

NOTES:

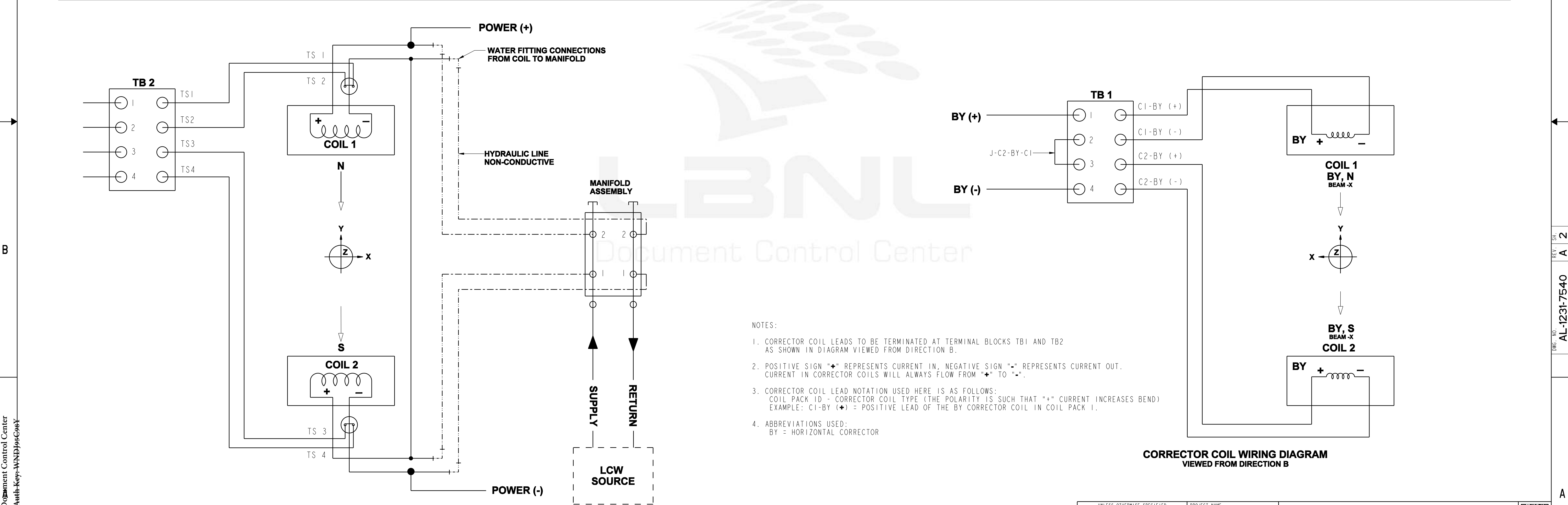
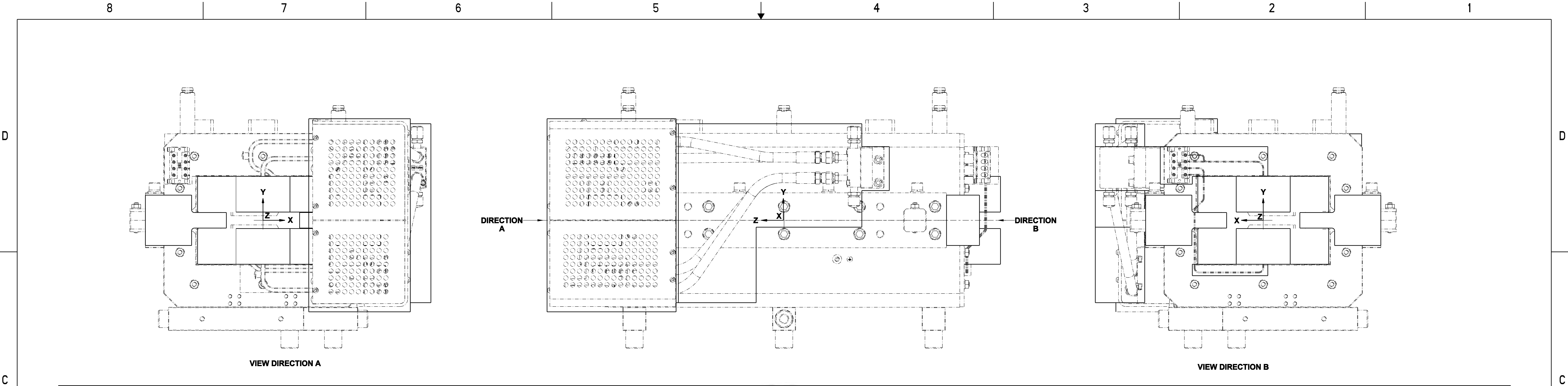
101. ALL DIMENSIONS ARE IN MILLIMETERS (mm) AND VALUES ARE IN SI UNITS. DIMENSIONS AND VALUES IN BRACKETS ARE U.S. CUSTOMARY UNITS (inch) CONVERTED FROM MILLIMETERS / SI UNITS.
107. INSPECTION / ACCEPTANCE TO BE MEASURED AND RECORDED IN SI UNITS.
901. SPACECLAIM SHOWN IN THIS DOCUMENT APPLY FOR THE MAGNET ASSEMBLY LISTED IN TABLE 1.
902. MAGNET SUB-COMPONENT ENVELOPES REPRESENT MAXIMUM ALLOWABLE SIZES OF RESPECTIVE SUB-COMPONENTS AT MMC THAT ALL COMPONENTS OF RESPECTIVE SUB-COMPONENTS MUST RESIDE IN.
903. DESIGNATED COMPONENT SPACECLAIM LOCATIONS DEFINED WITH RESPECT TO OVERALL MAGNET ASSY. SPACECLAIM SPECIFICATIONS DEFINED BY VIEWS OF SPACECLAIM AND ALL COMPONENTS WITHIN SPACECLAIM.
904. SEE MECHANICAL REQUIREMENTS DOCUMENT FOR COIL SPECIFICATIONS.
905. SEE DRAWINGS LISTED IN TABLE 1 FOR ELECTRICAL CIRCUIT DIAGRAMS AND THERMAL SWITCH TERMINAL BLOCK LABELLING.
906. SEE MECHANICAL REQUIREMENTS DOCUMENT FOR PREFERRED INSULATION STYLE.
907. MINIMUM BEND RADIUS OF COIL LEADS 2X OUTSIDE DIMENSION OF COIL CONDUCTOR.
908. THERMAL SWITCHES ON EXHAUST OF EACH HYDRAULIC CIRCUIT. THERMAL SWITCHES PLACED PROXIMAL TO COIL PACK. INCLUDE ELECTRICALLY INSULATING CAP ON EACH THERMAL SWITCH. SEE MECHANICAL REQUIREMENTS DOCUMENT FOR THERMAL SWITCH SPECIFICATION.
909. SEE MECHANICAL REQUIREMENTS DOCUMENT FOR BUSBAR MAX CROSS SECTION CURRENT DENSITY.
910. SEE MECHANICAL REQUIREMENTS DOCUMENT FOR BUS ENCLOSURE DESIGN REQUIREMENTS.
911. BUSBAR TABS FOR POWER INPUT AND OUTPUT CONNECTIONS TO BE DESIGNED TO ACCOMMODATE LUGS SPECIFIED IN MECHANICAL REQUIREMENTS DOCUMENT.
912. MANIFOLD BASE PLATE MUST BE ELECTRICALLY GROUNDED TO THE YOKE
913. LABEL SUPPLY AND RETURN MANIFOLDS.
914. VENDOR MUST SUPPLY JIC/AN SSTL END CAP FITTINGS.
915. ALL HOSES MUST SATISFY MINIMUM BEND RADIUS AS SPECIFIED IN MECHANICAL REQUIREMENTS DOCUMENT.
916. SEE MECHANICAL REQUIREMENTS DOCUMENT FOR HOSE AND FITTING SPECIFICATIONS.
917. SEE MECHANICAL REQUIREMENTS DOCUMENT FOR HOSE BUNDLING SPECIFICATIONS.
918. SEE MECHANICAL REQUIREMENTS DOCUMENT FOR PREFERRED INSULATION STYLE.
919. SEE MECHANICAL REQUIREMENTS DOCUMENT MINIMUM BEND RADIUS OF CORRECTOR COIL LEADS.
920. TERMINAL BLOCKS MUST ACCOMMODATE LUGS SPECIFIED IN THE MECHANICAL REQUIREMENTS DOCUMENT
921. ORIENT TERMINAL BLOCKS AS SHOWN.

ABBREVIATIONS:

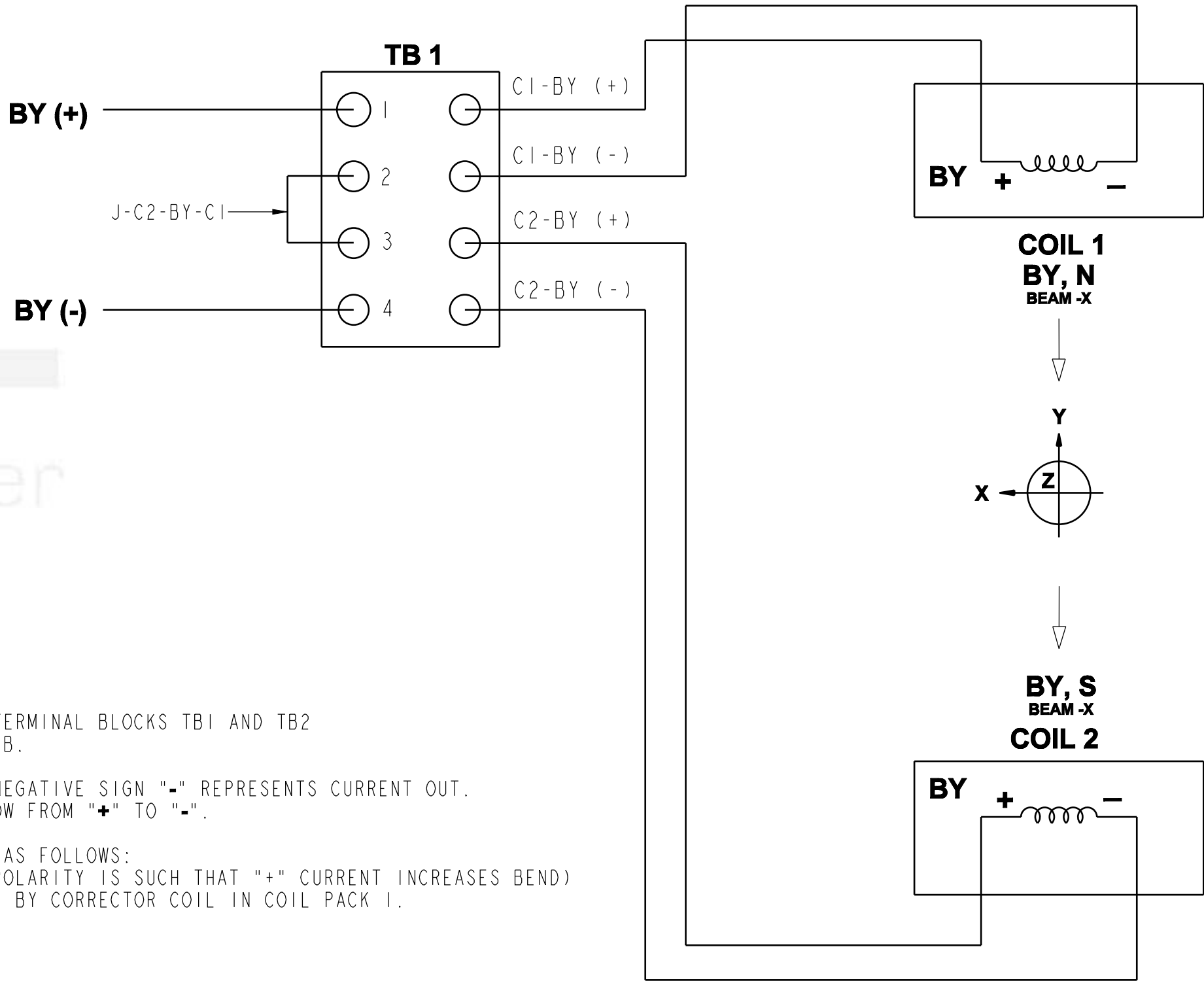
ALS-U = ADVANCE LIGHT SOURCE UPGRADE
ASSY = ASSEMBLY
BTA = BOOSTER-TO-ACCUMULATOR RING TRANSFER LINE
CKT = CIRCUIT
LBNL = LAWRENCE BERKELEY NATIONAL LABORATORY
LCW = LOW-CONDUCTIVITY WATER
TB = TERMINAL BLOCK
TBENDA = BENDING DI POLE, TYPE A

ITEM No.	DRAWING DESCRIPTION	DRAWING No.
1	BTA MAGNET DIPOLE TBENDA	AL-1262-9077

CHANGE DESCRIPTION (SEE LBNL PDM FOR REV HISTORY)		UNLESS OTHERWISE SPECIFIED		PROJECT NAME		ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA	
BASELINE RELEASE		ESTIMATED MASS 984.447 LBM		ADVANCED LIGHT SOURCE		ALS-U - BOOSTER TO ACCUMULATOR TRANSFER LINE MAGNETS - GENERAL BTA-TBENDA	
AUTHOR	San Mateo, Ed	TOLERANCE X±.XX±0.05 .XXX±0.001 FRACTIONS: ± -/- ANGLES: ± MACH. SURFS.: 3.2um ✓ or better		DRW REF DOC	DRAWING UNITS	EG-1000-0923 mm-kg-s	
CHECKED BY	ssoezeri	REFERENCE		SCALE	THIRD ANGLE	1:4	
CHECKED AT	Jun 24 2021 12:47:09 PM PDT	-THREADS ARE CLASS G or H -BREAK EDGES 0.5 MAX, ON MACHINED WORK -REMOVE BURRS, WELD SPLATTER & LOOSE SCALE		PRINT NOT TO SCALE			
RELEASED BY	CASwenson	THIS DRAWING IS THE PROPERTY OF ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY (LBNL) AND ANYTHING PRODUCED FROM THESE DRAWINGS IS SUBJECT TO LBNL'S INTELLECTUAL PROPERTY RIGHTS. THIS DRAWING IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND AND NOTHING HEREIN MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR PART WITHOUT PRIOR WRITTEN PERMISSION OF LBNL.		SHEET SIZE	SHEET	CATEGORY CODE	LIFECYCLE STATE
RELEASED AT	Jun 24 2021 3:57:34 PM PDT			D	1 OF 6	AL7210	Released
						ITEM NUMBER	REV
						AL-1231-7540	A



- NOTES:
1. CORRECTOR COIL LEADS TO BE TERMINATED AT TERMINAL BLOCKS TB1 AND TB2 AS SHOWN IN DIAGRAM VIEWED FROM DIRECTION B.
 2. POSITIVE SIGN "+" REPRESENTS CURRENT IN, NEGATIVE SIGN "-" REPRESENTS CURRENT OUT. CURRENT IN CORRECTOR COILS WILL ALWAYS FLOW FROM "+" TO "-".
 3. CORRECTOR COIL LEAD NOTATION USED HERE IS AS FOLLOWS:
COIL PACK ID - CORRECTOR COIL TYPE (THE POLARITY IS SUCH THAT "+" CURRENT INCREASES BEND)
EXAMPLE: C1-BY (+) = POSITIVE LEAD OF THE BY CORRECTOR COIL IN COIL PACK 1.
 4. ABBREVIATIONS USED:
BY = HORIZONTAL CORRECTOR

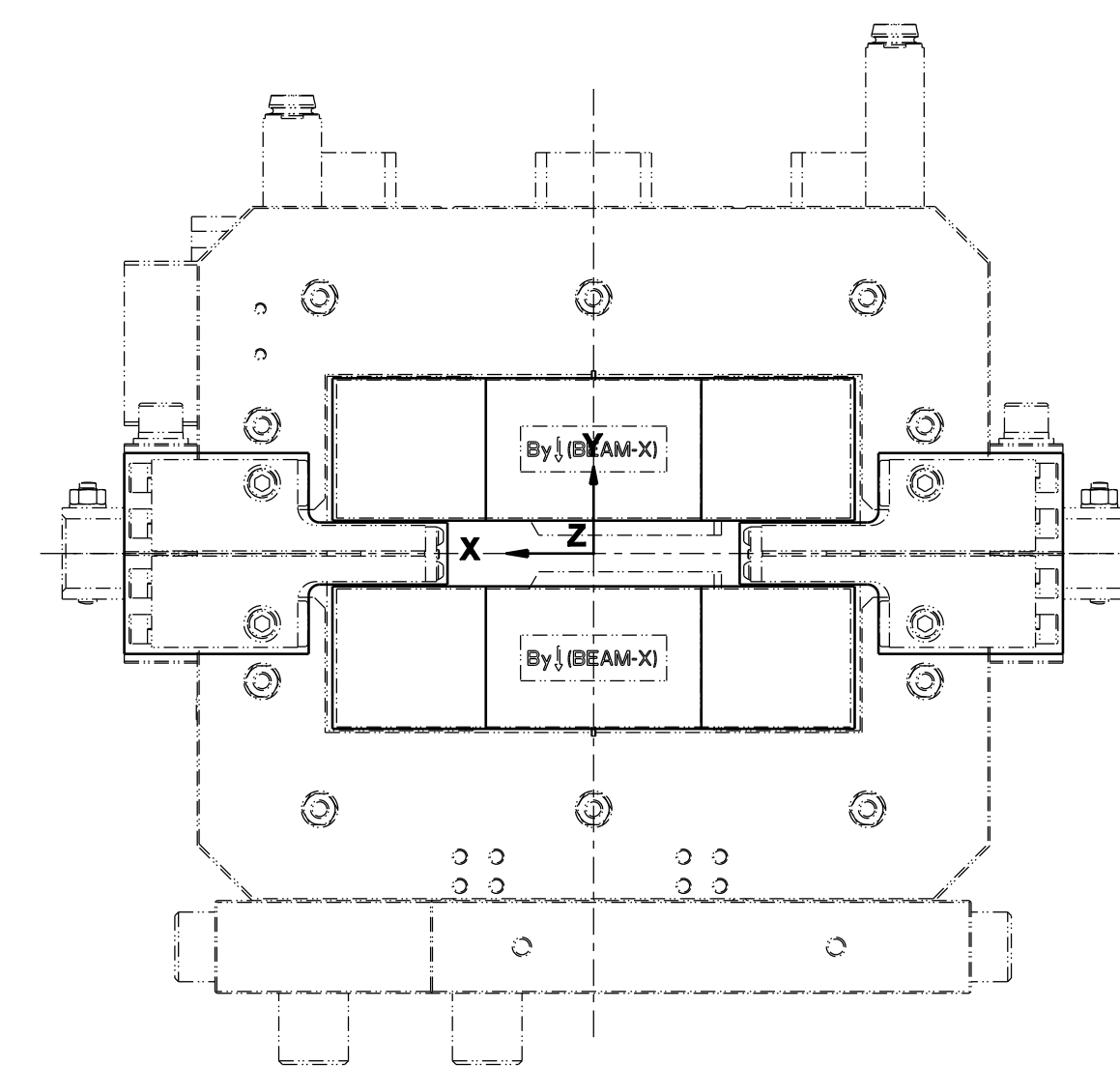
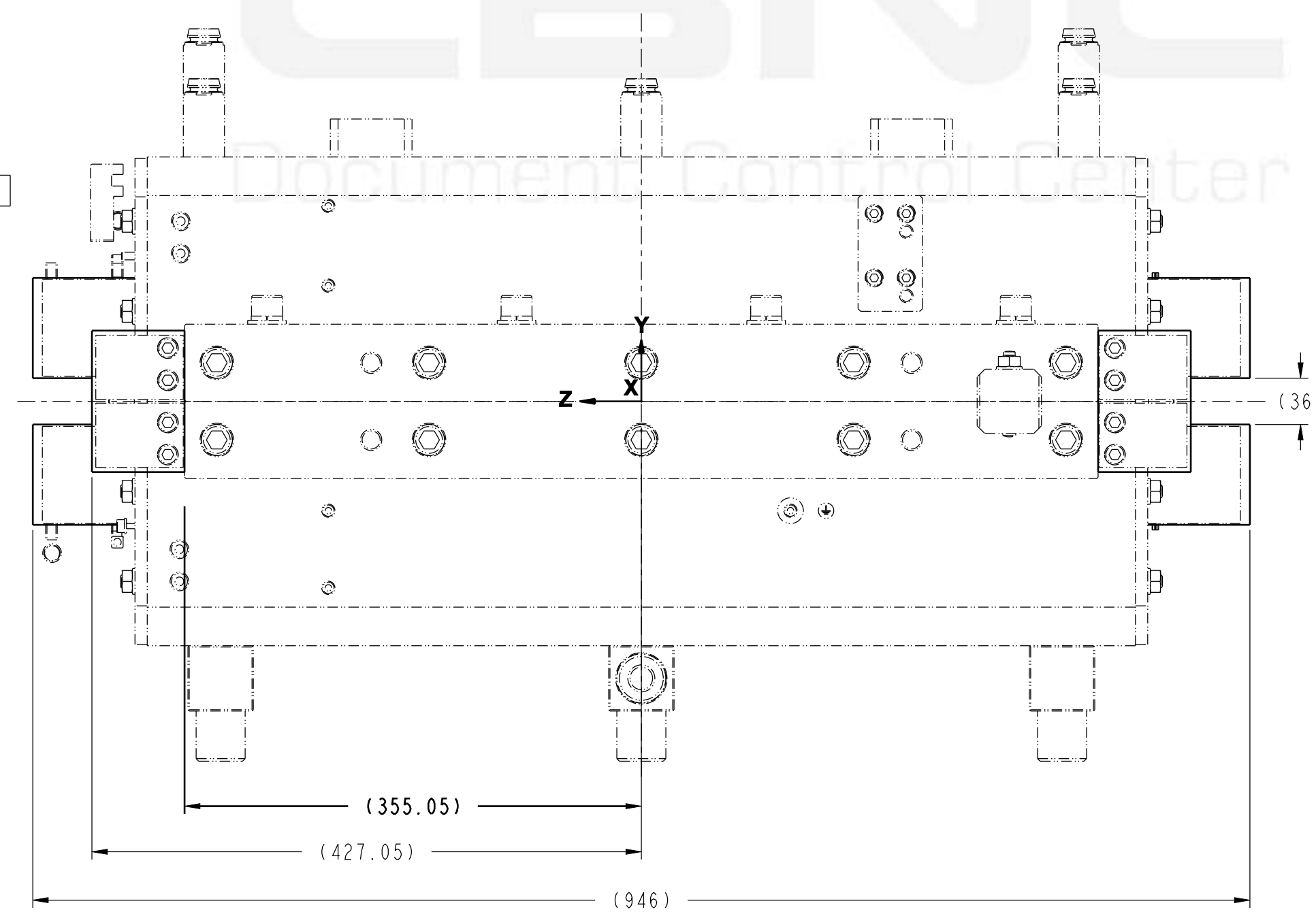
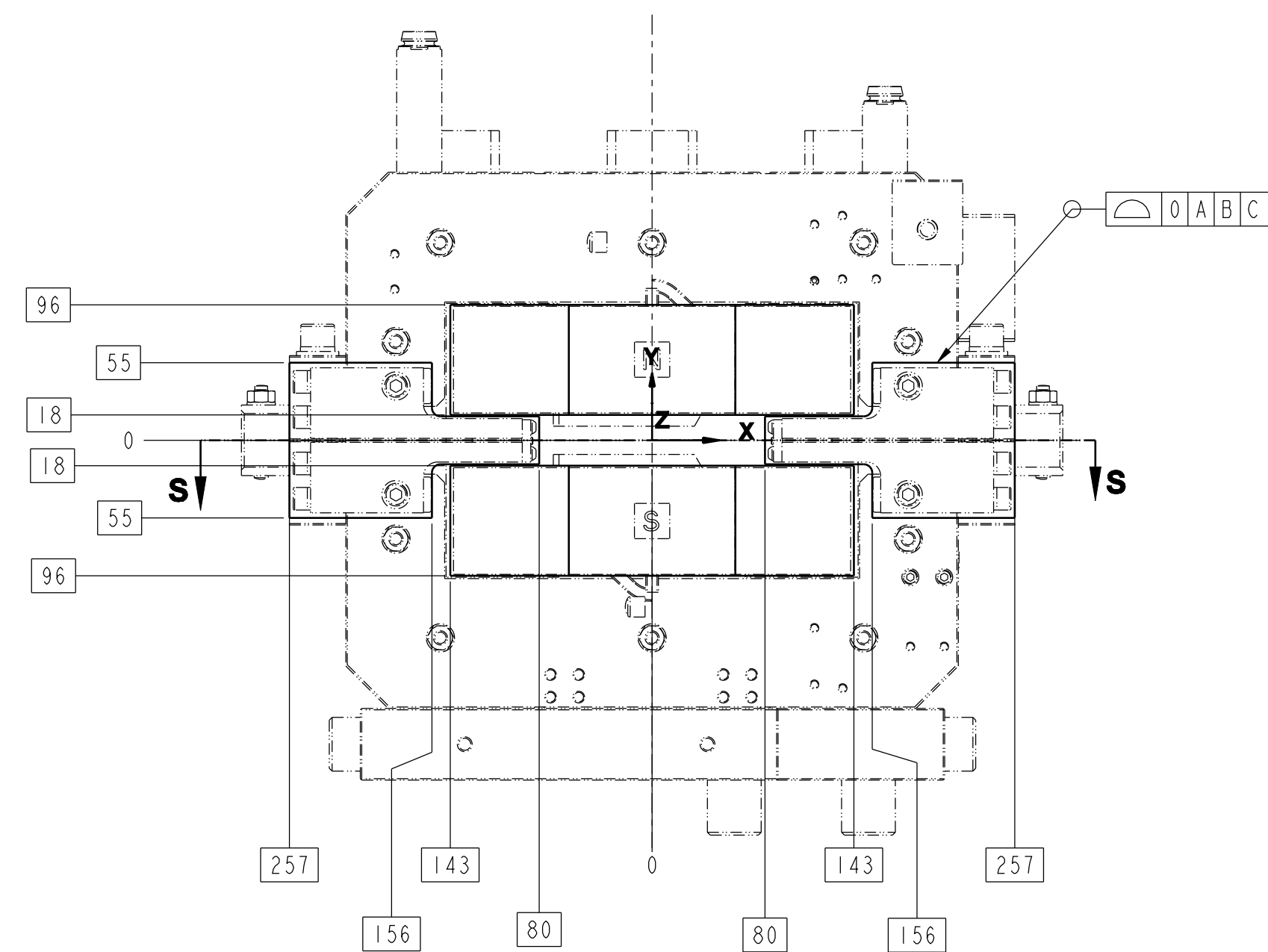
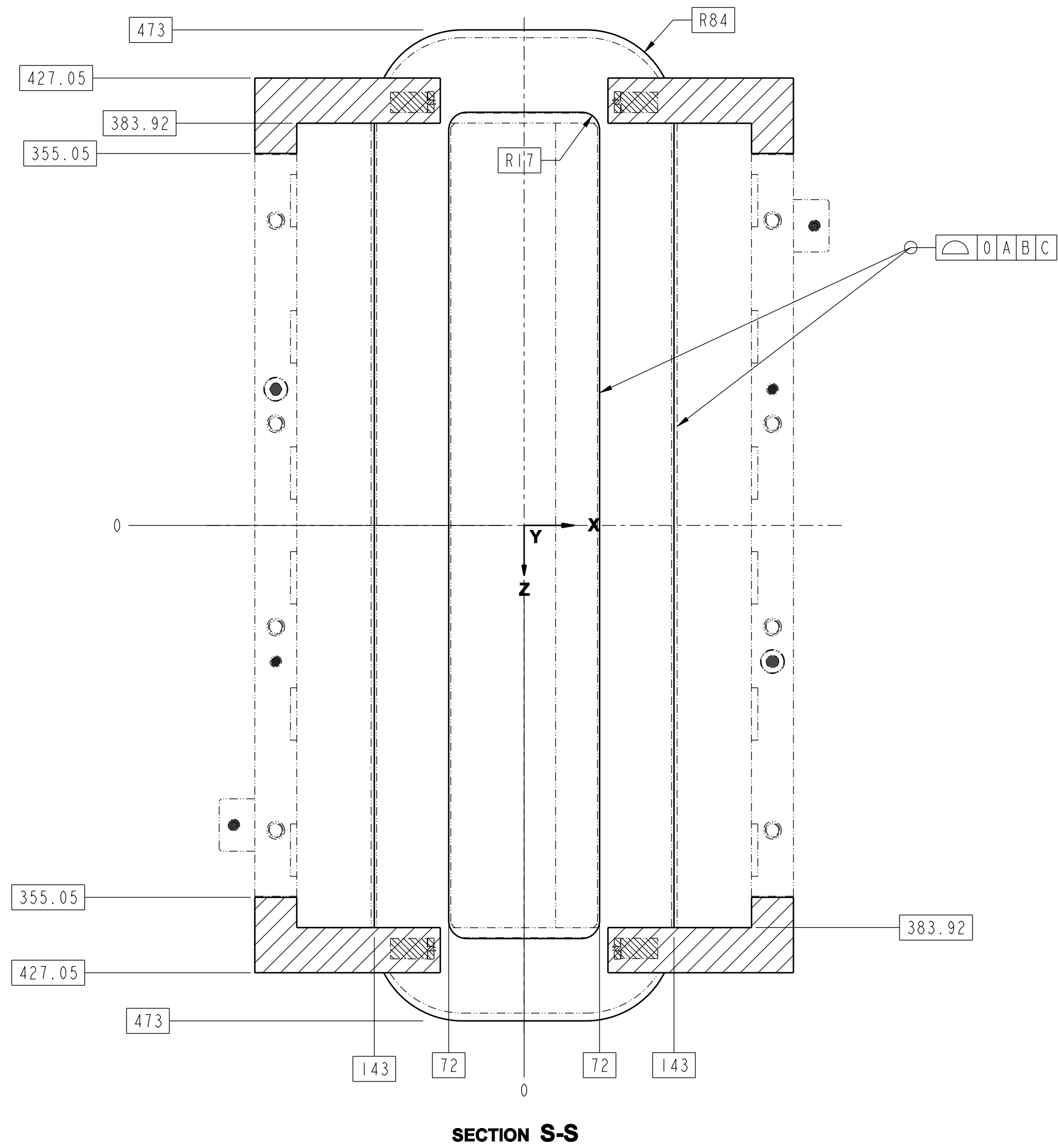




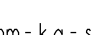
MAIN COIL WIRING DIAGRAM
VIEWED FROM DIRECTION A

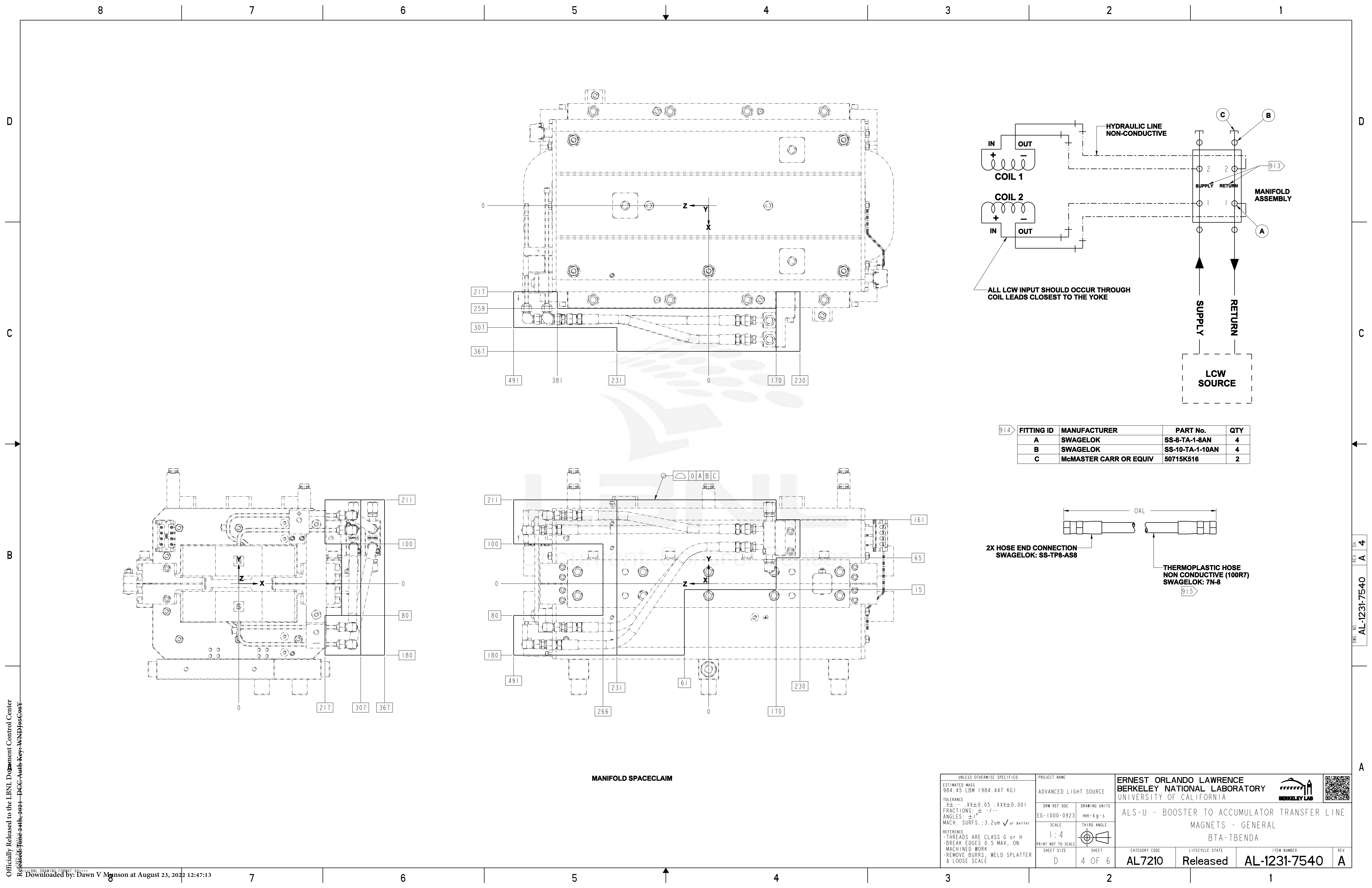
MAIN COIL LCW CONNECTIONS
WATER MANIFOLD HYDRAULIC CIRCUIT

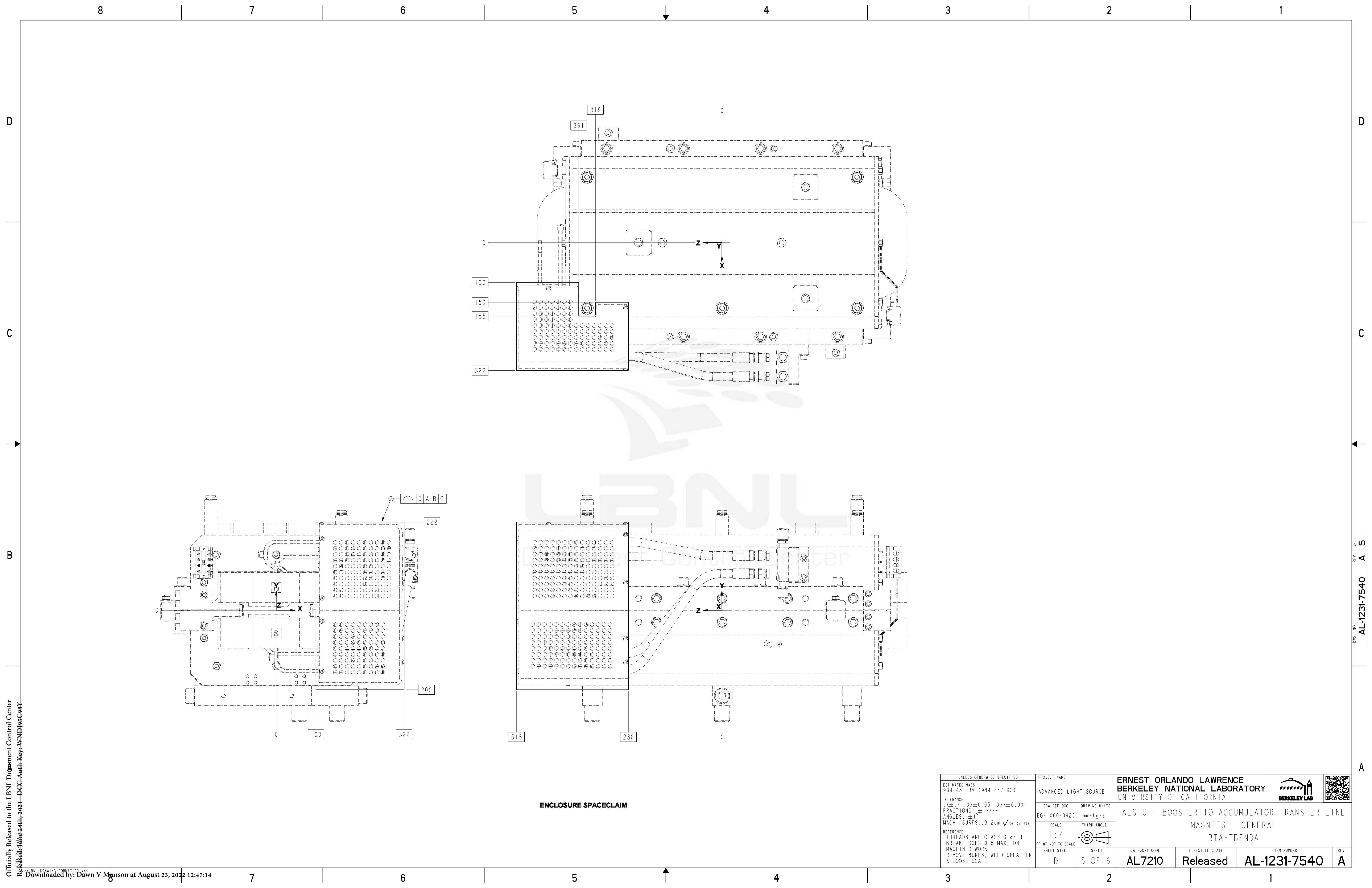
CORRECTOR COIL WIRING DIAGRAM
VIEWED FROM DIRECTION B

UNLESS OTHERWISE SPECIFIED		PROJECT NAME		ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA	
ESTIMATED MASS 984.45 LBM (984.447 KG)		ADVANCED LIGHT SOURCE		ALS-U - BOOSTER TO ACCUMULATOR TRANSFER LINE	
TOLERANCE X±. - .XX±0.05 .XXX±0.001		DRW REF DOC	DRAWING UNITS	MAGNETS - GENERAL	
FRACTIONS: ± -/-		EG-1000-0923	mm·kg·s	BTA-TBENDA	
ANGLES: ±°		SCALE	THIRD ANGLE		
MACH. SURFS.: 3.2um ✓ or better		1:4			
REFERENCE		PRINT NOT TO SCALE			
-THREADS ARE CLASS G or H		SHEET SIZE	SHEET	CATEGORY CODE	LIFECYCLE STATE
-BREAK EDGES 0.5 MAX, ON		D	2 OF 6	AL7210	Released
-REMOVE BURRS, WELD SPLATTER				ITEM NUMBER	REV
& LOOSE SCALE				AL-1231-7540	A



UNLESS OTHERWISE SPECIFIED		PROJECT NAME		ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA		 	
ESTIMATED MASS 984.45 LBM (948.447 KG)		ADVANCED LIGHT SOURCE		ALS-U - BOOSTER TO ACCUMULATOR TRANSFER LINE			
TOLERANCE X±.XX±0.05 .XXX±0.001 FUNCTION ± -/+ ANGLES: ±1° MACH. SURFS.: ±.2um ✓ or better		DRW REF DOC EG-1000-0923	DRAWING UNITS mm-kg-s	MAGNETS - GENERAL BTA-TBENDA			
REFERENCE - THREADS ARE CLASS G or H - BREAK EDGES 0.5 MAX, ON MACHINED WORK - REMOVE BURRS, WELD SPLATTER & LOOSE SCALE		SCALE 1:4 PRINT NOT TO SCALE	THIRD ANGLE 	CATEGORY CODE AL7210	LIFECYCLE STATE Released	ITEM NUMBER AL-1231-7540	REV A
		SHEET SIZE D	SHEET 3 OF 6				

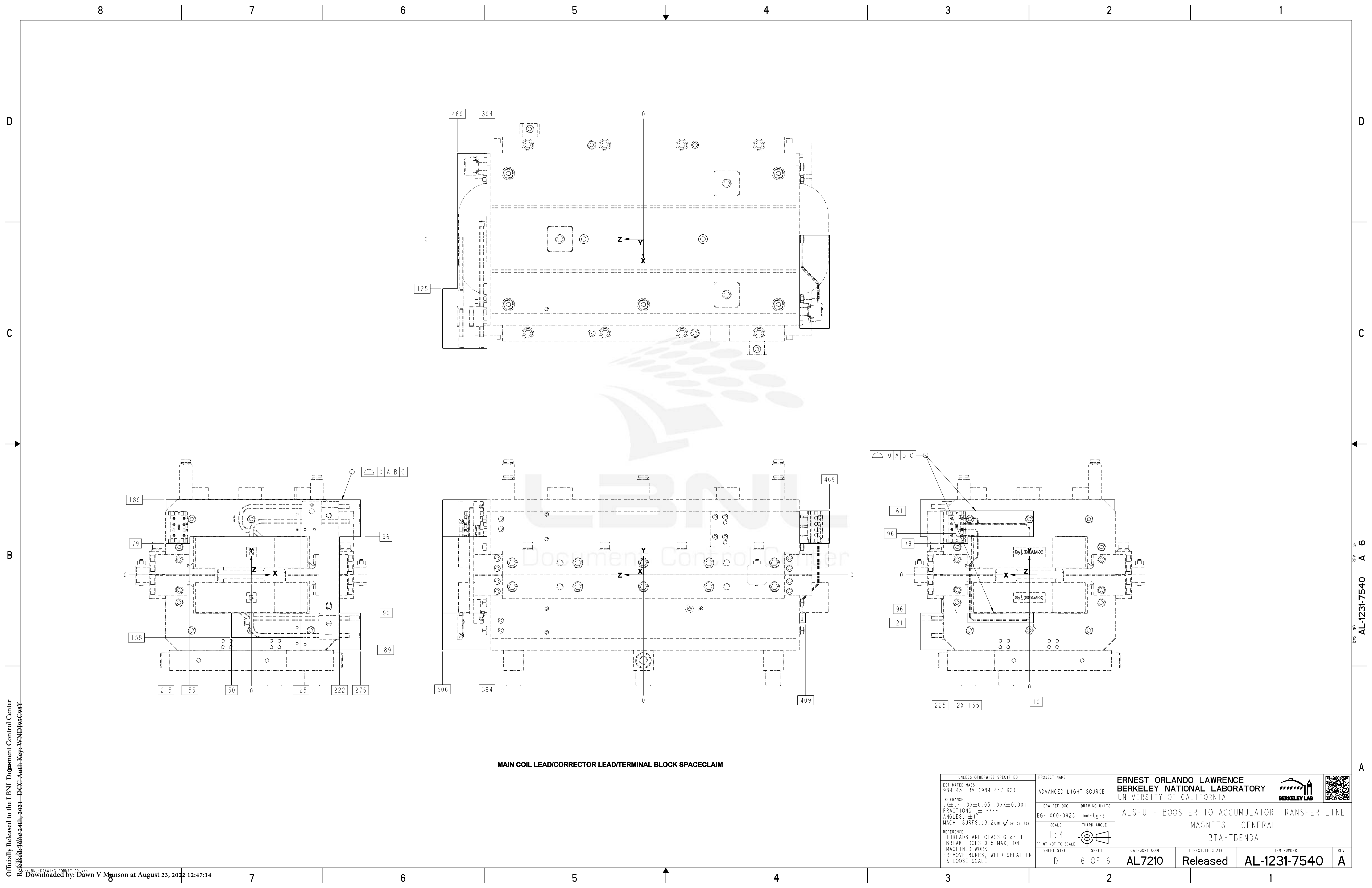




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UNLESS OTHERWISE SPECIFIED		PROJECT NAME		ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA			
ESTIMATED MASS 984.45 LBM (984.447 KG)		ADVANCED LIGHT SOURCE		ALS-U - BOOSTER TO ACCUMULATOR TRANSFER LINE MAGNETS - GENERAL BTA-TBENDA			
TOLERANCE X± .XX±0.05 .XXX±0.001 FRACTIONS: ± -/- ANGLES: ± MACH. SURFS.: 3.2um ✓ or better		DRW REF DOC EG-1000-0923	DRAWING UNITS mm-kg-s				
REFERENCE -THREADS ARE CLASS G or H -BREAK EDGES 0.5 MAX, ON MACHINED WORK -REMOVE BURRS, WELD SPLATTER & LOOSE SCALE		SCALE 1:4	THIRD ANGLE	CATEGORY CODE AL7210	LIFECYCLE STATE Released	ITEM NUMBER AL-1231-7540	REV A
PRINT NOT TO SCALE		SHEET SIZE D	SHEET 5 OF 6				



MAIN COIL LEAD/CORRECTOR LEAD/TERMINAL BLOCK SPACECLAIM

UNLESS OTHERWISE SPECIFIED		PROJECT NAME		ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA	
ESTIMATED MASS 984.45 LBM (984.447 KG)		ADVANCED LIGHT SOURCE		ALS-U - BOOSTER TO ACCUMULATOR TRANSFER LINE MAGNETS - GENERAL BTA-TBENDA	
TOLERANCE X±. . .XX±0.05 .XXX±0.001 FRACTIONS: ± -/- ANGLES: ± -/- MACH. SURFS.: 3.2um ✓ or better		DRW REF DOC	DRAWING UNITS	CATEGORY CODE	
REFERENCE -THREADS ARE CLASS G or H -BREAK EDGES 0.5 MAX, ON MACHINED WORK -REMOVE BURRS, WELD SPLATTER & LOOSE SCALE		EG-1000-0923	mm-kg-s	LIFECYCLE STATE	
		SCALE	THIRD ANGLE	ITEM NUMBER	
		1:4		REV	
		PRINT NOT TO SCALE			
		SHEET SIZE	SHEET		
		D	6 OF 6		