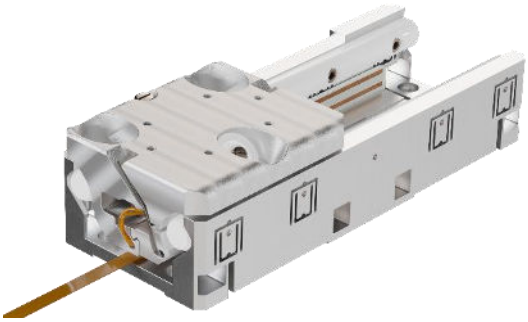
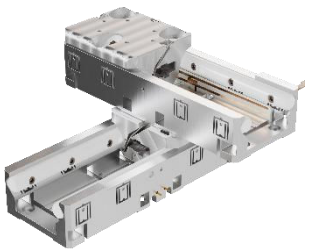
CRD1 – CRYO ROLLER DRIVE 1





Features

- Long range motion; 50 mm
- Non-magnetic
- Configurable to xy
- Innovative ceramic guide minimizes footprint
- Mounting interface compensates CTE mismatch with the users' structure, e.g. cold plate
- Integrated scanner functionality
- 20 mK to 375K, vacuum compatible
- Position feedback option -RLS

Description / Applications

The CRD1 is a 50 mm range cryogenic positioner that can be stacked into a xy configuration. The innovative play-free and low friction guide concept minimizes the operational footprint as parts do not extend out of the base for the full motion range. Despite the larger dimensions easy integration on the end users' structure, e.g. the cold plate, is assured by the mounting interface that allows a CTE mismatch. Also available with resistive position feedback.

Specifications

General info	
Type of motion	Linear, xy configurable
Dimensions	See drawings below
Operational environmental conditions	20 mK to 375 K, ambient to UHV
Weight	180 g, -RLS adds 2 g
Stepping motion	
Travel range	50 mm
Velocity @ 300 K	10 mm/s
Velocity @ 4 K	3 mm/s
Minimal step size @ 300 K	300 nm
Minimal step size @ 4 K	150 nm
Drive voltage	-30 V to 120 V
Scanning motion	
Scanning range @ 300 K	15 µm
Scanning range @ 4 K	5 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	1 N
Driving force @ 4 K	1 N
Load capacity @ horizontal motion	2 kg, reduced to 0,5 kg for xy configuration
Load capacity @ vertical motion	100 g
Materials	
Main body	Aluminum, Titanium
Piezo actuator	Low voltage multilayer, ceramic insulated
Linear guides	Ceramic
Model specific information	
-RLS	Resistive Linear Sensor, typical resolution 300 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

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Ordering Information

Available Models

CRD1-V	Cryo Roller Drive 1
CRD1-RLS-V	Cryo Roller Drive 1- Resistive Linear 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

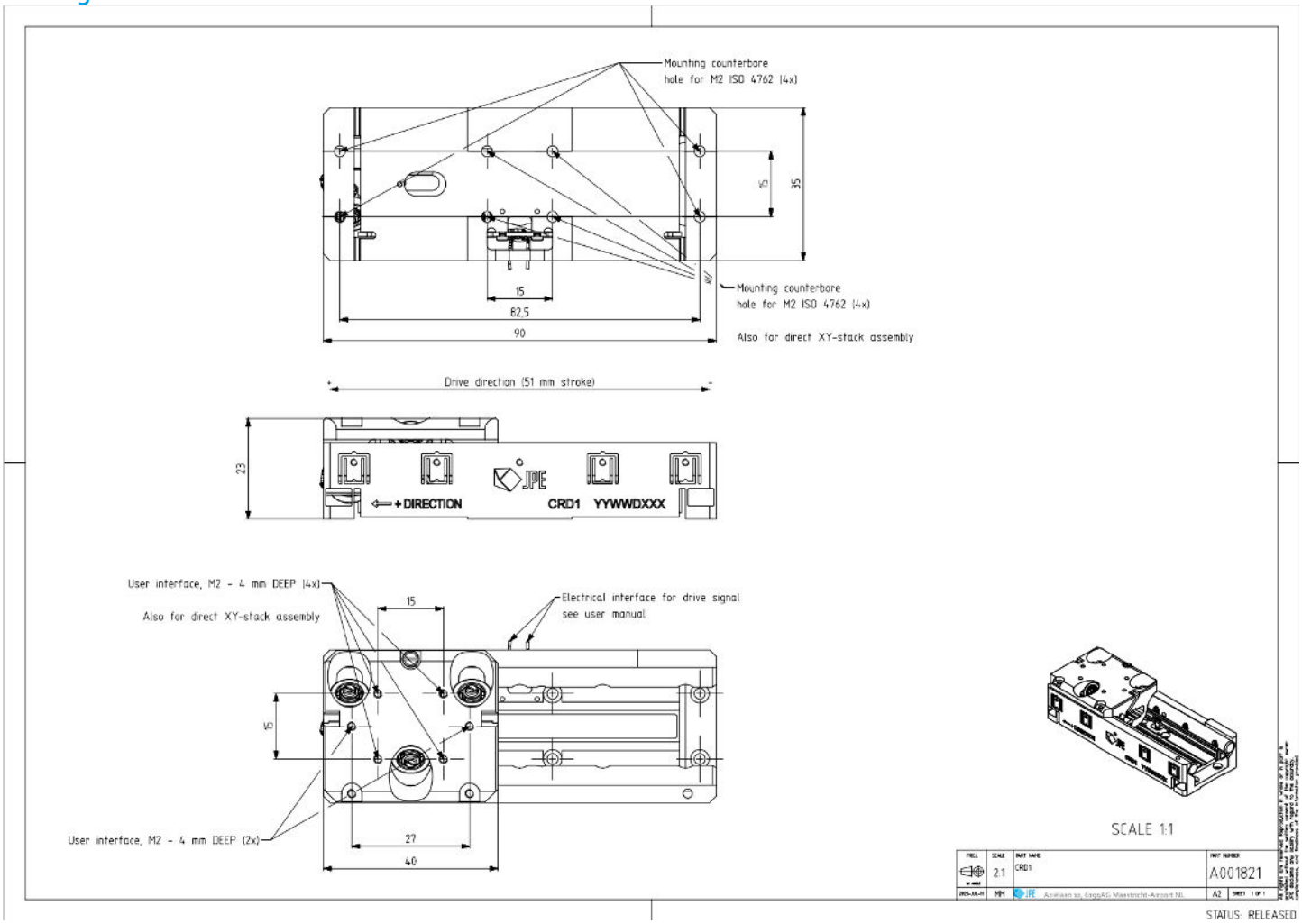
Mechanical and electrical information

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

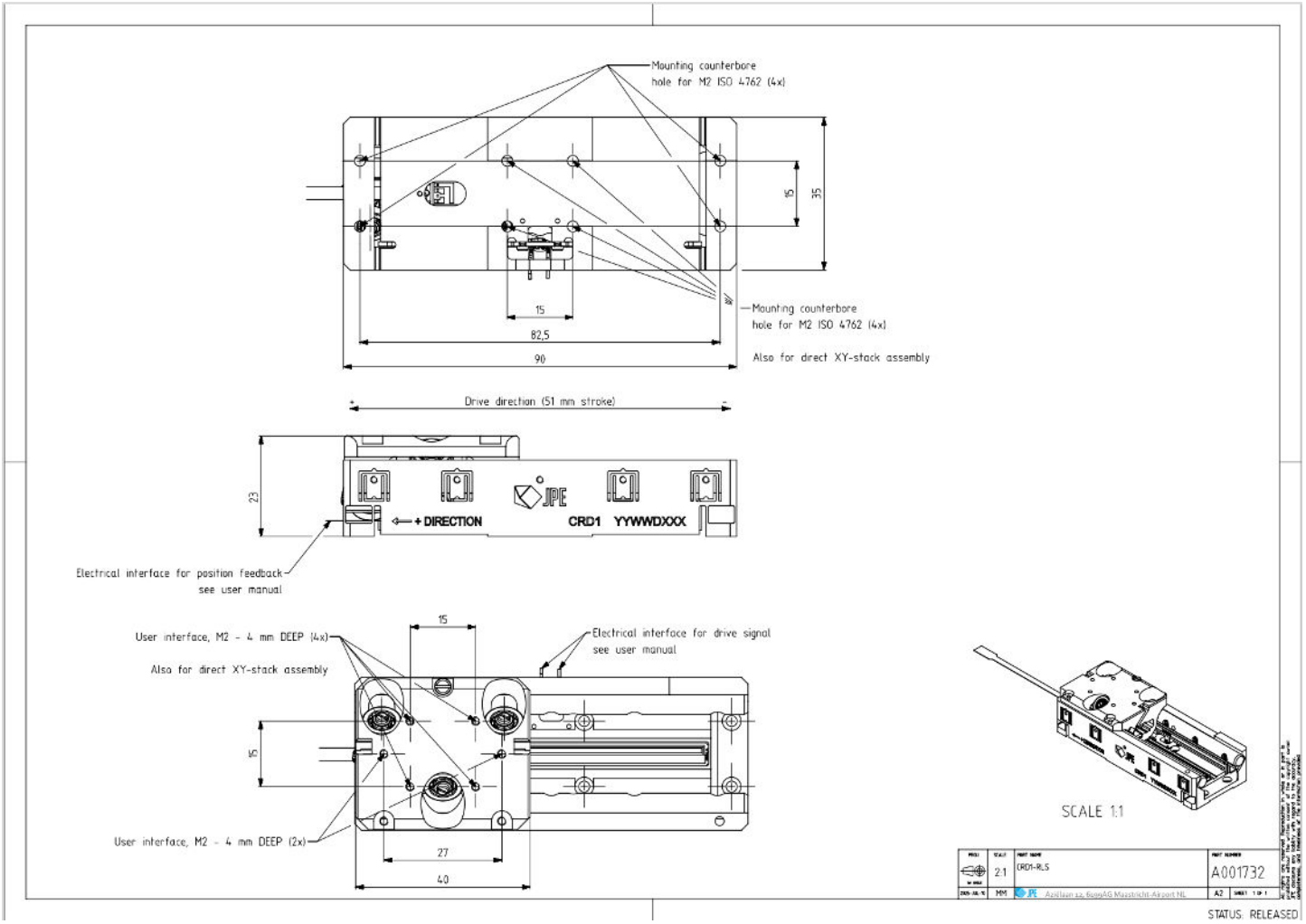
Contact

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

Drawings



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