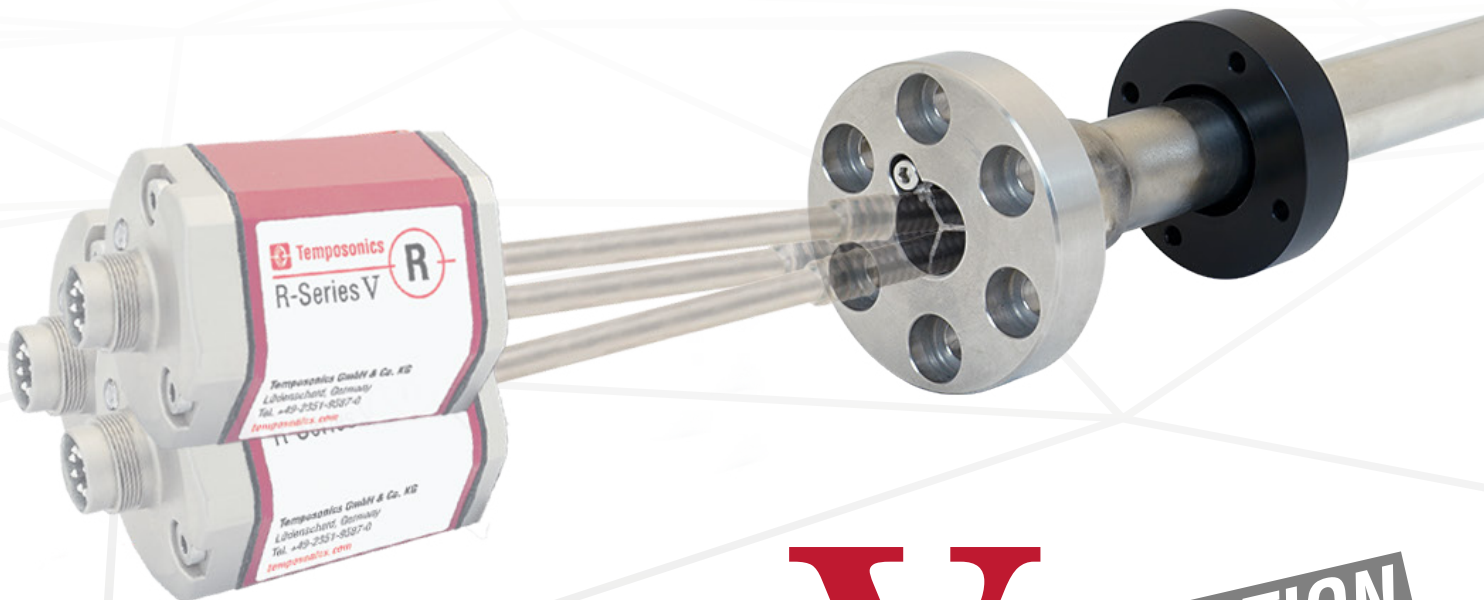


## Data Sheet

### H3 sensor rod for R-Series V RFV

- Increased availability due to combination of up to 3 RFV sensors
- Efficient design due to small outer diameter
- Easy replacement due to separate guiding of the RFV sensors



**V**  
THE NEW GENERATION

## MEASURING TECHNOLOGY

The absolute, linear position sensors provided by Temposonics rely on the company's proprietary magnetostrictive technology, which can determine position with a high level of precision and robustness. Each Temposonics® position sensor consists of a ferromagnetic waveguide, a position magnet, a strain pulse converter and supporting electronics. The magnet, connected to the object in motion in the application, generates a magnetic field at its location on the waveguide. A short current pulse is applied to the waveguide. This creates a momentary radial magnetic field and torsional strain on the waveguide. The momentary interaction of the magnetic fields releases a torsional strain pulse that propagates the length of the waveguide. When the ultrasonic wave reaches the beginning of the waveguide it is converted into an electrical signal. Since the speed of the ultrasonic wave in the waveguide is precisely known, the time required to receive the return signal can be converted into a linear position measurement with both high accuracy and repeatability.

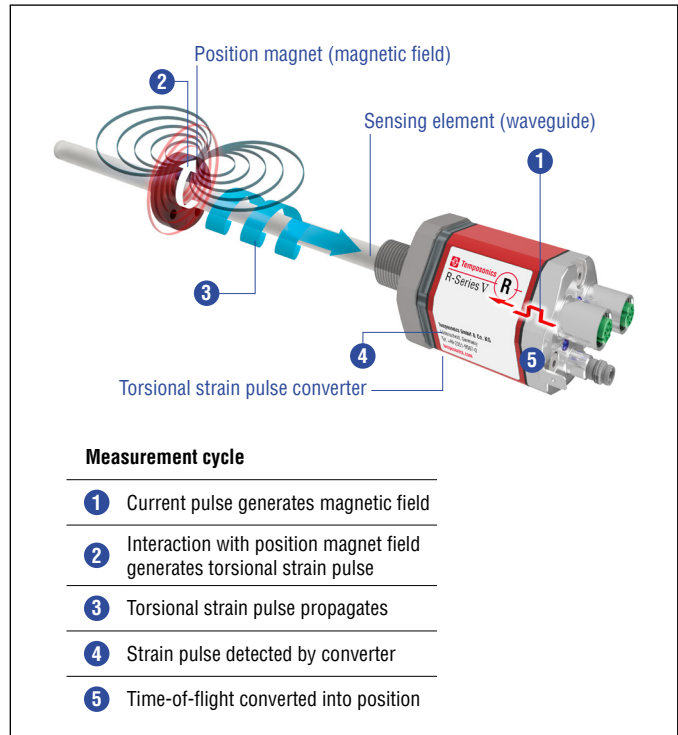
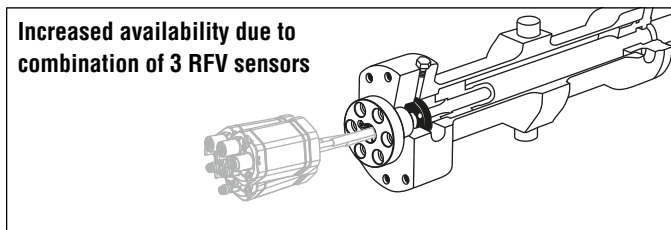


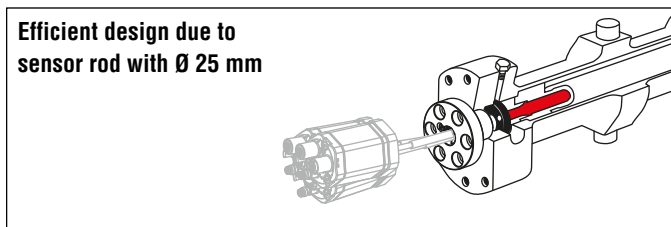
Fig. 1: Time-of-flight based magnetostrictive position sensing principle

## PERFECT FIT FOR RFV SENSORS

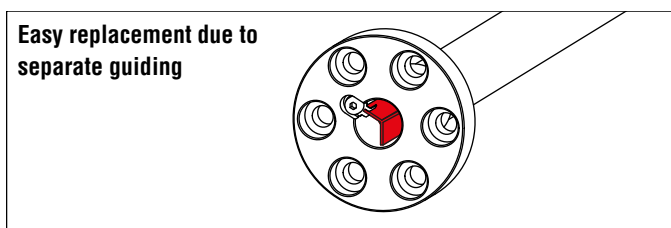
The pressure-resistant H3 sensor rod is specially designed for guiding 3 RFV sensors. Via a holder provided by the customer the 3 RFV sensors are mounted and guided into the sensor rod. The sensor rod offers the following advantages:



- The combination of three independent RFV sensors provides protection against unforeseen downtime and ensures **continuous operation**.
- Sensors with different outputs can be combined in one rod.



- The sensor rod has a **small outer diameter** of 25 mm. This means that only a relatively small bore is required in the piston rod to integrate 3 sensors.
- This enables an **beneficial design** of the cylinder.



- If necessary, the sensors can be exchanged without influencing each other. The sensor rod has 3 chambers inside so that **each flexible sensor rod is guided independently**.
- Since flange and sensor rod remain in the cylinder when a sensor is replaced, the **hydraulic circuit remains closed**.

## TECHNICAL DATA

Design/Material	
Flange	Stainless steel 1.4305
Sensor rod	Stainless steel 1.4307
Useable length	50...5800 mm
Mechanical mounting	
Mounting	Fastening via 6 × cylinder head screws M8 on the cylinder (fastening torque 34 Nm/ISO 4762-M8 of A2-70)
Operating conditions	
Operating temperature	-40...+85 °C
Operating pressure	350 bar

## TECHNICAL DRAWING

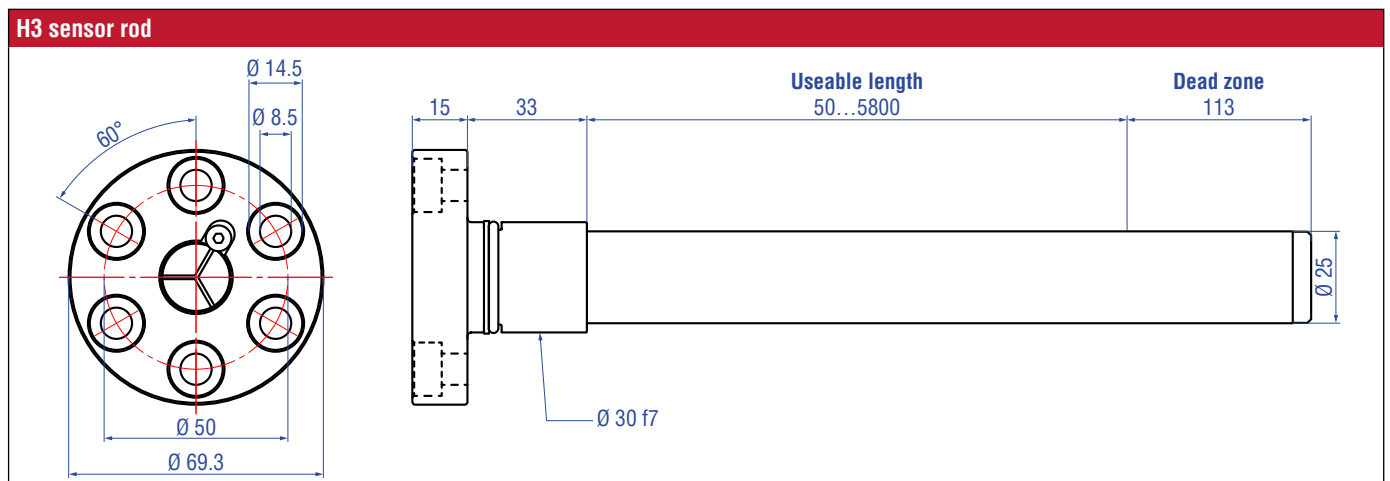


Fig. 2: Temposonics® H3 sensor rod

## INSTALLATION EXAMPLE

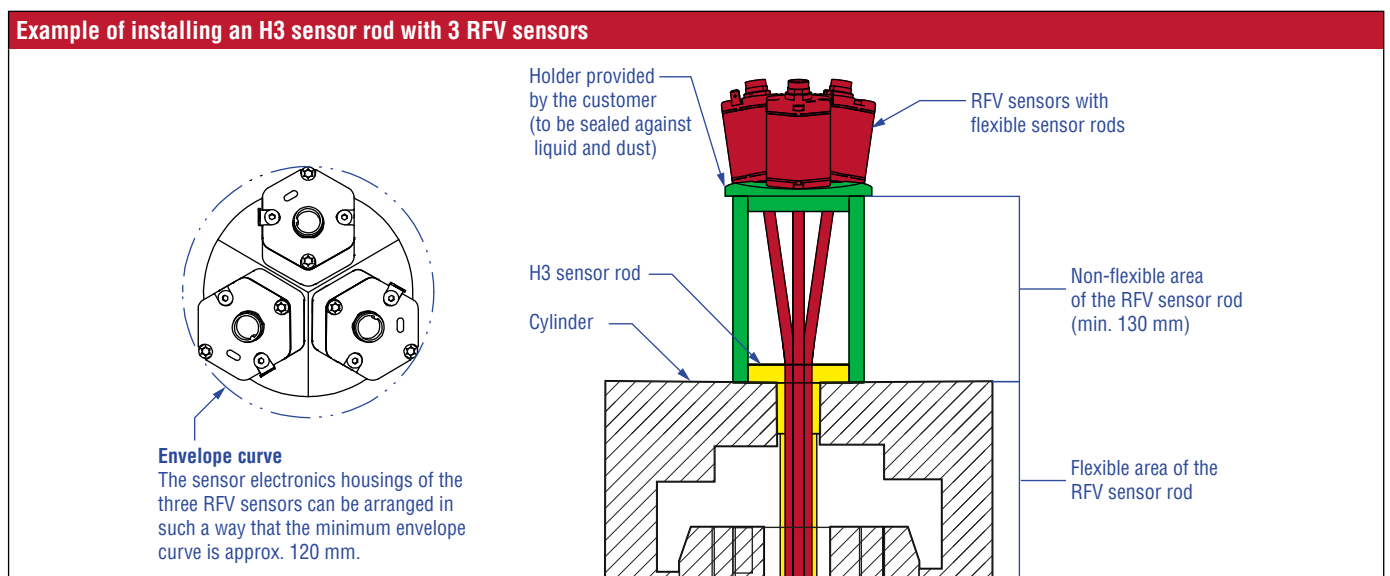


Fig. 3: Installation of a Temposonics® H3 sensor rod with 3 RFV sensors

## ACCESSORIES

Position magnet	O-ring	Back-up ring	
<b>Ring magnet OD60</b> Part no. <b>MT0162</b>	<b>Ring magnet</b> Part no. <b>401 468</b>	<b>O-ring for pressure fit flange Ø 30 mm</b> Part no. <b>562 062</b>	<b>Back-up ring for pressure fit flange Ø 30 mm</b> Part no. <b>562 061</b>
Material: AlCuMgPb, magnets compound-filled Weight: Approx. 90 g Surface pressure: Max. 20 N/mm <sup>2</sup> Fastening torque for M4 screws: 1 Nm Operating temperature: -40...+75 °C (-40...+167 °F)	Material: PA ferrite Weight: Approx. 17 g Surface pressure: Max. 20 N/mm <sup>2</sup> Operating temperature: -40...+100 °C (-40...+212 °F) Contact application engineering for handling guidelines.	Material: Nitrile rubber Durometer: 70 Shore A Operating temperature: -40...+75 °C (-40...+167 °F)	Material: PTFE Durometer: 90 Shore A

Controlling design dimensions are in millimeters and measurements in ( ) are in inches

## ORDER CODE

1	2	3	4	5	6	7	8	9
H	3	S	0					M
a	b	c	d					

<b>a</b>	<b>Model</b>
H 3	Sensor rod with 3 chambers for 3 RFV sensors
<b>b</b>	<b>Design</b>
S	Pressure fit flange Ø 30 mm, Ø 25 mm rod
<b>c</b>	<b>Options</b>
0	No options
<b>d</b>	<b>Useable length</b>
X X X X M	0050...5800 mm

Order the RFV sensors right away.  
Further information under:



[temposonics.com](https://www.temposonics.com)

## DELIVERY

- H3 sensor rod**
- Sensor rod
  - O-ring
  - Back-up ring

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