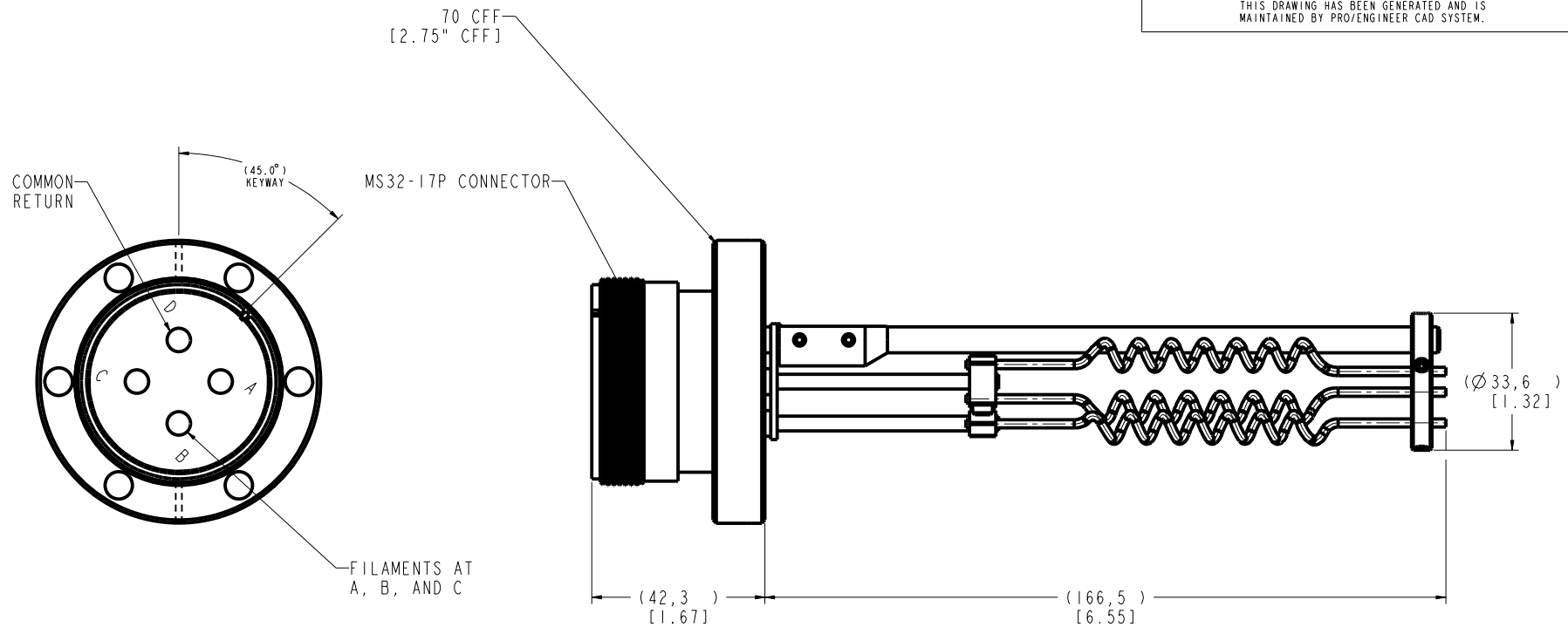


DRG. NO. 360819 SR. 1 REV. A

| REVISIONS | | | | |
|-----------|---------|-------------------------|---------|----------|
| REV | CD # | DESCRIPTION | DATE | APPROVED |
| 1 | 130.084 | RELEASE CONCEPT PRINT | 1-20-10 | RDG |
| 2 | 130.084 | REDESIGN: MS32 FEEDTHRU | 4-27-10 | RDG |
| A | 130.084 | RELEASE | 4-11-11 | RDG |

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NOTES:

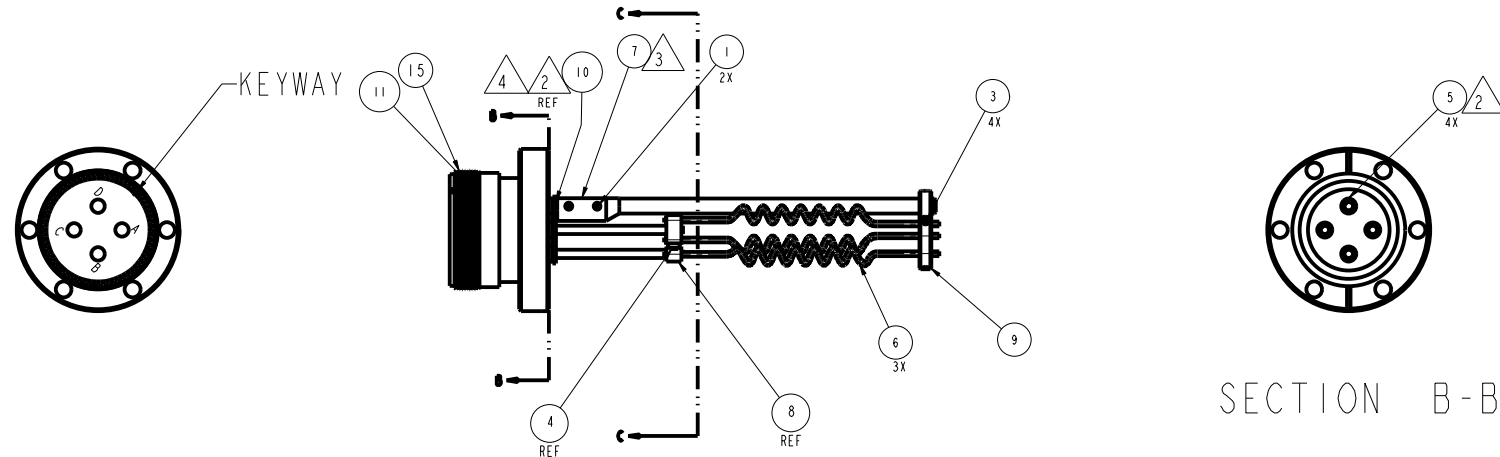
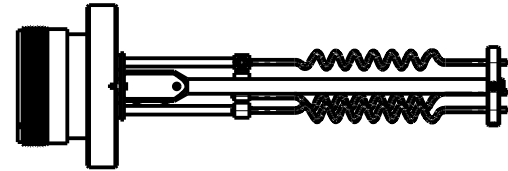
- A. FILAMENT MASS: 3.37 GRAMS.
- B. RECOMMENDED OPERATING PARAMETERS:
CURRENT: 48 AMPS
PRESSURE: $< 1 \times 10^{-5}$ mBAR.

| | | | |
|---|--|---|--|
| METRIC THIRD ANGLE PROJECTION | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS. SURFACE ROUGHNESS IN MICROMETERS TOLERANCES: LINEAR ±0.13 HOLES ±0.13 ANGULAR (±) MACHINED 0.5° FORMER 5° CHAMFER 5° 1/4 MACHINED SURFACES ✓ BREAK SHARP EDGES: R.2 OR 45° 0.2 MAX. INTERNAL MACH CORNER R.4 MAX. | DWG: R GOLLA DATE: 27-Apr-10 CHK: DATE: APPY: R GOLLA DATE: 27-10 R1: R GOLLA TOLERANCING AND DIMENSIONING PER ANSI Y14.5M - 1982 | Gamma Vacuum 2915 133rd Street West • Shakopee, MN TITLE: TSP, 3 FILAMENT, 2.75 CF, MS, STD SIZE: DRAWING NO. 360819 REV. A SCALE: 2.000 DETACHED <input checked="" type="checkbox"/> PL <input type="checkbox"/> SPEC SHW 1 OF 3 |
| | THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND ANY REPRODUCTION, DISCLOSURE OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS AGREED TO IN WRITING. | | |

DRG. NO. 360819 SH. 2 REV. A

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY PRO/ENGINEER CAD SYSTEM.

| ITEM | TITLE | PART NO. | QTY. |
|------|---------------------------------------|-----------------|------|
| 1 | SCR, SET, HEX, M3X.5X5, SS | 100494 | 2 |
| 2 | WSHR-FLAT, #6 | 100672 | 1 |
| 3 | SCR, SET, HEX, M3X5, SS, Ag PL | 101052 | 4 |
| 4 | SCREW-SET, HEX, 10-24 X .25", SST | 101284 | 3 |
| 5 | SPACER, ALUMINA, .562L, .156ID, .25OD | 210007 | 4 |
| 6 | FIL, TSP, ALLOY SPIRAL | 280000 | 3 |
| 7 | ROD, Cu, TSP COMMON, STD | 320631 | 1 |
| 8 | LUG, CLAMP, V-BLOCK, 10-8GA, Cu | 320633 | 3 |
| 9 | COLLAR, 2.75" TSP/MS, 3FIL, SS | 320643 | 1 |
| 10 | CER DISC, FDTHRU, 4PIN, HC, 2.75CFF | 220049_CER_DISC | 1 |
| 11 | SEE TABLE | SEE TABLE | 1 |
| 15 | FDTHRU, TSP, MS32-17P, HC, 2.75CFF | 220049 | 1 |

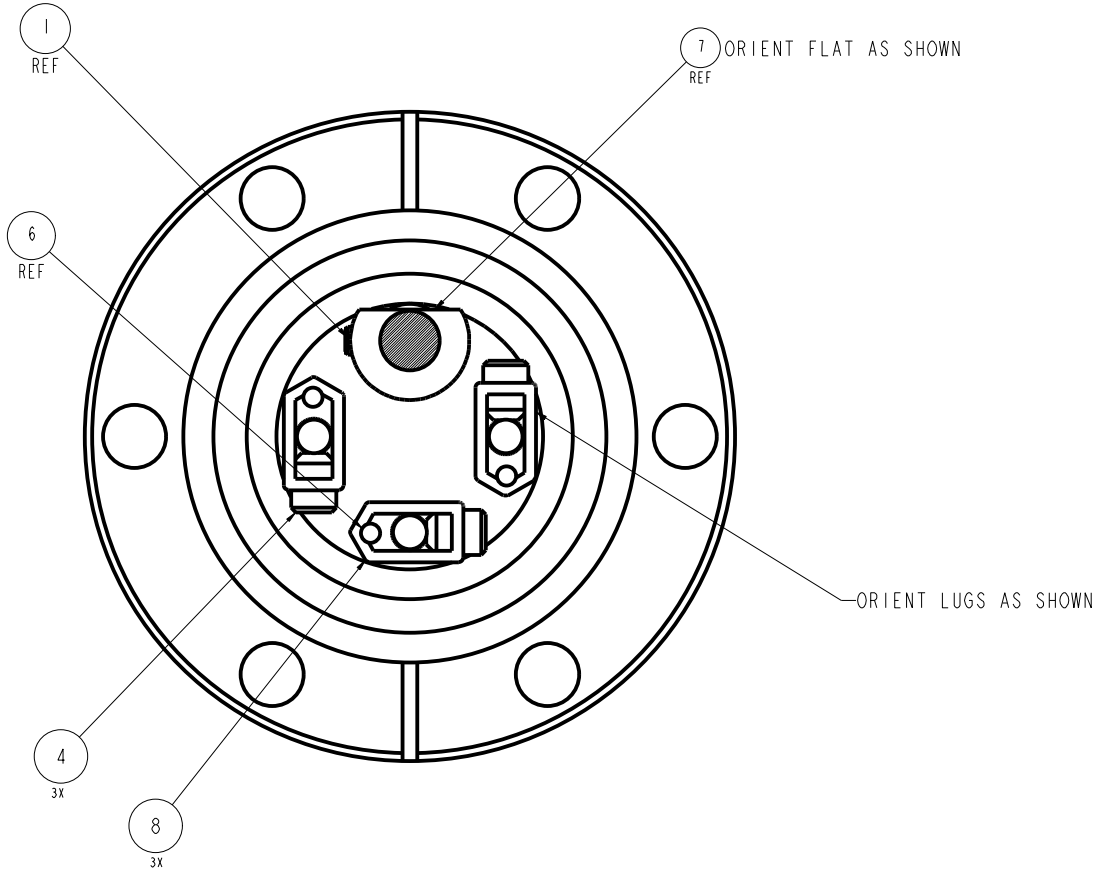


SECTION B-B

- NOTE:
- GASKET MUST BE ABLE TO SLIDE OVER FILAMENTS.
 - TEMPORARILY REMOVE CERAMIC DISC FROM FEEDTHRU. SLIDE CERAMIC SPACERS ONTO EACH OF THE FOUR FEEDTHRU TERMINALS AND RE-INSTALL LARGE CERAMIC DISC. PUSH DISC UNTIL SPACERS ARE TIGHT AGAINST INTERNAL FEEDTHRU WALL.
 - LIGHTLY INSTALL SETSCREWS (QTY 2) INTO COMMON GROUND ROD AND SLIDE IT OVER TERMINAL "D" ON FEEDTHRU (SHORTEST TERMINAL). FLAT SURFACE ON ROD MUST BE ORIENTED AS SHOWN IN SECTION C-C. PUSH ROD TIGHT AGAINST CERAMICS WHILE SECURING SETSCREWS TO PREVENT WOBBLE.
 - CERAMIC DISC SUPPLIED WITH FEEDTHRU.

| | | | |
|---|--|--|---|
| METRIC THIRD ANGLE PROJECTION | UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS. SURFACE ROUGHNESS IN MICROMETERS TOLERANCES: LINEAR .0013 HOLES .013 ANGULAR (±) MACHINED 0.5° FORMER 5° CHAMFER 1:4 MACHINED SURFACES ✓ BREAK SHARP EDGES: R.2 OR 45° 0.2 MAX. INTERNAL MACH CORNER R.4 MAX. | R GOLLA 27-Apr-10 CHK DATE APPY R GOLLA DATE 27-10 R1 R GOLLA TOLERANCING AND DIMENSIONING PER ANSI Y14.5M - 1982 THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND ANY REPRODUCTION, DISSEMINATION OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS GRANTED BY GAMMA VACUUM OR OTHERWISE. AGREE TO IN WRITING. | Gamma Vacuum 2915 133rd Street West • Shakopee, MN TITLE TSP, 3 FILAMENT, 2.75 CF, MS, STD SIZE: DRAWING NO. 360819 REV. A SCALE 1:1000 DETACHED <input checked="" type="checkbox"/> PL <input type="checkbox"/> SPEC SH. 2 OF 3 |
|---|--|--|---|

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SECTION C-C

| | | | |
|---|--|---|---|
| METRIC THIRD ANGLE PROJECTION | <small>UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS. SURFACE ROUGHNESS IN MICROMETERS.</small> TOLERANCES: LINEAR ± 0.13 HOLES ± 0.13 ANGULAR $\pm 0.5^\circ$ MACHINED SURFACES: CHAMFER 5° 1.6 BREAK: SHARP EDGES: $R.2$ OR 45° 0.2 MAX. INTERNAL MACH CORNER $R.4$ MAX. | DWG: R GOLLA DATE: 4-27-10 CHK: DATE: APPY: R GOLLA DATE: 27-10 R1: R GOLLA TOLERANCING AND DIMENSIONING PER ANSI Y14.5M - 1982 | Gamma Vacuum 2915 133rd Street West • Shakopee, MN TITLE: TSP, 3 FILAMENT, 2.75 CF, MS, STD SIZE: DRAWING NO. 360819 REV. A SCALE: 4:000 DETACHED <input type="checkbox"/> PL <input type="checkbox"/> SPEC SH. 3 OF 3 |
| | <small>THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND ANY REPRODUCTION, DISCLOSURE OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS AGREED TO IN WRITING.</small> | | |