



**ENCODER ANGULAR MODELO: S2AF-D90**  
***ANGULAR ENCODER MODEL: S2AF-D90***

**MANUAL DE INSTALACION / *INSTALLATION MANUAL***

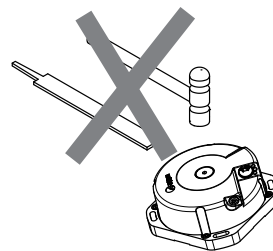
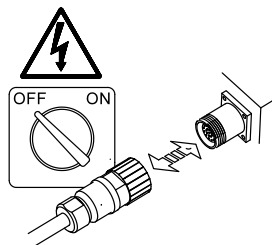
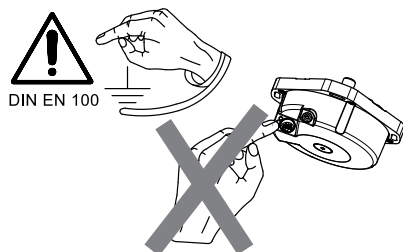
Manual Code: 14460269

Manual Version: 2201

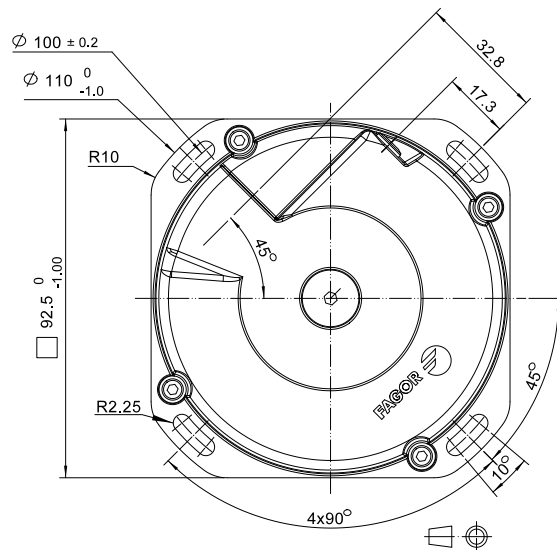
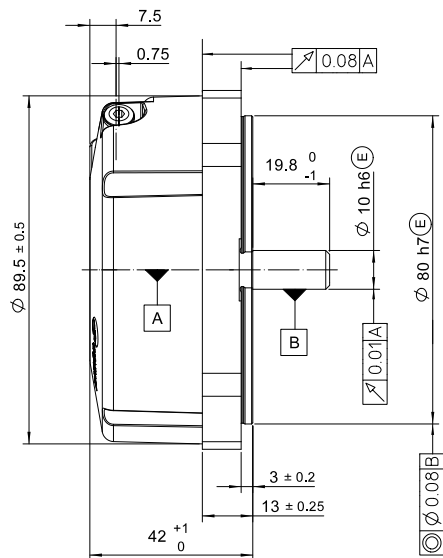




## Precaución / Caution

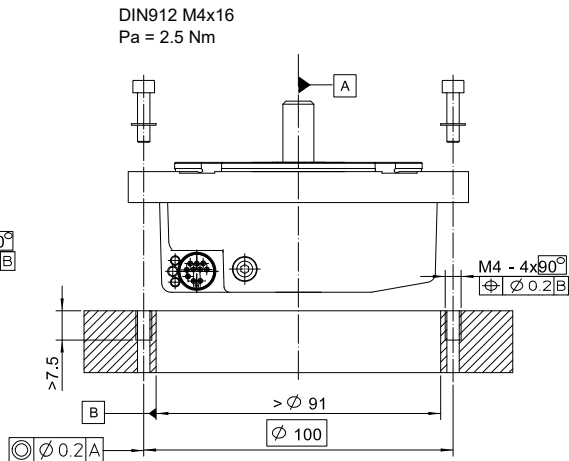
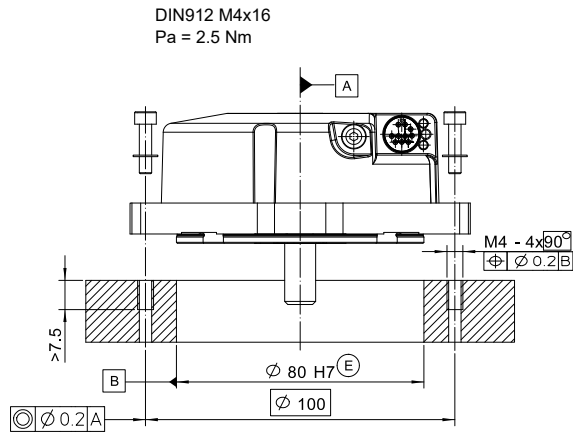


# Dimensiones / Dimensions

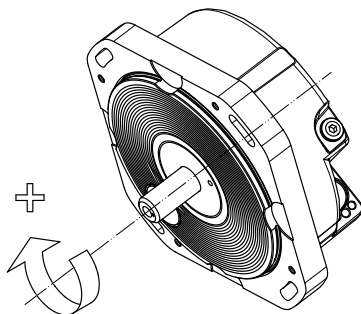
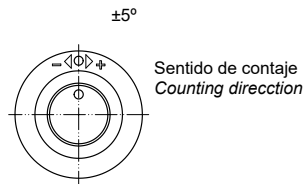


mm  
Tolerancing ISO 8015  
ISO 2768 - m H

## Posibilidades de montaje / Mounting possibilities



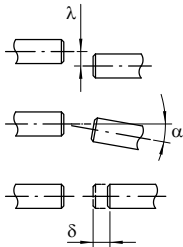
Pa = Par de apriete / *Tightening torque*



Para instalar el encoder en la posición  $0^\circ$  girar el eje hasta alinear los puntos marcados en el eje y cuerpo.

*For installing the encoder on the  $0^\circ$  position turn the shaft and align the marks on the shaft and body.*

## Acoplamientos / Couplings



Error cinemático de transferencia:  
*Kinematic error of transfer:*

**Model AA:**  $\pm 2''$  at  $\lambda \leq 0.1 \text{ mm}$  &  $\alpha \leq 0.09^\circ$

$\lambda$  max.: 0.3 mm

$\alpha$  max.:  $0.5^\circ$

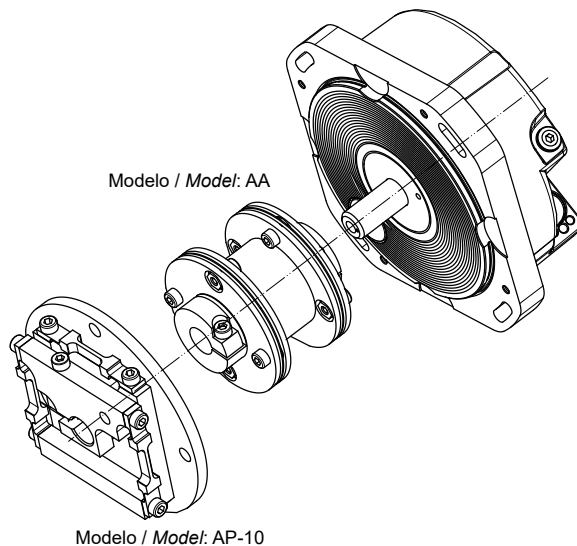
$\delta$  max.: 0.2 mm

**Model AP-10:**  $\pm 2''$  at  $\lambda \leq 0.1 \text{ mm}$  &  $\alpha \leq 0.09^\circ$

$\lambda$  max.: 0.3 mm

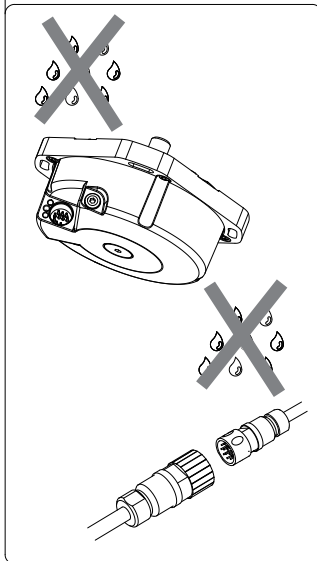
$\alpha$  max.:  $0.5^\circ$

$\delta$  max.: 0.2 mm

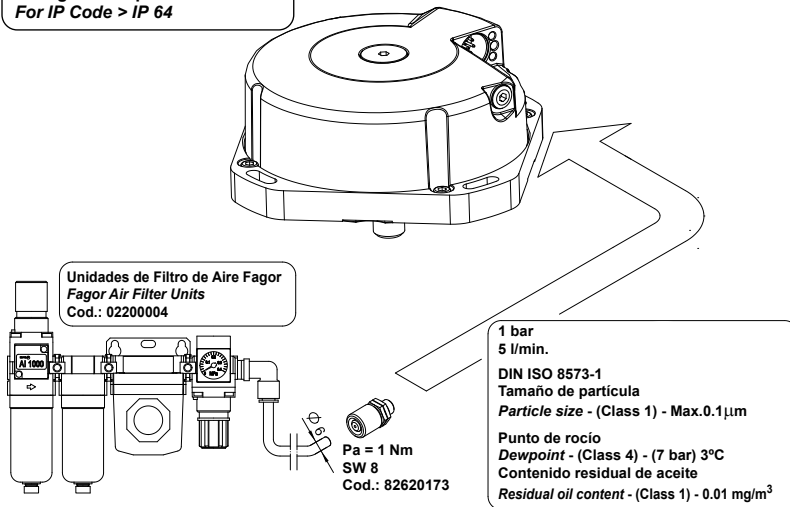


## Conexión equipo de aire / Connecting air equipment

**Máximo grado de protección IP 64**  
**Maximum IP Code IP 64**



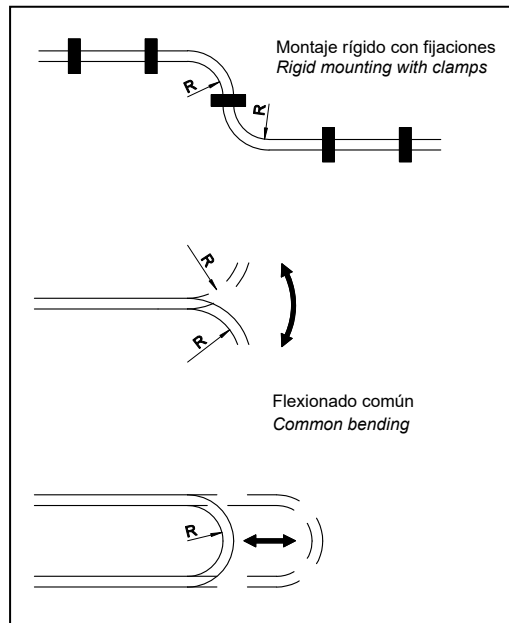
**Para grado de protección > IP 64**  
**For IP Code > IP 64**

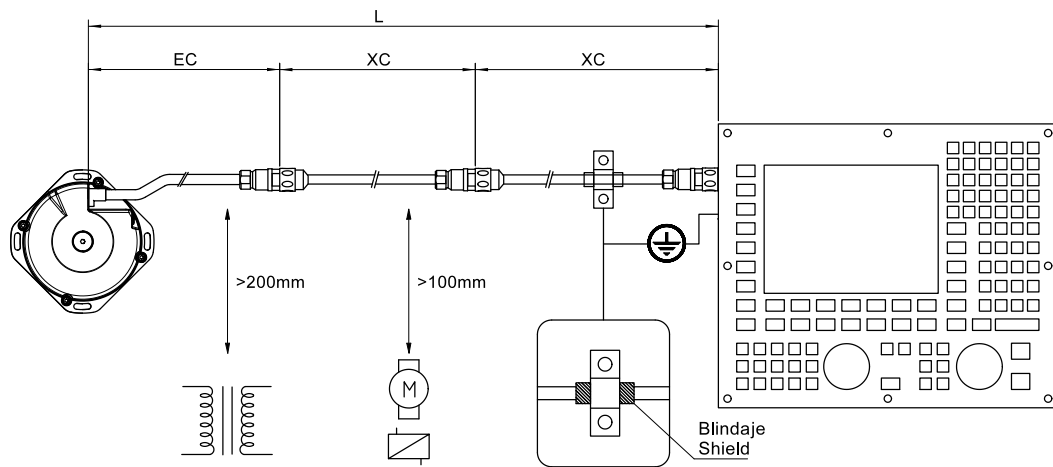


(SW) Tamaño de la llave hexagonal / Size of Allen wrench

## Características eléctricas / *Electrical characteristics*

|                                                                                                        | S2AF-26-D90                                                                                             | S2AF-28-D90                                                       |
|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Alimentación<br><i>Power supply</i>                                                                    | 3,8 hasta 14 V DC; < 250 mA (a 5V sin carga)<br><i>3.8 to 14 V DC; &lt; 250 mA (at 5V without load)</i> |                                                                   |
| Resolución<br>Número posiciones por vuelta<br><i>Resolution</i><br><i>Number of positions per turn</i> | $\alpha$ i: 26 bits (67108864)<br>$\alpha$ : 23 bits (8388608)                                          | $\alpha$ i: 28 bits (268435456)<br>$\alpha$ : 27 bits (134217728) |
| Longitud del cable<br><i>Cable length</i>                                                              | 30 m / 99 ft                                                                                            |                                                                   |
| Radio de curvatura / <i>Bending radius</i>                                                             |                                                                                                         |                                                                   |
|                                                                                                        | Rígido / <i>Rigid</i>                                                                                   | Flexible                                                          |
| Φ 6 mm                                                                                                 | > 24 mm                                                                                                 | > 60 mm                                                           |
| Φ 10 mm<br>(con protección / <i>with protection</i> )                                                  | > 35 mm                                                                                                 | > 60 mm                                                           |
| Φ 8 mm                                                                                                 | > 50 mm                                                                                                 | > 80 mm                                                           |





## Cables para conexión de encoders absolutos Fagor a sistemas Fanuc

### Cables for connection of Fagor absolute encoders to Fanuc systems

Conexión directa Cable EC

*Direct connection EC cable*

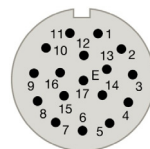
EC-PA-FN Longitud / *length* = 1, 3, 6, 9 m

|                                                                   |                                                                                            |                                                         |
|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Conexión con alargadera<br><i>Connection with extension cable</i> | (4 x 2 x 0.14 mm <sup>2</sup> + 4 x 0.5 mm <sup>2</sup> )                                  |                                                         |
| Cable EC                                                          | Alargadera intermedia opcional XCint<br><i>Intermediate extension cable optional XCint</i> | Alargadera XC / <i>Extension cable XC</i>               |
| EC-B-C9 Longitud / <i>length</i> = 1, 3 m                         | XC-C8-F-C9 Longitud / <i>length</i> = 5, 10, 15, 20, 25 m                                  | XC-C8-FN Longitud / <i>length</i> = 5, 10, 15, 20, 25 m |

|                        |                                                          |                     |                       |                          |                        |                                   |                        |                          |                                         |                                         |
|------------------------|----------------------------------------------------------|---------------------|-----------------------|--------------------------|------------------------|-----------------------------------|------------------------|--------------------------|-----------------------------------------|-----------------------------------------|
| EC -...B - C9          | Conector M23 17 macho / <i>17-pin male M23 connector</i> |                     |                       |                          |                        |                                   |                        |                          |                                         |                                         |
| PIN                    | 14                                                       | 17                  | 8                     | 9                        | 7                      | 1                                 | 10                     | 4                        | 11                                      | Carcasa<br><i>Housing</i>               |
| SEÑAL<br><i>SIGNAL</i> | DATA                                                     | /DATA               | REQ                   | /REQ                     | +5V                    | +5V<br>sensor                     | 0V                     | 0V<br>sensor             | Tierra<br><i>Ground</i>                 | Tierra<br><i>Ground</i>                 |
| COLOR                  | Gris<br><i>Grey</i>                                      | Rosa<br><i>Pink</i> | Negro<br><i>Black</i> | Violeta<br><i>Purple</i> | Marrón<br><i>Brown</i> | Verde claro<br><i>Light green</i> | Blanco<br><i>White</i> | Naranja<br><i>Orange</i> | Malla interna<br><i>Internal shield</i> | Malla externa<br><i>External shield</i> |



EC - ...B - C9



## Condiciones de garantía / *Warranty terms*

Las condiciones de garantía de este producto están disponibles en la zona de descargas del sitio web corporativo de FAGOR.  
<http://www.fagorautomation.com>. (Tipo de fichero: Condiciones generales de venta-Garantía).

*The warranty conditions for this product are available in the downloads section of FAGOR's corporate website at*  
<http://www.fagorautomation.com>.

*(Type of file: General Terms and Conditions of Purchase - Warranty).*

## Declaración de conformidad / *Declaration of conformity*

La declaración de conformidad de este producto está disponible en la zona de descargas del sitio web corporativo de FAGOR.  
<http://www.fagorautomation.com>. (Tipo de fichero: Declaración de conformidad).

*The declaration of conformity for this product is available in the downloads section of FAGOR'S corporate website at*  
<http://www.fagorautomation.com>.

*(Type of file: Declaration of conformity).*

## Registro de garantía / *Warranty register*

Para registrar su producto y obtener todas las ventajas del completo servicio postventa de Fagor Automation rellene el formulario disponible en el siguiente enlace: <https://www.fagorautomation.com/servicio/cartera-de-servicios/registro-de-producto/>

*To register your product and obtain all the advantages of Fagor Automation's full after-sales service fill out form available at the following link:* <https://www.fagorautomation.com/en/customer-service/service-portfolio/product-registration/>







FAGOR AUTOMATION S. COOP.

B° San Andrés Nº 19

Apdo de correos 144

20500 Arrasate/Mondragón

- Spain -

Web: [www.fagorautomation.com](http://www.fagorautomation.com)

Email: [info@fagorautomation.es](mailto:info@fagorautomation.es)

Tel.: (34) 943 719200

Fax: (34) 943 791712

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