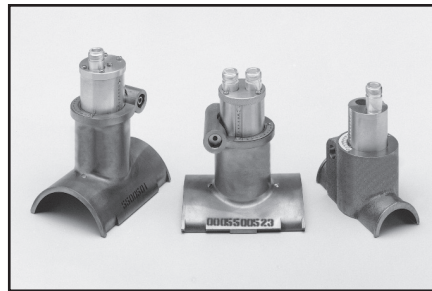


**1-5/8", 3-1/8", 4-1/16" 6-1/8",  
7-3/16", 8-3/16", 9-3/16"**

- **Low VSWR**
- **30 dB Directivity or Greater**
- **Type N Output**
- **Field Replaceable Resistor**



Dielectric VHF/UHF Directional Couplers are designed to couple signals from a transmission line to external monitoring equipment for tuning, operating, and maintaining the station. By installing several couplers in the output transmission line, it is possible to monitor parameters including: VSWR, RF line power, system losses, sideband response, and filter performance.

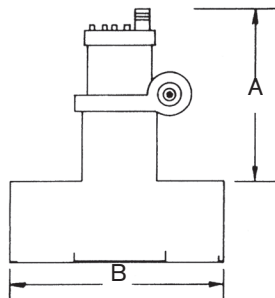
The directional characteristic of the coupler permits sampling of the transmitter output line without any of the inherent variations in frequency response obtained with non-directional couplers. The voltages obtained with a directional coupler in the line are a sample of either the incident or reflected wave. The directional coupler provides a source impedance to the RF coaxial cable equal to the characteristic impedance of the cable.

These directional couplers are designed for mounting on any section of transmission line with an impedance of 50 or 75 ohms. Coupling is electromagnetic with directivity of 30 dB or better, and is accomplished with a coupling loop inserted into the fields of the main output line. Etched angle and penetration scales on the coupler assembly permit accurate adjustment for calibration of the output voltage at the particular frequency desired. The output is type "N" and at maximum, 2-3 watts. VSWR is 1.03:1 or less.

The coupling loop termination resistor is a high tolerance, fixed composition resistor which is field replaceable.

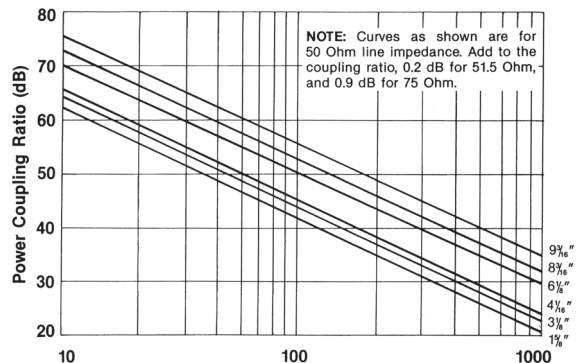
Outer Diameter	Part Number	Dimensions		Weight lbs.
		A.max.	B	
<b>SINGLE</b>				
1-5/8"	4270-503	3.63"	4"	3.5
3-1/8"	5500-501	5.13"	4.5"	4
4-1/16"	5500-518	5.13"	4.5"	4
6-1/8"	5500-502	5.13"	4.5"	4
7-3/16"	5500-502	5.13"	4.5"	4
8-3/16"	5500-517	5.13"	4.5"	4
9-3/16"	5500-504	5.13"	4.5"	4
<b>DUAL</b>				
3-1/8"	5500-525	5.13"	4.5"	4
4-1/16"	5500-526	5.13"	4.5"	4
6-1/8"	5500-523	5.13"	4.5"	4
7-3/16"	5500-523	5.13"	4.5"	4
8-3/16"	5500-524	5.13"	4.5"	4
9-3/16"	5500-527	5.13"	4.5"	4

Supplied with Hose Clamps.



**MOUNTING NOTE:** A hole is made in outer conductor to accommodate the coupler.

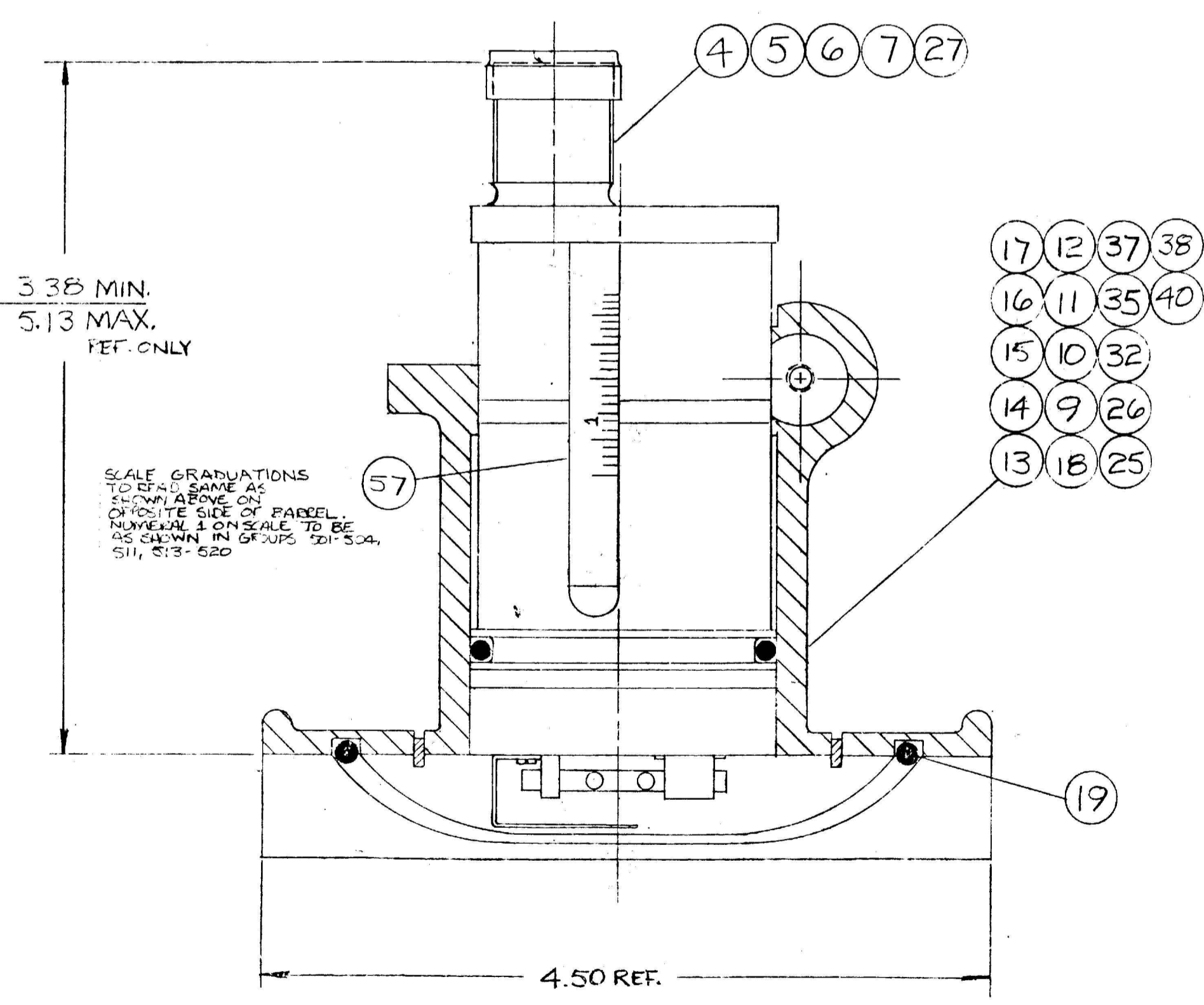
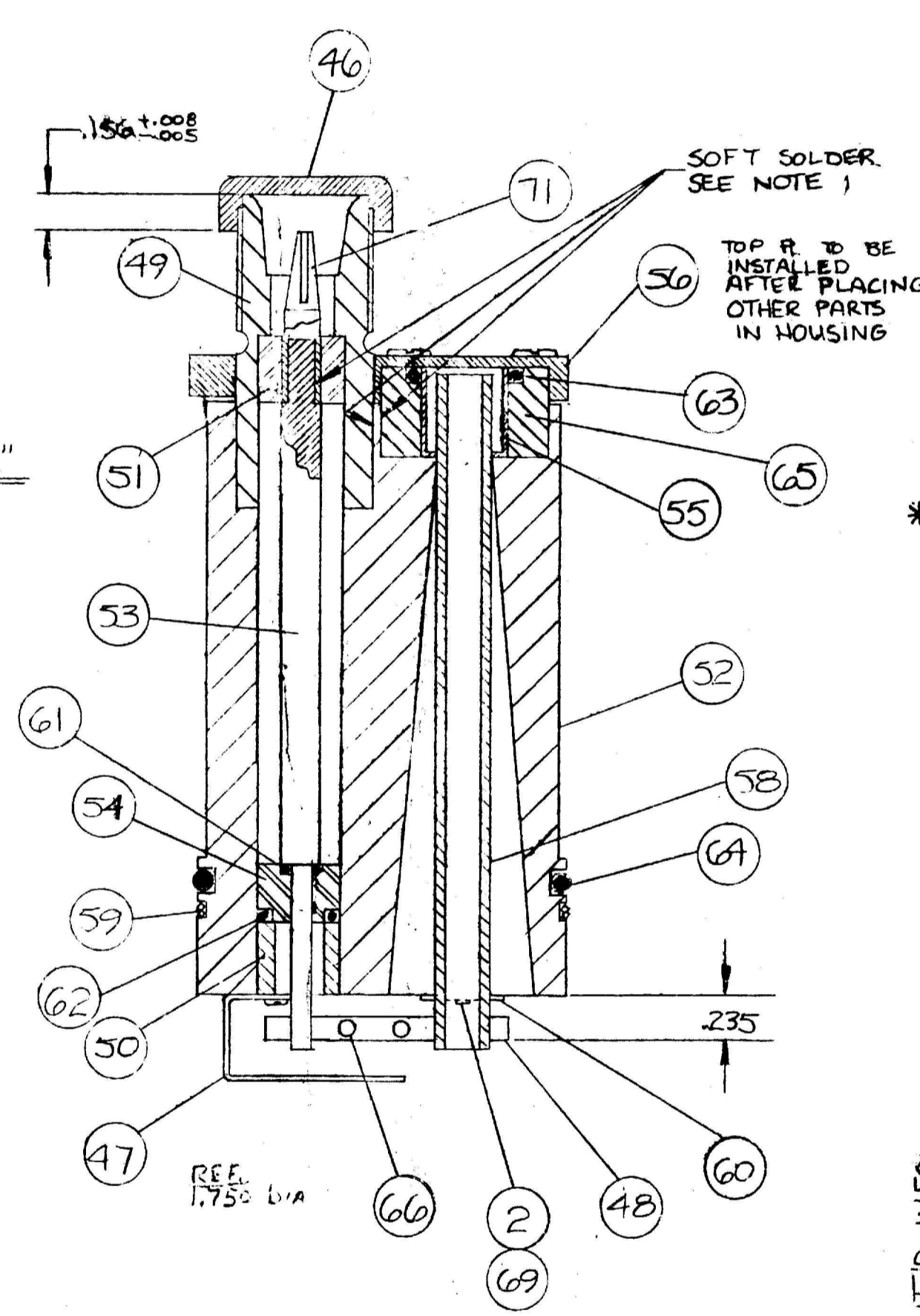
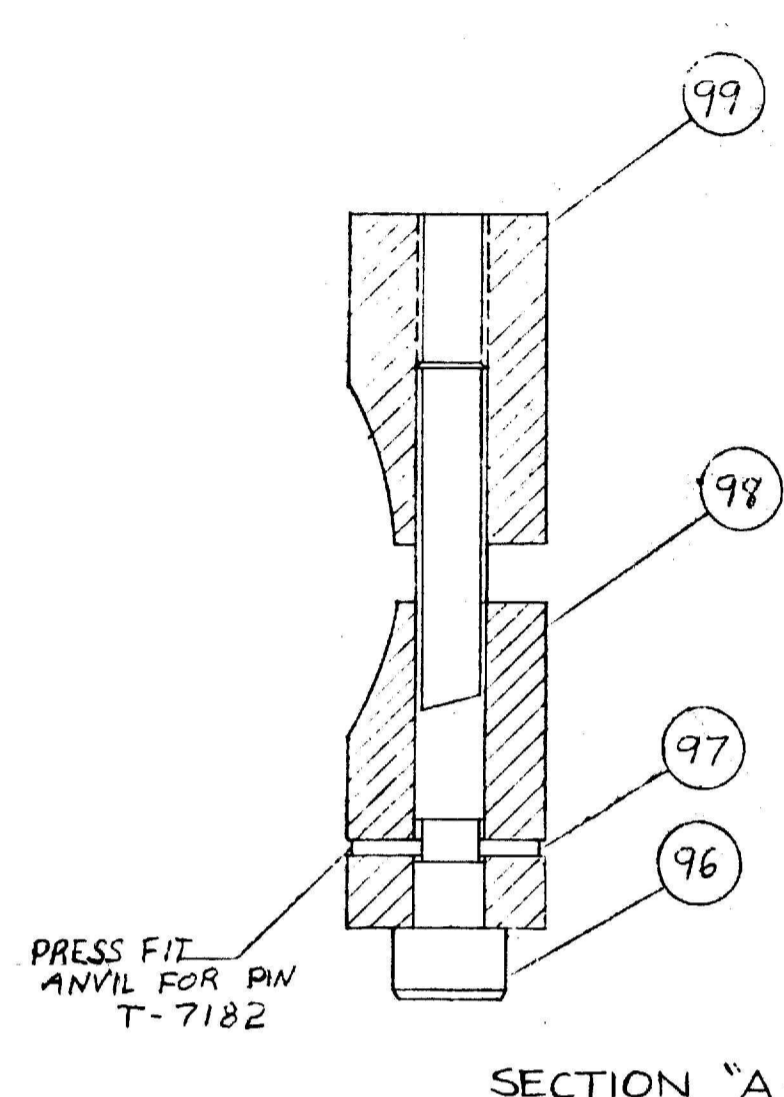
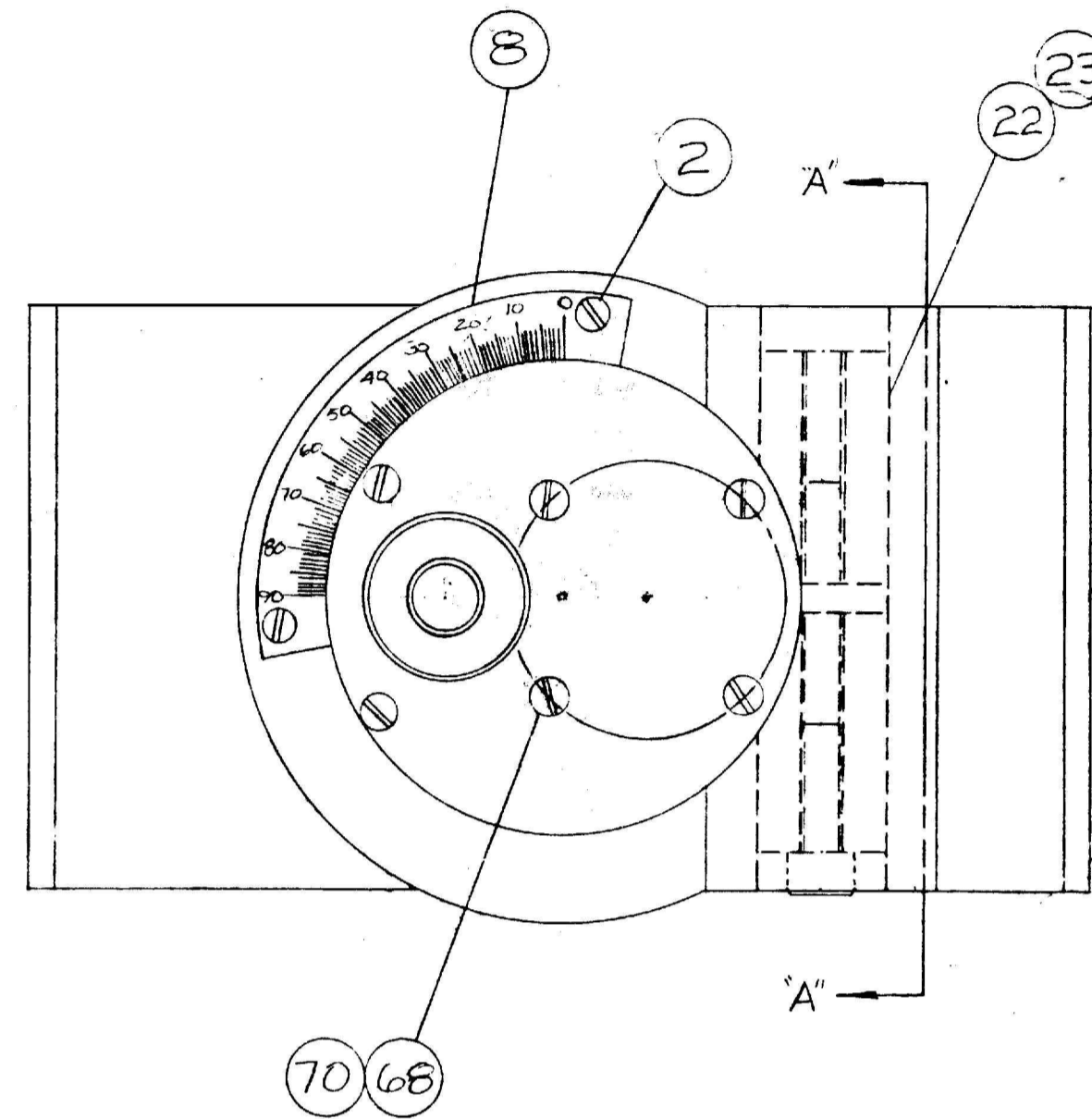
Frequency (MHz)  
 Note: Maximum coupling ratio is approximately 50 dB greater than the minimum values shown.



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REVISIONS				
SYM	DESCRIPTION	DATE	APPROVED	
C	REDRAWN - SAME DRAWING NO CHANGES	02 11-15-84		
-	ADDED SHT 2 & GROUPS 523 THRU 527	VZ 12-6-87		
-	REDRAWN TO CLEAN UP (THIS PAGE ONLY)	JD 3-5-92	RP	

SEE SHEET 2 FOR CONT.



- REF. NOTES:
- ITEM 20 (GR 501) PACKING LIST
  - ITEM 21 (GR 502) PACKING LIST
  - ITEM 24 (GR 507-510) ELEC. SPECS
  - ITEM 29 (GR 501) OUTLINE DRAWING
  - ITEM 30 (GR 501 & 502) INSTRUCTION BOOK \* FURNISHED BY RCA
  - ITEM 31 (GR 502) OUTLINE DRAWING

- NOTE:
- SEE C-2443E FOR HIGH DIRECTIVITY UNPRESSURIZED SEE C-4270
- USE HOLLOW MILL NR. T-1560 FOR REMOVING EXCESS SHOULDER
  - PRESS LOCKING SPACER #50 IN PLACE SO AS TO CAPTIVATE THE INNER #48 AND TO SEAL "O" RING #62
  - NO "O" RINGS IN ITEM 4 WHEN USED IN GR. 519

GROUPS 501 THRU 522 AS SHOWN ABOVE  
SEE SHT 2 FOR GROUPS 523 THRU 534

FOR ASSY WITH LINE SEE C-6207

QTY	DESCRIPTION	DRAWING OR IDENT. NO.	PART OR GROUP	MATERIAL	FN
1	46 BODY ASSY	C-8140	510		
1	45 BODY ASSY	C-5488	517		
1	44 HOUSING ASSY	C-19541	514		
2	43 HOSE CLAMP	A-2187	26		
2	42 HOSE CLAMP	A-2187	21		
1	41 HOSE CLAMP	A-2187	17		
1	40 BODY ASSY	C-5488	515		
1	39 HOSE CLAMP	A-2187	24		
1	38 BODY ASSY	C-5488	514		
1	37 HOUSING ASSY	C-16432	503		
1	36 HOSE CLAMP	A-2187	27		
1	35 BODY ASSY	C-5488	513		
1	34 HOSE CLAMPS	A-2187	25		
1	33 BODY ASSY	C-5488	512		
1	32 HOUSING ASSY	C-19541	503		
1	31 OUTLINE DRAWING	482739	Z	SEE NOTE 6	
1	30 INSTRUCTION BOOK *	1B-36271		SEE NOTE 5	
1	29 OUTLINE DRAWING	8723427		SEE NOTE 4	
2	28 HOSE CLAMPS	A-2187	13		
2	27 BODY ASSY	C-8140	505		
1	26 BODY ASSY	C-5488	510		
1	25 BODY ASSY	C-5488	509		
1	24 ELEC. SPECS	8984579		SEE NOTE 3	
1	23 LOCKING BAR ASSY	B-4909	503		
1	22 LOCKING BAR ASSY	B-4909	502		
1	21 PACKING LIST	MI-27382		SEE NOTE 2	
1	20 PACKING LIST	MI-27390		SEE NOTE 1	
1	19 "O" RING	D-14000	234		
1	18 HOUSING ASSY	B-7746	502		
1	17 BODY ASSY	C-5488	508		
1	16 HOUSING ASSY	B-7746	501		
1	15 BODY ASSY	C-5488	505		
1	14 BODY ASSY	C-5488	504		
1	13 BODY ASSY	C-5488	503		
1	12 BODY ASSY	C-5488	502		
1	11 BODY ASSY	C-5488	501		
1	10 HOUSING ASSY	C-19541	501		
1	9 HOUSING ASSY	C-16432	501		
1	8 ANGULAR SCALE	A-5533	1		
1	7 BODY ASSY	C-8140	504		
1	6 BODY ASSY	C-8140	503		
1	5 BODY ASSY	C-8140	502		
1	4 BODY ASSY	C-8140	501		
3	3 BODY ASSY	C-5488	510		
1	2-50x 3/16" Lb. R.H.M.S.	606256019	CRES		
1	ASSSEMBLY				

SEE SHEET 2 FOR CONT'D INFO.

<p>DATE: OCT 30, 1954 DR. BY: R. TOMS CHKD BY: CH DRFN: ENG APPVL:</p>		<p>TITLE <b>DIRECTIONAL COUPLER ASSEMBLY</b></p>	
<p>CODE IDENT. NO. <b>08441 D</b></p>		<p>REV. <b>E</b></p>	
<p>SCALE</p>		<p>SHEET 1 OF 2</p>	

GR	WT	GR	WT	GR	WT	GR	WT
501		507		513		519	
502	44lb	508		514		520	
503		509		515		521	
504		510		516		522	
505		511		517		523	
506		512		518		524	

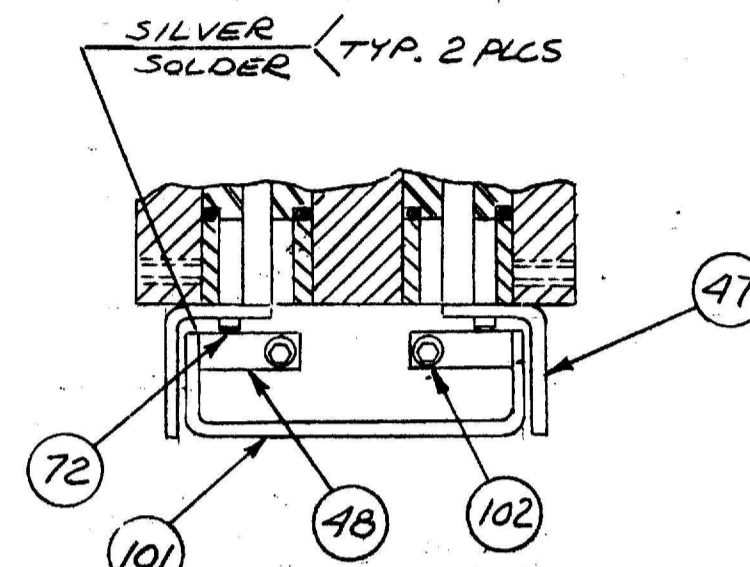
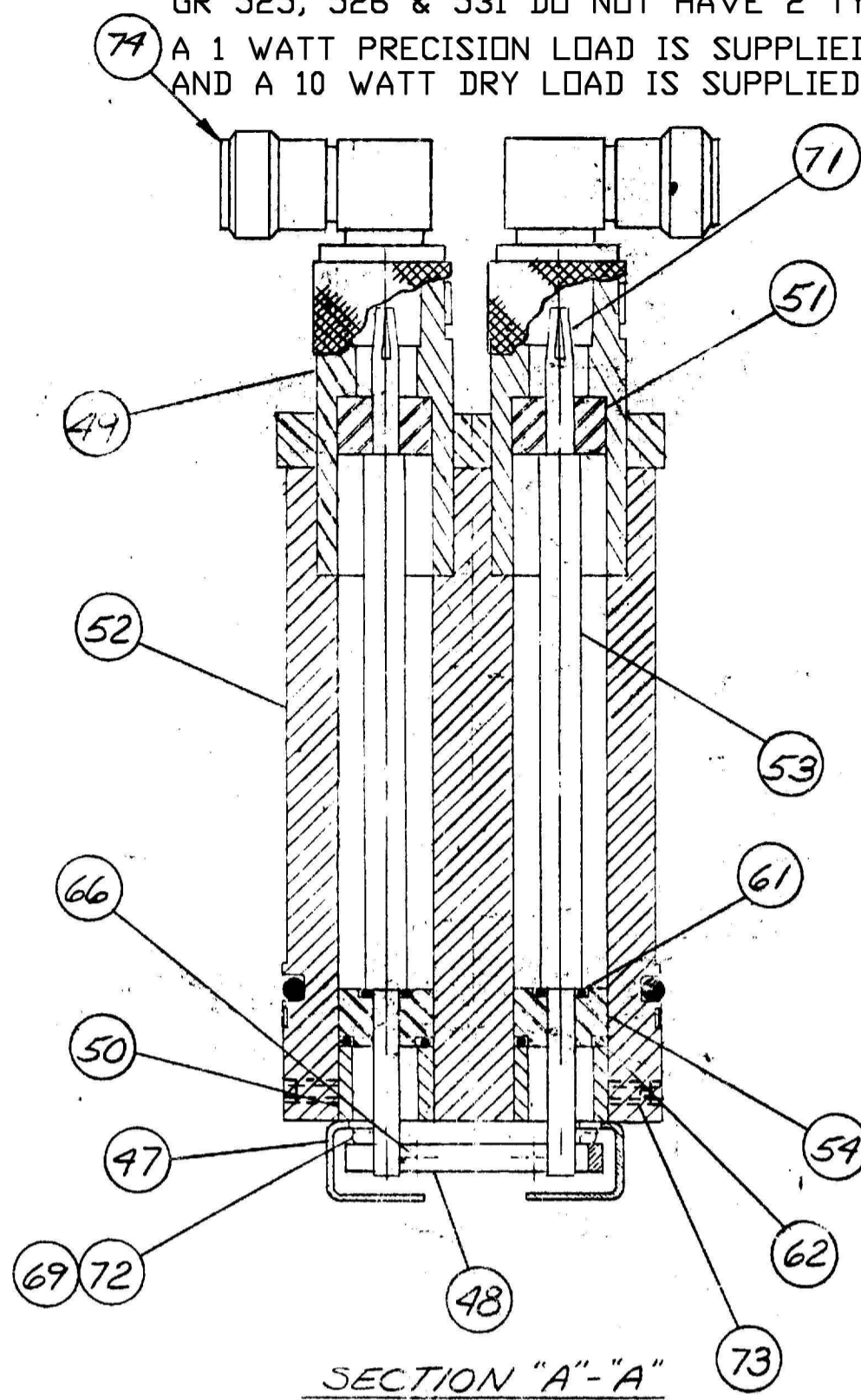
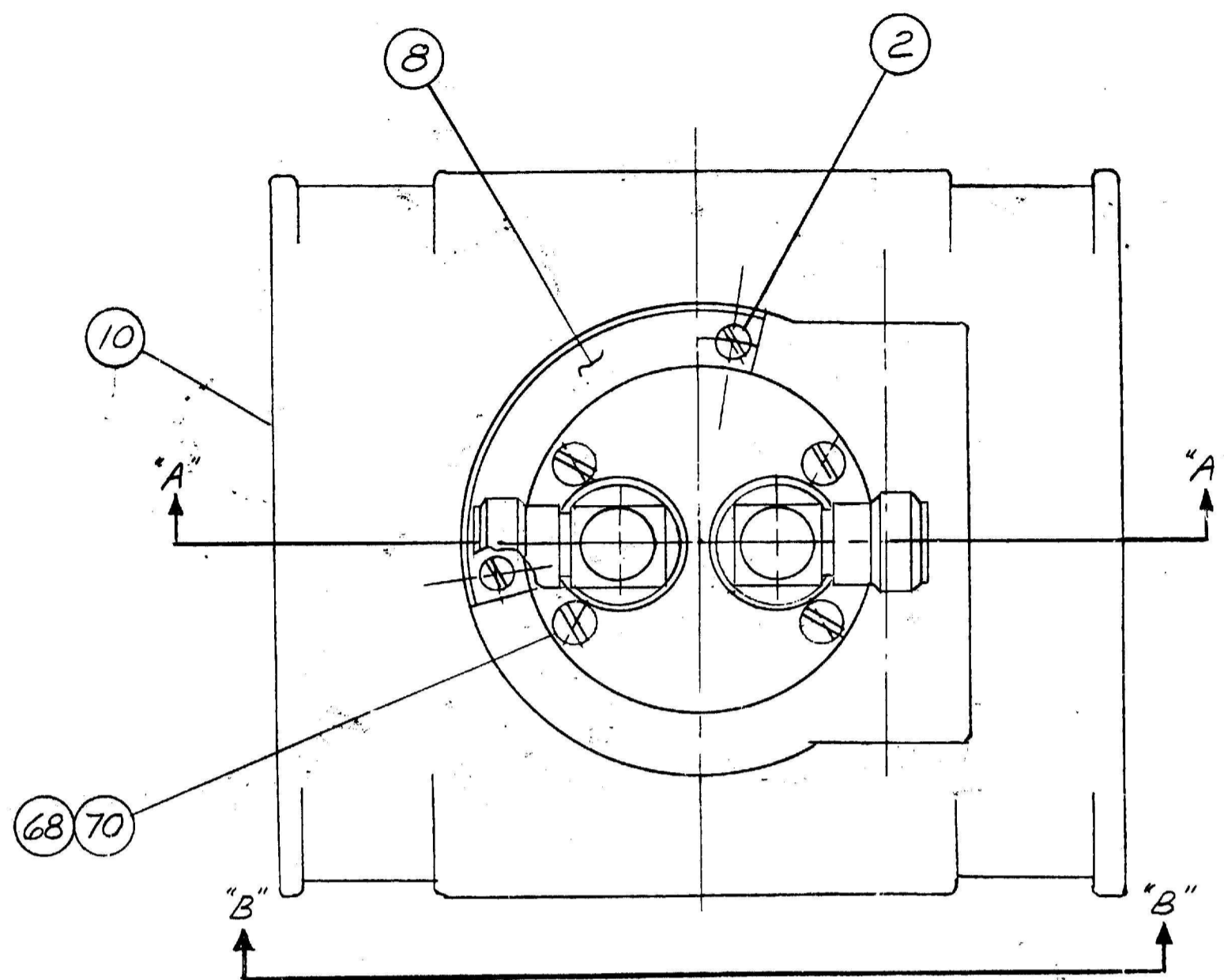
DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED:  
3 PLACE DIMENSIONS ± .008  
2 PLACE DIMENSIONS ± .02  
ANGULAR DIMENSIONS ± 9'30"  
REF DIMENSIONS ARE NOT FOR MANUFACTURING OR INSPECTION

ALL SCREW THREADS TO BE CLASS 3 FIT (AMERICAN STANDARD) UNLESS OTHERWISE SPECIFIED

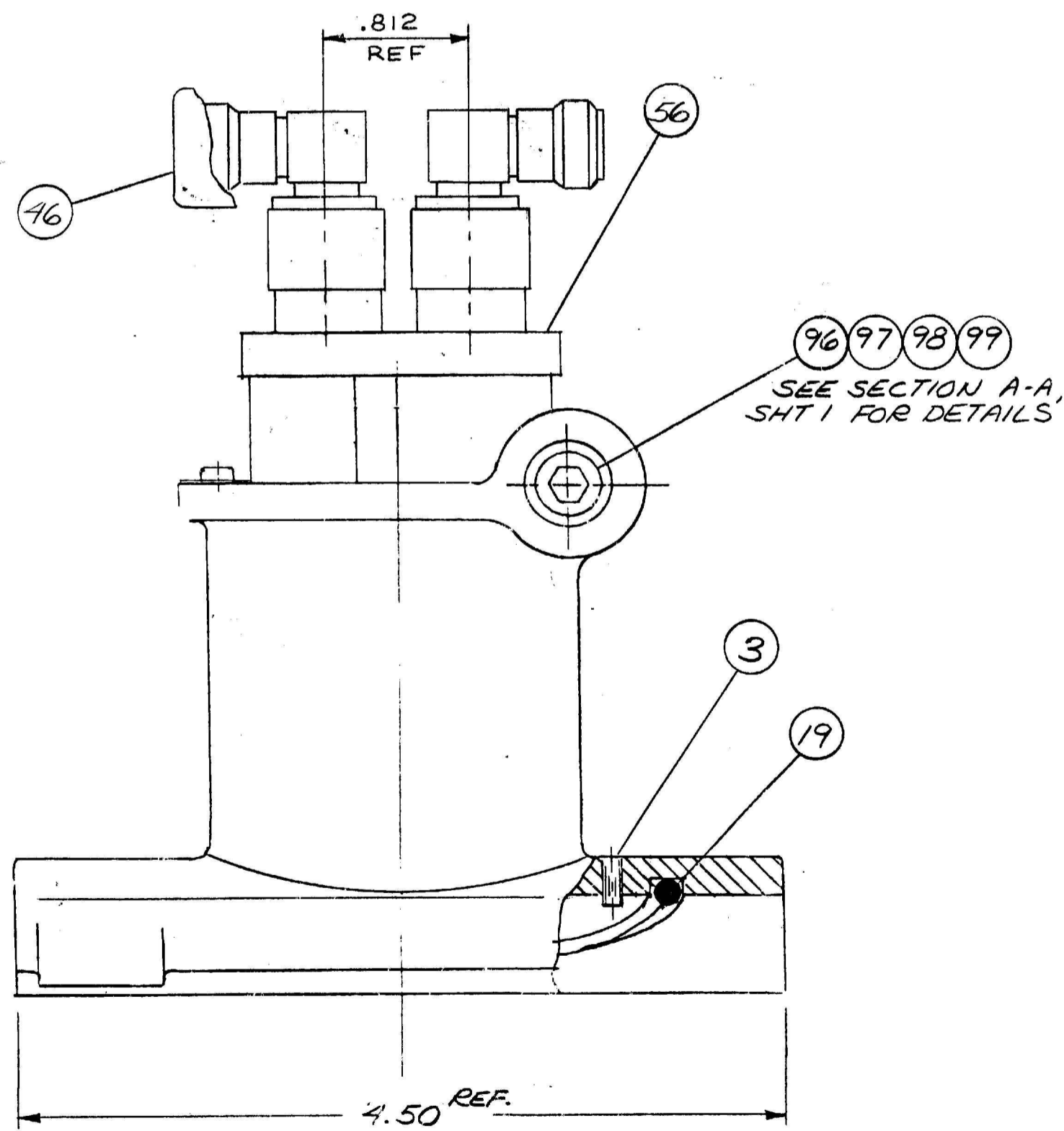
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NOTE:

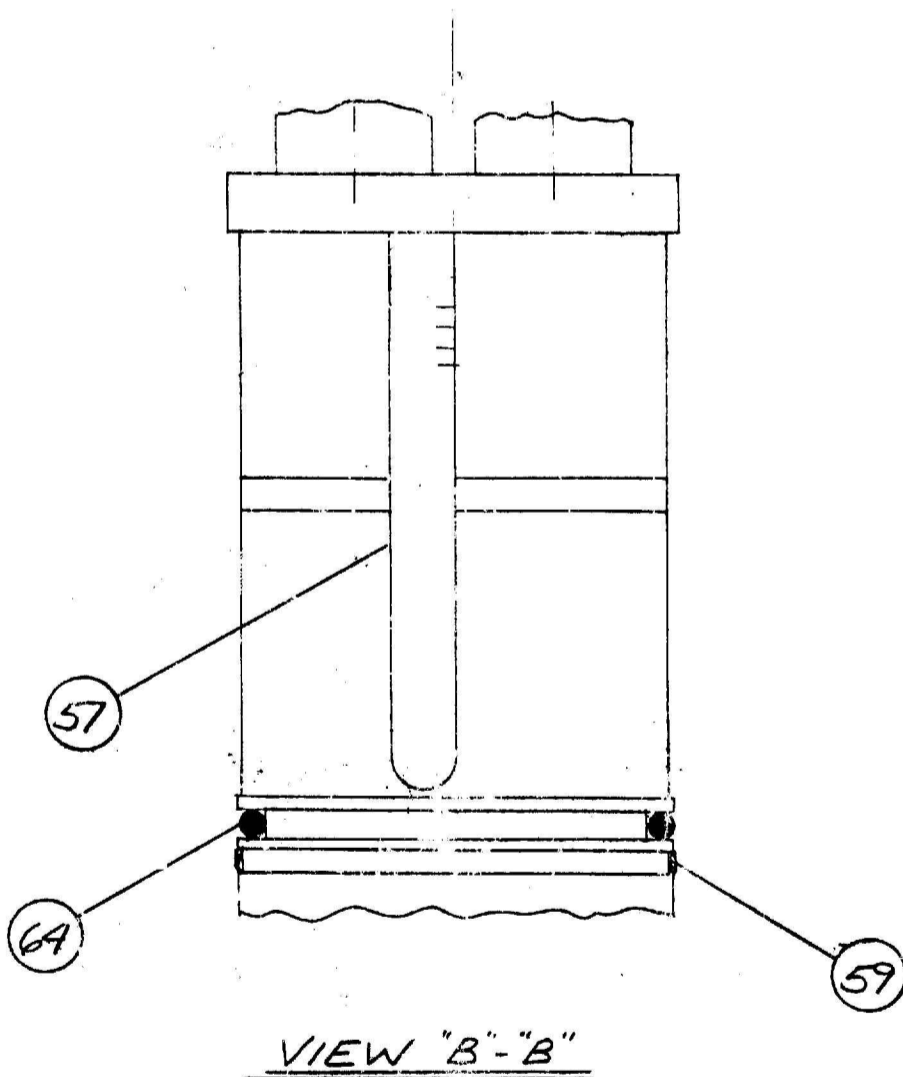
GR 525, 526 & 531 DO NOT HAVE 2 TYPE 'N' ELBOWS.  
A 1 WATT PRECISION LOAD IS SUPPLIED WITH GR 525, 526, & 531  
AND A 10 WATT DRY LOAD IS SUPPLIED WITH GR 523, 529, & 530



DETAIL "A"  
SECTION "A"- "A" FOR  
GROUP 529 & 530 & 532 & 533



96 97 98 99  
SEE SECTION A-A,  
SHT 1 FOR DETAILS



VIEW "B"- "B"

REVISIONS				
SYM	DESCRIPTION	DATE	APPROVED	
-	ADDED ITEMS 73 & 74	7-19-90	VI	
-	GP 528 ADDED	12-3-90	ANS	Q
-	ADDED DETAIL "A" & GROUP 529	9-28-93	VI	RP
-	DELETED ITEM 67 (SCREEN) FROM SIDE VIEW / DETAIL B-B	10-19-93	VI	
-	ADDED GR 530	5/16/97	LDW	DBF
-	ADDED GR 531 & 534 FOR 512	6/12/97	DBF	
-	IN BOM REPLACED P/N 000 5491-1 & 2 WITH P/N 0005491-7	10-10-97	JPM	
-	ADDED GR 532, UPDATED TAB, ADDED NOTE	12/3/97	DBF	Big RP
-	ADDED GR 533 & 534	12-15-97	MCD	Big RP
-	ADDED GR 535	5-3-99	WSH	Big RP
E	CHANGED B.O.M. ON 525 & 526 SEE ECO	2/26/01	KJL	LDW AVC
-	ADDED GRP 536	4/11/01	WSH	DBF DS

GROUP	DESCRIPTION	MAT'L	FINISH	REMARKS
523	6 1/8 PRESSURIZED	BRASS	---	W/ 10 WATT EXTERNAL LOAD
524	8 3/16 PRESSURIZED	BRASS	---	
525	3 1/8 STANDARD WALL	BRASS	---	W/ 1 WATT EXTERNAL LOAD
526	9 1/16 PRESSURIZED	BRASS	---	W/ 1 WATT EXTERNAL LOAD
527	9 3/16 PRESSURIZED	BRASS	---	
528	BARREL ASSY PRESSURIZED	BRASS	---	
529	6 1/8 PRESSURIZED, HEAVY CPLED	BRASS	---	HEAVY COUPLING W/EXTERNAL LOAD
530	4 1/6 PRESSURIZED, HEAVY CPLED	BRASS	---	HEAVY COUPLING W/EXTERNAL LOAD
531	4 1/4 PRESSURIZED	BRASS	---	FOR 4.250 O.D. ALUM. OUTER COND.
532	3 1/8 PRESSURIZED, HEAVY CPLED	BRASS	---	HEAVY COUPLING W/EXTERNAL LOAD
533	10" PRESSURIZED, HVY. CPL.	BRASS	---	HVY. CPL. W/EXT. LOAD
534	10" PRESSURIZED	BRASS	---	W/EXT. LOAD, 10 WATT
535	7 3/16 PRESSURIZED	BRASS	---	W/10 WATT EXTERNAL LOAD
536	3 1/8 HEAVY WALL	BRASS	---	W/1 WATT EXT LOAD

NOTE:  
FOR ADDITIONAL INFORMATION, REFER TO SHT 1,  
AS APPLICABLE.

GROUPS 523 THRU 527 AS SHOWN ABOVE  
SEE SHT 1 FOR GROUPS 501 THRU 522

PART NO: SEE TABLE	DIMENSIONAL TOLERANCES (UNLESS OTHERWISE NOTED): • HOLE DIMENSIONS ± .015 • PLATE DIMENSIONS ± .010 • ANGULAR DIMENSIONS ± 0.130 • ALL DIMENSIONS ARE NOT FOR MANUFACTURING OR INSPECTION	GS DIELECTRIC COMMUNICATIONS A UNIT OF GENERAL SIGNAL	
MATERIAL: SEE B.O.M.		TITLE DIRECTIONAL COUPLER ASSEMBLY	
DATE: 12-7-89	DESIGNED BY: V. IRONS	CODE IDENT. NO. 08441D	REV. 5500
SEE TABLE	DATE: 12-7-89	DESIGNED BY: V. IRONS	REV. E