Baumer

Clamping force measurement with strain sensors

Reliable, permanent force measurement

Sensor Solutions
Motion Control
Vision Technologies

Clamping force measurement with strain sensors.

Monitoring, control, calibration.

Highlights

Monitoring and control
- Quick and easy installation
- Accuracy 1% FS (full scale)

Calibration
- Reliable and precise
- Evaluation of the measured results via USB with InspectMaster software
- Independent of diameter

Your benefits

Monitoring and control
- Continuous monitoring
- Verification of the clamping force
- Recording of all measured values via PC or machine control system

Calibration
- Easy monitoring of clamping force, parallelism and bending
- Installation/measurement/evaluation in a short time
- Recording and evaluation of the measured values via PC

Monitoring of clamping force – a crucial factor for compliance with end product quality

Perfectly adjusted machines and tools, e.g. in presses and injection molding machines, are essential to fulfill the high requirements on the end product quality. This can be achieved through constant machine monitoring or periodic machine calibration with Baumer tie bar sensors.
Regardless whether the measurements are made on or in the tie bar, the forces during each work cycle are continually recorded.

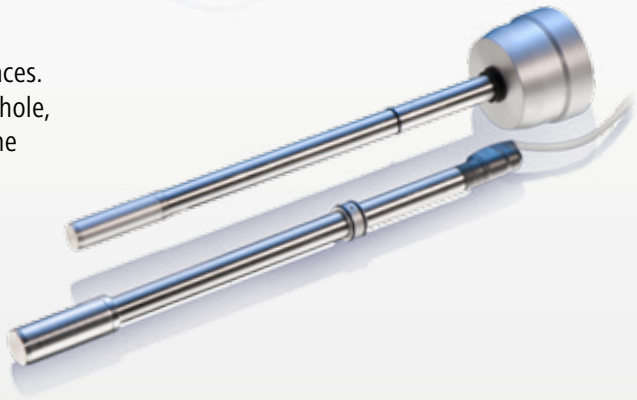
Constant clamping force monitoring

DSRC strain rings

Easy installation, high measuring accuracy. These benefits make the strain ring a versatile measuring instrument for monitoring tasks.

DSRH strain probes

The right solution in tight spaces. Insert the strain probe in the hole, apply tension, connect and the measurement can start.

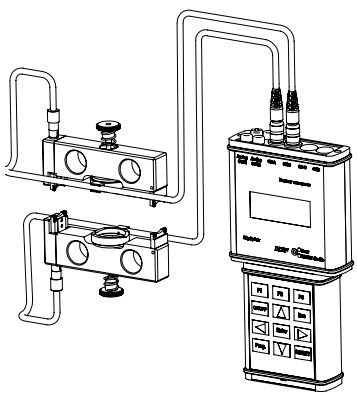


DABU AD2T amplifiers

The ideal amplifier for strain measurements. With its extremely low noise and first-class signal processing, the DABU AD2T is the ideal supplement in the measuring chain with strain sensors.

Machine protection

Calibration of machines clamping force / parallelism / bar bending

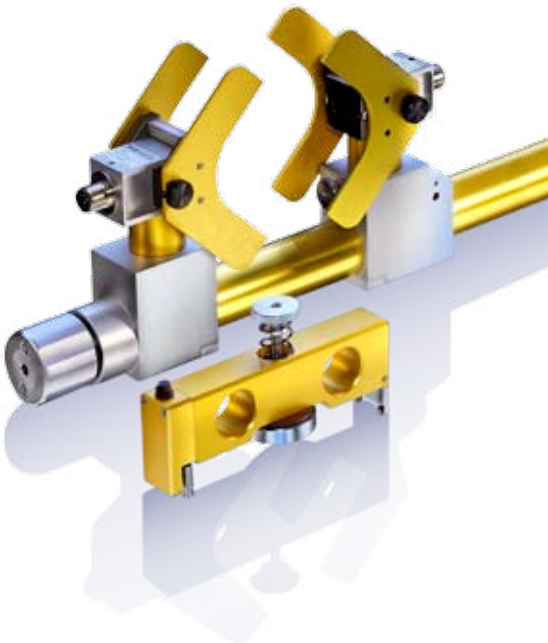


Calibration with strain clamps and extensometers

DSRV strain clamps and DSRM extensometers can be quickly and easily installed. The measured results are available quickly. With the extensometer measurements are not only possible on tie bars but also on plane surfaces.

The convincing measuring chain!

The display box is the result of consistent development of the processing electronic range from Baumer. Together with the matching strain sensors, an ideal measuring chain is formed.



Technical properties

Product	Technical properties	Ordering designations
DSRC strain rings	measuring range ± 1000 µε characteristic curve deviation < 1% FS 2 x ¼ DMS bridge	DSRC xx xxx x **Type** AX = axial cable outlet BT = radial cable outlet ST = plug outlet QM = quick mount latch **Beam diameter (from 020…360 mm)** e.g. 060 = 60 mm e.g. 150 = 150 mm **Metric/imperial** M = metric Z = imperial
DSRH strain probes	measuring range ± 1000 µε characteristic curve deviation < 1% FS for cyclic applications	DSRH x xx-xxxx x **Output** U = voltage output ±10 V I = current output 4 - 20 mA P = passive version with cable outlet **Bore diameter** 12 = 12 mm 16 = 16 mm 20 = 20 mm **Length** 0200 to 1400 mm **Metric/imperial** M = metric Z = imperial
DSRV strain clamps	measuring range ± 1000 µε characteristic curve deviation < 1% FS patented adjusting mechanism variably adjustable 2 x ¼ DMS bridge DDBF display box + InspectMaster analysis software incl. in the set	**Sensors/measuring ranges** 30-100 / 100-170 / 170-240 **DSRV SET-SOL 170** 1 / 1 / 0 **DSRV SET-LEG 240** 1 / 1 / 1 **DSRV SET-MED 170** 4 / 4 / 0 **DSRV SET-MED 240** 0 / 4 / 4 **DSRV SET-COM 240** 4 / 4 / 4 **DSRV SET-RNG 100** 4 / 0 / 0 **DSRV SET-RNG 170** 0 / 4 / 0 **DSRV SET-RNG 240** 0 / 0 / 4
DSRM extensometers	measuring range ± 1000 µε characteristic curve deviation < 2% FS magnetic holder independent of diameter full bridge DDBF display box + InspectMaster analysis software incl. in the set	**DSRM M2M** Measuring system with 2 sensors **DSRM M4M** Measuring system with 4 sensors **DSRM M8M** Measuring system with 8 sensors
DDBF display boxes	freely configurable including InspectMaster evaluation software (multilingual) USB interface	**DDBF 2-SC** 2-channel, 2 x ¼ bridge **DDBF 4-SC** 4-channel, 2 x ¼ bridge **DDBF 4-SM** 4-channel, full bridge
DABx AD2T bridge amplifiers	voltage or current output very good noise characteristics 2 x ¼ bridge and full bridge	DABx AD2T-xx xxxx **Output** U = voltage output I = current output **DMS bridge** FB = full bridge 2Q = 2 x ¼ bridge **Gain** 0,25 = 0,25 mV/V (Type FB) 0,50 = 0,50 mV/V (Type FB) 1,00 = 1,00 mV/V (Type FB) 2,00 = 2,00 mV/V (Type FB) 0250 = 250 µε (Type 2Q) 0350 = 350 µε (Type 2Q) 0500 = 500 µε (Type 2Q) 1000 = 1000 µε (Type 2Q)

Further details can be found at www.baumersensopress.com

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