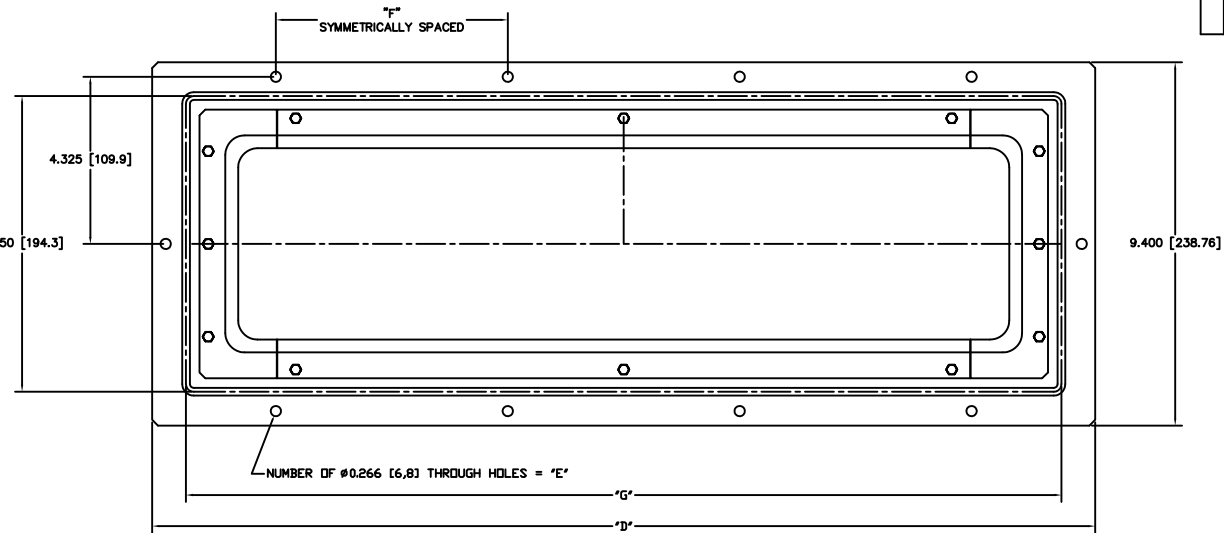


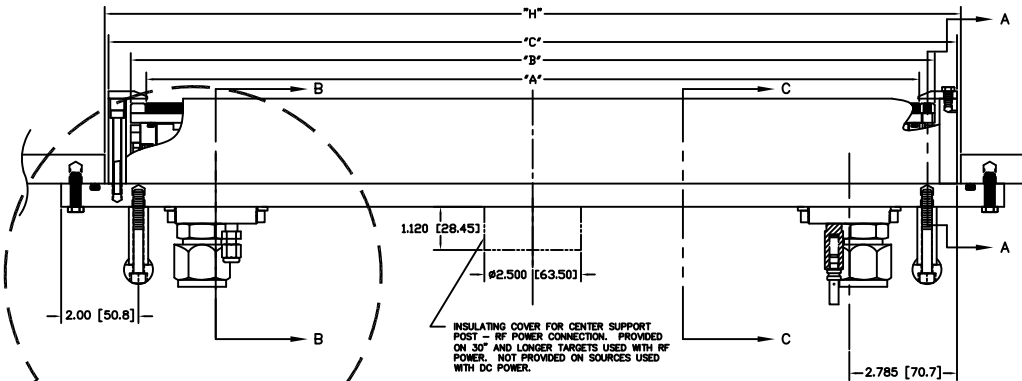
REV	DESCRIPTION	DATE	APP'D
—	INITIAL RELEASE	180428	—
A	CHANGED CENTER POST	110513	J. MILLER
B	NUMEROUS SMALL DIM. & GEOMETRY CHANGES	110718	J. MILLER
C	ADDED INSERT-STYLE CONFIGURATION, 1/2" OD LOW POWER WATER FITTINGS & NI TARGET MOUNTING DETAILS.	180418	J. MILLER

- NOTES: UNLESS OTHERWISE SPECIFIED
- INTERPRET DRAWING IAW THE GLOBAL PROFESSIONAL PUBLICATIONS "DRAWING REQUIREMENTS MANUAL", EIGHTH EDITION.
 - INTERPRET DIMENSIONS AND TOLERANCES IAW ANSI Y14.5M - 1982.
 - INTERPRET ABBREVIATIONS IAW MIL-STD-12.



- TOP AND SIDE GROUND SHIELDS ARE FABRICATED FROM 304 CRES.
- WARNING:** WATER FITTINGS HAVE A CLEAR ID OF .375 (1/2" OD) OR .30 (3/4" OD) INCHES. USING A SLEEVE OR SIMILAR DEVICE INSIDE THE WATER HOSE MAY CAUSE FLUID RESTRICTIONS AND INTERFERENCE WITH THE NORMAL OPERATION OF THE CATHODE AND THEREFORE IS NOT RECOMMENDED.
- WATER CHANNELS ARE SYMMETRICAL THROUGHOUT, ORIENTATION OF WATER INLET OR OUTLET IS NOT CRITICAL.
- WARNING:** MINIMUM HOSE LENGTH OF 60" IS REQUIRED TO ENSURE RESISTIVITY RELATIVE TO ELECTRICAL GROUND WITHIN 50 KILO OHMS. TEST CABLE WITH AN OHM METER OR OTHER SUITABLE DEVICE BEFORE USE.
- MULTI-CONTACT-USA: 5580 SKYLANE BLVD. SANTA ROSA, CA 95403 VOICE: (707) 575-7575 FAX: (707) 575-7373 INTERNET: WWW.MULTI-CONTACT-USA.COM
- FOR PROPER INSTALLATION, OPERATION, AND USE OF THE SUNSOURCE PLANAR MAGNETRON CATHODE(S), SEE MATERIALS SCIENCE, INC. DOCUMENT NUMBER 2510101.
- P/N 88040-08 IS AVAILABLE FROM: ALPHA TECHNOLOGIES 320 PREMIER COURT, SUITE 222 FRANKLIN, TN 37087 TEL: (615) 771-8850 HTTP://WWW.ALPHAFITTINGS.COM
- P/N A100-12-10 IS AVAILABLE FROM: LENZ, INC. 3301 KLEPINGER ROAD DAYTON, OH 45408-1842 TEL: (937) 277-8518 HTTP://WWW.LENZINC.COM
- ALL FASTENERS ARE METRIC.
- ADD .100 [2.54] WHEN CLAMPED TARGETS ARE USED. A TALLER SET OF SIDE ANODE/GROUND SHIELDS ARE REQUIRED TO MAINTAIN THE PROPER DARK SPACE GAP WHEN CLAMPED TARGETS ARE USED. BONDED AND DIRECTLY WATER COOLED TARGETS USE THE STANDARD SIDE SHIELDS SHOWN AND DIMENSIONED.
- TARGET UTILIZATION IS HIGHEST FOR BONDED & CLAMPED TARGETS. DIRECTLY WATER COOLED TARGETS MUST BE SLIGHTLY LONGER & WIDER - THIS EXTRA AREA IS NOT SPATTERED. THEREFORE TARGET UTILIZATION IS LOWER - BY DEFINITION.

VACUUM SIDE



TARGET LENGTH	"A" DIMENSION	"B" DIMENSION	"C" DIMENSION	"D" DIMENSION
25 [635,0]	25.000 [635,0]	25.80 [655,3]	28.95 [684,0]	29.40 [746,8]
30 [762,0]	30.000 [762,0]	30.80 [782,3]	31.95 [811,5]	34.40 [873,8]
36 [914,4]	36.000 [914,4]	36.80 [934,7]	37.95 [963,8]	40.40 [1026,2]
48 [1219,2]	48.000 [1219,2]	48.80 [1239,8]	49.95 [1268,7]	52.40 [1331,0]
60 [1524,0]	60.000 [1524,0]	60.80 [1544,3]	61.95 [1573,5]	64.40 [1635,8]

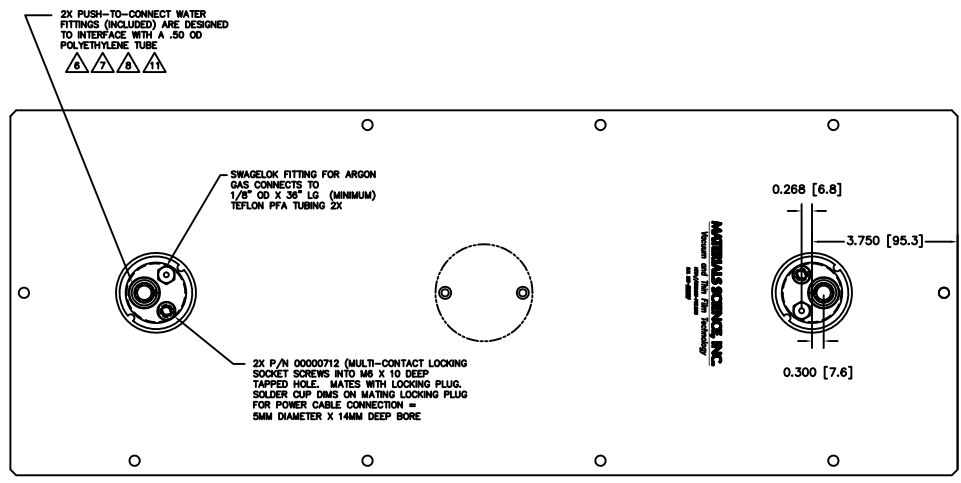
TARGET LENGTH	"E" DIMENSION	"F" DIMENSION	"G" DIMENSION	"H" DIMENSION
25 [635,0]	10 EACH	6.000 [152,4]	27.65 [702,3]	"C" + .20 [5,1]
30 [762,0]	12 EACH	6.000 [152,4]	32.65 [829,3]	"C" + .20 [5,1]
36 [914,4]	14 EACH	6.000 [152,4]	38.65 [981,7]	"C" + .20 [5,1]
48 [1219,2]	18 EACH	6.000 [152,4]	50.65 [1286,5]	"C" + .20 [5,1]
60 [1524,0]	22 EACH	6.000 [152,4]	62.65 [1591,3]	"C" + .20 [5,1]

INSTALLATION CONTROL DRAWING

WATER FITTINGS FOR 1/2" OD TUBING

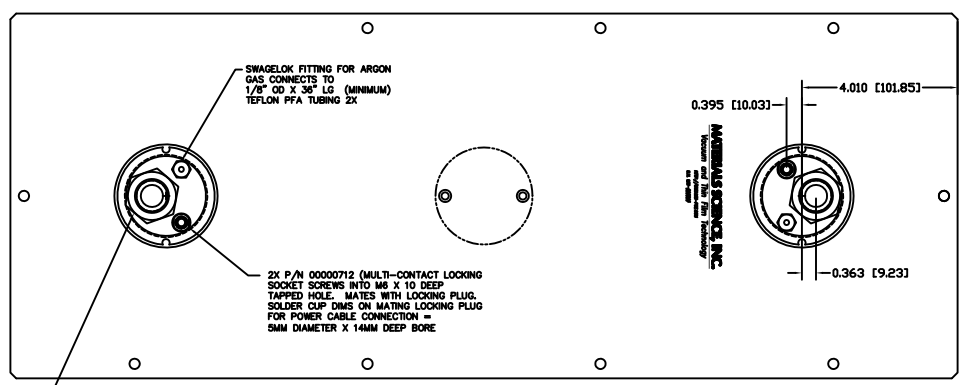
- NOTES:
- TARGET DIMENSIONS NOTED IN TABLE ARE FOR COMMON SIZES.
 - OTHER TARGET LENGTHS CAN BE ACCOMMODATED.
 - LINEAR DIMENSIONS IN TABLE SCALE EXACTLY.
 - "G" DIMENSION = 2.65 PLUS TARGET LENGTH

QUANTITY OR ASSEMBLY	CAGE CODE	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	ZONE	ITEM NO.			
			PARTS LIST						
			<div style="display: flex; justify-content: space-between;"> <div> <p>DATE: J. MILLER 1/8/2008</p> <p>1939</p> <p>1939</p> <p>1939</p> </div> <div> <p>MATERIALS SCIENCE, INC. Vacuum and Nan Film Technology</p> </div> </div>						
			SUNSOURCE, 5 INCH WIDE, FLANGE MOUNT, LONG						
						00002110 C			
NEXT ASSEMBLY	USED ON	DO NOT SCALE DRAWING		DATE: 1/1/08	SCALE: 1" = 2"				



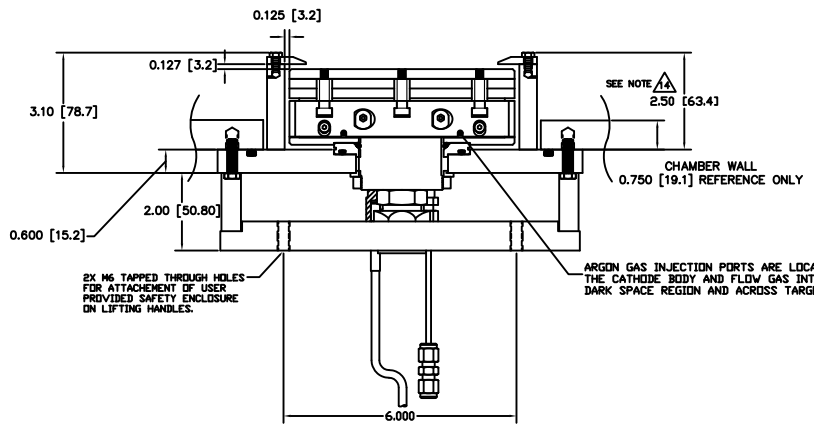
WATER FITTINGS FOR 1/2" OD TUBING

ATMOSPHERE SIDE



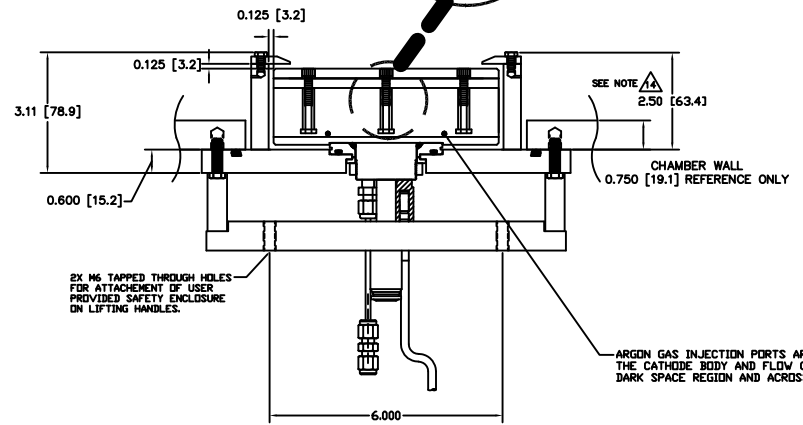
WATER FITTINGS FOR 3/4" OD TUBING

O-RING SEALED TUBE FITTINGS (INCLUDED) ARE DESIGNED TO INTERFACE WITH A .75" OD POLYETHYLENE TUBE 2X



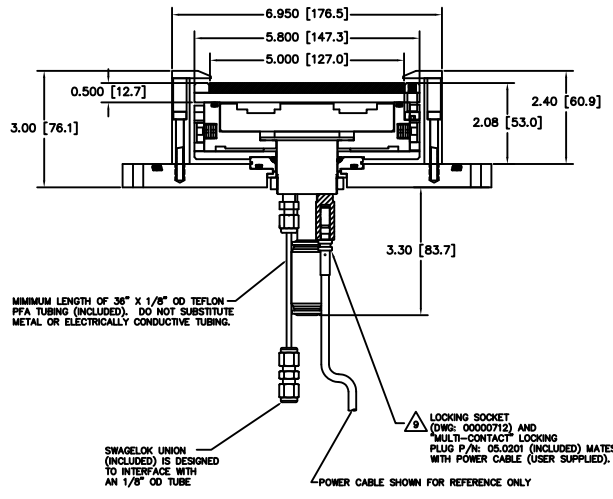
**BONDED TARGET ASSEMBLY SHOWN
 KAMLOK STYLE OPTION WITH 3/4" OD WATER FITTINGS**

SECTION A-A



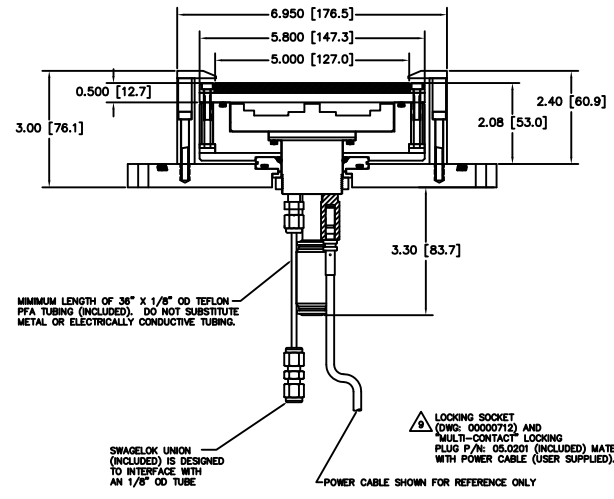
**BONDED TARGET ASSEMBLY SHOWN
 INSERT STYLE OPTION WITH 1/2" OD WATER FITTINGS**

SECTION A-A



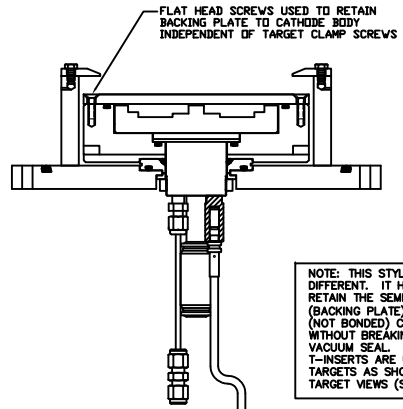
**BONDED TARGET ASSEMBLY SHOWN
 KAMLOK STYLE OPTION WITH 1/2" OD WATER FITTINGS**

SECTION B-B



**BONDED TARGET ASSEMBLY SHOWN
 INSERT STYLE OPTION WITH 1/2" OD WATER FITTINGS**

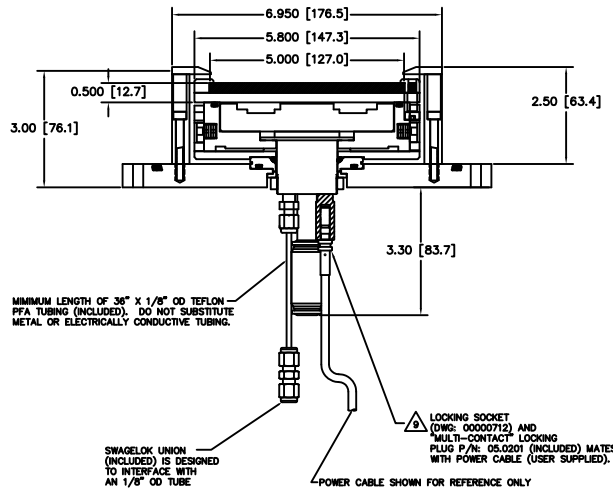
SECTION B-B



NOTE: THIS STYLE CATHODE BODY IS DIFFERENT. IT HAS TAPPED HOLES TO RETAIN THE SEMI-PERMANENT MEMBRANE (BACKING PLATE) SO CLAMPED TARGETS (NOT BONDED) CAN BE EXCHANGED WITHOUT BREAKING THE WATER TO VACUUM SEAL. HOLES WITH THREADED T-INSERTS ARE USED TO RETAIN THE TARGETS AS SHOWN IN THE CLAMPED TARGET VIEWS (SECTION B-B).

"SEMI-PERMANENT" BACKING PLATE SHOWN WITH TARGET AND CLAMPING BARS REMOVED

SECTION C-C



MINIMUM LENGTH OF 3/8" X 1/8" OD TEFLON PFA TUBING (INCLUDED). DO NOT SUBSTITUTE METAL OR ELECTRICALLY CONDUCTIVE TUBING.

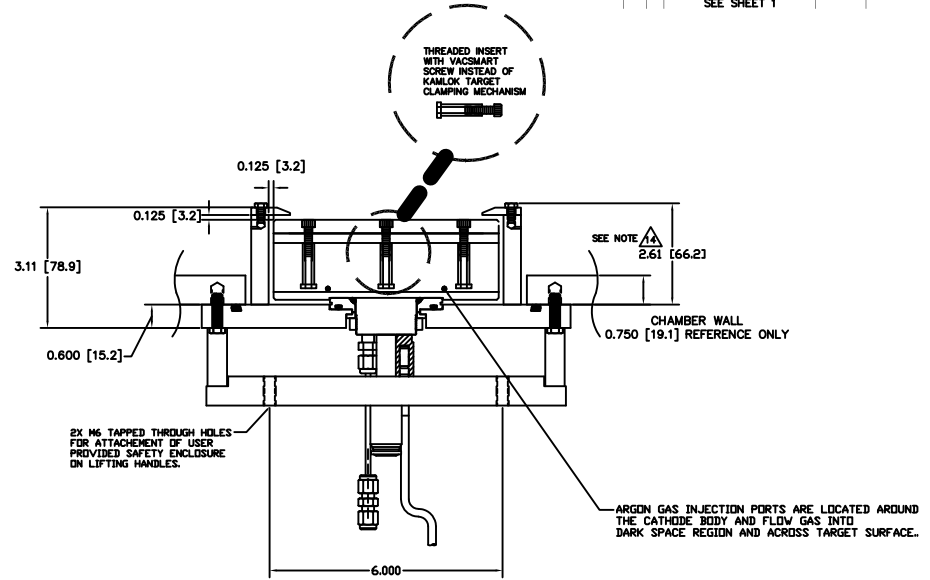
SWAGelok UNION (INCLUDED) IS DESIGNED TO INTERFACE WITH AN 1/8" OD TUBE

LOCKING SOCKET (DWG: 00000712) AND "MULTI-CONTACT" LOCKING PLUG P/N: 05.0201 (INCLUDED) MATES WITH POWER CABLE (USER SUPPLIED).

POWER CABLE SHOWN FOR REFERENCE ONLY

CLAMPED TARGET ASSEMBLY SHOWN KAMLOK STYLE OPTION WITH 1/2" OD WATER FITTINGS

SECTION B-B



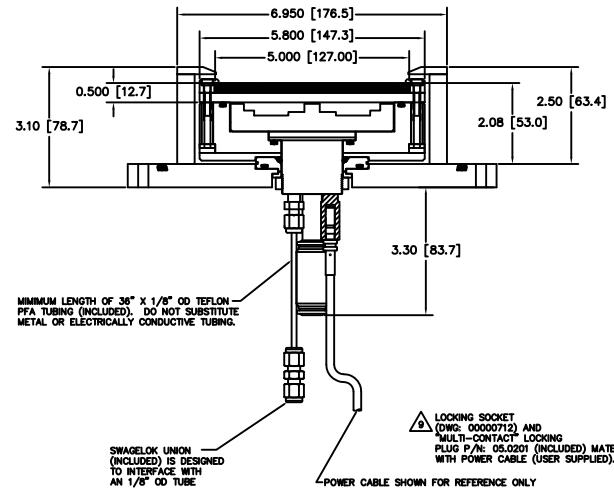
THREADED INSERT WITH VACSMART SCREW INSTEAD OF KAMLOK TARGET CLAMPING MECHANISM

2X M6 TAPPED THROUGH HOLES FOR ATTACHEMENT OF USER PROVIDED SAFETY ENCLOSURE ON LIFTING HANDLES.

ARGON GAS INJECTION PORTS ARE LOCATED AROUND THE CATHODE BODY AND FLOW GAS INTO DARK SPACE REGION AND ACROSS TARGET SURFACE.

CLAMPED TARGET ASSEMBLY SHOWN INSERT STYLE OPTION WITH 1/2" OD WATER FITTINGS

SECTION A-A



MINIMUM LENGTH OF 3/8" X 1/8" OD TEFLON PFA TUBING (INCLUDED). DO NOT SUBSTITUTE METAL OR ELECTRICALLY CONDUCTIVE TUBING.

SWAGelok UNION (INCLUDED) IS DESIGNED TO INTERFACE WITH AN 1/8" OD TUBE

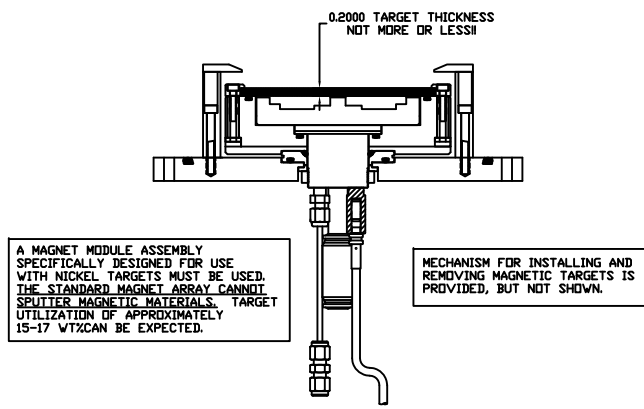
LOCKING SOCKET (DWG: 00000712) AND "MULTI-CONTACT" LOCKING PLUG P/N: 05.0201 (INCLUDED) MATES WITH POWER CABLE (USER SUPPLIED).

POWER CABLE SHOWN FOR REFERENCE ONLY

CLAMPED TARGET ASSEMBLY SHOWN INSERT STYLE OPTION WITH 1/2" OD WATER FITTINGS

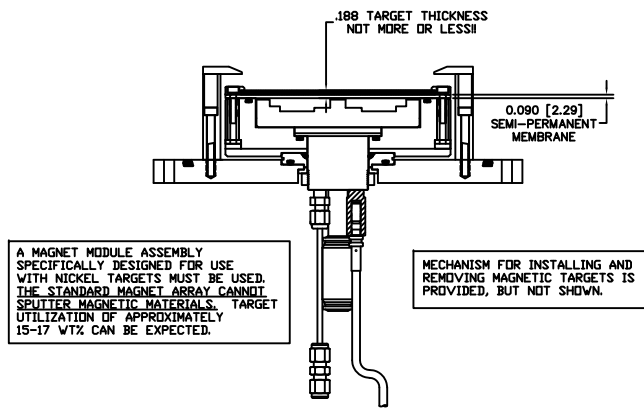
SECTION B-B

DIRECTLY WATER COOLED FOR NICKEL TARGETS



DIRECTLY WATER COOLED NI TARGET ASSEMBLY SHOWN
INSERT STYLE OPTION WITH 1/2" OD WATER FITTINGS

SECTION B-B



NI TARGET CLAMPED TO "SEMI-PERMANENT" MEMBRANE SHOWN
INSERT STYLE OPTION WITH 1/2" OD WATER FITTINGS

SECTION B-B