TQFE MASTER DRAWING

NOTES:

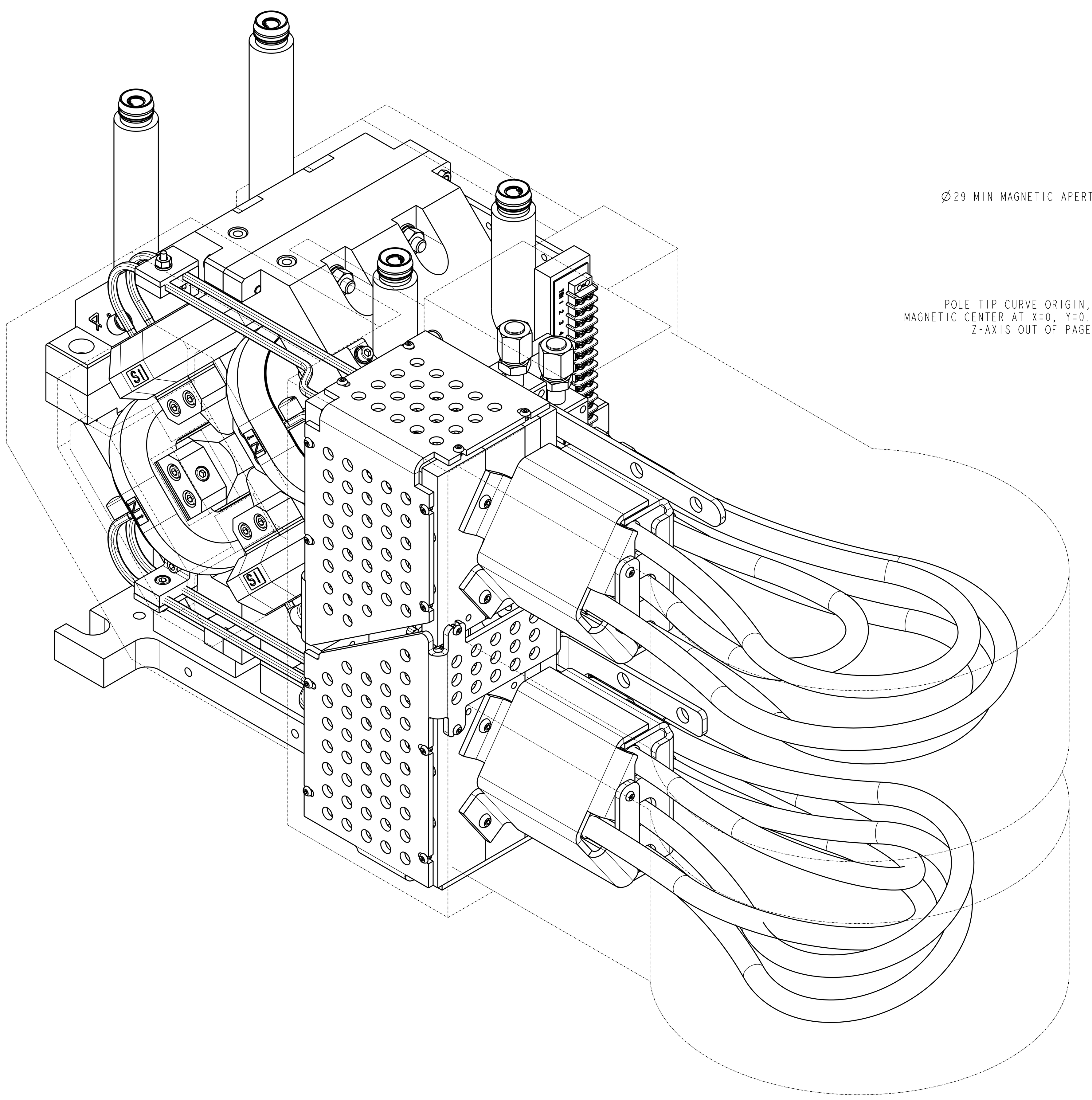
101. ALL DIMENSIONS ARE IN MILLIMETERS (mm) AND VALUES ARE IN SI UNITS. DIMENSIONS AND VALUES IN BRACKETS ARE U.S. CUSTOMARY UNITS (inch) CONVERTED FROM MILLIMETERS / SI UNITS.

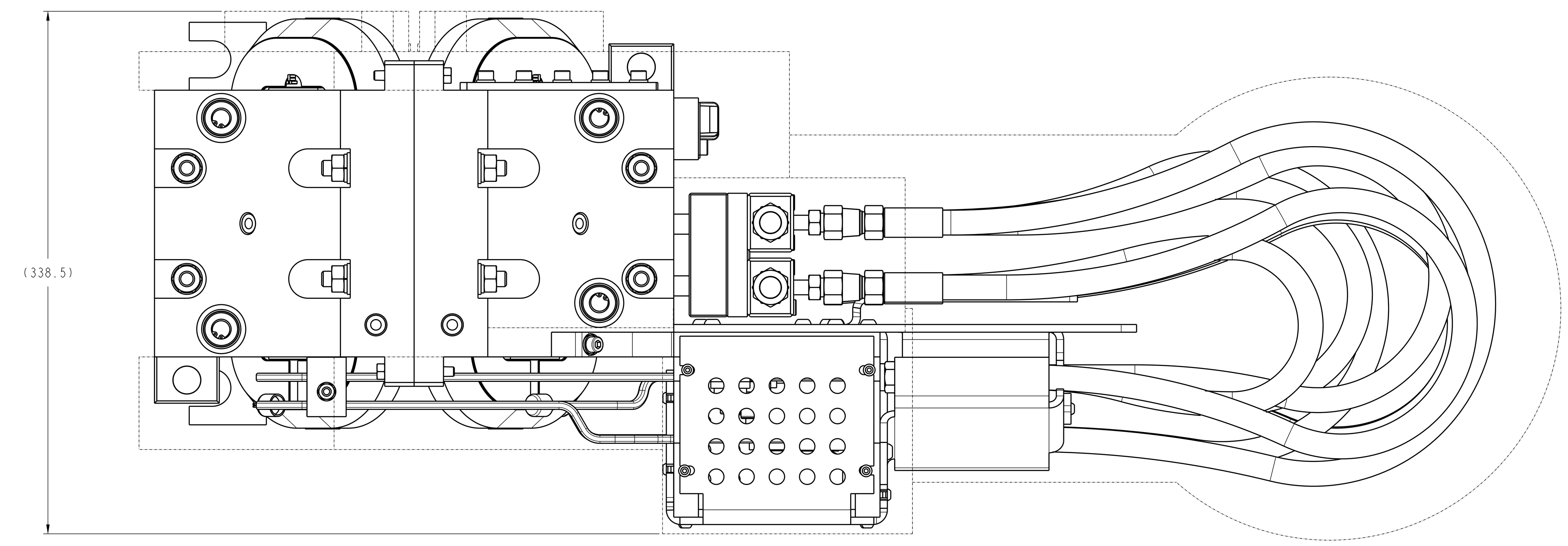
107. INSPECTION / ACCEPTANCE TO BE MEASURED AND RECORDED IN SI UNITS.

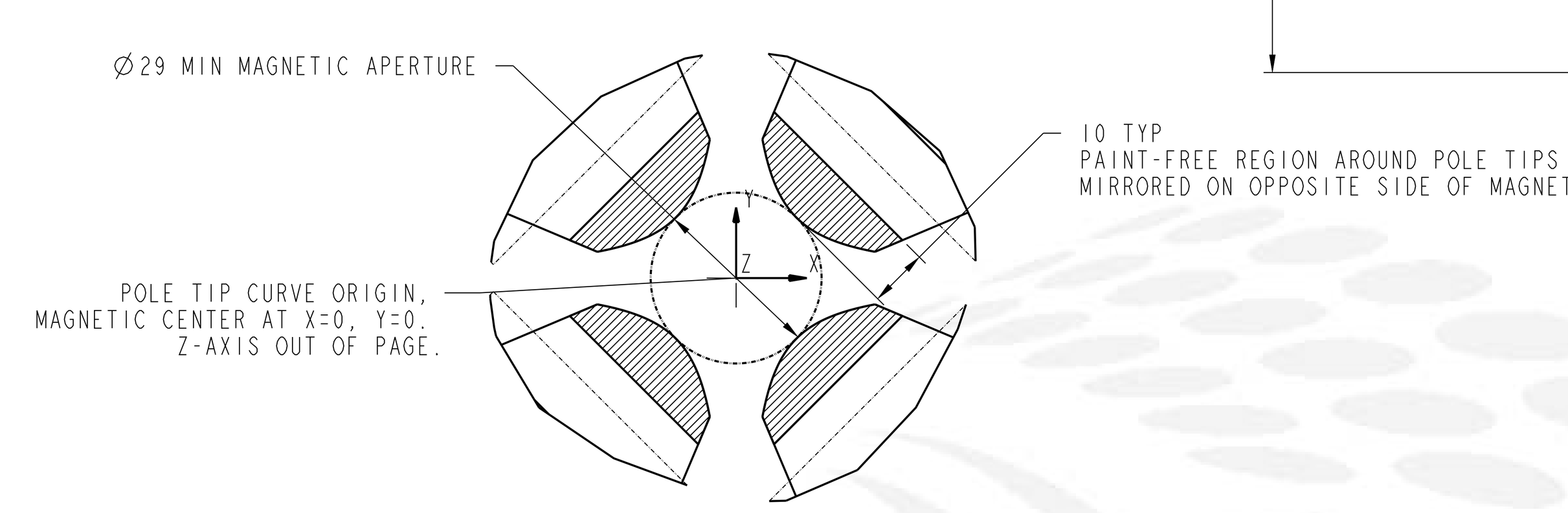
109b. ESTIMATED WEIGHT IS 136.4 KG

901. FOR ADDITIONAL INFORMATION, SEE TQFE MECHANICAL REQUIREMENTS DOCUMENT.

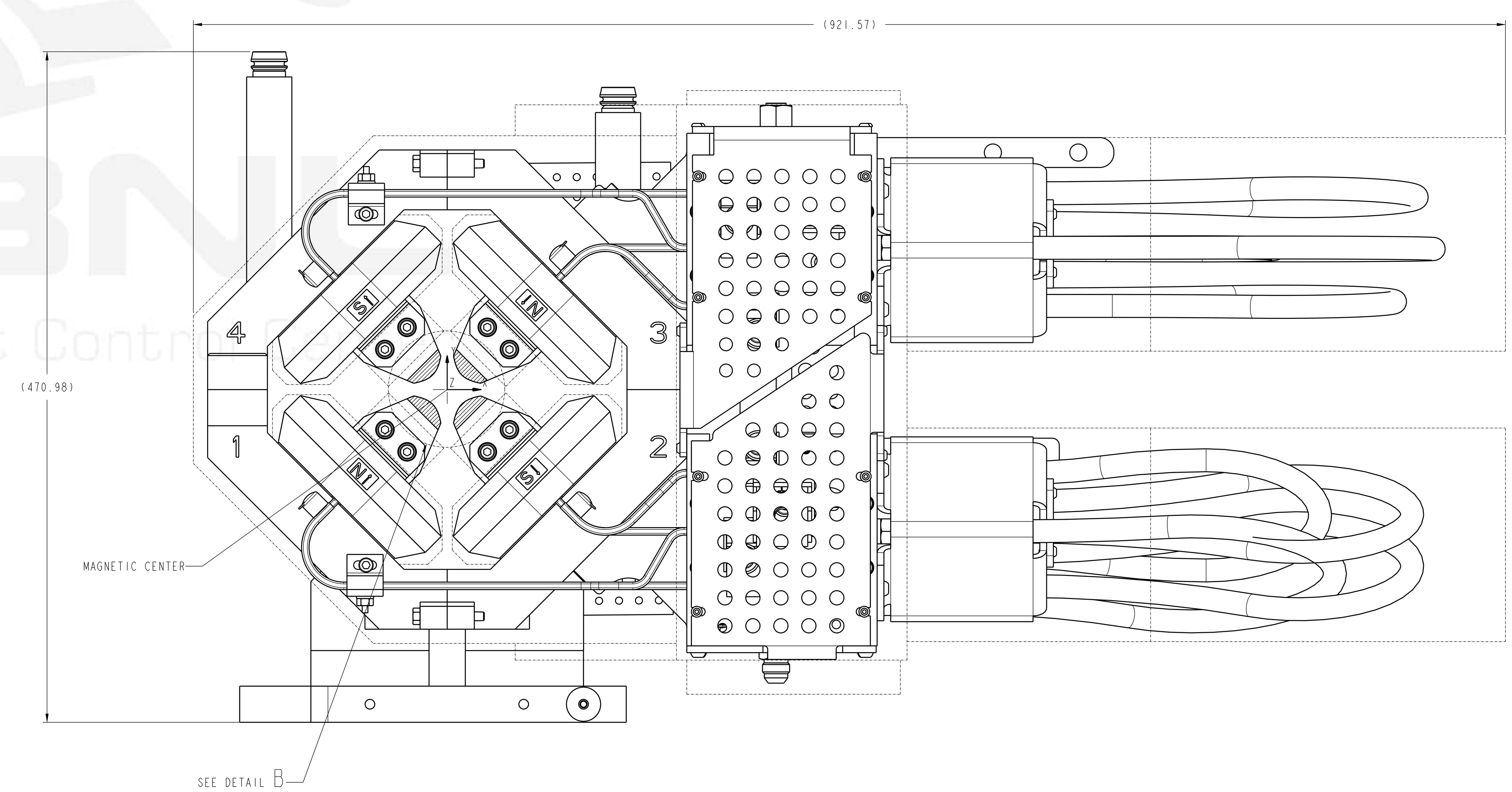
ABBREVIATIONS:
ALS-U = ADVANCE LIGHT SOURCE UPGRADE
ASSY = ASSEMBLY
BTA = BOOSTER-TO-ACCUMULATOR RING TRANSFER LINE
CKT = CIRCUIT
ESD = ENGINEERING SPECIFICATION DOCUMENT
LBNL = LAWRENCE BERKELEY NATIONAL LABORATORY
LCW = LOW-CONDUCICITIVTY WATER
TQFE = FOCUSING QUADRUPOLE TYPE E







DETAIL B
SCALE 1:1



TQFE DRAWING TREE	
DRAWING DESCRIPTION	DRAWING NUMBER
BTA QUAD COMMON FAMILY SPACECLAIM INTERFACE DRAWING	AL-1405-0939
YOKE PRE-ASSY, TQDC/TQFE	AL-1298-3909
BASEPLATE, TQDC/TQFE	AL-1310-0170

CHANGE DESCRIPTION (SEE LBNL PDM FOR REV HISTORY)	BASELINE RELEASE
AUTHOR	Soezeri, Sultan
CHECKED BY	mmarden
CHECKED AT	Apr 16 2021 10:58:48 AM PDT
RELEASED BY	CASwenson
RELEASED AT	Apr 21 2021 9:51:20 AM PDT

UNLESS OTHERWISE SPECIFIED
ESTIMATED MASS
136.359 KG
TOLERANCE
X.±1.0 .X±0.1 .XX±0.05
FRACTIONS: ± -/--
ANGLES: ±1°
MACH. SURFS.:3.2um ✓ or better
REFERENCE
-THREADS ARE CLASS G or H
-BREAK EDGES 0.5 MAX, ON MACHINED WORK
-REMOVE BURRS, WELD SPLATTER & LOOSE SCALE

PROJECT NAME	ADVANCED LIGHT SOURCE
DRW REF DOC	EG-1000-0923
DRAWING UNITS	mm-kg-s
SCALE	1:2
PRINT NOT TO SCALE	
THIRD ANGLE	
SHEET SIZE	E
SHEET	1 OF 2

ERNEST ORLANDO LAWRENCE
BERKELEY NATIONAL LABORATORY
UNIVERSITY OF CALIFORNIA
BERKELEY LAB

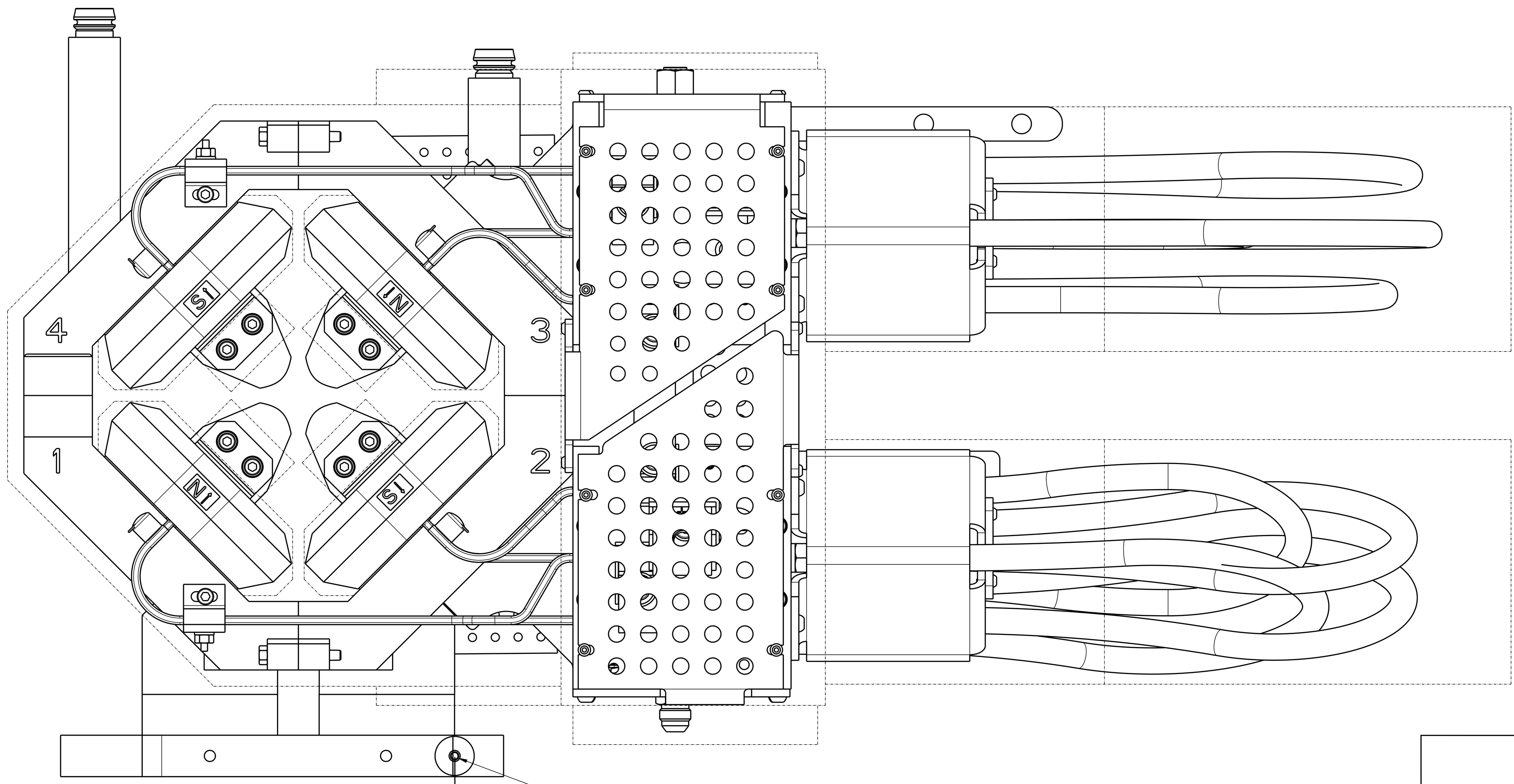
ALS-U - BOOSTER TO ACCUMULATOR TRANSFER LINE
MAGNETS - GENERAL
TQFE MAGNET ASSY

CATEGORY CODE	LIFECYCLE STATE	ITEM NUMBER	REV
AL7210	Released	AL-1424-4276	A

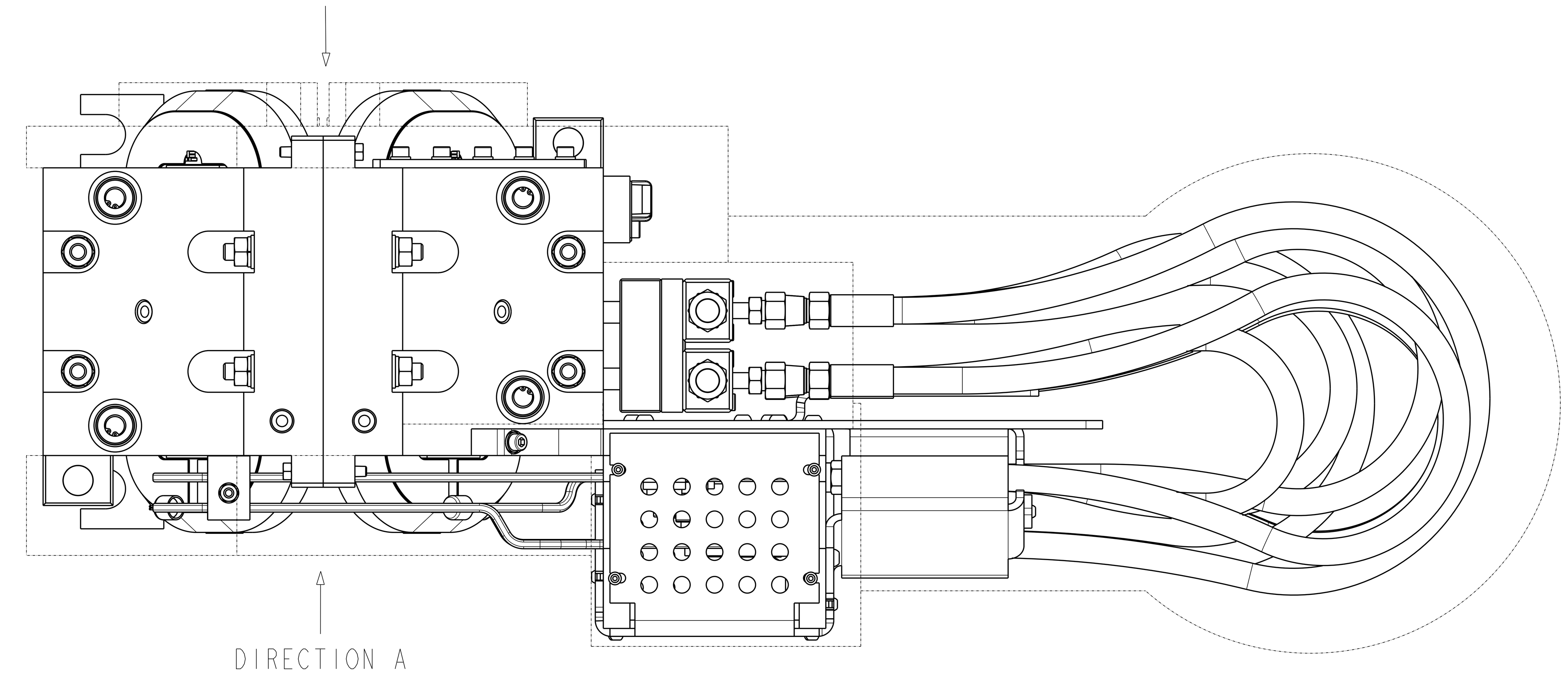
AL-1424-4276 A 1

>>>LBNL:DRAWING:FORMAT:001<<<
CREO Parametric

ELECTRICAL CIRCUIT DIAGRAMS

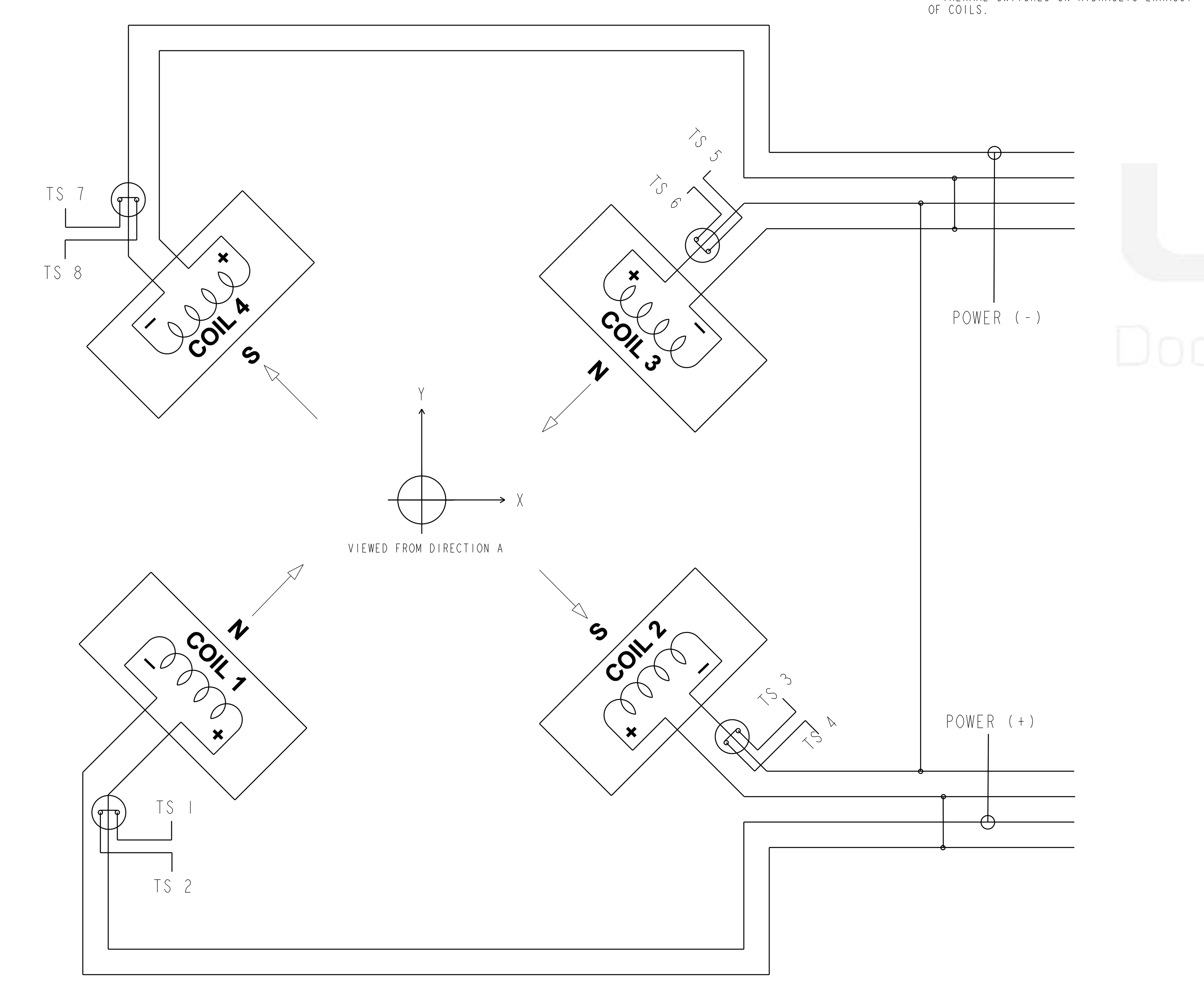


TAPPED HOLE FOR GROUNDING LUG ATTACHMENT. SECOND HOLE MIRRORED ON OTHER SIDE. SEE SUPPORT PLATE DRAWING IN TABLE 1 FOR HOLE SPECIFICATION.



MAIN COIL ELECTRIC CIRCUIT CONNECTION DIAGRAM

NOTES:
- DIAGRAM VIEWED FROM DIRECTION A.
- THERMAL SWITCHES ON HYDRAULIC EXHAUST OF COILS.



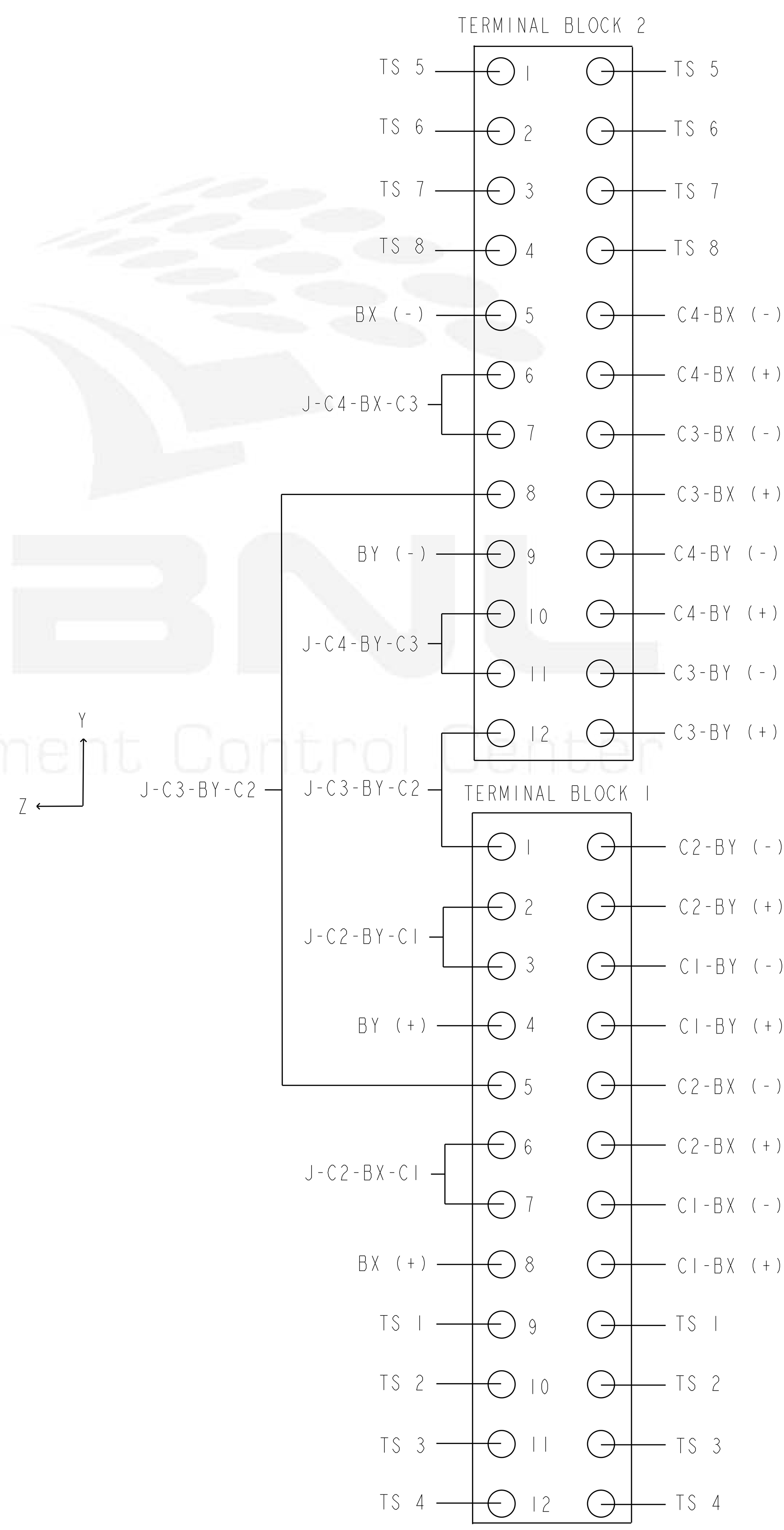
CORRECTOR COIL AND THERMAL SWITCH ELECTRICAL CIRCUIT CONNECTION DIAGRAM

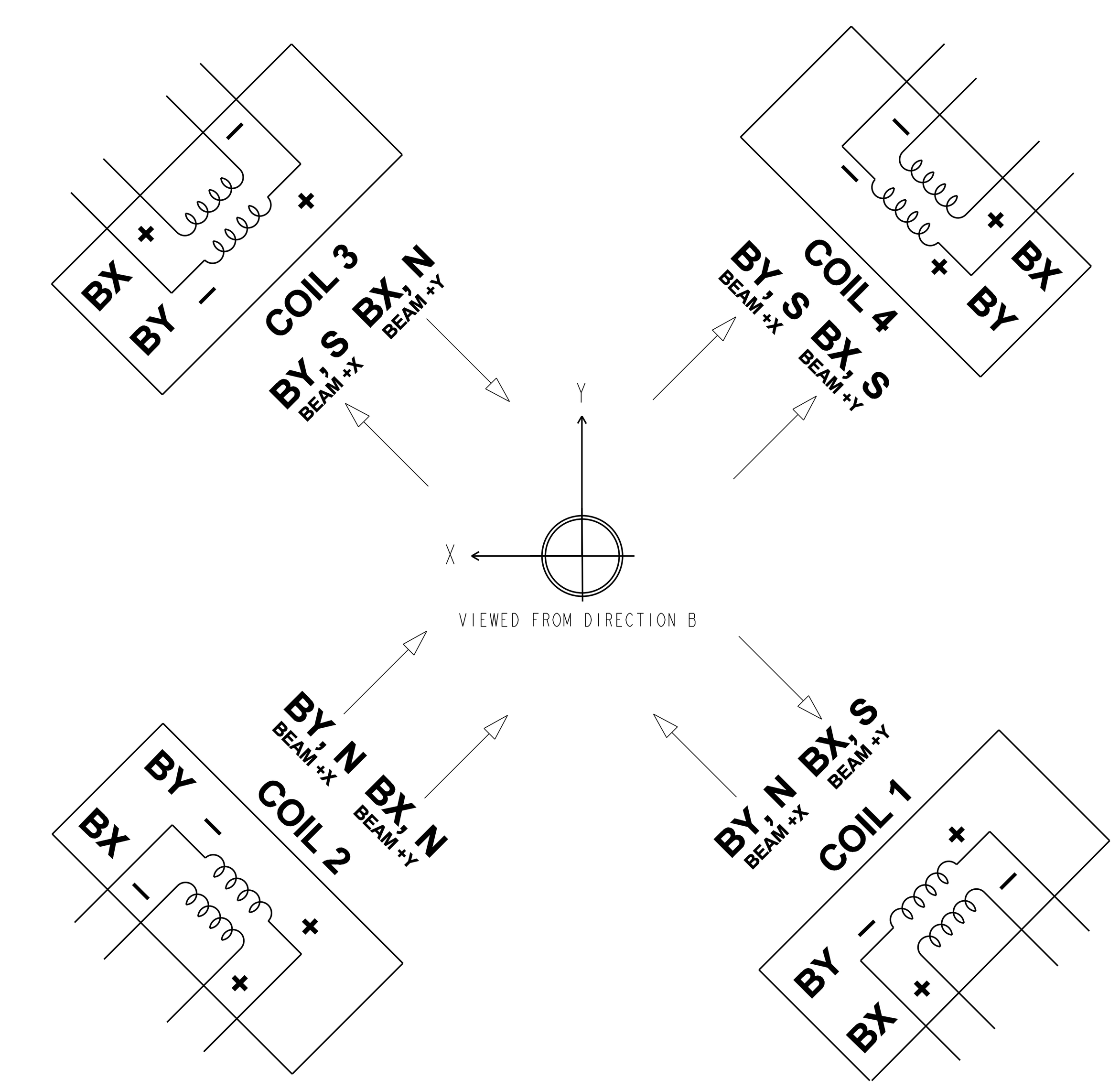
NOTES:

- TS AND CORRECTOR COIL LEADS TO BE TERMINATED AT SAME TERMINAL BLOCKS.
- DIAGRAM VIEWED FROM DIRECTION B.
- "+" REPRESENTS CURRENT IN, "-" REPRESENTS CURRENT OUT. CURRENT IN CORRECTOR COILS WILL ALWAYS FLOW FROM "+" TO "-".

CORRECTOR COIL LEAD NOTATION USED HERE IS AS FOLLOWS:
"COIL PACK ID - CORRECTOR COIL TYPE (POLARITY)"
EXAMPLE: C4-BY (+) = POSITIVE LEAD OF THE BY CORRECTOR COIL IN COIL PACK 4.

ABBREVIATIONS USED:
BY = HORIZONTAL CORRECTOR
BX = VERTICAL CORRECTOR





UNLESS OTHERWISE SPECIFIED	PROJECT NAME		ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA			
ESTIMATED MASS 136.359 KG	ADVANCED LIGHT SOURCE					
TOLERANCE X.±1.0 .X±0.1 .XX±0.05 FRACTIONS: ± -/-- ANGLES: ±1° MACH. SURFS.:3.2um ✓ or better	DRW REF DOC EG-1000-0923	DRAWING UNITS mm-kg-s	ALS-U - BOOSTER TO ACCUMULATOR TRANSFER LINE MAGNETS - GENERAL TQFE MAGNET ASSY			
REFERENCE -THREADS ARE CLASS G or H -BREAK EDGES 0.5 MAX, ON MACHINED WORK -REMOVE BURRS, WELD SPLATTER & LOOSE SCALE	SCALE 1:2 PRINT NOT TO SCALE	THIRD ANGLE				
	SHEET SIZE E	SHEET 2 OF 2	CATEGORY CODE AL7210	LIFECYCLE STATE Released	ITEM NUMBER AL-1424-4276	REV A

DWG NO. AL-1424-4276 REV A SH 2

>>>LBNL:DRAWING:FORMAT:001<<< CREO Parametric