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# Immersion fittings

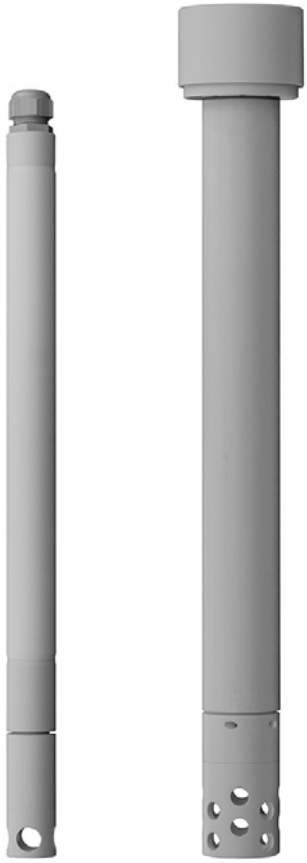
## 202820 series

## Brief description

Immersion fittings are used for holding electrochemical sensors (e.g. pH and redox electrodes, glass conductivity cells, compensation thermometers etc.) with a Pg 13.5 screw-in thread and a fitting length of 120 mm.
Fitting types for up to 3 sensors are available.
The fittings are mounted in open sluices or containers. They protect the installed sensor from breaking and enable measurement in different immersion depths. Thanks to various options and accessories, the fittings can be optimally adjusted to the conditions on site. Two pipe clips for wall mounting are provided for the standard versions, but sliding flanges, which are available as an option, also permit installation in container lids, for example.

**The following points have to be taken into account:**

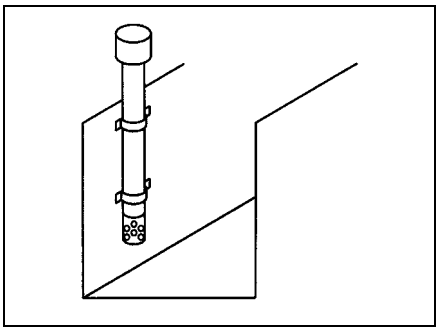
- The fittings must be readily accessible, to ensure that the sensor can be cleande and service at regular intervals.
- pH and redox electrodes must not be allowed to remain dry for a prolonged period - this can be prevented by using a wetting cup.
- The suitability of the materials (e.g. chemical compatibility) has to be tested by the system designer.



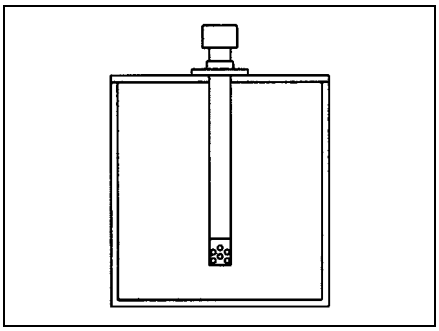
**Type 202820/40...** **Type 202820/63...**

## Installation options

**Standard**

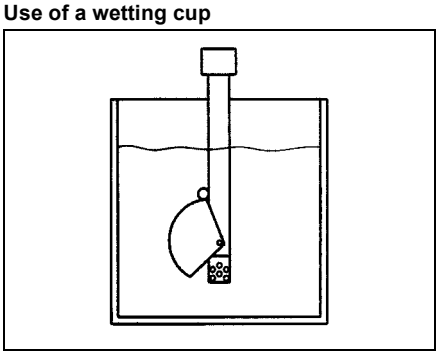


Fixing with pipe clips in the inlet channel

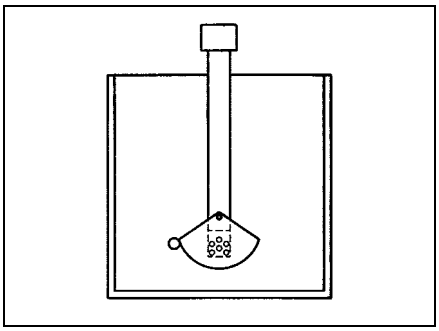


Fixing with a flange on a container

**Use of a wetting cup**



with the container filled



with empty container
(residual liquid in the cup prevents the sensor from running dry)

**Additional fittings**

| Fitting type | Data sheet |
|---|---|
| Flow-through fittings | 202810 |
| Process immersion fittings | 202821 |
| Manual quick-change fittings | 202822 |
| Stainless steel process fittings | 202825 |

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# Type 202820/40...

For installing one sensor with a Pg 13.5 thread[1]
An impedance converter, type 202995/00... (Data sheet 202995), or a 2-wire transmitter, type 202701 (Data Sheet 202701) can be incorporated.



Type 202820/40-0500-87

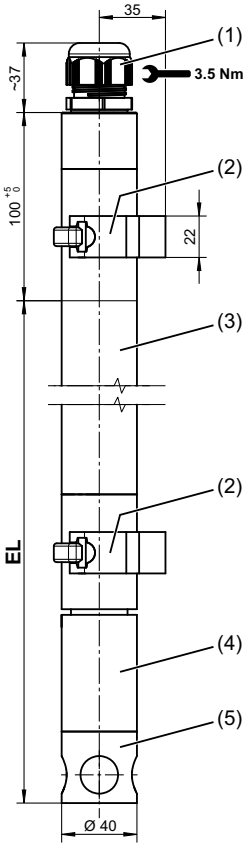
# Technical data

| | |
|---|---|
| Material | Polypropylene (PP), seals FPM (others to special order) |
| Permissible temperature | 0 to 95 °C |
| Safe pressure | 1 bar, up to 90 °C |
| Electrode holder | Pg 13.5 thread |
| Immersion tube length | Normally 500 mm and 1000mm,<br>up to 2000 mm can be implemented,<br>standard lengths 500, 800, 1000, 1300, 1500 and 2000 mm |
| Mounting | Normally with pipe clips, other mounting forms (flange, etc.)<br>are optionally available |
| Protection | IP65, EN 60529 |
| Weight | Depending on length |

**Note:**
An external KCl reservoir can be used with all immersion fittings.

[1] Not suitable for pH/redox combination electrodes with liquid-KCl-feeder (Typ 201020/76)

# Dimensions




**Typ 202820/40...**

(1) Cable fitting M25 x 1,5 with a clamping range from 3 to 8 mm
(2) Pipe clip
(3) Protection tube
(4) Electrode holder
(5) Protection basket
(6) Immersion tube length (EL)

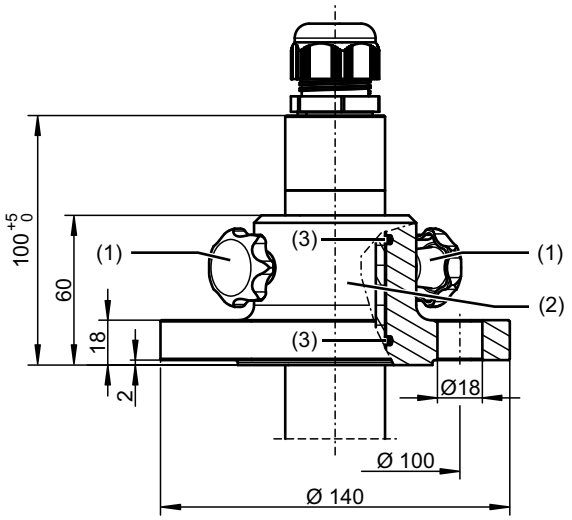
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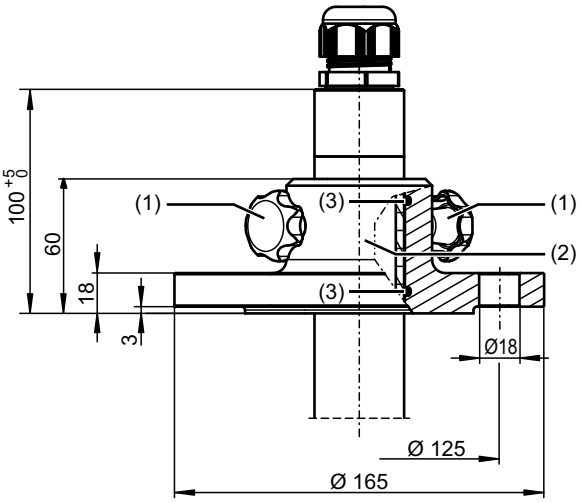


## Extra codes/accessories



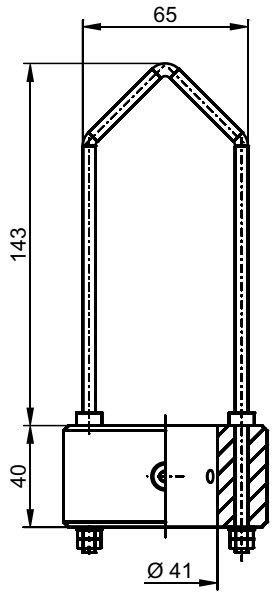

**Flange DN 32, part no. 00083375**

(1) 2 Fixing screws
(2) Flange (slidable)
(3) 2 O-Rings (inside)

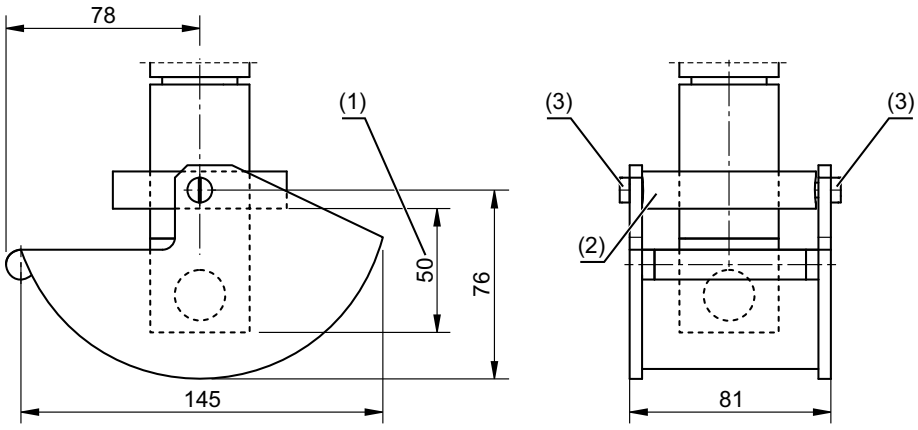



**Flange DN 50, part no. 00083376**

(1) 2 Fixing screws
(2) Flange (slidable)
(3) 2 O-Rings (inside)




**Shackle, part no. 00453191**




**Wetting cup, part no. 00083372**

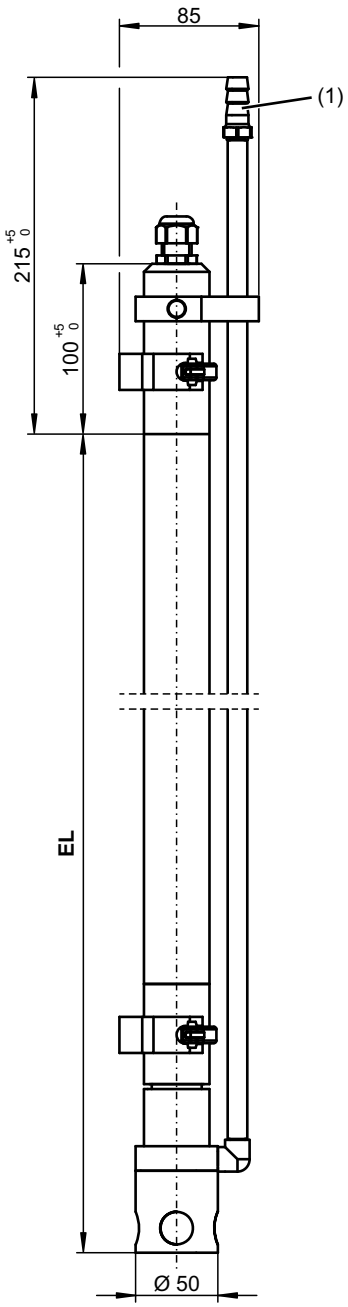
(1) Fitting dimension 50 mm
(2) Wetting cup bracket
(3) Screws

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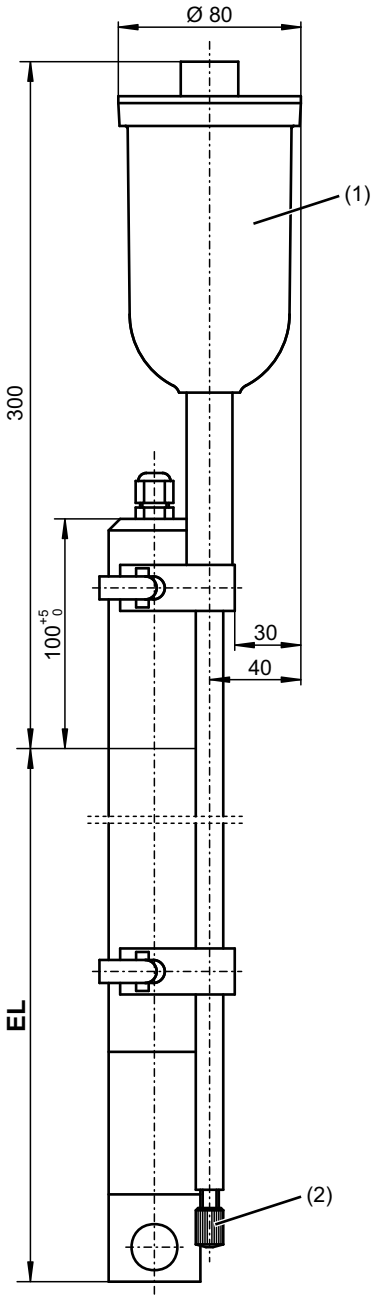
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**Cleaning nozzle, extra code 078**

(1) Hose connection DN 12
(2) Immersion tube length (EL)




**KCl reservoir with diaphragm tube, extra code 082**

(1) KCl reservoir
(2) Diaphragm reference system
(3) Immersion tube length (EL)

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# Type 202820/63...

For installing up to 3 sensors with a Pg13.5 thread.
An impedance converter type 202995/00... (Data Sheet 202995), or a 2-wire transmitter type 202701 (Data Sheet 202701) can be incorporated.



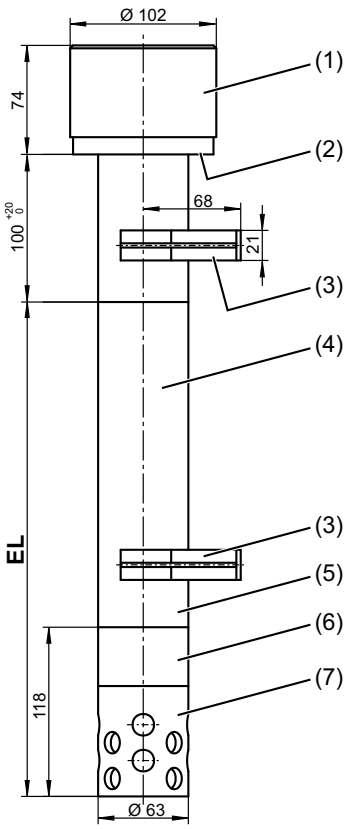
Type 202820/63-0500-87

# Technical data

| | |
|---|---|
| Material | Polypropylene (PP), seals FPM |
| Permissible temp. | 0 to 95 °C |
| Safe pressure | 1 bar, up to 90 °C |
| Electrode holder | Pg 13.5 threads for 1 to 3 electrodes<br>(blind grommets are included) |
| Immersion tube length | Ex-stock 500 mm<br>up to 2000 mm can be implemented<br>standard lengths 500, 800, 1000, 1300, 1500 and 2000 mm |
| Mounting | Normally with pipe clips, other mounting forms (flange, etc.)<br>are optionally available |
| Protection | IP65, EN 60529 |
| Weight | Depending on length |

**Note:**
An external KCl reservoir can be used with all immersion fittings.

# Dimensions




**Type 202820/63...**

(1) Connection head
(2) Three Pg 7 glands for cable diameter from 5 to 6 mm
(3) Pipe clip
(4) Protection tube
(5) Electrode holder
(6) Spacher ring
(7) Protection basket
**EL** Immersion tube length

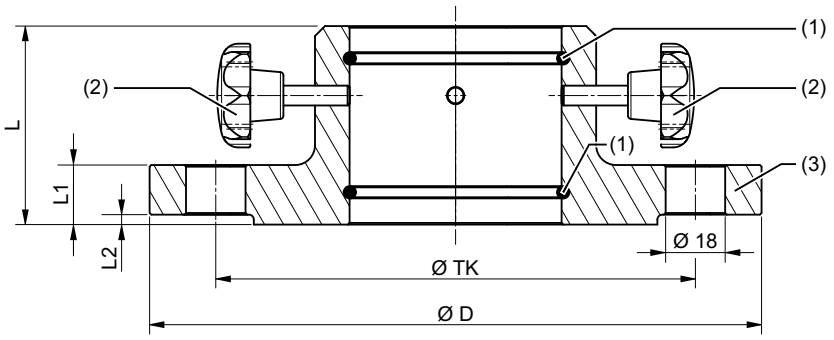
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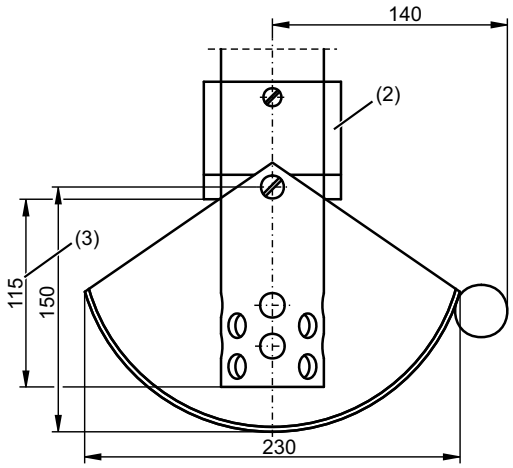
# Extra codes/accessories

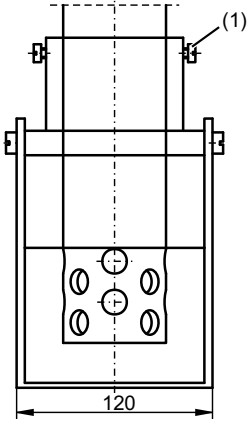



**Flange DN 50, part no. 00056544**
**Flange DN 65, part no. 00056545**

(1) 2 O-rings (inside)
(2) Fixing screw
(3) Flange (slidable)

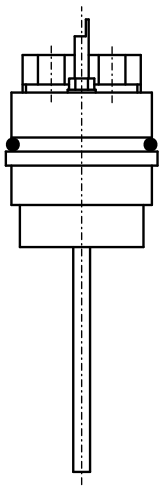
| DN | D | TK | L | $L_1$ | $L_2$ |
|---|---|---|---|---|---|
| 50 | 165 | 125 | 60 | 18 | 3 |
| 65 | 185 | 145 | 60 | 18 | 3 |




**Wetting cup, part no. 00057581**

(1) Screws
(2) Holder
(3) Fitting dimension 115 mm



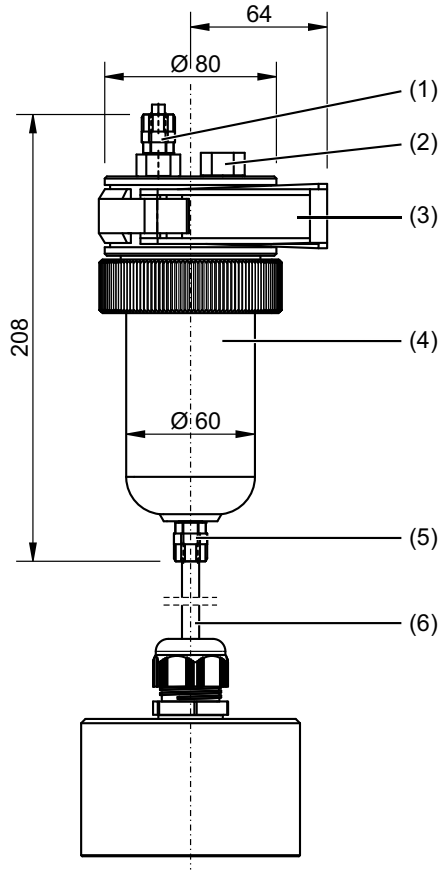
**Grounding rod, extra code 055,**
for equipotential bonding,
e.g. in insulated plastic containers

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**KCl reservoir, pressure-tight, suitable for wall mounting, part no. 00060254**
to set up an electrolyte bridge[a]
or when using KCl-filled electrodes

(1) Compressed-air connection
(2) Holder for reference electrode
(3) Pipe clip DN 65
(4) KCl reservoir, pressure-tight up to 6 bar, suitable for wall-mounting
(5) Plastic gland, connection for KCl tube
(6) KCl tube

[a] The installation of an electrolyte bridge is not possible when using electrodes with digiLine electronics.

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# Order details

| | | |
|---|---|---|
| | **(1)** | **Basic type** |
| 202820 | | Immersion fitting |
| | **(2)** | **Tube diameter** |
| 40 | | 40 mm |
| 63 | | 63 mm |
| | **(3)** | **Fitting length** |
| 0500 | | Length EL = 500 mm, see dimensions |
| 0800 | | Length EL = 800 mm, see dimensions |
| 1000 | | Length EL = 1000 mm, see dimensions |
| 1300 | | Length EL = 1300 mm, see dimensions |
| 1500 | | Length EL = 1500 mm, see dimensions |
| 2000 | | Length EL = 2000 mm, see dimensions |
| | **(4)** | **Material of wetted components** |
| 87 | | Polypropylene (PP) |
| | **(5)** | **Extra codes** |
| 000 | | None |
| 055 | | Grounding rod |
| 078 | | Cleaning nozzle |
| 082 | | KCl reservoir for fittings with diameter 40 mm |
| 092 | | Flange DN 50 for sprayer |

| | (1) | | (2) | | (3) | | (4) | | (5) | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Order code** | | - | | - | | - | | - | | , ...[a] |
| **Order example** | 202820 | - | 40 | - | 1500 | - | 87 | - | 082 | |

[a] List extra codes in sequence, separated by commas.

# Stock versions

| Type | Part no. |
|---|---|
| 202820/40-0500-87 | 00083319 |
| 202820/40-1000-87 | 00083320 |
| 202820/63-0500-87 | 00300099 |

# Accessories

| Designation | Part no. |
|---|---|
| Flange DN 32, complete for type 202820/40...[a] | 00083375 |
| Flange DN 50, complete for type 202820/40...[a] | 00083376 |
| Flange DN 50, complete for type 202820/63... | 00056544 |
| Flange DN 65, complete for type 202820/63... | 00056545 |
| Wetting cup, complete for type 202820/40... | 00083372 |
| Wetting cup, complete for type 202820/63... | 00057581 |
| KCl reservoir, pressure-tight | 00060254 |
| Shackle for suspended fitting with diameter 40 mm | 00453191 |
| Connection head for type 202820/63 - JUMO digiLine | 00666612 |

[a] Not in conjunction with extra codes 78 or 82

**Note:**
The type code is a **type designation, not a modular system**. If at all possible, please choose the items listed under "**Stock versions**" when ordering. Any free combination of individual code features must be technically checked by us and released. Please ask us in case of doubt !