Zumbach

SWISS PRIME MEASURING SINCE 1957

Ultrasonic Non-Contact
Wall Thickness Transducer holders

# UMAC® A Series

The **UMAC® A8, A11, A21** and **A28** ultrasonic transducer holders are designed for precise, non-contact wall thickness measurements

The UMAC A transducer holder was developed specifically for the medical tubing and microtubing industry. The small footprint allow an installation close to the extruder crosshead respectively in to the cooling bath nearby or the vacuum bath chamber.

The perfect solution for a fast concentricity feedback and wall thickness measurement for the following main applications:
- Medical tubing and microtubes
- Medium sized tubes and hoses
- Smaller wire and cable jackets

The concentricity and wall thickness measurement of medical tubing or microtubes demands a special designed transducer holder.
The new UMAC A holder series from Zumbach offers a small footprint, special product guides, mechanical features for adjusting the position within the trough; in fact all what is necessary for a smooth installation and successful measurement.

UMAC® A11-8K

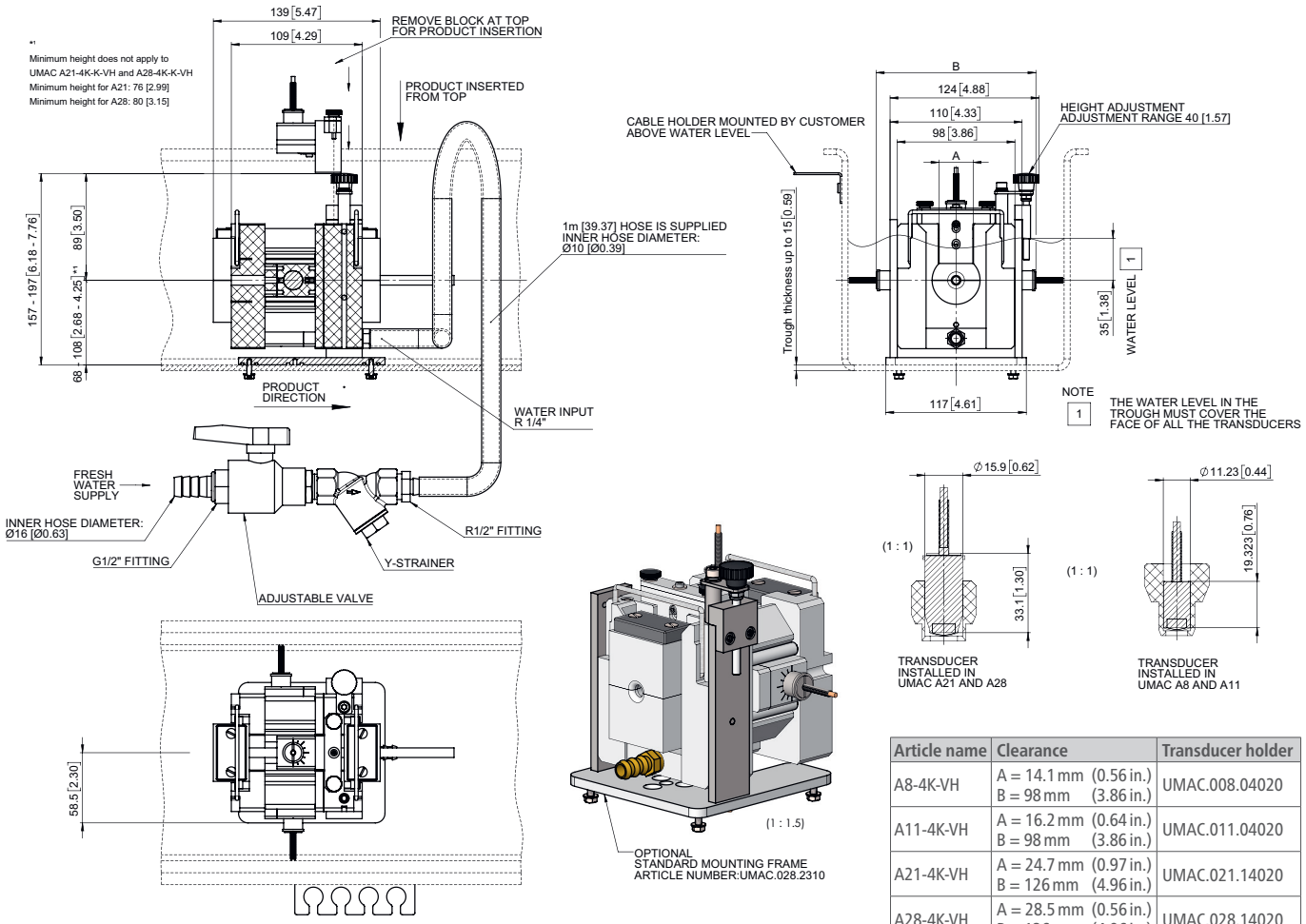
**Key Features**
- Diameter range: 0.2 – 28 mm (0.008 – 1.1 in.)
- Wall thickness range: 0.05 – 12 mm (0.002 – 1.5 in.)
- Option for 4 or 8 measuring points
- Top opening for easy product access
- Option: horizontal/vertical measuring points (flat products)
- Close to zero maintenance

**Construction and Integration**
The holders are available in two main construction designs:
- **K version**
  - Installation in the open cooling section
  - Height-adjustable and optionally side-adjustable
- **V version**
  - Installation in a vacuum tank cooling section
  - Height-adjustable and optionally side-adjustable (accessible from the outside)

UMAC A transducer holders are made of durable POM material and stainless steel. The compact and robust design ensure a close to zero maintenance. The holders are submersible and each transducer socket includes a reliable water rinsing system for clearing the transducer head surface free from air bubbles or dirt. A modular design allows for customised adaptation to find needs.

UMAC® A28-4K-V

# DIMENSIONS UMAC A--4K-K-VH




| Article name | Clearance | Transducer holder |
|---|---|---|
| A8-4K-VH | A = 14.1 mm (0.56 in.)<br>B = 98 mm (3.86 in.) | UMAC.008.04020 |
| A11-4K-VH | A = 16.2 mm (0.64 in.)<br>B = 98 mm (3.86 in.) | UMAC.011.04020 |
| A21-4K-VH | A = 24.7 mm (0.97 in.)<br>B = 126 mm (4.96 in.) | UMAC.021.14020 |
| A28-4K-VH | A = 28.5 mm (0.56 in.)<br>B = 126 mm (4.96 in.) | UMAC.028.14020 |

## Technical data

| Model | A8 | A11 | A21 | A28 |
|---|---|---|---|---|
| Measurement points | 4 or 8 | | | |
| Top opening | Yes | | | |
| Top measuring point option | Yes | | | |
| Diameter measurement range | 0.2* – 8 mm (0.008 – 0.3 in.) | 0.2* – 11 mm (0.008 – 0.43 in.) | 0.2* – 21 mm (0.008 – .08 in.) | 3.5 – 28 mm (0.14 – 1.1 in.) |
| Ultrasound transducer frequency | 10/20 MHz | 10/20 MHz | 10/20 MHz | 10/20 MHz |
| Ultrasound transducer focal distance | 19 mm (0.75 in.) | 19 mm (0.75 in.) | 25.4 mm (1 in.) | 25.4 mm (1 in.) |
| Ultrasound transducer focal distance tolerance | ± 20% | | ± 25% | |
| Diameter at focal distance [2] | 1.3 mm (0.05 in.) | 4.3 mm (0.17 in.) | 9 mm (0.35 in.) | 16 mm (0.63 in.) |
| Wall thickness measurement range | 0.05 – 4 mm (0.002 – 0.15 in.) | 0.05 – 5 mm (0.002 – 0.2 in.) | 0.05 – 10 mm (0.002 – 0.4 in.) | 0.05 – 12 mm (0.002 – 0.5 in.) |
| Horizontal adjustment | ± 5 mm (0.2 in.) | | | |
| Vertical adjustment [1] | ± 15 mm (0.6 in.) | | | |

[1] With 8 measurement points for A21 and A28 the adjustment is ± 11 mm (0.43 in.) and ± 9 mm (0.35 in.) respectively.

[2] The range of customer product diameter should be the least distant from this value. It is the most critical parameter for choosing the holder type.

*) Feasibility of measurement of diameters smaller than a 1 mm (0.04 in.) may be affected by the material properties and the geometry of the product. It is recommended to perform the offline tests.

• Technical specifications are subject to change without notice

► Please ask for detailed documentation of other ZUMBACH instruments

Dimensions in mm (inches)


Switzerland (H.Q.): ZUMBACH Electronic AG, P.O. Box, CH-2552 Orpund, Phone +41(0)32 356 04 00, Fax +41(0)32 356 04 30, E-Mail: sales@zumbach.ch
Benelux • China • Czech Republic • France • Germany • India • Italy • Spain • Taiwan • United Kingdom • USA
**www.zumbach.com**



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