



WR-90 Waveguide Circulator, 8.2 GHz to 12.4 GHz,
 18 dB min Isolation, Cover Flange, Aluminum

Waveguide Circulators Technical Data Sheet

PE-W90CR001

Features

- WR-90 Waveguide Circulator
- X Band Frequency Range 8.2 to 12.4 GHz
- UG Cover Flange Configuration
- Maximum VSWR 1.35:1
- Minimum 18 dB isolation
- Maximum Power 100 W (CW)

Applications

- Radar Systems
- Military
- Wireless Radio Systems
- Telecom Infrastructure
- Communication Systems
- R&D Labs
- Microwave Radio Systems

Description

The PE-W90CR001 is a Waveguide Circulator offering 18 dB minimum isolation over the X band frequency range of 8.2 to 12.4 GHz. The design achieves high isolation with wide band performance and the WR-90 waveguide uses UG Square Cover compatible flanges on all ports and has a power rating of 100 watts (CW).

Pasternack offers a wide variety of circulators and waveguide circulators to fit your needs. These unique devices enable two signals to use one channel. The classic use of this three port device is for the line between an antenna and a transceiver, allowing the receive signal to come from the antenna (port 1) to the receiver (port 2) while the transmit signal goes from the transmitter (port 3) to the antenna (port 1). An isolator can be created by terminating one port into a matched load. These components can be used in antenna transmitting and receiving, radar, amplifier systems and anything that requires isolation from a signal reflection and the ability to send signals in opposite directions down a single channel. These circulators feature excellent insertion loss, high isolation and reliability.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	8.2		12.4	GHz
VSWR			1.35:1	
Insertion Loss			0.3	dB
Isolation	18			dB
Forward Power (CW)			100	Watts
Input Power (Peak)			3	kWatts

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-90 Waveguide Circulator, 8.2 GHz to 12.4 GHz, 18 dB min Isolation, Cover Flange, Aluminum PE-W90CR001](#)



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Mechanical Specifications

Size

Length	2.19 in [55.63 mm]
Width	1.97 in [50.04 mm]
Height	1.63 in [41.4 mm]
Weight	0.5 lbs [226.8 g]

Waveguide Size	WR-90
Flange Designation	None
Flange Type	Cover
Flange Material and Plating	Aluminum, Chromate

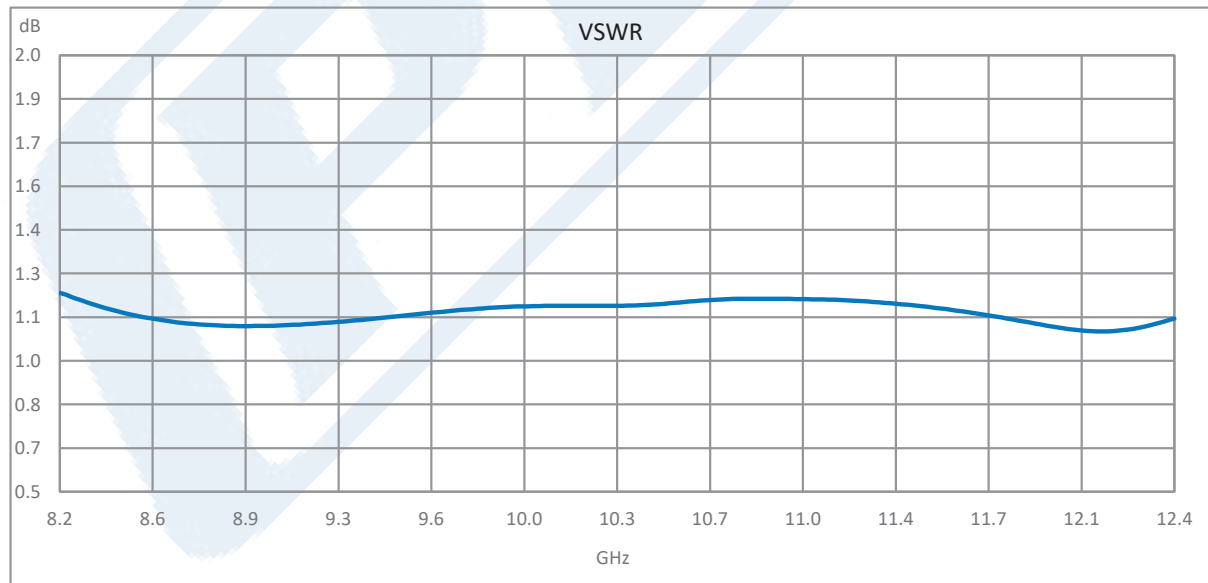
Environmental Specifications

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Performance Data



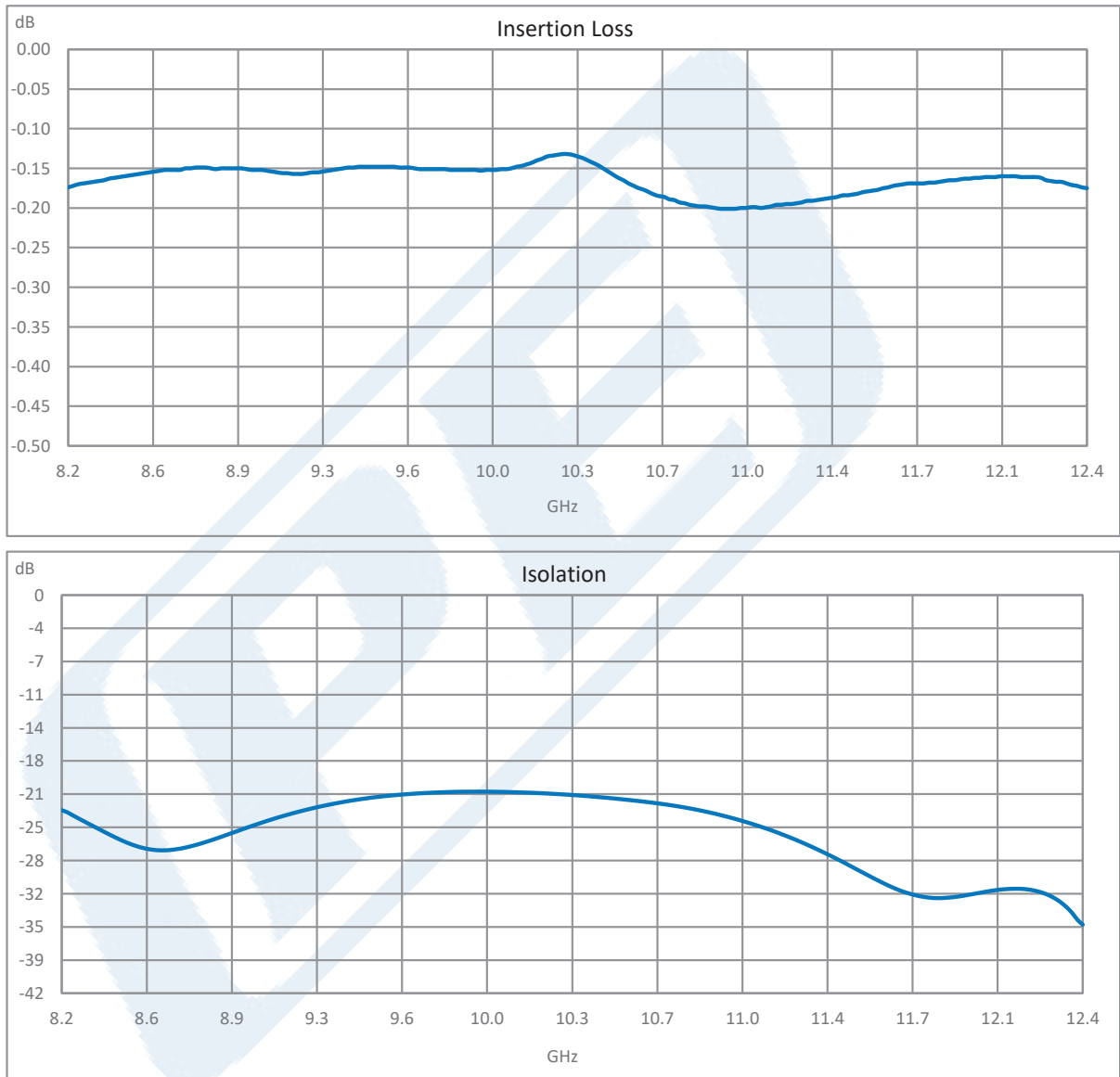
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WR-90 Waveguide Circulator, 8.2 GHz to 12.4 GHz, 18 dB min Isolation, Cover Flange, Aluminum from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

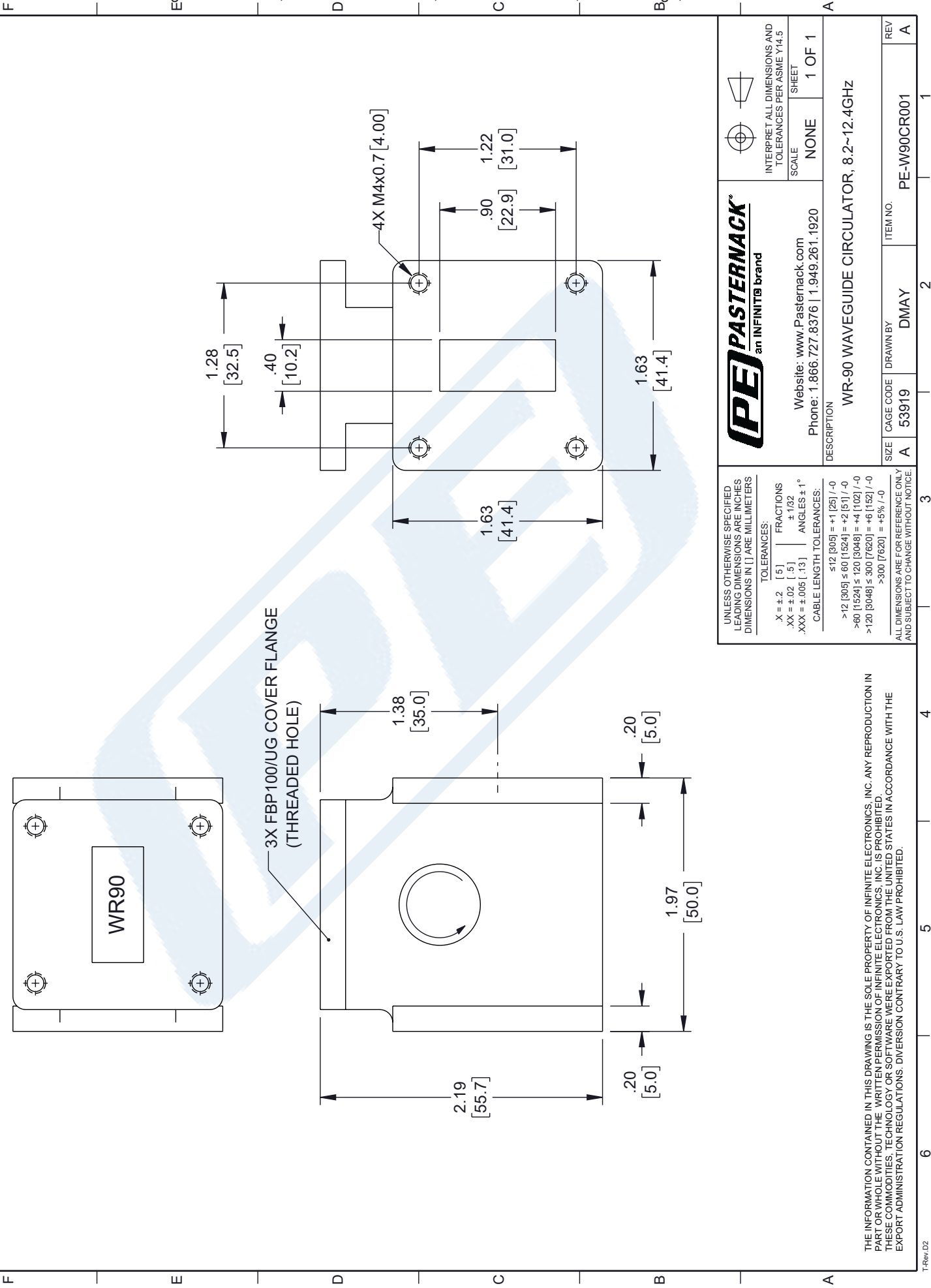
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URL: <https://www.pasternack.com/wr90-waveguide-circulator-8.2-12.4-ghz-18db-cover-flange-aluminum-pe-w90cr001-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

PE-W90CR001 CAD Drawing

WR-90 Waveguide Circulator, 8.2 GHz to 12.4 GHz, 18 dB min Isolation, Cover Flange, Aluminum



REVISION			1		
ZONE	REV	DESCRIPTION	DATE	CHANGED BY	APPROVED
	A	INITIAL RELEASE	02/23/2023	DMAY	SPONG

PE PASTERNAK an INFINITI® brand		Website: www.Pasternack.com Phone: 1.866.727.8376 1.949.261.1920	INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5
DESCRIPTION WR-90 WAVEGUIDE CIRCULATOR, 8.2~12.4GHZ		SCALE NONE	SHEET 1 OF 1
SIZE A	CAGE CODE 53919	DRAWN BY DMAY	ITEM NO. PE-W90CR001
UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS		REV A	

TOLERANCES:
X = ±.2 [5] FRACTIONS
.XX = ±.02 [.5] ±.132
.XXX = ±.005 [.13] ANGLES ± 1°
CABLE LENGTH TOLERANCES:
≤12 [305] = ±1 [25] /-0
>12 [305] ≤ 60 [1524] = +2 [51] /-0
>60 [1524] ≤ 120 [3048] = +4 [102] /-0
>120 [3048] ≤ 300 [7620] = +6 [152] /-0
>300 [7620] = +5% /-0
ALL DIMENSIONS ARE FOR REFERENCE ONLY
AND SUBJECT TO CHANGE WITHOUT NOTICE

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