

CONNECTOR PART NUMBER BUILD

SAMPLE PART NUMBER: VRRAM-04-10-50-00

VRRAM-XX-XX-XX-XX-XX

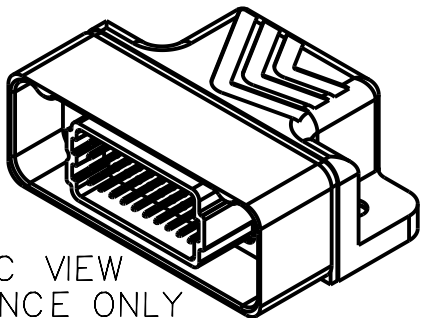
HARDWARE OPTIONS		
BLANK	STANDARD	2
G	GUIDE PIN	4
N	FIXED JACKNUT	4
J	TURNING JACKSCREW	5
L	LOCKING SCREW	5
E	STANDARD/EMI GASKET	4
GE	GUIDE PIN/EMI GASKET	4
NE	FIXED JACKNUT/EMI GASKET	4
JE	TURNING JACKSCREW/EMI GASKET	5
LE	LOCKING SCREW/EMI GASKET	5

TERMINATION	
00	PRESS-FIT
01	PASTE-IN-HOLE (PIH)
02	PLATED-THRU-HOLE (PTH) .078" LENGTH
03	PLATED-THRU-HOLE (PTH) .109" LENGTH
04	PLATED-THRU-HOLE (PTH) .140" LENGTH
05	PLATED-THRU-HOLE (PTH) .156" LENGTH
06	PLATED-THRU-HOLE (PTH) .172" LENGTH

CONTACT PLATING	
50	50µIN Au

COLUMNS	
10	10 COLUMNS
20	20 COLUMNS
30	30 COLUMNS
40	40 COLUMNS
50	50 COLUMNS

ROWS	
04	4 ROWS
05	5 ROWS
06	6 ROWS
08	8 ROWS
10	10 ROWS



ISOMETRIC VIEW
FOR REFERENCE ONLY
(PART NUMBER VRRAM-04-10-50-00 SHOWN)

MATERIAL AND FINISHES		
PIN CONTACTS	MATERIAL PIN END	PHOS BRONZE PER ASTM B103
	FINISH PIN END	50µIN MIN LOCALIZED Au PER ASTM B488 TYPE II, CODE C OVER 50 µIN MIN Ni PER ASTM B689 TYPE 1
	MATERIAL TERMINATION END	PIH & PTH: BRASS ALLOY PER ASTM B36 PRESS-FIT: BeCu PER ASTM B768
	FINISH TERMINATION END	PIH & PTH: 10µIN MIN LOCALIZED Au FLASH PER ASTM B488 TYPE I, CODE A OR C OVER 50µIN MIN Ni PER ASTM B689 TYPE 1 PRESS-FIT: 50µIN MIN LOCALIZED Au PER ASTM B488 TYPE II, CODE C OVER 50µIN MIN Ni PER ASTM B689 TYPE 1
MOLDED INSULATORS	MATERIAL	GLASS-FILLED LIQUID CRYSTAL POLYMER (LCP) PER ASTM D5138
SHELLS	MATERIAL	ALUMINUM ALLOY 6061-T6 PER SAE AMS-4027 OR 6061-T6511 PER SAE AMS-QQ-A-200/8
	FINISH	500µIN MIN ELECTROLESS Ni PER SAE AMS-2404, CLASS 3
EMBEDMENT	MATERIAL	FREY ENG. CO. INSULATING COMPOUND CF3003-80 OR EQUIVALENT
HARDWARE	MATERIAL	STAINLESS STEEL PER ASTM A484/A484M, ASTM A582/A582M, OR ASTM A320
	FINISH	PASSIVATED PER SAE AMS-2700
WASHERS	MATERIAL	STAINLESS STEEL PER SAE NASM35333 (ASTM A240),
	FINISH	PASSIVATED PER NASM35333 (SAE AMS-2700)
EMI GASKET	MATERIAL	CONDUCTIVE ELASTOMER PER MIL-DTL-83528 TYPE D
SCREW THREAD INSERT J & L OPTIONS ONLY	MATERIAL	NAS1130-02-10

PERFORMANCE	
CONTACT RATING	2 AMPERES MAXIMUM, SEE AIRBORN PTB66 FOR MORE INFO
OPERATING TEMPERATURE	-55° C TO 125° C, SEE AIRBORN PTB66 FOR MORE INFO
CONTACT ENGAGEMENT FORCE	6.0oz MAX*
CONTACT SEPARATION FORCE	0.5oz MIN*
CONNECTOR MATING FORCE	10oz X (# OF CONTACTS) MAX TESTED PER MIL-DTL-83513
CONNECTOR UNMATING FORCE	10oz X (# OF CONTACTS) MAX TESTED PER MIL-DTL-83513
DWV (SEA LEVEL)	600V, RMS, 60Hz, SEE AIRBORN PTB61 FOR MORE INFO
RECOMMENDED MAX OPERATING VOLTAGE	200V, RMS, 60Hz, SEE AIRBORN PTB61 FOR MORE INFO
INSULATION RESISTANCE	5,000 MEGAOHMS MINIMUM @ 500 VDC, TESTED PER MIL-DTL-83513
DURABILITY	2,500 CONNECTOR MATING CYCLES, EXCEEDS MIL-DTL-83513
SINUSOIDAL VIBRATION	20 g, TESTED PER MIL-DTL-83513
SHOCK	50 g, TESTED PER MIL-DTL-83513
OUTGASSING	MAX TML OF 1% AND MAX CVCM OF .1% PER MIL-DTL-83513

*FORCES TESTED ON SOCKET ONLY. MAX PIN SIZE USED FOR CONTACT ENGAGEMENT FORCE AND MIN PIN SIZE USED FOR CONTACT SEPARATION FORCE.

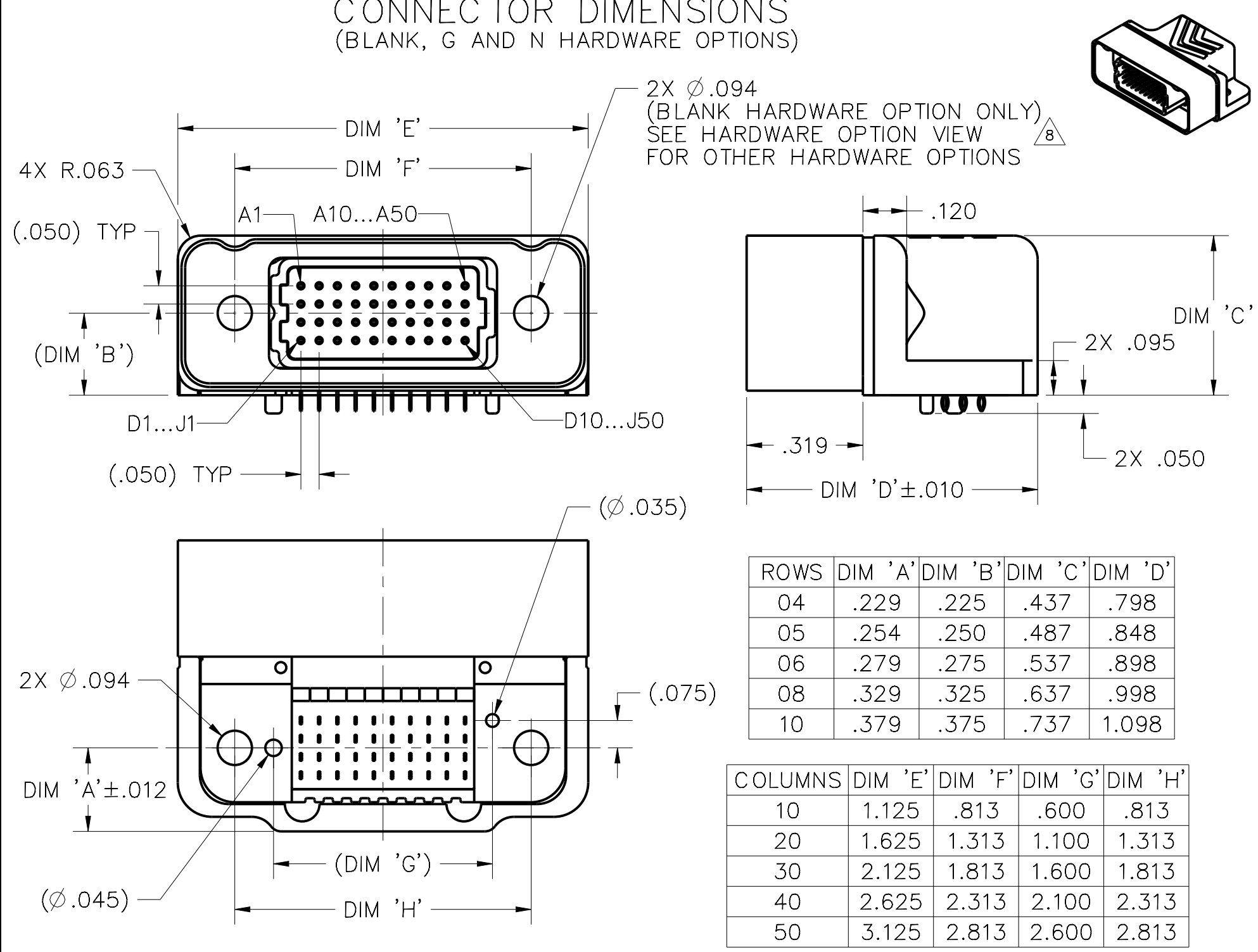
NOTES:

1. SEE AIRBORN SPEC ESL5001 FOR ADDITIONAL APPLICATION INFORMATION
2. SEE SHEET 8 FOR REPLACEMENT HARDWARE KITS, SEE SHEET 9 FOR REPLACEMENT GASKETS.
3. PACKAGING: CONNECTORS SUPPLIED IN THERMOFORMED TRAYS.
4. SHELLS AND HARDWARE SUPPLIED UNINSTALLED
5. CONNECTORS COME PRE-ASSEMBLED WITH SHELLS AND HARDWARE.
6. NO PCB MOUNTING HARDWARE SUPPLIED WITH CONNECTORS.
7. MATES WITH CONNECTOR SERIES: VRF, VRRAF, VRD (FEMALE), VRW (FEMALE).

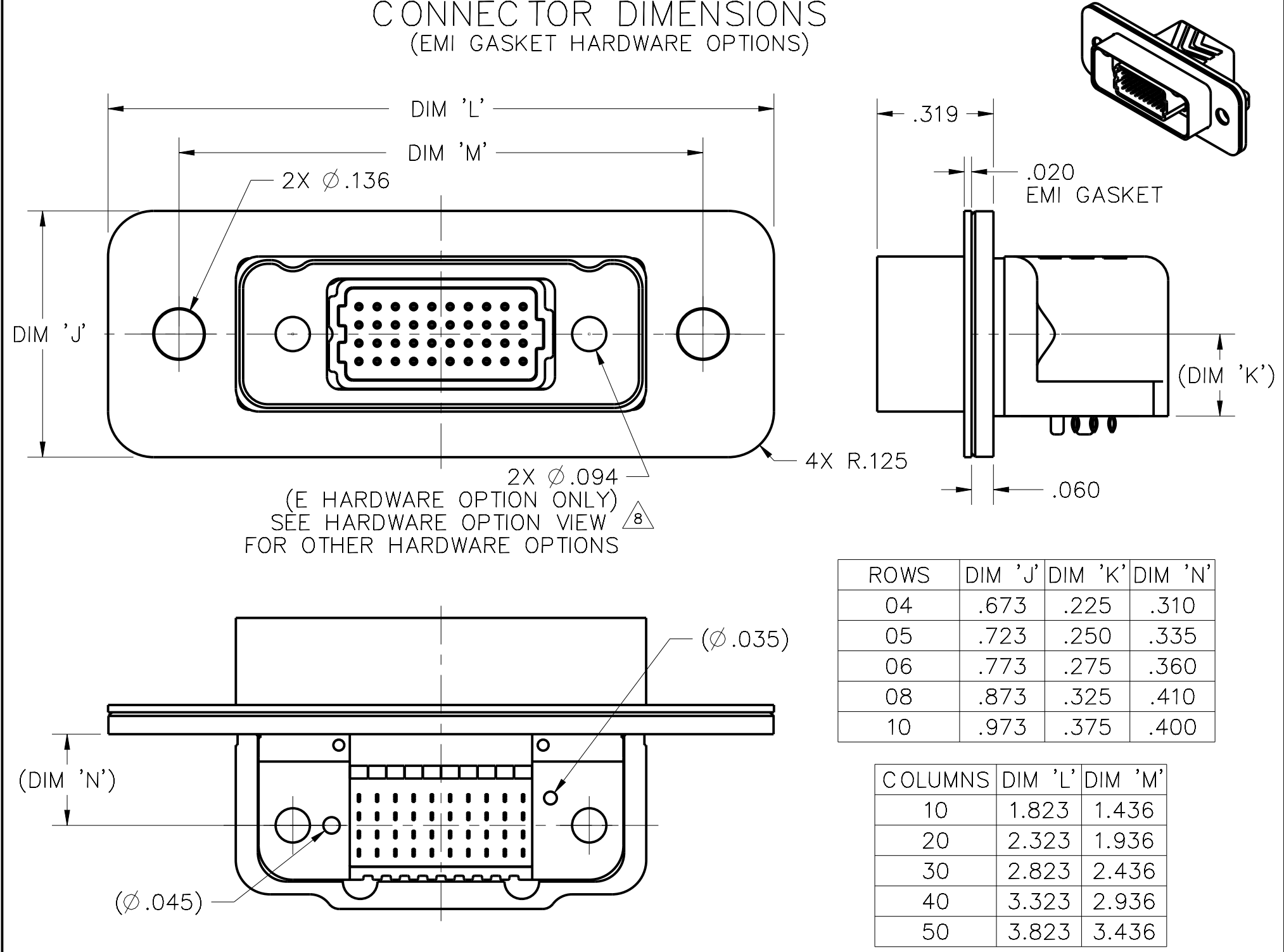


MATERIAL: SEE NOTES		UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE: Decimals: .XX ± .010 Concentricity: .002 T.I.R. Decimals: .XXX ± .005 Angles: ± 3° Decimals: .XXXX ± .0005 Radius: Parts are to be symmetrical about centerline within ± .002 Surfaces to be flat, perpendicular parallel within .002 T.I.R. Dimensions are in inches/DQ NOT SCALE PRINT Surface finish to be 32/ or better		AirBorn Little Falls, Minnesota 56345		Cage Code 10400	
HEAT TREAT: Per Spec.: Certification required: NO		APPLICATION: verSI SERIES		DRAWING STATE: Released This drawing is not authorized for production unless it is released		☒ RELEASED	
FINISH: SEE NOTES Per Spec.: Certification required: NO		A	INITIAL RELEASE	KTR 072418	W57940	DR. KTR 041918	
MAKE FROM: N/A NEXT ASSY: N/A		REV	DESCRIPTION	DR. BY DATE	ECO NO. APPD. BY	TJW 041918	
		► = CRITICAL CHARACTERISTIC ● = MAJOR CHARACTERISTIC		THIRD ANGLE PROJECTION		REL. KTR 041918	
						APPD. TJW 041918	
						DWG # VRRAM-XX-XX-XX-XX	
						REV. A	
						SHEET 1/9	

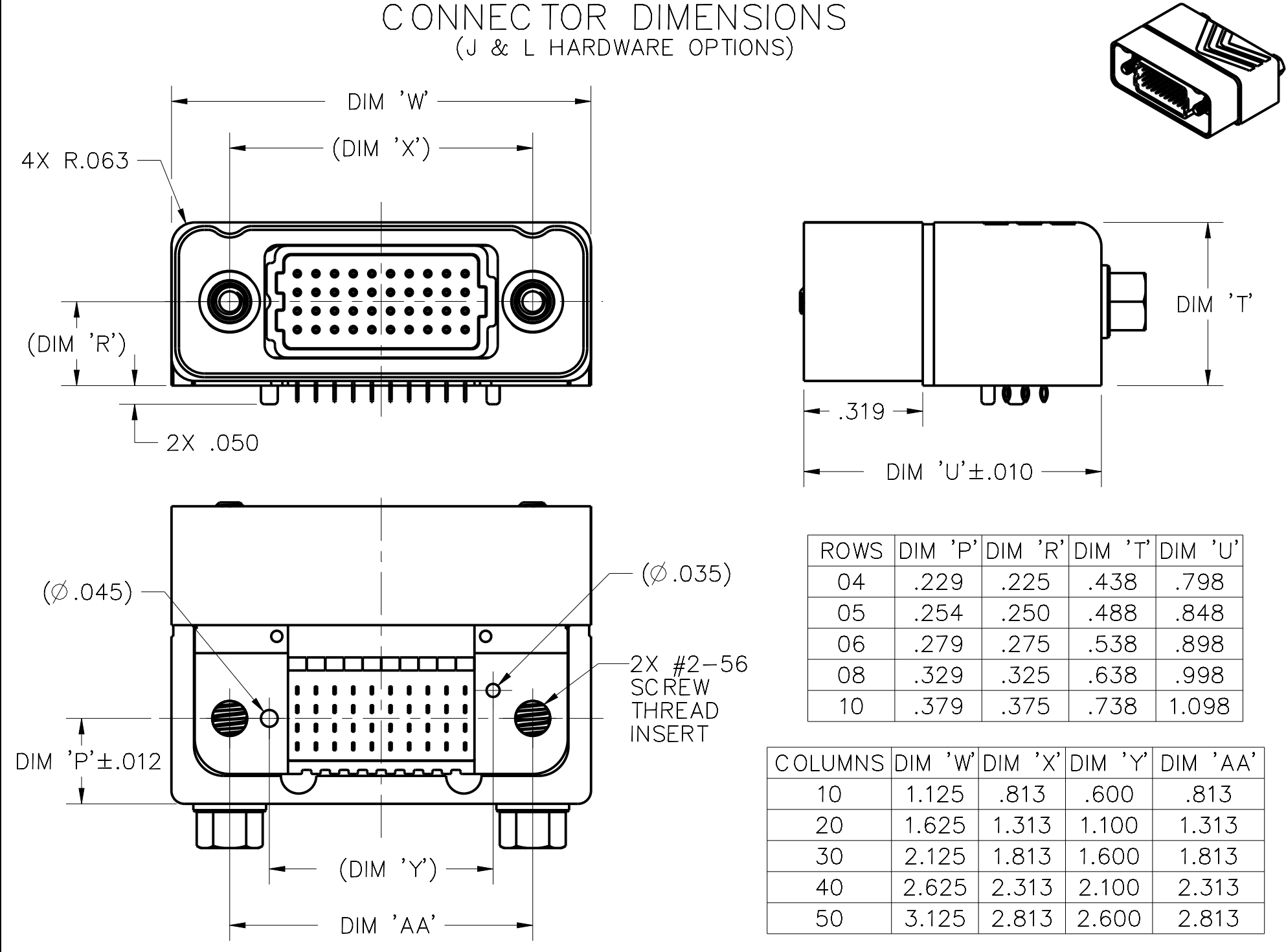
CONNECTOR DIMENSIONS
(BLANK, G AND N HARDWARE OPTIONS)



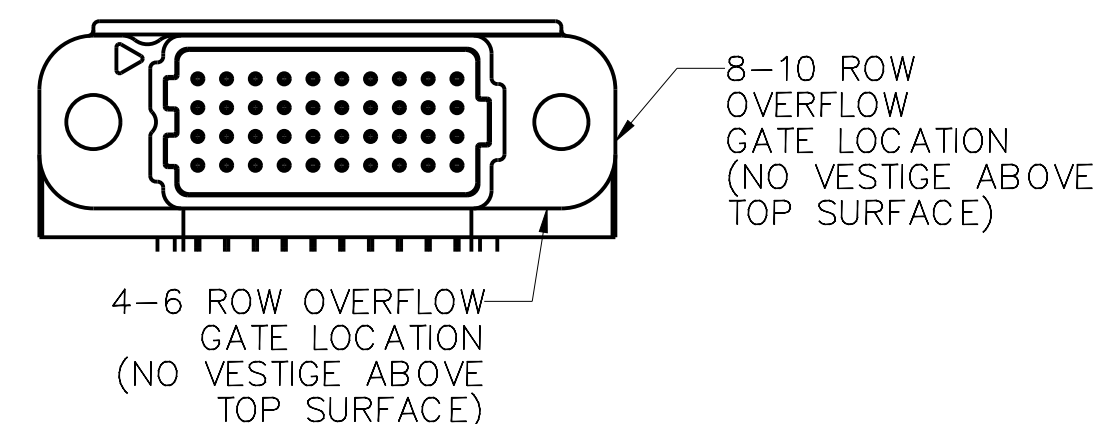
CONNECTOR DIMENSIONS
(EMI GASKET HARDWARE OPTIONS)



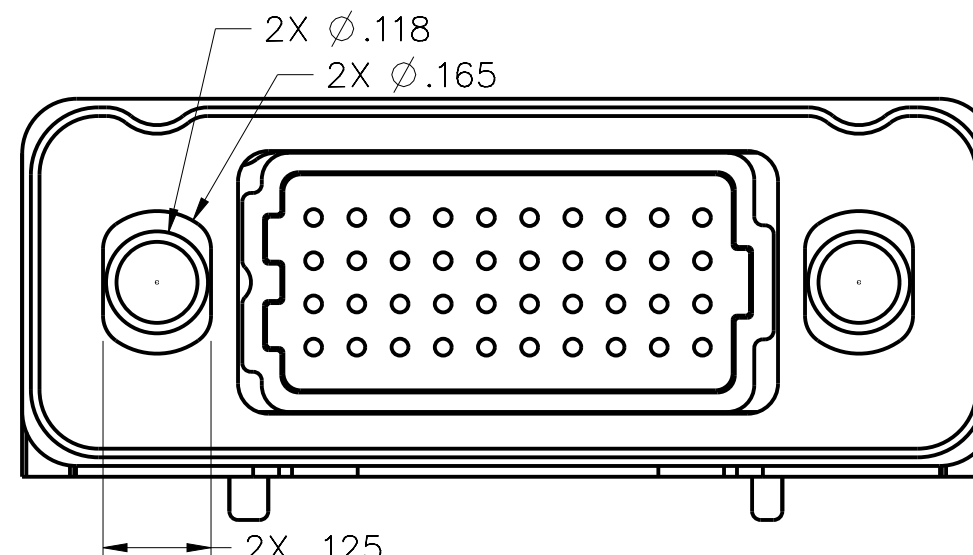
CONNECTOR DIMENSIONS
(J & L HARDWARE OPTIONS)



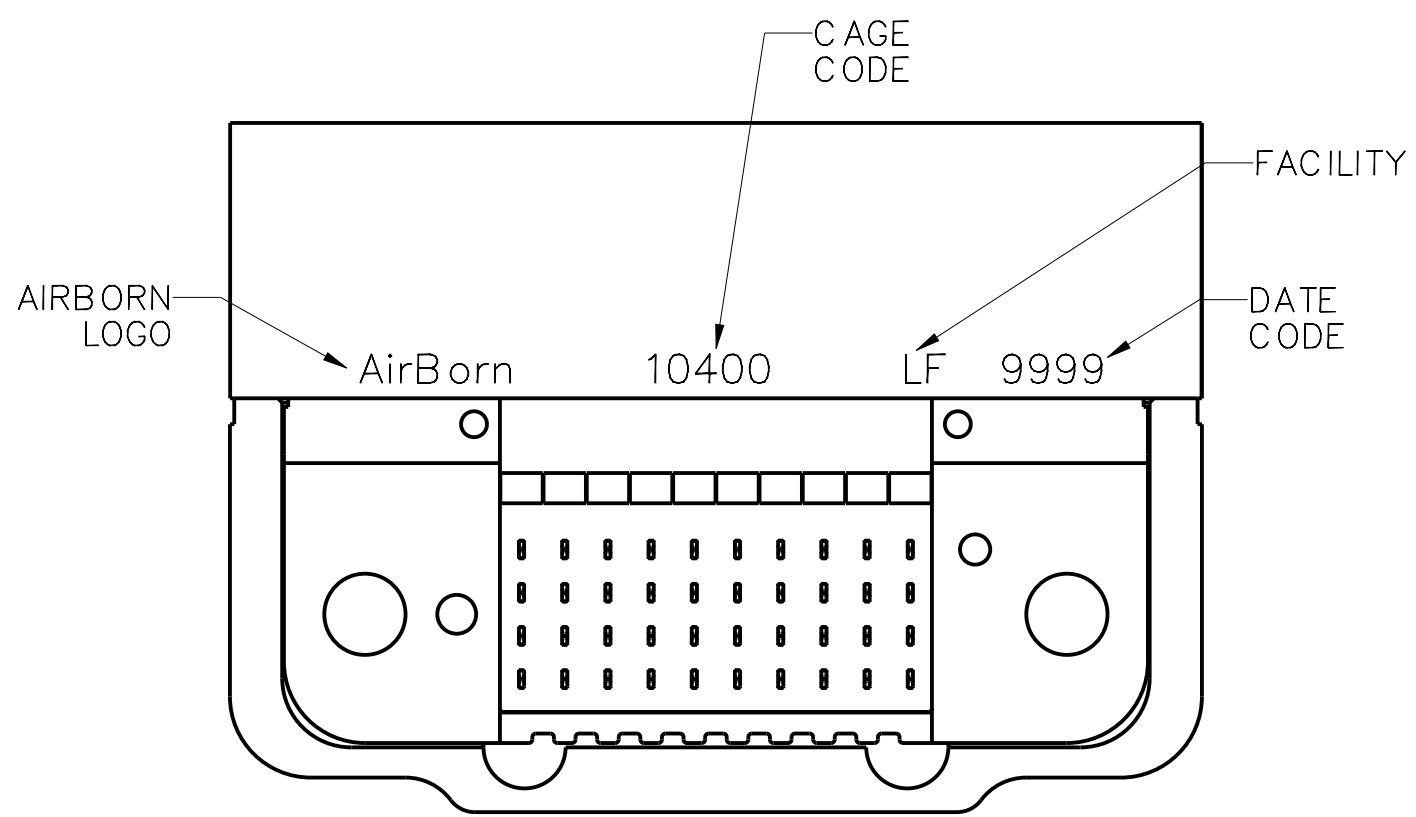
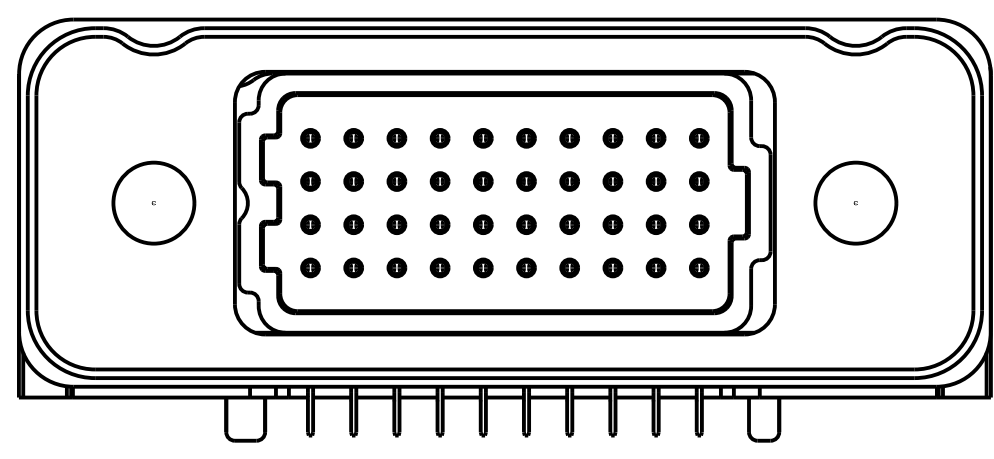
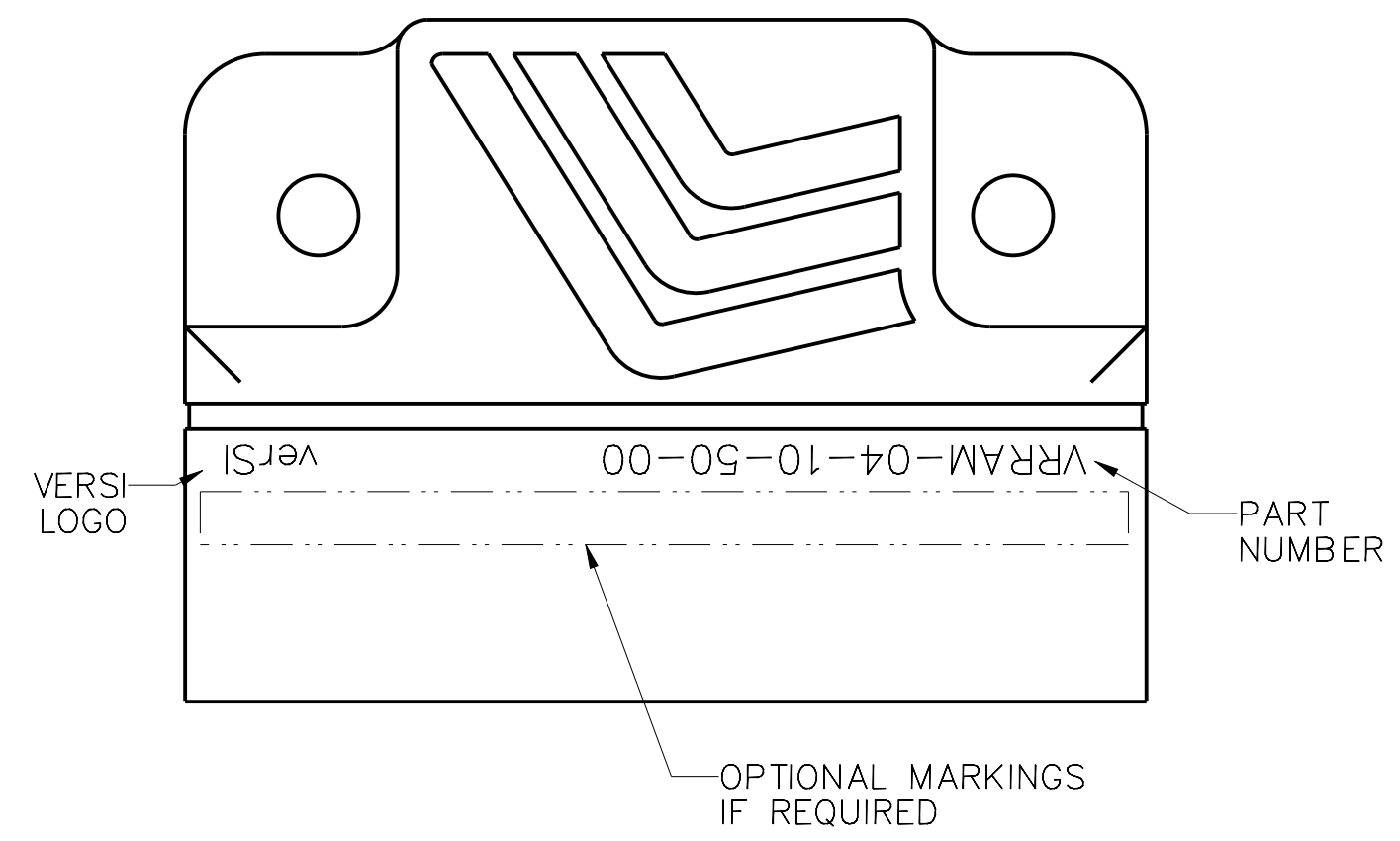
VRRAM SHOWN WITHOUT SHELLS



HARDWARE OPTION VIEW

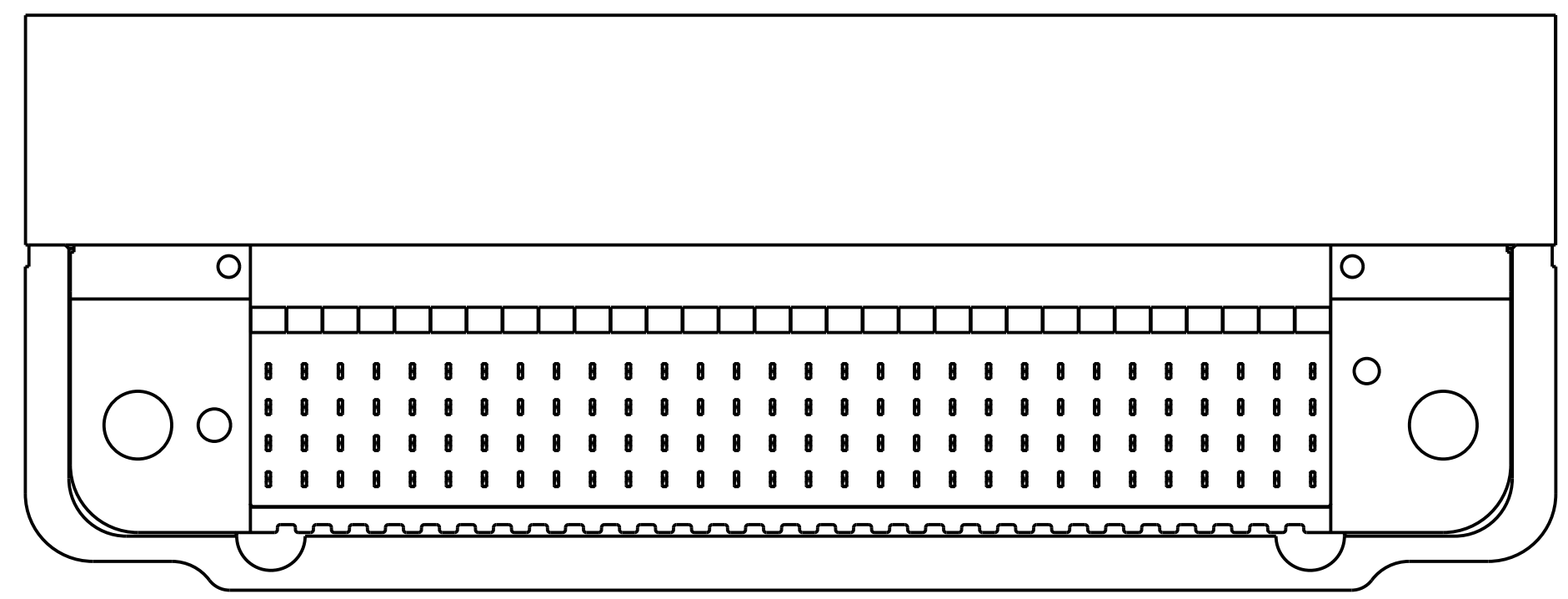
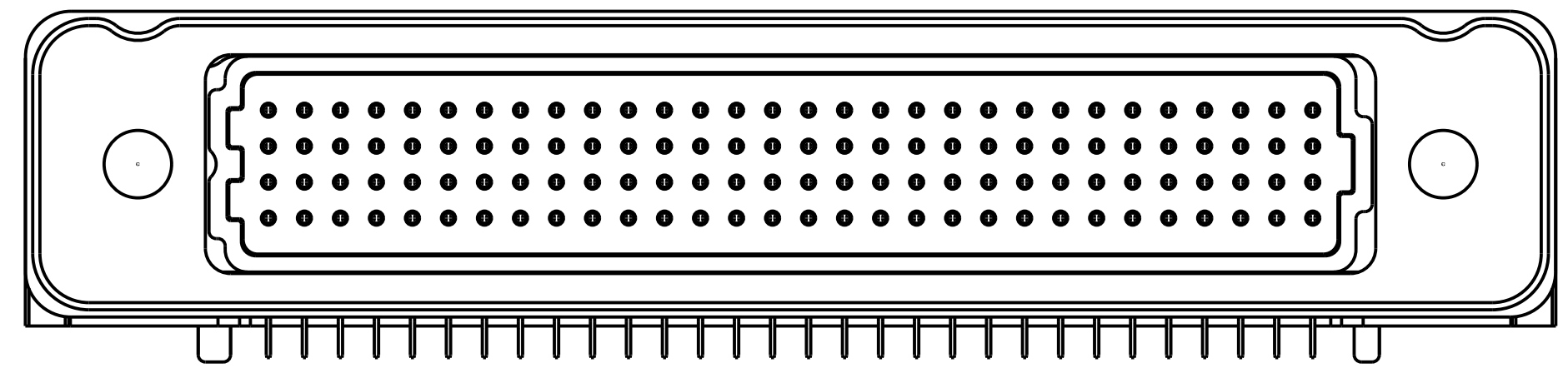
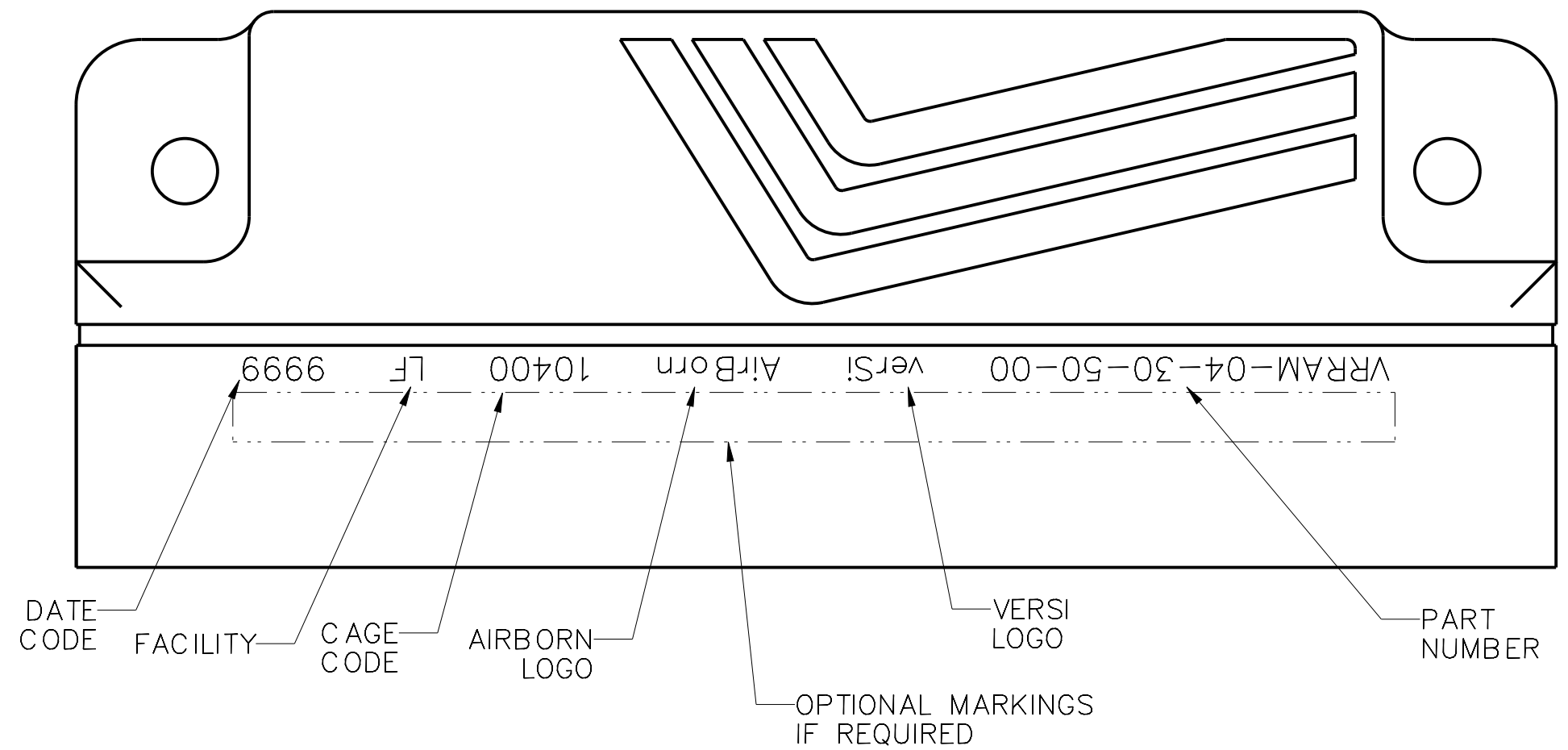


PART MARKINGS
(10 & 20 COLUMNS)

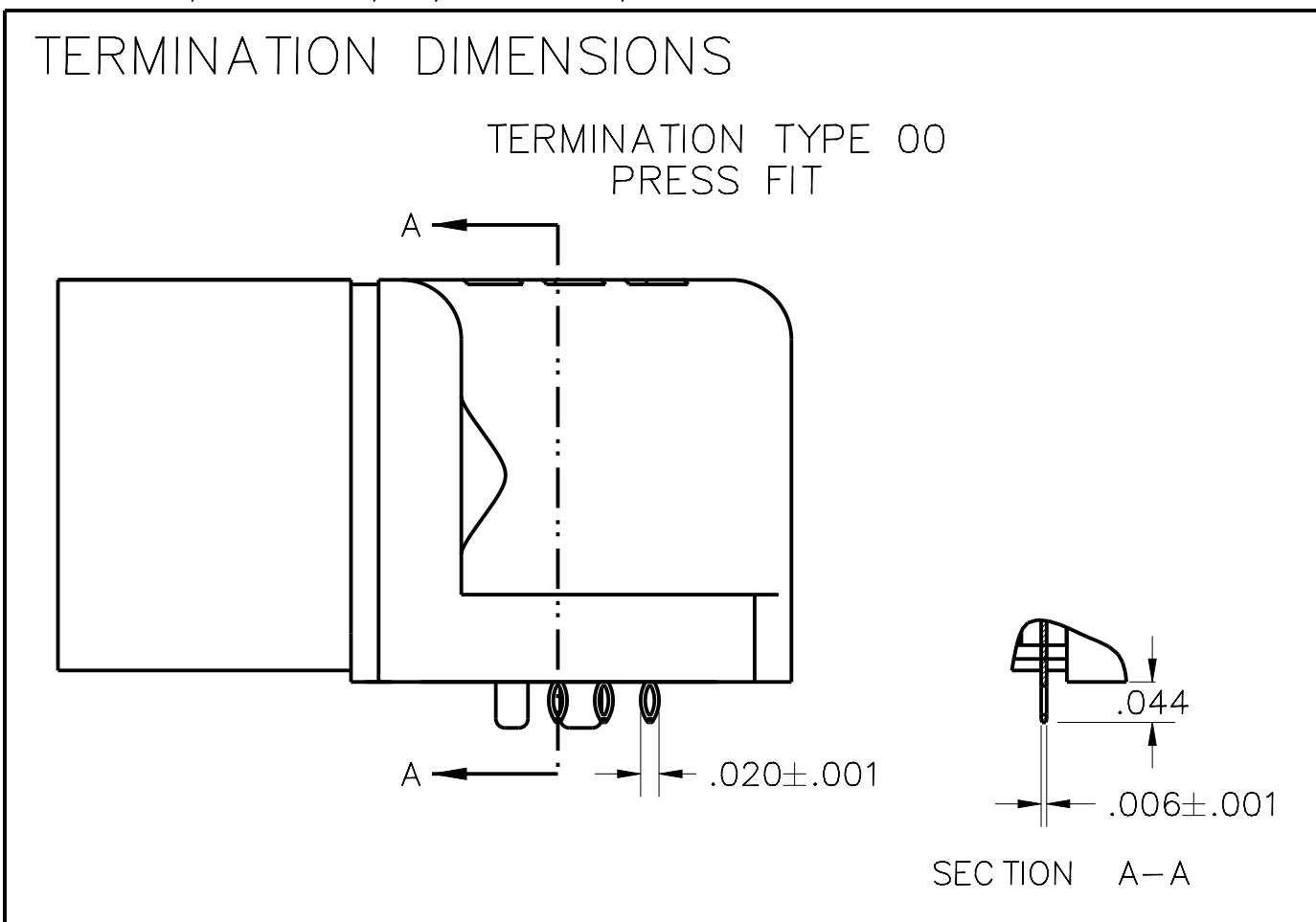
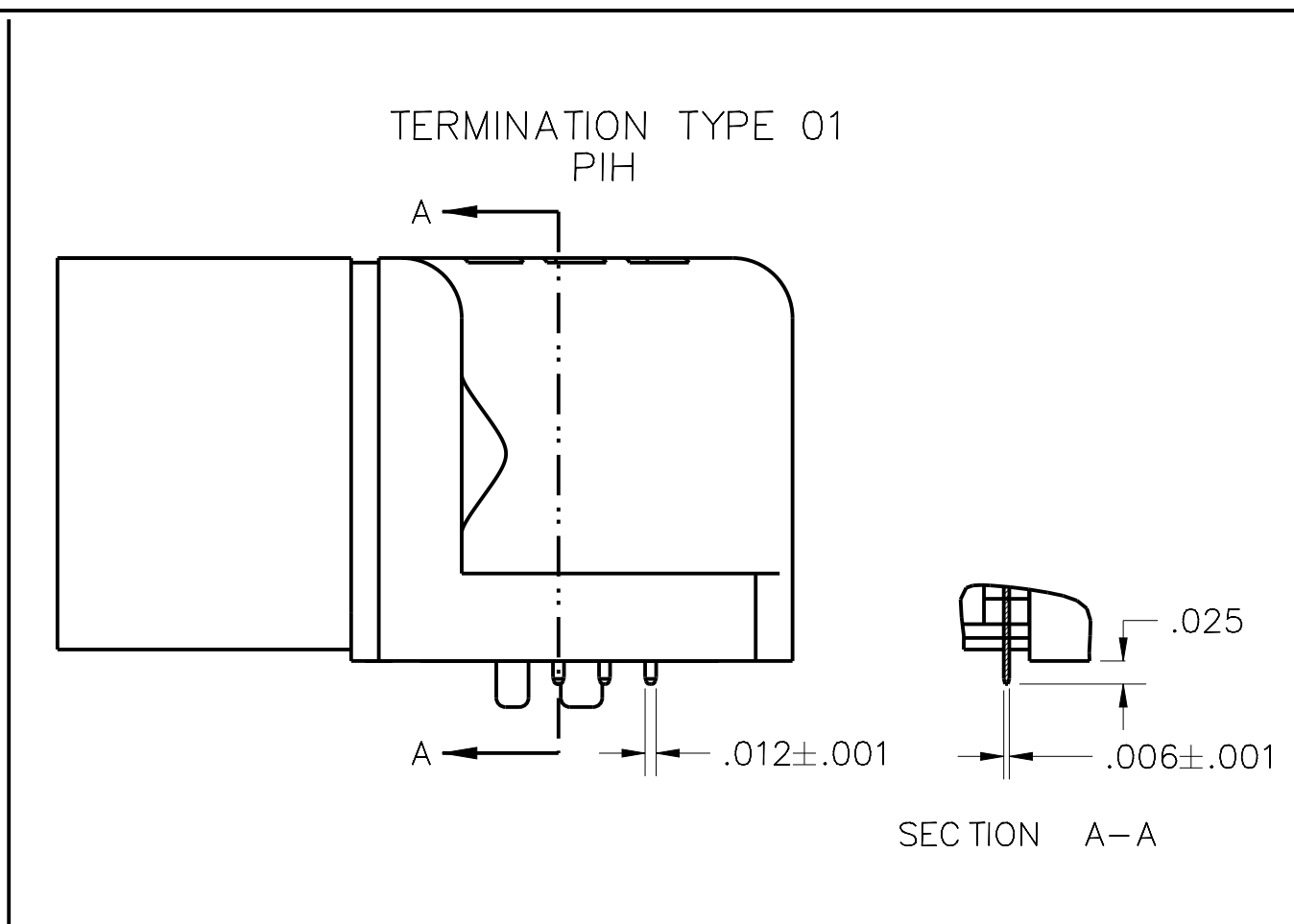
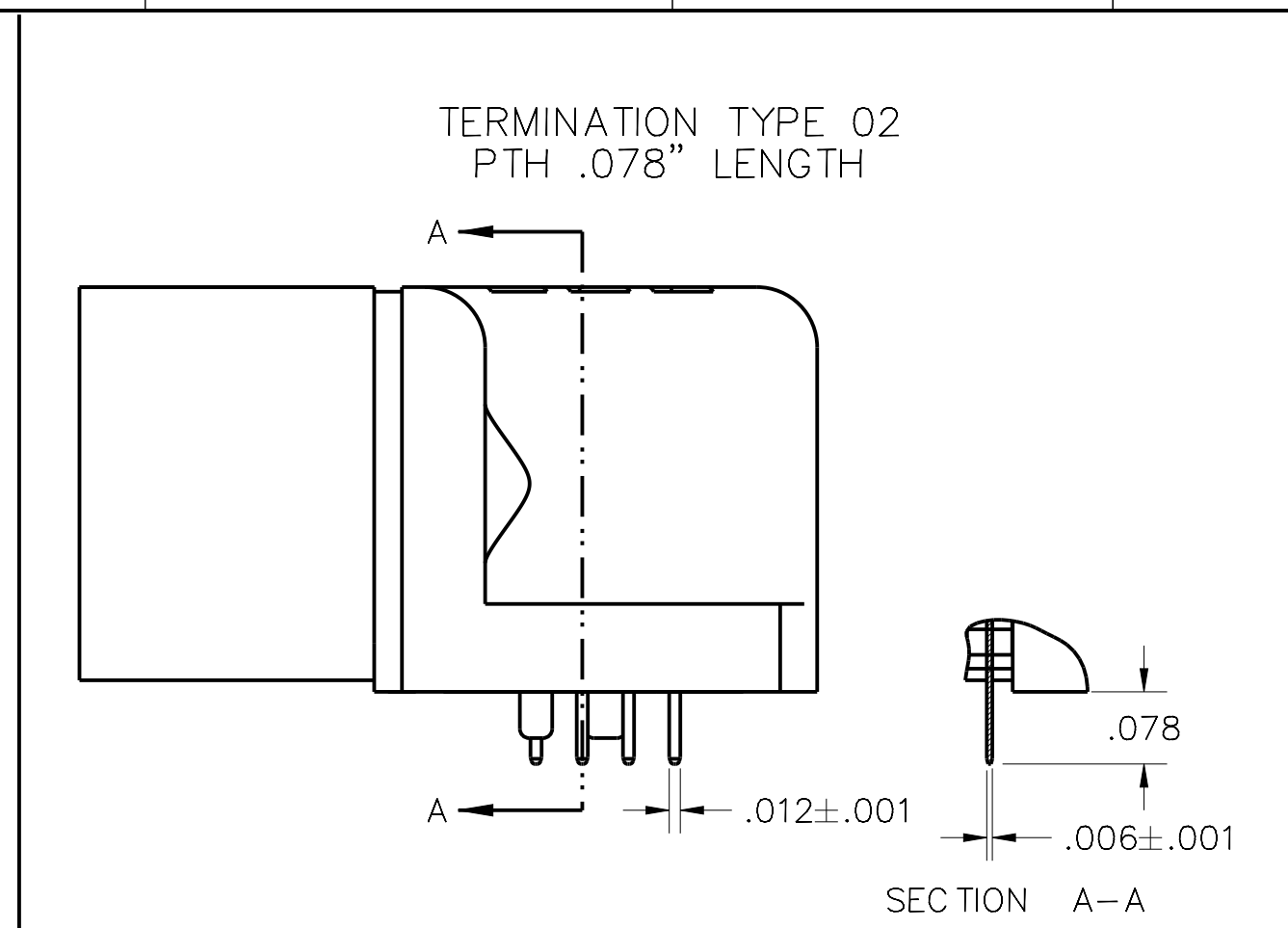
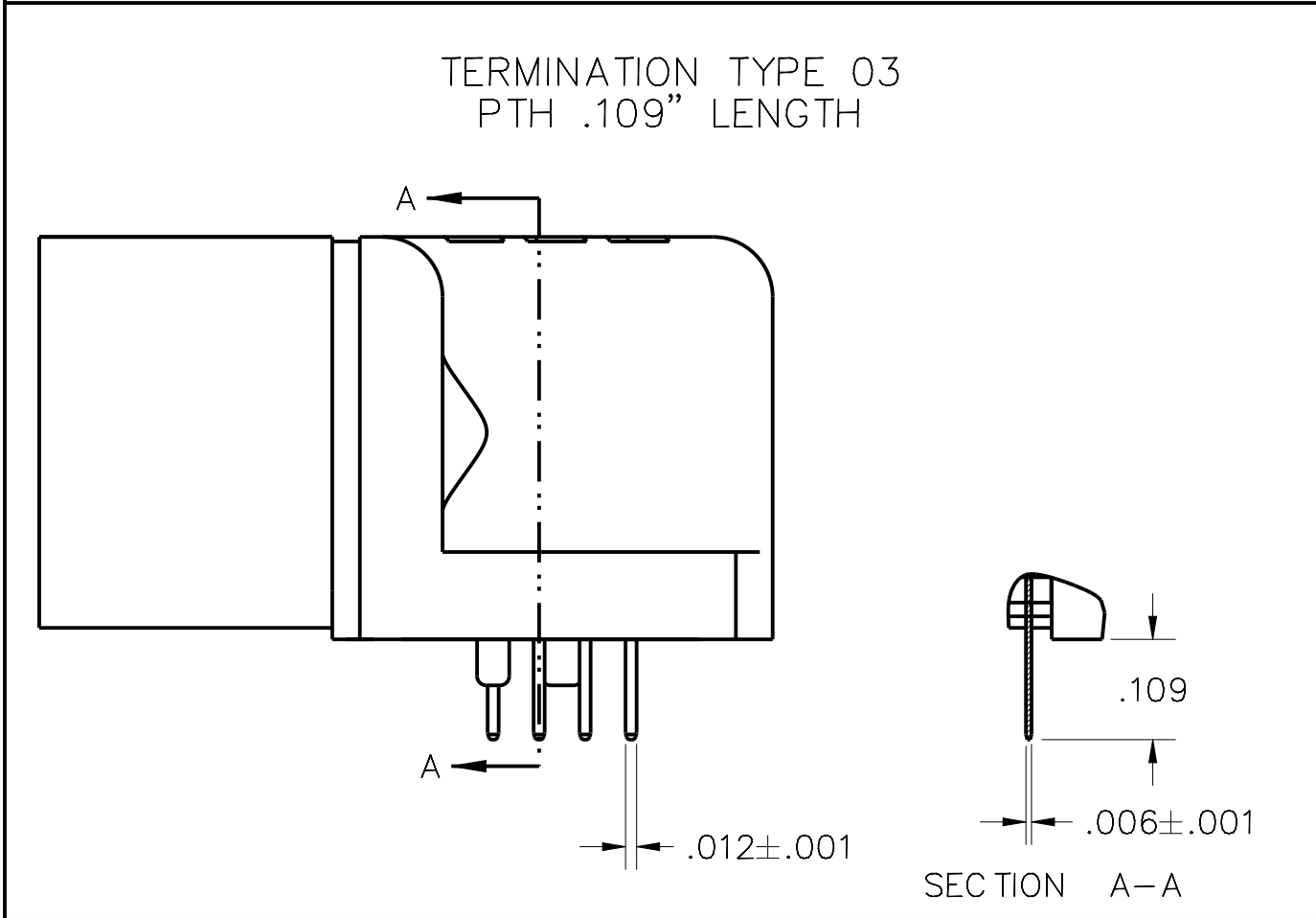
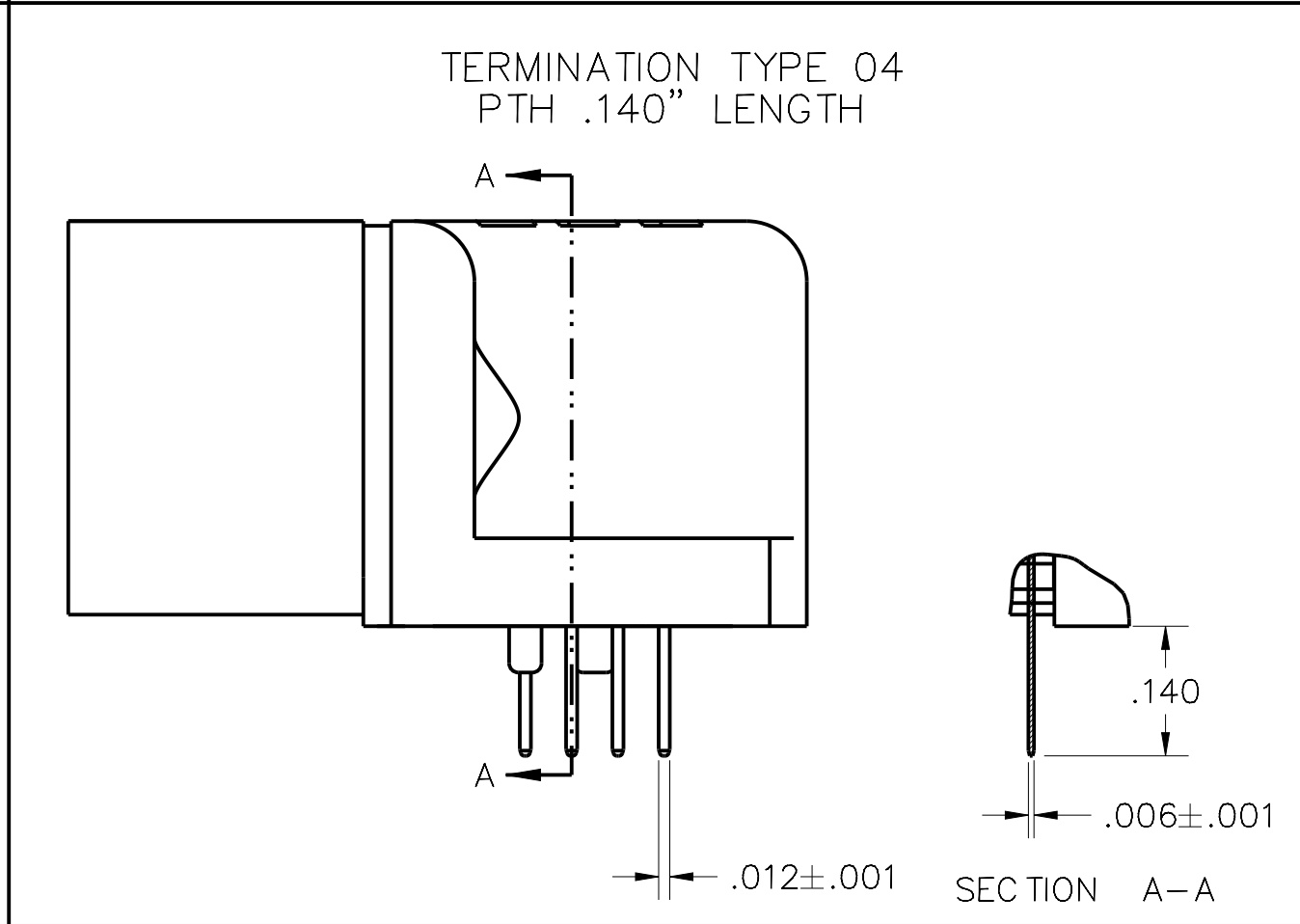
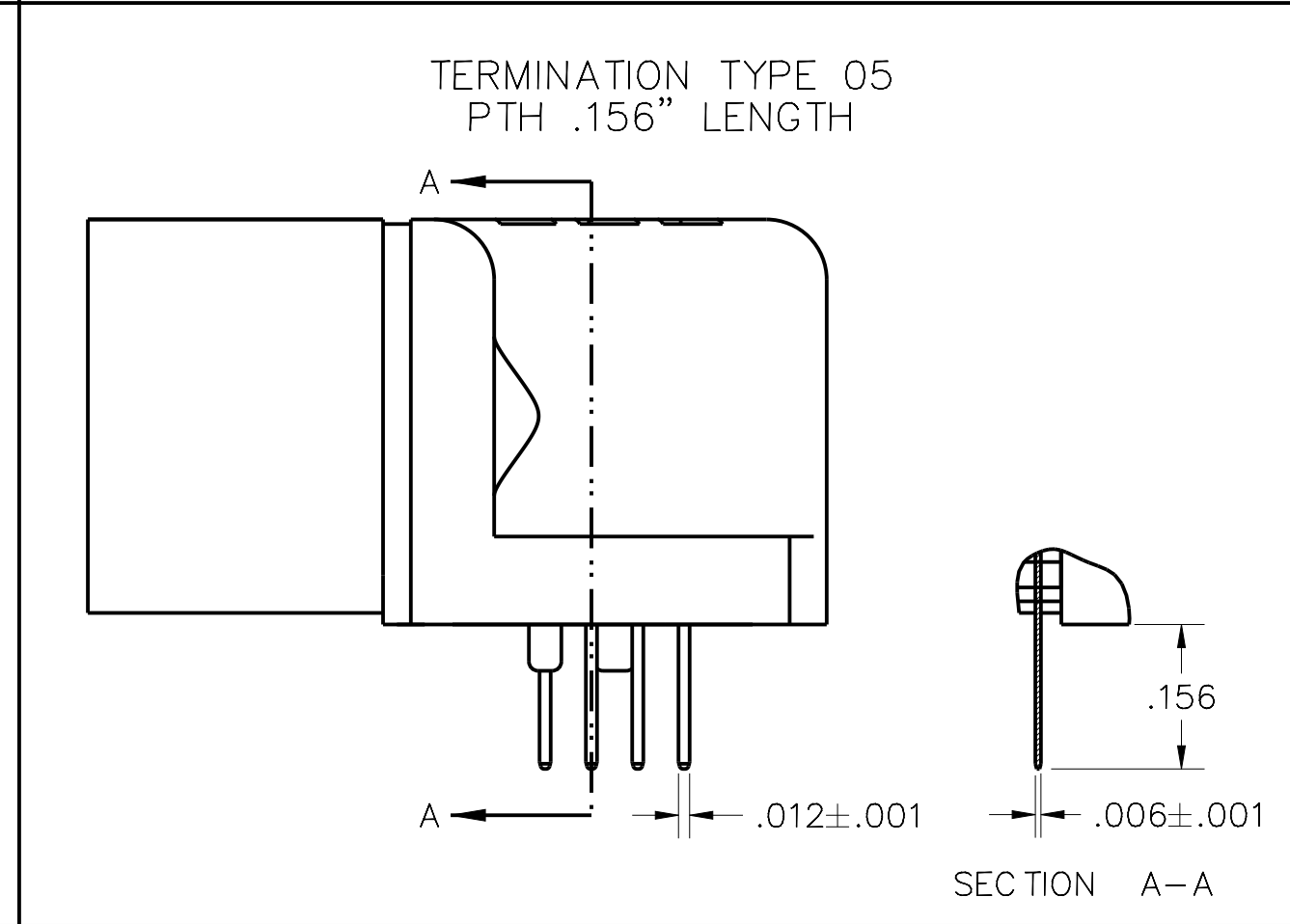
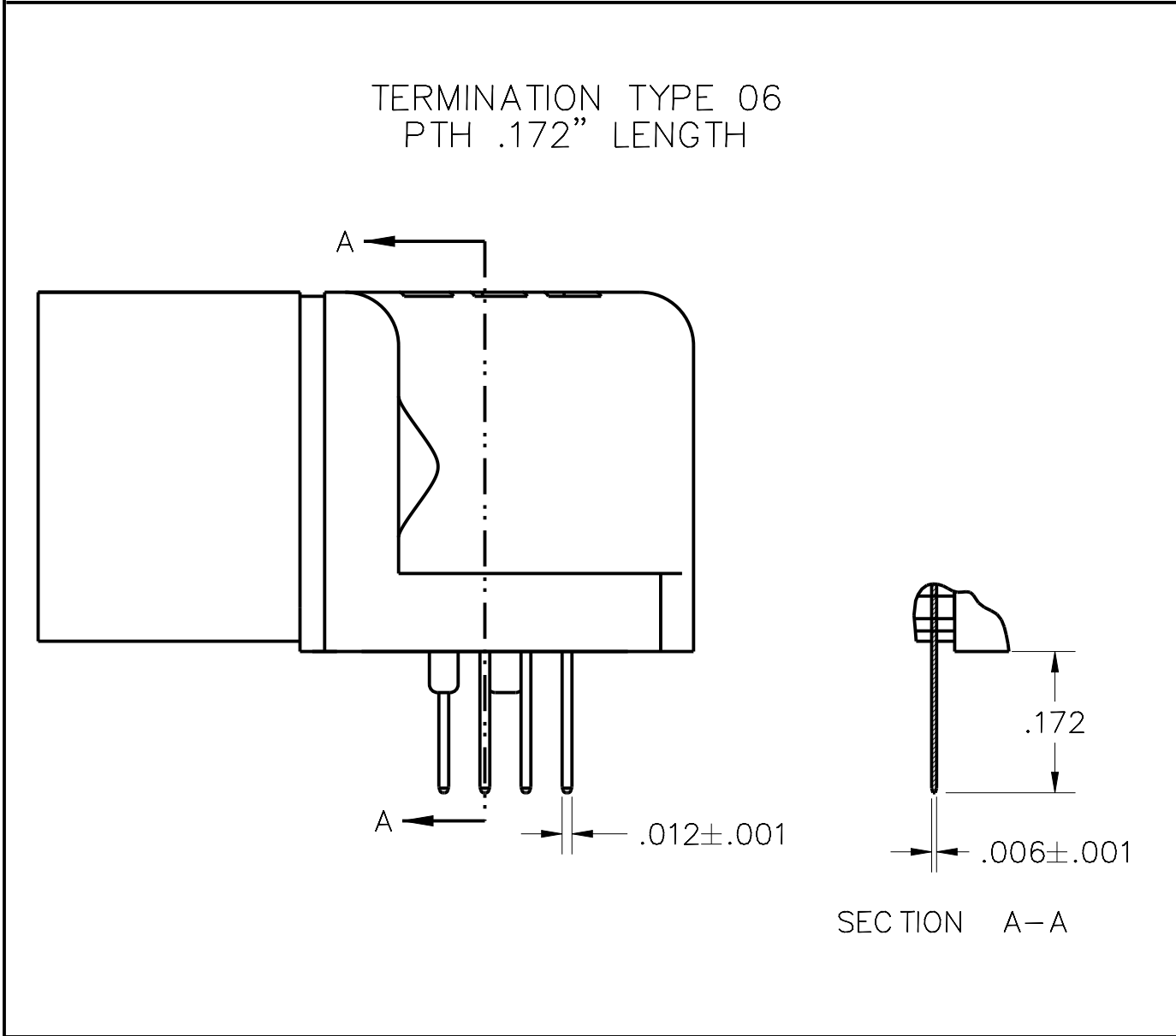


(VRRAM-04-10-XX-XX-XX SHOWN)

PART MARKINGS
(30, 40 & 50 COLUMNS)

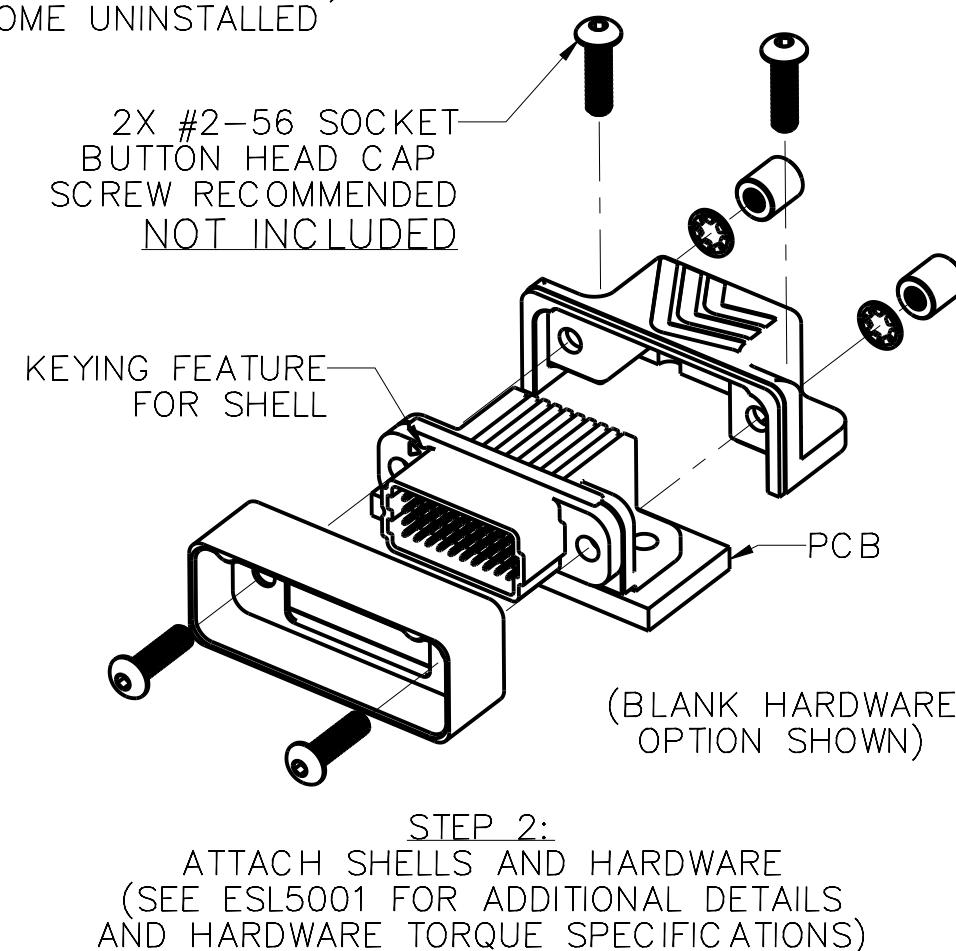
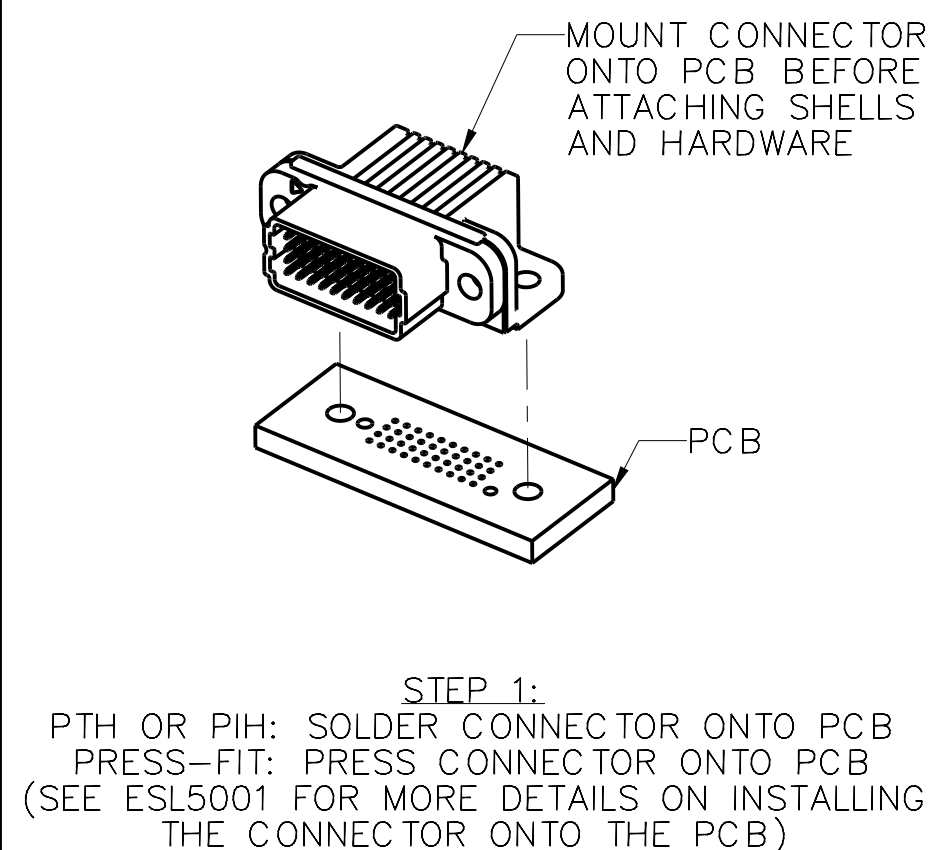


(VRRAM-04-30-XX-XX-XX SHOWN)

TERMINATION DIMENSIONS																				
TERMINATION TYPE 00 PRESS FIT  SECTION A-A	TERMINATION TYPE 01 PIH  SECTION A-A	TERMINATION TYPE 02 PTH .078" LENGTH  SECTION A-A																		
TERMINATION TYPE 03 PTH .109" LENGTH  SECTION A-A	TERMINATION TYPE 04 PTH .140" LENGTH  SECTION A-A	TERMINATION TYPE 05 PTH .156" LENGTH  SECTION A-A																		
TERMINATION TYPE 06 PTH .172" LENGTH  SECTION A-A	<table><tr><th colspan="2">RECOMMENDED PCB THICKNESS FOR EACH TERMINATION TYPE</th></tr><tr><th>TERMINATION</th><th>PCB THICKNESS</th></tr><tr><td>-00</td><td>.062" MIN</td></tr><tr><td>-01</td><td>.025" MIN</td></tr><tr><td>-02</td><td>.068" MAX</td></tr><tr><td>-03</td><td>.099" MAX</td></tr><tr><td>-04</td><td>.130" MAX</td></tr><tr><td>-05</td><td>.146" MAX</td></tr><tr><td>-06</td><td>.162" MAX</td></tr></table>		RECOMMENDED PCB THICKNESS FOR EACH TERMINATION TYPE		TERMINATION	PCB THICKNESS	-00	.062" MIN	-01	.025" MIN	-02	.068" MAX	-03	.099" MAX	-04	.130" MAX	-05	.146" MAX	-06	.162" MAX
RECOMMENDED PCB THICKNESS FOR EACH TERMINATION TYPE																				
TERMINATION	PCB THICKNESS																			
-00	.062" MIN																			
-01	.025" MIN																			
-02	.068" MAX																			
-03	.099" MAX																			
-04	.130" MAX																			
-05	.146" MAX																			
-06	.162" MAX																			
AirBorn Little Falls, Minnesota 56345 verSI SERIES RIGHT ANGLE MALE RUGGEDIZED PRODUCT DRAWING DRAWING STATE: Released ☒ RELEASED This drawing is not authorized for production unless it is released DWG # VRRAM-XX-XX-XX-XX-XX REV. A SHEET 4 / 9 SIZE C																				

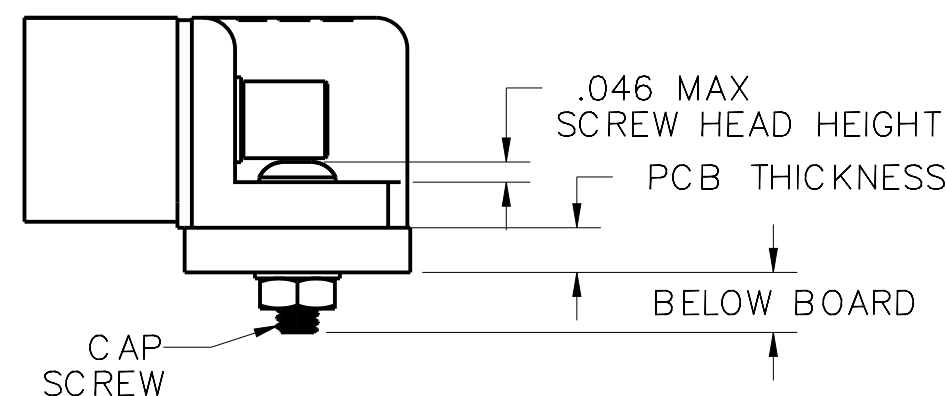
PCB MOUNTING INSTRUCTIONS

(BLANK, G, N, E, NE, GE HARDWARE OPTIONS)
SHELLS AND HARDWARE COME UNINSTALLED



RECOMMENDED PCB MOUNTING HARDWARE

MOUNTING HARDWARE NOT INCLUDED

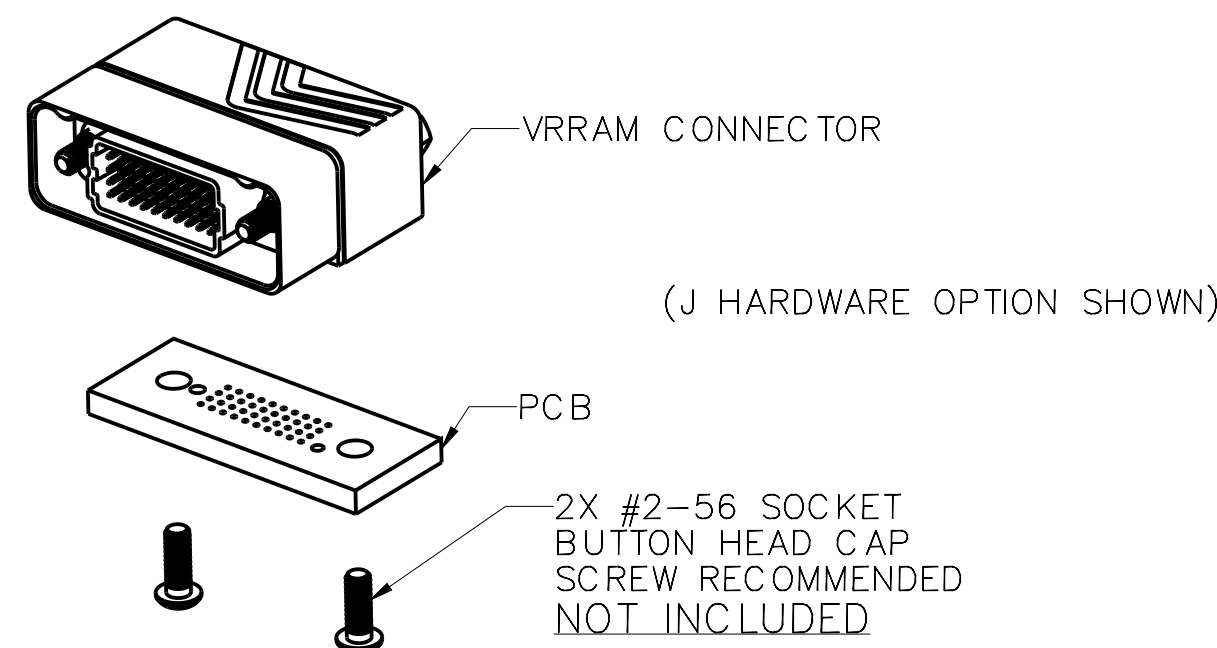


RECOMMENDED SCREWS FOR COMMON PCB THICKNESSES

PCB THICKNESS	BUTTON HEAD CAP SCREW	BELOW BOARD
.062	#2-56 X 1/4"	(.094)
.094	#2-56 X 5/16"	(.125)

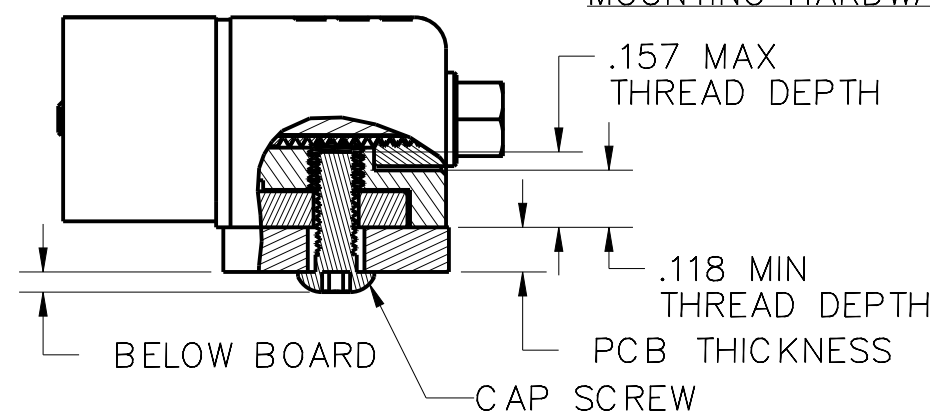
PCB MOUNTING INSTRUCTIONS

(J, L, JE & LE HARDWARE OPTIONS)
SHELLS AND HARDWARE COME INSTALLED



RECOMMENDED PCB MOUNTING HARDWARE

MOUNTING HARDWARE NOT INCLUDED

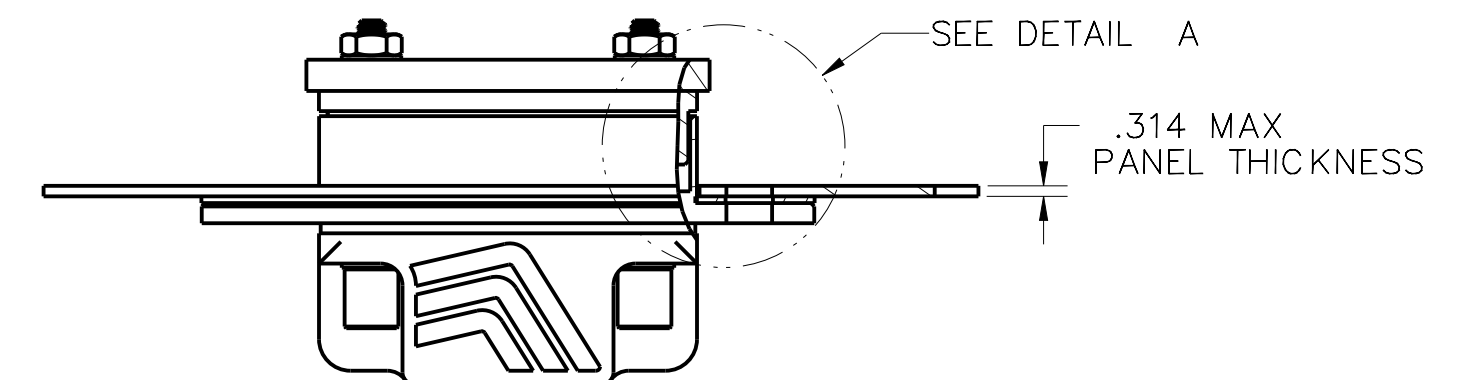
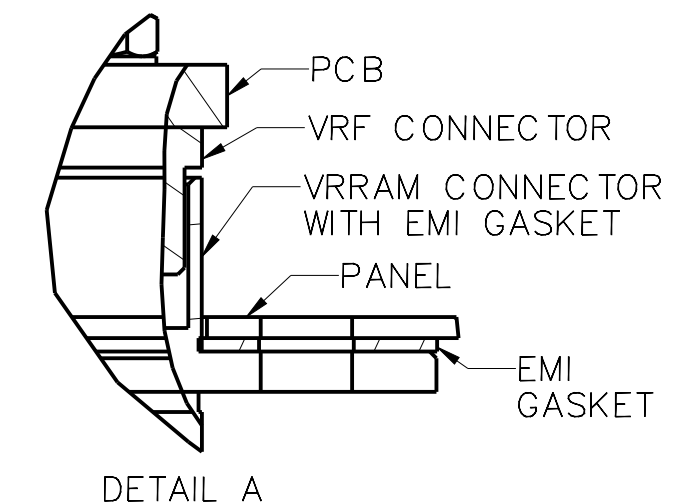
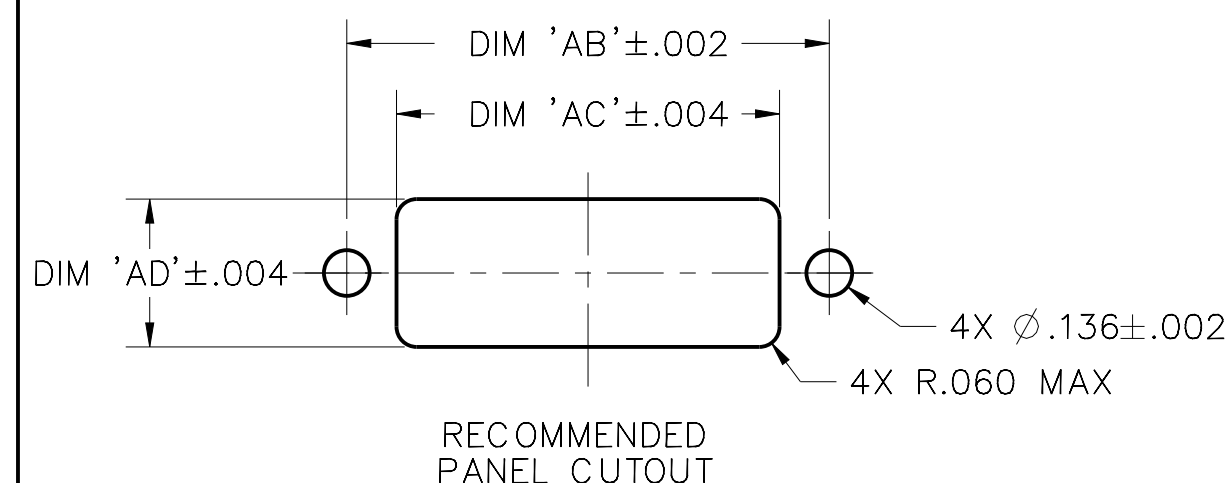
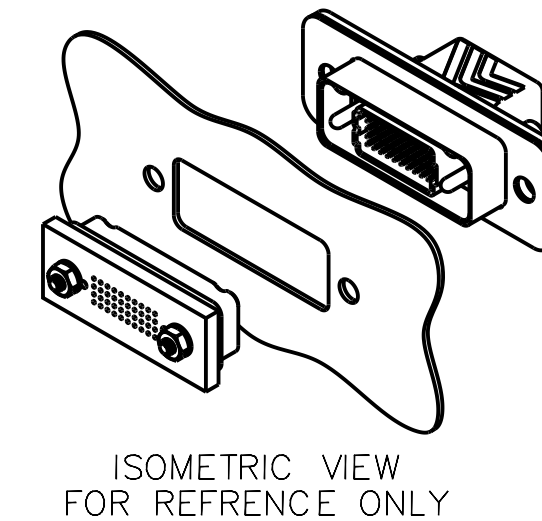


RECOMMENDED SCREWS FOR COMMON PCB THICKNESSES

PCB THICKNESS	BUTTON HEAD CAP SCREW	BELOW BOARD
.062	#2-56 X 3/16"	(.046)
.094	#2-56 X 1/4"	(.046)

PANEL MOUNTING INSTRUCTIONS

(EMI GASKET HARDWARE OPTIONS)

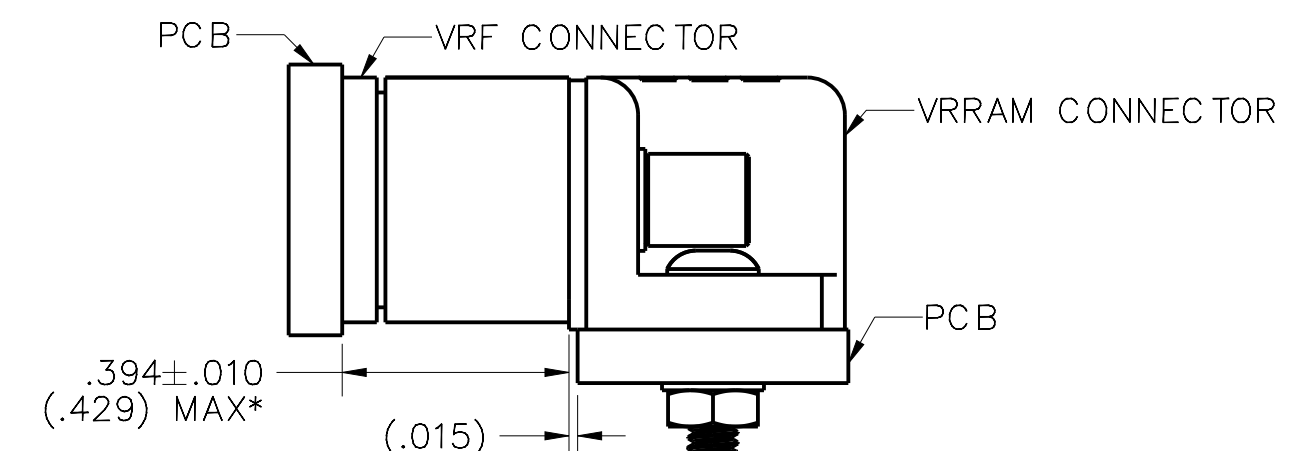


ROWS	DIM 'AD'
04	.440
05	.490
06	.540
08	.640
10	.740

COLUMNS	DIM 'AB'	DIM 'AC'
10	1.436	1.140
20	1.936	1.640
30	2.436	2.140
40	2.936	2.640
50	3.436	3.140

SEE SHEET 9 FOR REPLACEMENT GASKETS

VRRAM CONNECTOR MATED TO VRF CONNECTOR



*MAX VALUE IS AT MAXIMUM
ALLOWABLE SEPARATION BETWEEN MATED CONNECTORS

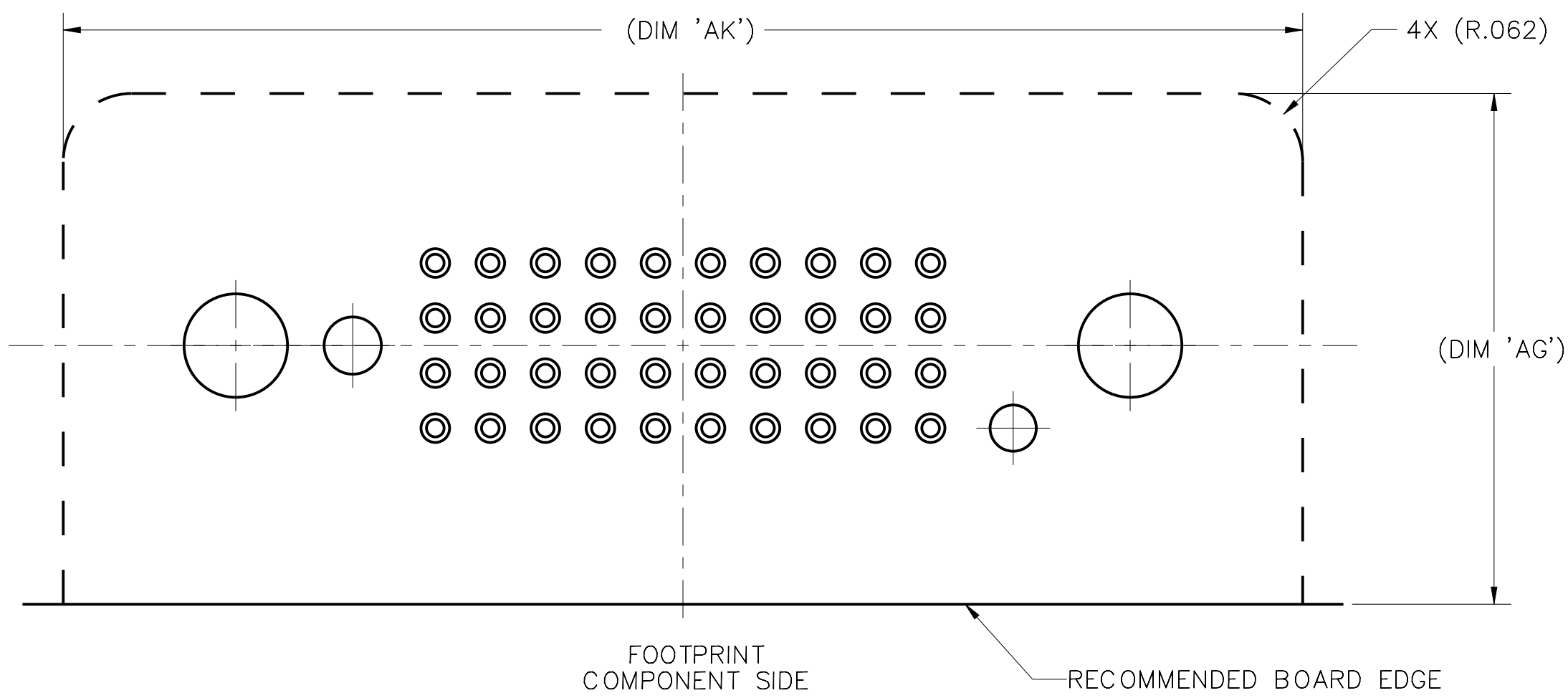
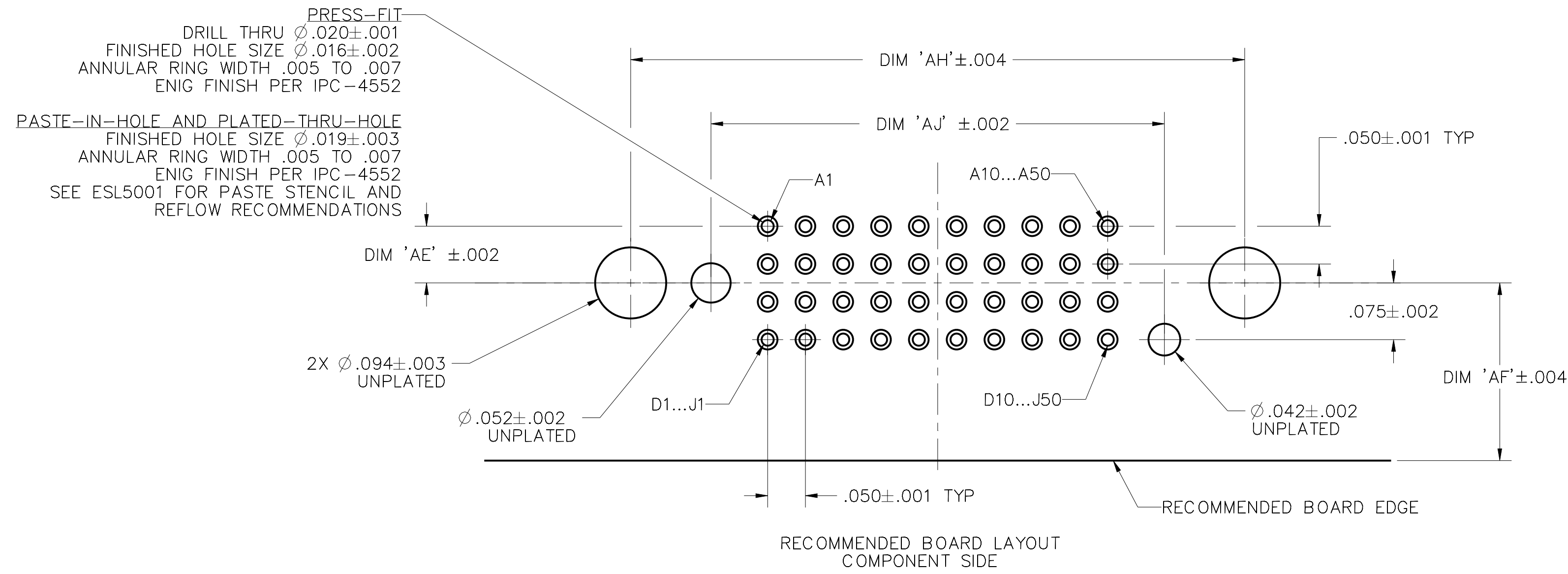
AirBorn
Little Falls, Minnesota 56345

verSI SERIES RIGHT ANGLE MALE
RUGGEDIZED
PRODUCT DRAWING

DRAWING STATE: Released ☒ RELEASED
This drawing is not authorized for production unless it is released
DWG # VRRAM-XX-XX-XX-XX-XX
REV. A SHEET 5 / 9

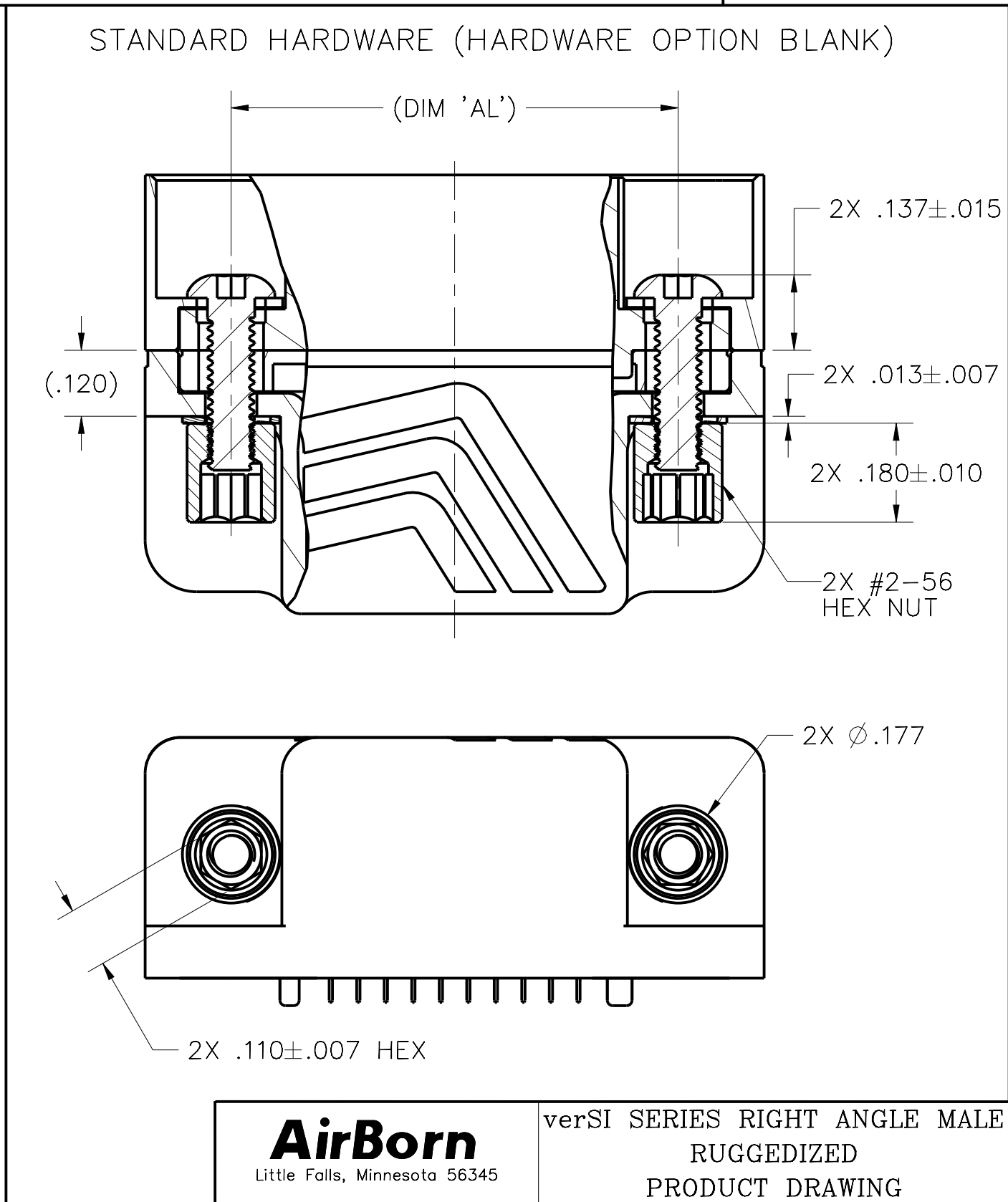
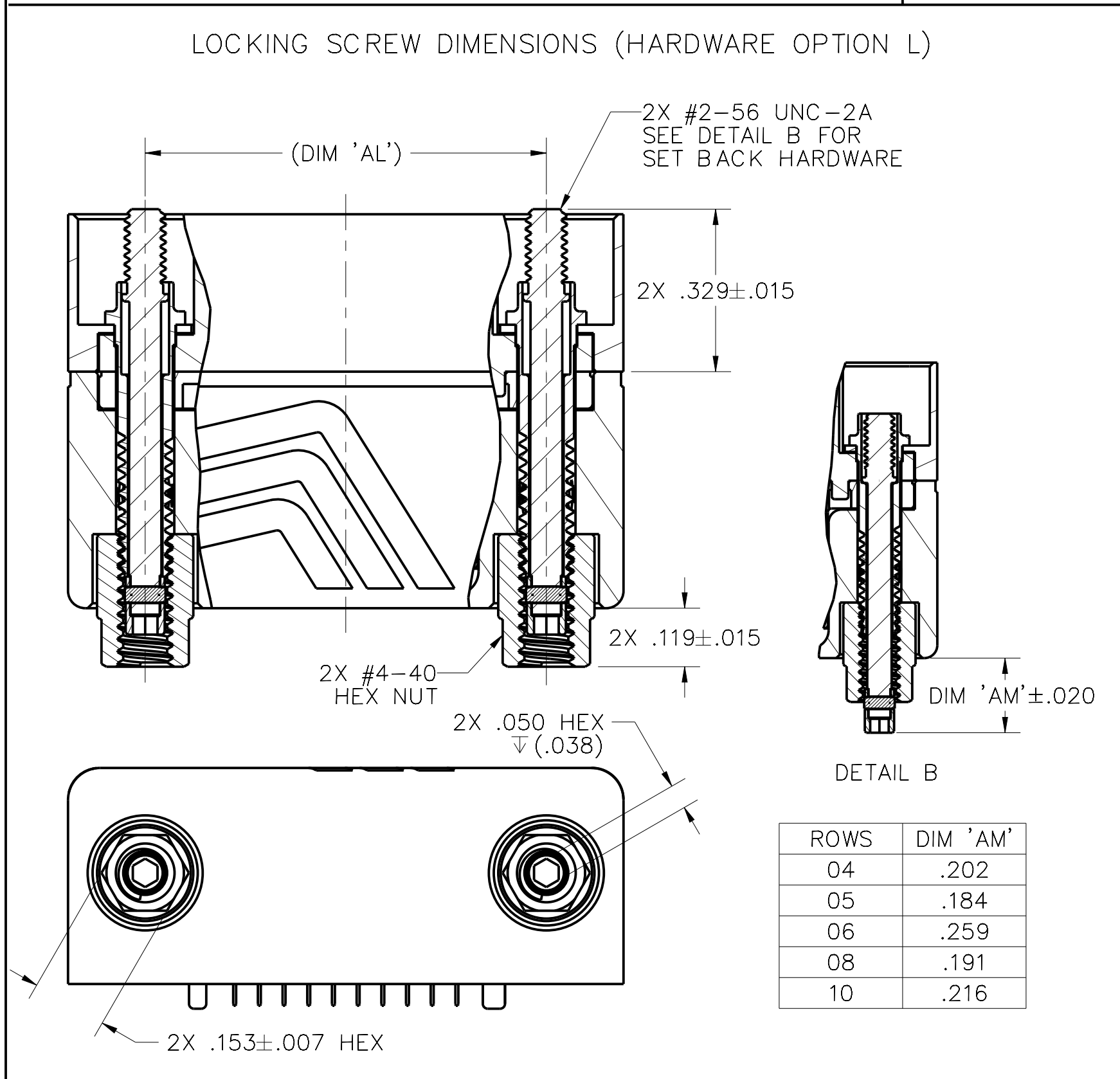
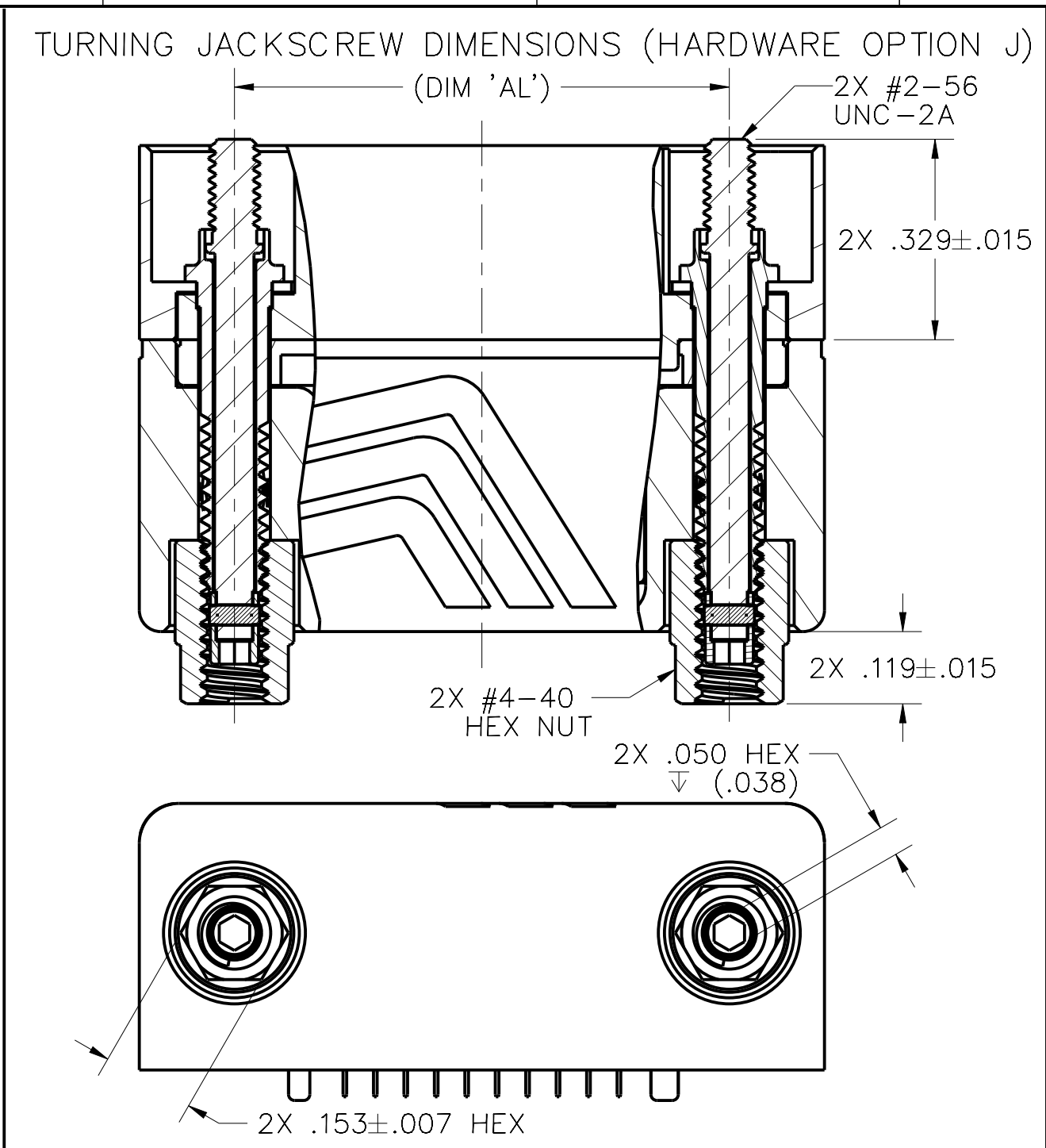
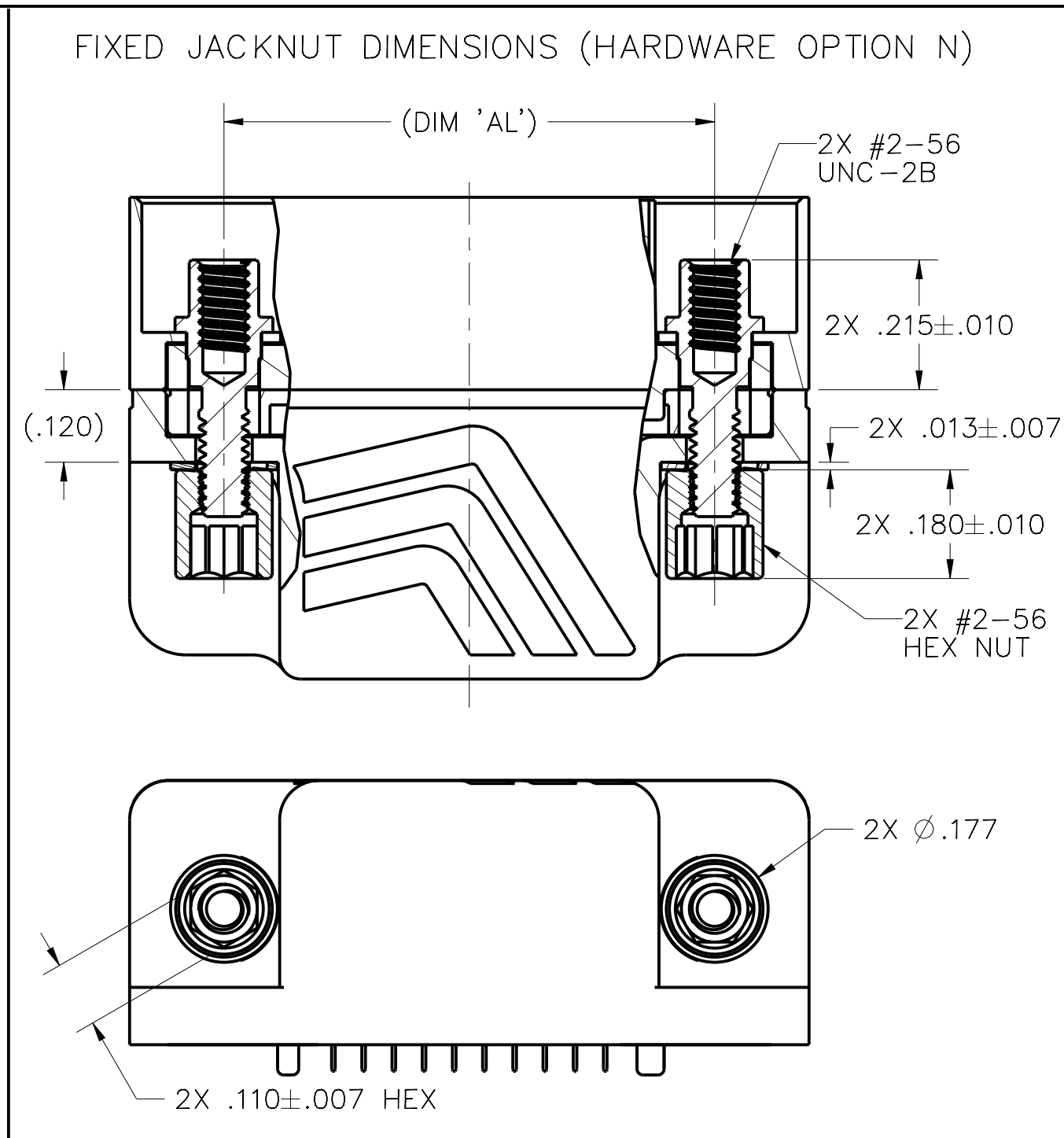
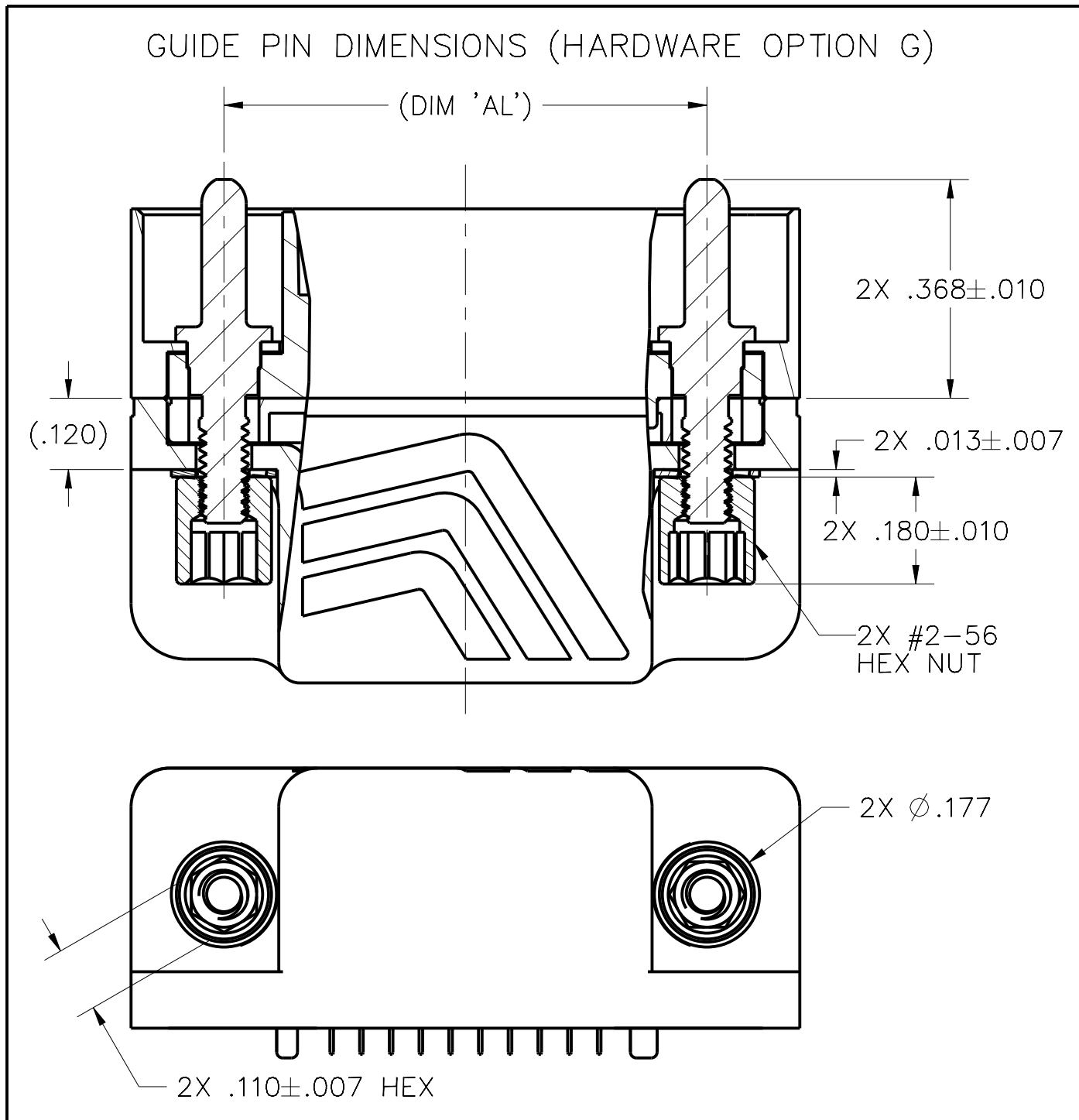
SIZE C

RECOMMENDED PCB LAYOUT



ROWS	DIM 'AE'	DIM 'AF'	DIM 'AG'
04	.075	.235	.464
05	.100	.260	.514
06	.125	.285	.564
08	.175	.335	.664
10	.225	.385	.764

COLUMNS	DIM 'AH'	DIM 'AJ'	DIM 'AK'
10	.813	.600	1.125
20	1.313	1.100	1.625
30	1.813	1.600	2.125
40	2.313	2.100	2.625
50	2.813	2.600	3.125



COLUMNS	DIM 'AL'
10	.813
20	1.313
30	1.813
40	2.313
50	2.813

DRAWING STATE: Released	☒ RELEASED	SIZE
This drawing is not authorized for production unless it is released		C
DWG # VRRAM-XX-XX-XX-XX-XX	REV. A	SHEET 7 / 9

FORMAT: CERNPRO.FRM A.7

AirBorn
Little Falls, Minnesota 56345

verSI SERIES RIGHT ANGLE MALE
RUGGEDIZED
PRODUCT DRAWING

DWG # VRRAM-XX-XX-XX-XX-XX

HARDWARE KIT PART NUMBER BUILD

SAMPLE PART NUMBER: VRRAM-00-00-00-00-00-G

VRRAM-00-00-00-00-00-X

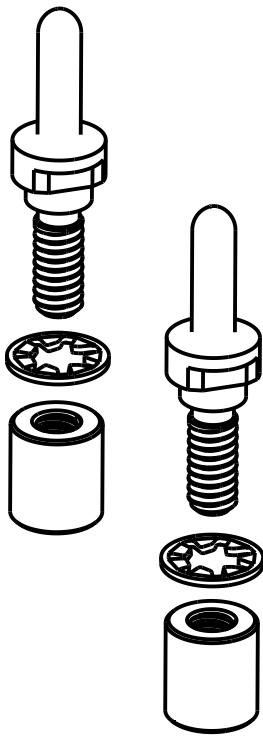
HARDWARE OPTIONS	
BLANK	STANDARD
G	GUIDE PIN
N	FIXED JACKNUT

VRRAM-XX-00-00-00-00-X

ROWS	
04	4 ROWS
05	5 ROWS
06	6 ROWS
08	8 ROWS
10	10 ROWS

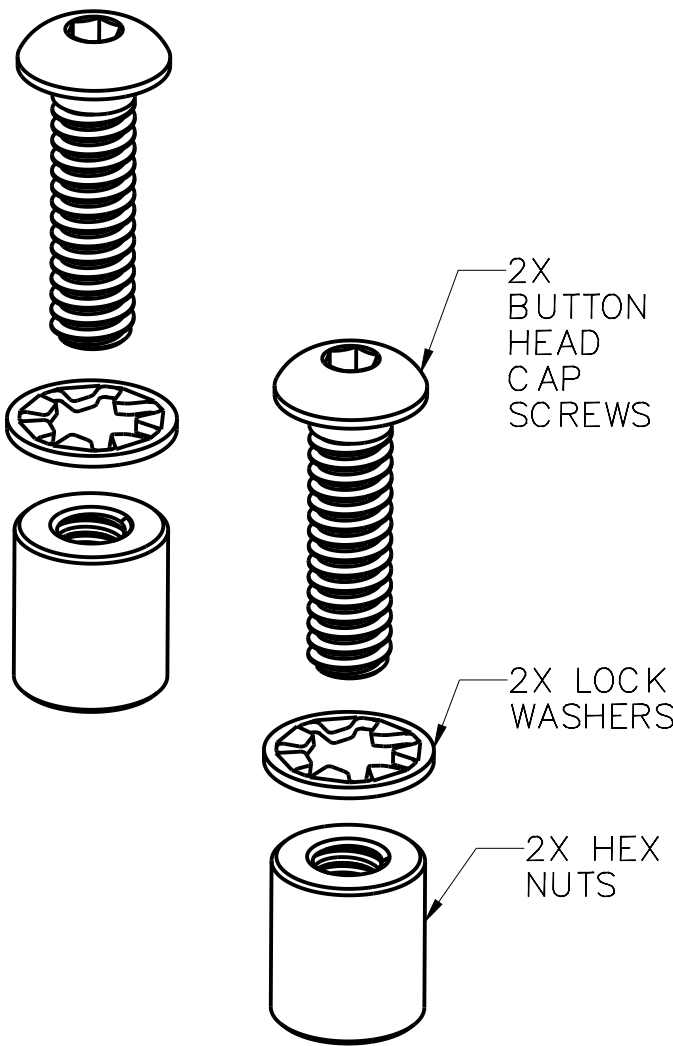
HARDWARE OPTIONS	
J	TURNING JACKSCREW
L	LOCKING SCREW

G, N, J & L HARDWARE KITS
CANNOT BE INSTALLED ON CONNECTOR
WITH BLANK OR E HARDWARE OPTIONS.

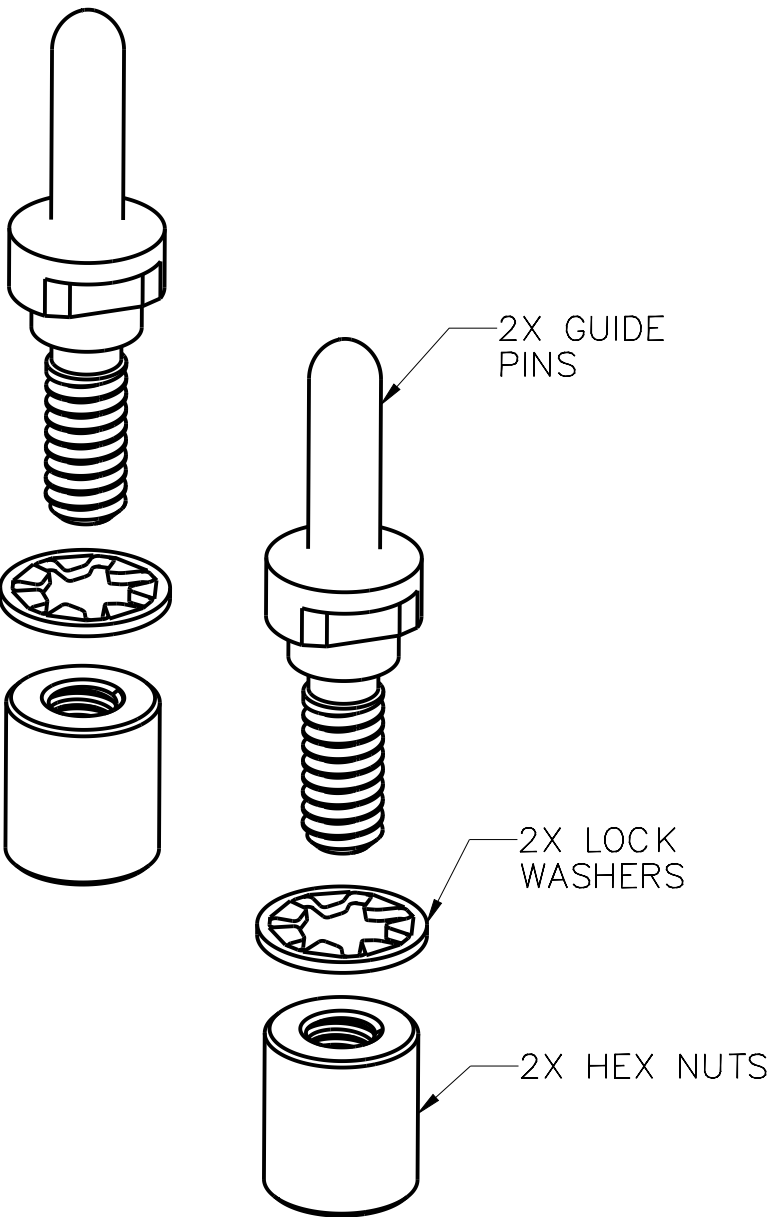


ISOMETRIC VIEW
FOR REFERENCE ONLY
(PART NUMBER VRRAM-00-00-00-00-G SHOWN)

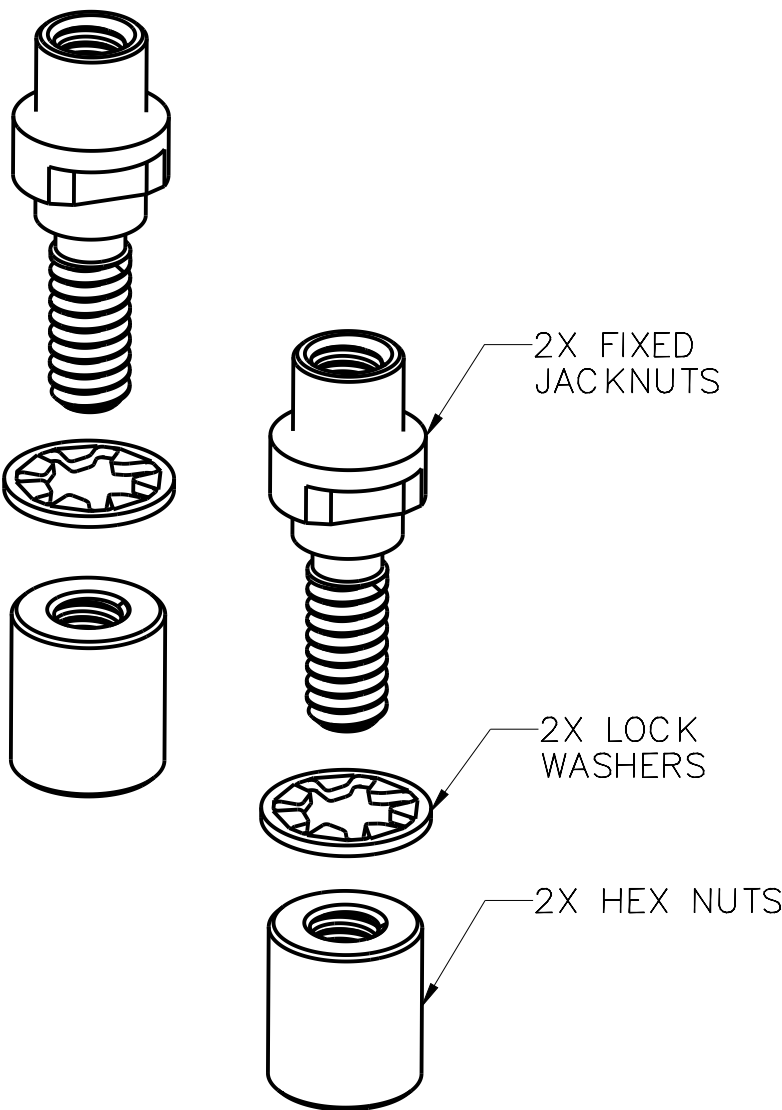
STANDARD KIT
(BLANK HARDWARE OPTION)



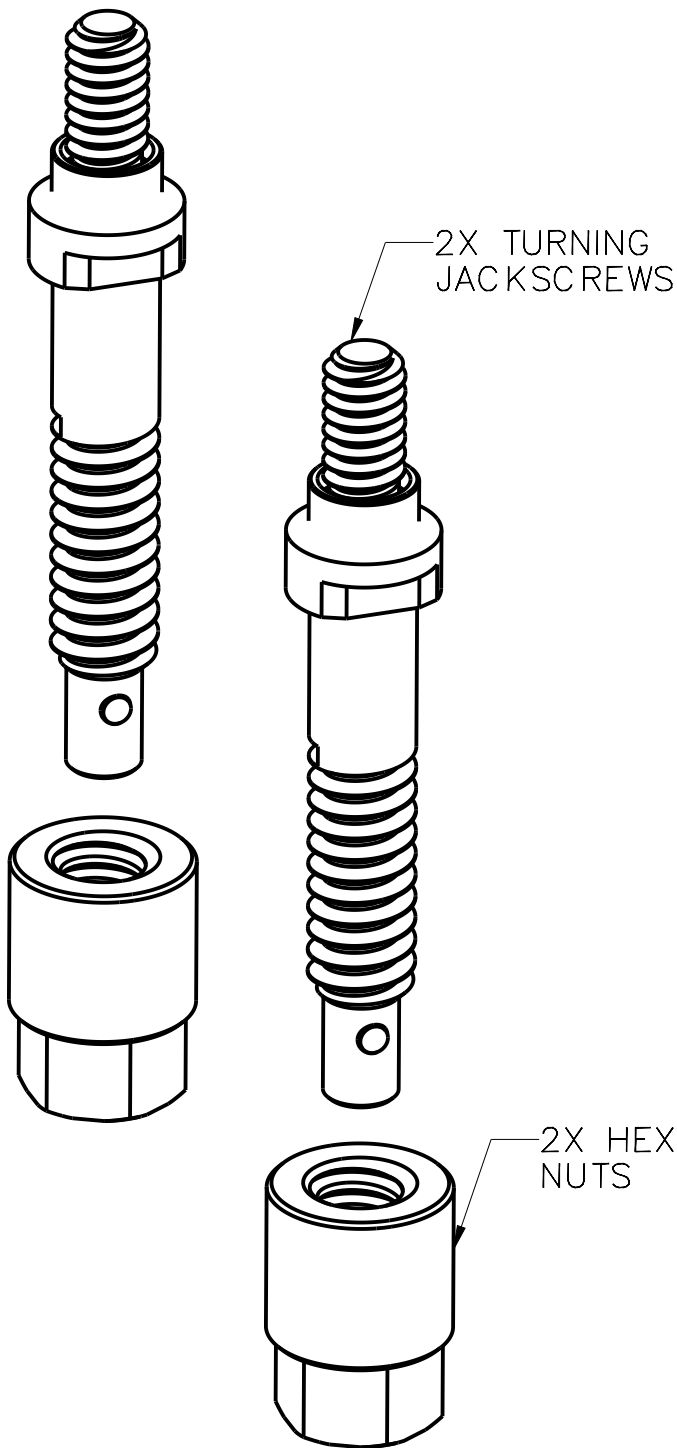
GUIDE PIN KIT
(G HARDWARE OPTION)



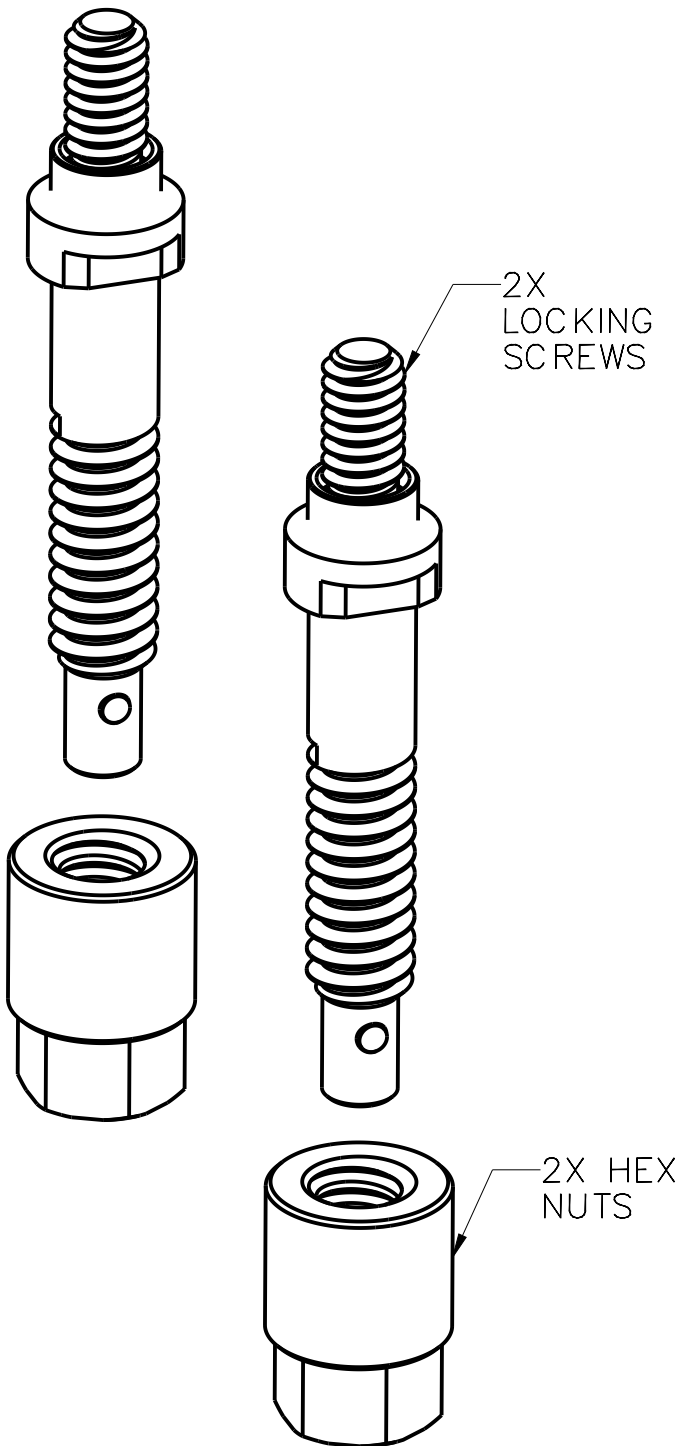
FIXED JACKNUT KIT
(N HARDWARE OPTION)



TURNING JACKSCREW KIT
(J HARDWARE OPTION)



LOCKING SCREW KIT
(L HARDWARE OPTION)



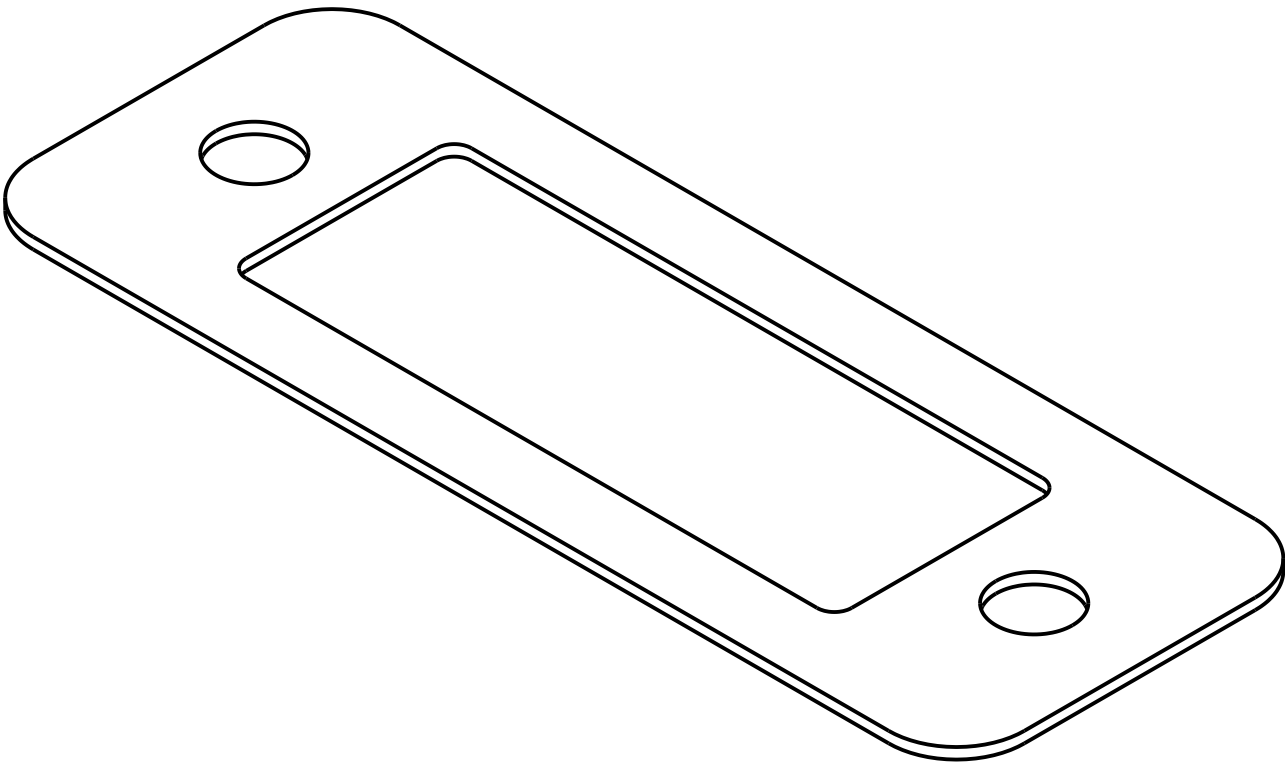
GASKET PART NUMBER BUILD
SAMPLE PART NUMBER: VGM-04-10-E

VGM-XX-XX-E

OPTION	
E	EMI GASKET

COLUMNS	
10	10 COLUMNS
20	20 COLUMNS
30	30 COLUMNS
40	40 COLUMNS
50	50 COLUMNS

ROWS	
04	4 ROWS
05	5 ROWS
06	6 ROWS
08	8 ROWS
10	10 ROWS



ISOMETRIC VIEW
FOR REFERENCE ONLY
(PART NUMBER VGM-04-10-E SHOWN)