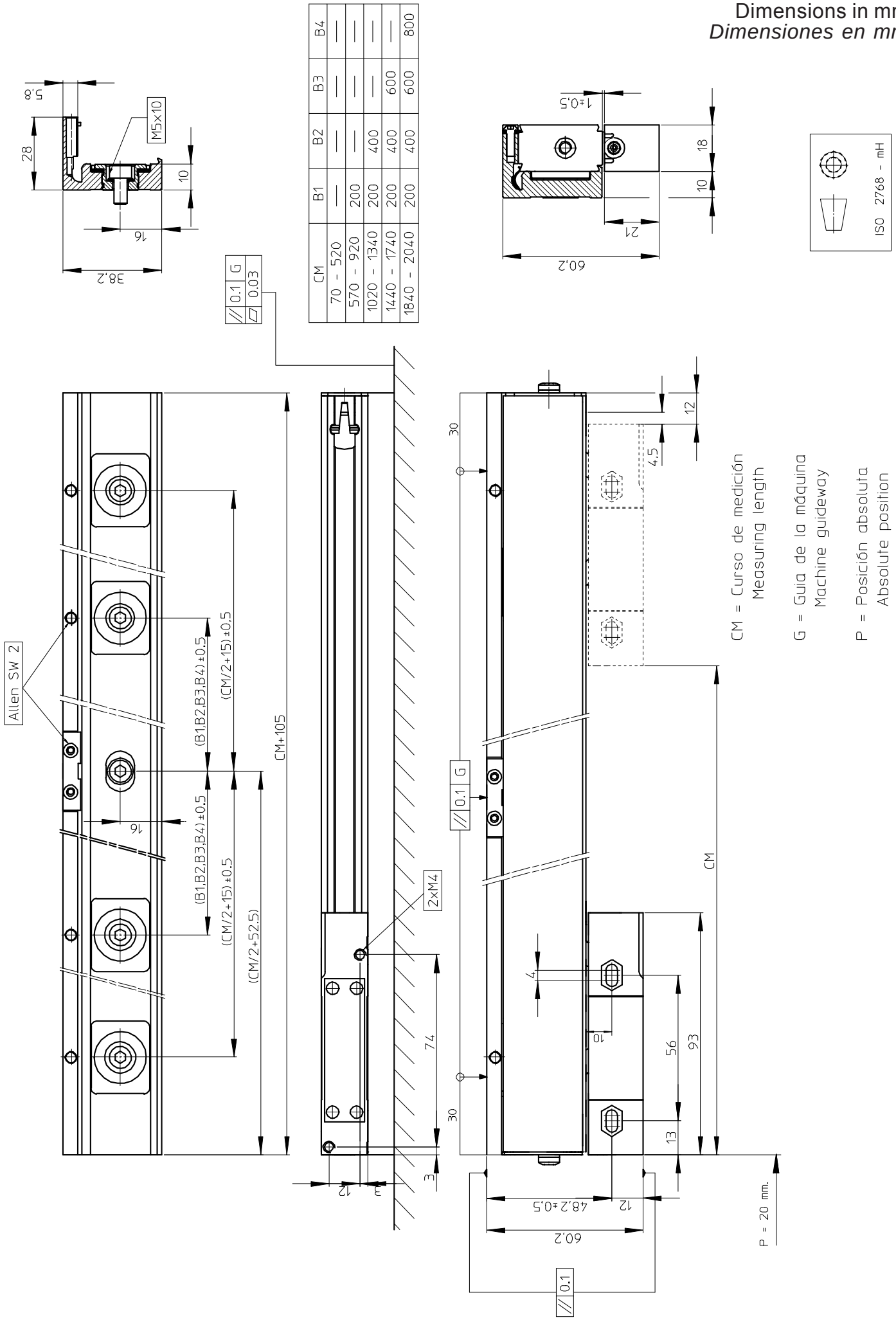
Fagor Automation

LINEAR ENCODER MODEL: SVAM
ENCODER LINEAL MODELO: SVAM

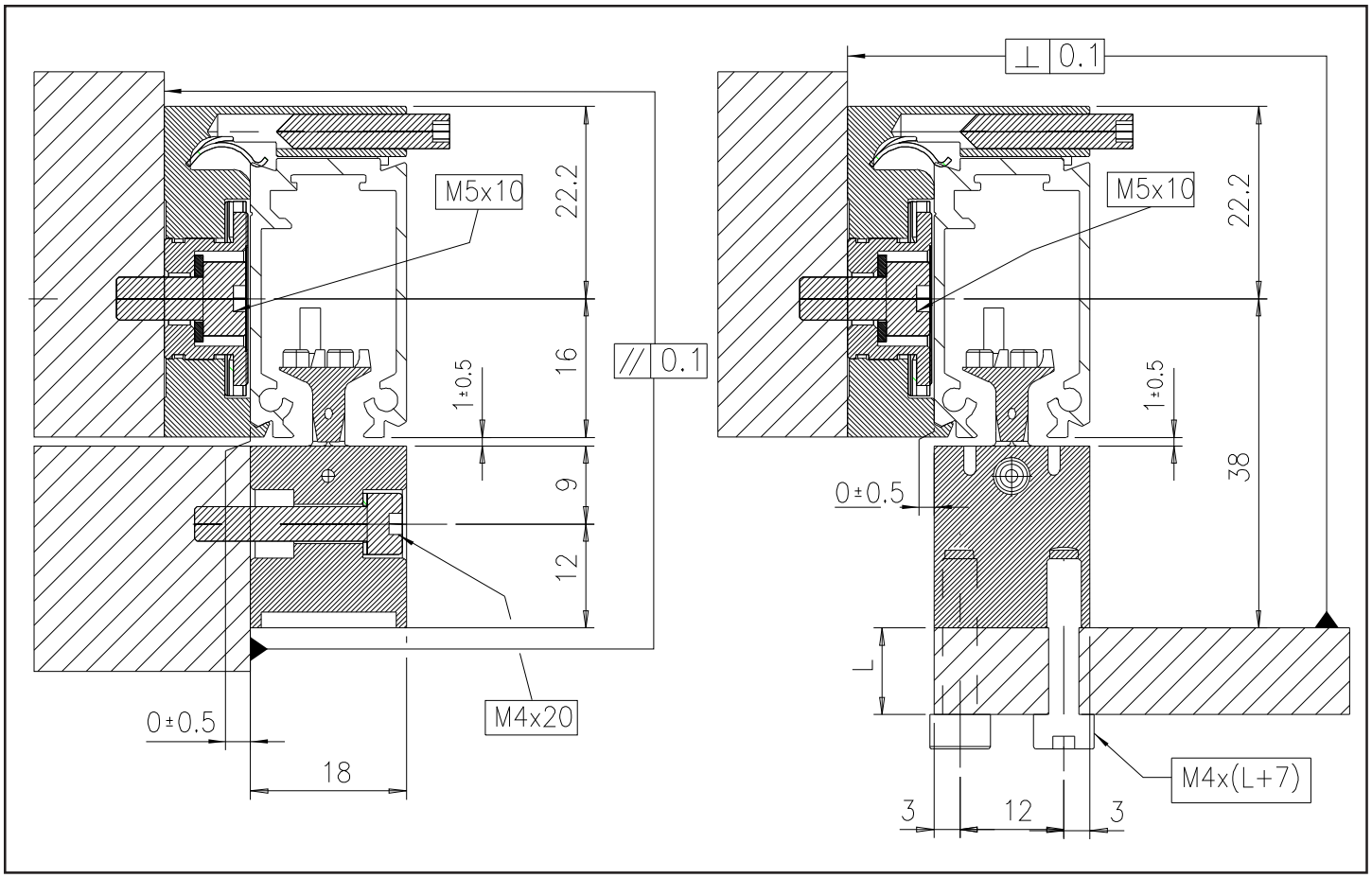
MANUAL CODE: 14460152
MANUAL VERSION: V1304

Dimensions in mm
Dimensiones en mm

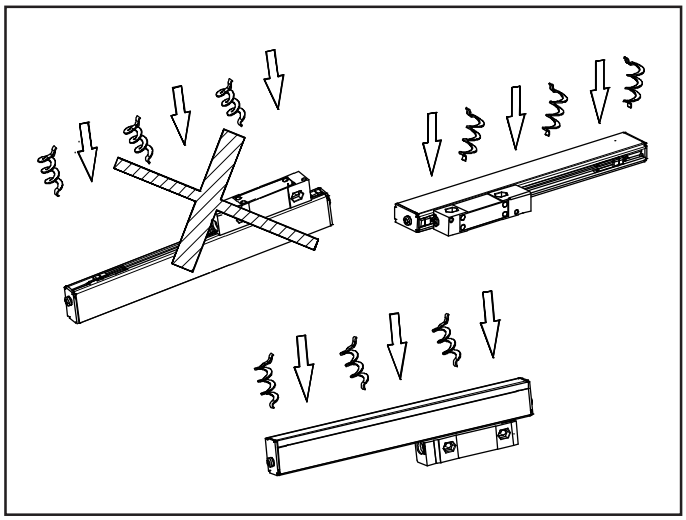


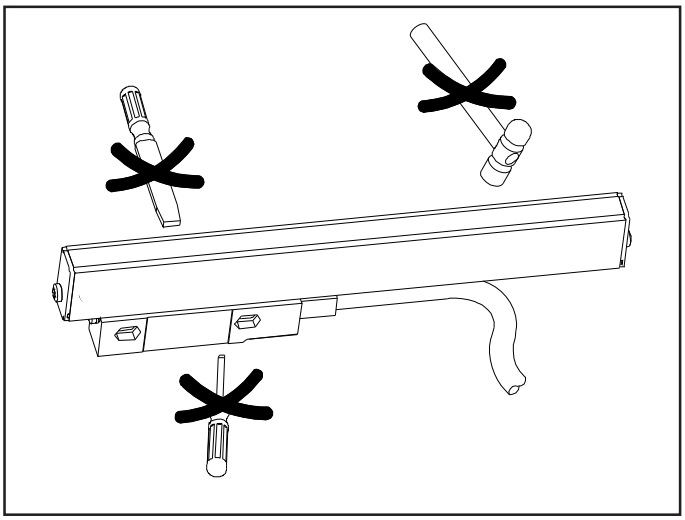
CM	B1	B2	B3	B4
70 - 520	—	—	—	—
570 - 920	200	—	—	—
1020 - 1340	200	400	—	—
1440 - 1740	200	400	600	—
1840 - 2040	200	400	600	800

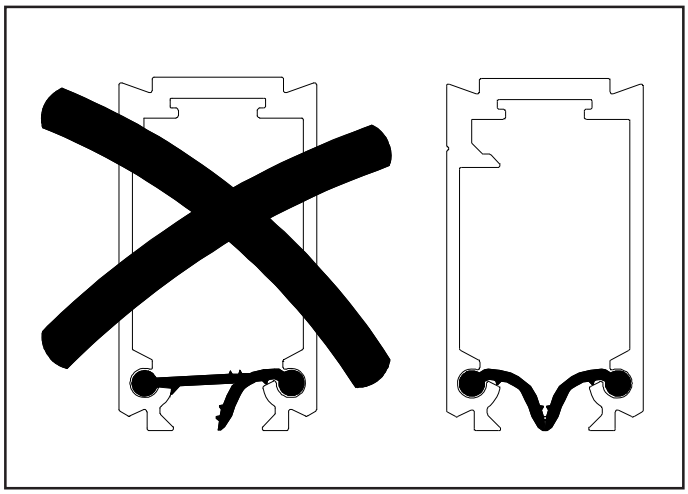
MOUNTING POSSIBILITIES
POSIBILIDADES DE MONTAJE

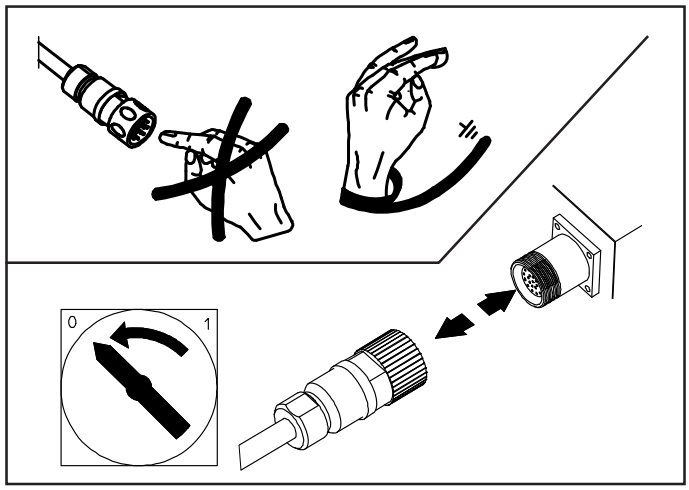


MOUNTING PRECAUTIONS
PRECAUCIONES PARA EL MONTAJE

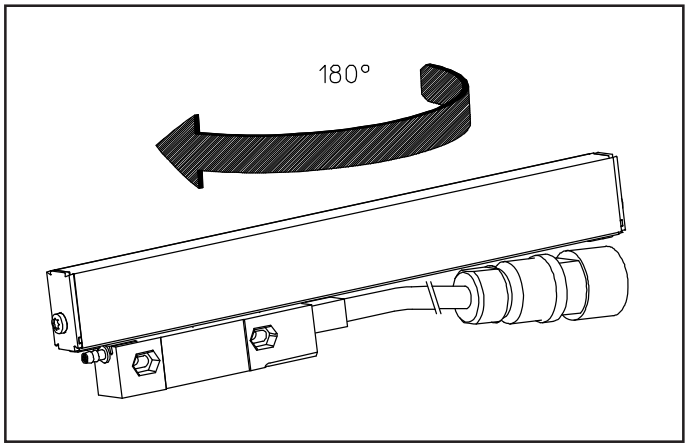




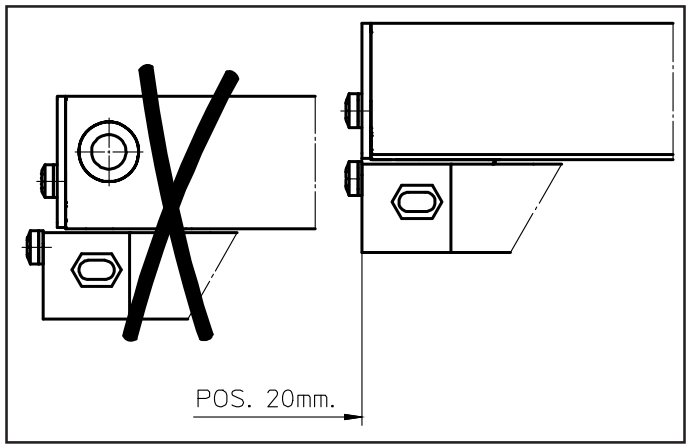




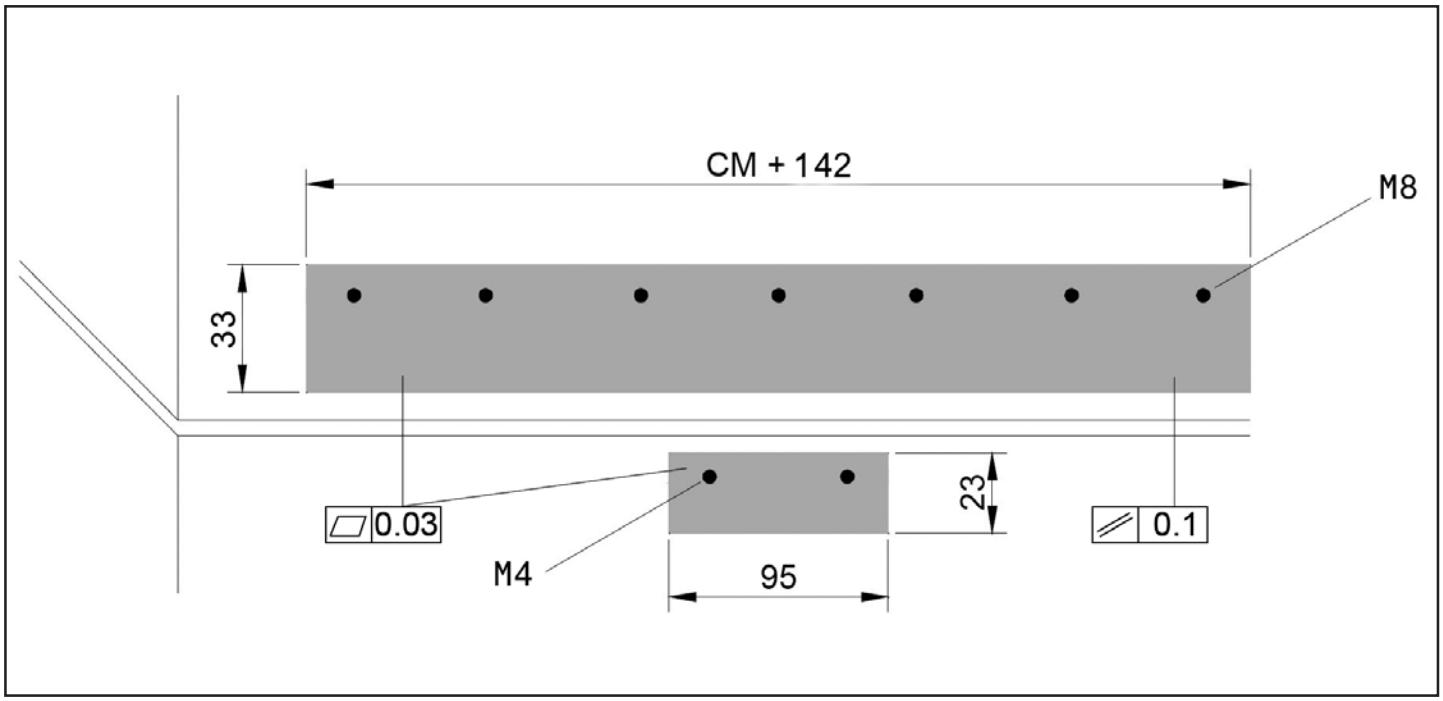
PROCESO DE MONTAJE
MOUNTING PROCESS



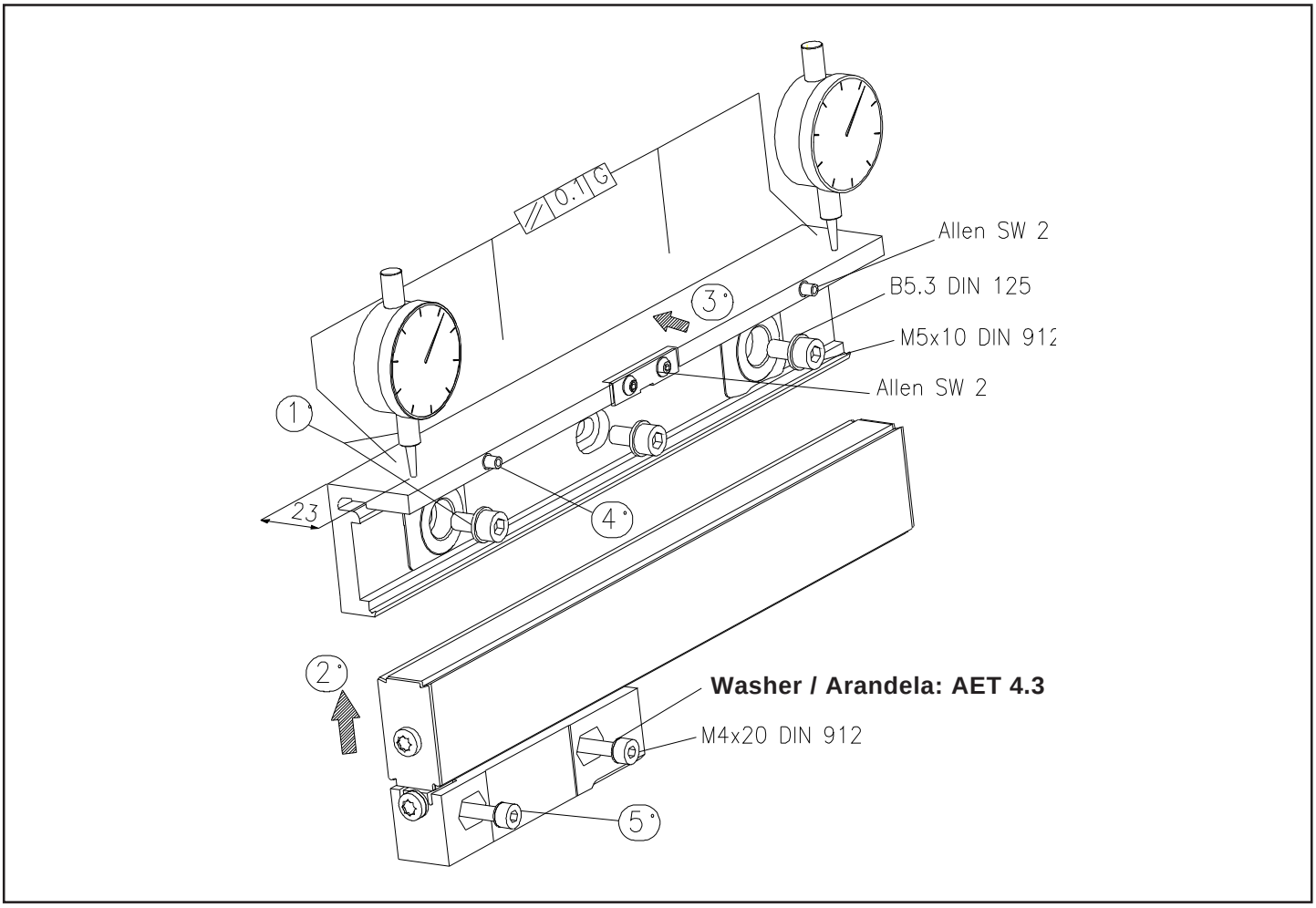
- 1 -



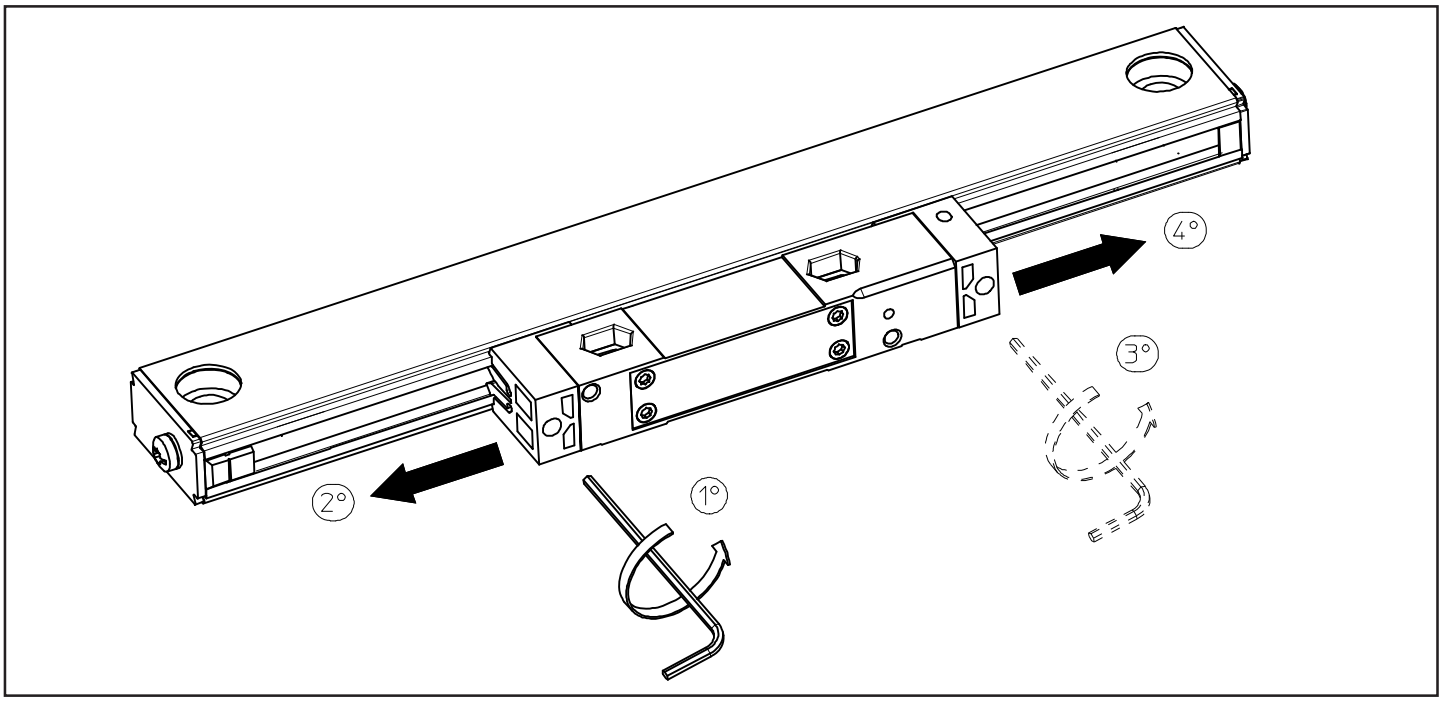
- 2 -



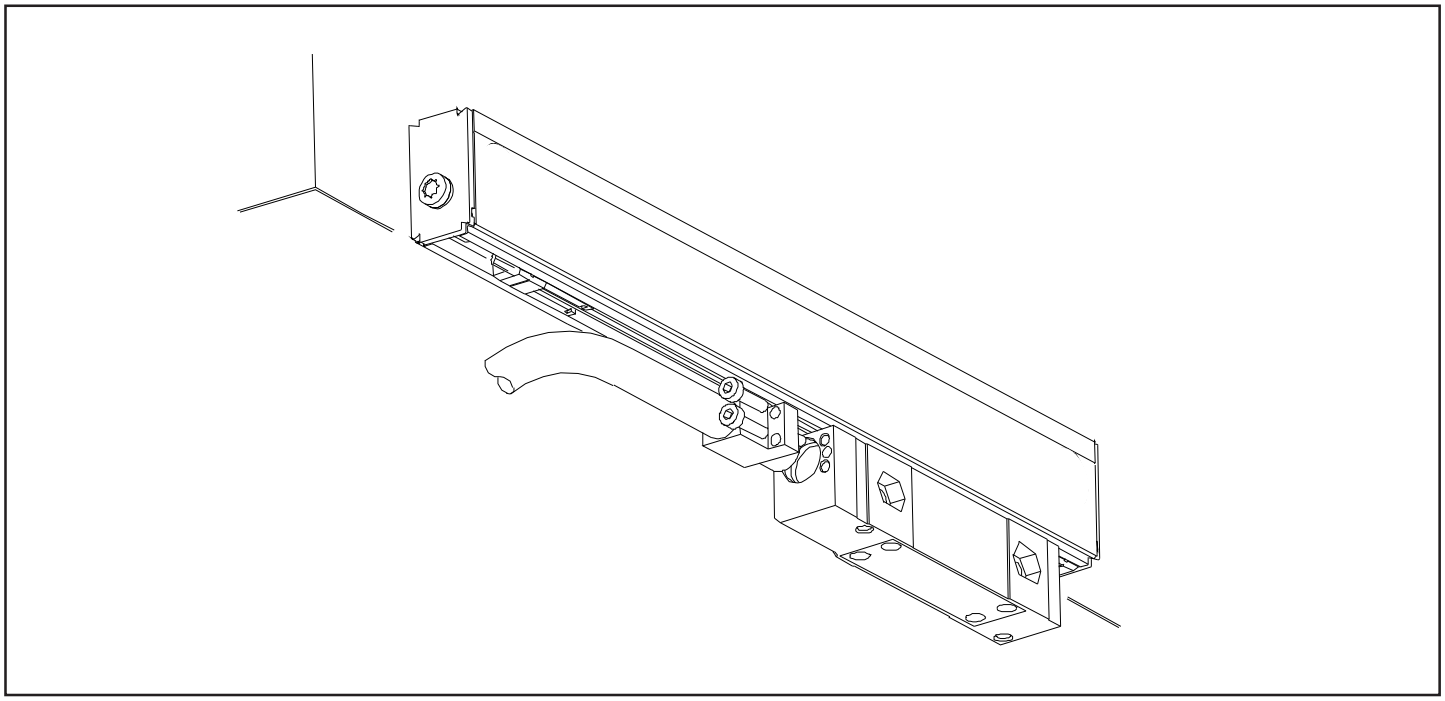
- 3 -


0.1 G
Allen SW 2
B5.3 DIN 125
M5x10 DIN 912
Allen SW 2
1°
2°
3°
4°
5°
23
Washer / Arandela: AET 4.3
M4x20 DIN 912

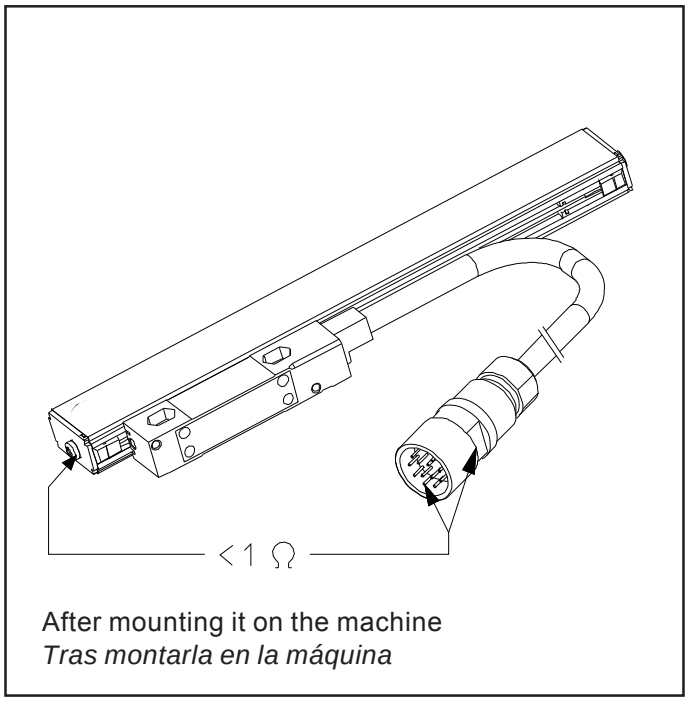
- 4 -


1°
2°
3°
4°

- 5 -

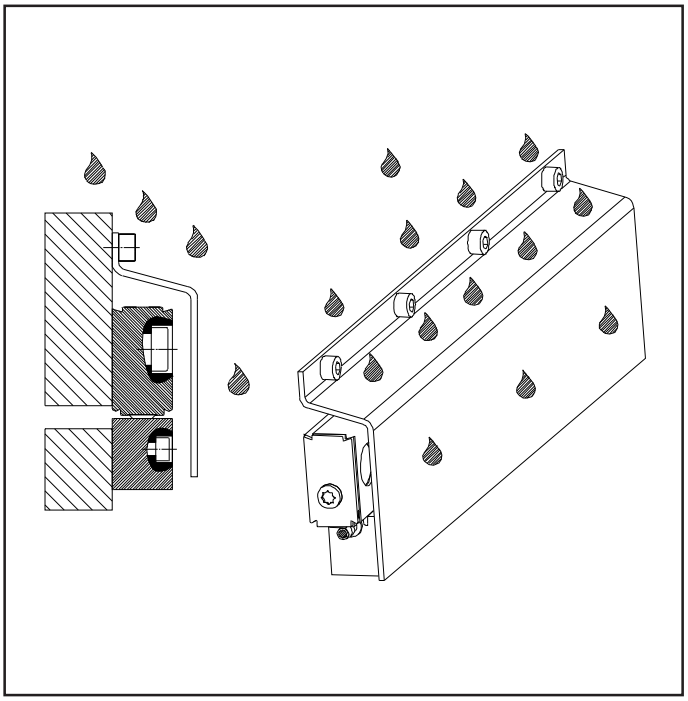


- 6 -



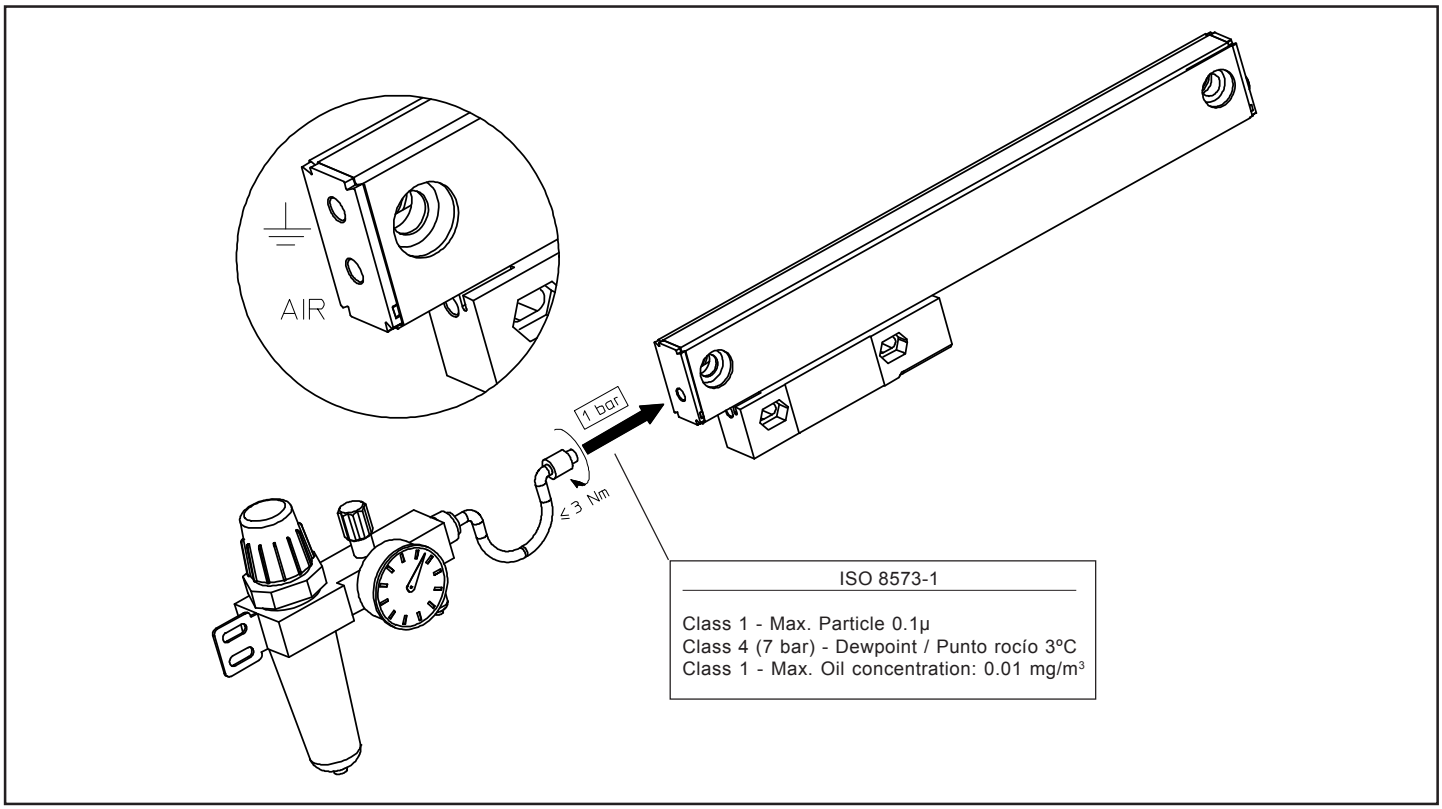
After mounting it on the machine
Tras montarla en la máquina

- 7 -

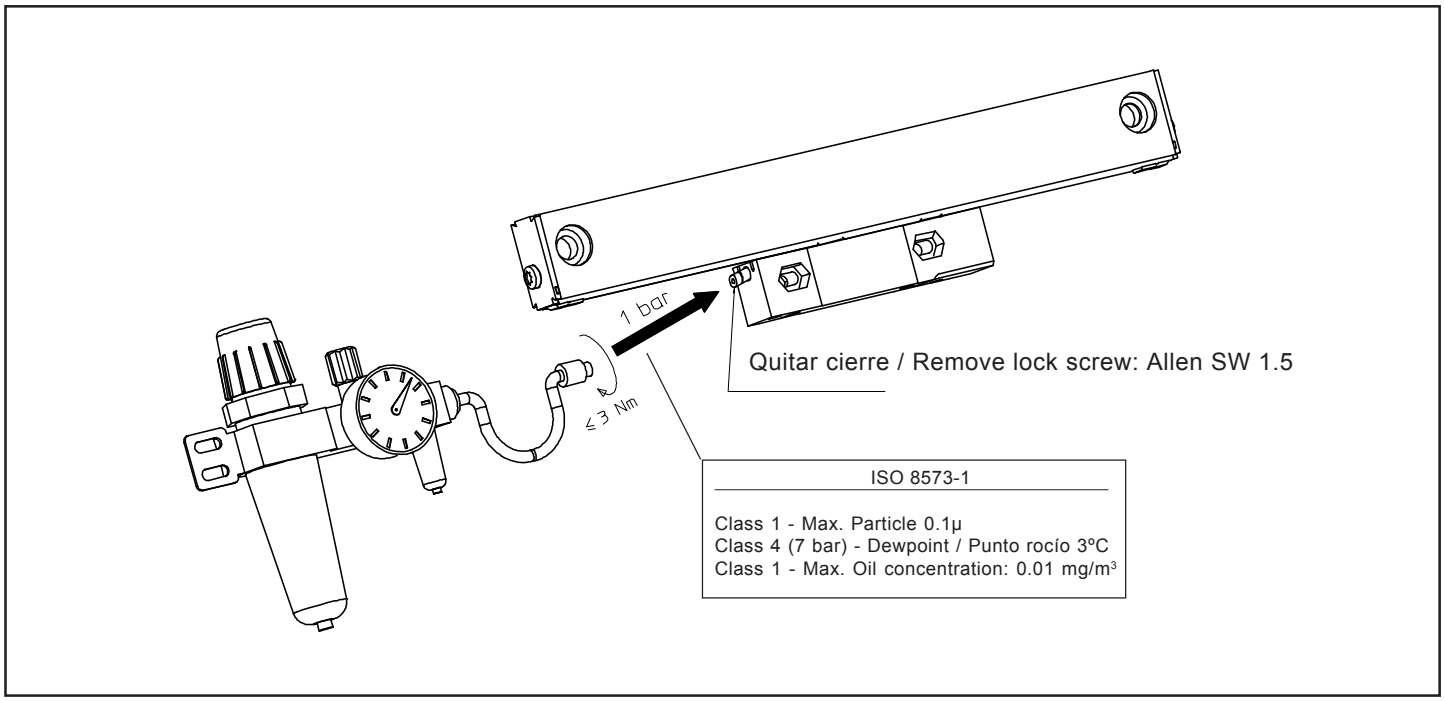


- 8 -

Option. Air intake on the endblock
Opción. Entrada de aire en la regla



Option. Air intake on the reader head
Opción. Entrada de aire en la cabeza



MECHANICAL CHARACTERISTICS

Maximum speed: 120 m/min
Maximum vibration (55 to 2000 Hz): 200 m/s² (20g)
Shock (11 ms): 300 m/s² (30g)
Moving force: ≤ 4 N
Sealing protection: IP53
When using an air inlet: IP64 (DIN 40050)

Working temperature: 0°C .. 50°C(32°F .. 122°F)
Storage temperature: -20°C ..+70°C (-4°F.. 158°F)
Relative Humidity: 20 ... 80%
Weight (guide included): 0.25kg + 1.55kg/m
Scale: 20 µm-pitch graduated glass.
Cable bending radius: ≥ 75 mm
Absolute reference:
The reference position beteween the reader head and the linear encoder is determined without having to move the axis. The CNC can request the position of the linear encoder at any time.

CARACTERISTICAS MECANICAS

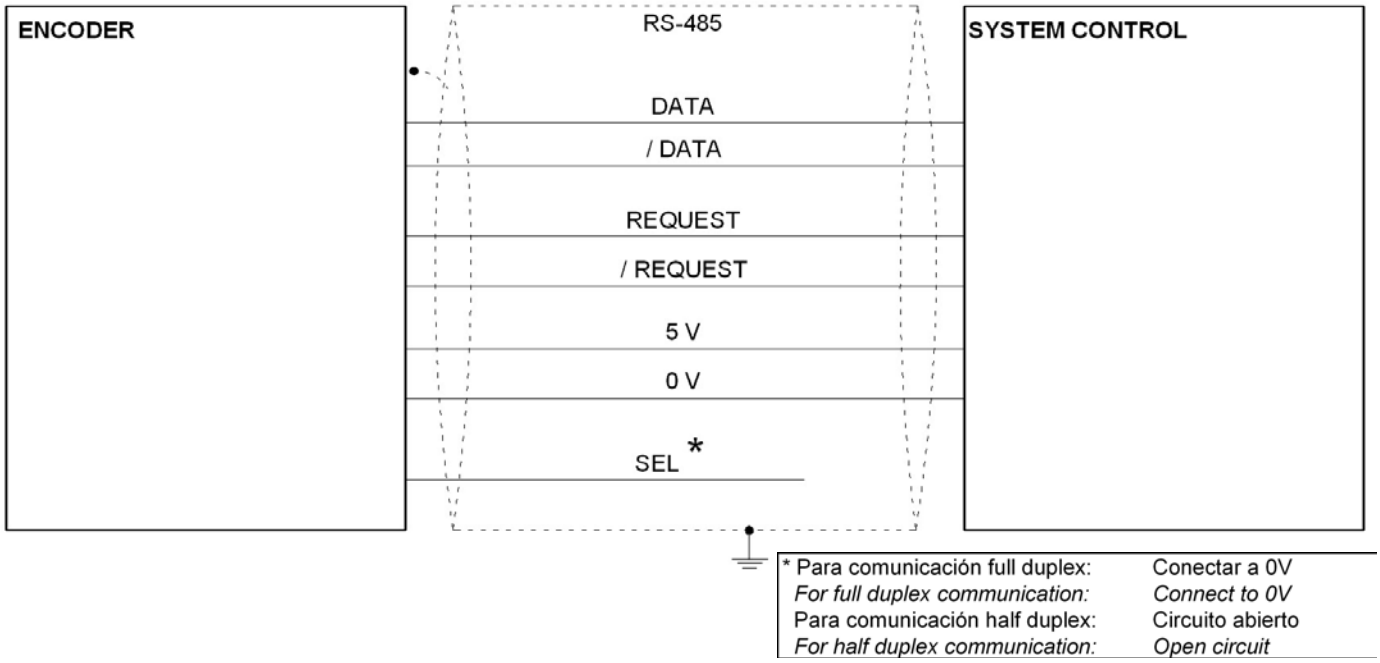
Velocidad máxima: 120 m/min
Vibración máxima (55 a 2000 Hz): 200 m/s² (20g)
Shock (11 ms): 300 m/s² (30g)
Fuerza de desplazamiento: ≤ 4 N
Estanqueidad: IP53
Si se utiliza un dispositivo de entrada de aire la estanqueidad es IP64 (DIN 40050)
Temperatura de trabajo: 0 ... 50°C
Temperatura almacenamiento -20° ... +70°C
Humedad relativa: 20 ... 80%
Peso (guía incluida): 0.25kg + 1.55kg/m
Escala: Vidrio grabado con un periodo 20 µm
Radio de curvatura del cable: ≥ 75 mm
Referencia absoluta:
La posición de referencia entre cabeza y regla se determina sin necesidad de realizar ningún movimiento. El controlador puede solicitar en cualquier momento la posición de la regla.

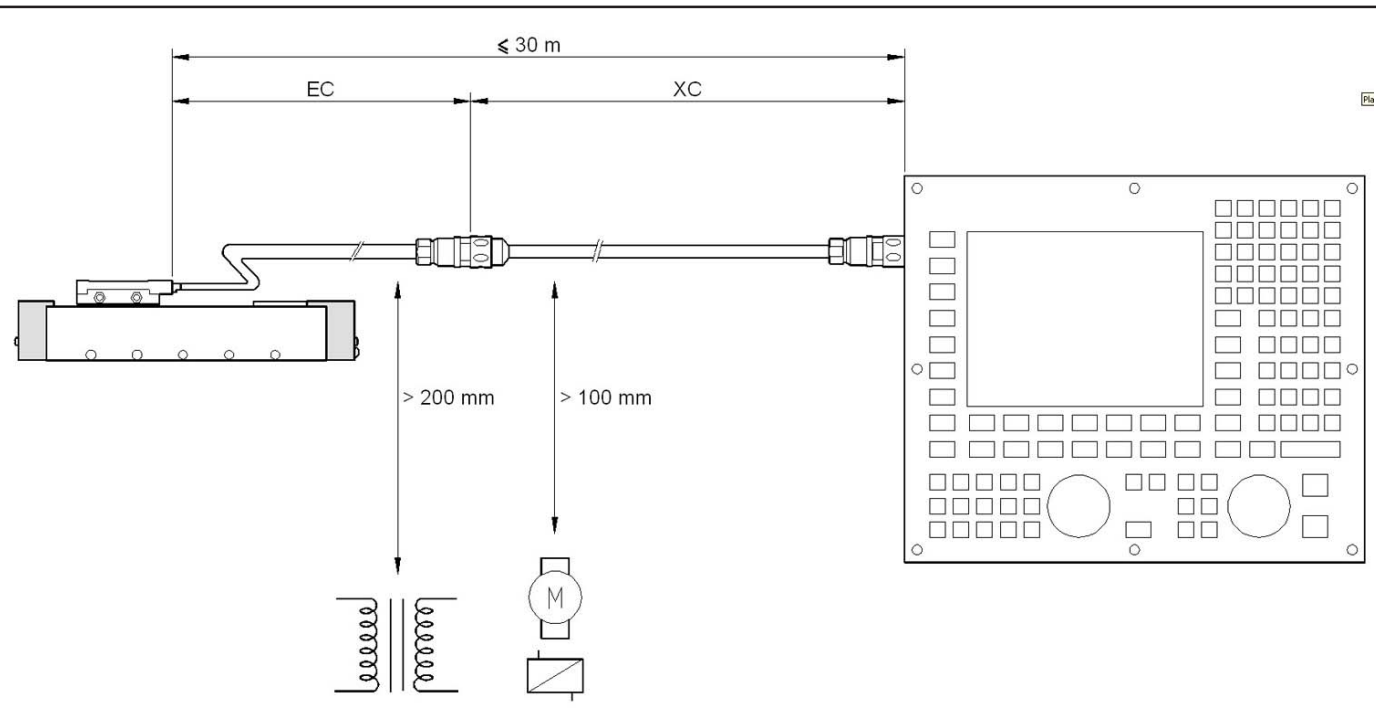
ELECTRICAL CHARACTERISTICS

Power supply voltage: **5V ± 10%**
Power supply Imax: **250mA (no load)**
Resolution: **50 nm**
Max cable length: **30 m**
For lengths over 9 meters, a 1m cable and an extension cable must be used whose characteristics are:
4x2x0.14mm² + 4x0.5mm²

CARACTERISTICAS ELECTRICAS

Tensión de alimentación: **5V ± 10%**
Corriente de alimentación máxima: **250 mA (sin carga)**
Resolución: **50 nm**
Longitud máxima de cable: **30 m**
Para longitudes mayores a 9 metros se debe usar un cable de 1 metro y un cable de extensión con las siguientes características:
4x2x0.14mm² + 4x0.5mm²

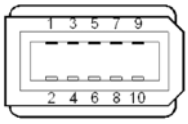

ENCODER
RS-485
SYSTEM CONTROL
DATA
/ DATA
REQUEST
/ REQUEST
5 V
0 V
SEL *
* Para comunicación full duplex: Conectar a 0V
For full duplex communication: Connect to 0V
Para comunicación half duplex: Circuito abierto
For half duplex communication: Open circuit


≤ 30 m
EC
XC
> 200 mm
> 100 mm
M

MITSUBISHI: CONNECTIONS / *CONEXIONES*

EC...AM...MB :
Cable for direct connection to full-duplex MITSUBISHI absolute systems. With ferrite. Available in 1, 3, 6 and 9 meters.
Cable para conexión directa a sistemas absolutos MITSUBISHI full duplex. Con ferrita. Disponible en 1, 3, 6 and 9 metros.

PIN	7	8	3	4	1	2	Carcasa / Housing
SEÑAL *SIGNAL*	SD	/SD	REQ	/REQ	+5V	0V	Tierra / Ground
COLOR	Verde *Green*	Amarillo *Yellow*	Gris *Grey*	Rosa *Pink*	Marrón + Violeta *Brown + Purple*	Blanco+Negro+Azul *White+Black+Blue*	Malla *Shield*



Extension cables / Alargaderas

CABLE		EXTENSION CABLE / ALARGADERA			TOTAL LENGTH LONGITUD TOTAL
Reference	Connector	Connector	Reference	Connector	
EC-1B-C9-F	C9 Round 17-PM/RM	C8 Round 17-PH/RH	XC-C8-x-MB	Mitsubishi	* 30 m
EC-1B-C9-N-F			XC-C8-xF-C9	C9-Round 17-PM/RM	

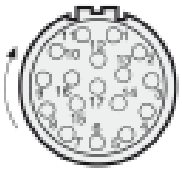
Round = Circular, PM = Male pins; RM = Male thread, PH = Female pins, RH = Female thread, M = Male, H = Female
PM = Pines macho, RM = Rosca Macho, PH = Pines hembra, RH = Rosca hembra, M= Macho, H = Hembra

A combination of **EC...B...C9-F cable** and an **XC...C8...MB extension cable** may be used for other lengths.
*También se puede utilizar la combinación de un **cable EC...B...C9-F** con una **alargadera XC...C8...MB** para otras longitudes.*

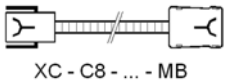
EC...B...C9-F *Cable available in 1 and 3 meters with ferrite. Contact FAGOR for other lengths.*
Cable disponible en 1 y 3 metros con ferrita. Contactar con FAGOR para otras longitudes.

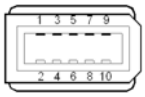
Conector (C9) macho circular 17 *male connector*

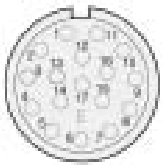
PIN	14	17	8	9	7	1	10	4	12	Caperuza Housing
SEÑAL *SIGNAL*	REQ	/REQ	SD	/SD	+5V	+5V sensor	0V	0V sensor	SEL	Tierra Ground
COLOR	Gris Grey	Rosa Pink	Negro Black	Violeta Purple	Marrón Brown	Verde claro Light green	Blanco White	Naranja Orange	Azul Blue	Malla externa External shield



XC...C8...MB
Extension cable for direct connection to MITSUBISHI full-duplex absolute systems.
Available in 5, 10, 15, 20 and 25 meters.
Alargadera para conexión directa a sistemas absolutos MITSUBISHI full duplex.
Disponible en 5, 10, 15, 20 y 25 metros.







Conector (C8) macho circular 17 *male connector*

PIN	8	9	14	17	7	1	10	4	12	Caperuza Housing
Conector (MB) hembra rectangular *female rectangular connector*										
PIN	7	8	3	4	1	1	2	2	2	Caperuza Housing
SEÑAL *SIGNAL*	SD	/SD	REQ	/REQ	+5V	+5V sensor	0V	0V sensor	SEL	Tierra Ground
COLOR	Gris Grey	Rosa Pink	Violeta Purple	Amarillo Yellow	Marrón-verde Brown-green	Azul Blue	Blanco-verde White-green	Blanco White	Negro Black	Malla Shield

WARRANTY

* Term: 12 months from factory invoice date.
* It covers parts and labor at FAGOR AUTOMATION.
* Travel expenses are payable by the customer.
* Damages due to causes external to FAGOR AUTOMATION, such as unauthorized manipulation, blows, etc. are not covered.

GARANTIA

* 12 meses desde fecha de expedición de fábrica.
* Cubre gastos de Materiales y Mano de Obra de reparación en FAGOR AUTOMATION.
* Gastos de desplazamiento a cargo del cliente.
* No cubre averías por causas ajenas a FAGOR AUTOMATION, como: golpes, manipulación por personal no autorizado, etc.

The information described in this manual may be subject to variations due to technical modifications.

FAGOR AUTOMATION, S. Coop. Ltda. reserves the right to modify the contents of this manual without prior notice.

La información descrita en este manual puede estar sujeta a variaciones motivadas por modificaciones técnicas.

FAGOR AUTOMATION S. Coop. Ltda. se reserva el derecho de modificar su contenido, no estando obligada a notificar las variaciones.

DECLARATION OF CONFORMITY

Manufacturer: Fagor Automation, S. Coop.

Barrio de San Andrés s/n, C.P. 20500, Mondragón - Guipúzcoa- (SPAIN)

We declare under our exclusive responsibility the conformity of the product referred to in this manual.

Note. *Some additional characters may follow the model references indicated in this manual. They all comply with the following regulations:*

ELECTROMAGNETIC COMPATIBILITY:

EN 61000-6-2:2005 *Standard on immunity in industrial environments*
EN 61000-6-4:2007 *Standard on emission in industrial environments*

According to the European Directive:

2004/108/CE *on electromagnetic compatibility.*

Mondragón November 1st 2011

DECLARACION DE CONFORMIDAD

Fabricante: Fagor Automation, S. Coop.

Barrio de San Andrés s/n, C.P. 20500, Mondragón - Guipúzcoa- (ESPAÑA)

Declaramos bajo nuestra exclusiva responsabilidad la conformidad del producto al que hace referencia este manual

Nota. Algunos caracteres adicionales pueden seguir a las referencias de los modelos indicados en este manual. Todos ellos cumplen con las siguientes normas:

COMPATIBILIDAD ELECTROMAGNÉTICA:

EN 61000-6-2:2005 Norma de Inmunidad en entornos industriales
EN 61000-6-4:2007 Norma de Emisión en entornos industriales

De acuerdo con las disposiciones de la Directiva Comunitaria:
2004/108/CE de Compatibilidad Electromagnética.

Mondragón a 1 de Noviembre de 2011

Fagor Automation, S. Coop.

Director Gerente
Pedro Ruiz de Aguirre

Fagor Automation S. Coop.
Bº San Andrés Nº19
Apdo Correos 144
20500 - Arrasate/Mondragón
- Spain -
Web: www.fagorautomation.com
Email: info@fagorautomation.es
Tel.: (34) 943 719200
Fax: (34) 943 791712