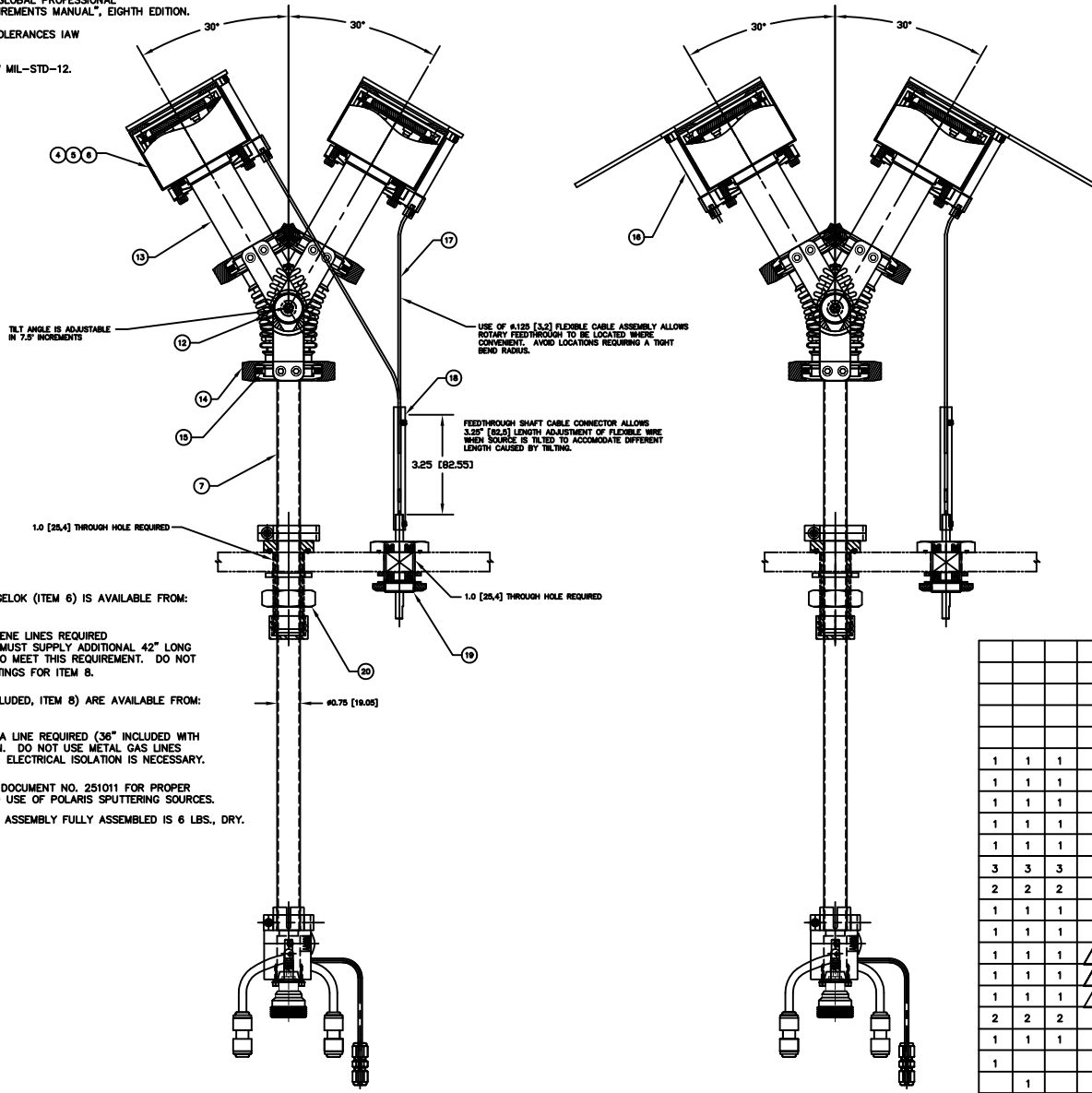


REV	DATE	DESCRIPTION	BY	APP'D
INITIAL RELEASE	10/01/15			

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.

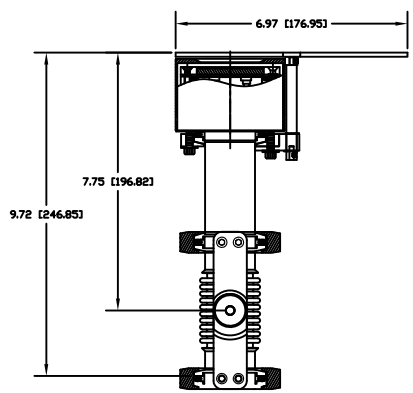


- ⚠ GAS FITTING (INCLUDED), SWAGELOK (ITEM 6) IS AVAILABLE FROM: [HTTP://WWW.SWAGELOK.COM](http://www.swagelok.com)
 - ⚠ MINIMUM 60" LONG POLYETHYLENE LINES REQUIRED FOR SAFE OPERATION. USER MUST SUPPLY ADDITIONAL 42" LONG POLYETHYLENE WATER LINES TO MEET THIS REQUIREMENT. DO NOT SUBSTITUTE METAL WATER FITTINGS FOR ITEM 8.
 - ⚠ WATER LINE CONNECTORS (INCLUDED, ITEM 8) ARE AVAILABLE FROM: [HTTP://WWW.JOHNQUEST.COM](http://www.johnguest.com)
 - ⚠ 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. SEE MATERIALS SCIENCE, INC. DOCUMENT NO. 251011 FOR PROPER INSTALLATION, OPERATION AND USE OF POLARIS SPUTTERING SOURCES.
9. MASS OF SPUTTERING SOURCE ASSEMBLY FULLY ASSEMBLED IS 6 LBS., DRY.

QTY	UNIT	QTY	UNIT	CASE CODE	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION	ZONE	ITEM NO
									25
									24
									23
									22
									21
1	1	1			00000446	FEEDTHROUGH, 1" BASEPLATE TO 3/4" OD TUBE			20
1	1	1			00002132	FEEDTHROUGH, ROTARY, FERROFLUID SEAL			19
1	1	1			00002133	FEEDTHROUGH SHAFT CABLE CONNECTOR	304 CRES		18
1	1	1			00002134	FLEXIBLE CABLE ASSEMBLY	304 CRES		17
1	1	1			00002202	SHUTTER ASSEMBLY, 2 INCH POLARIS	304 CRES		16
3	3	3			00000100-3	CENTERING RING, KF-40			15
2	2	2			00002146	CLAMP, KF-40, STAINLESS STEEL	304 CRES		14
1	1	1			00000941	NIPPLE, KF-40 X 3.20 LONG	316 CRES		13
1	1	1			00000940	TILT MECHANISM ASSEMBLY, POLARIS GEN II			12
1	1	1		⚠	00000074-1	TUBING, 1/4" OD X .170" ID X 18"	POLYETHYLENE		11
1	1	1		⚠	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			00002201	3/4 INCH TUBE FEEDTHROUGH ASSEMBLY	304 CRES		7
1					00000773-1	2 INCH INTERNAL CATHODE (CLAMPED TARGET)			6
1					00000773-2	2 INCH INT CATHODE (DIRECT WATER COOLED TGT)			5
1					00000773-3	2 INCH INTERNAL CATHODE (BONDED TARGET)			4
					00002200-3	2" POLARIS SOURCE, VARIABLE, TILT & SHUTTER			3
					00002200-2	2" POLARIS SOURCE, VARIABLE, TILT & SHUTTER			2
					00002200-1	2" POLARIS SOURCE, VARIABLE, TILT & SHUTTER			1
-3	-2	-1							

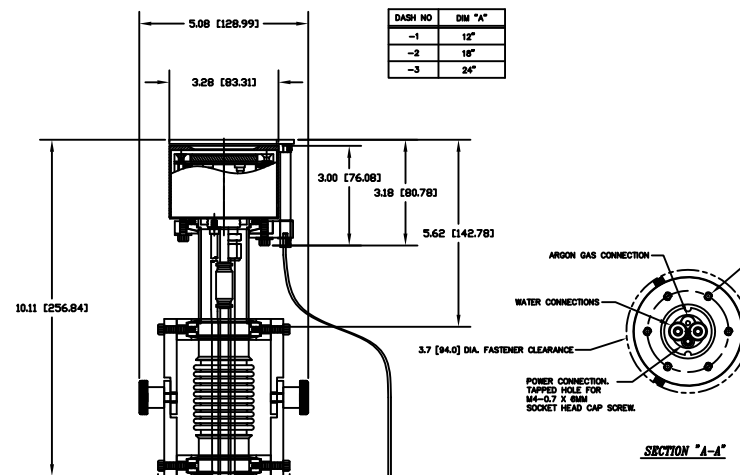
INSTALLATION CONTROL DRAWING

<p>DATE: 10/10/16</p> <p>BY: J. MILLER</p> <p>APP'D: [Signature]</p> <p>REV: 1/1</p>	<p>00002200</p> <p>2" POLARIS, VARIABLE POSITION TILT, SHUTTER - 1" FEEDTHRU</p>
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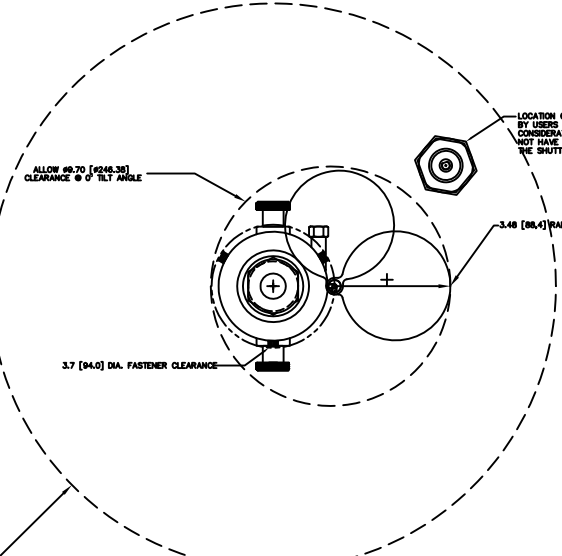


-1, -2, AND -3 ASSY SHOWN

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



SECTION "A-A"



TOP VIEW

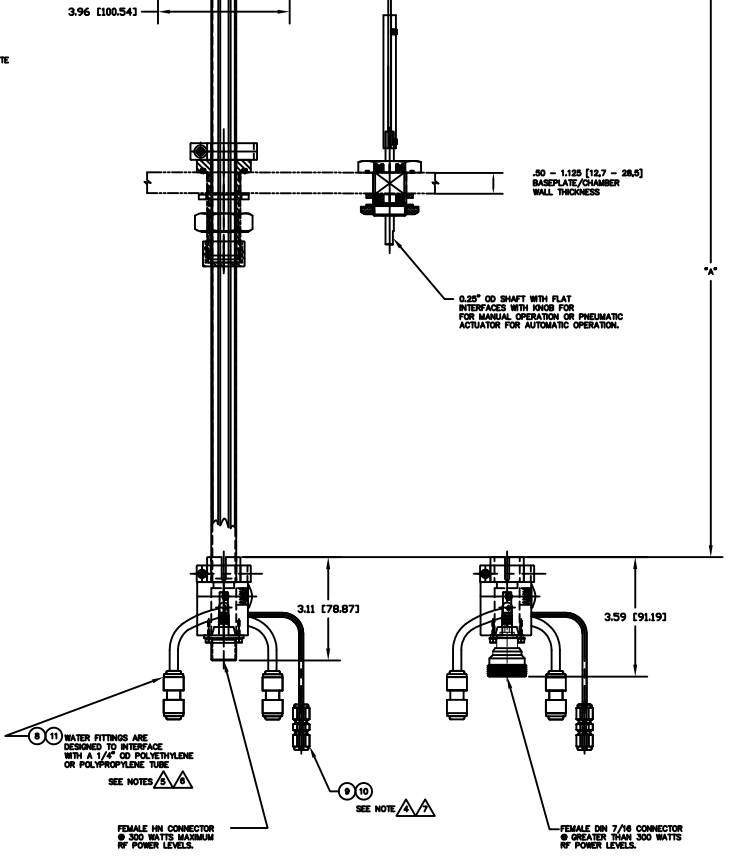
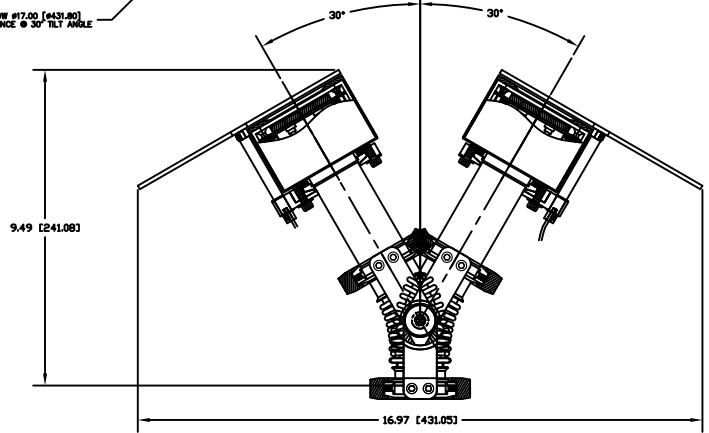
LOCATION OF ROTARY FEED-THROUGH DETERMINED BY USER'S SYSTEM CONFIGURATION. THE ESSENTIAL CONSIDERATION IS THAT THE FLEXIBLE SHAFT DOES NOT HAVE TOO TIGHT A BEND RADIUS AND CAN ROTATE THE SHUTTER WITHOUT BINDING.

ALLOW #6.70 [172.83] CLEARANCE @ 0° TILT ANGLE

3.48 [88.4] RADIUS SHUTTER SWING CLEARANCE

3.7 [94.0] DIA. FASTENER CLEARANCE

ALLOW #17.00 [431.80] CLEARANCE @ 30° TILT ANGLE



.50 - 1.125 [12.7 - 28.5] BASEPLATE/CHAMBER WALL THICKNESS

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

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

SEE NOTE.

FEMALE HN CONNECTOR @ 300 WATTS MAXIMUM RF POWER LEVELS.

FEMALE DN CONNECTOR @ GREATER THAN 300 WATTS RF POWER LEVELS.

00002200