RENISHAW
apply innovation™

How robust is XR20-W?

Overview

XR20-W has been tested to ensure that the product remains operational after factors it would experience through transportation, set up and use. In addition the design has completed lifetime testing on mechanical components that may experience wear.

Transportation

Renishaw is confident that the product will function and remain in calibration after the stresses that it might encounter in air and ground transportation.

To make sure that it is able to be transported by air, XR20-W has been tested in extreme storage temperatures, pressures and humidity, all of which may be experienced in an aircraft hold. Units can be stored between -20°C and 60°C.

To ensure XR20-W withstands freight handling or road transportation it has been tested for vibration and shock whilst in its carry case. These tests require full accuracy to be maintained by the unit, and no structural damage to the exterior of the carry case. If damage has occurred to the internal foam then this must be replaced to ensure product safety in the future.

Setup and use

The XR20-W unit has been through a variety of tests to make sure that it performs during set up and use:

Tests in extreme operational temperatures, pressures and humidity have checked that XR20-W functions within specification in the working environments stated below:

- Operating temperature: 0°C to 40°C
- Altitude: up to 2000m
- Humidity: up to 95%
- To protect against battery damage the XR20-W rotary axis calibrator will not power up when operated below 0°C and above 40°C.

Application note

The XR20-W unit has been impact and vibration tested. The unit should remain calibrated after short drops up to 125mm, impacts during setup and vibrations typical to a machine environment. Beyond this, the XR20-W may remain functional but its accuracy is not guaranteed. Under these circumstances the unit will need to be returned to Renishaw for recalibration.

The product has been tested against coolant splashes and drips to check that it can operate in a manufacturing environment. The unit remains safe after all splash tests. Continued submersion will result in fluid ingress into the unit. It will then need to be returned for repair and recalibration. Please note that any substance on the optics can cause a loss of signal strength, making calibration more difficult.

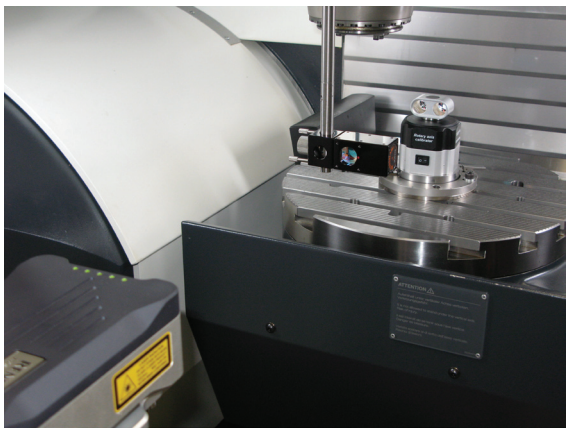
The following recommendations are made for cleaning the optics:

Clean the optics only when necessary. The emphasis should be on handling and storing the optical components so that they don't become dirty or smeared, rather than frequent cleaning.

- Do not touch the optical surfaces
- Do not use in contaminated atmospheres
- Store securely when not in use

To clean the lens:

- Wipe only with non-abrasive lens tissue or cloth, for example spectacle cleaning cloths.
- Use cleaning fluid suitable for spectacles or similar (do not use acetone).
- Clean the optics using a gentle wiping action. Never use a scrubbing action.



Lifetime testing

XR20-W has an expected lifetime of 6 years of standard working use (9000h). To ensure that it meets this lifespan, XR20-W has been tested for deterioration during use as well as all of the tests detailed previously. Deterioration testing has taken place on all user interfaces that experience wear by completing the estimated number of cycles that it would experience during 9000h use.

Calibration is recommended by Renishaw every 3 years over the life of the product, based on typical use of the equipment in a typical environment and the need for performance remaining within published specifications. However, there are several factors that may generate the need for more or less frequent calibrations including:

- Environmental conditions
- Frequency and duration of use
- Harsh treatment of the equipment during storage, transportation or use
- Level of accuracy required by the user
- The requirements of company QA procedures and/or national/local regulations

Ultimately it is for you to determine the appropriate calibration period after taking into account your own operational environment and performance requirements.

This page is intentionally left blank

Renishaw plc

New Mills, Wotton-under-Edge,
Gloucestershire GL12 8JR
United Kingdom

T +44 (0) 1453 524524
F +44 (0) 1453 524901
E uk@renishaw.com

www.renishaw.com

RENISHAW
apply innovation™

About Renishaw

Renishaw is an established world leader in engineering technologies, with a strong history of innovation in product development and manufacturing. Since its formation in 1973, the company has supplied leading-edge products that increase process productivity, improve product quality and deliver cost-effective automation solutions.

A worldwide network of subsidiary companies and distributors provides exceptional service and support for its customers.

Products include:

- **Dental CAD/CAM scanning and milling systems.**
- **Encoder systems for high accuracy linear, angle and rotary position feedback.**
- **Laser and ballbar systems for performance measurement and calibration of machines.**
- **Medical devices for neurosurgical applications.**
- **Probe systems and software for job set-up, tool setting and inspection on CNC machine tools.**
- **Raman spectroscopy systems for non-destructive material analysis.**
- **Sensor systems and software for measurement on CMMs (co-ordinate measuring machines).**
- **Styli for CMM and machine tool probe applications.**

Renishaw worldwide

Australia
T +61 3 9521 0922
E australia@renishaw.com

Austria
T +43 2236 379790
E austria@renishaw.com

Brazil
T +55 11 4195 2866
E brazil@renishaw.com

Canada
T +1 905 828 0104
E canada@renishaw.com

The People's Republic of China
T +86 21 6180 6416
E china@renishaw.com

Czech Republic
T +420 548 216 553
E czech@renishaw.com

France
T +33 1 64 61 84 84
E france@renishaw.com

Germany
T +49 7127 9810
E germany@renishaw.com

Hong Kong
T +852 2753 0638
E hongkong@renishaw.com

Hungary
T +36 23 502 183
E hungary@renishaw.com

India
T +91 80 6623 6000
E india@renishaw.com

Indonesia
T +62 21 2550 2467
E indonesia@renishaw.com

Israel
T +972 4 953 6595
E israel@renishaw.com

Italy
T +39 011 966 10 52
E italy@renishaw.com

Japan
T +81 3 5366 5316
E japan@renishaw.com

Malaysia
T +60 3 5631 4420
E malaysia@renishaw.com

The Netherlands
T +31 76 543 11 00
E benelux@renishaw.com

Poland
T +48 22 577 11 80
E poland@renishaw.com

Russia
T +7 495 231 16 77
E russia@renishaw.com

Singapore
T +65 6897 5466
E singapore@renishaw.com

Slovenia
T +386 1 527 2100
E mail@rls.si

South Korea
T +82 2 2108 2830
E southkorea@renishaw.com

Spain
T +34 93 663 34 20
E spain@renishaw.com

Sweden
T +46 8 584 90 880
E sweden@renishaw.com

Switzerland
T +41 55 415 50 60
E switzerland@renishaw.com

Taiwan
T +886 4 2473 3177
E taiwan@renishaw.com

Thailand
T +66 2 746 9811
E thailand@renishaw.com

Turkey
T +90 216 380 92 40
E turkiye@renishaw.com

UK (Head Office)
T +44 1453 524524
E uk@renishaw.com

USA
T +1 847 286 9953
E usa@renishaw.com

For all other countries
T +44 1453 524524
E international@renishaw.com

H-9920-0429-01

Issued 0412 Part no. H-9920-0429-01-A