Driven by innovation

CSR1 – CRYO SAMPLE ROTATOR 1



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 CSR1 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	25 g
Central open aperture diameter	2 mm
Wobble, typical	±2 mrad
Stepping motion	
Travel range	Endless
Velocity @ 300 K	20 deg/s
Velocity @ 4 K	6 deg/s
Minimal step size @ 300 K	0,006 mrad
Minimal step size @ 4 K	0,003 mrad
Scanning motion	
Scanning range @ 300 K	0,6 mrad
Scanning range @ 4 K	0,2 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	9 Nmm (0,9 Ncm)
Driving torque @ 4 K	6 Nmm (0,6 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

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Ordering Information

Available Models

CSR1-V	Cryo Sample Rotator 1
CSR1-RRS-V	Cryo Sample Rotator 1-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

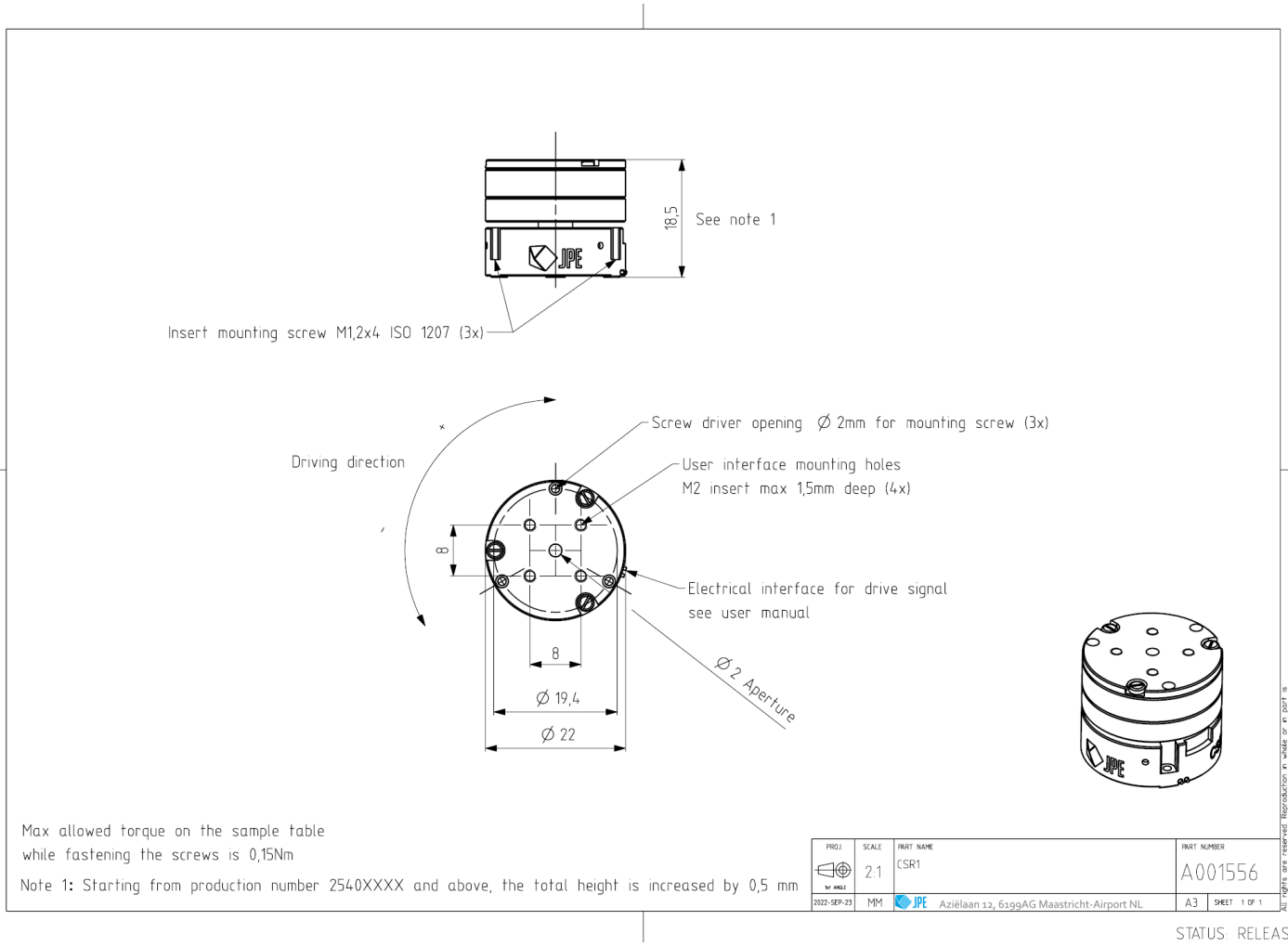
Mechanical and electrical information

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

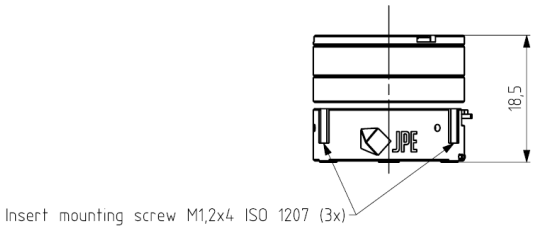
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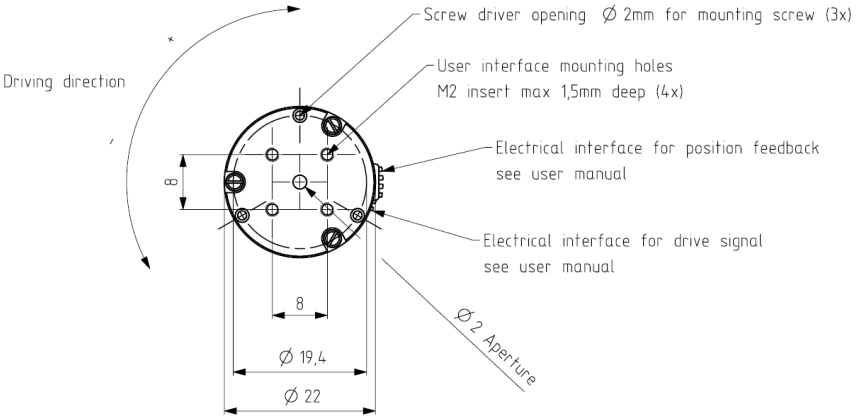
For quotations, specials, or engineering services, please contact us at:
https://www.jpe-innovations.com/contact/

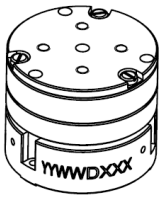
Drawings



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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	CSR1-RRS	A001625
2025-OCT-01	MM	JPE Aziëlaan 12, 6199AG Maastricht-Airport NL	A3 SHEET 1 OF 1

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