

- 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 LINES SHOULD HAVE A CLEAR ID OF .375 INCHES OR 9MM. 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.
- 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. DO NOT USE METAL TUBING! POLYETHYLENE RECOMMENDED.

- WARNING:**  
SWAGELOCK UNION FITTING, 1/8" OD TUBE IS SUPPLIED WITH SOURCE AND ALSO AVAILABLE FROM SWAGelok COMPANY [HTTP://WWW.SWAGelok.COM](http://www.swagelok.com) OR SAN DIEGO FLUID SYSTEM TECHNOLOGIES 6350 NANCY RIDGE DRIVE, SUITE 101 SAN DIEGO, CA 92121 (658) 320-4000 SWAGelok P/N SS-200-6 SWAGelok FITTING, 1/8" OD TUBE IS WELDED TO UTILITY CONNECTION MODULE.

- TUBING, TEFLON, PFA IS AVAILABLE FROM:**  
MC MASTER CARR  
9630 NORWALK BLVD  
SANTA FE SPRINGS, CA 90670-2932  
VOICE: (310) 692-5911  
FAX: (310) 695-2323  
MCMASTER-CARR P/N 5180K51

- WATER LINE TUBE UNION, IS AVAILABLE FROM:**  
ALPHA TECHNOLOGIES  
320 PREMIER COURT, SUITE 222  
FRANKLIN, TN 37067  
TEL: (615) 771-6650  
ALPHA PART NUMBER 88040-06

- SEE MATERIALS SCIENCE, INC. DOCUMENT NO. 251092 FOR PROPER INSTALLATION, OPERATION AND USE OF SUNSOURCE SPUTTERING SOURCES.

- MATERIALS SCIENCE P/N 00000680 SPANNER WRENCH REQUIRED TO TIGHTEN NUT. FEDERAL SPEC GGG-W-6856. ADJUSTABLE UP TO 2". OVERALL LENGTH: 6 3/8" PIN DIAMETER: 3/16" PIN HEIGHT: 1/8"

- MULTI-CONTACT-USA:**  
5560 SKYLINE BLVD.  
SANTA ROSA, CA 95403  
VOICE: (707) 575-7575  
FAX: (707) 575-7373  
INTERNET:  
[HTTP://WWW.MULTI-CONTACT-USA.COM](http://www.multi-contact-usa.com)  
P/N 05.0201 LOCKING PLUG IS SUPPLIED WITH SOURCE.

- OPTIONAL INSULATING SAFETY GUARD CAN BE PROVIDED IF USER DOES NOT SUPPLY RECOMMENDED INTERLOCKED SAFETY ENCLOSURE.

- MASS OF SOURCE FULLY ASSEMBLED IS 50 LBS. [22.7 KG] DRY.

- ADD .100 [2.54] WHEN 0.50 [12.7] THICK 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.

- WATER LINE TUBE UNION, IS AVAILABLE FROM:**  
ALPHA TECHNOLOGIES  
320 PREMIER COURT, SUITE 222  
FRANKLIN, TN 37067  
TEL: (615) 771-6650  
ALPHA PART NUMBER 50040N-12

SEE NOTE **12**

LOCKING SOCKET (DWR: 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

SEE NOTE **13**

4X M5 X 10 DEEP TAPPED HOLES (STD) OR 8X 190-32UNC-2A TAPPED HOLES (OPTION) ON A #3.250 [82.55] BOLT CIRCLE. USED TO RETAIN OPTIONAL SAFETY GUARD.

SEE NOTES **4, 5, 6, 9, 18**

2X PUSH-TO-CONNECT WATER FITTINGS (INCLUDED) ARE DESIGNED TO INTERFACE WITH A .50 OR 12MM OD POLYETHYLENE TUBE

POWER CABLE SHOWN FOR REFERENCE ONLY

SEE NOTES **7, 8**

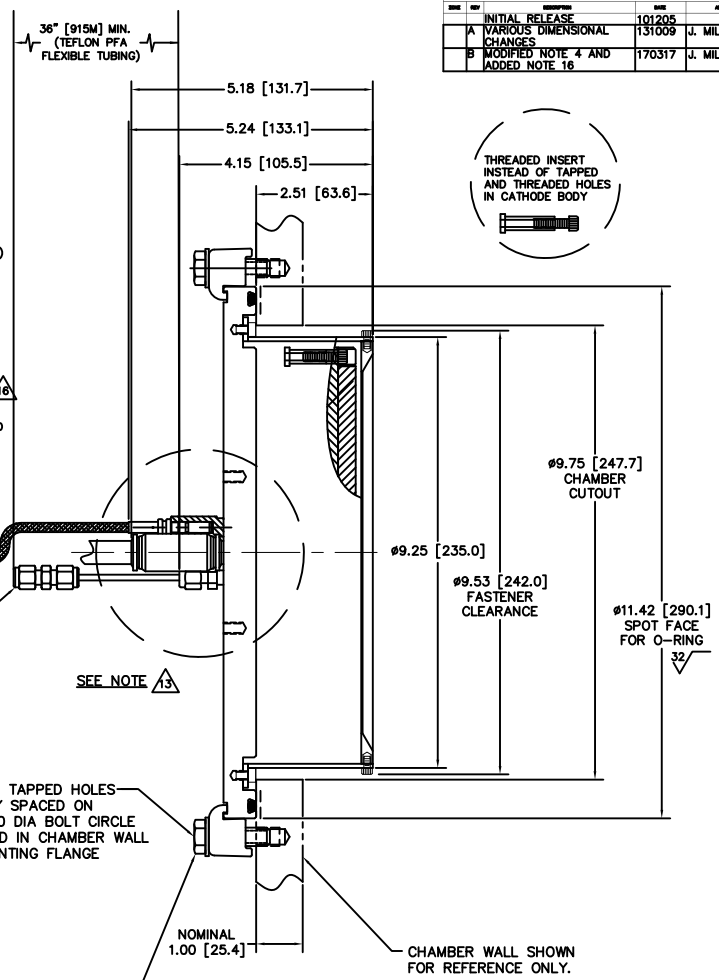
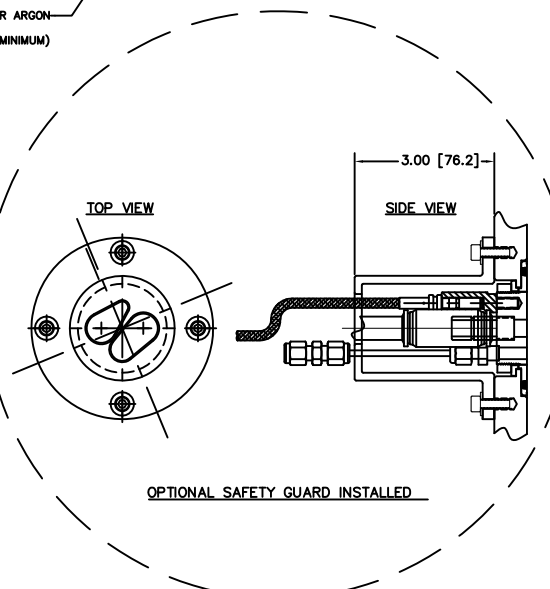
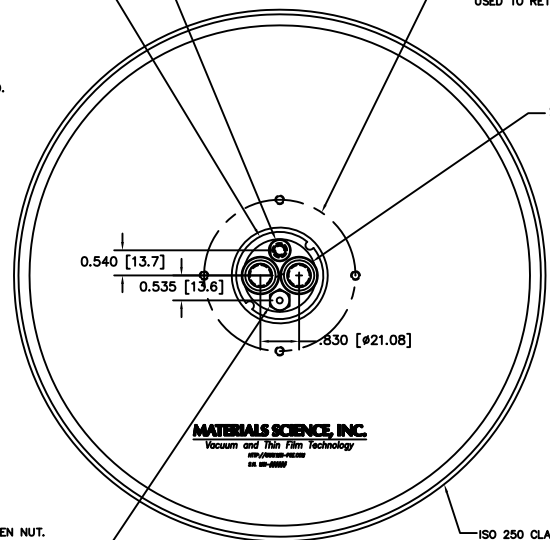
SWAGelok UNION (INCLUDED) IS DESIGNED TO INTERFACE WITH AN 1/8" OD TUBE

SEE NOTE **13**

12X M10 TAPPED HOLES EQUALLY SPACED ON A 12.200 DIA BOLT CIRCLE REQUIRED IN CHAMBER WALL OR MOUNTING FLANGE

SWAGelok FITTING FOR ARGON GAS CONNECTS TO 1/8" OD X 36" LG (MINIMUM) TEFLON PFA TUBING

SEE NOTE **7**



REV	DESCRIPTION	DATE	APP'D
INITIAL RELEASE		10/12/05	
A	VARIOUS DIMENSIONAL CHANGES	1/31/09	J. MILLER
B	MODIFIED NOTE 4 AND ADDED NOTE 16	1/7/03/17	J. MILLER



BONDED TARGET ASSEMBLY SHOWN (-1 ASSY)

SEE NOTE **15**

### INSTALLATION CONTROL DRAWING

QUANTITY PER ASSEMBLY	CAGE CODE	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	ZONE	ITEM NO
			PARTS LIST			
			DATE: J. MILLER 10/18/05			
			MATERIALS SCIENCE, INC. Vacuum and Thin Film Technology			
			SUNSOURCE, 8 INCH FLANGE MOUNT, INSTALLATION CONTROL			
			DATE: E			
			00002142			
			1/1			

00002142