*Quick*STOP™ Collision Sensor
Arc Welding

*Quick***STOP**™ is a dynamically variable collision sensor that operates on air pressure. At impact, the air chamber is opened, and the shutdown signal is immediately sent to the system controller.

Advantages:

- *Dynamically Variable Trip Points*
  - Programmable sensor at all speeds of operation
- *Permanent Repeatability*
  - Non-compressive, metal-to-metal seal
- *Senses Angular and Compressive Forces*
  - Protection in the X, Y, and Z axes
- *Monitors Performance Readiness*

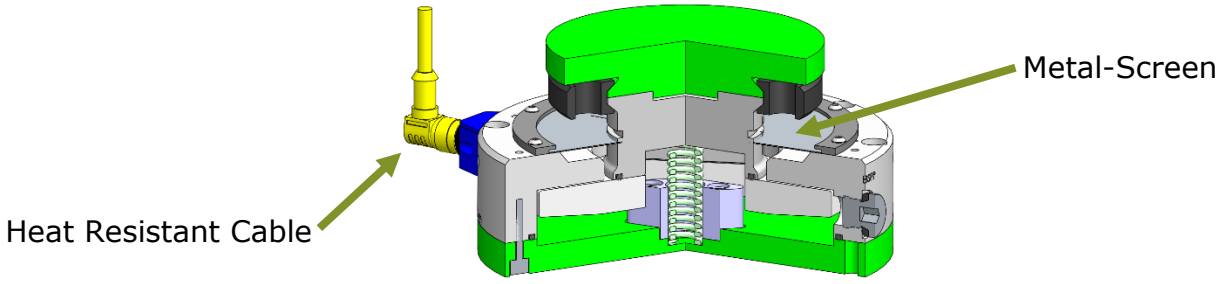
SPECIFICATIONS

Model	Compliance Angle deg.	Axial Compliance (z+) mm (in)	Rotary Compliance deg.	Operating Pressure bar (psi)	M_x and M_y Torque Trip Point * Nm (in-lb)	M_z Torque Trip Point * Nm (in-lb)	Repeatability at Tool Mounting Surfaces X and Y mm (in)	Rotational Repeatability deg. (rad * 10^{-3})	Mass kg (lb)	Center of Mass (From Robot Adaptor Interface Plate) mm (in)	Operating Temperature °C (°F)	Average Response Time ** ms
QS-100-AW	± 5	4.50 (0.177)	No Limit	1.0 – 6.0 (14.5 – 87)	4.1 – 20.3 (36 – 180)	5.3 – 30.4 (47 – 270)	± 0.025 (± 0.001)	± 0.419 (± 0.024)	0.45 (0.99)	21.6 (0.85)	0 – 70 (32 – 158)	4 – 7
QS-AW	± 5	5.20 (0.205)	No Limit	1.0 – 6.0 (14.5 – 87)	5.9 – 32.4 (52 – 287)	7.5 – 45.2 (66 – 400)	± 0.025 (± 0.001)	± 0.419 (± 0.024)	0.68 (1.50)	25.7 (1.01)	0 – 70 (32 – 158)	4 – 7
QS-400-AW	± 5	6.60 (0.265)	No Limit	1.0 – 6.0 (14.5 – 87)	11.3 – 63.9 (100 – 566)	11.8 – 84.6 (104 – 749)	± 0.025 (± 0.001)	± 0.419 (± 0.024)	1.30 (2.87)	32.6 (1.29)	0 – 100 (32 – 212)	4 – 8
QS-800-AW	± 5	9.30 (0.366)	± 25	1.4 – 6.0 (20 – 87)	36 – 158 (292 – 1,400)	53 – 255 (427 – 2,250)	± 0.025 (± 0.001)	± 0.500 (± 0.029)	3.72 (8.20)	46.8 (1.84)	0 – 100 (32 – 212)	4 – 8

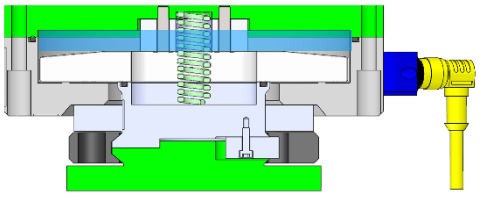
Rotational Repeatability at Tool Mounting Surface Z: ± 0.013 mm (± 0.0005 in)
Noise Emissions: < = 70 dB(A) in any direction

* Torque Trip Points are Continuously Variable.
** Average Response Time varies with Air Pressure and Speed of Impact.

Note: Specifications provided are maximum recommended limits under static conditions. For correct product sizing, consideration must be given to all dynamic forces, including manipulator inertia, tooling configuration, and external process forces. Please contact APPLIED ROBOTICS Applications Engineering for correct product sizing assistance.

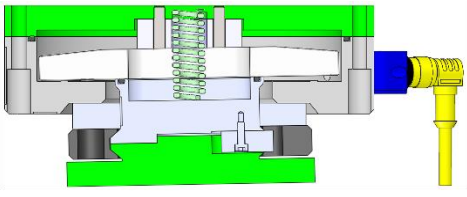


SECTIONAL DIAGRAM



Normal Operation – Positive Air Pressure

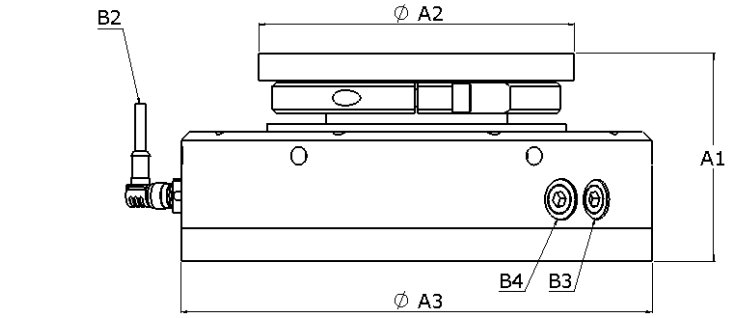
Switch Information
High reliability aircraft snap acting type.
UL/CSA rated at 3 amps, 120 VAC.
Average mechanical life: 7 million cycles
UL recognized rating: 42.4 VDC Max., 3 amps Max.

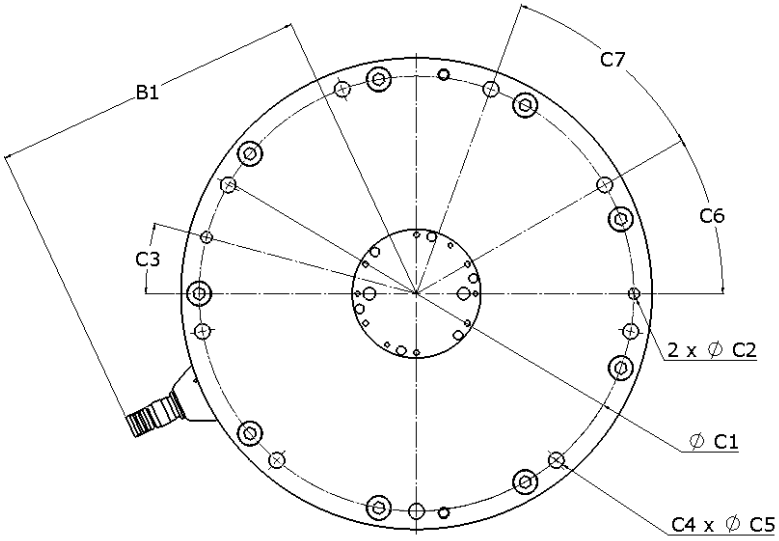


On Impact – Loss of Air Pressure

Applied Robotics™
Solutions in reach

PRODUCT INFORMATION





QS-AW

Designed for arc welding, laser cutting, or plasma cutting, featuring a heat resistant cable, metal screen for cavity protection, insulator plate, and an inverted design to avoid debris build-up.

Model	Overall Dimensions			Connection Information				Mounting Dimensions						
								Bolt Pattern	Dowel Holes		Bolt Holes			
	A1	A2	A3	B1	B2	B3	B4	C1	C2	C3	C4	C5	C6	C7
QS-100-AW	42 (1.65)	54 (2.13)	83 (3.27)	73 (2.87)	3-PIN M8 MALE	M5x0.8	10-32UNF-2B	77.00 (3.031)	2.545/2.571 (0.1002/0.1012)	0°	6	M2.5	30°	60°
QS-AW	49 (1.93)	63 (2.48)	97 (3.82)	78 (3.07)	3-PIN M8 MALE	M5x0.8	10-32UNF-2B	90.00 (3.543)	3.045/3.071 (0.1199/0.1209)	0°	6	M3	30°	60°
QS-400-AW	60.6 (2.38)	80 (3.15)	122 (4.80)	92 (3.62)	3-PIN M8 MALE	M5x0.8	10-32UNF-2B	113.00 (0.512)	4.055/4.094 (0.1596/0.1612)	0°	8	M4	25°	45°
QS-800-AW	87 (3.43)	112 (4.41)	167 (6.57)	135 (5.31)	5-PIN M12 MALE	1/4 BSPT	1/4 NPT	154.00 (2.126)	6.055/6.094 (0.2384/0.2399)	0°	8	M6	25°	45°

* Dimensions are in millimeters (inches).
** Product Adaptor Kits do not come standard with *Quick***STOP**™ assemblies but can be provided upon request. Only the QS-7 comes standard with a Product Adaptor Kit.
*** All dimensions are descriptive and subject to variation for technical upgrading. We reserve the right to make variations without prior notification.

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