

NOTES: UNLESS OTHERWISE SPECIFIED

1. INTERPRET DRAWING IAW THE GLOBAL PROFESSIONAL PUBLICATIONS "DRAWING REQUIREMENTS MANUAL", EIGHTH EDITION.
2. INTERPRET DIMENSIONS AND TOLERANCES IAW ANSI Y14.5M - 1982.
3. BREAK SHARP EDGES .002-015.
4. INTERPRET ABBREVIATIONS IAW MIL-STD-12.
5. SEE MATERIALS SCIENCE, INC. DOCUMENT NO. 251011 FOR PROPER INSTALLATION, OPERATION AND USE OF POLARIS SPUTTERING SOURCES.

△6 GAS FITTING, SWAGelok (ITEM 8) IS INCLUDED WITH SOURCE. IT IS ALSO AVAILABLE FROM:
[HTTP://WWW.SWAGELOK.COM](http://www.swagelok.com)

△7 WATER LINE TUBE UNIONS, (ITEM 7) ARE INCLUDED WITH THE SOURCE AND ARE ALSO AVAILABLE FROM:
 ALPHA TECHNOLOGIES
 320 PREMIER COURT, SUITE 222
 FRANKLIN, TN 37067
 TEL: (615) 771-6650
 APHA PART NUMBER 88040-04

△8 USER SUPPLIED - MINIMUM 60" LONG POLYETHYLENE WATER LINES REQUIRED FOR SAFE OPERATION. DO NOT USE METAL WATER LINES TO MEET THIS REQUIREMENT - ELECTRICAL ISOLATION IS NECESSARY.

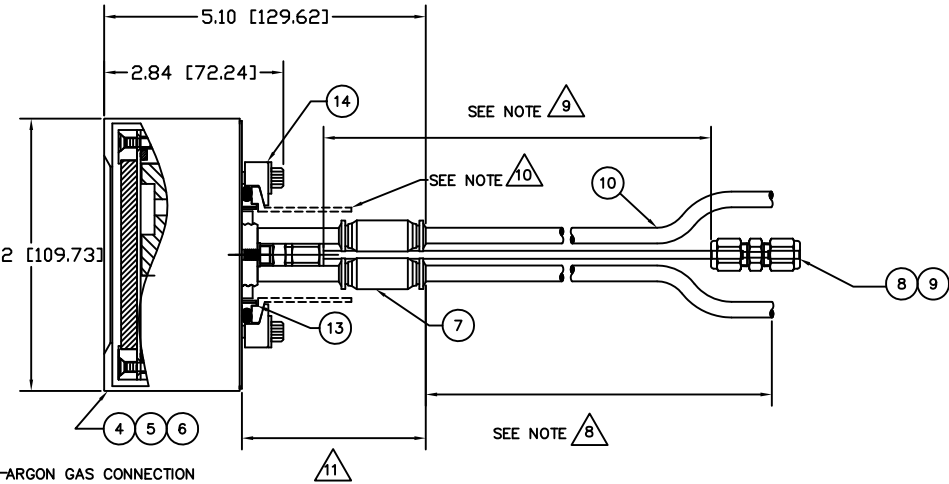
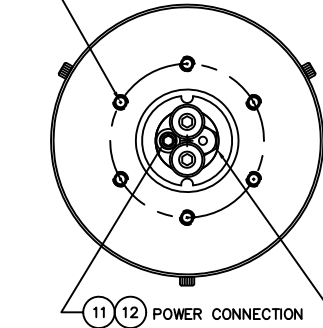
△9 MINIMUM 36"[915MM] LONG TEFLON PFA LINE REQUIRED (36"[915MM] INCLUDED WITH SOURCE) FOR SAFE OPERATION. DO NOT USE METAL GAS LINES TO MEET THIS REQUIREMENT - ELECTRICAL ISOLATION IS NECESSARY.

△10 THE CENTERING RING AND BULKHEAD CLAMP SET ARE INCLUDED WITH THE BASIC SPUTTERING SOURCE. FEEDTHROUGH ASSEMBLIES CAN BE PURCHASED SEPARATELY OR ARE PROVIDED BY THE USER. WATER, POWER AND GAS CONNECTIONS MUST BE MADE AT ATMOSPHERE.

△11 3"[76.2] MINIMUM STRAIGHT CLEARANCE MUST BE ALLOWED FOR WATER FITTINGS PRIOR TO ANY BENDING OF BELLOWS OR RADIUS IN HARD PLUMBED FEEDTHROUGH ASSEMBLY. DO NOT LET ID OF BELLOWS RUB AGAINST WATER FITTINGS.

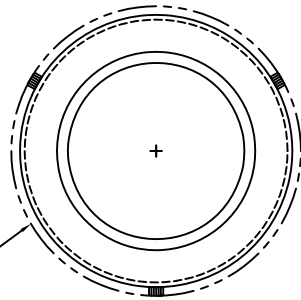
12. MASS OF SPUTTERING SOURCE FULLY ASSEMBLED IS 7LBS [3.18KG], DRY.

VACUUM CONNECTION.
 6X M5-0.8 X 16MM LONG SHCS
 ON A Ø2.440 BOLT CIRCLE.
 (DESIGNED TO INTERFACE WITH A
 STANDARD KF-40 BULKHEAD FLANGE)



-4 ASSY
 CLAMPED TARGET ASSY SHOWN

4.60 [117MM] DIA. FASTENER CLEARANCE



QUANTITY PER ASSEMBLY	QUANTITY PER ASSEMBLY	QUANTITY PER ASSEMBLY	CAGE CODE	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	ZONE	ITEM NO
1	1	1		00002083	CLAMP KIT, BULKHEAD KF-40	18-8 CRES		14
1	1	1		00000100-3	CENTERING RING, KF-40, VITON O-RING	18-8 CRES		13
1	1	1		00000070-41	SOC HD CAP SCREW, M4-0.7 X 6MM LONG	18-8 CRES		12
1	1	1		000000516-2	WASHER, FLAT, M4	18-8 CRES		11
1	1	1		00000074-1	TUBING, 1/4" OD X .170" ID X 60" MINIMUM	POLYETHYLENE		10
1	1	1		00000038-1	TUBING, 1/8" OD X 1/16" ID X 36" MINIMUM	TEFLON PFA		9
1	1	1	△6	00000316	FITTING, SWAGelok, SS-200-6	316 CRES		8
2	2	2	△7	00000658-2	1/4 INCH OD PUSH-TO-CONNECT TUBE UNION			7
1				00002085-3	3 INCH INTERNAL CATHODE (CLAMPED TARGET)			6
	1			00002085-2	3 INCH INT CATHODE (DIRECT WATER COOLED TGT)			5
		1		00002085-1	3 INCH INTERNAL CATHODE (BONDED TARGET)			4
				00002093-3	3 INCH INTERNAL CATHODE (CLAMPED TARGET)			3
				00002093-2	3 INCH INT CATHODE (DIRECT WATER COOLED TGT)			2
				00002093-1	3 INCH INTERNAL CATHODE (BONDED TARGET)			1
-3	-2	-1						

INSTALLATION CONTROL DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS .0005 .001 .002 .005 .010 .015 .030 .050 .100 .150 .300 .500 .750 1.000 UNLESS OTHERWISE SPECIFIED USE STANDARD FINISH	DRAWN: PAT MANLEY 06/10/02 APPROVED: J. MILLER 07/04/20	MATERIALS SCIENCE, INC. Vacuum and Thin Film Technology 10000 W. 10th St., Suite 100 Denver, CO 80202
THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND ANY REPRODUCTION, DISCLOSURE OR USE OF THIS DRAWING WITHOUT WRITTEN PERMISSION FROM MATERIALS SCIENCE, INC. IS EXPRESSLY PROHIBITED.	POLARIS CATHODE, 3 INCH, INSTALLATION CONTROL METRIC	
NEXT ASSEMBLY USED ON: 794-M	APPLICATION: DO NOT SCALE DRAWING	SCALE: 1/1 SHEET: 1 OF 1

00002093