

Operation`s Manual

flow-captor

4115.30 sm x



flow - captor

Type 4115.30 sm



Installation and Adjustment Instructions

Please read carefully: No liability can be accepted for damage caused by improper use of the captor.

Before any handlings „Safety Instructions“ must be fully read!

1.0 Items delivered

1.1 flow-captor smart meter type 4115.30 sm consisting of:

1.1.1 Sensor unit

1.1.2 Sensor fitting DIN ISO 228 **G 1-1/2** “ complete with all sensor unit mounting parts, see parts list no. 4.0

alt.

1.1.3 Sensor fitting **1-1/2 in. NPT** complete with all sensor unit mounting parts, see parts list no. 4.0

1.2 Screwdriver for adjustment

2.0 Installation Instructions

2.1 Installation depth: $1/7 \times$ ID pipe sizes from 1,5“ to 24“

2.2 Orientation to flow: see drawing “Installation“

2.3 **Fitting position:** preferably in ascending pipes or in horizontal pipes with flow-captor in horizontal position. For optimal flow, straight pipe should be min. 7 x ID before, and 5 x ID behind the flow-captor.

2.4 **Mounting:**

Screw in flow-captor smart meter into the fitting on the pipe side and fix it at the correct insertion depth of $1/7 \times$ ID (see drawing no. 704315-M.KAT)

2.5 **Initial operation:**

Connect flow-captor to 24 VDC according to connection diagram and wait approx. 2 min. before starting any measurement.

The flow-captor smart meter has been calibrated to the specified type related flow rate (standard: medium water)

4115.30 sm 1: 0 to 0.2 m/s

4115.30 sm 2: 0 to 0.5 m/s

4115.30 sm 3: 0 to 1.0 m/s

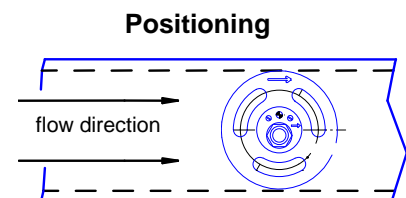
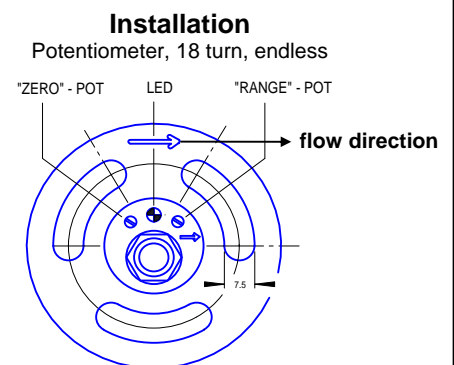
4115.30 sm 4: 0 to 2.0 m/s

4115.30 sm 5: 0 to 3.0 m/s

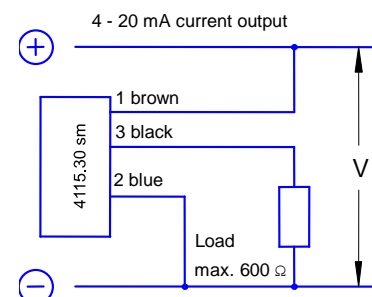
At customers plant signal may vary dependent on individual mounting and medium conditions. If re-adjustment is required, please refer to point 3.

Dimensions:

see drawing-no. 704315-1



Connection Diagram



weber

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Technical data subject to alteration! · Rev. AH / 10.06.11

flow - captor

Type 4115.30 sm



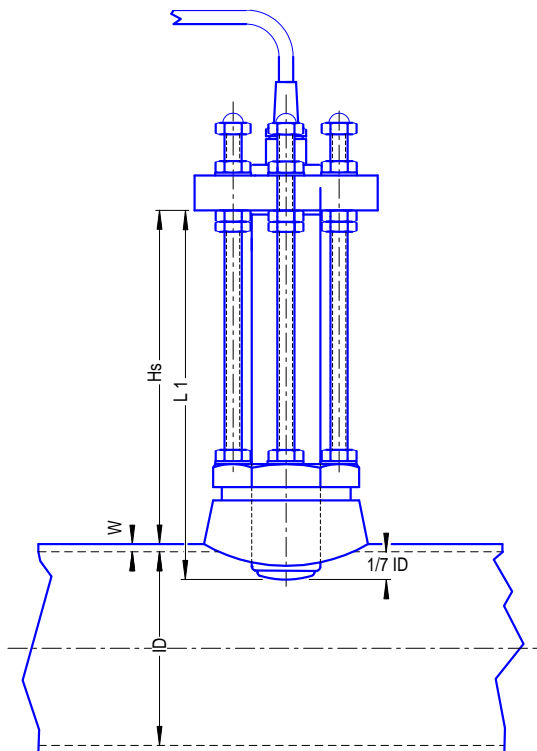
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3.0 Adjustment Procedure

- 3.1 Zero point adjustment in stationary medium (roughly):
Adjust zero point potentiometer after 2 min. so,
that $I_a \gg 4 \text{ mA}$, i.e. at $I_a > 4 \text{ mA}$ turn pot. to the left,
at $I_a < 4 \text{ mA}$ turn pot. to the right.
- 3.2 Measuring range adjustment at max. flow: Measuring range:
adjustable from 0-20 cm/s to 0-200 cm/s (medium water).
Accelerate flow of the medium to a point, where the flow-captor
should give an output signal of 20 mA and wait min. 2 minutes.
Turn range pot. until $I_a = 20 \text{ mA}$ (to the left I_a will be bigger, to
the right I_a will be smaller). The color of the LED will change from
green ($I_a \leq 20 \text{ mA}$) to red (exceeding measuring range).
- 3.3 Fine adjustment of zero point: After at least 3 minutes standstill
of flow turn zero point slightly so, that I_a is just 4 mA (turning
direction as in 3.1) .
- 3.4 Repeat adjustment according to 3.2 and 3.3 until the zero point
(4 mA) and max. range setting (20 mA) remain constant.



Calculation of the standard height for 1/7 ID (insertion depth)

$$H_s = L_1 - W - (1/7 \times ID)$$

Hs: standard height

L₁: unit length (see drawing)

W: wall thickness of pipe

ID: inner pipe diameter

For example:

$$L_1 = 143 \text{ mm}$$

$$W = 5 \text{ mm}$$

$$ID = 50.4 \text{ (2")}$$

$$H_s = 143 - 5 - (1/7 \times 50.4)$$

$$= 143 - 5 - 7.0$$

$$\gg 131 \text{ mm}$$

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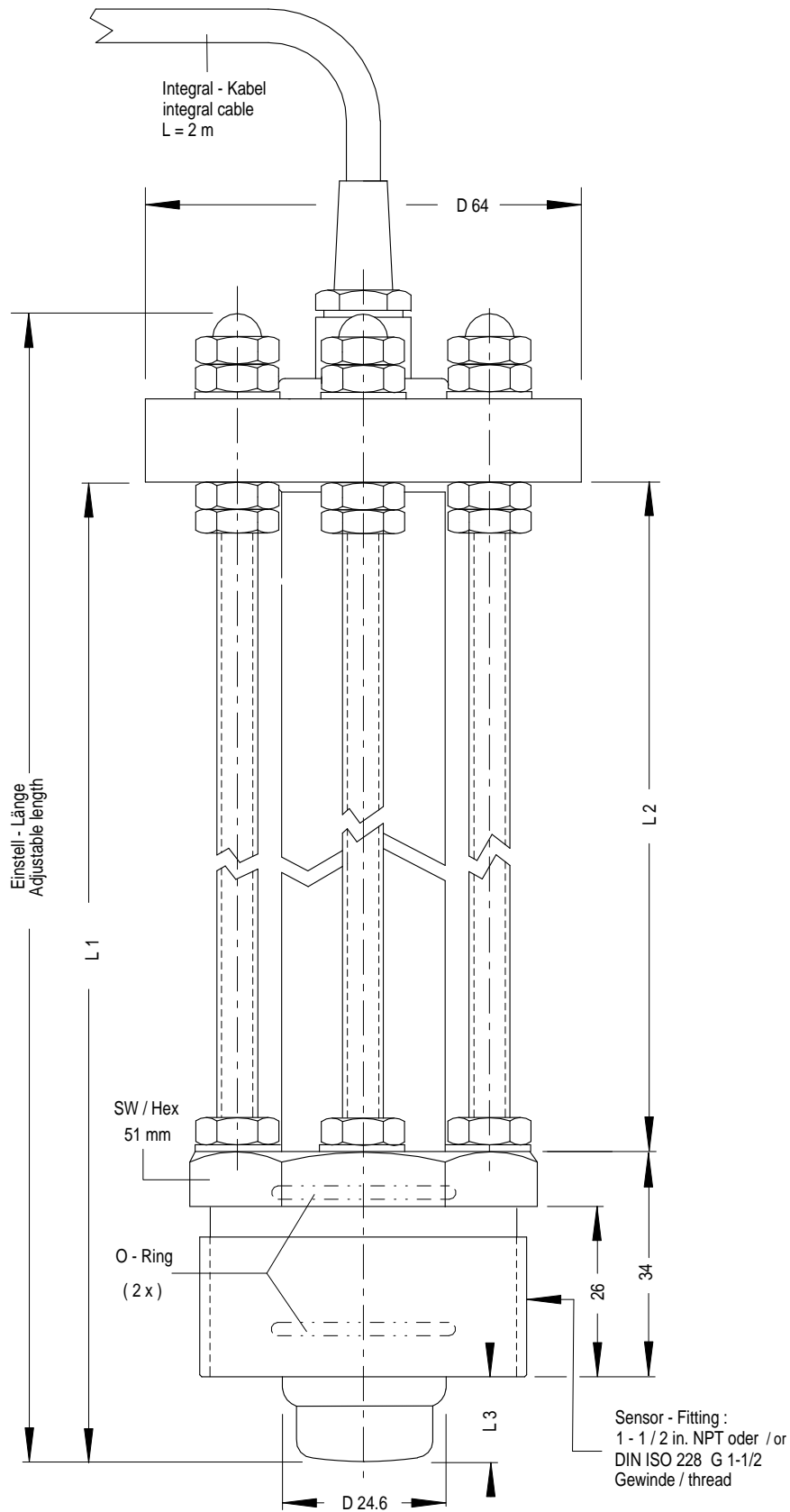
4.0 Parts List

| Pos. | Description | Quantity/pcs. | Article No. |
|------|------------------------------------------------------------------------------|---------------|-------------|
| 1 | threaded rod, M6, L: 5" (127 mm), stainless steel 1.4305 (303) | 3 | 00028381 |
| 2 | hex nut, M6 (DIN 934), stainless steel 1.4305 (303) | 12 | 00281601 |
| 3 | lock washer for M6 (DIN 6797-I 6,4-VA), stainless steel 1.4305 (303) | 6 | 00028057 |
| 4 | cap nut, M6 (DIN 1587), stainless steel 1.4305 (303) | 3 | 00028201 |
| 5 | O-ring, Viton Vi500, 24,5x2 | 2 | 00241191 |
| 6a | fitting G 1- 1/2" (BSP) (DIN ISO 228), stainless steel 1.4571, 316 Ti | 1 | 004318931 |
| | alternativ: | | |
| 6b | fitting 1- 1/2" NPT, stainless steel 1.4571, 316 Ti | 1 | 00431893 |

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| Type | L 1 | L 3 | |
|--------------------|--------|--------|--------|
| | | min. | max. |
| 4115.30 sm _ | 143 mm | 17 mm | 94 mm |
| 4115.30 sm _ / 261 | 261 mm | 8 mm | 212 mm |
| 4115.30 sm _ / 400 | 400 mm | 147 mm | 351 mm |

| | | | | | | | | |
|-----------------------|----------|------|-----|---------------------------------------------------------------------------------------|-----------------------|----------|---------------------------------------------------------------------------------------------|--|
| Sensors Ltd. | 4.2.09 | Chr | AH | flow - captor type 4115.30 sm _ mit Einschraubsatz / incl. mounting device | Masstab | 1 : 1 | weber Sensors Ltd. 25377 Kollmar Strohdreich 32 Tel.:+49 4128-591 Fax: -593 | |
| O-Ringe, Typen-Aufst. | 15.11.04 | Wip | AG | | Geraet | E 99 | | |
| Tabelle | 4.6.02 | Wip | AF | | File - Nr: | K704315A | | |
| L 1 / L 2 | 27.5.02 | Dwo | AE | | | | | |
| Div Maße | 29.11.00 | Wip | AD | | | | | |
| Aend. | Datum | Name | REV | entw. Wip. 16.6.00 | gez. Huettmann 6.7.00 | gepr. | Blatt 1 - 1 | |