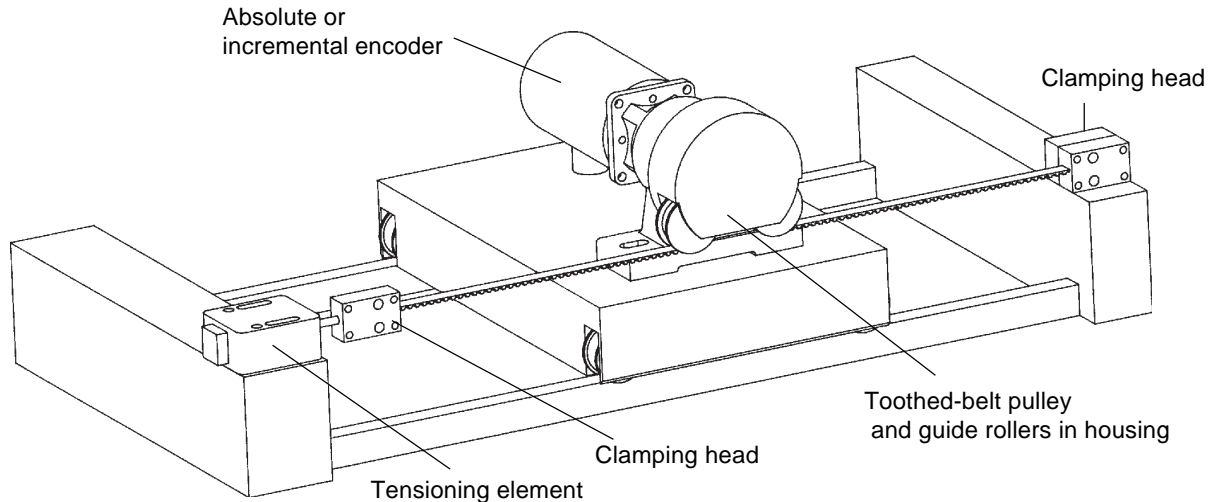- **For fitting to absolute or incremental encoder model No. 58**

- **For converting a translational movement into a rotary movement**

- **For long measuring ranges**

- **Especially robust construction for mechanical engineering and industrial plant applications**

Absolute or incremental encoder

Clamping head

Toothed-belt pulley and guide rollers in housing

Clamping head

Tensioning element

Construction and function

With the aid of a toothed belt and a toothed-belt pulley, the ZWA converts a translational movement into a rotary movement in an exactly linearly proportional manner. The toothed-belt pulley is mounted on a bracket with securing feet. The free end of the shaft, on the other side of which the pulley is mounted, is connected via a coupling to the drive shaft of the encoder. An intermediate spacer piece serves for mounting and centering the encoder model No. 58 to the ZWA. The toothed-belt pulley rotates once for each 100 mm of translational movement.

The two ends of the toothed belt are held in clamping heads. A tensioning element mounted behind one of the clamping heads serves to tension the belt.

The translational movement acquired can be either that of the pulley unit or of the belt; i.e. the pulley unit can be mounted on a carriage and move relative to the belt which is fixed (as shown in the sketch) or the pulley unit can be fixed and the belt moves relative to it.

Technical data of the toothed belt

- Materials: 10 strand, 0,32 mm ø steel cord as tensile force carrying element, embedded in polyurethane elastomer.
- Physical and chemical resistance: Resistant to moisture, fuels, oils, greases, ozone and UV radiation

- Width: 10 mm
- Pitch of teeth: 5 mm
- Coefficient of extension: ~ 0.01 mm / (1 m x 1 N)
- Measuring precision *: ± 0.3 mm (typical), at 60 N toothed belt tension
- Max. permissible tensile load: 300 N at 4 ‰ elastic extension
- Breaking load: 1200 N
- Working temperature range: - 30 °C to + 80 °C (continuous) + 120 °C (short-duration)

* The measuring precision can be significantly improved by increasing the toothed belt tension. The extension behaviour of the belt is strictly linear up to the maximum permissible tensile load.

Form of delivery

The ZWA is supplied with an encoder mounted to it. The electrical and mechanical characteristics of the following encoders make them suitable for combining with the ZWA:

☐ MULTITOUR encoder CRE (data sheet 10106)

☐ Programmable MULTITOUR encoder CRP (data sheet 10113)

☐ Programmable MULTITOUR encoder CRF (data sheet 10266)

☐ InterBus-compatible MULTITOUR encoder CLS, CRS and CRL (data sheets 10133 and 10635)

☐ PROFIBUS-compatible MULTITOUR encoder CRD (data sheet 10534)

☐ CAN-Bus-compatible MULTITOUR encoder CRN (data sheet 10401)

☐ Programmable MULTITOUR encoder DAF with analog output calibrated to the stroke being measured in acc. with customer specification (data sheet 10286)

☐ Electro-optical incremental encoder C3i 58, for up to 5000 pulses/revolution (data sheet 1159)

☐ Electro-magnetic incremental encoder GIM 5100, for up to 5320 pulses/revolution (data sheet 10541)
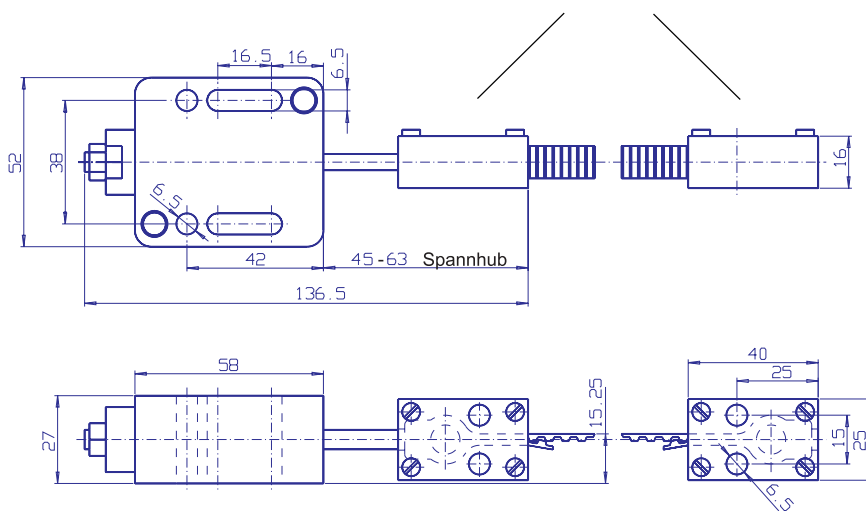
Dimensions in mm

Mounting bracket with toothed-belt-pulley, guide rollers and spacer piece: ZWA 01

Absolute or
incremental
encoder

View with cover removed
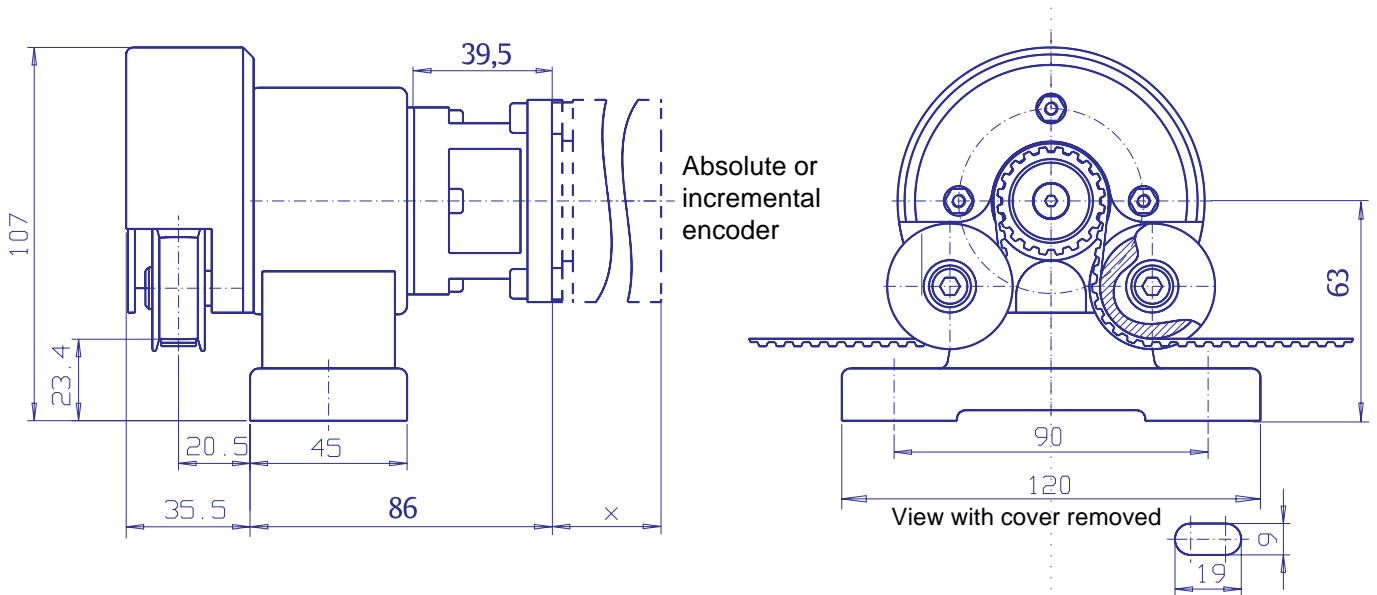
Tensioning element: SE 01

Clamping heads: SK 01

Spannhub

Order code formats

- Combination **ZWA 01 + encoder**
  (code as in the encoder data sheet)
- Toothed belt **ZR 01** in the desired length
  (1 to 200 m)
- Tensioning element **SE 01**
- Clamping head **SK 01**

The belt, tensioning element and clamping
heads are supplied individually