

## MOTION SYSTEM

# QS-220

2 / 2.5 / 3 DOF



The QS-220 is the compact-line flagship for professional and VR simulators, sim racing, and flight simulation. QS-L1 linear actuators reach 0.8 G and 800 mm/s in Q-MODE, so weight transfers and curb strikes register with under 8 ms latency.

## WHY QS-220



**Q-MODE: 800 mm/s**  
Lightning-fast response for competitive racing



**Ultra-low sub-8ms latency**  
Feel every curb and bump the instant it happens



**Modular & Reconfigurable**  
Start with 2DOF today, upgrade to 3DOF anytime



**3 Operating Modes**  
Match platform behavior to the rig weight and driving style

**0.8G**

MAX ACCELERATION

**100mm**

ACTUATOR STROKE

**800mm/s**

MAX VELOCITY

**<8ms**

LATENCY

**0-100Hz**

VIBRATIONS

## WHAT TO EXPECT

### RACING

- › Acceleration & braking G-forces
- › Lateral acceleration in corners
- › Wheel slip and wheel lock
- › Rumble strips feedback

### FLIGHT SIMULATION

- › Positive & negative G-forces
- › Engine & rotor vibrations
- › Turbulence effects
- › Landing gear feedback

COMPATIBLE WITH

- QS-Pivot (2.5 DOF upgrade)
- QS-H13 Seat Mover
- QS-CH2 Motion Platform
- QS-BT1 Belt Tensioner
- Most Aluminum Cockpits

SPECIFICATIONS

| AXIS                   | RANGE                    | HEAVY DUTY<br><small>Velocity / Acceleration</small> | PERFORMANCE<br><small>Velocity / Acceleration</small> | Q-MODE<br><small>Velocity / Acceleration</small> |
|------------------------|--------------------------|------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------|
| Heave (Vertical)       | ±50 mm                   | 300 mm/s / 0.4 G                                     | 400 mm/s / 0.6 G                                      | 800 mm/s / 0.8 G                                 |
| Max Payload (3DOF)     |                          | 350 kg                                               | 250 kg                                                | 200 kg                                           |
| Voltage                |                          | 120 / 230 V                                          | 120 / 230 V                                           | 230 V                                            |
| PAYLOAD SPECIFICATIONS |                          |                                                      |                                                       |                                                  |
| Payload                | 350 kg (Heavy Duty mode) |                                                      |                                                       |                                                  |
| ACTUATOR DIMENSIONS    |                          |                                                      |                                                       |                                                  |
| Total Width            | 92 mm                    |                                                      |                                                       |                                                  |
| Total Length           | 106 mm                   |                                                      |                                                       |                                                  |
| Min Height             | 560 mm                   |                                                      |                                                       |                                                  |
| Max Height             | 660 mm                   |                                                      |                                                       |                                                  |
| Product Weight         | 30 kg                    |                                                      |                                                       |                                                  |
| PERFORMANCE            |                          |                                                      |                                                       |                                                  |
| Architecture           | 2 / 2.5 / 3 DOF          |                                                      |                                                       |                                                  |
| Connection             | USB                      |                                                      |                                                       |                                                  |
| Stroke                 | 100 mm                   |                                                      |                                                       |                                                  |
| Vibration Range        | 0-100 Hz                 |                                                      |                                                       |                                                  |
| Latency                | <8 ms                    |                                                      |                                                       |                                                  |
| Power Supply           | 120/230V AC, 1-phase     |                                                      |                                                       |                                                  |
| Noise Level            | 54-59 dB (home-friendly) |                                                      |                                                       |                                                  |

| POWER DRAW               | 1 × 120 V | 1 × 230 V | 2 × 120 V | 2 × 230 V |
|--------------------------|-----------|-----------|-----------|-----------|
| Average Power            | 0.6 kVA   | 0.7 kVA   | 1 kVA     | 1.8 kVA   |
| Peak Power               | 0.7 kVA   | 0.8 kVA   | 1.1 kVA   | 1.9 kVA   |
| Average Current          | 5 A       | 3 A       | 8 A       | 8 A       |
| Peak Current             | 10 A      | 7 A       | 18 A      | 17 A      |
| Avg Power - Stress Test  | 0.21 kW   | 0.24 kW   | 0.5 kW    | 0.65 kW   |
| Avg Power - Typical Game | 0.06 kW   | 0.06 kW   | 0.11 kW   | 0.08 kW   |

WHAT'S IN THE BOX? (3DOF CONFIGURATION)

QS-220 Motion Set

- 4x linear actuators
- 8x mounting brackets
- 2x power cabinets
- Set of cables

QS-MC6 Controller Set

- USB motion controller
- Motion-Lock switch
- Connection cables

QUBIC SYSTEM

qubicsystem.com  
info@qubicsystem.com  
Made in Poland (EU)



PRODUCT



MANUAL

CONNECT WITH US

Discord: qubicsystem  
YouTube: @qubicsystem  
Instagram: @qubicsystem