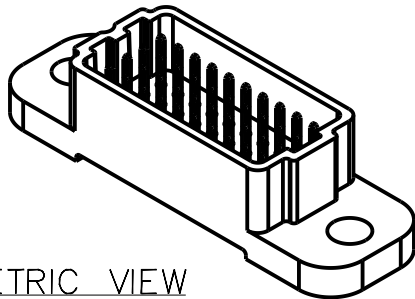


CONNECTOR PART NUMBER BUILD
SAMPLE PART NUMBER: VSM-04-10-080-50-00



ISOMETRIC VIEW
FOR REFERENCE ONLY
(PART NUMBER VSM-04-10-080-50-00 SHOWN)

VSM-XX-XX-XXX-XX-XX-XX

HARDWARE OPTIONS		
BLANK	NO HARDWARE	2
G	GUIDE PIN	3
G1	GUIDE PIN	4
J	TURNING JACKSCREW	3
J1	TURNING JACKSCREW	4
L	LOCKING SCREW	3
L1	LOCKING SCREW	4
N	FIXED JACKNUT	3
N1	FIXED JACKNUT	4

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
10	SURFACE MOUNT (SMT) NON-RoHS COMPLIANT
11	SURFACE MOUNT (SMT) RoHS COMPLIANT

CONTACT PLATING	
50	50μIN Au

BOARD SPACING	
080	8 mm
100	10 mm
120	12 mm
160	16 mm
200	20 mm
250	25 mm

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

MATERIAL AND FINISHES		
PIN CONTACTS	MATERIAL	PIH, PTH & SMT: PHOS BRONZE PER ASTM B103 PRESS-FIT: BeCu PER ASTM B768
	FINISH PIN END	50μIN MIN LOCALIZED Au PER ASTM B488 TYPE II, CODE C OVER 50μIN MIN Ni PER ASTM B689 TYPE 1
	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 SMT NON-RoHS: 10μIN MIN LOCALIZED Au FLASH PER ASTM B488 TYPE I, CODE A OR C OVER 50μIN MIN Ni PER ASTM B689 TYPE 1. TIN DIPPED WITH Sn63Pb37 SOLDER. SMT RoHS: 10μIN MIN LOCALIZED Au FLASH PER ASTM B488 TYPE I, CODE A OR C OVER 50μIN MIN Ni PER ASTM B689 TYPE 1. TIN DIPPED WITH 42Sn/57.6Bi/0.4Ag SOLDER.
MOLDED INSULATORS	MATERIAL	GLASS-FILLED LIQUID CRYSTAL POLYMER (LCP) PER ASTM D5138
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)

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.

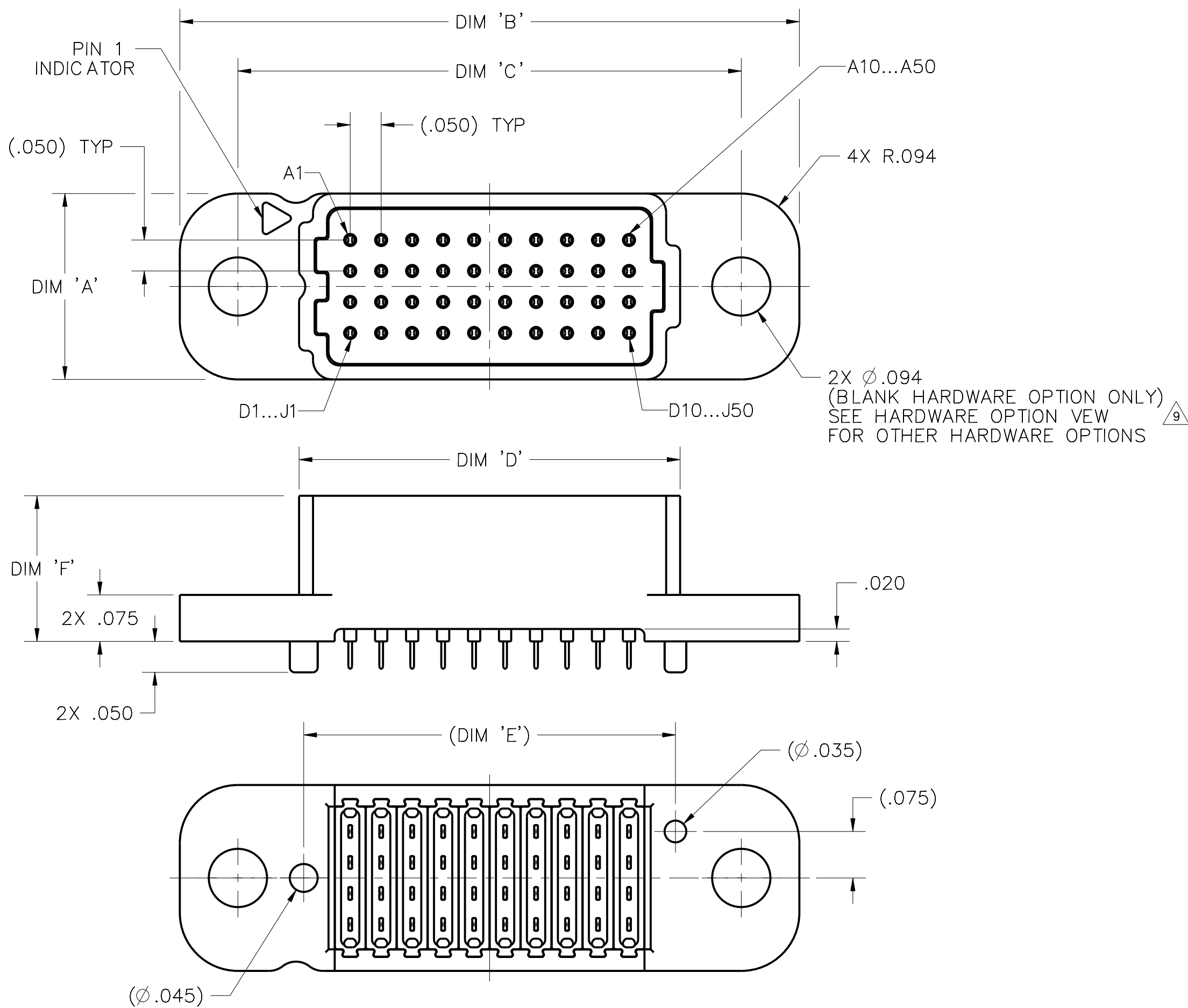
- NOTES:
- SEE AIRBORN SPEC ESL5001 FOR ADDITIONAL APPLICATION INFORMATION.
 - SEE SHEET 8 FOR REPLACEMENT HARDWARE KITS.
 - USE FOR UP TO .125 PCB THICKNESS.
 - USE FOR .125 TO .250 PCB THICKNESS.
 - NO HARDWARE SUPPLIED WITH BLANK HARDWARE OPTION CONNECTORS.
 - ONLY AVAILABLE FOR 4 ROW CONNECTORS.
 - PACKAGING: PARTS SUPPLIED IN THERMOFORMED TRAYS, HARDWARE SUPPLIED UNINSTALLED.
 - MATES WITH CONNECTOR SERIES: VSF, VSRAF, VSX (FEMALE), 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: N/A 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		B	SEE ECO	KTR 072418	W57940 073117	verSI SERIES VERTICAL MALE NON-RUGGEDIZED PRODUCT DRAWING	
MAKE FROM: N/A NEXT ASSY: N/A		REV	DESCRIPTION	DR. BY DATE	ECO NO. APPD. BY	RCS 073117	SIZE C
		► = CRITICAL CHARACTERISTIC ● = MAJOR CHARACTERISTIC		THIRD ANGLE PROJECTION	REL. DCD 073117	APPD. TJW 073117	
				DWG # VSM-XX-XX-XXX-XX-XX-XX		REV. B	SHEET 1/8

FORMAT: CERNPRO.FRM A.7

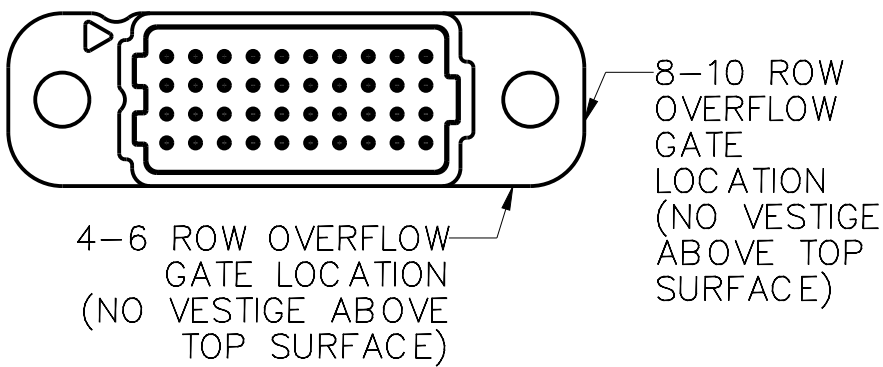
CONNECTOR DIMENSIONS
(BLANK HARDWARE OPTION SHOWN)



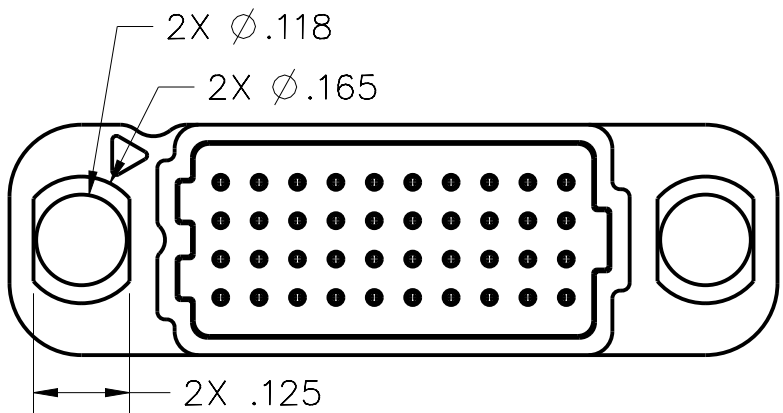
ROWS	DIM 'A'
04	.300
05	.350
06	.400
08	.500
10	.600

COLUMNS	DIM 'B'	DIM 'C'	DIM 'D'	DIM 'E'
10	1.000	.813	.615	.600
20	1.500	1.313	1.115	1.100
30	2.000	1.813	1.615	1.600
40	2.500	2.313	2.115	2.100
50	3.000	2.813	2.615	2.600

BOARD SPACING	DIM 'F'
-080 [8mm]	.235
-100 [10mm]	.314
-120 [12mm]	.392
-160 [16mm]	.550
-200 [20mm]	.707
-250 [25mm]	.904



HARDWARE OPTION VIEW



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Little Falls, Minnesota 56345

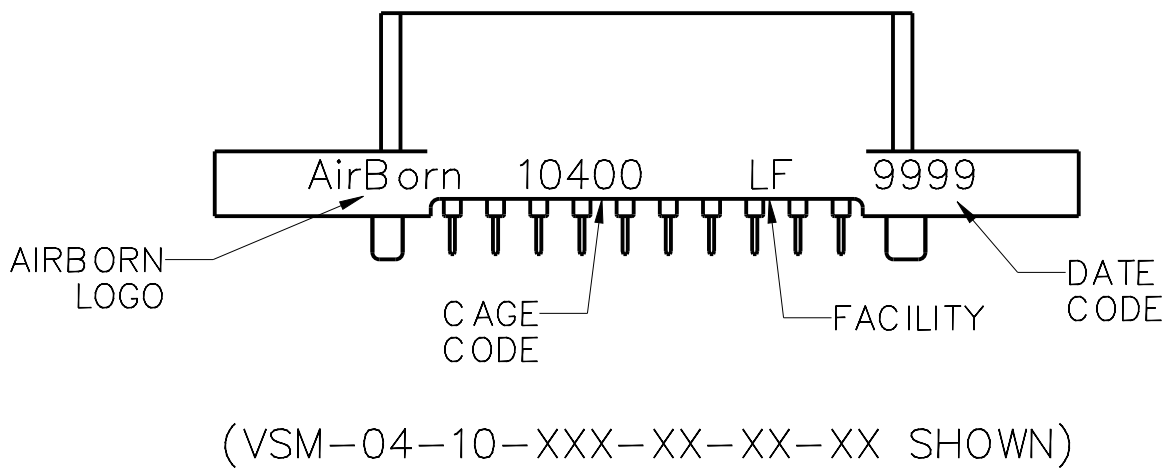
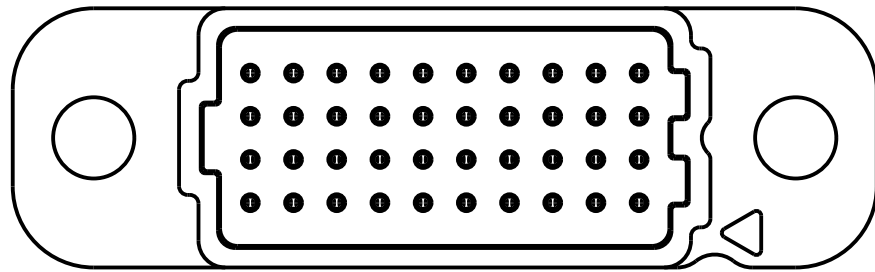
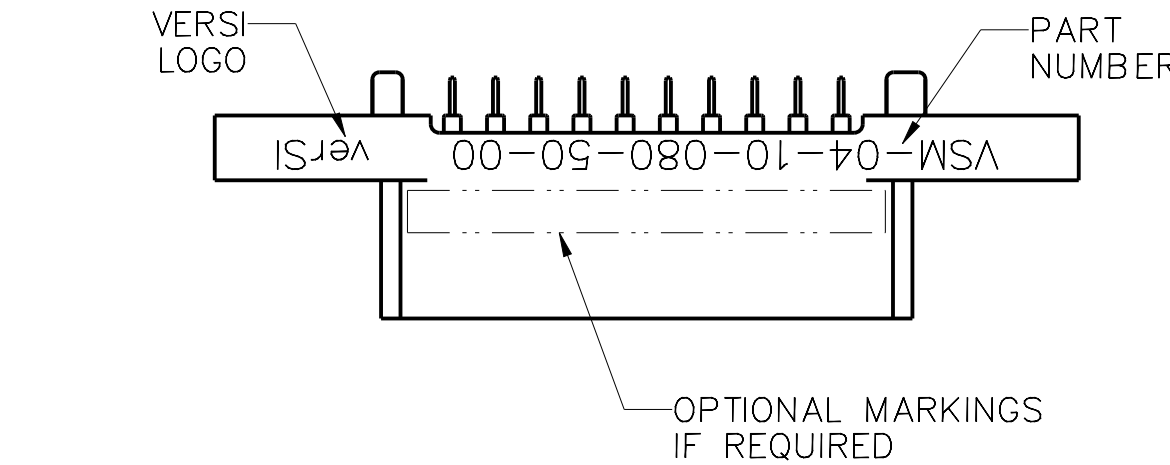
verSI SERIES VERTICAL MALE
NON-RUGGEDIZED
PRODUCT DRAWING

DRAWING STATE: *Released* ☒ **RELEASED**
This drawing is not authorized for production unless it is released

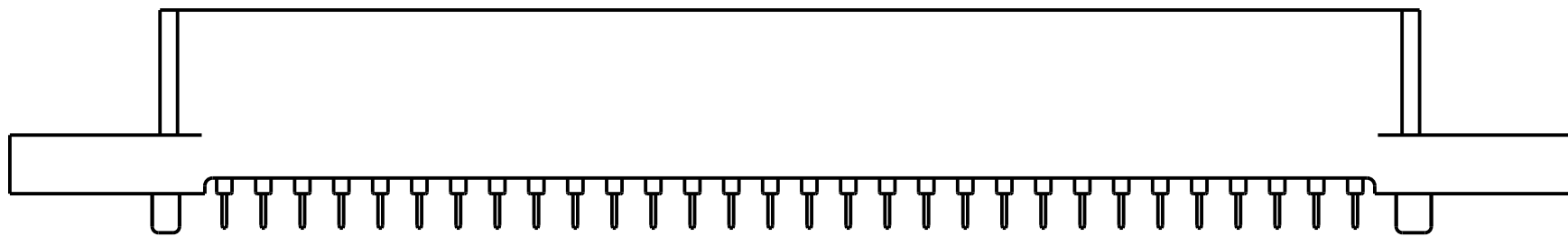
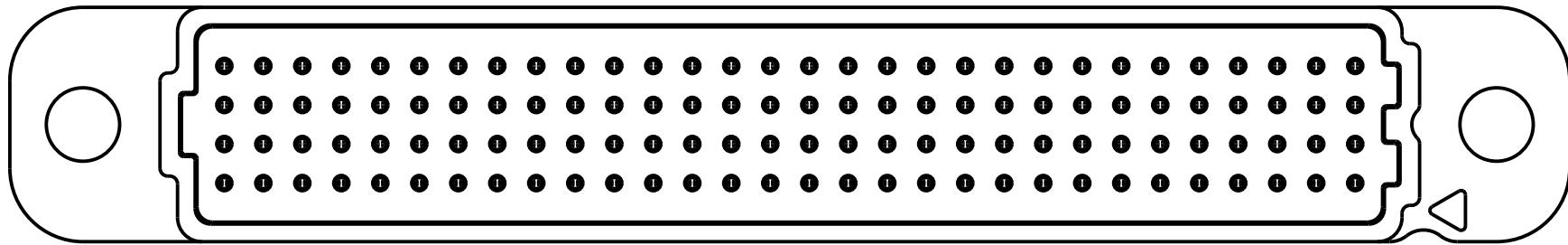
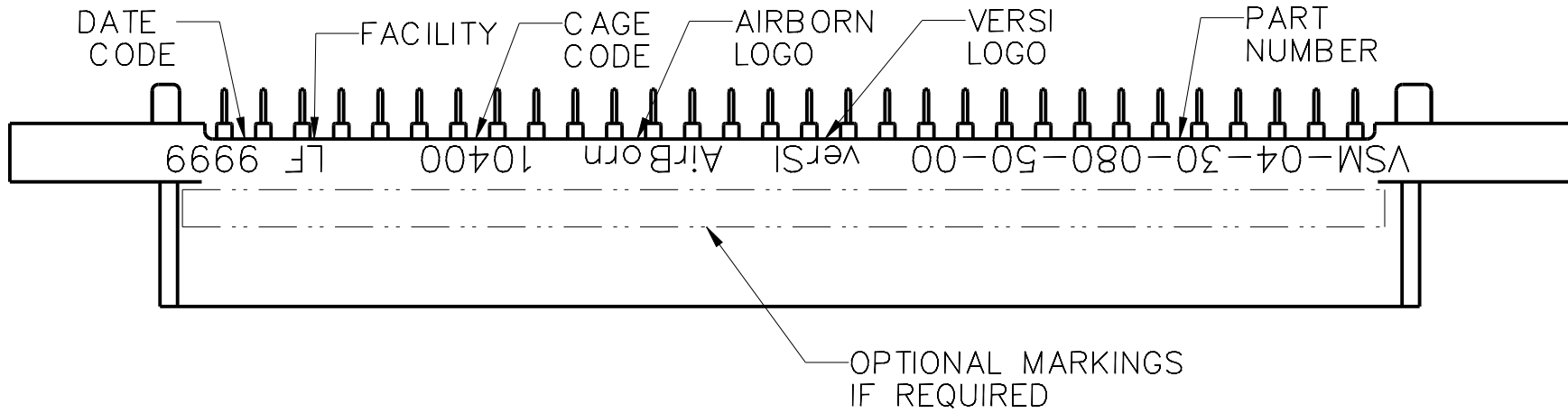
DWG # VSM-XX-XX-XXX-XX-XX-XX	REV. B	SHEET 2 / 8
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SIZE C

PART MARKING
(10 & 20 COLUMNS)



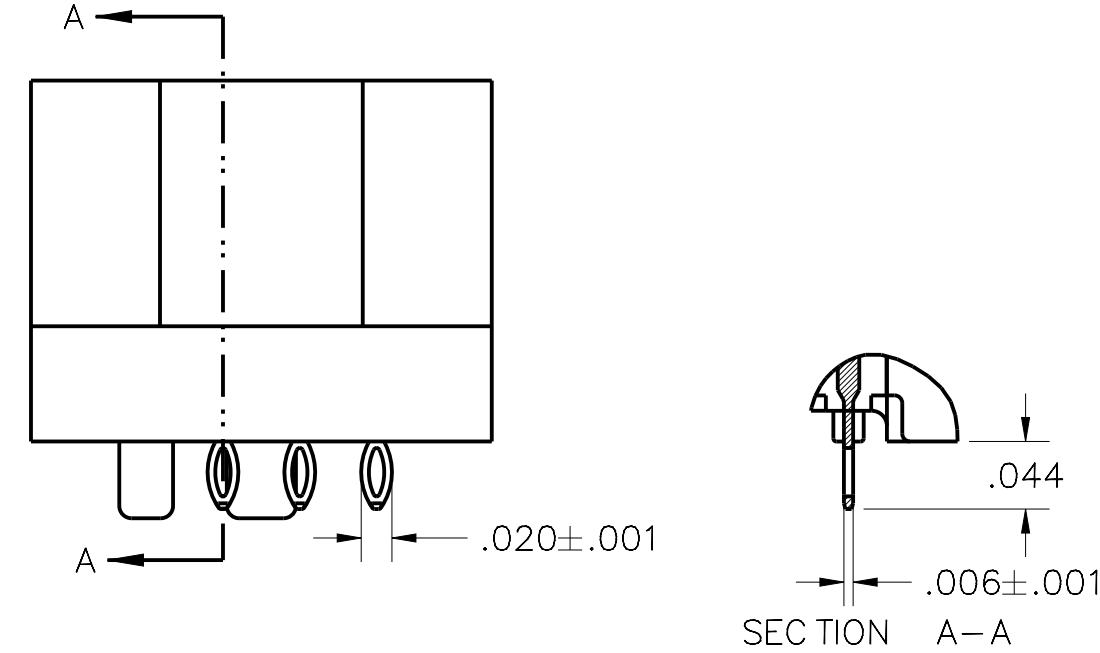
PART MARKING
(30, 40, & 50 COLUMNS)



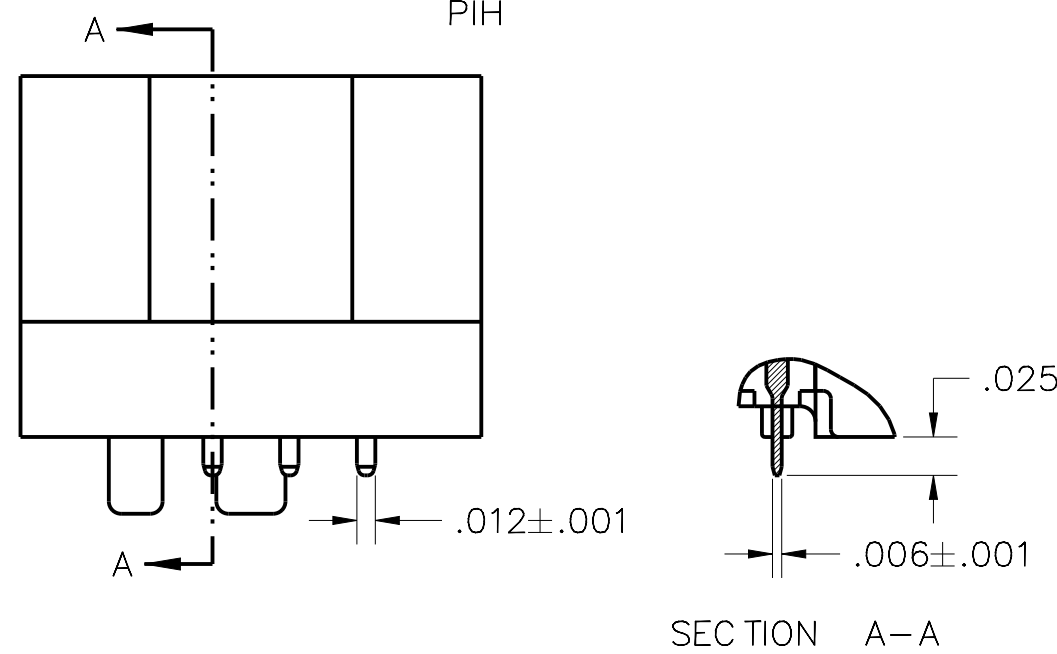
(VSM-04-30-XXX-XX-XX-XX SHOWN)

TERMINATION DIMENSIONS

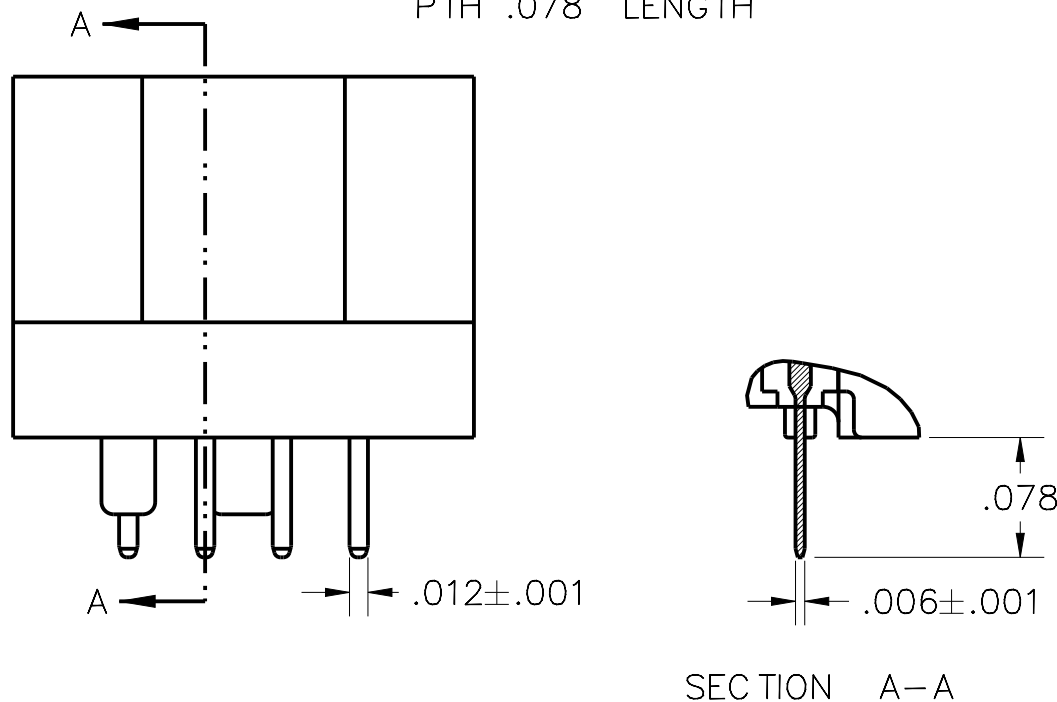
TERMINATION TYPE 00
PRESS-FIT



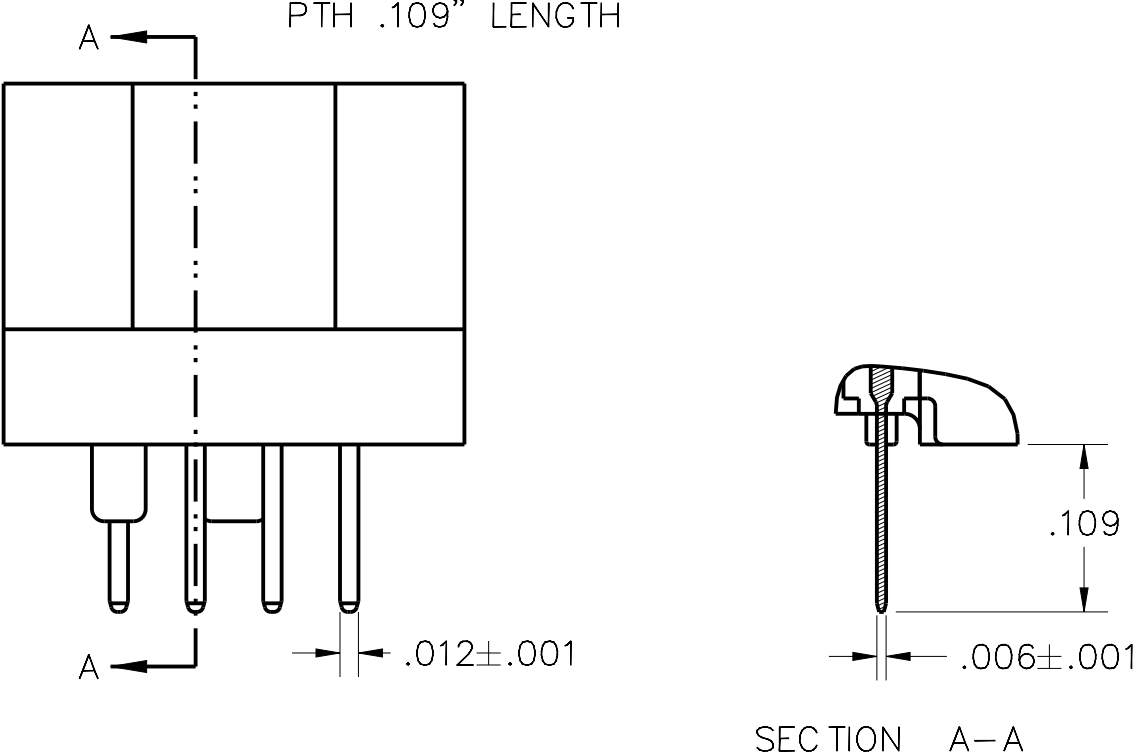
TERMINATION TYPE 01
PIH



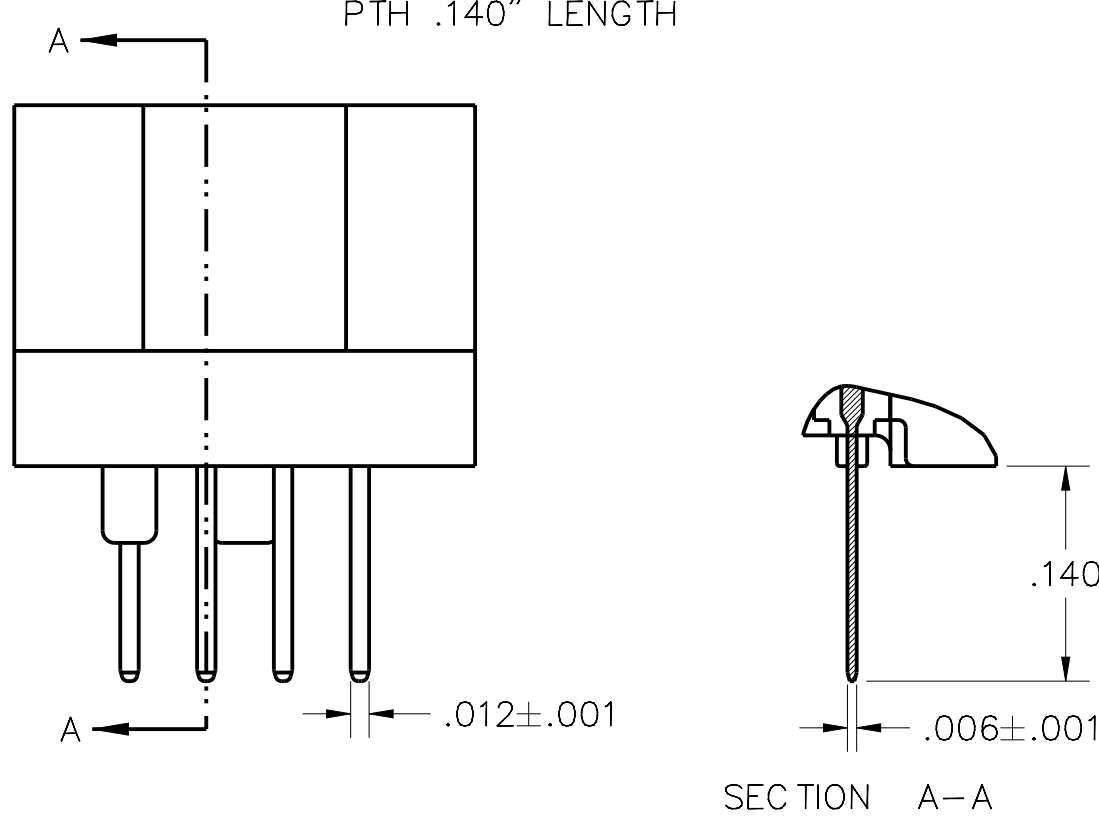
TERMINATION TYPE 02
PTH .078" LENGTH



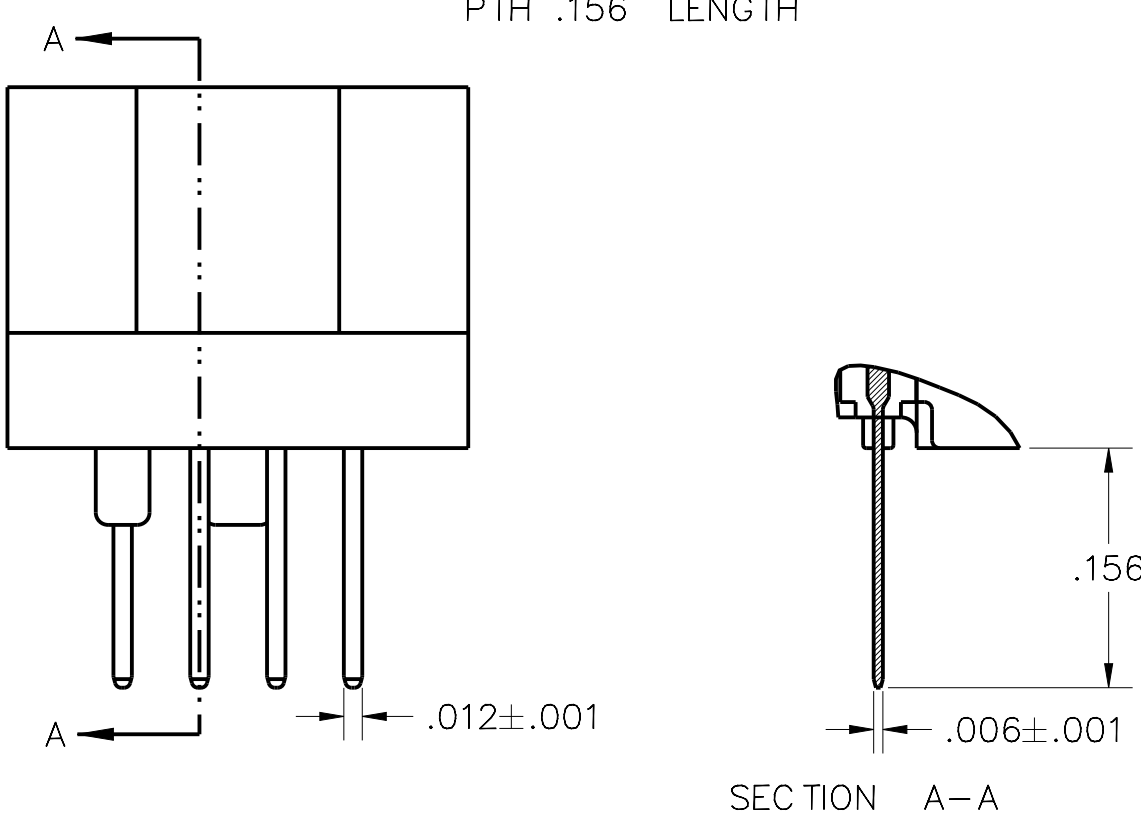
TERMINATION TYPE 03
PTH .109" LENGTH



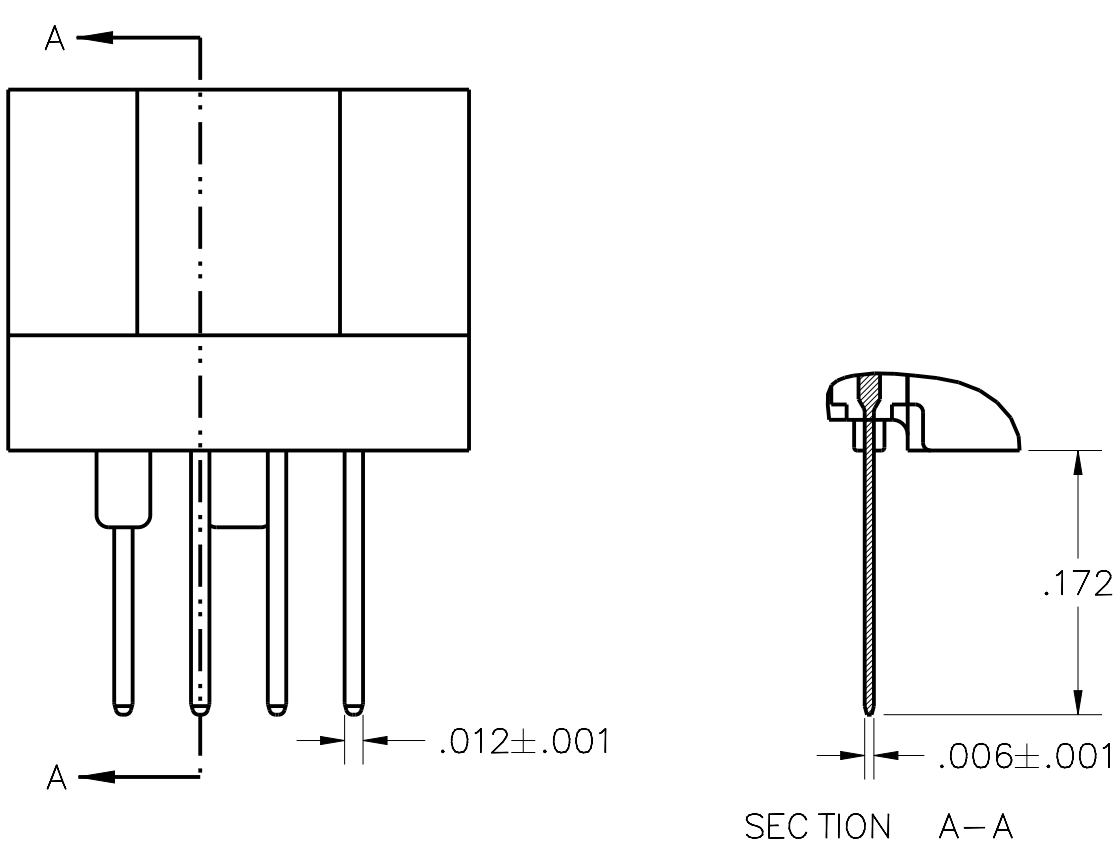
TERMINATION TYPE 04
PTH .140" LENGTH



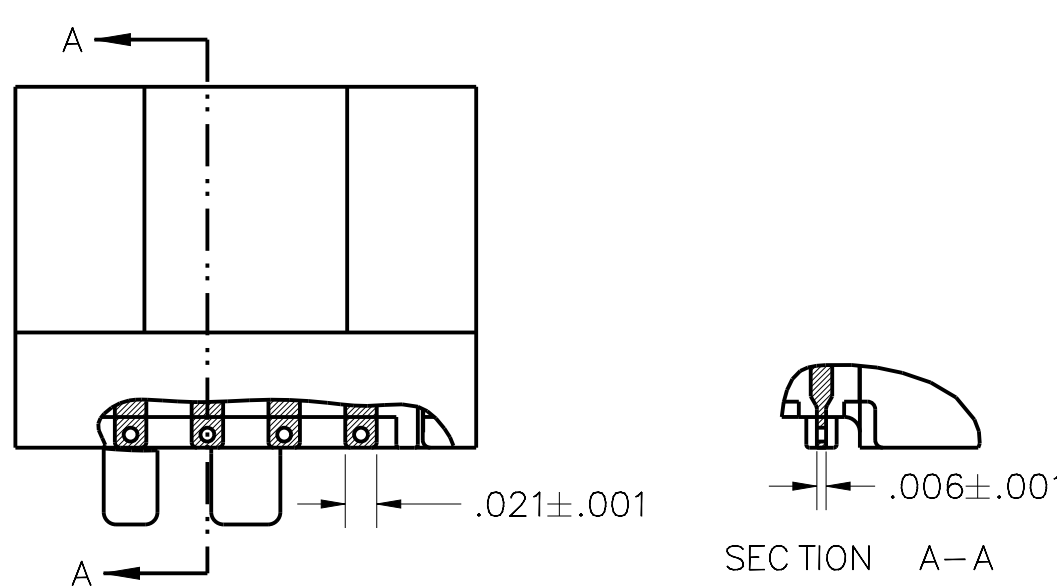
TERMINATION TYPE 05
PTH .156" LENGTH



TERMINATION TYPE 06
PTH .172" LENGTH

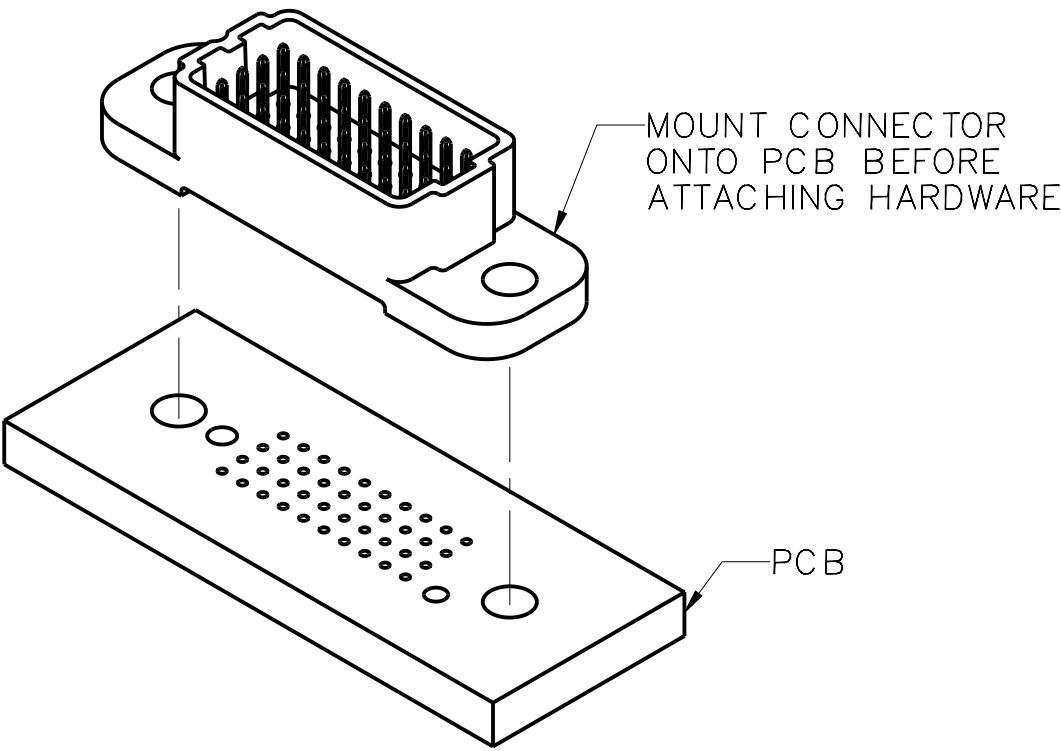


TERMINATION TYPE 10 & 11
SMT

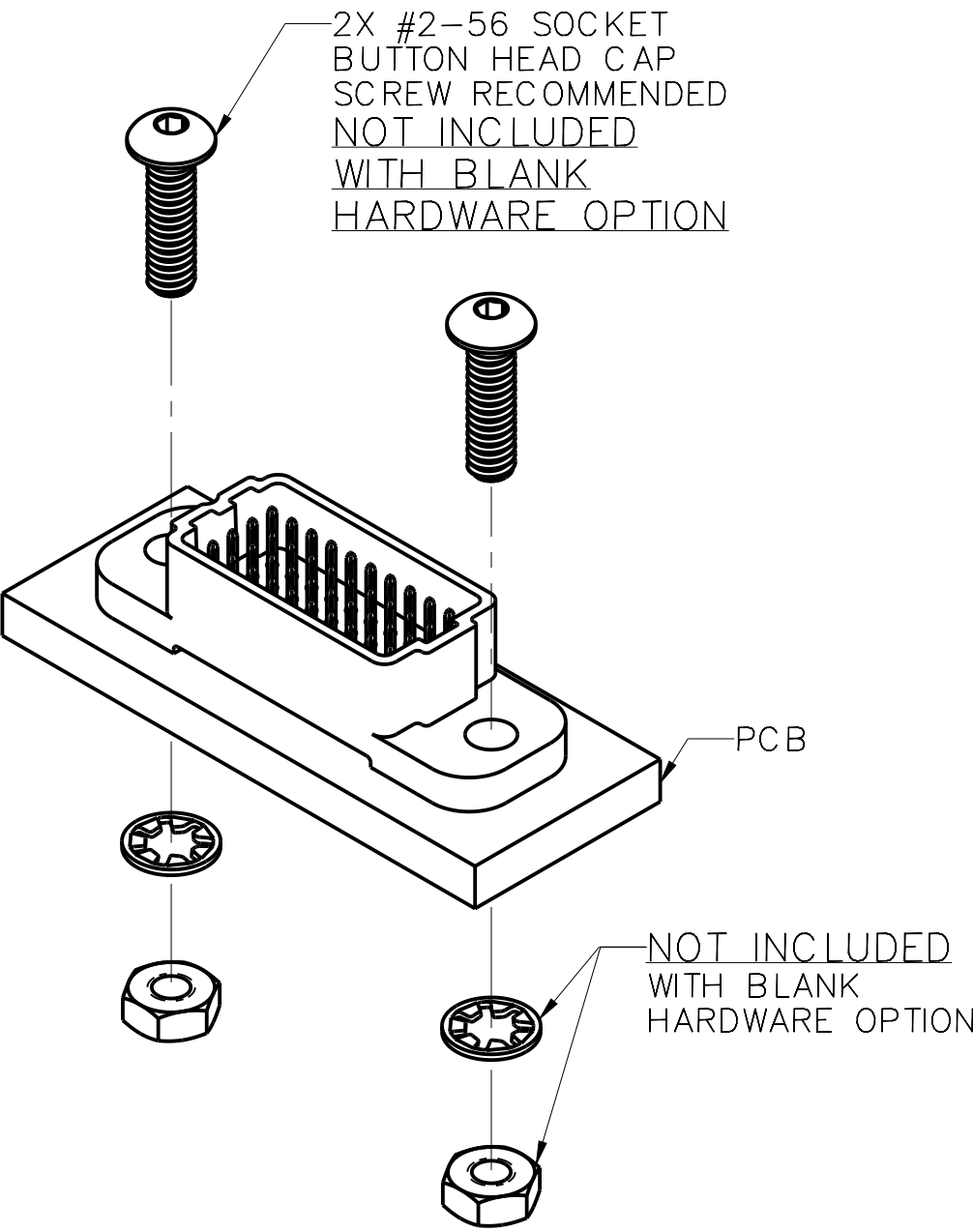


RECOMMENDED PCB THICKNESS FOR EACH TERMINATION TYPE	
TERMINATION	PCB THICKNESS
-00	.062" MIN
-01	.025" MIN
-02	.068" MAX
-03	.099" MAX
-04	.130" MAX
-05	.146" MAX
-06	.162" MAX

PCB MOUNTING INSTRUCTIONS
(BLANK HARDWARE OPTION SHOWN)

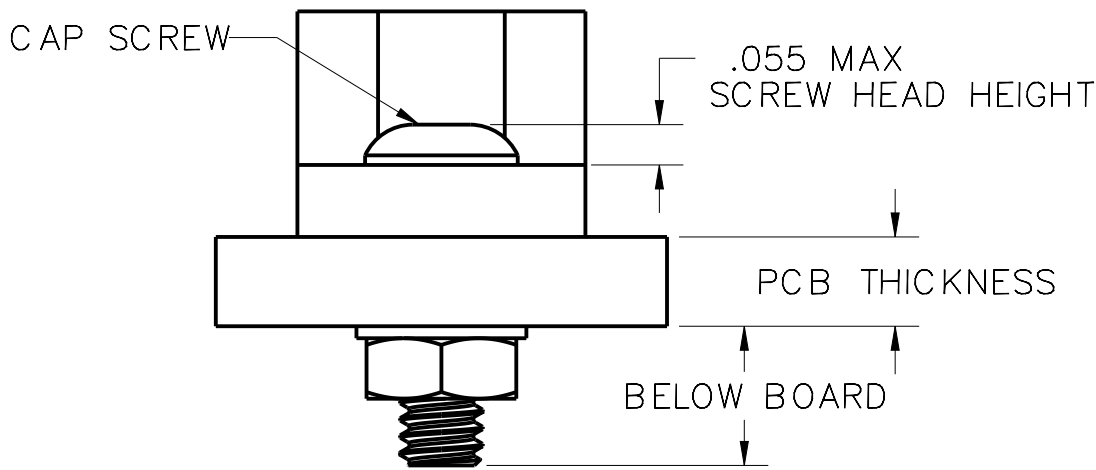


STEP 1:
PTH, PIH & SMT: SOLDER CONNECTOR ONTO PCB
PRESS-FIT: PRESS CONNECTOR ONTO PCB
(SEE ESL5001 FOR MORE DETAILS ON INSTALLING
THE CONNECTOR ONTO THE PCB)



STEP 2:
ATTACH HARDWARE
(SEE ESL5001 FOR ADDITIONAL DETAILS
AND HARDWARE TORQUE SPECIFICATIONS)

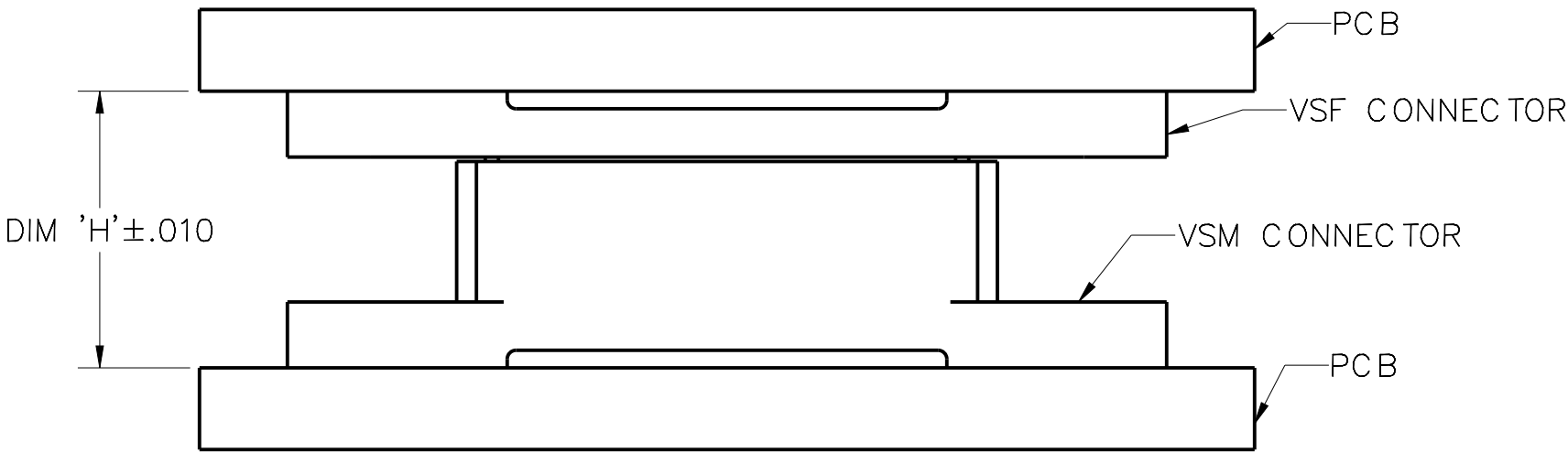
RECOMMENDED PCB MOUNTING HARDWARE
MOUNTING HARDWARE NOT INCLUDED
WITH BLANK HARDWARE OPTION



RECOMMENDED SCREWS FOR
COMMON PCB THICKNESSES

PCB THICKNESS	BUTTON HEAD CAP SCREW	BELOW BOARD
.062	#2-56 X 1/4"	(.114)
.094	#2-56 X 5/16"	(.145)

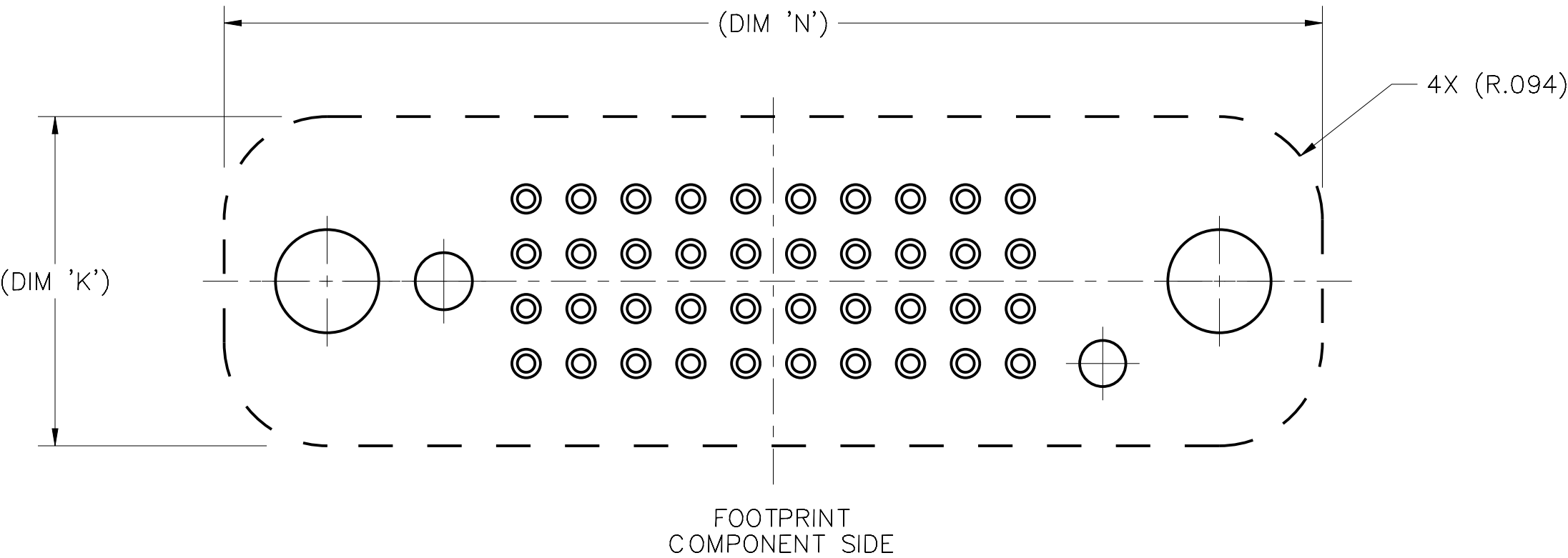
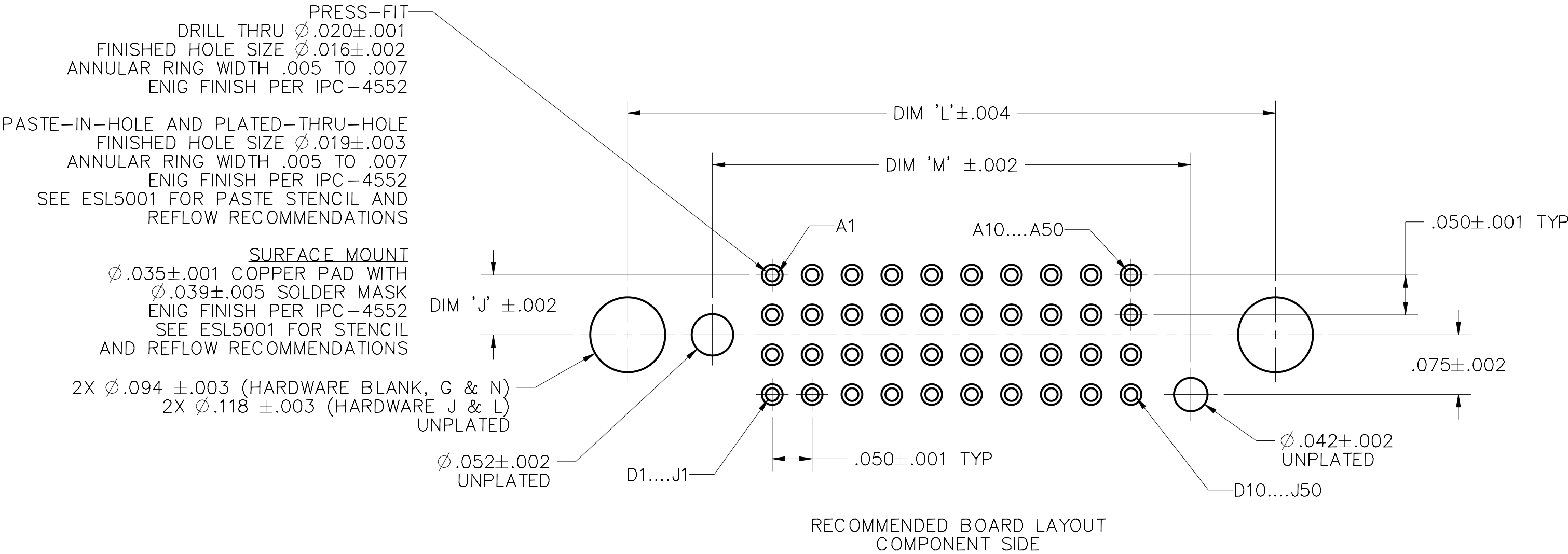
VSM CONNECTOR MATED TO VSF CONNECTOR



BOARD SPACING	*DIM 'H'
-080 [8mm]	.315 NOMINAL (.350 MAX)
-100 [10mm]	.394 NOMINAL (.429 MAX)
-120 [12mm]	.472 NOMINAL (.507 MAX)
-160 [16mm]	.630 NOMINAL (.665 MAX)
-200 [20mm]	.787 NOMINAL (.822 MAX)
-250 [25mm]	.984 NOMINAL (1.02 MAX)

*MAX VALUES FOR DIM 'H' ARE AT MAXIMUM
ALLOWABLE SEPARATION BETWEEN MATED CONNECTORS

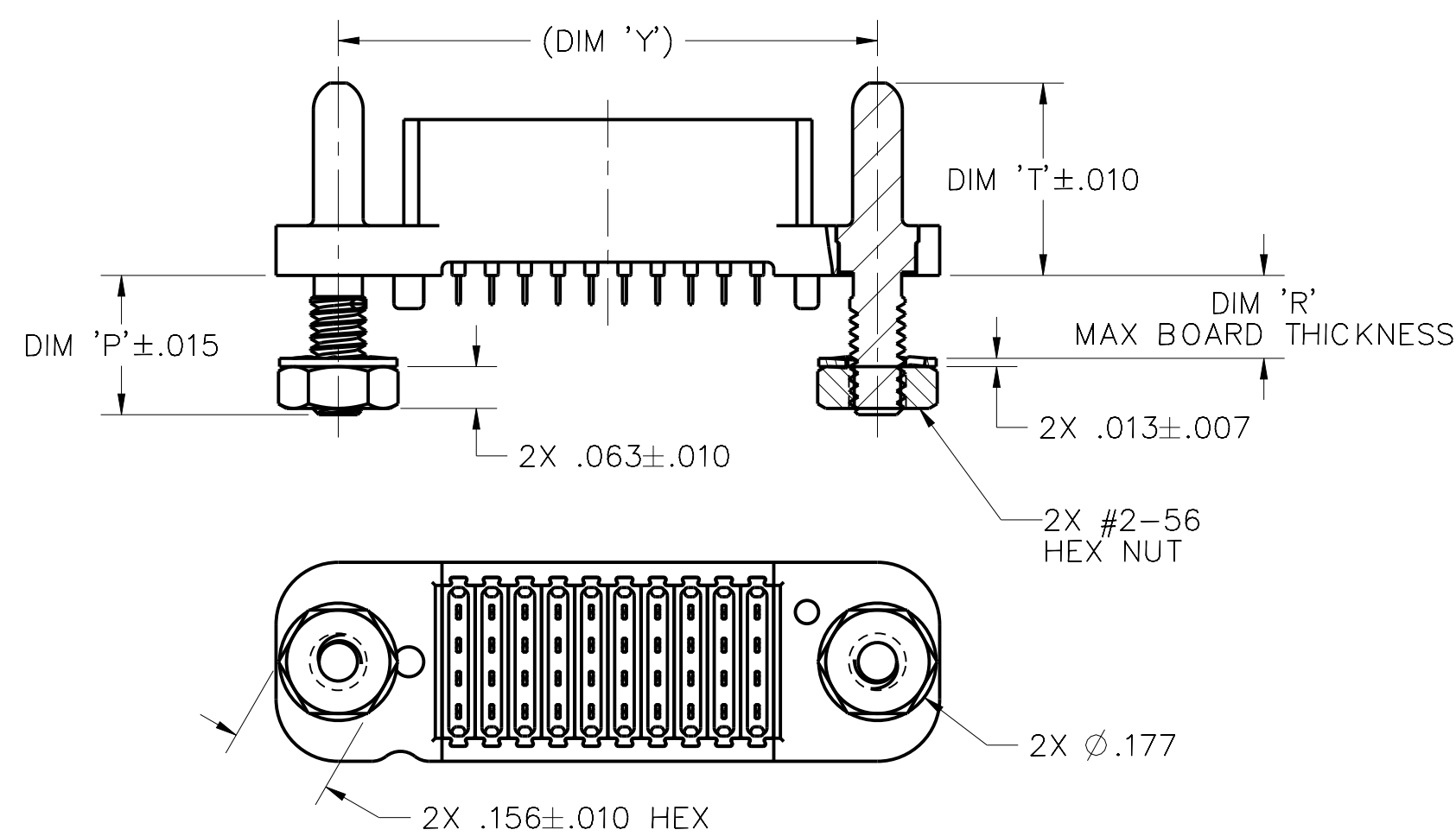
RECOMMENDED PCB LAYOUT



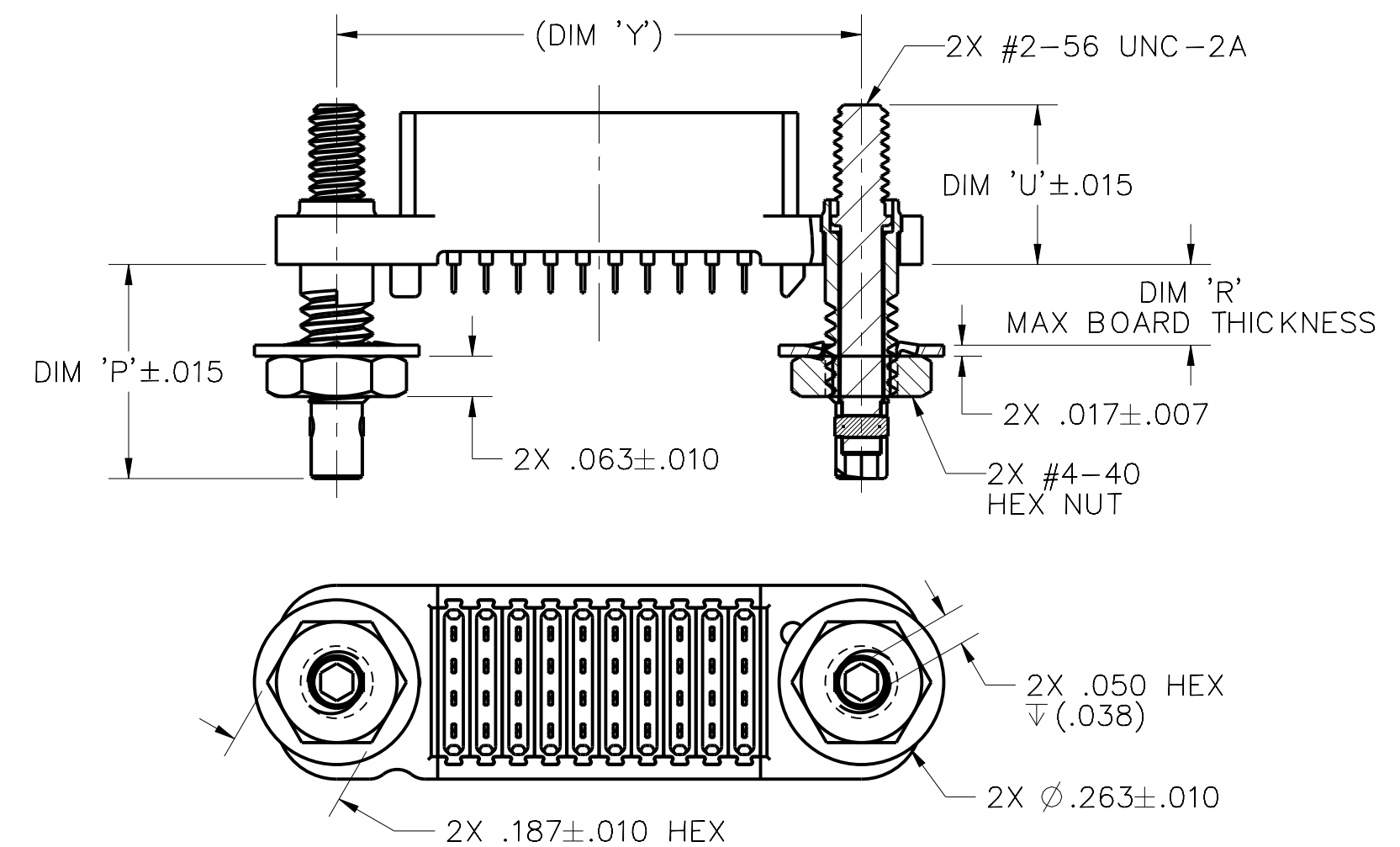
ROWS	DIM 'J'	DIM 'K'
04	.075	.300
05	.100	.350
06	.125	.400
08	.175	.500
10	.225	.600

COLUMNS	DIM 'L'	DIM 'M'	DIM 'N'
10	.813	.600	1.000
20	1.313	1.100	1.500
30	1.813	1.600	2.000
40	2.313	2.100	2.500
50	2.813	2.600	3.000

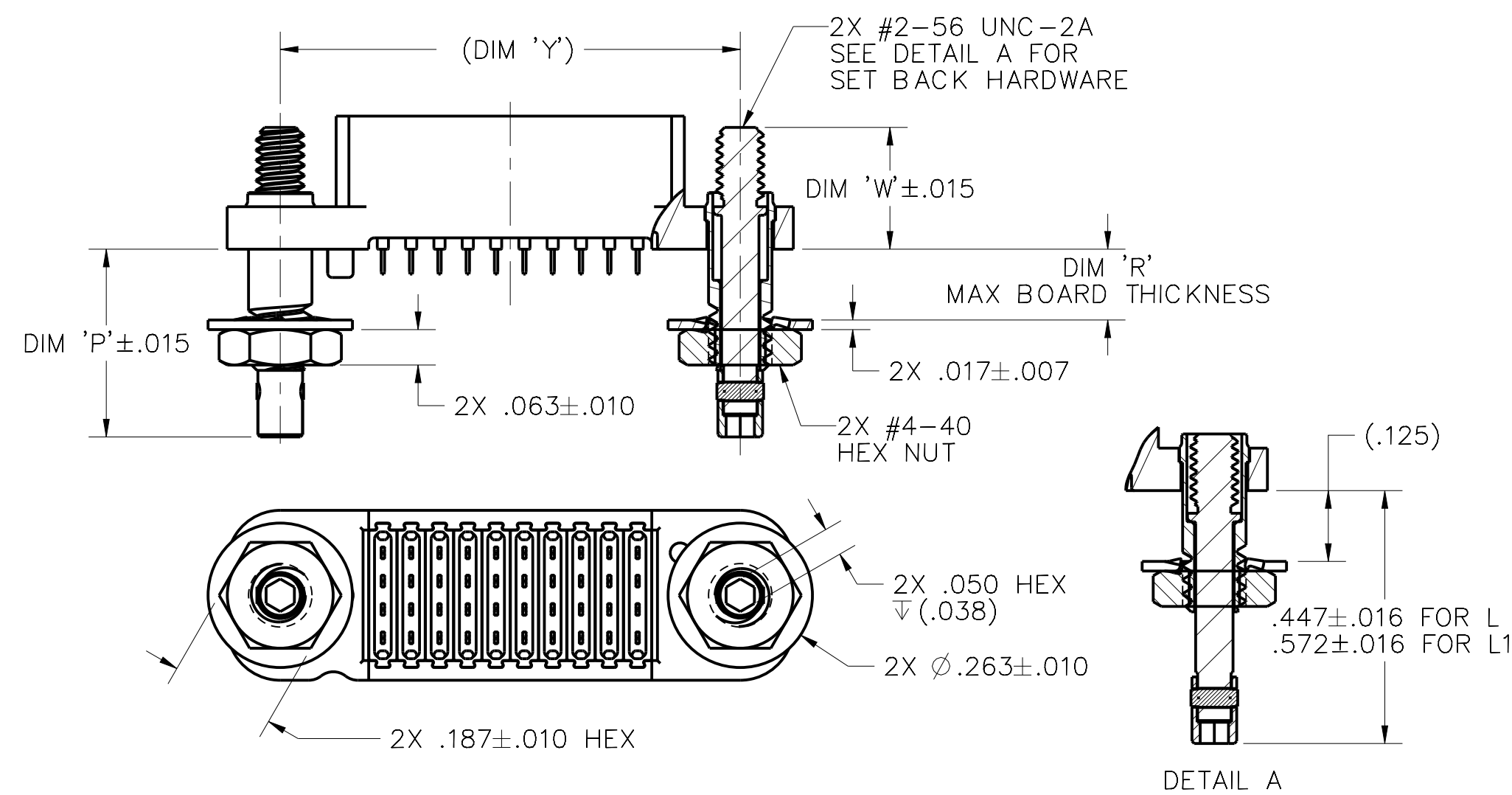
GUIDE PIN DIMENSIONS (HARDWARE OPTIONS G & G1)



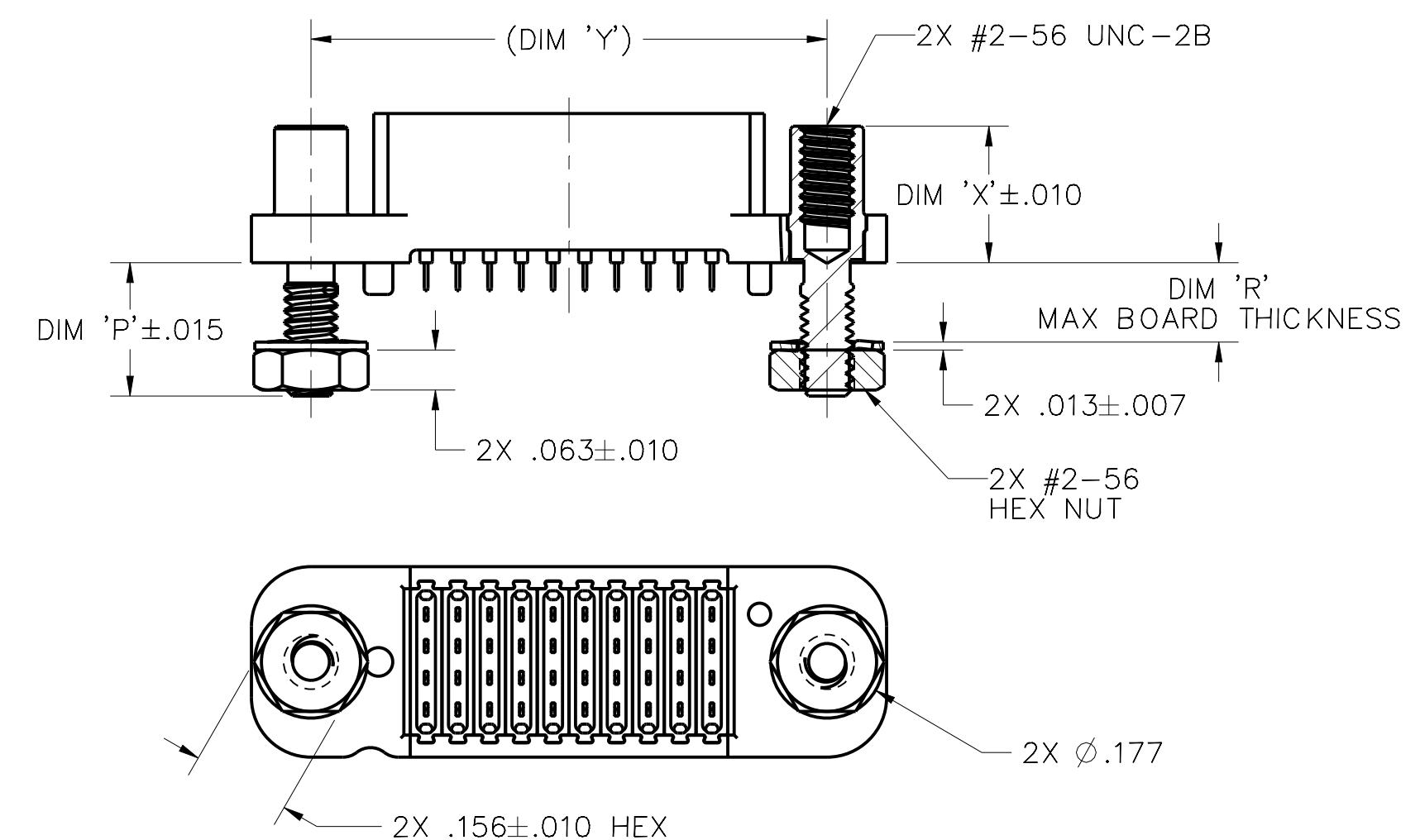
TURNING JACKSCREW DIMENSIONS (HARDWARE OPTIONS J & J1)



LOCKING SCREW DIMENSIONS (HARDWARE OPTIONS L & L1)



FIXED JACKNUT DIMENSIONS (HARDWARE OPTIONS N & N1)



HARDWARE OPTIONS	DESCRIPTION	DIM 'P'	DIM 'R'
G	GUIDE PIN	.210	.125
G1	GUIDE PIN	.335	.250
J	TURNING JACKSCREW	.332	.125
J1	TURNING JACKSCREW	.457	.250
L	LOCKING SCREW	.332	.125
L1	LOCKING SCREW	.457	.250
N	FIXED JACKNUT	.210	.125
N1	FIXED JACKNUT	.335	.250

BOARD SPACING	DIM 'T'	DIM 'U'	DIM 'W'	DIM 'X'
-080 [8mm]	.290	.247	.215	.215
-100 [10mm]	.369	.326	.294	.294
-120 [12mm]	.447	.405	.373	.372
-160 [16mm]	.605	.562	.530	.530
-200 [20mm]	.762	.719	.687	.688
-250 [25mm]	.959	.916	.884	.885

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

AirBorn
Little Falls, Minnesota 56345

verSI SERIES VERTICAL MALE
NON-RUGGEDIZED
PRODUCT DRAWING

DRAWING STATE: *Released* ☒ **RELEASED**
This drawing is not authorized for production unless it is released
DWG # VSM-XX-XX-XXX-XX-XX-XX REV. B SHEET 7 / 8

SIZE
C

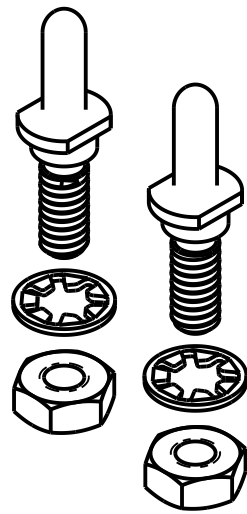
HARDWARE KIT PART NUMBER BUILD

SAMPLE PART NUMBER: VSM-00-00-080-00-00-G

VSM-00-00-XXX-00-00-XX

BOARD SPACING	
080	8 mm
100	10 mm
120	12 mm
160	16 mm
200	20 mm
250	25 mm

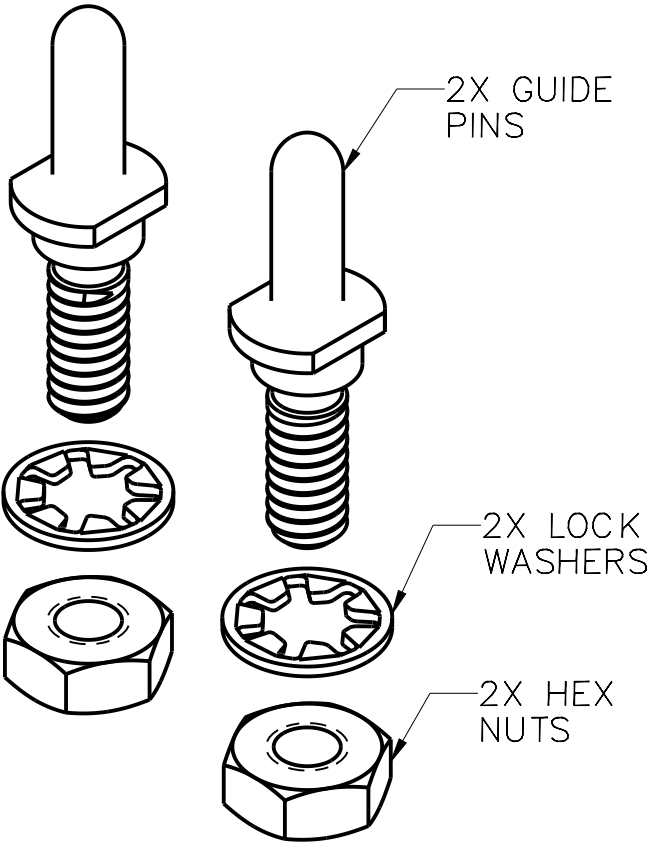
HARDWARE OPTIONS	
G	GUIDE PIN
G1	GUIDE PIN
J	TURNING JACKSCREW
J1	TURNING JACKSCREW
L	LOCKING SCREW
L1	LOCKING SCREW
N	FIXED JACKNUT
N1	FIXED JACKNUT



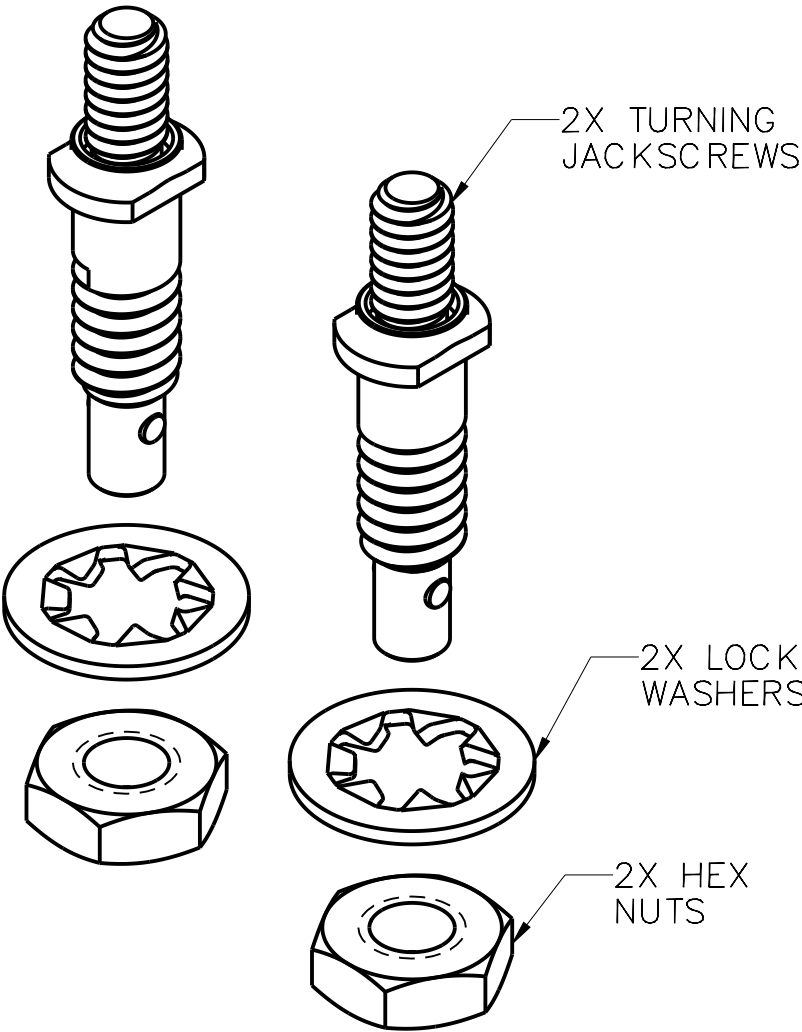
ISOMETRIC VIEW
FOR REFERENCE ONLY
(PART NUMBER VSM-00-00-080-00-00-G SHOWN)

HARDWARE KITS CANNOT BE INSTALLED
ON CONNECTORS WITH BLANK HARDWARE
OPTION

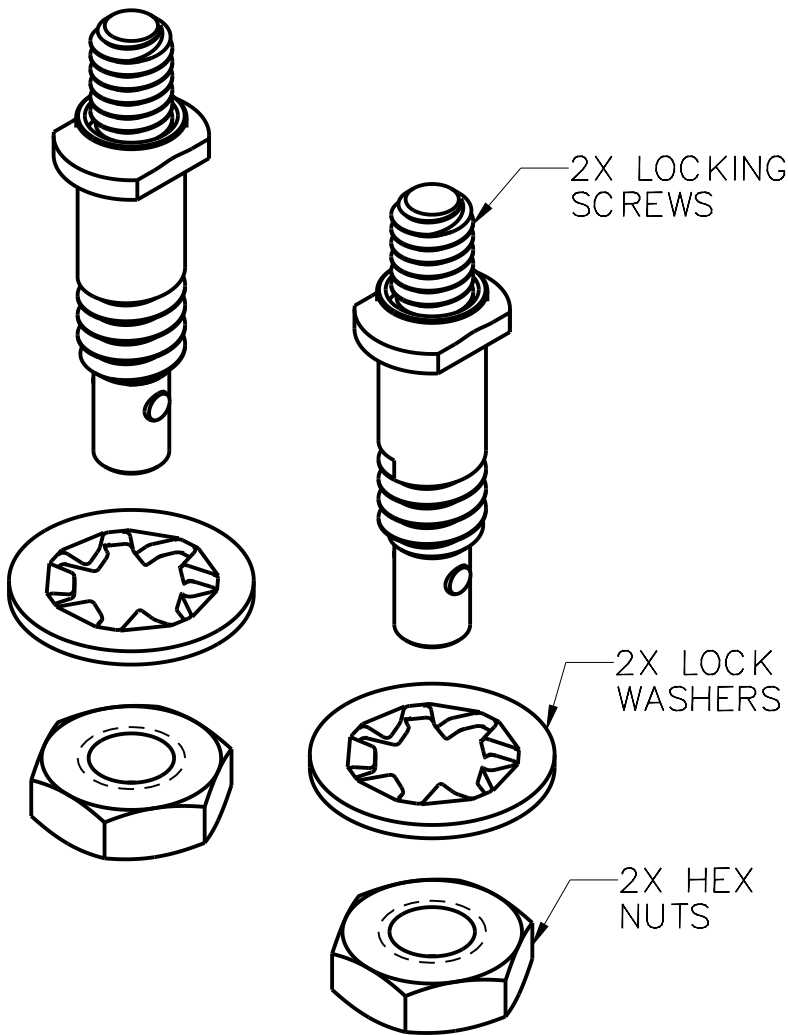
GUIDE PIN KIT
(G & G1 HARDWARE OPTIONS)



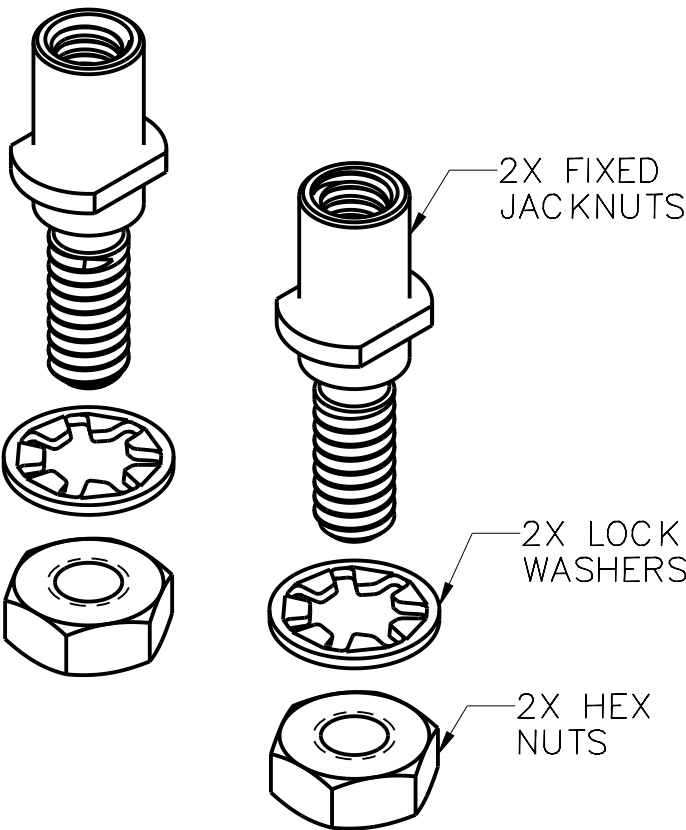
TURNING JACKSCREW KIT
(J & J1 HARDWARE OPTIONS)



LOCKING SCREW KIT
(L & L1 HARDWARE OPTIONS)



FIXED JACKNUT KIT
(N & N1 HARDWARE OPTIONS)



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[AirBorn:](#)

[VSM-04-10-160-50-02-G](#) [VSM-08-30-250-50-04-G](#)