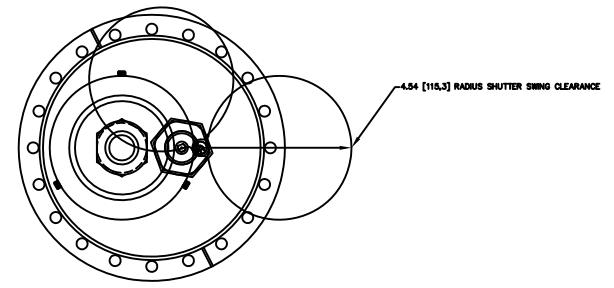
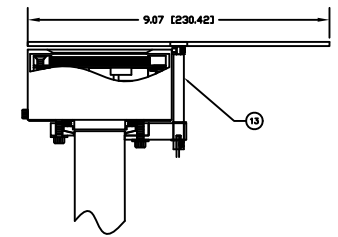
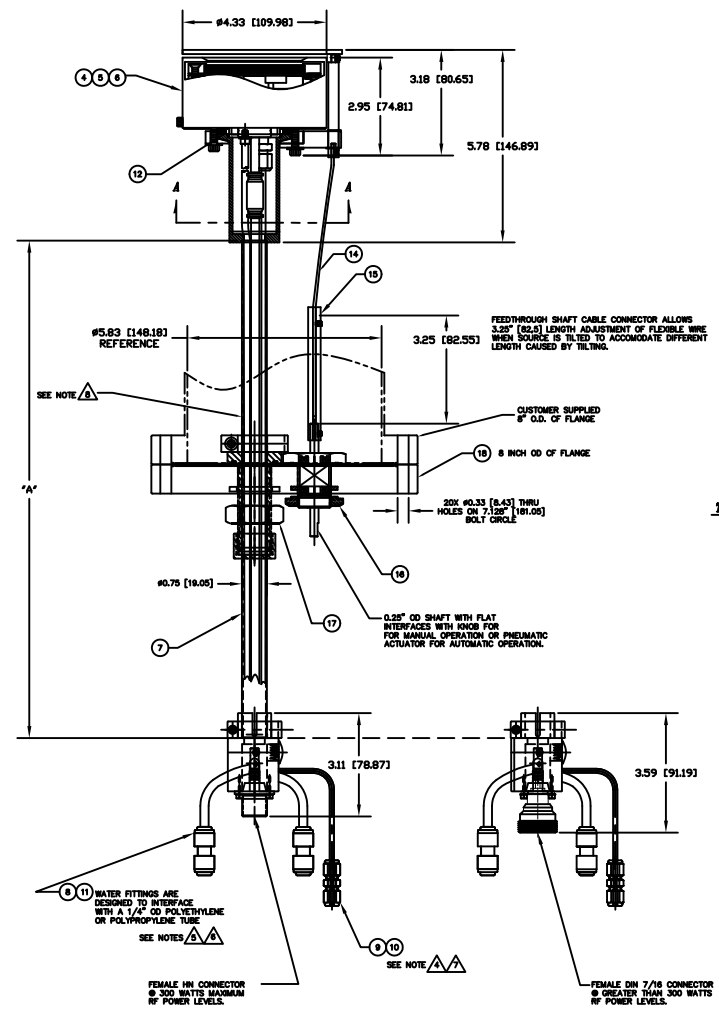


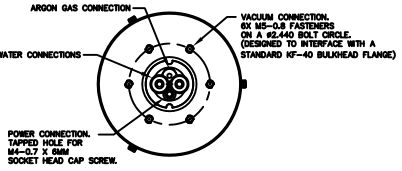
- NOTES: UNLESS OTHERWISE SPECIFIED
1. INTERPRET DRAWING IAW THE GLOBAL PROFESSIONAL PUBLICATIONS "DRAWING REQUIREMENTS MANUAL", EIGHTH EDITION.
 2. INTERPRET DIMENSIONS AND TOLERANCES IAW ANSI Y14.5M - 1982.
 3. INTERPRET ABBREVIATIONS IAW MIL-STD-12.
 4. GAS FITTING (INCLUDED), SWAGelok (ITEM 9) IS AVAILABLE FROM: [HTTP://WWW.SWAGelok.COM](http://www.swagelok.com)
 5. MINIMUM 60" LONG POLYETHYLENE LINES REQUIRED FOR SAFE OPERATION. USER MUST SUPPLY ADDITIONAL 42" LONG POLYETHYLENE WATER LINES TO MEET THIS REQUIREMENT. DO NOT SUBSTITUTE METAL WATER FITTINGS FOR ITEM 8.
 6. WATER LINE CONNECTORS (INCLUDED, ITEM 8) ARE AVAILABLE FROM: [HTTP://WWW.JOHNQUEST.COM](http://www.johnguest.com)
 7. MINIMUM 36" LONG TEFLON PFA LINE REQUIRED (36" INCLUDED WITH SOURCE) FOR SAFE OPERATION. DO NOT USE METAL GAS LINES TO MEET THIS REQUIREMENT - ELECTRICAL ISOLATION IS NECESSARY.
 8. TAKE CARE NOT TO DING, SCRATCH OR GOUGE POLISHED SURFACE.
 9. SEE MATERIALS SCIENCE, INC. DOCUMENT NO. 251011 FOR PROPER INSTALLATION, OPERATION AND USE OF POLARIS SPUTTERING SOURCES.
 10. MASS OF SPUTTERING SOURCE ASSEMBLY FULLY ASSEMBLED IS 16 LBS., DRY.

REV	DESCRIPTION	DATE	APPROVED
INITIAL RELEASE		100831	



-1, -2, AND -3 ASSY SHOWN

DASH NO	Dim "A"
-1	12"
-2	18"
-3	24"



8 11 WATER FITTINGS ARE DESIGNED TO INTERFACE WITH A 1/4" OD POLYETHYLENE OR POLYPROPYLENE TUBE. SEE NOTES Δ Δ Δ

FEMALE HN CONNECTOR @ 300 WATTS MAXIMUM RF POWER LEVELS

SEE NOTE Δ Δ

0.25" OD SHAFT WITH FLAT INTERFACES WITH KNUR FOR MANUAL OPERATION OR PNEUMATIC ACTUATOR FOR AUTOMATIC OPERATION.

20X #0.33 [8.43] THRU HOLES ON 7.126" [181.06] BOLT CIRCLE

8 INCH OD OF FLANGE

CUSTOMER SUPPLIED 8" O.D. OF FLANGE

FEEDTHROUGH SHAFT CABLE CONNECTOR ALLOWS 3.25" [82.55] LENGTH ADJUSTMENT OF FLEXIBLE WIRE WHEN SOURCE IS TILTED TO ACCOMMODATE DIFFERENT LENGTH CAUSED BY TILTING.

3.25 [82.55]

3.18 [80.65]

2.95 [74.81]

5.78 [146.89]

#5.93 [148.18] REFERENCE

4 5 6

7

10

14

15

16

17

18

3.11 [78.87]

3.59 [91.19]

FEMALE FN CONNECTOR @ GREATER THAN 300 WATTS RF POWER LEVELS

QTY	REV	DESCRIPTION	MATERIAL SPECIFICATION	ZONE	ITEM NO	
1	1	1	00002203	8 INCH CF FLANGE, MODIFIED	304 CRES	18
1	1	1	00000446	FEEDTHROUGH, 1" BASEPLATE TO 3/4" OD TUBE		17
1	1	1	00002132	FEEDTHROUGH, ROTARY, FERROFLUID SEAL		16
1	1	1	00002133	FEEDTHROUGH SHAFT CABLE CONNECTOR	304 CRES	15
1	1	1	00002134	FLEXIBLE CABLE ASSEMBLY	304 CRES	14
1	1	1	00000939	SHUTTER ASSEMBLY, 3 INCH POLARIS	304 CRES	13
3	3	3	00000100-3	CENTERING RING, KF-40		12
1	1	1	Δ 00000074-1	TUBING, 1/4" OD X .170" ID X 18"	POLYETHYLENE	11
1	1	1	Δ 00000038-1	TUBING, 1/8" OD X 1/16" ID X 36" MINIMUM	TEFLON PFA	10
1	1	1	00000316	FITTING, SWAGelok, SS-200-6	316 CRES	9
2	2	2	00000281-1	1/4 INCH OD COUPLING, QUICK CONNECT	P/N C1040BW	8
1	1	1	00000789	3/4 INCH TUBE FEEDTHROUGH ASSEMBLY	304 CRES	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
			00002158-3	3" POLARIS SOURCE, VARIABLE, TILT & SHUTTER		3
			00002158-2	3" POLARIS SOURCE, VARIABLE, TILT & SHUTTER		2
			00002158-1	3" POLARIS SOURCE, VARIABLE, TILT & SHUTTER		1

INSTALLATION CONTROL DRAWING

QUANTITY PER ASSEMBLY	CASE CODE	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	ZONE	ITEM NO
PARTS LIST						
DATE: 10/08/01 BY: J.MILLER CHECKED: J.MILLER APPROVED: J.MILLER TITLE: DESIGN ENGINEER			MATERIALS SCIENCE, INC. Vacuum and Thin Film Technology			
NEXT ASSEMBLY			USED ON		APP	
APPLICATION			DO NOT SCALE DRAWING		1/1	

3" POLARIS, VARIABLE POSITION WITH SHUTTER - 8" CF FLANGE

00002158

1