

# AccuStop

## User Guide

**Original Instructions**



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# 1 Get started

## 1.1 Device description

AccuStop is an individual specimen holder, designed for manual and automatic precision grinding of all small specimens which need to be ground to a precisely defined depth, or which need specific amounts of material removed from the examination surface.

AccuStop 30 and AccuStop 40 can be used with a wide range of accessories for various applications. For information about the available range, see the AccuStop brochure on the Struers website.

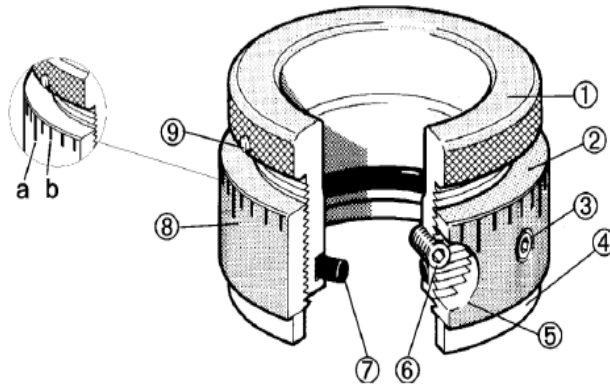


### Note

Only use AccuStop when grinding with SiC or Al<sub>2</sub>O<sub>3</sub> grinding papers. Never use AccuStop with any type of diamond grinding. If used during diamond polishing, the ceramic stop ring should be adjusted to be held clear of the polishing surface.

AccuStop can be used manually with any rotating disc system such as machines in the LaboSystem or Tegramin series. It can also be used automatically together with an AccuStop specimen mover plate.

## 1.2 Overview



**a** Large 0,1 mm

**b** Small 0,02 mm

One complete rotation of AccuStop is 1 mm.

1. Specimen holding cylinder
2. Adjusting cylinder
3. Adjustment locking screw
4. Ceramic stop ring
5. Access hole (for specimen fixing screw)
6. Specimen fixing screw (for cylindrical mounts and inserts)
7. O-ring (for flangeform mounts)
8. Graduated scale (scale division)
9. Position indicator

### 1.3 Check the packing list

The packing box contains the following items:

Pcs.	Description AccuStop 30
1	AccuStop 30
	Spare screws
1	Flangeform 30 mm
1	Seriform 30 mm
1	Allen key
2	O-rings
1	Brass disc
1	Instruction Manual set

Pcs.	Description AccuStop 40
1	AccuStop 40
	Spare screws
1	Flangeform 40 mm
1	Seriform 40 mm
1	Allen key
2	O-rings
1	Brass disc
1	Instruction Manual set

### 1.4 Accessories

For information about the available range, see the AccuStop brochure:

- [The Struers Website](http://www.struers.com) (<http://www.struers.com>)

## 2 Adjusting AccuStop

- Before you place the specimen in AccuStop, ensure that the adjusting cylinder (2) is in a position that will allow the amount of adjustment necessary

to remove all the desired material from the specimen.

If the specimen fixing screw (6) is to be used, turn the cylinder until the access hole (5) is in line with the specimen fixing screw position.

- Place the mount, insert, or specimen in AccuStop. When using inserts, remove the O-ring, and position the insert so that the flat part of the body faces the specimen fixing screw.
- Adjust the specimen and AccuStop until the surface to be prepared is approximately level with the ceramic stop ring. Then, fix the specimen. Now slightly adjust AccuStop by means of the adjusting cylinder so that the ceramic stop ring is below the surface to be prepared, i.e., the specimen is "inside" AccuStop and not protruding past the ceramic stop ring.
- Place AccuStop on a plane surface with the ceramic stop ring downwards. While holding the ceramic stop ring firmly against the plane surface, turn the specimen holding cylinder clockwise until resistance can just be felt by the specimen surface coming in contact with the plane surface.  
The Zero position is shown by the location of the position indicator against the graduated scale. See [Overview ▶ 5](#)
- Lock AccuStop while grinding using the adjustment locking screw (3). This is now the Zero position.
- AccuStop can now be adjusted and set using the position indicator and the graduated scale to remove the desired amounts of material from the specimen surface.
- The material can be removed in small increments until the correct depth has been reached, or the correct depth can be calculated and pre-set using the position indicator and graduated scale.

**Note**

A brass washer is placed below the adjustment locking screw to protect the thread. The brass washer may fall out if the locking screw or the holder is entirely removed from the adjusting ring.

### 3 Grinding process



#### Note

Never use AccuStop with any type of diamond grinding.

#### Grinding parameters

Type of grinding	Disc type	Grit size	Grinding depth
Plane grinding	SiC or Al <sub>2</sub> O <sub>3</sub>	80-220#	0.5 to 1.0 mm
Fine grinding	SiC or Al <sub>2</sub> O <sub>3</sub>	1200#	0.1 to 0.5 mm

Adjust AccuStop to remove the desired amount of material, then use the plane and fine grinding steps as shown. The plane grinding step should be close to the desired target. The fine grinding step should be used to grind exactly to the desired target.

#### Manual grinding

To determine when all the material has been removed, i.e., when the specimen surface is level with the ceramic stop ring, the grinding direction of AccuStop should be changed at regular intervals.

When the grinding scratch pattern no longer changes direction, the ceramic stop ring is in contact with the grinding paper, and no more grinding will occur until AccuStop is re-adjusted.

#### Automatic grinding

See the specific Instruction Manual for your machine.



## 3.1 Setting up and adjusting

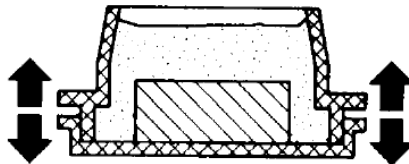
### 3.1.1 Flangeform mounts

Ensure that the O-ring (7) is in the specimen holding cylinder (1) in AccuStop.

There are two O-rings of different sizes:

- O-ring 3 mm diameter: for use with Serifix mounts
- O-ring 2.6 mm diameter: for use with all other mounts

#### Flangeform



#### Note

- For easy insertion and removal of the flangeforms, the O-ring (7) should be lightly greased.
- Only use the O-ring for flangeform mounts.  
To remove, push the small Allen key supplied with AccuStop through the hole at the base of the specimen holding cylinder (1) and gently force the O-ring out of its recess.

### 3.1.2 Cylindrical mounts or specimens

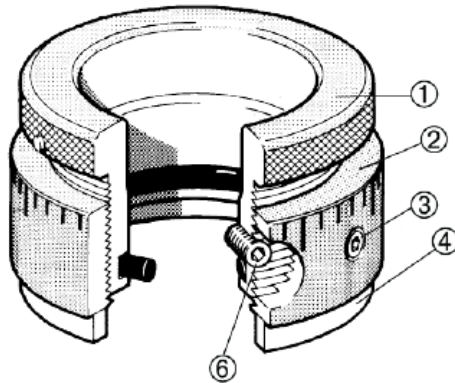
- Remove the O-ring (7) if in position.
- Turn the specimen holding cylinder (1) until the adjustment position indicator (9) aligns with the access hole (5) in the adjusting cylinder (2). A threaded hole in the specimen holding cylinder should now be visible, which can be fitted with one of the screws supplied with AccuStop.
- Place the mount or specimen directly in AccuStop with the surface to be prepared protruding from the base of the specimen holding cylinder (1). Fix the specimen in this position using the specimen fixing screw (6) in AccuStop.
- Adjust AccuStop so the ceramic stop ring is level with the surface to be prepared.

## 4 Maintenance

### 4.1 Cleaning

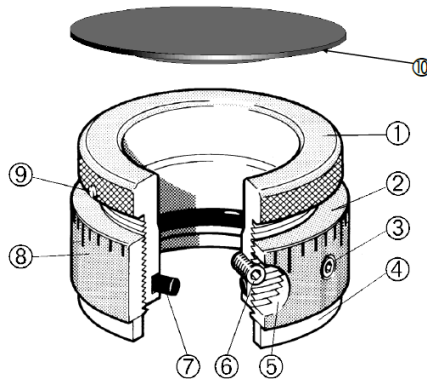
Clean and lubricate AccuStop as required (if the parts do not move freely).

- Remove the specimen fixing screw.
- Remove the adjustment locking screw and the brass washer.
- Remove the adjusting cylinder by screwing the two pieces fully apart.
- Clean each of the pieces, including the screws and the brass washer, using soap and water, alternatively kerosene or cleaning gasoline.
- Lightly grease the cylinder threads with a lubricant, e.g., Struers Klüber anti seize grease ALTEMP Q NB 50 or similar (grease with a small amount of solid lubricant).
- Reassemble AccuStop



1. Specimen holding cylinder
2. Adjusting cylinder
3. Adjustment locking screw
4. Ceramic stop ring
6. Specimen fixing screw

## 5 Spare parts



Pos.	Item	Cat. no.
	Set of washers and Allen screws including:	438MP009
	(3) Brass washer, 1 pc.	
	(3) Allen screw, machined, 1 pc.	
	(6) Allen screw M4x5, 2 pcs.	
	(6) Allen screw M4x8, 2 pcs.	
(7)	Rubber ring, 6 pcs., for Serifix mounts	438MP003
(7)	O-ring 29.5 x 3.0, 10 pcs., for other mounts	260MP092
(10)	Pressure plate for AccuStop, 3 pcs.	438MP010

For further information, or to check the availability of spare parts, contact Struers Service. Contact information is available on [Struers.com](http://Struers.com).

## 6 Disposal

Contact your local authorities for information on the correct method of disposal in accordance with national legislation.

## 7 Manufacturer

Struers ApS  
Pederstrupvej 84  
DK-2750 Ballerup, Denmark  
Telephone: +45 44 600 800  
Fax: +45 44 600 801  
[www.struers.com](http://www.struers.com)

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The following restrictions should be observed, as violation of the restrictions may cause cancellation of Struers legal obligations.

The manufacturer assumes no responsibility for errors in the text and/or illustrations in this manual. The information in this manual is subject to change without notice. The manual may mention accessories or parts not included in the supplied version of the equipment.

The manufacturer is to be considered responsible for effects on safety, reliability, and performance of the equipment only if the equipment is used, serviced, and maintained in accordance with the instructions for use.



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