# CSR2 – CRYO SAMPLE ROTATOR 2




## Features

- Endless rotation
- Non-magnetic
- High torque output
- Central open aperture
- Integrated scanner functionality
- 20 mK to 375K, vacuum compatible
- Position feedback option -RRS
- Robust design with ceramic roller bearings

## Description / Applications

The CSR2 is a compact rotational positioner with high torque output. The use of spring preloaded ceramic roller bearings results in a large load capacity. It is non-magnetic and can be fitted with a resistive sensor for closed loop control.

## Specifications

| | |
|---|---|
| **General info** | |
| Type of motion | Rotational |
| Dimensions | See drawings below |
| Operational environmental conditions | 20 mK to 375 K, ambient to UHV |
| Weight | 41 g |
| Central open aperture diameter | 2 mm |
| Wobble, typical | ±2 mrad |
| **Stepping motion** | |
| Travel range | Endless |
| Velocity @ 300 K | 40 deg/s |
| Velocity @ 4 K | 12 deg/s |
| Minimal step size @ 300 K | 0,02 mrad |
| Minimal step size @ 4 K | 0,02 mrad |
| **Scanning motion** | |
| Scanning range @ 300 K | 2,5 mrad |
| Scanning range @ 4 K | 0,5 mrad |
| Minimal step size | nrad |
| Drive voltage @ 300 K | -30 V to 120 V |
| Drive voltage @ 4 K | -30 V to 120 V |
| **Forces and load capacity** | |
| Driving torque @ 300 K | 14 Nmm (1,4 Ncm) |
| Driving torque @ 4 K | 9 Nmm (0,9 Ncm) |
| Load capacity, vertical rotation axis | 200 g |
| **Materials** | |
| Main body | Titanium |
| Piezo actuator | Low voltage multilayer, ceramic insulated |
| Roller bearings | Ceramic |
| **Model specific information** | |
| -RRS | Resistive Rotary Sensor, typical resolution 10 µrad RMS, range 335 degrees |
| -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 All data are outdated by any new release.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

| | |
|---|---|
| CSR2-V | Cryo Sample Rotator 2 |
| CSR2-RRS-V | Cryo Sample Rotator 2-Resistive Rotary Sensor |

### Available Options

| | |
|---|---|
| -HV | Upgrade to High Vacuum compatibility |
| -UHV | Upgrade to Ultra High Vacuum compatibility |

### Accessories

| | |
|---|---|
| AKM1 | Accessory Kit Mechanical 1 |
| AKE1 | Accessory Kit Electrical 1 |

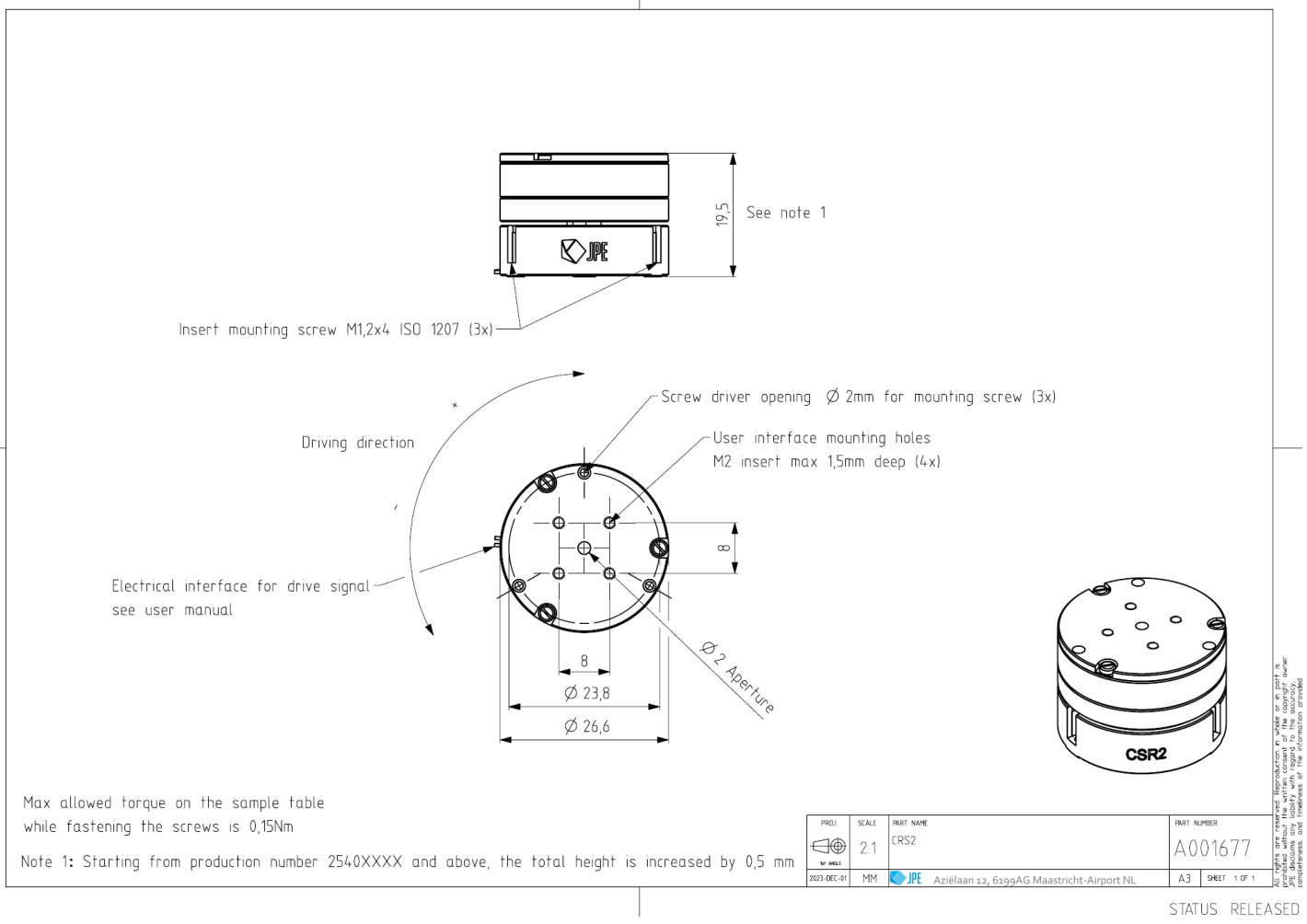
### Mechanical and electrical information

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

### Contact

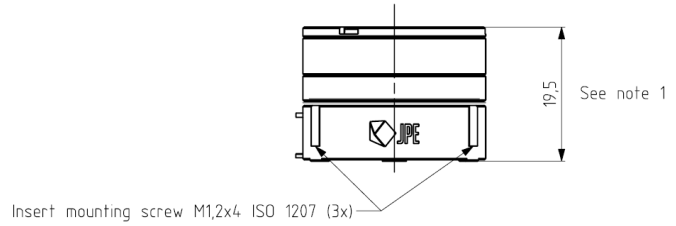
For quotations, specials, or engineering services, please contact us at:
https://www.jpe-innovations.com/contact/

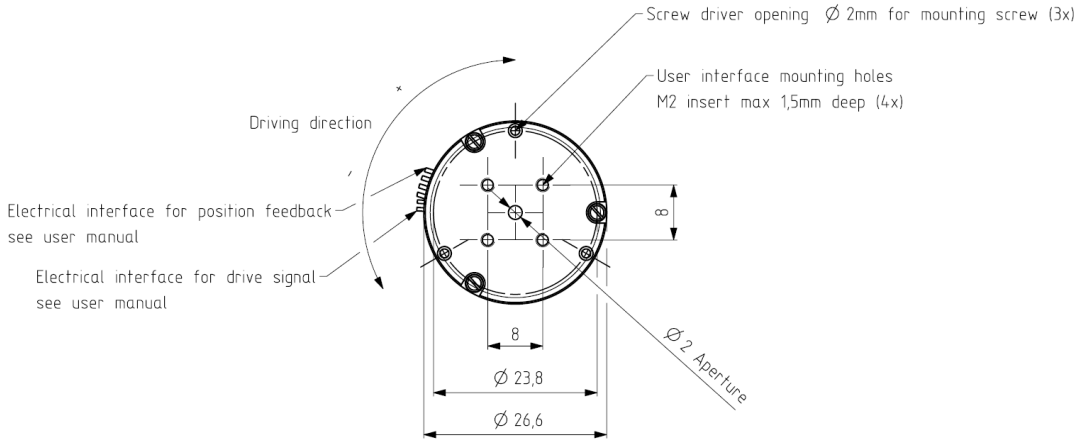
## Drawings

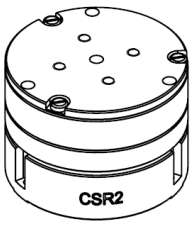





© JPE. Subject to change without notice. All data are outdated by any new release.
JPE disclaims any liability with regard to the accuracy, completeness, and timeliness of the information provided.




Max allowed torque on the sample table
while fastening the screws is 0,15Nm

Note 1: Starting from production number 2540XXXX and above, the total height is increased by 0,5 mm

| PROJ. | SCALE | PART NAME | PART NUMBER |
|---|---|---|---|
| 1st ANGLE | 2:1 | CRS2-RRS | A001624 |
| 2023-DEC-01 | MM | JPE Aziëlaan 12, 6199AG Maastricht-Airport NL | A3 SHEET 1 OF 1 |

ALL RIGHTS are reserved. Reproduction in whole or in part is prohibited without the written consent of the copyright owner. JPE disclaims any liability with regard to the accuracy, completeness, and timeliness of the information provided.

STATUS: RELEASED



© 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.