



CMC
Controls Ltd

**THE WEB TENSION
SPECIALISTS**



For fixed shaft
idler rollers

WEB TENSION SENSING TRANSDUCERS



For rotating shaft
idler rollers

WEB TENSION SENSING TRANSDUCERS FOR FIXED IDLER ROLLERS

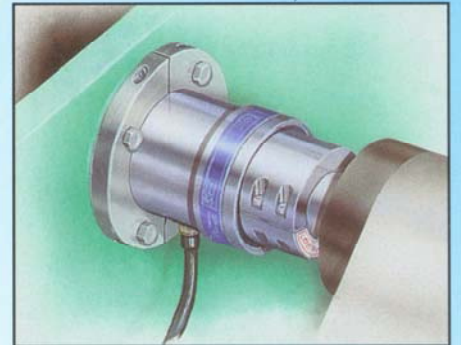
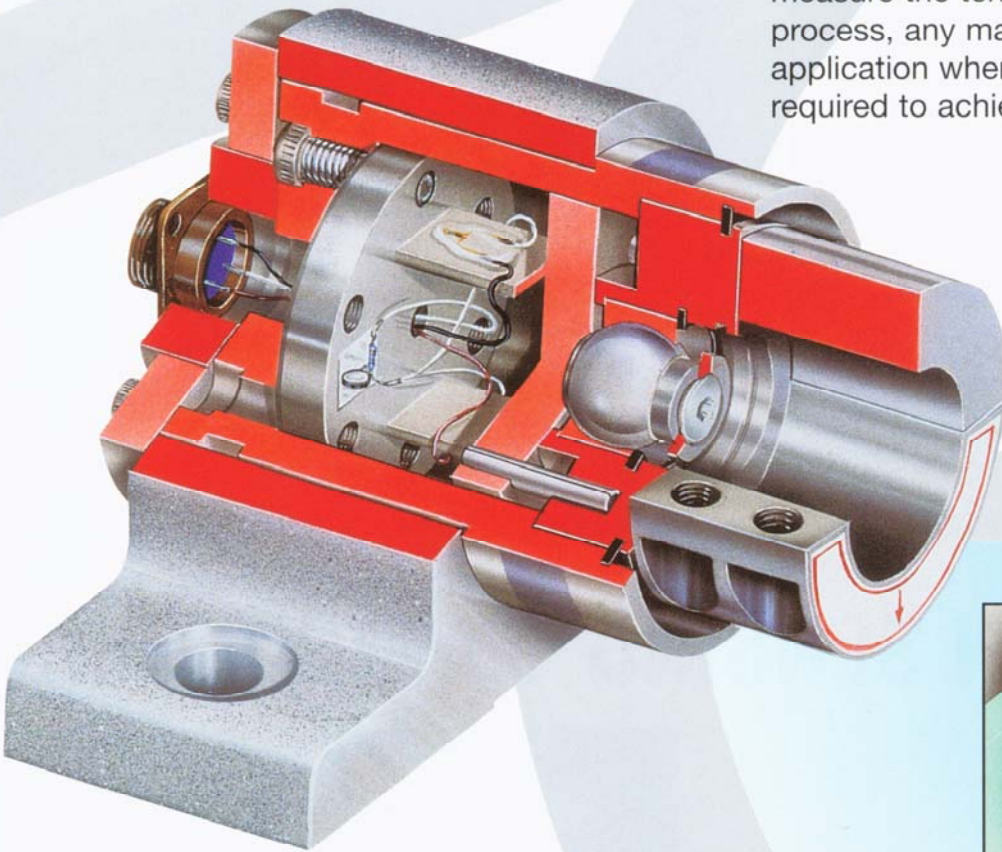
The Cleveland Kidder range of tension transducers for fixed shaft idler rollers, provides a simple, accurate and cost effective means of measuring the web tension in any continuous production or converting process.

When fitted in pairs onto a suitable idler roller with fixed angle of web wrap, they provide a high level signal, directly proportional to the

total web tension, regardless of the web width, its position on the roller, or its speed.

A self aligning bearing accommodates angular misalignment caused by shaft deflection, and longitudinal shaft movement caused by expansion.

Proven over thirty years of industrial use worldwide, CMC transducers are used to measure the tension in any material, any process, any machine, in fact virtually any application where accurate web tension is required to achieve maximum productivity.



FIXED SHAFT TRANSDUCERS

Suitable for any design of fixed shaft roller, up to 30mm shaft diameter. Smaller diameters can be accommodated with reducing bushes.

FEATURES AND BENEFITS TO BOTH FIXED AND ROTATING SHAFT TYPES

DESIGN FEATURES

BENEFITS GAINED

| | | |
|------------------------------|---|--|
| FOUR POPULAR BODY STYLES |  | Simple and quick installation |
| INTEGRAL OVERLOAD PROTECTION |  | Withstands tension transients |
| SEVERAL FORCE RATINGS |  | Wide working tension ranges from 10 Newtons to 1 Tonne |
| TEMPERATURE COMPENSATION |  | Wide ambient temperature range |

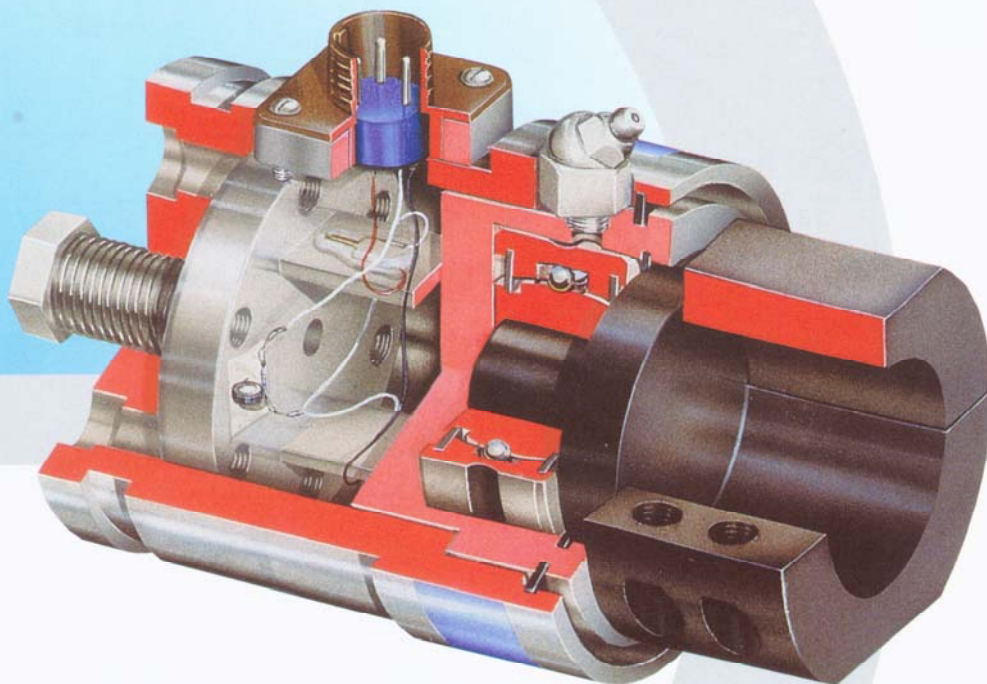
WEB TENSION SENSING TRANSDUCERS FOR ROTATING SHAFT IDLER ROLLERS

Rotating shaft tension transducers have the same advantages as the fixed shaft design with the added feature of an internal self aligning spherical roller bearing, allowing easy installation onto any rotating shaft idler roller with a fixed angle of web wrap.

This bearing has been selected for maximum life, can be externally lubricated for easy maintenance as well as allowing high rotational speeds.

Fitted in the same manner as the fixed shaft series, they have common dimensions, body styles, overload protection, and other features.

The two types complement each other as part of the complete package of tension measurement devices from CMC, which also includes a full range of compatible indicators, controllers and ancillary items.



ROTATING SHAFT TRANSDUCERS

An integral sealed bearing with external grease nipple, allows easy maintenance and long life. This bearing has been selected for maximum life, even at full transducer load rating.

FEATURES AND BENEFITS TO BOTH FIXED AND ROTATING SHAFT TYPES

DESIGN FEATURES

BENEFITS GAINED

HIGH LEVEL OUTPUT SIGNAL



Long connecting cables

RUGGED STEEL CONSTRUCTION



No external maintenance

NEGLIGIBLE DISPLACEMENT

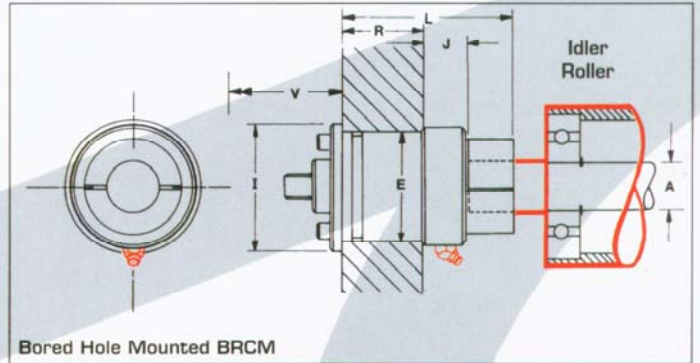
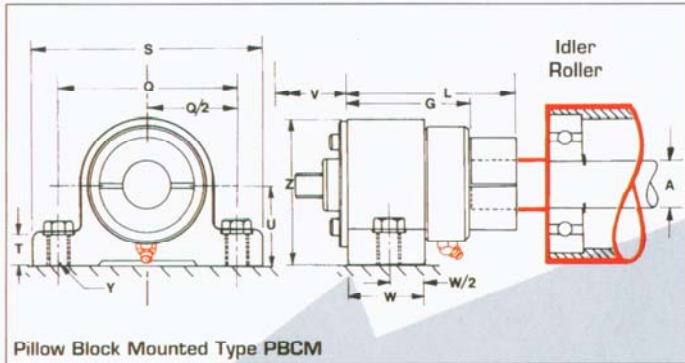
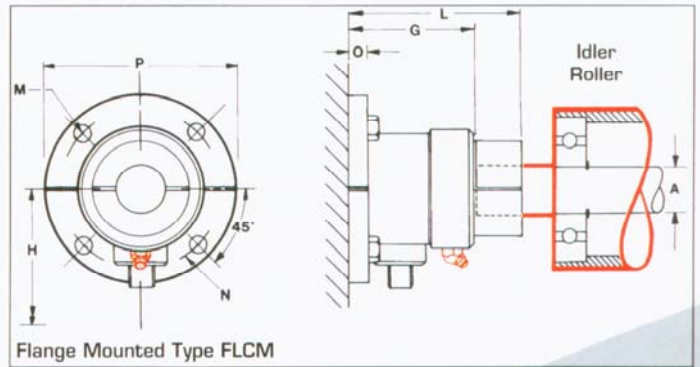
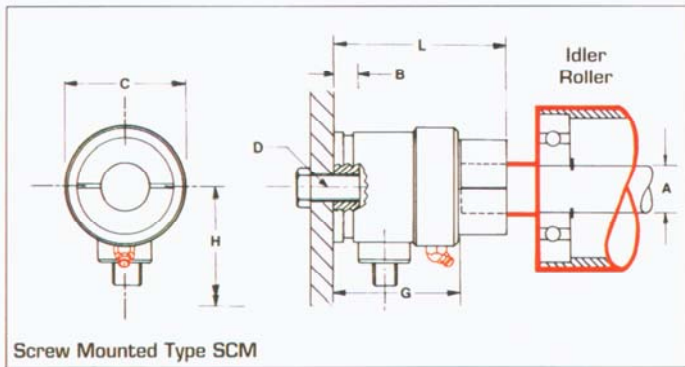


Maintains roller alignment

ANGULAR AND LONGITUDINAL
MISALIGNMENT CAPABILITY



Freedom from measurement errors,
caused by roller deflection and expansion



TENSION TRANSDUCER DIMENSIONS (All dimensions in mm)

| BODY SIZE | A | B | C | D | E | G | H | I | J | M | N | O | P | Q | R | S | T | U | V | W | Y | Z |
|-----------------|----|----|----|-----|------|----|-----|----|-----|----|------|----|-----|-----|----|-----|----|----|----|----|----|----|
| Small = 1T | 30 | 14 | 64 | M12 | 60.3 | 66 | 125 | 70 | 92 | 10 | 82.5 | 13 | 102 | 102 | 44 | 137 | 15 | 41 | 95 | 45 | 12 | 80 |
| Large = 2T | 30 | 15 | 70 | M16 | 66.7 | 76 | 125 | 76 | 103 | 12 | 88.9 | 16 | 114 | 127 | 48 | 156 | 17 | 49 | 95 | 48 | 12 | 93 |
| Rotating = R-2T | 30 | 15 | 70 | M16 | 66.7 | 76 | 125 | 76 | 105 | 12 | 88.9 | 16 | 114 | 127 | 48 | 156 | 17 | 49 | 95 | 48 | 12 | 93 |

TRANSDUCER FORCE RATINGS

| BODY SIZE | MAXIMUM WORKING FORCE | | | | | UNITS |
|-----------------|-----------------------|------|------|------|------|---------|
| Small = 1T | 100 | 200 | 350 | 450 | 650 | Newtons |
| Large = 2T | 650 | 1000 | 1800 | 2500 | 4500 | Newtons |
| Rotating = R-2T | 350 | 500 | 1000 | N/A | N/A | Newtons |

To calculate Maximum Working Force (MWF) contact CMC for advice.

OPTIONS

High temperature versions are available up to 140°C.

HOW TO SELECT A TENSION TRANSDUCER

- 1 Decide on the body fixing style, as shown above.
- 2 Define the accessories and options.
- 3 Calculate the force rating, which will determine the body size (1T or 2T)
- 4 Alternatively consult CMC or your local representative for advice.

Outline dimensions are rounded to nearest millimetre. Certified drawings are available from CMC. Bold outline boxes denote diameters.

GENERAL SPECIFICATION

| | |
|---|-----------------|
| Maximum voltage | 5.6 v D.C. |
| Rated output for maximum working force per transducer | 250 mV |
| Operating temperature | up to 90°C |
| Signal change with temperature less than | 0.01% of MWF/°C |
| Combined non linearity and hysteresis | ±0.5% of MWF |
| Repeatability | ±0.2% of MWF |
| Safe overload rating | 150% of MWF |
| Ultimate overload rating | 300% of MWF |

HOW TO SELECT A TENSION TRANSDUCER

- Reducing bushes for roller shafts less than 30mm diameter
- Transducer connecting cables
- Full range of tension indicators and controllers
- Zener barriers for hazardous area applications



CMC
Controls Ltd

REPRESENTED BY

AGENTS IN
EUROPE AND
AUSTRALASIA

Associate
Company



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