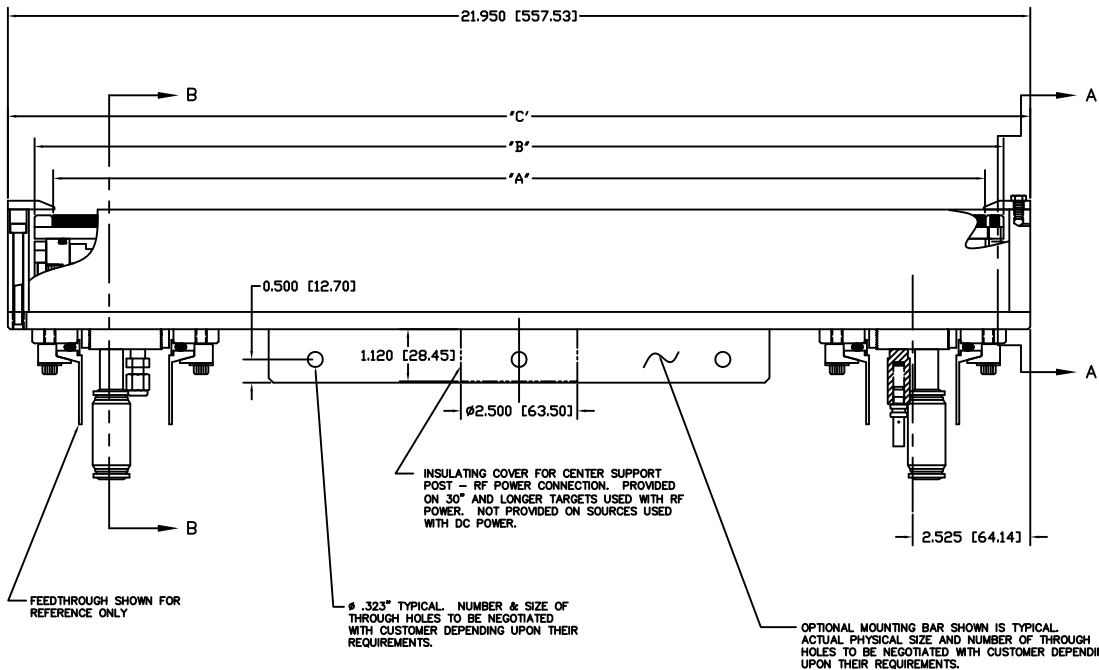
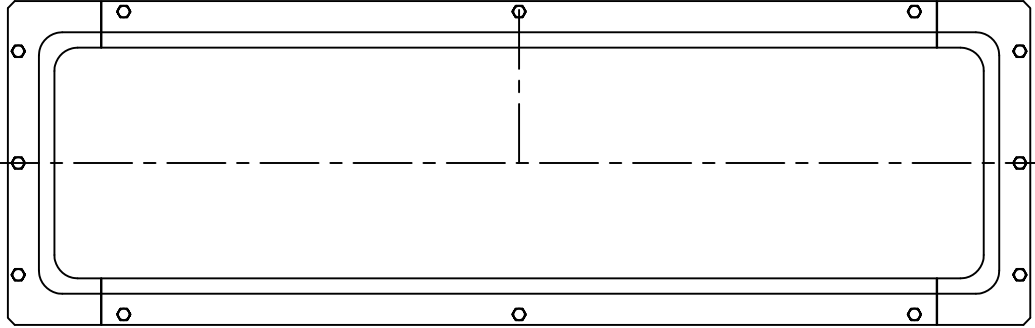


REVISION			
NO.	DATE	DESCRIPTION	BY
		INITIAL RELEASE	080317
A		NEW TOP ANODE SHIELDS (100216)	J. MILLER
B		NUMEROUS SMALL DIM. & GEOMETRY CHANGES (110718)	J. MILLER

- 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.
 - WARNING:**
WATER FITTINGS HAVE A CLEAR ID OF .375 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:**
5560 SKYLANE BLVD.
SANTA ROSA, CA 95403
VOICES: (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 251091.
 - P/N 88040-08 (1/2" OD TUBE) IS AVAILABLE FROM:
ALPHA TECHNOLOGIES
320 PREMIER COURT, SUITE 222
FRANKLIN, TN 37067
TEL: (615) 771-6650
HTTP://WWW.ALPHAFITTINGS.COM
 - ALL FASTENERS ARE METRIC.
 - DIMENSIONS IN BRACKETS "[]" DENOTE REFERENCE DIMENSIONS IN MILLIMETERS.
 - TARGET UTILIZATION IS HIGHEST FOR BONDED & CLAMPED LONGER & WIDER - THIS EXTRA AREA IS NOT SPUTTERED. THEREFORE TARGET UTILIZATION IS LOWER - BY DEFINITION.
 - 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.



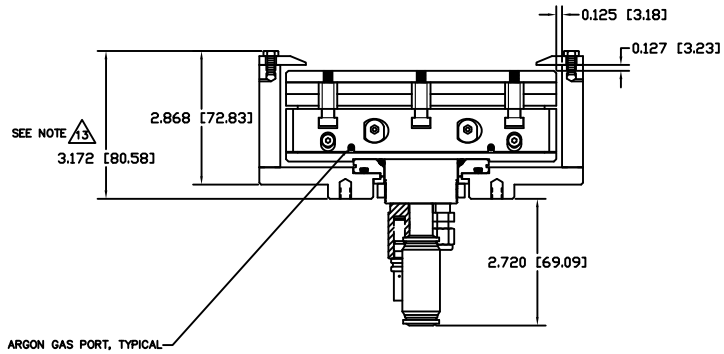
TARGET LENGTH	"A" DIMENSION	"B" DIMENSION	"C" DIMENSION
12	12.000 [304,8]	12.80 [325,1]	13.95 [354,3]
15	15.000 [381,0]	15.80 [401,3]	16.95 [430,5]
20	20.000 [508,0]	20.80 [528,3]	21.95 [557,5]
22	22.000 [558,8]	22.80 [579,1]	23.95 [608,3]
24	24.000 [609,6]	24.80 [629,9]	25.95 [659,1]

- NOTES:
- TARGET DIMENSIONS NOTED IN TABLE ARE FOR COMMON SIZES.
 - OTHER TARGET LENGTHS CAN BE ACCOMMODATED.
 - LINEAR DIMENSIONS IN TABLE SCALE EXACTLY.

INSTALLATION CONTROL DRAWING

QUANTITY PER ASSEMBLY	CAGE CODE	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	ZONE	ITEM NO.
			PARTS LIST			
			JOHN MILLER 08/08/17 MATERIALS SCIENCE, INC. Vacuum and Thin Film Technology 10000 WILSON BLVD., SUITE 100 FORT WORTH, TEXAS 76154 PHONE: (817) 441-1111 FAX: (817) 441-1112 WWW.MATERIALS-SCIENCE.COM			
			SUNSOURCE, 5" WIDE INTERNAL, KAMLOK STYLE, SHORT			
			DATE	REV	BY	APP
			E	1/1	JM	00000949
			APPLICATION		DO NOT SCALE DRAWING	2

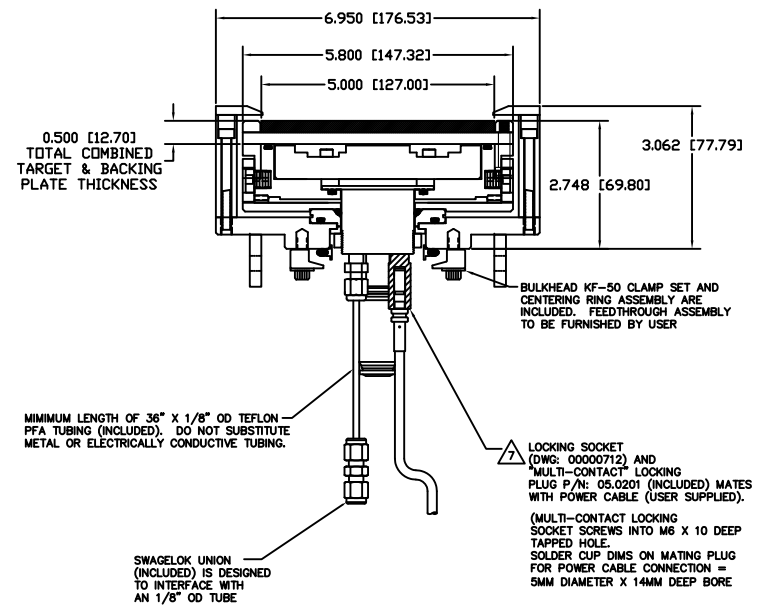
00000949



POWER CABLE SHOWN FOR REFERENCE ONLY

BONDED TARGET ASSEMBLY SHOWN

SECTION A-A



MINIMUM LENGTH OF 36" 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

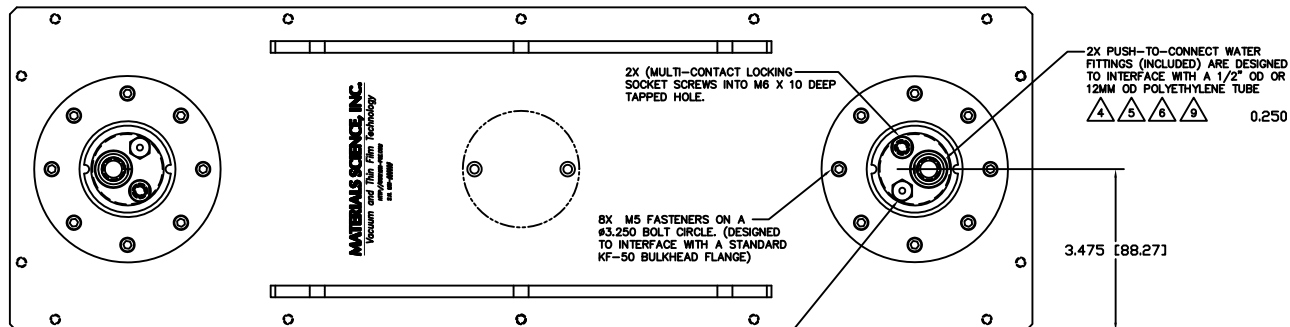
BULKHEAD KF-50 CLAMP SET AND CENTERING RING ASSEMBLY ARE INCLUDED. FEEDTHROUGH ASSEMBLY TO BE FURNISHED BY USER

LOCKING SOCKET (DWG: 0000712) AND "MULTI-CONTACT" LOCKING PLUG P/N: 05.0201 (INCLUDED) MATES WITH POWER CABLE (USER SUPPLIED).

(MULTI-CONTACT LOCKING SOCKET SCREWS INTO M6 X 10 DEEP TAPPED HOLE. SOLDER CUP DIMS ON MATING PLUG FOR POWER CABLE CONNECTION = 5MM DIAMETER X 14MM DEEP BORE

BONDED TARGET ASSEMBLY SHOWN

SECTION B-B



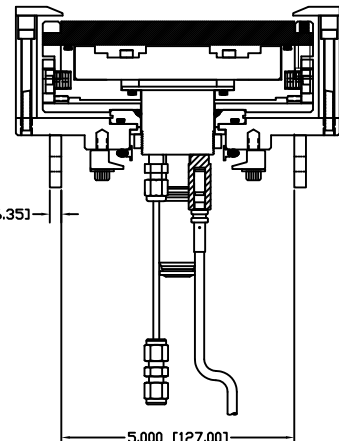
MATERIALS SCIENCE, INC.
 100000949
 1/11/00
 1/11/00

2X (MULTI-CONTACT LOCKING SOCKET SCREWS INTO M6 X 10 DEEP TAPPED HOLE.

8X M5 FASTENERS ON A #3.250 BOLT CIRCLE. (DESIGNED TO INTERFACE WITH A STANDARD KF-50 BULKHEAD FLANGE)

2X PUSH-TO-CONNECT WATER FITTINGS (INCLUDED) ARE DESIGNED TO INTERFACE WITH A 1/2" OD OR 12MM OD POLYETHYLENE TUBE

SWAGelok FITTING (2X) FOR ARGON GAS CAN CONNECT TO DUAL OR SINGLE GAS MANIFOLD - CONTACT FACTORY. 1/8" OD X 36" LG (MINIMUM). DO NOT SUBSTITUTE METAL TUBING FOR TEFLON PFA TUBING PROVIDED.



DIRECT WATER COOLED TARGET SHOWN