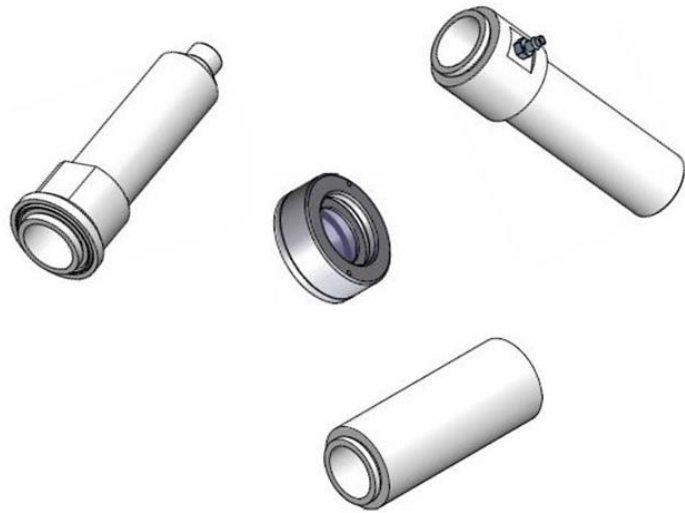


# Technical Information

## Accessories for the Rxn-20 probe



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## Function and system design

### Fields of application

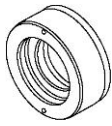

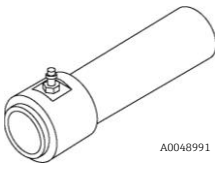
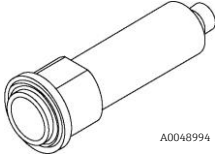
The Rxn-20 Raman spectroscopic probe is intended for the measurement of solids, semi-solids, and liquids in a laboratory or process development or manufacturing setting. The probe is compatible with a wide range of accessories to meet the requirements of different applications.

Accessory	Description of use
Lens adapter	The Rxn-20 probe is capable of measuring at various spot sizes from 1 to 6 mm (0.04 to 0.24 in.) when equipped with a lens adapter. <ul style="list-style-type: none"> <li>▪ Larger size lenses have a larger focus tolerance, which enables focus-free measurements of uneven solid beds or samples.</li> <li>▪ Smaller size lenses provide representative measurements of smaller-sized solids or turbid media.</li> </ul>
Lens tube	The Rxn-20 probe and lens adapter may be supplemented by a purgeable or non-purged lens tube accessory. <ul style="list-style-type: none"> <li>▪ The purgeable lens tube accessory is designed to allow a low-flow of an appropriate gas to prevent material obscuring the probe lens. The lens tube interfaces the Rxn-20 probe to a coater or other batch operations where maintaining the cleanliness of the lens is necessary.</li> <li>▪ The non-purged lens tube accessory is compatible with the sample chamber, allowing for easy analysis in laboratory applications.</li> </ul>
Immersion optic	Another add-on to the Rxn-20 lens adapter is an immersion optic, which enables direct sample contact with slurries and liquids (either <i>in situ</i> or off-line).

Table 1. Use of Rxn-20 probe accessories

### Accessories: options

A description of the available accessories is below.


Accessories	Materials of construction	Diameter	Available spot sizes
Lens adapters 	316 stainless steel PTFE Adhesive: ISO 10993 compliant Fused silica glass	38.1 mm (1.50 in.)	1 mm (0.04 in.)* 1.5 mm (0.06 in.)* 3 mm (0.12 in.) 4.7 mm (0.19 in.) 6 mm (0.24 in.)
Lens tubes: non-purged 	Aluminum alloy 6061-T651 anodized black	31.8 mm (1.25 in.)	3 mm (0.12 in.) 4.7 mm (0.19 in.) 6 mm (0.24 in.)
Lens tubes: purgeable 	316 stainless steel with 303 stainless barbed nipple	25.4 mm (1.00 in.)	3 mm (0.12 in.) 4.7 mm (0.19 in.) 6 mm (0.24 in.)
Immersion optics 	316 stainless steel FFKM PTFE Sapphire	25.4 mm (1.00 in.)	3 mm (0.12 in.) 6 mm (0.24 in.)

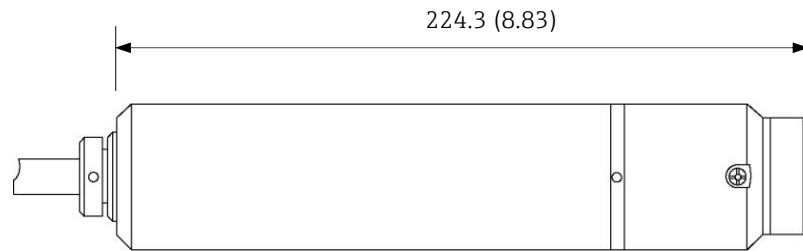
\*Compatible with small sample chamber using 76.2 mm (3.00 in.) lens tube mounted between the probe body and lens adapter

Table 2. Accessories for the Rxn-20 probe

## Specifications

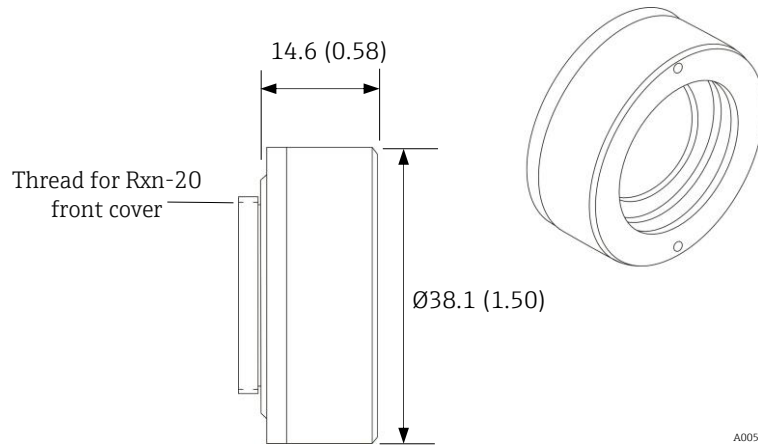
### Dimensions: Rxn-20 probe with lens adapter

The dimensions of the Rxn-20 probe and lens adapter are below. For spot size and focal length options, see Table 3 → .



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Figure 1. Rxn-20 probe with lens adapter

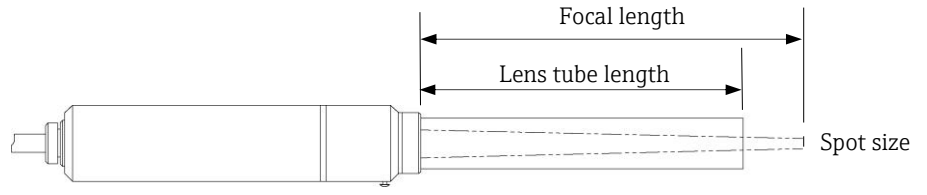


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Figure 2. Lens adapter dimensions

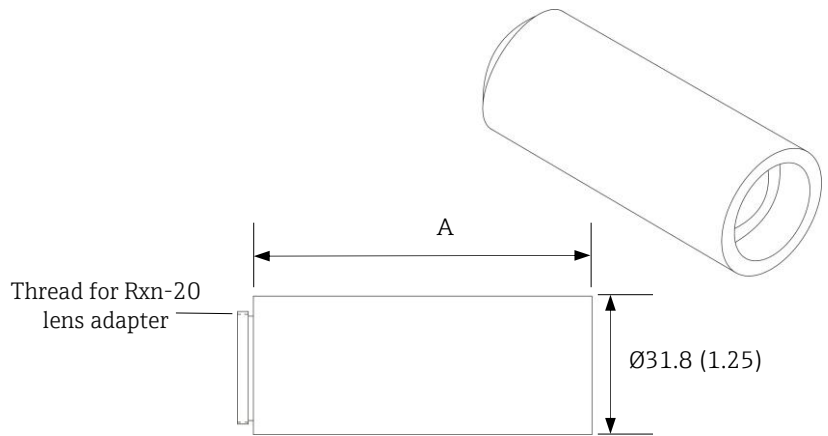
**Dimensions: lens tube**

The dimensions of the lens tubes are below. For length options and compatibility with lens adapters, see Table 3 → .



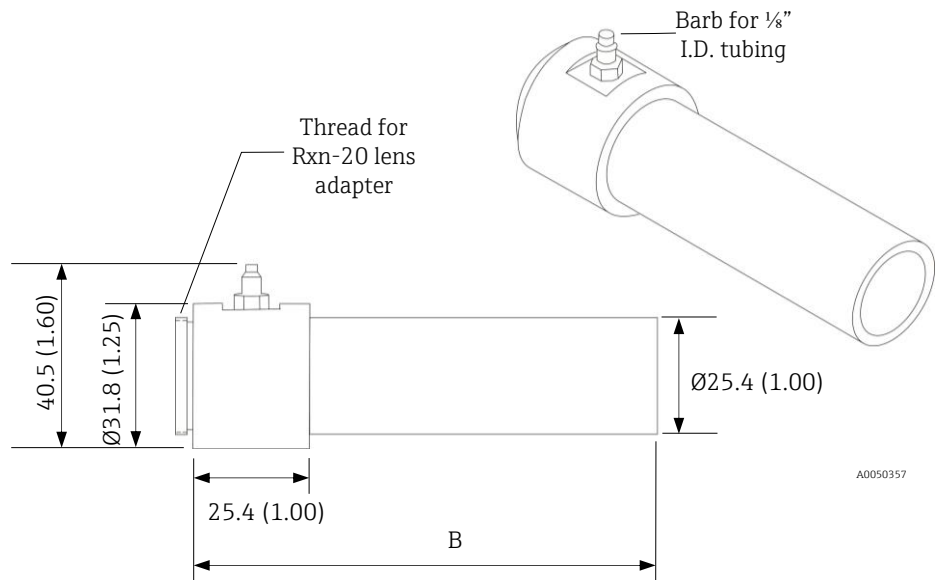
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Figure 3. Rxn-20 probe with lens adapter and lens tube



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Figure 4. Non-purged lens tube dimensions



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Figure 5. Purgeable lens tube dimensions

**Dimensions: immersion optic**

The dimensions of the immersion optics are below. For spot size and length options, see Table 3 → .

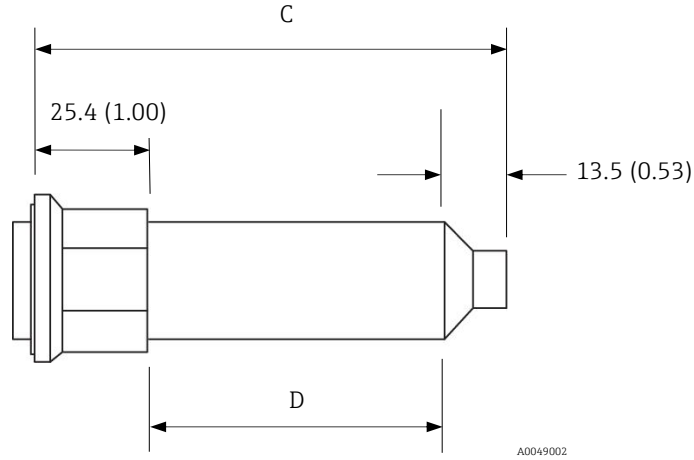


Figure 6. Length of immersion optic

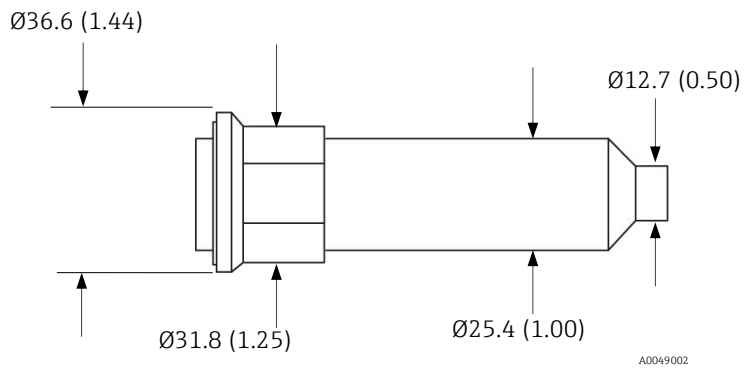


Figure 7. Diameter of immersion optic

**Accessories: spot size, focal length, and length**

Spot size, focal length, and lengths available for the Rxn-20 probe accessories are listed below.

Spot size	Focal length	Length A lens tube: non-purged	Length B lens tube: purgeable	Length C immersion optic	Length D immersion optic
1 mm (0.04 in.)	35 mm (1.38 in.)	76.2 mm (3.00 in.)*	not applicable	not applicable	not applicable
1.5 mm (0.06 in.)	50 mm (1.97 in.)	76.2 mm (3.00 in.)*	not applicable	not applicable	not applicable
3 mm (0.12 in.)	125 mm (4.93 in.)	76.2 mm (3.00 in.)	101.6 mm (4.00 in.)	104.1 mm (4.10 in.)	65.3 mm (2.57 in.)
4.7 mm (0.19 in.)	200 mm (7.88 in.)	152.4 mm (6.00 in.)	168.9 mm (6.65 in.)	not applicable	not applicable
6 mm (0.24 in.)	250 mm (9.84 in.)	203.2 mm (8.00 in.)	217.2 mm (8.55 in.)	224.8 mm (8.85 in.)	185.9 mm (7.32 in.)

\*Compatible with small sample chamber when lens tube is mounted between the probe body and lens adapter

Table 3. Available options for Rxn-20 probe accessories

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