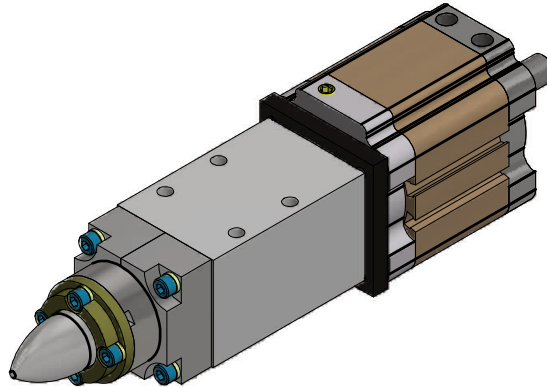


FLOATING LOCATING PIN

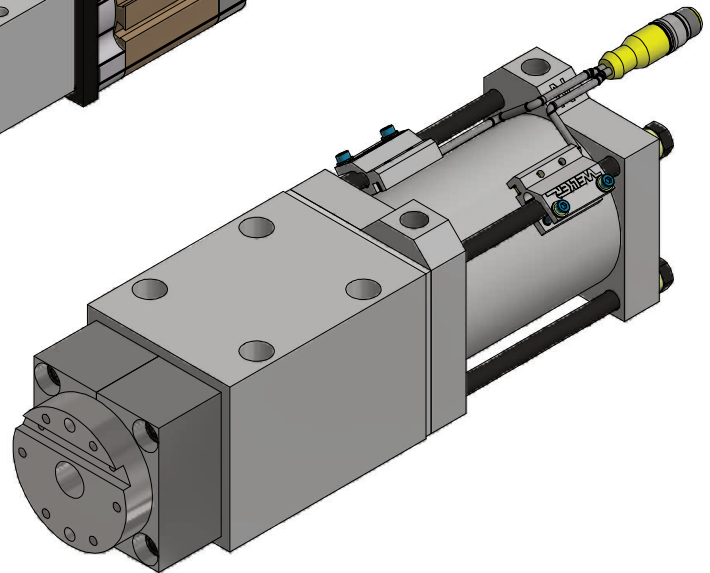
FP2

2mm RADIAL FLOAT
SHOWN WITH OPTIONAL
NAAMS PIN AND BACKUP



FP4

3mm RADIAL FLOAT
SHOWN WITH FLAT MOUNT AND
SOLID STATE CYLINDER SWITCH



- FLOATING PIN PROVIDES A RIGID 4-WAY PIN AND NET SURFACE FOR GEOMETRY SETTING
- WHEN PNEUMATICALLY RELEASED, FLOATING PIN HAS A 2mm OR 3mm RADIAL FLOAT AND CAN ROTATE UP TO 25°
- FLOATING FEATURE IS SEALED TO RESIST CONTAMINANTS
- REDUCES PIN WEAR AND PART BIND WHEN UNLOADING PART
- 15-40mm NAAMS PIN COMPATIBLE. CUSTOM PINS ALSO AVAILABLE.
- FLOATING FEATURE CAN ALSO FLOAT OTHER LOCATING FEATURES SUCH AS PINS & GEO BACKUPS OR DATUM BLOCKS. NO NEED TO DUMP OR RETRACT. ESPECIALLY USEFUL IN ALUMINUM WELDING WHERE THERE IS SIGNIFICANT PART MOVEMENT.

RELEASED 1/20/21

FP2 ORDERING INFORMATION

NOTE: ALL BOXES MUST BE FILLED IN FOR A COMPLETE PART NUMBER

F	P	2	N	X									
---	---	---	---	---	--	--	--	--	--	--	--	--	--

Actuator

- 01 Welker 50mm Bore w/ NPT ports
- 02 Welker 50mm Bore w/ G ports
- 03 Welker 50mm Bore - Double Rod w/ NPT ports
- 04 Welker 50mm Bore - Double Rod w/ G ports

Mount Style

- 1 Flat Mount
- 2 NAAMS Pin Mount w/ Backup

Spring Engaged

- 0 No spring
- E Spring Engaged

Optional NAAMS Pin Size Code

- 00 No Pin
- 10 See NAAMS Pin Chart, Sheet 5

Optional NAAMS Pin Style Code

- 0 No Pin
- A See NAAMS Pin Chart, Sheet 5 (A,B,C,D, & J Available)

Cylinder Port Position

- A P1 Position
- B P2 Position
- C P3 Position
- D P4 Position

Switch

See Cylinder Switch Chart

FP4 ORDERING INFORMATION

F	P	4	N	X									
---	---	---	---	---	--	--	--	--	--	--	--	--	--

Actuator

- 01 Welker 70mm Bore w/ NPT ports
- 02 Welker 70mm Bore w/ G ports
- 03 Welker 70mm Bore Dbl Rod w/ NPT ports
- 04 Welker 70mm Bore Dbl Rod w/ G ports

Mount Style

- 1 Flat Mount
- 2 NAAMS Pin Mount
- 3 NAAMS Pin Mount w/ Backup(thru 25mm)
- 4 NAAMS Pin Mount w/ Backup(25.01-40mm)

Spring Extend

- 0 No spring
- E Spring Engaged

Optional NAAMS Pin Size Code

- 00 No Pin
- 10 See NAAMS Pin Chart, Sheet 5

Optional NAAMS Pin Style Code

- 0 No Pin
- A See NAAMS Pin Chart, Sheet 5 (A,B,C,D & J Available)

Cylinder Port Position

- A P1 Position
- B P2 Position
- C P3 Position
- D P4 Position

Switch

See Cylinder Switch Chart

	Switch	Part Number	Manufacturer	Description
Cylinder Switches	L3	SWITCH L3* L3 sw itch is w eld field immune, comparable to World Sw itches. Dual sensor sw itch, 1 per cylinder	Welker	4-Wire, 4-Pin, DC (PNP) M12 X 1 Quick Disconnect
	L5	MK5113 Single sensor sw itch, 2 sw itches per cylinder	ifm Efector	3-Wire, 4-Pin, DC (NPN) M12 X 1 Quick Disconnect

Standard Switch Option - All other options may affect price and delivery

*Note that some mid and low frequency DC resistance applications (i.e. aluminum resistance welding applications) may cause a fault. In these applications, it is recommended that the sensor be ignored/bypassed during the welding cycle.

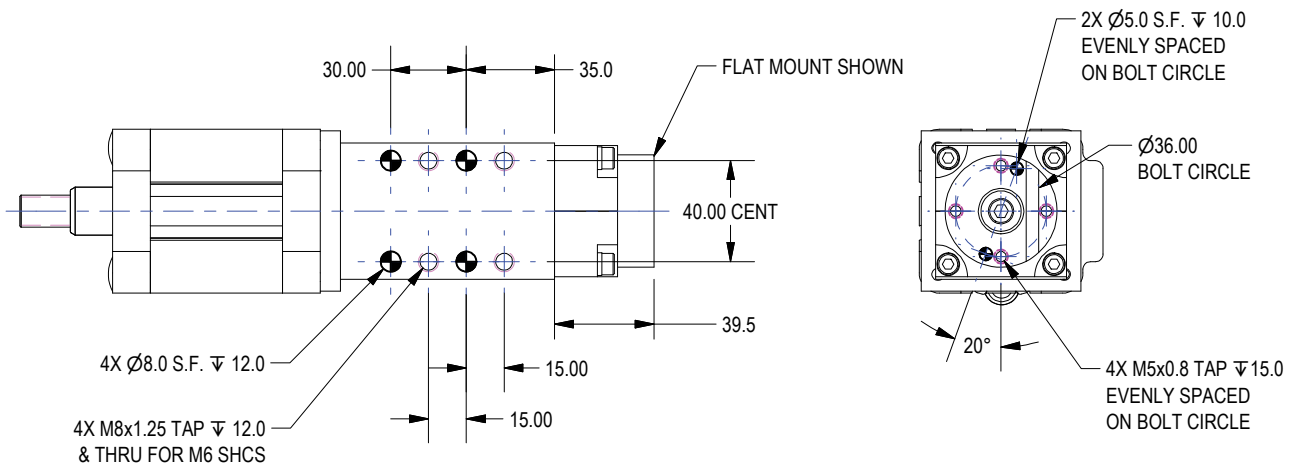
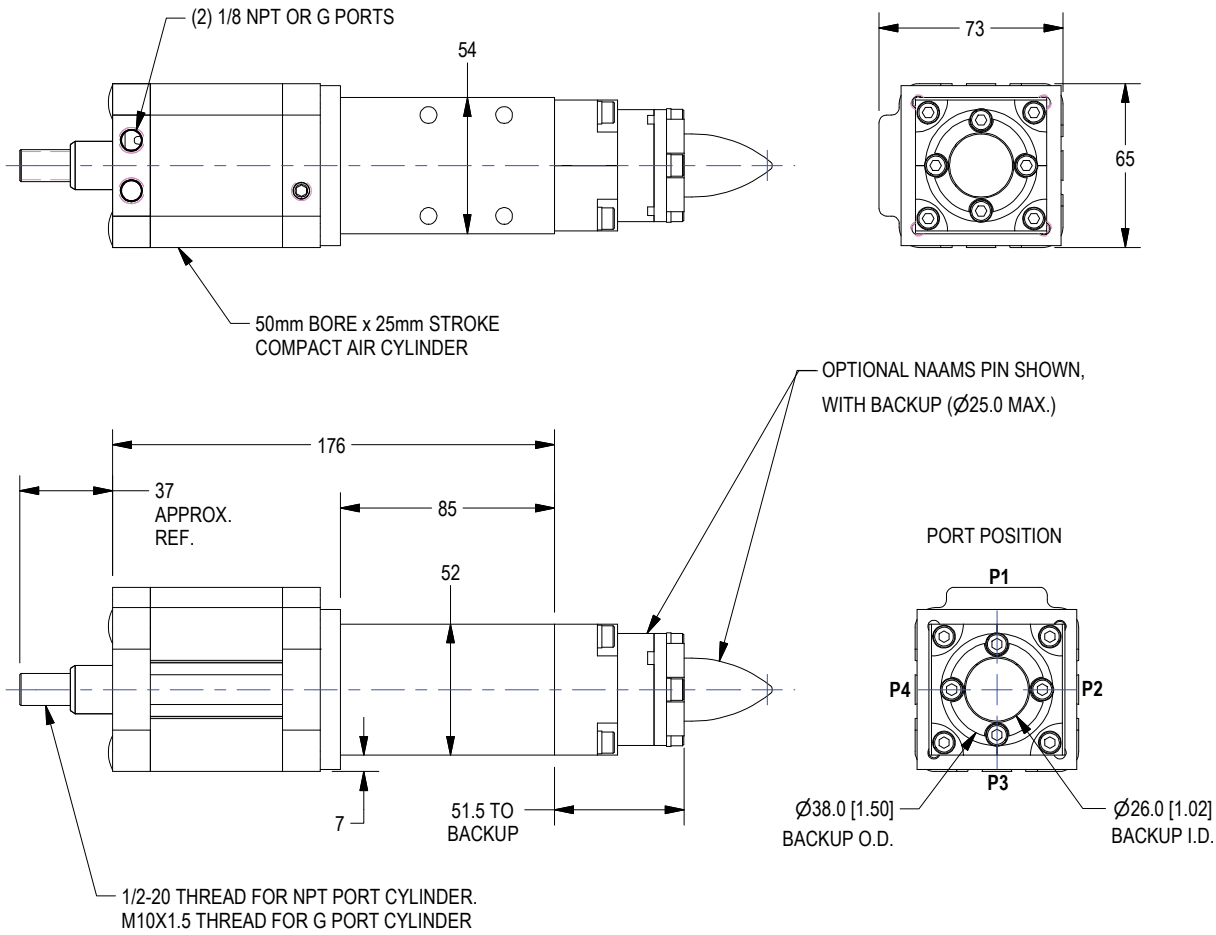
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FP2 GENERAL DIMENSIONS



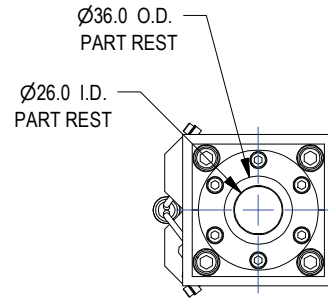
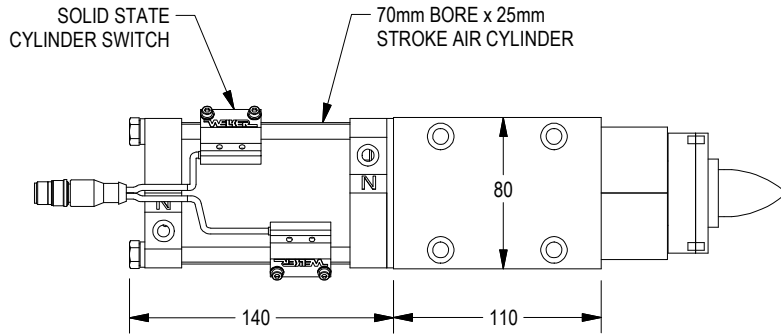
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WELKER

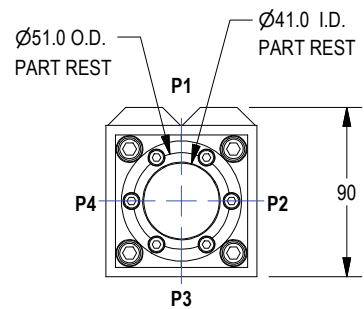
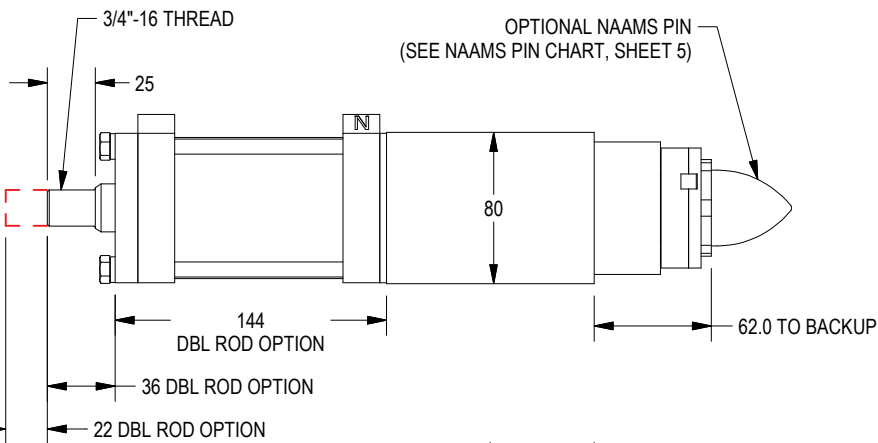
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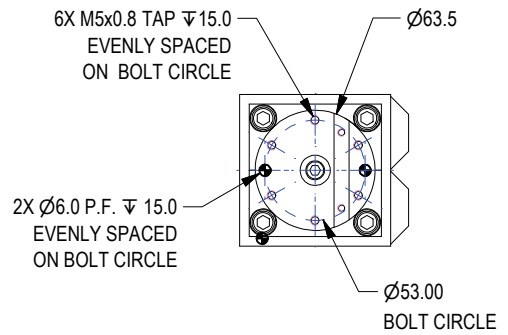
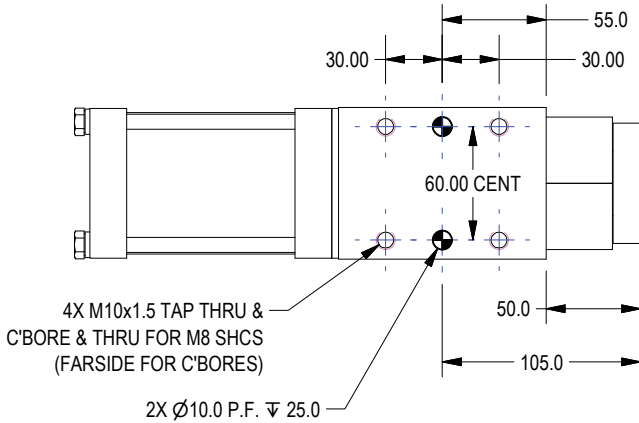
FP4 GENERAL DIMENSIONS



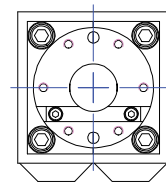
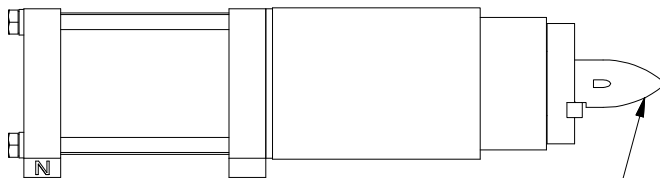
OPTION "3" NAAMS PIN MOUNT WITH BACKUP



OPTION "4" NAAMS PIN MOUNT WITH BACKUP



OPTION "1" FLAT MOUNT



OPTION "2" NAAMS PIN MOUNT

(DO NOT SCALE DRAWING)



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NAAMS Pin Chart

(Note: Only use pins from the chart below)

Size Code	Hole Size	Nominal Pin Length	Style Code A	Style Code B
			Locating Pin Hole Ø - 0.15	Respot Pin Hole Ø - 0.28
NAAMS Code	NAAMS Code			
10	6	15.0	APS061M	ARP061M
11		20.0	APS062M	ARP062M
12		30.0	APS063M	ARP063M
13		40.0	APS064M	ARP064M
14		50.0	APS065M	ARP065M
15		60.0	APS066M	ARP066M
16		70.0	N/A	N/A
17		80.0	N/A	N/A
18		90.0	N/A	N/A
19		100.0	N/A	N/A
20	8	15.0	APS081M	ARP081M
21		20.0	APS082M	ARP082M
22		30.0	APS083M	ARP083M
23		40.0	APS084M	ARP084M
24		50.0	APS085M	ARP085M
25		60.0	APS086M	ARP086M
26		70.0	APS087M	ARP087M
27		80.0	APS088M	ARP088M
28		90.0	N/A	N/A
29		100.0	N/A	N/A
30	10	15.0	APS101M	ARP101M
31		20.0	APS102M	ARP102M
32		30.0	APS103M	ARP103M
33		40.0	APS104M	ARP104M
34		50.0	APS105M	ARP105M
35		60.0	APS106M	ARP106M
36		70.0	APS107M	ARP107M
37		80.0	APS108M	ARP108M
38		90.0	APS109M	ARP109M
39		100.0	APS100M	ARP100M
40	13	15.0	APS131M	ARP131M
41		20.0	APS132M	ARP132M
42		30.0	APS133M	ARP133M
43		40.0	APS134M	ARP134M
44		50.0	APS135M	ARP135M
45		60.0	APS136M	ARP136M
46		70.0	APS137M	ARP137M
47		80.0	APS138M	ARP138M
48		90.0	APS139M	ARP139M
49		100.0	APS130M	ARP130M
50	16	15.0	APS161M	ARP161M
51		20.0	APS162M	ARP162M
52		30.0	APS163M	ARP163M
53		40.0	APS164M	ARP164M
54		50.0	APS165M	ARP165M
55		60.0	APS166M	ARP166M
56		70.0	APS167M	ARP167M
57		80.0	APS168M	ARP168M
58		90.0	APS169M	ARP169M
59		100.0	APS160M	ARP160M

Size Code	Slotted Hole Size	Nominal Pin Length	Style Code C	Style Code D
			Locating Pin Slot - 0.15	Respot Pin Slot - 0.28
NAAMS Code	NAAMS Code			
10	6 x 12 Slotted Hole	15.0	APE061M	ARE061M
11		20.0	APE062M	ARE062M
12		30.0	APE063M	ARE063M
13		40.0	APE064M	ARE064M
14		50.0	APE065M	ARE065M
15		60.0	APE066M	ARE066M
16		70.0	N/A	N/A
17		80.0	N/A	N/A
18		90.0	N/A	N/A
19		100.0	N/A	N/A
20	8 x 14 Slotted Hole	15.0	APE081M	ARE081M
21		20.0	APE082M	ARE082M
22		30.0	APE083M	ARE083M
23		40.0	APE084M	ARE084M
24		50.0	APE085M	ARE085M
25		60.0	APE086M	ARE086M
26		70.0	APE087M	ARE087M
27		80.0	APE088M	ARE088M
28		90.0	N/A	N/A
29		100.0	N/A	N/A
30	10 x 16 Slotted Hole	15.0	APE101M	ARE101M
31		20.0	APE102M	ARE102M
32		30.0	APE103M	ARE103M
33		40.0	APE104M	ARE104M
34		50.0	APE105M	ARE105M
35		60.0	APE106M	ARE106M
36		70.0	APE107M	ARE107M
37		80.0	APE108M	ARE108M
38		90.0	APE109M	ARE109M
39		100.0	APE100M	ARE100M
40	13 x 19 Slotted Hole	15.0	APE131M	ARE131M
41		20.0	APE132M	ARE132M
42		30.0	APE133M	ARE133M
43		40.0	APE134M	ARE134M
44		50.0	APE135M	ARE135M
45		60.0	APE136M	ARE136M
46		70.0	APE137M	ARE137M
47		80.0	APE138M	ARE138M
48		90.0	APE139M	ARE139M
49		100.0	APE130M	ARE130M
50	16 x 22 Slotted Hole	15.0	APE161M	ARE161M
51		20.0	APE162M	ARE162M
52		30.0	APE163M	ARE163M
53		40.0	APE164M	ARE164M
54		50.0	APE165M	ARE165M
55		60.0	APE166M	ARE166M
56		70.0	APE167M	ARE167M
57		80.0	APE168M	ARE168M
58		90.0	APE169M	ARE169M
59		100.0	APE160M	ARE160M

Size Code	Hole Size	Nominal Pin Length	Style Code J
			Locating Pin Pin Ø = h6
NAAMS Code			
10	6	N/A	N/A
11		N/A	N/A
12		N/A	N/A
13		N/A	N/A
14		N/A	N/A
15		N/A	N/A
16		N/A	N/A
17		N/A	N/A
18		N/A	N/A
19		N/A	N/A
20	8	15.0	APQ081M
21		20.0	APQ082M
22		30.0	APQ083M
23		40.0	APQ084M
24		50.0	APQ085M
25		60.0	APQ086M
26		70.0	N/A
27		80.0	N/A
28		90.0	N/A
29		100.0	N/A
30	10	15.0	APQ101M
31		20.0	APQ102M
32		30.0	APQ103M
33		40.0	APQ104M
34		50.0	APQ105M
35		60.0	APQ106M
36		70.0	APQ107M
37		80.0	APQ108M
38		90.0	N/A
39		100.0	N/A
40	13	15.0	APQ131M
41		20.0	APQ132M
42		30.0	APQ133M
43		40.0	APQ134M
44		50.0	APQ135M
45		60.0	APQ136M
46		70.0	APQ137M
47		80.0	APQ138M
48		90.0	N/A
49		100.0	N/A
50	16	15.0	APQ161M
51		20.0	APQ162M
52		30.0	APQ163M
53		40.0	APQ164M
54		50.0	APQ165M
55		60.0	APQ166M
56		70.0	APQ167M
57		80.0	APQ168M
58		90.0	N/A
59		100.0	N/A

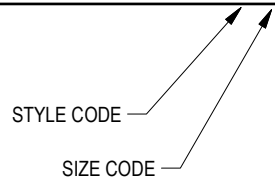
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ORDERING EXAMPLE:

TO ORDER A NAAMS PIN, ENTER THE STYLE CODE AND SIZE CODE IN PART NUMBER

NAAMS PIN APE131M HAS A STYLE CODE C AND A SIZE CODE 40

FP4NX0120L0AC40



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NAAMS Pin Chart

(Note: Only use pins from the chart below)

Size Code	Hole Size	Nominal Pin Length	Style Code A	Style Code B
			Locating Pin Hole Ø - 0.15	Respot Pin Hole Ø - 0.28
NAAMS Code	NAAMS Code			
60	19	15.0	APS191M	ARP191M
61		20.0	APS192M	ARP192M
62		30.0	APS193M	ARP193M
63		40.0	APS194M	ARP194M
64		50.0	APS195M	ARP195M
65		60.0	APS196M	ARP196M
66		70.0	APS197M	ARP197M
67		80.0	APS198M	ARP198M
68		90.0	APS199M	ARP199M
69		100.0	APS190M	ARP190M
70	25	15.0	APS251M	ARP251M
71		20.0	APS252M	ARP252M
72		30.0	APS253M	ARP253M
73		40.0	APS254M	ARP254M
74		50.0	APS255M	ARP255M
75		60.0	APS256M	ARP256M
76		70.0	APS257M	ARP257M
77		80.0	APS258M	ARP258M
78		90.0	APS259M	ARP259M
79		100.0	APS250M	ARP250M

Size Code	Slotted Hole Size	Nominal Pin Length	Style Code C	Style Code D
			Locating Pin Slot - 0.15	Respot Pin Slot - 0.28
NAAMS Code	NAAMS Code			
60	19 x 25 Slotted Hole	15.0	APE191M	ARE191M
61		20.0	APE192M	ARE192M
62		30.0	APE193M	ARE193M
63		40.0	APE194M	ARE194M
64		50.0	APE195M	ARE195M
65		60.0	APE196M	ARE196M
66		70.0	APE197M	ARE197M
67		80.0	APE198M	ARE198M
68		90.0	APE199M	ARE199M
69		100.0	APE190M	ARE190M
70	25 x 31 Slotted Hole	15.0	APE251M	N/A
71		20.0	APE252M	N/A
72		30.0	APE253M	N/A
73		40.0	APE254M	N/A
74		50.0	APE255M	N/A
75		60.0	APE256M	N/A
76		70.0	APE257M	N/A
77		80.0	APE258M	N/A
78		90.0	APE259M	N/A
79		100.0	APE250M	N/A

Size Code	Hole Size	Nominal Pin Length	Style Code J
			Locating Pin Pin Ø = h6
NAAMS Code			
60	18	15.0	APQ181M
61		20.0	APQ182M
62		30.0	APQ183M
63		40.0	APQ184M
64		50.0	APQ185M
65		60.0	APQ186M
66		70.0	APQ187M
67		80.0	APQ188M
68		90.0	N/A
69		100.0	N/A
70	20	15.0	APQ201M
71		20.0	APQ202M
72		30.0	APQ203M
73		40.0	APQ204M
74		50.0	APQ205M
75		60.0	APQ206M
76		70.0	APQ207M
77		80.0	APQ208M
78		90.0	N/A
79		100.0	N/A
80	25	15.0	APQ251M
81		20.0	APQ252M
82		30.0	APQ253M
83		40.0	APQ254M
84		50.0	APQ255M
85		60.0	APQ256M
86		70.0	APQ257M
87		80.0	APQ258M
88		90.0	N/A
89		100.0	N/A
90	30	15.0	APQ301M
91		20.0	APQ302M
92		30.0	APQ303M
93		40.0	APQ304M
94		50.0	APQ305M
95		60.0	APQ306M
96		70.0	APQ307M
97		80.0	APQ308M
98		90.0	N/A
99		100.0	N/A

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