

GEARBOX MODEL (X AXIS)  
 MPG-064 \_\_\_ MPG-084 \_\_\_  
 MRG-064 \_\_\_ MRG-084 \_\_\_  
 RATIO: \_\_\_\_\_

GEARBOX MODEL (Y AXIS)  
 MPG-064 \_\_\_ MPG-084 \_\_\_  
 MRG-064 \_\_\_ MRG-084 \_\_\_  
 RATIO: \_\_\_\_\_

FOR DIRECT-DRIVE OPTION WITH MMKs  
 (NO GEARBOXES) CHECK HERE: \_\_\_\_\_

MOTOR INFORMATION (X AXIS)  
 MANUFACTURER: \_\_\_\_\_  
 MODEL: \_\_\_\_\_

MOTOR INFORMATION (Y AXIS)  
 MANUFACTURER: \_\_\_\_\_  
 MODEL: \_\_\_\_\_

MOTOR INFORMATION (Z AXIS)  
 MANUFACTURER: \_\_\_\_\_  
 MODEL: \_\_\_\_\_  
 (\*Z AXIS IS DIRECT-DRIVEN)

SENSOR INFORMATION X-AXIS:  
 HOME-QTY \_\_\_ 244-\_\_\_\_-\_\_\_\_-\_\_\_\_-\_\_\_\_  
 EOT-QTY \_\_\_ 244-\_\_\_\_-\_\_\_\_-\_\_\_\_-\_\_\_\_

SENSOR INFORMATION Y-AXIS:  
 HOME-QTY \_\_\_ 244-\_\_\_\_-\_\_\_\_-\_\_\_\_-\_\_\_\_  
 EOT-QTY \_\_\_ 244-\_\_\_\_-\_\_\_\_-\_\_\_\_-\_\_\_\_

SENSOR INFORMATION Z-AXIS:  
 HOME-QTY \_\_\_ 244-\_\_\_\_-\_\_\_\_-\_\_\_\_-\_\_\_\_  
 EOT-QTY \_\_\_ 244-\_\_\_\_-\_\_\_\_-\_\_\_\_-\_\_\_\_

(SEE T-SLOT SENSOR KIT SHEET  
 FOR PART NUMBER CONFIGURATION)

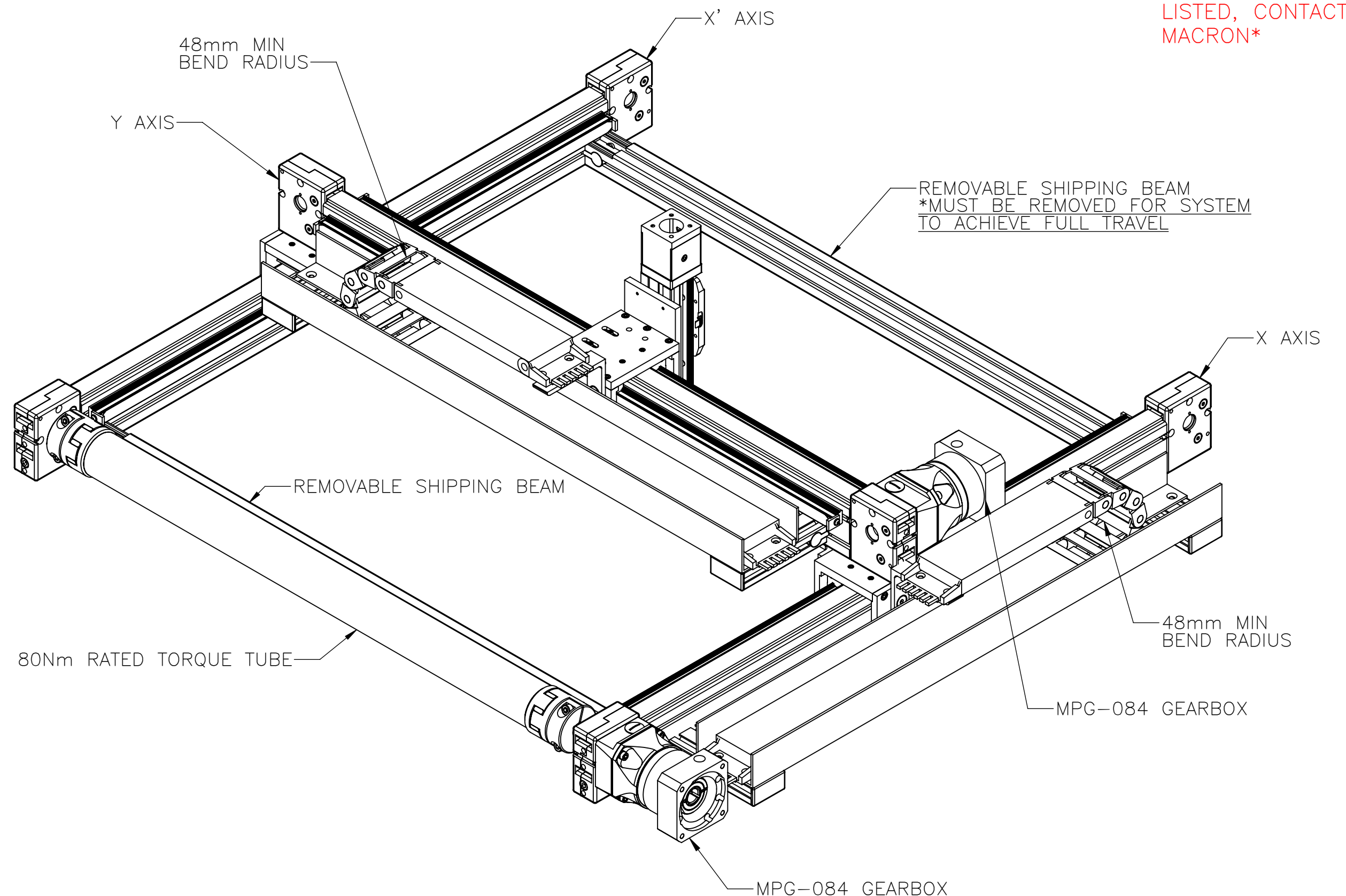
MCS-R6S- [ ] - [ ] -S [ ]

ENTER Z-AXIS TRAVEL  
 TRAVEL IN INCREMENTS OF 100mm  
 TRAVEL LIMITS: 100mm-400mm

ENTER Y-AXIS TRAVEL  
 TRAVEL IN INCREMENTS OF 25mm  
 TRAVEL LIMITS: 150mm-2500mm

ENTER X-AXIS TRAVEL  
 TRAVEL IN INCREMENTS OF 25mm  
 TRAVEL LIMITS: 150mm-5825mm

\*IF TRAVEL IS  
 OUTSIDE LIMITS  
 LISTED, CONTACT  
 MACRON\*



APPROVED: \_\_\_\_\_  
 SIGN & PRINT

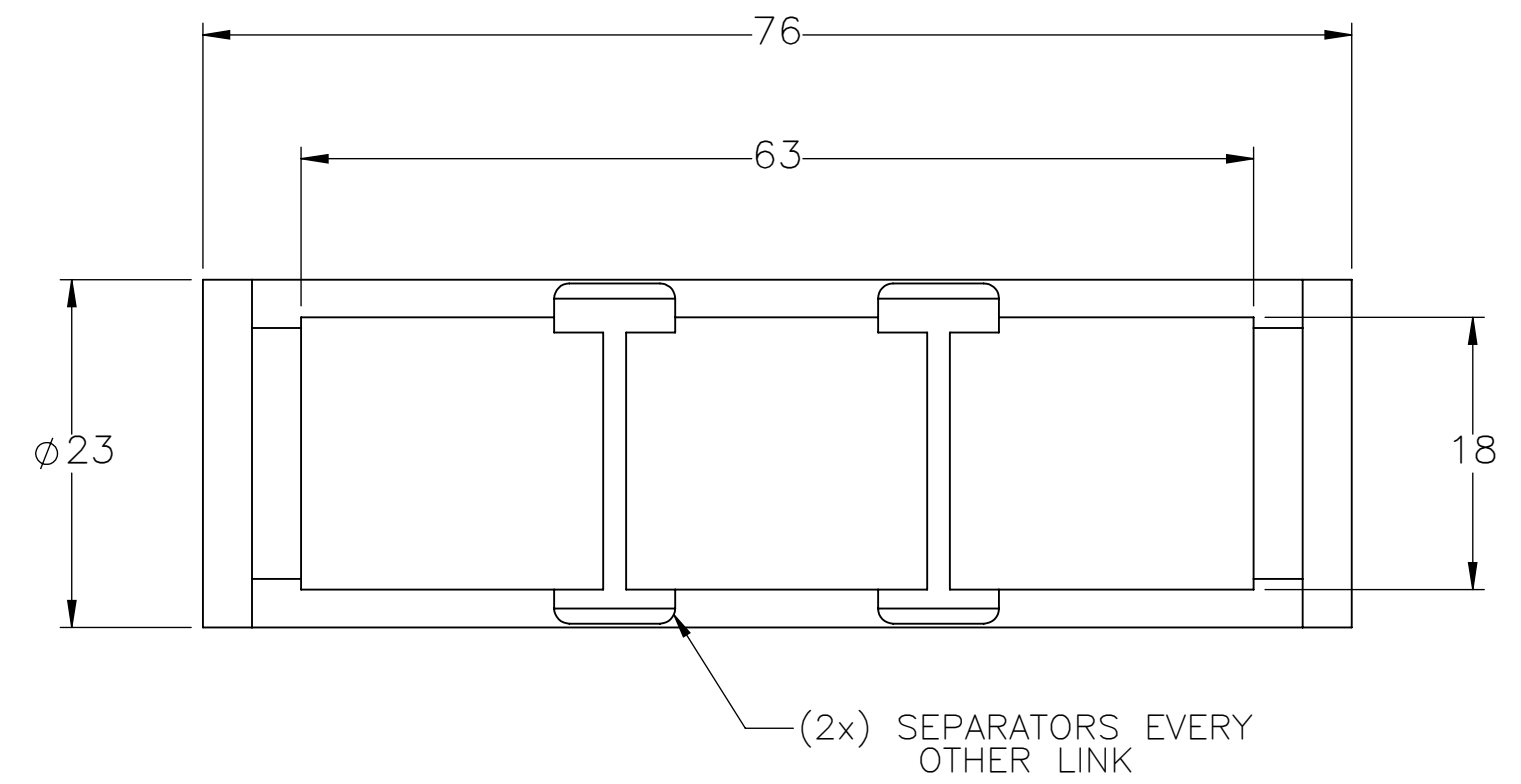
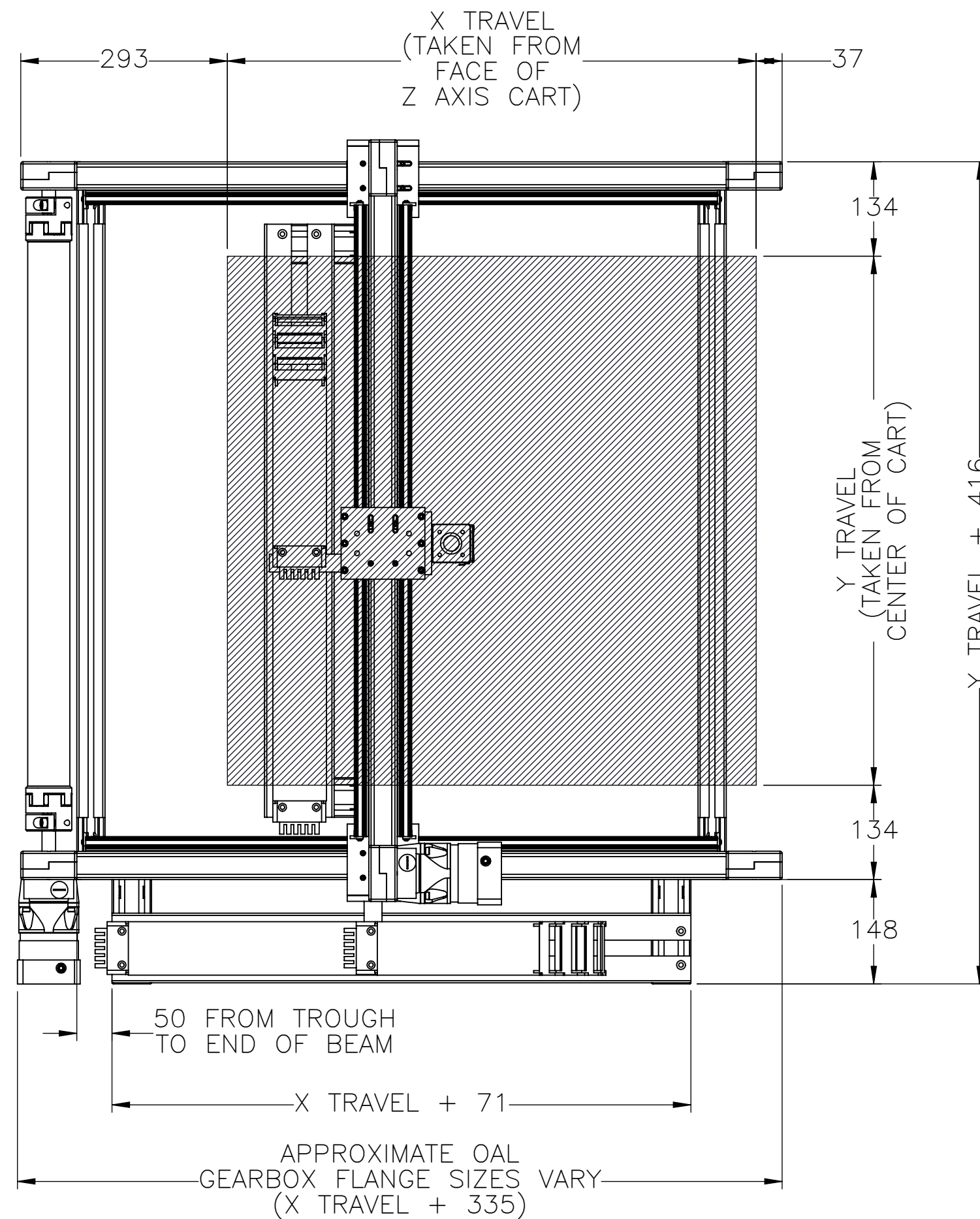
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PO:REFERENCE#: \_\_\_\_\_

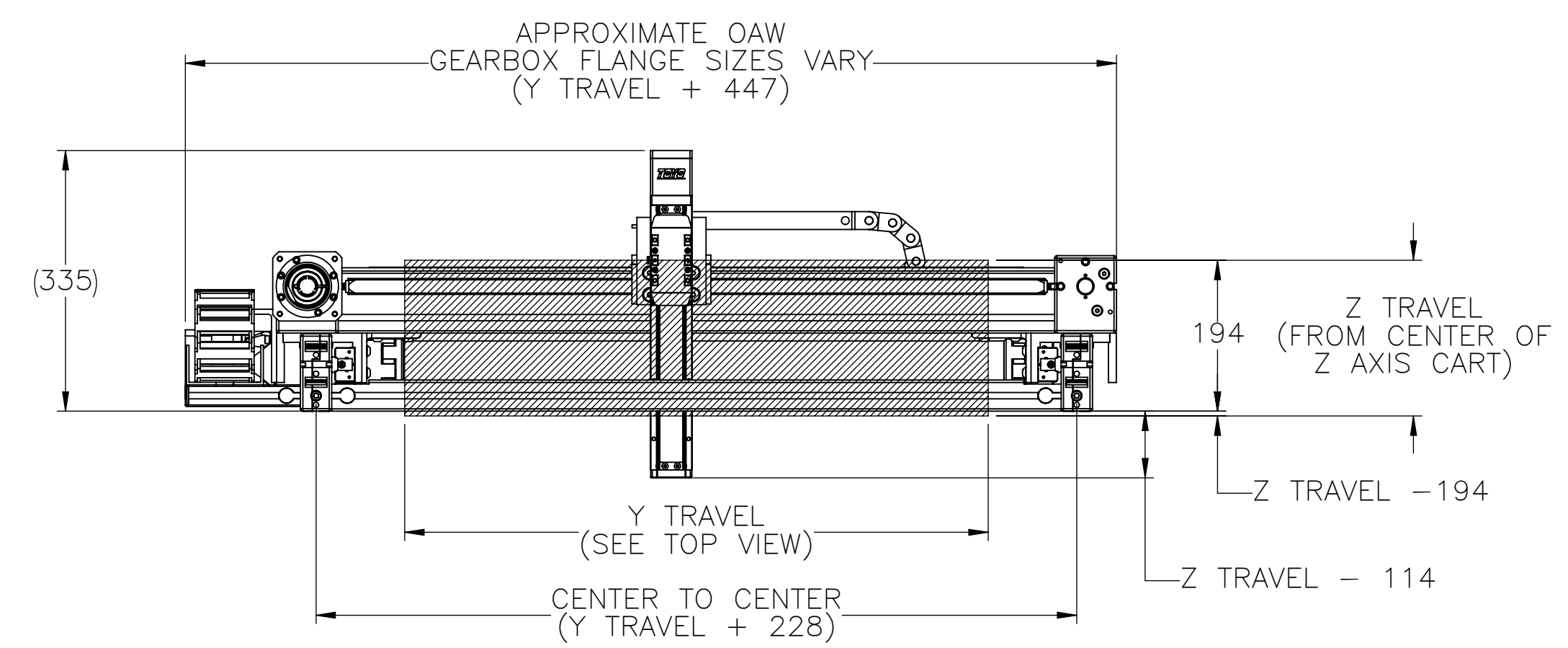
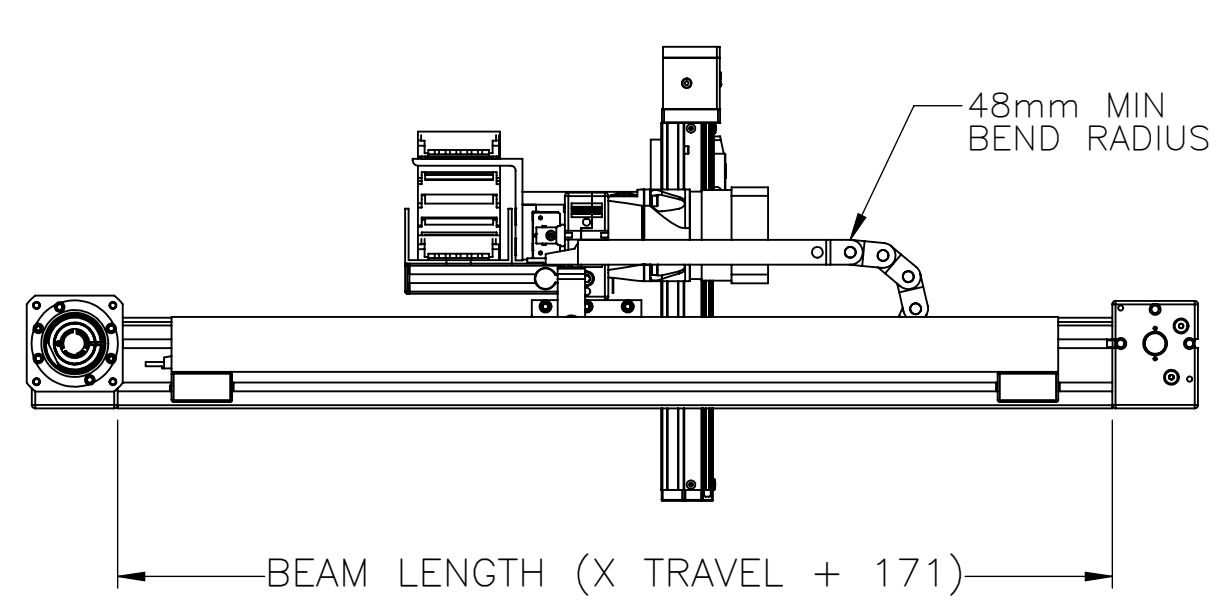
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 <b>MACRON DYNAMICS INC</b>	DRAWN BY: PHW CHECKED BY: -- LAST SAVED BY: Tim	DATE: 11/26/2017 DATE: DD/MM/YYYY DATE: 10/28/2021	MATERIAL:  FINISH:	TITLE: <b>MACRON R6S XYZ GANTRY</b>
	<small>UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS. TOLERANCES UNLESS NOTED OTHERWISE:</small> .X ± .762 .XX ± .254 .XXX ± .127 ANG ± 0°30'		SURFACE FINISH: ✓ BREAK ALL SHARP EDGES DIMENSIONAL LIMITS APPLY AFTER FINISHING THIRD ANGLE PROJECTION	SCALE 1:1   SHEET SIZE C SHEET 1 OF 6   PART NUMBER MCS-R6S-X-X-SX   REV

# WORK ENVELOPE AND GANTRY FOOTPRINT



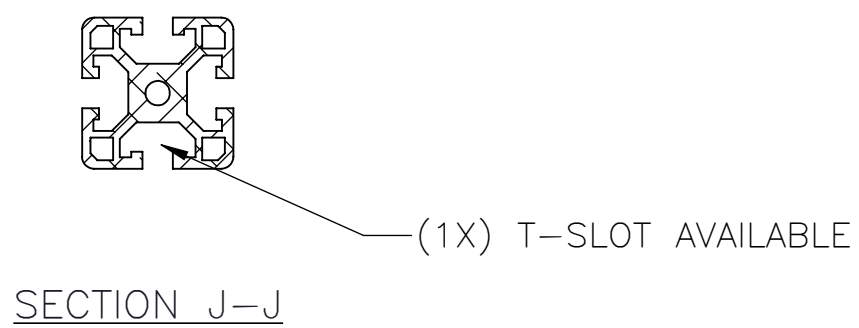
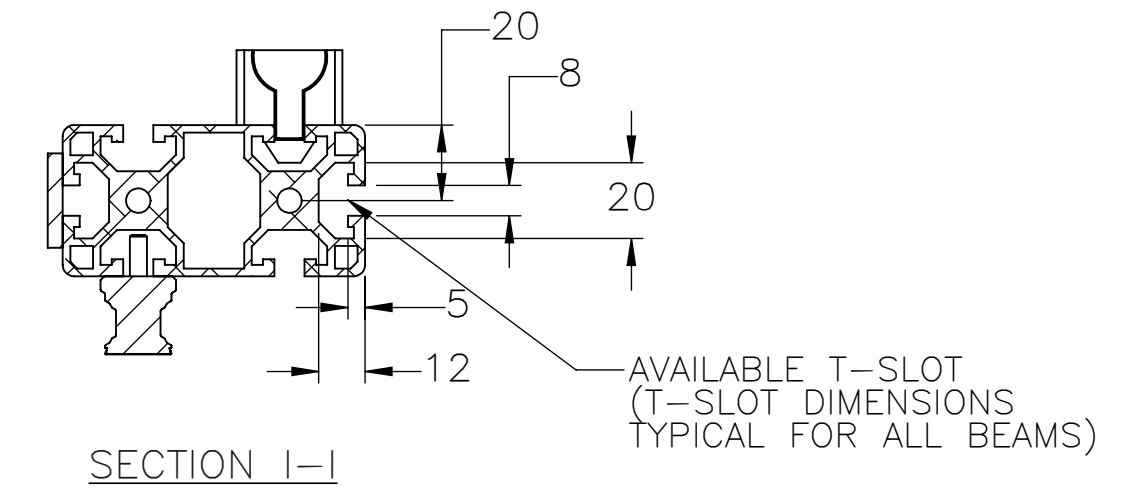
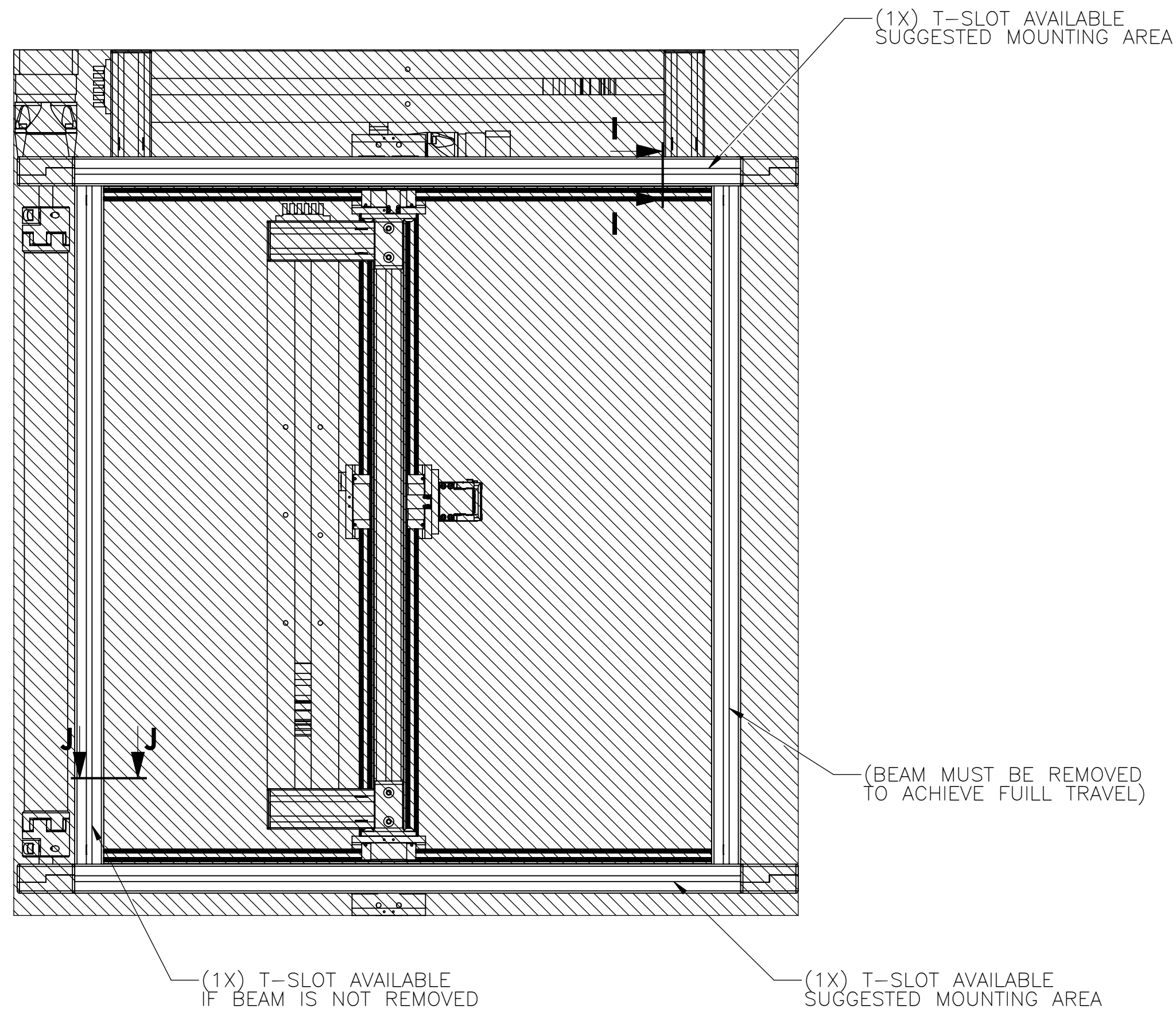
CABLE TRACK CROSS SECTION (SAME FOR BOTH AXES)



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 MACRON DYNAMICS INC	DRAWN BY: PHW CHECKED BY: -- LAST SAVED BY: Tim	DATE: 11/26/2017 DATE: DD/MM/YYYY DATE: 10/28/2021	MATERIAL:	TITLE: MACRON R6S XYZ GANTRY	
	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS NOTED OTHERWISE:		FINISH:	SCALE 1:1   SHEET SIZE C	
	SURFACE FINISH 63		SHEET 2 OF 6	PART NUMBER MCS-R6S-X-X-SX	REV
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# GANTRY MOUNTING FEATURES



## BOTTOM VIEW

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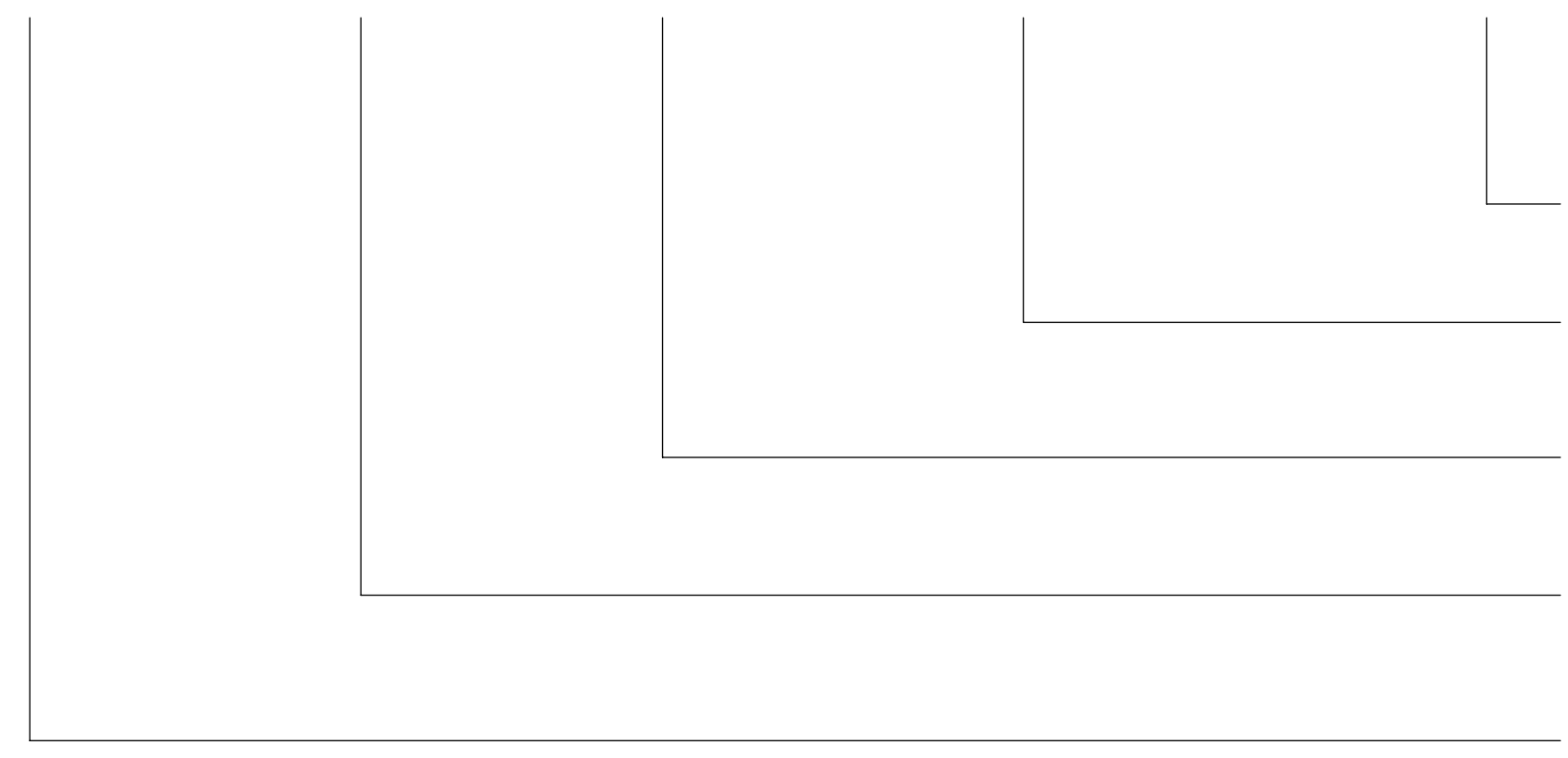
 <b>MACRON DYNAMICS INC</b>	DRAWN BY: PHW      DATE: 11/26/2017	MATERIAL:	TITLE: <b>MACRON R6S XYZ GANTRY</b>
	CHECKED BY: --      DATE: DD/MM/YYYY	FINISH:	
	LAST SAVED BY: Tim      DATE: 10/28/2021	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES: TOLERANCES UNLESS NOTED OTHERWISE: .X ± .762 .XX ± .254 .XXX ± .127 ANG ± 0°30'	
SURFACE FINISH      63		SCALE 1:1      SHEET SIZE C	
BREAK ALL SHARP EDGES DIMENSIONAL LIMITS APPLY AFTER FINISHING THIRD ANGLE PROJECTION		SHEET      PART NUMBER	REV
		3 OF 6	MCS-R6S-X-X-SX

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REVISION HISTORY			
REV.	DESCRIPTION	DATE	REVISED BY:

GTH5-L - - - - - BC-M10B- - - - -

# Z-AXIS SCREW TABLE SELECTION



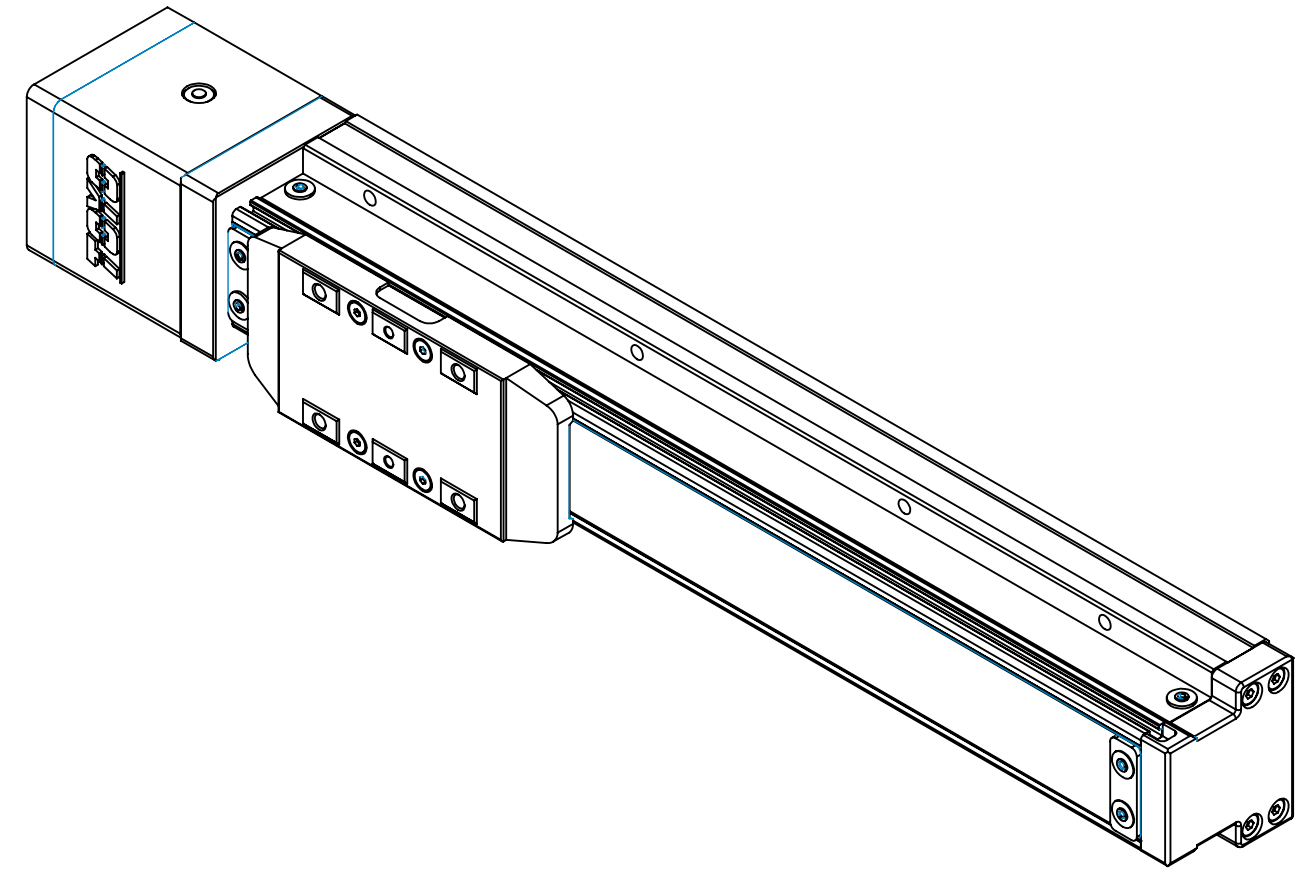
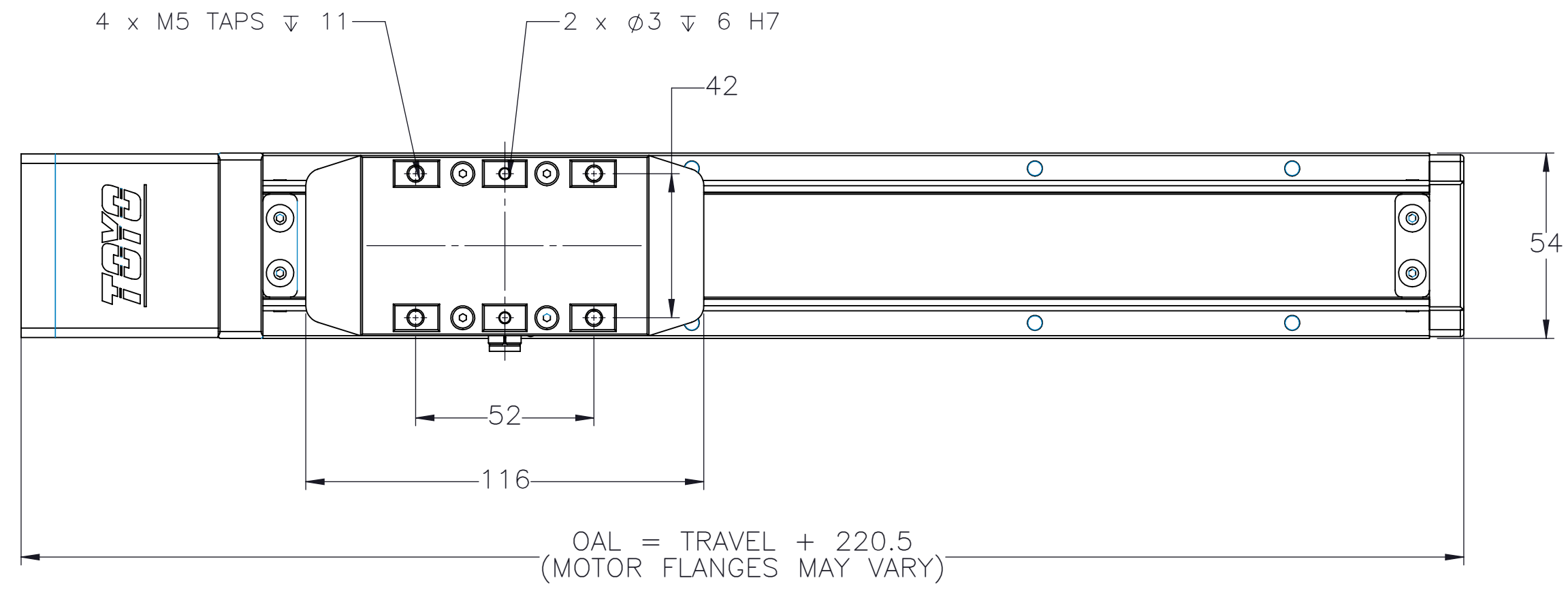
SENSOR CODE C3 = 1 HOME, 1 LIMIT SENSOR  
 C4 = 1 HOME, 2 LIMIT SENSOR  
 E5 = NO SENSORS

MOTOR CODE

MOTOR POSITION UP

STROKE/TRAVEL (100mm, 200mm, 300mm, 400mm)


BALL SCREW LEAD (5mm, 10mm, 20mm)



## MOTOR INFORMATION (Z-AXIS)

MANUFACTURER: \_\_\_\_\_  
 MODEL: \_\_\_\_\_

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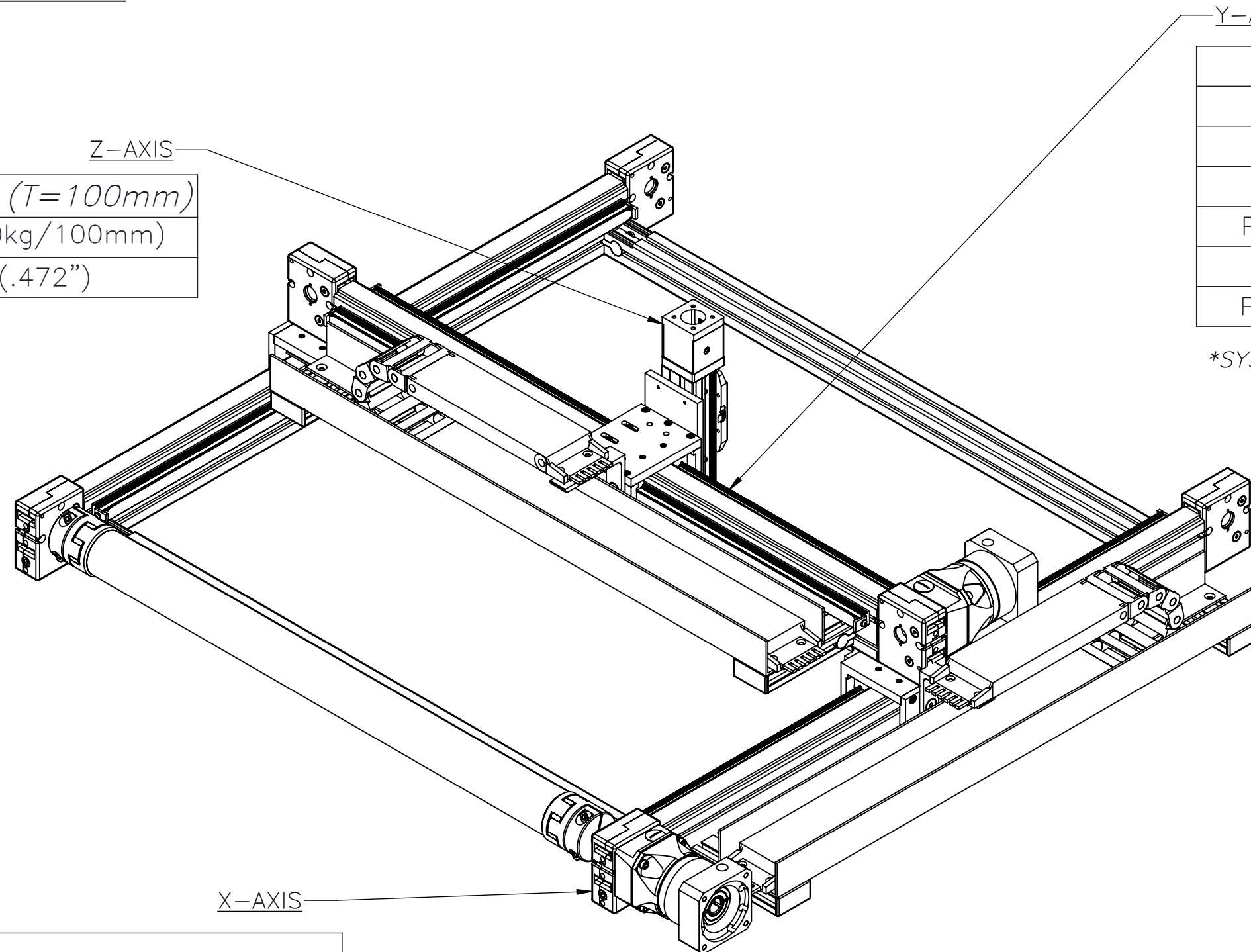
 <b>MACRON DYNAMICS INC</b>	DRAWN BY: JA      DATE: 6/27/2014	MATERIAL:	TITLE:	
	CHECKED BY: --      DATE: DD/MM/YYYY	FINISH:	SCREW TABLE SELECTION SHEET	
	LAST SAVED BY: TH      DATE: 10/28/2021	<small>UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS. TOLERANCES UNLESS NOTED OTHERWISE:</small> .X ± .762 .XX ± .254 .XXX ± .127 ANG ± 0°30'	SCALE 1:1	SHEET SIZE C
	SURFACE FINISH $\checkmark$ <small>BREAK ALL SHARP EDGES DIMENSIONAL LIMITS APPLY AFTER FINISHING</small> THIRD ANGLE PROJECTION	SHEET 4 OF 6	PART NUMBER SCREW TABLE	REV

# MOTOR SIZING WORKSHEET

(INCREMENTAL ADDERS REFER TO MASS PER TRAVEL LENGTH)

BASE TRAVELS USED:  
 X TRAVEL = 150mm  
 Y TRAVEL = 150mm

PROPERTY	BASE VALUE (T=100mm)
SYSTEM MASS	2.42kg(+0.40kg/100mm)
BALL SCREW $\phi$	12mm (.472")



PROPERTY	BASE VALUE (T=150mm)
*MOVING MASS	1.702kg(+0.022kg/25mm)
BELT MASS	0.109(+0.006kg/25mm)
*SYSTEM MASS	6.031kg(+0.156kg/25mm)
PULLEY PITCH $\phi$	47.75mm (1.88")
PULLEY WIDTH	28.9mm (1.14")
PULLEY MATERIAL	STEEL

\*SYSTEM MASS OF Z-AXIS NEEDS TO BE ADDED TO THIS

PROPERTY	BASE VALUE (T=150mm)
**MOVING MASS	2.861(+0.028kg/25mm)
BELT MASS	0.218(0.012kg/25mm)
PULLEY PITCH $\phi$	47.75mm (1.88")
PULLEY WIDTH	28.9mm (1.14")
PULLEY MATERIAL	STEEL
***TORQUE TUBE LENGTH	299mm
TORQUE TUBE $\phi$	60mm
***TORQUE TUBE MASS	1.311(+0.036kg/25mm)
TORQUE TUBE MATERIAL	ANODIZED ALUMINUM ELASTOMER STYLE COUPLINGS WITH HUB
TRAVEL PER REV	150mm

\*\*SYSTEM MASS OF Y-AXIS NEEDS TO BE ADDED TO THIS

\*\*\*BASE VALUE AT Y TRAVEL = 150mm


X TRAVEL = \_\_\_\_\_ mm  
 Y TRAVEL = \_\_\_\_\_ mm

NOTE: ALL SUPPLIED MASSES DO NOT INCLUDE CUSTOMER COMPONENTS (MOTORS, CABLES, ETC)

GEARBOX MASS (ADD TO SYSTEM MASSES)	MPG-064	1.0kg
	MPG-084	2.3kg
	MRG-064	3.0kg
	MRG-084	5.6kg

TOTAL SYSTEM MASS (X TRAVEL x .0085) + (Y TRAVEL x .0093) + (Z TRAVEL x .004) + 16.88 = \_\_\_\_\_ kg

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 MACRON DYNAMICS INC	DRAWN BY: PHW CHECKED BY: -- LAST SAVED BY: JA	DATE: 11/26/2017 DATE: DD/MM/YYYY DATE: 10/28/2021	MATERIAL:  FINISH:	TITLE: MACRON R6S XYZ GANTRY
	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETER. TOLERANCES UNLESS NOTED OTHERWISE: .X ± .762 .XX ± .254 .XXX ± .127 ANG ± 0°30'	SURFACE FINISH $\sqrt{3}$	SHEET: 5 OF 6 PART NUMBER: MCS-R6S-X-X-SX	SCALE: 1:1 SHEET SIZE: C

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BREAK ALL SHARP EDGES  
 DIMENSIONAL LIMITS APPLY AFTER FINISHING  
 THIRD ANGLE PROJECTION

# SPECIFICATIONS

Sensor Type	Inductive
Sensor Size	Fits all 8mm wide T-Slots
Operating Voltage	10-30 VDC
Voltage Drop Across Conducting Sensor	≤1.8 V at 100 mA
Number of Conductors (AWG)	3x26 AWG
Temperature Range	-40°C to 105°C

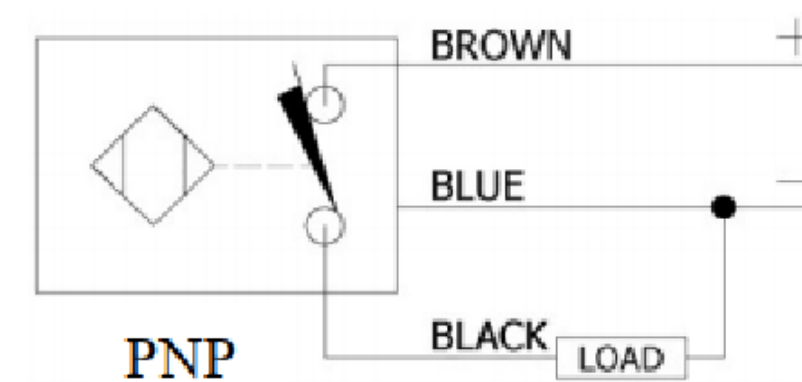
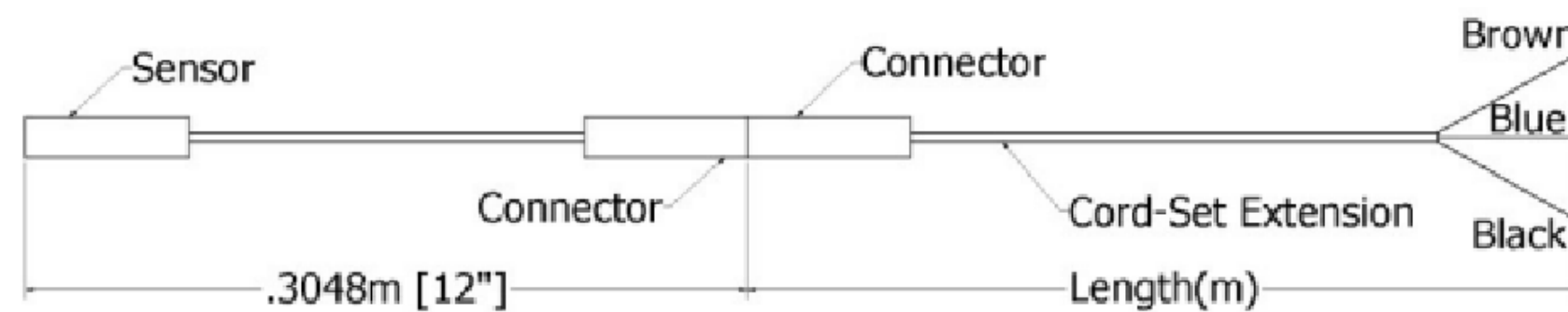
# Part Number Configuration

## 244-\_-\_-\_-\_-\_-

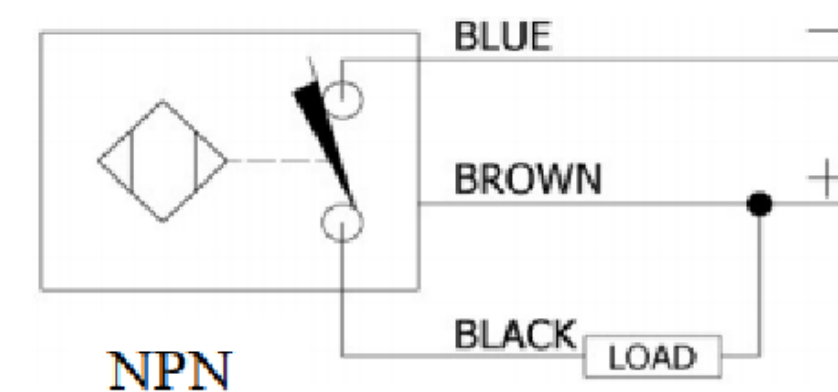
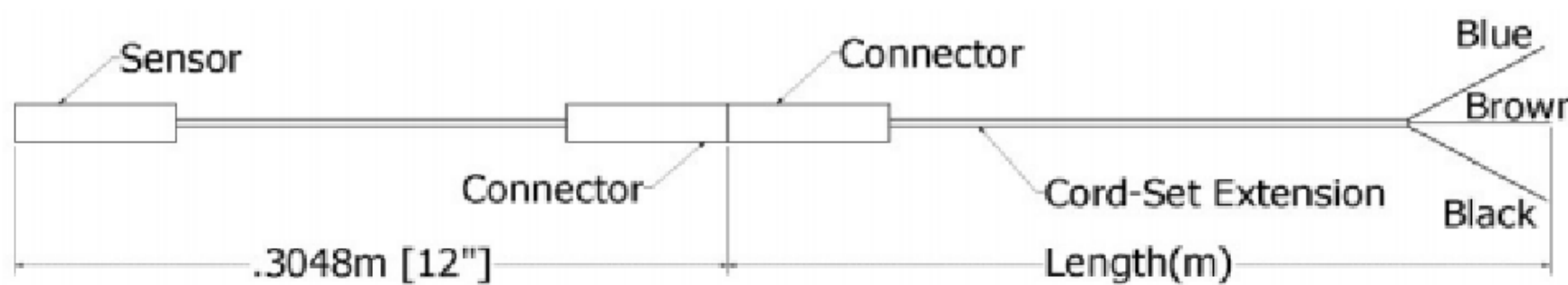
PNP or NPN	NC or NO	02	Meters
PNP or NPN	NC or NO	06	Meters
PNP or NPN	NC or NO	12	Meters

Example: PNP, normally closed, cord-set extension length 6 meters = 244-PNP-NC-06

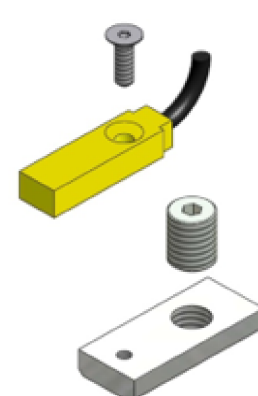
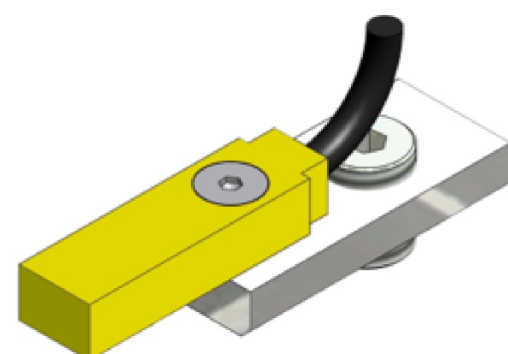
### PNP Diagrams




### NPN Diagrams



KIT INCLUDES – SENSOR, CORDSET EXTENSION, AND MOUNTING HARDWARE



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	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS. TOLERANCES UNLESS NOTED OTHERWISE:		FINISH:	SCALE 1:1   SHEET SIZE C	
	SURFACE FINISH $\checkmark$		BREAK ALL SHARP EDGES DIMENSIONAL LIMITS APPLY AFTER FINISHING	SHEET 6 OF 6	PART NUMBER
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