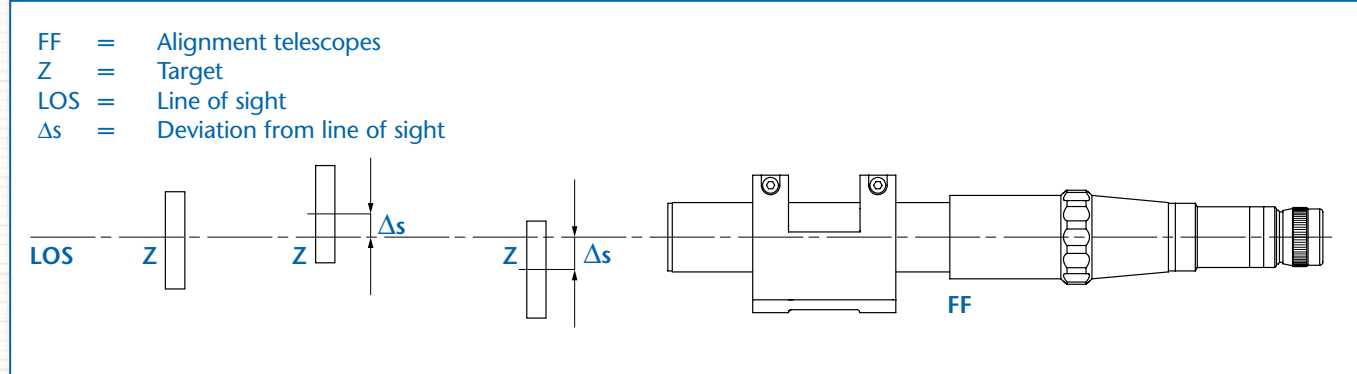


# ALIGNMENT SYSTEMS

## INTRODUCTION



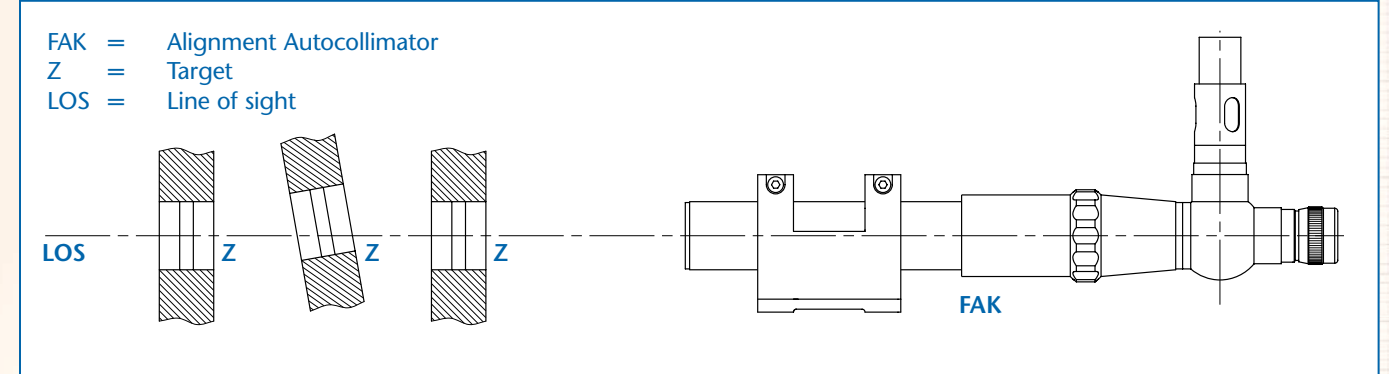
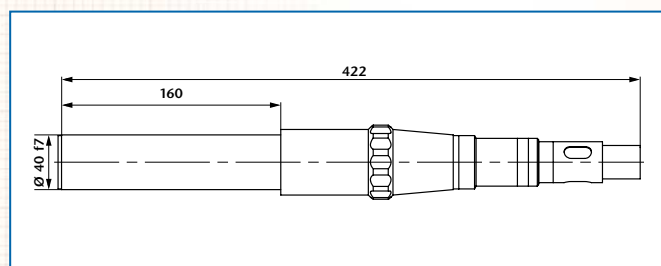
Alignment systems are precision instruments for the alignment of objects on a reference line, which is defined by the line of sight of the system. A special feature of alignment systems is that the direction of the optical axis is conserved during focussing. This property makes them especially useful for the alignment of bore holes, bearings, optical set-ups or for the alignment of guides, axes and planes. Particularly noteworthy on the alignment systems is the wide setting range of objective distances from the tube ending to infinity. The optical axis and focusing lens run are concentrically aligned to the barrel with a high degree of precision. Therefore the use of an alignment telescope for alignment of bore holes, bearings etc. is very simple, as with exact fixing of the alignment tele-

scope in the reference bore hole or bearing the line of sight is defined already. Depending on measurement task three variants are available. An alignment collimator serves to precisely project an image of the collimator reticle along a line of reference over varying target distances. Alignment telescopes serve to establish an accurate line of sight to targets at different distances and determine the deviation of the targets with respect to the reference line. Alignment autocollimators are a combination of the foregoing variants. They offer the additional possibility of measuring the tilting angle of the target with respect to the reference line. The eyepiece  $f=14,7$  mm can be interchanged with eyepieces  $f=10$  mm or  $f=25$  mm to vary the total magnification and the FOV.

Technical data	
<b>Focussing range:</b>	0 - infinity
<b>Accuracy of line sight:</b>	10 $\mu$ m <i>The accuracy of the line of sight denotes the deviation to a straight line measured in the image plane.</i>
<b>Focal length:</b>	80 mm (at 0 m) to 289 mm (infinity)
<b>Free diameter:</b>	26 mm

Magnification of reticle image	
at 0,5 m	5,8x
at 1 m	8,2x
at 2 m	12,6x
at 5 m	24x
at 10 m	42x
at 15 m	61x
at 20 m	77x

## ALIGNMENT COLLIMATOR



The upper figure shows the use of an alignment autocollimator for alignment of bore holes. The targets are positioned into the bore holes and aligned to the line of sight of the alignment telescope. Additionally the targets can serve as a mirror such that the bore holes can be adjusted with the alignment autocollimator parallel to each other.

The MÖLLER-WEDEL OPTICAL alignment systems are extremely handy. The robust construction with stainless steel tubes guarantees the maintenance of precision even in rough environmental conditions.

As manufacturer of optical test equipment MÖLLER-WEDEL OPTICAL GmbH offers a large range of accessories like targets, holders and fixtures, quick alignment tools and mirrors.

### Notes on ordering:

#### Alignment collimator:

- One reticle and LED-illumination are included in the delivery.
- Important:** Specify reticle (see page 82) when ordering.

#### Alignment telescopes:

- Optionally, the telescopes can be equipped with eyepieces having 10 mm or 25 mm focal length.
- One reticle is included in the delivery.
- Important:** Specify reticle (see page 82). Specify horizontal or vertical use if reticles with lettering (e.g. coordinate division etc.) are used.

#### Alignment autocollimator:

- Optionally, the autocollimators can be equipped with eyepieces having 10 mm or 25 mm focal length.
- Two reticles and LED-illumination are included in the delivery.
- Important:** Specify reticles (see page 82). Specify horizontal or vertical use if reticles with lettering (e.g. coordinate division etc.) are used.

### Description:

An alignment collimator projects a reticle along a line of reference. The real image of the reticle appears 180° rotated.

Ord.-No.	Description
231 901	FK 300/40