

RSP3 installation and user's guide

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RSP3 installation and user's guide

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RSP3 installation and user's guide

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RSP3 general information

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 ORIGINAL LANGUAGE VERSION

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WEEE



The use of this symbol on Renishaw products and / or accompanying documentation indicates that the product should not be mixed with general household waste upon disposal. It is the responsibility of the end user to dispose of this product at a designated collection point for waste electrical and electronic equipment (WEEE) to enable reuse or recycling. Correct disposal of this product will help to save valuable resources and prevent potential negative effects on the environment. For more information, please contact your local waste disposal service or Renishaw distributor.

Warranty

Unless you and Renishaw have agreed and signed a separate written agreement, the equipment and/or software are sold subject to the Renishaw Standard Terms and Conditions supplied with such equipment and/or software, or available on request from your local Renishaw office.

Renishaw warrants its equipment and software for a limited period (as set out in the Standard Terms and Conditions), provided that they are installed and used exactly as defined in associated Renishaw documentation. You should consult these Standard Terms and Conditions to find out the full details of your warranty.

Equipment and/or software purchased by you from a third-party supplier is subject to separate terms and conditions supplied with such equipment and/or software. You should contact your third-party supplier for details.

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Care of equipment

Renishaw probes and associated systems are precision tools used for obtaining precise measurements and must therefore be treated with care.

Changes to Renishaw products

Renishaw reserves the right to improve, change or modify its hardware or software without incurring any obligations to make changes to Renishaw equipment previously sold.

Company registration details

Renishaw plc. Registered in England and Wales. Company no: 1106260. Registered office: New Mills, Wotton-under-Edge, Gloucestershire, GL12 8JR, UK.

Packaging

To aid end user recycling and disposal the materials used in the different components of the packaging are stated here:

Packaging component	Material	94/62/EC code	94/62/EC number
Box	Polypropylene	PP	05
Packing foam	Polyurethane foam	PUR	113
Outer box	Corrugated fibreboard	PAP	20
Packaging insert	Corrugated fibreboard	PAP	20
Bag	Static dissipative coating, polyester, aluminium shield, static dissipative polyethylene	C/LDPE	90
Bag	Low density polyethylene	LDPE	4
Label	Polypropylene	PP	05



CAUTION: If it is necessary to return any part of the system please ensure it is packaged carefully. Failure to do so could result in transit damage for which the customer would be liable. Products supplied in plastic boxes must be returned in the original packaging.

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Patents

Features of Renishaw's RSP3 system and associated products (such as REVO-2) are the subjects of one or more of the following patents and patent applications:

CN100453970	EP1877727	JP2016-533484	US10260856	WO2014/191729
CN101166951	EP1877732	JP2019-536032	US10627259	WO2015/049341
CN101166953	EP1989504	JP5196356	US2020-0049498	
CN101405563	EP2002206	JP5350216	US7533574	
CN101405564	EP2002207	JP5425476	US7809523	
CN101490430	EP2035719	JP5555159	US7861430	
CN101675317	EP2140318	JP5653581	US7885777	
CN101772690	EP2142880	JP5658863	US7971365	
CN102305613	EP2167911	JP5706158	US8006398	
CN102906533	EP2431707	JP5851969	US8186882	
CN103842766	EP2564151	JP6013533	US8302321	
CN105408723	EP2764324	JP6199870	US8381588	
CN105793695	EP3004797	JP6348577	US8425119	
CN107532930	EP3052926	JP7042620	US8474148	
CN109964098	EP3289314		US8511898	
	EP3542130		US8601701	
			US8756973	
			US8978261	
			US9038282	
			US9366519	
			US9903713	

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RSP3 product compliance

EU declaration of conformity

Contact Renishaw plc or visit www.renishaw.com/EUCMM for the full EU declaration.

UK declaration of conformity

Contact Renishaw plc or visit www.renishaw.com/UKCMM for the full UK declaration.

EMC conformity

This equipment must be installed and used in accordance with this installation guide. This product is intended for industrial use only and should not be used in a residential area or connected to a low voltage power supply network which supplies buildings used for residential purposes.

FCC (USA only)

Information to user (47 CFR 15.105)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

Information to user (47 CFR 15.21)

The user is cautioned that any changes or modifications not expressly approved by Renishaw plc or authorised representative could void the user's authority to operate the equipment.

Equipment label (47 CFR 15.19)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
 2. This device must accept any interference received, including interference that may cause undesired operation.
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ICES-001 (Canada only)

This ISM device complies with Canadian ICES-001(A) / NMB-001(A).

Cet appareil ISM est conforme à la norme ICES-001(A) / NMB-001(A) du Canada.

REACH regulation

Information required by Article 33(1) of Regulation (EC) No. 1907/2006 ("REACH") relating to products containing substances of very high concern (SVHCs) is available at:

www.renishaw.com/REACH

China RoHS

Contact Renishaw plc or visit www.renishaw.com/ChinaRoHSCMM for the full China RoHS tabulation.



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RSP3 safety

CAUTION: Before unpacking and installing the REVO system, the user should carefully read the safety instructions below and ensure that they are followed at all times by all operators.

The RSP3 range of probes is only to be used with the Renishaw REVO head.



Operators must be trained in the use and application of the REVO system and accompanying products, in the context of the machine it is fitted to, before being allowed to operate that machine.

Permanent magnets are used in some components of the REVO system and associated products. It is important to keep them away from items which may be affected by magnetic fields, e.g. data storage systems, pacemakers and watches etc.

RSP3 LED emissions

The RSP3 range of scanning probes incorporate embedded high power LED sources and should not be used in the event of serious damage to, or rupture of, any part of the RSP3. In such cases IMMEDIATELY disconnect the power source, remove and do not attempt to re-use the parts. Contact your supplier for advice.

RCP TC-2 and RCP TC-3

The method of interrupting power is to disconnect the power cable or turn off the supply.

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RSP3 warnings

Beware of unexpected movement. The user should remain outside of the full working envelope of probe head and stylus. The machine supplier should ensure the user is aware of the full working envelope of the system.

In all applications involving the use of machine tools or CMMs, eye protection is recommended.

It is the machine supplier's responsibility to ensure that the user is made aware of any hazards involved in operation, including those mentioned in Renishaw product documentation, and to ensure that adequate guards and safety interlocks are provided.

Refer to the machine supplier's operating instructions.

The system components contain no user serviceable parts, with the exception of RCP TC-2, RCP TC-3, RCP2 and FCR25. No attempt should be made to disassemble any part of the product. In the event of a problem please contact your supplier for assistance.

Under certain circumstances the probe signal may falsely indicate a probe-seated condition. Do not rely on probe signals to stop machine movement.

Probe trigger override will prevent machine backing off in the event of a probe collision.

The probe joints are designed to release the probe and / or the stylus holder in the event of a crash.

This equipment is not suitable for use in a potentially explosive atmosphere.

Pinch hazards exist between parts. Do not hold the probe or probe head during movements.

It is essential for continued safety that all fuses are replaced by the correct type and rating.

REVO-2 must be transported in Renishaw supplied packaging.

The cables must meet Renishaw specifications. Incorrect cabling could cause damage to the equipment.

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RSP3 international safety instructions

BG - ПРЕДУПРЕЖДЕНИЕ

Моля, обърнете на приложение 1 и прочетете инструкциите за безопасност на вашия собствен език, преди за разопаковате и монтирате този продукт.

CS - VÝSTRAHA

Před rozbalením a instalací tohoto výrobku si přečtěte bezpečnostní pokyny ve vlastním jazyce uvedené v příloze 1.

DA - ADVARSEL

Læs sikkerhedsinstrukserne i Appendix 1 FØR udpakning og installation af dette produkt.

DE - WARNHINWEIS

Bevor Sie dieses Produkt auspacken und installieren, konsultieren Sie bitte Anhang 1 und lesen Sie die Sicherheitshinweise in Ihrer Sprache.

EL - ΠΡΟΕΙΔΟΠΟΙΗΣΗ

Γυρίστε στο Κεφάλαιο 1 και διαβάστε τις οδηγίες ασφαλείας στη δική σας γλώσσα προτού ανοίξετε αυτό το προϊόν για να το εγκαταστήσετε.

EN - WARNING

Before unpacking and installing this product, please consult Appendix 1 and read the safety instructions in your language.

ES - ADVERTENCIA

Consulte el apéndice 1 y lea las instrucciones de seguridad en su idioma antes de desempaquetar e instalar este producto.

ET - HOIATUS

Palun vaadake 1. lisa ning lugege enne selle toote lahtipakkimist ja paigaldamist ohutusjuhend läbi.

FI - VAROITUKSIA

Lue liitteessä 1 olevat omalla kielelläsi kirjoitetut turvaohjeet ennen tämän tuotteen pakkauksen avaamista ja asentamista.

FR - AVERTISSEMENT

Consulter l'annexe 1 et les instructions de sécurité dans votre propre langue avant de débiller et d'installer ce produit.

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GA - RABHADH

Téigh chuig aguisín 1 agus déan na treoracha sábháilteachta a léamh i do theanga féin le do thoil sula ndéantar an táirge seo a dhíphacáil agus a shuiteáil.

HR - NAPOMENA

Prije nego što proizvod izvadite iz ambalaže i ugradite ga, otvorite Prilog 1 i pročitajte sigurnosne upute na svom jeziku.

HU – FIGYELMEZTETÉS

A termék kicsomagolása és telepítése előtt olvassa el az 1. számú függelékben található, az Ön anyanyelvén hozzáférhető biztonsági utasításokat.

IT - AVVISO

Prima di aprire ed installare questo prodotto, leggere le istruzioni di sicurezza nella vostra lingua riportate nell'Appendice 1.

JA - 警告

この製品を箱から取り出し設置する前に、付録 1 に記載された安全性に関する注意書きをお読みください。

LT – ĮSPĖJIMAS

Prieš išpakuodami ir įdiegdami produktą, turite grįžti prie 1 priedo ir perskaityti nurodymus dėl saugos savo kalba.

LV – BRĪDINĀJUMS

Pirms šī izstrādājuma izsaiņošanas un uzstādīšanas izskatiet 1. pielikumā sniegtās drošības instrukcijas savā valodā.

MT - TWISSIJA

Jekk jogħġbok mur f'appendiċi 1 u aqra l-istruzzjonijiet tas-sigurtà fil-lingwa tiegħek qabel ma toħroġ dan il-prodott mill-ippakkjar u tinstallah.

NL - WAARSCHUWING

Ga naar appendix 1 en lees de veiligheidsinstructies in uw eigen taal, voordat u dit product uitpakt en installeert.

PL - OSTRZEŻENIE

Przed rozpakowaniem i zainstalowaniem tego produktu prosimy o zapoznanie się z Dodatkiem 1 i przeczytanie zaleceń dotyczących bezpieczeństwa w danym języku.

PT - ADVERTÊNCIA

Você deve retornar ao Anexo 1 e ler as instruções de segurança em seu idioma antes de desembalar e instalar este produto.

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RO - AVERTISMENT

Înainte de a desface ambalajul și a instala acest produs, vă rugăm să căutați Anexa 1 și să citiți cu atenție instrucțiunile de siguranță, în limba română.

SK - VÝSTRAHA

Pred rozbalením a inštaláciou tohto produktu si pozrite prílohu 1 a prečítajte si bezpečnostné pokyny vo vašom jazyku.

SL - OPOZORILO

Preden izdelek vzamete iz embalaže in ga vgradite, odprite Prilogo 1 in preberite varnostna navodila v svojem jeziku.

SV - VARNING

Gå till bilaga 1 och läs säkerhetsinstruktionerna på ditt eget språk innan du packar upp och installerar denna produkt.

ZH-TW - 警告

在拆開和安裝本產品之前，請翻頁至附錄 1 閱讀母語的安全指示。

ZH - 警告

在拆包和安裝本產品之前，請翻到附录1，阅读中文版安全说明。

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RSP3 references and associated documents

The following Renishaw documents are referred to in this document or may be a source of further relevant information. They can easily be acquired from Renishaw website www.renishaw.com.

User guide: REVO-2 (H-1000-7590)
Installation & user's guide: RSP3 (H-1000-5124)
Installation & user's guide: SFP2 (H-1000-5365)
User guide: RVP (H-1000-3322)
Installation & user's guide: RUP1 (H-1000-5396)
Installation & user's guide: RTP1 (H-1000-5406)
Installation guide: UCC S5 REVO-2 CMM controller (H-1000-7598)
Installation guide: SPA3-2 (H-1000-5364)
Installation & user's guide: MCUlite-2 and MCU5-2 (H-1000-5280)
Installation & user's guide: MCU W-3 (H-1000-5496)
Installation & user's guide: MRS (H-1000-5088)
Installation guide: MRS2 (H-1000-5255)
Installation guide: REVO-2 change system port spacing guide (H-1000-5408)
Technical specifications: Styli and accessories (H-1000-3200)

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RSP3 system description

The RSP3 range of probes gives REVO users the ability to carry cranked stylus arrangements and enhanced capability for carrying long styli.

The RSP3-1 / 2 / 3 / 4 probes can be used for both 3D-scanning (X, Y, Z) and touch-trigger applications. They enable accurate scanning measurement with effective stylus lengths ranging from 20 mm - 394 mm. The RSP3-6 probe, on the other hand, provides REVO with enhanced capability for carrying long cranked and straight styli. RSP3-6 can be used for 2D scanning and 3D touch-trigger applications. It carries straight extensions up to 800 mm from REVO's A-axis centre of rotation, and cranked extensions up to 600 mm from REVO's A-axis centre of rotation.

The RSP3 range uses 3-axis scanning with fixed REVO head angles during measurement. Each probe is designed to provide optimized accuracy and contact force over a specified stylus range. Consequently, the RSH3 stylus holders are intended to fit only with their respective RSP3 probe.

Design principles of the RSP3 scanning probes

RSP3 uses an optical transducer sensor and a pivoting motion system similar to that found in SP25M system.

The probe's pivoting motion system has two diaphragm springs. One of the RSP3 springs allows movement in all directions whilst the other (pivot) spring is stiff in (probe) X and Y, but allows movement in Z. Its optical transducer sensor system has two infrared light emitting diodes that project invisible infrared beams on mirrors mounted on the pivoting moving structure within the probe. The mirrors focus the beams back onto two position sensitive devices (PSDs) which provide signal outputs in the three probe axes: P, Q, R (converted into X, Y, Z signals by the calibration routine).

Unlike the SP25M, the RSP3's probe and module elements are built as one.

System components overview

RSP3-1 / 2 / 3 / 4

The RSP3-1 / 2 / 3 / 4 range of probes provide REVO with 3D-scanning (X, Y, Z) touch-trigger and crank stylus capabilities.

RSP3-6

The RSP3-6 probe provides REVO with enhanced capability for carrying long cranked and straight styli. RSP3-6 can be used for both 3D touch-trigger and 2D scanning applications.

RSH3-1 / 2 / 3 / 4 stylus holders

The RSH3-1 / 2 / 3 / 4 stylus holders are designed to fit with their respective RSP3 probe. They enable accurate scanning measurements with effective stylus lengths ranging from 20 mm - 394 mm.

The RSH3 range of stylus holders replace the SH25 range of stylus holders for use with REVO only. The SH25 range should still be used with SP25M.

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RSH3-6c-500 / 600 and RSH3-6-600 / 700 / 800 stylus holders

The RSH3-6 stylus holders for the RSP3-6 probe are suitable for applications requiring straight extensions up to 800 mm from REVO's A-axis centre of rotation. The RSH3-6c stylus holders are suitable for applications requiring cranked extensions up to 600 mm from REVO's A-axis centre of rotation.

RCP TC-2 and RCP TC-3

The thermally controlled RCP TC-2 and RCP TC-3 ports maintain stored probes at operating temperature. They are compatible with Renishaw's MRS and MRS2 rack systems.

 **NOTE:** RCP TC-3 is for use with RSP3-6 and SFP2 only.

RCP2

The RCP2 enables rapid and repeatable changing of RSH3-6 stylus holders. It is compatible with Renishaw's MRS and MRS2 rack systems.

FCR25 flexible change rack unit

Rapid and repeatable changing of the RSH3-1 / 2 / 3 / 4 stylus holders is possible via the FCR25 triple port change rack unit, which is compatible with Renishaw's MRS and MRS2 rack systems.

FCR25 stand-off plate

The FCR25 stand-off plate should be used on all REVO installations to mount FCR25 ports to the MRS / MRS2 rack system.

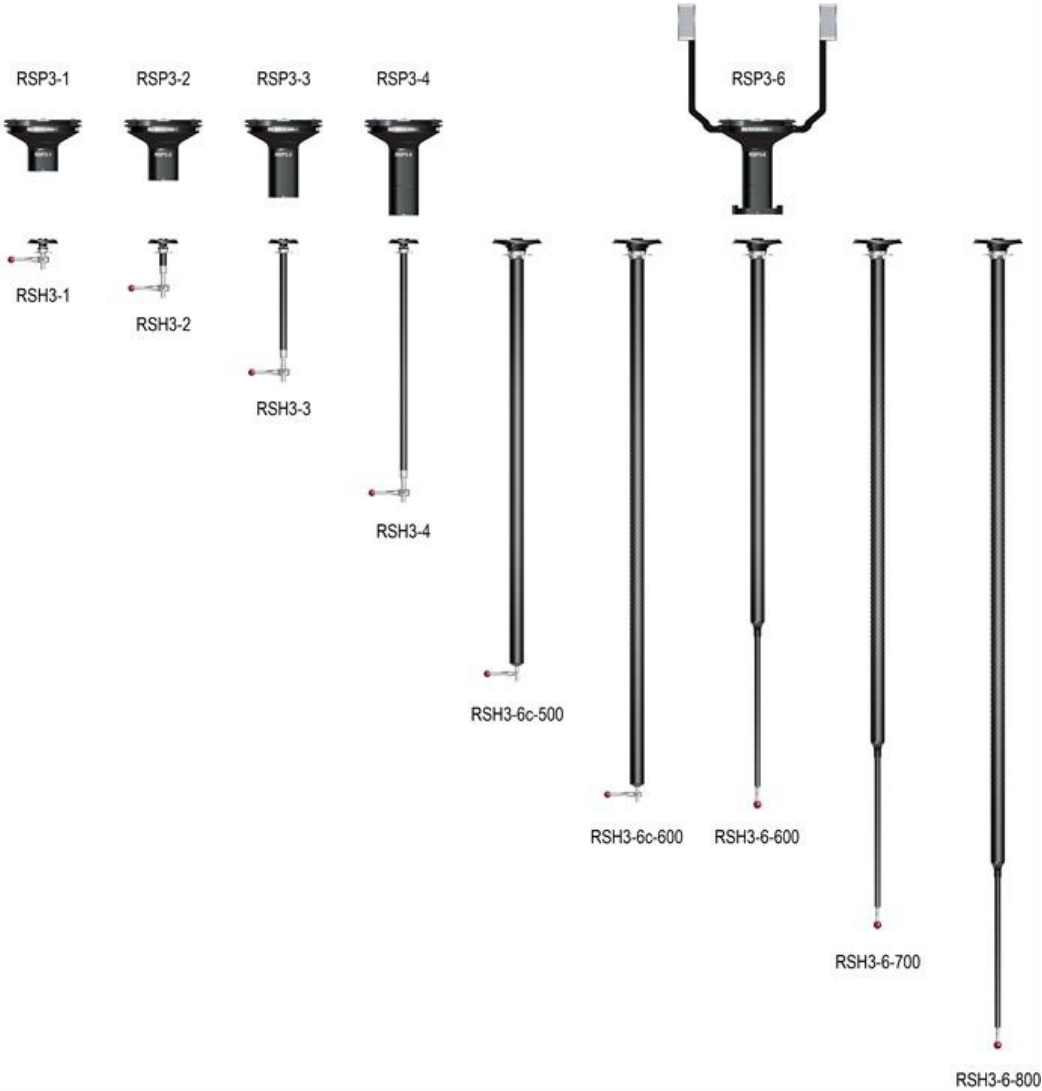
PA25-RSH3 port adaptor

PA25-RSH3 port adapters are required for automated changing of the RSH3-1 / 2 / 3 / 4 stylus holders into and out of the FCR25 rack. A PA25-RSH3 port adapter is included in every RSH3 and RSP3 kit.

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RSP3 probes and stylus holders



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RSP3 environmental and electrical specifications

Environmental specification

Operating temperature range	20 °C ±2 °C
Storage temperature range	-10 °C to +70 °C (14 °F to 158 °F)
Operating humidity	0% to 80% (non-condensing)
Storage humidity	0% to 80% (non-condensing)

Electrical specification

The REVO-2 head, and probe electronics and motors, are powered from the UCC S5.

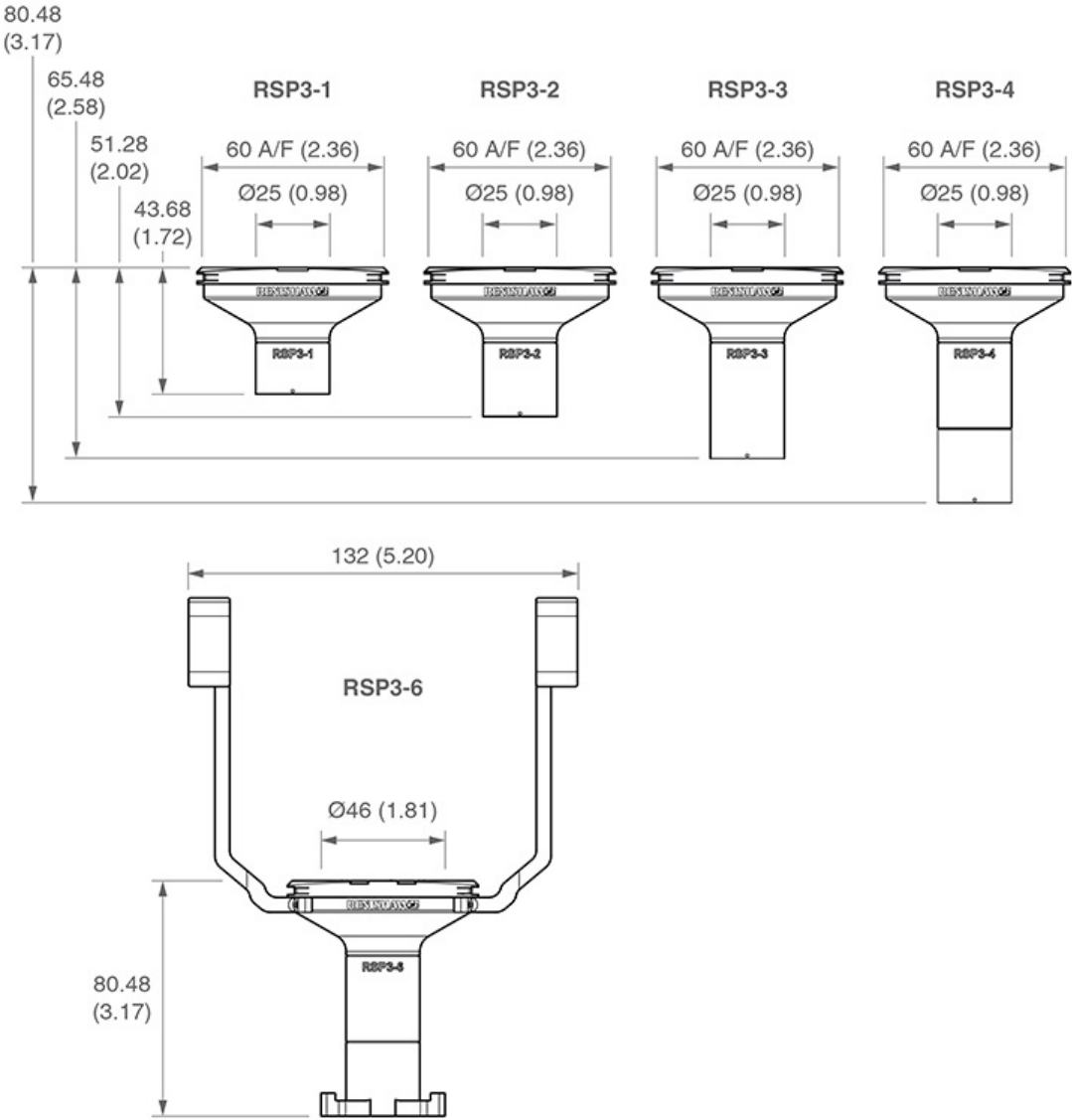
The RCP TC-2 and RCP TC-3 are powered by a separate power supply that is supplied by Renishaw.

No other additional power supplies are required.

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RSP3 range dimensions



i NOTE: Dimensions in mm (in). Overall dimensions are to the kinematic planes.

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RSP3 range specifications

RSP3-1 / 2 / 3 / 4

Probe attributes	Scanning with 3-axis measurement (X, Y, Z) and 3-axis touch-trigger
Measurement range	±0.5 mm deflection in all directions in all orientations
Overtravel range	
X, Y	2 mm
+Z	1.7 mm
-Z	1.2 mm
Resolution	Capable of <0.1 µm
Spring rate	Nominally 0.6 N/mm - when using shortest specified stylus Nominally 0.2 N/mm - when using longest specified stylus
Weight	
RSP3-1	86 g (3.03 oz) (excluding stylus holder and stylus)
RSP3-2	90 g (3.17 oz) (excluding stylus holder and stylus)
RSP3-3	94 g (3.32 oz) (excluding stylus holder and stylus)
RSP3-4	101 g (3.56 oz) (excluding stylus holder and stylus)
Effective stylus length range	Always observe the specified stylus range for the scanning module being used. Use Renishaw's M3 range of styli.
RSP3-1 + RSH3-1	EWL 20 mm - 50 mm (0.79 in - 1.97 in) using 20 mm - 50 mm stylus
RSP3-2 + RSH3-2	EWL 44 mm - 99 mm (1.73 in - 3.90 in) using 20 mm - 75 mm stylus
RSP3-3 + RSH3-3	EWL 114 mm - 194 mm (4.49 in - 7.64 in) using 20 mm - 100 mm stylus
RSP3-4 + RSH3-4	EWL 214 mm - 394 mm (7.64 in - 15.51 in) using 20 mm - 200 mm stylus
Mounting	Magnetised kinematic coupling
Crash protection	
±X, ±Y, -Z	Via break out of probe or stylus holder
+Z	Via integral bump-stop design
Signal outputs	Non-linear and non-orthogonal analogue outputs - rate gain and resolution are not fixed
Change rack options	
RCP TC-2	Thermally controlled change port for probe changing only This single port unit mounts on the MRS / MRS2 rack
FCR25 with FCR25 front spacer kit	Triple port unit which mounts on the MRS / MRS2 rack
Interface options	UCC S5

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RSP3-6

Probe attributes	2-axis scanning (X,Y) and 3-axis touch-trigger (X,Y,Z)
Measurement range	±0.5 mm deflection in all directions in all orientations
Overtravel range	
X, Y	2 mm
+Z	1.7 mm
-Z	1.2 mm
Resolution	Capable of <0.1 µm
Weight	300 g (10.58 oz) (excluding stylus holder and stylus)
Effective stylus length range	
RSP3-6 + RSH3-6c-500	EWL 348 mm (13.70 in) using M2 star centre
RSP3-6 + RSH3-6c-600	EWL 448 mm (17.64 in) using M2 star centre
RSP3-6 + RSH3-6-600	EWL 456 mm (17.95 in) using 10 mm stylus
RSP3-6 + RSH3-6-700	EWL 556 mm (21.89 in) using 10 mm stylus
RSP3-6 + RSH3-6-800	EWL 656 mm (25.83 in) using 10 mm stylus
Mounting	Magnetised kinematic coupling
Crash protection	
±X, ±Y, -Z	Via break out of probe or stylus holder
+Z	Via integral bump-stop design
Change rack options	
RCP TC-3	Thermally controlled change port for probe changing only This single port unit mounts on the MRS / MRS2 rack
RCP2	For stylus holder changing only This single port unit mounts to the MRS or MRS2
Interface options	UCC S5

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RSP3 stylus carrying capability

The RSP3 range of probes have been optimised to give the best possible performance over a broad range of stylus and crank lengths. Each probe within the range has a recommend effective working length over which it is able maintain a low contact force and give exceptional scanning performance. It is therefore important to adhere to the stylus carrying recommendations given.

The use of Renishaw's range of styli and accessories is advised.

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RSP3 straight stylus carrying capability

Probe/ stylus holder	Effective stylus reach (by using these stylus lengths)	Maximum permissible stylus length vs (mass)	Maximum operating stylus tip deflection for above in any orientation
RSP3-1 / RSH3-1	20 mm - 50 mm (20 mm - 50 mm)	20 mm (7 g) 30 mm (10 g) 40 mm (13 g) 50 mm (14 g)	0.5 mm
RSP3-2 / RSH3-2	44 mm - 99 mm (20 mm - 75 mm)	20 mm (2.5 g) 40 mm (7.5 g) 50 mm (9.5 g) 75 mm (10.5 g)	0.5 mm
RSP3-3 / RSH3-3	114 mm - 194 mm (20 mm - 100 mm)	20 mm (8 g) 50 mm (9 g) 75 mm (10 g) 100 mm (10 g)	0.5 mm
RSP3-4 / RSH3-4	214 mm - 394 mm (20 mm - 200 mm)	20 mm (7.5 g) 100 mm (8.5 g) 150 mm (9 g) 200 mm (9 g)	0.5 mm
RSP3-6 / RSH3-6c-500	348 mm (M2 star centre)*	n/a	0.5 mm
RSP3-6 / RSH3-6c-600	448 mm (M2 star centre)*	n/a	0.5 mm
RSP3-6 / RSH3-6-600	456 mm (10 mm)	10 mm (3.42 g)	0.5 mm
RSP3-6 / RSH3-6-700	556 mm (10 mm)	10 mm (3.42 g)	0.5 mm
RSP3-6 / RSH3-6-800	656 mm (10 mm)	10 mm (3.42 g)	0.5 mm

* Straight styli may be added to the RSH3-6c stylus holders.

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RSP3 cranked stylus carrying capability for typical stylus combinations

Each RSP3 probe has been optimised for maximum flexibility and sensor performance over a specific stylus range and with different crank carrying capabilities in mind.

Please refer to Renishaw's stylus catalogue for full details of cranked and star stylus configurations that are available. It is recommended that a 'one piece' star stylus is used wherever possible to help minimise mass. However, greater flexibility is possible by configuring a star centre together with one or more cranked styli. Users must be sure that the overall mass of the star centre together with its multiple cranked styli does not exceed the recommendations.

Straight 'down' styli can be added to RSH3-1 / 2 / 3 / 4 stylus holders below the crank centre to continue the projection 'down' from the stylus holder, providing that the maximum overall stylus length and mass for that stylus holder is not exceeded.

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These tables provide user information for building typical RSP3 stylus and crank combinations:

Probe / stylus holder	'Crank down' distance using an extension between the stylus holder and the crank centre	3D scanning maximum 'crank out' distance when measured to tip of crank (star) stylus	2D scanning and point taking maximum 'crank out' distance when measured to tip of crank (star) stylus	Maximum 'down' stylus ('effective stylus reach' - see straight styli)	Maximum permissible mass of crank (star) centre plus all styli	Maximum operating stylus tip deflection for above in any orientation
RSP3-1/ RSH3-1	25 mm*	28 mm	58 mm	50 mm	9 g***	0.4 mm
RSP3-1/ RSH3-1	55 mm*	28 mm	58 mm	50 mm	9 g****	0.4 mm
RSP3-2/ RSH3-2	49 mm*	28 mm	83 mm	99 mm	6 g***	0.4 mm
RSP3-2/ RSH3-2	79 mm*	28 mm	83 mm	99 mm	7 g****	0.4 mm
RSP3-3/ RSH3-3	99 mm**	58 mm	83 mm	194 mm	12 g	0.4 mm
RSP3-3/ RSH3-3	119 mm	58 mm	83 mm	194 mm	11 g***	0.4 mm
RSP3-3/ RSH3-3	149 mm	58 mm	83 mm	194 mm	10 g****	0.4 mm
RSP3-4/ RSH3-4	199 mm**	58 mm	83 mm	394 mm	11 g	0.4 mm
RSP3-4/ RSH3-4	219 mm	58 mm	83 mm	394 mm	10 g***	0.4 mm
RSP3-4/ RSH3-4	249 mm	58 mm	83 mm	394 mm	8 g****	0.4 mm
RSP3-6/ RSH3-6c-500	348 mm	n/a	50 mm	348 mm	8 g	0.4 mm
RSP3-6/ RSH3-6c-600	448 mm	n/a	50 mm	448 mm	4.6 g	0.4 mm

*	A 20 mm or longer (M3) extension must be used between the RSH3-1 / RSH3-2 and the crank centre to give the correct 'crank down' distance
**	The crank centre may be mounted directly to the RSH3-3 / RSH3-4 or to an (M3) extension
***	This excludes the mass of the 20 mm extension
****	This excludes the mass of the 50 mm extension
*****	This includes the crank down extension mass

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Probe / stylus holder	'Crank down' distance using an extension between the stylus holder and crank centre (by using this extension length)	Maximum permissible crank stylus length (3D scanning)	Maximum permissible crank stylus length (2D scan / point taking)	Maximum effective stylus reach (straight stylus)	Maximum permissible mass of stylus centre plus all styli	Maximum operating stylus tip deflection in any orientation
RSP3-1 / RSH3-1	25 mm* (20 mm)	21 mm	50 mm	50 mm	9 g***	0.4 mm
RSP3-1 / RSH3-1	55 mm* (50 mm)	21 mm	50 mm	50 mm	9 g****	0.4 mm
RSP3-2 / RSH3-2	49 mm* (20 mm)	21 mm	75 mm	99 mm	6 g***	0.4 mm
RSP3-2 / RSH3-2	79 mm* (50 mm)	21 mm	75 mm	99 mm	7 g****	0.4 mm
RSP3-3 / RSH3-3	99 mm** (n/a)	50 mm	75 mm	194 mm	12 g	0.4 mm
RSP3-3 / RSH3-3	119 mm (20 mm)	50 mm	75 mm	194 mm	11 g***	0.4 mm
RSP3-3 / RSH3-3	149 mm (50 mm)	50 mm	75 mm	194 mm	10 g****	0.4 mm
RSP3-4 / RSH3-4	199 mm** (n/a)	50 mm	75 mm	394 mm	11 g	0.4 mm
RSP3-4 / RSH3-4	219 mm (20 mm)	50 mm	75 mm	394 mm	10 g***	0.4 mm
RSP3-4 / RSH3-4	249 mm (50 mm)	50 mm	75 mm	394 mm	8 g****	0.4 mm
RSP3-6 / RSH3-6c-500	348 mm (n/a)	n/a	50 mm	348 mm	8 g	0.4 mm
RSP3-6 / RSH3-6c-600	448 mm (n/a)	n/a	50 mm	448 mm	4.6 g	0.4 mm
RSP3-6 / RSH3-6-600	n/a	n/a	n/a	466 mm	n/a	n/a
RSP3-6 / RSH3-6-700	n/a	n/a	n/a	566 mm	n/a	n/a
RSP3-6 / RSH3-6-800	n/a	n/a	n/a	666 mm	n/a	n/a

*	A 20 mm or longer (M3) extension must be used between the RSH3-1 / RSH3-2 and the crank centre to give the correct 'crank down' distance
**	The crank centre may be mounted directly to the RSH3-3 / RSH3-4 or to an (M3) extension
***	This excludes the mass of the 20 mm extension
****	This excludes the mass of the 50 mm extension
*****	This includes the crank down extension mass

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Manually mounting / removing the stylus holders from RSP3 probes

The range of RSH3 stylus holders have a kinematic coupling to the RSP3 probes, which provides a repeatable connection that eliminates the need for probe requalification after a change. The change can be carried out either manually, or fully automatically by using the FCR25 flexible change rack (for RSH3-1 / 2 / 3 / 4) or RCP2 (for the RSH3-6 range). The RSH3 stylus holders are designed to only fit with their respective scanning module. Incorrect combinations are prevented by the orientation ball in the kinematics.

To manually mount or remove the stylus holder from the RSP3 probe you need to:

1. Align the front sides of the probe with the stylus (making sure that the alignment marks line up).
2. Carefully align the stylus holder and the probe, allowing the magnetic attraction to gently connect the kinematic joints.
3. Gently rotate the stylus holder to ensure correct location.
4. To remove, securely hold the probe, gently tilt the stylus holder to break the kinematic joints.



The REVO probe change system is designed to allow automatic REVO probe and stylus holder changing on a CMM. The primary purpose of the system is to improve flexibility with the ability to use and store longer styli and large star stylus configurations.

For optimum metrology, REVO probes and stylus holders should be changed automatically using REVO change ports (RCP TC-2, RCP TC-3 and RCP2) and a flexible change rack (FCR25). These ports are mounted on the modular rack system (MRS2).

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Manually mounting / removing the probes from REVO

To manually mount or remove the probe from the REVO head you need to:

1. Align the front sides of the head with the probe (look at the "Renishaw" engraving on the side of probe or alignment marks as applicable).
2. Carefully align the probe to the head, allowing the magnetic attraction to gently connect the kinematic joints.
3. Gently rotate the probe to ensure correct location.
4. To remove, securely hold the probe and gently tilt to break the kinematic joints.



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Manually mounting / removing styli from stylus holders

To manually mount or remove the stylus from a stylus holder:

1. The stylus holder must be removed from the module before mounting / removing a stylus.
2. Always stay within the recommended stylus capability range (see RSP3 stylus carrying capability guidelines).
3. Avoid touching the joint face on the stylus holder, as it may become dirty or contaminated.
4. Always use the correct stylus tools to tighten the threaded joints between the stylus and the stylus holder, thus avoiding excess torque (causing the tool to bend).
5. To remove a stylus, reverse the above procedure.



NOTE: If a spare stylus removal tool is needed please order Renishaw part A-5000-7835 (the set comprises two S7 stylus tools in a plastic box).

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System calibration

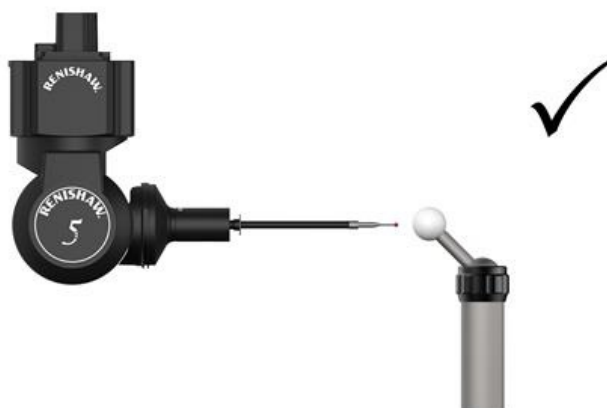
It is absolutely crucial that the probe is precisely calibrated for each measurement procedure before measurement is taken. Renishaw recommends using a universal calibration tower (Renishaw part number A-3060-4590) to ensure best metrology performance with the RSP3 range of scanning probes.

The position of the individual ball styli and their diameters should be established using the probe calibration programme recommended by the machine manufacturer (see the manufacturer's manual). Each RSP3 probe configuration should initially be calibrated and A0, B0 before the probe can be calibrated in the required head orientations.



WARNING: It is important, when calibrating the RSP3 probe, that the probe is able to access the full circumference of the calibration sphere perpendicular to the direction of the stylus. Sub optimal performance is achieved when a probe is unable to scan the full circumference of the calibration sphere. For instance, to calibrate a probe at both A0, B0 and A90, B0, the calibration sphere should be mounted with a stalk at 45° to the bed of the CMM.

Calibration with standard gimball datum sphere



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Calibration with universal calibration tower

The universal calibration tower enables calibration of RSP2 and RSP3 probes on a common artefact. The tower is compatible with the REVO Ø45 mm datum ball for RSP2 calibration, and up to four standard Ø25 mm datum balls for RSP3 calibration. Twelve separate mounting positions are available, three at each compass point, that allow datum balls to be attached at either +45°, 0° or -45°.



Periodic requalification should be performed under the following circumstances:

- CMM supplier's recommendations, particularly in respect to temperature changes
- At the start of the working day or a shift
- After accidental collision
- When new probe / stylus configurations are introduced
- If the initial state is unknown or uncertain

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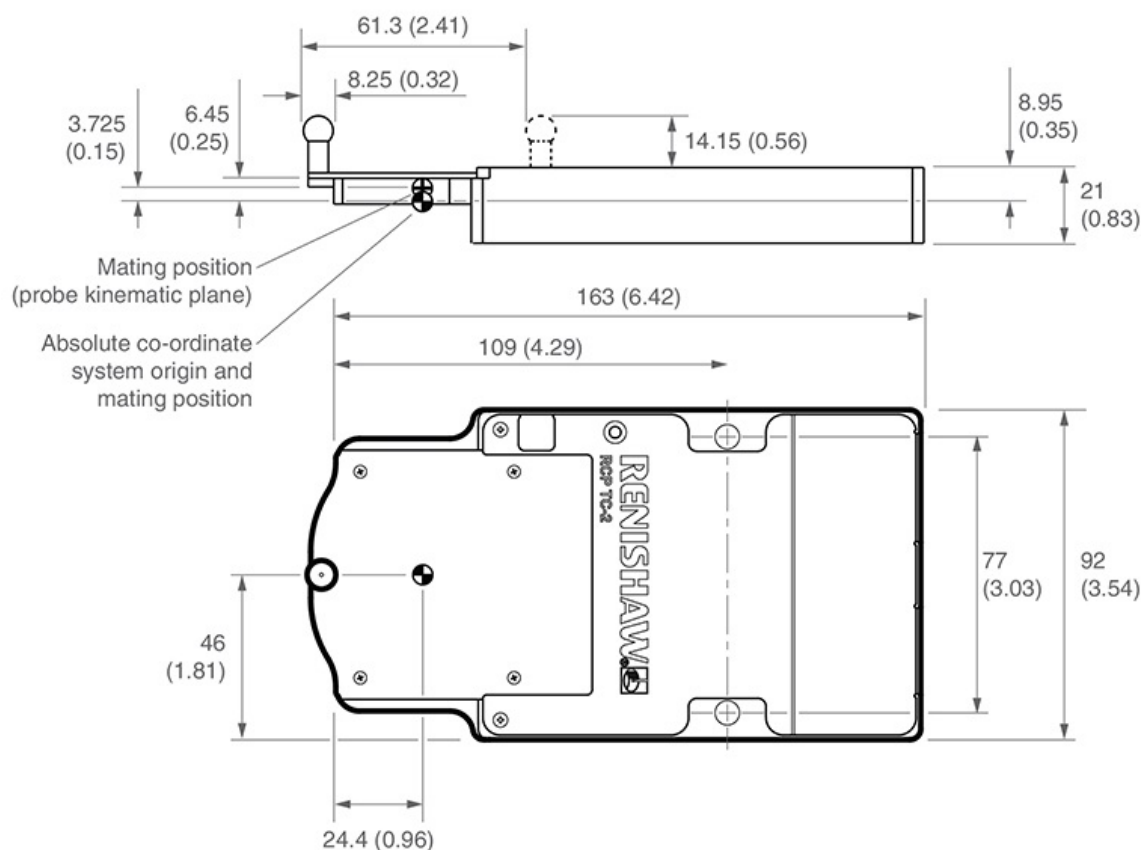
RSP3 probe change system

The REVO probe change system is designed to allow automatic REVO probe and stylus holder changing on a CMM. The primary purpose of the system is to improve flexibility with the ability to use and store stylus holders with different styli or stylus configurations.

For optimum metrology, REVO probes and stylus holders should be changed automatically using REVO change ports (RCP TC-2, RCP TC-3 and RCP2) or a flexible change rack (FCR25). These ports are mounted on the modular rack system (MRS2).

RCP TC-2

The RCP TC-2 is a thermally controlled port for changing RSP2 V2, RSP3-1 / 2 / 3 / 4 and SFP1 probes.



i NOTE: Dimensions in mm (in).

Key features of the RCP TC-2 are:

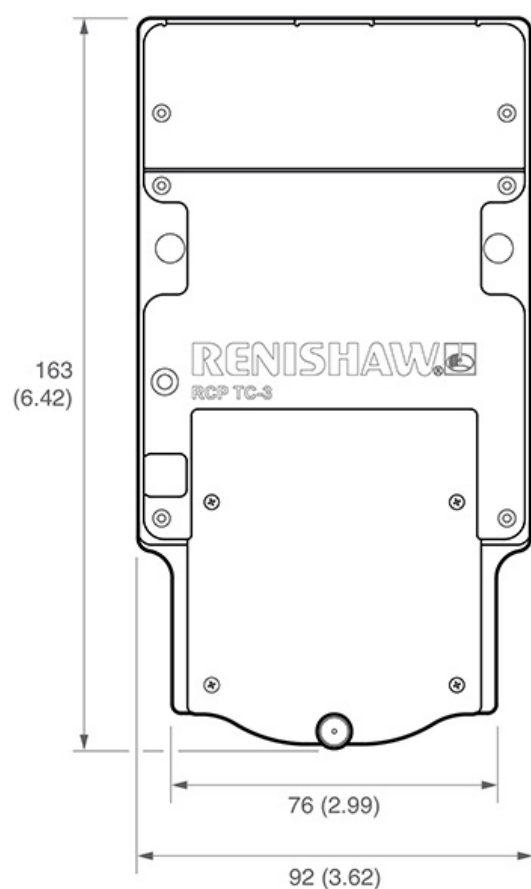
- Maintains the probe at the operating temperature when not in use, for optimum metrology
- Allows RSP2 V2, RSP3 and SFP1 probes to be rapidly interchanged automatically
- Mounts on the MRS or MRS2 to allow multi-port systems to be created
- Not to be used for changing stylus holders

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RCP TC-3

The RCP TC-3 is a thermally controlled port for changing RSP3-6 and SFP2 probes.



i NOTE: Dimensions in mm (in).

Key features of the RCP TC-3 are:

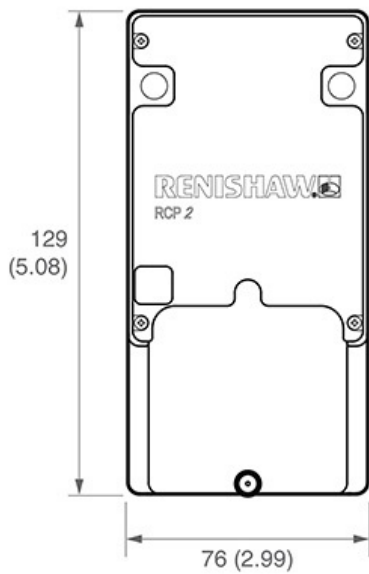
- Maintains the probe at the operating temperature when not in use, for optimum metrology
- Allows RSP3-6 and SFP2 probes to be rapidly interchanged automatically
- Mounts on the MRS or MRS2 to allow multi-port systems to be created
- Not to be used for changing stylus holders

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RCP2

The RCP2 is configured to change RSP2 V2 stylus holders, SFP1 styli and RSH3-6 stylus holders.



i NOTE: Dimensions in mm (in).

Key features of the RCP2 are:

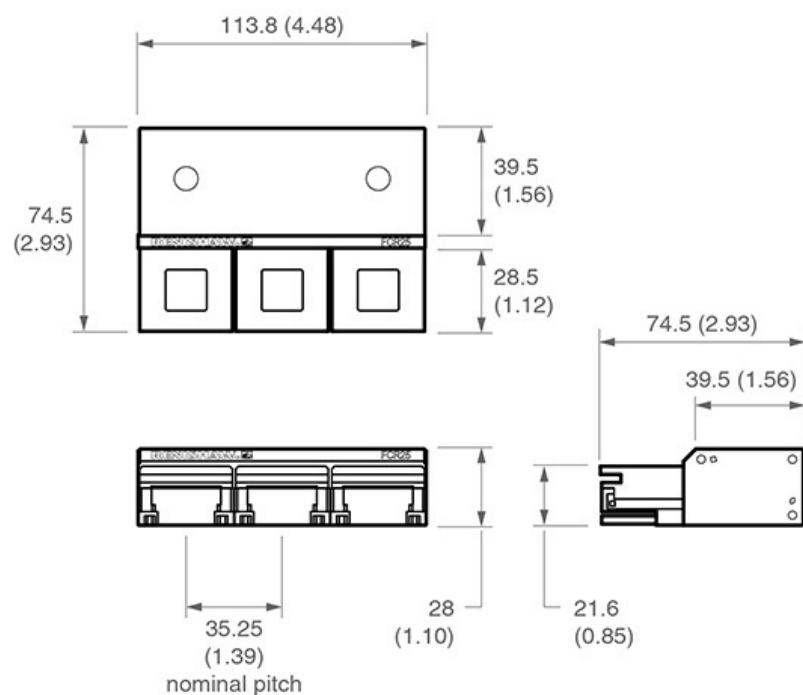
- Allows RSP2 V2 stylus holders (RSH175 / 250 / 350 / 450 / 500), SFP1 styli (SFS-1 / 2) and RSH3-6 stylus holders (RSH3-6-600 / 700 / 800 and RSH3-6C-500 / 600) to be rapidly interchanged automatically
- Mounts on the MRS or MRS2 to allow multi-port systems to be created
- Not to be used for changing RSH3-1 / 2 / 3 / 4 stylus holders or REVO probes

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FCR25

The FCR25 is a triple port unit designed to change SH25 and RSH3-1 / 2 / 3 / 4 stylus holders. A PA25-SH adaptor is used to enable a port to change SH25 stylus holders, while a PA25-RSH3 adaptor is used for changing RSH3-1 / 2 / 3 / 4 stylus holders.



NOTE: Dimensions in mm (in).

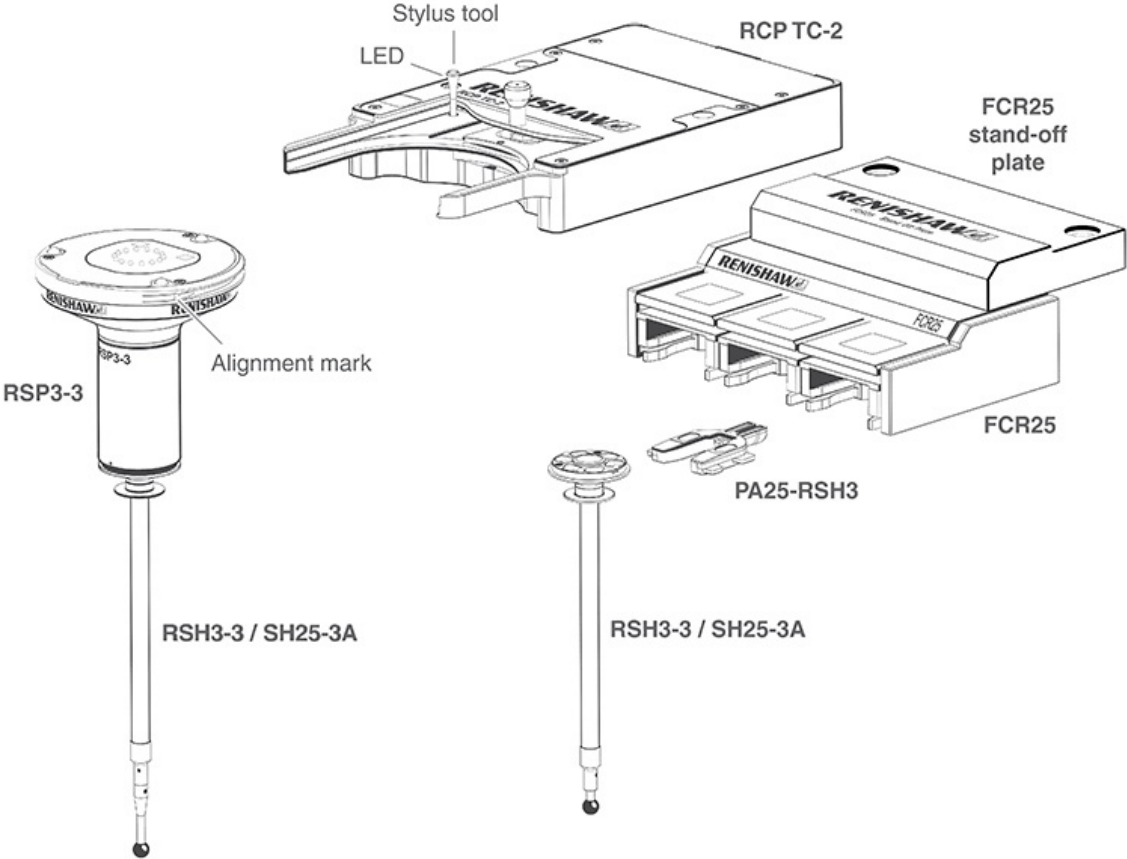
Key features of the FCR25 are:

- FCR25 allows RSH3-1 / 2 / 3 / 4 and SH25 elements to be rapidly interchanged automatically
- Each FCR25 unit has 3 ports
- Mounts on the MRS or MRS2 to allow multi-port systems to be created
- FCRH25 stand-off plate is required in all REVO installations

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RSP3-1 / 2 / 3 / 4

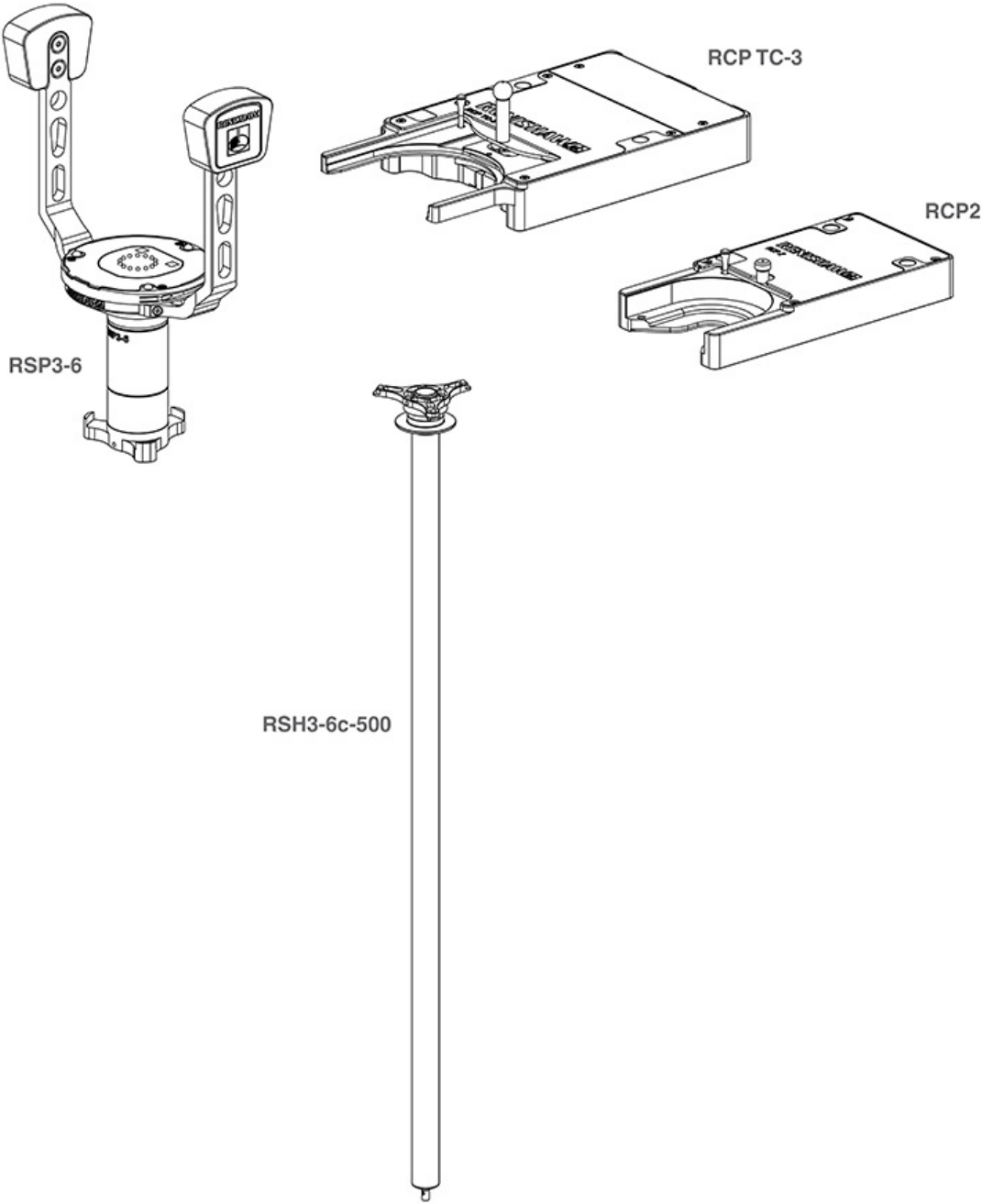


i **NOTE:** Please observe the orientation of the probe in the RCP TC-2.
The stylus tool is used to keep the port lid open during calibration. It must be removed for normal operation.

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RSP3-6



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Summary table

	RCP TC-2	RCP TC-3	RCP2	FCR25
RSP3-1	✓	✗	✗	✗
RSP3-2	✓	✗	✗	✗
RSP3-3	✓	✗	✗	✗
RSP3-4	✓	✗	✗	✗
RSP3-6	✗	✓	✗	✗
RSH3-1 / SH25-1	✗	✗	✗	✓
RSH3-2 / SH25-2A	✗	✗	✗	✓
RSH3-3 / SH25-3A	✗	✗	✗	✓
RSH3-4 / SH25-4A	✗	✗	✗	✓
RSH3-6c-500	✗	✗	✓	✗
RSH3-6c-600	✗	✗	✓	✗
RSH3-6-600	✗	✗	✓	✗
RSH3-6-700	✗	✗	✓	✗
RSH3-6-800	✗	✗	✓	✗

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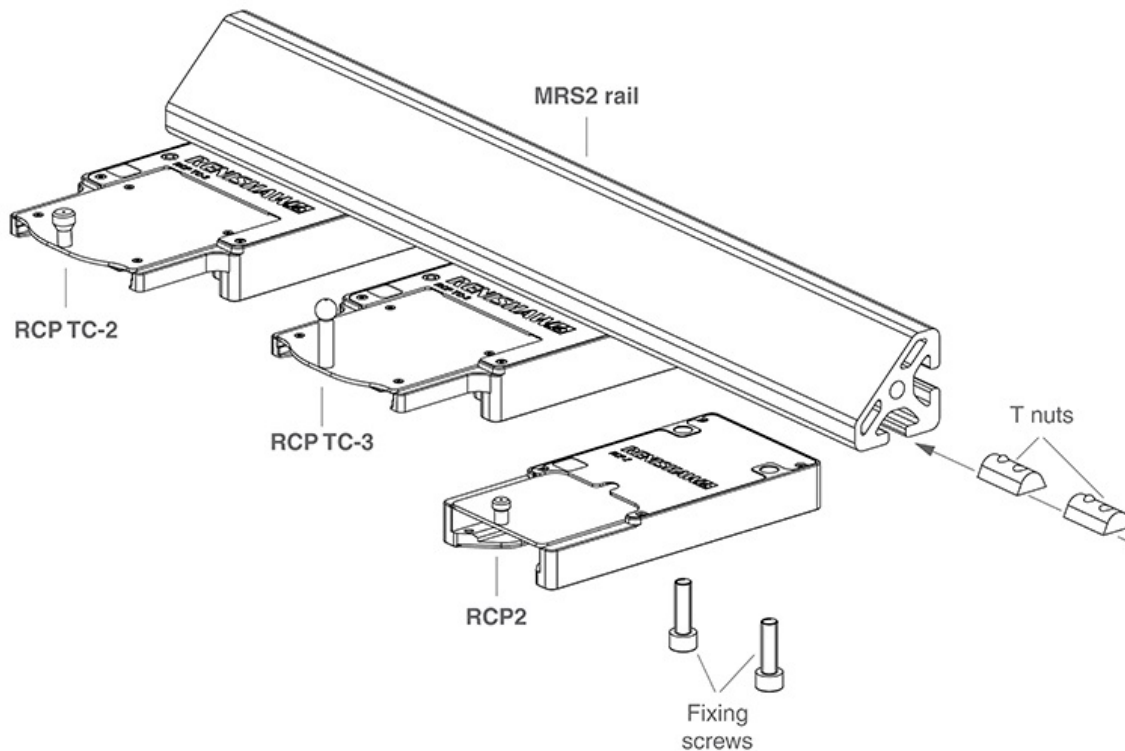
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Fitting the RSP3 ports and FCR25 to the MRS2 rail

Stylus holder changing for RSP3 probes can be done by using the RCP TC-2, RCP TC-3, RCP2 and FCR25 ports. These need to be attached to the MRS2 rail using the procedure below. The MPS1 spacer should be used to position the RCP TC-3 port storing RSP3-6, and its adjacent ports.

NOTE: Please refer to the REVO-2 change port system spacing guide (Renishaw part number H-1000-5408) for full details of the recommended spacing for positioning all sensors and artefacts on the MRS / MRS2 rail.

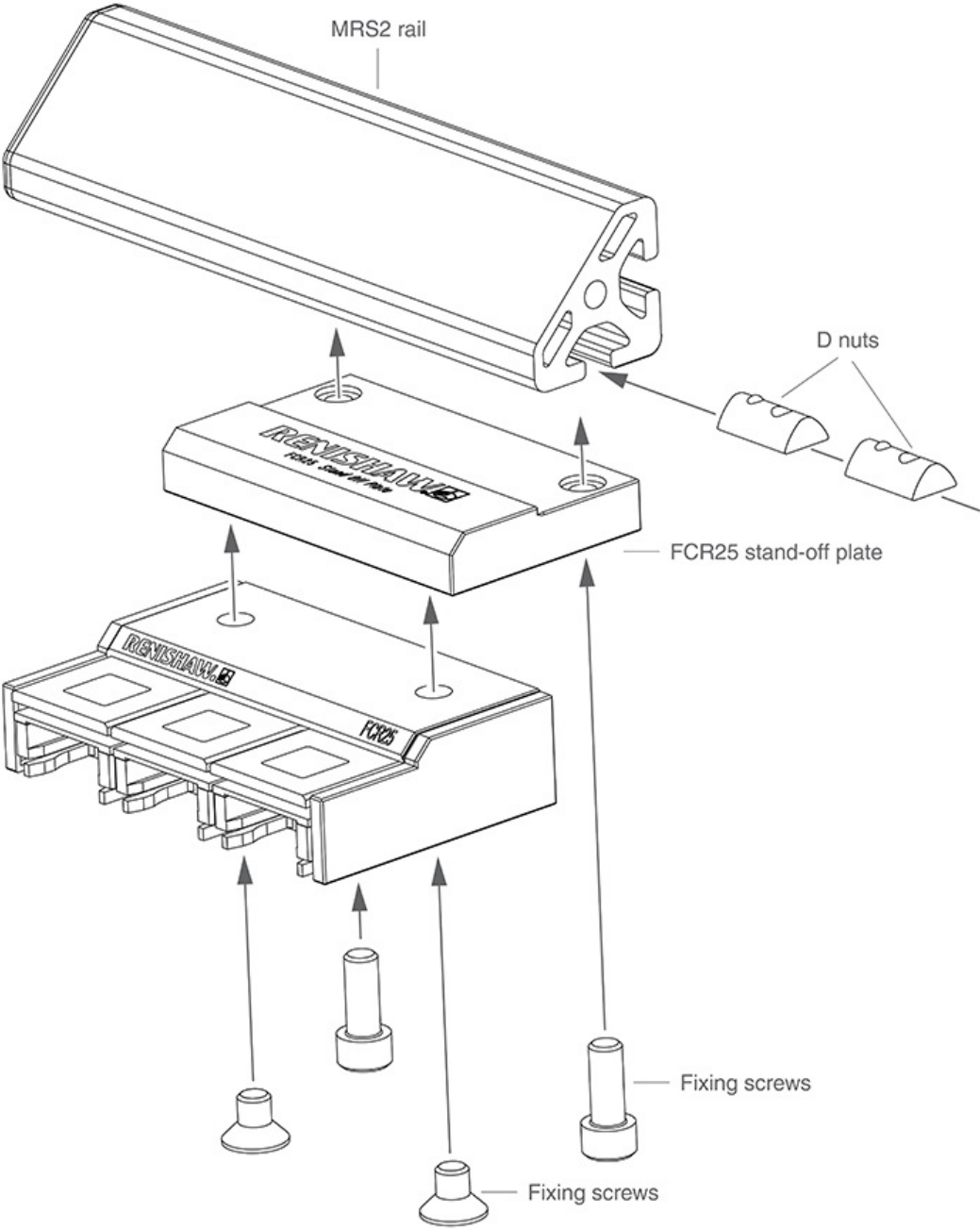
Please refer to the MRS2 modular rack system installation guide (Renishaw part number H-1000-5255) for full MRS2 installation details.



NOTE: To use the FCR25 rack with REVO the stand off plate must be fitted between the FCR25 and MRS2 rails.

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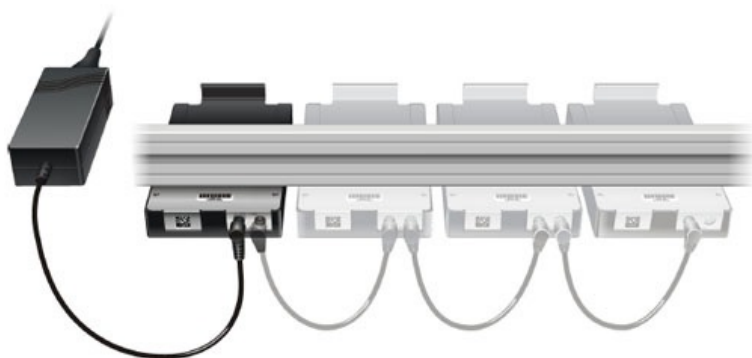
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Connecting RCP TC-2 and RCP TC-3 to PSU

Using a PSU other than the one supplied by Renishaw is not recommended.

DC extension cables are available for the PSU but the length **should not exceed 15 m** otherwise the performance can be affected.

It is possible to power up to four RCP TC-2s or RCP TC-3s with one PSU using the daisy-chain technique.



NOTE: Nothing other than RCP TC-2 or RCP TC-3 should be connected to the PSU. No more than four RCP TC-2 or RCP TC-3 units can be powered from one PSU. No more than one PSU should be connected to a daisy chain of ports. RCP TC-2s or RCP TC-3s need to be next to each other on the MRS2 rail for daisy chaining. Power can be connected to either end of the daisy chain. Turn off or disconnect the mains supply to the PSU before fitting DC power cables to the RCP TC-2 or RCP TC-3.

Spares

Part description	Renishaw part number
DC daisy-chain cable	P-CA82-0019
DC extension cable (1.5 m)	A-3060-0016
RCP TC-2 / RCP TC-3 PSU	P-PW01-0128
DC extension cable (5 m)	A-3060-0017
DC extension cable (10 m)	A-3060-0018

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RCP TC-2 and RCP TC-3 switch settings

The temperature can be set using the rotary switch on the rear of the RCP TC-2 or RCP TC-3:



Position	Description
0 - 3	Reserved for future use
4 (factory set)	Suitable for specified system ambient temperature
5 - 9	Reserved for future use

i **NOTE:** Please do not change the settings without contacting your supplier.

! **CAUTION:** This unit is not sealed. Please do not insert anything into the gaps under the port lid as it can cause damage to internal components within the product.

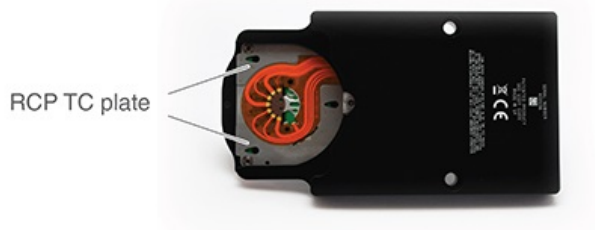
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RCP TC-2 and RCP TC-3 LED status indication and troubleshooting

LED	Status	Troubleshooting
Green	Power on, probe present, temperature within target	n/a
Flashing green	Power on, probe present, temperature outside of target	Wait for the rack to reach stable temperature.
Amber	Power on, probe not present, temperature within target	If the probe is present, clean the port and probe contacts.
Flashing amber	Power on, probe not present, temperature outside of target	If the probe is present, clean the port and probe contacts. Wait for the rack to reach stable temperature.
Flashing red	Error	Cycle power to restart. If the problem persists, contact your supplier.

WARNING: The RCP TC-2 or RCP TC-3 plate may be hot.



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Put down and pick up routines for RCP TC-2, RCP TC-3 and RCP2

The following routines are handled through UCCserver for RCP TC-2, RCP TC-3, RCP2 and FCR25:

- Alignment routine
- Put down and pick up routine
- Safe position

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RSP3 maintenance

CAUTION: Always refer to the 'Safety' and 'Warnings' sections of this guide. Failure to do so could lead to personal injury.

Following the simple procedures given below will prolong the operational life and maintain the high performance of the system. The user should determine the frequency of inspection and maintenance actions according to the conditions of use.

The head labels are best cleaned with a slightly damp cloth. All other system components should be cleaned using a soft, lint free cloth and must be kept dry.

Kinematic couplings

The kinematic coupling mechanisms incorporated throughout the system have precision ball seating and permanent magnets. It is recommended that all these features be cleaned before first use, and thereafter at regular intervals.

A cleaning kit for the precision ball seating and permanent magnet is available from your Renishaw supplier (part number A-1085-0016). It comprises strips of cleaning material. Use the cleaning material to clean the areas indicated with arrows.



With clean hands, tear off a small piece, shape into a small ball and press into / onto each of the features in turn, rotating to a fresh piece of material as you work around.

CAUTION: Ensure no cleaning material debris is left on the surface. The cleaning material should not be used for the optical windows or electrical contacts.

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Electrical contacts

The electrical contacts, indicated with arrows in the image below, should be carefully cleaned with an alcohol-based cleaner (e.g. IPA) and a lint-free cloth.



The frequency of cleaning depends on the local environment conditions, but should be at least every 500 probe or stylus holder changes.

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RSP3 rack port maintenance

Periodic cleaning of the ports, lids and outer surfaces using a soft, lint free cloth is recommended to prevent contamination of stored probes and modules.

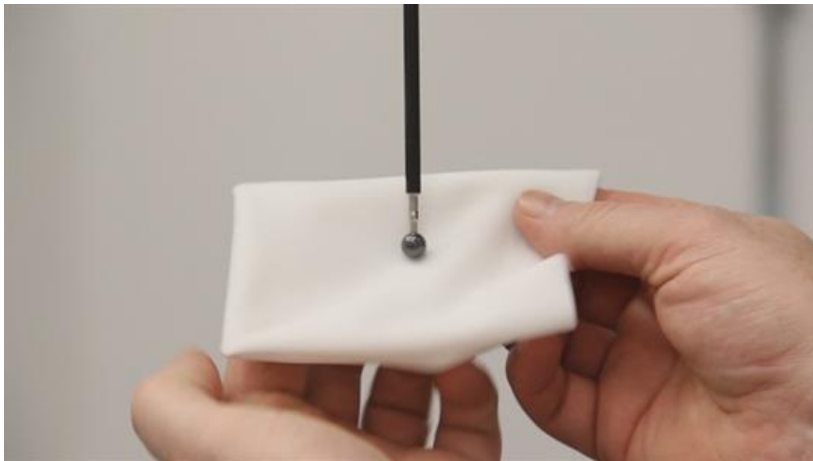
A port replacement kit for FCR25 is available to allow the user to service ports should they become worn or damaged (Renishaw part number A-5036-0049).

A lid replacement kit for RCP is also available (Renishaw part number A-3061-1962).

RSP3 styli maintenance

Renishaw offers a range of ball materials suited to scanning of different component materials. See the [Styli and accessories - technical specifications guide](#) (Renishaw part number H-1000-3200).

Stylus balls should be regularly inspected for damage or 'pick-up' of component material. Stylus balls, threads and mating faces should be cleaned using IPA and a lint-free cloth. Extra care should be taken with small stylus tips.



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Appendix 1 - RSP3 international safety statements

BG - ПРЕДУПРЕЖДЕНИЕ	JA - 警告
CS - VÝSTRAHA	LT - ĮSPĖJIMAS
DA - ADVARSEL	LV - BRĪDINĀJUMS
DE - WARNHINWEIS	MT - TWISSIJA
EL - ΠΡΟΕΙΔΟΠΟΙΗΣΗ	NL - WAARSCHUWING
EN - WARNING	PL - OSTRZEŻENIE
ES - ADVERTENCIA	PT - ADVERTÊNCIA
ET - HOIATUS	RO - AVERTISMENT
FI - VAROITUKSIA	SK - VÝSTRAHA
FR - AVERTISSEMENT	SL - OPOZORILO
GA - RABHADH	SV - VARNING
HR - NAPOMENA	ZH-TW - 警告
HU - FIGYELMEZTETÉS	ZH - 警告
IT - AVVISO	

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BG - Безопасност

ВНИМАНИЕ: Преди разопаковане и монтиране на системата REVO, потребителят трябва внимателно да прочете инструкциите по безопасност по-долу и да гарантира, че те ще се спазват през цялото време от всички оператори. Сондите от серията RSP3 трябва да се използват само с главата REVO на Renishaw.



Операторите трябва да са обучени в употребата и прилагането на системата REVO и придружаващите я продукти, към които се монтира машината преди да могат да работят с тази машина.

В някои компоненти на системата REVO и свързаните с нея продукти са използвани постоянни магнити. Важно е те да се пазят от елементи, които биха могли да бъдат засегнати от магнитни полета, напр. – системи за запамяване на данни, водачи, часовници и др.

Емисии от светодиодите на RSP3

Сондите за сканиране от серията RSP3 съдържат вградени светодиодни източници с висока мощност и не трябва да се използват в случай на сериозна повреда или скъсване на някоя част на RSP3. В такива случаи **ВЕДНАГА** изключвайте източника на захранване и отстранявайте, но не опитвайте да използвате частите повторно. Обърнете се към доставчика си за съвет.

RCP TC-2 / RCP TC-3

Методът за прекъсване на захранването е откачване на захранващия кабел или изключване на захранването.

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Предупреждения

Пазете се от неочаквано движение. Потребителят трябва да остава извън пълния работен обсег на главата на пробника и острието. Доставчикът на машината трябва да се увери, че потребителят е наясно с пълния работен обсег на системата.

Препоръчва се защита на очите във всички приложения, включващи използване на машини или СММ.

Отговорност на доставчика на машината е да гарантира, че на потребителя са обяснени всякакви рискове по време на работа, включително онези, упоменати в документацията на продуктите Renishaw и да гарантира осигуряване на съответни предпазители и безопасителни блокировки.

Вж. инструкциите за работа на доставчика на машината.

Компонентите на системата не съдържат детайли, които да се обслужват от потребителя с изключение на RCP TC-2, RCP TC-3, RCP2 и FCR25. Не трябва да се правят опити за разглобяване на който и да било детайл на изделието. В случай на проблем се обръщайте към доставчика си за съдействие.

При определени обстоятелства сигналът от пробника може да посочва фалшиво състояние на опрян пробник. Да не се разчита на сигналите от пробника за спиране движението на машината.

Байпасът на спуська на пробника ще предотврати обратния ход на машината в случай на сблъскване на пробника.

Съединенията на пробника са конструирани да освобождават пробника и/или държача на острието в случай на авария.

Това оборудване не е подходящо за работа в потенциално експлозивна атмосфера.

Съществуват рискове от притискане между частите. Да не се държи пробникът или главата на пробника по време на работните движения.

За непрекъснатата безопасност е от значение всички предпазители да се сменят с такива с точния тип и номинал.

Главата да се транспортира само в доставената от Renishaw опаковка.

Кабелите трябва да отговарят на спецификациите на Renishaw. Неправилното окабеляване би могло да причини повреда на оборудването.

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CS - Bezpečnost

UPOZORNĚNÍ: Před vybalením a instalací systému REVO by si měl uživatel pozorně přečíst níže uvedené bezpečnostní pokyny a zajistit, aby je všechny osoby používající systém neustále dodržovaly.

Sondy řady RSP3 používejte pouze s hlavicí REVO společnosti Renishaw.



Než bude moci personál obsluhy začít pracovat se strojem, ke kterému je připojen systém REVO, je nutné, aby byl vyškolen v oblasti používání tohoto systému a doplňujících produktů v souvislosti s daným strojem.

V některých součástech snímacího systému REVO a přidružených produktech jsou použity permanentní magnety. Je nutné je uchovávat mimo dosah předmětů, na které by mohlo nepříznivě působit magnetické pole, jako jsou například systémy pro ukládání dat, kardiostimulátory, hodinky atd.

Vyzařování LED diod u RSP3

Skenovací sondy řady RSP3 obsahují integrované velmi výkonné diodové zdroje, které nesmějí být použity v případě vážného poškození nebo prasknutí kterékoliv části sondy RSP3. V takových případech OKAMŽITĚ odpojte napájecí zdroj, poškozený díl demontujte a zajistěte, že nebude dále používán. Kontaktujte svého dodavatele.

RCP TC-2 / RCP TC-3

Dodávku výkonu lze přerušit odpojením napájecího kabelu nebo vypnutím napájení.

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Výstrahy

Dejte pozor na nečekaný pohyb stroje. Uživatel se musí zdržovat mimo pracovní rozsah stroje, zejména mimo místa pohybu snímací hlavice a doteku. Dodavatel stroje by měl zajistit, aby byl uživatel obeznámen s celým pracovním rozsahem systému.

Při jakékoli práci s obráběcími stroji nebo souřadnicovými měřicími stroji (CMM) je doporučeno používat ochranné brýle.

Povinností dodavatele stroje je informovat uživatele o nebezpečích spojených s provozem i o nebezpečích zmiňovaných v dokumentaci k produktům společnosti Renishaw a zajistit dostatečné ochranné a bezpečnostní systémy.

Přečtěte si provozní pokyny dodavatele příslušného stroje.

Komponenty systému neobsahují žádné části, jejichž servis by mohl provádět uživatel, s výjimkou RCP TC-2, RCP TC-3, RCP2 a FCR25. Nepokoušejte se demontovat jakoukoliv část výrobku. Setkáte-li se s problémem, kontaktujte prosím svého dodavatele.

Za určitých okolností může signál sondy nesprávně označovat klidový stav sondy. Nevyužívejte signály sondy jako hlavní impuls pro zastavování stroje.

Vyřazení sepnutí sondy zabrání zpětnému pohybu stroje v případě kolize sondy.

Spoje sondy jsou navrženy tak, aby uvolnily sondu a/nebo držák doteku v případě kolize.

Toto zařízení není vhodné pro užití v potenciálně výbušném prostředí.

Existuje riziko přiskřípnutí mezi součástmi. Sondu ani snímací hlavici při pohybu nepřidržíte.

V zájmu zachování trvalé bezpečnosti je nezbytné, aby byly všechny pojistky nahrazeny správným typem se správnou hodnotou.

Hlavice se musí přepravovat v obalu dodaném společností Renishaw.

Kabely musí splňovat specifikace společnosti Renishaw. Nesprávná kabeláž může způsobit poškození zařízení.

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DA - Sikkerhed

FORSIGTIG! Før udpakning og installation af REVO-systemet skal brugeren omhyggeligt læse nedenstående sikkerhedsinstruktioner og sørge for, at de altid bliver fulgt af alle, der betjener probesystemet.

RSP3 prober er kun til brug sammen med Renishaw REVO-hovedet.



Operatørerne skal være uddannet i brugen og anvendelsen af REVO-systemet og de medfølgende produkter i forbindelse med den maskine, det er monteret på, før de får tilladelse til at betjene maskinen.

Der anvendes permanente magneter i visse komponenter i REVO-systemet og de tilhørende produkter. Det er vigtigt at holde dem på afstand af komponenter, der kan påvirkes af magnetiske felter, f.eks. datalagringsystemer, pacemakere, ure osv.

RSP3 LED-stråling

RSP3 scanningsprober indeholder kraftige integrerede LED-kilder, og må ikke anvendes i tilfælde af alvorlig beskadigelse af, eller brud på nogen del af RSP3. I sådanne tilfælde skal strømkilden **OMGÅENDE** frakobles, og delene skal fjernes og ikke forsøges genbrugt. Kontakt leverandøren for at få rådgivning.

RCP TC-2 / RCP TC-3

Metoden til afbrydelse af strømmen er at frakoble strømkablet eller slukke for strømforsyningen.

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Advarsler

Pas på uventede bevægelser. Brugeren bør holde sig uden for hele probehovedets og stylus arbejdsområde. Maskinleverandøren bør sikre, at brugeren er bekendt med systemets fulde arbejdsområde.

I alle tilfælde, hvor der anvendes værktøjs- og koordinatmålemaskiner, anbefales det at bære beskyttelsesbriller.

Det er maskinleverandørens ansvar at sikre, at brugeren er bekendt med eventuelle risici i forbindelse med driften, herunder de risici, som er nævnt i Renishaws produktokumentation, og at sikre, at der er tilstrækkelig afskærmning af sikkerhedsblokeringer.

Se maskinleverandørens brugervejledning.

Systemkomponenterne indeholder ingen dele, der kan serviceres af brugeren, med undtagelse af RCP TC-2, RCP TC-3, RCP2 og FCR25. Adskillelse af nogen del af produktet bør ikke forsøges. Kontakt leverandøren for at få assistance, hvis der opstår et problem.

Under visse omstændigheder kan sondesignalet ved en fejl angive, at sonden står stille. Stol ikke på, at probesignaler vil stoppe maskinens bevægelse.

Tilsidesættelse af probetriggeren forhindrer maskinen i at køre tilbage i tilfælde af probekollision.

Probesamlingerne er designet til at frigøre proben og/eller stylusholderen i tilfælde af sammenstød.

Dette udstyr er uegnet til brug i en atmosfære med eksplosionsfare.

Der er risiko for at komme i klemme mellem delene. Hold ikke proben eller probehovedet under bevægelse.

Det er vigtigt for den fortsatte sikkerhed, at alle sikringer skiftes ud med en af samme type og samme nominelle effekt.

Hovedet skal transporteres i Renishaws medfølgende emballage.

Kablerne skal opfylde Renishaw's specifikationer. Forkert kabelføring kan forårsage skade på udstyret.

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DE - Sicherheitshinweise

ACHTUNG: Lesen sie bitte sorgfältig vor dem Auspacken und Installieren des REVO-Systems die folgenden Sicherheitshinweise und sorgen Sie dafür, dass diese auch von allen Anwendern beachtet werden.

Die RSP3 Tastermodule dürfen nur mit dem REVO Messkopf von Renishaw verwendet werden.



Vor der Bedienung der Maschine müssen alle Maschinenbediener über Gebrauch und Anwendung des Messsystems REVO und der zugehörigen Produkte in Verbindung mit der damit ausgerüsteten Maschine geschult werden.

In einigen Bauteilen des REVO-Systems und einigen zugehörigen Produkten sind Permanentmagneten eingebaut. Wichtig! Halten Sie diese von Geräten fern, die durch Magnetfelder beeinträchtigt werden können, wie z. B. Datenspeicher, Herzschrittmacher, Uhren usw.

RSP3 LED-Emissionen

Die RSP3 Scantaster enthalten eingebettete Hochleistungs-LEDs und sollte im Falle einer größeren Beschädigung bzw. Bruch eines Bauteils des RSP3 nicht mehr verwendet werden. Unterbrechen Sie in einem solchen Fall SOFORT die Stromzufuhr und entfernen Sie die Teile; sie dürfen nicht wiederverwendet werden. Wenden Sie sich an Ihren Lieferanten, um Hilfe zu erhalten.

RCP TC-2 / RCP TC-3

Zur Unterbrechung der Spannungsversorgung sollte das Netzkabel entfernt oder der Strom abgeschaltet werden.

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Warnhinweise

Vorsicht vor unerwarteten Bewegungen. Der Anwender darf sich nur außerhalb des Messtaster-Arbeitsbereiches aufhalten. Der Maschinenlieferant muss sicherstellen, dass sich der Anwender über den vollen Arbeitsbereich des Systems bewusst ist.

Bei Arbeiten an Koordinatenmessgeräten und Werkzeugmaschinen wird ein Augenschutz empfohlen.

Es obliegt dem Maschinenlieferanten, den Anwender über alle Gefahren, die sich aus dem Betrieb der Ausrüstung, einschließlich der, die in der Renishaw Produktdokumentation erwähnt sind, zu unterrichten und sicherzustellen, dass ausreichende Schutzvorrichtungen und Sicherheitsverriegelungen eingebaut sind.

Beachten Sie auch die Bedienungsanleitung des Maschinenlieferanten.

Die Systemkomponenten, mit Ausnahme von RCP TC-2, RCP TC-3, RCP2 und FCR25, enthalten keine Teile, die durch den Anwender gewartet werden können. Versuchen Sie nicht, einzelne Bauteile des Produkts zu demontieren. Im Falle eines Problems fordern Sie bitte Hilfe bei Ihrem Lieferanten an.

Es kann passieren, dass der Messtaster fälschlicherweise eine Ruhestellung signalisiert. Verlassen Sie sich nicht alleine auf das Messtastersignal, um Maschinenbewegungen zu stoppen.

Die Übersteuerung der Messtasterauslenkung verhindert ein Rücksetzen der Maschine im Falle einer Kollision des Messtasters.

Die Messtasteranschlüsse sind so konzipiert, dass der Messtaster und/oder der Tasterhalter im Falle eines Zusammenstoßes abgelöst werden.

Dieses System darf nicht in potenziell explosiver Atmosphäre verwendet werden.

Zwischen Bauteilen besteht Einklemmgefahr. Der Messtaster und der Messkopf dürfen während des Betriebs nicht berührt oder festgehalten werden.

Aus Sicherheitsgründen dürfen nur die empfohlenen Sicherungen (Typ und Leistung) verwendet werden.

Der Messkopf darf nur in der von Renishaw gelieferten Verpackung transportiert werden.

Die Kabel müssen den Spezifikationen von Renishaw entsprechen. Eine falsche Verkabelung kann zu Schäden am System führen.

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ΕΛ - Ασφάλεια

ΠΡΟΣΟΧΗ: Πριν από την αποσυσκευασία κι εγκατάσταση του συστήματος REVO, ο χρήστης πρέπει να διαβάσει προσεκτικά τις οδηγίες ασφαλείας που ακολουθούν και να διασφαλίσει ότι θα εφαρμόζονται πάντοτε από όλους τους χειριστές του συστήματος.

Η σειρά αισθητήρων RSP3 πρέπει να χρησιμοποιείται μόνο με την κεφαλή REVO της Renishaw.



Οι χειριστές πρέπει να είναι εκπαιδευμένοι στη χρήση και εφαρμογή του συστήματος αισθητήρα REVO και των συνοδευτικών προϊόντων, σε σχέση με το μηχάνημα στο οποίο τοποθετείται, για να τους επιτραπεί να χρησιμοποιήσουν το συγκεκριμένο μηχάνημα.

Σε ορισμένα εξαρτήματα του συστήματος REVO και των σχετικών προϊόντων χρησιμοποιούνται μόνιμοι μαγνήτες. Είναι σημαντικό να κρατάτε τους μαγνήτες μακριά από στοιχεία που μπορεί να επηρεαστούν από μαγνητικά πεδία, π.χ. συστήματα αποθήκευσης δεδομένων, βηματοδότες, ρολόγια, κ.λπ.

Εκπομπές φωτοδίοδων LED του RSP3

Η σειρά αισθητήρων σάρωσης RSP3 περιέχει ενσωματωμένες πηγές LED υψηλής ισχύος και δεν πρέπει να χρησιμοποιείται στην περίπτωση σοβαρής βλάβης σε, ή θραύσης, οποιουδήποτε τμήματος του RSP3. Σε τέτοιες περιπτώσεις αποσυνδέστε ΑΜΕΣΩΣ την πηγή ισχύος, απομακρύντε τη και μη προσπαθήσετε να χρησιμοποιήσετε εκ νέου τα εξαρτήματα. Επικοινωνήστε με τον προμηθευτή σας για υποδείξεις.

RCP TC-2 / RCP TC-3

Η μέθοδος διακοπής ισχύος είναι η αποσύνδεση του καλωδίου ισχύος ή η αποσύνδεση της παροχής.

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Προειδοποιήσεις

Προσέξτε τις ξαφνικές κινήσεις. Ο χρήστης πρέπει να παραμένει εκτός του χώρου που επηρεάζεται από όλους τους συνδυασμούς λειτουργίας της κεφαλής του αισθητήρα και του επαφέα. Ο προμηθευτής του μηχανήματος πρέπει να εξασφαλίσει ότι ο χρήστης γνωρίζει όλους τους συνδυασμούς λειτουργίας του συστήματος.

Σε όλες τις εφαρμογές που συνεπάγονται τη χρήση εργαλείων μηχανημάτων και εξαρτημάτων CMM, συνιστάται η χρήση συσκευής προστασίας των ματιών.

Αποτελεί ευθύνη του προμηθευτή του μηχανήματος να εξασφαλίσει ότι ο χρήστης είναι ενήμερος για τυχόν κινδύνους που συνεπάγεται η λειτουργία, συμπεριλαμβανομένων όσων αναφέρονται στα εγχειρίδια του προϊόντος της Renishaw. Είναι επίσης ευθύνη του να εξασφαλίσει ότι υπάρχουν τα απαιτούμενα προστατευτικά καλύμματα και οι συνδέσεις ασφαλείας.

Βλέπετε τις οδηγίες λειτουργίας του προμηθευτή του μηχανήματος.

Τα μέρη του συστήματος δεν περιέχουν εξαρτήματα τα οποία απαιτούν συντήρηση, με εξαίρεση τα RCP TC-2, RCP TC-3, RCP2 και FCR25. Δεν πρέπει να γίνεται καμία απόπειρα αποσυναρμολόγησης οποιουδήποτε τμήματος του προϊόντος. Στην περίπτωση προβλήματος παρακαλούμε επικοινωνήστε με τον προμηθευτή σας για υποστήριξη.

Υπό ορισμένες συνθήκες το σήμα του ανιχνευτή μπορεί να υποδεικνύει λανθασμένη ένδειξη τοποθέτησης του ανιχνευτή. Μη βασίζεστε στα σήματα ανιχνευτή για τη διακοπή της κίνησης του μηχανήματος.

Η παράκαμψη της ενεργοποίησης αισθητήρα θα εμποδίσει τη μηχανή από το να αποσυρθεί σε περίπτωση σύγκρουσης του αισθητήρα.

Οι σύνδεσμοι αισθητήρα έχουν σχεδιαστεί για την αποδέσμευση του αισθητήρα και/ή του συγκρατητήρα επαφέα στην περίπτωση σύγκρουσης.

Η συσκευή αυτή δεν πρέπει να χρησιμοποιείται σε περιβάλλον με δυνητικά εκρηκτική ατμόσφαιρα.

Υπάρχει κίνδυνος συμπίεσης μεταξύ εξαρτημάτων. Μην κρατάτε τον αισθητήρα ή την κεφαλή του αισθητήρα κατά τη διάρκεια των μετακινήσεων.

Οι ασφάλειες πρέπει να αντικαθίστανται με ασφάλειες του ίδιου τύπου και της ίδιας έντασης για λόγους ασφαλείας.

Η κεφαλή πρέπει να μεταφέρεται σε συσκευασία που παρέχεται από την Renishaw.

Τα καλώδια πρέπει να πληρούν τις προδιαγραφές της Renishaw. Η εσφαλμένη καλωδίωση θα μπορούσε να προκαλέσει ζημιά στον εξοπλισμό.

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EN - Safety

CAUTION: Before unpacking and installing the REVO system, the user should carefully read the safety instructions below and ensure that they are followed at all times by all operators.

The RSP3 range of probes is only to be used with the Renishaw REVO head.



Operators must be trained in the use and application of the REVO system and accompanying products, in the context of the machine it is fitted to, before being allowed to operate that machine.

Permanent magnets are used in some components of the REVO system and associated products. It is important to keep them away from items which may be affected by magnetic fields, e.g. data storage systems, pacemakers and watches etc.

RSP3 LED emissions

The RSP3 range of scanning probes incorporate embedded high power LED sources and should not be used in the event of serious damage to, or rupture of, any part of the RSP3. In such cases IMMEDIATELY disconnect the power source, remove and do not attempt to re-use the parts. Contact your supplier for advice.

RCP TC-2 and RCP TC-3

The method of interrupting power is to disconnect the power cable or turn off the supply.

Warnings

Beware of unexpected movement. The user should remain outside of the full working envelope of probe head and stylus. The machine supplier should ensure the user is aware of the full working envelope of the system.

In all applications involving the use of machine tools or CMMs, eye protection is recommended.

It is the machine supplier's responsibility to ensure that the user is made aware of any hazards involved in operation, including those mentioned in Renishaw product documentation, and to ensure that adequate guards and safety interlocks are provided.

Refer to the machine supplier's operating instructions.

The system components contain no user serviceable parts, with the exception of RCP TC-2, RCP TC-3, RCP2 and FCR25. No attempt should be made to disassemble any part of the product. In the event of a problem please contact your supplier for assistance.

Under certain circumstances the probe signal may falsely indicate a probe-seated condition. Do not rely on probe signals to stop machine movement.

Probe trigger override will prevent machine backing off in the event of a probe collision.

The probe joints are designed to release the probe and / or the stylus holder in the event of a crash.

This equipment is not suitable for use in a potentially explosive atmosphere.

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Pinch hazards exist between parts. Do not hold the probe or probe head during movements.

It is essential for continued safety that all fuses are replaced by the correct type and rating.

REVO-2 must be transported in Renishaw supplied packaging.

The cables must meet Renishaw specifications. Incorrect cabling could cause damage to the equipment.

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ES - Seguridad

PRECAUCIÓN: Antes de desempaquetar e instalar el sistema REVO, lea atentamente las instrucciones de seguridad siguientes y asegúrese de que los operarios las cumplan en todo momento.

La gama de sondas RSP3 debe utilizarse exclusivamente con el cabezal REVO de Renishaw.



Los operarios deben recibir formación sobre el uso y la aplicación del sistema REVO y sus accesorios, en el contexto en el que se instala la máquina, antes de poder utilizarla.

Algunos componentes del sistema REVO y sus accesorios utilizan imanes permanentes. Es muy importante mantenerlos alejados de otros elementos que puedan verse afectados por los campos magnéticos, por ejemplo, sistemas de almacenamiento de datos, marcapasos, relojes, etc.

Emisiones LED de RSP3

La gama de sondas de inspección RSP3 contiene fuentes LED de alta potencia, por lo que no debe utilizarse si la unidad o cualquiera de sus piezas están dañadas. En estos casos, desenchufe INMEDIATAMENTE la sonda de la toma eléctrica y no intente reutilizar las piezas. Solicite ayuda a su distribuidor.

RCP TC-2 / RCP TC-3

Para desconectar la alimentación eléctrica, desenchufe el cable de alimentación o desconecte la corriente eléctrica.

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Advertencias

Preste atención a los movimientos imprevistos. El operario debe quedarse fuera del grupo operativo completo compuesto por el cabezal de la sonda y el palpador. El distribuidor de la máquina debe asegurarse de que el operario conoce el entorno operativo completo de la máquina.

Se recomienda usar gafas de protección en todas las aplicaciones que implican el uso de Máquinas-Herramientas y máquinas de medición de coordenadas.

Es responsabilidad del proveedor de la máquina garantizar que el usuario sea informado sobre los peligros relacionados con el funcionamiento, incluidos los peligros mencionados en la documentación de los productos Renishaw, y garantizar que se suministran los dispositivos de protección y seguridad adecuados.

Remitirse a las instrucciones de manejo del proveedor de la máquina.

Los componentes del sistema no contienen piezas que requieran mantenimiento del operario, salvo los modelos RCP TC-2, RCP TC-3, RCP2 y FCR25. No intente desmontar ninguna pieza del producto. En caso de problemas, solicite asistencia a su distribuidor.

En determinadas circunstancias, la señal de la sonda puede indicar erróneamente que la sonda está asentada. No confíe en las señales de la sonda para detener la máquina.

La anulación del disparo de la sonda evita que la máquina retroceda en caso de colisión de la sonda.

Las juntas de la sonda están diseñadas para liberar la sonda o el soporte del palpador en caso de colisión.

Este equipo no está preparado para usarse en una atmósfera con riesgo de explosión.

Existe el peligro de atraparse los dedos entre las distintas piezas. No toque la sonda ni el cabezal cuando están en movimiento.

Para mantener la seguridad, es crucial sustituir todos los fusibles por el tipo y clase adecuados.

El cabezal debe transportarse en el embalaje original de Renishaw.

Los cables deben cumplir las especificaciones de Renishaw. Un cableado incorrecto puede provocar daños al equipo.

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ET - Ohutus

ETTEVAATUST! Kasutaja peab enne REVO-süsteemi lahti pakkimist ja paigaldamist lugema hoolikalt alltoodud ohutusjuhiseid ning tagama, et kõik operaatorid järgiksid neid igal ajal.

RSP3-sondide valikut võib kasutada ainult koos Renishaw' REVO-peasüsteemiga.



Operaatorid peavad saama REVO-süsteemi ja sellega kaasnevate toodete kasutamise ja rakendamise alase koolituse enne, kui tohivad asuda tööle masinaga, kuhu vastav süsteem on paigaldatud.

Mõnel REVO-süsteemi ja sellega seotud toote komponendil kasutatakse püsimateid. Need tuleb hoida eemal detailidest, mida võib mõjutada magnetväli, nt andmesalvestussüsteemid, südamestimulaatorid, kellad jne.

RSP3-valgusdiodi kiirgus

RSP3-skaneerimissondide valik sisaldab suure võimsusega LED-allikaid ja seadet ei tohi RSP3 mis tahes detaili tõsise kahjustumise või purunemise korral kasutada. Sellistel puhkudel ühendage seade VIIVITAMATULT toitevõrgust lahti, võtke antud detailid küljest ning ärge üritage neid uuesti kasutada. Abi saamiseks võtke ühendust tarnijaga.

RCP TC-2 / RCP TC-3

Toite katkestamiseks tuleb voolujuhe lahti ühendada või toide välja lülitada.

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Hoiatused

Olge ettevaatlik ootamatute liikumiste suhtes. Kasutaja peab jääma väljapoole kogu sondi pea ja nõela kombineeritud tööpiirkonda. Seadme tarnija peab tagama, et kasutaja oleks teadlik süsteemi kombineeritud tööpiirkonna ulatuses.

Kõikide rakenduste puhul, mis kasutavad tööpinke või koordinaatmõõtemasinaid, on soovitatav kasutada silmakaitsemeid.

Masina tarnija vastutus on tagada, et kasutajat teavitataks masina tööga kaasnevatest ohtudest, kaasa arvatud need ohud, mida on mainitud Renishaw' toote dokumentides, ning samuti tagada, et masinaga oleks kaasas õiged kaitsepiirded ja turvalukud.

Täpsemad juhised leiate masina tarnija antud kasutusjuhendist.

Süsteemi komponendid ei sisalda kasutaja poolt hooldatavaid detaile, eranditeks on RCP TC-2, RCP TC-3, RCP2 ja FCR25. Mitte ühtegi toote osa ei tohi lahti võtta. Probleemi korral võtke palun abi saamiseks ühendust oma tarnijaga.

Teatud tingimustel võib sondi signaal viidata valesti sondiga seotud olukorrale. Ärge lootke masina liikumise peatamiseks sondi signaalile.

Sondi päästiku ülejooks takistab masina tagasitõmbumist sondi põrkumisel.

Sondi liigendid on loodud eesmärgiga vabastada sond ja/või nõelahooldaja kokkupõrke korral.

Neid seadmeid ei tohi kasutada plahvatusohtlikus keskkonnas.

Masina osade vahel eksisteerib muljumisoht. Ärge hoidke sondi ega sondi pead liikumise ajal.

Jätkuva ohutuse huvides on oluline, et kõik kaitsmed asendataks õiget tüüpi ja võimsusega kaitsmetega.

Päid tohib transportida ainult Renishaw' pakendites.

Kaablid peavad vastama Renishaw' tehnilistele tingimustele. Vale kaabeldus võib seadmestikku kahjustada.

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FI - Turvallisuutta

VAROITUS: Ennen REVO-järjestelmän paketin avaamista ja laitteen asentamista tulee omistajan lukea turvallisuusohjeet huolellisesti ja varmistua siitä, että kaikki käyttäjät noudattavat niitä aina.

RSP3-laitteita saa käyttää ainoastaan Renishaw REVO -pääjärjestelmän kanssa.



Ennen kuin käyttäjille annetaan lupa käyttää laitetta, heidät on opastettava käyttämään ja soveltamaan REVO-järjestelmää ja siihen liittyviä tuotteita.

Joissakin REVO-järjestelmän ja siihen liittyvien tuotteiden komponenteissa käytetään kestopagneetteja. On tärkeää, ettei kestopagneettien lähelle viedä tuotteita, jotka saattavat reagoida magneettikenttiin, kuten esim. tiedontallennusvälineitä, tahdistimia, kelloja jne.

RSP3 LED -säteet

RSP3-skannausjärjestelmään on yhdistetty voimakkaita valodiodilähteitä eikä niitä saa käyttää, jos RSP3-skannerin jossakin osassa näkyy merkkejä murtumista tai muista vahingoista. Jos näin tapahtuu, kytke virta pois päältä **VÄLITTÖMÄSTI**, poista osat, äläkä yritä käyttää niitä uudelleen. Ota yhteyttä toimittajaan lisäohjeiden saamiseksi.

RCP TC-2 / RCP TC-3

Virransyöttö katkaistaan irrottamalla virtajohto tai kytkemällä virtalähde pois päältä.

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Varoitukset

Varo odottamatonta liikettä. Käyttäjän tulee pysytellä täysin anturin pään ja mittakärjen liikealueen ulkopuolella. Koneen toimittajan on varmistettava, että käyttäjä tuntee järjestelmän liikealueen.

Silmänsuojainten käyttö on suositeltavaa kaikkia työstökoneita ja koordinoituja mittauskoneita (CMM) käytettäessä.

Koneen toimittajan vastuulla on että käyttäjä on saanut tiedon mahdollisista käyttöön liittyvistä vaaroista, mukaan lukien Renishaw'n tuoteselosteessa mainitut vaarat. Konetoimittajan tulee myös varmistaa, että suojukset ja turvalukitukset ovat riittävät.

Katso koneen toimittajan käyttöohjeita.

Järjestelmän komponentit eivät sisällä käyttäjän huollettavia osia, paitsi RCP TC-2, RCP TC-3, RCP 2 ja FCR25. Mitään tuotteen osia ei saa yrittää purkaa. Ongelmatapauksissa ota yhteys järjestelmän toimittajaan ohjeita varten.

Tietyissä olosuhteissa anturilta tuleva signaali saattaa virheellisesti osoittaa että mitta-anturi on lepotilassa (=ei-kosketuksessa). Älä luota koneen pysähtyvän probin signaaleista.

Anturin laukaisun ohitus estää konetta perääntymästä anturin törmätessä kohteeseen.

Anturin liitokset on suunniteltu niin, että ne vapauttavat anturin ja/tai mittakärjen pidikkeen törmäystilanteessa.

Näitä laitteita ei saa käyttää räjähdysalttiissa tilassa.

Osien välissä on puristuksiin jäämisen vaara. Älä pitele luotainta tai luotaimen päätä liikkeiden aikana.

Jatkuvan turvallisuuden varmistamiseksi on ehdottoman tärkeää että kaikki sulakkeet vaihdetaan oikean tyyppiin ja -arvoisiin sulakkeisiin.

Pää tulee kuljettaa vain Renishaw'n toimittamassa pakkauksessa.

Kaapeleiden tulee täyttää Renishaw'n vaatimukset. Virheellinen kaapelointi voi aiheuttaa laitevahinkoja.

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FR - Sécurité

ATTENTION: Avant de déballer et d'installer le système REVO, l'utilisateur doit lire attentivement les instructions de sécurité suivantes et faire en sorte qu'elles soient respectées en permanence par tous les opérateurs.

La gamme de palpeurs RSP3 doit s'utiliser uniquement avec le système de tête REVO Renishaw.



Avant d'être autorisés à utiliser cette machine, les opérateurs doivent être formés à l'usage et aux applications du système REVO et des produits qui l'accompagnent et ce, dans le contexte de la machine où ce système est installé.

Des aimants permanents sont utilisés dans certains composants du système REVO et ses produits associés. Il faut impérativement les tenir à distance des objets susceptibles d'être affectés par les champs magnétiques tels que les systèmes de stockage de données, stimulateurs cardiaques, montres-bracelets, etc.

Émissions des LED du RSP3

La gamme de palpeurs de scanning RSP3 intègre des sources à LED grande puissance. Ne pas l'utiliser en cas de détérioration graves, ou de rupture d'un élément du RSP3. Si cela se produit, débranchez IMMÉDIATEMENT la source d'alimentation, retirez les éléments et n'essayez pas de les ré-utiliser. Adressez-vous à votre fournisseur pour qu'il vous conseille.

RCP TC-2 / RCP TC-3

La procédure pour couper l'alimentation consiste à déconnecter le câble d'alimentation ou à couper l'alimentation.

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Avertissements

Attention aux mouvements brusques. L'utilisateur doit toujours rester en dehors de la zone de sécurité de la tête de palpation et du stylet. Le fournisseur de la machine doit s'assurer que l'utilisateur a pris connaissance des mesures de sécurité liées à l'utilisation du système.

Le port de lunettes de protection est recommandé pour toute application sur machine-outil et MMT.

Il incombe au fournisseur de la machine de veiller, d'une part, à ce que l'utilisateur prenne connaissance des dangers d'exploitation, y compris ceux décrits dans la documentation du produit Renishaw et, d'autre part, à ce que des protections et verrouillages de sûreté adéquats soient prévus.

Consultez le mode d'emploi du fournisseur de la machine.

Hormis le RCP TC-2, le RCP TC-3, le RCP2 et le FCR25, les composants du système ne peuvent pas être réparés par l'utilisateur. N'essayez pas de démonter une partie du produit quelle qu'elle soit. En cas de problème, contactez le fournisseur pour lui demander de l'aide.

Il peut arriver dans certains cas que le signal du palpeur indique à tort son état "au repos". Il ne faut pas se fier aux signaux venant du palpeur car ils ne garantissent pas toujours l'arrêt de la machine.

Une commande d'inhibition de déclenchement du palpeur empêchera le recul de la machine en cas de collision avec le palpeur.

Les joints de palpeur sont conçus pour libérer le palpeur et/ou le porte-stylet en cas de collision.

Cet équipement ne convient pas à un usage en atmosphère explosive.

Il y a des risques de pincement entre les pièces. Ne pas tenir le palpeur ou sa tête pendant les mouvements.

Pour des raisons de sécurité, il est essentiel de remplacer tous les fusibles en respectant leur type et leur valeur.

Le transport de la tête doit s'effectuer dans l'emballage fourni par Renishaw.

Les câbles doivent répondre aux spécifications Renishaw. Un câblage incorrect peut entraîner des détériorations de l'équipement.

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GA - Sábháilteacht

RABHADH: Ba chóir don úsáideoir na treoracha sábháilteachta thíos a léamh go cúramach sula ndéantar an córas REVO a dhíphacáil agus a shuiteáil, agus a chinntiú go leanann gach oibreoir iad i gcónaí.

Níor chóir an RSP3 a úsáid ach amháin leis an gceann Renishaw REVO RSP3.

Ní mór oiliúint a thabhairt d'oibreoirí maidir le húsáid agus feidhmiú an chórais REVO agus na táirgí atá ag dul leis i gcomhthéacs an innill ar a bhfuil sé feistithe, sula gceadaítear dóibh an t-inneall a úsáid.

Tá buanmhaighnéid i gcuid de chomhpháirteanna an chórais REVO agus sna táirgí a théann leis. Tá sé tábhachtach iad a choinneáil amach ó earraí mar chórais stórála sonraí, séadairí, uaireadóirí agus araile a d'fheadfadh réimsí maignéadacha dul i gcion orthu.

Astúcháin RSP3 LED

Tá foinsí ardchumhachta LED leabaithe i raon na dtóireadóirí scanta RSP3, agus níor chóir iad a úsáid má dhéantar damáiste tromchúiseach d'aon chuid den táirge nó má réabtar aon chuid de. I gcás den sort sin, dícheangail an fhoirse chumhachta LÁITHREACH, bain agus ná dean iarracht na codanna a úsáid arís. Téigh i dteagmháil le do sholáthraí chun comhairle a fháil.

RCP TC-2 / RCP TC-3

Is é an modh le cumhacht a stopadh ná an cábla cumhachta a dhícheangal nó an soláthar a chasadh as.

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Rabhaidh

Fainic an chorraíl gan choinne. Ba chóir don oibreoir fanacht glan amach ó réimse iomlán oibre cheann an tóireadóra agus an stílis. Ba chóir don soláthraí a chinntiú go bhfuil an t-úsáideoir ar an eolas faoi imchlúdach iomlán oibre an chórais.

Moltar cosaint do na súile i ngach aon fheidhmiú lena mbaineann úsáid uirlisí meaisín nó CMManna.

Is í freagracht sholáthraí an mheaisín í chun a chinntiú go gcuirtear an t-úsáideoir ar an eolas i leith aon ghuaiseacha a bhaineann leis an oibriúchán, lena n-áirítear iad siúd a luaitear i gcáipéisíocht táirge Renishaw, agus chun a chinntiú go soláthraítear sciatha cosanta agus idirghlais sábháilteachta leordhóthanacha.

Déan tagairt do threoracha oibriúcháin sholáthraí an mheaisín féin.

Níl aon pháirt is féidir leis an úsáideoir a sheirbhísiú i gcomhphárteanna an chórais, ach amháin RCP TC-2, RCP TC-3, RCP2 agus FCR25. Níor chóir aon iarracht a dhéanamh aon chuid den táirge a bhaint dá chéile. I gcás faidhbe, téigh i dteagmháil le do sholáthraí, le do thoil, chun cúnamh a fháil.

Féadtar toisc bhréagach tóireadóra-shuite a léiriú i roinnt cúinsí le comhartha an tóireadóra féin. Ná bí ag brath ar chomharthaí tóireadóra le gluaiseacht an mheaisín a stopadh.

Dá mbeadh sárú truíceartha tóireadóra ann, ní bheadh an meaisín in ann cúlú siar i gcás imbhuailadh tóireadóra.

Tá ailt an tóireadóra deartha chun an tóireadóir agus/nó coinneálaí an stílis a scaoileadh i gcás tuairte.

Níl an trealamh seo oiriúnach le haghaidh úsáide in atmaisféar ina bhféadfadh pléascadh tarlú.

Tá guaiseacha cúngúcháin idir na páirteanna. Ná coinnigh greim ar an tóireadóir nó ar cheann an tóireadóra le linn gluaiseachtaí.

Má tá fiúsanna lena n-athchur, tá sé riachtanach ó thaobh sábháilteachta buaine go n-úsáidfi fiúsanna den chineál agus den ghrádú ceart.

Ní mór an ceann a iompar i bpacáiste arna sholáthar ag Renishaw.

Ní mór go mbeadh na cáblaí ag teacht le sonraíochtaí Renishaw. D'fhéadfadh cáblú mícheart damáiste a dhéanamh don trealamh.

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HR - Sigurnost

POZOR: Korisnik mora, prije vađenja iz ambalaže i montaže sustava REVO, pažljivo pročitati dolje navedene sigurnosne upute i pobrinuti se da ih se drže svi korisnici uređaja.

Mjerne glave serije RSP3 koristite samo u kombinaciji s glavom Renishaw REVO.



Prije nego što počnu upravljati strojem, operateri moraju proći stručnu edukaciju za upotrebu sustava REVO i njegovih popratnih proizvoda i to na stroju na kojem je sustav instaliran.

U nekim komponentama sustava REVO i popratnim proizvodima koriste se trajni magneti. Pazite da takve komponente ne dođu u blizinu predmeta na koje mogu utjecati magnetska polja, kao što su npr. sustavi za pohranu podataka, elektrostimulatori srca (pejsmejkeri), satovi, itd.

LED-emisije kod RSP3

U tijelo glave za skeniranje RSP3 su ugrađeni LED izvori visoke moći, zato glavu ne smijete koristiti u slučaju većeg oštećenja ili loma bilo kojeg dijela proizvoda RSP3. U takvom slučaju ODMAH isključite napajanje, uklonite dijelove i ne pokušavajte ih ponovno koristiti. Posavjetujte se sa svojim dobavljačem.

RCP TC-2 / RCP TC-3

Prekinite napajanje isključivanjem električnog kabela za napajanje ili isključivanjem napajanja.

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Upozorenja

Budite oprezni, postoji mogućnost od neočekivanih pomaka. Korisnik se mora zadržavati unutar radnog područja mjerne glave i ticala. Dobavljač stroja mora korisniku točno objasniti koje je radno područje stroja.

Kod svake upotrebe alatnih strojeva ili koordinatnih mjernih strojeva preporučujemo vam upotrebu zaštitnih naočala.

Odgovornost dobavljača stroja je upozoriti korisnike o svim potencijalnim opasnostima pri rukovanju, pa i na one koje su navedene u dokumentaciji Renishaw, te osigurati sva odgovarajuće sigurnosne mehanizme i sigurnosne blokade.

Pridržavajte se uputa dobavljača stroja.

Komponente sustava ne sadrže dijelove koje korisnik može sam popraviti, osim RCP TC-2, RCP TC-3, RCP2 i FCR25. Ne pokušavajte rastaviti dijelove ovog uređaja. U slučaju poteškoća obratite se dobavljaču.

U određenim uvjetima signal glave može lažno ukazivati da je glava zaustavljena. Ne oslanjajte se na signale glave za zaustavljanje kretanja stroja.

Premošćivanje okidanja mjerne glave sprječava pomicanje stroja u slučaju udara glave.

Pričvršćivanje mjerne glave je konstruirano tako da se u slučaju udara oslobodi glava ili drška ticala.

Ova oprema nije prilagođena upotrebi u potencijalno eksplozivnom okruženju.

Postoji opasnost od uklještenja između pokretnih dijelova. Mjernu glavu ne hvatajte dok je u pokretu.

Kako biste mogli zajamčiti trajnu sigurnost uređaja, važno je da pokvarene osigurače uvijek mijenjate zamjenskim osiguračima odgovarajućeg tipa i amperaže.

Glavu transportirajte u originalnoj ambalaži.

Kablovi moraju odgovarati Renishaw specifikacijama. Neodgovarajući kablovi mogu oštetiti opremu.

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HU - Biztonság

FIGYELEM! A REVO rendszer kicsomagolása és telepítése előtt a felhasználónak gondosan el kell olvasnia az alábbi biztonsági utasításokat, és gondoskodnia kell arról, hogy azokat a rendszer minden kezelője, mindig betartsa.

Az RSP3 mérőfejszalád csak a Renishaw REVO fejekkel használható.



A gépkezelőknek képzésben kell részesülniük a REVO rendszer és a kapcsolódó termékek adott gépen történő használata és alkalmazása terén, mielőtt engedélyt kapnak a gép kezelésére.

A REVO rendszer és a kapcsolódó termékek egyes alkatrészeiben állandó mágnesek találhatók. Ezeket távol kell tartani olyan tárgyaktól, amelyeket a mágneses mezők károsíthatnak, pl. adattároló rendszerek, szívritmus-szabályozók, karórák stb.

RSP3 LED sugárzás

Az RSP3 szkennelő mérőfejsorozat tagjai nagy teljesítményű beépített LED fényforrásokat tartalmaznak, és az RSP3 mérőfej bármelyik részének súlyos sérülése vagy törése esetén nem használhatók. Ilyen esetekben AZONNAL kapcsolja le az áramforrást, távolítsa el és ne használja újra az alkatrészeket. További tanácsért kérjük forduljon a forgalmazóhoz.

RCP TC-2 / RCP TC-3

Az áramellátás a tápkábel kihúzásával vagy az áramforrás kikapcsolásával szüntethető meg.

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Figyelmeztetések

Legyen óvatos, mert a berendezés váratlan mozgásokat végezhet. A felhasználónak a mérőfej és a tapintószár teljes munkatartományán kívül kell tartózkodnia. A gép forgalmazójának meg kell győződnie arról, hogy a felhasználó tisztában van a rendszer teljes munkatartományával.

Szerszámgépek és koordináta-mérőgépek használata során mindig javasolt a látásvédő eszközök viselése.

A gép gyártójának kötelessége felhívni a felhasználó figyelmét a berendezés használata során fennálló valamennyi veszélyre, beleértve a Renishaw termékeihez tartozó dokumentációban említett kockázatokat is; emellett az ő felelőssége a megfelelő védőelemek és biztonsági megszakító berendezések biztosítása is.

Ezzel kapcsolatban tekintse át a gép gyártója által kiadott kezelési utasítást.

A rendszer komponensei az RCP TC-2, az RCP TC-3, az RCP2 és FCR25 egységek kivételével a felhasználó által nem javíthatók. Ne kísérelje meg szétszerelni a termék egyetlen alkatrészét sem. Kérjük, amennyiben problémája támad, kérje a forgalmazó segítségét.

A mérőfejet ellenőrző jel bizonyos körülmények között tévesen jelezheti, hogy a mérőfej nem tért ki. Ne hagyatkozzon a mérőfejet ellenőrző jelre, ha meg kell állítani a gépet.

Abban az esetben, ha a mérőfej beleütközne valamibe, a mérőfejvezérlő elektronika megakadályozza a tapintáskor szokásos visszahúzást.

A mérőfej csatlakozásai úgy vannak kialakítva, hogy ütközés esetén elengedjék a mérőfejet és/vagy a tapintószár-tartót.

Ez a berendezés nem alkalmas robbanásveszélyes légkörben történő használatra.

Az alkatrészek között becsípődés veszélye áll fenn. Ne fogja meg a mérőfejet mozgás közben.

A biztonság folyamatos fenntartása érdekében elengedhetetlen, hogy minden biztosítékot megfelelő típusú és terhelhetőségű biztosítékra cseréljen ki.

A fej csak a Renishaw által biztosított csomagolásban szállítható.

A kábeleknek meg kell felelniük a Renishaw előírásainak. A helytelen kábelezés kárt tehet a berendezésben.

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IT - Sicurezza

ATTENZIONE: Prima di estrarre il sistema REVO dall'imballo e iniziare l'installazione, leggere attentamente le istruzioni riportate di seguito e controllare che vengano sempre rispettate da tutti gli operatori.

Le sonde della serie RSP3 vanno utilizzate esclusivamente con la testa REVO di Renishaw.

Prima di attivare una macchina che include il sistema REVO, gli operatori devono essere addestrati all'uso del sistema e dei prodotti accessori nel contesto in cui essi vengono utilizzati.

Alcuni componenti del sistema REVO e di prodotti associati includono magneti. Non avvicinare prodotti che possano essere influenzati da campi magnetici come ad esempio, sistemi di immagazzinamento dati, orologi, pacemaker e così via.



Emissioni dei LED dell'unità RSP3

Le sonde di scansione della serie RSP3 contengono una sorgente LED ad alta potenza. Se il prodotto, o una sua parte, risulta rotto o gravemente danneggiato, evitare di utilizzarlo. In tali casi, scollegare IMMEDIATAMENTE l'alimentazione, rimuovere l'unità e non tentare di riutilizzarne i componenti. Per assistenza, contattare il fornitore.

RCP TC-2 / RCP TC-3

Il metodo corretto per rimuovere l'alimentazione consiste nello scollegare il cavo oppure spegnere il sistema.

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Avvertenze

Fare attenzione ai movimenti improvvisi. Si raccomanda all'utente di tenersi al di fuori dello spazio operativo della testa e dello stilo. È responsabilità del fornitore della macchina assicurarsi che l'utente sia a conoscenza dell'intero spazio operativo del sistema.

Si raccomanda di indossare occhiali di protezione in applicazioni che comportano l'utilizzo di macchine utensili e macchine CMM.

Il fornitore della macchina ha la responsabilità di avvertire l'utente dei pericoli inerenti al funzionamento della stessa, compresi quelli riportati nella documentazione prodotta da Renishaw, e di fornire dispositivi di protezione e interruttori di esclusione adeguati.

Consultare le istruzioni d'uso fornite dal fornitore della macchina.

I componenti del sistema (esclusi RCP TC-2, RCP TC-3, RCP2 e FCR25) non contengono parti riparabili dall'utente. Non tentare di smontare i componenti del prodotto. In caso di problemi, contattare il fornitore e richiedere assistenza.

È possibile che in certe situazioni venga erroneamente prodotto un segnale che indica che la sonda è in posizione. Non fare affidamento sui segnali di stato sonda per arrestare il movimento della macchina.

L'attivazione del segnale di fine corsa della sonda impedisce l'arretramento della macchina in caso di collisione.

Nel caso in cui si verifichi una collisione, i giunti sono stati progettati in modo da rilasciare la sonda e/o il portastilo.

Questo dispositivo non è adatto all'uso in ambienti in cui esiste il rischio di esplosioni.

Esiste il rischio di rimanere impigliati fra i componenti. Non trattenere la sonda o la testa durante gli spostamenti.

Per essere in condizioni di sicurezza continuativa è indispensabile che tutti i fusibili siano sostituiti con un componente del tipo corretto e di uguale valore nominale.

Le teste devono essere trasportate solo utilizzando l'apposito imballaggio fornito da Renishaw.

I cavi devono essere conformi alle specifiche Renishaw. L'utilizzo di cavi non adeguati potrebbe danneggiare il dispositivo.

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JA - 安全性

警告: REVOシステムの梱包を解いて設置を始める前に、次の安全性に関する注意事項をよく読み、これらの事項を常に遵守してください。

RSP3 シリーズのプロープには、レニショーの REVO ヘッドのみを使用してください。



REVOシステムおよびその付属製品を使用する場合、オペレーターは機械の操作を始める前に、実際に取り付けられている機械を使って、その使用方法や安全性等について適切なトレーニングを受けてください。

REVOシステムと関連製品の一部コンポーネントには、永久磁石が使用されています。データ格納システム、ペースメーカー、時計など、磁界の影響をうけるものは近づけないでください。

RSP3 LED の赤外線放射

RSP3 シリーズのスキヤニングプロープには、高出力 LED 光源が内蔵されているため、RSP3 のパーツが大幅に損傷、破損した場合には使用しないでください。破損した場合には、電源コードを直ちに外してください。また、そのパーツを再利用しようとせず、サプライヤーに連絡し指示を仰いでください。

RCP TC-2 / RCP TC-3

電源を切るには、電源ケーブルを外すか、電源をオフにします。

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警告

予想外の動きに注意してください。ユーザーは、プローブヘッドとスタイラスの全可動範囲の外側にいるようにしてください。測定機の納入者は、ユーザーがシステムの全稼動範囲を把握していることを確認してください。

工作機械や三次元測定機の使用を含む全てのアプリケーションにおいて、保護眼鏡の着用を推奨します。

操作に伴うあらゆる危険性（製品の説明書に記載されている内容を含める）をユーザー様に明示すること、それらを防止する十分なカバー及び安全用インターロックを取り付けることはメーカー様の責任で行って下さい。

機械メーカーの操作説明書を参照してください。

システムには、RCP TC-2、RCP TC-3、RCP2、FCR25を除いてユーザーが整備可能なパーツはありません。製品パーツを取り外そうとしないでください。問題があれば、サプライヤーに連絡してください。

ある状況下では、プローブ信号出力が正しく出力されない場合もあります。プローブ信号のみに頼って機械を停止させないようにして下さい。

プローブトリガーのオーバーライドにより、プローブが衝突したときに機械のバックオフ動作を防止することができます。

プローブの結合部は、衝突時にプローブやスタイラスホルダーが外れるように設計されています。

この装置は、爆発の可能性のある場所での使用には適していません。

パーツの間に指を挟まれないように注意してください。動作中は、プローブやプローブヘッドを手で持たないようにしてください。

ヒューズを交換される際は安全に御使用いただく為にも、必ず正しいタイプ、容量のものと交換してください。

ヘッドは、レニショーが提供した格納箱に入れて持ち運んでください。

ケーブルは、レニショーの仕様に合った製品を使用して下さい。不適当なケーブルを使用すると、装置を損傷する可能性があります。

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LT - Sauga

ATSARGIAI: prieš išpakuodami ir montuodami sistemą REVO, atidžiai perskaitykite pateikiamas saugos instrukcijas ir užtikrinkite, kad visi operatoriai jų laikytųsi kiekvieną kartą.

RSP3 linijos zondai turi būti naudojami tik su „Renishaw REVO“ galvute.



Prieš leidžiant naudoti įrenginius, į kuriuos įmontuojama sistema REVO ir kiti su šia sistema naudojami įtaisai, operatoriai turi būti išmokyti jais dirbti.

Kai kuriose sistemos REVO dalyse ir su ja naudojamuose įtaisuose yra nuolatinių magnetų. Todėl svarbu arti jų nelaikyti prietaisų, kuriuos gali paveikti magnetinis laukas, pavyzdžiui, duomenų atmintinių.

RSP3 lazerio poveikis

RSP3 linijos zondavimo sistemose yra galingų šviesos diodų ir jie neturi būti naudojami įvykus rimtam sistemos RSP3 ar bet kurios jos dalies pažeidimui arba gedimui. Tokiu atveju NEDELSDAMI išjunkite įrenginį iš elektros šaltinio, išimkite tas dalis ir nebandykite jų vėl naudoti.

Kreipkitės į savo tiekėją patarimo.

RCP TC-2 / RCP TC-3

Maitinimo pertraukimo būdas – atjungti maitinimo laidą arba išjungti tiekimą.

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Įspėjimai

Saugokitės netikėtų judesių. Naudotojui nerekomenduojama atidaryti veikiančios zondo galvutės ir adatos junginio gaubto. Įrenginio tiekėjas turi užtikrinti, kad naudotojas žinotų apie didžiausią sistemos galingumą.

Atliekant visus darbus, kai naudojami įrenginio įrankiai, įrenginys valomas ir prižiūrimas, rekomenduojama užsidėti apsauginius akinius.

Įrenginio tiekėjas atsako už tai, kad naudotojas būtų įspėtas apie pavojus, susijusius su įrenginio naudojimu, taip pat apie pavojus, minimus „Renishaw“ prietaiso techninėje dokumentacijoje, ir kad būtų sumontuoti atitinkami apsauginiai įrenginiai bei blokatoriai.

Laikykitės įrenginio tiekėjo naudojimo nurodymų.

Sistemos komponentuose nėra dalių, kurių techninę priežiūrą galėtų atlikti pats naudotojas, išskyrus RCP TC-2, RCP TC-3, RCP2 ir FCR25. Negalima mėginti ardyti jokios prietaiso dalies. Kilus problemai, pagalbos kreipkitės į tiekėją.

Susiklosčius tam tikroms aplinkybėms, zondo signalas gali neteisingai nurodyti, kad jo reikšmės atstatytos į pradinę būseną. Nepasikliaukite zondo signalais ir iš karto nestabdykite įrenginio.

Zondo paleidimo atšaukimo funkcija, zondui atsitrenkus, apsaugos įrenginį nuo atsitraukimo.

Zondo jungtys sukurtos taip, kad susidūrimo atveju zondas ir (arba) adatos laikiklis nukristų.

Įrenginys netinkamas naudoti sprogiroje aplinkoje.

Tarp detalių pakliuvę daiktai gali būti suspausti. Nelaikykite už judančio zondo ir jo galvutės.

Darbo sauga bus užtikrinta, jei saugiklius keisite tinkamo tipo ir parametrų saugikliais.

Galvutę galima vežti tik „Renishaw“ pakuotėje.

Laidai turi atitikti „Renishaw“ specifikacijas. Netinkami laidai gali sugadinti įrenginį.

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LV - Drošība

UZMANĪBU! Pirms „REVO” sistēmas izsaiņošanas un uzstādīšanas lietotājam uzmanīgi jāizlasa drošības instrukcijas un jāpārlicinās, ka visi operatori tās vienmēr noteikti ievēro.



„RSP3” sērijas taustus drīkst lietot tikai kopā ar „Renishaw REVO” kontaktmērgalviņu.

Pirms ierīces izmantošanas operatori ir atbilstīgi jāapmāca, lai pareizi lietotu „REVO” sistēmu un aprīkojumu.

„REVO” sistēmas un aprīkojuma sastāvdaļas satur permanentus magnētus. Svarīgi tos turēt atstātus no tādiem priekšmetiem, kurus var ietekmēt magnētiskais lauks, piem., datu glabāšanas sistēmas, elektrokardiostimulatori, pulksteņi u.c.

RSP3 LED emisija

„RSP3” sērijas skenēšanas tausti sastāv no iebūvētiem jaudīgiem LED gaismas avotiem, un tos nedrīkst izmantot, ja kāda no „RSP3” sastāvdaļām ir nopietni bojāta vai salūzusi. Šādos gadījumos NEKAVĒJOTIES atvienojiet ierīci no strāvas un nemēģiniet to lietot atkārtoti. Lai saņemtu padomu, sazinieties ar ierīces piegādātāju.

RCP TC-2 / RCP TC-3

Strāvas padeve ir jāpārtrauc, atvienojot elektrības kabeli vai atslēdzot elektrības padevi.

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Brīdinājumi

Uzmanieties no nejaušas kustības. Lietotājam jāpaliek ārpus zondes galviņas un adatas pilnas darbības rādiusa. Piegādātājam jāinformē lietotājs par sistēmas pilnas darbības rādīsu.

Izmantojot darba iekārtas vai koordinātu mērīšanas ierīces, ieteicams aizsargāt acis.

Iekārtas piegādātājs atbild par to, lai lietotājs būtu iepazīstināts ar jebkādu apdraudējumu, kas saistīts ar iekārtas darbību (ieskaitot to, kas minēts „Renishaw” izstrādājuma dokumentācijā), un lai būtu nodrošinātas atbilstīgas aizsargierīces un aizsargbloķētāji.

Skatiet iekārtas piegādātāja ekspluatācijas instrukcijas.

Sistēmas sastāvdaļas nesatur detaļas, kuru remontu vai apkopi var veikt lietotājs, izņemot „RCP TC-2”, „RCP TC-3”, „RCP2” un „FCR25”. Nevajadzētu mēģināt demontēt nevienu produkta daļu. Ja ir problēmas, sazinieties ar piegādātāju, lai saņemtu palīdzību.

Noteiktos apstākļos zondes signāls var nepareizi norādīt zondes stāvokli. Nepaļaujieties uz zondes signālu, lai apturētu iekārtas kustību.

Zondes sprūda pārslodze novērsīs ierīces izslēgšanos zondes trieciena gadījumā.

Tausta savienojumi ir izstrādāti tā, lai bojājuma gadījumā tausts un/vai adatas turētājs tiktu atlaists.

Aprīkojumu nedrīkst lietot ugunsbīstamos apstākļos.

Starp detaļām iespējams saspiešanas risks. Izdarot kustības, neturieties pie tausta vai tausta galviņas.

Nepārtrauktas drošības garantēšanai ir svarīgi, lai drošinātāji tiktu nomainīti ar citiem atbilstīga veida un kategorijas drošinātājiem.

Galviņu drīkst pārvadāt tikai „Renishaw” pievienotajā iesaiņojumā.

Kabeļiem jāatbilst „Renishaw” specifikācijām. Lietojot nepareizus kabeļus, var sabojāt aprīkojumu.

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MT - Sigurtà

ATTENZJONI: Qabel ma joħroġ mill-ippakkjar u jinstalla s-sistema REVO, l-utent għandu jaqra bir-reqqa l-istruzzjonijiet dwar is-sigurtà t'hawn taħt u jara li jkunu segwiti f'kull hin mill-operaturi kollha.

Il-medda ta' sonni RSP3 għandha tintuża biss mar-Renishaw REVO head.



L-operaturi għandhom ikunu mħarrġa fl-użu u fl-applikazzjoni tas-sistema REVO u tal-prodotti li jiġu magħha, fil-kuntest tal-magna li tkun iffittjata magħha, qabel ma jithallew iħaddmu dik il-magna.

Kalamiti permanenti jintużaw f'xi partijiet tas-sistema REVO u prodotti assoċjati magħha. Hu importanti li żzommhom 'il bogħod minn oġġetti li jistgħu jiġu affettwati minn kampijiet manjetiċi, eż. sistemi tal-ħażna tad-dejta, pacemakers u arloġġi, eċċ.

Emissjonijiet RSP3 LED

Il-medda ta' RSP3 scanning probes tinkorpora sorsi embedded high power LED, u m'għandhiex tintuża f'każ ta' ħsara serja lil, jew il-qsim ta', kwalunkwe parti tal-RSP3. F'każijiet bħal dawn, skonnnettja MINNUFIH is-sors tal-provvista tad-dawl, neħhi u tippruvax terġa' tuja l-partijiet. Ikkuntattja lill-fornitur tiegħek għal parir.

RCP TC-2 / RCP TC-3

Il-metodu ta' kif taqta' l-provvista tad-dawl hu li tiskonnettja l-cable tad-dawl jew titfi l-provvista tad-dawl.

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Twissijiet

Oqgħod attenta għal moviment mhux mistenni. L-utent għandu jibqa' 'l barra miż-żona sfiha tal-operat tal-probe head u tal-istylus tal-fornitur tal-magna għandu jiżgura li l-utent ikun jaf x'inh i ż-żona sfiha tal-operat tas-sistema.

Fix-xogħol kollu li jinvolvi l-użu ta' għodda tal-magni jew CMMs, il-protezzjoni tal-għajnejn hi rakkomandata.

Hi r-responsabbiltà tal-fornitur tal-magna li jiżgura li l-utent ikun konxju ta' kwalunkwe perikli involuti fit-tħaddim, inklużi dawk imsemmija fid-dokumentazzjoni tal-prodotti Renishaw, u li jiżgura li hemm protezzjoni u l-interlocks tas-sigurtà adegwati pprovduti.

Irreferi għall-istruzzjonijiet tal-operat tal-fornitur tal-magna.

Il-komponenti tas-sistema ma fihom l-ebda partijiet li jistgħu jingħataw service mill-utent, bl-eċċezzjoni ta' RCP TC-2, RCP TC-3, RCP2 u FCR25. M'għandu jkun hemm l-ebda attentat biex tiżżarma kwalunkwe parti tal-prodott. Fil-każ ta' xi problema, jekk jogħġbok ikkuntattja lill-fornitur tiegħek għall-għajjnuna.

Taħt ċerti ċirkustanzi, is-sinjali tas-sonda jista' jindika b'mod falz kundizzjoni probe-seated. Tiddependix fuq is-sinjali tas-sonda biex twaqqaf il-moviment tal-magna.

Il-probe trigger override mhux se jhalli l-magna tersaq lura f'każ ta' ħabta tal-probe.

Il-joints tal-probe huma ddisinjati b'tali mod li jerġu l-probe u/jew l-istylus holder fil-każ ta' ħabta.

Dan it-tagħmir mhuwiex adattat għall-użu f'atmosfera li hi potenzjalment esploziva.

Jeżisti periklu li wieħed jinqaras bejn il-partijiet. Iżzommx il-probe jew il-probe head waqt il-movimenti.

Hu essenzjali għal sigurtà kontinwa, li l-fuses kollha jiġu sostitwiti bi fuses ta' tip u rating korrett.

Il-head għandha tingarr f'ippakkjar fornut minn Renishaw.

Il-cables iridu jkunu konformi mal-ispeċifikazzjonijiet ta' Renishaw. Cabling li ma jkunx kif suppost jista' jikkawża ħsara lit-tagħmir.

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NL - Veiligheid

WAARSCHUWING: Lees voor het uitpakken en installeren van het REVO systeem eerst de veiligheidsinstructies hieronder en zorg ervoor dat deze te allen tijde door alle gebruikers worden opgevolgd.

Gebruik de RSP3 tasterserie alleen in combinatie met de Renishaw REVO meetkop.



Gebruikers moeten worden opgeleid in het hanteren en toepassen van het REVO tastersysteem en bijbehorende producten op de machine waarop het systeem is aangebracht, voordat ze die machine gaan gebruiken.

In enkele componenten van het REVO systeem en de bijbehorende producten worden permanente magneten gebruikt. Het is belangrijk om deze weg te houden van voorwerpen die gevoelig zijn voor magnetische velden, zoals gegevensopslagsystemen, pacemakers, horloges enz.

LED-straling van RSP3

De scantasters van de serie RSP3 omvatten krachtige ingebouwde LED-bronnen en mogen niet gebruikt worden indien een onderdeel van de betreffende RSP3 ernstig beschadigd of gebroken is. Verbreek in zulke gevallen ONMIDDELIJK de stroomtoevoer, verwijder het onderdeel en gebruik het niet meer. Vraag advies aan uw leverancier.

RCP TC-2 / RCP TC-3

Verbreek de stroomtoevoer door de voedingskabel los te trekken of de stroom uit te schakelen.

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Waarschuwingen

Pas op voor onverwachte bewegingen. Blijf als gebruiker buiten het werkbereik van de tasterkop en de stylus. De machineleverancier dient ervoor te zorgen dat de gebruiker weet wat het werkbereik van het systeem is.

Voor alle toepassingen met bewerkingsmachines of CMM's wordt aanbevolen een veiligheidsbril te dragen.

De leverancier van de machine dient te zorgen dat de gebruiker op de hoogte is van de risico's die zijn verbonden aan het gebruik van de machine, met inbegrip van de risico's vermeld in de productdocumentatie van Renishaw, en dat de machine is voorzien van voldoende beveiligingen en veiligheidsvergrendelingen.

Raadpleeg de bedieningsinstructies van de machineleverancier.

Met uitzondering van de RCP TC-2, RCP TC-3, RCP2 en FCR25 hebben de systeemcomponenten geen onderdelen die de gebruiker zelf kan repareren. Probeer niet om onderdelen van het product te demonteren. Mocht er een probleem zijn, neem dan contact op met uw leverancier.

Onder bepaalde omstandigheden kan het tastersignaal een onjuiste tastertoestand aangeven. Vertrouw niet op de tastersignalen voor het stoppen van de machinebeweging.

Mogelijk negeert de machine het tastersignaal en trekt hij niet terug bij een botsing met een meettaster.

De tasterkoppelingen zijn zo uitgevoerd dat ze de meettaster en/of de stylushouder loslaten als zich een botsing voordoet.

Deze apparatuur is niet geschikt voor gebruik in een potentieel explosieve omgeving.

U kunt bekneld raken tussen onderdelen. Houd de taster of tasterkop niet vast tijdens bewegingen.

Voor blijvende veiligheid is het essentieel dat u zekeringen altijd vervangt door nieuwe van de juiste soort en waarde.

Vervoer de meetkop altijd in de verpakking van Renishaw.

De kabels moeten voldoen aan de specificaties van Renishaw. Onjuist kabelwerk kan schade aan de apparatuur toebrengen.

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PL - Bezpieczeństwo

PRZESTROGA: Przed rozpakowaniem i zainstalowaniem systemu REVO użytkownik powinien zapoznać się dokładnie z poniższymi instrukcjami dotyczącymi bezpieczeństwa oraz zapewnić stałe przestrzeganie tych instrukcji przez wszystkich operatorów.

Sondy z rodziny RSP3 mogą być stosowane tylko w systemie głowicy pomiarowej REVO firmy Renishaw.



Operatorzy, przed dopuszczeniem ich do obsługi maszyny współrzędnościowej, muszą być przeszkoleni w używaniu i zastosowaniu systemu REVO oraz elementów pomocniczych.

W niektórych częściach składowych systemu REVO i produktów pomocniczych są stosowane magnesy trwałe. Ważne jest, aby utrzymywać je z dala od takich elementów, na które mogą niekorzystnie oddziaływać pola magnetyczne, np. systemy przechowywania danych, stymulatory serca, zegarki itp.

Emisja diody LED sondy RSP3

Rodzina sond skanujących RSP3 ma wbudowaną diodę laserową o dużej mocy i nie powinna być używana w przypadku poważnego uszkodzenia lub pęknięcia jakiegokolwiek części RSP3. W takiej sytuacji należy NATYCHMIAST odłączyć źródło zasilania, zdemontować części i nie próbować ich ponownego użycia. Zwrócić się do dostawcy o poradę.

RCP TC-2 / RCP TC-3

Zasilanie można przerwać odłączając przewód zasilający lub wyłączając źródło zasilania.

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Ostrzeżenia

Należy uważać na nieoczekiwane przemieszczenia zespołów maszyny. Użytkownik powinien pozostawać poza pełnym zasięgiem roboczym głowicy sondy i trzpienia pomiarowego. Dostawca maszyny powinien zadbać o zaznajomienie użytkownika z pełnym zasięgiem roboczym systemu.

Podczas obsługi obrabiarek lub maszyn współrzędnościowych zaleca się używanie osłon na oczy.

Na dostawcy maszyny współrzędnościowej spoczywa odpowiedzialność za uprzedzenie użytkownika o wszelkich zagrożeniach związanych z eksploatacją łącznie z tymi, o jakich wspomina się w dokumentacji produktu Renishaw oraz za zapewnienie stosownych osłon i blokad zabezpieczających.

Zapoznać się z instrukcjami obsługi dostarczonymi przez dostawcę urządzeń.

Z wyjątkiem elementów RCP TC-2, RCP TC-3, RCP2 i FCR25 komponenty systemu nie zawierają części, których obsługę mógłby wykonać użytkownik. Nie należy podejmować prób rozkładania na części żadnego z zespołów systemu. W razie natknięcia się na problem prosimy zwrócić się o pomoc do swego dostawcy.

W określonych warunkach sygnał sondy może fałszywie wskazywać stan gotowości sondy. Nie należy zatrzymywać pracy maszyny tylko z powodu fałszywego sygnału sondy.

Możliwość dezaktywacji sondy sprawia, że w razie uderzenia sondą, maszyna nie cofnie się.

Złącza sondy zostały tak zaprojektowane, aby w razie kolizji następowało zwolnienie sondy i/lub obsady trzpienia pomiarowego z zamocowania.

Ten sprzęt nie jest przeznaczony do stosowania w środowiskach zagrożonych wybuchem.

Występuje niebezpieczeństwo przycięcia pomiędzy częściami. Nie wolno trzymać sondy ani głowicy sondy podczas wykonywania przemieszczeń.

Aby zapewnić ciągłość zabezpieczenia, konieczne jest stosowanie wszystkich zamiennych bezpieczników topikowych właściwego typu i o prawidłowych parametrach znamionowych.

Głowicę pomiarową należy transportować wyłącznie w oryginalnym opakowaniu Renishaw.

Przewody muszą odpowiadać wymaganiom technicznym firmy Renishaw. Nieprawidłowe okablowanie może być przyczyną uszkodzenia sprzętu.

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PT - Segurança

ATENÇÃO: Antes de desembalar e instalar o sistema REVO, o usuário deve ler as instruções de segurança a seguir com muita atenção e certificar-se de que sejam sempre obedecidas por todos os operadores.

Os apalpadores da série RSP3 devem ser utilizados somente com o cabeçote REVO da Renishaw.



Os operadores devem ser treinados na utilização e aplicação do sistema REVO, nos produtos que o acompanham e no contexto da máquina na qual serão instalados, antes que sejam autorizados a operá-lo.

Alguns componentes do sistema REVO e produtos associados estão equipados com ímãs permanentes. É importante manter estes ímãs afastados de quaisquer objetos que possam ser afetados por campos magnéticos, como sistemas de armazenamento de dados, marca-passos, relógios, etc.

RSP3 – Emissões LED

Os apalpadores de digitalização da série RSP3 possuem fontes LED de alta potência incorporadas, e não devem ser utilizados em caso de dano sério ou ruptura de qualquer parte do RSP3. Nestes casos, desconecte **IMEDIATAMENTE** a fonte de alimentação, remova e não tente reutilizar as peças. Contate seu fornecedor para mais informações.

RCP TC-2 / RCP TC-3

O método de interrupção de energia é desconectar o cabo ou desligar a fonte de alimentação.

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Advertência

Tome cuidado com movimentos inesperados. O usuário deve permanecer fora da área de trabalho do cabeçote do apalpador e da ponta. O fornecedor da máquina deve assegurar que o usuário está ciente de toda a área de trabalho do Sistema.

Em todas as aplicações que envolvem a utilização de máquinas-ferramenta e MMCs, recomenda-se a utilização de proteção para os olhos.

É responsabilidade do fabricante da máquina assegurar que o usuário esteja consciente de quaisquer perigos envolvidos na operação, incluindo os mencionados na documentação dos produtos Renishaw e assegurar que são fornecidas proteções e bloqueios de segurança adequados.

Consultar as instruções de funcionamento do fornecedor da máquina

Os componentes do sistema não contêm peças aproveitáveis para o usuário, com exceção do RCP TC-2, RCP TC-3, RCP2 e FCR25. Não tente desmontar qualquer peça do produto. Na ocorrência de um problema, contate seu fornecedor para assistência.

Sob certas circunstâncias, o sinal do apalpador pode incorretamente indicar uma condição de apalpador assentado. Não confie nos sinais do apalpador para interromper o movimento da máquina.

A desativação por avanço do apalpador evitará o recuo da máquina em caso de colisão do apalpador.

As articulações das pontas estão projetadas para liberar o apalpador e/ou suporte da ponta em caso de colisão.

Este equipamento não deve ser utilizado em atmosferas potencialmente explosivas.

Existe perigo de esmagamento entre as peças. Não segure o apalpador ou o cabeçote do apalpador durante os movimentos.

É muito importante que, para uma segurança contínua, todos os fusíveis sejam substituídos por outros do mesmo tipo e capacidade.

O cabeçote deve ser transportado na embalagem original Renishaw.

Os cabos devem atender as especificações Renishaw. Um cabeamento incorreto pode danificar o equipamento.

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RO - Instrucțiuni de siguranță

ATENȚIE: Este indicat ca toți utilizatorii și operatorii să citească cu atenție instrucțiunile de mai jos înainte de a despacheta și instala sistemul REVO.

Gama de palpatoare RSP3 trebuie să fie utilizate numai cu capul Renishaw REVO.



Operatorii trebuie instruiți pentru utilizarea sistemului REVO și a accesoriilor acestuia în configurația existentă înainte de a li se permite operarea mașinii.

În unele componente ale sistemului REVO sunt folosiți magneți permanenți. Este recomandată păstrarea distanței față de aceștia a dispozitivelor care pot fi afectate de câmp magnetic cum ar fi: sisteme de stocare de date, pacemakere, ceasuri etc.

Emisiile LED ale RSP3

Intervalul traductorului de scanare RSP3 înglobează surse LED de putere ridicată și nu trebuie utilizat în cazul unor deteriorări serioase sau rupturi ale unor piese din RSP3. În aceste cazuri, deconectați IMEDIAT sursa de alimentare, demontați și nu încercați să refolosiți piesele. Contactați furnizorul pentru indicații.

RCP TC-2 / RCP TC-3

Metoda de deconectare a alimentării constă din demontarea cablului de alimentare sau închiderea sursei de alimentare.

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Avertismente

Atenție la deplasările neașteptate. Operatorul trebuie să rămână complet în afara spațiului de lucru al capului și al palpatorului. Furnizorul mașinii trebuie să se asigure că utilizatorul cunoaște limitele spațiului de lucru a mașinii.

În toate aplicațiile care presupun utilizarea mașinilor unelte sau a MMC, se recomandă protejarea ochilor.

Este responsabilitatea furnizorului să se asigure că utilizatorul a fost înștiințat asupra oricărui pericol implicat de utilizarea echipamentului, inclusiv asupra pericolelor menționate în documentația produsului Renishaw, și de asemenea să se asigure că au fost prevăzute protecții și interblocări de siguranță adecvate.

Consultați instrucțiunile de operare puse la dispoziție de furnizorul echipamentului.

Componentele sistemului nu conțin piese ce pot fi reparate de utilizator, cu excepția RCP TC-2, RCP TC-3, RCP2 și FCR25. Este interzisă demontarea oricărei piese a produsului. La apariția unei probleme, contactați furnizorul pentru asistență.

În anumite circumstanțe, semnalul traductorului poate indica, în mod eronat, o atingere. Nu vă bazați pe semnalele primite de la traductor pentru a opri deplasarea mașinii.

Suprareglarea mecanismului de declanșare a traductorului va împiedica oprirea mașinii în cazul unei coliziuni a traductorului.

Îmbinările traductorului sunt proiectate astfel încât să permită eliberarea traductorului / suportului palpatorului în eventualitatea unei coliziuni.

Acest echipament nu poate fi folosit în medii cu potențial exploziv.

Exista pericolul ciupirii între componente. Nu atingeți traductorul sau capul acestuia în timpul mișcărilor.

Este esențial pentru siguranța continuă ca toate siguranțele să fie înlocuite cu unele de același tip și valoare nominală.

Capul trebuie transportat în ambalajul furnizat de Renishaw.

Cablurile trebuie să corespundă specificațiilor Renishaw. Cablurile neadecvate pot defecta echipamentul.

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SK - Bezpečnosť

UPOZORNENIE: Pred rozbalením a inštaláciou systému REVO si musí používateľ dôkladne prečítať bezpečnostné pokyny uvedené nižšie a zaručiť ich neustále dodržiavanie všetkými obsluhujúcimi pracovníkmi.

Rad sond RSP3 sa môže používať iba s hlavicou Renishaw REVO.



Obsluhujúci pracovníci musia byť predtým, než sa im umožní ovládanie príslušného stroja, vyškolení v používaní a aplikácii systému REVO a sprievodných produktov v kontexte stroja, do ktorého sa montujú.

V niektorých súčiastiach systému REVO a sprievodných produktoch sa používajú permanentné magnety. Je dôležité udržiavať ich mimo predmetov, ktoré môžu byť ovplyvnené magnetickými poľami, ako sú napríklad systémy na ukladanie údajov, kardiostimulátory, hodinky a podobne.

LED žiarenie sond RSP3

Rad snímacích sond RSP3 obsahuje integrované vysokovýkonné zdroje LED a v prípade závažného poškodenia alebo prasknutia akejkoľvek časti sondy RSP3 sa nesmie používať. V takýchto prípadoch IHNED' odpojte napájací zdroj, demontujte poškodené časti a nepokúšajte sa ich znova použiť. Ďalší postup konzultujte s dodávateľom.

RCP TC-2 / RCP TC-3

Prerušenie napájania treba vykonať odpojením napájacieho kábla alebo vypnutím napájacieho zdroja.

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Upozornenia

Dávajte pozor na neočakávaný pohyb. Používateľ sa musí zdržiavať mimo celej pracovnej dráhy snímačej hlavice a snímačieho hrotu. Dodávateľ stroja musí zaručiť, aby bol používateľ oboznámený s celou pracovnou dráhou systému.

Vo všetkých aplikáciách zahŕňajúcich používanie obrábacích strojov alebo súradnicových meracích prístrojov sa odporúča ochrana očí.

Zodpovednosťou dodávateľa stroja je zaručiť oboznámenie používateľa so všetkými rizikami súvisiacimi s prevádzkou vrátane tých, ktoré sú uvedené v dokumentácii k produktu spoločnosti Renishaw, a zaručiť poskytnutie adekvátnych zábran a bezpečnostných blokovacích poistiek.

Pozrite si prevádzkové pokyny dodávateľa stroja.

Komponenty tohto systému neobsahujú žiadne súčasti, ktoré by mohol opraviť používateľ, s výnimkou komponentov RCP TC-2, RCP TC-3, RCP2 a FCR25. Nepokúšajte sa demontovať žiadne súčasti tohto produktu. V prípade problému kontaktujte dodávateľa a požiadajte ho o pomoc.

Signál sondy môže za určitých okolností nesprávne indikovať parkovaciú polohu sondy. Pri zastavovaní pohybov stroja sa nespoliehajte na signály sondy.

Systém blokovania aktivácie sondy zabráni spätnému pohybu stroja v prípade kolízie sondy.

Spojky sondy sú navrhnuté tak, aby v prípade nárazu uvoľnili sondu alebo držiak snímačieho hrotu.

Toto zariadenie nie je vhodné na používanie v potenciálne výbušnej atmosfére.

Medzi dielmi tohto systému existuje riziko pricviknutia. Sondu ani snímaciu hlavicu počas pohybu nechytajte.

Z dôvodu zachovania bezpečnosti je dôležité vymieňať všetky poistky za správny typ so správnou menovitou hodnotou.

Hlavica sa musí prepravovať v dodávanom obale od spoločnosti Renishaw.

Káble musia spĺňať špecifikácie spoločnosti Renishaw. Nesprávne káble môžu spôsobiť poškodenie zariadenia.

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SL - Varnost

POZOR: Uporabnik mora pred jemanjem iz embalaže in montažo sistema REVO skrbno prebrati spodnja varnostna navodila ter poskrbeti, da jih bodo dosledno upoštevali vsi operaterji.

Merilne glave serije RSP3 uporabljajte samo v kombinaciji z glavo Renishaw REVO.



Preden začnete upravljati s strojem, morajo operaterji opraviti usposabljanje za uporabo sistema REVO in spremljajočih izdelkov na stroju, na katerem je sistem nameščen.

V nekaterih komponentah sistema REVO in spremljajočih izdelkih so trajni magneti. Pazite, da take komponente ne pridejo v bližino predmetov, na katere lahko vplivajo magnetna polja; to so npr. sistemi za shranjevanje podatkov, srčni spodbujevalniki, ure itd.

Emisija laserske svetlobe pri RSP3

V telo skenirnih glav serije RSP3 so vgrajeni LED-viri visoke moči, zato glav ni dovoljeno uporabljati v primeru večje poškodbe ali loma kateregakoli dela izdelka. V takem primeru TAKOJ izklopite napajanje, odstranite dele in jih ne poskušajte ponovno uporabiti. Posvetujte se s svojim dobaviteljem.

RCP TC-2 / RCP TC-3

Napajanje prekinite z odklopom električnega napajalnega kabla ali z izklopom napajanja.

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Opozorila

Bodite pozorni na nepričakovane premike. Uporabnik se mora zadrževati zunaj delovnega območja merilne glave in tipala. Dobavitelj stroja mora uporabniku razložiti, kje je celotno delovno območje Sistema.

Pri vsaki uporabi obdelovalnih strojev ali koordinatnih merilnih strojev priporočamo uporabo zaščitnih očal.

Odgovornost dobavitelja stroja je, da uporabnika opozori na vse nevarnosti pri delovanju, tudi na tiste, ki so navedene v dokumentaciji Renishaw, in da zagotovi vsa potrebna varovala in varnostne zapore.

Držite se navodil dobavitelja stroja.

Komponente sistema ne vsebujejo nobenih delov, ki bi jih uporabnik lahko popravil sam, z izjemo RCP TC-2, RCP TC-3, RCP2 in FCR25. Ne poskušajte razstaviti nobenega dela izdelka. V primeru težav se obrnite na svojega dobavitelja.

V določenih pogojih lahko signal glave lažno nakazuje, da je glava spravljena. Ne zanašajte se na signale glave za ustavitev gibanja stroja.

Premostitev proženja merilne glave prepreči umik stroja v primeru trka glave.

Pritrditev merilne glave je zasnovana tako, da v primeru trka sprosti glavo in/ali držalo tipala.

Ta oprema ni primerna za uporabo v potencialno eksplozivnih atmosferah.

Nevarnost stiska med premikajočimi se deli. Glave oziroma merilne glave ne prijemajte medtem ko se premika.

Za zagotavljanje trajne varnosti je bistveno, da pokvarjene varovalke vedno zamenjate z nadomestnimi varovalkami ustreznega tipa in amperaže.

Glavo transportirajte v originalni embalaži Renishaw.

Kabli morajo ustrezati specifikacijam Renishaw. Neustrezni kabli lahko poškodujejo opremo.

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SV - Säkerhet

VAR FÖRSIKTIG: Innan REVO-systemet packas upp och installeras, bör du läsa nedanstående säkerhetsföreskrifter noggrant, och se till att de alltid följs av alla operatörer.

RSP3-prober får endast användas med Renishaws REVO-huvud.

Operatörerna måste tränas i hur man använder och sätter upp REVO-systemet och tillhörande produkter tillsammans med den maskin som den är monterad på, innan de får köra maskinen.

Permanentmagneter används i vissa komponenter i REVO-systemet och tillhörande produkter. Det är viktigt att hålla avstånd mellan dessa och sådant som kan skadas av magnetfält, t.ex. datalagringsenheter, pacemakers, klockor m.m.



Strålning från lysdioder (LED) på RSP3

RSP3-prober innehåller inbyggda LED-källor med hög effekt och ska inte användas vid allvarliga skador eller sprickor på någon del av RSP3. I sådana fall ska strömmen OMEDELBART stängas av. Avlägsna delarna och återanvänd dem ej. Kontakta leverantören för råd.

RCP TC-2 / RCP TC-3

Bryt strömmen genom att dra ur strömkabeln eller stänga av strömtillförseln.

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Varning

Se upp för plötsliga rörelser. Användaren bör alltid befinna sig utanför arbetsområdet för sondhuvudet och mätspetsen. Leverantören bör kontrollera att användaren är medveten om omfattningen av systemets arbetsområde.

Ögonskydd rekommenderas för alla tillämpningar, där verktygsmaskiner eller koordinatmätmaskiner används.

Maskinleverantören ansvarar för att användaren informeras om de risker som drift innebär, inklusive de som nämns i Renishaws produktdokumentation, samt att tillräckliga skydd och säkerhetsföreglingar tillhandahålls.

Se maskintillverkarens bruksanvisning.

Systemkomponenterna innehåller inga delar som användaren kan utföra underhåll på, med undantag för RCP TC-2, RCP TC-3, RCP2 och FCR25. Försök inte ta isär produktens delar. Kontakta leverantören vid problem.

Under vissa omständigheter kan probsignalen felaktigt ange att en prob är monterad. Lita inte på probsignaler för att stoppa maskinens rörelse.

Övermannig (override) av probutlösaren förhindrar backning av maskinen i händelse av probkollision.

Probanslutningarna är utformade så att de kopplar loss proben och/eller mätspetshållaren vid stötar.

Denna utrustning ska inte användas i miljöer där explosionsrisk föreligger.

Klämrisk föreligger mellan delarna. Håll inte i proben eller probhuvudet vid körning.

För bibehållen säkerhet är det viktigt att alla säkringar byts mot nya av korrekt typ och med korrekt amperetal.

Huvudet får endast transporteras i emballage från Renishaw.

Alla kablar måste uppfylla Renishaws specifikationer. Felaktig kabeldragning kan skada utrustningen.

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ZH-TW - 安全



注意：在拆開包裝和安裝 REVO系統之前，使用者應詳細閱讀該下方的安全指示，並保證所有操作者務必確實遵守這些安全指示。
RSP3 測頭系列必須搭配 Renishaw REVO 測頭座使用。
操作者在獲准操作機器設備之前，必須接受應用 REVO系統及其相關產品的培訓，並具備充分的操作知識。
部分 REVO系統組件及其相關產品中使用永久磁體。請特別注意盡量使可能受到磁場影響的物體遠離裝置，諸如資料儲存系統、心臟起搏器和手錶等等。

RSP3 LED 放射

RSP3 掃描測頭系列含有高功率 LED 光源，一旦 RSP3 產品發生嚴重損壞，或有任何零件破裂情形，則不得再使用。在此情況下，必須「立即」中斷電源、移除零件，且不得再嘗試使用該零件。聯絡您的供應商並聽取後續處理之建議。

RCP TC-2 / RCP TC-3

干擾電源的方法為中斷電源線或關閉電源。

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警告

請小心不預期的機構操作移動。使用者應該與測頭座和測針的整個操作運動範圍保持一段安全距離。機器供應商應確實讓使用者瞭解該系統的整個操作運動範圍。

在使用機器工具或 CMM 的應用程序中，建議採用眼部防護措施。

機器供應商有責任確保使用者瞭解操作環境中的任何可能危險，包括在 Renishaw 產品使用說明提到的狀況，並務必提供足夠的護具和安全互鎖裝置。

請參閱機器供應商的操作指導書。

除 RCP TC-2、RCP TC-3、RCP2 及 FCR25 外，系統組件不包含使用者可用的零件。不得嘗試拆解本產品的任何零件。倘若出現問題，請連絡您的機器設備供應商以尋求協助。

在某些情況下，測頭的顯示信號可能錯誤表示測頭已就位。切勿單憑測頭信號來停止機器的行程移動。

如果測頭發生意外碰撞，測頭的觸發控制機制將防止機器後退行程。

探頭的接頭是專為意外碰撞時釋放探頭及／或探針固定座而設計。

本裝置不適合在具有爆炸危險可能性的環境中使用。

零件之間存在被擠壓的危險。行進中切勿握住探頭與探頭座。

務必依照與原保險絲相同的類型和額定等級將所有保險絲更換，以保安全。

探頭座必須採用 Renishaw 提供的原廠包裝運送。

所使用的電纜線必須符合 Renishaw 規格要求。佈線不正確可能導致裝置損壞。

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ZH - 安全须知



小心: 在拆包和安装REVO系统之前, 用户应仔细阅读下述安全说明, 并确保所有操作人员都能始终遵守这些说明。

RSP3测头系列只能与雷尼绍REVO测座配合使用。

操作人员必须在配装REVO系统的机器环境中, 接受REVO及其随附产品的使用和应用培训, 然后才能获准操作该机器。

在REVO系统的某些组件及其相关产品中使用了永久磁体。请特别注意, 尽量使可能受到磁场影响的物体远离装置, 诸如数据存储系统、心脏起搏器和手表等。

RSP3 LED辐射

RSP3扫描测头系列包含内置高功率LED光源; 如果RSP3的任何部件出现严重损坏或破裂, 请勿使用。在这种情况下, 须立即断开电源, 拆下该部件, 不要再尝试使用。请联系供应商, 获取建议。

RCP TC-2 / RCP TC-3

断开电源的方法是拔下电源线或关闭电源。

RSP3 installation and user's guide

www.renishaw.com

警告

谨防意外移动。用户的位置应该保持在测座和测针的整个工作区以外。机器供应商应确保用户了解系统的整个工作区。

在所有涉及使用机床或坐标测量机的应用中，建议采取保护眼睛的措施。

机器供应商有责任使用户了解操作中存在的任何危险，包括雷尼绍公司产品说明书中提到的危险，并确保提供充分的防护装置和安全联动装置。

参见机器供应商的操作说明书。

系统组件未包含用户可自行维修的部件，RCP TC-2、RCP TC-3、RCP2和FCR25除外。不得尝试拆解本产品的任何部件。如果出现问题，请与供应商联系，获取帮助。

在某些情况下，测头信号可能错误地表示测头已就位。切勿单凭测头信号来停止机器运动。

如果测头发生碰撞，测头触发超控将防止机器后退。

测头连接件设计成在碰撞时释放测头和/或测针夹持座。

本装置不适合在潜在的爆炸性环境中使用。

部件间存在夹伤危险。作动过程中切勿握住测头或测座。

按正确类型和额定功率更换所有保险丝是保证安全的关键。

测座必须采用雷尼绍提供的包装运输。

电缆必须符合雷尼绍的规格。布线不正确可能导致装置损坏。

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