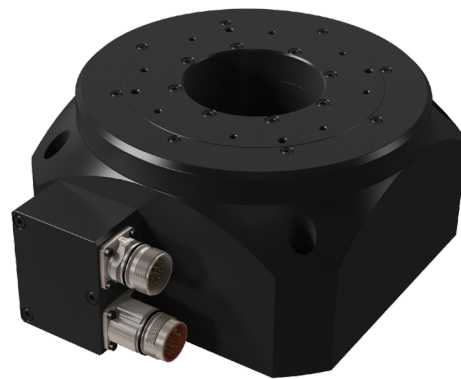


## Precision Rotary Table

### FEATURES

- Continuous 360° rotation
- 75mm through bore
- High resolution, absolute encoder
- High torque, direct drive brushless servo motor
- Dust and moisture seals



The HTR-DD Series Rotary tables are direct drive, precision positioning tables designed for laboratory, factory automation and semiconductor processing equipment. The high torque brushless direct drive technology eliminates backlash and improves reliability by minimizing sliding friction throughout the stage. The large bore allows convenient routing of tubing and cabling for application requirements. Positioning resolution can be selected, with most controls, to meet the needs of the final application. This HTR model includes seals to protect against dust and moisture, making this stage perfect for dirty and harsh industrial environments.



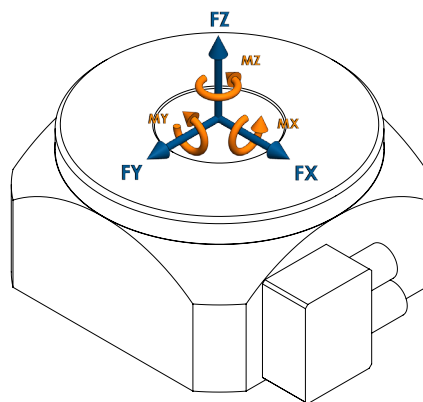
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P: 866.906.2709 | F: 919.882.1430  
www.griffinmotion.com

HTR-DD-200-AA-M-A-S-J-00

## Motion Specifications

## Product Specifications

|                                                   |                                 |
|---------------------------------------------------|---------------------------------|
| Angular Accuracy (arc-sec)                        | 30                              |
| Angular Repeatability (arc-sec)                   | 3                               |
| Angular Resolution (arc-sec)                      | 0.019                           |
| Peak Angular Velocity (deg/s)                     | 2190                            |
| Continuous Angular Velocity (deg/s)               | 550                             |
| Axial Runout ( $\mu\text{m}$ )                    | 10                              |
| Continuous Torque (N·m)                           | 8.4                             |
| Encoder Output                                    | BiSS C (uni-directional) 26 bit |
| Force X (N)                                       | 250                             |
| Force Y (N)                                       | 250                             |
| Force Z (N)                                       | 500                             |
| Height (mm)                                       | 104                             |
| Length (mm)                                       | 225                             |
| Limit Switches                                    | No                              |
| Moment X (N·m)                                    | 25                              |
| Moment Y (N·m)                                    | 25                              |
| Moment Z (N·m)                                    | 8.4                             |
| Encoder Resolution (arc-sec)                      | 0.019 (67108864cts/rev)         |
| Peak Torque (N·m)                                 | 13.5                            |
| Radial Runout ( $\mu\text{m}$ )                   | 10                              |
| Rotational Inertia ( $\text{kg}\cdot\text{m}^2$ ) | 0.008314                        |
| Stage Mass (kg)                                   | 8.98                            |
| Travel Range (deg)                                | 360 continuous                  |
| Width (mm)                                        | 190                             |
| Wobble (arc-sec)                                  | 10                              |



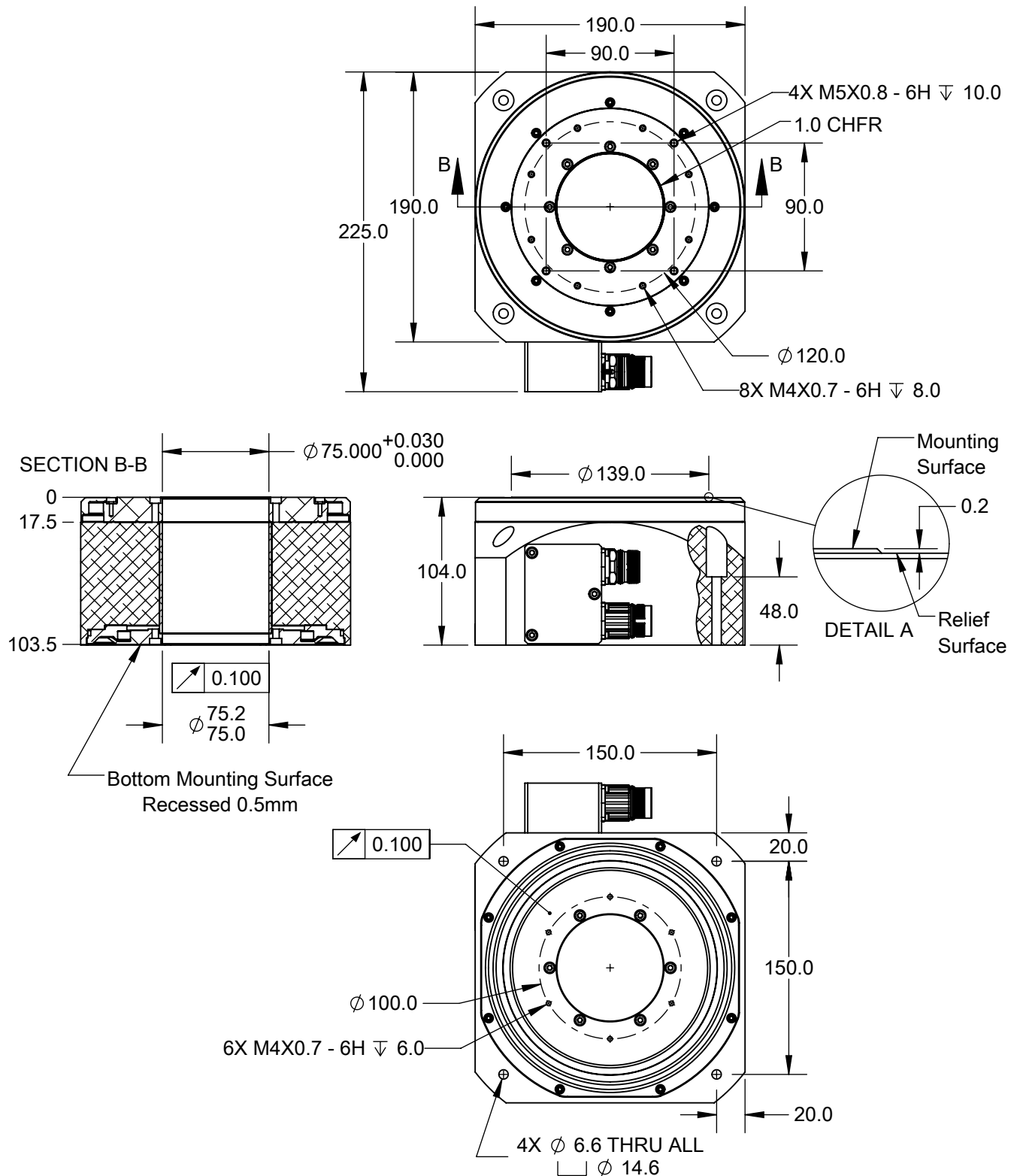
LOAD DIRECTIONS

## Part Number Description

|     |                                       |
|-----|---------------------------------------|
| HTR | HTR Series                            |
| DD  | Direct Drive                          |
| 200 | 200mm Diameter                        |
| AA  | Absolute Metal Ring                   |
| M   | No Interpolation                      |
| A   | Aluminum Hub                          |
| S   | Standard Precision                    |
| J   | Dust and Moisture Seals               |
| 00  | Standard Product<br>(Call for custom) |

HTR-DD-200-AA-M-A-S-J-00

## Mechanical Specifications

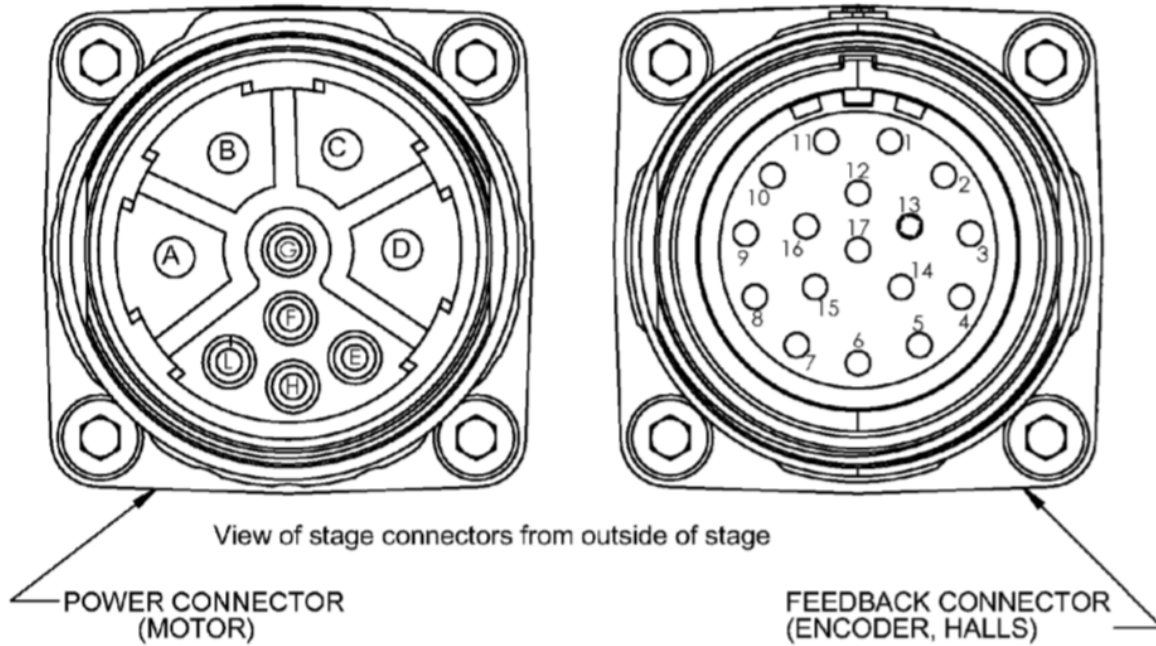


HTR-DD-200-AA-M-A-S-J-00

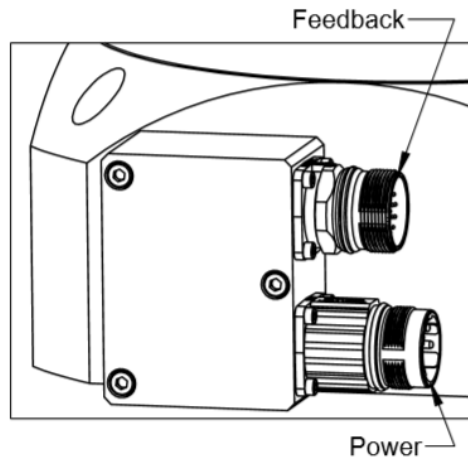
Rev 2

HTR-DD-200-AA-M-A-S-J-00

Electrical Pinout



| POWER CONNECTOR |             |
|-----------------|-------------|
| PIN             | NAME        |
| A               | PHASE A (U) |
| B               | PHASE B (V) |
| C               | PHASE C (W) |
| D               | PE GROUND   |
| E               | *           |
| F               | *           |
| G               | *           |
| H               | *           |
| L               | *           |
| *               | Reserved    |



| FEEDBACK CONNECTOR |          |
|--------------------|----------|
| PIN                | NAME     |
| 1                  | SLO +    |
| 2                  | SLO -    |
| 3                  | *        |
| 4                  | *        |
| 5                  | *        |
| 6                  | *        |
| 7                  | *        |
| 8                  | *        |
| 9                  | +5VDC    |
| 10                 | GND      |
| 11                 | *        |
| 12                 | MA+      |
| 13                 | TEMP     |
| 14                 | MA-      |
| 15                 | *        |
| 16                 | *        |
| 17                 | *        |
| *                  | Reserved |

| Connectors on Stage |            |                          |
|---------------------|------------|--------------------------|
| Manufacturer        | Part No.   | Description              |
| Amphenol            | MA1LAE1700 | Connector, REC, 17POS    |
| Amphenol            | MB1LLN0900 | Connector, REC, 9POS     |
| Amphenol            | SC000035   | Connector Pin, Male, 1mm |
| Amphenol            | SC000036   | Connector Pin, Male, 2mm |



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## Electrical Specifications

| Motor Specifications             |                       |
|----------------------------------|-----------------------|
| Motor Type                       | 3 $\Phi$ Brushless DC |
| BEMF Constant (V/KRPM)           | 209                   |
| Electrical Time Constant (ms)    | 2.75                  |
| Max Bus Voltage (VDC)            | 300                   |
| Max Continuous Current (Arms)    | 4.56                  |
| Motor Torque Constant (N·m/Arms) | 3.45                  |
| Peak Current (Arms)              | 13.3                  |
| Pin to Pin Inductance (mH)       | 30                    |
| Pin to Pin Resistance (ohm)      | 10.9                  |
| Poles per Revolution             | 36                    |

| Feedback Specifications        |                                                                       |
|--------------------------------|-----------------------------------------------------------------------|
| Supply Voltage (V)             | 5.0 $\pm$ 10%                                                         |
| Supply Current (mA)            | 250                                                                   |
| Encoder Feedback               | Yes                                                                   |
| Encoder Type                   | Absolute                                                              |
| Encoder Output                 | BiSS C (uni-directional) 26 bit                                       |
| Encoder Resolution             | 26 bit (67 108 864 counts per revolution, $\approx$ 0.019 arc second) |
| Encoder Error and Warning bits | Active low                                                            |
| Hall Switch Output             | None                                                                  |
| Limit Switches                 | No                                                                    |