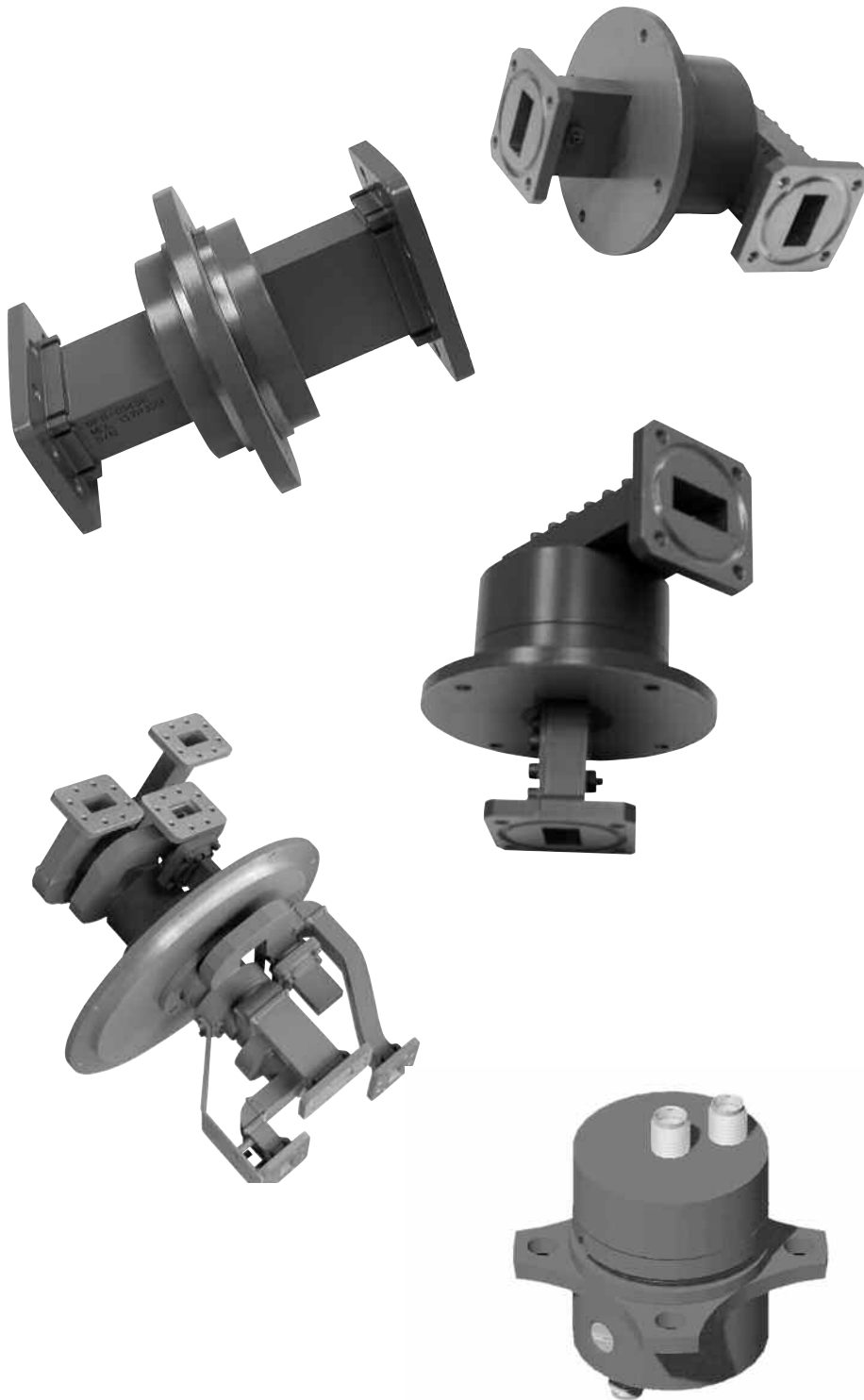


Section 3

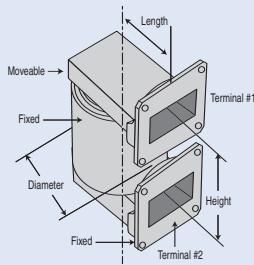
Rotary Joints



Introduction

For more than forty years, MDL has produced waveguide rotary joints and is one of the major suppliers in both domestic and overseas markets. Many of the larger military systems use custom designed MDL joints. We are proud of this and continue to fully support the experienced engineering and manufacturing groups that produce these high quality components. This catalog lists some of our outstanding models. MDL's engineering group is experienced in developing specials to meet your specific requirements.

Ordering Information*



Example: 90RU116-20P-I-E-M

A Basic model number is shown in the catalog for each style and frequency range. In ordering, specify this model number plus:

- Power Level & Pressure** at which the point will be operated. The peak power ratings specified are based on the use of dry air or nitrogen and a pulse length of 2.75 μ sec. Higher levels can be achieved using special dielectric gases. Contact our engineering department for cw ratings.
- Material** – Aluminum or brass are standard.
- Flange Terminations** – Specify the flange types at the fixed and moveable arms. Flanges per MIL-F-3922 are standard but others can be supplied on special order.
- Finish** – The standard finish for aluminum joints is an iridite coating per MIL-C-5541. Brass models are silver plated per MIL-QQ-S-365A. A blue paint, per Federal Standard, 595, color #25109, may be applied if requested. Other metal finishes and paints are available.
- Mounting Flange** – A mounting flange attached to the fixed arm with the center line at one half the height dimension may be supplied on request. Standard flanges are shown on the proceeding page. Others can be supplied on special order.
- Leak Rate** – The standard leak rate for pressurized units is 0.2 CU in/min.

MODEL NUMBER PRESSURIZED TERMINAL FLANGE MATERIAL MOUNTING FLANGE

90RU116 - 20P - I - E - M

Pressurized for 20PSIG.
Number indicates desired pressure

For non-pressurized, omit numerals and "P".

Flange Termination - 2 Flanges

Flange	Port 1 Moveable Arm	Port 2 Fixed Arm
1	Cover	Cover
2	Cover	Choke
3	Choke	Cover
4	Choke	Choke

Flange Termination - 4 Flanges

Flange	Port 1	Port 2	Port 3	Port 4
1	Cover	Cover	Cover	Cover
2	Cover	Cover	Cover	Choke
3	Cover	Cover	Choke	Cover
4	Cover	Cover	Choke	Choke
5	Cover	Choke	Cover	Cover
6	Cover	Choke	Cover	Choke
7	Cover	Choke	Choke	Cover
8	Cover	Choke	Choke	Choke
9	Choke	Cover	Cover	Cover
10	Choke	Cover	Cover	Choke
11	Choke	Cover	Choke	Cover
12	Choke	Cover	Choke	Choke
13	Choke	Choke	Cover	Cover
14	Choke	Choke	Cover	Choke
15	Choke	Choke	Choke	Cover
16	Choke	Choke	Choke	Choke

Material and Finish

Code	Material	Finish
C	Aluminum Alloy	Chromated
D	Copper Alloy	Silver Plated
E	Aluminum Alloy	Chromated and Painted Blue
F	Copper Alloy	Silver Plated and Painted Blue

Mounting Flange

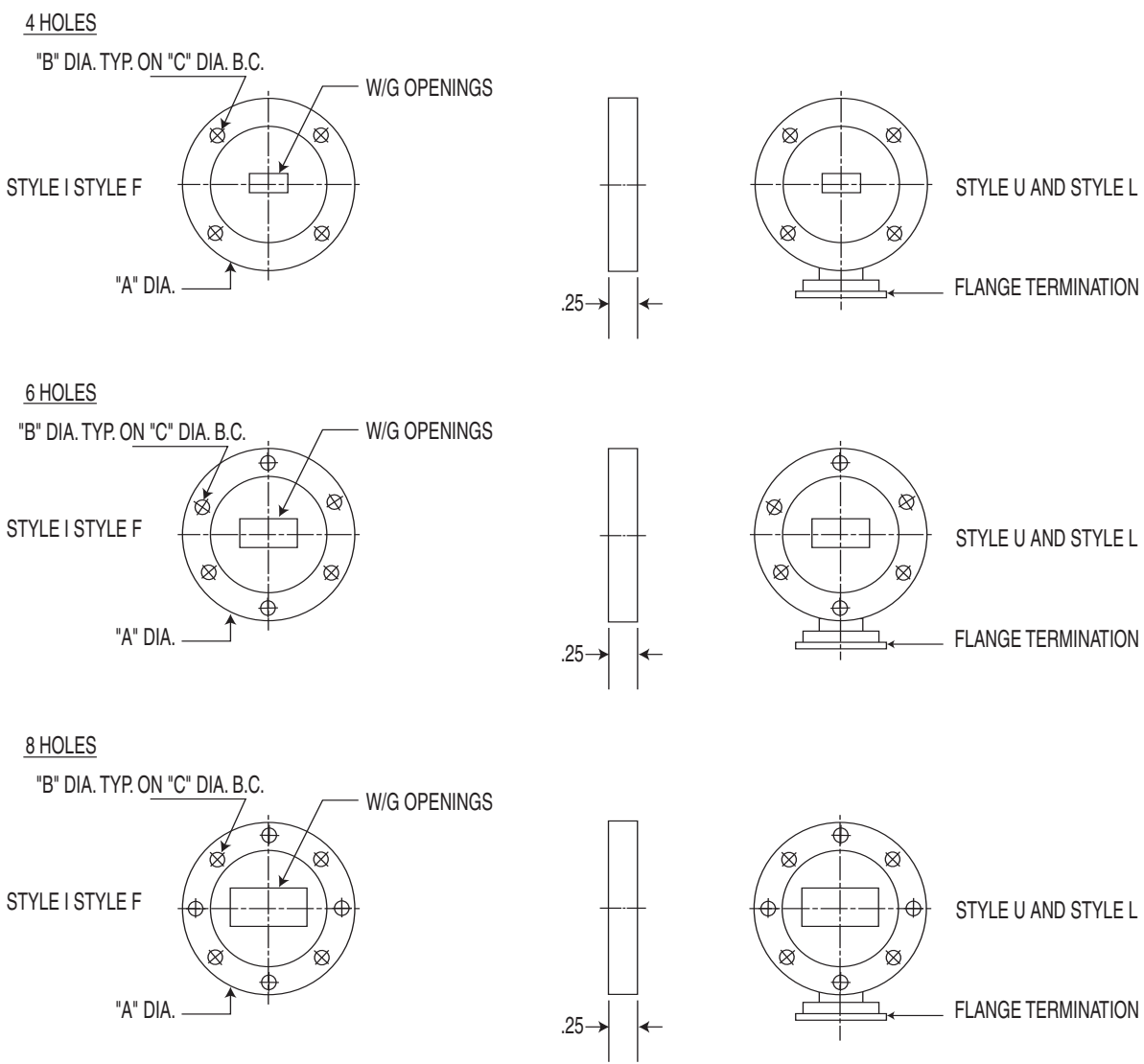
For joints without flanges, omit numerals and "M".

BAND	A DIA.	B DIA.	C DIA.	NO OF HOLES
WR22	2.88	0.166	2.516	4
WR28	2.88	0.166	2.516	4
WR34	2.88	0.166	2.516	4
WR42	2.00	0.166	1.625	4
WR62	2.78	0.166	2.310	4
WR75	3.00	0.213	2.625	4
WR90	2.78	0.166	2.310	4
WR112	3.25	0.166	2.750	6
WR137	3.87	0.209	3.245	6
WR159	4.25	0.209	3.625	6
WR187	4.25	0.209	3.625	6
WR229	4.94	0.266	4.190	8
WR284	5.75	0.266	5.187	8

* MDL reserves the right to discontinue or change specifications without notice.

Mounting Flange Configurations

Circumferential location of equally spaced holes are as follows:

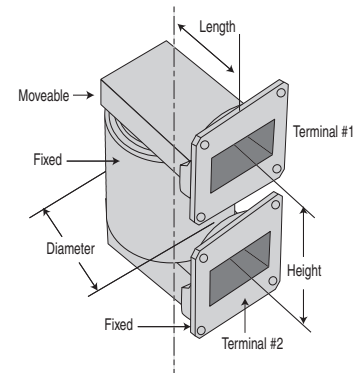


"U" Style Rotary Joints

"U" Style, two arms are 90° to the rotating axis, one is fixed to the housing-one free to rotate.

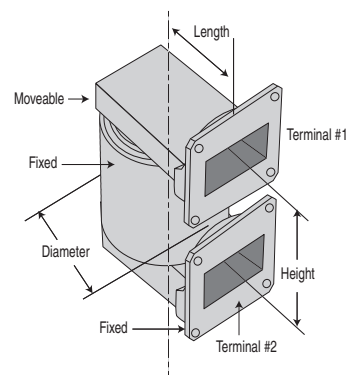
3

BAND	FREQ. RANGE GHz	MDL MODEL	VSWR	WOW MAX	INSERTION LOSS MAX	PEAK POWER AT				CW	HOUSING DIA.	HGT	LTH		
						0	15	30	45						
						PRESSURE (PSIG)									
WR22	43.5 - 45.5	22RU16	1.50	1.05	1.00						2.00	1.34	2.25		
WR28	32.2 - 33.0	28RU16	1.15	1.05	0.25	20	50	80	-		2.00	1.335	2.250		
	34.5 - 35.5	28RU26	1.15	1.05	0.25	20	50	80	-		2.00	1.235	2.250		
	27.5 - 30.0	28RU36	1.20	1.05	0.20	20	50	80	-		1.99	1.23	2.25		
	34.5 - 35.5	28RU46	1.40	1.10	0.50				2	350 W	1.63				
WR34	27.5 - 30.0	34RU16	1.20	1.02	0.20					600 W	1.99	1.24	2.25		
	23.0 - 28.0	34RU26	1.20	1.02	0.20					300 W	1.62	1.24	2.25		
	29.2 - 29.6	34RU36	1.20	1.05	0.40					300 W	1.62	1.24	2.25		
WR42	18.1 - 20.2	42RU16	1.20	1.03	0.20	20	50	80	-		1.25	1.82	1.38		
WR62	13.5 - 14.5	62RU136	1.15	1.03	0.10	30	65	120	-		1.81	2.00	1.38		
	13.5 - 14.5	62RU146	1.20	1.03	0.10	100	200	380	-		1.81	2.00	1.38		
	14.0 - 15.0	62RU156	1.10	1.02	0.10	30	65	120	-		1.81	2.00	1.38		
	14.0 - 15.0	62RU166	1.15	1.02	0.10	100	200	380	-		1.81	2.00	1.38		
	14.5 - 15.5	62RU176	1.10	1.02	0.10	30	65	120	-		1.81	2.00	1.38		
	14.5 - 15.5	62RU186	1.15	1.02	0.10	100	200	380	-		1.81	2.00	1.38		
	15.0 - 16.0	62RU196	1.10	1.02	0.10	30	65	120	-		1.81	2.00	1.38		
	15.0 - 16.0	62RU206	1.15	1.02	0.10	100	200	380	-		1.81	2.00	1.38		
	15.5 - 16.5	62RU216	1.10	1.02	0.10	30	65	120	-		1.81	2.00	1.38		
	15.5 - 16.5	62RU226	1.15	1.02	0.10	100	200	380	-		1.81	2.00	1.38		
	16.0 - 17.0	62RU236	1.10	1.02	0.10	30	65	120	-		1.81	2.00	1.38		
	16.0 - 17.0	62RU246	1.15	1.02	0.10	100	200	380	-		1.81	2.00	1.38		
	13.5 - 17.0	62RU256	1.35	1.03	0.15	30	65	120	-		1.81	2.00	1.38		
	17.3 - 18.4	62RU266	1.20	1.02	0.25					1.1 KW	1.63	1.75	1.75		
WR75	10.0 - 15.0	75RU16	1.30	1.02	0.50						1.81	1.91	2.00		
	10.7 - 12.75	75RU26	1.20	1.02	0.20					1.1 KW	2.10	1.97	2.00		
	14.0 - 14.5	75RU36	1.10	1.02	0.10			30		1 KW	1.50	3.59	1.03		
WR90	8.2 - 9.0	90RU226	1.15	1.02	0.10	175	350	665	-		1.81	2.00	1.38		
	8.2 - 9.0	90RU236	1.20	1.02	0.10	250	500	950	-		1.81	2.00	1.38		
	8.5 - 9.6	90RU246	1.10	1.02	0.10	175	350	665	-		1.81	2.00	1.38		
	8.5 - 9.6	90RU256	1.15	1.02	0.10	250	500	950	-		1.81	2.00	1.38		
	9.0 - 10.0	90RU266	1.10	1.02	0.10	175	350	665	-		1.81	2.00	1.38		
	9.0 - 10.0	90RU276	1.15	1.02	0.10	250	500	950	-		1.81	2.00	1.38		
	9.5 - 10.5	90RU286	1.15	1.02	0.10	175	350	665	-		1.81	2.00	1.38		
	10.0 - 11.0	90RU296	1.15	1.02	1.15	175	350	665	-		1.81	2.00	1.38		
	8.2 - 11.0	90RU316	1.35	1.03	0.15	175	350	665	-		1.81	2.00	1.38		
	8.4 - 9.0	90RU326	1.10	1.05	0.20	15				1 KW		1.75	1.38		
WR102	9.8 - 10.5	102RU16	1.15	1.03	0.20			62		4.6 KW		5.19	4.00		
	9.95 - 10.05	102RU26	1.15	1.02	0.10			5		350 W	1.81	2.00	3.62		



"U" Style Rotary Joints

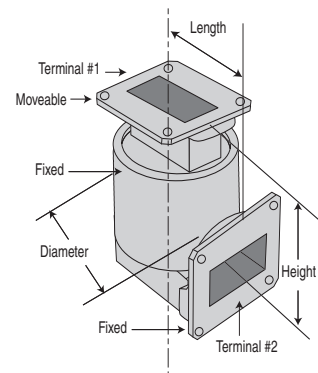
BAND	FREQ. RANGE GHz	MDL MODEL	VSWR	WOW MAX	INSERTION LOSS MAX	PEAK POWER AT				CW	HOUSING DIA.	HGT	LTH		
						0	15	30	45						
						PRESSURE (PSIG)									
WR112	7.5 - 8.5	112RU186	1.10	1.02	0.10	225	450	850	-		2.25	2.39	2.00		
	7.5 - 8.5	112RU196	1.10	1.02	0.10	300	600	1150	-		2.25	2.39	2.00		
	8.0 - 9.0	112RU206	1.10	1.02	0.10	225	450	850	-		2.25	2.39	2.00		
	8.0 - 9.0	112RU216	1.10	1.02	0.10	300	600	1150	-		2.25	2.39	2.00		
	8.5 - 9.6	112RU226	1.10	1.02	0.10	225	450	850	-		2.25	2.39	2.00		
	8.5 - 9.6	112RU236	1.10	1.02	0.10	300	600	1150	-		2.25	2.39	2.00		
	9.0 - 9.9	112RU246	1.15	1.03	0.10	225	450	850	-		2.25	2.39	2.00		
	9.0 - 9.9	112RU256	1.15	1.03	0.10	300	600	1150	-		2.25	2.39	2.00		
	7.5 - 9.6	112RU266	1.35	1.03	0.15	225	450	850	-		2.25	2.39	2.00		
	9.7 - 10.3	112RU276	1.15	1.05	0.15					6 KW	3.05	2.94	4.94		
9.95 - 10.5	112RU286	1.15	1.03	0.25					6 KW			3.50			
WR137	5.8 - 6.8	137RU136	1.10	1.02	0.10	400	800	1525	2200		2.62	3.25	3.00		
	6.5 - 7.5	137RU146	1.20	1.02	0.10	400	800	1525	2200		2.62	3.25	3.00		
	5.8 - 7.8	137RU156	1.35	1.03	0.15	400	800	1525	2200		2.62	3.25	3.00		
	5.8 - 6.4	137RU166	1.20	1.02	0.20		800				2.62	3.25	3.00		
WR159	5.8 - 6.4	159RU26	1.15	1.02	0.10	450	900	1725	2500		3.00	4.00	3.25		
WR187	5.4 - 5.9	187RU166	1.10	1.02	0.10	650	1300	2475	3575		3.00	4.00	3.44		
	5.25 - 6.0	187RU176	1.35	1.03	0.15	650	1300	2475	3575		3.00	4.00	3.44		
	4.5 - 5.85	187RU186	1.25	1.03	0.15	650	1300	2475	3575		3.00	4.00	3.44		
WR229	3.6 - 4.3	229RU26	1.15	1.02	0.10	800	1600	3050	4400		3.44	5.00	5.00		
WR284	2.7 - 3.2	284RU36	1.15	1.02	0.10	1000	2000	3800	5500		4.63	8.00	6.25		



"L" Style Rotary Joints

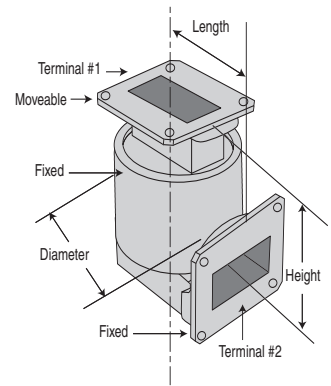
"L" Style, one 90° arm fixed to the housing-one inline arm is free to rotate.

BAND	FREQ. RANGE GHz	MDL MODEL	VSWR	WOW MAX	INSERTION LOSS MAX	PEAK POWER AT				CW	HOUSING DIA.	HGT	LTH		
						0	15	30	45						
						PRESSURE (PSIG)									
WR22	43.5 - 45.5	22RL16	1.50	1.05	1.00						1.20	2.09	1.08		
WR28	34.5 - 35.5	28RL16	1.30	1.10	0.30		2			350 W	1.20	2.09	1.08		
WR34	27.5 - 30.0	34RL16	1.20	1.02	0.20	20	50	80	-		1.99	2.38	2.25		
WR42	20.0 - 20.3	42RL16	1.20	1.02	0.20					600 W	1.25	2.41	1.38		
WR62	13.5 - 14.5	62RL106	1.15	1.02	0.10	30	65	120	-		1.81	2.50	1.38		
	13.5 - 14.5	62RL116	1.20	1.02	0.10	75	165	300	-		1.81	2.50	.38		
	14.0 - 15.0	62RL126	1.10	1.02	0.10	30	65	120	-		1.81	2.50	1.38		
	14.0 - 15.0	62RL136	1.15	1.02	0.10	75	165	300	-		1.81	2.50	1.38		
	14.5 - 15.5	62RL146	1.10	1.02	0.10	30	65	120	-		1.81	2.50	1.38		
	14.5 - 15.5	62RL156	1.15	1.02	0.10	75	165	300	-		1.81	2.50	1.38		
	15.0 - 16.0	62RL166	1.10	1.02	0.10	30	65	120	-		1.81	2.50	1.38		
	15.0 - 16.0	62RL176	1.15	1.02	0.10	75	165	300	-		1.81	2.50	1.38		
	15.5 - 16.5	62RL186	1.10	1.02	0.10	30	65	120	-		1.81	2.50	1.38		
	15.5 - 16.5	62RL196	1.15	1.02	0.10	75	165	300	-		1.81	2.50	1.38		
	16.0 - 17.0	62RL206	1.10	1.02	0.10	30	65	120	-		1.81	2.50	1.38		
	16.0 - 17.0	62RL216	1.15	1.02	0.10	75	165	300	-		1.81	2.50	1.38		
	13.5 - 17.0	62RL226	1.35	1.04	0.20	30	65	120	-		1.81	2.50	1.38		
WR75	10.75-14.5	75RL16	1.20	1.05	0.20					600 W					
	12.2 - 12.75	75RL26	1.20	1.05	0.20					600 W	2.12	3.00	2.00		
	14.0 - 14.5	75RL36	1.20	1.05	0.20					600 W	1.88	3.25	2.00		
	14.0 - 14.5	75RL46	1.15	1.02	0.10			30		1 KW	1.75	3.55	4.00		
WR90	8.2 - 9.0	90RL256	1.15	1.02	0.10	175	350	675	-		1.81	2.64	1.38		
	8.2 - 9.0	90RL266	1.20	1.02	0.10	250	500	950	-		1.81	2.64	1.38		
	8.5 - 9.6	90RL276	1.10	1.02	0.10	175	350	675	-		1.81	2.64	1.38		
	8.5 - 9.6	90RL286	1.15	1.02	0.10	250	500	950	-		1.81	2.64	1.38		
	9.0 - 10.0	90RL296	1.10	1.02	0.10	175	350	675	-		1.81	2.64	1.38		
	9.0 - 10.0	90RL306	1.15	1.02	0.10	250	500	950	-		1.81	2.64	1.38		
	9.5 - 10.5	90RL316	1.15	1.02	0.10	175	350	675	-		1.81	2.64	1.38		
	10.0 - 11.0	90RL326	1.15	1.02	0.10	175	350	675	-		1.81	2.64	1.38		
	8.2 - 10.0	90RL336	1.25	1.03	0.15	175	350	675	-		1.81	2.64	1.38		
	8.2 - 11.0	90RL346	1.35	1.03	0.20	175	350	675	-		1.81	2.64	1.38		
WR112	7.5 - 8.5	112RL146	1.10	1.02	0.10	200	400	775	-		2.25	3.20	2.00		
	7.5 - 8.5	112RL156	1.15	1.02	0.10	275	550	1050	-		2.25	3.20	2.00		
	8.0 - 9.0	112RL166	1.10	1.02	0.10	200	400	775	-		2.25	3.20	2.00		
	8.0 - 9.0	112RL176	1.15	1.02	0.10	275	550	1050	-		2.25	3.20	2.00		
	8.5 - 9.6	112RL186	1.10	1.02	0.10	200	400	775	-		2.25	3.20	2.00		
	8.5 - 9.6	112RL196	1.15	1.02	0.10	275	550	1050	-		2.25	3.20	2.00		
	9.0 - 9.9	112RL206	1.15	1.03	0.15	200	400	775	-		2.25	3.20	2.00		



"L" Style Rotary Joints

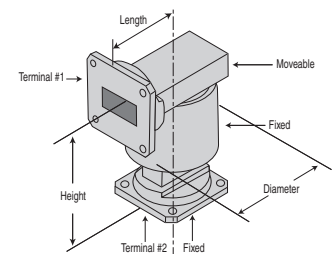
BAND	FREQ. RANGE GHz	MDL MODEL	VSWR	WOW MAX	INSERTION LOSS MAX	PEAK POWER AT				CW	HOUSING DIA.	HGT	LTH		
						0	15	30	45						
						PRESSURE (PSIG)									
WR137	5.8 - 6.8	137RL26	1.10	1.02	0.10	350	700	1350	1925		2.62	4.12	3.00		
	6.5 - 7.5	137RL36	1.15	1.02	0.10	350	700	1350	1925		2.62	4.12	3.00		
	5.8 - 7.8	137RL46	1.30	1.03	0.15	350	600	1140	1650		2.62	4.12	3.00		
	7.9 - 8.4	137RL56	1.20	1.05	0.15					1.75 KW	2.25	4.12	3.00		
WR159	5.8 - 6.4	159RL26	1.15	1.02	0.10	400	800	1525	2200		3.00	4.83	3.25		
WR187	5.4 - 5.9	187RL66	1.10	1.02	0.10	450	900	1725	2500		3.00	5.33	3.44		
	5.25 - 6.0	187RL86	1.20	1.03	0.10	450	900	1725	2500		3.00	5.33	3.44		
	5.0 - 5.85	187RL96	1.20	1.03	0.10	450	900	1725	2500		3.00	5.33	3.44		
	4.9 - 5.1	187RL106	1.15	1.02	0.10			2000		3 KW	3.02	5.33	3.44		
WR229	3.6 - 4.3	229RL26	1.15	1.02	0.10	550	1100	2100	3025		3.44	6.24	5.00		
WR284	2.7 - 3.2	284RL26	1.15	1.02	0.10	700	1400	2650	3850		4.63	8.63	6.25		
	2.7 - 3.2	284RL36	1.15	1.02	0.10	700	1400	2650	3850		4.63	9.25	6.25		
	3.0 - 3.5	284RL46	1.25	1.02	0.10		1300			4.5 KW	4.63	8.63	6.25		



"F" Style Rotary Joints

"F" Style, one inline arm is fixed to the housing-one 90° arm is free to rotate.

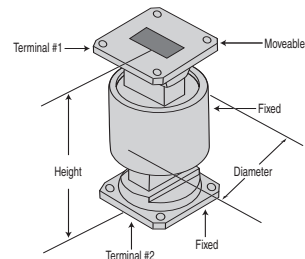
BAND	FREQ. RANGE GHz	MDL MODEL	VSWR	WOW MAX	INSERTION LOSS MAX	PEAK POWER AT				CW	HOUSING DIA.	HGT	LTH		
						0	15	30	45						
						PRESSURE (PSIG)									
WR22	43.50 - 45.50	22RF16	1.50	1.05	1.00	20	50	80			1.99	2.38	2.25		
WR34	27.50 - 30.00	34RF16	1.20	1.02	0.20	20	50	80	-		1.99	2.38	2.25		
WR62	13.50 - 14.50	62RF106	1.15	1.02	0.10	30	65	120	-		1.81	2.50	1.38		
	13.50 - 14.50	62RF116	1.20	1.02	0.10	75	165	300	-		1.81	2.50	1.38		
	14.00 - 15.00	62RF126	1.10	1.02	0.10	30	65	120	-		1.81	2.50	1.38		
	14.00 - 15.00	62RF136	1.15	1.02	0.10	75	165	300	-		1.81	2.50	1.38		
	14.50 - 15.50	62RF146	1.10	1.02	0.10	30	65	120	-		1.81	2.50	1.38		
	14.50 - 15.50	62RF156	1.15	1.02	0.10	75	165	300	-		1.81	2.50	1.38		
	15.00 - 16.00	62RF166	1.10	1.02	0.10	30	65	120	-		1.81	2.50	1.38		
	15.00 - 16.00	62RF176	1.15	1.02	0.10	75	165	300	-		1.81	2.50	1.38		
	15.5 0 - 16.50	62RF186	1.10	1.02	0.10	30	65	120	-		1.81	2.50	1.38		
	15.50 - 16.50	62RF196	1.15	1.02	0.10	75	165	300	-		1.81	2.50	1.38		
	16.00 - 17.00	62RF206	1.10	1.02	0.10	30	65	120	-		1.81	2.50	1.38		
	16.00 - 17.00	62RF216	1.15	1.02	0.10	75	165	300	-		1.81	2.50	1.38		
	13.50 - 17.00	62RF226	1.35	1.04	0.20	30	65	120	-		1.81	2.50	1.38		
WR75	10.75 - 14.5	75RF16	1.20	1.05	0.20					600 W					
	14.00 - 14.50	75RF26	1.10	1.02	0.10			30		1 KW	1.50	4.18	3.66		
WR90	8.20 - 9.00	90RF256	1.15	1.02	0.10	175	350	675	-		1.81	2.64	1.38		
	8.20 - 9.00	90RF266	1.20	1.02	0.10	250	500	950	-		1.81	2.64	1.38		
	8.50 - 9.6	90RF276	1.10	1.02	0.10	175	350	675	-		1.81	2.64	1.38		
	8.50 - 9.60	90RF286	1.15	1.02	0.10	250	500	950	-		1.81	2.64	1.38		
	9.00 - 10.00	90RF296	1.10	1.02	0.10	175	350	675	-		1.81	2.64	1.38		
	9.00 - 10.00	90RF306	1.15	1.02	0.10	250	500	950	-		1.81	2.64	1.38		
	9.50 - 10.50	90RF316	1.15	1.02	0.10	175	350	675	-		1.81	2.64	1.38		
	10.00 - 11.00	90RF326	1.15	1.02	0.10	175	350	675	-		1.81	2.64	1.38		
	8.20 - 10.00	90RF336	1.25	1.03	0.15	175	350	675	-		1.81	2.64	1.38		
	8.20 - 11.00	90RF346	1.35	1.03	0.20	175	350	675	-		1.81	2.64	1.38		
WR112	7.50 - 8.50	112RF146	1.10	1.02	0.10	200	400	775	-		2.25	3.20	2.00		
	7.50 - 8.50	112RF156	1.15	1.02	0.10	275	550	1050	-		2.25	3.20	2.00		
	8.00 - 9.00	112RF166	1.10	1.02	0.10	200	400	775	-		2.25	3.20	2.00		
	8.00 - 9.00	112RF176	1.15	1.02	0.10	275	550	1050	-		2.25	3.20	2.00		
	8.50 - 9.60	112RF186	1.10	1.02	0.10	200	400	775	-		2.25	3.20	2.00		
	8.50 - 9.60	112RF196	1.15	1.02	0.10	275	550	1050	-		2.25	3.20	2.00		
	9.00 - 9.90	112RF206	1.15	1.03	0.15	200	400	775	-		2.25	3.20	2.00		
WR137	5.80 - 6.80	137RF26	1.10	1.02	0.10	350	700	1350	1925		2.62	4.12	3.00		
	6.50 - 7.50	137RF36	1.15	1.02	0.10	350	700	1350	1925		2.62	4.12	3.00		
	5.80 - 7.80	137RF46	1.30	1.03	0.15	300	600	1140	1650		2.62	4.12	3.00		
WR159	5.80 - 6.40	159RF26	1.15	1.02	0.10	400	800	1525	2200		3.00	4.83	3.25		
WR187	5.40 - 5.90	187RF66	1.10	1.02	0.10	450	900	1725	2500		3.00	5.33	3.44		
	5.25 - 6.00	187RF86	1.20	1.03	0.10	450	900	1725	2500		3.00	5.33	3.44		
	5.00 - 5.85	187RF96	1.20	1.03	0.10	450	900	1725	2500		3.00	5.33	3.44		
WR229	3.60 - 4.30	229RF26	1.15	1.02	0.10	550	1100	2100	3025		3.44	6.24	5.00		
WR284	2.70 - 3.2	284RF26	1.15	1.02	0.10	700	1400	2650	3850		4.63	8.63	6.25		
	2.70 - 3.20	284RF36	1.15	1.02	0.10	700	1400	2650	3850		4.63	9.25	6.25		



"I" Style Rotary Joints

"I" (inline) Style, two opposite arms concentric with the axis of rotation-one fixed to the housing-one free to rotate.

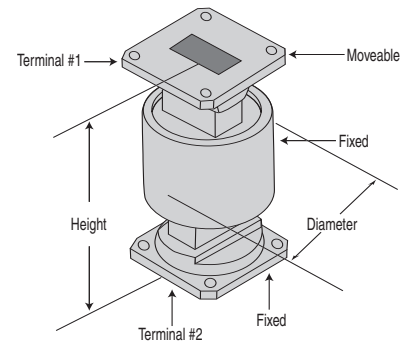
BAND	FREQ. RANGE GHz	MDL MODEL	VSWR MAX	WOW MAX	INSERTION LOSS MAX	PEAK POWER AT				CW	HOUSING DIA.	HGT
						0	15	30	45			
						PRESSURE (PSIG)						
WR22	43.50 - 45.50	22RJ16	1.50	1.05	1.00	20	50	80	-		1.99	3.23
WR42	20.20 - 21.20	42RJ16	1.50	1.05	1.00	30	65	120	-		1.25	3.00
WR62	13.50 - 14.05	62RJ126	1.15	1.02	0.10	30	60	120	-		1.81	3.00
	13.50 - 14.50	62RJ136	1.15	1.02	0.10	75	165	300	-		1.81	3.00
	14.00 - 15.00	62RJ146	1.10	1.02	0.10	30	60	120	-		1.81	3.00
	14.00 - 15.00	62RJ156	1.15	1.02	0.10	75	165	300	-		1.81	3.00
	14.50 - 15.50	62RJ166	1.10	1.02	0.10	30	60	120	-		1.81	3.00
	14.50 - 15.50	62RJ176	1.15	1.02	0.10	75	165	300	-		1.81	3.00
	15.00 - 16.00	62RJ186	1.10	1.02	0.10	30	60	120	-		1.81	3.00
	15.00 - 16.00	62RJ196	1.15	1.02	0.10	75	165	300	-		1.81	3.00
	15.50 - 16.50	62RJ206	1.10	1.02	0.10	30	60	120	-		1.81	3.00
	15.50 - 16.50	62RJ216	1.15	1.02	0.10	75	165	300	-		1.81	3.00
	16.00 - 17.00	62RJ226	1.10	1.02	0.10	30	60	120	-		1.81	3.00
	16.00 - 17.00	62RJ236	1.15	1.02	0.10	75	165	300	-		1.81	3.00
	13.50 - 17.50	62RJ246	1.35	1.03	0.15	30	60	120	-		1.81	3.00
	13.50 - 15.50	62LM16	1.15	1.02	0.10	150	330	600	-		1.62	1.10
WR75	14.00 - 14.50	75RJ16	1.10	1.02	0.10	75	165	300	-		1.50	3.50
	13.75 - 14.50	75RJ26	1.10	1.02	0.10	30			600 W		1.27	3.50
WR90	8.20 - 9.00	90RJ246	1.10	1.02	0.10	175	350	675	-		1.81	3.29
	8.20 - 9.00	90RJ256	1.10	1.02	0.10	250	500	950	-		1.81	3.29
	8.50 - 9.60	90RJ266	1.10	1.02	0.10	175	350	675	-		1.81	3.29
	8.50 - 9.60	90RJ276	1.10	1.02	0.10	250	500	950	-		1.81	3.29
	9.00 - 10.00	90RJ286	1.10	1.02	0.10	175	350	675	-		1.81	3.29
	9.00 - 10.00	90RJ296	1.10	1.02	0.10	250	500	950	-		1.81	3.29
	9.50 - 10.50	90RJ306	1.15	1.02	0.10	175	350	675	-		1.81	3.29
	10.00 - 11.00	90RJ316	1.15	1.02	0.15	175	350	675	-		1.81	3.29
	8.20 - 10.00	90RJ326	1.25	1.04	0.15	175	350	675	-		1.81	3.29
	8.20 - 11.00	90RJ336	1.35	1.05	0.15	150	300	575	-		1.81	3.29
WR112	7.20 - 8.20	112RJ146	1.10	1.02	0.10	200	400	775	-		2.25	4.00
	7.50 - 8.50	112RJ156	1.10	1.02	0.10	200	400	775	-		2.25	4.00
	7.50 - 8.50	112RJ166	1.15	1.02	0.10	275	550	1050	-		2.25	4.00
	8.00 - 9.00	112RJ176	1.10	1.02	0.10	200	400	775	-		2.25	4.00
	8.00 - 9.00	112RJ186	1.15	1.02	0.10	275	550	1050	-		2.25	4.00
	8.50 - 9.60	112RJ196	1.10	1.02	0.10	200	400	775	-		2.25	4.00
	8.50 - 9.60	112RJ206	1.15	1.02	0.10	275	550	1050	-		2.25	4.00
	9.00 - 10.00	112RJ216	1.10	1.02	0.10	200	400	775	-		2.25	4.00
	8.00 - 10.00	112RJ226	1.20	1.03	0.10	200	400	775	-		2.25	4.00
	WR137	5.80 - 6.80	137RJ26	1.10	1.02	0.10	350	700	1350	1925		2.62
6.50 - 7.50		137RJ36	1.15	1.02	0.10	350	700	1350	1925		2.62	4.98
5.80 - 7.80		137RJ46	1.30	1.03	0.15	350	700	1350	1925		2.62	4.98
5.80 - 8.40		137RJ56	1.20	1.05	0.20					1.6 KW	2.76	4.98
5.85 - 6.425		137RJ66	1.20	1.05	0.20					6 KW	2.76	4.98
WR159	5.80 - 6.40	159RJ26	1.15	1.02	0.10	400	800	1525	2200		3.00	5.65



"I" Style Rotary Joints

3

BAND	FREQ. RANGE GHz	MDL MODEL	VSWR MAX	WOW MAX	INSERTION LOSS MAX	PEAK POWER AT PRESSURE (PSIG)				CW	HOUSING DIA.	HGT
						0	15	30	45			
WR187	5.4 - 5.9	187RJ66	1.10	1.02	0.10	450	900	1725	2500		3.00	6.66
	5.25 - 6.0	187RJ86	1.20	1.03	0.10	450	900	1725	2500		3.00	6.66
	4.8 - 5.2	187RJ96	1.15	1.02	0.10	450					3.00	6.66
WR229	3.6 - 4.3	229RJ26	1.15	1.02	0.10	550	1100	2100	3025		3.44	7.49
WR284	2.7 - 3.2	284RJ26	1.15	1.02	0.10	700	1400	2650	3850		4.63	9.89
	2.7 - 3.2	284RJ36	1.15	1.02	0.10	700	1400	2650	3850		4.63	9.26
	2.7 - 3.2	284RJ46	1.15	1.02	0.10	700	1400	2650	3850		4.63	10.51
	2.7 - 3.2	284RJ56	1.15	1.02	0.10	700	1400	2650	3850		4.63	9.89
	3.0 - 3.5	284RJ106	1.25	1.02	0.10			1300		4.5 KW	4.63	9.37



Dual Channel Rotary Joints

Dual Channel, two concentric, electrically isolated (50 dB min.) transmission lines are designed to maintain electrical continuity for two signal paths during simultaneous rotation. Similarly a tri-channel provides three distinct isolated paths while rotated.

BAND	TRANSMISSION LINE	FREQ. RANGE GHz	MDL MODEL	VSWR	WOW MAX	INSERTION LOSS MAX	PEAK POWER AT				CW	HOUSING DIA.	HGT O.C.*	HGT I.C.*
							0	15	30	45				
							PRESSURE (PSIG)							
WR62	O.C.	15.0 - 16.0	62RD16	1.20	1.03	0.20	30	60	120	-		1.81	2.00	5.00
	I.C.	15.0 - 16.0		1.30	1.03	0.35	5	10	20	-				
	O.C.	14.0 - 15.0	62RD26	1.20	1.03	0.20	30	60	120	-		1.81	2.00	5.00
	I.C.	14.0 - 15.0		1.30	1.03	0.35	5	10	20	-				
	O.C.	14.5 - 15.5	62RD36	1.20	1.02	0.15	100	300	380	-		1.27	2.06	5.25
	I.C.▲	14.5 - 15.5		1.25	1.05	0.35	5	-	-	-				
	O.C.	15.7 - 17.6	62RD46	1.25	1.05	0.30			120			1.83	2.25	5.40
I.C.	15.7 - 17.6		1.50	1.05	0.60			20						
WR75	O.C.	13.75 - 15.5	75RD36	1.30	1.02	0.10	75	165	300	-		1.27	2.06	5.25
	I.C.▲	11.4 - 12.2		1.35	1.05	0.30	5	-	-	-				
	O.C.	14.0 - 14.5	75RD26	1.20	1.10	0.20				100 W		1.27	2.06	
	I.C.▲	12.2 - 12.75		2.00	1.10	0.60								
WR90	O.C.	8.5 - 9.6	90RD46	1.15	1.02	0.10	200	400	750	-		1.81	2.00	5.75
	I.C.	8.5 - 9.6		1.20	1.03	0.30	10	20	40	-				
	O.C.	8.5 - 9.6	90RD56	1.15	1.02	0.10	200	400	750	-		1.81	2.00	7.29
	I.C.■	8.5 - 0.6		1.25	1.03	0.30	5	-	-	-				
WR102	O.C.	9.8 - 10.5	102RD16	1.20	1.05	0.30		62			5.6 KW			
	I.C.	9.95 - 10.05		1.30	1.05	0.30		5			350 W			
WR112	O.C.	7.5 - 8.5	112RD46	1.10	1.03	0.10	300	600	1150	-		2.25	2.39	9.00
	I.C.■	7.5 - 8.5		1.25	1.03	0.30	5	-	-	-				
	O.C.	7.5 - 8.5	112RD56	1.10	1.02	0.10	300	600	1150	-		2.25	2.39	7.87
	I.C.	7.5 - 8.5		1.25	1.03	0.30	20	40	80	-				
	O.C.	8.5 - 9.5	112RD66	1.10	1.02	0.10	300	600	1150	-		2.25	2.39	9.00
	I.C.■	8.5 - 9.5		1.25	1.03	0.30	5	-	-	-				
	O.C.	8.5 - 9.6	112RD76	1.10	1.03	0.10	300	600	1150	-		2.25	2.39	7.87
	I.C.	8.5 - 9.6		1.25	1.03	0.30	20	40	80	-				
	O.C.	8.5 - 10.0	112RD86	1.15	1.05	0.20		20				2.25		
	I.C.▲	8.5 - 10.0		1.50	1.05	0.25		2						
WR112	O.C.	7.9 - 8.4	112RD96	1.20	1.05	0.15		150			2 KW	2.25		
	I.C.▲	7.25 - 7.75		1.50	1.05	0.80								

Notes: ▲ Type SMA Inner Channel

■ Type "N" Inner Channel

* O.C. = Outer Channel (High Power, larger diameter channel)

* I.C. = Inner Channel (Low Power, smaller diameter channel)

Dual Channel Rotary Joints

3

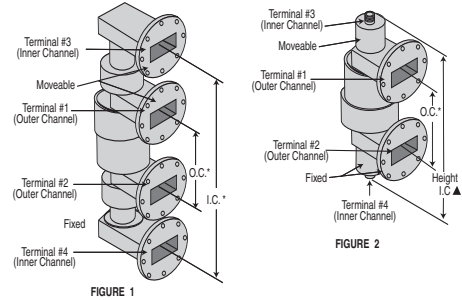
BAND	TRANSMISSION LINE	FREQ. RANGE GHz	MDL MODEL	VSWR	WOW MAX	INSERTION LOSS MAX	PEAK POWER AT PRESSURE (PSIG)				CW	HOUSING DIA.	HGT O.C.*	HGT I.C.*
							0	15	30	45				
WR137	O.C.	7.90 - 8.40	137RD16	1.20	1.05	0.20	400	800	1500	-		2.62	3.25	10.50
	I.C. ■	7.25 - 7.75		1.20	1.05	0.50	15	-	-	-				
	O.C.	5.85 - 6.425	137RD36	1.20	1.05	0.20					400 W	2.62		
	I.C. ■	3.625 - 4.2		1.20	1.05	0.70								
	O.C.	7.9 - 8.4	137RD26	1.20	1.05	0.20					2 KW	2.25		
	I.C. ■	7.25 - 7.75		1.20	1.05	0.70								
WR187	O.C.	5.25 - 5.75	187RD56	1.10	1.02	0.10	650	1300	2475	3575		3.00	5.00	10.50
	I.C. ■	5.25 - 5.75		1.25	1.02	0.30	15	-	-	-				
	O.C.	5.25 - 5.75	187RD66	1.10	1.02	0.10	650	1300	2475	3575		3.00	5.00	12.81
	I.C.	5.25 - 5.75		1.25	1.02	0.30	30	60	120	165				
	O.C.	5.4 - 5.9	187RD76	1.10	1.02	0.10	650	1300	2475	3575		3.00	5.00	10.50
	I.C. ■	5.4 - 5.9		1.25	1.02	0.30	15	-	-	-				
	O.C.	5.4 - 5.9	187RD86	1.10	1.02	0.10	650	1300	2475	3575		3.00	5.00	12.81
	I.C.	5.4 - 5.9		1.25	1.02	0.30	30	60	120	165				
WR284	O.C.	2.7 - 2.9	284RD36	1.15	1.03	0.10	1200	2400	4560	6600		5.12	8.00	17.80
	I.C. ■	1.2 - 1.3		1.30	1.03	0.35	15	-	-	-				
	O.C.	2.875-3.125	284RD46	1.10	1.02	0.10	1200	2400	4560	6600		5.12	8.00	17.80
	I.C. ■	2.875-3.125		1.25	1.03	0.30	15	-	-	-				
		1.015-1.105												
	O.C.	3.1 - 3.4	284RD56	1.25	1.02	0.15	1200	-	-	-		4.32	-	-
I.C. ■	1.02 - 1.09		1.30	1.03	0.50	10	-	-	-					

Notes: ▲ Type SMA Inner Channel

■ Type "N" Inner Channel

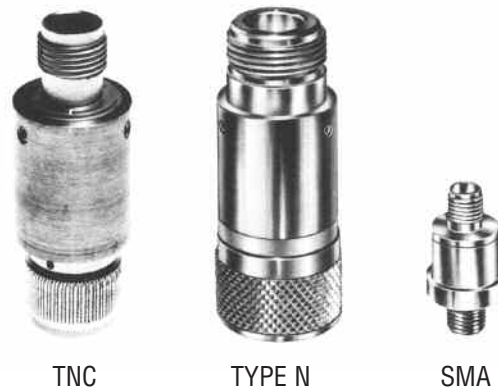
* O.C. = Outer Channel (High Power, larger diameter channel)

* I.C. = Inner Channel (Low Power, smaller diameter channel)



Single Channel Coaxial Rotary Joints

MDL's short, low torque, high performance coaxial rotary joints as well as our extensive line of waveguide rotary joints have set the standards of the industry. Our long experience in the design and manufacture of slip rings enables us to develop low resistance, low noise contacts for coaxial rotary joints. This contact, the heart of the short, low torque design, has a proven advantage of long life. These coaxial rotary joints meet or exceed MIL-E-5400 and MIL-E-16400 specifications.



Single Channel Coaxial Rotary Joints

CONNECTION BAND*	FREQ. RANGE GHz	MDL MODEL	VSWR MAX	WOW MAX	INSERTION LOSS MAX	HOUSING DIA.	HGT
2.9 mm	37.0 - 40	390RS16	1.50	1.02	0.50	0.56	1.25
SMA	DC - 10	180RS56	1.20	1.02	0.2	0.56	1.00
	10 - 18		1.35	0.25			
TNC	DC - 6.0	120RC36	1.20	1.01	0.20	0.75	1.95
	6.0 - 12.4		1.35	1.01	0.30		
TYPE N	DC - 6.0	120RK56	1.15	1.01	0.20	0.88	1.98
	6.0 - 12.4		1.25	1.01	0.30		

Notes: *Female/female

Dual Channel Coaxial Rotary Joints

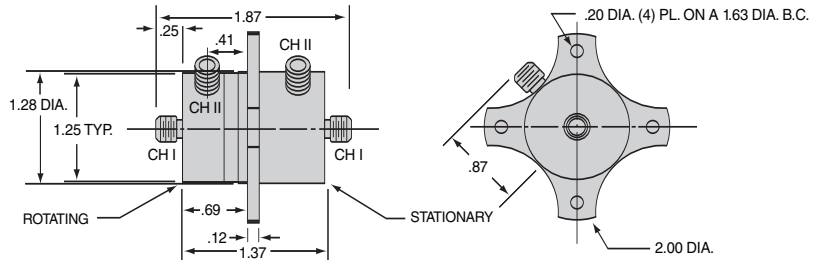
CONNECTION BAND	TRANSMISSION RANGE	FREQ.	MDL MODEL	VSWR MAX	WOW MAX	INSERTION LOSS MAX	HOUSING DIA.	HGT O.C.*
SMA	CHAN 1	DC - 10	180RCD36	1.35	1.02	0.20	1.28	1.87
		10 - 18		1.50	1.02	0.30		
	CHAN 2	DC - 1.5	180RCD36	1.25	1.05	0.15	1.28	1.87
		1.5 - 4		1.50	1.02	0.30		
SMA	CHAN 1	DC - 10	180RCD46	1.35	1.02	0.20	1.28	1.87
		10 - 18		1.50	1.02	0.30		
	CHAN 2	DC - 1.5	180RCD46	1.25	1.05	0.15	1.28	1.87
		1.5 - 4		1.50	1.02	0.30		
SMA	CHAN 1	DC - 10	180RCD56	1.35	1.02	0.20	1.28	1.87
		10 - 18		1.50	1.02	0.30		
	CHAN 2	DC - 1.5	180RCD56	1.25	1.05	0.15	1.28	1.87
		1.5 - 4		1.50	1.02	0.30		
SMA	CHAN 1	DC - 10	180RCD66	1.35	1.02	0.20	1.28	1.87
		10 - 18		1.50	1.02	0.30		
	CHAN 2	DC - 1.5	180RCD66	1.25	1.05	0.15	1.28	1.87
		1.5 - 4		1.50	1.02	0.30		
SMA	CHAN 1	DC - 10	180RCD86	1.35	1.02	0.30	1.25	2.10
		10 - 18		1.50	1.02	0.50		
	CHAN 2	DC - 1.5	180RCD86	1.25	1.02	0.15	1.25	2.10
		1.5 - 4.0		1.50	1.02	.30		
SMA - N	CHAN 1	DC - 10	180RCD16	1.35	1.02	0.40	1.25	2.10
		10 - 12.4		1.50	1.02	0.50		
	CHAN 2	DC - 1.5	180RCD16	1.25	1.05	0.20	1.25	2.10
		1.5 - 4.0		1.80	1.05	1.00		

Notes: Add "M" to part number to designate mounting flange.

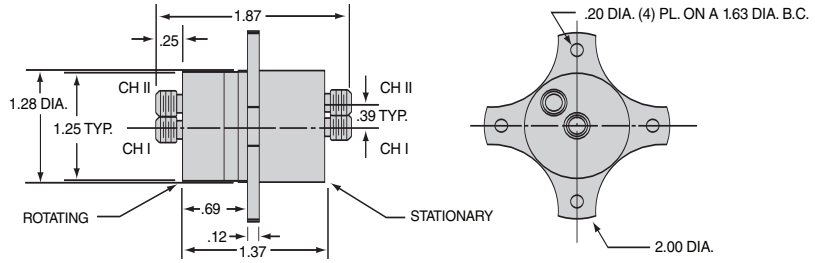
Dual Channel

3

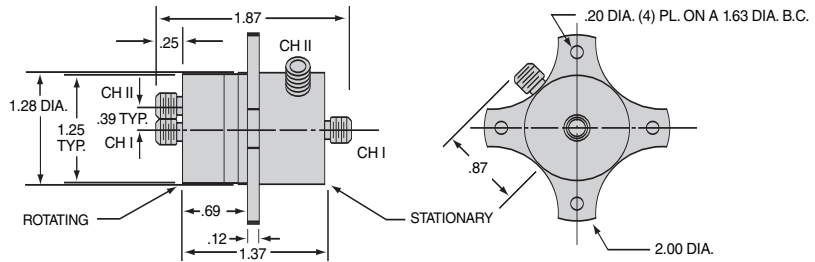
Model 180RCD36



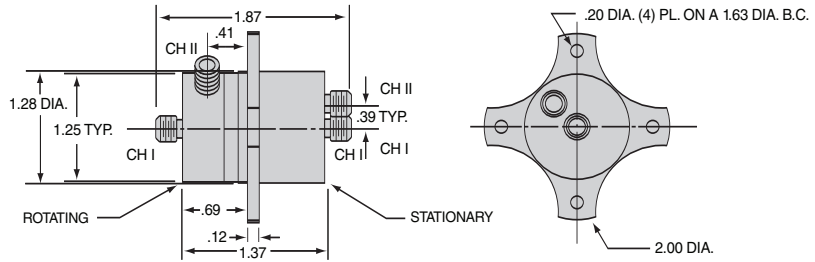
Model 180RCD46



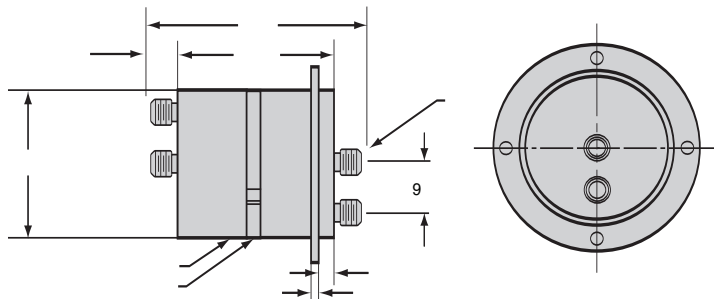
Model 180RCD56



Model 180RCD66



Model 180RCD86



Model 120RKD16

