

# Semiconductor (AC) fuses



## American Round Fuses Form 101 Range A15QS

### Semiconductor Protection Fuses

A15QS Amp-trap® Form 101 Semiconductor Protection fuses were designed for the specific protection of diodes and other semiconductor devices rated 150VAC/DC. The A15QS product line's compact design is perfect for those applications that have limitations on available space.



### Features/Benefits

- Low I<sup>2</sup>t minimizes damage to protected components on short circuit
- Controlled arc voltage reduces stress to circuit components during fuse clearing
- Choice of mounting types provides options for unique termination requirements

### Ratings

- AC: 1-6000A  
150VAC, 100kA I.R.
- DC: 1-6000A  
150VDC, 100kA I.R.

### Approvals

- UL Recognized Component
- AC: UL Guide No. JFHR2 (1-4000A)
- DC Tested to UL Standard 198L parameters (1-4000A)

### Highlights

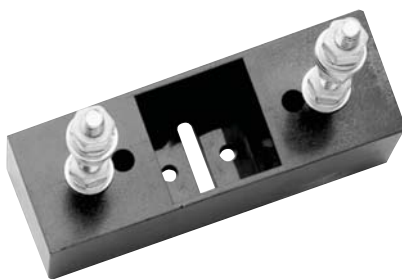
- Fast Acting
- Current Limiting
- Low I<sup>2</sup>t
- Indicator Options Available

### Applications

- Protection of heavy duty devices such as electrochemical rectifiers

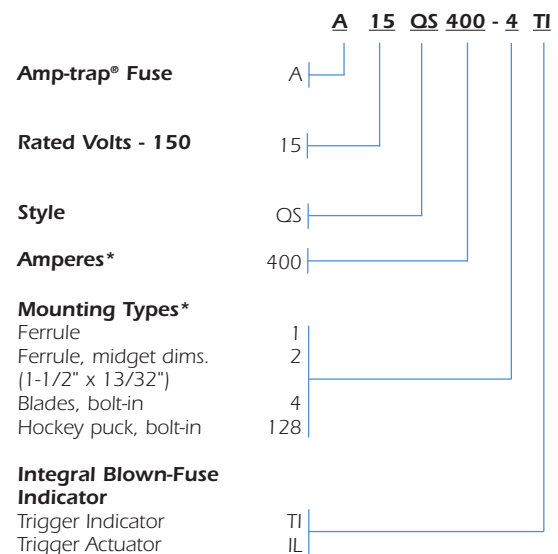


### Single Pole Fuse Blocks for A15QS Fuses



Fuse Ampere Rating	Fuse block	
	Catalog Number	Reference Number
1-30	30311	A212405
31-60	60306J	J211884
61-100	P243D	C219560
101-200	P243D	C219560
201-450	P243D	C219560
500-600	P243G	H222762

### Catalog Numbering System



\* For ampere ratings and types not listed, consult the factory.



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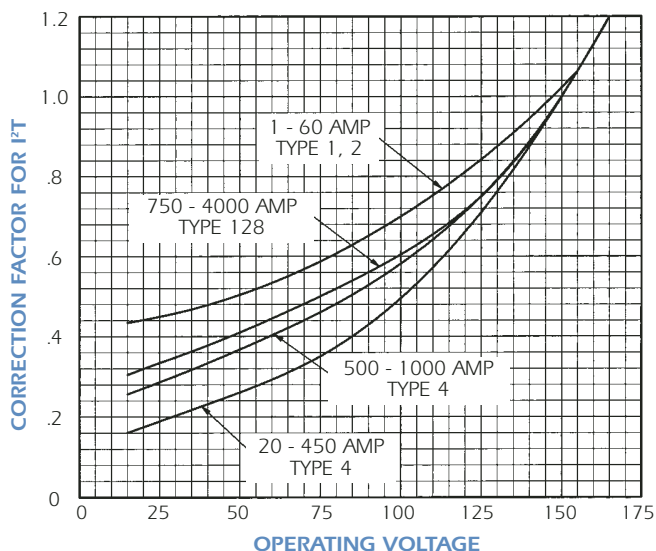
#### I<sup>2</sup>t Data-150VAC

#### I<sup>2</sup>t Data-150VDC ; L/R=10ms

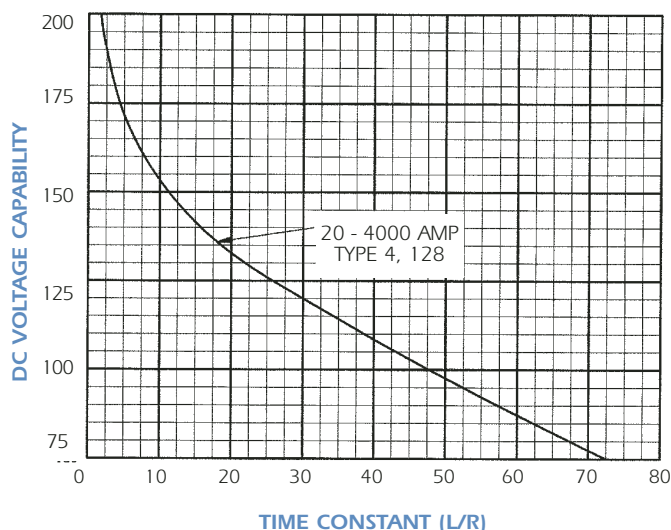
Ampere Rating	Melting (A <sup>2</sup> s X 10 <sup>3</sup> )			Max Clearing I <sup>2</sup> t @ 150VAC (A <sup>2</sup> s X 10 <sup>3</sup> )	Ampere Rating	Melting (A <sup>2</sup> s X 10 <sup>3</sup> )		Max Clearing I <sup>2</sup> t @ 150VAC (A <sup>2</sup> s X 10 <sup>3</sup> )
	Body Style					Body Style		
	Type 2	Type 1	Type 4			Type 4	Type 128	
1	0.0001			0.0002	125	0.49		5.0
2	0.0007			0.001	130	0.53		5.3
3	0.002			0.003	150	0.72		6.8
4	0.005			0.007	175	1.0		9.0
5	0.008			0.012	200	1.3		11
6	0.015			0.022	225	1.7		14
7	0.001			0.011	250	1.9		15
8	0.001			0.015	275	2.4		19
10	0.002			0.019	300	2.9		22
12	0.003			0.030	350	4.1		32
15	0.005			0.042	400	5.1		40
20	0.009			0.072	450	6.4		50
25	0.017			0.14	500	15		90
30	0.032			0.25	550	18		108
35		0.045		0.21	600	20		130
40		0.060		0.28	700	25		220
45		0.074		0.34	800	34		290
50		0.10		0.47	900	46		400
60		0.18		0.80	1000	58		520
20			0.01	0.10	750		40	300
25			0.02	0.16	800		46	340
30			0.03	0.21	1000		72	540
35			0.04	0.29	1200		90	680
40			0.05	0.39	1500		160	1200
45			0.06	0.47	1600		160	1200
50			0.08	0.64	1800		202	1500
60			0.12	0.94	2000		250	1900
70			0.16	2.0	2500		422	3200
80			0.21	2.5	3000		640	4800
90			0.27	3.1	3500		1200	6500
100			0.33	3.6	4000		1400	8500

Ampere Rating	Clearing I <sup>2</sup> t @ 150 VDC L/R =10ms (A <sup>2</sup> s X 10 <sup>3</sup> )	
	Type 4	Type 128
20	0.07	
25	0.11	
30	0.15	
35	0.20	
40	0.27	
45	0.33	
50	0.45	
60	0.66	
70	1.4	
80	1.8	
90	2.2	
100	2.5	
125	3.5	
130	3.7	
150	4.7	
175	6.3	
200	7.7	
225	9.8	
250	11	
275	13	
300	15	
350	22	
400	28	
450	35	
500	63	
550	76	
600	91	
700	150	
750		210
800	200	240
900	280	
1000	360	380
1200		470
1500		840
1600		840
1800		1000
2000		1300
2500		2200
3000		3400
3500		5200
4000		6800

#### Clearing I<sup>2</sup>t vs Working Voltage



#### DC Voltage vs Time Constant (L/R)



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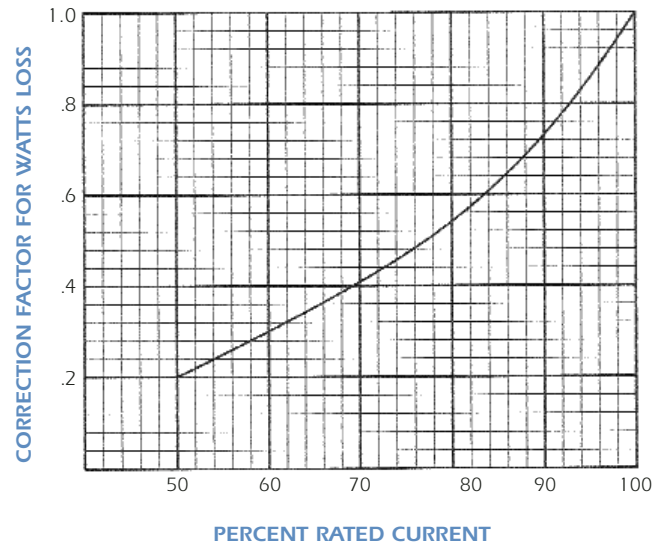
## American Round Fuses Form 101 Range A15QS

### Semiconductor Protection Fuses

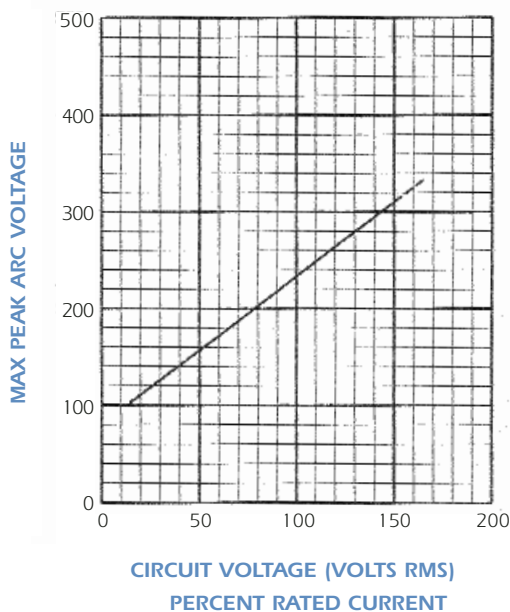
#### Watts Loss @ Rated Current

Ampere Rating	Watts Loss @ Rated Current (W)			Ampere Rating	Watts Loss @ Rated Current (W)	
	Type 2	Type 1	Type 4		Type 4	Type 128
1	0.68			100	10	
2	1.3			125	13	
3	1.7			130	14	
4	2.1			150	16	
5	2.8			175	20	
6	3.1			200	22	
7	2.2			225	25	
8	2.5			250	27	
10	2.6			275	30	
12	3.0			300	33	
15	3.0			350	40	
20	4.0			400	45	
25	5.2			450	50	
30	5.6			500	30	
35		9		550	33	
40		10		600	35	
45		12		700	50	
50		13		750		66
60		14		800	57	71
20			1.5	900	67	
25			2.0	1000	75	88
30			2.2	1200		100
35			2.6	1500		130
40			3.1	1600		132
45			3.4	1800		149
50			4.0	2000		165
60			4.7	2500		195
70			5.6	3000		240
80			8.0	3500		260
90			9.0	4000		270

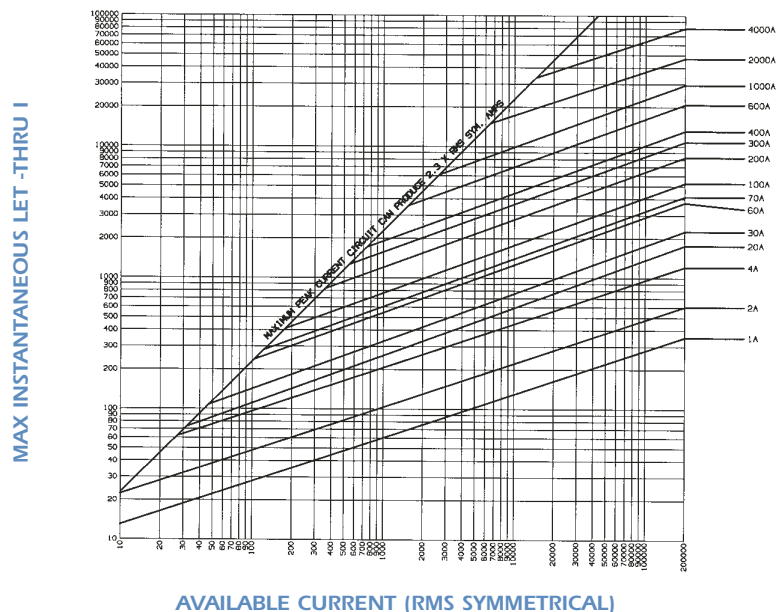
#### Watts Loss vs % Rated Current



#### Max ARC Voltage vs System Voltage



#### Peak Let Thru Data A15QS 1 to 4000



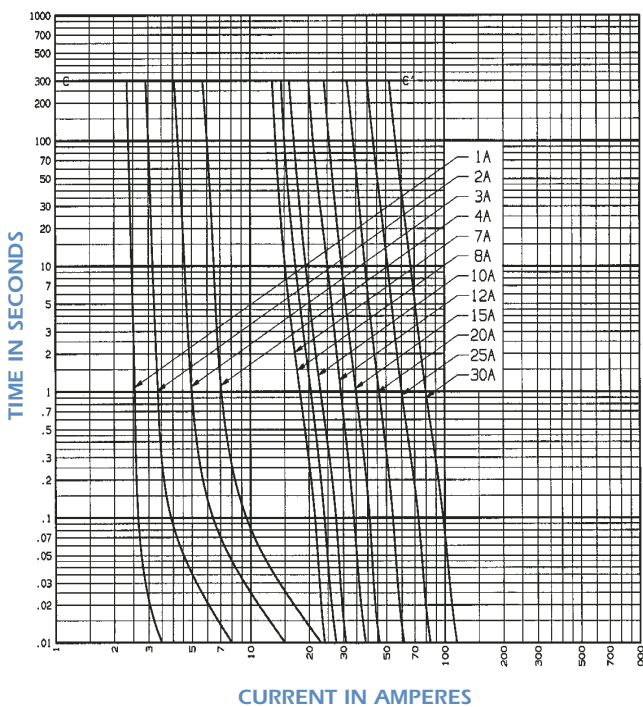


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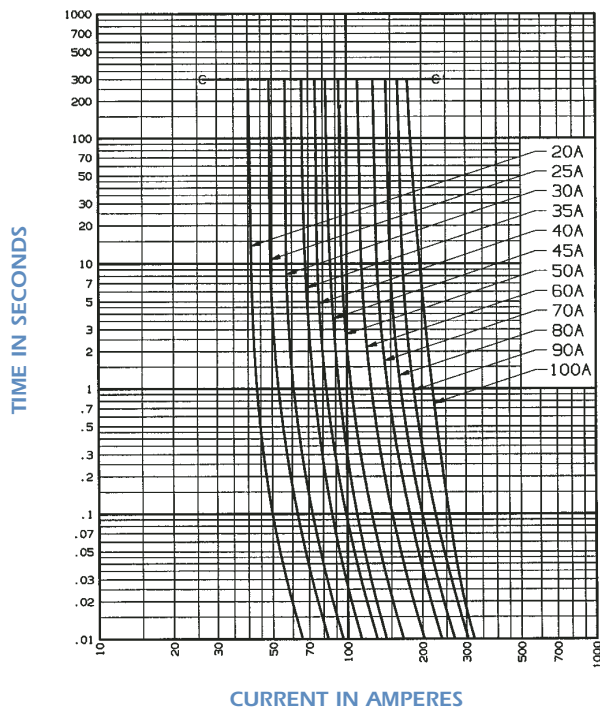
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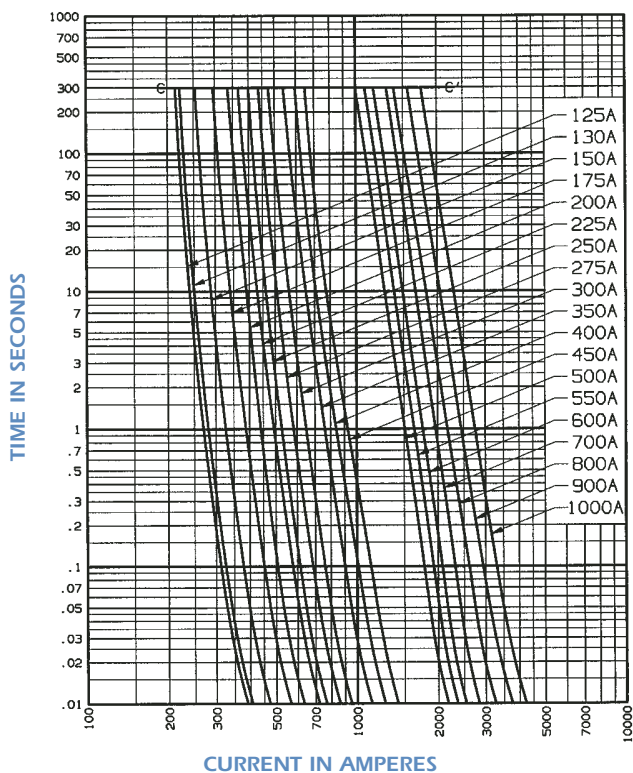
#### Melt Time - Current Data A15QS 1 to 30



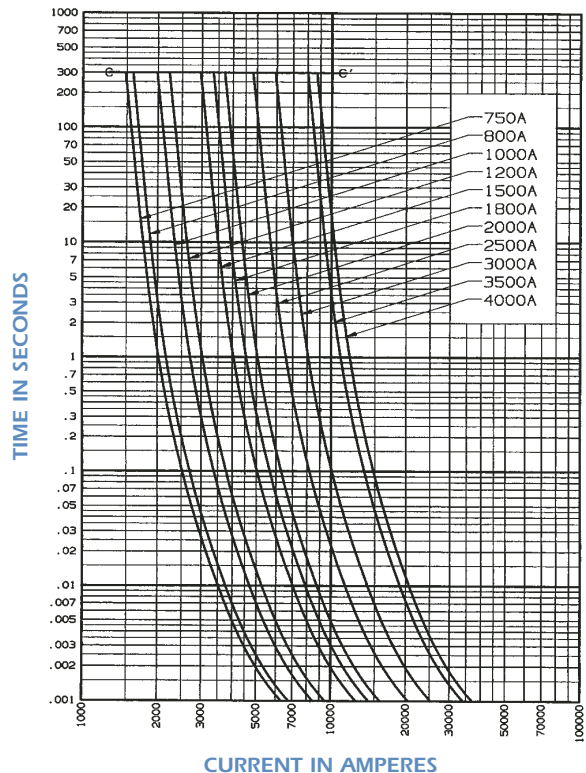
#### Melt Time - Current Data A15QS 20 to 100



#### Melt Time - Current Data A15QS 125 to 1000



#### Melt Time - Current Data A15QS 750 to 4000



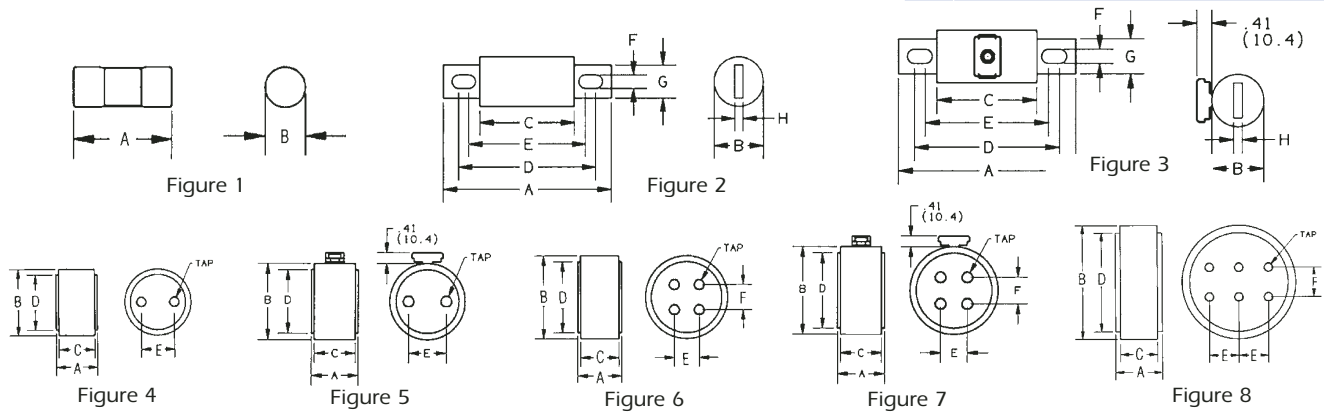


## American Round Fuses Form 101 Range A15QS

### Semiconductor Protection Fuses Standard Fuse Ampere Ratings, Catalog Numbers

Ampere Rating	Catalog Number	Ref Number	Outline Fig.	Ampere Rating	Catalog Number	Ref Number	Outline Fig.	Ampere Rating	Catalog Number	Ref Number	Outline Fig.
1	A15QS1-2	D230072J	1	90	A15QS90-4	F232282J	2	2500	A15QS2500-128	R232361A	6
2	A15QS2-2	E230073J	1	100	A15QS100-4	J232285J	2	3000	A15QS3000-128	T232363C	6
3	A15QS3-2	F230074J	1	125	A15QS125-4	M232288J	2	3500	A15QS3500-128	W232365A	6
4	A15QS4-2	G230075J	1	130	A15QS130-4	O232291J	2	4000	A15QS4000-128	Y232367A	6
5	A15QS5-2	H230076J	1	150	A15QS150-4	T232294J	2	5000	A15QS5000-128	B232370A	6
6	A15QS6-2	J230077J	1	200	A15QS200-4	Z232299J	2	6000	A15QS6000-128	A232369A	6
7	A15QS7-2	K230078J	1	250	A15QS250-4	C232302J	2				
8	A15QS8-2	L230079J	1	300	A15QS300-4	D232303J	2				
10	A15QS10-2	N230081J	1	400	A15QS400-4	V232318J	2				
12	A15QS12-2	P230082J	1	450	A15QS450-4	Y232321J	2				
15	A15QS15-2	Q230083J	1	500	A15QS500-4	B232324E	2				
20	A15QS20-2	R230084J	1	600	A15QS600-4	H232330E	2				
25	A15QS25-2	S230085J	1	700	A15QS700-4	L232333E	2				
30	A15QS30-2	T230086J	1	800	A15QS800-4	R232338E	2				
35	A15QS35-1	V230087J	1	900	A15QS900-4	X232343E	2				
40	A15QS40-1	W230088J	1	1000	A15QS1000-4	A232346E	2				
45	A15QS45-1	X230089J	1	750	A15QS750-128	P232336A	6				
50	A15QS50-1	Y230090J	1	800	A15QS800-128	V232341A	6				
55	A15QS55-1	Z230091J	1	1000	A15QS51000-128	D232349A	6				
60	A15QS60-1	A230092J	1	1200	A15QS1200-128	F232351A	6				
70	A15QS70-4	Z230076J	2	1500	A15QS1500-128	H232353A	6				
80	A15QS80-4	C230079J	2	2000	A15QS2000-128	P232359A	6				

For Trigger Indicator (TI) and Trigger Actuator (IL) versions, please call us.  
For Ampere Rating and styles not listed, call Technical Services



### Dimensions

Outline Ref.	Mounting Type	Fig.	Dimensions - Inches (mm)								Tap	
			A	B	C	D	E	F	G	H		
A15QS1 to 30	2	1	1.50 (38.1)	.41 (10.4)	-	-	-	-	-	-	-	-
A15QS35 to 60	1	1	2.00 (50.8)	.81 (20.6)	-	-	-	-	-	-	-	-
A15QS70 to 450	4, 4TI*, 4IL*	2, 3*	2.66 (67.6)	1.13 (28.7)	1.16 (29.5)	2.19 (55.6)	1.91 (48.5)	.31 (7.9)	.74 (22.4)	.13 (4.8)	-	-
A15QS500 to 1000	4, 4TI*, 4IL*	2, 3*	3.50 (88.9)	1.50 (38.1)	1.25 (31.8)	2.56 (65.0)	1.94 (49.3)	.41 (10.4)	1.00 (25.4)	.25 (6.4)	-	-
A15QS750 to 2000	128, 128IL*	4, 5*	1.88 (47.8)	2.00 (50.8)	1.63 (41.4)	1.75 (44.5)	1.00 (25.4)	-	-	-	3/8-24-1/2 Deep	-
A15QS2500 to 3000	128, 128IL*	4, 5*	1.88 (47.88)	3.00 (76.2)	1.63 (41.4)	2.50 (63.5)	1.50 (38.1)	-	-	-	1/2-20-1/2 Deep	-
A15QS3500 to 4000	128, 128IL*	6, 7*	1.88 (47.88)	3.50 (88.9)	1.63 (41.4)	3.00 (76.2)	1.06 (27.0)	1.06 (27.0)	-	-	1/2-20-1/2 Deep	-
A15QS5000 to 6000	128	8	2.38 (60.5)	5.75 (146)	1.88 (47.7)	5.00 (127)	1.50 (38.1)	1.50 (38.1)	-	-	1/2-20-1/2 Deep	-

\* Optional Trigger Actuator (IL)