



Fagor Automation S. Coop.

Manual code: 14460043
Manual version: 1405



ENCODER H-D90

MANUAL DE INSTALACIÓN INSTALLATION MANUAL

FAGOR AUTOMATION S. COOP.

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Apdo de correos 144

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- Spain -

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Email: info@fagorautomation.es

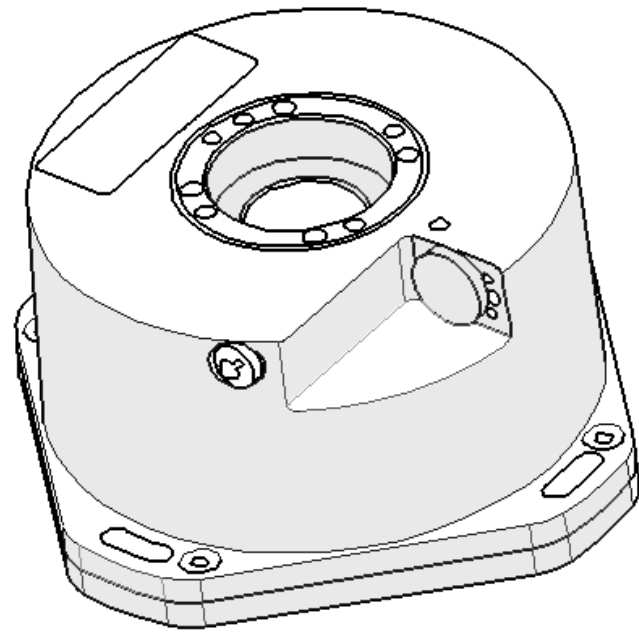
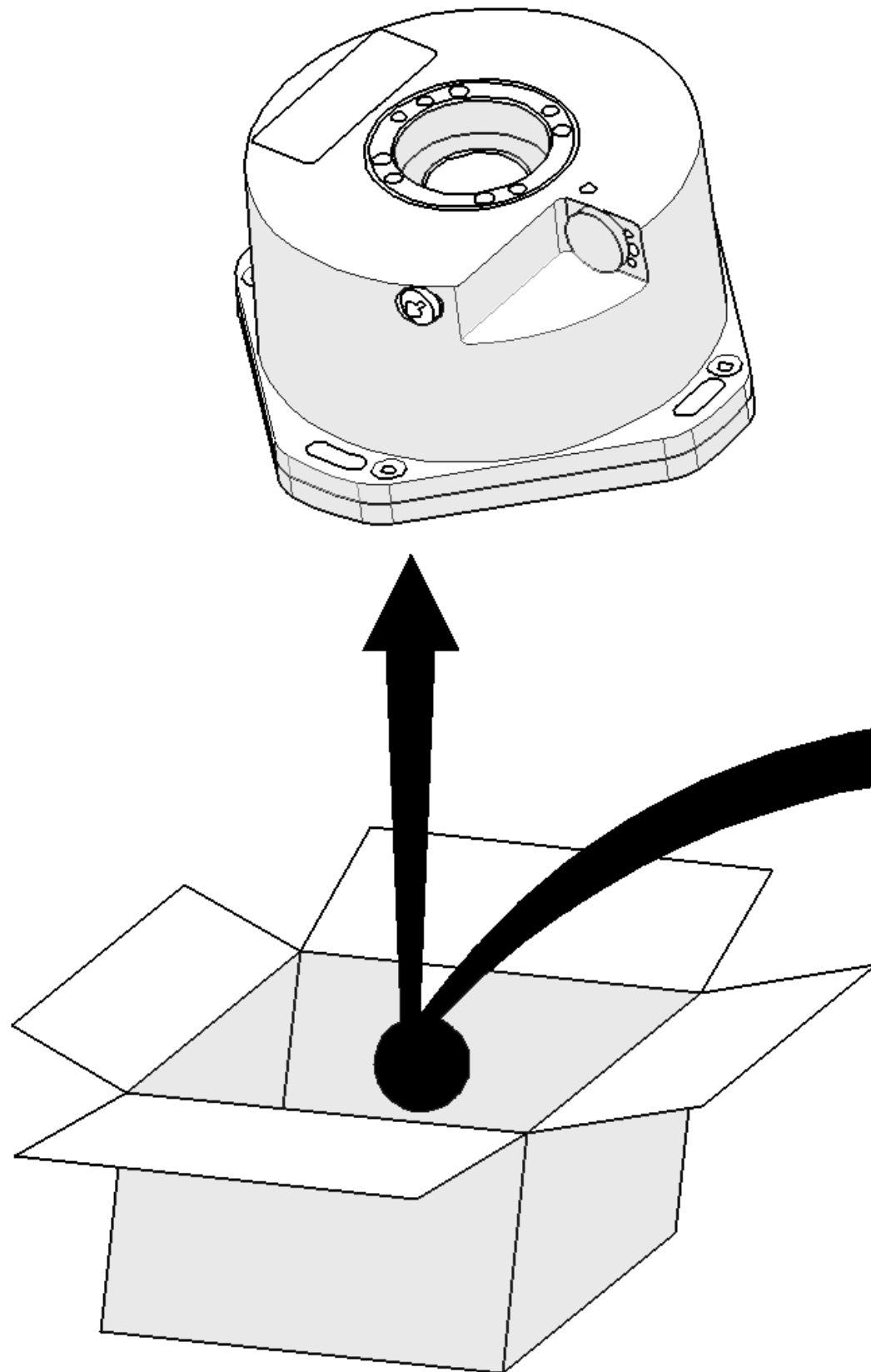
Tel.: (34) 943 719200

Fax: (34) 943 791712

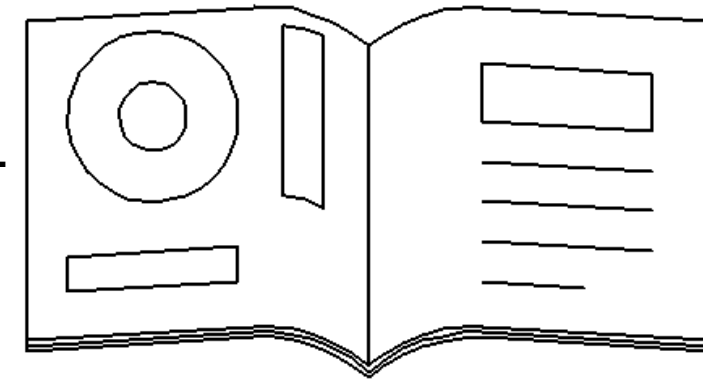


Fagor Automation S. Coop.

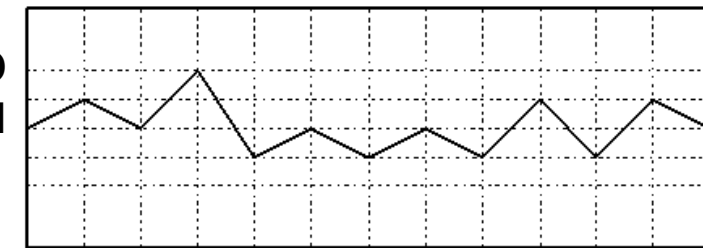




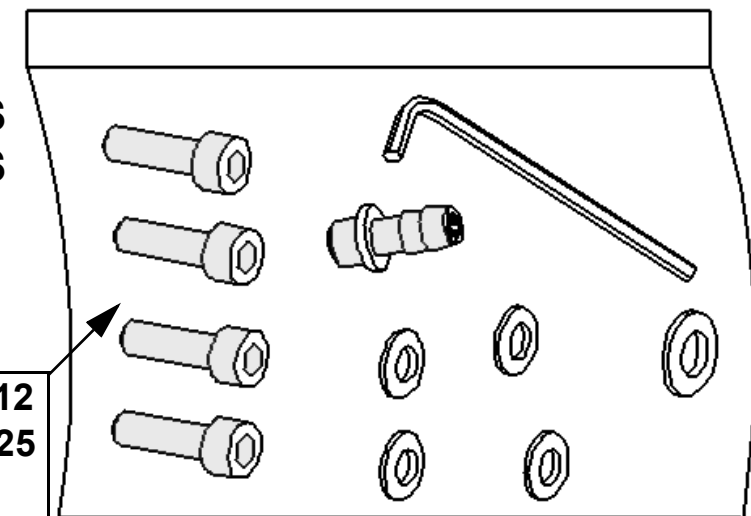
MANUAL



**GRÁFICO
GRAPH**



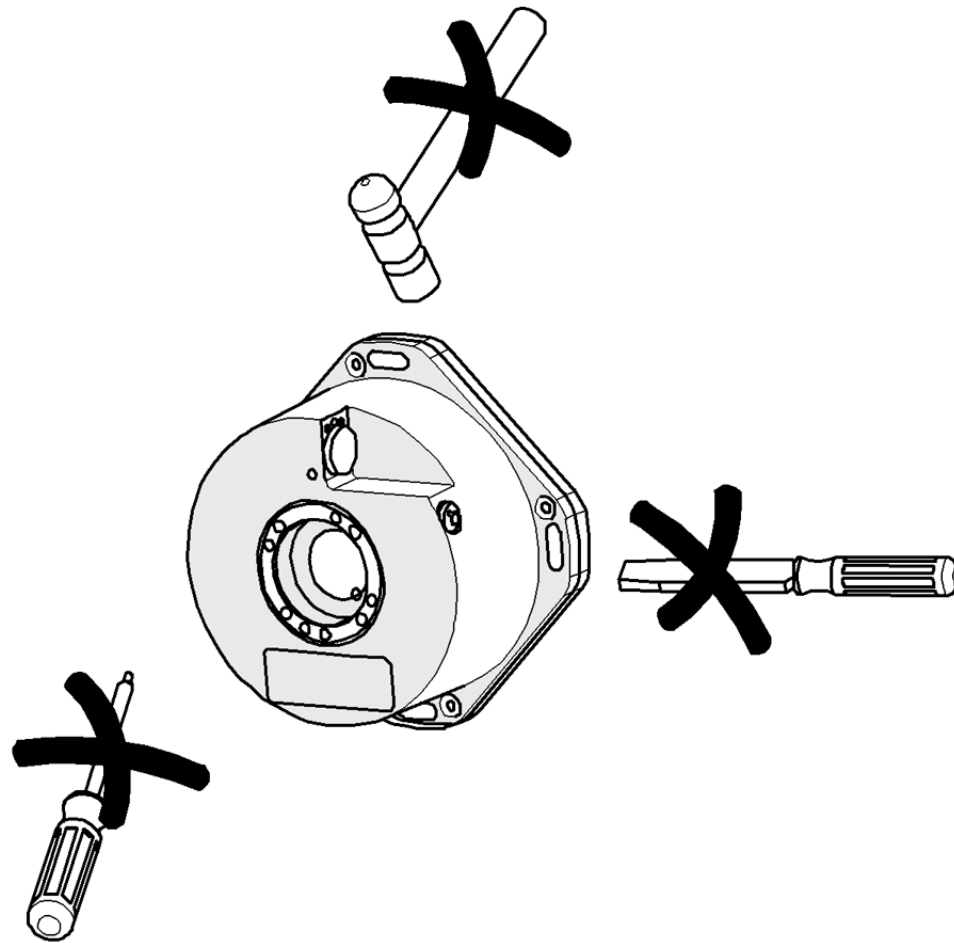
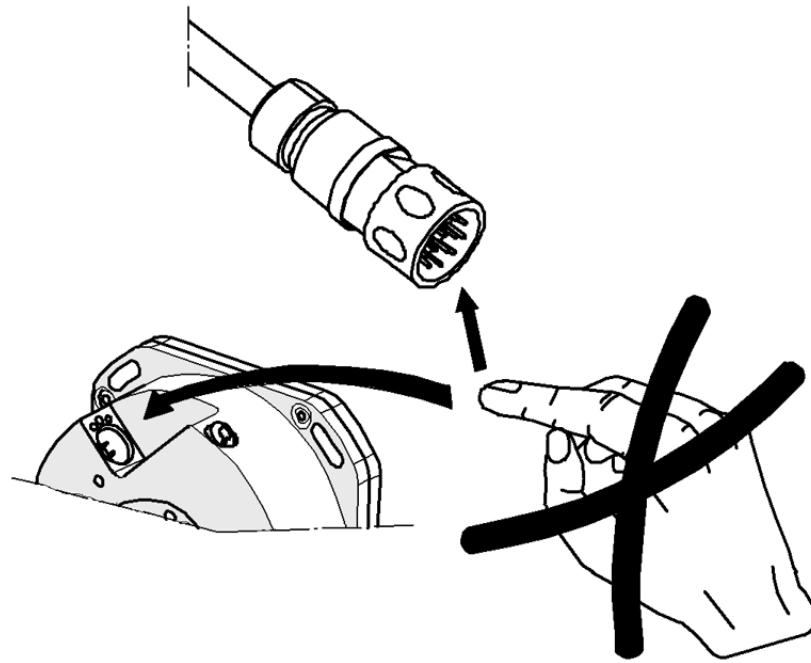
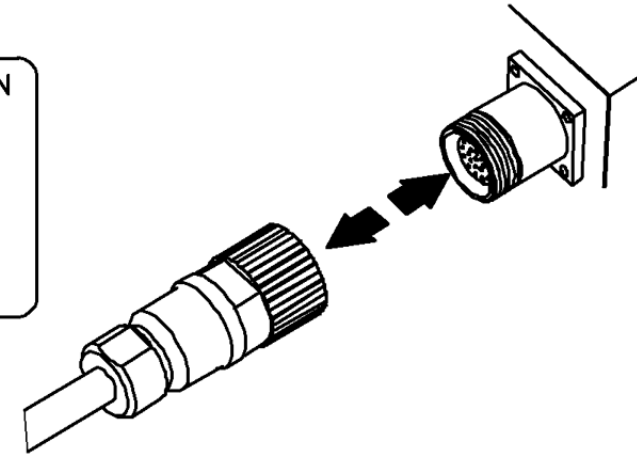
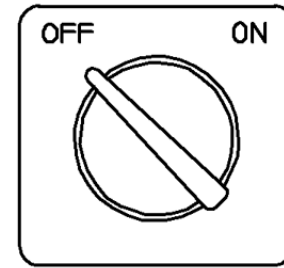
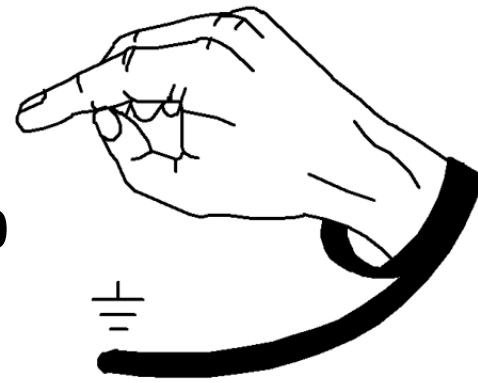
**ACCESORIOS
ACCESSORIES**



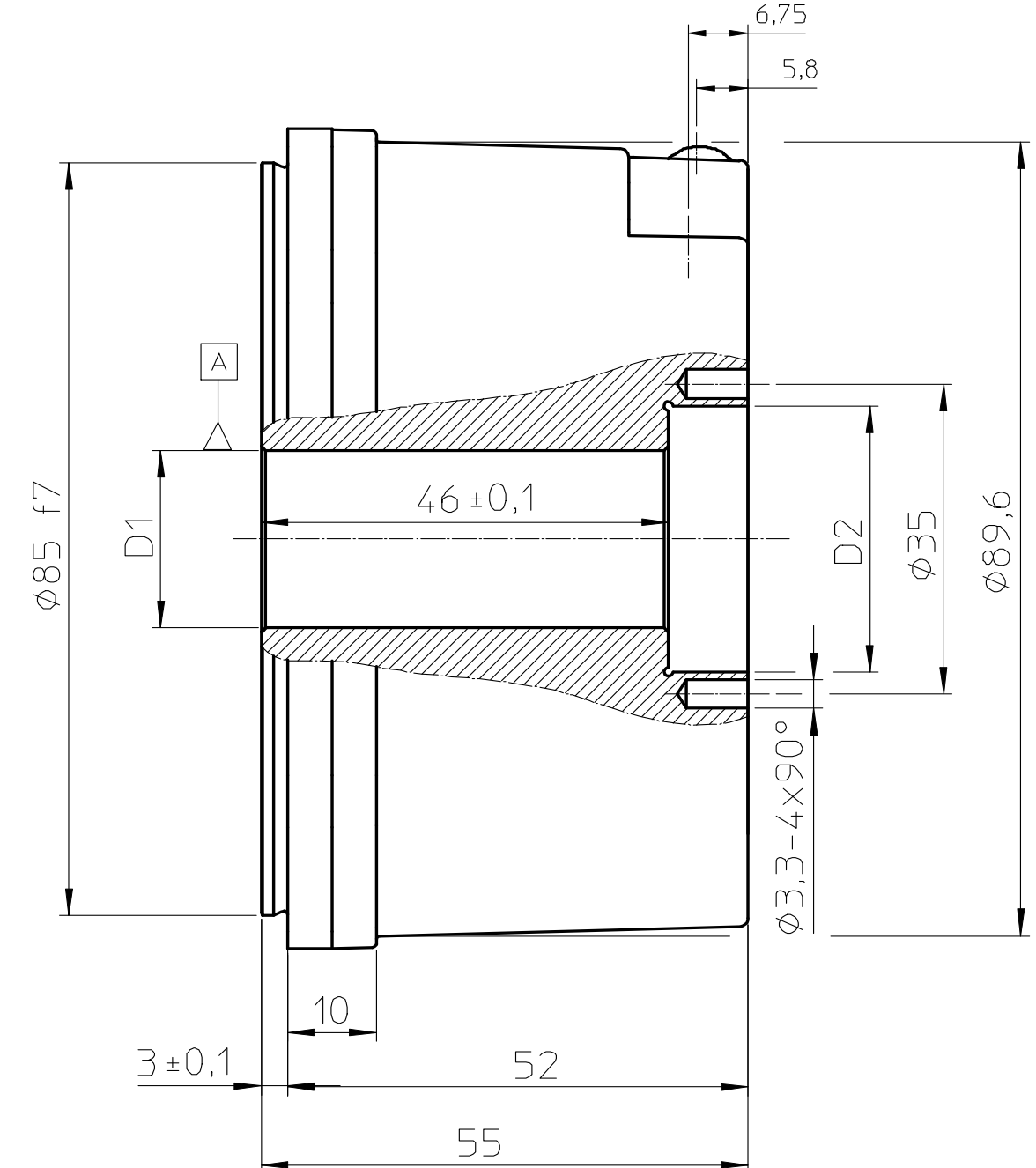
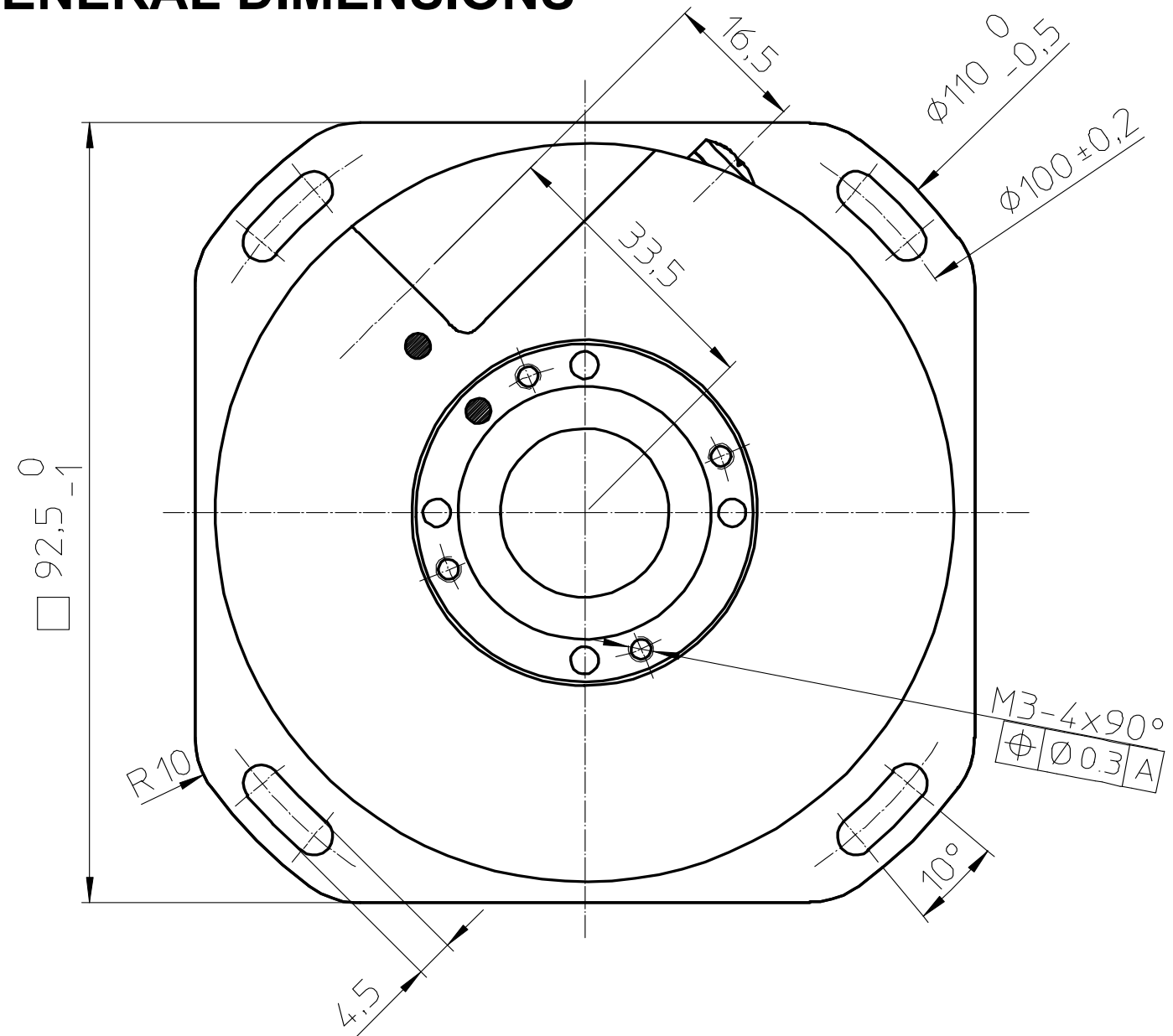
4 tornillos/bolts M4 x 16 DIN 912
4 arandelas/washers M4 DIN 125
1 racor de aire / air intake
1 arandela racor de aire /
air intake washer
1 llave Allen / Allen wrench



DIN EN 100



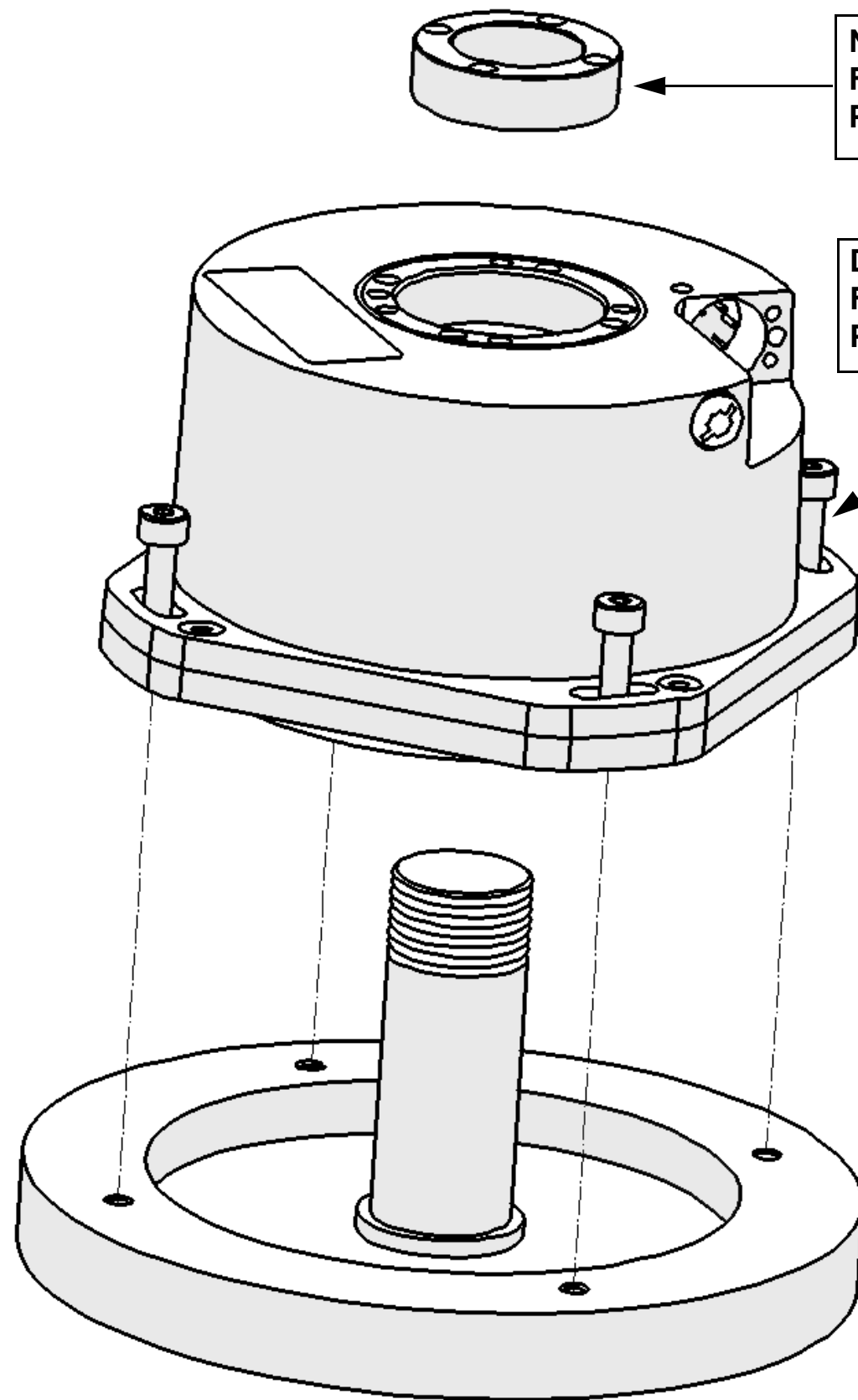
GENERAL DIMENSIONS



Precisión Accuracy	$\pm 2.5''$	$\pm 5''$
D1	$\phi 20 \text{ H6}$	$\phi 20 \text{ H7}$
D2	$\phi 30 \text{ H6}$	$\phi 30 \text{ H7}$

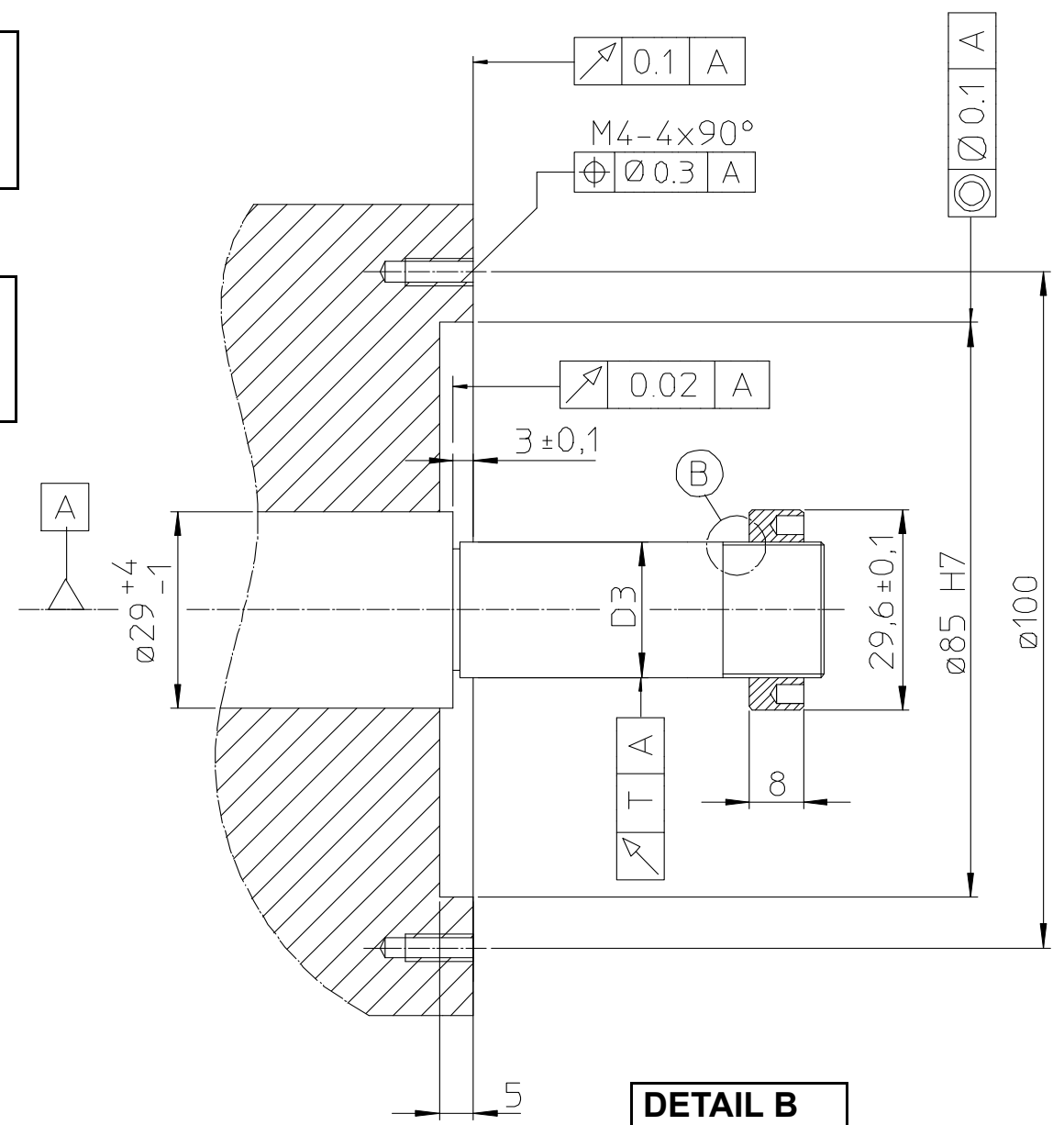
MONTAJE / MOUNTING

Cotas de montaje / Mounting dimensions

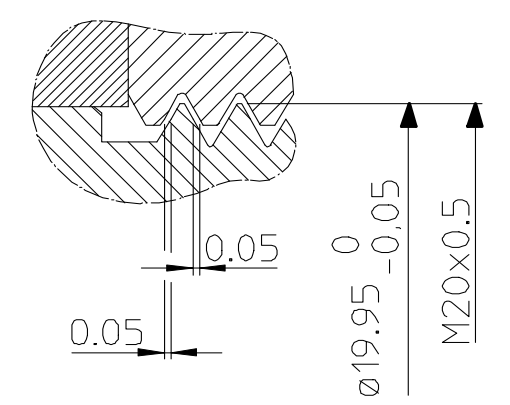


Nut / Tuerca Ref. T-20
Fastening torque = 20 Nm
Par de apriete = 20 Nm

DIN 912 - M4x16
Fastening torque = 2.5 Nm
Par de apriete = 2.5 Nm



DETAIL B
DETALLE B

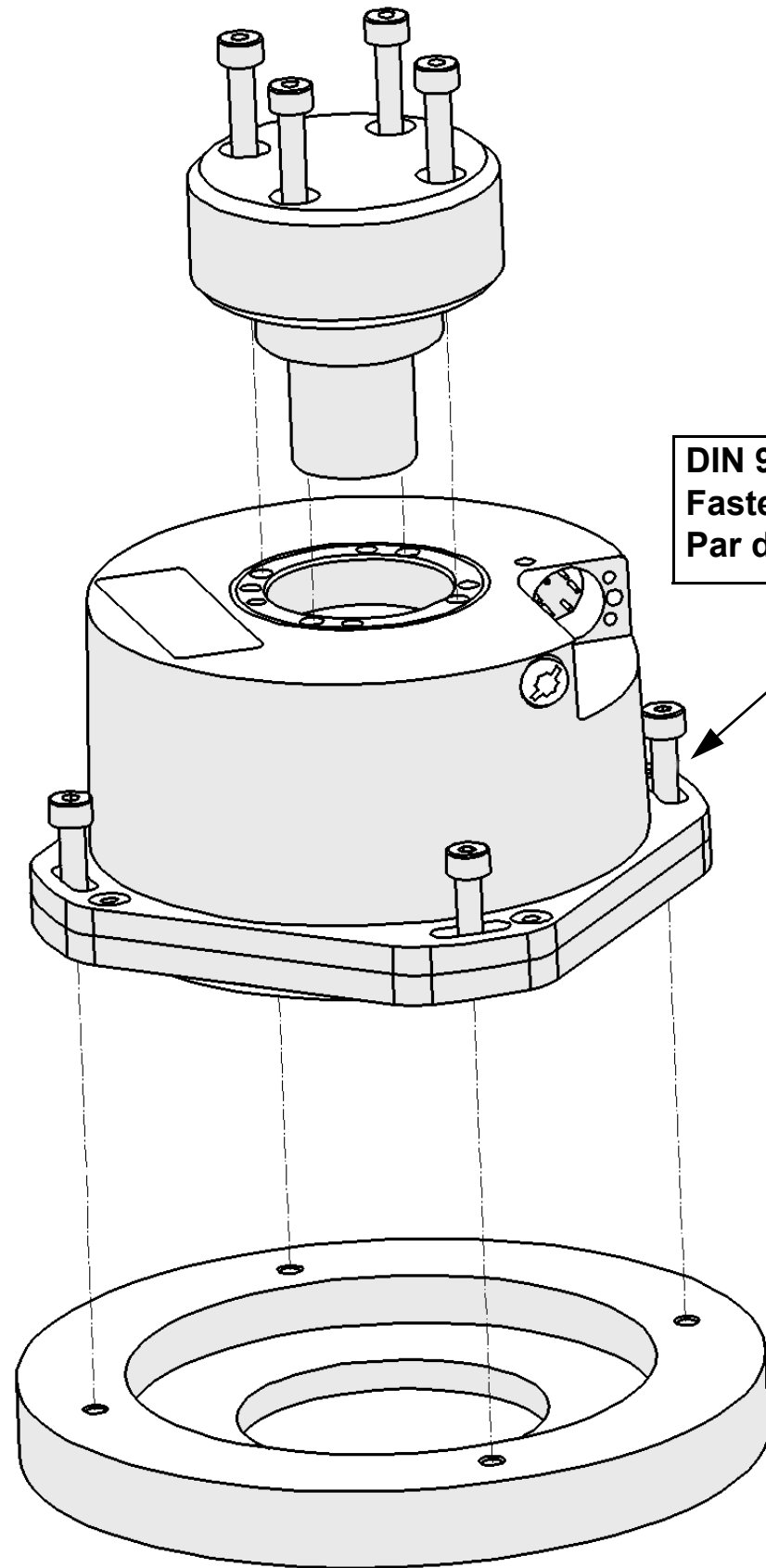


Precisión Accuracy	±2.5"	±5"
D3	∅20 g6	∅20 g7
T	0.01	0.02

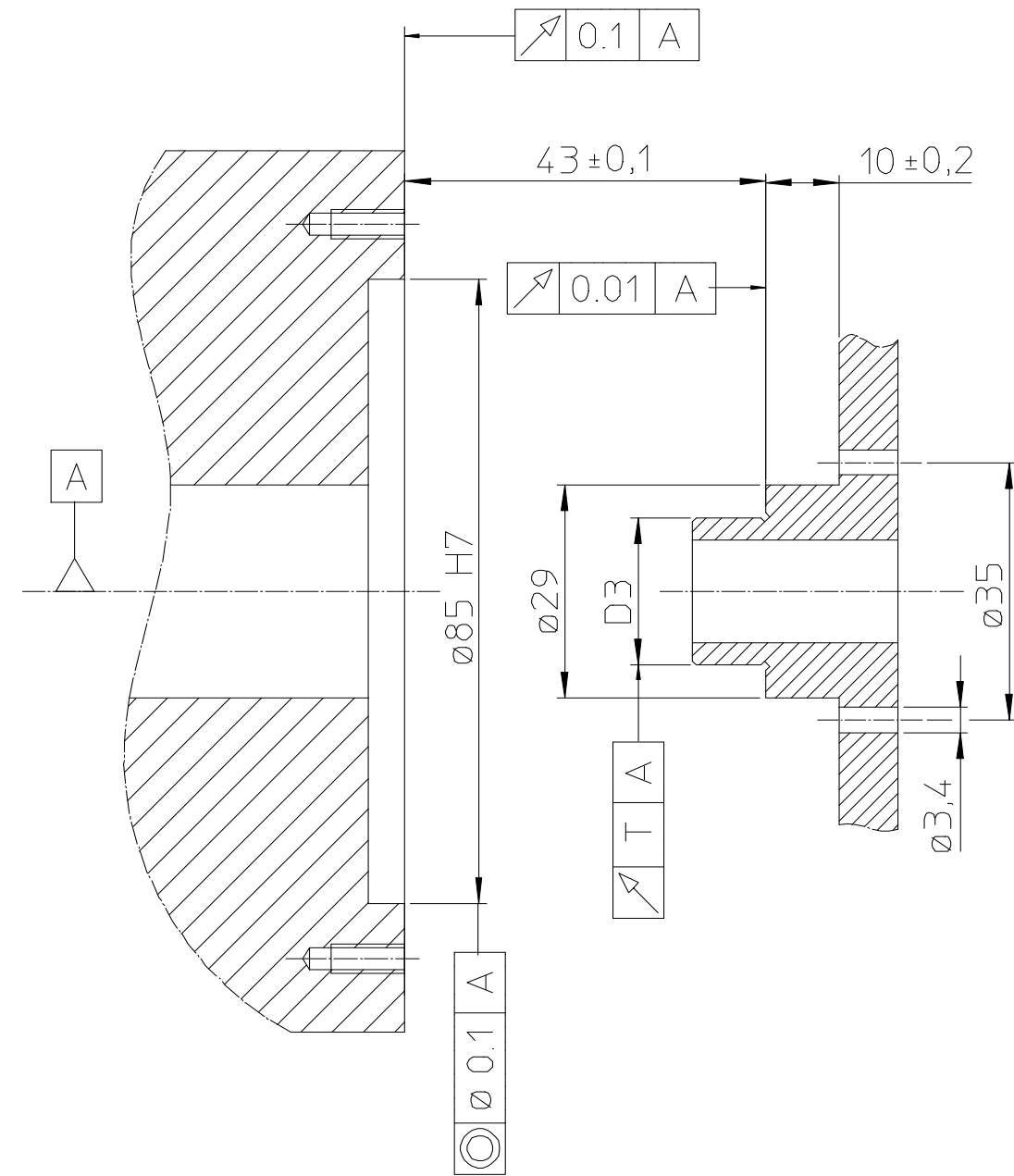
[A] Rodamiento / Roller bearing

MONTAJE / MOUNTING

Cotas de montaje / Mounting dimensions



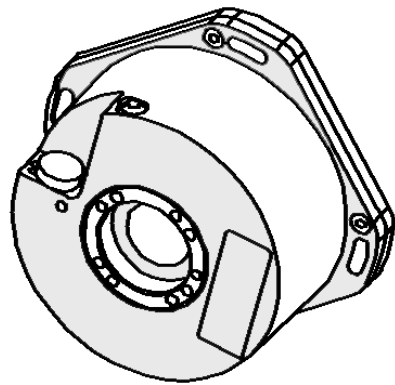
DIN 912 - M4x16
Fastening torque = 2.5 Nm
Par de apriete = 2.5 Nm



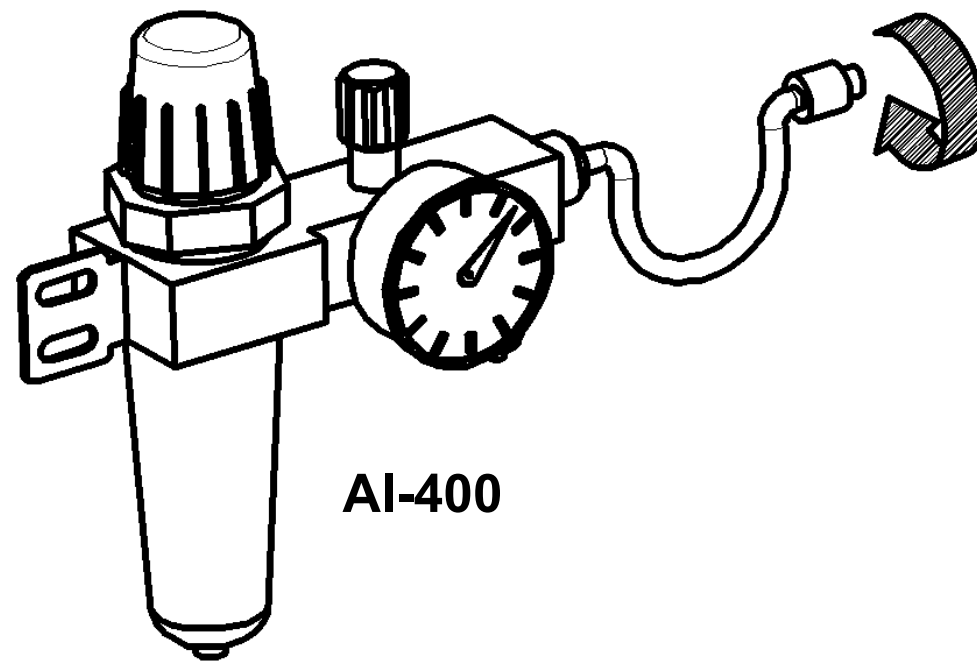
Precisión Accuracy	±2.5"	±5"
D3	∅20 g6	∅20 g7
T	0.01	0.02

A Rodamiento / Roller bearing

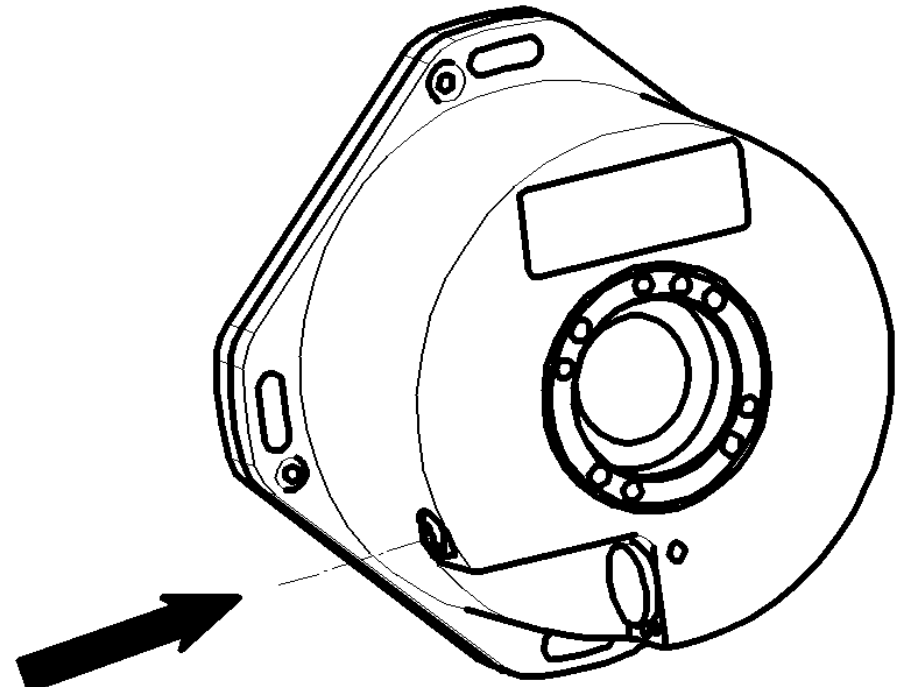
Nivel máximo: IP 64
Maximum level IP 64



> IP 64



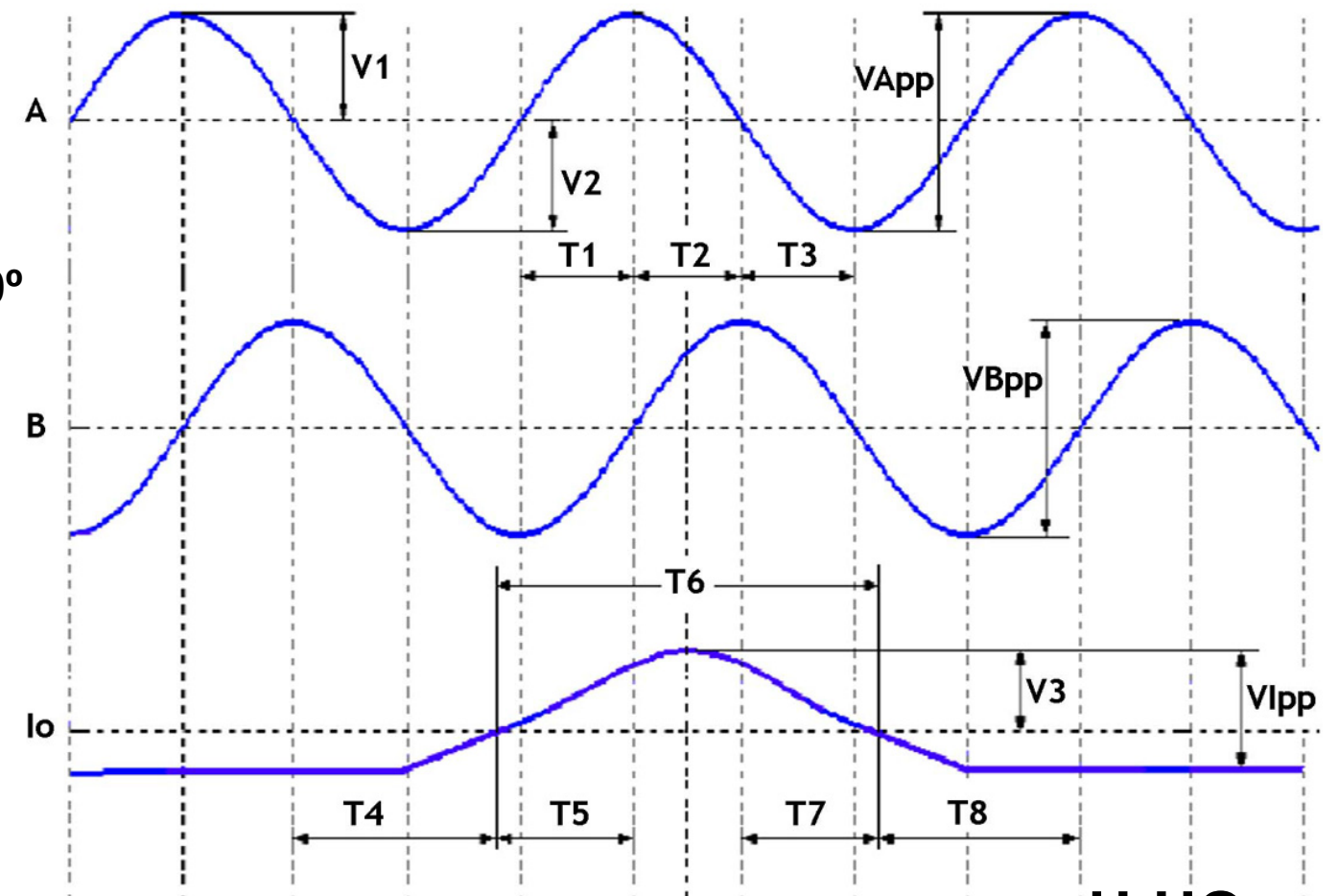
AI-400



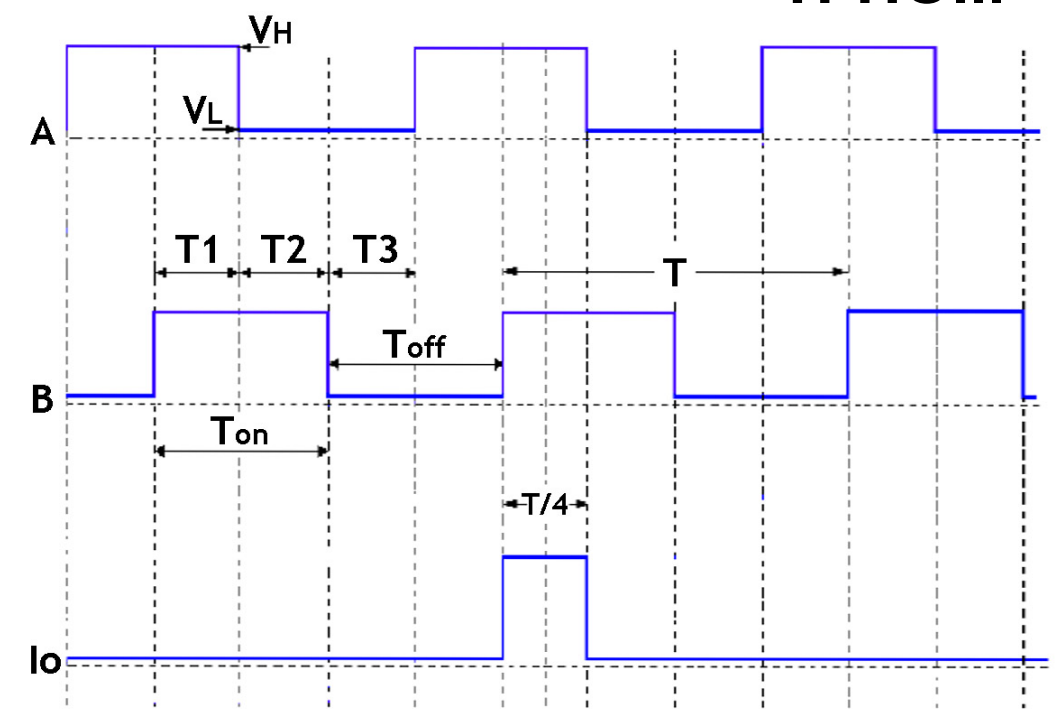
(A) AIR CONDITIONS	
DIN ISO 8573 -1	
Class 1 - Particule Max. 0.1 μ	
Class 4 (7 bar) - Punto rocío / dewpoint 3 °C	
Class 1 - Max. Concentration oil 0.01 mg/m ³	
Presión / Pressure	1 Kg / cm ³
Flujo / Flow	10 l. / min. / encoder

CARACTERÍSTICAS ELÉCTRICAS / ELECTRICAL CHARACTERISTICS

HP-HOP...

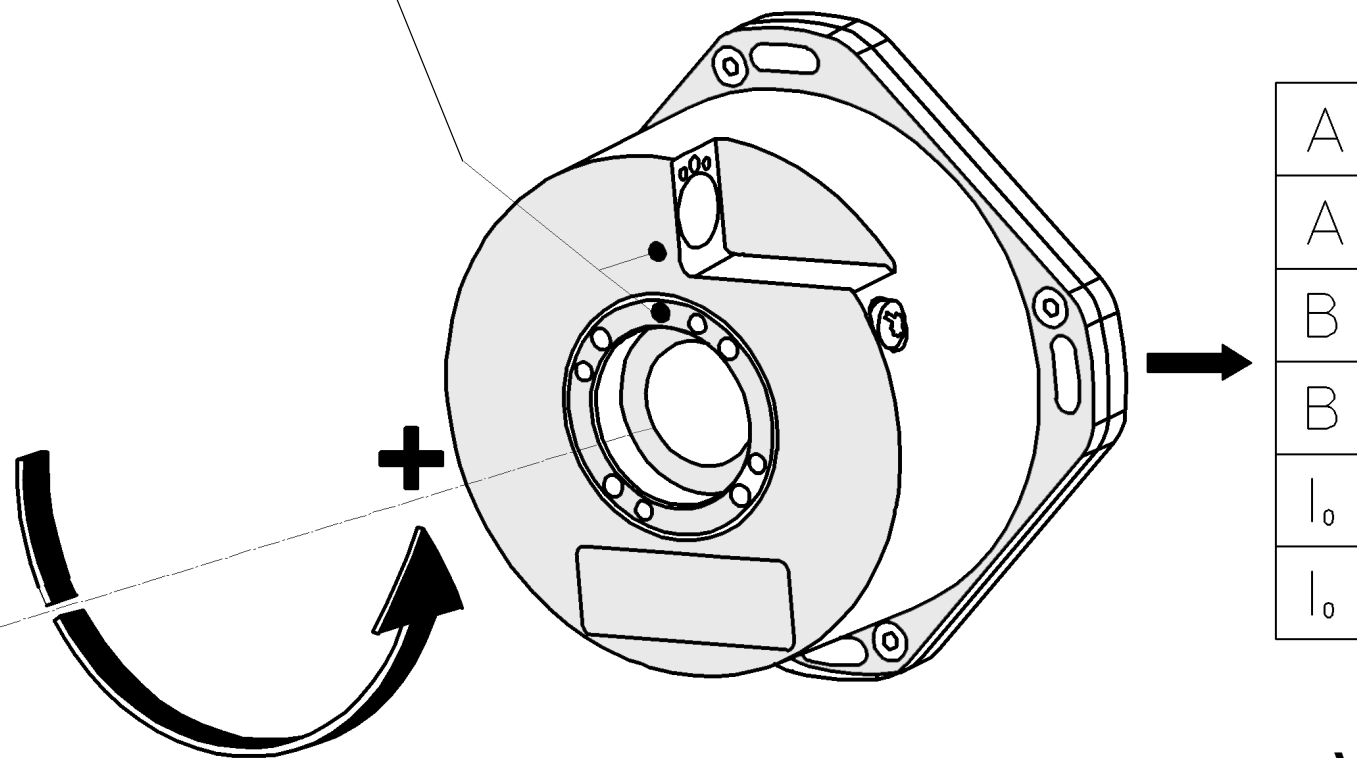


H-HO...



Orientación del impulso de referencia (Io)
Reference mark (Io) orientation



Girar eje para alinear puntos
Turn the shaft ligning up the dots

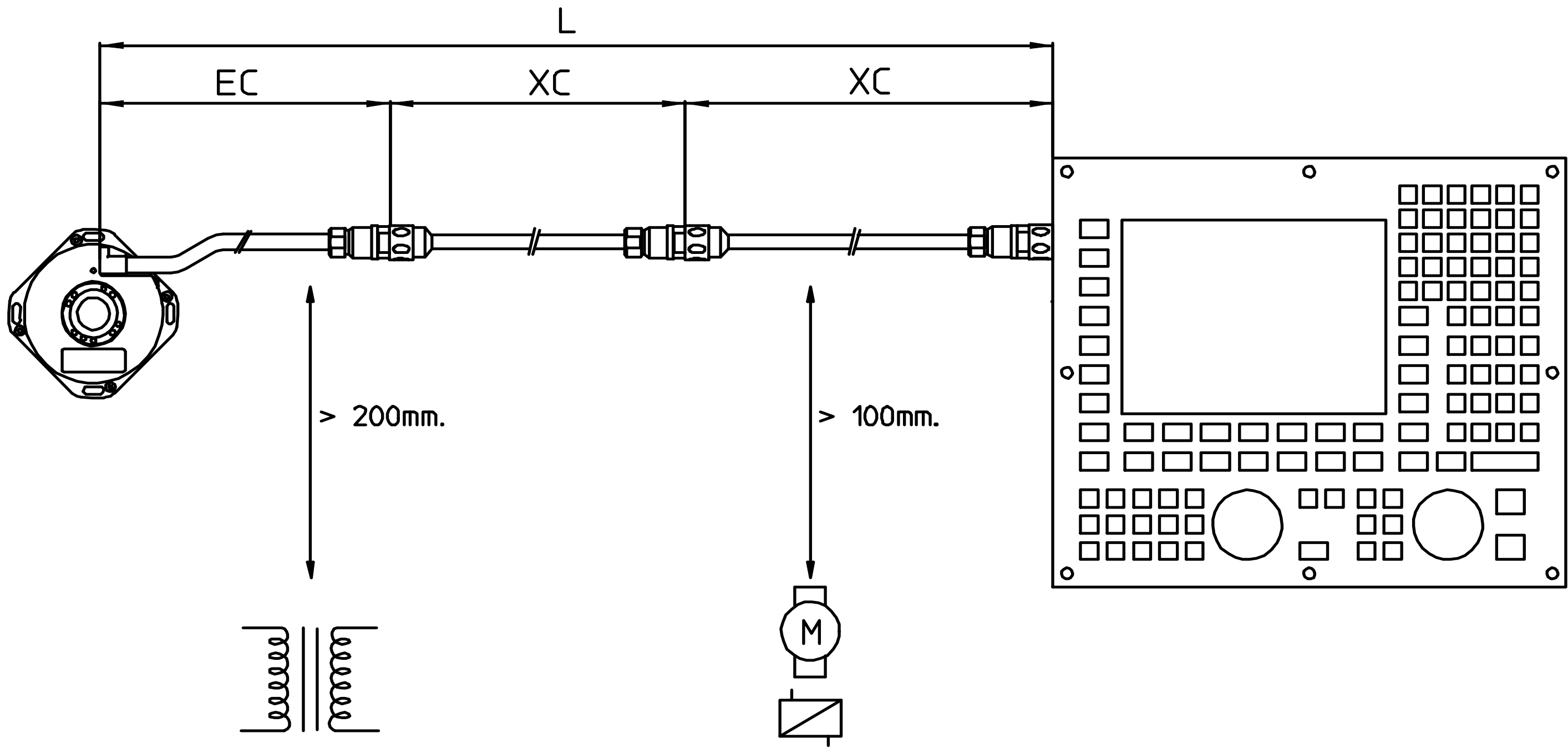


$V_{App} = V_{Bpp} = 1 V_{pp}$
 $V_{Io}: 0.2 V \div 0.85 V$
 $T_{Io}: T - 180^\circ \leq Io \leq T + 180^\circ$
 $f_{max} = 180 \text{ kHz}$

$V_{0L} \leq 0.5 V, V_{0H} \geq 2.5 V$
 $T_{Io}: 90^\circ$
 $f_{max} = 1 \text{ MHz}$

$V_{dc} = 5 V \pm 10\%, I_{max} = 150 \text{ mA}$

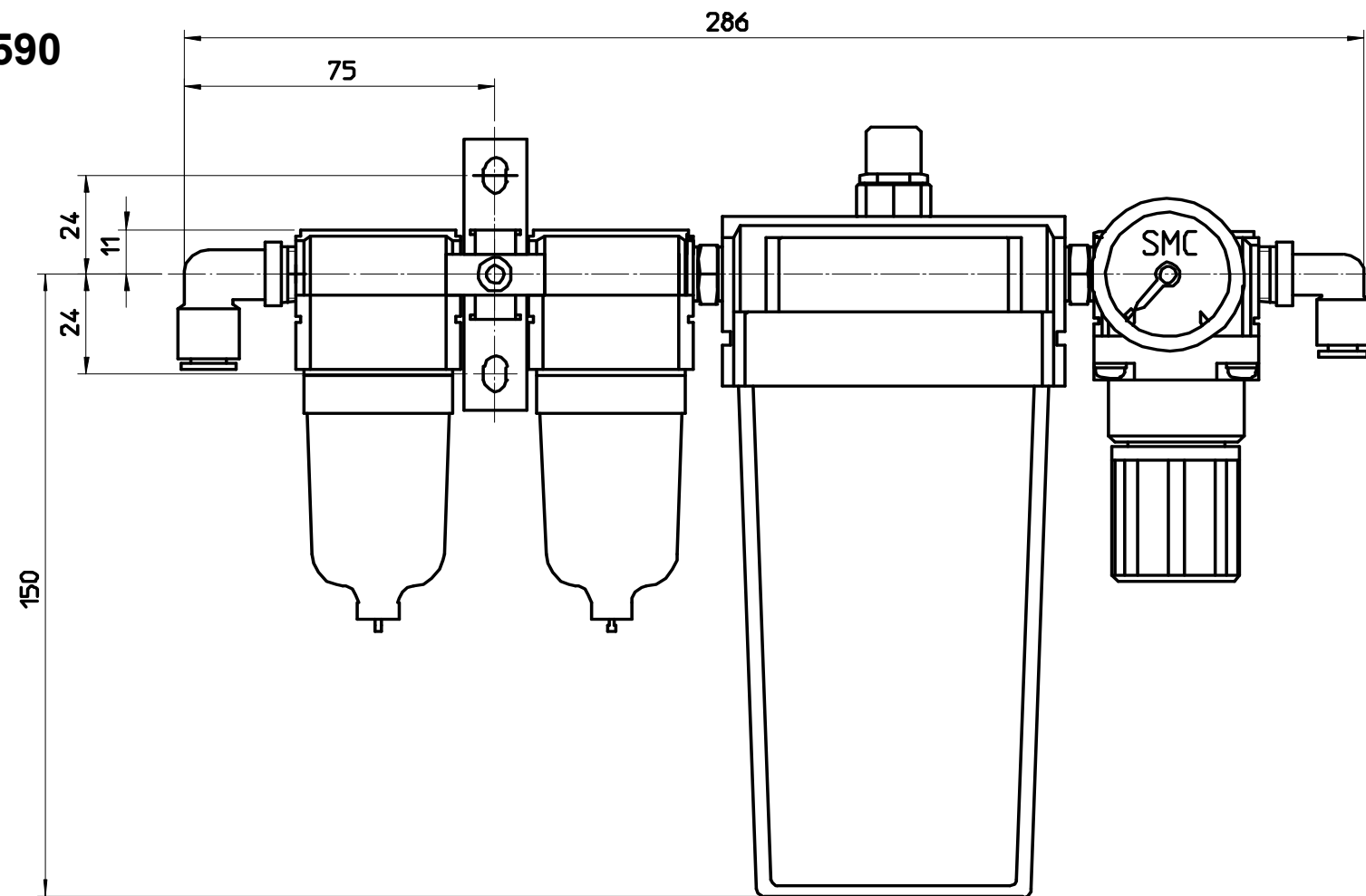
1 V_{pp}  L_{max} = 150 m
 TTL  L_{max} = 50 m
 Detalle de cables: página 11
 Cable details: page 11



CARACTERÍSTICAS MECÁNICAS MECHANICAL CHARACTERISTICS

Modelo	H- HO- HP- HOP- ... -2.5	H- HO- HP- HOP- ...	Model
Precisión	±2.5"	±5"	Accuracy
Maxima velocidad de giro	3000 rpm		Max. Turning speed
Momento de inercia del eje	650 gr.cm ²		Inertia of the rotor
Par (20°C)	< 0.08 Nm		Torque
Frecuencia natural	> 1000 Hz		Natural frequency
Peso	0.9 Kg		Weight
Estanqueidad	IP-64 (DIN 40050)		Sealing protection
Vibración (50-2000 Hz)	100 m/sec ² (IEC 68-2-6)		Vibration (50-2000 Hz)
Impacto (6ms)	1000 m/sec ² (IEC-68-2-27)		Impact (6 ms)
Temperatura de almacenamiento	-30 °C ... 80 °C (-22 °F ... 176 °F)		Storage temperature
Temperatura de funcionamiento	0 °C ... 50 °C (32 °F ... 122 °F)	-20 °C ... 70 °C (-4 °F ... 158 °F)	Operating temperature

AI 590

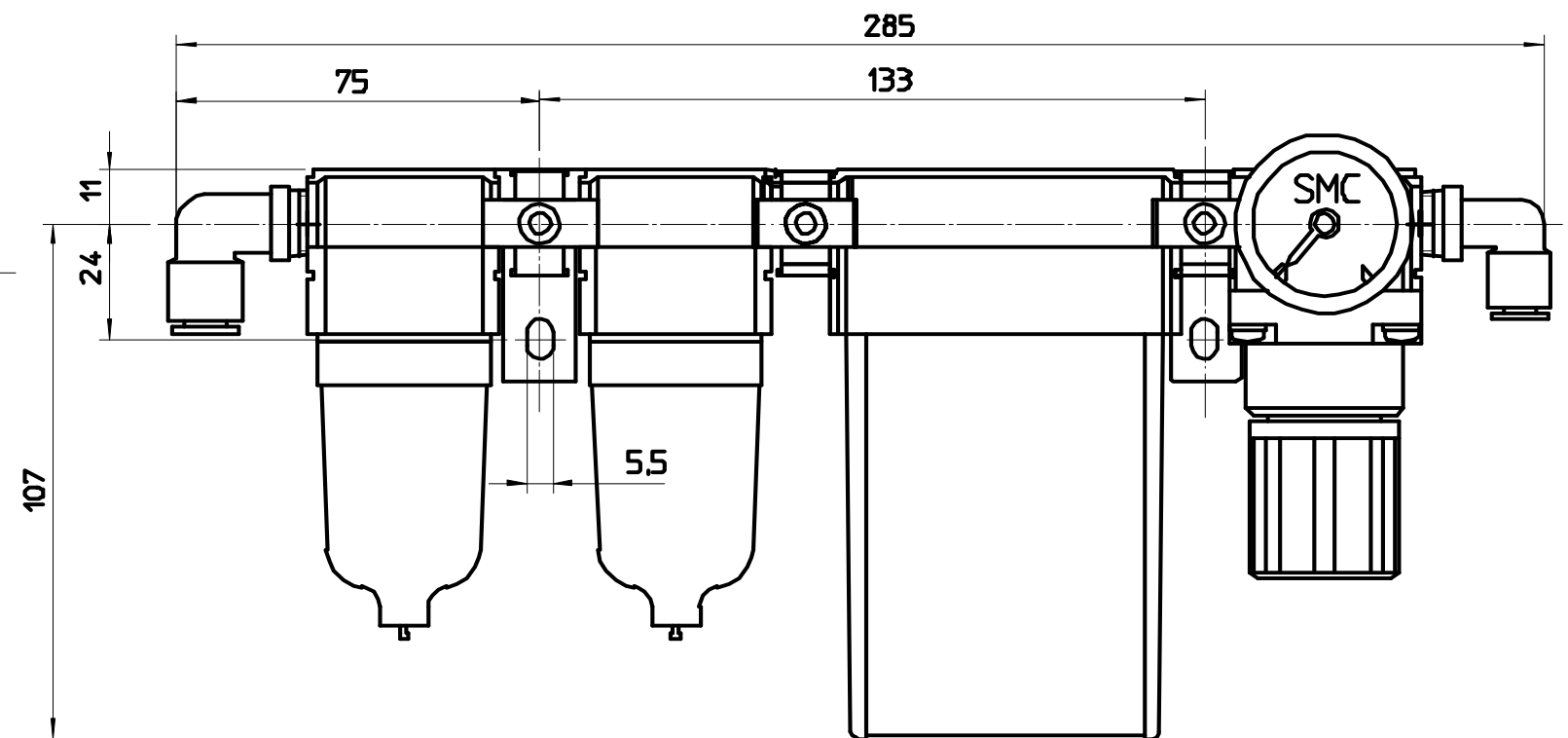
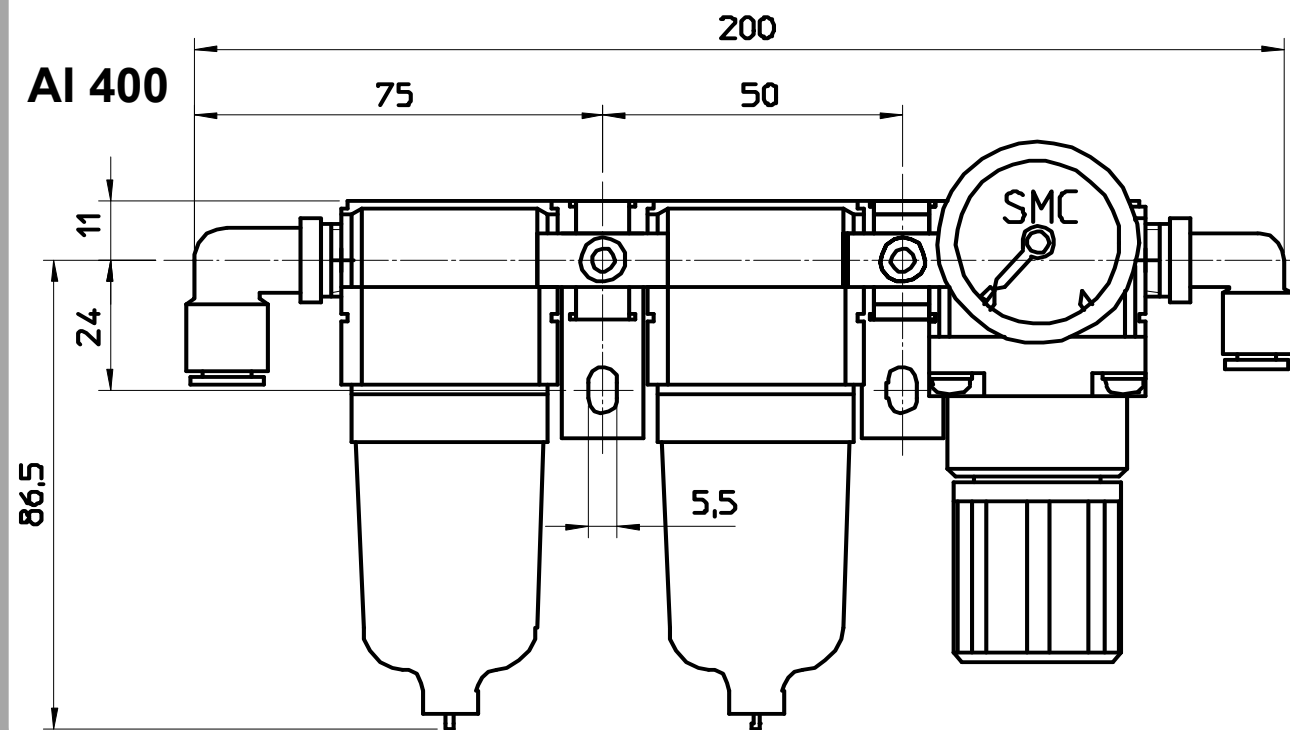


FILTROS DE AIRE / AIR FILTERS

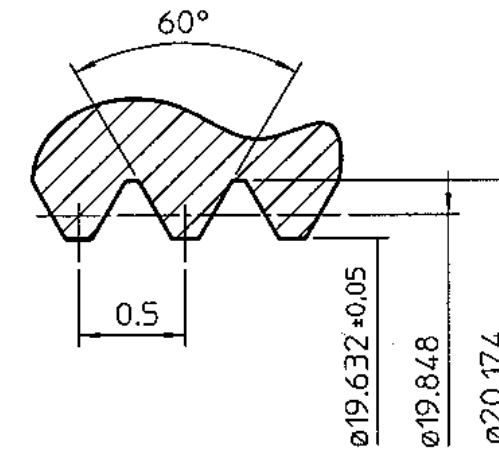
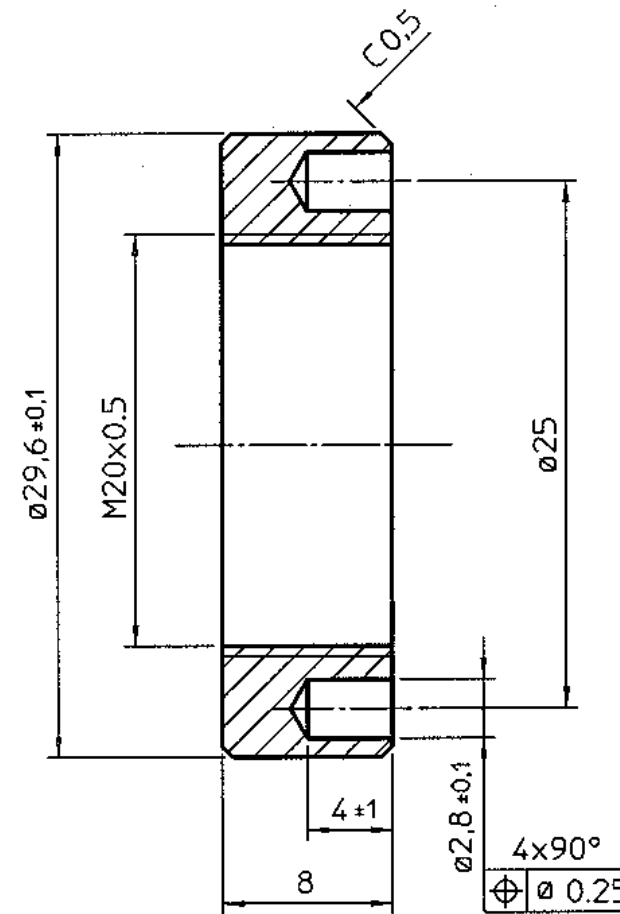
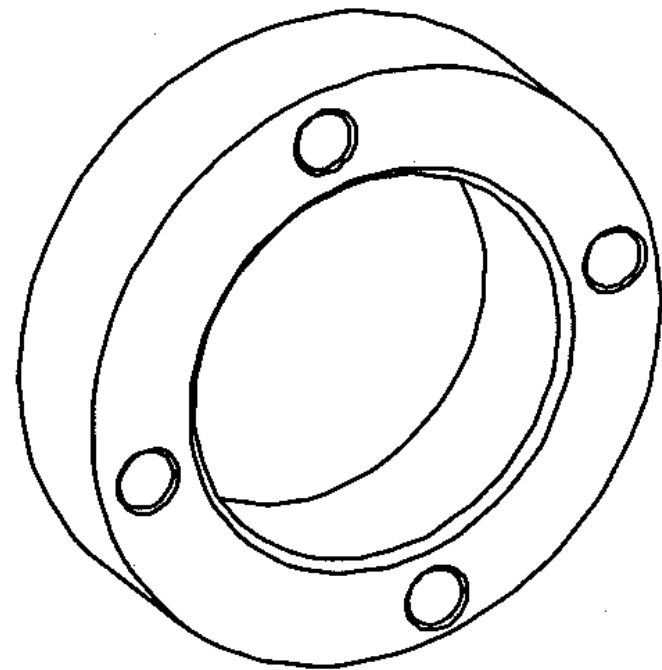
2200000	AI 400	25 l/min
2200001	AI 525	(25l/min)
2200002	AI 550	(50 l/min)
2200003	AI 590	(90 l/min)

AI 525 / AI 550

AI 400



TUERCA T-20 / T-20 NUT



CABLES

	< 12 m	< 26 m	26 - 150 m	SA
Application	Cable EC*	Cable EC + XC**	Cable EC + XC + XC	
8070, 8040, 8055i, AXD, SPD, MCP	EC-...-P-D	EC-1A-C1+ XC-C2-...-D	EC-1A-C1+ XC-C1 + XC-C2-...-D	
8055, 8050, 8030, 8025	EC-...-P-D	EC-1A-C1+ XC-C2-...-D	EC-1A-C1+ XC-C1 + XC-C2-...-D	+ SA-P-FS
11 μ A applications using CONNEI 9	EC-...-P-D	EC-1A-C1+ XC-C2-...-D	EC-1A-C1+ XC-C1 + XC-C2-...-D	+ SA-P-C
1 Vpp applications using CONNEI 12	EC-...A-C1	EC-1A-C1+ XC-C2-...-C1	EC-1A-C1+ XC-C1 + XC-C2-...-C1	
TNC 1 Vpp	EC-...AS-H	EC-1A-C1+ XC-C2-...-H	EC-1A-C1+ XC-C1 + XC-C2-...-H	
Aplicaciones de terceros (conector indefinido) 3rd party applications (undefined connector)	EC-...P-O	EC-1A-C1+ XC-C2-...-D***	EC-1A-C1+ XC-C2-C1 + XC-C2-...-D***	

* Cables EC: 1, 3, 6, 9, 12 m

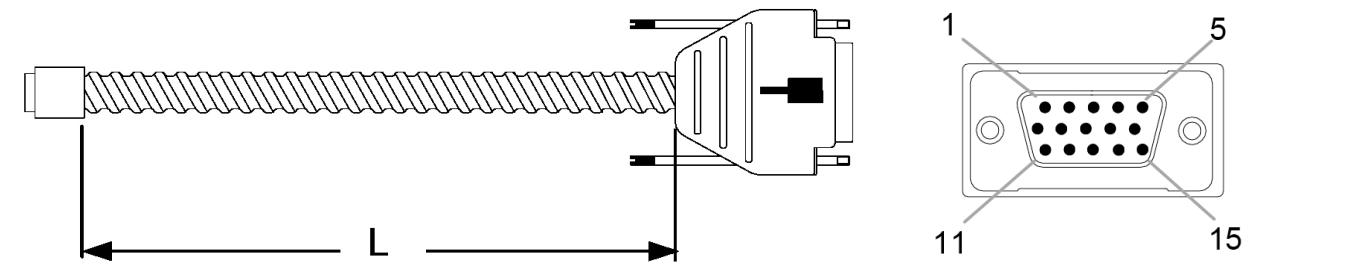
** Cables XC: 5, 10, 15, 20, 25 m

*** Quitar conector / Remove connector

CONEXIONES / CONNECTIONS

EC-P-D

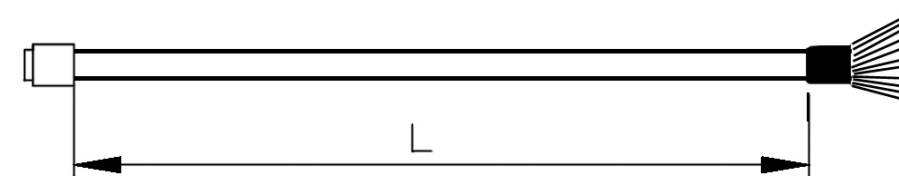
A	/A	B	/B	Io	/Io	+5 V	0 V	Malla / Shield
1	2	3	4	5	6	9	11	15 / Caperuza 15 / Housing
Verde Green	Amarillo Yellow	Azul Blue	Rojo Red	Gris Grey	Rosa Pink	Marrón Brown	Blanco White	Rosa / Malla Pink / Shield



L = 1, 3, 6, 9 & 12 m con o sin tubo metálico / with or without armor

EC-P-O

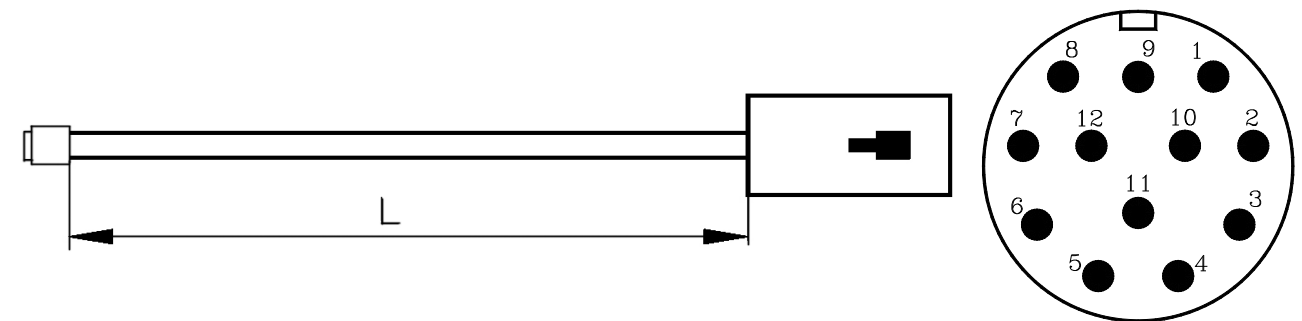
A	/A	B	/B	Io	/Io	+ 5 V	0 V
4	5	6	7	8	9	1	2
Verde Green	Amarillo Yellow	Azul Blue	Rojo Red	Gris Grey	Rosa Pink	Marrón Brown	Blanco White



L = 1, 3, 6, 9 & 12 m con o sin tubo metálico / with or without armor

EC-...A-C1

A	/A	B	/B	Io	/Io	/Alarm	+ 5 V	0 V	
5	6	8	1	3	4	7	2, 12	10, 11	Caperuza Housing
Verde Green	Amarillo Yellow	Azul Blue	Rojo Red	Gris Grey	Rosa Pink	Violeta Purple	Marrón Brown	Blanco White	Malla Shield



L = 1, 3 & 6 m con o sin tubo metálico / with or without armor

GARANTIA

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

DECLARACION DE CONFORMIDAD

Fabricante: Fagor Automation, S. Coop.
Barrio de San Andrés 19, 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 Septiembre de 2009

Fagor Automation, S. Coop.


Director Gerente
Pedro Ruiz de Aguirre

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 handling, blows, etc. are not covered.

DECLARATION OF CONFORMITY

Manufacturer: Fagor Automation, S. Coop.
Barrio de San Andrés 19, 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 September 1st 2009

NOTAS DE USUARIO / USER NOTES



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