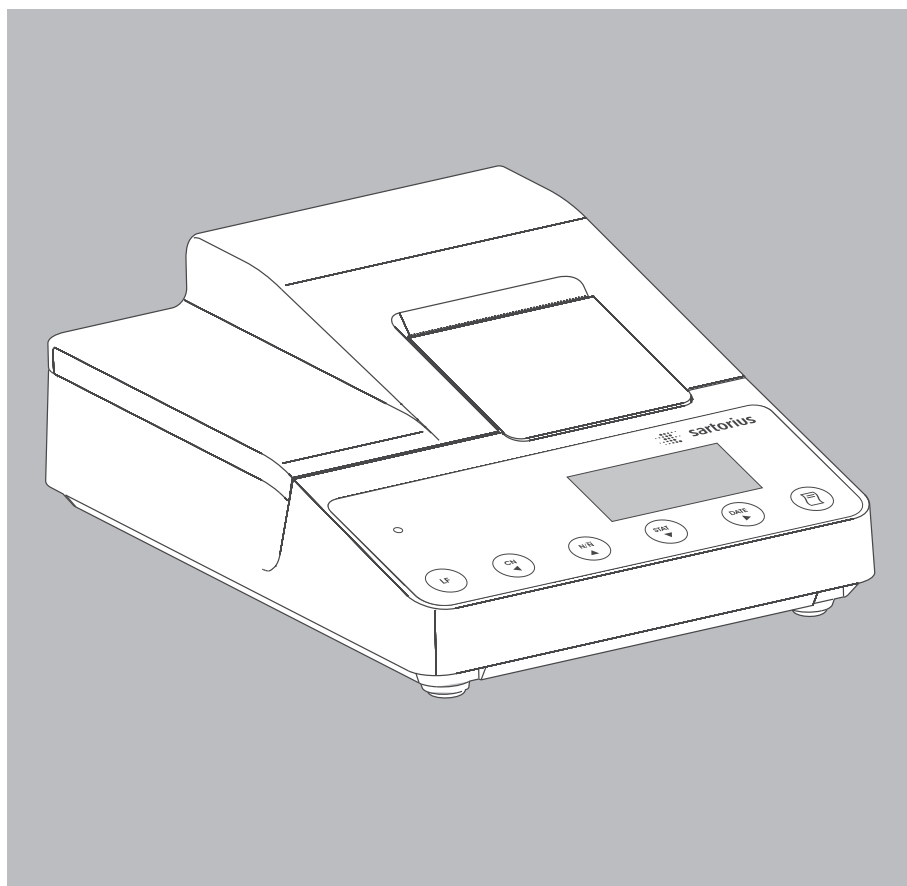**Operating Instructions** | **Betriebsanleitung** |
Installation et mode d'emploi

Sartorius YDP20-0CE

Data Printer | Messwertdrucker | Imprimante

98647-004-35

English – page 3
In cases involving questions of interpretation,
the German-language version shall prevail.

Deutsch – Seite 38
Im Auslegungsfall ist die deutsche Sprache
maßgeblich.

Français – page 73
En cas de questions concernant l'interprétation,
la version en langue allemande fera autorité.

Contents

Intended Use

The YDP20-0CE data printer is designed to receive weighing data from a connected weighing instrument and print it on plain paper (roll width: 57.5 mm), with up to 24 characters per line. The data printer is equipped with a real-time clock. After the printer has been configured according to the required settings, it is suitable for use as auxiliary apparatus in legal metrology.

The YDP20-0CE data printer meets the quality standards of the chemical and pharmaceutical industries, in compliance with the requirements of GLP (Good Laboratory Practice) and GMP (Good Manufacturing Practice).

In addition to recording individual weighing data, the data printer can generate a statistical evaluation of weighing data. All values transferred from an on-line weighing instrument are stored. The following can be printed out, depending on your printer configuration:

– Number of weighing operations

– Mean value

– Standard deviation

– Variation coefficient

– Lowest measured value

– Highest measured value

– Difference between lowest and highest measured values

– Date and time

Data is transferred either automatically or manually, at the press of a key.

```
Application Settings
Program Vers.:  3.34   C
------------------------
A1:Mode ISO/GLP ON
A2:Tare func.   OFF
A3:Statistics   ON
A4:Print value  ON
A5:Header       0
S1:Print TEXT1  OFF
S2:Print TEXT2  OFF
S3:Print n      ON
S4:Print x      ON
S5:Print s      ON
S6:Print srel   ON
S7:Print Ex     ON
S8:Print min    ON
S9:Print max    ON
S10:Print diff  ON
S11:Print date  OFF
------------------------
```

Safety Instructions

The data printer complies with the EC Directives and Standards for electrical equipment and electromagnetic compatibility.

Use only size AA nickel-metal hydride rechargeable batteries, order no. 69Y03136.

Avoid draining the batteries excessively, as this will reduce their recharging capacity.

Used batteries are hazardous waste and must be properly disposed of in accordance with your local hazardous waste disposal regulations.

If you need to use an external power supply, use only an original Sartorius AC adapter (see "Accessories"). The external power supply is required only if the printer is operated in conjunction with equipment that do not provide sufficient voltage for the YDP20-0CE. Please contact your Sartorius dealer if you require an external power supply.

Use only a slightly moistened cloth to clean the equipment, and make sure that no liquid enters the printer housing.

Caution: The serrated edge for tearing off printouts is sharp; direct contact can result in injury.

● Deactivate the ISO/GLP-compliant printout function for the following instruments:
– Economy/Express Series, EA/EB scales (up to serial numbers 912xxxxx from December 1999)
– GT/PT/QS/QT/XQ balances and scales (with MP 10 processors)
– QS/TS scales (with MP 12 processors)
– MA model moisture analyzers

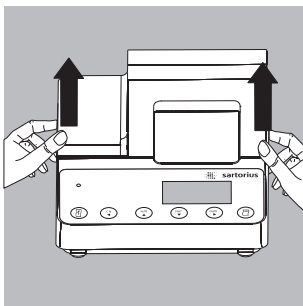○ To change this setting, refer to the section entitled "Settings for ISO/GLP-compliant Data Records".

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Installation

Equipment Supplied
The following components are supplied:
– Interface cable for connecting the printer to a weighing instrument
– Ink ribbon
– 4 rechargeable batteries
– Paper roll

Installing the Batteries

● Remove the batteries from their packaging (batteries are discharged)

● Lift the cover of the paper roll compartment

● Tilt back the cover of the battery compartment
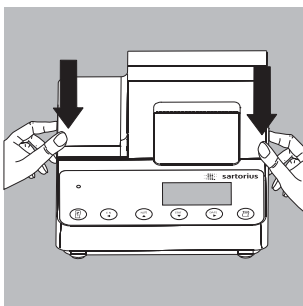
● Insert the 4 batteries in the battery compartment, making sure the polarity is correct

● Close the battery compartment

● Close the paper roll compartment

– The printer must be switched on to the thread the paper through the rollers.
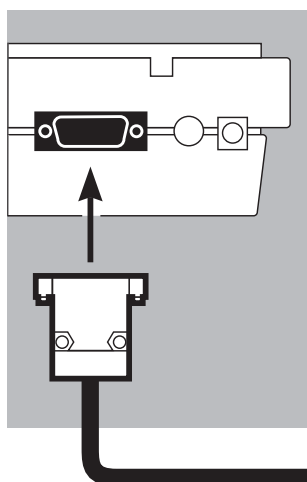
Connecting the Data Printer to a Weighing Instrument
● Connect the interface cable to the printer and the weighing instrument you are using. Secure the connection.
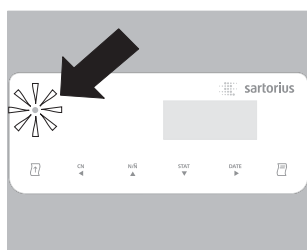
Turning On the Weighing Instrument and the Printer
● Plug in the AC adapter
● Switch on the weighing instrument
> The printer switches on automatically

> All segments of the printer display light up (self-test)

> The LED on the left-hand side of the front panel lights up.
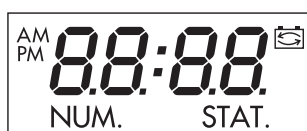
Charging the Batteries for Initial Operation
● Leave the weighing instrument on

> The batteries are charged while the weighing instrument is in standby mode

> Allow 28 hours to fully charge the batteries in the printer

○ If the battery symbol does not go out after 3 hours at the latest, replace the batteries (see page 35)

Installing the Ink Ribbon Cassette
● For instructions on installing the ink ribbon cassette, see "Maintenance" on page 34

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Inserting the Paper Roll

● Insert the paper roll as described in "Maintenance" on page 33

Setting the Date and Time

● For instructions on setting the date and time, please refer to "Configuration" on page 20.
If you connect the printer to an instrument that does not supply sufficient voltage to the YDP20-0CE, use only an original Sartorius AC adapter (external power supply) for this printer (see "Accessories").
Contact your Sartorius dealer if you need an external power supply. The external power supply is required, for example, if the printer is connected to one of the following devices:

– MP8-1/MP8-2 weighing instrument with data input software
– Economy Series weighing instrument (model EA..., EB...)
– Infrared dryer, model 7393.../YDU01L
– External keyboard, such as model 73392
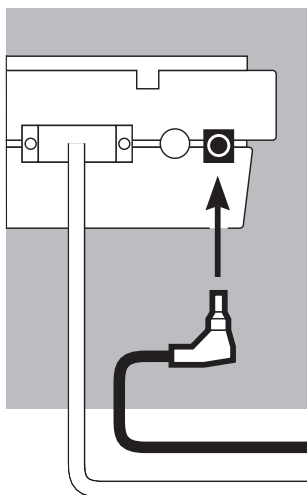
● Plug the original Sartorius AC adapter into an electrical outlet

● Insert the right-angle plug into the jack on the right-hand side of the printer's rear panel.
The green LED lights up to indicate that the printer is energized.

○ Install the batteries (see page 6)

○ Connect and switch on the printer and the weighing instrument as described in the previous section

Operation

The data printer has 6 function keys for operation:

(↑): Line feed: Advances the paper by one blank line

(N/N̄): "Numerator": Switches the function for numbering measured values on the printout on and off. This option is available only if the numerator function (-P4-) is activated in the printer port settings (see page 24). When the numerator function is active, "NUM." is displayed.

NUM.

(CN): "Clear Numerator": Resets the numerator to 001

(STAT): Statistical evaluation of the collected values. This option is available only if the statistics program (-A3-) is activated in the statistics application menu has been activated (see page 27). When this option is active, the display shows the number of measured values in memory each time a value is added (in the example on the left, the 12th value has just been added).

88 12
STAT.

(DATE): Prints the date and time

(🗐): Sends the active value to the printer or stores it in memory.
If the statistics program is not active, this key prints the measured value currently active in the connected weighing instrument without statistics

With active statistics program (-A3-; see page 28), the function depends on your application settings.

In the manual data storage mode, pressing this key adds the current measured value to the statistics memory (regardless of whether the print function is active)

In the automatic data transfer mode, pressing this key starts automatic data transfer

Printing the Measured Value from the Connected Weighing Instrument

○ If necessary, advance the paper first: Press the line feed key (🔁) repeatedly or press and hold the key

```
 22-Jan-08    10:25:38
```

○ Print date and time if desired: Press the (ᴰᴬᵀᴱ▸) key

> The printout should be similar to the example on the left

```
001:      +   123.4  g
```

● To print the measured value, press the (🖨) key

○ To reset the numerator, press the (ᶜᴺ) key

○ To turn off the numerator, press the (ᴺ/Ñ) key

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STAT.

Statistical Evaluation of Measured Values

The printer's built-in statistics program can evaluate all values transferred from a connected weighing instrument. To use this function, activate the statistics program (-A3-) in the statistics application menu (see "Configuration"). When this function is active, "STAT." is displayed for one-half a second, together with the total number of values added to the statistics memory, each time a value is added to the statistics memory.

Values are added to the statistics program by pressing the (⊟) key. In manual data storage mode, the current value is added when you press (⊟). The allows you to select individual values for evaluation. In automatic data storage mode, once you press the (⊟) key all subsequent values are added to the statistics memory.

To print statistics, press the ($\overset{STAT}{\blacktriangledown}$) key. Once the data has been printed, the statistics memory is cleared and either the time or the date is displayed.

Configuring the Printer for Statistical Evaluations

Which of the following statistical values are included on the statistics printout depends on your settings in the statistics application menu:
- Number of weighing operations   n   (-53-)
- Mean value $\bar{x}$ (-54-)
- Standard deviation   s   (-55-)
- Variation coefficient s_{rel} (-56-)
- Sum of the individual values Σx (-57-)
- Lowest value   min   (-58-)
- Highest value   max   (-59-)
- Difference between the lowest
  and highest values   diff   (-5 10)
- Date and time   date   (-5 11)

Printing Individual Values
To print all values included in the statistical evaluation, configure the following settings in the statistics application menu:
– Printout of statistics program values = 1 (-A4-)
(factory setting = 1: all values are printed)

If the numerator is switched off (by pressing the (N/n̄) key), the individual values are not printed, but are added to the statistics memory. The number displayed by the transaction counter increases by 1 with each value added.

Numbering Each Value

To have all individual values printed with their transaction numbers, configure the printer port settings as follows:
– Numerator (-P4-) = 1
(factory setting = 1)

The display shows "NUM."

NUM.

To switch off the numerator during operation, press the (N/n̄) key

Tare Function
To have the weighing instrument tared automatically after data transfer, configure the statistics application menu as follows:
– Automatic taring (-A2-) = 1 (factory setting = 0)

Data Transfer and Statistical Evaluation in Manual Mode

Printer Configuration
Configure the following in the statistics application menu:

STAT.

– Statistics program (-A3-) = 1
(factory setting = 1)
The display shows "STAT."

– Print measured values (-A4-) = 1

– Store measured values manually (-P6-) = 0.

Recording and Evaluating Data
● Press the (STAT▼) key to clear the statistics memory prior to initial data transfer

> Any values in memory are evaluated and the results printed, and then the statistics are deleted.

● Place the first sample on the weighing pan

● Press the (🖶) key to store the value

> The value may be printed as well, depending on printer configurations

> The display shows the number of values stored

0001

If the automatic taring function (-A2-) is switched off:
● Remove the sample from the weighing pan

● Place the next sample on the weighing pan

● Press the (🗐) key to store the value

```
001:      +   123.6  g
002:      +   117.8  g
003:      +   119.1  g
```

> Measured values are printed (see example on the left)

  If the automatic taring function (-A2-) is switched on:
● Leave the first sample on the weighing pan

● Add the next sample to the one already on the weighing pan

● Make sure the total weight does not exceed the weighing instrument's maximum capacity (if it does, "H" is displayed)

● Press the (🗐) key to store the value
> The value is printed

● Continue as described above until all samples have been weighed

```
n                 12
x̄              99.8  g
s               3.55  g
srel            3.57  %
Σx           1203.4  g
min            96.0  g
max           103.2  g
Diff            7.2  g

  22-Jan-08    16:02:11
```

● Press the (STAT▼) key to print the statistics

> Calculated values are printed (see example on the left)

> After printing, the measured values are deleted from the printer's memory

Vartext1, Vartext2
You can define a header of up to two lines, with up to 24 characters per line. The header lines are designated "Vartext1" and "Vartext2" and are stored in the printer's non-volatile memory. For details on defining header texts, see page 21 in the chapter entitled "Configuration".

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Data Transfer and Statistical Evaluation in the Automatic Mode

Storing Measured Values
The first value stored must be greater than 30 scale intervals of the weighing instrument's display
(e.g. > 3.0 g on a decigram scale). A value can be stored only when the stability symbol is displayed (i.e., when fluctuation ≤ 1 scale interval). The first value stored is used as the reference value for the statistics. The next value cannot be stored until the weighing instrument has been unloaded (i.e., until the load on the pan is less than 30% of the reference value). The next value is stored only if it is > 70%
of the reference value.

Printer Configuration
Configure the following in the statistics application menu:

– Statistics program (-$A\overline{3}$-) = 1

– Automatic data transfer = 1 (-$P\overline{b}$-).

Weighing Instrument Configuration
The following must be configured in the weighing instrument (see weighing instrument instructions for details):

– Automatic printing

– Data output without stability

Recording and Evaluating Data

● Press the (STAT▾) key to clear the statistics memory prior to initial data transfer

> Any values in memory are evaluated and the results printed

● Place the first sample on the weighing pan

● Press the (▯) key to store the measured value

> The total number of transactions is displayed (see example on the left)

```
0001
```

> "STAT" is displayed for approximately 0.5 sec.

> The measured value is stored in the statistics memory as the reference value

If the automatic taring function is switched off:
● Remove the sample from the weighing pan

● Place the first sample on the weighing pan

> The value is stored automatically once the weighing instrument has stabilized

> Measured values are printed (see example on the left)

```
001:      +    123.6  g
002:      +    117.8  g
003:      +    119.1  g
```

If the automatic taring function is switched on:
> The weighing instrument is tared automatically after initial data transfer

● Leave the first sample on the weighing pan

● Add the next sample to the one already on the weighing pan

● Make sure the total weight does not exceed the weighing instrument's maximum capacity (if it does, "H" is displayed)
> The value is stored automatically once the weighing instrument has stabilized
> The value is printed

16

```
n              12
x̄          99.8 g
s           3.55 g
srel        3.57 %
Σx        1203.4 g
min         96.0 g
max        103.2 g
Diff         7.2 g

 22-Jan-08   16:02:11
```

● Continue as described above until all samples have been weighed
● Press the (�STATᵥ) key to print the statistics
> The next weight is printed out (see example on the left)
> After printing, the measured values are deleted from the printer's memory

Example
Weighing tablets and generating a statistical evaluation of the weight values The weighing instrument is verified for use in legal metrology. Configure the following settings for the statistics program in the printer's "Application Settings" menu:
– Generate an ISO/GLP-compliant printout = 1 (-A1-)
– Automatic taring after each
  value is stored = 1   (-A2-)
– Statistics program = 1   (-A3-)
– Printout after each value is stored = 1   (-A4-)
  Press and hold the (�STATᵥ) key approximately
  6 seconds, configure the desired settings,
  and press the (N/n̄▲) key to store.
  Configure the following printer port settings as desired:
– Number each value consecutively and
  include number of printout (numerator) = 1   (-P4-)
– Store values automatically = 0   (-P6-)
  Press and hold the (▤) key approximately
  6 seconds, configure the desired settings,
  and press the (N/n̄▲) key to store.

● In addition, configure the weighing instruments for ISO/GLP-compliant printouts (see weighing instrument instructions for details)

● Press the (�STATᵥ) key to clear the statistics memory prior to initial data transfer
> Any values in memory are evaluated and the results printed.
● Place the first tablet on the weighing pan
● Press the (▤) key to store the measured value
> Once the weighing instrument has stabilized, this value stored in the statistics memory as the reference weight

17

```
------------------------------
05-May-2008      12:35
        Sartorius
Mod.        ED6202S-OCE
Ser. no.
Ver. no.     00-32-07
ID
------------------------------

L ID
```

> The last digit of the weight must be printed inversely if the scale interval (d) of the weighing instrument used in legal metrology is not equal to its verification scale interval (e). If the weighing instrument has a scale interval (d) that matches its verification scale interval (e), none of the digits are marked (no inverse printing). If the weighing instrument is not in accuracy class Ⅱ, no digits are printed inversely.
> After a value has been stored, the printer sends a signal that prompts taring of the weighing instrument

● Leave the tablet on the weighing pan

● Add the next tablet to the one already on the weighing pan
> The weight is automatically stored once the weighing instrument has stabilized

```
002:      +      10.13 g
```

> The next weight is printed out (see example on the left)
> The weighing instrument is tared

When the weighing instrument displays a zero readout:
● Add the next tablet to the weighing pan

● Press the (▯) key

● Continue adding tablets as described above each time the weighing instrument has been tared
When you have placed the last tablet on the weighing pan and the last weight is displayed and printed:
● Generate a statistical evaluation by pressing the ($\overset{STAT}{\blacktriangledown}$) key
> The statistical evaluation is printed. Which data is included on the printout depends on the settings configured in the "Application Settings" menu for the printer's statistics application, and can include quantity, mean, total, lowest and highest measured values, and date and time.

```
n                    12
x̄                 9.98 g
Σx              120.34 g
min               9.60 g
max              10.32 g

    End  :  10:31:56

    Name :
```

● Press the CF key on the weighing instrument

> The ISO/GLP footer is printed

Information on use of the printer in legal metrology (legal-for-trade applications):
The German National Institute of Physics and Metrology (PTB) has issued an independent test certificate for the YDP20-0CE (see certificate for number). With this certificate, the printer can be operated in legal metrology in the EU and the EEA. This applies only when the printer is connected to a weighing instrument that has an EC type approval certificate, or a national equivalent, certifying that the weighing instrument is verifiable for legal metrology.

```
N    + 208 76 g
N    + 218 88 g
N    + 220 33 g
N    + 222 65 g
N    + 224 02 g
```

– Set up the printer so that you can view both the print-out and the weight readout of the connected weighing instrument

– **For verified weighing instruments in which e does not equal d:**
For verified weighing instruments with e d: For a verified weighing instrument that does not transfer the designation of the last display digit to the printer, configure the data printer so that the last digit of the weight value is inversely printed (see "Printer Port Settings" in the chapter entitled "Configuration")

Note:
For verified weighing instruments with e = d and d < 0.1 mg, inverse printing of the last digit of the weight value is not permitted.

If the printer is subsequently connected to a verified weighing instrument that is used in legal metrology, notify your local weights and measures inspection office, or contact your local Sartorius service center if you wish to have the data printer configured and prepared for verification for legal metrology.
The above does not apply to printers that are used in legal metrology upon initial commissioning.

```
~~~~~~~~~~~~~~~~~~~~~~~~~~~
20.05.2008        09:33
            Typ
      SIWRDCP-1-6-RCE
Ser.no       21901545
Vers. S2 2.0015.05.8
BVers.        00-37-15
~~~~~~~~~~~~~~~~~~~~~~~~~~~
Externes Kalibrieren
Soll  +    5000.0 g
Diff.         0.2 g
Externes Justieren
Diff.         0.0 g
~~~~~~~~~~~~~~~~~~~~~~~~~~~
20.05.2008        09:33
Name:

~~~~~~~~~~~~~~~~~~~~~~~~~~~
```

ISO/GLP–compliant Data Records
An ISO/GLP*-compliant printout must include the
following data with each measurement:

– Weighing instrument manufacturer

– Weighing instrument model

– Weighing instrument serial number

– Date and time of the start and finish of each
  measurement

– Operator/workstation ID

– Operator signature

● To configure the data printer for ISO/GLP-compliant
  data printouts, see "Settings for ISO/GLP-compliant
  Data Records" in the chapter entitled "Configuration"
  on page 61

● The corresponding settings must be configured in the
  weighing instrument as well. Refer to the section on
  ISO/GLP-compliant records or printouts in the weighing
  instrument instruction manual for details.

* ISO: International Organization for Standardization
  GLP: Good Laboratory Practice

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Configuration

Setting the Date and Time

Note:
To activate the date/time setting mode, either turn on the data printer and the weighing instrument and, while all display segments are lit,

● Press the (ᴰᴬᵀᴱ▸) key

or, at any time during operation,:

● Press and hold the (ᴰᴬᵀᴱ▸) key for at least 5 seconds

> The display is as shown on the left. "HH" indicates "hours".

$$HH\ nn$$

You can exit the "Set Date and Time" mode at this point, or at any point during the subsequent steps, as follows:

○ To exit the date/time setting mode, press the (ᶜᴺ◂) key, repeatedly if necessary, until the menu is closed

You can also return to the previous menu level as follows during any of the subsequent steps:
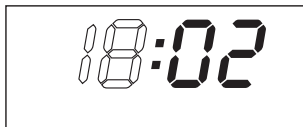
○ To return to the previous menu level, press the (ᶜᴺ◂) key
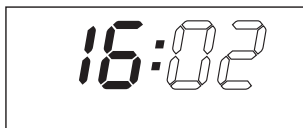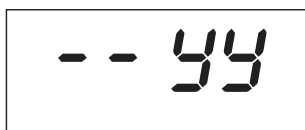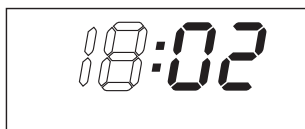
● To set the hour, press the (ᴰᴬᵀᴱ▸) key

$$16:02$$

> The two "hours" digits flash (see example on the left)

● To select the desired hour, press the (ᴺ/ñ▲) key or the (ˢᵀᴬᵀ▼) key, repeatedly if necessary

$$18:02$$

> The "hours" digits are adjusted (see example on the left)

● To store the setting, press the (ᴰᴬᵀᴱ) key

> The two "minutes" digits flash (see example on the left)

● To set the minutes, press the (ᴺ/ɴ̄) key or (ˢᵀᴬᵀ) key, repeatedly if necessary

> The "minutes" digits are adjusted (see example on the left)

● To store the setting, press the (ᴰᴬᵀᴱ) key

> The display returns to the previous status

● To set the date, press the (ᴺ/ɴ̄) key

> The display is as shown on the left; "dd" stands for "day"

● To select the desired day, press the (ᴰᴬᵀᴱ) key

● Enter the day and month in the same manner as the hours and minutes

● To set the year, press the (ᶜᴺ) key

> The display is as shown on the left; "YY" stands for "year"

● Enter the year (the last two digits) in the same manner as the minutes:
80 to 99 for 1980 to 1999
00 to 79 for 2000 to 2079

● To exit the date/time setting mode, press the (ᶜᴺ) key, and then press (ᶜᴺ).

> Press (ᶜᴺ)

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Settings for ISO/GLP-compliant Data Records
To configure ISO/GLP-compliant data records, begin by
opening the statistics application menu. To open the
statistics application menu immediately after switching
on the printer (or weighing instrument):

● Press the (ᵀ꜀) key while all display segments are lit
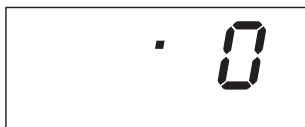To open the statistics application menu during
operation:
● Press and hold the (ᵀ꜀) key for at least 5 seconds
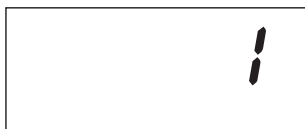
> The display shows "-A¹-"

To activate configuration of the ISO/GLP-compliant
data record, press the (ᴰᴬᵀᴱ) key

> The display is as shown on the left (example).
The dot indicates the currently active setting

● To configure the ISO/GLP-compliant data record, press
either the (ᴺ꜀) key or the (ᵀ꜀) key until "1" is dis-
played

> The display is as shown on the left

● To store the setting, press the (ᴰᴬᵀᴱ) key

● To exit the statistics application menu, press the
(꜀ᴺ) key

● The corresponding settings must be configured in the
weighing instrument as well. Refer to the section on
ISO/GLP-compliant records or printouts in the weighing
instrument instruction manual for details.

> In all subsequent printouts, an ISO/GLP header and
footer similar to the example shown on the left are
printed automatically

○ To print the settings, press the (⊟) key

```
        SARTORIUS
Model           ED6202S
S/N           040240772
Id                  564

Date :      22-Jan-08
Start:       10:25:14
Ser. :


End  :       10:25:32

Name :
```

Printer Port Settings
You can prevent unauthorized changes in this configu-
ration menu by defining a four-digit number (PIN) as
a password. If you lose or forget this number, contact
your local Sartorius Service Center.

All settings are loaded in the printer's memory
(EEPROM) when the printer is switched on and applied
during operation.

There are two ways to open the menu for configuring
printer port settings:

– Hold down the (▤) key when you switch on the print-
  er, or, during operation,
– Press and hold the (▤) key for at least 5 seconds

The (◄ᶜᴺ), (ᴺ/ᴺ̄▲), (ˢᵀᴬᵀ▼) and (ᴰᴬᵀᴱ►) keys then have the
navigation functions indicated by the arrows.

The diagram on the next page illustrates the procedure
for configuring the "Code" (PIN code) and "Baud" (data
transfer rate) settings. All parameter options in the
printer port configuration menu
are listed on the subsequent page, following the dia-
gram.

To print the menu settings, open the Setup menu and
press the (▤) key.
Note:
The "C" or "L" printed after the program version num-
ber indicates whether menu settings can be changed:

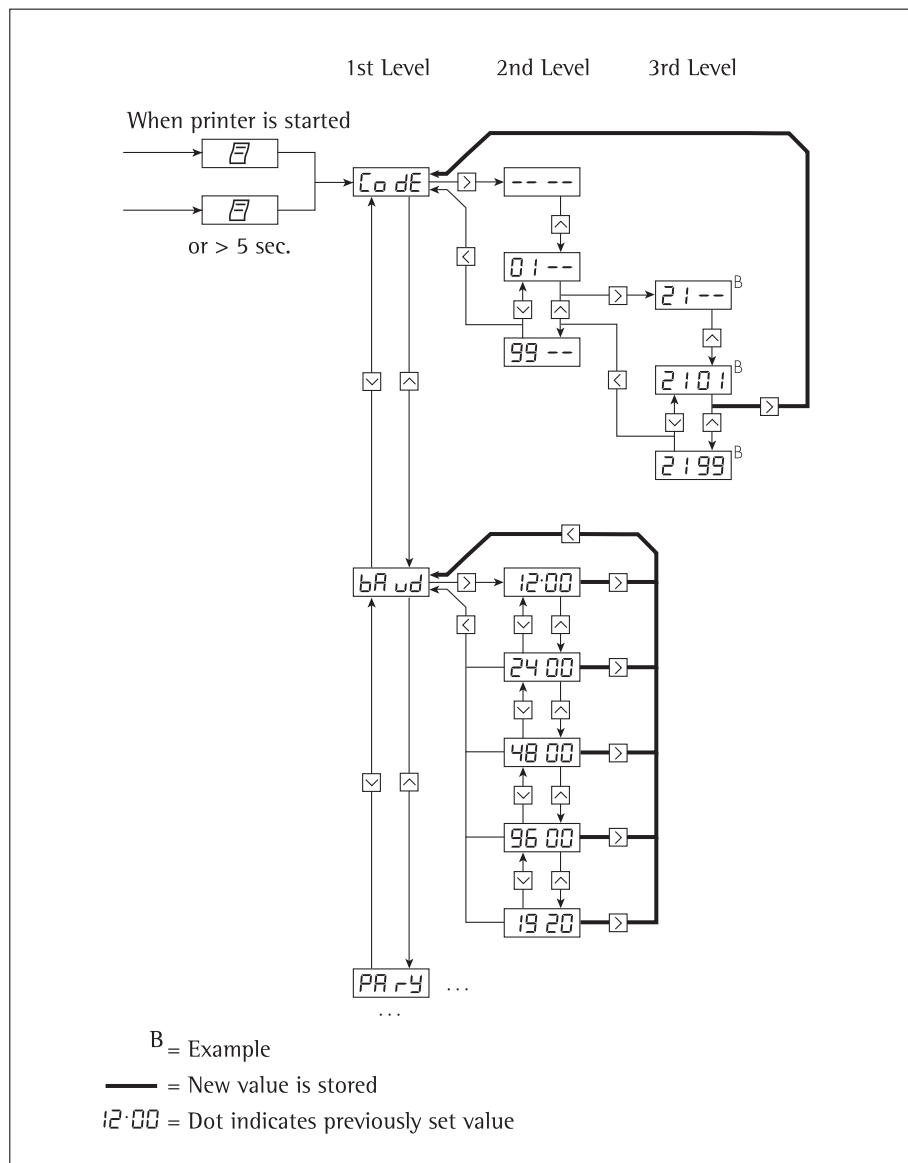C: "Change" Settings can be changed

L "Locked"   The menu is locked; settings cannot
              be changed
Note:
The time cannot be set when the menu is locked.

```
Interface Settings
YDP20-0CE              1808
Serial Number:    22835008
Program Vers.:    3.34   C
------------------------------
Baud rate           1200 bd
Data bits           7 bits
Parity              odd
Handshake           DTR/CTS
P1:Send CR/LF       ON
P2:Print format     Right
P3:Decimal-Char     Point
P4:Num.function     ON
P5:Inverse from     0
P6:Print mode       Standard
P7:Date/Time        ON
P8:Print TEXT1      OFF
P9:Print TEXT2      OFF
C1:Time format      24h
C2:Display          Time
------------------------------
```

1st Level   2nd Level   3rd Level

When printer is started

or > 5 sec.

B = Example

= New value is stored

12·00 = Dot indicates previously set value

Options for Printer Port Settings

Designation	Display	Factory settings	Options
Password	CodE		0100 to 9999
Transmission rate (Baud rate)	bAud	1,200	1,200, 2,400, 4,800, 9,600, 19,200
Number of data bits:	dAtA	7	7 data bits 8 data bit
Parity	PArY	Odd	Odd Even 0 = Space 1 = Mark
RS-232C handshake	HAnd	0 DTR/CTS	0 = Hardware = DTR/CTS 1 = Software = XON/XOFF
Print with <CR, LF> (send CR/LF)	-P1-	1 on	0 = OFF = no (print without CR/LF) 1 = on = yes (print with CR/LF)
Print right or left justified (print format)	-P2-	0 Right	0 = Right justified 1 = Left justified
Print period or comma (decimal separator)	-P3-	0 Period	0 = Period (decimal point) 1 = Comma
Numerator on/off (numbering function)	-P4-	1 ON	0 = OFF = Print without numerator 1 = ON = Print with numerator
Inverse printing	-P5-	0	0 = No inverse printing, 1 = Last digit inverse, 2 = Last 2 digits inverse, 3 = Last 3 digits inverse
Manual/automatic storage of measured values Standard	-P6-	0	0 = Standard = Values stored individually 1 = Values stored automatically
Date/time when printer starts (date/time printout) on	-P7-	1	0 = OFF = Not printed 1 = ON = Date and time printed
Print VARTEXT1 on startup	-P8-	0 OFF	0 = OFF = VARTEXT1 not printed 1 = ON = VARTEXT1 printed
Print VARTEXT2 on startup	-P9-	0 OFF	0 = OFF = VARTEXT2 not printed 1 = ON = VARTEXT2 printed
Time display format	-C1-	24	12 or 24 hours
Date/time display (display)	-C2-	0 Time	0 = Time 1 = Date

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**User–defined Text Input for the First and Second Lines
(Vartext1, Vartext2)**

● This requires a computer (PC) with a BASIC interpreter.
The following BASIC program transfers text over the interface of a connected computer
(PC). The BASIC interpreter that comes with the computer executes this program.

```
CLS
PRINT  "      1234567890123456789O1234"
LINE INPUT "VARTEXT1 ? ", VarText1$
LINE INPUT "VARTEXT2 ? ", Vartext2$
OPEN "com1: 1200,O,7,1,CDO,DSO" FOR RANDOM AS #1
PRINT #1,CHR$(27)+"j"+VarText1$+"_"+CHR$(13)+C
HR$(10)
PRINT #1,CHR$(27)+"k"+Vartext2$+"_"+CHR$(13)+C
HR$(10)
CLOSE #1
```

Statistics Application Settings

All settings are loaded in the printer's memory (EEPROM) when the printer is switched on and applied during operation.

There are two ways to open the menu for configuring statistics application settings:
- Hold down the (^{STAT}) key when you switch on the printer, or, during operation,

- Press and hold the key (^{STAT}) for at least 5 seconds

The (^{CN}), (^{N/N}), (^{STAT}) and (^{DATE}) keys then have the navigation functions indicated by the arrows.

Menu navigation is analogous to navigation in the printer port configuration menu. All parameter options in the statistics application menu are listed on the next page.

To print the current settings, press the (⊟) key

The "C" or "L" printed after the program version number indicates whether menu settings can be changed:

C: "Change" Settings can be changed

L "Locked" The menu is locked; settings cannot
             be changed

```
Application Settings
Program Vers.:  3.34   C
---------------------
A1:Mode ISO/GLP ON
A2:Tare func.   OFF
A3:Statistics   ON
A4:Print value  ON
A5:Header       0
S1:Print TEXT1  OFF
S2:Print TEXT2  OFF
S3:Print n      ON
S4:Print x      ON
S5:Print s      ON
S6:Print srel   ON
S7:Print Ex     ON
S8:Print min    ON
S9:Print max    ON
S10:Print diff  ON
S11:Print date  OFF
---------------------
```

Configuration Options for the Statistics Application

Designation	Display	Factory settings	Options
GLP/GMP printout	-A1-	1	0 = no, 1 = yes
Tare weighing instrument automatically	-A2-	0	0 = no, 1 = yes
Statistics program	-A3-	1	0 = no, 1 = yes
Print measured values	-A4-	1	0 = no, 1 = yes
Index data storage header for values in statistics	-A5-	0	0 to 50 (details available on request)
Print Vartext1 with statistics	-S1-	0	0 = no, 1 = yes
Print Vartext2 with statistics	-S2-	0	0 = no, 1 = yes
Print no. of measurements	-S3-	1	0 = no, 1 = yes
Print mean value	-S4-	1	0 = no, 1 = yes
Print standard deviation	-S5-	1	0 = no, 1 = yes
Print variation coefficient	-S6-	1	0 = no, 1 = yes
Print sum of individual values	-S7-	1	0 = no, 1 = yes
Print lowest measured value	-S8-	1	0 = no, 1 = yes
Print highest measured value	-S9-	1	0 = no, 1 = yes
Print difference between highest and lowest values	-S10-	1	0 = no, 1 = yes
Print date/time	-S11-	0	0 = no, 1 = yes

Printing Hardcopies of Settings

Printing a Hardcopy of the Printer Port Settings

● Open the printer port menu:

– Hold down the (▤) key while switching on the printer, or

– Press and hold the (▤) key (> 5 sec)
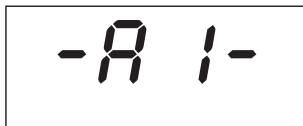
> The display is as shown on the left

```
CodE
```

● To print the settings, press the (▤) key

> Data is printed as shown on the left (example shows factory settings)

● To exit the printer port menu, press the (ᶜᴺ◁) key

```
Interface Settings
YDP20-0CE            1808
Serial Number:  22835008
Program Vers.:  3.34    C
------------------------
Baud rate          1200 bd
Data bits          7 bits
Parity             odd
Handshake          DTR/CTS
P1:Send CR/LF      ON
P2:Print format    Right
P3:Decimal-Char    Point
P4:Num.function    ON
P5:Inverse from    0
P6:Print mode      Standard
P7:Date/Time       ON
P8:Print TEXT1     OFF
P9:Print TEXT2     OFF
C1:Time format     24h
C2:Display         Time
------------------------
```

**Printing a Hardcopy
of the Statistics Application Settings**

● Open the statistics applications menu:

– Hold down the (ᔆᵀᴬᵀ) key while switching on the printer, or

– Press and hold the (ᔆᵀᴬᵀ) key (> 5 sec)

> The display is as shown on the left

-A1-

● To print the settings, press the (冃) key

> Data is printed as shown on the left (example shows factory settings)

● To exit the statistics application menu, press the key (CN)

```
Application Settings
Program Vers.:  3.34   C

A1:Mode ISO/GLP ON
A2:Tare func.   OFF
A3:Statistics   ON
A4:Print value  ON
A5:Header       0
S1:Print TEXT1  OFF
S2:Print TEXT2  OFF
S3:Print n      ON
S4:Print x      ON
S5:Print s      ON
S6:Print srel   ON
S7:Print Σx     ON
S8:Print min    ON
S9:Print max    ON
S10:Print diff  ON
S11:Print date  OFF
```

Troubleshooting Guide

| Display or printout	LED	Cause	Solution
Err 1	flashes	Data in printer memory (EEPROM) defective (checksum incorrect)	● Press any key > Factory settings are loaded ○ If necessary, change printer port and/or statistics application settings
Err2	flashes	Capacity of input buffer exceeded	● Switch off weighing instrument and switch on again
Err3	flashes	No control signal from printer	● Press any key ● Check batteries ○ Recharge batteries if necessary ○ Replace batteries if necessary
⊟	flashes red	Batteries low Batteries discharged	● Charge batteries (see "Maintenance")
_ Underline character on printout		Transmission error in a data string	● Make sure settings in printer and weighing instrument match

Maintenance

Changing the Paper Roll
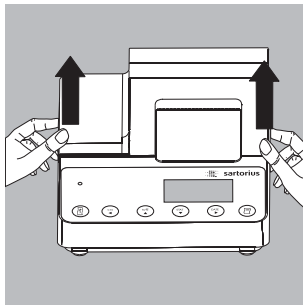
The paper rolls must have the following
specifications (see "Accessories"):
– Standard paper roll
– Wood-free paper, 60 g
– Width: 57.5 mm ± 0.5 mm
– Diameter: maximum 65 mm
– Open core diameter: minimum 8 mm

● Lift the cover of the paper roll compartment

● Pull out the roll holders from both sides of the roll core
as shown on the left
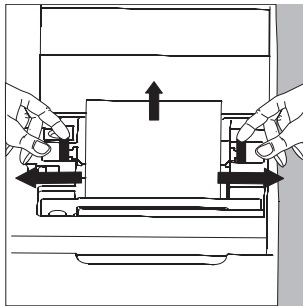
● Remove the old roll core

○ Place the new paper roll on a flat surface

○ The beginning of the paper must be on the bottom and
pointing towards you

● Hold the paper roll above the paper roll compartment
between thumb and index finger of one hand

● Thread the paper through the slot underneath the ink
ribbon with your other hand

● To transport the paper through the ink ribbon
cassette, press the (🖅) key repeatedly, or hold it down

> The paper will be threaded into, then out of the ink
ribbon cassette
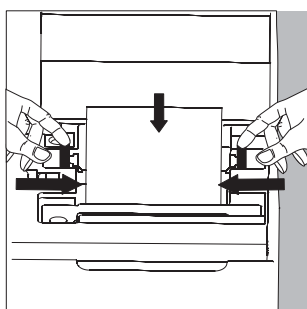
● To align the paper roll, hold it so that you can push both roll holders into the core
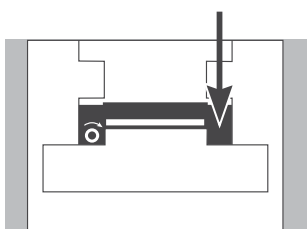
● Release the roll holders on both sides

● Close the paper roll compartment

Replacing the Ink Ribbon Cassette
Your data printer requires a black ink ribbon cassette, type ERC-22 (see "Accessories").

● Lift the cover of the paper roll compartment

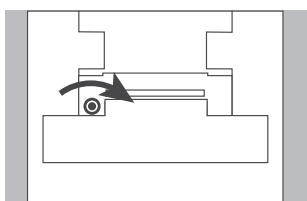● To remove the paper from the ink ribbon cassette, turn the paper roll opposite to the paper feed direction

Press down on the right-hand side of the cassette

> The left-hand side of the cassette rises

● Remove the cassette

● Insert a new ink ribbon cassette from the top

> The cassette locks into place

○ If necessary, turn the small tension wheel on the left in the direction of the arrow until the ribbon is stretched taut in front of the paper

● To thread the paper, see "Replacing the Paper Roll"

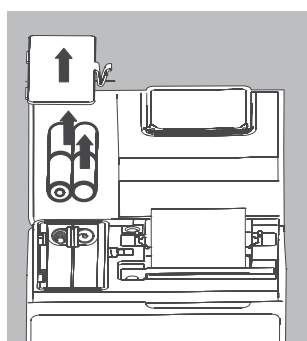● Close the paper roll compartment

Charging the Batteries

If the symbol shown on the left lights up:

○ Leave the weighing instrument on

> The batteries are charged while the weighing instrument is in standby mode

> Allow 28 hours to fully charge the batteries in the printer

○ If the symbol does not go out within 3 hours at the latest, change the batteries
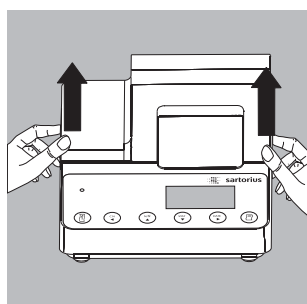
Replacing the Batteries

⚠ Avoid draining the batteries excessively, as this will reduce their recharging capacity.

⚠ Use only size AA rechargeable nickel-metal hydride batteries (see "Accessories"; order number 69Y03136)

● Lift the cover of the paper roll compartment

● Tilt back the cover of the battery compartment

⚠ Remove the 4 batteries
Do not throw away used batteries with normal household waste. Batteries contain toxic materials and must be disposed of in accordance with local waste disposal regulations.

○ If you have any questions, please contact your local Sartorius Service Center

● Install the 4 rechargeable batteries in the battery compartment. Make sure that the poles match the + and – signs.

● Close the battery compartment

● Close the paper roll compartment

Cleaning the Data Printer

⚠ When cleaning the data printer, make sure that no liquid enters the housing

⚠ Do not use aggressive cleaning agents (solvents or similar agents)

● Disconnect the power supply by
– Disconnect the power supply by unplugging the interface cable (connecting the weighing instrument) from the rear panel of the printer
  or
– If the printer has an external power supply, disconnect the power supply from the wall outlet (mains)

● Use only a cloth moistened with a mild detergent (soap) to wipe down the printer housing

● After cleaning, wipe down the printer with a soft, dry cloth

Accessories

Product		Order No.
Paper rolls (box of 5)		6906937
Ink ribbon cassette		6906918
AC adapter with specifications rated for:	Europe	6971412
	United Kingdom	6971414
	USA	6971413
	Australia	6971411
	South Africa	6971410
Set of rechargeable batteries (4 nickel-metal hydride, size AA)		69Y03136

Specifications

Designation	Value
Length	215 mm
Width	155 mm
Height	78 mm
Weight (without batteries or paper roll)	Approximately 800 g
Operating temperature	0°C to 40°C (32°F to 104°F)
Allowable storage temperature	−40°C to +70°C (−40°F to +158°F)