



# GN 2280

## Bull's eye levels

adjustable



### Specification

#### Sensitivity

Type **30**: Angle minutes, bubble move by 2mm

Housing

Aluminium

anodized, natural colour **ALN**

anodized, black **ALS**

Spirit level element

Glass plastic body

Filling

colourless-transparent **K**

Casting compound

mineral-based

### Information

Bull's eye levels GN 2280 are used to check the horizontal position of jigs, machines, devices, appliances and instruments.

The mounting threads offset by 120° allow the spirit levels to be aligned in relation to the mounting surface. An alignment ball at the bottom surface of the adjustment plate serves as tilting point. Specific tightening torques of the bolts allow to be achieved, so that the bubble is located inside the marking ring once the horizontal alignment is reached.

### On request

- Filling, green-transparent
- Other sensitivities
- Housing in brass or Stainless Steel

### Technical Information

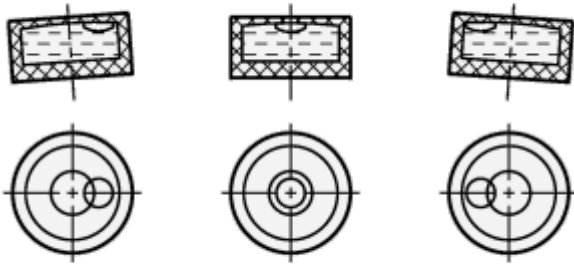
#### Definition of terms

A spirit level is hollow body filled with a fluid and a gas bubble which is used to check the horizontal position of an object. The position of the gas bubble in the fluid shows the angle and the direction at which the object is inclined in relation to the horizontal level.

#### The function

The hollow body containing the fluid and the gas bubble has a defined radius at its top side, causing the gas bubble to float by its buoyancy always to the highest point.

The transparent upper section normally carries markings or a circle centric to the bubble position. If the gas bubble is centered precisely inside the marking and if the air level is properly adjusted, the object to be checked is in the horizontal position.



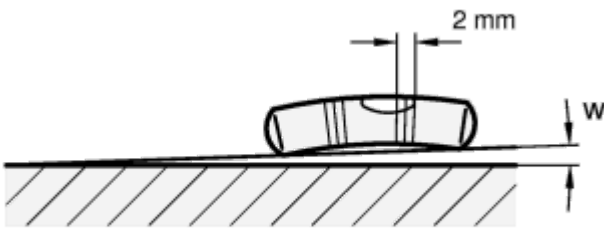
### Types of spirit levels

Spirit levels are available as bull's eye levels or screw-on levels.

Bull's eye levels simultaneously measure the angle of inclination and the angular position, e.g. of a certain level, whereas screw-on levels indicate the angle of inclination in one dimension only along the axis of the level.

### Sensitivity

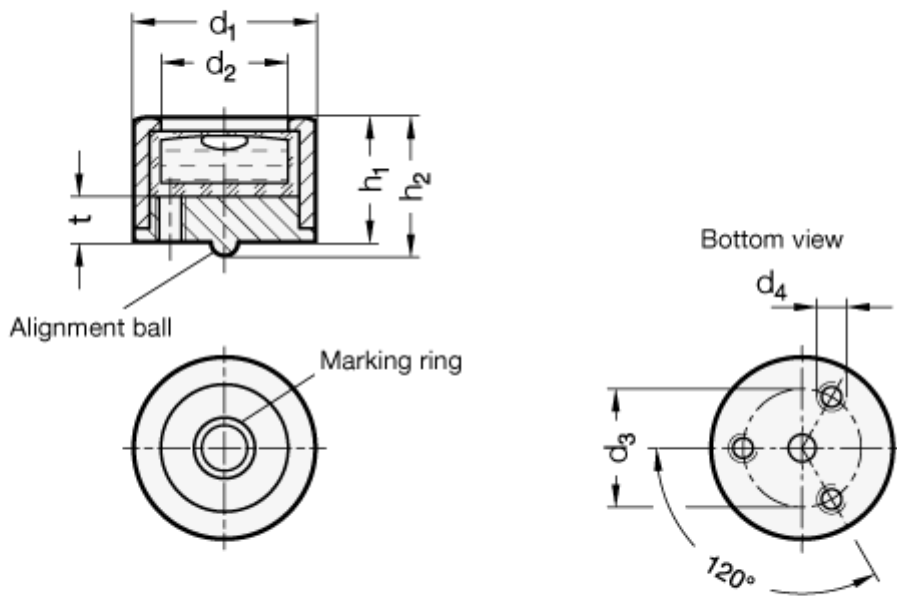
The sensitivity of spirit levels is given as angle of inclination, e.g. 30 angular minutes or 0.5 degrees. This is the angle of inclination by which the spirit level must be tilted to make the bubble move by 2 mm. A spirit level with a sensitivity of 6 angular minutes therefore has a higher sensitivity than a spirit level with a sensitivity of 30 angular minutes.



### Angle of inclination and difference in altitude

Sensitivity is sometimes also given in millimetre per metre, i.e. as difference in altitude per unit of the length. See also the reference table opposite.

Difference in altitude in millimetre per metre	Angle $w$	
	in angular minutes	Degree, decimal
0.3	1	0.0167
0.9	3	0.0500
1.7	6	0.1000
2.9	10	0.1667
5.8	20	0.3333
8.7	30	0.5000
11.6	40	0.6667
14.5	50	0.8333
17.5	60	1.0000



Description	$d_1$	$d_2$	$d_3$	$d_4$	$h_1$	$h_2$	$t$	Weight
<b>GN 2280-ALN-17-K-30</b>	17	13	12	M 3	13	14.5	5	6
<b>GN 2280-ALS-17-K-30</b>	17	13	12	M 3	13	14.5	5	6
<b>GN 2280-ALN-20-K-30</b>	20	13	14	M 3	15	17	5	8
<b>GN 2280-ALS-20-K-30</b>	20	13	14	M 3	15	17	5	8
<b>GN 2280-ALN-24-K-30</b>	24	15	16	M 3	17	20	5	12
<b>GN 2280-ALS-24-K-30</b>	24	15	16	M 3	17	20	5	12