CS022 – CRYO STAGE 022



Features

- Fits a 30 mm bore
- Orthogonal xyz motion
- 1kg lifting capacity
- Non-magnetic (on request)
- 20mK to 375K, vacuum compatible
- Position feedback option -RLS
- XY scanning functionality incorporated

Description / Applications

The CS022 offers orthogonal xyz positioning with high load capacity in a compact and robust package. It combines 2 CBS5 positioners for xy motion with a CLA2201 positioner for vertical motion. The latter allows the CS022 to lift loads up to 1kg.

Specifications

General info	
Type of motion	Linear, xyz
Dimensions	See interface drawings below
Operational environmental conditions	20 mK to 375 K, ambient to UHV
Weight	102 g, -RLS adds 2 g
Stepping motion	
Travel range	Up to 5 mm x 5 mm x 5 mm, see drawing
xy positioners	CBS5
z positioner	CLA2201
Velocity @ 300 K	xy 3 mm/s, z 10 µm/s
Velocity @ 4 K	xy 1 mm/s, z 5 µm/s
Minimal step size @ 300 K	xy 150 nm, z 15 nm
Minimal step size @ 4 K	xy 50 nm, z 5nm
Drive voltage	-30 V to 120 V
Scanning motion	
xy scanner	Built-in functionality of CBS5
z scanner	None
Scanning range @ 300 K	10 µm x 10 µm
Scanning range @ 4 K	2 µm x 2 µm
Minimal step size	Sub-nm
Drive voltage @ 300 K	-30 V to 120 V
Drive voltage @ 4 K	-30 V to 120 V
Forces and load capacity	
Driving force @ 300 K	xy 1 N, z 10 N
Driving force @ 4 K	xy 1 N, z 10 N
Load capacity	1 kg
Materials	
Main body	Aluminum
CBS5	Titanium, ceramic, piezo actuator*
CLA2201	Stainless steel 316L, ceramic, piezo actuator*
*Piezo actuator	Low voltage multilayer, ceramic insulated
Model specific information	
-RLS	Resistive Linear Sensor, typical resolution 100 nm RMS
-V, -HV or -UHV	Level of vacuum compatibility, see the glossary on the homepage for details
Electronics CPSC	
Controller Base Cabinet	CAB
Driver for stepping and scanning	CADM
Position readout	RSM

© JPE. Subject to change without notice. All data are outdated by any new release.
JPE disclaims any liability with regard to the accuracy, completeness, and timeliness of the information provided.

Ordering Information

Available Models

CS022-V	Cryo Stage 022
CS022-RLS-V	Cryo Stage 022-Resistive Linear Sensor

Available Options

-HV	Upgrade to High Vacuum compatibility
-UHV	Upgrade to Ultra High Vacuum compatibility (not available for -RLS model)

Accessories

AKM1	Accessory Kit Mechanical 1
AKE1	Accessory Kit Electrical 1

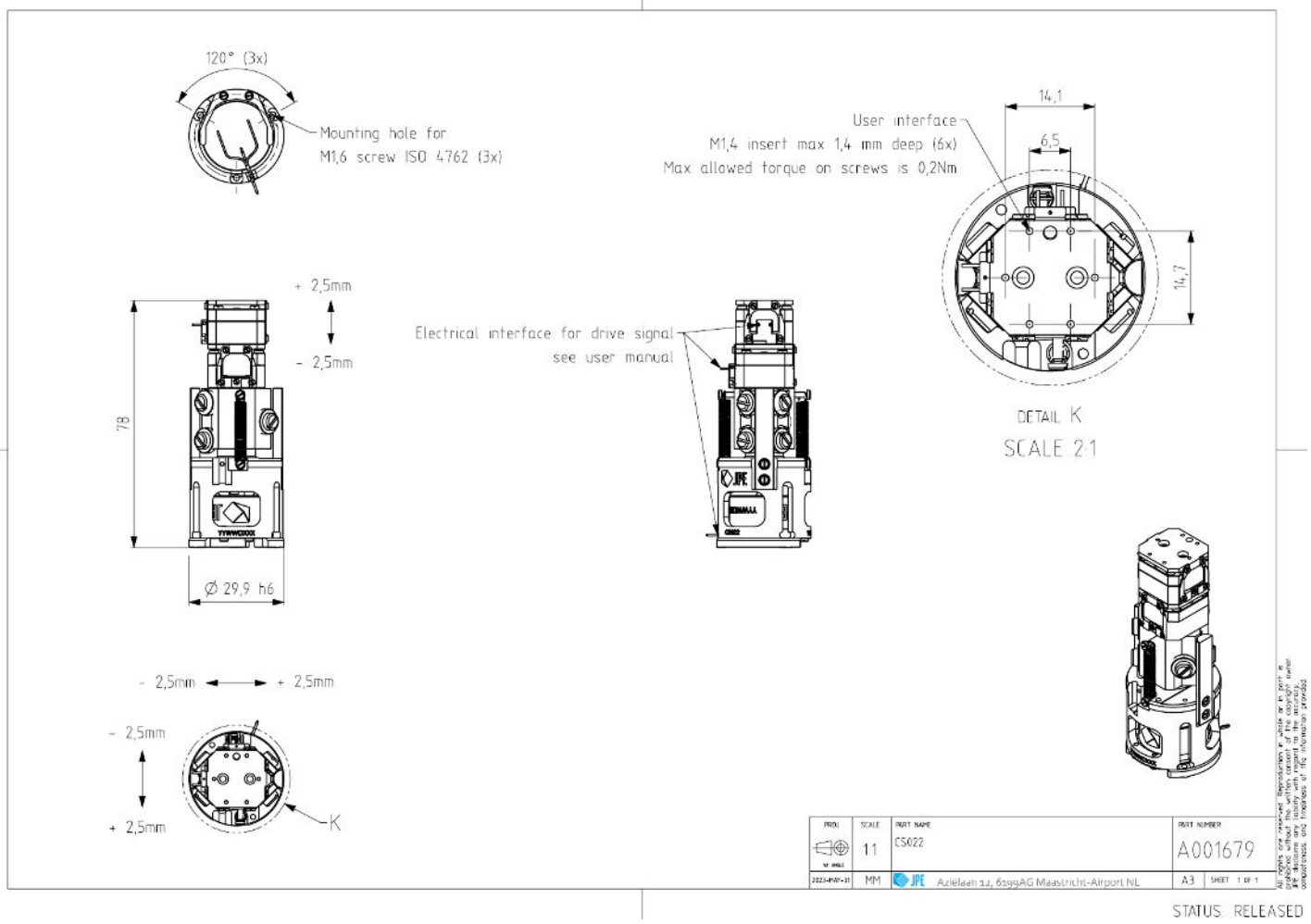
Mechanical and electrical information

Download 3D step files and manuals from:
https://www.jpe-innovations.com/cryo-nano-products/

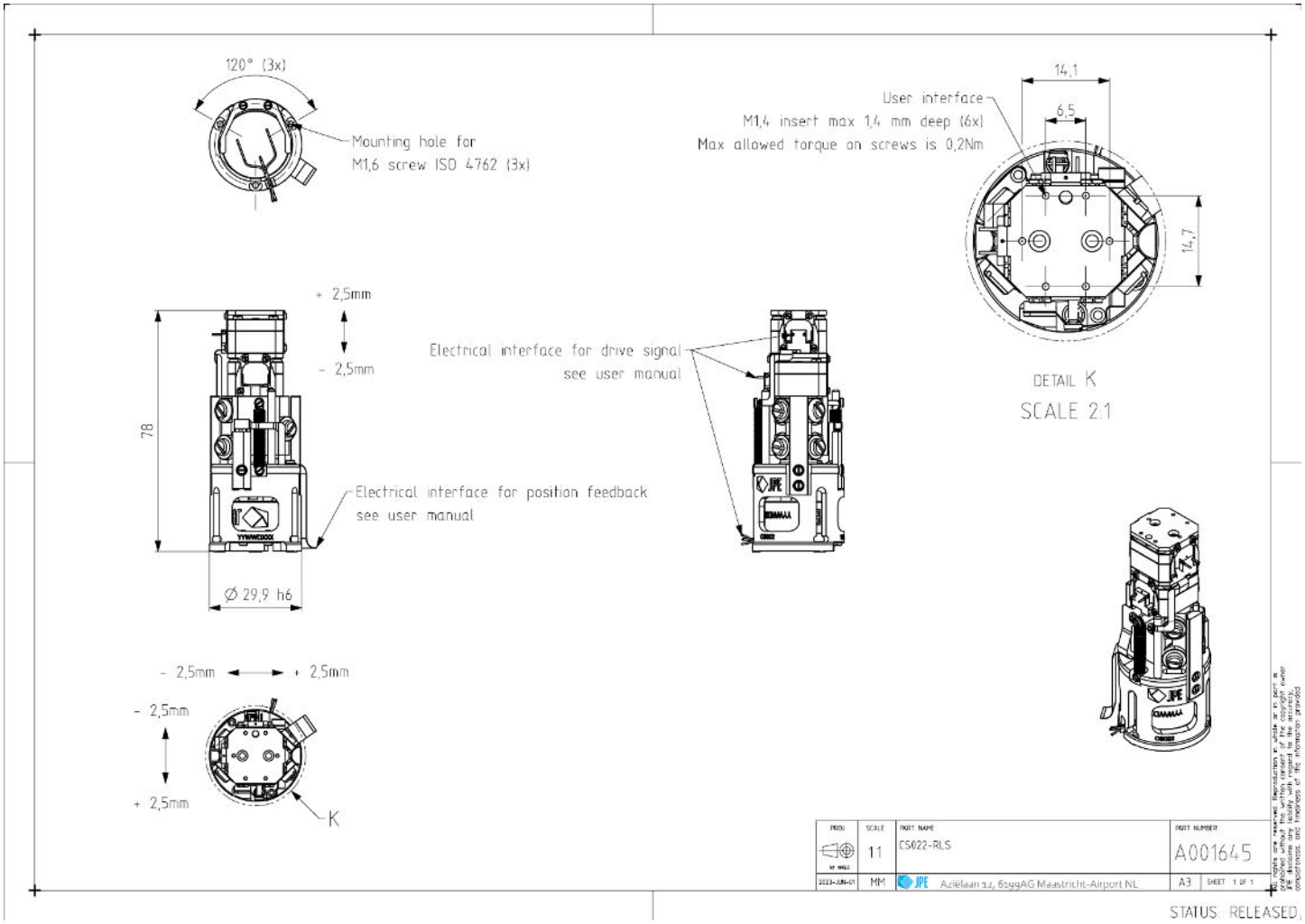
Contact

For quotations, specials, or engineering services, please contact us at:
https://www.jpe-innovations.com/contact/

Drawings



© JPE. Subject to change without notice. All data are outdated by any new release.
JPE disclaims any liability with regard to the accuracy, completeness, and timeliness of the information provided.



© JPE. Subject to change without notice. All data are outdated by any new release.
JPE disclaims any liability with regard to the accuracy, completeness, and timeliness of the information provided.

JPE Aziëlaan 12, 6199 AG Maastricht-Airport, The Netherlands +31 (0) 43 3585 777 www.jpe.nl