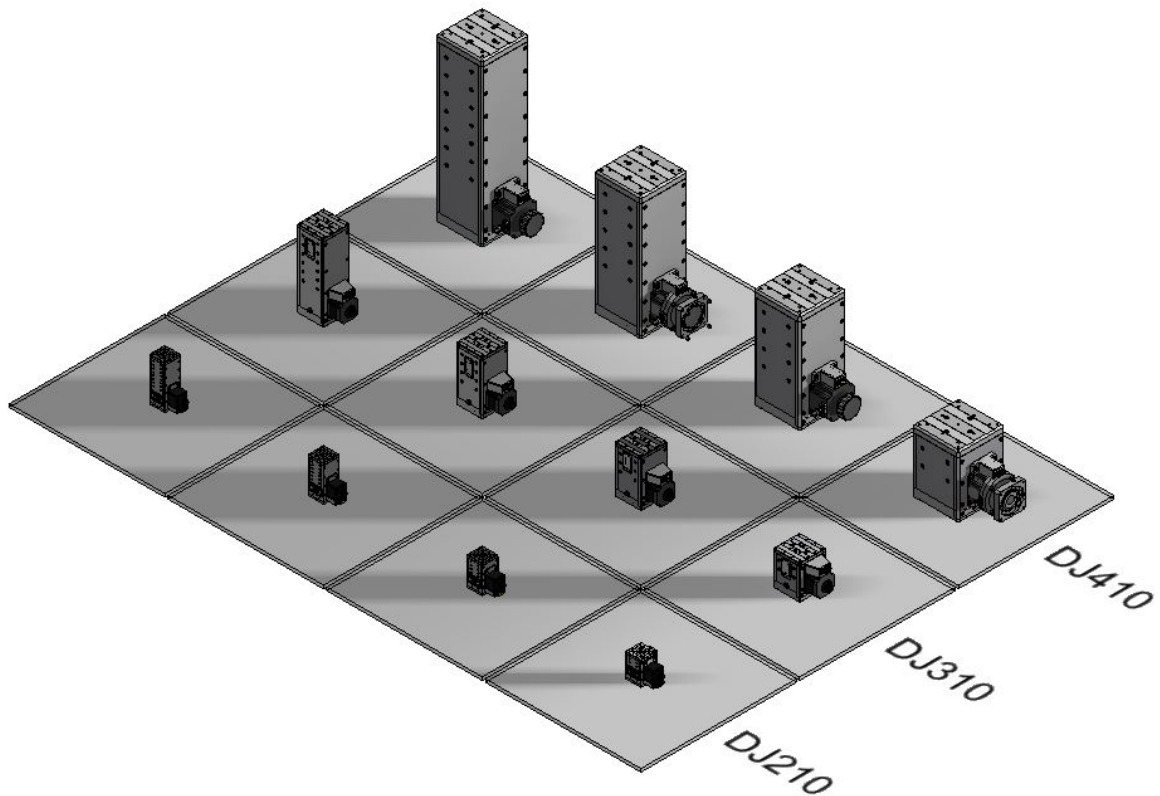




High Precision Lift Stages

DJ Series



August 2023



SPECIFICATIONS

The lift stages are driven by a high class preloaded ballscrew coupled to a high torque electric motor. Maximum rigidity is assured through the use of preloaded crossed roller linear bearings. Resolution requirements may be met using a gearbox. Each jack also features two fully adjustable, normally closed limit switches to define the extents of travel.

MECHANICAL

| Specification | 210 Series | 310 Series | 410 Series |
|-----------------------------------|----------------|-----------------|-------------------|
| Travel (mm) | 10, 25, 35, 50 | 25, 50, 75, 100 | 50, 100, 150, 200 |
| Lead Accuracy (um/25mm) | 2.5 | 5 | 5 |
| Trajectory Straightness (um/25mm) | 2.5 | 3 | 4 |
| Travel Resolution (mm/rev) | 0.5 | 0.5 | 1 |
| Maximum Speed (mm/sec) | 25 | 12.5 | 20 |

ELECTRICAL

| Specification | DS210 Series | DS310 Series | DS410 Series |
|-----------------|---------------------------------|--|--------------|
| Motor | 2-Phase; 5-Phase Stepper; DC | | |
| Limit Switches | Mechanical, Normally Closed | | |
| Optical Encoder | Not available in the 210 SERIES | Renishaw Incremental or Absolute (http://www.renishaw.com) | |

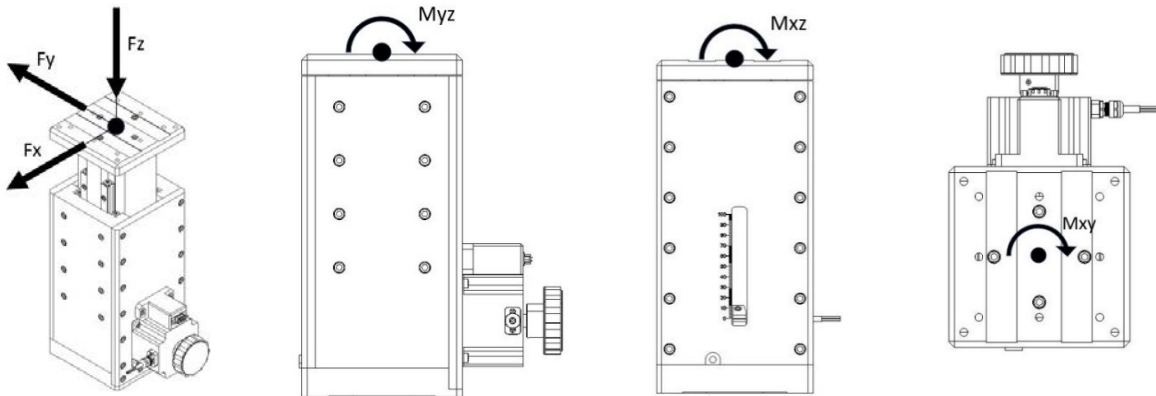
LOAD CHARACTERISTICS

| Model | F _x (N) | F _y (N) | F _z (N) | M _{xz} (Nm) | M _{yz} (Nm) | M _{xy} (Nm) |
|----------|--------------------|--------------------|--------------------|----------------------|----------------------|----------------------|
| DJ210-15 | 57 | 28 | 500 | 1.5 | 0.75 | 14.5 |
| DJ210-25 | 89 | 44.5 | 500 | 3.5 | 1.75 | 29 |
| DJ210-40 | 112.5 | 56 | 500 | 5.5 | 2.5 | 46.5 |
| DJ210-50 | 119 | 59.5 | 500 | 7.5 | 3.5 | 61.5 |

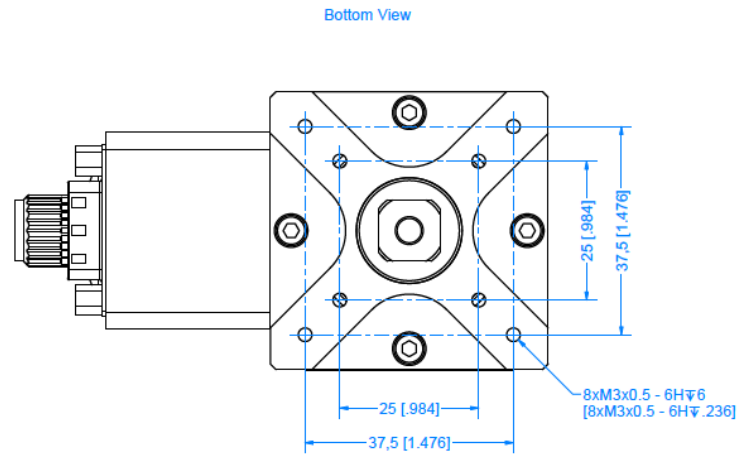
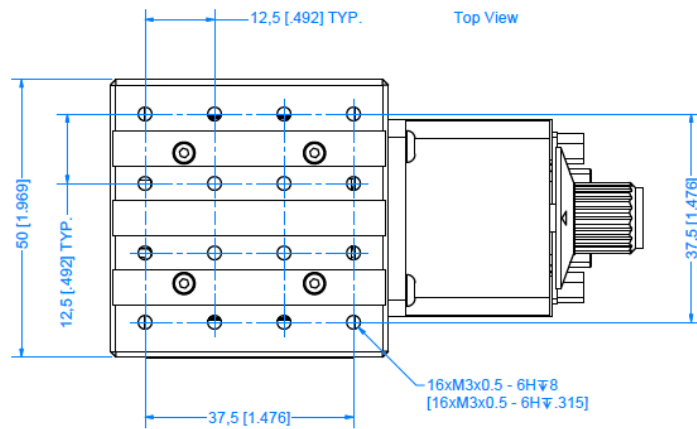
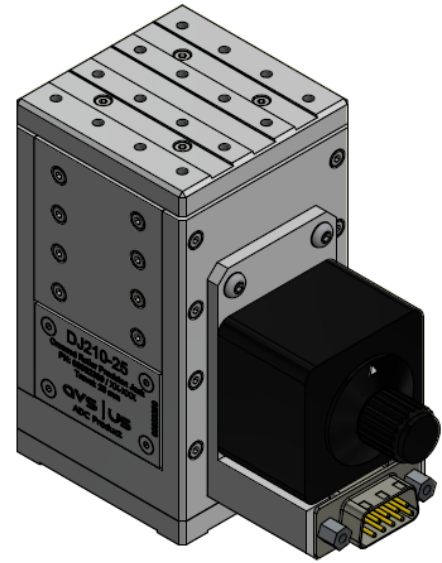
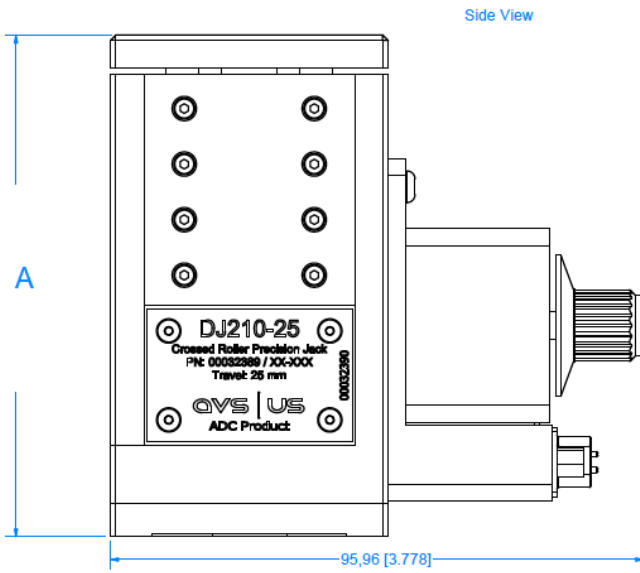
| Model | F _x (N) | F _y (N) | F _z (N) | M _{xz} (Nm) | M _{yz} (Nm) | M _{xy} (Nm) |
|-----------|--------------------|--------------------|--------------------|----------------------|----------------------|----------------------|
| DJ310-25 | 525.5 | 262.5 | 5080 | 25.5 | 12.5 | 168 |
| DJ310-50 | 477 | 238.5 | 5080 | 34.5 | 17 | 216 |
| DJ310-75 | 409 | 204 | 5080 | 38.5 | 19 | 240 |
| DJ310-100 | 633.5 | 316.5 | 5080 | 77.5 | 38.5 | 456 |

| Model | F _x (N) | F _y (N) | F _z (N) | M _{xz} (Nm) | M _{yz} (Nm) | M _{xy} (Nm) |
|-----------|--------------------|--------------------|--------------------|----------------------|----------------------|----------------------|
| DJ410-50 | 2241.5 | 1120.5 | 10170 | 234.5 | 117 | 1650 |
| DJ410-100 | 3216.5 | 1608 | 10170 | 536 | 268 | 3506 |
| DJ410-150 | 3121 | 1560.5 | 10170 | 636.5 | 318 | 4125 |
| DJ410-200 | 3346.5 | 1673 | 10170 | 905 | 452.5 | 5775.5 |

*Loads are not simultaneous

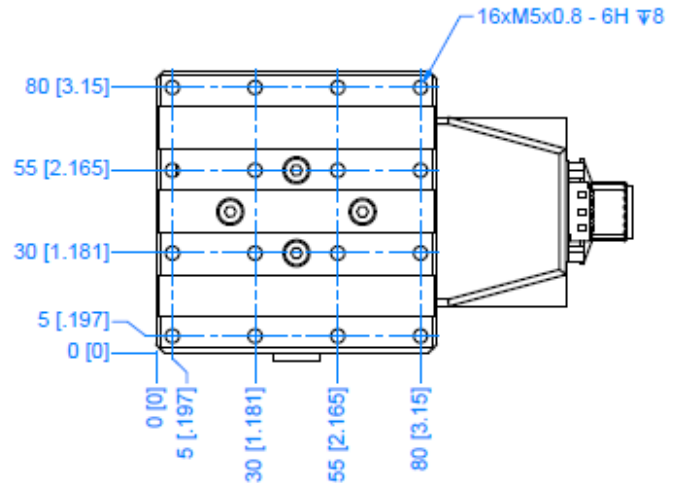
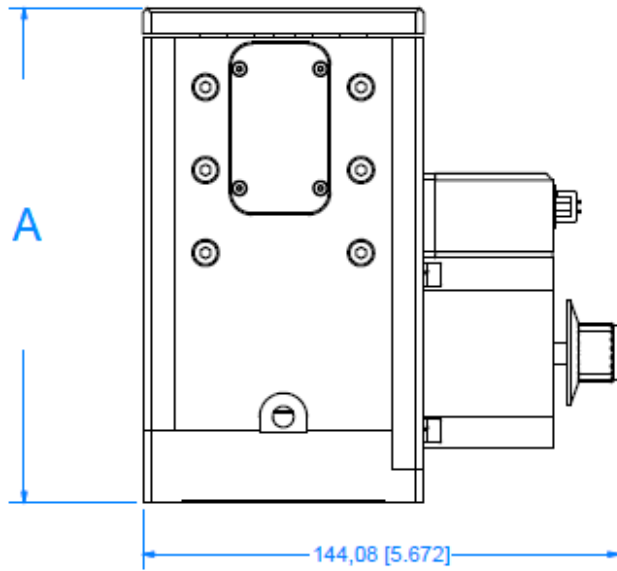
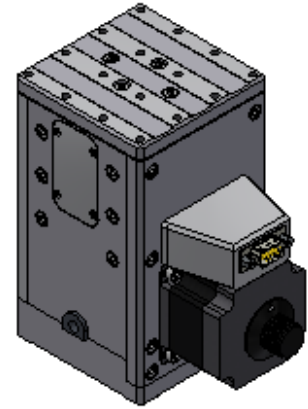
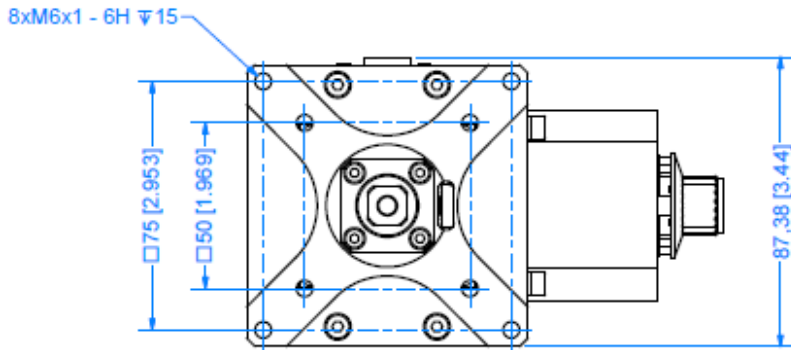


DJ210



| Model | 10 | 25 | 35 | 50 |
|-----------------------|------|------|-------|-------|
| A- Closed Height (mm) | 75.5 | 89.4 | 113.9 | 137.4 |

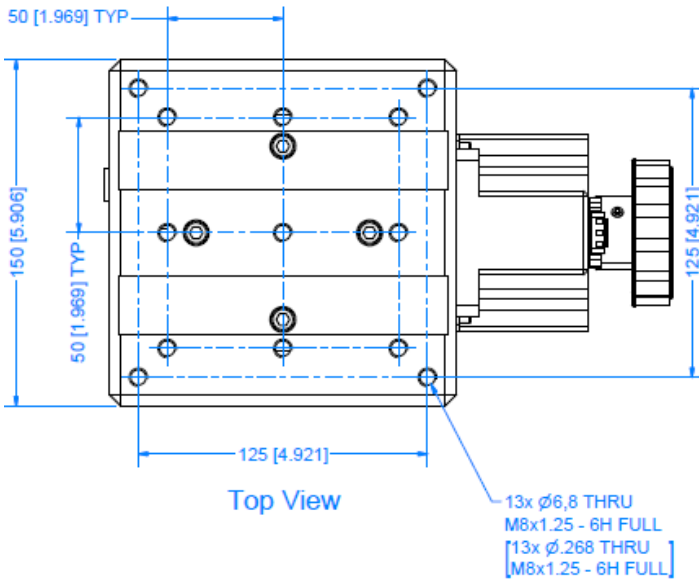
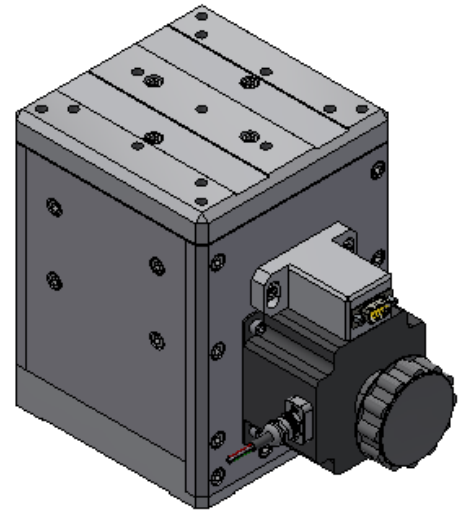
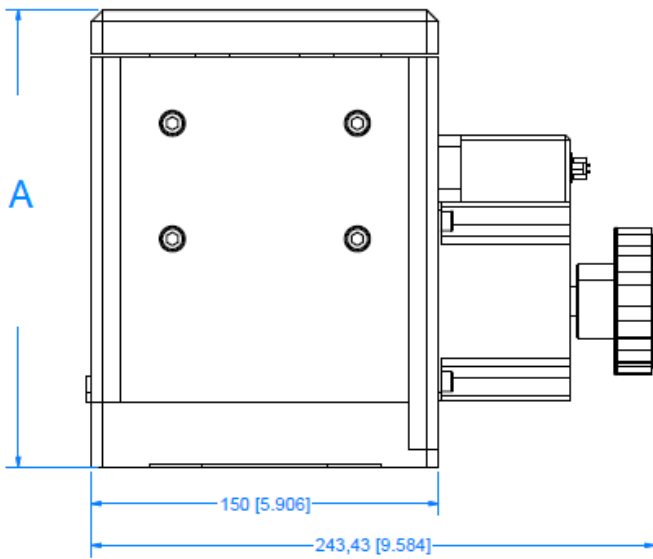
DJ310



| Model | 25 | 50 | 75 | 100 |
|-----------------------|-------|-------|-----|-----|
| A- Closed Height (mm) | 107.5 | 148.5 | 170 | 245 |

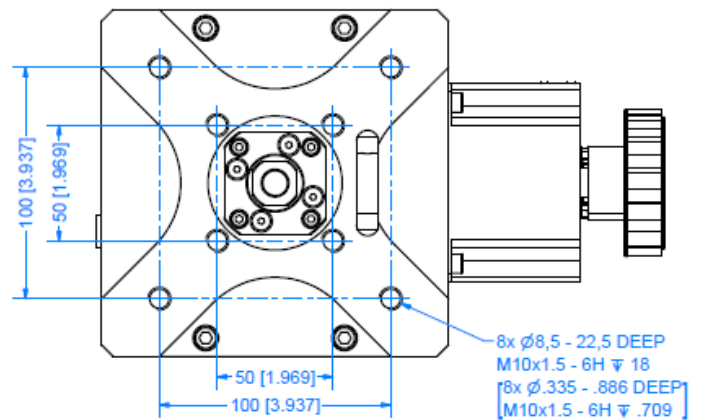
DJ410

Side View



Top View

Bottom View



| Model | 50 | 100 | 150 | 200 |
|-----------------------|-------|-----|-----|-----|
| A- Closed Height (mm) | 196.5 | 319 | 394 | 519 |

ORDERING INFORMATION

Jacks can be ordered with different configurations. Please use the codes provided below when ordering. Please call or e-mail to ask about any other customization required.

| DJ (Lift Jack) | 210 Series | 310 Series | 410 Series |
|-------------------------|---|---------------------------|-----------------------------|
| Travel Options (mm) | -10 -25 -35 -50 | -25 -50 -75 -100 | -50 -100 -150 -200 |
| Air Preparation Options | -A (Standard Air Stage) -V (Vacuum Stage; ask about options when placing order) | | |
| Encoder Options | -R (With Incremental Optical Encoder) -A (With Absolute Optical Encoder) -N (Without Encoder) | | |
| Brake Options | -B (With Brake, 24VDC) -N (Without Brake) | | |
| Motor Options | -2PH (Standard 2 Phase Bi-Polar Stepper Motor) -5PH (5 Phase Stepper Motor) -DC (DC Motor) | | |
| Gearbox Option | -GB (customer to enter desired ratio; 3:1 to 100:1 available) | | |

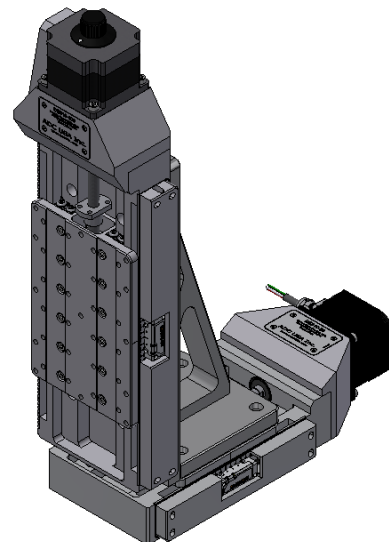
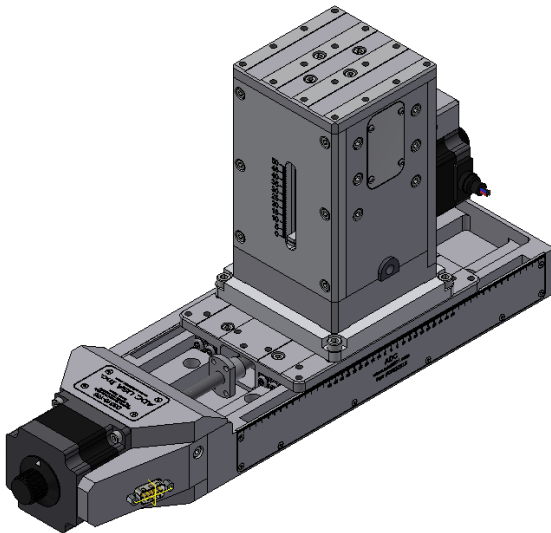
Example Order:
DJ210-50-A-N-N-2PH

This is an order for a DJ210 Precision Crossed Roller Jack with 50 mm travel, in air, no encoder, no brake, a 2-phase motor, and no gearbox.

MOUNTING PLATES AND BRACKETS

The chart below shows the corresponding part number per slide and jack combination.

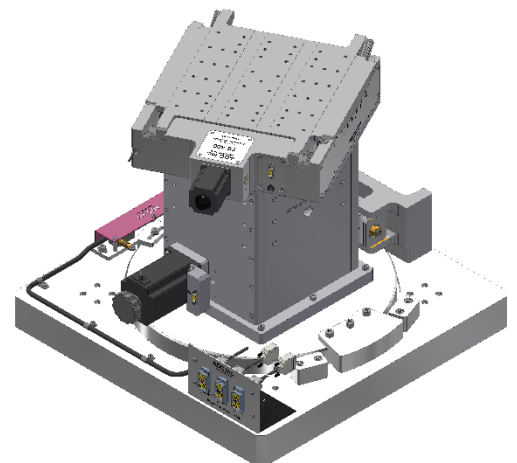
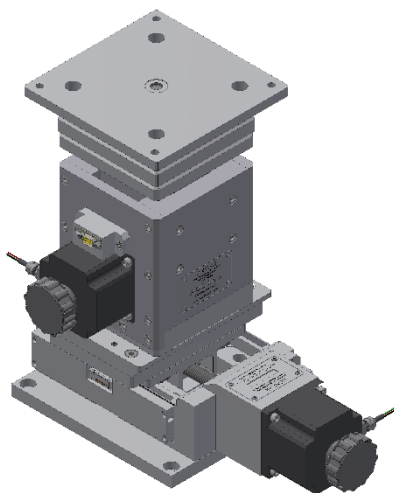
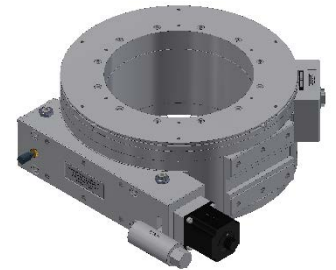
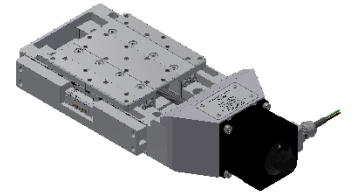
| | Mounting Bracket | | | | Mounting Plate |
|------------------|------------------|------------------|------------------|------------------|----------------|
| | DS210-30 | DS210-50 | DS210-75 | DS210-100 | DJ210-X |
| DS210-30 | MB-200-1 | MB-200-2 | N/A | N/A | MP-200-6 |
| DS210-50 | MB-200-1 | MB-200-3 | N/A | N/A | MP-200-7 |
| DS210-75 | MB-200-1 | MB-200-3 | MB-200-4 | MB-200-5 | MP-200-8 |
| DS210-100 | MB-200-1 | MB-200-3 | MB-200-4 | MB-200-5 | MP-200-7 |
| | DS310-50 | DS310-100 | DS310-150 | DS310-200 | DJ310-X |
| DS310-50 | MB-300-1 | MB-300-2 | N/A | N/A | MP-300-5 |
| DS310-100 | MB-300-1 | MB-300-2 | N/A | N/A | MP-300-5 |
| DS310-150 | MB-300-1 | MB-300-2 | MB-300-3 | MB-300-4 | MP-300-5 |
| DS310-200 | MB-300-1 | MB-300-2 | MB-300-3 | MB-300-4 | MP-300-5 |
| | DS410-75 | DS410-150 | DS410-225 | DS410-300 | DJ410-X |
| DS410-75 | MB-400-1 | MB-400-2 | N/A | N/A | MP-400-5 |
| DS410-150 | MB-400-1 | MB-400-2 | N/A | N/A | MP-400-6 |
| DS410-225 | MB-400-1 | MB-400-2 | MB-400-3 | MB-400-4 | MP-400-7 |
| DS410-300 | MB-400-1 | MB-400-2 | MB-400-3 | MB-400-4 | MP-400-7 |



OTHER STAGES



| Linear Stages | Lift Stages |
|-----------------------------|-----------------|
| DS210 | DJ210 |
| DS310 | DJ310 |
| DS410 | DJ410 |
| DS510 | BJ10 |
| | BJ25 |
| Tilt Stages/ Goniometers | Rotation Stages |
| TS-50 | RS-100 |
| TS-90 | RS-200 |
| TS-160 | RS-300 |
| TS-300 | RS-400 |
| TS-400 | RS-500 |
| TS-565 | |
| TS-700 | |



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