



FLEXIBLE WAVEGUIDE

**170FT SERIES
R170FT SERIES**

**170S SERIES
R170S SERIES**

**DATA SHEET
No. T21E
1 OF 4**

Because of its many unique characteristics, Flexible Waveguide has found wide use as a component in microwave equipment. System and laboratory problems associated with shock, vibration, tolerance take-up due to misalignment or temperature variations, ease of assembly and disassembly, etc., are ideally solved by inclusion of this versatile transmission medium.

SEAMLESS & SIDESEAM CORRUGATED FLEXIBLE WAVEGUIDE

MEC's Rectangular and Double-Ridge Seamless Corrugated Flexible Waveguide are made by convoluting seamless tubing. Rectangular waveguide sizes larger than WR-137 are made Side Seam. All units are inherently pressure-tight, highly stable, rugged, and have no R-F leakage. They will bend more than the flexible-twistable types but cannot withstand any twisting. Bends are semi-permanent and small bends radii should be factory formed. Unless requested, units are supplied without jacket or silver plating.



170S SERIES



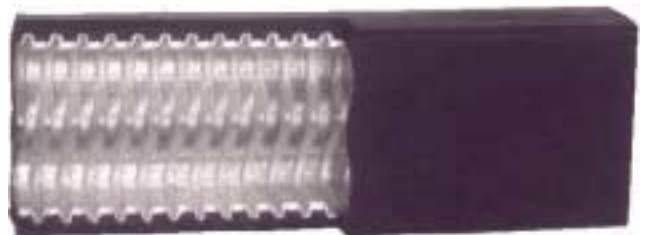
R170S SERIES

FLEXIBLE-TWISTABLE WAVEGUIDE (FOR SPECIAL APPLICATIONS)

Microwave Engineering Corporation's Rectangular and Double-Ridge Flexible-Twistable Waveguide are of the convoluted type of construction. They are precision-wound in accordance with strict design standards, which assure long life and excellent electrical performance. Adjacent turns are securely crimp-locked together forming a continuous joint. All units are supplied with a molded jacket of neoprene and are available with MEC's Flangelok Molding Process, which eliminates flange separation problems under conditions of extreme tension.



170FT SERIES



R170FT SERIES

Besides the standard units described on the following pages, Microwave Engineering Corporation produces many special assemblies such as twists and pre-formed bends to much smaller radii to satisfy unique requirements. Additionally, combinations of rigid and flexible waveguide, jacketed or unjacketed, with built-in pressure/relief valves, quick-disconnect flanges, etc., are readily available. All units are manufactured in accordance with strict design standards, which assure long life under adverse field conditions.

Data subject to change without notice



MICROWAVE ENGINEERING CORPORATION

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RECTANGULAR SEAMLESS & SIDESEAM CORRUGATED FLEXIBLE WAVEGUIDE 170S SERIES

**DATA
SHEET
No. T21E
2 OF 4**

- **NO RF LEAKAGE**
- **FACTORY PREFORMABLE**
- **LIGHTWEIGHT**
- **ISOLATES SHOCK**



SPECIFICATIONS

WAVEGUIDE SIZE	MEC NO.	FREQUENCY (GHz)	VSWR (STRAIGHT SECTION MAX.)	ATTEN. (DB/FT. MAX)	PRESSURE (PSIG MAX.)	MINIMUM BEND RADIUS TO CENTER LINE (INCHES)	
						E	H
WR-770	E170S	1.00 – 1.45	1.04	.004	10	14.0	32.0
WR-650	L170S	1.12 – 1.70	1.04	.005	15	12.0	25.0
WR-510	LM170S	1.45 – 2.20	1.05	.008	18	10.0	19.0
WR-430	LA170S	1.70 – 2.60	1.05	.009	20	8.0	13.0
WR-340	LS170S	2.20 – 3.30	1.05	.015	25	4.5	9.0
WR-284	S170S	2.60 – 3.95	1.06	.017	30	4.0	5.75
WR-229	B170S	3.30 – 4.90	1.06	.02	30	3.5	5.5
WR-187	G170S	3.95 – 5.85	1.06	.03	30	2.75	5.0
WR-159	D170S	4.90 – 7.05	1.08	.04	35	2.0	3.5
WR-137	J170S	5.85 – 8.20	1.08	.05	34	1.5	2.75
WR-112	H170S	7.05 – 10.0	1.10	.06	45	1.25	2.25
WR-102	W170S	7.00 – 11.0	1.10	.08	55	1.13	2.0
WR-90	X170S	8.20 – 12.4	1.10	.10	60	1.0	1.75
WR-75	M170S	10.0 – 15.0	1.12	.12	60	.87	1.37
WR-62	P170S	12.4 – 18.0	1.12	.15	60	.75	1.25
WR-51	N170S	15.0 – 22.0	1.15	.25	80	.75	1.25
WR-42	K170S	18.0 – 26.5	1.20	.35	100	.38	.75
WR-28	A170S	26.5 – 40.0	1.35	.50	100	.32	.56

*Unless requested, units are supplied without jacket.

ORDERING INFORMATION

To order, use the MEC part numbering system illustrated below.

H170S-9-1-2

WAVEGUIDE		LENGTH IN INCHES (± 1/8")	FLANGE	
SIZE	CODE		TYPE +	CODE
WR-112	H170S	INSET LENGTH DESIRED	COVER	1
			CHOKE	2
			CMR	3
			CPR (F)	4
			CPR (G)	5

+ See MEC Data Sheet T71A for equivalent UG No.

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RECTANGULAR FLEXIBLE - TWISTABLE WAVEGUIDE 170FT SERIES

**DATA
SHEET
No. T21E
3 OF 4**

- ENVIRONMENTALLY QUALIFIED
- CUSTOM FIT
- LONG LIFE



SPECIFICATIONS

WAVEGUIDE SIZE	MEC NO.	FREQUENCY (GHz)	VSWR (STRAIGHT SECTION MAX.)	ATTEN. (DB/FT. MAX.)	PRESSURE (PSIG)‡	MINIMUM BEND RADIUS TO CENTER LINE (INCHES)		MAXIMUM TWIST (DEG./FT.)
						E	H	
WR-284	S170FT	2.60 - 3.95	1.07	0.02	10	7.0	9.50	45
WR-229	B170FT	3.30 - 4.90	1.06	0.02	15	5.5	12.0	50
WR-187	G170FT	3.95 - 5.85	1.06	0.05	15	4.5	11.0	60
WR-159	D170FT	4.90 - 7.05	1.06	0.06	15	4.0	10.0	65
WR-137	J170FT	5.85 - 8.20	1.06	0.08	15	3.5	8.0	70
WR-112	H170FT	7.05 - 10.0	1.08	0.08	30	3.0	6.0	85
WR-102	W170FT	7.0 - 11.0	1.10	0.09	30	2.5	5.0	90
WR-90	X170FT	8.2 - 12.4	1.10	0.10	30	1.5	3.0	95
WR-75	M170FT	10.0 - 15.0	1.10	0.15	30	1.37	2.5	100
WR-62	P170FT	12.4 - 18.0	1.12	0.20	30	1.25	2.25	130
WR-51	N170FT	15.0 - 22.0	1.15	0.35	30	1.18	2.15	145
WR-42	K170FT	18.0 - 26.5	1.2	0.35	30	1.1	2.1	145

‡ For units requiring higher pressures, please contact MEC.

ORDERING INFORMATION

To order, use the MEC part numbering system illustrated below.

B170FT - 19 - 1 - 2 - N

WAVEGUIDE		LENGTH IN INCHES (± 1/8")	FLANGE		JACKET	
SIZE	CODE		TYPE +	CODE	MATERIAL *	CODE
WR-229	B170FT	INSERT LENGT DESIRED	COVER	1	NEOPRENE PER MIL-STD-417, CLASS SB	N
			CHOKE	2	SILICONE PER ZZ-R-765, CLASS 2a	S
			CMR	3		
			CPR (F)	4		
			CPR (G)	5		

+ See MEC Data Sheet T71A for equivalent UG No.

* Standard jacket supplied is neoprene

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**DOUBLE-RIDGE SEAMLESS CORRUGATED FLEXIBLE WAVEGUIDE
DOUBLE-RIDGE FLEXIBLE-TWISTABLE WAVEGUIDE**

R170S SERIES

R170FT SERIES

**DATA SHEET
No. T21E
4 OF 4**

- OPERATES OVER FULL FREQUENCY BAND
- ENVIRONMENTALLY QUALIFIED
- SUPERIOR ELECTRICAL STABILITY
- PRESSURIZABLE



SPECIFICATION

WAVEGUIDE SIZE	MEC NO.	FREQUENC Y (GHz)	VSWR (STRAIGHT SECTION MAX.)	ATTEN. (DB/FT. MAX.)	PRESSURE (PSIG)‡	MINIMUM BEND RADIUS TO CENTER LINE (INCHES)		MAXIMUM TWIST (DEG./FT.)
						E	H	
DOUBLE-RIDGE SEAMLESS CORRUGATED FLEXIBLE WAVEGUIDE WITHOUT JACKET‡								
WRD-180C24	R175S	18.0 – 40.0	1.35	0.90	80	2.0	4.0	—
WRD-750D24	R170S	7.5 – 18.5	1.15	0.20	35	3.25	6.0	—
WRD-650D28	R177S	6.5 – 18.5	1.15	0.25	35	3.25	6.0	—
WRD-580DD28	R178S	5.8-14.5	1.3	0.30	30	4.25	9.0	—
		8.0-16.0	1.2	0.20	30	3.25	6.0	—
WRD-475D24	R171S	4.75 – 11.0	1.10	0.15	30	4.25	9.0	—
DR-19	R179S	4.75 – 11.0	1.10	0.15	30	4.25	9.0	—
WRD-350D24	R172S	3.5 – 8.2	1.10	0.15	30	5.5	13.0	—
WRD-200D24	R173S	2.0 – 4.8	1.10	0.10	30	12.0	18.0	—
DOUBLE-RIDGE FLEXIBLE-TWISTABLE WAVEGUIDE WITH JACKET								
WRD-750D24	R170FT	7.5 – 18.0	1.20	0.35	15	3.5	6.5	90
WRD-650D28	R177FT	6.5 – 18.0	1.20	0.35	15	3.5	6.5	90
WRD-580D28	R178FT	5.8-14.5	1.3	0.30	30	4.5	10.0	60
		8.0-16.0	1.2	0.20	30	3.5	6.5	90
WRD-475D24	R171FT	4.75 – 11.0	1.15	0.25	15	4.5	10.0	60
DR-19	R179FT	4.75 – 11.0	1.15	0.25	15	4.5	10.0	60
WRD-350D24	R172FT	3.5 – 8.2	1.15	0.25	15	6.0	14.0	45
WRD-200D24	R173FT	2.0 – 4.8	1.15	0.15	10	12.0	18.0	35

‡ For units requiring higher pressures, please contact MEC,

† Unless requested, units are supplied without jacket.

ORDERING INFORMATION

To order, use the MEC part numbering system illustrated below.

R177FT – 18 – C1 – G3 – N

WAVEGUIDE		LENGTH IN INCHES (± 1/8" FT)	FLANGE		MOUNTING		JACKET	
SIZE	CODE		TYPE +	CODE	HOLES	CODE	MATERIAL *	CODE
WRD-650D28	R177FT	INSERT LENGTH DESIRED	COVER	C	ALT. TAP & CLEAR	1	NEOPREN PER MIL-STD-417, CLASS SB	N
			GASKET	G	ALL TAPPED	2		SILICONE PER ZZ-R-765, CLASS 2a
				ALL CLEAR	3			
					CAPTIVE	4		
					HELICOILED	5		

+ Aluminum flanges with chromate conversion per MIL-C-5541, Class 3 see MEC Data Sheet T22B for dimensions

- Standard jacket supplied is neoprene for FT, Silicone for Seamless.

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