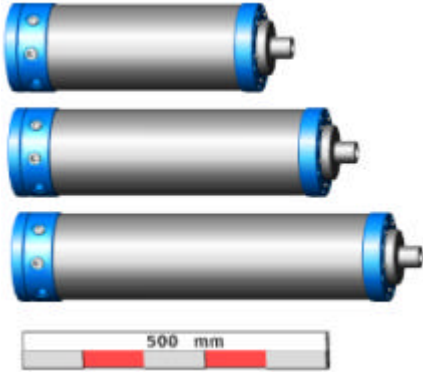


# ADVANCED MOTION TECHNOLOGIES Inc

## D100 Series ServoRam™



|                                    | Model No            | D100C/30/10/MkIV | D100C/60/9/MkIV | D100C/90/8/MkIV | D100C/120/7/MkIV | D100C/150/6/MkIV | D100C/180/5/MkIV | D100C/210/4/MkIV | D100C/240/3/MkIV |
|------------------------------------|---------------------|------------------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|
| <b>Description</b>                 | <b>Rail Voltage</b> |                  |                 |                 |                  |                  |                  |                  |                  |
| Stroke Length (mm)                 | -                   | 30               | 60              | 90              | 120              | 150              | 180              | 210              | 240              |
| Magnet Sets                        | -                   | 10               | 9               | 8               | 7                | 6                | 5                | 4                | 3                |
| Peak Static Thrust (N)             | 300V                | 3240             | 2916            | 2592            | 2268             | 1944             | 1620             | 1296             | 972              |
|                                    | 600V                | 4320             | 3888            | 3456            | 3024             | 2592             | 2160             | 1728             | 1296             |
| Thrust at Continuous Rated Current | 300/600V            | 540              | 486             | 432             | 378              | 324              | 270              | 216              | 162              |
| Thrust Co-efficient (N/A)          | -                   | 360              | 324             | 288             | 252              | 216              | 180              | 144              | 108              |
| Damping Coefficient (A/Ms-1)       | -                   | 12.41            | 11.2            | 9.93            | 8.69             | 7.45             | 6.21             | 4.97             | 3.72             |
| Peak Current (A)                   | 300V                | 9                | 9               | 9               | 9                | 9                | 9                | 9                | 9                |
|                                    | 600V                | 12               | 12              | 12              | 12               | 12               | 12               | 12               | 12               |
| Continuous Rated Current (A)       | 300/600V            | 1.5              | 1.5             | 1.5             | 1.5              | 1.5              | 1.5              | 1.5              | 1.5              |
| Max Velocity (Ms-1 at zero thrust) | 300V                | 0.4              | 0.8             | 1.2             | 1.6              | 2.0              | 2.4              | 2.6              | 2.9              |
|                                    | 600V                | 0.5              | 1.1             | 1.6             | 2.2              | 2.7              | 3.3              | 3.4              | 3.5              |
| Efficiency (N/W)                   |                     | 1.034            | 0.93            | 0.83            | 0.72             | 0.621            | 0.52             | 0.41             | 0.31             |
| Phase Resistance (Ohms)            | -                   | 45               | 45              | 45              | 45               | 45               | 45               | 45               | 45               |
| Approximate Closed Length (mm)     | -                   | 500              | 500             | 500             | 500              | 500              | 500              | 500              | 500              |
| External Diameter (mm)             | -                   | 140              | 140             | 140             | 140              | 140              | 140              | 140              | 140              |
| Approximate Mass (Kgs)             | -                   | 39.4             | 37.8            | 36.2            | 34.6             | 33               | 31.4             | 29.8             | 28.2             |

Please note the forces shown above ARE NOT REQUIRED TO SUPPORT A DEAD LOAD. They are therefore fully available to manoeuvre it. The dead load is supported by the self-tuning gas spring, integral to the ram.

|                      |     |     |     |     |      |      |      |
|----------------------|-----|-----|-----|-----|------|------|------|
| Gas Pressure (psi)   | 20  | 40  | 60  | 80  | 100  | 120  | 140  |
| Load Supported (kg)  | 110 | 220 | 330 | 440 | 550  | 660  | 770  |
| Load Supported (lbs) | 242 | 484 | 726 | 968 | 1210 | 1452 | 1694 |

It is important to note that a ServoRam™ should not be considered to be a direct replacement for a fluid ram in any machine application. The dynamic forces need to be distinguished from the static forces, so that the electro-magnetic part of the machine handles the precision dynamic actions, whilst the slowly changing and kinetic energy recycling actions are handled by the gas spring.



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