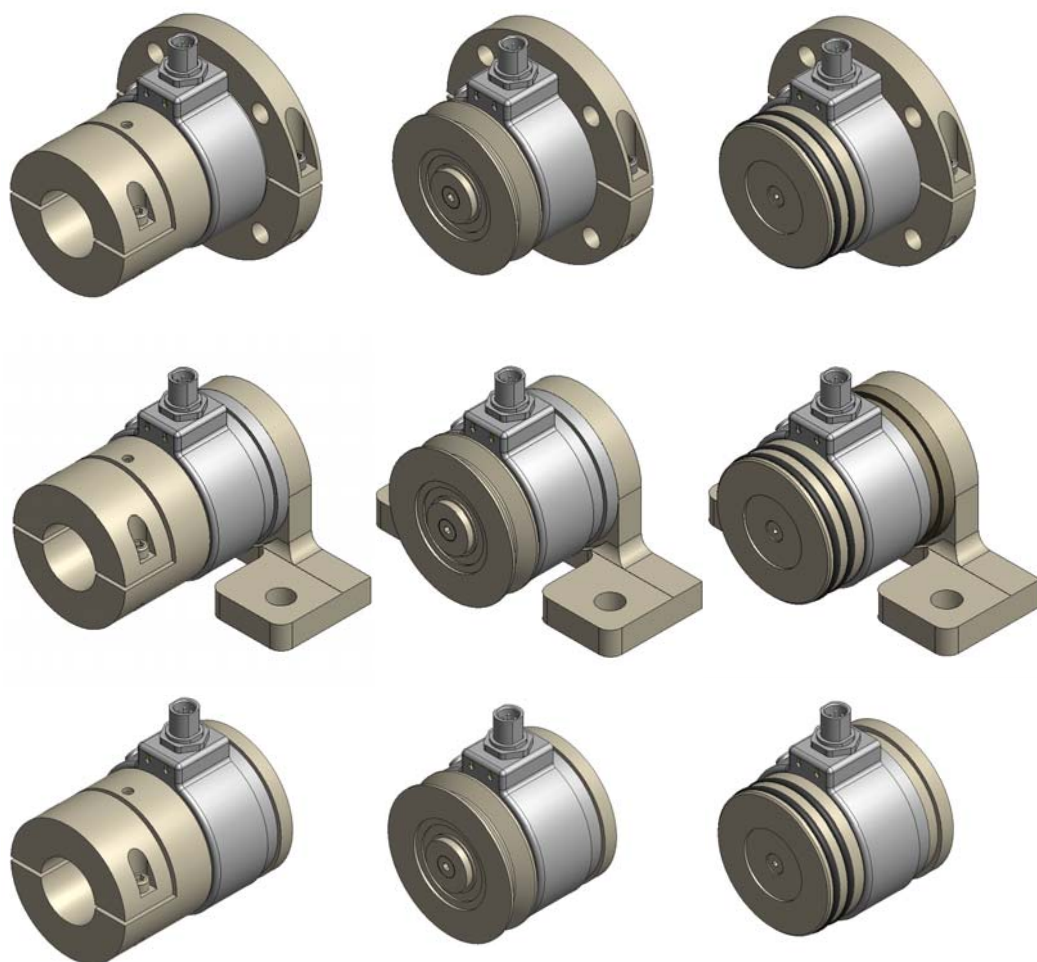




MAGPOWR Model TS Load Cells

Assembly instructions



EN

MI 2060 1 C

INTRODUCTION	1-1
About these assembly instructions	1-1
Proper use	1-1
EC Declaration of Incorporation	1-1
Improper use	1-2
Function	1-2
SAFETY INSTRUCTIONS	2-1
Important information	2-1
Information about safety instructions	2-1
Symbols	2-2
Dangers	2-2
OVERVIEW OF MODEL	3-1
Overview of TS sensor standard model	3-1
Metric models	3-1
Sensors with split coupling	3-1
Sensors with in-roll	3-2
Sensors with pulley	3-2
Model number code	3-2
Dimensions	3-4
Sensors for roller mounting with split coupling	3-4
Sensors for roller mounting with in-roll	3-6
Sensors with pulley	3-8
INSTALLATION AND MAINTENANCE	4-1
Aligning the sensor	4-1
Mounting on machine frames	4-1
Flange fastening, type S	4-2
Flange fastening, type F	4-2
Pillow block mounting, type P	4-3
Roller mounting	4-3
Sensors with split coupling	4-3
Sensors with in-roll	4-3
Converting sensors with split couplings	4-4
Types of rollers	4-4
Converting sensors	4-5
Maintenance	4-6
Sensors with split coupling	4-6
Sensors with in-roll	4-6
TECHNICAL DATA	5-1
SERVICE	6-1
Requests for Service	6-1
Addresses	6-1

1 INTRODUCTION

About these assembly instructions

These assembly instructions are designed to facilitate installation, operation and maintenance of Model TS load cells and provide important information for proper use of the system.

These assembly instructions are directed to both the system construction master as well as the end user utilizing the load cells in production. They must be read and applied by everyone assigned to working with the load cells.

Translation of the original assembly instructions:

These assembly instructions are a translation. The original language is German.

Proper use

Magpowr TS load cells are extremely precise instruments used to measure tension while manufacturing and processing web and strand-link materials. Model TS sensors offer numerous options for fastening.

To ensure proper functionality of the load cells, the sensors must be installed correctly and technical data must be taken into consideration. The load on the sensors must not be higher than what is specified on the manufacturer's rating plate.

The load cells must only be used for the purpose intended and must be maintained in proper technical condition.



WARNING

⇒ The sensor must not be exposed to vibrations!

⇒ No changes must be made to the components installed on the sensor!

EC Declaration of Incorporation

TS series load cells have been designed and constructed in accordance with the standards and regulations of the European Union.

Improper use

- Operation outside the technical specifications.
- Outdoor operation.
- Any other use than the proper use shall be deemed inappropriate.

Function

The load cells are equipped with a sturdy attachment with mechanical overload stops in both force directions. Recalibration is not required even after extreme overloads.

The internal design, in the form of dual beam construction, ensures linear response under all load conditions. A Wheatstone full bridge arrangement with four strain gauges is used to measure force. This generates an output signal proportional to the force and ensures the best possible measurement results.

2 SAFETY INSTRUCTIONS

Important information

In order to operate the TS load cell without problems and reliably, the load cell must be:

- properly shipped and stored,
- professionally mounted and placed in operation,
- properly used and carefully maintained.

Proper operation and maintenance will ensure a long service life for the load cell.

Only persons acquainted with the assembly, commissioning, and maintenance of the system and who possess the necessary qualifications for their activities are permitted to work on the load cell.



Please observe the following:

- The content of these assembly instructions
- The requirements of the machine manufacturer
- Applicable national, state and local requirements for accident prevention and environmental protection

Information about safety instructions

The safety instructions and symbols described in this section are used in these assembly Instructions. They are used to avoid possible dangers for users and to prevent material damage.



SIGNAL WORD

Source of danger and its results.

⇒ Avoiding dangers

The signal word **WARNING** refers to the danger of moderate to severe bodily injuries.

The signal word **CAUTION** refers to the danger of slight to moderate bodily injuries or material damage.

Symbols



Warning/caution – dangerous area

Reference to general hazards that may result in bodily injuries or damage to the device



Warning/caution – danger due to crushing

Refers to danger of injury caused by crushing



Warning/caution – danger of crushing between the roller and the web

Refers to danger of injury caused by roller infeed



Warning/caution – danger due to cutting

Refers to danger of injury caused by cutting



Warning/caution – danger due to hot surface

Refers to danger of injury caused by burning

Additional symbols

- This dash is followed by an enumeration.
- This dot is followed by a prompt to do something.



Note:

Reference to important information.

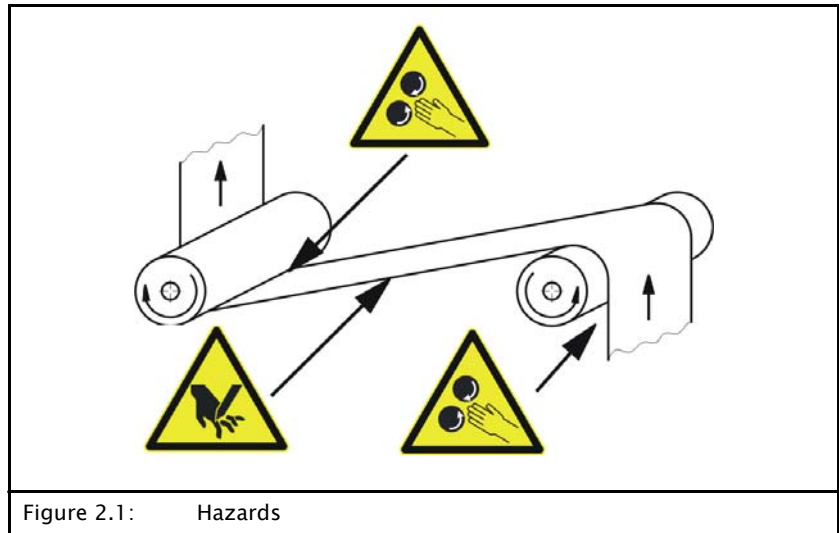
Dangers



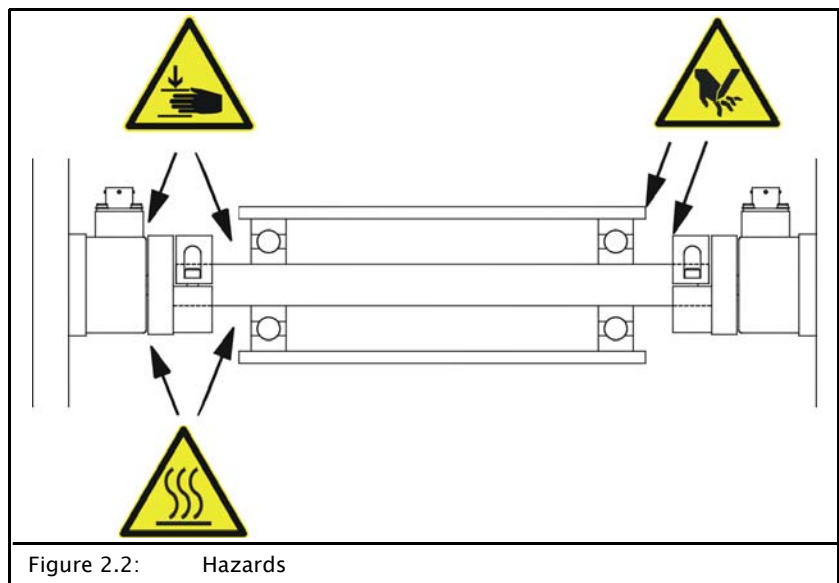
- Danger of crushing between the roller and the web.
⇒ The rotation of the roller and/or the motion of the web results in a danger of crushing for body at infeed points of the rollers



- Hazards caused by cuts on the web
⇒ By the web material itself and/or by the movement of the web results the danger of being cut by the web edge (see [figure 2.1](#)).



- Danger of crushing on the sensor
 ⇒ The motion of the roller system results in a danger of crushing and cutting for body parts between the roller and sensor or on the sensor.



- Hazard due to heat buildup
 ⇒ the rotation of the rollers and /or sensor generates heat. If the bearing is incorrectly or imprecisely adjusted, the system can become very hot. Then there is a danger of burns (see [figure 2.2](#)).

3 OVERVIEW OF MODEL

Overview of TS sensor standard model

Magpowr load cells of the TS model series are available in three different designs for fastening to the machine frame:

- Flange mounting, type F and type S,
- Pillow block mounting, type P.

Two different designs are available for roller mounting:

- Split coupling mounting, type C (dead and live shaft),
- In-roll mounting, type R.

A design for mounting a pulley is also available:

- Mounting with pulley, type W.

Load cells of the TS model series can be used in any possible combination of fastening to the machine frame and roller mounting and/or mounting with pulley.

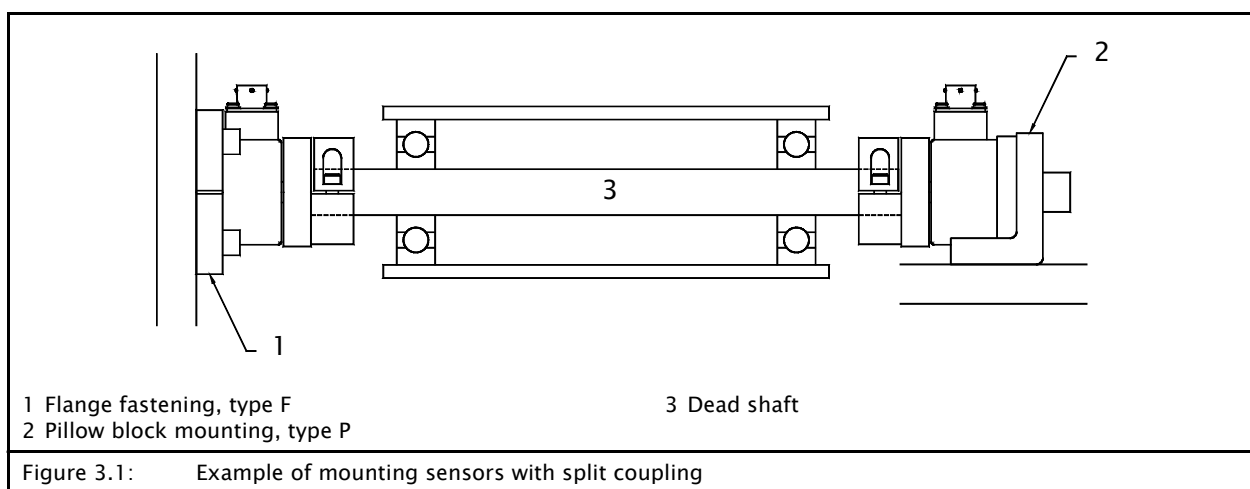
Metric models

All load sensors are also available in metric versions and are identified by an "M" at the end of the model number

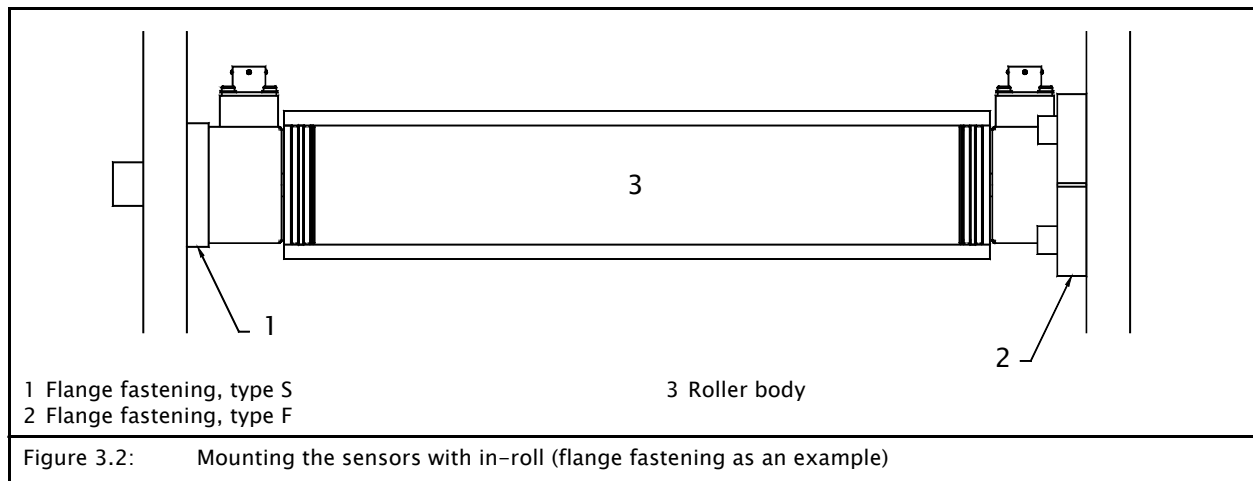
The measurement range is indicated in kg (dN), for example: TS75SC-EC12M.

Sensors with split coupling

The design for roller mounting with split coupling support a customer system with dead shaft or live shaft on both sides of the machine (see [Converting sensors with split couplings, page 4-4](#)).

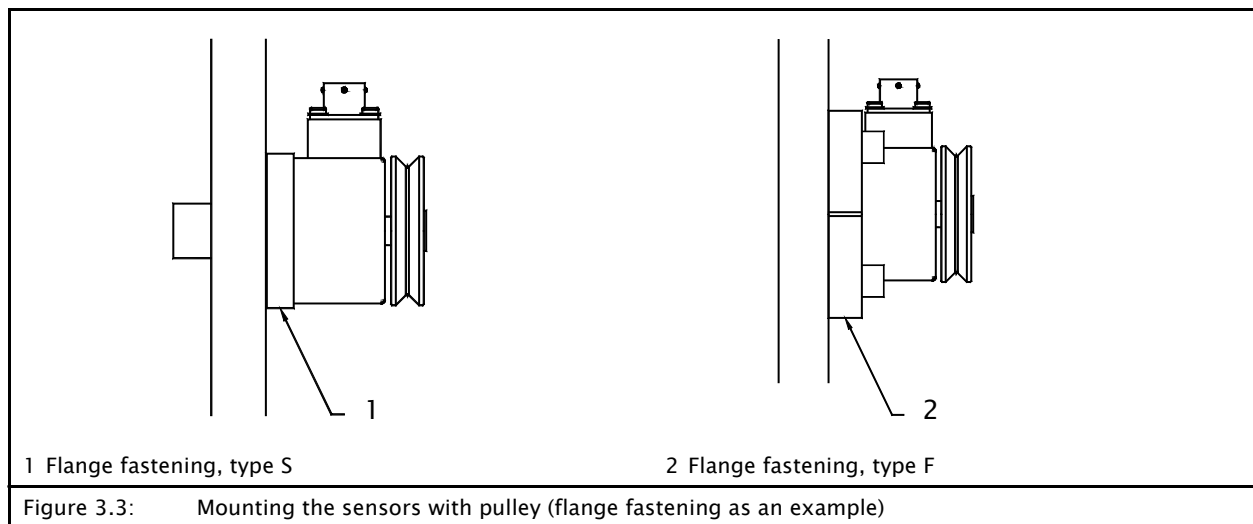


Sensors with in-roll



Sensors with pulley

The design with pulley measures the tension on a wire or strand.



Model number code

TS	-----	-----	-----	-----
↑	↑	↑	↑	↑
Load Cell	Load rating (in daN or lb)	Fastening type: S – Flange M12 F – Flange P – Pillow block	Mounting type: C – Split coupling R – In-roll W – Pulley	Dimensions: – in inches M – metric/ in mm

Fastening type and rated load	Design		
	Split coupling	In-roll	Pulley
Flange fastening, type S (5lb)	TS5SC-EC12	TS5SR-EC12	TS5SW-EC12
Flange fastening, type S (25lb)	TS25SC-EC12	TS25SR-EC12	TS25SW-EC12
Flange fastening, type S (50lb)	TS50SC-EC12	TS50SR-EC12	TS50SW-EC12
Flange fastening, type S (150lb)	TS150SC-EC12	TS150SR-EC12	TS150SW-EC12
Flange fastening, type S (330lb)	TS330SC-EC12	TS330SR-EC12	TS330SW-EC12
Flange fastening, type S (500lb)	TS500SC-EC12	TS500SR-EC12	TS500SW-EC12
Flange fastening, type F (5lb)	TS5FC-EC12	TS5FR-EC12	TS5FW-EC12
Flange fastening, type F (25lb)	TS25FC-EC12	TS25FR-EC12	TS25FW-EC12
Flange fastening, type F (50lb)	TS50FC-EC12	TS50FR-EC12	TS50FW-EC12
Flange fastening, type F (150lb)	TS150FC-EC12	TS150FR-EC12	TS150FW-EC12
Flange fastening, type F (330lb)	TS330FC-EC12	TS330FR-EC12	TS330FW-EC12
Flange fastening, type F (500lb)	TS500FC-EC12	TS500FR-EC12	TS500FW-EC12
Pillow block fastening, type P (5lb)	TS5PC-EC12	TS5PR-EC12	TS5PW-EC12
Pillow block fastening, type P (25lb)	TS25PC-EC12	TS25PR-EC12	TS25PW-EC12
Pillow block fastening, type P (50lb)	TS50PC-EC12	TS50PR-EC12	TS50PW-EC12
Pillow block fastening, type P (150lb)	TS150PC-EC12	TS150PR-EC12	TS150PW-EC12
Pillow block fastening, type P (330lb)	TS330PC-EC12	TS330PR-EC12	TS330PW-EC12
Pillow block fastening, type P (500lb)	TS500PC-EC12	TS500PR-EC12	TS500PW-EC12
Metric sensors			
Flange fastening, type S (2kg)	TS2SC-EC12M	TS2SR-EC12M	TS2SW-EC12M
Flange fastening, type S (10kg)	TS10SC-EC12M	TS10SR-EC12M	TS10SW-EC12M
Flange fastening, type S (25kg)	TS25SC-EC12M	TS25SR-EC12M	TS25SW-EC12M
Flange fastening, type S (75kg)	TS75SC-EC12M	TS75SR-EC12M	TS75SW-EC12M
Flange fastening, type S (150kg)	TS150SC-EC12M	TS150SR-EC12M	TS150SW-EC12M
Flange fastening, type S (250kg)	TS250SC-EC12M	TS250SR-EC12M	TS250SW-EC12M
Flange fastening, type F (2kg)	TS2FC-EC12M	TS2FR-EC12M	TS2FW-EC12M
Flange fastening, type F (10kg)	TS10FC-EC12M	TS10FR-EC12M	TS10FW-EC12M
Flange fastening, type F (25kg)	TS25FC-EC12M	TS25FR-EC12M	TS25FW-EC12M
Flange fastening, type F (75kg)	TS75FC-EC12M	TS75FR-EC12M	TS75FW-EC12M
Flange fastening, type F (150kg)	TS150FC-EC12M	TS150FR-EC12M	TS150FW-EC12M
Flange fastening, type F (250kg)	TS250FC-EC12M	TS250FR-EC12M	TS250FW-EC12M
Pillow block fastening, type P (2kg)	TS2PC-EC12M	TS2PR-EC12M	TS2PW-EC12M
Pillow block fastening, type P (10kg)	TS10PC-EC12M	TS10PR-EC12M	TS10PW-EC12M
Pillow block fastening, type P (25kg)	TS25PC-EC12M	TS25PR-EC12M	TS25PW-EC12M
Pillow block fastening, type P (75kg)	TS75PC-EC12M	TS75PR-EC12M	TS75PW-EC12M
Pillow block fastening, type P (150kg)	TS150PC-EC12M	TS150PR-EC12M	TS150PW-EC12M
Pillow block fastening, type P (250kg)	TS250PC-EC12M	TS250PR-EC12M	TS250PW-EC12M

Dimensions

Sensors for roller mounting with split coupling

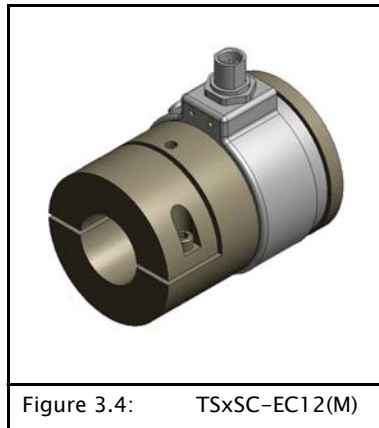


Figure 3.4: TSxSC-EC12(M)

Flange fastening, type SC-EC12(M)

TS5SC-EC12, TS25SC-EC12, TS50SC-EC12, TS150SC-EC12, TS330SC-EC12, TS500SC-EC12

TS2SC-EC12M, TS10SC-EC12M, TS25SC-EC12M, TS75SC-EC12M, TS150SC-EC12M, TS250SC-EC12M

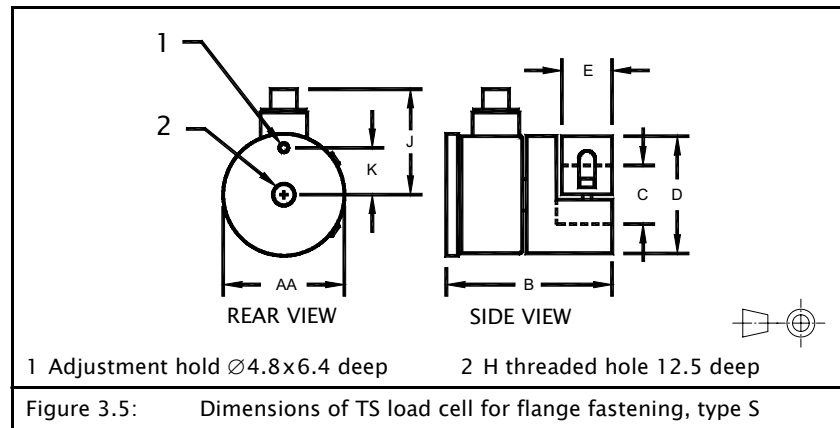


Figure 3.5: Dimensions of TS load cell for flange fastening, type S

Flange fastening, type FC-EC12(M)

TS5FC-EC12, TS25FC-EC12, TS50FC-EC12, TS150FC-EC12, TS330SC-EC12, TS500FC-EC12

TS2FC-EC12M, TS10FC-EC12M, TS25FC-EC12M, TS75FC-EC12M, TS150FC-EC12M, TS250FC-EC12M

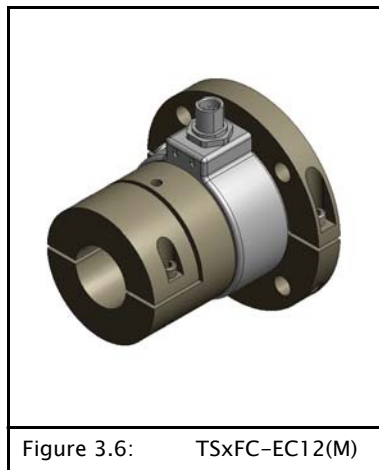


Figure 3.6: TSxFC-EC12(M)

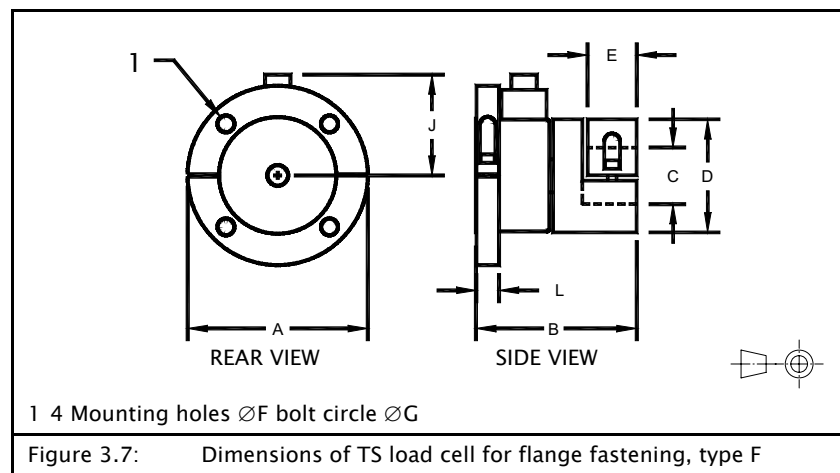


Figure 3.7: Dimensions of TS load cell for flange fastening, type F

Pillow block mounting type PC-EC12(M)

TS5PC-EC12, TS25PC-EC12, TS50PC-EC12, TS150PC-EC12,
TS330PC-EC12, TS500PC-EC12

TS2PC-EC12M, TS10PC-EC12M, TS25PC-EC12M,
TS75PC-EC12M, TS150PC-EC12M, TS250PC-EC12M

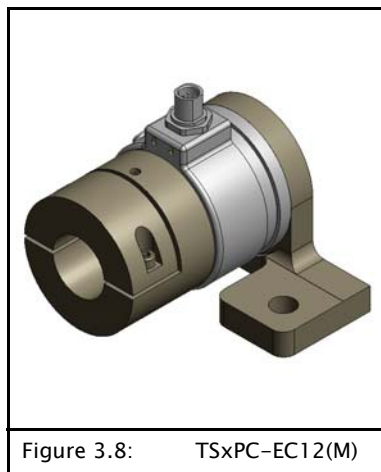


Figure 3.8: TSxPC-EC12(M)

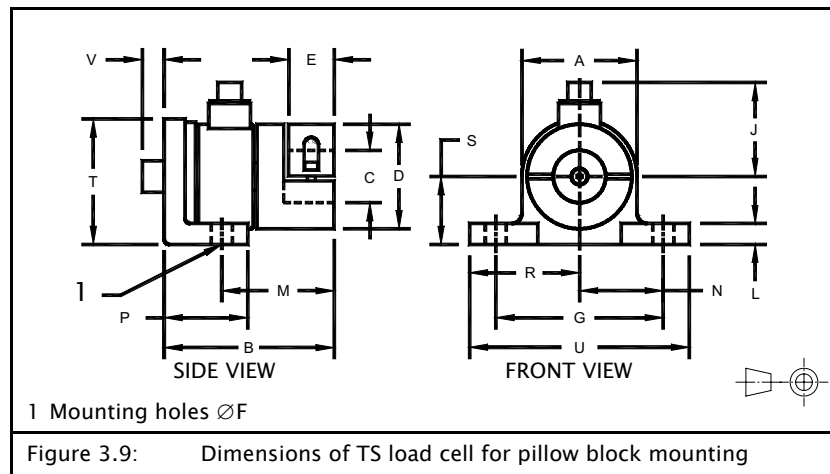


Figure 3.9: Dimensions of TS load cell for pillow block mounting

Units in inches (weight Z in lb)

Model	A	AA	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	Z
TS5SC-EC12, TS25SC-EC12, TS50SC-EC12		2,13	3,04	0,875	2,07	0,71			½-13	1,9	0,88										0,93
TS150SC-EC12 TS330SC-EC12 TS500SC-EC12		2,60	3,61	1,250	2,50	1,05			½-13	2,2	1,00										1,56
TS5FC-EC12 TS25FC-EC12 TS25FC-EC12	3,13		3,04	0,875	2,07	0,71	0,313	2,50		1,9		0,50									1,09
TS150FC-EC12, TS330FC-EC12 TS500FC-EC12	4,0		3,61	1,250	2,50	1,05	0,375	3,25		2,2		0,50									1,87
TS5PC-EC12 TS25PC-EC12 TS50PC-EC12	2,16		3,54	0,875	2,07	0,71	0,375	3,25		1,9		0,50	2,29	1,63	1,75	2,13	1,38	2,46	4,25	0,5	1,36
TS150PC-EC12 TS330PC-EC12 TS500PC-EC12	2,6		4,11	1,250	2,50	1,05	0,50	4,00		2,2		0,50	2,73	2,00	2,0	2,63	1,63	2,93	5,25	0,5	3,18

Units in millimeters (weight Z in kg)

TS2SC-EC12M TS10SC-EC12M TS25SC-EC12M		54	77,2	30,0	52,5	18,1			M12x1,75	48	22,4										0,42
TS75SC-EC12M TS150SC-EC12M TS250SC-EC12M		66	91,7	30,0	63,5	26,5			M12x1,75	56	25,4										0,71
TS2FC-EC12M TS10FC-EC12M TS25FC-EC12M	79,4		77,2	30,0	52,5	18,1	7,94	63,5		48		12,7									0,49
TS75FC-EC12M TS150FC-EC12M TS250FC-EC12M	101,6		91,7	30,0	63,5	26,5	9,53	82,6		56		12,7									0,85
TS2PC-EC12M TS10PC-EC12M TS25PC-EC12M	54,9		90,0	30,0	52,5	18,1	9,53	82,6		48		12,7	58,2	41,3	44,5	54,0	34,9	62,5	108,0	12,7	0,62
TS75PC-EC12M TS150PC-EC12M TS250PC-EC12M	66,0		104,3	30,0	63,5	26,5	12,7	101,6		56		12,7	69,3	50,8	50,8	66,7	41,3	74,4	133,4	12,7	1,44

Sensors for roller mounting with in-roll

Flange fastening, type SR-EC12(M)

TS5SR-EC12, TS25SR-EC12, TS50SR-EC12, TS150SR-EC12, TS330SR-EC12, TS500SR-EC12

TS2SR-EC12M, TS10SR-EC12M, TS25SR-EC12M, TS75SR-EC12M, TS150SR-EC12M, TS250SR-EC12M

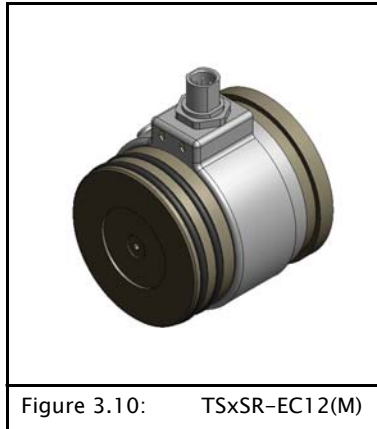
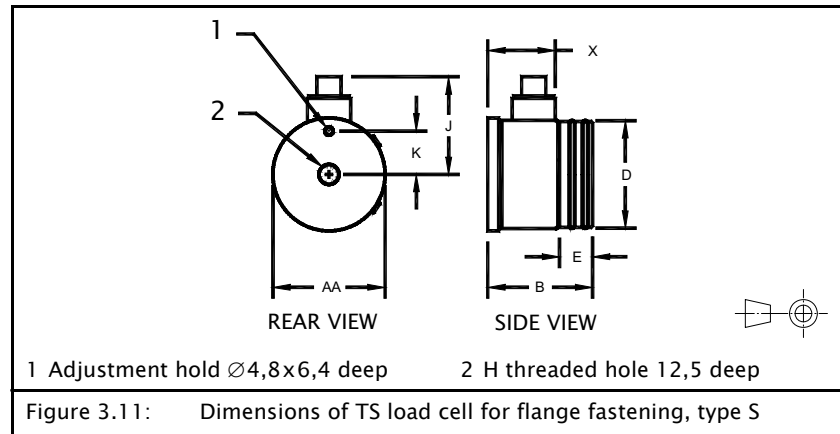


Figure 3.10: TSxSR-EC12(M)



Flange fastening, type FR-EC12(M)

TS5FR-EC12, TS25FR-EC12, TS50FR-EC12, TS150FR-EC12, TS330FR-EC12, TS500FR-EC12

TS2FR-EC12M, TS10FR-EC12M, TS25FR-EC12M, TS75FR-EC12M, TS150FR-EC12M, TS250FR-EC12M

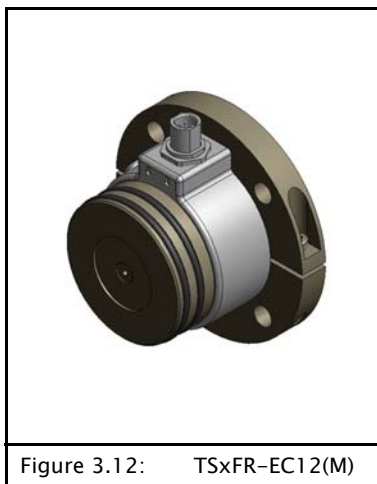
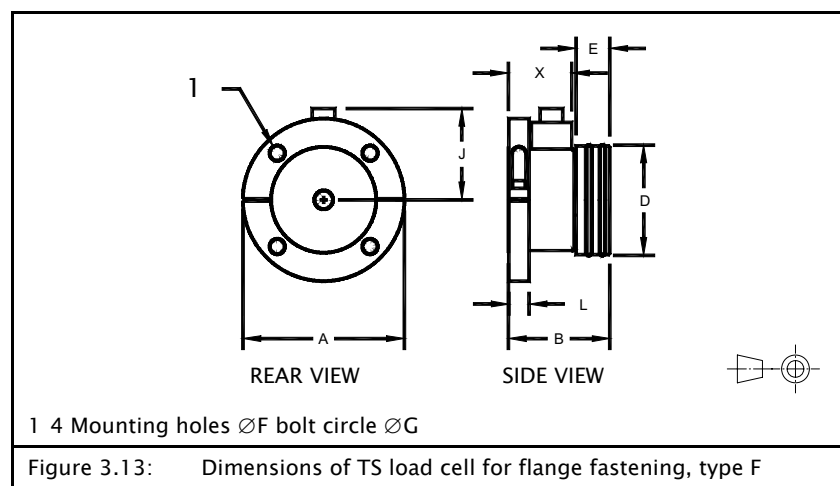


Figure 3.12: TSxFR-EC12(M)



Pillow block mounting type PR-EC12(M)

TS5PR-EC12, TS25PR-EC12, TS50PR-EC12, TS150PR-EC12,
TS330PR-EC12, TS500PR-EC12

TS2PR-EC12M, TS10PR-EC12M, TS25PR-EC12M,
TS75PR-EC12M, TS150PR-EC12M, TS250PR-EC12M



Figure 3.14: TSxPR-EC12(M)

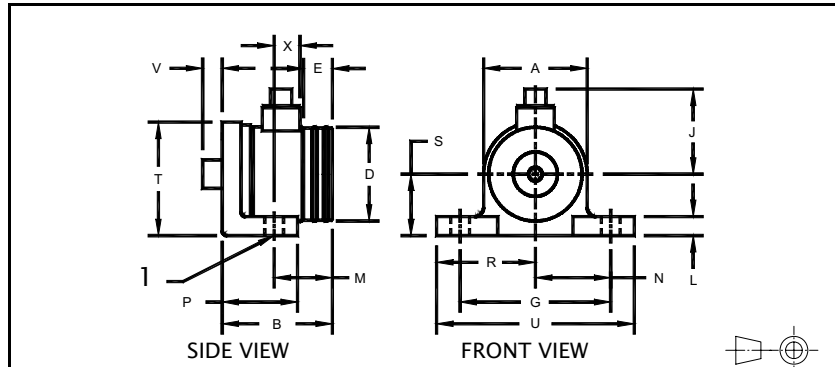


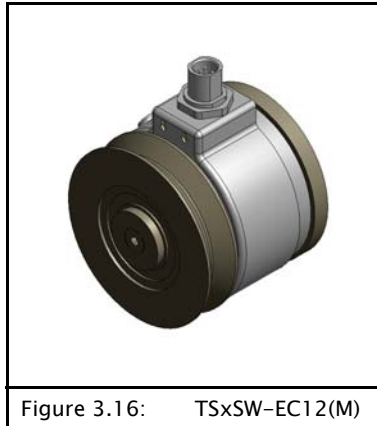
Figure 3.15: Dimensions of TS load cell for pillow block mounting

Units in inches (weight Z in lb)

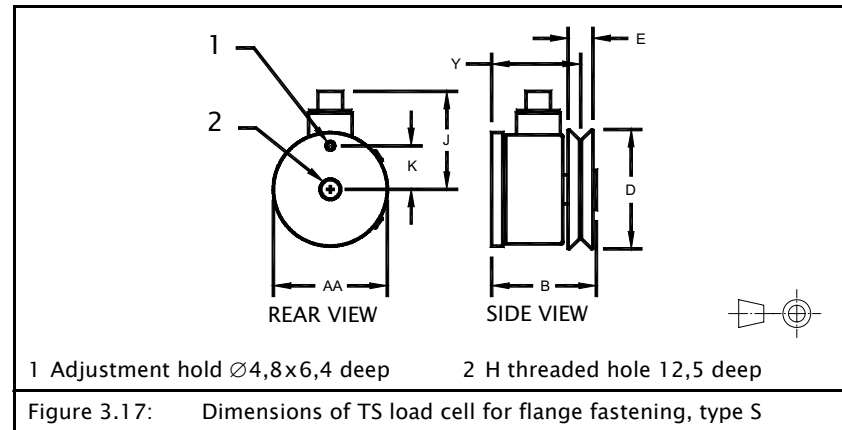
Model	A	AA	B	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	X	Z
TS5SR-EC12 TS25SR-EC12 TS50SR-EC12		2,13	2,23	2,05	0,53			½-13	1,9	0,88										1,65	0,93
TS150SR-EC12 TS330SR-EC12 TS500SR-EC12		2,60	2,47	2,44	0,76			½-13	2,2	1,00										1,66	1,56
TS5FR-EC12 TS25FR-EC12 TS50FR-EC12	3,13		2,23	2,05	0,53	0,313	2,50		1,9		0,50									1,65	1,09
TS150FR-EC12 TS330FR-EC12 TS500FR-EC12	4,0		2,47	2,44	0,76	0,375	3,25		2,2		0,50									1,66	1,87
TS5PR-EC12 TS25PR-EC12 TS50PR-EC12	2,16		2,73	2,05	0,53	0,375	3,25		1,9		0,50	1,48	1,63	1,75	2,13	1,38	2,46	4,25	0,5	0,91	1,36
TS150PR-EC12 TS330PR-EC12 TS500PR-EC12	2,6		2,97	2,44	0,76	0,50	4,00		2,2		0,50	1,59	2,00	2,0	2,63	1,63	2,93	5,25	0,5	0,79	3,18

Units in millimeters (weight Z in kg)

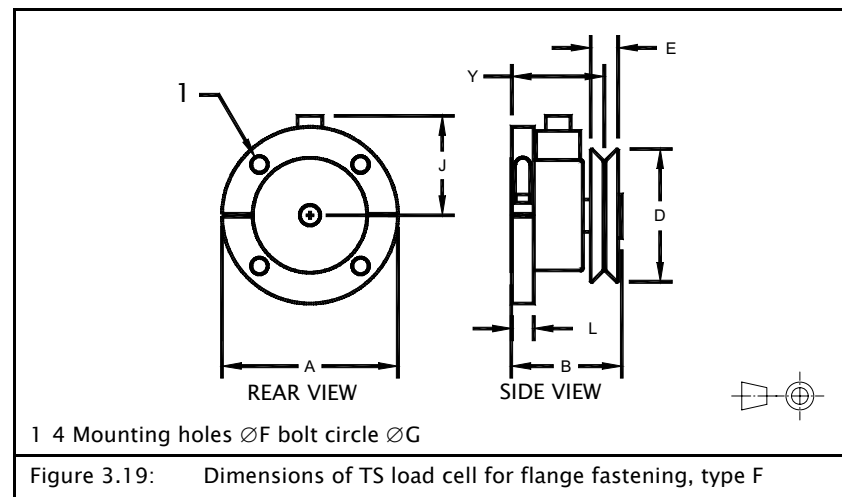
TS2SR-EC12M TS10SR-EC12M TS25SR-EC12M		54	56,6	52,0	13,3			M12x1,75	48	22,4										42,0	0,42
TS75SR-EC12M TS150SR-EC12M TS250SR-EC12M		66	62,7	61,8	19,4			M12x1,75	56	25,4										42,2	0,71
TS2FR-EC12M TS10FR-EC12M TS25FR-EC12M	79,4		56,6	52,0	13,3	7,94	63,5		48		12,7									42,0	0,49
TS75FR-EC12M TS150FR-EC12M TS250FR-EC12M	101,6		62,7	61,8	19,4	9,53	82,6		56		12,7									42,2	0,85
TS2PR-EC12M TS10PR-EC12M TS25PR-EC12M	54,9		69,3	52,0	13,3	9,53	82,6		48		12,7	37,6	41,3	44,5	54,0	34,9	62,5	108,0	12,7	23,1	0,62
TS75PR-EC12M TS150PR-EC12M TS250PR-EC12M	66,0		75,4	61,8	19,4	12,7	101,6		56		12,7	40,4	50,8	50,8	66,7	41,3	74,4	133,4	12,7	19,9	1,44

Sensors with pulley**Flange fastening, type SW-EC12(M)**

TS5SW-EC12, TS25SW-EC12, TS50SW-EC12, TS150SW-EC12,
TS330SW-EC12, TS500SW-EC12
TS2SW-EC12M, TS10SW-EC12M, TS25SW-EC12M,
TS75SW-EC12M, TS150SW-EC12M, TS250SW-EC12M

**Flange fastening, type FW-EC12(M)**

TS5FW-EC12, TS25FW-EC12, TS50FW-EC12, TS150FW-EC12,
TS330FW-EC12, TS500FW-EC12
TS2FW-EC12M, TS10FW-EC12M, TS25FW-EC12M,
TS75FW-EC12M, TS150FW-EC12M, TS250FW-EC12M



Pillow block mounting type PW-EC12(M)

TS5PW-EC12, TS25PW-EC12, TS50PW-EC12, TS150PW-EC12,
TS330PW-EC12, TS500PW-EC12

TS2PW-EC12M, TS10PW-EC12M, TS25PW-EC12M,
TS75PW-EC12M, TS150PW-EC12M, TS250PW-EC12M

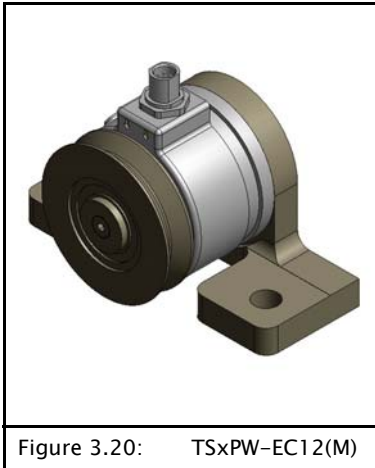


Figure 3.20: TSxPW-EC12(M)

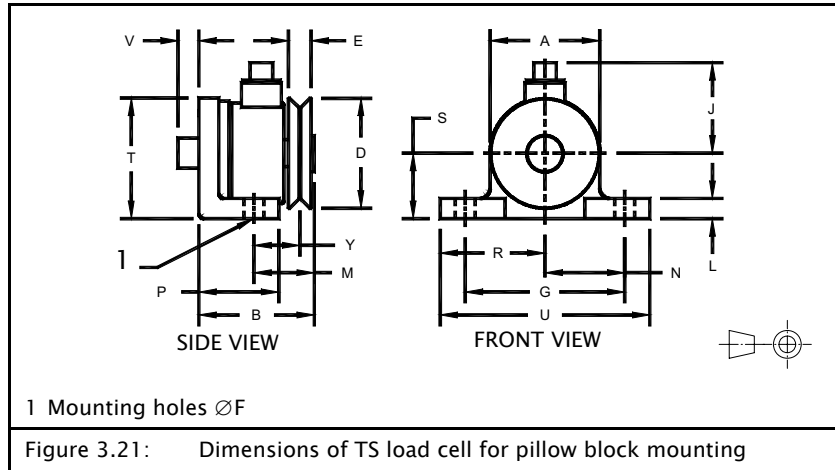


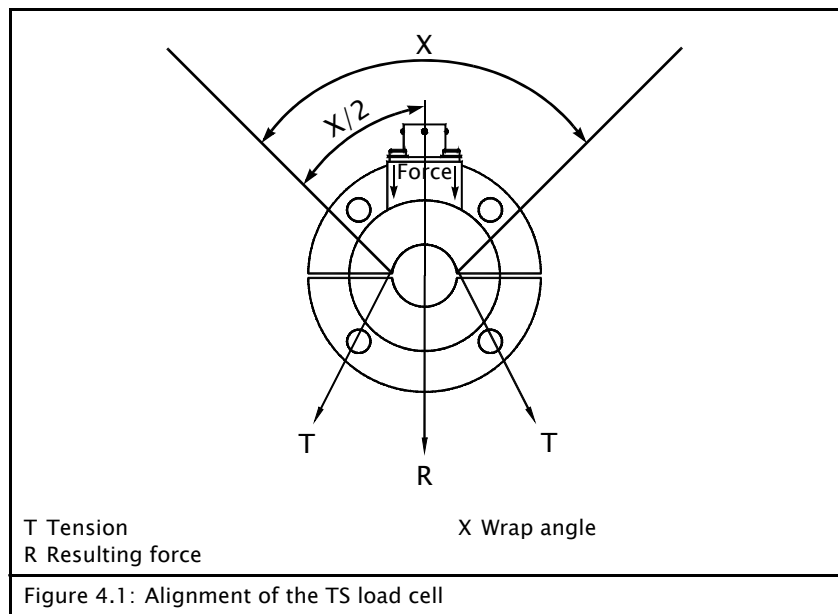
Figure 3.21: Dimensions of TS load cell for pillow block mounting

Units in inches (weight Z in lb)																				
Model	A	AA	B	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	Z
TS5SW-EC12 TS25SW-EC12 TS50SW-EC12		2,13	2,25	2,05	0,45			½-13	1,9	0,88										1,97 0,68
TS150SW-EC12 TS330SW-EC12 TS500SW-EC12		2,60	2,43	2,70	0,57			½-13	2,2	1,00										2,07 1,08
TS5FW-EC12 TS25FW-EC12 TS50FW-EC12	3,13		2,25	2,05	0,45	0,313	2,50		1,9		0,50									1,97 0,84
TS150FW-EC12 TS330FW-EC12 TS500FW-EC12	4,0		2,43	2,70	0,57	0,375	3,25		2,2		0,50									2,07 1,39
TS5PW-EC12 TS25PW-EC12 TS50PW-EC12	2,16		2,75	2,05	0,45	0,375	3,25		1,9		0,50	1,50	1,63	1,75	2,13	1,38	2,46	4,25	0,5	1,23 1,11
TS150PW-EC12 TS330PW-EC12 TS500PW-EC12	2,6		2,93	2,70	0,57	0,50	4,00		2,2		0,50	1,55	2,00	2,0	2,63	1,63	2,93	5,25	0,5	1,19 2,7
Units in millimeters (weight Z in kg)																				
TS2SW-EC12M TS10SW-EC12M TS25SW-EC12M		54	57,1	52,0	11,4			M12x1,75	48	22,2										50,0 0,31
TS75SW-EC12M TS150SW-EC12M TS250SW-EC12M		66	61,6	68,6	14,4			M12x1,75	56	25,4										52,5 0,49
TS2FW-EC12M TS10FW-EC12M TS25FW-EC12M	79,4		57,1	52,0	11,4	7,94	63,5		48		12,7									50,0 0,38
TS75FW-EC12M TS150FW-EC12M TS250FW-EC12M	101,6		61,6	68,6	14,4	9,53	82,6		56		12,7									52,5 0,63
TS2PW-EC12M TS10PW-EC12M TS25PW-EC12M	54,9		69,9	52,0	11,4	9,53	82,6		48		12,7	38,2	41,3	44,5	54,0	34,9	62,5	108,0	12,7	31,1 0,50
TS75PW-EC12M TS150PW-EC12M TS250PW-EC12M	66,0		74,3	68,6	14,4	12,7	101,6		56		12,7	39,3	50,8	50,8	66,7	41,3	74,4	133,4	12,7	30,2 1,22

4 INSTALLATION AND MAINTENANCE

Aligning the sensor

The force direction arrow (see sensor front force), must bisect the wrap angle X of the material and point in the same direction as the resulting force R (see [Figure 4.1](#)).



NOTE:

If the alignment of the TS load cell makes it necessary for the force alignment arrow to point in the opposite direction to the resulting force, the black (s-) and white (s+) sensor lines must be exchanged on the connection terminals of the MAGPOWR amplification unit.



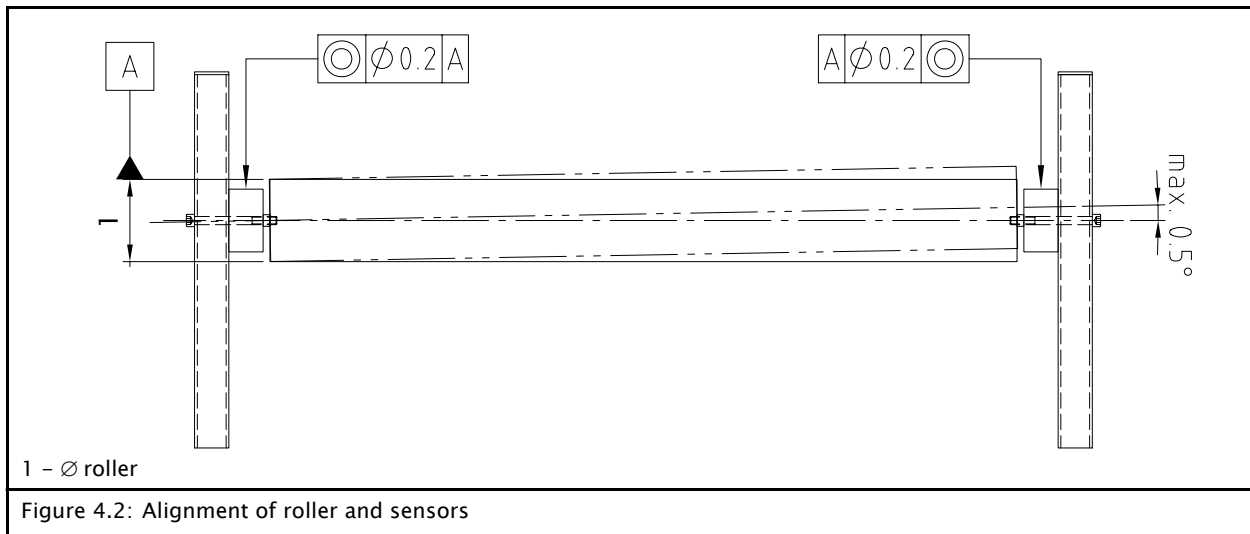
NOTE:

Sensors with split coupling or in-rolls are able to compensate for plumbness errors of up to 0.5°.

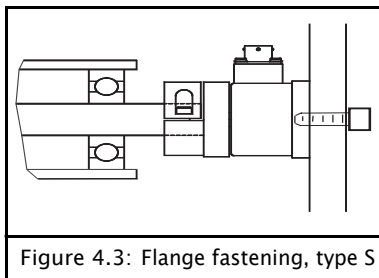
Mounting on machine frames

A clean, even, vertical surface should be selected for mounting the TS load cells. The wrap angle of the web / of the rope must not change on the roller / pulley on which the sensor is mounted. The roller / pulley and sensors must be aligned to each other coaxially (see [Figure 4.2](#)).

The sensor must be positioned so that the force direction arrow bisects the wrap angle of the web / rope (see [Figure 4.1](#)).



Flange fastening, type S



For flange fastening of metric sensors, mount the sensor on the machine frame with an M12 screw (see [Figure 4.3](#)).

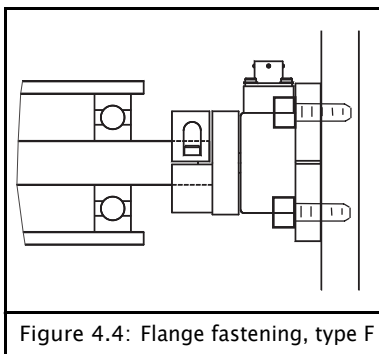


CAUTION

⇒ Make certain not to exceed the penetration depth of 12.5 mm (see illustrations in section entitled [Overview of model](#)).

There is a hole on the rear wall of the sensor designed to hold a pin. This simplifies alignment and prevents twisting out of place.

Flange fastening, type F



For flange fastening type F, mount the sensor on the machine frame with four screws (see [Figure 4.4](#)).

Pillow block mounting, type P

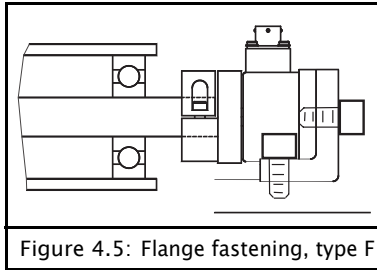


Figure 4.5: Flange fastening, type F

For pillow block mounting, fasten the mounting bracket onto the machine frame with two screws (see [Figure 4.5](#)).

The mounting bracket has a series of holes to adjust the alignment of the sensor in the direction of the resulting force.

Roller mounting

Sensors with split coupling

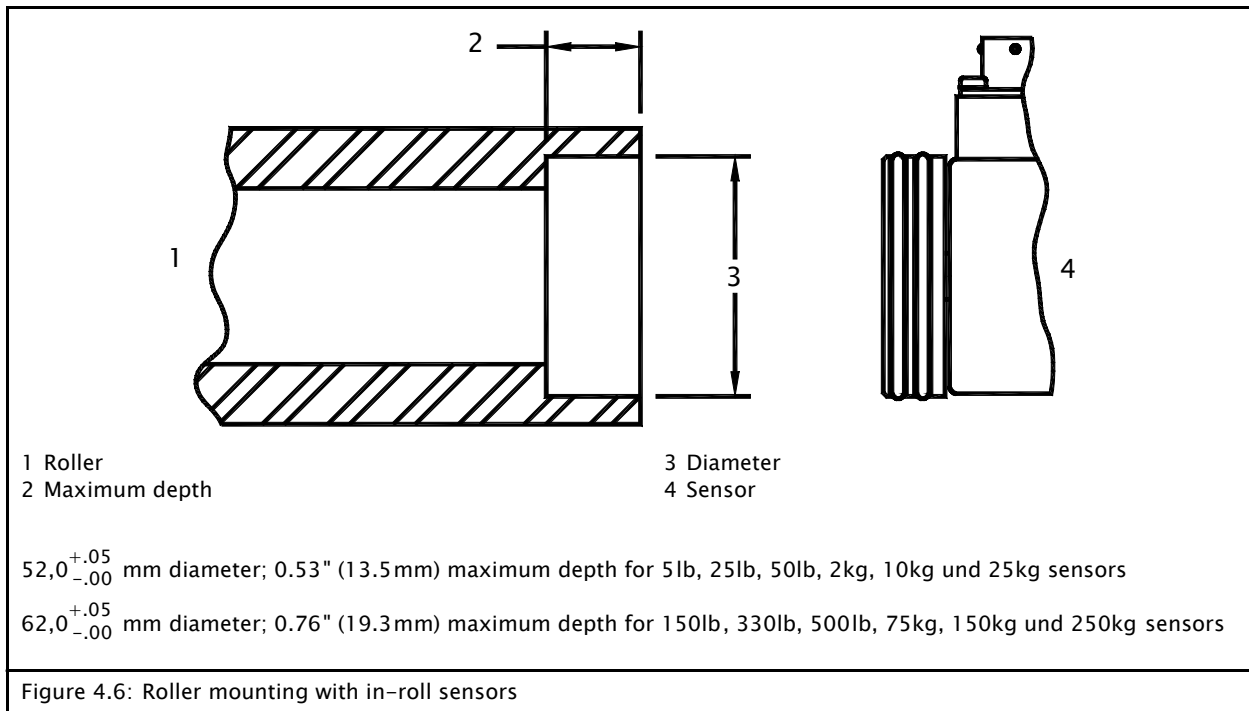
- Determine one side of the machine frame from which to start assembly.
- Remove the upper part of the split coupling (see 1 and 4 in [Figure 4.7](#)).
- Lower the roller / roll pin of the roller gently down onto the lower part of the split coupling.
- Set the upper part of the split coupling in place again and screw on the split coupling parts. Tighten the screws of the split couplings to from 8 to 9Nm.
- Press the split coupling against the side of the machine frame while the split couplings on the other side of the roller are fastened in place. This will pretension the spring to compensate for axial play.

This distributes the capacity for heat expansion between the two sensors.

- Connect the sensors to the amplifier with shielded cables.

Sensors with in-roll

Place a sensor in each end of a roller body ready for machine processing and then insert the roller body correctly between the machine frames.



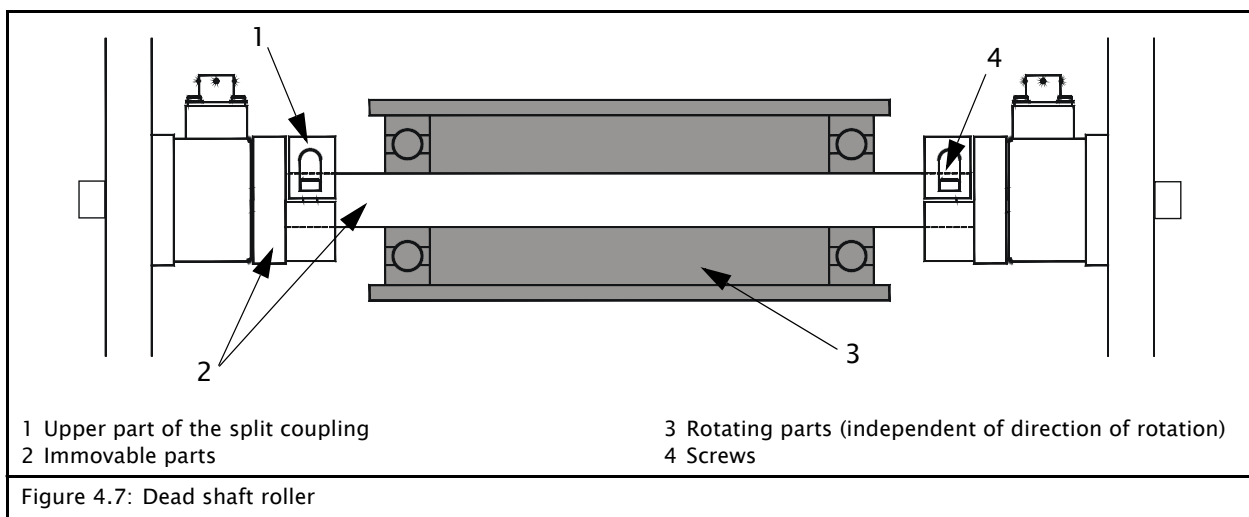
Converting sensors with split couplings

TS load cells designed with split couplings can be converted from installation for a dead shaft for use with a live shaft.

Types of rollers

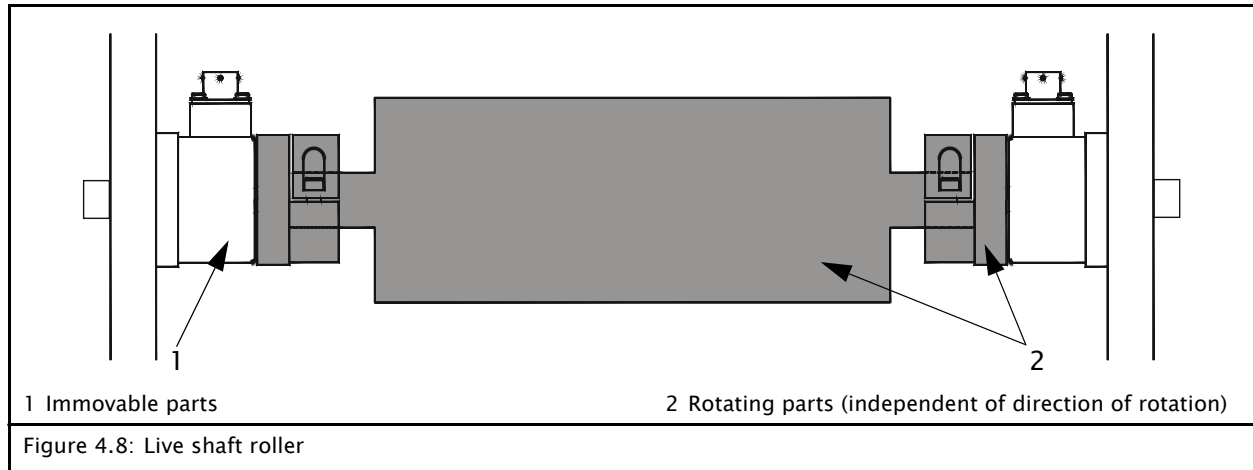
Dead shaft roller:

- Shaft and sensor form an immovable unit
- The bearing is in the roller



Live shaft roller:

- The roll pins turn
- The roll pins and movable part of the sensor rotate
- The bearing is in the load cell



Converting sensors

Magpowr load cells are set up for use with dead shaft rollers when they ship from the factory.

Conversion for use with live shaft rollers

1. Remove the upper part of the split coupling
(see 1 and 4 in [Figure 4.7](#))

Tool required:

Hex key wrench, 5 mm

After the upper part of the split coupling has been removed, a threaded hole with threaded pin becomes visible. This threaded pin connects the movable part of the sensor with the permanently mounted sensor housing.

2. Unscrew the threaded pin

Tool required:

Hex key wrench, 2 mm

Removing the threaded pin makes it possible to rotate the split coupling with the roller
(see [Figure 4.8](#)).

Conversion for use with dead shaft rollers

If the sensor needs to be set up for use with dead shaft rollers again, screw the threaded pin back into the threaded hole.

**NOTE:**

When reinserting the threaded pin, do not screw the pin too far into the hole. If you do, the threaded pin could fall inside the sensor housing.

Maintenance

The bearings of the sensors for roller mounting with split coupling or roll-in must be relubricated on a regular basis.

No other maintenance tasks are required.

Sensors with split coupling**Live shaft application:**

Add lubrication grease to the sensor at regular intervals in the filling location provided for this purpose.

Quantity: about 1 g

e.g. Klüber ISOFLEX LDS 18 SPECIAL "A"
or other suitable lubricating grease

Dead shaft application:

We recommend lubricating the roller bearings at regular intervals.

Sensors with in-roll

For TS series sensors with in-rolls (SR, FR or PR) lubricating grease must be added at regular intervals. A filling location is provided for this purpose in the front groove that holds the O-ring. Remove the front O-ring on the roller sensor connection and using a needle grease gun, add suitable lubricant to the filling location under the O-ring.

Quantity: about 1 g

e.g. Klüber ISOFLEX LDS 18 SPECIAL "A"
or other suitable lubricating grease

5 TECHNICAL DATA

Rated bridge resistance 350 Ohm

Power supply 10VDC

Output signal 2,1 mV/V

Operating temperature -30°C to 80°C

Climate class 3K3 (EN 60721)

Zero point offset 0,02% of the measurement range per °C

Combined non-linearity and hysteresis 0,5% of the measurement range

Reproducibility 0,2% of the measurement range

Overload stop 105% to 150% of full load rating

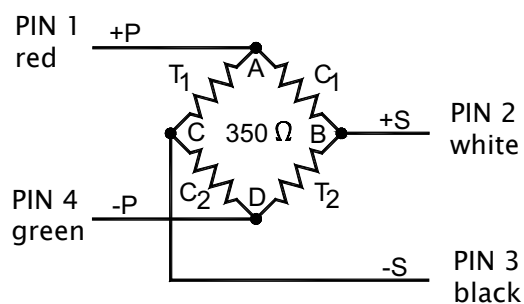
Deflection at full load 0,016Inch (0.41 mm) max.

Electrical connection M12 junction box with 4-wire signal line
Pin 1: +Power; Pin 2: +Signal; Pin 3: -Signal; Pin 4: -Power

or

Magpowr part number: LCCxM (x = Length in m)

Connection diagram



6 SERVICE

Requests for Service

When requesting service, please have a copy of the order confirmation ready with the order number.

When ordering replacement parts, please indicate, (where possible) Part Number, Drawing Number and Model description.

Please be careful to keep all documents accompanying the product in a safe place. This will allow us to help you more quickly in the event that service is required.

Addresses

To request service, or if you need replacement parts, please contact one of the following addresses.

Fife-Tidland GmbH

Max-Planck-Straße 8	Siemensstraße 13-15
65779 Kelkheim	48683 Ahaus
Germany	Germany
Phone: +49 – 6195 – 7002 – 0	
Fax: +49 – 6195 – 3018	
E-Mail: service@maxcess.eu	
Web: www.maxcess.eu	

Fife Corporation

Post Office Box 26508
Oklahoma City, OK 73126, USA
Phone: +1 – 405 – 755 – 1600
Fax: +1 – 405 – 755 – 8425
E-Mail: service@maxcessintl.com
Web: www.maxcessintl.com



EUROPE, MIDDLE EAST AND AFRICA

Tel +49.6195.7002.0
Fax +49.6195.3018
sales@maxcess.eu
www.maxcess.eu

NORTH, CENTRAL AND SOUTH AMERICA

Tel +1.405.755.1600
Fax +1.405.755.8425
sales@maxcessintl.com
www.maxcessintl.com

CHINA

Tel +86.756.881.9398
Fax +86.756.881.9393
info@maxcessintl.com.cn

JAPAN

Tel +81.43.421.1622
Fax +81.43.421.2895
japan@maxcessintl.com
www.maxcess.jp

INDIA

Tel +91.22.27602633
Fax +91.22.27602634
india@maxcessintl.com
www.maxcess.in

