



HEIDENHAIN

Montageanleitung
Mounting Instructions
Instructions de montage
Istruzioni di montaggio
Instrucciones de montaje

ERA 180

ID 639951-xx

AK ERA 180

ID 639952-xx

10/2015

Warnhinweise
Warnings
Recommandations
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Advertencias

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Dimensioni
Dimensiones

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Montage
Assembly
Montage
Montaggio
Montaje

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Electrical data and technical specifications
Caractéristiques électriques et techniques
Dati elettrici e tecnici
Datos eléctricos y técnicos

18, 20, 22 ←  → 19, 20, 22



Achtung: Die Montage und Inbetriebnahme ist von einer qualifizierten Fachkraft unter Beachtung der örtlichen Sicherheitsvorschriften vorzunehmen.

Die Steckverbindung darf nur spannungsfrei verbunden oder gelöst werden.

Die Anlage muss spannungsfrei geschaltet sein!

Note: *Mounting and commissioning is to be conducted by a qualified specialist under compliance with local safety regulations.*

Do not engage or disengage any connections while under power.

The system must be disconnected from power.

Attention: Le montage et la mise en service doivent être assurés par un personnel qualifié dans le respect des consignes de sécurité locales.

Le connecteur ne doit être connecté ou déconnecté qu'hors potentiel.

L'équipement doit être connecté hors potentiel!

Attenzione: *Il montaggio e la messa in funzione devono essere eseguite da personale qualificato nel rispetto delle norme di sicurezza locali.*

I cavi possono essere collegati o scollegati solo in assenza di tensione.

L'impianto deve essere spento!

Atención: El montaje y la puesta en marcha deben ser realizados por un especialista cualificado, observando las prescripciones locales de seguridad.

Conectar o desconectar el conector sólo en ausencia de tensión.

¡La instalación debe ser conectada en ausencia de tensión!



Vorsicht: Der Abtastkopf mit ID 639952-xx funktioniert nur als ein Kompletgerät mit ID 639951-xx, oder an einer Teilungstrommel mit ID 639953-xx.

Caution: The scanning head with ID 639952-xx operates only as a complete unit with ID 639951-xx, or on a scale drum with ID 639953-xx.

Attention: La tête captrice avec ID 639952-xx ne fonctionne que sur l'appareil complet ID 639951-xx ou sur un tambour gradué ID 639953-xx.

Attenzione: la testina di scansione con ID 639952-xx funziona soltanto come sistema completo con ID 639951-xx o in combinazione ad un tamburo graduato con ID 639953-xx.

Atención: El cabezal con ID 639952 - xx funciona sólo como un aparato completo con el ID 639951- xx, o en un tambor graduado con ID 639953-xx.



Achtung: Angegebene Wellentoleranzen müssen eingehalten werden.

Die Teilungstrommel ist mit allen vorgesehenen Schrauben und Scheiben zu befestigen. Die Schrauben sind abwechselnd, kreuzweise mit dem angegebenen Anzugsdrehmoment festzuschrauben und gegen unbeabsichtigtes Lösen zu sichern.

Caution: *The specified shaft tolerances must be complied with.*

The grating drum is to be fastened with all provided screws and washers.

The screws must be tightened alternatingly (crosswise) with the tightening torque, and secured against unintentional loosening.

Attention: Les tolérances indiquées pour l'arbre doivent être respectées.

Le tambour gradué doit être fixé à l'aide des vis et rondelles prévues à cet effet.

Les vis doivent être serrées alternativement, en croix, en utilisant le couple de serrage et sécurisées pour ne pas être desserrées malencontreusement.

Attenzione: *Le tolleranze di montaggio devono essere rispettate.*

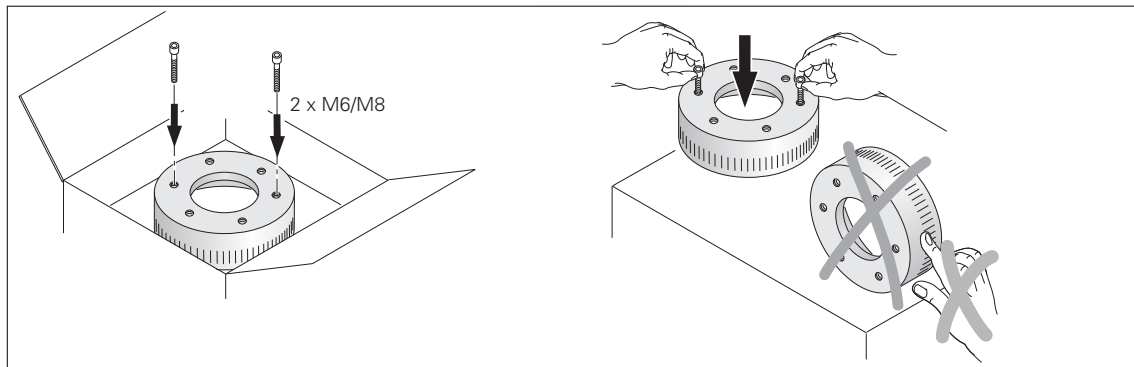
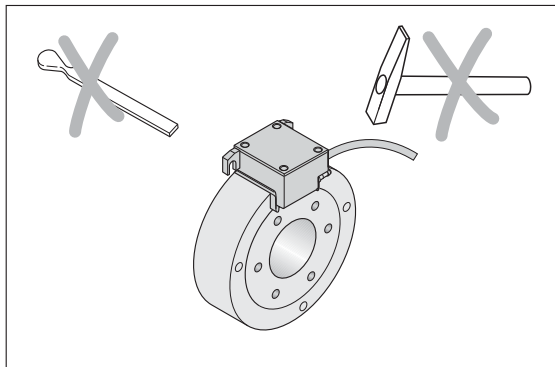
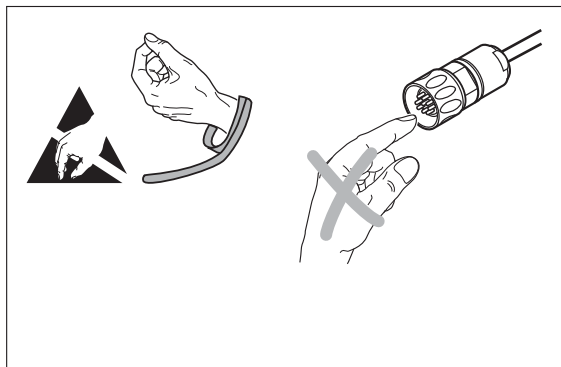
Fissare il tamburo graduato con tutte le viti e le rondelle previste.

Le viti sono da stringere alternativamente a croce con chiave dinamometrica e da assicurare contro il rischio di allentamento.

Atención: Las tolerancias de eje indicadas deben ser respetadas.

El tambor graduado debe ser fijado con todos los tornillos y arandelas previstos para ello.

Fijar los tornillos alternativamente en cruz con el par de apriete y asegurarlos para que no se suelten involuntariamente.



Der direkte Kontakt von Flüssigkeiten mit Messgerät und Steckverbinder ist zu vermeiden!

Avoid direct contact of fluids with the encoder and connector!

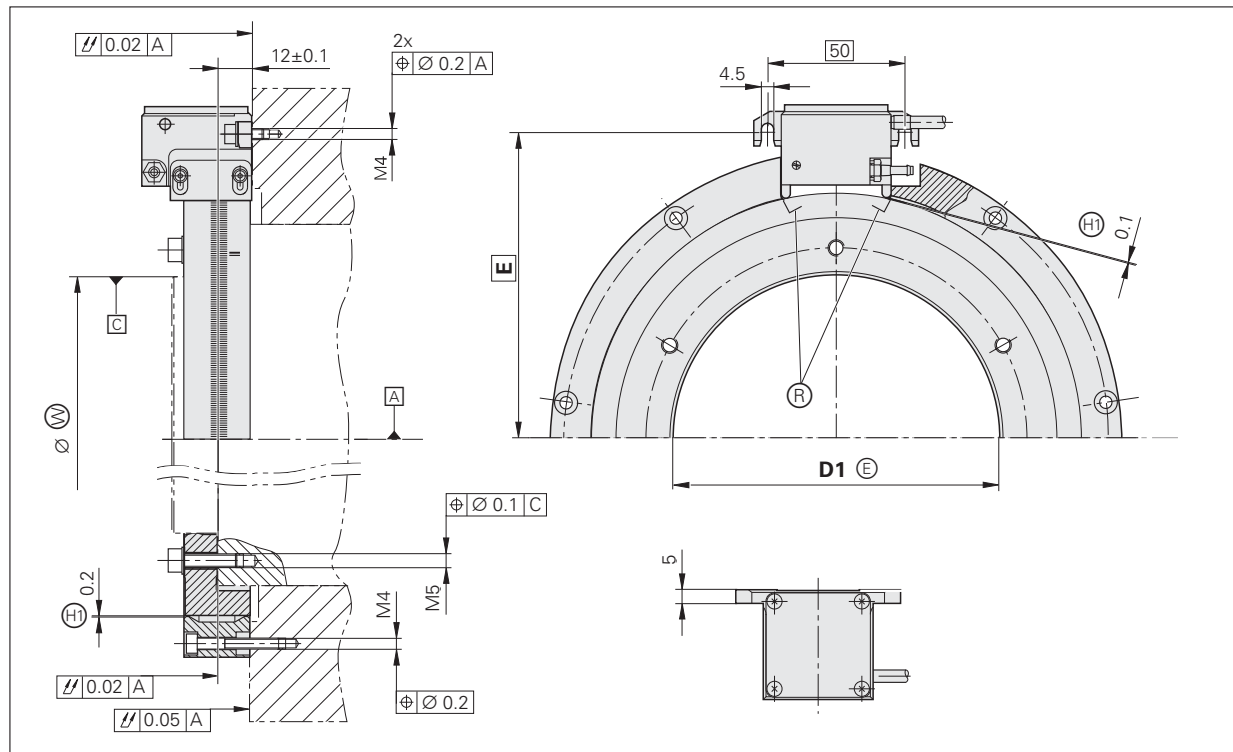
Eviter le contact direct de liquides sur le système de mesure et le connecteur!

Evitare che lo strumento di misura e il connettore vengano a contatto con liquidi

¡Evitar el contacto directo de líquidos con el sistema de medida y el conector!



Kundenseitige Anschlussmaße · Required mating dimensions · Conditions requises pour le montage



Dimensioni di collegamento lato cliente · Cotas de montaje requeridas

mm



Tolerancing ISO 8015
ISO 2768 - m H
< 6 mm: ±0.2 mm

Ⓜ = Montageabstand mit Folie eingestellt
Mounting clearance set with spacer foil
Distance fonctionnelle réglée avec cale d'épaisseur
Verificata distanza di montaggio con spessore
Distancia de montaje fijada mediante lámina espaciadora

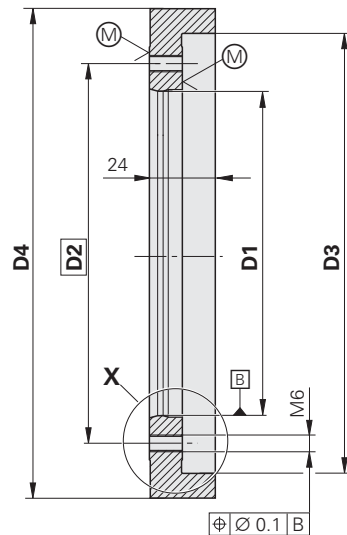
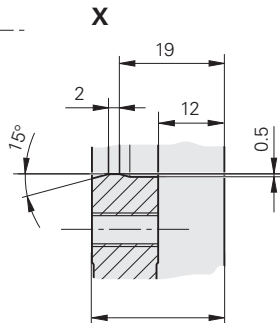
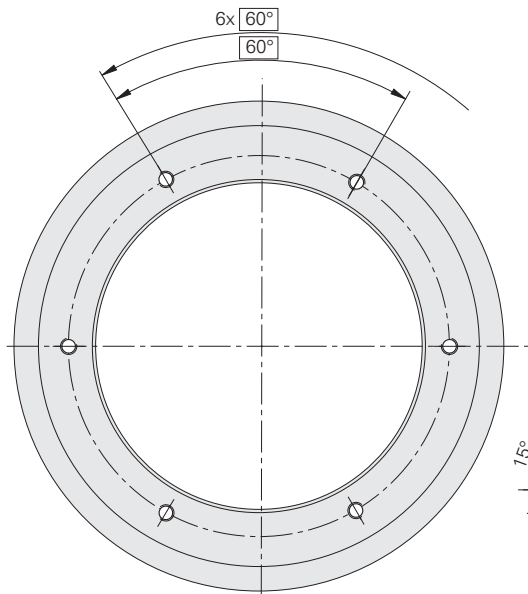
ⓐ = Lagerung
Bearing
Roulement
Cuscinetto
Rodamiento

Ⓦ = Wellentoleranz
Shaft tolerance
Tolérance de l'arbre
Tolleranza albero
Tolerancia del eje

Ⓡ = Referenzmarke mittig zur Markierung (ca. ± 2mm)
Reference mark centered between marks (approx. ± 2 mm)
Marque de référence au centre pour marquage (env. ± 2mm)
Indice di riferimento al centro rispetto alla marcatura (ca. ± 2mm)
Marca de referencia centrada con respecto a la marca (aprox. ± 2mm)

D1 Ⓜ	Ⓦ	ⓐ	n
Ø 120 $\begin{matrix} -0.001 \\ -0.008 \end{matrix}$	Ø 120 $\begin{matrix} +0.015 \\ +0.003 \end{matrix}$	110	≤ 11 000 min ⁻¹
Ø 180 $\begin{matrix} -0.001 \\ -0.008 \end{matrix}$	Ø 180 $\begin{matrix} +0.018 \\ +0.004 \end{matrix}$	145	≤ 7 500 min ⁻¹
Ø 270 $\begin{matrix} 0 \\ -0.010 \end{matrix}$	Ø 270 $\begin{matrix} +0.020 \\ +0.004 \end{matrix}$	185	≤ 5 500 min ⁻¹
Ø 425 $\begin{matrix} 0 \\ -0.010 \end{matrix}$	Ø 425 $\begin{matrix} +0.020 \\ +0.004 \end{matrix}$	262.5	≤ 3 500 min ⁻¹
Ø 512 $\begin{matrix} 0 \\ -0.015 \end{matrix}$	Ø 512 $\begin{matrix} +0.025 \\ +0.005 \end{matrix}$	301	≤ 3 000 min ⁻¹

D1 = 120 mm,
180 mm



mm



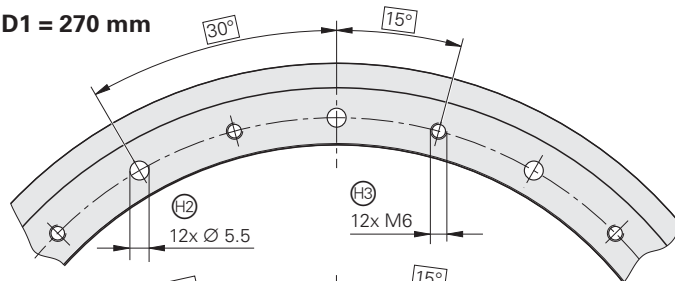
Tolerancing ISO 8015

ISO 2768 - m H

< 6 mm: ± 0.2 mm

Dimensioni Tamburo · Dimensiones Tambor graduado

D1 = 270 mm

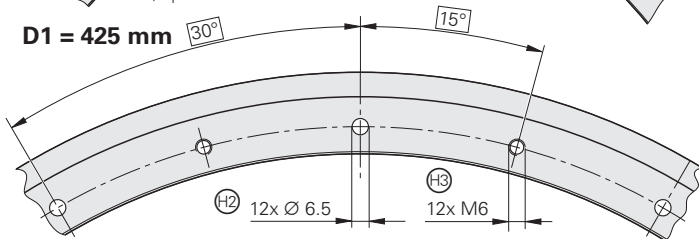


Ⓜ = Montagefläche
 Mounting face
 Surface de montage
 Superficie di montaggio
 Superficie de montaje

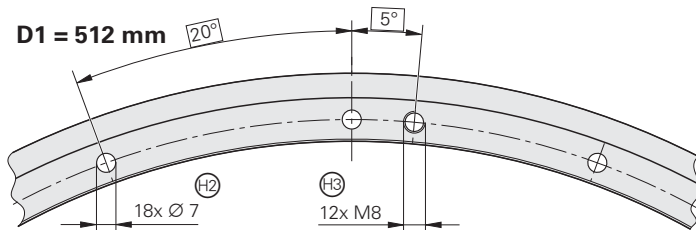
Ⓜ₂ = Befestigungsbohrung
 Mounting hole
 Trou de fixation
 Fori di fissaggio
 Taladro de sujeción

Ⓜ₃ = Abdrückgewinde
 Back-off thread
 Filetage de dégagement
 Filettatura
 Rosca de expulsión

D1 = 425 mm



D1 = 512 mm



D1 (E)	D2	D3	D4
Ø 120	Ø 140	Ø 162	Ø 180
Ø 180	Ø 200	Ø 232	Ø 250
Ø 270	Ø 290	Ø 312	Ø 330
Ø 425	Ø 445	Ø 467	Ø 485
Ø 512	Ø 528	Ø 544	Ø 562

Abmessungen Sperluftabdeckung · Dimensions Protective cover · Dimensions Capot de protection

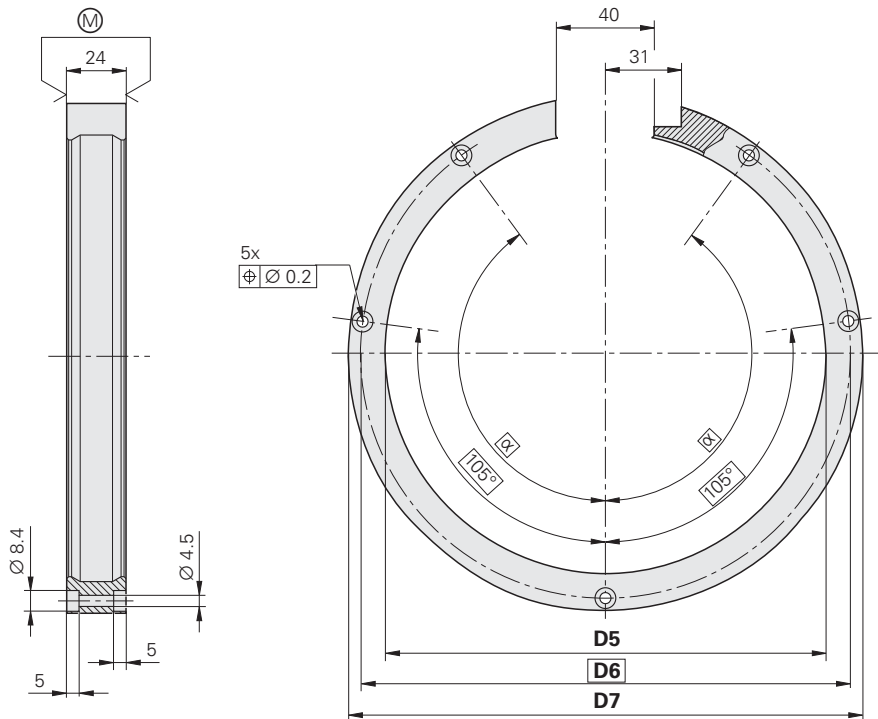
mm



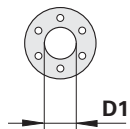
Tolerancing ISO 8015

ISO 2768 - m H

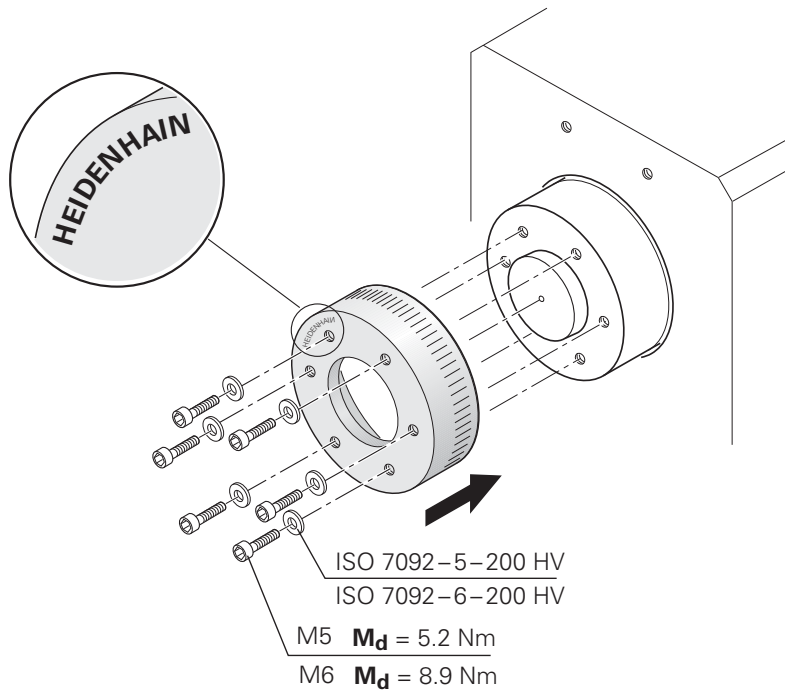
< 6 mm: ±0.2 mm

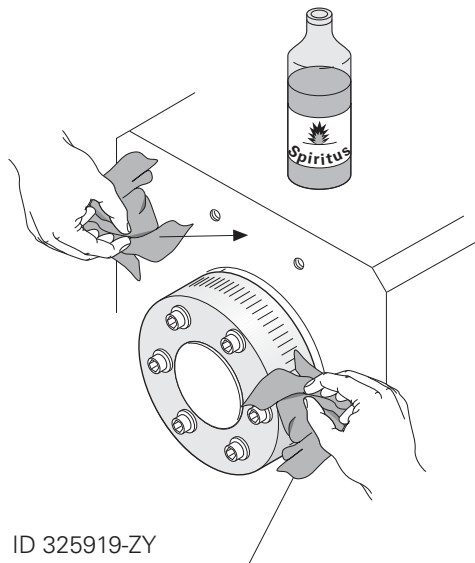


Ⓜ = Montagefläche
 Mounting face
 Surface de montage
 Superficie di montaggio
 Superficie de montaje



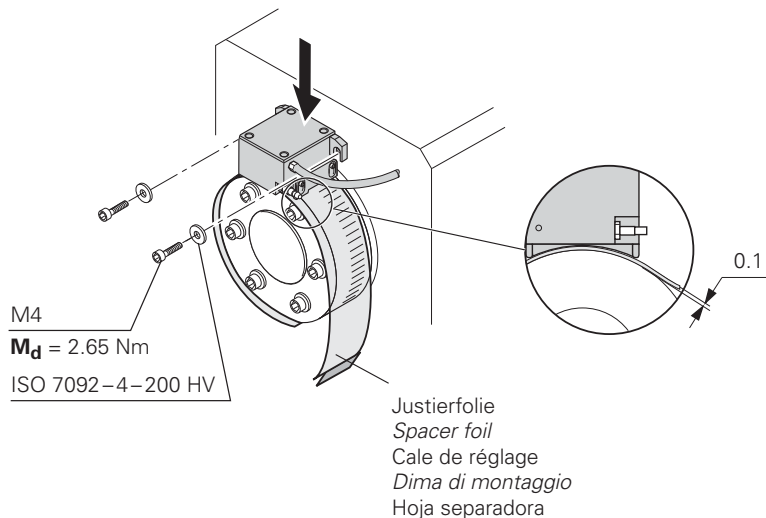
D1	D5	D6	D7	α
Ø 120	Ø 180.4	Ø 200	Ø 210	144°
Ø 180	Ø 250.4	Ø 270	Ø 280	150°
Ø 270	/	/	/	/
Ø 425	/	/	/	/
Ø 512	/	/	/	/





ID 325919-ZY

Justierfolienaufdruck "**Abtastkopf**" im Montagebereich des Abtastkopfes verwenden
*Place the spacer foil text "**scanning head**" in the mounting area of the scanning head*
l'inscription "**tête caprice**" sur la cale de réglage doit être située dans la zone de montage de la tête caprice
*Posizionare la parte di spessimetro con la scritta "**unità di scansione**" nella zona di montaggio della testina*
Utilizar la impresión "**cabezal**" de la lámina de ajuste en el área de montaje del cabezal



Überlappte Justierfolie im Montagebereich der Sperrluftabdeckung verwenden

Place overlapped spacer foil in the mounting area of the protective cover

La cale de réglage recouverte doit être située dans la zone de montage du capot de protection

Posizionare spessimetro sovrapposto nella zona di montaggio del coperchio protettivo

Utilizar la lámina de ajuste solapada en el área de montaje de la tapa protectora

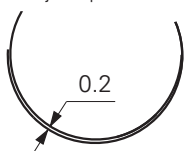
Justierfolie

Spacer foil

Cale de réglage

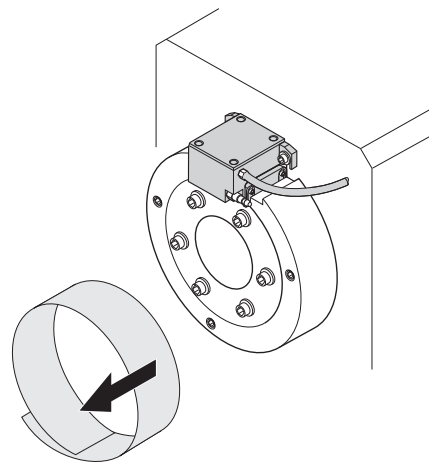
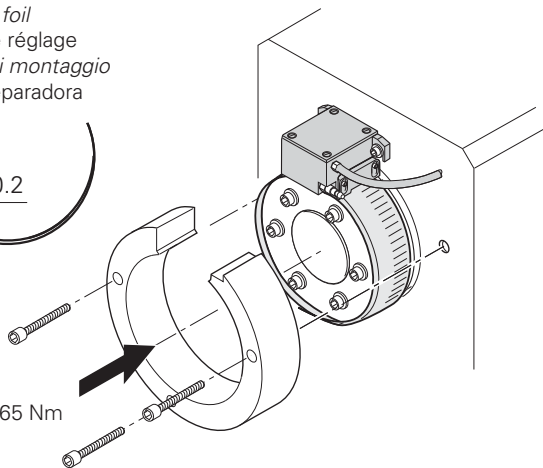
Dima di montaggio

Hoja separadora



M4

M_d = 2.65 Nm



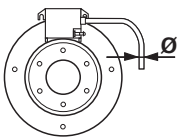
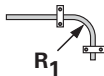
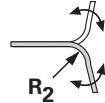
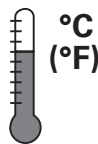
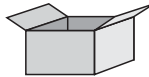

The diagram illustrates the DA 400 valve assembly in three configurations. At the top center, the DA 400 valve is shown with a 1.0 bar pressure rating. To its left, the valve is mounted on a circular flange. Below this, two scenarios are shown where the valve is not protected from water spray, indicated by a large 'X' over the water droplets. The left scenario is labeled IP 40 EN 60 529, and the right scenario is labeled IP 00 EN 60 529.

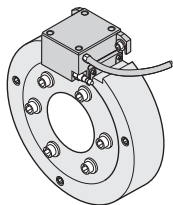
DA 400
1.0 bar

Luftreinheitsklasse 1/4/1
nach ISO 8573-1: 2010
*Air purity class 1/4/1
as per ISO 8573-1: 2010*
Classe de pureté d'air 1/4/1
selon ISO 8573-1: 2010
*Classe unità aria 1/4/1
a norma ISO 8573-1: 2010*
Tipo de pureza del aire 1/4/1
según ISO 8573-1: 2010

IP 40
EN 60 529

IP 00
EN 60 529

	 <p>$T \geq -40\text{ °C}$ (-40 °F)</p>	 <p>$T \geq -10\text{ °C}$ (14 °F)</p>		 <p>-30 ... 80 °C (-22 ... 176 °F)</p>
<p>Ø 4.5 mm</p>	<p>$R_1 \geq 10\text{ mm}$</p>	<p>$R_2 \geq 50\text{ mm}$</p>		
<p>Ø 8 mm</p> 	<p>$R_1 \geq 40\text{ mm}$</p>	<p>$R_2 \geq 100\text{ mm}$</p>		

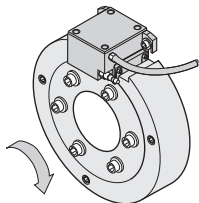


Up: DC 5 V ± 0.5 V

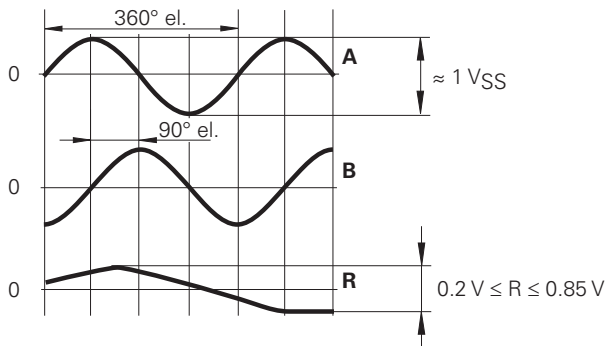
am Gerät, *at encoder*, sur l'appareil, *integrato*, en el aparato.

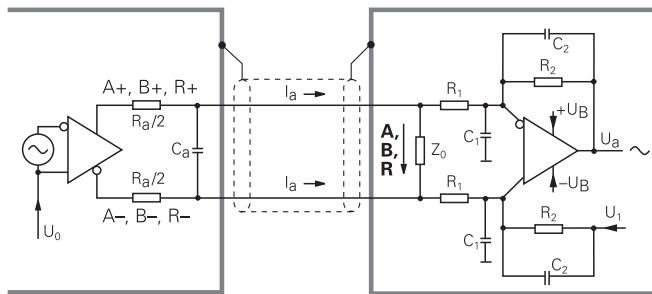
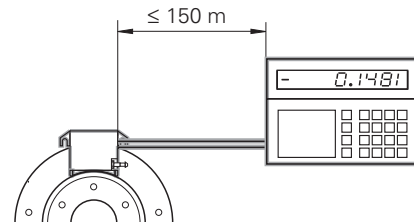
I max. 150 mA

(ohne Last, *Without load*, sans charge, *senza carico*, sin carga)



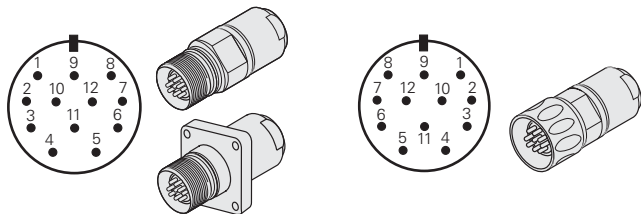
A, B, R





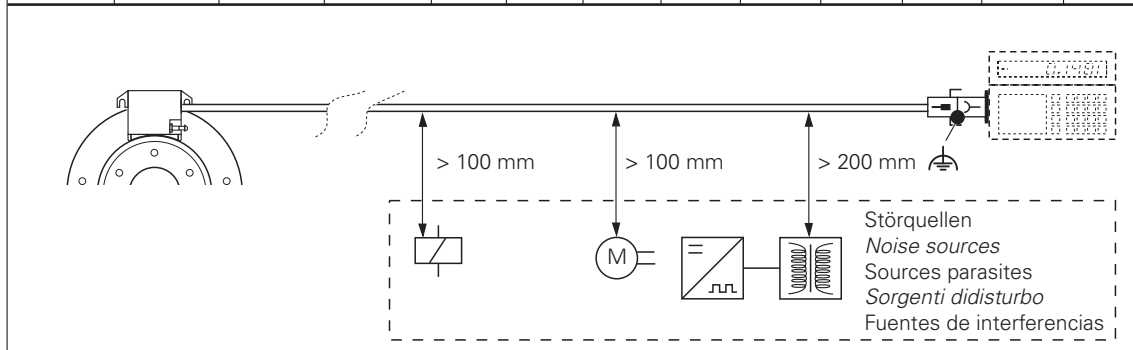
$R_a < 100 \Omega$
 $C_a < 50 \text{ pF}$
 $\Sigma I_a < 1 \text{ mA}$
 $U_0 = 2.5 \text{ V} \pm 0.5 \text{ V}$

$Z_0 = 120 \Omega$
 $U_1 \approx U_0$
 $R_1 = 10 \text{ k}\Omega, C_1 = 100 \text{ pF}$
 $R_2 = 34.8 \text{ k}\Omega, C_2 = 10 \text{ pF}$



Außenschirm mit Gehäuse verbunden
External shield connected to housing
 Blindage extérieur connecté au boîtier
Schermo del cavo collegato alla carcassa
 Apantallado exterior unido a la carcassa

12	2	10	11	5	6	8	1	3	4	7	/	9
Up	Sensor Up	0V	Sensor 0V	A+	A-	B+	B-	R+	R-	/	/	/
●	●	●	●									
BN/GN	BU	WH/GN	WH	BN	GN	GY	PK	RD	BK	VT	YE	/



Elektrischen Widerstand zwischen Steckergehäuse und Maschine prüfen.

Sollwert: < 1 Ω max.

Check the resistance between the connector housing and the machine.

Desired value: < 1 Ω max.

Tester la résistance électrique entre le carter de la prise et la machine.

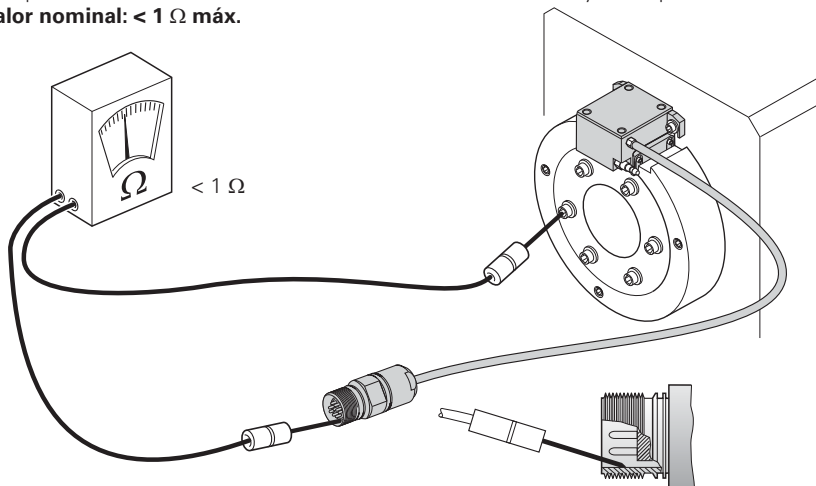
Valeur nominale: < 1 Ω max.

Controllare la resistenza elettrica tra l'alloggiamento del connettore e la macchina.

Valore nominale: < 1 Ω max.

Comprobar la resistencia eléctrica entre la carcasa del conector y la máquina.

Valor nominal: < 1 Ω máx.



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