

## CSR<sub>2</sub> – 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 CSR<sub>2</sub> 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
Electronics CPSC	
Controller Base Cabinet	CAB
Driver for stepping and scanning	CADM
Position readout	RSM

## Ordering Information

### Available models

CSR2	Cryo Sample Rotator 2
CSR2-RRS	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

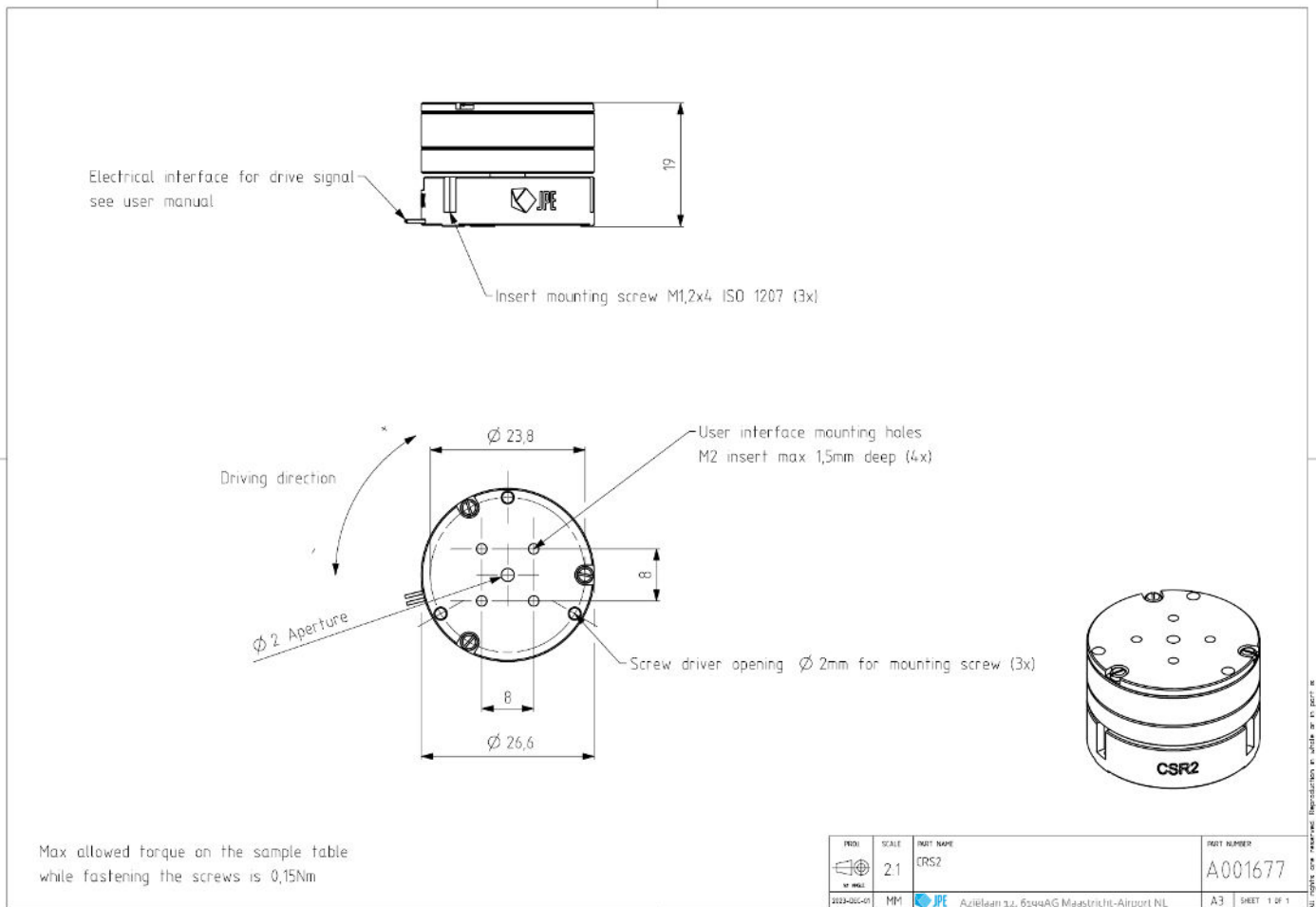
### Mechanical and electrical information

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

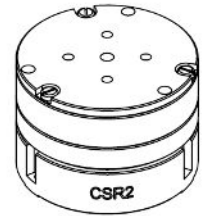
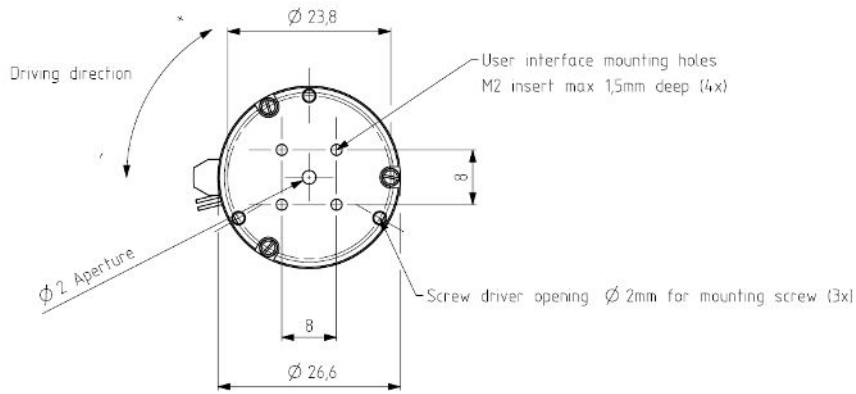


STATUS: RELEASED

Electrical interface for position feedback  
see user manual

Electrical interface for drive signal  
see user manual

Insert mounting screw M1,2x4 ISO 1207 (3x)



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

PROJ	SCALE	PART NAME	PART NUMBER
2023-000-01	2:1	CRS2-RRS	A001624
MM	JPE	Aziëlaan 12, 6599AG Maastricht-Airport NL	A3 SHEET 1 OF 1

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