

ENCO-METER EM4

EXTENDIBLE CABLE MEASUREMENT SYSTEM

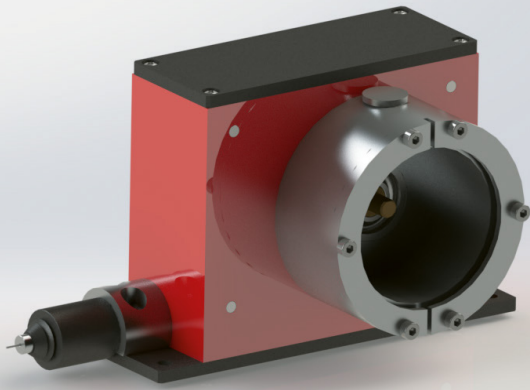


Image with flexible accessory



- Measuring linear distances up to 4 meters
- Any mounting position possible
- Protection class IP51 according to DIN EN 60529
- Anodised and pressurized options available
- The drum shaft can drive any kind of rotary encoder (encoder, potentiometer, ...)
- Stainless steel extendible cable $\varnothing 0,61$ AISI316



Linear measurement system



Extendible cable



45°



Pressurized

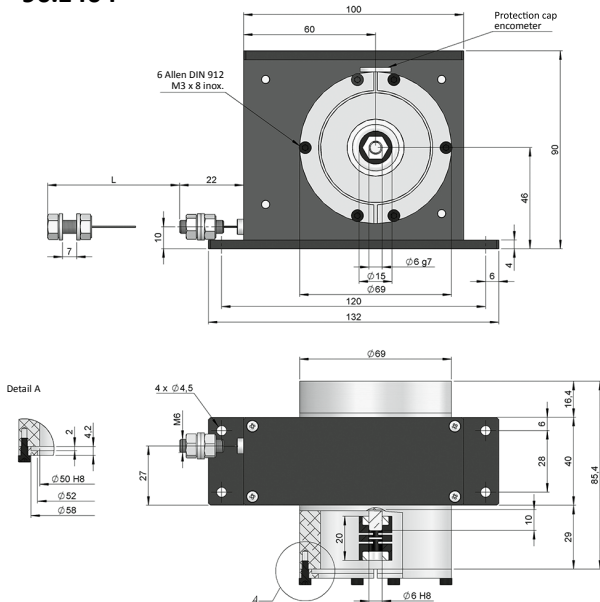


IP 51



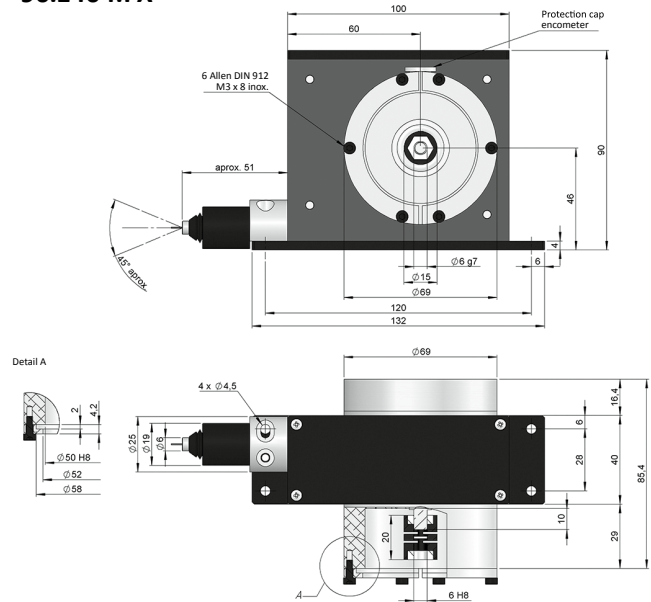
Express Delivery

90.1404



Drawing 90.1404 with standard bell synchro and coupling type 1

90.1404.FX



Drawing 90.1404.FX with flexible accessory, standard bell synchro and coupling type 1

REFERENCE

Reference example: 90.1404.SY1

Serie	Fixing system to sensor	Coupling	Special Customer
90.1404 / 90.1404.FX	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
90.1404. Standard	SY. Standard bell synchro	1. PFP 1520 06/06	AW. Inverted caps
90.1404.FX. Flexible accessory	CL. Clamping bell	2. PFP 1520 06/6.35	AV. Double restoring force
		3. PFP 2224 06/10	BF. Outdoor (Anodised 5µm)
			BL. Saline environment (Anodised 20µm)
			BD. Pressurized

Request the ENCO-METER already coupled to an electronic output device that could be an Incremental Optical Encoder, Multiturn Absolute Optical Encoder, Potentiometer or Multiturn Absolute Magnetic Encoder.

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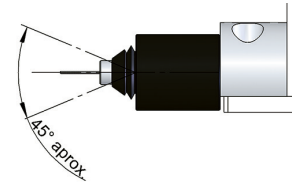
EXTENDIBLE CABLE MEASUREMENT SYSTEM

TECHNICAL SPECIFICATIONS

MODEL <i>Reference</i>	EM4 90.1404 / 90.1404.FX
Travel	200 mm ±0,06 / per turn
Cable	∅ 0,61 stainless steel AISI316 (structure 19 x 7 + 0)
Measurement range, up to (mm)	4000
Maximum cable extension (mm)	4010
Minimum cable static tension	3 N - Standard 6 N - Special customer AV
Maximum cable static tension	8,9 N - Standard 18 N - Special customer AV
Maximum extension acceleration	35 m/s ² - Standard 30 m/s ² - Special customer AV
Maximum recovery acceleration	10 m/s ² - Standard 20 m/s ² - Special customer AV
Maximum speed	1 m/s
Protection against dust and splashes according to DIN EN 60529	IP51

(*) Other types of cables are possible on special order.

FLEXIBLE ACCESSORY (FX)

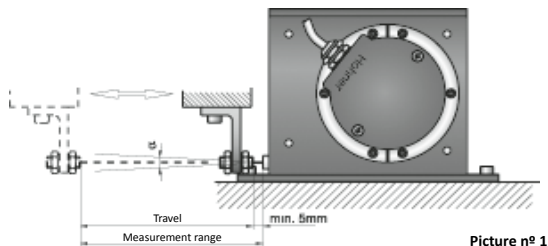


ENCO-METERS with flexible accessory FX (90.1404.FX, 90.1808.FX, 90.1810.FX) allow a misalignment of the extendable cable up to 45°.

ANODISED OPTIONS

- + **Special Customer BF:** 5 microns anodised housing for using in outdoor environments.
- + **Special Customer BD:** 20 microns anodised housing protected against the aggressive effect of the saltwater air.

INSTALLATION



Picture n° 1

ENCO-METER units are secured to a flat machine surface by means of three or four M4 screws. The cable must be correctly aligned and under no circumstances must it exceed the measurement range.

Special customer AW for inverted caps.

EM 90.1404: $\alpha < 2^\circ$ | EM 90.1404.FX: $\alpha < 45^\circ$

OUTPUT DEVICES

We can also supply the draw wire system already coupled to an electronic output device that could be an incremental encoder, absolute encoder or potentiometer.

+ ABSOLUTE OR INCREMENTAL ENCODER

If it is required to obtain a determined resolution "r" (mm per pulse) in the case of using an absolute or incremental encoder, the number of encoder pulses (n) will be:

$$n = \frac{D}{r} \quad (D \text{ is ENCO-METER travel in mm})$$

+ POTENTIOMETER

Using a potentiometer, an output "r" ratio (in Ω per mm) is obtained in accordance with:

$$r = \frac{R}{D \cdot n} \quad (R \text{ is the rated resistance and } n \text{ is the maximum number of turns})$$

As standard, we have potentiometers of $R = 10K\Omega$ and $n = 10$ turns. It must be taken into consideration that the mechanical travel of the potentiometer may limit the ENCO-METER measurement range.

i Electronic output devices that are delivered coupled to an ENCO-METER have an orientation of 45°. See Installation picture n° 1.

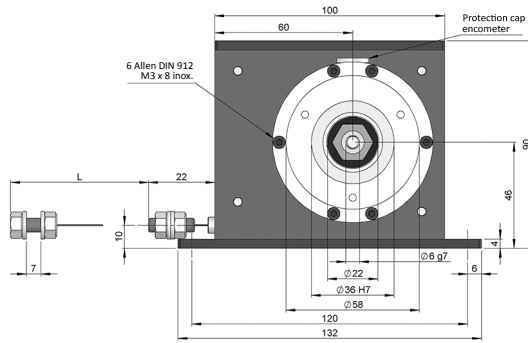
i If devices are not supplied assembled, we recommend mounting the sensor on the ENCO-METER without the seal.

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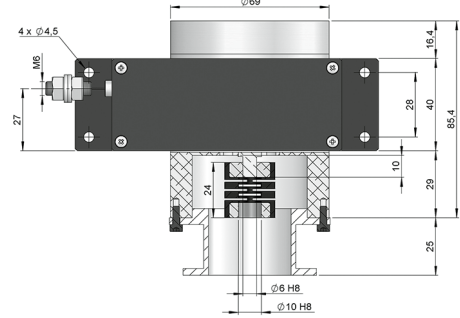
EXTENDIBLE CABLE MEASUREMENT SYSTEM

FIXING SENSOR SYSTEM DIMENSIONS

Fixing system to
sensor type CL
Clamping bell

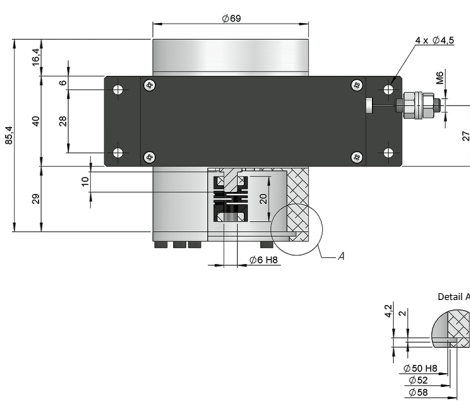
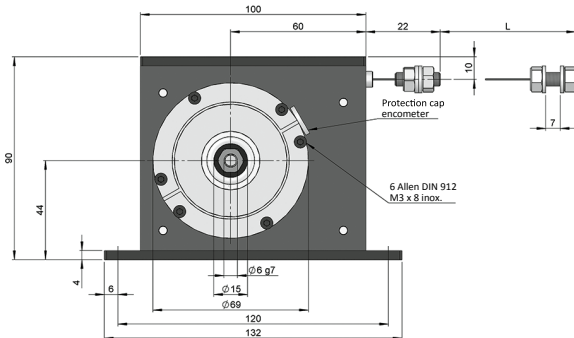


Coupling type 3
PFP 2224 06/10



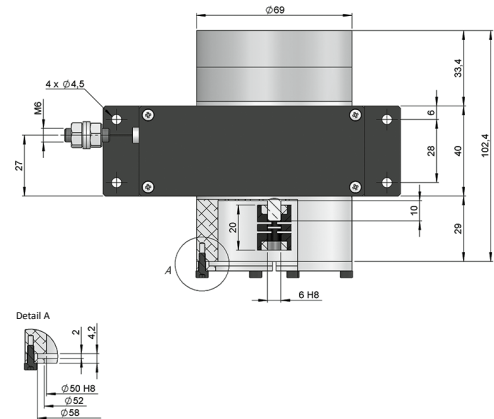
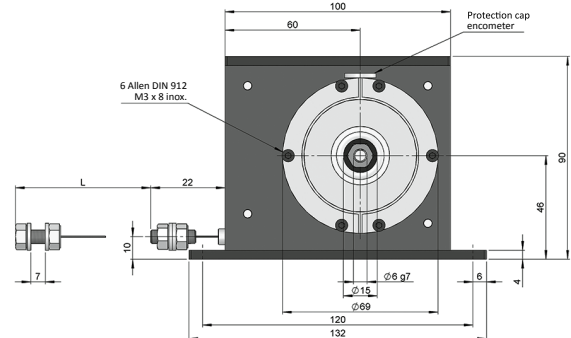
SPECIAL CUSTOMER OPTIONS

AW - Inverted caps



Drawing 90.1404, Special Customer AW

AV - Double restoring force

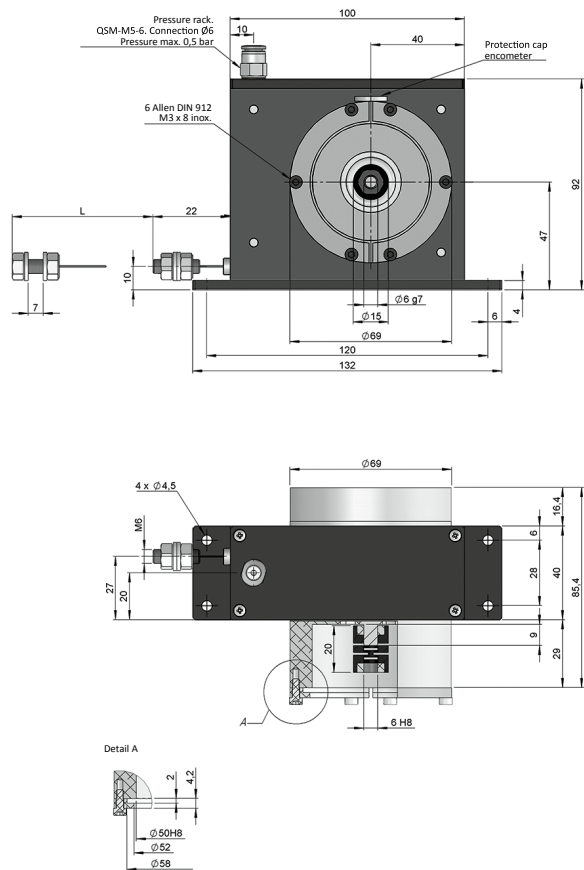


Drawing 90.1404, Special Customer AV

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BD - Pressurized option



Drawing 90.1404, Special Customer BD