

the parameter is active only when the  **Tune** function is enabled



The unit of measurement (mm/inch) in the printer can be changed by pressing:  ►  ►  ►  .
For more details see the section entitled "General settings".

- Put a sheet of paper under the nozzle outlet.

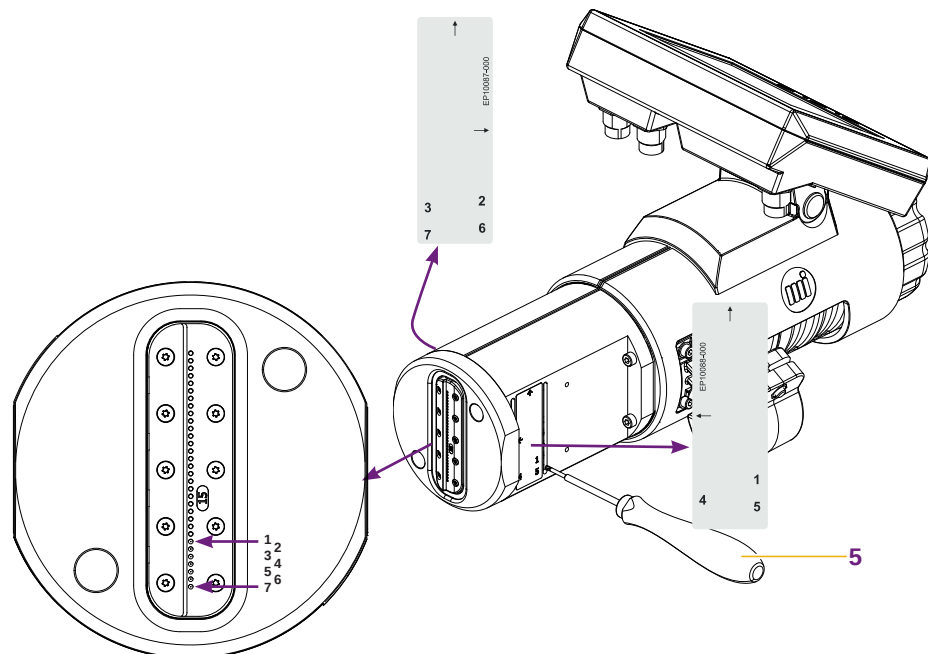


Ink is jetted from nozzles under pressure while the tuning procedure is being followed. Make sure that the printer environment is not splashed with ink accidentally.

- Press  .

The procedure for tuning the nozzle whose number is given with the **drop number** parameter starts; the icon changes to  .

- Set the **pressure [bar]**, **intensity**, **printing speed [m/min]** or **[inch/min]** parameters so that they correspond to the real operating parameters of the printer as much as possible.
- Use a **#T6** Torx screwdriver (5) to start adjusting the electromagnet that is responsible for proper operation of the nozzle whose number is given with the **drop number** parameter. The number of the corresponding adjustment screw is on the sticker next to the slot.



On assessing print quality set the required dot size.

Troubleshooting

8. Adjust successive nozzles by modifying the setting of the **drop number** parameter.

The number of a successive nozzle to be tuned can be chosen in two ways:

- from the drop-down list of the **drop number** settings available
- using of the  and  icons

Two modes of nozzle selection are available when the  and  icons are used:



- sequential mode, or by following nozzle numbering (the **In sequence** parameter is active) - the nozzle numbers ascend/descend in sequence (e.g. for a 7-nozzle ,11 mm-high print printhead it is: 1, 2, 3, 4, 5, 6, 7)
- mode of tuning in order of arrangement of the adjustment screws (the **In sequence** parameter is inactive) - the nozzle numbers ascend/descend to make adjustment as convenient as possible, i.e. the screws are adjusted following their arrangement in the slots (e.g. for a 7-nozzle, 11 mm-high print printhead it is: 1, 4, 5, 2, 3, 6, 7)

Adjust successive jetting nozzles to print dots of the same-size.

9. Press  **Test printout** .

The test-print procedure starts; the icon changes to  **Test printout** .

10. Move a sheet of paper in front of the printhead face to get a print.

Review the print and assess whether any of the nozzles needs additional tuning. If that is so, return to step 8.

11. If the quality of the test print is satisfactory, finish the tuning procedure and install the blanking plates.



If the tuning procedure has been followed without obtaining the required quality, contact a Markem-Imaje representative.

Maintenance

Maintenance

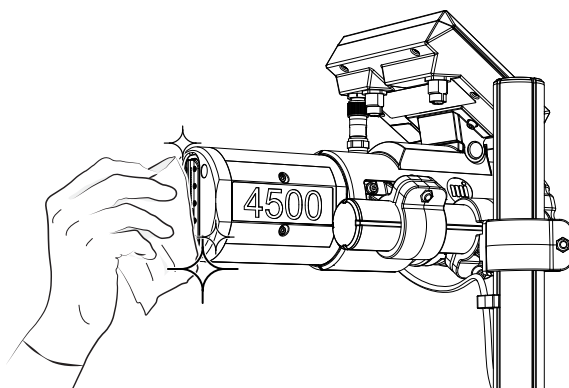
■ Preventive maintenance : Cleaning the nozzle plate

Tools required: - gloves
- Markem-Imaje Printhead Cleaning Wipe

For information about the cleaning wipe, contact a Markem-Imaje representative.

The nozzle plate needs cleaning to remove the remnants of dry ink and dirt from it.

1. If the printer is printing, pause the printing.
2. With a cleaning wipe, clean the nozzle plate.



■ Replacing the printhead

Tools required:

- gloves
- goggles
- absorbent material
- a #2.5 hex (Allen) key
- a #3 hex (Allen) key with a ball tip
- a #5 angle hex (Allen) key

The printhead is designed for up to 24 months depending on the environment and usage. The alarm will indicate when a printhead change is recommended.

To get information on the printhead installed in the printer, press  ►  ►  ►  or  ►  on the main screen.

The printer can be equipped with a printhead of one out of four types:

- 7 nozzles, 13 mm (0.51") high prints
- 7 nozzles, 24 mm (0.94") high prints
- 16 nozzles, 29 mm (1.14") high prints
- 16 nozzles, 56 mm (2.20") high prints

The printheads can be used interchangeably in a given printer provided that they are designed for operation with the same type of ink.



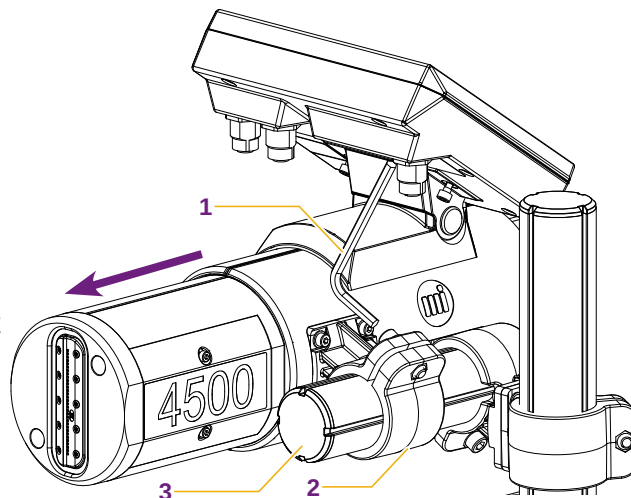
For information about what to do with the removed printhead and how to order an appropriate spare printhead, contact a Markem-Imaje representative.

Follow the below-given steps to remove the printhead:

1. Shut down the printer.
2. Disconnect the power cable from the electrical mains.
3. Detach the control unit cabling.

Maintenance

4. Use a #5 angle hex key (1) to loosen the screw that fasten printhead holder (2) on the printer stand (3).
5. Remove the printer by sliding it off the stand (3).

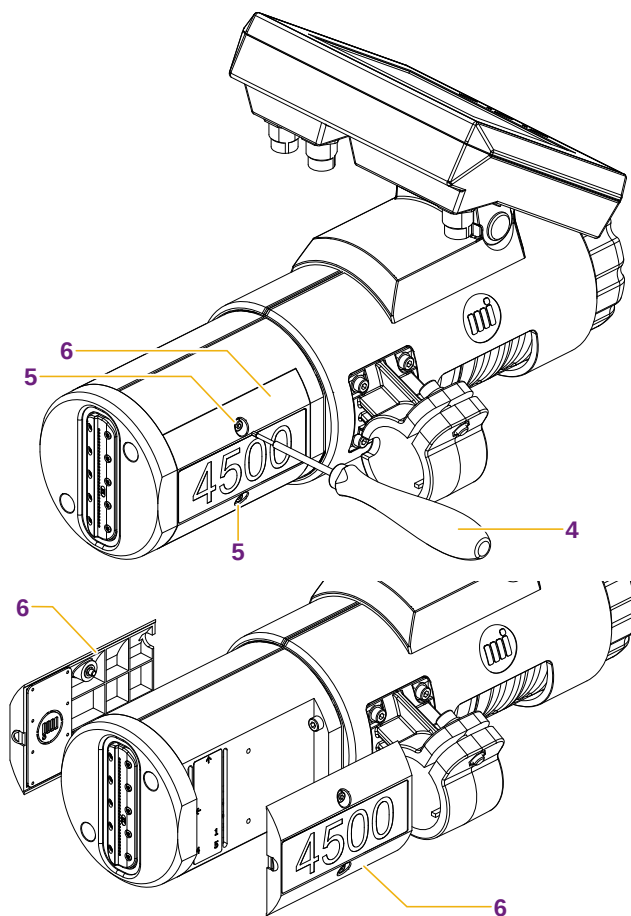


6. Put absorbent material under the printer.
7. Put the printer in a horizontal position on the absorbent material.

8. Use a #2.5 hex key (4) to loosen the two screws (5) that fasten the blanking plates (6) on each side of the printhead (there are two screws on each side).



The screws (5) that fasten the blanking plates (6) cannot be removed from the plates completely because they form part of the plates.

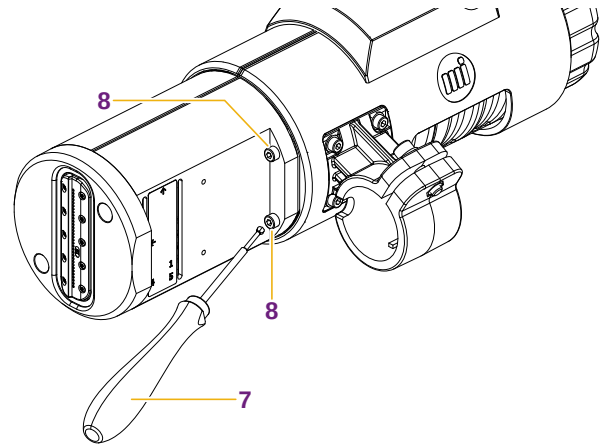


9. Remove the blanking plates (6).

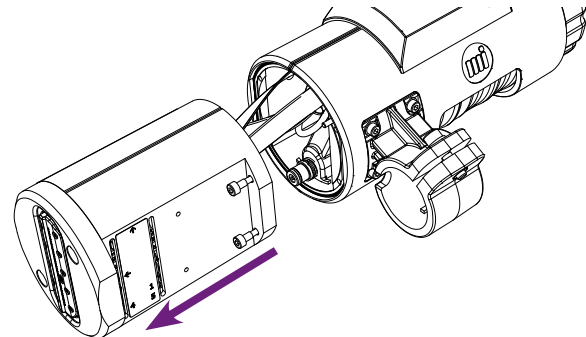
- 10.** Use a #3 ball tip hex key (7) to loosen the four screws (8) that fasten the printhead to the printer body.



The screws (8) that fasten the printhead cannot be unscrewed completely because they form part of the printhead.



- 11.** Pull the printhead out of the printer body a little, being careful not to damage the cabling. If needed, pull with slightly greater force.



- 12.** Detach the printhead cabling, namely:

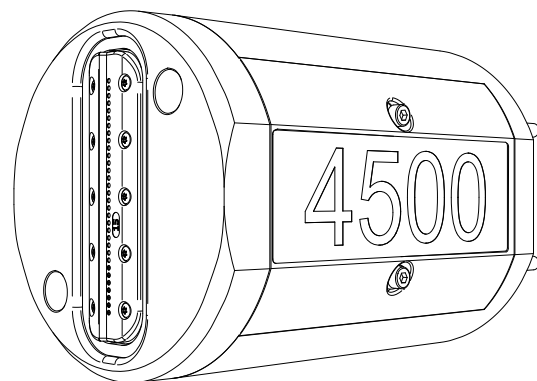
- 10-wire signal ribbon
- 14-wire terminal ribbon
- 6-wire crossover power cord

The printhead is removed.

- 13.** Install a spare printhead.



Detailed installation instructions are provided with the spare printhead.



Maintenance

■ Replacing the control unit

Tools required: - a #3 hex (Allen) key with a ball tip

The control unit is designed to run **5 years** from installation in the printer. It is, therefore, recommended that the control unit be replaced when that time elapses. The need to replace the control unit is indicated in an informational message.

To get information on the control unit installed in the printer, press  ►  ►  ►  or  ►  on the main screen.

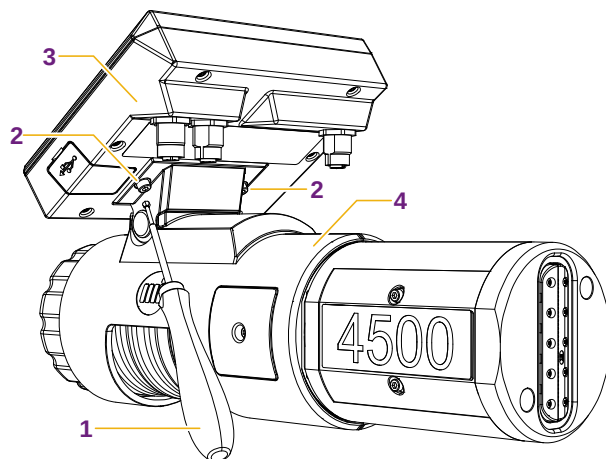


For information about what to do with the removed control unit and how to order an appropriate spare control unit, contact a Markem-Imaje representative.

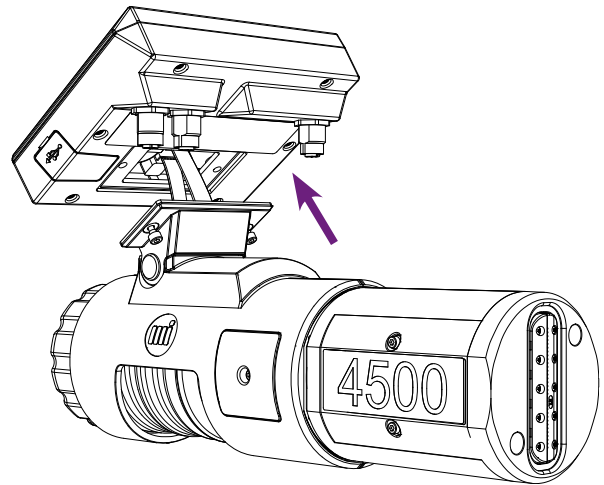
Follow the below-given steps to remove the control unit:

1. Shut the printer down.
2. Disconnect the power cable from the electrical mains.
3. Detach the control unit cabling.

4. Use a #3 hex key with a ball tip (1) to loosen the two screws (2) that fasten the control unit (3) to the printer body (4).



5. Move the control unit away from the printer body a little so that the cabling is not damaged.

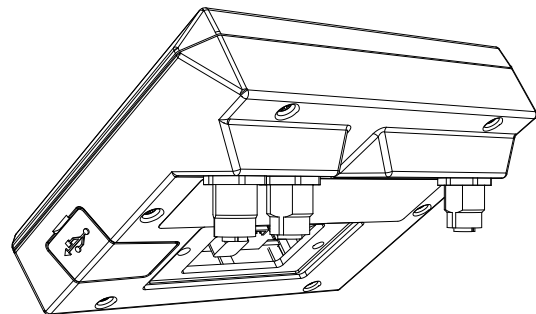


6. Detach the control unit cabling, which consists of:
- 14-wire ribbon from the printhead
 - 6-wire crossover power cord
- The control unit is removed

7. Install a spare control unit.



Detailed installation instructions are provided with the spare control unit.



Maintenance

■ Replacing the printer body kit

Tools required:

- gloves
- goggles
- absorbent material
- a #2.5 hex (Allen) key
- a #3 hex (Allen) key with a ball tip
- a #5 angle hex (Allen) key

The ink system (which is a component part of the printer body kit) is designed to run **5 years** from installation in the printer. It is, therefore, recommended that the printer body kit be replaced after that time has elapsed. The need to replace the printer body unit is indicated in an informational message.

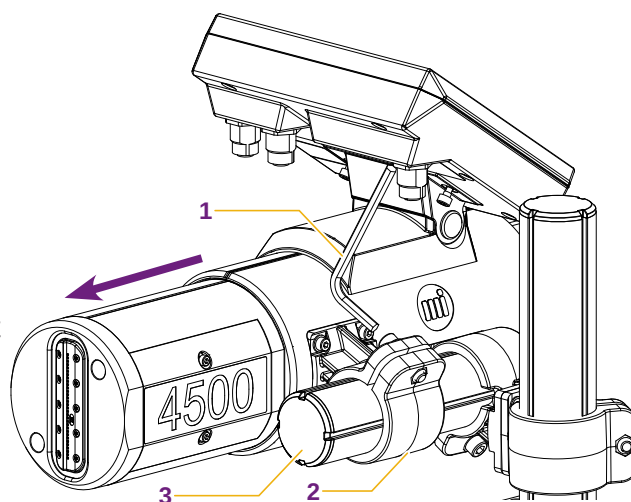
To get the information on the ink system installed in the printer, press  ►  ►  ►  or  ►  on the main screen.



For information about what to do with the removed printer body kit and how to order an appropriate spare kit, contact a Markem-Imaje representative.

Follow the below-given steps to remove the printer body kit:

1. Shut down the printer.
2. Disconnect the power cable from the electrical mains.
3. Use a #5 angle hex key (1) to loosen the screw that fasten printhead holder (2) on the printer stand (3).
4. Remove the printer by sliding it off the stand (3).
5. Put absorbent material under the printer.
6. Put the printer in a horizontal position on the absorbent material.

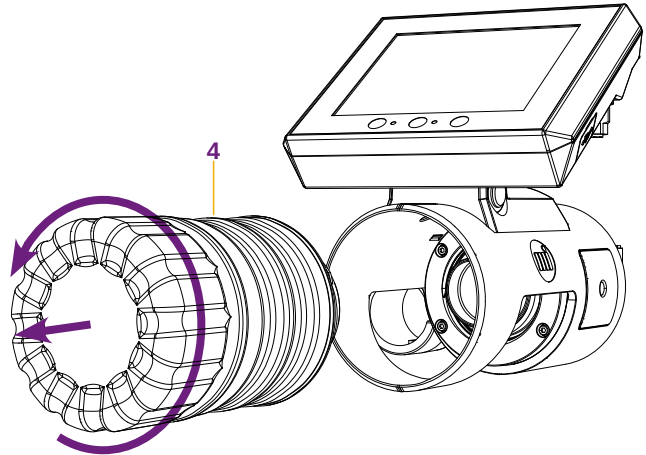


7. Remove the printhead.



The procedure for removing the printhead is described in the section entitled "Replacing the printhead".

8. Screw out the ink bottle (4).



9. Remove the control unit.

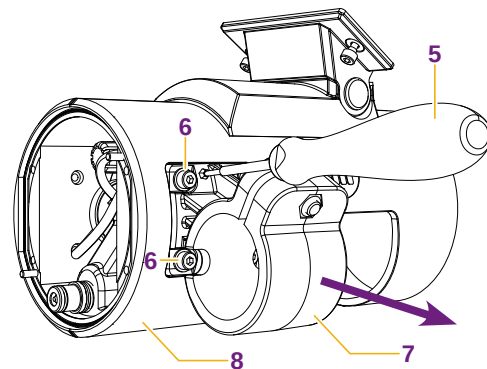


The procedure for removing the control unit is described in the section entitled "Replacing the control unit".

10. Use a #3 hex key with a ball tip (5) to loosen the four screws (6) that fasten the printer holder (7) to the printer body (8).

11. Remove the printer holder (7).

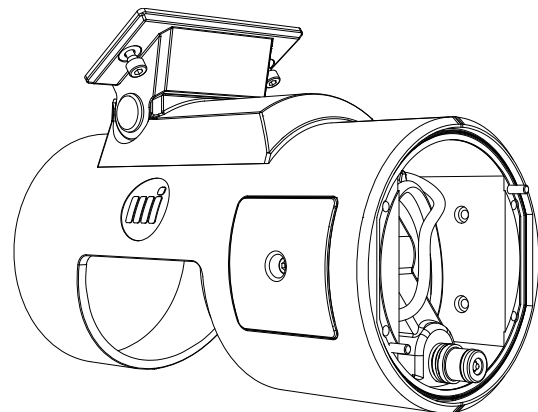
The printer body kit is removed.



12. Install a spare printer body kit.



Detailed installation instructions are provided with the printer body kit.



Maintenance

■ Storing and transporting the printer

■ Storing the printer

How the printer is prepared for storing depends on the period over which the printer is not to be used:

- **up to 3 months:**
 - Shut down the printer in regular mode.
 - No additional operations are required.

Do not detach the ink bottle during the storage period.



It is recommended that the printer be stored in a dry place in its original package. The printer can be stored in any position.

On restarting the printer, it may be necessary to make several test prints.

- **over 3 months:**
 - Remove the ink bottle.
 - Connect a solvent bottle in place of the ink bottle removed.
 - Start the purging procedure and continue it until solvent starts flowing out of the nozzles. From that moment on, the printer is filled with wash-up.
 - Shut down the printer in regular mode.

Leave the wash-up bottle connected to the printer during the storage period.



It is recommended that the printer be stored in a dry place in its original package. The printer can be stored in any position.

On restarting the printer, replace the solvent bottle with an ink bottle. Start the purging function and continue until ink starts flowing out of the nozzles. It may also be necessary to make several test prints.

■ Transporting the printer

The printer can be transported in any position. Make sure that none of the printer components, especially the nozzle plate and control unit screen are damaged during transport.

Weight of a complete printer (without a bottle): approx **4.50 kg (9.92 lbs)**.

Configuration/ Transfer

Configuration/Transfer

The  menu is used to configure settings and transfer data.



Appropriate access is required to configure settings and transfer data.

Details on configuring settings and transferring data can be found throughout this section.

To configure printer settings:

From the main screen, press  ►  ► and select the desired setting.

Printer settings can be saved and transferred to or from another printer using an approved USB memory device. The transfer function can also be used to update the printer software and restore system settings. To transfer data:



*Data transfer functions are not available to **Operator**-type users .*

From the main screen, press  ►  ►  ►  to import data.

From the main screen, press  ►  ►  ►  to export data.

■ General settings

There are three groups (tabs) of general settings:

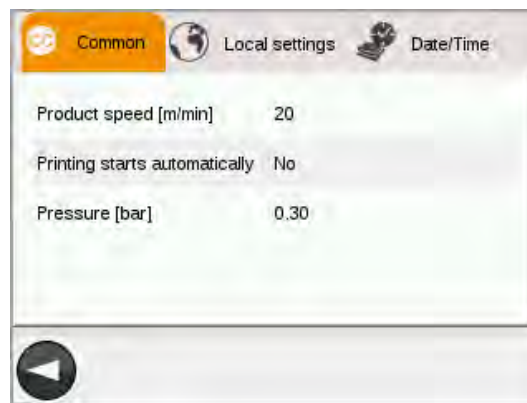
-  basic (common) settings
-  local settings
-  date and time settings

■ Common settings



*This function is available only to **Administrator**-type users .*

Press  ►  ►  ► .



- **Product speed [m/min or inch/min]**: the speed at which products move on a conveyor belt; the parameter is used when printing is timed with an internal generator, that is when the setting **Impulse generator source = Internal generator** is made in the printing parameters



To change the units of measurement in the printer to metric or English, see the section entitled "Local settings."

For details about printing parameters see the section entitled "Editing".

- **Printing starts automatically** (disabled by default):
 - Yes**: printing of the current job starts immediately after the printer has been switched on and become ready for printing
 - No**: printing should be started manually after the printer has been switched on and become ready for printing
- **Pressure [bar]**: pressure of the drops jetted out of printing nozzles (0.15 - 0.45)

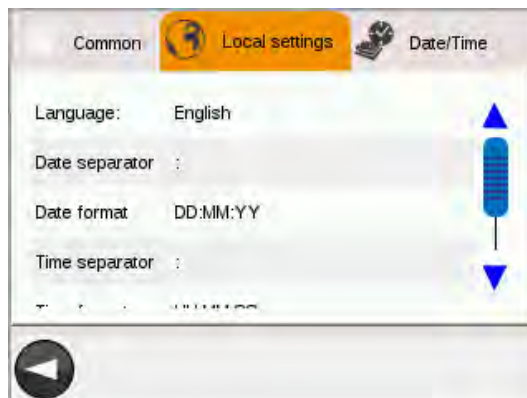
Configuration/Transfer

■ Local settings



This function is available only to **Administrator**-type users .

Press  ►  ►  ► .



■ Selecting an interface language

This setting is used to change the language in which the user interface is displayed.

- **Language:** the interface language changes immediately after the language change has been accepted and the setting window is exited

■ Setting a date and time format

The setting defines the default format of the date and time for every **Date/Time** field created:

- **Date separator:** a character that separates successive date components from each other (":", ".", "-")
- **Date format:** a format and sequence of the date components
- **Time separator:** a character that separates successive time components from each other (":", ".")
- **Time format:** a format and sequence of the time components

■ Setting units of measurement

This setting is used to set the units of measurement in the printer to metric or English.

- **Units:**

[m]: metric units

[inch]: English units

■ Date and time settings

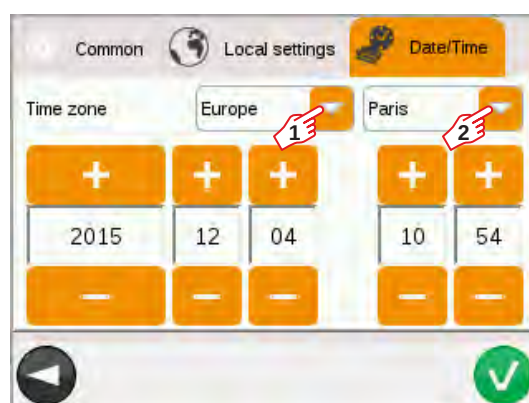


This function is available only to **Administrator**-type users .

1. The date and time can be set in two ways:

Press the clock  07:13  on the information bar.

Or press  ►  ►  ► .



2. To set the date and time components:

Use the  and  icons.

Or use the numeric keys on the virtual keypad.

3. To set the desired time zone:

Select the desired region or continent (1).

Select a city or town (2).

4. Press  to confirm.

The date and the time are set.