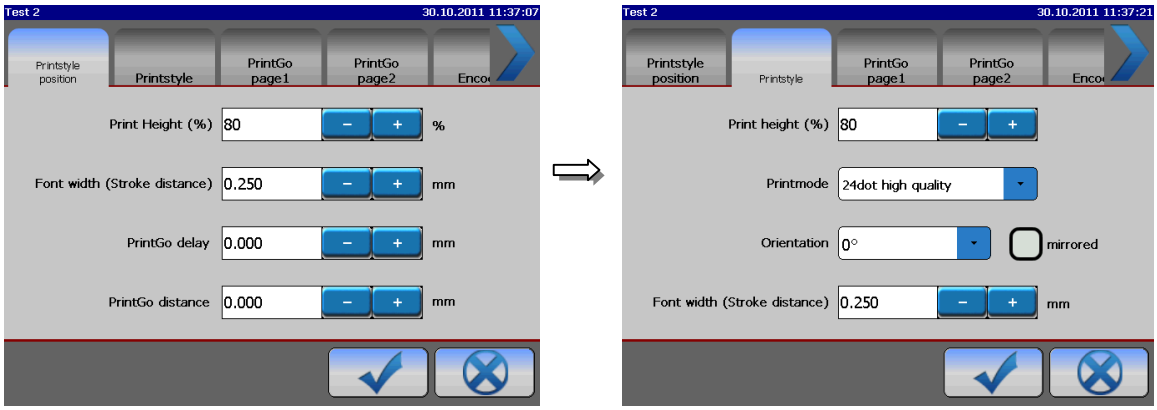
You will find further information regarding the calling of the several submenus and the processing of settings in the **chapter *Parameter setting tools***!

8.5.1 Printstyle position and Printstyle (values)

The two functional areas **<Printstyle position>** and **<Printstyle (values)>** allows the design of the text layout.

Functional area <Printstyle position>

Functional area <Printstyle (values)>



The following settings can be carried out:

- Selection of print height
- Selection of font width (Stroke distance)
- Selection of orientation
- Selection of print mode

The functional areas are structured redundantly in subsections to minimize unnecessary scrolling during the settings.

In the **<Printstyle position>** functional area the PrintGo values

- PrintGo-delay
- PrintGo-distance

can be set additionally.

Further information about setting the print parameter values can be found in the **chapters *PrintGo-delay*** (page 180) and ***PrintGo-distance*** (page 180)!

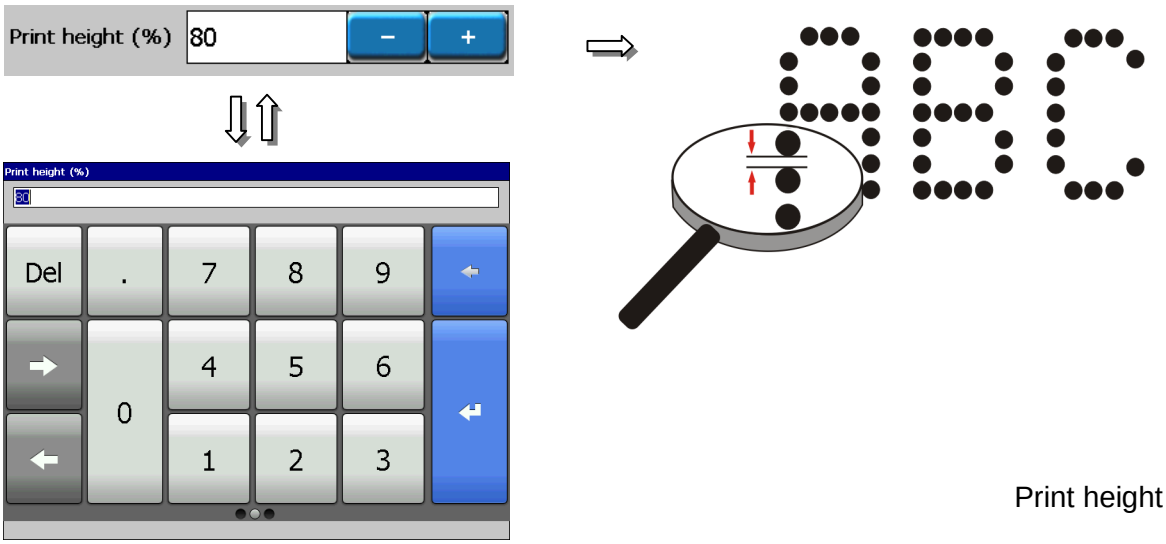
8.5.1.1 Print height

The setting determines the print height. The print height is determined by the vertical drop distance. The value can set between 1 – 100%.

The set value is shown on the accordant display field.

As higher the entered value, as larger the distance between the single dots.

Figure 116



Print height

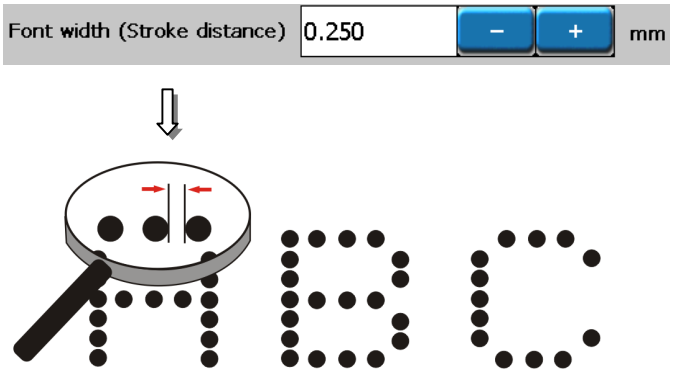
8.5.1.2 Font width (Stroke distance)

The setting determines the print width. The print width is determined by the horizontal drop distance of the strokes. The input happens in the measurement which has been selected in the basic settings.

The set value is shown on the accordant display field.

As higher the entered value, as larger the distance between the several strokes.

Figure 117



Font width

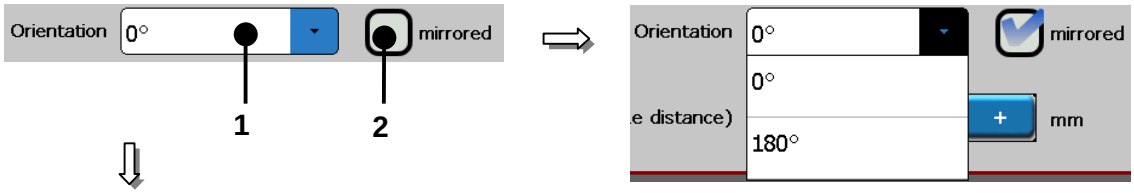
8.5.1.3 Orientation

With the Pop-up window **<Orientation>** (1) you can rotate all printing elements by 180°.

To get a reflection you have to activate the control **<mirrored>** (2).

Attention! The made settings have not only an effect on single printing objects but on the complete print-band!

Figure 118



normal display mirrored 180° rotated 180° + mirrored

Orientation

1 – Pop-up window <Orientation> 2 –Control box <mirrored>

8.5.1.4 Printing mode

With the pop-up window **<Print mode >** you can select the required printing mode. 9 printing modes are available.

That means in the LEIBINGER JET2 neo one operating mode is available for every printing mode for a very high-quality or fast print out *(see following list).*

- **High quality mode:** Allows the best possible position of the single dots and therefore the best possible print quality.

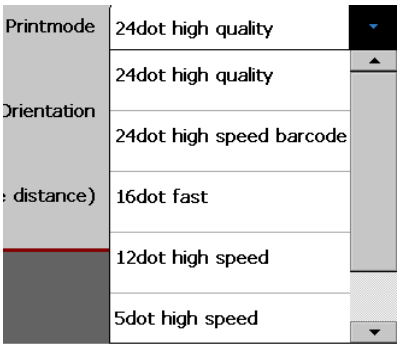
  If the required speed cannot be reached in this HQ-mode, it has to be changed to the fast mode.

- **Fast mode:** Allows a higher printing speed than the HQ-Mode whereby a good print quality is still achieved.

  If the required speed can no longer be reached in this mode, the High speed mode must be switched to.

- **High speed mode:** The font output is not designed to the best possible font quality but to the fastest possible print speed.

Figure 119



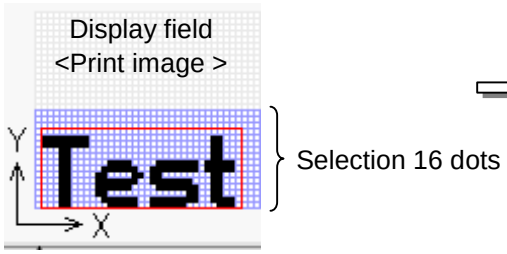
Printstyle parameter values (Print mode)

Attention! You always have to set a **print mode** which is larger than the selected matrix, otherwise incomplete imprints can be caused.

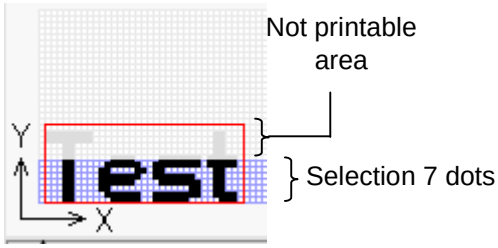
An error between the selected printing mode and the selected matrix can be identified in the display field **<Print image>** of the job editor.

Example (for matrix 12x 8):

Correct print mode



Faulty print mode



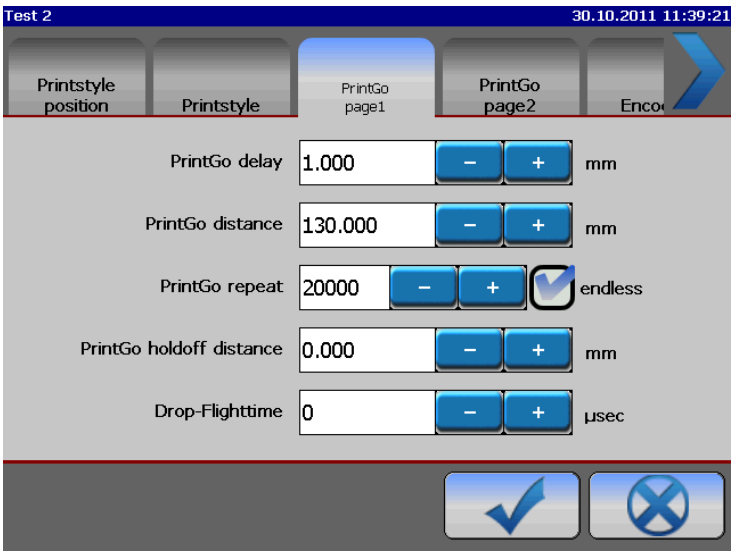
List of printing modes

1.	2 line 7x5 dot high speed	
2.	5 dot high speed	
3.	12 dot high quality	
4.	16 dot high speed	
5	16 dot fast	
6.	24 dot high speed barcode	
7.	24 dot high speed	
8.	24 dot fast	
9.	24 dot high quality	

8.5.2 PrintGo-Parameter

8.5.2.1 Functional area PrintGo 1

In the functional area **<PrintGo page 1>** you can commit the kind of text output.



The following settings can be carried out:

- PrintGo-delay
- PrintGo-distance
- PrintGo-repeat
- PrintGo-Holdoff Distance
- Drop-Flighttime

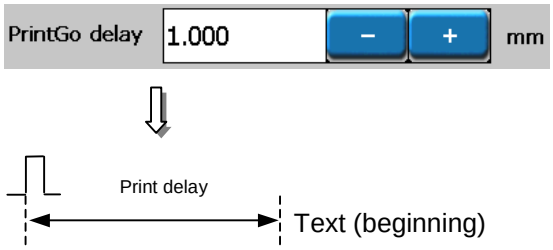
8.5.2.1.1 PrintGo-delay

The setting allows the delay of the text output by the entered value. The input happens in the measurement which has been selected in the basic settings.

The set value is shown on the accordant display field.

As higher the entered value, as later starts the print.

Figure 120



PG signal

PrintGo-delay

8.5.2.1.2 PrintGo-distance

The setting defines the distance by the set value between the several text outputs. The input happens in the measurement which has been selected in the basic settings.

The set value is shown on the accordant display field.

As higher the entered value, as higher is the distance between the single prints.

Figure 121

PrintGo-distance

Attention! If the Print-Go distance has been selected too small, Print-Go errors can be caused, because a print has been not printed completely during a new print should be already started!

Example of error:

8.5.2.1.3 PrintGo-repetitions

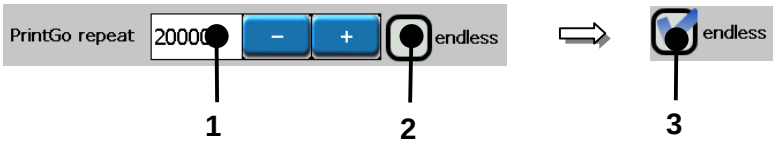
The setting defines the amount of text outputs (print repetitions) by the set value between the several text outputs. Values between 0 – 1000 are permitted.

Example 0 = no repetition (single print)
:
1 = one repetition (double print)

The set value is shown on the accordant display field.

To get an endless repetition of the print outputs, you have to activate the control box **<endless>** (2).

Figure 122



PrintGo-repetitions

1 – Display field <PrintGo repeat>
2 – Control box <endless> deactive
3 – Control box <endless> active

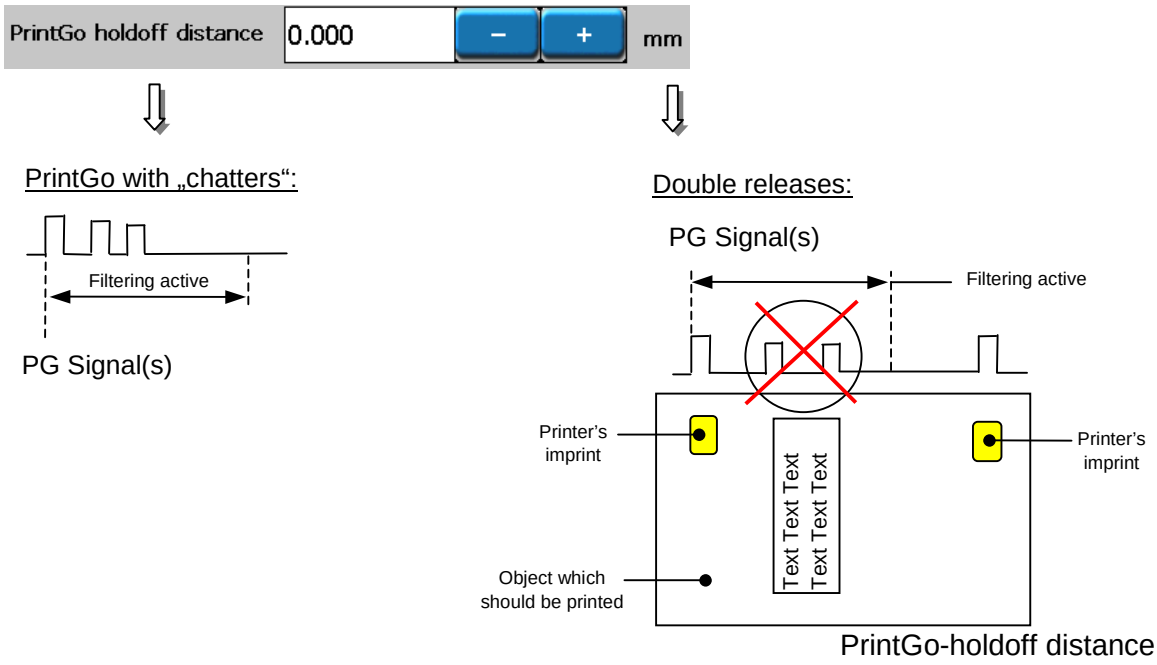
8.5.2.1.4 PrintGo-holdoff distance

The setting provides a filtering of unrequested PrintGo-signals (e.g. PrintGo with bounces or double releases). The value defines a length „x“ after the PrintGo-signal in which every further signal will be ignored.

The input is carried out in the measurement which has been selected in the basic settings.

The set value is shown on the accordant display field.

Figure 123



8.5.2.1.5 Drop flighttime

he setting causes a temporal change of the drop charging. The input happens in µsec.

The set value is shown on the accordant display field.

High speed changes require the drop flying time compensation to prevent deviations of the text positions. Condition is the setting of a higher print delay because the drop charging has to start earlier for higher speed.

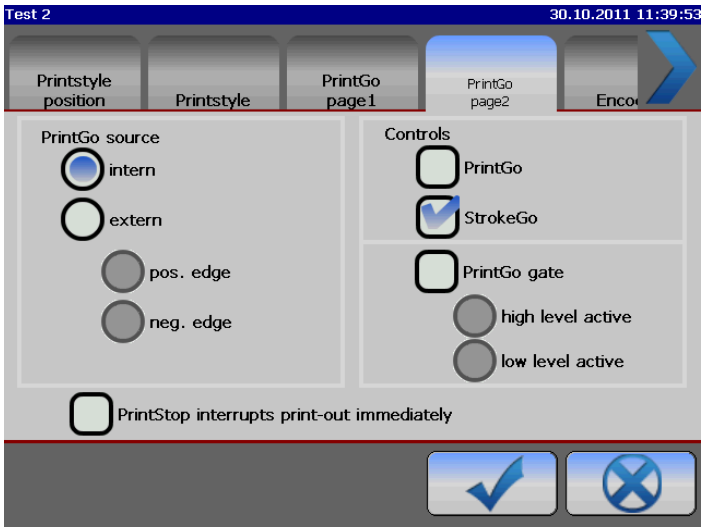
This function is only necessary if the printing is carried out at very slow **but also** very fast processing speeds; that means if the speed differences are very high.

Figure 124

Setting of drop flighttime

8.5.2.2 Functional area PrintGo 2

In the functional area **<PrintGo 2>** you can select the PrintGo source and you can activate or deactivate the monitoring functions.



The following settings can be carried out:

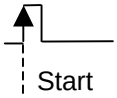
- Selection of the PrintGo Source
- Selection of the monitoring functions
- Selection of the function PrintGo-Gate

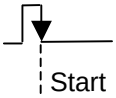
8.5.2.2.1 PrintGo-source (Print start query)

To inform the JET2 neo when a printing text should be printed, a so called Print-Go signal is required. It can be generated internally, depending on the set PrintGo-parameters, as well as externally by a sensor *(e.g. light barrier, product sensor etc.).*

This sensor is called as Print-Go source.

- **Extern:** If this function is activated an external sensor has to be connected to the interface X5 of the LEIBINGER JET2 neo.

  Pos. flank: 

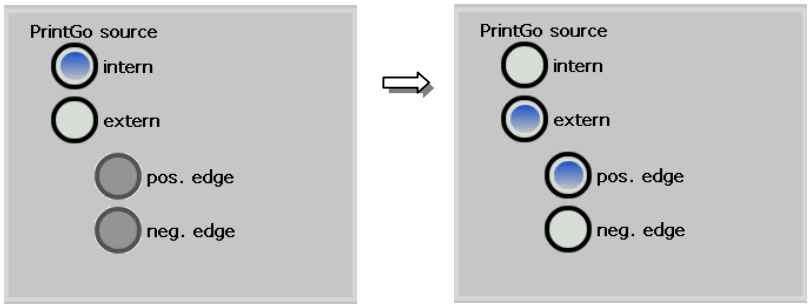
  Neg. flank: 

  Note: *The product sensor 24V can be NPN- or PNP-connected.*

- **Intern:** If this function is activated a print is generated depending on the set PrintGo-parameters.

  Note: *A connected sensor is not inquired.*

Figure 125



PrintGo-source (Print start query)

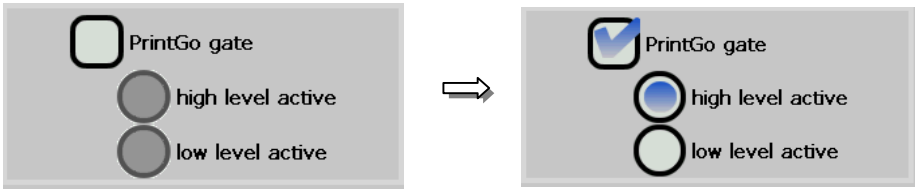
8.5.2.2.2 PrintGo-Gate (Print start query)

A further print start query option is available with this function. If the function is activated the print process happens only as long as the enquired sensor is active.

The sensor which is required for the PG-gate has to be connected to the interface X5 of the LEIBINGER JET2 neo also.

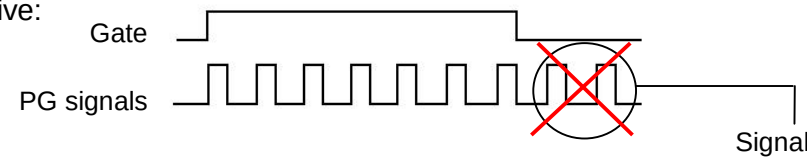
Example: *Endless print of tubes with interruptions between the end of the previous tube and the beginning of the following tube.*

Figure 126

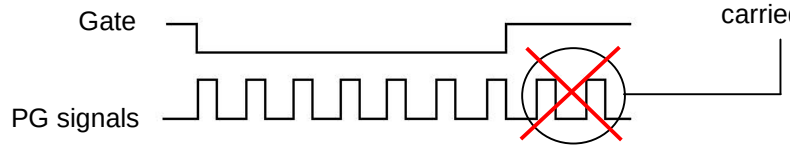


Activating options:

- High-Level active:



- Low-Level active:



Signals are disabled and not carried out!

PrintGo-Gate (Print start query)

8.5.2.2.3 Monitoring functions

Two monitoring functions are available. Monitoring functions are especially required for high printing speeds.

Figure 127

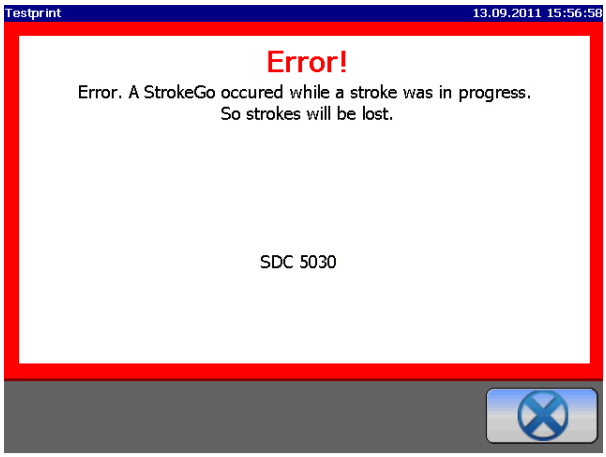
Monitoring functions

PrintGo-monitoring: If the function is activated it is monitored if every Print-Go signal can be processed. If a signal can be not processed, a certain error message is generated.

Example: *A PrintGo is generated and is printed. The next PrintGo is generated; if the printing process is not finished yet, an error message is generated on the display.*

StrokeGo-monitoring: If the function is activated, the stroke output is monitored, that means if the StrokeGo-signal is generated faster than the printer can output the several strokes, an error message is also generated.

Example: *If the production speed with the set parameters is too high, stroke errors can be caused. The following error message appears on the display:*



8.5.2.2.4 Printstop settings

Figure 128

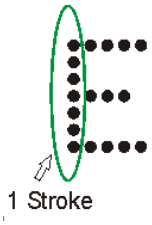
Printstop settings

For further information please contact the Leibinger-Service Department or your authorized dealer!

8.5.3 Encoder parameter

The LEIBINGER JET2 neo composes the printed lines of single dots and therefore it requires a signal encoder (encoder) which transfers when the single dot lines (so called strokes) should be printed

Explanation:

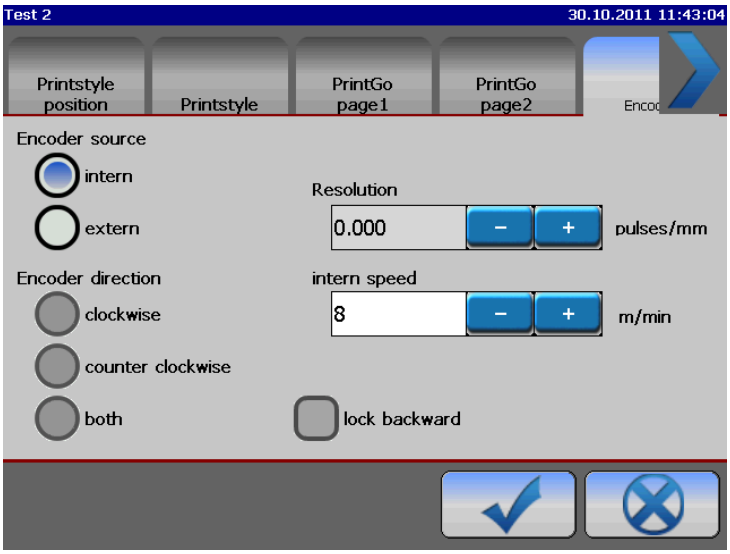


Example: Matrix 7x5

A stroke is a complete dot line in vertical direction (dot height).

This encoder is also called StrokeGo-source. The required signal can be generated internally as well as externally.

In the functional area **<Encoder>** you can carry out the basic settings of the signal encoder.



The following settings can be carried out depending on the encoder signal source:

- Selection of encoder signal source
- Internal speed
- Lock backward on/off
- Rotating direction
- Resolution

8.5.3.1 Encoder source (StrokeGo-source)

With this setting you can define the encoder source.

- **Intern:** If this function is activated, the signal is generated by the printer and needs no external encoder device.

  Additionally you have to enter the **<Internal speed (intern Speed)>** (3).

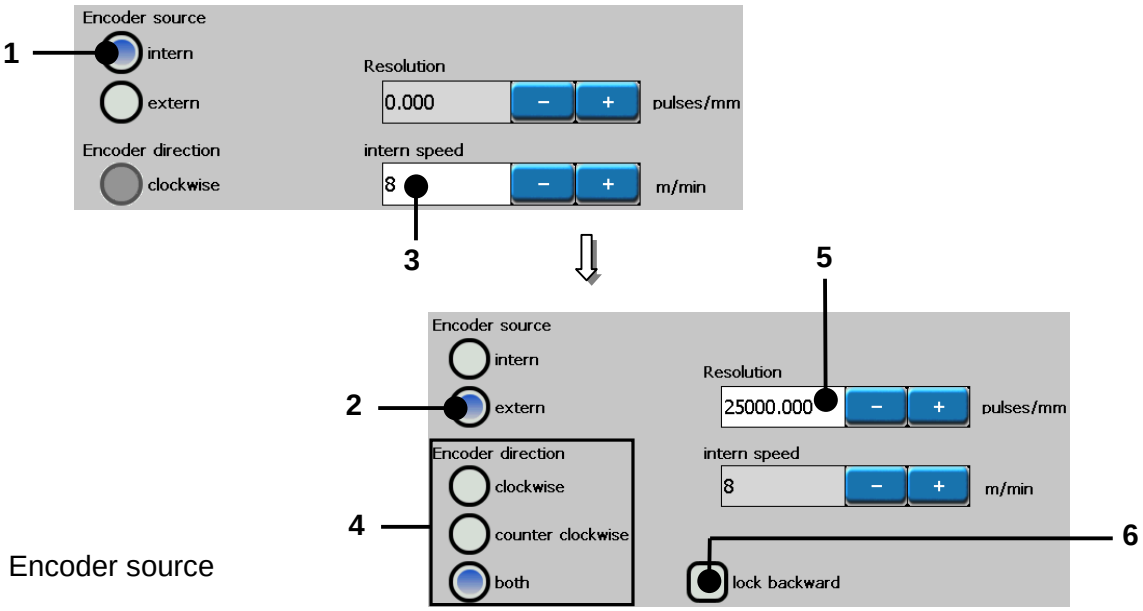
Attention! You should only work with an internal encoder source if the product is always directed at the print head with a fix defined and constant speed. For unsteady production speeds a distortion of the print image can be caused.

You will find further information regarding this topic in the **chapter *Internal speed*** (page 190)!

- **Extern:** If this function is activated the signal has to be generated by an external encoder (e.g. incremental encoder). The encoder has to be connected to the interface X1 of the LEIBINGER JET2 neo.

  Additionally you have to define the **<Encoder direction>** (4) and the **<Resolution>** (5).

Figure 129



Encoder source

1 – Control box <Encoder source intern>
2 – Control box <Encoder source extern>
3 – Display field <Intern speed>
4 – Control box <Encoder direction>
5 – Display field <Resolution>
6 – Control box <lock backward>

8.5.3.2 Internal speed

If you work with the internal encoder source, the production speed, that means the speed which you need to convey the product below the print head, has to be determined exactly.

This value can be entered directly in the display field **<Intern speed>**. The input happens in the unit **m/min**.

Attention! Unsteady production speeds can be not identified which causes a distortion of the print image!

If the production speed is higher as the set value, the font will be stretched! If the production speed is lower as the set value, the font will be compressed.

8.5.3.3 Rotating direction (Encoder direction)

With the setting you can select the rotating direction of the encoder.

- **Rotating direction right (clockwise):** If this control box is activated, the encoder has to turn right for printing.
- **Rotating direction left (counter clockwise):** If this control box is activated the encoder has to turn left for printing.
- **Rotating direction both:** If this control box is activated it is printed if the encoder turns left or right.

Note: *Encoder signals are only analyzed for correct set rotating direction.*

8.5.3.4 Resolution

The setting determines the encoder resolution that means it defines how many impulses are generated by the encoder per set measurement. The input happens in the unit **Pulse/mm**.

The set value is shown on the accordant display field.

Example: An encoder which generates 10.000 impulses/rotation with a friction wheel and which has a circumference of 200 mm is used.

Calculation: Resolution= Impulses/Rotation : Circumference
= 10.000: 200 = 50 (Pulses/mm)

8.5.3.5 Return stop (Lock backward)

With the control box **<lock backward>** (6) the function „lock backward movement of the encoder“ is activated or deactivated.

For activated “lock backward” the strokes which are generated for a possible backward motion will be included for following forward motion to control the correct start of the text output.

That means the print will be only continued if the correct printing position has been reached. Therefore you will get a print without any gaps or overlaps.

8.5.4 Date changing parameter

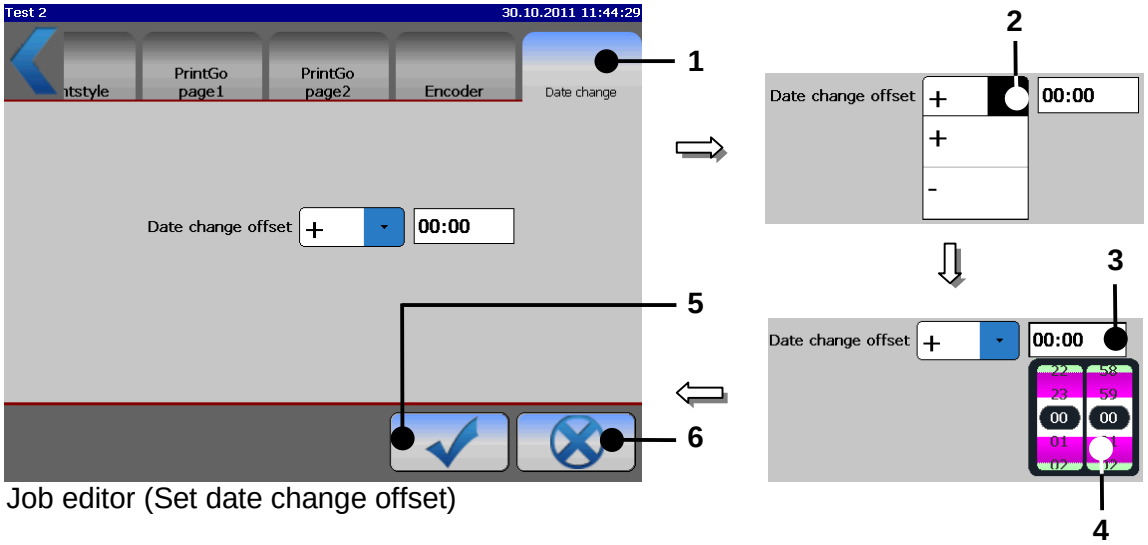
In the functional area **<Date change>** you can postpone the date changing to an earlier or later point of time.

Note: *The postponement happens in hours- and minutes. The max. possible postponement is 23 hours and 59 minutes.*

Proceeding:

- Press the register card **<Date change>** (1) to select the functional area.
- Select in the pop-up window **<Offset-direction>** (2) the direction (+/-) of the shifting.
- Press on the display field **<Offset-value>** (3). A setting block (4) opens.
- Select the desired value by scrolling the hour and minute block. The setting block is closed by clicking on the block again or on the display field **<Offset-value>** and the value is saved.
- Press the button **<OK (✓)>** (5) to take over the settings and to close the menu or press the button **<Close>** (6) to leave the menu without saving the changes.

Figure 130



Job editor (Set date change offset)

1 – Functional area < Datumswechselparameter>
2 – Pop-up window <Offset-direction>
3 – Display field <Offset-value>
4 – Setting block
5 – Button <OK (✓)>
6 – Button <Close>

8.6 Printing elements

8.6.1 Barcode

Provides the implementation of barcodes and definition of the required barcode parameters.

8.6.1.1 Barcode informations (The small barcode 1x1)

Note! The LEIBINGER JET2 neo f does not carry out any check digit calculations generally.

This has to be carried out external in advance!

Code 128c:

- is essentially shorter than code 128b
- only numeric characters are valid (no punctuation symbols, letters or spaces are valid (only numbers from 0-9 can be displayed)
- only an even amount of digits is valid

Code 128b:

- is longer than the C-variant
- can display complete ASCII-sentences
- can also display an odd amount of digits

2 from 5 Interleaved (Code 25):

- only numerical code (only numbers from 0-9 can be displayed)
- only an even amount of digits is valid

Code 39:

- alphanumerical code
- (is available with or without Gothic character (clear figure) for the LEIBINGER JET2 neo)

EAN 8:

- (only numbers from 0-9 can be displayed)
- has to be always 8-digits (7 performance characters and 1 check digit)
- (is available with or without clear figure for the LEIBINGER JET2 neo)

EAN 13:

- numeric code (only numbers from 0-9 can be displayed)
- has to be always 13-digits (12 performance characters and 1 check digit)
- (is available with or without clear figure for the LEIBINGER JET2 neo)

UPC A: (American equivalent to EAN13)

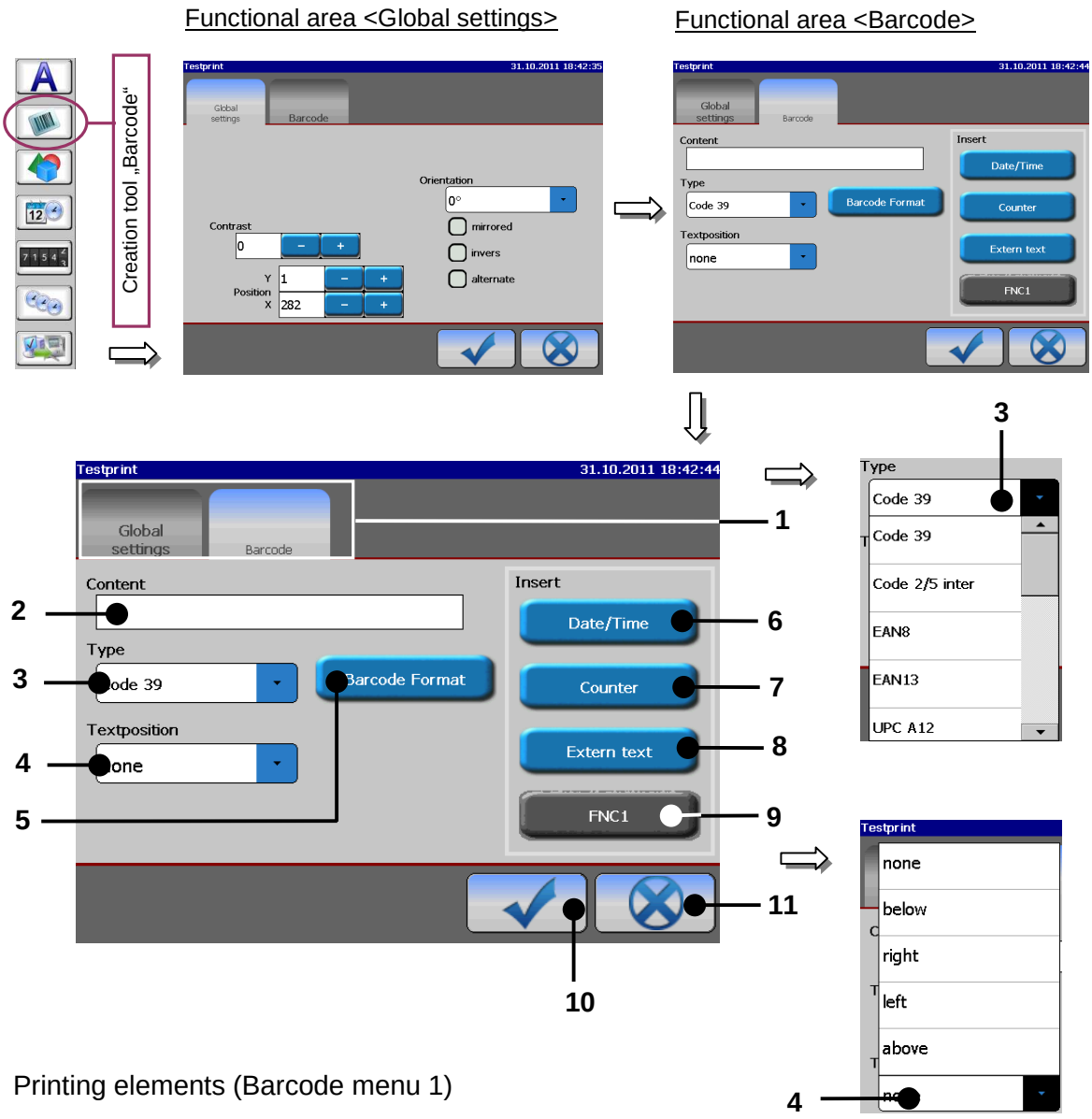
- numeric code (only numbers from 0-9 can be displayed)
- has to be always 12-digits (11 performance characters and 1 check digit)
- (is available with or without clear figure for the LEIBINGER JET2 neo)

UPC E: (American equivalent to EAN8)

- numeric code (only numbers from 0-9 can be displayed)
- has to be always 8-digits
  (6 performance character, 1 check digit and 1 system character)
- (is available with or without clear figure for the LEIBINGER JET2 neo)

8.6.1.2 Barcode selection and insertions

Figure 131



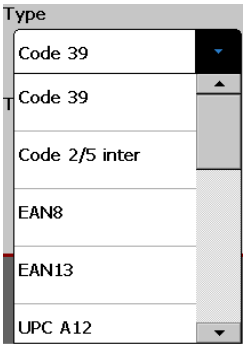
Printing elements (Barcode menu 1)

1 – Register cards
2 – Display field <Content>
3 – Pop-up window <Type>
4 – Pop-up window <Textposition>
5 – Button <Barcode Format>
6 – Button <Date/Time>
7 – Button <Counter>
8 – Button <Extern text>
9 – Button <FNC1>
10 – Button <OK (✓)>
11 – Button <Close>

8.6.1.2.1 Barcode type

With the pop-up window **<Type>** you can select the desired barcode type.

Figure 132



Barcode (Selection)

8.6.1.2.2 Content

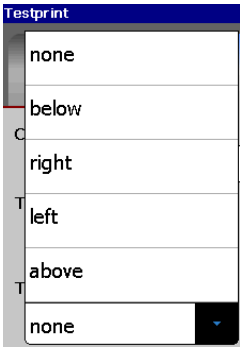
Serves for setting the necessary numeric or alphanumeric characters. A keyboard field is opened for the entries.

You will find further information regarding the working with keyboard fields in the **chapter *Keyboard fields*** (page 61)!

8.6.1.2.3 Textposition

The position of the contents is defined with the pop-up window **<Textposition>**.

Figure 133



Barcode (Textposition)

8.6.1.2.4 Barcode format

With the button **<Barcode Format>** the parameters necessary for displaying the barcode can be defined.

The submenu „Barcode parameter“ is opened for this.

Further information about how to set the barcode parameters can be found in the **chapter *Barcode parameter*** (page 198)!

8.6.1.2.4 Pasting of …

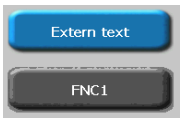
The following printing elements and their replacements can be integrated with this function by pressing the appropriate button.

- **Date/Time:** to integrate a date and/or time.
- **Counter:** to integrate a counter.
- **Extern text:** to integrate an external text (variable data)
- **FNC1:**

The necessary functional areas are displayed for this after pressing a button.

The buttons of print elements which are not available for a selected barcode type are shown **grey**.

Example:



= available

= not available

Further information about the appropriate printing elements can be found in their respective chapters.

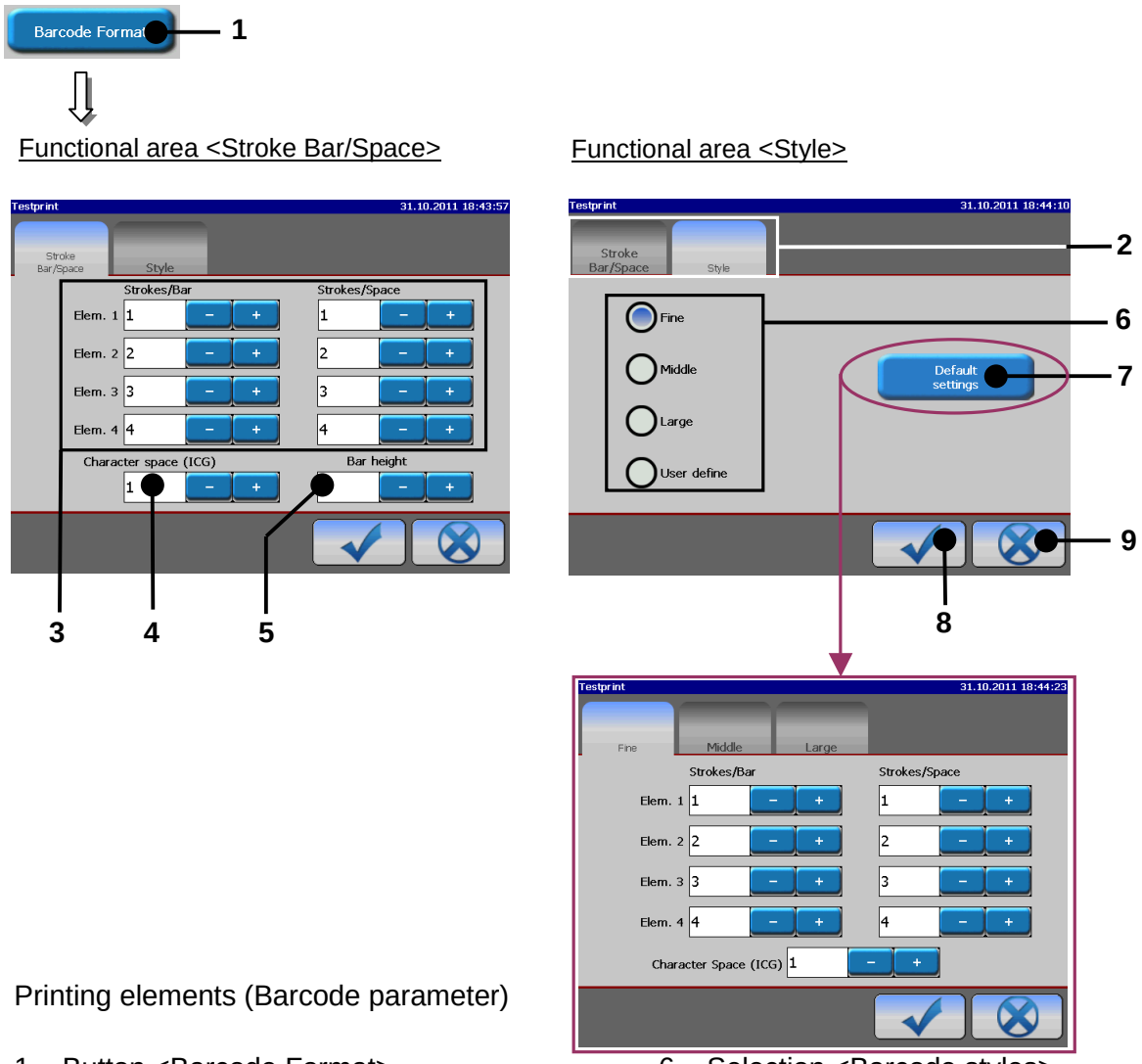
Additional information about the integration of printing elements in barcodes can be found in the **chapter *Integration of printing elements into barcodes*** (page 200)!

Additional information about replacements in barcodes can be found in the **chapter *Replacements in barcodes*** (page 200)!

8.6.1.3 Barcode parameter

The display parameters of the barcode can be set in this menu. The menu is divided into two functional areas.

Figure 134



Printing elements (Barcode parameter)

1 – Button <Barcode Format>
2 – Register cards
3 – Display fields <Bar/Space>
4 – Display field <Character space (ICG)>
5 – Display field <Bar height>
6 – Selection <Barcode styles>
7 – Button <Default settings>
8 – Button <OK (✓)>
9 – Button <Close>

In the functional area **<Stroke Bar/Space>** the following settings can be made:

- Bar and gaps (space)
- Character space
- Bar height

In the functional area **<Style>** the style types (representations) of the barcode can be selected and their basic settings changed. The following styles are available:

- Fine
- Middle
- Large
- User define (not available at the moment)

8.6.1.3.1 Bar and gaps (space)

In the display fields the width of the bars and gaps (between 01-12) of the individual barcode elements is defined.

8.6.1.3.2 Character space (ICG)

In the display field the desired gap between the elements is set.

8.6.1.3.3 Bar height

In the display field the height of the barcode is set. Any bar height between 5 and 24 can be selected.

8.6.1.3.4 Styles (Selection of the barcode styles)

The desired styles are selected by activating the appropriate control box.

8.6.1.3.5 Default settings of styles (Changing of the barcode style sett.)

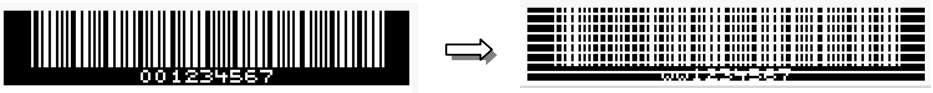
With the button **<Default settings>** the pre-defined settings (bar/space/character space) of the individual styles can be changed.

The submenu „Default settings“ is opened for this. The procedure is the same as those described above.

8.6.1.4 Integration of printing elements into barcodes

Counters integrated in the barcode or other integrated printing elements or their settings can cause impermissible numbers of places or an invalid constellation. These barcodes are displayed as crossed out codes in the software.

Error example:



Display of a correct barcode

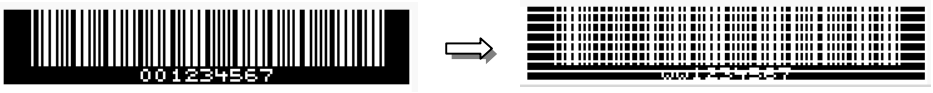
Display of an invalid barcode

8.6.1.5 Replacements in barcodes

In the functional area **<Replacements>** of the menu you can generate accordant replacements (numbers or letters) for the counter values or other integrated printing elements to get an operating specific display or coding of the specifications.

Counters integrated in the barcode or other integrated printing elements or their settings can cause impermissible numbers of places or an invalid constellation. These barcodes are displayed as crossed out codes in the software.

Error example:



Display of a correct barcode

Display of an invalid barcode

8.6.2 Date/time and expiry time

Provides the bonding of date- and time specifications and definition of the expiry time of the font parameters and of the display options.

Further more accordant substitutions (numbers, letters or designations) for the date- and time values can be generated to get an operating-specific display or coding of the specifications.

Note: *"Expiry time" is the time which elapses until the product cannot be used any-more.*

8.6.2.1 Insert date- and time specifications

Example: Additionally to an existing fix text „A" the current date should be printed and to the existing fixt text „V" the resulting expiry date.

The date specification should be in the format „Day/Month/Year".

The expiry time is 15 days.

Proceeding (Step 1):

- Press the icon **<Date/Time>** (1).
- The menu **<Object Settings (Date/Time)>** (2) is faded in.

  Carry out the requested settings for the font parameters and display options in the functional area **<Global settings>** (3). You will find further information in the **Chapter *Object settings***.

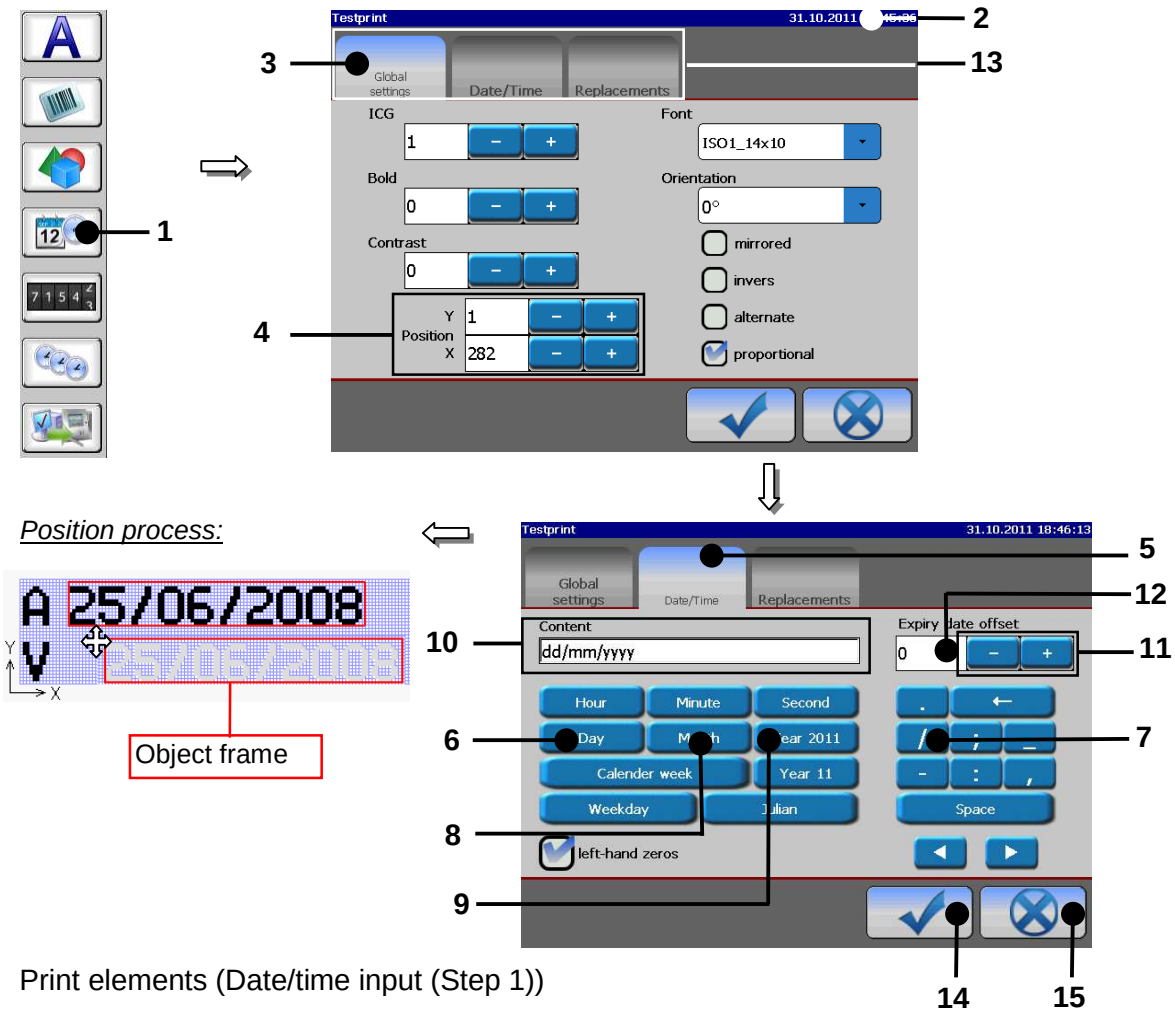
  Note: *In the setting fields **<Position X/Y>** (4) the system shows automatically the next possible position of the object after an existing fix text. This position can or has to be changed depending on the input situation!*
- Now change to the functional area **<Date/Time>** (5). The selection of the functional area happens by clicking on the accordant register card (13).
- Press the following buttons (6-9) in the appropriate sequence to generate the current date input:

  „Day" ▶ „/" ▶ „Month" ▶ „/" ▶ „Year"

  The formatting of the inputs is shown on the display field **<Content>** (10).
- Press the button **<OK (✓)>** (14) to take over the inputs and to close the menu or press the button **<Close>** (15) to leave the menu without saving the inputs.

- The applied date input is displayed in the menu **<Job editor>.**
- Now click on the date element to mark it. It is now displayed with a red object frame.
- Position the element with the direction buttons of the job editor or use the Drag-function to shift the element.

Figure 135



Print elements (Date/time input (Step 1))

1 – Direct button <Date/Time>
2 – Menu <Object settings (Date/Time)>
3 – Functional area <Global settings>
4 – Setting fields <Position X/Y>
5 – Functional area <Date/Time>
6 – Button <Day>
7 – Button </>
8 – Button <Month>
9 – Button <Year…>
10 – Display field <Content>
11 – +/- Buttons
12 – Display field <Expiry date offset>
13 – Register cards
14 – Button <OK (✓)>
15 – Button <Close>

Proceeding (Step 2):

- Press the direct button **<Date/Time>** (1).
- The menu **<Object settings (Date/Time)>** (2) is faded in.

  Carry out the requested settings for the font parameters and display options in the functional area **<Global settings>** (3). You will find further information in the **Chapter *Object settings***.

  Note: *In the setting fields* ***<Position X/Y>*** *(4)the system shows automatically the next possible position of the object after an existing fix text. This position can or has to be changed depending on the input situation!*

- Now change to the functional area **<Date/Time>** (5).
- Press the following buttons (6-9) in the appropriate sequence to generate the current date input:

  „Day“ ▶ „/“ ▶ „Month“ ▶ „/“ ▶ „Year“

- The formatting of the inputs is shown on the display field **<Content>** (10).
- Now set the requested expiry date of 15 days. The setting can be carried out with the **+/- buttons** (11), but the value will be increased or reduced by one step.

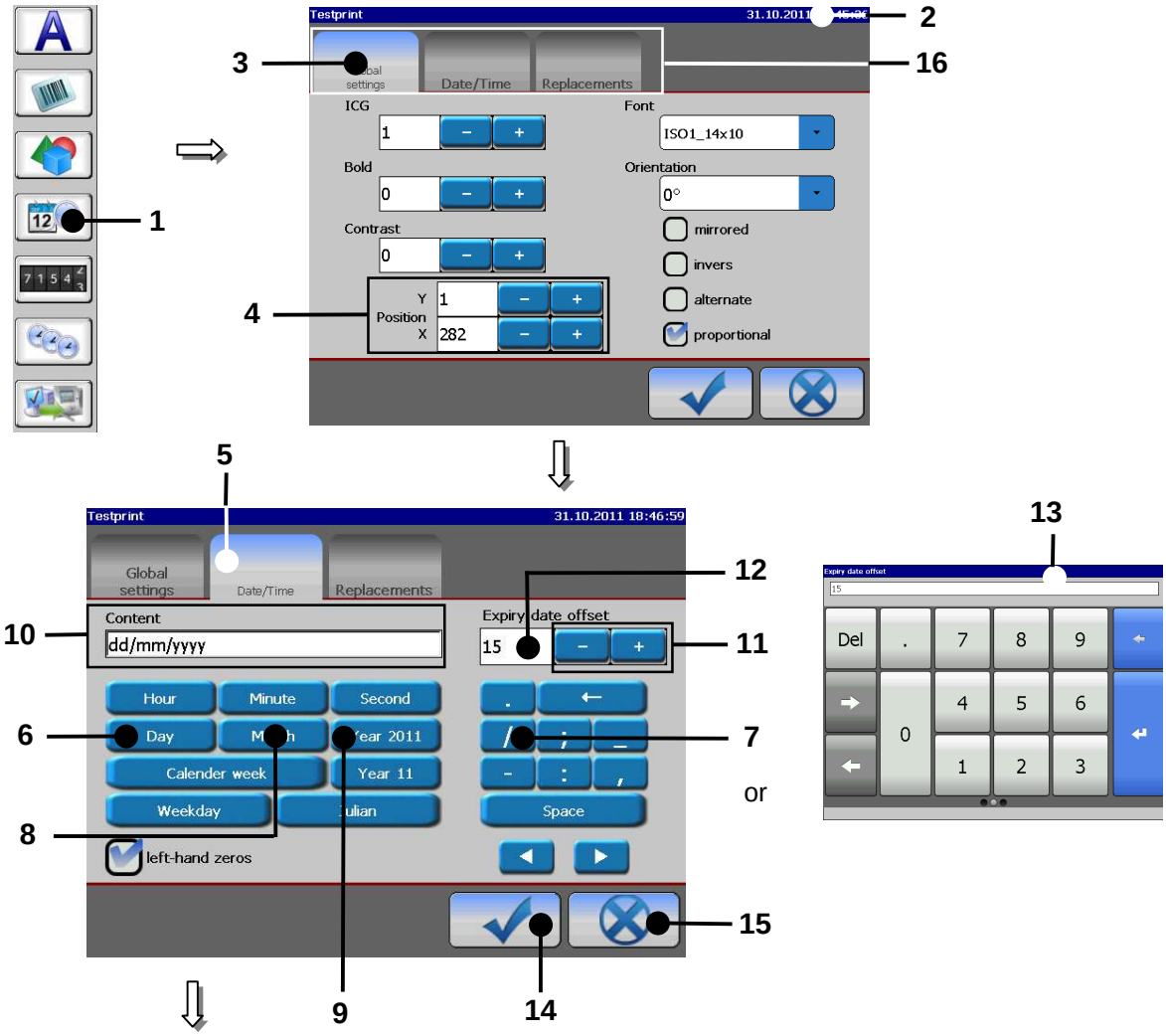
  or

- Click in the accordant display field **<Expiry date offset>** (12). A number block (13) opens for input in which you can enter the value.

You will find further information regarding the working with number blocks in the **chapter *Number block*** (page 60)!

- Press the button **<OK (✓)>** (14) to take over the inputs and to close the menu or press the button **<Close>** (15) to leave the menu without saving the inputs.
- The applied expiry date is also displayed in the menu **<Job editor>**.
- Click on the date element to mark it. It is now displayed with a red object frame.
- Position the element with the direction buttons of the job editor or use the drag-function to shift the element.

Figure 136



Position process:

1 – Direct button <Date/Time>
2 – Menu <Object settings (Date/Time)>
3 – Functional area <Global settings>
4 – Setting fields <Position X/Y>
5 – Functional area <Date/Time>
6 – Button <Day>
7 – Button </>
8 – Button <Month>
9 – Button <Year…>
10 – Display field <Content>
11 – +/- Buttons
12 – Display field <Expiry date offset>
13 – Number block
14 – Button <OK (✓)>
15 – Button <Close>
16 – Register cards

8.6.2.2 Carry out replacements

Further more accordant substitutions (numbers, letters or designations) for the date- and time values can be generated in the functional area **<Replacements>** to get an operating-specific display or coding of the specifications.

You will find further information regarding the execution of substitutions in the **chapter *Replacements*** (page 217!)

8.6.3 Counter

Provides bonding of individual programmable counters as well as definition of counter parameters, font parameters and display options.

Further more accordant replacements (number or letters) can be generated to get a operating specific display or coding of the specifications.

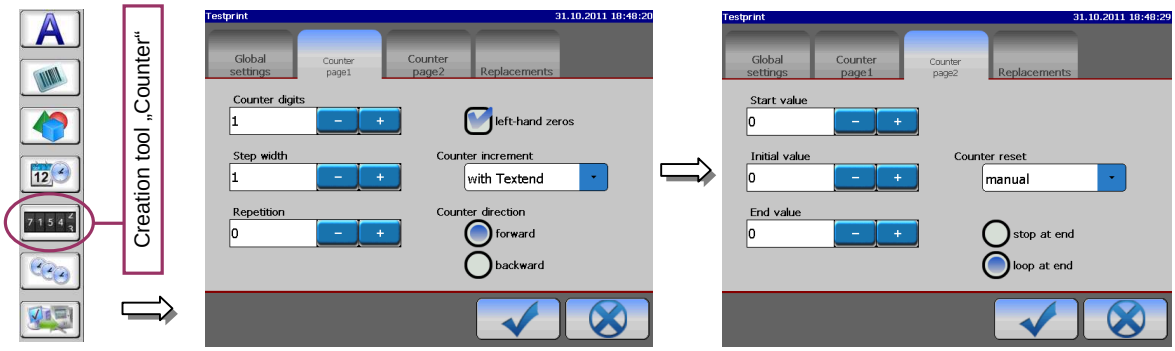
Attention! For leaving a job, the counter states of integrated job counters are usually not saved, that means if you call up this job again the counter states are already again on the start value. If the print should be continued with the already existing counter states you have to activate the function **<Save counters>** in the menu **<Main menu>** under the functional area **<Job>** in advance.

You will find further information also in the **group *Data entry/Programming*** in the **chapter *Save counter states*** (page 80)!

In the two functional areas **<Counter page 1>** and**<Counter page 2>** of the menu you can define the basic settings of the counters.

Functional area <Counter page 1>

Functional area <Counter page 2>

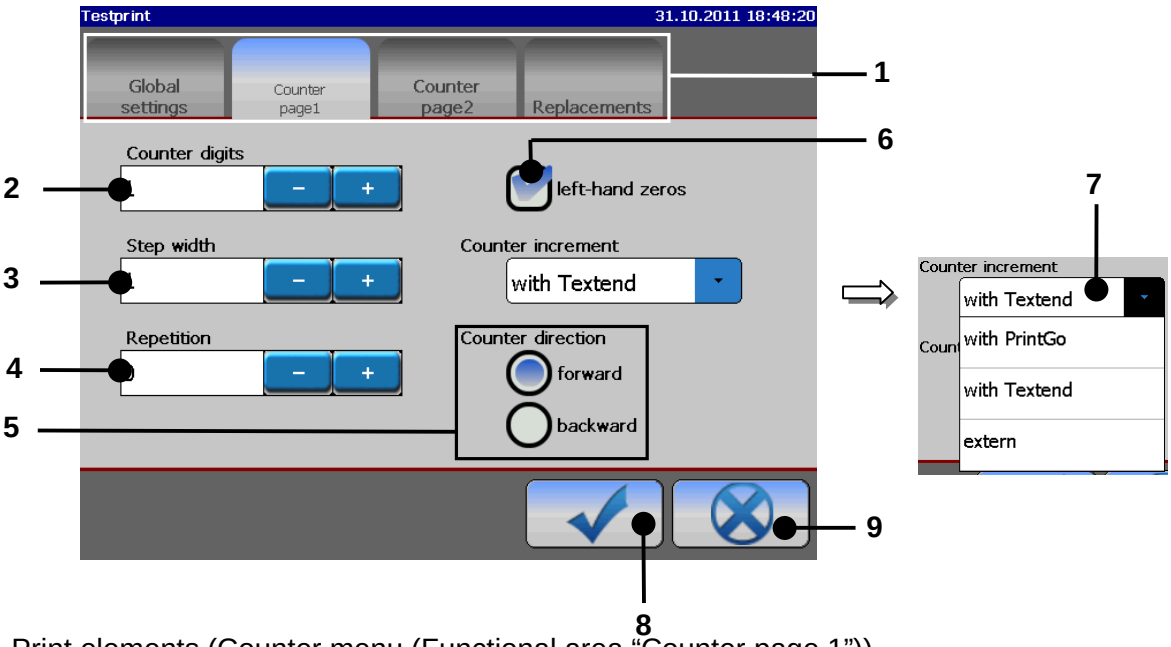


8.6.3.1 Functional area Counter parameter 1

In the functional area **<Counter page 1>** you can define the following settings:

- Counter digits (Number of digits)
- Step width
- Repetitions
- Counter increment
- Counter direction
- Left-hand zeros on/off

Figure 137



Print elements (Counter menu (Functional area “Counter page 1”))

1 – Register cards
2 – Display field <Counter digits>
3 – Display field <Step width>
4 – Display field <Repetition>
5 – Selection <Counter direction>
6 – Control box <Left-hand zeros>
7 – Pop-up window <Counter increment>
8 – Button <OK (✓)>
9 – Button <Close>

8.6.3.1.1 Number of digits (Counter digits)

The setting defines the number of digits of the counter. The maximum input is 10 digits. The set value is shown on the accordant display field.

8.6.3.1.2 Step width

The setting defines the increasing of the counter between the several prints.

The set value is shown on the accordant display field.

8.6.3.1.3 Repetitions

The setting defines the amount of prints which should be repeated. If no repetition is requested, you have to enter **„0“**. The counter can print up to 999998-times repetitive.

Example 0 = No repetition
:
1 = Every counter value is printed twice consecutively (1repetition)
2 = Every counter value is printed triply consecutively
(2 repetitions)
……

The set value is shown on the accordant display field.

8.6.3.1.4 Leading zeros (left-hand zeros)

With this function the display of the leading zeros of a counter are turned on or off.

Example: *4-digits counter*

deactivated	1	1
activated	1	0001

8.6.3.1.5 Counting direction

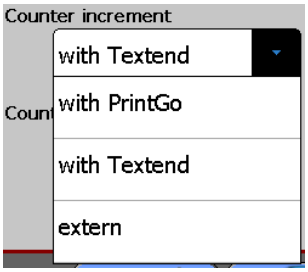
This setting controls the direction of the counting process.

- **Counting direction forward:** If this control box is activated the counter will be incremented (+).
- **Counting direction backwards:** If this control box is activated, the counter will be decremented (-).

8.6.3.1.6 Counter increment (methods)

With the pop-up window **<Counter increment>** you can determine the method at which event the counter value should be changed (incremented or decremented).

Figure 138



Counter settings (Increment methods)

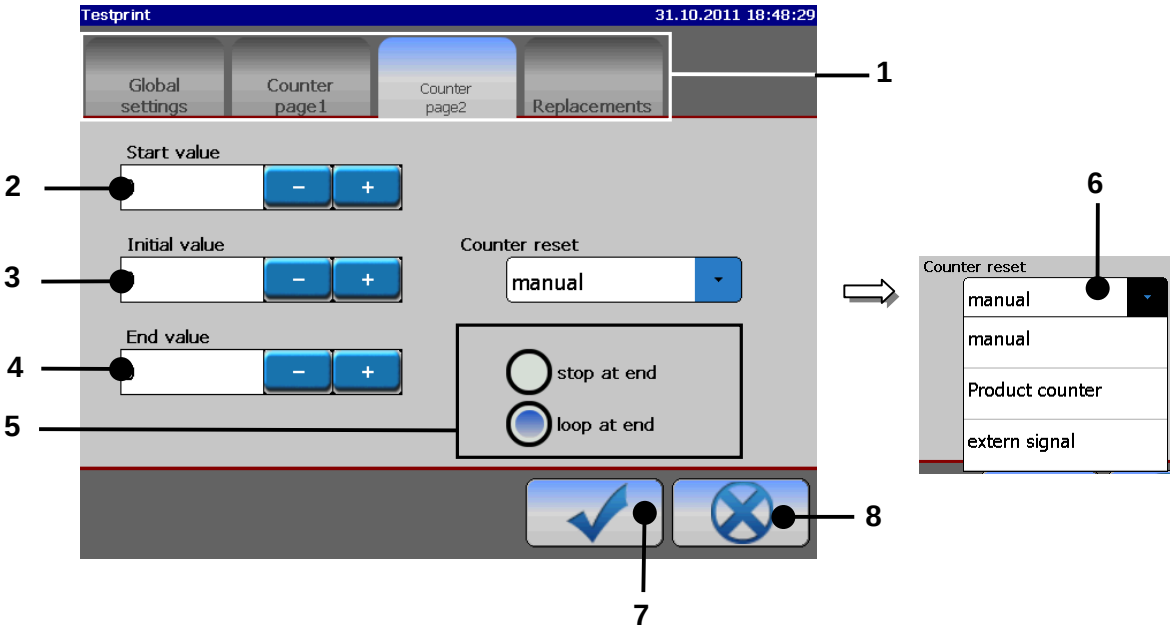
- **with PrintGo:** The change in value of the counter happened with each the PrintGo-signal.
- **with textend:** The change in value of the counter happens after the print out was made.
- **extern (external signal):** The change in value happens by an external signal (interface X4).

8.6.3.2 Functional area Counter parameter 2

In the functional area **<Counter page 2>** you can define the following settings:

- Start value
- Initial value
- End value
- Counter reset(methods)
- End value control

Figure 139



Print elements (Counter menu (Functional area “Counter page 2”))

1 – Register cards
2 – Display field <Start value>
3 – Display field <Initial value>
4 – Display field <End value>
5 – Selection <Counter (Loop/Stop)>
6 – Pop-up window <Counter reset>
7 – Button <OK (✓)>
8 – Button <Close>

8.6.3.2.1 Start value

The setting defines the start value of the counter. The maximum input is 10 digits.

After reaching the end value the counter will be reset to the start value.

The set value is displayed on the accordant display field.

8.6.3.2.2 Initialization value

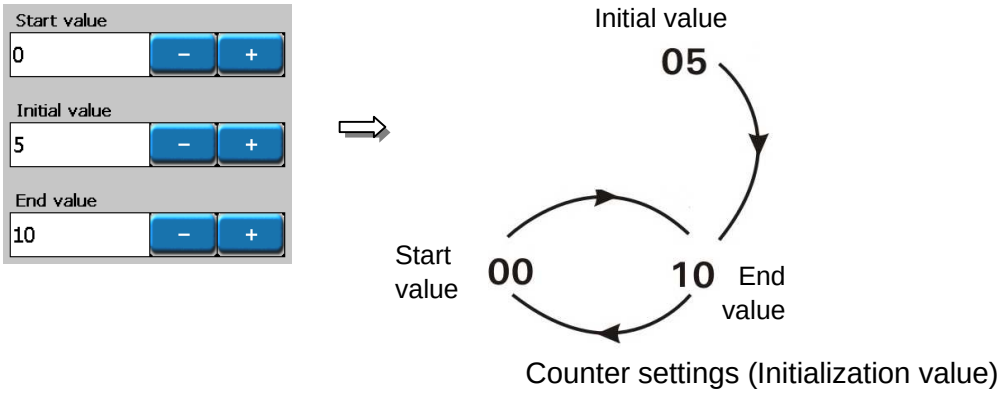
The setting defines the initialization value of the counter. The maximum input is 10 digits.

That means if the job is started or loaded for the first time, it is first counted from the initialization value to the end value. Afterwards it is then always counted from the start value to the end value.

The set value is shown on the accordant display field.

Figure 140

Example:



Counter settings (Initialization value)

8.6.3.2.3 End value

The setting defines the end value of the counter. The maximum input is 10 digits.

After reaching the end value the counter will be reset to the start value.

The set value is shown on the accordant display field.

8.3.3.2.4 End value control (Loop/Stop after end value)

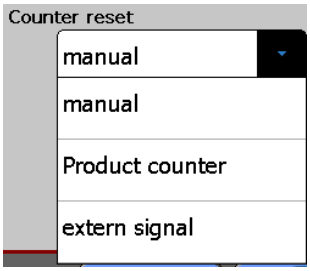
The setting controls the action of the counter by reaching the set end value.

- **Stop at end value:** If this control box is activated, no more counter is displayed after the end value has been reached.
- **Loop after end value:** If this control box is activated the counting process and the print will be started again from the beginning after the end value has been reached.

8.6.3.2.5 Counter reset (methods)

With the pop-up window **<Counter reset>** you can define the reset method of the counter.

Figure 141



Counter settings (Reset methods)

- **manual:** The reset happens manually by the operator in the menu (**Main menu ▶ Job ▶ Reset all job counters**).
- **Product counter:** The reset of the job counter happens with the reset of the production counter.
- **extern signal:** The reset happens by an external supplied signal (interface X4).

8.6.3.3 Carry out Replacements

In the functional area **<Replacements>** of the menu you can generate accordant replacements (numbers or letters) for the counter values to get an operating specific display or coding of the specifications.

You will find further information regarding the carrying out of substitutions in the **chapter *Replacements*** (page 217)!

8.6.4 Shift code

Provides the integration of a text element which is printed in predefined periods (shift times) as well as a definition of the accordant parameters.

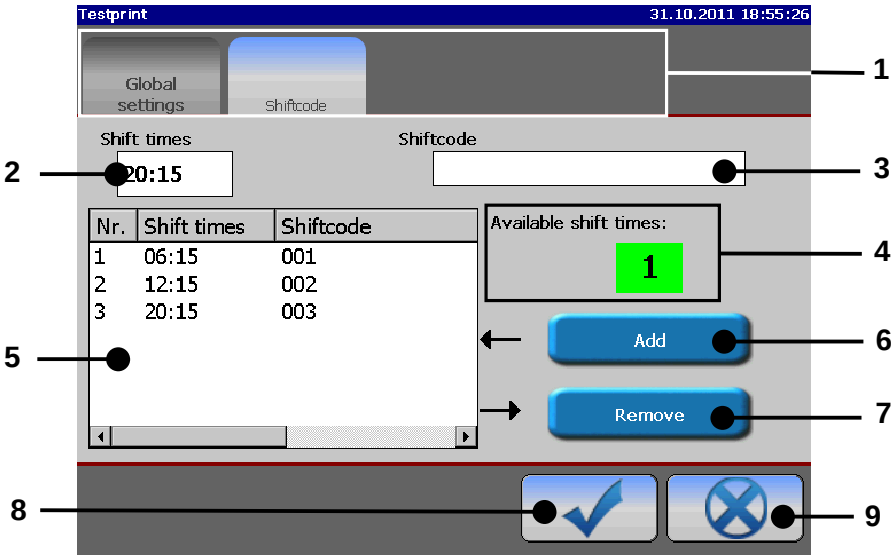
Note: *The changing text can be also combined with other printing elements which will not change by the predefined periods (only the „shift-defined“ text).*

8.6.4.1 Construction of the functional area Shift code

In the **management window** (5) all defined shift times with the corresponding shift codes are listed. Up to 4 shift codes can be managed.

In the display field **<Shift code management>** (4) the number of shift times still available; i.e. the shift times which can still be defined, is displayed.

Figure 142



Print elements (Counter menu (Functional area “Shift code”))

1 – Register cards
2 – Display field <Shift times>
3 – Display field <Shiftcode>
4 – Display field <Shift code management>
5 – Management window
6 – Button <Add>
7 – Button <Remove>
8 – Button <OK (✓)>
9 – Button<Close>

8.6.4.2 Compile shift times and integrate shift codes

Example: *A shift code should be written additionally to an existing fix text „xxx“.*

*In the first shift (early shift) at 6.15 am „xxx **001**“.*
*In the second shift (late shift) at 12.15 pm „xxx **002**“.*
*In the third shift (night shift) at 20.15 am „xxx **003**“.*

Proceeding

- Press the direct button **<Shift code>** (1).
- The menu **<Object settings (Shift Code)>** (2) is faded in.

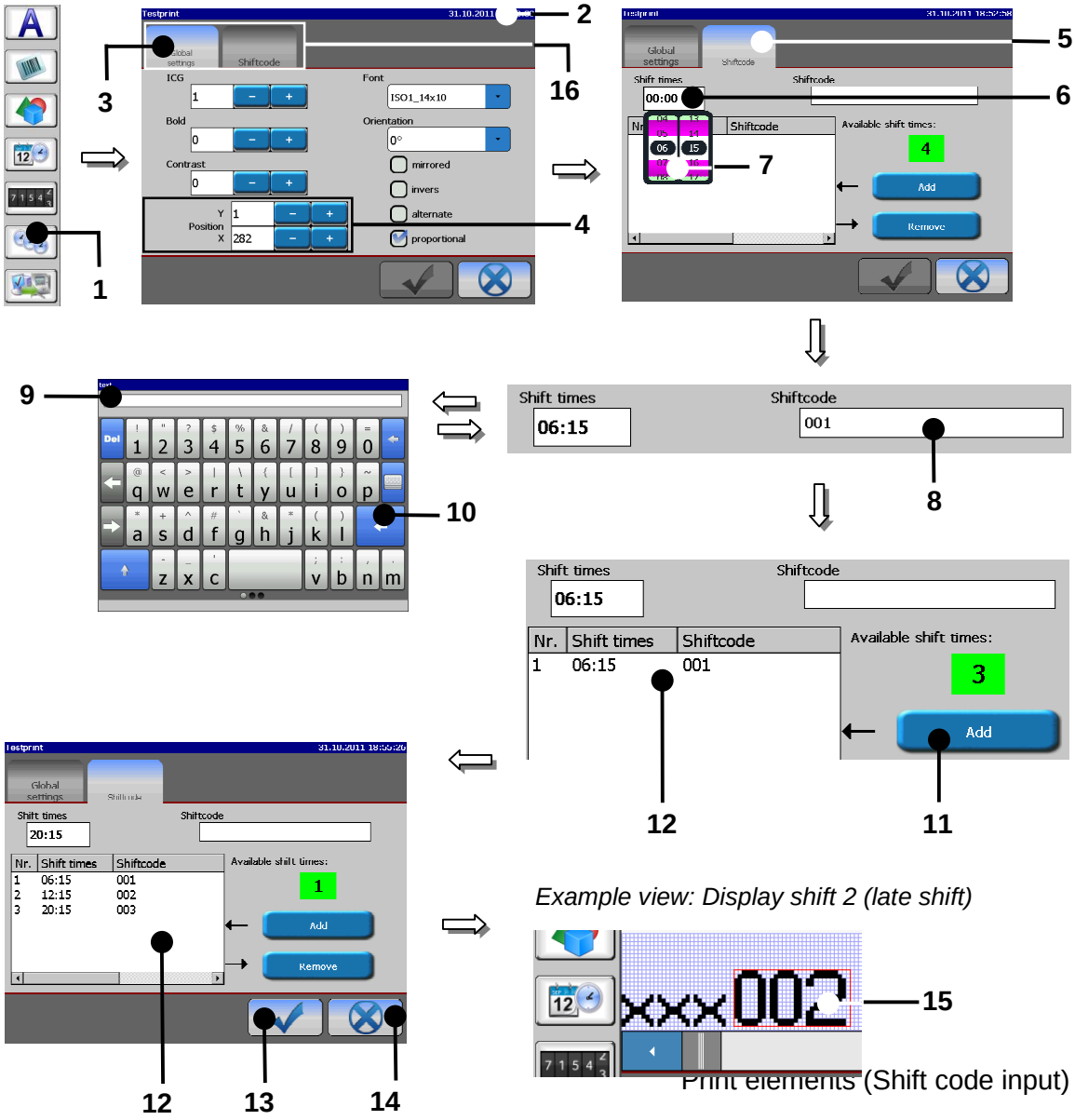
  In the functional area **<Global settings>** (3) carry out the requested settings for the font parameters and display options. You will find further information in the **Chapter *Object settings***.

  Note: *In the setting fields **<Position X/Y>** (4) the system shows automatically the next possible position of the shift code after the already existing fix text. This position can be of course changed!*
- Now change to the functional area **<Shift code>** (5). The selection of the functional area happens by clicking on the accordant register card (16).
- Press on the display field **<Shift times>** (6). A setting block (7) opens.
- Select the desired value by scrolling the hours and minutes blöock. The setting block is closed by clicking on the block again or on thes display field **<Shift times>** and the value is transferred to the field.
- Now click in the display field **<Shift code>** (8). A keyboard field (9) opens for input. Now enter „001“.
- Press the button **<Return ↵>** (10) of the keyboard field. The entered characters are taken over and are displayed in the display field.

You will find further information regarding the working with keyboard fields in the **chapter *Keyboard fields*** (page 61)!

- Now press the button **<Add>** (11). The settings that have been made are transferred to the management window (12).

Figure 143



Example view: Display shift 2 (late shift)

Print elements (Shift code input)

1 – Direct button <Shift code>
2 – Menu <Object settings (Shift code)>
3 – Functional area <Globl settings>
4 – Setting fields <Position X/Y>
5 – Functional area<Shiftcode>
6 – Display field <Shift times>
7 – setting block
8 – Display field <Shiftcode>
9 – Keyboard field
10 – Button <Return ↵>
11 – Button <Add>
12 – Management window
13 – Button<OK (✓)>
14 – Button <Close>
15 – Display in menu <Job editor>
16 – Register cards

- Carry out the inputs („002“ and „003“) accordingly for the further shift code fields.
- Press the button **(✓)>** (13) to take over the input and to close the menu or press the button **<Close>** (14) to leave the menu without saving the inputs.
- In the menu **<Job editor>** (15) the fix text followed by the applied shift code are displayed.

Note: *Displayed is the shift code which is currently valid (as in the example the late shift „002“).*

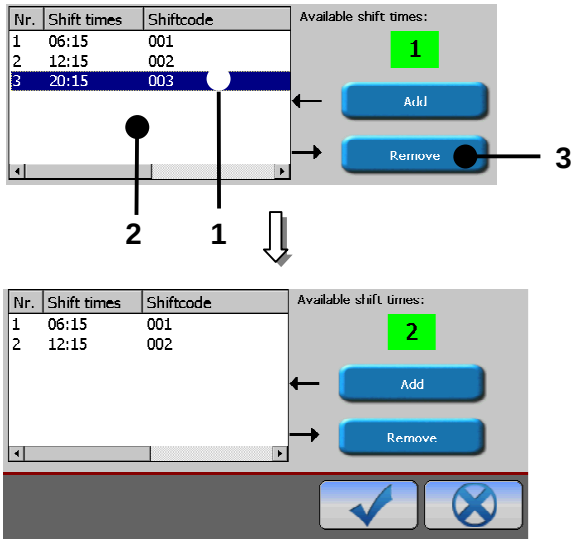
8.6.4.3 Remove shift times

Shift times that are no longer needed are deleted.

Proceeding:

- Mark the shift time to be deleted (1) in the **management window** (2).
- Press the button **<Remove>** (3). The shift time is deleted.

Figure 144



Print elements (Shift code remove)

1 – marked shift time 2 – Management window 3 – Button <Remove>

8.6.5 Text

Serves for setting a text element. A keyboard is opened for making the entry.

You will find further information regarding the working with keyboard fields in the **chapter *Keyboard fields*** (page 61)!

8.6.6 External text

Serves for integrating an external text and for defining the appropriate parameters.

Note: *By using this function, a simple possibility is offered for integrating variable data into the printing text without additional software and programming work.*

Counters integrated in the barcode or other integrated printing elements or their settings can cause impermissible numbers of places or an invalid constellation

8.7 Replacements

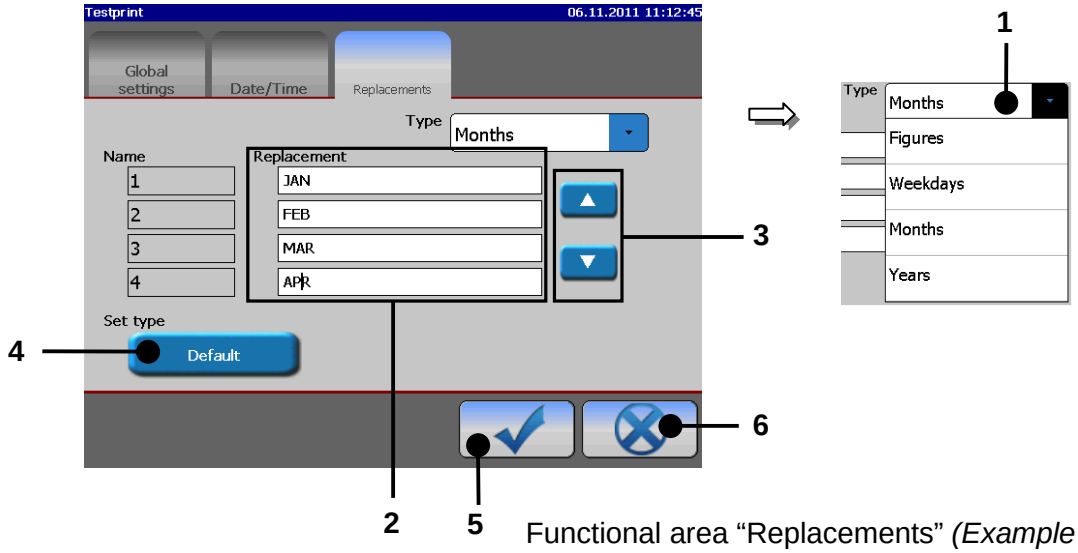
The LEIBINGER JET2 neo offers the possibility to exchange entered date- and time specifications as well as counters by replacements (numbers, letters or designations). Through this you can get an operating specific display or coding of the information.

The definition of the replacements happens always in the functional area **<Replacements>** of the concerned menu. The faded in functional area depends on the substituted printing element.

Replacements can be also carried out for date- and time specifications as well as for counters which are integrated in barcodes.

The made settings are only valid for the current created or edit job or for the selected printing element!

Figure 145



Functional area “Replacements” *(Example view)*

1 – Pop-up window <Type>
2 – Dissplay field <Replacement>
3 – Buttens <Scoll>
4 – Button <Default>
5 – Button <OK (✓)>
6 – Button <Close>

- In the Pop-up window **<Type>** (1) you can select the element type for which replacements should be generated.
- In the display field **<Replacement>** (2) the set replacements are displayed for the selected element type.

- The buttons **<Scroll>** (3) allows the scrolling of the display field **<Replacement>.**
- With the button **<Default>** (4) you can reset the definitions of the replacements to the standard values.

  Note: *The resetting of the replacements has only effects on the current created or edit job or on the selected printing element!*

- With the button **<OK (✓)>** (5) you can take over the inputs and close the menu.
- The button **<Close>** (6) ends the menu without saving the inputs.

8.7.1 Carry out replacements

Proceeding

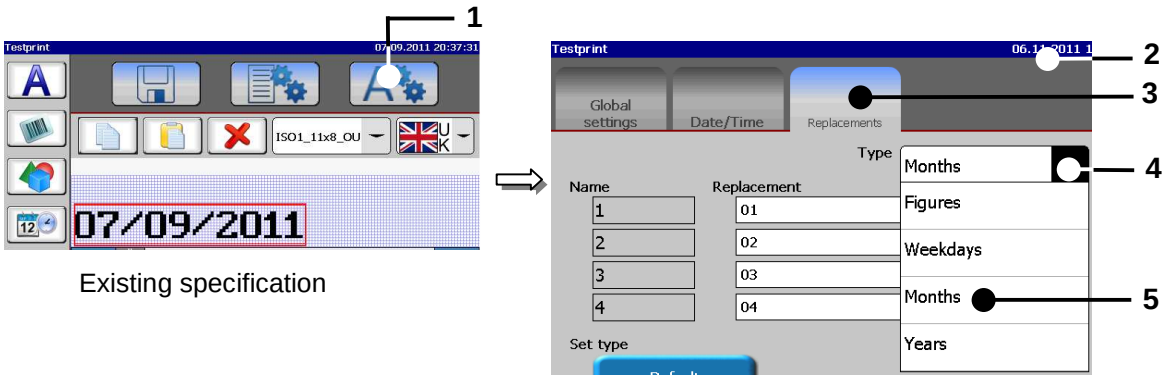
*E.g.: The month numbers (01, 02…..09….) of the date element which is currently defined in the job should be replaced by month specifications (01=**JAN**; 02=**FEBR**….09=**SEP**…).*

- After the selection of the element press the button **<Object settings>** (1) in the menu bar.
- The menu **<Object settings (Date/Time)>** (2) is faded in.
- Press on the register card **<Replacements>** (3) to select the functional area „Replacements “.
- Press on the arrow button of the pop-up window **<Type>** (4). The Pop-up window opens for selection.
- Now select the element type „Months“ (5).
- Click on the several setting fields **<Replacement>** (6). A keyboard field (7) opens for input. Enter the accordant values.
- Press each time the button **<Return ↵>** (8) of the keyboard field to take over the replacements to the setting field.

You will find further information regarding the working with keyboard fields in the **chapter *Keyboard fields*** (page 61)!

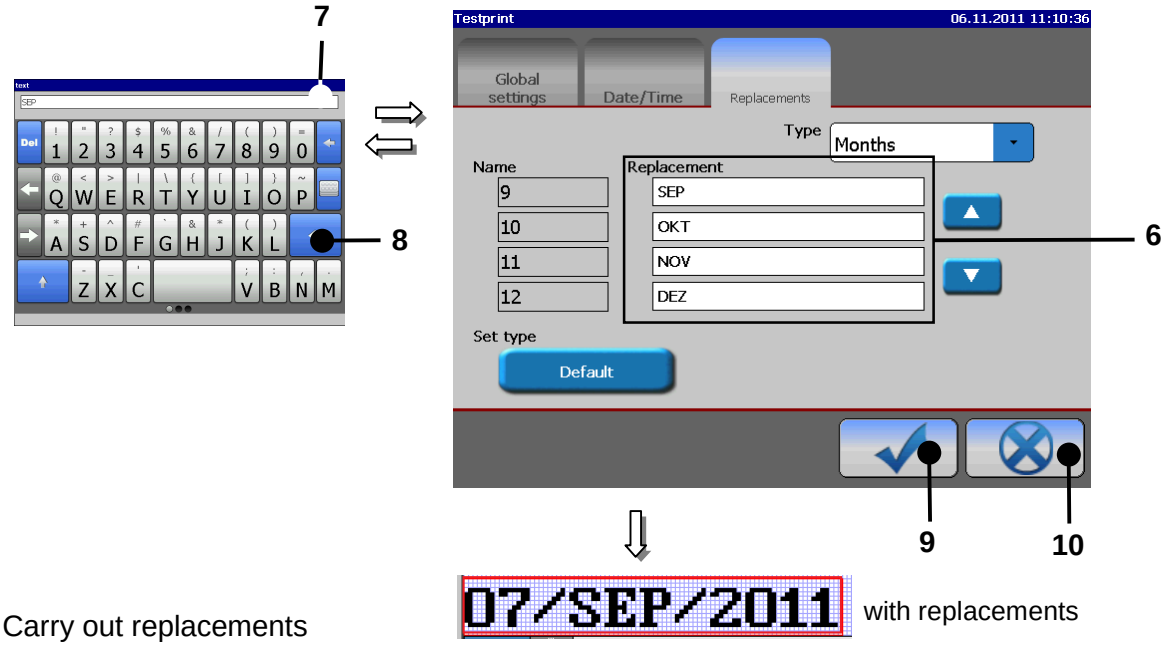
- Press the button **<OK (✓)>** (9) to take over the inputs and to close the menu or press the button **<Close>** (10) to leave the menu without saving the inputs.
- In the menu **<Job editor>** the date specifications with replacements are displayed.

Figure 146



Existing specification

Example: Change of replacing „SEP“



Carry out replacements with replacements

1 – Button <Object settings>
2 – Menu <Object settings (Date/Time)>
3 – Register cards <Replacements>
4 – Pop-up window <Type>
5 – Element type “Months”
6 – Setting fields <Replacement>
7 – Keyboard field
8 – Button <Return ↵>
9 – Button <OK (✓)>
10 – Button <Close>

8.8 Job (editor) management

The editor management allows the following functions:

- Save job
- Save job as
- Close editor

8.8.1 Save job/Save job as

The **<Save>** function enables:

1. Saving a job opened for editing under the current name.
2. Saving a job currently opened for editing under a new name or a certain name.
3. Saving a newly created job.

Attention! If a job is saved under an already existing data file name, no further safety query happens. The existing data will be overwritten.

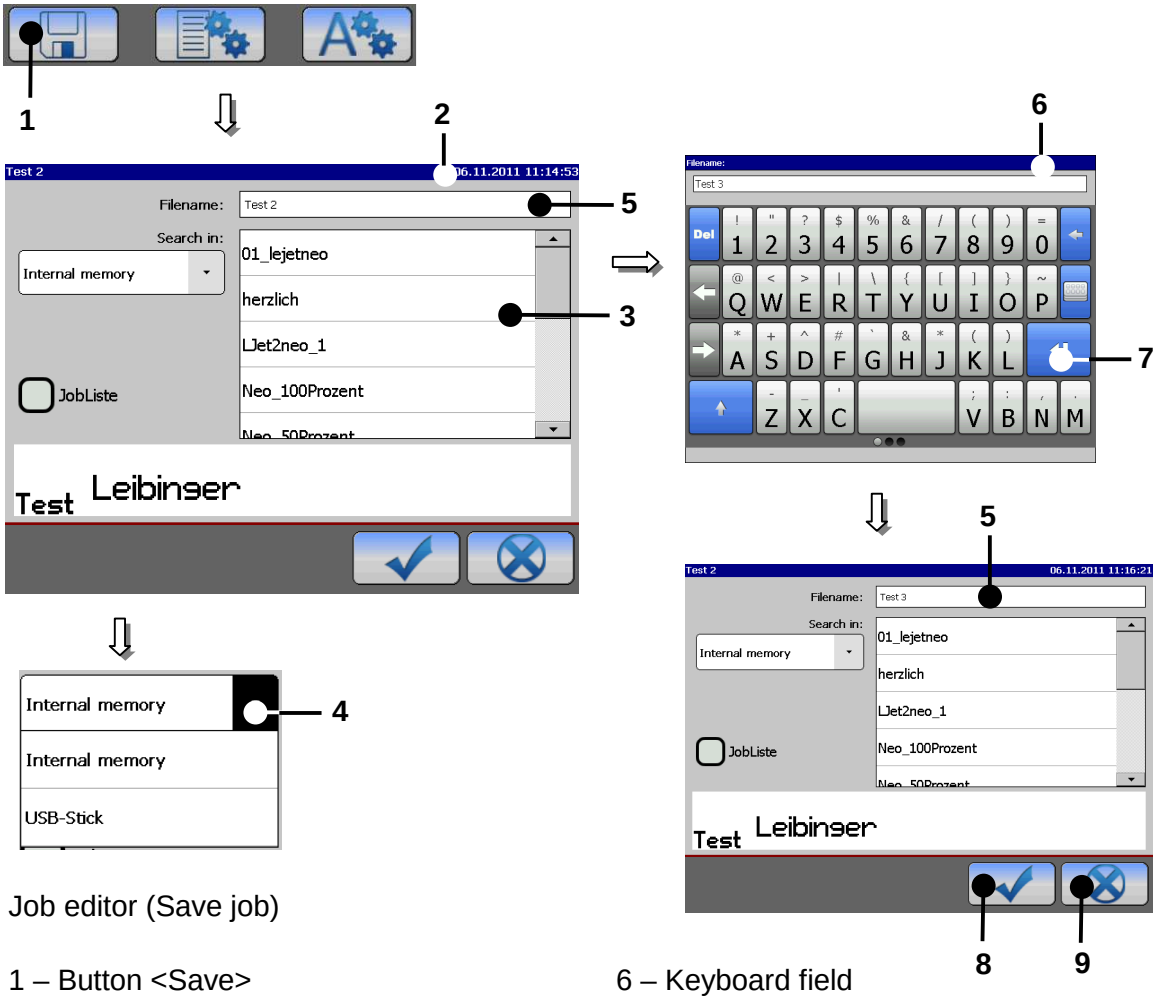
Proceeding

- Press the button **<Save>** (1) in the menu bar.
- The window **<Save Job>** (2) is faded in.
- The names of the already existing graphics are displayed in the data file selection field (3). With the pop-up window **<Search in>** (4) you can select the different memory devices.
- Click in the display **<Filename>** (5). A keyboard field (6) opens for input.

You will find further information regarding the operation with keyboard fields in the **chapter *Keyboard fields*** (page 61)!

- Enter the requested name.
- Press the button **<Return ↵>** (7) of the keyboard field. The entered name is taken over to the display **<Filename>** (5).
- Press the button **<OK (✓)>** (8) to finish the saving process or press the button **<Close>** (9) to abort the process.

Figure 147

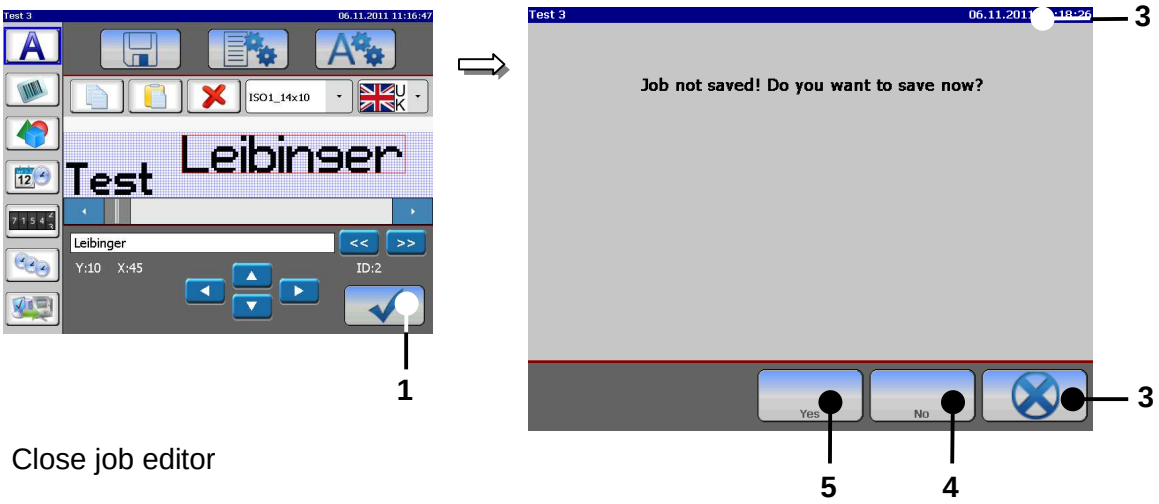


Job editor (Save job)

1 – Button <Save>
2 – Window <Save Job>
3 – Selection field <Data file>
4 – Pop-up window <Search in>
5 – Display <Filename>
6 – Keyboard field
7 – Button <Return ↵>
8 – Button <OK (✓)>
9 – Button <Close>

8.8.2 Close job editor

Figure 148



Close job editor

1 – Button <OK (✓)>
2 – Safety query
3 – Button <Cancel>
4 – Button <No>
5 – Button <Yes>

With the button **<OK (✓)>** (1) you can close the job editor.

If changes have been carried out at the opened job, an accordant safety query (2) is faded in.

In this case the following possibilities are available:

- Press the button **<Cancel>** (3) to abort the process and to go back to the editor.
- Press the button **<No>** (4) to leave the editor without saving the job.
- Press the button **<Yes>** (5) to save the job when leaving the editor.

  Attention! The saving happens under the current data file name. The existing data will be overwritten!

9. Disturbances/Trouble shooting

9.1 General

With the help of the error diagnosis the operating personnel should be given the possibility of removing lesser defects. Should it not be possible to achieve a satisfactory result despite the measures carried out or should a lack of clarity prevail please contact the service department or a service technician of your dealer.

Dangerous material in the machine!

Danger of serious damage through burns, skin irriation and poisoning!

9.2 Display of device messages

The LEIBINGER JET2 neo generates two kinds of device messages. The warning messages and the error messages.

Warning messages: Shows a critical device condition which requires an intervention of the operating staff in the foreseeable future. Warning messages are e.g. refill messages.

The messages are displayed with the text „Warning“ and an orange frame. It contains a warning text in clear text, the necessary operator action and if necessary the display of the remaining <balance time> (2) until the condition causes a shutdown.

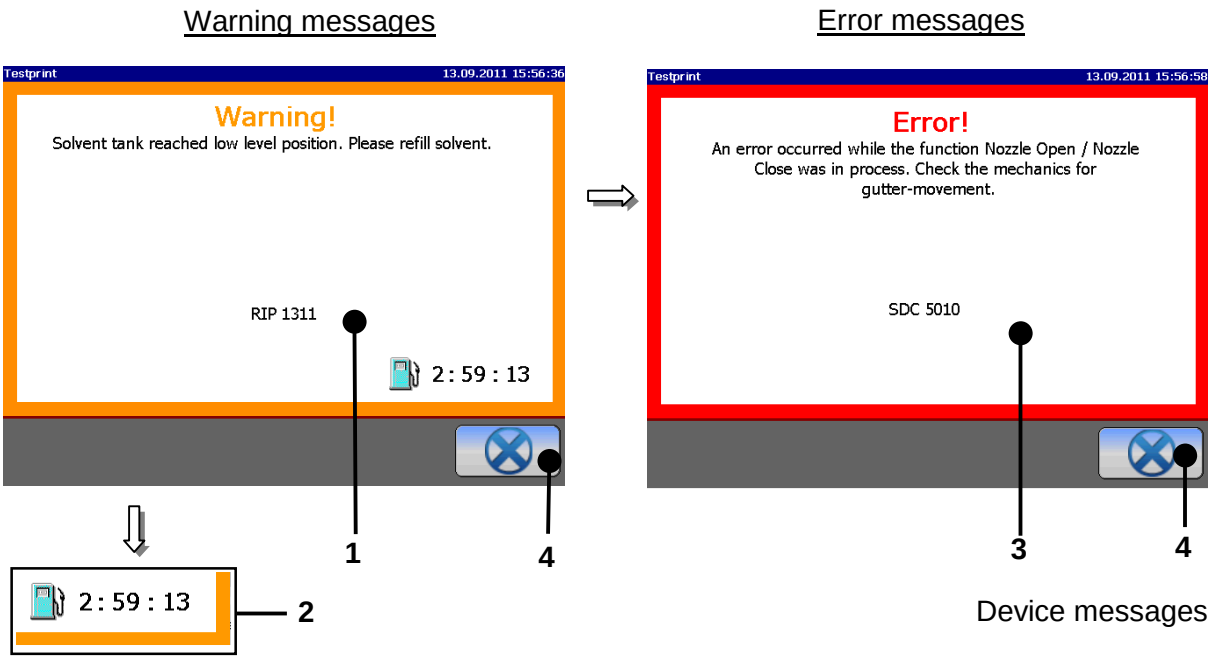
The confirmation of the message happens by pressing the button **<Confirm>.**

Error messages: Shows a condition which requires an immediate intervention of the operating staff.

The messages are displayed with the text „error“ and with a red frame. It contains an error text in clear text and a possible troubleshooting.

The confirmation of the message happens by pressing the button **<Confirm>.**

Figure 149



1 – Warning text
2 – Balance time (Count down timer)
3 – Error text
4 – Button <Confirm>

9.3 Error messages

5000	Charging electrode is dirty	Charging electrode is dirty.	Clean charging electrode
5001	Phasing error	Charging electrode is dirty.	Clean charging electrode
5002	Error of drop control	Charging electrode is dirty. Wrong frequency has been set. Oscillator is defect.	Clean charging electrode Change frequency Exchange oscillator
5003	Error of oscillator voltage	Bad drop control point. Charging electrode is dirty. Wrong frequency has been set. Oscillator is defect.	Clean charging electrode Change frequency Exchange oscillator
5020	HV-current too high. Please check deflection plates for dirt or damp-ness.	Dirt at the deflection plates. Dampness at the deflection plates.	Clean deflection plates Dry deflection plates
5060	Overload of the charging voltage amplifier.	Overload of charging voltage amplifier.	Clean charging electrode
1309	Ink return monitoring		

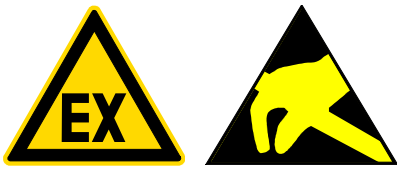
1308	Failure of compression. Please check compressors and all connections.	The compressor could not set the compression within 120 sec.	Check pneum. connections for leakages. Check compressor and if necessary exchange it.
1307	Ink delivery is faulty. Please check pump and all connections.	Main pump could not place the membrane to the central position within 2.5 sec. during the normal operation. Air in the system. Leakage. Bleeding valve does not close correctly. Main pump is defect electrically. Main pump is defect mechanically.	Activate function permanent bleeding for some minutes. Check for leakage Check bleeding valve and if necessary replace it. Check main pump and if necessary replace it.
1312	Leakage in hydraulic has been found. Please check immediately.	Leakage sensor at the cabinet bottom reports liquid.	Check system for liquid and repair. Check leakage sensor for dirt and if necessary clean it.
5030	Stroke-Go error	During a stroke has been generated, the next stroke output has been already initiated.	Reduce production speed. Increase font width. Use other printing mode (high speed mode). Reduce height of total printing image (Reduce amount of dots).
5050	Print-Go distance error	The printing distance (PG-distance) which is specified in the job editor between two prints is smaller than the print.	Reduce font width. Increase the PG-distance value.
5051	Print-Go error	During a print the next PrintGo-signal has been already received.	Reduce font width. Check signal encoder (sensor). Check signal encoder for multi-identification during a print. Enlarge product distance.

10. Equipping/Maintenance

10.1 Equipping

Caution – Danger of explosion!

Before filling the device with the consumables, measures for the electrostatic discharge have to be made!



The operator can carry out a discharge either by the direct touching of the LJ2 NEO- cabinet or by standing with the appropriate ESD-shoes on an grounded surface!

Dangerous material in the machine!

Danger of serious damage through burns, skin irriation and poisoning! Read the safety leaflets and the regulations on personal safety equipment!

10.1.1 Refilling of ink and solvent

The two reservoir tanks are always unpressurized and can be opened in every device condition – also during the production.

The reservoir tanks and the sealing cap are color-coded and labelled to avoid any mistakes in filling. Additionally the sealing caps are marked with the ink-no. or solvent-no. which are admissible for the device.

For correct handling the LEIBINGER re-filling system allows an odor- and splash free refilling of the consumables.

Inks and solvent made by Paul Leibinger GmbH & Co. KG are identified by TAGs. The TAG is located below the label of each re-fill bottle (see also afterimage). The LEIBINGER JET2 neo is equipped with a TAG reader to read the TAG codes.

The reservoir tanks should be not overfilled, that means a re-filling should be only carried out if a certain message has been generated by the printer!

Proceeding

(Example: Re-filling of solvent)

Inflammable (Risk of fire)!

Combustible gases and liquids cause serious burns. Sources of ignition must be kept away from the device!

Attention!

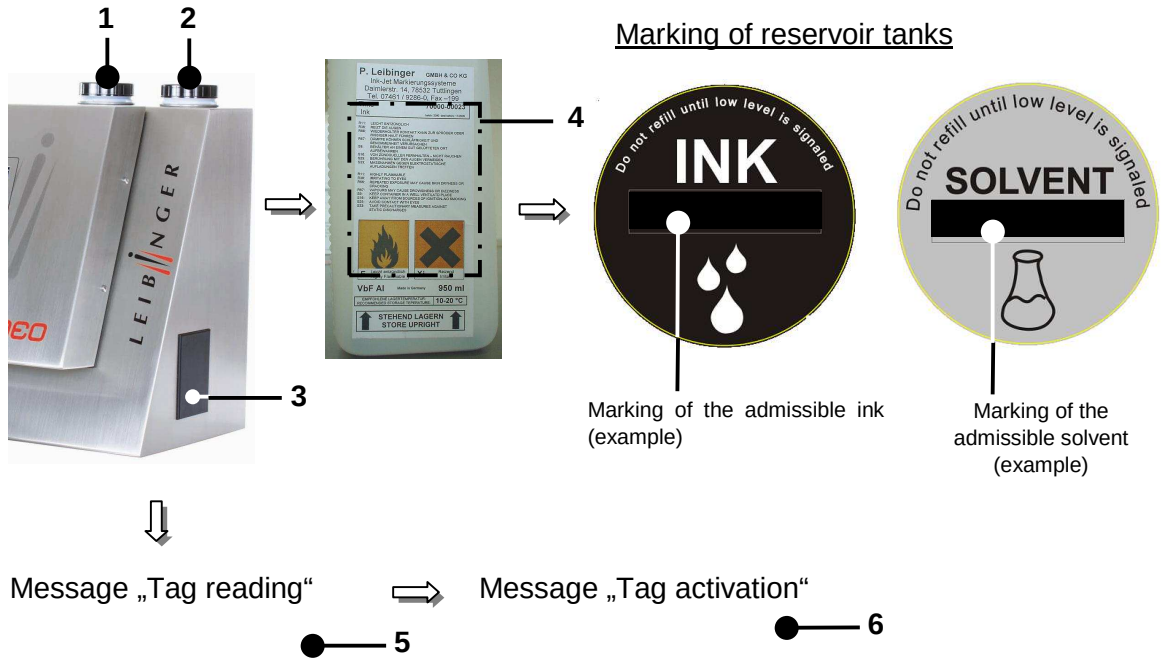
- Before the filling process a static discharge has to be carried out **necessarily**! For this you have to touch the cabinet of the printer directly or you have to stand with ESD-shoes on an grounded surface before the filling or during the process!
- The sealing of the refill bottle **should be not opened**!

- Place the refill bottle (with the label facing the device) directly in front of the TAG-reader. If necessary, move the bottle slowly backwards and forwards in front of the TAG-reader until the TAG is successfully detected.
- After successful detection and appropriate message appears on the TFT touch display.
- If the selected refill bottle has to be filled up, this must be deactivated. TO do this, press the button **<Activate>**. For this the bottle has to stay in front of the TAG-reader.
- If the activation has been carried out successfully the TAG of the bottle will be devaluated. The successful activation is indicated with two short acoustic signals and a corresponding display message.

Further information on the topics of TAG detection, TAG activation and TAG messages can be found in the **chapter *Working with TAGs*** (page 229)!

- Now open the screw cap of the solvent tank (1) and of the re-filling bottle (2).
- Put the re-filling bottle on the solvent tank. The seal of the bottle will be breached and the closing valve of the tank will open automatically and the reservoir tank is filled up.

Figure 150



TAG reading and re-filling process (Example: solvent re-filling)

1 – Reservoir tank „Ink“
2 – Reservoir tank „Solvent“
3 – TAG reader
4 – TAG area of the re-fill bottle
5 – Message <TAG reading>
6 – Message <TAG activation>
7 – Re-filling bottle „Solvent“
8 – Seal of re-filling bottle
9 – Message <Filling>

- Wait until the re-filling bottle is completely empty.
- Take out the empty re-filling bottle. The closing valve of the reservoir tank will be closed automatically.
- Finally screw off the sealing cap of the reservoir tank as well as the empty refill bottle carefully.
- Then confirm that fill up has been completed.

After filling the reservoir tanks as well as the empty refill bottles, they have to be closed carefully again.

Note! You have absolutely to fill in the complete bottle because the bottle will be devaluated and can be not activated anymore!

10.1.2 Working with TAGs

Counters integrated in the barcode or other integrated printing elements or their settings can cause impermissible numbers of places or an invalid constellation

10.2 Service/Maintenance

Dangerous electrical voltage!

After opening the head cover and turning on the „safety contact bypass“ on the head, arbitrarily dangerous voltage occurs. Only authorized staff or Leibinger service technicians can work under voltage!

Inflammable (Risk of fire)!

Combustible gases and liquids cause serious burns. Sources of ignition must be kept away from the print head!

Dangerous material in the machine!

Read the safety leaflets and the regulations on personal safety equipment!

Risk of injury!

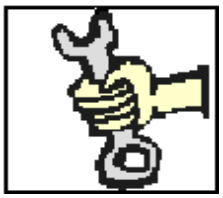
Ink escapes from the head aperture. Spraying of ink into the eyes can cause blindness. Eye protection is necessary!

10.2.1 Daily servicing work

The daily servicing work includes the checking of the print head and in particular of the deflector unit, the charging electrode as well as of the guides for dirt. If necessary the components must be cleaned as described in the chapter **Cleaning**.

10.2.2 Weekly servicing work

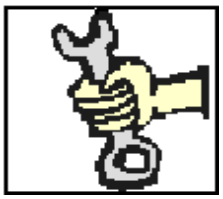
The weekly servicing work includes the checking of the spindles and of the guides of the nozzle seal for dirt. If necessary the components must be cleaned as described in the chapter **Cleaning**.



This work must only be carried out by trained personnel or by Leibinger service technicians!

10.2.3 Annual servicing work

The manufacturer recommends a regular servicing interval of 6–12 months.



This work must only be carried out by trained personnel or by Leibinger service technicians!

10.2.4 Other servicing work

10.2.4.1 Replacement of the battery

Dangerous electrical voltage!

Contact causes serious damage through an electric shock! Disconnect the device from the mains supply prior to opening. Remove mains plug!

Caution! – Danger of explosion and of short circuit!

Risk of explosion and of short circuit in the event of incorrect replacement of the battery!

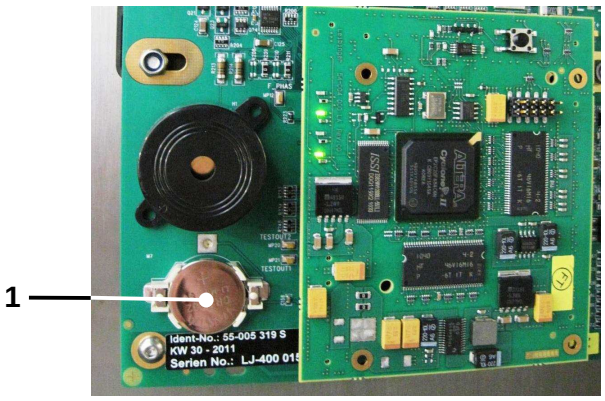
Replacement of the battery!

This work must only be carried out by trained personnel or by Leibinger service technicians!

The battery is situated in the electronics housing on the controller board. If necessary the battery must be replaced. For the change of the battery you have to observe the following **safety- and disposal instructions** as well as the **disposal directions** and the **disposal directions of the battery manufacturer**!

1. 2. 3. 4.	Please only replace with the same battery or with a comparable type of battery according to the recommendation of the manufacturer! Pay attention to the correct polarity (+/-)! Do not throw battery into fire! Do not load battery again!	Danger of explosion
5.	Do not use conductive tools to change the battery!	Danger of short circuit
6. 7.	Do not open battery! Do not dispose battery in the household garbage!	 Li

Figure 151



Replacement of the battery

1 – Battery, lithium, 3.0 VDC (55-005 320 KA)

2 – Safety indication

10.2.4.2 Adjusting the ink jet

You will find further information regarding this topic in the **group *Data entry/Programming*** in the **chapter** Printhead functions under the **point *Jet adjustment*** (page153)!

10.3 Cleaning

10.3.1 Cleaning the print head

Dangerous electrical voltage!

Contact causes serious damage through an electric shock! Disconnect the device from the mains supply prior to opening. Remove mains plug!

Inflammable (Risk of fire)!

Combustible gases and liquids cause serious burns. Sources of ignition must be kept away from the print head!

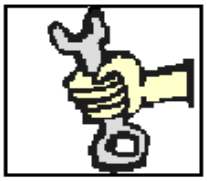
Risk of injury!

Ink escapes from the head aperture. Spraying of ink into the eyes can cause blindness. Eye protection is necessary!

Risk of injury!

Upon contact the contents causes skin irritation. Protective equipment is necessary!

The print head must be checked daily and cleaned in the event of recognisable dirt through penetrating dust or ink. In this respect high release of solvent vapours should be avoided through the economical use of Leibinger solvent (corresponding to the Leibinger ink). This is achieved through applying the Leibinger solvent to fluff-free paper with the spray bottle and wiping off the parts to be cleaned with this. Direct spraying off of the print head with solvent should only be carried out with very major dirt and should be limited to the front part of the print head. Following intensive cleaning the nozzle seal must be lubricated with a commercially available oil (spindle and guide). **Oil must not get into the gutter (back absorption)!** Solvent dropping down must be collected using a solvent resistant metal vessel and disposed of properly.



This work must only be carried out by trained personnel or by Leibinger service technicians!

11. Taking out of operation/Dismantling

11.1 Taking out of operation

The ink and solvent which still remains in the high performance printer have to be removed. For this a special draining routine is available.

You will find further information regarding the procedure of draining in the **chapter *Special functions*** under the **point *Drain routine***! (page 148)

Dangerous material in the machine!

Read the safety leaflets and the regulations on personal safety equipment!

Now the high performance printer has to be turned off and disconnected from the mains supply. Further more you have to disconnect possible connected additional devices. You will find the capabilities of connecting lateral at the electronic-cabinet of the device. **You have to follow the instructions of the several devices!**

Finally you have to clean the device of dirt, ink rests etc. as described in the chapter **Cleaning.**

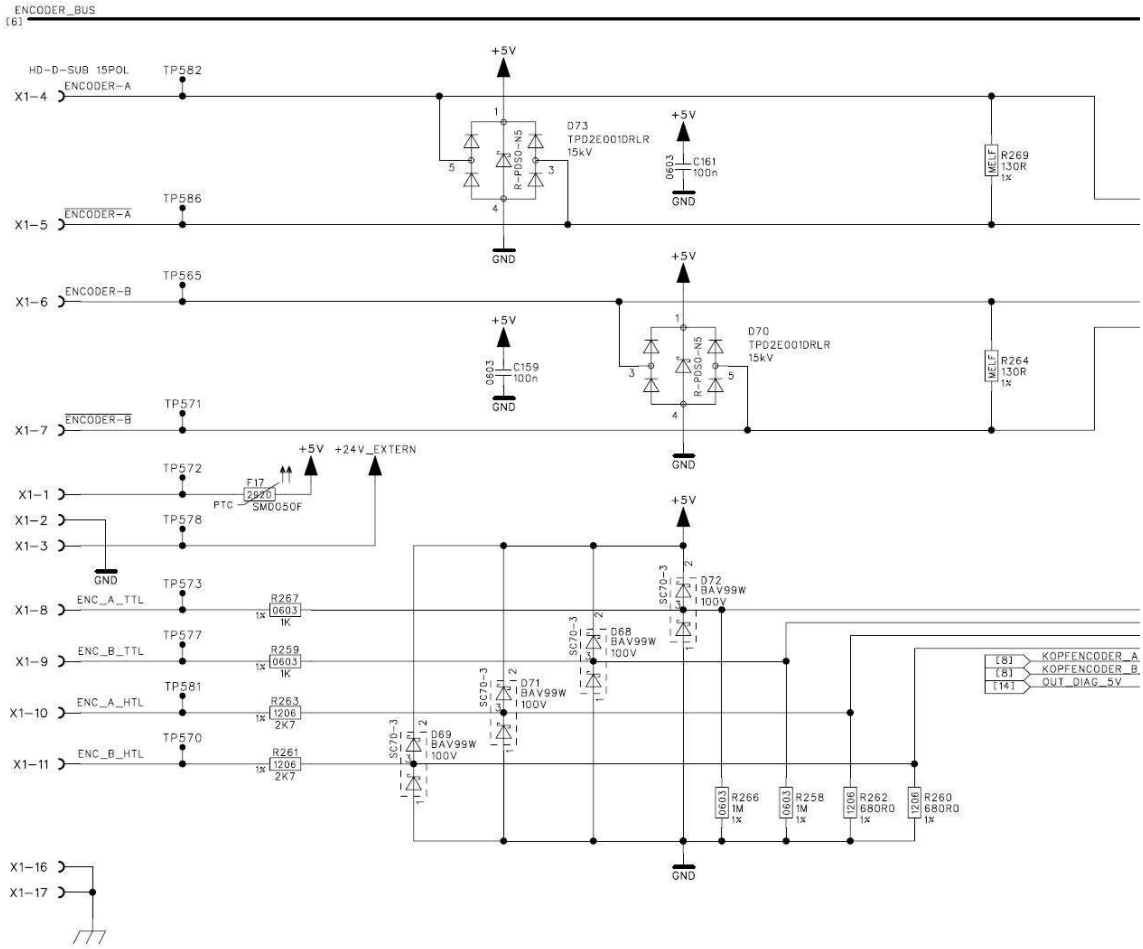
11.2 Dismantling/Disposal

The LEIBINGER JET2 neo has been developed and built with materials that ensure problem-free dismantling and disposal. When dismantling, the information in the **chapter *Taking out of operation*** as well as the respective country specific disposal regulations (e.g. for inks and solvents) must be taken into consideration

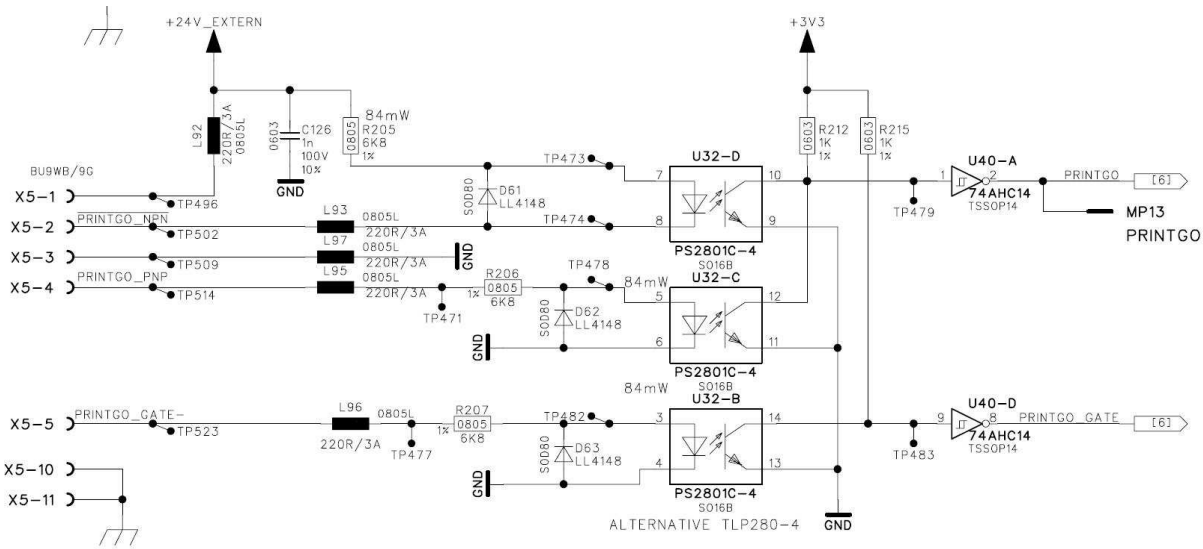
12. Appendix

12.1 Circuit diagrams of the interfaces

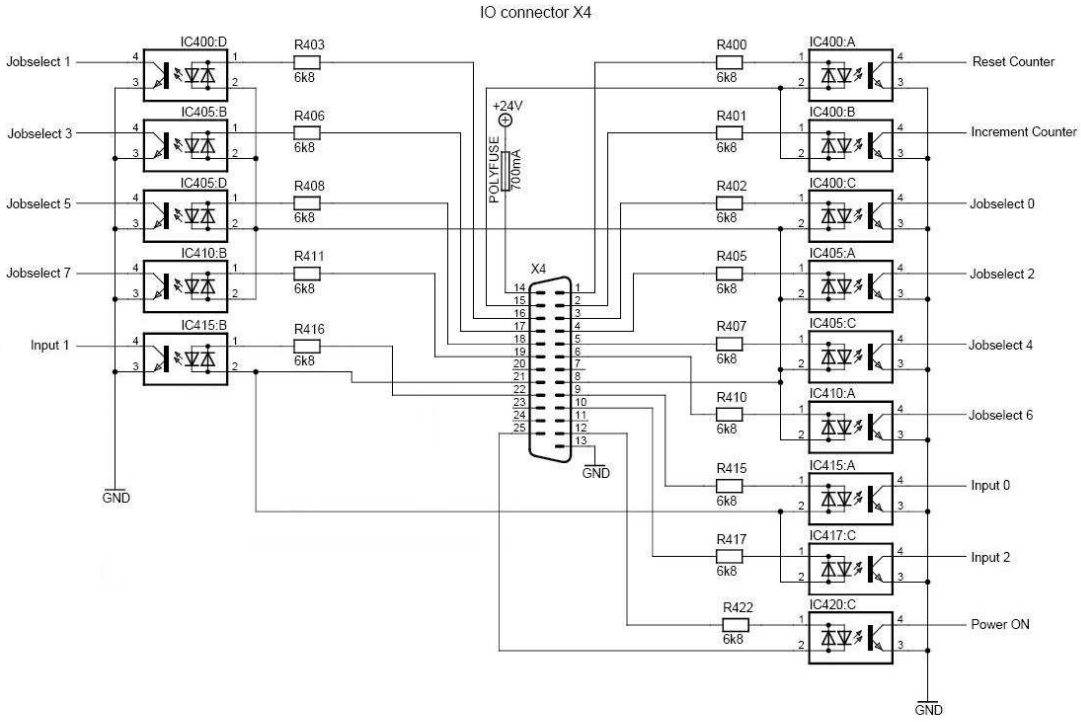
Interface X1 (Encoder)



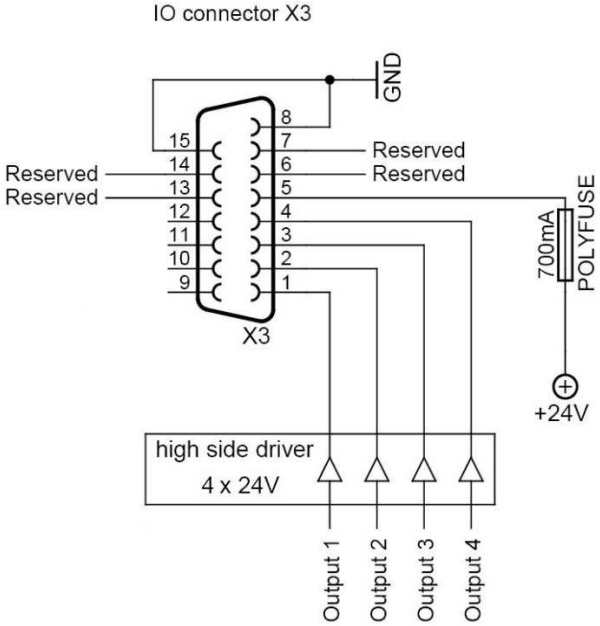
Interface X5 (PrintGo)



Interface X4 (Inputs)



Interface X3 (Outputs)

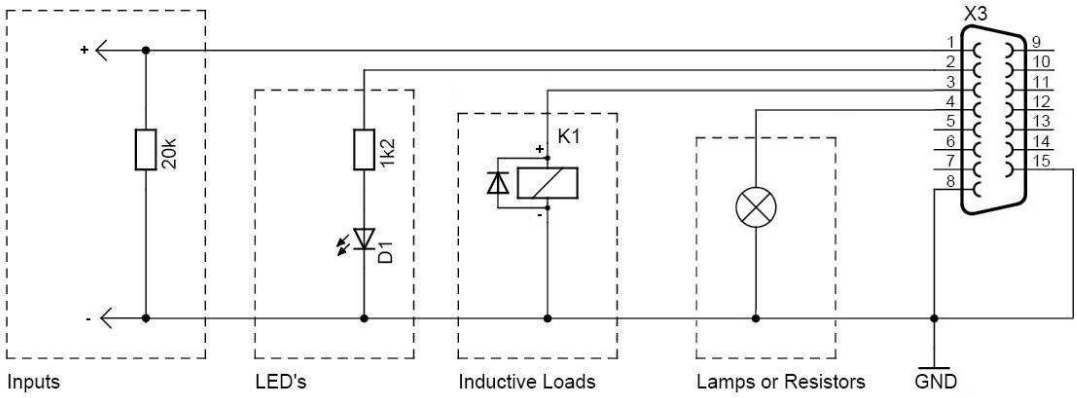


12.2 Connection examples of the interfaces

The wiring examples which are described in the following are only for support. Other combinations, actuators, sensors and switching elements are of course possible and cannot be described completely here.

For the connection please pay attention to the specifications which are described for the plug assignment!

12.2.1 Interface X3 (Outputs)



The described examples are possible at all 4 outputs.

Inputs:

Is used when an printer-output is connected to an input of a external logic (e.g. PLC). Due to the high resistance of the low level signal of the output driver, a 20kOhm Pull-down resistor is recommended.
The resistor can be dropped if the following input wiring has already an accordant low input resistance.

LED's:

LED can be connected by a series resistance. (as in the example for a LED with U_F = 2V and $I_{nominal}$ = 20mA)

Inductive Loads:

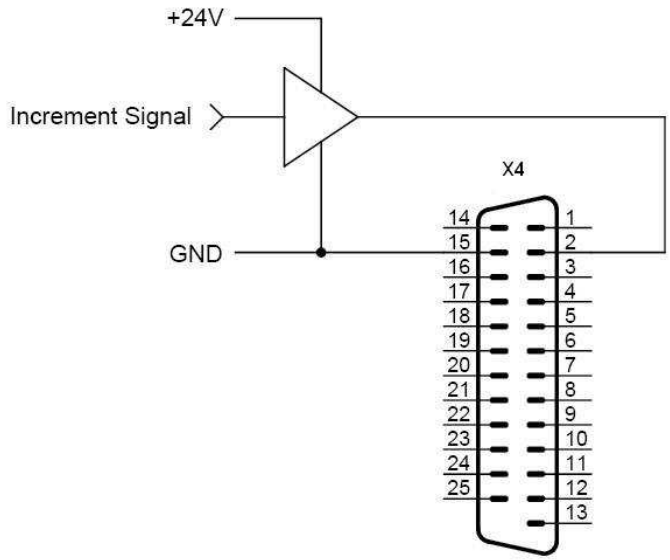
For the usage of inductive loads (relay, motors etc.) a parallel-diode is provided to avoid a turning-off peak.

Lamps or Resistors:

Lamps or other resistor loads can be directly connected to the output, but the sum of the output loads should not be higher than 700 mA (in sum of all outputs together).

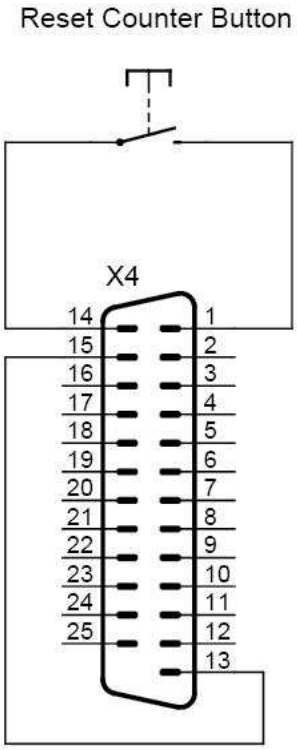
12.2.2 Interface X4 (Inputs)

12.2.2.1 Increment Counter Signal (PIN 2)

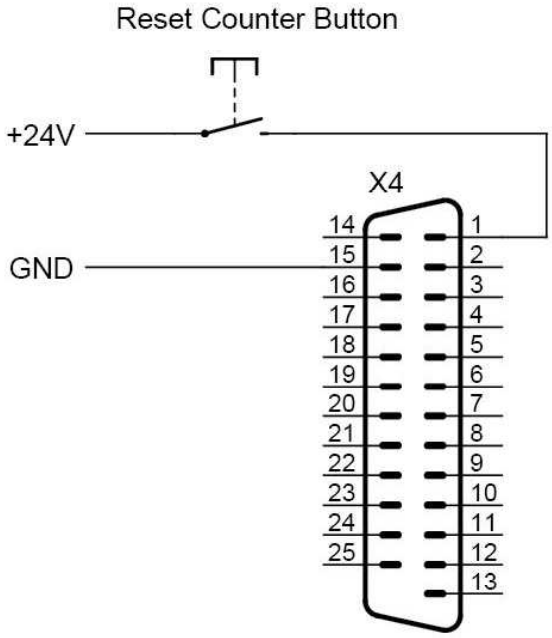


Mechanical switch or relay contacts are improper for the counter input because bounce processes at the switching contacts can cause faulty countings.

12.2.3.2 Reset Counter Signal (Example with pushbutton)

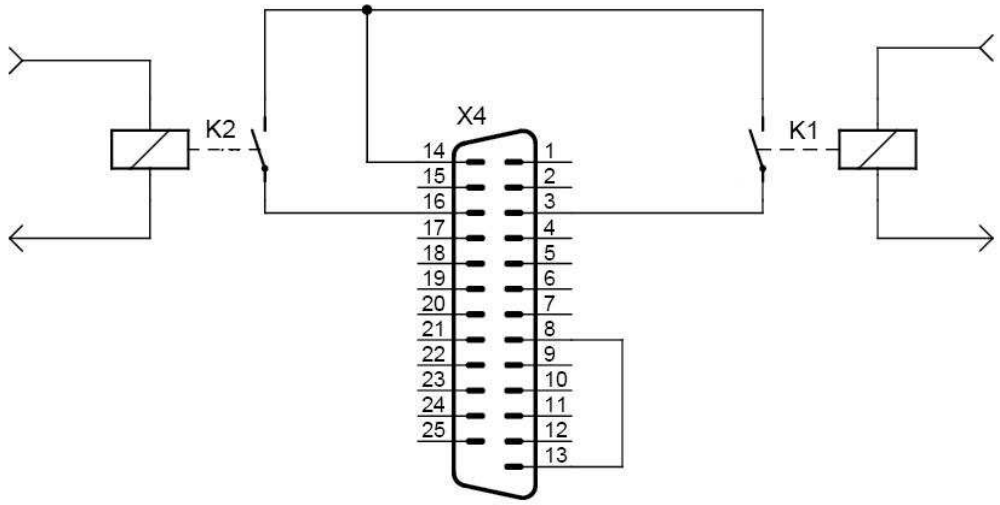


with internal supply

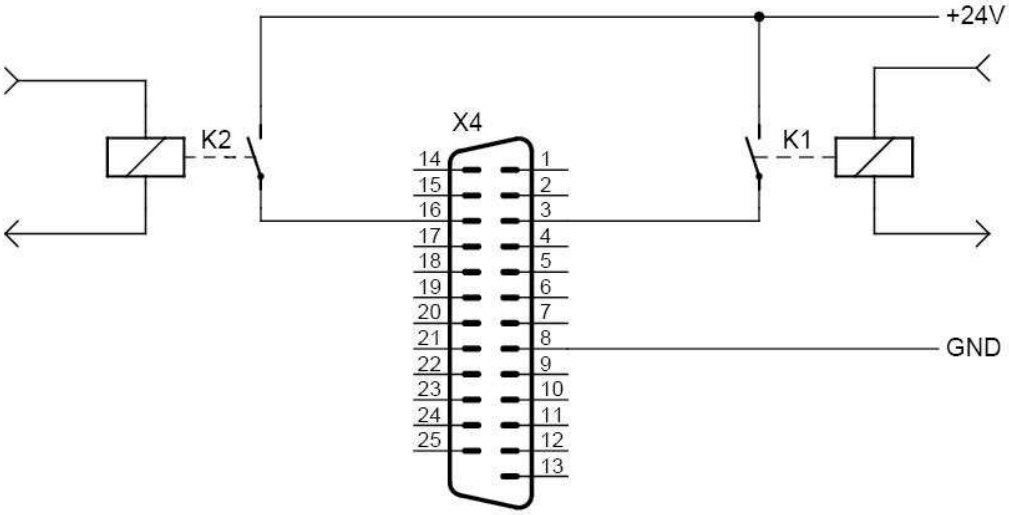


with external supply

12.2.2.3 Jobselect Input (Example with relay contacts)



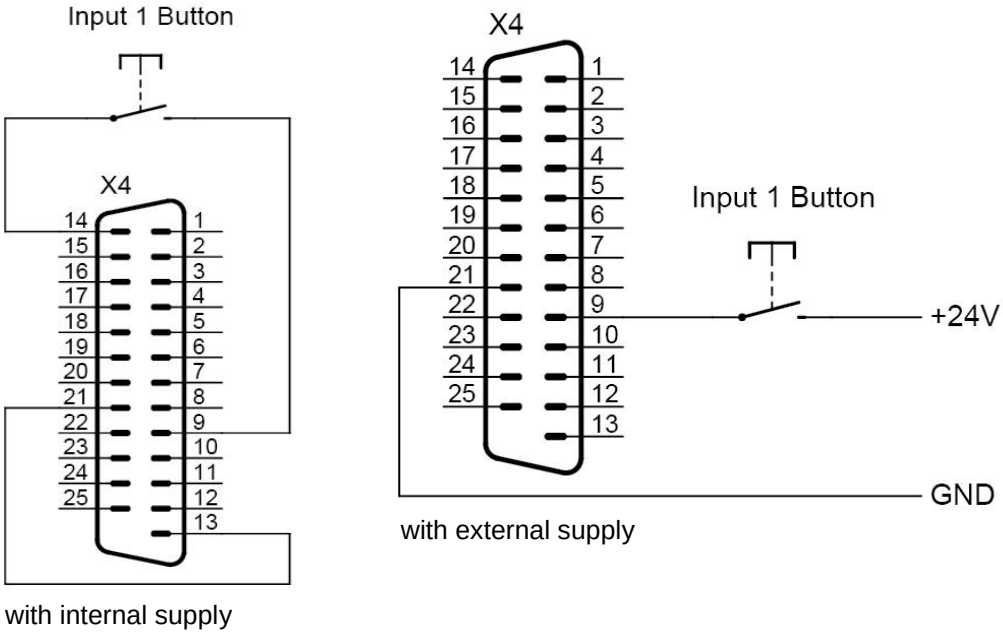
with internal supply



with external supply

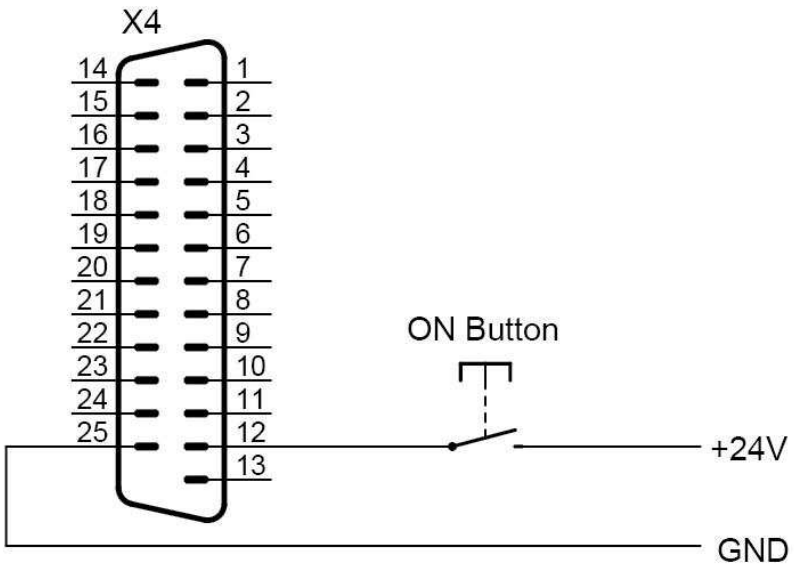
Note: *Only Jobselect 0 and 1 are displayed. The same connection-schema is also possible for Jobselect 2 up to 9.*

12.2.2.4 Inputs (Example with pushbutton)



Note: *Only input 1 is displayed, the same goes also for input 2 up to 6*

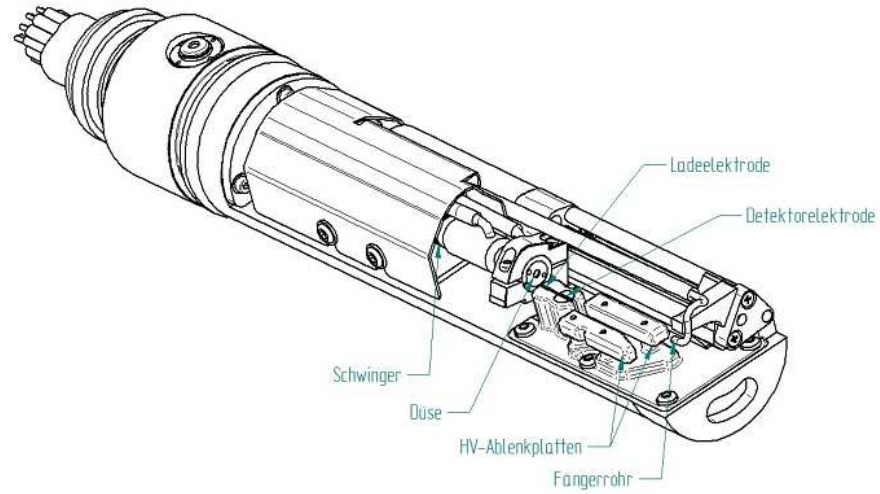
12.2.4.5 ON Input (Example with pushbutton)

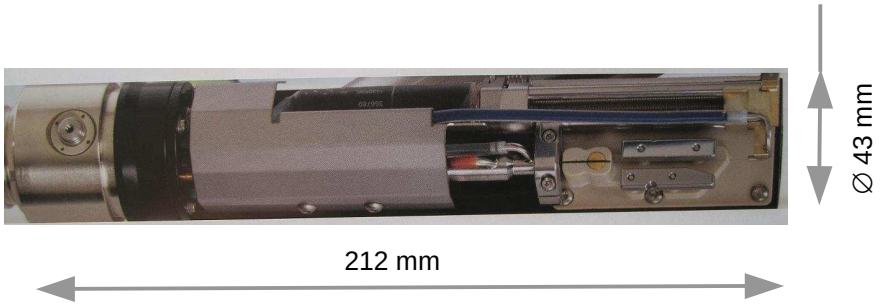


Note: *A switching option which works with the internal 24V supply (Pin 14) is not possible because it is not available at the plug in the OFF-status of the printer.*

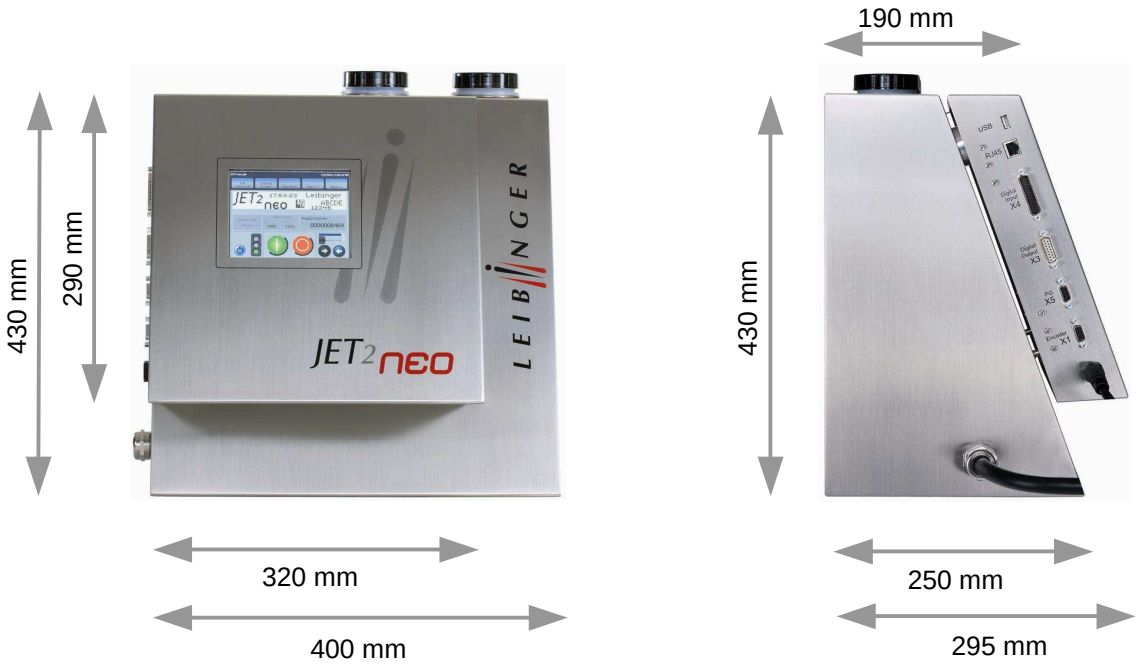
12.3 Drawings

12.3.1 Print head





12.3.2 Cabinet JET2 neo



List of keywords/Index

A

access authorization 127
accident prevention 22
  accidental release 24
  environmental protection 24
  extinguishing agents 23
  fire fighting 23
  first aid 23
  handling 22
  spillage 24
  storage 22
additional functions
  explorer 92
  general 81
  graphic editor 81
  login 96
  logout 96
ambient conditions 26
automatic clock change 112

B

barcode
  content 196
  entry 193
  format 197
  parameter 197, 198
  pasting of elements 197
  textposition 196
  type selection 196
basic menu bar 56
basic settings 108
battery 232
bold text 171
bounce time 114
bounce time delay 115
button
  Off 59
  printstart 59
  printstop 59

C

capacity of device 27
character 52
character pitch 172
charge test 151
circuit diagram
  interface X1 236
  interface X3 237
  interface X4 237
  interface X5 236
cleaning 234
  print head 234
close job editor 222
commissioning 35
components 50
conformity 21
constant bleed 145
construction of the device 50
consumables 20
contrast value 170
control box 71
control elements 71
control on/off 143
counter 205
  counting direction 207
  digits 206
  end value control 211
  increment methods 208
  initial value 210
  layout 207
  repetitions 207
  reset methods 211
  start value 209, 210
  step width 207
cration tools 164
create graphic 88
create new job list 78
creation of character 52
creation of job 75
current consumption 26

D

danger warnings 14
dangers 14
data entry 74
data logging 138
data storing 51
date 111
date change offset 192
daylight saving time 112

dealer adress 10
default job..... 155
define password 127
define user rights..... 129
delay time..... 144
delete graphic elements 89
detector test 152
device messages..... 223
device status (traffic light)..... 58
dimensions..... 25
direct printstart 106
dismantling..... 235
display
general infos 57
head cover status..... 57
ink status..... 57
nozzle status 57
nozzle status 57
printing speed 56
product counter 57
status traffic light 58
display area
display..... 55
scroll bar 55
display settings..... 173
display tools 85
disposal..... 235
disturbances
error messages 224
general..... 223
document information..... 13
drain routine 148
drawing tools..... 84
drawings
cabinet 243
print head..... 242
drop charging 52
drop creation 51
drop deflection..... 52
drop flighttime..... 183

E

edit current job 76, 158
edit tools..... 85, 165
editing of a job..... 76
electrostatics 16, 33
emergency off 140
encoder
installation..... 45
interface 114
resolution 190
rotating direction 190
source.....189
encoder parameter.....188
environmental protection..... 24
equipping 226
ink/solvent.....226
error messages.....224
example of use 54
expiry time input.....201
explorer
delete jobs 95
general 92
menu structure..... 93
start 92
tools..... 94
extern text.....216
extinguishing agents 23
extra
direct printstart.....106
login..... 96
macro generator 104
product counter..... 99
extras
logout..... 96

F

factory settings.....118
fastening posibilities..... 30
fill up routine 40, 147
fire fighting 23
first aid..... 23
first filling of the tanks 37
first initialization 62
font combinations..... 27
font selection.....169
font width 175
fonts..... 27
functional principle
creation of character 52
drop charging..... 52
drop creation..... 51
drop deflection 52
example of use 54
method of working 51
summary..... 53
functionial principle 51
functions
activation 70
availability..... 70
control box..... 71
display 70

pop-up window 71

G

graphic editor
delete elements 89
display tools 85
drawing tools 84
edit tools 85
load graphic 86
organization tools 83
rreate graphic 88
save graphic 87
select 81
settings 91
structure 81
grid 91
grounding 31
guarantee 13

H

handling 22
hardware reset 72
head cover status 57
hotline 10
hydraulic
control on/off 143
diaphragm position 143
fall time 123
ink no. 124
nozzle dia. 124
oscillator voltage 123
pressure 122
set oscillator voltage 123
solvent no. 124
status displays 143
suction pump 122
temp. set points 143
visco correction 122
hydraulic functions 140, 142
hydraulic settings 121

I

I/O signal test 137
I/O-settings
general 131
inputs 132
outputs 133
ICG-value 172
info 135
info file 136
information elements 55
initialization process 31
initialize device 31, 62
ink 20, 226
ink delivery extern on/off 150
ink on/off 150
ink status 57
ink-flow-sensor active 150
input voltage 26
installation 31
electrostatics 33
grounding 31
lightning protection 33
mains supply 31
potential equalization 31
print head 33
intended use 16
interface settings 119
interfaces
general 26, 43
USB 49
X1 (encoder) 236
X1 (Encoder) 44
X3 (Digital outputs) 237
X3 (Outputs) 47
X3 connection example 238
X4 (Digital inputs) 237
X4 (Inputs) 48
X4 connection example 238, 239
X5 (PrintGo) 45, 236
internal speed 190
interval operation 73, 113
introduction 12
IP-address 116

J

jet adjustment 153, 233
jet monitoring 150
job 75
delete 95
edit 76
edit current job 76, 158
extern 78
load to print 78, 159
new 78
new job 75
rest job counters 79
save 220
save counters 80
job editor 161
barcode 193

bold text 171
close editor 222
compile shift times 213
contrast value 170
counter 205
creation tools 164
date changing 192
date/time 201
display settings 173
drop flighttime 183
edit tools 165
encoder direction 190
encoder parameter 188
encoder resolution 190
encoder source 189
extern text 216
font selection 169
ICG-value 172
integrate shift code 213
internal speed 190
job management 220
lock backward 191
mailing 216
monitoring functions 186
object settings 168
orientation 172
parameter setting tools 166
parameter settings 174
position settings 171
print parameter 179
PrintGo-delay 180
PrintGo-distance 180
PrintGo-gate 185
PrintGo-holdoff dist. 182
PrintGo-repeat 181
PrintGo-source 184
printing elements 193
printstop settings 187
printstyle 174
remove shift times 215
replacements 217
return stop 191
save job 220
shift code general 212
shift code menu 212
structure 161
text entry 216
job management 220

K

keyboard field 61

L

language 109
lightning protection 33
list of illustrations 251
load graphic 86
load job to print 78, 159
lock backward 191
log file 138
call up 139
save 139
login 96
logout 96
lost password 129

M

macro generator 104
mailing 216
main menu 55, 74
mains connection 19
mains plug 18
mains switch 19
maintenance
battery 232
general 230
jet adjustment 233
measuring unit 110
menu layout 70
monitoring functions 186
mounting 29

N

nozzle status 57
number block 60

O

object settings 168
bold level 171
character pitch 172
contrast 170
display options 173
font 169
ICG-value 172
orientation 172
position 171
open/close nozzle 58
operating elements 55
operating procedure
change product counter 67
general 62

hardware reset 72
initialization 62
open/close nozzle 58
reset product counter 66
switch off device 69
switch on 63
operating staff 18
operator 18
organization tools 83
orientation 172
oscillator voltage 123

P

parameter
date change offset 192
drop flighttime 183
encoder 188
encoder resolution 190
fall time 123
font width 175
internal speed 190
lock backward 191
monitoring functions 186
orientation 176
pressure 122
print height 175
print mode 177
PrintGo-delay 180
PrintGo-distance 180
PrintGo-gate 185
PrintGo-holdoffdist. 182
PrintGo-repeat 181
PrintGo-source 184
printstop settings 187
rotating direction 190
StrokeGo-source 189
suction pump 122
parameter settings 166, 174
password query 129
password settings
define password 127
define user ights 129
general 125
lost password 129
user level 127
personnel 18
PG drops 145
phasing display 150
piezo test 151
place of installation 19
pop-up window 71
position settings 171
potential equalization 31
power consumption 26
power failure 51
precautions 14
pre-defined print stop 102
pressureless 146
print elements 193
barcode 193
counter 205
date/time 201
shift code 212
print head 33
print height 175
print mode 177
print parameter 179
print start query 184, 185
print stop 102
PrintGo-delay 180
PrintGo-distance 180
PrintGo-gate 185
PrintGo-holdoff distance 182
PrintGo-repeat 181
PrintGo-source 184
printhead 140
printhead functions 149
printing a job 78, 159
printing data 161
printing elements
extern text 216
printing speed 56
printstart 59
printstop 59
printstop settings 187
printstyle 174
product counter 57
change value 67, 100
general 99
reset 66, 100
reset job counter 79
settings 100
stop after x products 102
product liability 12
programming 74
protection class 25
protective devices 18
protective equipment 18
publisher 10
putting into service 29

Q

quick off-functions 140

R

refilling procedure 226
register cards 70
replacements 217
replacing the battery 232
reset job counter 79
return stop 191
room ventilation 19

S

safety concept 18
safety instructions 12, 14
safety sticker 17
save counter states 80
save graphic 87
scope of risks 14
serial number 13
service
  battery 232
  general 230
  jet adjustment 233
service adress 10
service functions
  actuate components 143
  call up log file 139
  charge test 151
  constant bleed 145
  data logging 138
  dectector test 152
  delay time 144
  deplete ink 148
  deplete solvent 148
  diaphragm position 143
  extern ink 150
  fill up routine 147
  general 134
  hydr. control 143
  hydraulic 140, 142
  I/O-signal test 137
  ignore messages 147
  info 135
  info file 136
  ink delivery 150
  jet adjust 153
  jet monitoring 150
  log file 138
  mix only ink 146
  mix only solvent 146
  PG drops 145
  phasing display 150
  piezo test 151
  pressureless 146
  printhead 140, 149
  save log file 139
  service interval 157
  special functions 144
  temp. set points 143
  test print 155
  touch calibration 154
  visco measurement 143
service interval 157
set ink no. 124
set nozzle diameter 124
set oscillator voltage 123
settings 107
  auto. clock change 112
  basic settings 108
  bounce time 114
  bounce time delay 115
  date 111
  DST 112
  encoder interface 114
  factory settings 118
  hydraulic 121
  inputs/outputs 131
  interfaces 119
  interval operation 113
  IP-address 116
  language 109
  measuring unit 110
  password query 129
  password settings 125
  time 111
  time zone 111
  user authorization 125
shift code input 212
shipping 29
shut-down switch 59
software 28
solvent 20, 226
special service functions 144
spillage 24
starting 35
  fill reservoir tank 37
  fill up routine 40
  transportation safety devices 35
stop after x products 102
storage 22, 29

StrokeGo-source 189
switch-off procedure 69
switch-on procedure 63
symbols 14
system info
  save 136

T

TAGs 229
taking out of operation 235
technical data 25
  ambient conditions 26
  capacity 27
  connection values 26
  current consumption 26
  dimensions 25
  font combinations 27
  fonts 27
  functions 28
  interfaces 26
  power consumption 26
  protection class 25
  software 28
  types of writing 27
  weights 25
temperature range 26
test print 155
text entry 216
time 111
time zone 111
title bar 55
touch calibration 154
transport 29
transportation safety devices 35
types of writing 27

U

underframe 29
user authorizations 125
user level 127

V

ventilation 19
visco correction value 122
visco measurement 143
viscosity 145, 146

W

weights 25

List of illustrations

Figure 1 – Safety sticker 17
Figure 2 – Labels for marking (ink/solvent) 20
Figure 3 – Dimensions 25
Figure 4 – Movable underframe (Device support) 30
Figure 5 – Unit fastening possibilities 30
Figure 6 – Grounding scematic and grounding point 32
Figure 7 – Print head installation (Example) 34
Figure 8 – Remove transportation protection 36
Figure 9 – Reservoir tank and re-filling process 39
Figure 10 – Filling routine (Step 1) 40
Figure 11 – Filling routine (Step 2) 42
Figure 12 – Interfaces 43
Figure 13 – Equipment configuration/General view 50
Figure 14 – Creation of a character 53
Figure 15 – Example of use 54
Figure 16 – Main menu (construction) 55
Figure 17 – Menu bar 56
Figure 18 – Status field <Product counter> 57
Figure 19 – Status field <Nozzle> 57
Figure 20 – Status traffic light 58
Figure 21 – Structure of the number blocks 60
Figure 22 – Structure of keyboard field 61
Figure 23 – Initialization process 62
Figure 24 – Switch-on procedure without password protec 63
Figure 25 – Switch-on procedure with password protec 65
Figure 26 – Reset product counter 66
Figure 27– Change product counter (change value) 67
Figure 28 – Switch-off procedure 69
Figure 29 – Menu layout (Register cards) 70
Figure 30 – Menu layout (Pop-up window) 71
Figure 31 – Reset-switch (Hardware reset) 72
Figure 32 – Main menu 74
Figure 33 – Functional area Job 75

Figure 34 – Create a new job 76
Figure 35 – Open job to edit 77
Figure 36 – Product counter (Job counter reset) 79
Figure 37 – Save counter states 80
Figure 38 – Functional area Extra 81
Figure 39 – Graphic editor (Structure and call up) 82
Figure 40 – Graphic editor (Organization tools) 83
Figure 41 – Graphic editor (Drawing tools) 84
Figure 42 – Graphic editor (Edit tools) 85
Figure 43 – Graphic editor (Display tools) 85
Figure 44 – Graphic editor (Load existing graphic) 86
Figure 45 – Graphic editor (Save graphic) 87
Figure 46 – Graphic editor (Create graphic) 89
Figure 47 – Graphic editor (Delete graphic elements) 90
Figure 48 – Graphic editor (Set editor size) 91
Figure 49 – Start explorer 92
Figure 50 – Explorer (Menu structure) 93
Figure 51 – Explorer (Tools) 94
Figure 52 – Explorer (Delete job) 95
Figure 53 – Login (Login user/change user) 96
Figure 54 – Login (Logout user) 98
Figure 55 – Call up product counter menu 99
Figure 56 – Product counter settings 101
Figure 57 – Product counter (pre-defined print stop) 103
Figure 58 – Macro generator 105
Figure 59 – Direct printstart 106
Figure 60 – Functional area Settings 107
Figure 61 – Menu basic settings 108
Figure 62 – Set language 109
Figure 63 – Set measuring unit 110
Figure 64 – Set date 111
Figure 65 – Set time and time zone 112
Figure 66 – Auto. clock change (Summer-/wintertime) 113
Figure 67 – Interval operation (Set interval time) 114
Figure 68 – Bounce time delay 115
Figure 69 – Select encoder interface 115

Figure 70 – Set IP-address....117
Figure 71 – Reset device to factory settings....118
Figure 72 – Menü Interface settings)....119
Figure 73 – Menu Hydraulic settings)....121
Figure 74 – Hydraulic (System pressure)....122
Abbildung 75 – Hydraulic (Fall time)....123
Figure 76 – Hydraulic (Oscillator voltage)....123
Figure 77 – Hydraulic (Ink- and solvent no.)....124
Figure 78 – Menu Password settings....126
Figure 79 – Selection of user level....127
Figure 80 – Define password....128
Figure 81 – Activate/deactive password query....130
Figure 82 – Menu I/O-settings....131
Figure 83 – Carry out input assignment....132
Figure 84 – Carry out output assignment....133
Figure 85 – Functional area Service....134
Figure 86 – System information window....135
Figure 87 – System info (Save info file)....136
Figure 88 – I/O Test (Signal test)....137
Figure 89 – Menu data logging....138
Figure 90 – Data logging (Call up and save log file)....139
Figure 91 – Menu hydraulic-/printhead-/spec. functions....141
Figure 92 – Test menu (Hydraulic functions)....142
Figure 93 – Test menu (Special functions)....144
Figure 94 – Constant bleed....145
Figure 95 – Ink-/Solvent delivery....146
Figure 96 – Test menu (Printhead)....149
Figure 97 – Piezo test and charge test....152
Figure 98 – Detector test....152
Figure 99 – Touch-calibration....154
Figure 100 – Test print (Load default job)....156
Figure 101 – Service interval window....157
Figure 102 – Edit current job (Direct selection)....158
Figure 103 – Load Job to print (Direct selection)....159
Figure 104 – Job editor (Structure)....162
Figure 105 – Job editor (Creation tools)....164

Figure 106 – Job editor (Edit tools) 165
Figure 107 – Job editor (Parameter setting menu) 166
Figure 108 – Job editor (Object setting menu) 168
Figure 109 – Object settings (Font selection) 169
Figure 110 – Object settings (Contrast) 170
Figure 111 – Object settings (Set object position) 171
Figure 112 – Object settings (Bold text) 171
Figure 113 – Object settings (ICG) 172
Figure 101 – Object settings (Orientation) 172
Figure 115 – Object settings (Display options) 173
Figure 116 – Printstyle parameter values (Print height) 175
Figure 117 – Printstyle parameter values (Font width) 176
Figure 118 – Printstyle parameter values (Orientation) 176
Figure 119 – Printstyle parameter values (Print mode) 177
Figure 120 – PrintGo-delay 180
Figure 121 – PrintGo-distance 180
Figure 122– PrintGo-repetitions 181
Figure 123 – PrintGo-holdoff distance 182
Figure 124 – Drop flighttime setting 183
Figure 125 – PrintGo-source/Print start query 184
Figure 126 – PrintGo-Gate /Print start query 185
Figure 127 – Monitoring functions 186
Figure 128 – Printstop settings 187
Figure 129 – StrokeGo-source / Encoder source 189
Figure 130 – Job editor (Set date change offset) 192
Figure 131 – Printing elements (Barcode menu 1) 195
Figure 132 – Barcode selection 196
Figure 133 – Barcode (textposition) 196
Figure 134 – Printing elements (Barcode parameter) 198
Figure 135 – Print elements (Date/time input (Step 1)) 202
Figure 136 – Print elements (Date/time input (Step 2)) 204
Figure 137 – Print elements (Counter menu (Func. area 1)) 206
Figure 138 – Counter settings (Increment methods) 208
Figure 139 – Print elements (Counter menu (Func. area 2)) 209
Figure 140 – Counter settings (Initialization value) 210
Figure 141 – Counter settings (Reset methods) 211

Figure 142 – Print elements (Shift code menu)....212
Figure 143 – Print elements (Shift code input)....214
Figure 144 – Print elements (Shift code remove)....215
Figure 145 – Job editor (Functional area....217
Figure 146 – Carry out replacements....219
Figure 147 – Job editor (Save job)....221
Figure 148 – Close job editor....222
Figure 149 – Device messages....224
Figure 150 – TAG reading and re-filling process....228
Figure 151 – Replacement of the battery....233