

Broadwall directional coupler

Dolph Microwave manufactures a standard product line of multi-hole broadwall directional couplers covering a wide frequency range. The optimum electrical characteristics of high directivity and coupling flatness are achieved utilizing a precision machined Tchebyscheff coupling hole distribution and a precision ground tapered load element in the secondary arm. Directional couplers are typically used for power sampling, frequency monitoring, especially in the test setups where power reflection measurements are required. Additional sizes and special configurations are available on request.

➤ ***Style 1—3 Waveguide Ports***



● ***Specifications***

Model No*	Freq Range (GHz)	VSWR (Max)		Coupling* (dB)	Directivity (Min) (dB)	WG Type		Flange	Material
		Main Line	Secondary Line			IEC	EIA		
DH-14WC...	1.13-1.73	1.10	1.15	3-40	20-38	R14	WR650	FDP/FDM	Al/Cu
DH-18WC...	1.45-2.20	1.10	1.15	3-40	20-38	R18	WR510	FDP/FDM	Al/Cu
DH-22WC...	1.72-2.61	1.10	1.15	3-40	20-38	R22	WR430	FDP/FDM	Al/Cu
DH-26WC...	2.17-3.30	1.10	1.15	3-40	20-38	R26	WR340	FDP/FDM	Al/Cu
DH-32WC...	2.60-3.95	1.10	1.15	3-40	20-38	R32	WR284	FDP/FDM	Al/Cu
DH-40WC...	3.22-4.90	1.08	1.12	3-40	20-38	R40	WR229	FDP/FDM	Al/Cu
DH-48WC...	3.94-5.99	1.08	1.12	3-40	20-38	R48	WR187	FDP/FDM	Al/Cu
DH-58WC...	4.64-7.05	1.08	1.12	3-40	20-38	R58	WR159	FDP/FDM	Al/Cu
DH-70WC...	5.38-8.17	1.08	1.12	3-40	20-38	R70	WR137	FDP/FDM	Al/Cu
DH-84WC...	6.57-9.99	1.08	1.12	3-40	20-38	R84	WR112	FDP/FDM	Al/Cu

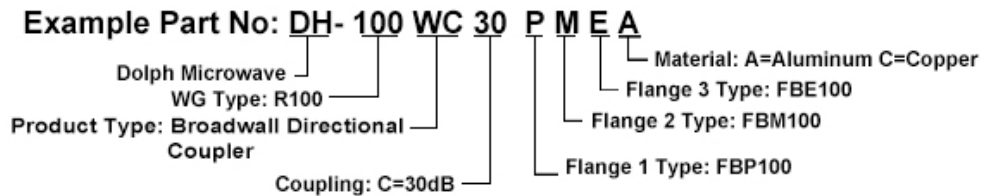
DH-100WC...	8.20-12.40	1.08	1.12	3-40	20-38	R100	WR90	FBP/FBM/FBE	Al/Cu
DH-120WC...	9.84-15.0	1.08	1.12	3-40	20-38	R120	WR75	FBP/FBM/FBE	Al/Cu
DH-140WC...	11.9-18.0	1.10	1.15	3-40	20-38	R140	WR62	FBP/FBM/FBE	Al/Cu
DH-180WC...	14.5-22.0	1.10	1.15	3-40	20-38	R180	WR51	FBP/FBM/FBE	Al/Cu
DH-220WC...	17.6-26.7	1.10	1.15	3-40	20-38	R220	WR42	FBP/FBM/FBE	Al/Cu
DH-260WC...	21.7-33.0	1.10	1.15	3-40	20-38	R260	WR34	FBP/FBM/FBE	Al/Cu
DH-320WC...	26.3-40.0	1.10	1.15	3-40	20-38	R320	WR28	FBP/FBM/FBE	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.

**Nominal Accuracy: $\pm 0.7\text{dB}$

Frequency Sensitivity: $\pm 1\text{dB}$

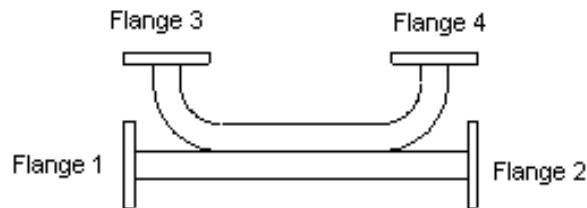
● Ordering Information



•Flange type: Multiple types available - see Dolph Microwave Flanges page.

•Finish: Corrosion protection plus black top coat.

➤ Style 2— 4 Waveguide Ports



● Specifications

Model No*	Freq Range (GHz)	VSWR (Max)		Coupling** (dB)	Directivity (Min) (dB)	WG Type		Flange	Material
		Main Line	Secondary Line			IEC	EIA		
DH-26WUC...	2.17-3.30	1.10	1.15	3-40	20-38	R26	WR340	FDP/FDM	Al/Cu
DH-32WUC...	2.60-3.95	1.10	1.15	3-40	20-38	R32	WR284	FDP/FDM	Al/Cu
DH-40WUC...	3.22-4.90	1.08	1.12	3-40	20-38	R40	WR229	FDP/FDM	Al/Cu

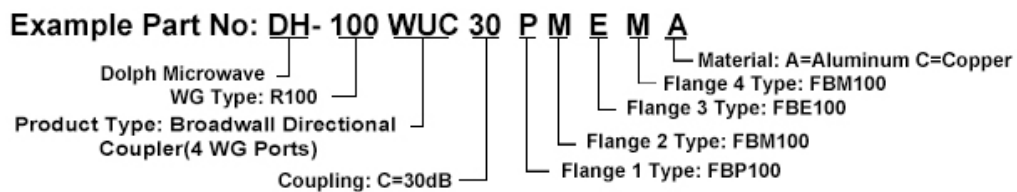
DH-48WUC...	3.94-5.99	1.08	1.12	3-40	20-38	R48	WR187	FDP/FDM	Al/Cu
DH-58WUC...	4.64-7.05	1.08	1.12	3-40	20-38	R58	WR159	FDP/FDM	Al/Cu
DH-70WUC...	5.38-8.17	1.08	1.12	3-40	20-38	R70	WR137	FDP/FDM	Al/Cu
DH-84WUC...	6.57-9.99	1.08	1.12	3-40	20-38	R84	WR112	FDP/FDM	Al/Cu
DH-100WUC...	8.20-12.40	1.08	1.12	3-40	20-38	R100	WR90	FDP/FDM	Al/Cu
DH-120WUC...	9.84-15.0	1.08	1.12	3-40	20-38	R120	WR75	FDP/FDM	Al/Cu
DH-140WUC...	11.9-18.0	1.10	1.15	3-40	20-38	R140	WR62	FDP/FDM	Al/Cu
DH-180WUC...	14.5-22.0	1.10	1.15	3-40	20-38	R180	WR51	FDP/FDM	Al/Cu
DH-220WUC...	17.6-26.7	1.10	1.15	3-40	20-38	R220	WR42	FDP/FDM	Al/Cu
DH-260WUC...	21.7-33.0	1.10	1.15	3-40	20-38	R260	WR34	FDP/FDM	Al/Cu
DH-320WUC...	26.3-40.0	1.10	1.15	3-40	20-38	R320	WR28	FDP/FDM	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.

**Nominal Accuracy: $\pm 0.7\text{dB}$

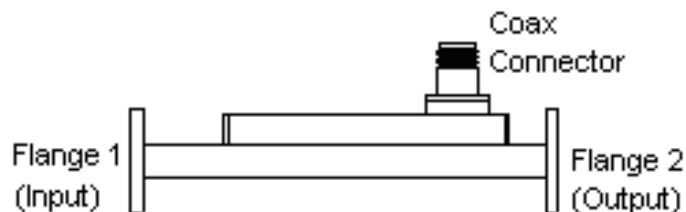
Frequency Sensitivity: $\pm 1\text{dB}$

● Ordering Information



- Flange type: Multiple types available - see Dolph Microwave Flanges page
- Finish: Corrosion protection plus black top coat

➤ Style 3 — 2 Waveguide Ports, 1 Coax Port



● Specifications

Model No*	Freq Range	VSWR (Max)	Coupling**	Directivity	Coax	WG Type	Flange	Material
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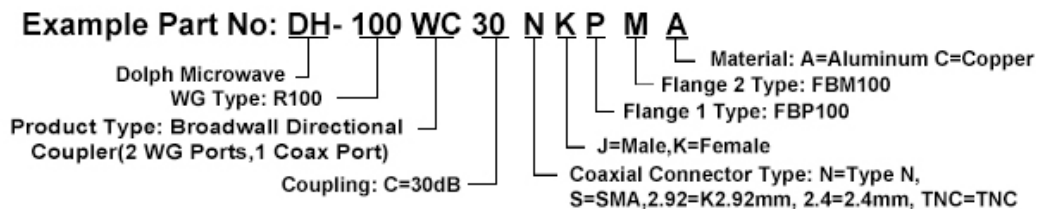
	(GHz)	Main Line	Secondary Line	(dB)	(Min) (dB)	Connector	IEC	EIA		
DH-14WC...N	1.13-1.73	1.10	1.25	3-40	20-38	N	R14	WR650	FDP/FDM	Al/Cu
DH-18WC...N	1.45-2.20	1.10	1.25	3-40	20-38	N	R18	WR510	FDP/FDM	Al/Cu
DH-22WC...N	1.72-2.61	1.10	1.25	3-40	20-38	N	R22	WR430	FDP/FDM	Al/Cu
DH-26WC...N	2.17-3.30	1.10	1.25	3-40	20-38	N	R26	WR340	FDP/FDM	Al/Cu
DH-32WC...N	2.60-3.95	1.10	1.25	3-40	20-38	N	R32	WR284	FDP/FDM	Al/Cu
DH-40WC...N	3.22-4.90	1.08	1.25	3-40	20-38	N	R40	WR229	FDP/FDM	Al/Cu
DH-48WC...N	3.94-5.99	1.08	1.25	3-40	20-38	N	R48	WR187	FDP/FDM	Al/Cu
DH-58WC...N	4.64-7.05	1.08	1.25	3-40	20-38	N	R58	WR159	FDP/FDM	Al/Cu
DH-70WC...N	5.38-8.17	1.08	1.25	3-40	20-38	N	R70	WR137	FDP/FDM	Al/Cu
DH-84WC...N	6.57-9.99	1.08	1.25	3-40	20-38	N	R84	WR112	FBP/FBM/FB	Al/Cu
DH-100WC...	8.20-12.4	1.08	1.25	3-40	20-38	N	R100	WR90	FBP/FBM/FB	Al/Cu
DH-120WC...S	9.84-15.0	1.08	1.25	3-40	20-38	SMA	R120	WR75	FBP/FBM/FB	Al/Cu
DH-140WC...	11.9-18.0	1.10	1.25	3-40	20-38	SMA	R140	WR62	FBP/FBM/FB	Al/Cu
DH-180WC...	14.5-22.0	1.10	1.25	3-40	20-38	SMA	R180	WR51	FBP/FBM/FB	Al/Cu
DH-220WC...	17.6-26.7	1.10	1.50	3-40	20-38	SMA,K***	R220	WR42	FBP/FBM/FB	Al/Cu
DH-260WC...	21.7-33.0	1.10	1.60	3-40	20-38	SMA,K***	R260	WR34	FBP/FBM/FB	Al/Cu
DH-320WC...	26.3-40.0	1.10	1.50	3-40	20-38	SMA,K***	R320	WR28	FBP/FBM/FB	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.

**Nominal Accuracy: $\pm 0.7\text{dB}$ Frequency Sensitivity: $\pm 1\text{ dB}$

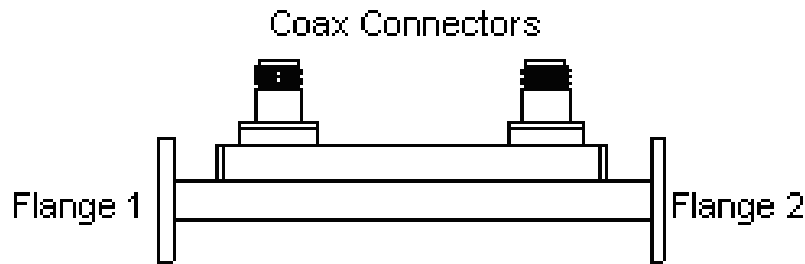
*** These units are supplied with 2.92mm (K-type) connectors.

● Ordering Information



- Flange type: Multiple types available - see Dolph Microwave Flanges page
- Finish: Corrosion protection plus black top coat

➤ Style 4 — 2 Waveguide Ports, 2 Coax Ports



● **Specifications**

Model No*	Freq Range (GHz)	VSWR (Max)		Coupling** (dB)	Directivity (Min) (dB)	Coax Connector	WG Type		Flange	Material
		Main Line	Secondary Line				IEC	EIA		
DH-14WUC...N	1.13-1.73	1.10	1.25	3-40	20-25	N	R14	WR650	FDP/FDM	Al/Cu
DH-18WUC...N	1.45-2.20	1.10	1.25	3-40	20-25	N	R18	WR510	FDP/FDM	Al/Cu
DH-22WUC...N	1.72-2.61	1.10	1.25	3-40	20-25	N	R22	WR430	FDP/FDM	Al/Cu
DH-26WUC...N	2.17-3.30	1.10	1.25	3-40	20-25	N	R26	WR340	FDP/FDM	Al/Cu
DH-32WUC...N	2.60-3.95	1.10	1.25	3-40	20-25	N	R32	WR284	FDP/FDM	Al/Cu
DH-40WUC...N	3.22-4.90	1.08	1.25	3-40	20-25	N	R40	WR229	FDP/FDM	Al/Cu
DH-48WUC...N	3.94-5.99	1.08	1.25	3-40	20-25	N	R48	WR187	FDP/FDM	Al/Cu
DH-58WUC...N	4.64-7.05	1.08	1.25	3-40	20-25	N	R58	WR159	FDP/FDM	Al/Cu
DH-70WUC...N	5.38-8.17	1.08	1.25	3-40	20-25	N	R70	WR137	FDP/FDM	Al/Cu
DH-84WUC...N	6.57-9.99	1.08	1.25	3-40	20-25	N	R84	WR112	FBP/FBM/FBE	Al/Cu
DH-100WUC...	8.20-12.40	1.08	1.25	3-40	20-25	N	R100	WR90	FBP/FBM/FBE	Al/Cu
DH-120WUC...S	9.84-15.0	1.08	1.25	3-40	20-25	SMA	R120	WR75	FBP/FBM/FBE	Al/Cu
DH-140WUC...S	11.9-18.0	1.10	1.25	3-40	20-25	SMA	R140	WR62	FBP/FBM/FBE	Al/Cu
DH-180WUC...S	14.5-22.0	1.10	1.25	3-40	20-25	SMA	R180	WR51	FBP/FBM/FBE	Al/Cu
DH-220WUC...	17.6-26.7	1.10	1.50	3-40	20-25	SMA,K***	R220	WR42	FBP/FBM/FBE	Al/Cu
DH-260WUC...	21.7-33.0	1.10	1.60	3-40	20-25	SMA,K***	R260	WR34	FBP/FBM/FBE	Al/Cu
DH-320WUC...	26.3-40.0	1.10	1.50	3-40	20-25	SMA,K***	R320	WR28	FBP/FBM/FBE	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.

**Nominal Accuracy: ± 0.7 dB Frequency Sensitivity: ± 1 dB

*** These units are supplied with 2.92mm (K-type) connectors.

● **Ordering Information**

Example Part No: DH- 100 WUC 30 N K P M A

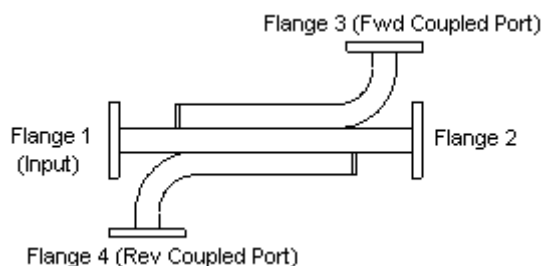
Dolph Microwave
 WG Type: R100
 Product Type: Broadwall Directional Coupler(2 WG Ports,2 Coax Port)
 Coupling: C=30dB

Material: A=Aluminum C=Copper
 Flange 2 Type: FBM100
 Flange 1 Type: FBP100
 J=Male,K=Female
 Coaxial Connector Type: N=Type N, S=SMA,2.92=K2.92mm, 2.4=2.4mm, TNC=TNC

- Flange type: Multiple types available - see Dolph Microwave Flanges page
- Finish: Corrosion protection plus black top coat

➤ **Style 5— Dual-arm Broadwall Directional Coupler**

4 Waveguide Ports



● **Specifications**

Model No*	Freq Range (GHz)	VSWR (Max)		Coupling** (dB)	Directivity (Min) (dB)	WG Type		Flange	Material
		Main Line	Secondary Line			IEC	EIA		
DH-26WDXC...	2.17-3.30	1.08	1.12	3-40	20-38	R26	WR340	FDP/FDM	Al/Cu
DH-32WDXC...	2.60-3.95	1.08	1.12	3-40	20-38	R32	WR284	FDP/FDM	Al/Cu
DH-40WDXC...	3.22-4.90	1.08	1.12	3-40	20-38	R40	WR229	FDP/FDM	Al/Cu
DH-48WDXC...	3.94-5.99	1.08	1.12	3-40	20-38	R48	WR187	FDP/FDM	Al/Cu
DH-58WDXC...	4.64-7.05	1.08	1.12	3-40	20-38	R58	WR159	FDP/FDM	Al/Cu
DH-70WDXC...	5.38-8.17	1.08	1.12	3-40	20-38	R70	WR137	FDP/FDM	Al/Cu
DH-84WDXC...	6.57-9.99	1.08	1.12	3-40	20-38	R84	WR112	FBP/FBM/FBE	Al/Cu
DH-100WDXC...	8.20-12.40	1.08	1.12	3-40	20-38	R100	WR90	FBP/FBM/FBE	Al/Cu
DH-120WDXC...	9.84-15.0	1.08	1.12	3-40	20-38	R120	WR75	FBP/FBM/FBE	Al/Cu
DH-140WDXC...	11.9-18.0	1.10	1.12	3-40	20-38	R140	WR62	FBP/FBM/FBE	Al/Cu
DH-180WDXC...	14.5-22.0	1.10	1.15	3-40	20-38	R180	WR51	FBP/FBM/FBE	Al/Cu

DH-220WDXC...	17.6-26.7	1.10	1.15	3-40	20-38	R220	WR42	FBP/FBM/FBE	Al/Cu
DH-260WDXC...	21.7-33.0	1.10	1.15	3-40	20-38	R260	WR34	FBP/FBM/FBE	Al/Cu
DH-320WDXC...	26.3-40.0	1.10	1.15	3-40	20-38	R320	WR28	FBP/FBM/FBE	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.

**Nominal Accuracy: $\pm 0.7\text{dB}$

Frequency Sensitivity: $\pm 1\text{dB}$

● Ordering Information

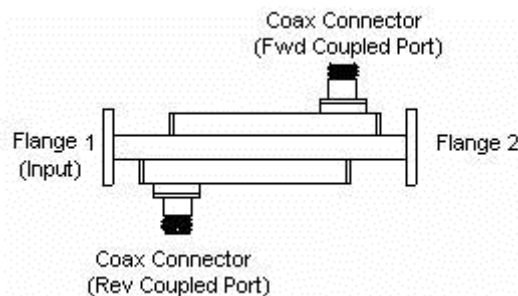
Example Part No: **DH- 100 WDXC 30 P M E M A**

Dolph Microwave
 WG Type: R100
 Product Type: Broadwall Directional Coupler(4 WG Ports)
 Coupling: C=30dB

Material: A=Aluminum C=Copper
 Flange 4 Type: FBM100
 Flange 3 Type: FBE100
 Flange 2 Type: FBM100
 Coaxial Connector Type: N=Type N, S=SMA, 2.92=K2.92mm, 2.4=2.4mm, TNC=TNC

- Flange type: Multiple types available - see Dolph Microwave Flanges page
- Finish: Corrosion protection plus black top coat

➤ **Style 6 – Dual-arm Broadwall Directional Coupler 2 Waveguide Ports, 2 Coax Ports**



● Specifications

Model No*	Freq Range (GHz)	VSWR (Max)		Coupling** (dB)	Directivity (Min) (dB)	Coax Connector	WG Type		Flange	Material
		Main Line	Secondary				IEC	EIA		
DH-26WDXC...N	2.17-3.30	1.10	1.25	3-40	20-38	N	R26	WR340	FDP/FDM	Al/Cu
DH-32WDXC...N	2.60-3.95	1.10	1.25	3-40	20-38	N	R32	WR284	FDP/FDM	Al/Cu

DH-40WDXC...N	3.22-4.90	1.08	1.25	3-40	20-38	N	R40	WR229	FDP/FDM	Al/Cu
DH-48WDXC...N	3.94-5.99	1.08	1.25	3-40	20-38	N	R48	WR187	FDP/FDM	Al/Cu
DH-58WDXC...N	4.64-7.05	1.08	1.25	3-40	20-38	N	R58	WR159	FDP/FDM	Al/Cu
DH-70WDXC...N	5.38-8.17	1.08	1.25	3-40	20-38	N	R70	WR137	FDP/FDM	Al/Cu
DH-84WDXC...N	6.57-9.99	1.08	1.25	3-40	20-38	N	R84	WR112	FBP/FBM/FB	Al/Cu
DH-100WDXC...N	8.20-12.4	1.08	1.25	3-40	20-38	N	R100	WR90	FBP/FBM/FB	Al/Cu
DH-120WDXC...S	9.84-15.0	1.08	1.25	3-40	20-38	SMA	R120	WR75	FBP/FBM/FB	Al/Cu
DH-140WDXC...S	11.9-18.0	1.10	1.25	3-40	20-38	SMA	R140	WR62	FBP/FBM/FB	Al/Cu
DH-180WDXC...S	14.5-22.0	1.10	1.25	3-40	20-38	SMA	R180	WR51	FBP/FBM/FB	Al/Cu
DH-220WDXC...S	17.6-26.7	1.10	1.50	3-40	20-38	SMA,K***	R220	WR42	FBP/FBM/FB	Al/Cu
DH-260WDXC...S	21.7-33.0	1.10	1.50	3-40	20-38	SMA,K***	R260	WR34	FBP/FBM/FB	Al/Cu
DH-320WDXC...S	26.3-40.0	1.10	1.50	3-40	20-38	SMA,K***	R320	WR28	FBP/FBM/FB	Al/Cu

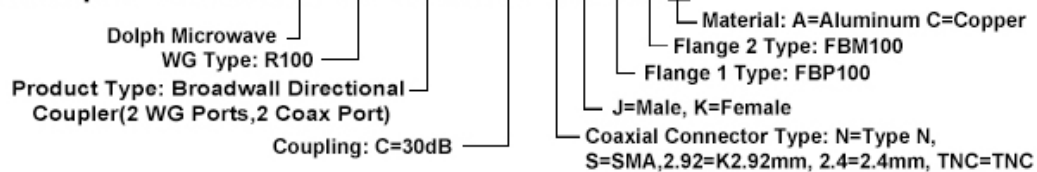
*Indicates Model Number. See Ordering Information for complete part number.

**Nominal Accuracy: ± 0.7 dB Frequency Sensitivity: ± 1 dB

*** These units are supplied with 2.92mm (K-type) connectors.

● Ordering Information

Example Part No: **DH- 100 WDXC 30 N K P M A**



- Flange type: Multiple types available - see Dolph Microwave Flanges page
- Finish: Corrosion protection plus black top coat