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## Direct-Drive Rotary Collet Stage **ASR1300**

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### Tube Processing with Extreme Speed & Precision

Engineered and optimized for high-throughput tubular processing applications, ASR1300 is the fastest and most capable rotary collet stage available. Now able to accept tubes with up to 4 mm outer diameter, ASR1300 accommodates Levin Type-D dead-length collets—so your workpiece has virtually zero axial motion when the collet opens and closes. This helps to reduce errors in the laser-cutting of stents, hypotubes, catheters and similar devices. ASR1300 has a maximum rated speed of 3000 rpm. With its high-torque, low-inertia design, it can accelerate from zero to 1500 rpm over a mere 90 degrees of travel, making ASR1300 considerably faster and more suitable than a spindle for tubular processing. Plus, ASR1300 is our lightest and most compact rotary collet stage, so it's ideal for integrating with high-throughput tube processing machines.

### Key Applications

The ASR1300 is the lightest, fastest and most capable direct-drive rotary collet stage available. It's ideal for the high-throughput manufacturing of medical devices and tubular products, such as:

- ◆ Coronary stents
- ◆ Peripheral vascular stents
- ◆ Neurovascular stents
- ◆ Hypotubes
- ◆ Coronary microcatheters
- ◆ Guidewires

### KEY FEATURES:

- ◆ Accepts tube **DIAMETERS FROM 0.1 mm TO 4 mm - NEW**
- ◆ Compatible with **TYPE-D COLLETS**
- ◆ Minimal collet runout - **LESS THAN 25 µm TIR**
- ◆ Optimized for **MAXIMUM ACCELERATION**
- ◆ Features a **CLEAR, THROUGH-BORE APERTURE & GUIDE SYSTEM** for tube feedthrough
- ◆ **ULTRA-COMPACT**, lightweight design simplifies integration & improves throughput
- ◆ Available with **OPTIONAL WATER COOLING** for maximum throughput

## ASR1300 SERIES SPECIFICATIONS

Mechanical Specifications		
Travel		±360° continuous
Accuracy		±73 μrad (±15 arc sec)
Bidirectional Repeatability		±10 μrad (±2 arc sec)
Maximum Speed <sup>(1)</sup>		3000 rpm
Acceleration	Peak <sup>(1)</sup>	8000 rad/s <sup>2</sup>
	Continuous <sup>(1)(2)</sup>	3300 rad/s <sup>2</sup>
Maximum Torque (Continuous)		0.7 N·m
Tube Capacity		Up to 4 mm Collet ID
Load Capacity <sup>(3)</sup>	Radial	2.0 kg
	Axial	0.50 kg
	Moment	0.75 N·m
Analog Outputs		0 (Available with -EB1 I/O Expansion Board, see below)
Rotor Inertia (Unloaded)		0.00013 kg·m <sup>2</sup>
Stage Mass		2.8 kg
Collet Type		Type D (Louis Levin & Sons™) Normally-Open
Collet Runout <sup>(4)</sup>		<25 μm
Minimum System Air Pressure <sup>(5)</sup>		100 psig
Material		Hard Coat Aluminum; Stainless Steel; Polymer
MTBF		10,000 Hours

**Notes:**

1. Requires selection of appropriate amplifier with sufficient voltage, current, and encoder frequency. Over 2000 rpm requires HPe drive or Npaq.
2. Based on steady-state temperature rise of motor by 20°C from ambient with Water Cooling option. Continuous accel limit is 1600 rad/s<sup>2</sup> without Water Cooling option.
3. Maximum loads are mutually exclusive. Loading limits are due to the collet chuck mechanism. Contact Aerotech directly if part load requirement exceeds specifications.
4. TIR of precision gage pin in an ultra-precision collet. Measured 3 mm away from collet face at 100 psig applied air pressure for ASR1300.
5. The ASR1300 contains a collet chuck mechanism that is normally-open. Collet mechanism requires air to close collet chuck. Air supply must be dry (0°F dew point), oil-less air or 99.99% pure nitrogen. Air or nitrogen must be filtered to 1 micron particle size or better.

Electrical Specifications		
Drive System	Brushless, Direct-Drive Servomotor	
Feedback System	1 Vpp, Incremental Noncontact Optical Encoder, 7200 lines/rev	
Maximum Bus Voltage	320 VDC	



## ASR1300 ORDERING OPTIONS

### Water Cooling (Optional)

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**-WC** Motor water cooling

### Connector (Required)

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**-CN1** 4-pin HPD motor and 25-pin D feedback connectors

**-CN2** 25-pin D motor and 25-pin D feedback connectors

### Mounting Plate (Optional)

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**-MP1** Mounting plate - no water cooling

**-MP2** Mounting plate - with water cooling

### Mounting Orientation (Required)

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**-MT1** Normal mounting

**-MT2** Left-side mounting

**-MT3** Inverted mounting

**-MT4** Right-side mounting

### Integration (Required)

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Aerotech offers both standard and custom integration services to help you get your system fully operational as quickly as possible. The following standard integration options are available for this system. Please consult Aerotech if you are unsure what level of integration is required or if you desire custom integration support with your system.

**-TAS Integration - Test as system**

Testing, integration and documentation of a group of components as a complete system that will be used together (ex: drive, controller and stage). This includes parameter file generation, system tuning and documentation of the system configuration.

**-TAC Integration - Test as components**

Testing and integration of individual items as discrete components. This is typically used for spare parts, replacement parts or items that will not be used or shipped together (ex: stage only). These components may or may not be part of a larger system.

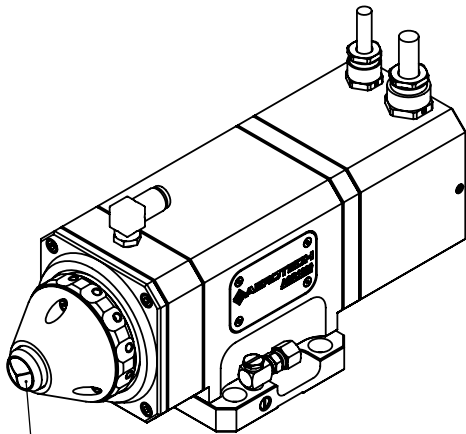
### Accessories (to be ordered as separate line item)

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**Collet-D-CLTxx** Collet, Type-D, Part Sizes from 0.1 mm to 4 mm

**CGF** Collet and gripper filtration kit

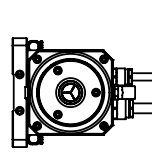
# ASR1300 SERIES DIMENSIONS



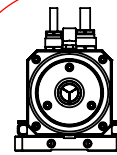
COLLET RANGE:  
 $\varnothing 0.1\text{MM} - \varnothing 4.0\text{MM}$

ASR1300  
 WATER COOLING (-WC)

MOUNTING ORIENTATION  
 INVERTED (-MT3)

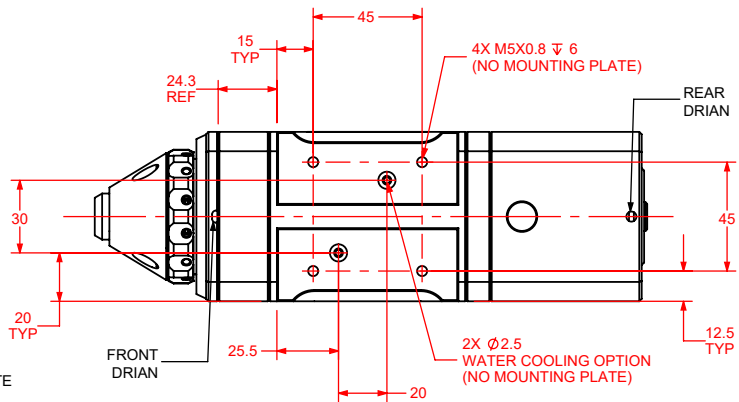
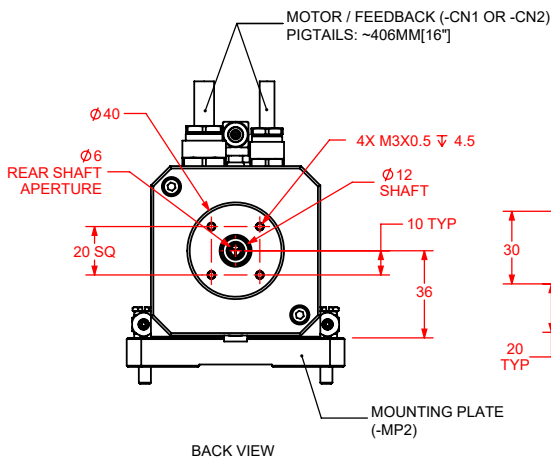
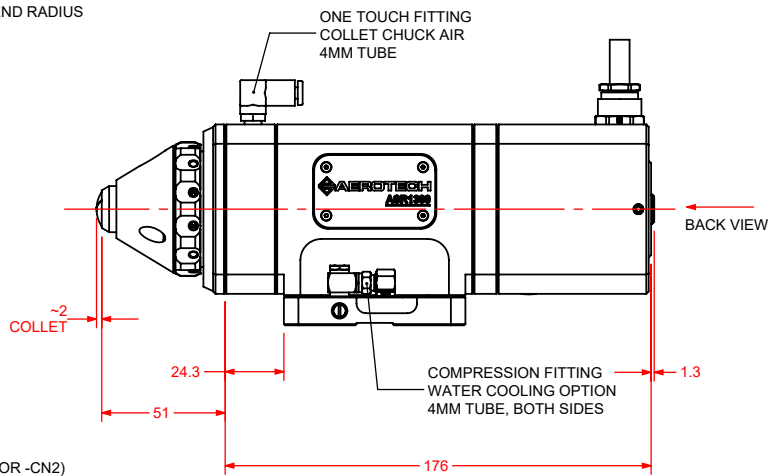
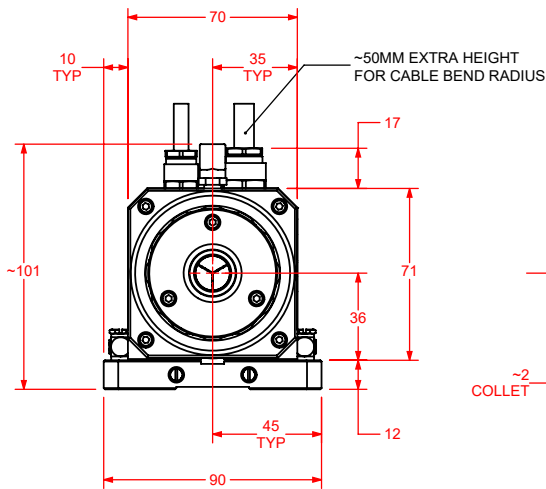
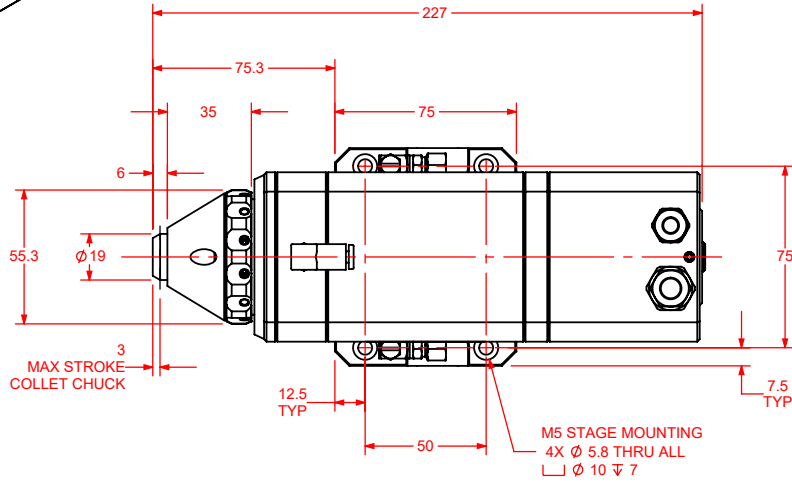


LEFT-SIDE (-MT2)



NORMAL (-MT1)

RIGHT-SIDE (-MT4)



DIMENSIONS: MILLIMETERS

