



- Measuring gear made of POM plastic
- Colour: black (white on request)
- Temperature range: -40 °C to +150 °C
- Tooth shape: involute (other shapes on request)
- Number of teeth and module on request
- Application-dependent special solutions are possible

## KEY INFORMATION OVERVIEW

### DESIGN & FUNCTION

The ZRM measuring gear allows the measurement of gear or rack positions by means of a rotary encoder. It engages in a slewing ring and the rotary encoder detects the position of the slewing ring via the transmission ratio  $i$ .

The design of the shaft mount (12 mm, flattened to 11 mm) ensures torsion-free mounting. By using TWK encoders with the special shaft design for gear wheels, captive mounting on the encoder is possible. Fastening material for attaching the ZRM to TWK encoders is supplied. Special, customer-specific shaft designs are available on request.

The basic version (standard) consists of a measuring gear with involute tooth form and without profile shifting.

The measuring gear is designed for use in cranes, wind turbines and mobile machines.

### FEATURE OF ASSOCIATED TWK ROTARY ENCODERS

On request, a special slewing ring software developed by TWK is available for TWK multiturn encoders, which reliably converts the position of the sensor shaft position to the position of the slewing ring when using a slewing ring gear.

This also applies if the shaft is turned as far as required in one direction and the measuring range is therefore traversed completely and several times.

Even when switched off, the encoder shaft may be turned by at least 1024 revolutions. The position is output correctly after switching on again.

**TECHNICAL DATA**

**MECHANICAL DATA**

Material . . . . . Plastic (POM-C)  
 Temperature range . . . . . - 40 °C to + 150 °C  
 Colour . . . . . Black  
 Face pressure angle . . . . . 20°  
 Shaft mounting . . . . . Ø 12 mm, flattened to 11 mm

**ORDER CODE FORMAT**

<b>ZRM</b>	<b>- 20</b>	<b>- 13</b>	<b>- A01</b>	<b>STANDARD VERSION</b>
<b>ZRM</b>	Measuring gear			
<b>20</b>	Module	20	Module of the measuring gear	
<b>13</b>	Number of teeth	13	Number of teeth of the measuring gear	
<b>A01</b>	Variants*	A01	Standard	

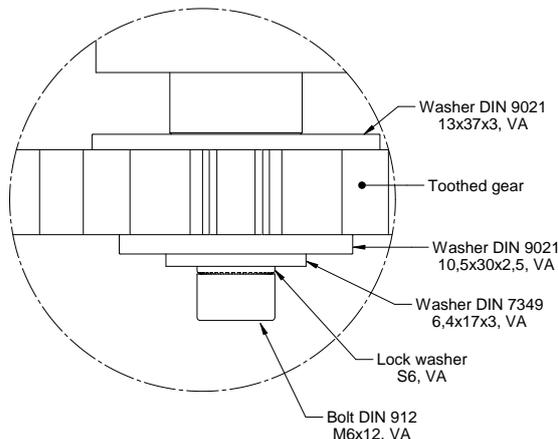
The standard wheels are manufactured without profile shift. Please ask our technical engineers for details and deliverability.

**ACCESSORY AND ASSEMBLY**

**SCOPE OF DELIVERY ZRM**

Measuring gear ZRM  
 Washer DIN 9021-A2-13 . . . . . 1 pc  
 Washer DIN 9021-A2-10.5 . . . . . 1 pc  
 Washer DIN 7349-A2-6.4 . . . . . 1 pc  
 Lock washer A2 S6 . . . . . 1 pc  
 Screw A2 DIN 912 - M6x12 . . . . . 1 pc

**ASSEMBLY INSTRUCTION**



**DOCUMENTATION**

**DOCUMENTATION**

The following documents can be found in the Internet under [www.twk.de/en](http://www.twk.de/en) in the documentation area, model ZRM.

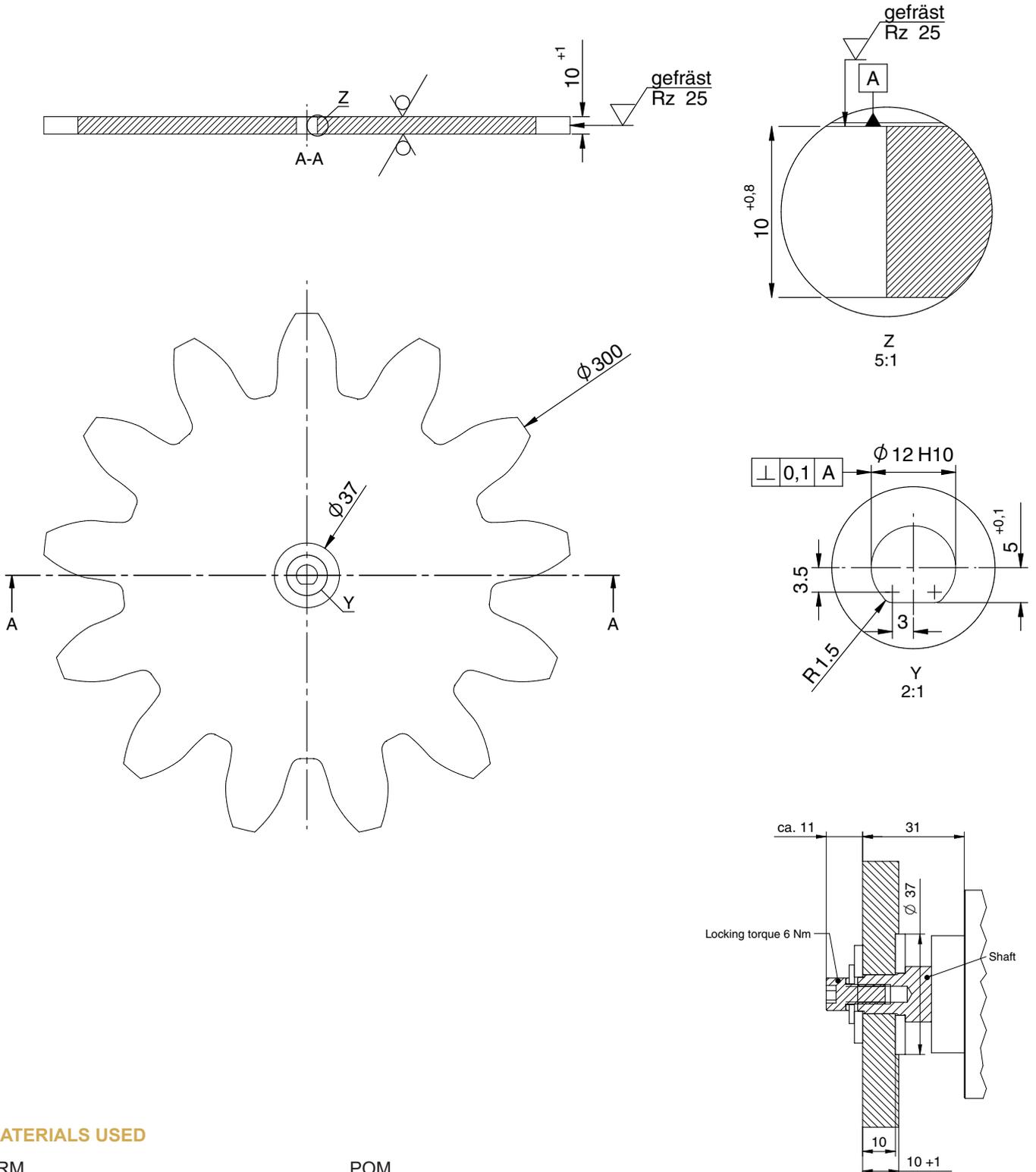
Data sheet . . . . . [ZRM13229](#)  
 CE Declaration of Conformity . . . . . [ZE12467](#)  
 UKCA Declaration of Conformity . . . . . [ZE16569](#)  
 Reach compliant . . . . . [QS15286](#)  
 RoHS compliant . . . . . [QS13284](#)

\* The basic versions according to the data sheet bear the number 01. Deviations are marked with a variant number and documented at TWK.

**INSTALLATION DRAWINGS**

Outer diameter (300 mm) and number of teeth is an example for ZRM-20-13-A01

Dimensions in mm



**MATERIALS USED**

ZRM.....POM  
Accessories.....Stainless steel A2