



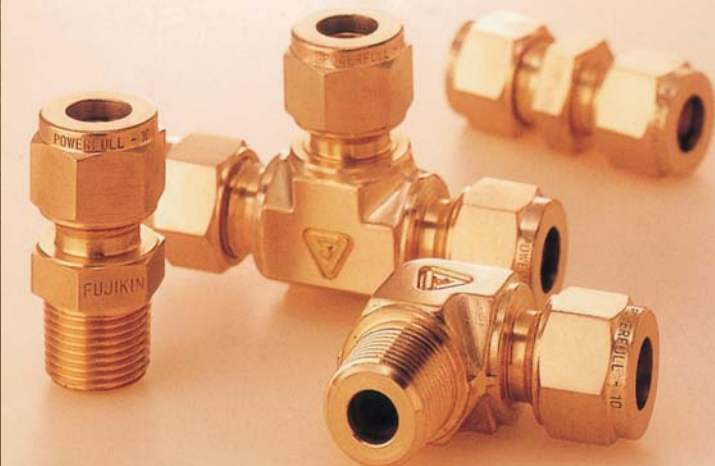
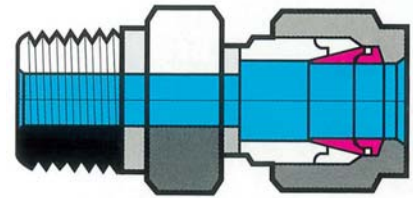
# POWERFULLOK

## Brass Tube Fittings



### Tube Fittings

- Double Ferrule compression fittings
- Material: C3604B  
C3771B  
C3602B



**Fujikin Incorporated**

We welcome customer feedback for all of our products and services.

# Overview

The **POWERFULLOK** is a tube fitting with excellent performance and quality. It is manufactured utilizing the design expertise and production technology that we have accumulated through our many years of experience as a precision fitting manufacturer. The brass **POWERFULLOK** is a flareless double ferrule compression fitting that does not require tube thread cutting. It consists of a brass (C377 1B, C3604B, C3602B) body, front ferrule, back ferrule, and nut.

## Reliability

Product performance and reliability are dependent on proper assembly. Before installing the product, please read the Installation Guide on page 13 carefully. Contact Fujikin if you have any questions about assembly procedures.

## Features / Applications

- This flareless fitting is easy to install; simply insert the tube into the fitting and tight the nut. No welding is required.
- The double-ferrule connection creates a strong bond. By applying a compressive force to the tube, it achieves extremely high pressure resistance.
- The metal sealing parts, which undergo precision finishing, ensure an airtight seal.
- This compact, lightweight fitting requires low tightening torque, and is easy to disassemble and retighten.
- The tube size is stamped on the body for quick and easy identification.

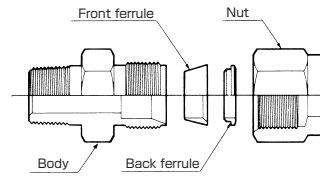
## Pressure and Temperature Ratings

Nominal dia. (mm)	Maximum Operating Temperature			Notes
	Air	Water	Steam	
6, 6.35	4.90	125°C	200°C	At the maximum operating pressure, the maximum operating temperature is 125°C. for most fluids. However, air, hot water, and steam have a higher maximum operating temperature (200°C.) when they are used at lower pressures. Consult with Fujikin before using the POWERFULLOK at temperatures greater than 125°C.
8	4.90	125°C	200°C	
10, 9.52	4.90	125°C	200°C	
12, 12.7	4.90	125°C	200°C	

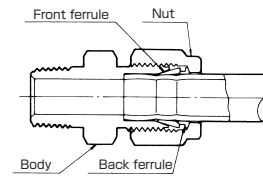
## Other

- The front and back ferrules are available in metric (mm) and fractional inch sizes. Make sure that you use ferrules of the correct size, or the sealing performance will be compromised.
- Materials and dimensions are subject to change without notice.
- Avoid potential problems by notifying Fujikin before changing the conditions of use.

## Parts



## Cross-section after Assembly



## Thread Size

Taper Pipe Thread (JIS)

Designation	A	B	C	D
JIS B0203 (1982) Male thread	R1/8	R1/4	R3/8	R1/2
JIS B0203 (1982) Female thread	Rc1/8	Rc1/4	Rc3/8	Rc1/2

Parallel Pipe Thread (JIS)

Designation	AF	BF	CF	DF
JIS B0203 (1982)	G1/8	G1/4	G3/8	G1/2

National Pipe Taper Thread (ANSI)

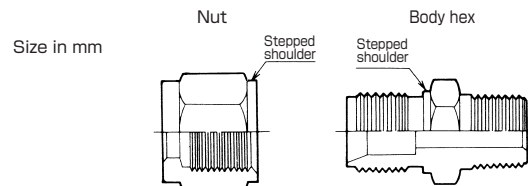
Designation	AN	BN	CN	DN
ANSI B2.1	1/8NPT	1/4NPT	3/8NPT	1/2NPT

## Nominal Diameter

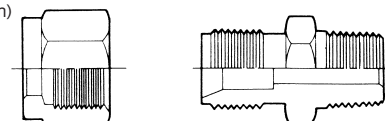
Size in mm	Size in fractional inches
<b>3</b> = 3mm OD	<b>3.2</b> = 3.2mm (1/8") OD
<b>4</b> = 4mm OD	<b>6.35</b> = 6.35mm (1/4") OD
<b>6</b> = 6mm OD	<b>9.52</b> = 9.52mm (3/8") OD
<b>8</b> = 8mm OD	<b>12.7</b> = 12.7mm (1/2") OD
<b>10</b> = 10mm OD	
<b>12</b> = 12mm OD	

Identification of sizes in mm and metric equivalents (mm) of fractional inches

For easy size identification, fitting diameters (expressed in millimeters) are stamped on the body hex and the nut. In addition, metric fittings have stepped shoulders to distinguish them from fractional fittings.



Size in metric equivalents (mm) of fractional inches



# POWERFULL SERIES

## Part Number Designation

# P

Product Series:  
POWERFULLOK  
tube fittings

# D

Material:  
Brass

# W

Fitting Type:  
Double-Ferrule  
Compression Fitting

# H -

Connection Type:  
Male Connector

# 6

Nominal Diameter:  
Outer Diameter of  
Tube (mm)

# B

Thread Size:  
R 1/4"

Please use the part number designations below when placing an order or making an inquiry.

## Connector Type

### H



MALE CONNECTOR

Page

2

### HP



BULKHEAD MALE CONNECTOR

3

### F



STRAIGHT UNION

3

### F



REDUCING UNION

4

### P



BULKHEAD UNION

4

### G



FEMALE CONNECTOR  
(Rc thread)

5

### G



FEMALE CONNECTOR  
(G thread)

5

### GP



BULKHEAD FEMALE CONNECTOR  
(Rc thread)

6

### L



ELBOW UNION

Page

6

### L



MALE ELBOW  
(R thread)

7

### T



TEE UNION

8

### T



REDUCING TEE UNION

8

### TG



FEMALE BRANCH TEE  
(Rc thread)

9

### TS



MALE BRANCH TEE  
(R thread)

9

### TL



MALE RUN TEE  
(R thread)

10

### JC



CAP UNION

11

### JP



PLUG UNION

Page

11

### S



FRONT FERRULE

12

### R



BACK FERRULE

12

### N

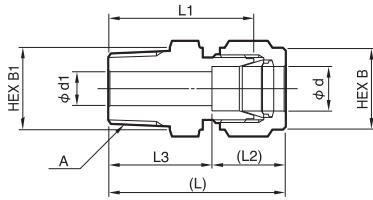


NUT

12

# POWERFULL SERIES

## MALE CONNECTORS



Size in mm	Part number	Nominal dia. d	A	d1	B	B1	L	L1	L2	L3
	PDWH-3A-R	3	R1/8	2.4	10	12	29.5	23.1	12.7	16.8
	PDWH-3B-R	3	R1/4	2.4	10	14	35.4	29	12.7	22.7
	PDWH-4A-R	4	R1/8	2.4	12	12	31.1	24.6	13.6	17.5
	PDWH-4B-R	4	R1/4	2.4	12	14	36.2	29.7	13.6	22.6
	PDWH-6A-R	6	R1/8	4.8	14	14	32.6	25.4	15.2	17.4
	PDWH-6B-R	6	R1/4	4.8	14	14	37.4	30.2	15.2	22.2
	PDWH-6C-R	6	R3/8	4.8	14	17	38.2	31	15.2	23
	PDWH-6D-R	6	R1/2	4.8	14	22	43.8	36.6	15.2	28.6
	PDWH-8A-R	8	R1/8	4.8	16	16	34.2	26.7	16.2	18
	PDWH-8B-R	8	R1/4	6.4	16	16	38.7	31.2	16.2	22.5
	PDWH-8C-R	8	R3/8	6.4	16	17	39.3	31.8	16.2	23.1
	PDWH-8D-R	8	R1/2	6.4	16	22	44.8	37.3	16.2	28.6
	PDWH-10A-R	10	R1/8	4.8	19	19	36.1	28.7	17	19.1
	PDWH-10B-R	10	R1/4	7.9	19	19	40.7	33.3	17	23.7
	PDWH-10C-R	10	R3/8	7.9	19	19	40.7	33.3	17	23.7
	PDWH-10D-R	10	R1/2	7.9	19	22	45.5	38.1	17	28.5
	PDWH-12A-R	12	R1/8	4.8	22	22	38.5	28.7	22.5	16
	PDWH-12B-R	12	R1/4	7.1	22	22	43.1	33.3	22.5	20.6
	PDWH-12C-R	12	R3/8	9.5	22	22	43.1	33.3	22.5	20.6
	PDWH-12D-R	12	R1/2	9.5	22	22	47.9	38.1	22.5	25.4

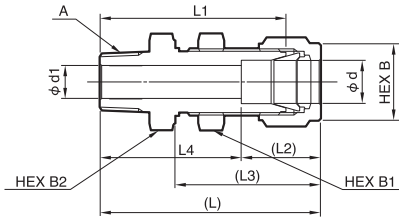
Also available with NPT (ANSI) threads.

Size in metric equivalents  
(mm) of fractional inches

Part number	Nominal dia. d	A	d1	B	B1	L	L1	L2	L3
PDWH-3.2A-R	3.2	R1/8	2.3	12	12	30.6	23.9	13	17.6
PDWH-3.2B-R	3.2	R1/4	2.3	12	14	35.7	29	13	22.7
PDWH-6.35A-R	6.35	R1/8	4.8	14	14	32.8	25.4	15.4	17.4
PDWH-6.35B-R	6.35	R1/4	4.8	14	14	37.9	30.5	15.4	22.5
PDWH-6.35C-R	6.35	R3/8	4.8	14	17	38.4	31	15.4	23
PDWH-6.35D-R	6.35	R1/2	4.8	14	22	44.7	37.3	15.4	29.3
PDWH-9.52A-R	9.52	R1/8	4.8	17	17	35.5	27.9	17.2	18.3
PDWH-9.52B-R	9.52	R1/4	7.1	17	17	40.1	32.5	17.2	22.9
PDWH-9.52C-R	9.52	R3/8	7.1	17	17	40.1	32.5	17.2	22.9
PDWH-9.52D-R	9.52	R1/2	7.1	17	22	46.5	38.9	17.2	29.3
PDWH-12.7A-R	12.7	R1/8	4.8	22	22	39	28.7	23	16
PDWH-12.7B-R	12.7	R1/4	7.1	22	22	43.6	33.3	23	20.6
PDWH-12.7C-R	12.7	R3/8	9.7	22	22	43.6	33.3	23	20.6
PDWH-12.7D-R	12.7	R1/2	10.4	22	22	49.2	38.9	23	26.2

Also available with NPT (ANSI) threads.

# BULKHEAD MALE CONNECTORS



Size in mm	Part number	Nominal dia. d	A	Panel hole dia.	d1	B	B1	B2	L	L1	L2	L3	L4
	PDWHP-3A-R	3	R1/8	8	2.4	10	14	14	46.3	39.9	12.7	30.7	33.6
	PDWHP-3B-R	3	R1/4	8	2.4	10	14	14	51.4	45	12.7	30.7	38.7
	PDWHP-6A-R	6	R1/8	11.2	4.8	14	16	16	49.4	42.2	15.2	33.7	34.2
	PDWHP-6B-R	6	R1/4	11.2	4.8	14	16	16	53.2	46	15.2	33.7	38
	PDWHP-6C-R	6	R3/8	11.2	4.8	14	16	17	54.3	47.1	15.2	33.7	39.1
	PDWHP-6D-R	6	R1/2	11.2	4.8	14	16	22	60.6	53.4	15.2	33.7	45.4
	PDWHP-8A-R	8	R1/8	12.8	4.8	16	19	19	51.7	44.2	16.2	36.1	35.5
	PDWHP-8B-R	8	R1/4	12.8	6.4	16	19	19	56.2	48.7	16.2	36.1	40
	PDWHP-8C-R	8	R3/8	12.8	6.4	16	19	19	56.8	49.3	16.2	36.1	40.6
	PDWHP-8D-R	8	R1/2	12.8	6.4	16	19	22	62.3	54.8	16.2	36.1	46.1
	PDWHP-10A-R	10	R1/8	16	4.8	19	22	22	53.6	46.2	17	36.8	36.6
	PDWHP-10B-R	10	R1/4	16	7.1	19	22	22	58.2	50.8	17	36.8	41.2
	PDWHP-10C-R	10	R3/8	16	7.9	19	22	22	58.2	50.8	17	36.8	41.2
	PDWHP-10D-R	10	R1/2	16	7.9	19	22	22	63	55.6	17	36.8	46
	PDWHP-12A-R	12	R1/8	19.1	4.8	22	24	24	58.3	48.5	22.5	41.5	35.8
	PDWHP-12B-R	12	R1/4	19.1	7.1	22	24	24	62.9	53.1	22.5	41.5	40.4
	PDWHP-12C-R	12	R3/8	19.1	9.5	22	24	24	62.9	53.1	22.5	41.5	40.4
	PDWHP-12D-R	12	R1/2	19.1	9.5	22	24	24	68.5	58.7	22.5	41.5	46

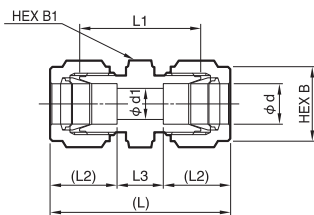
Also available with NPT (ANSI) threads.

Size in metric equivalents (mm) of fractional inches

Part number	Nominal dia. d	A	Panel hole dia.	d1	B	B1	B2	L	L1	L2	L3	L4
PDWHP-3.2A-R	3.2	R1/8	8	2.3	12	14	14	46.6	39.9	13	31	33.6
PDWHP-3.2B-R	3.2	R1/4	8	2.3	12	14	14	51.7	45	13	31	38.7
PDWHP-6.35A-R	6.35	R1/8	11.2	4.8	14	16	16	49.6	44.2	15.4	33.9	34.2
PDWHP-6.35B-R	6.35	R1/4	11.2	4.8	14	16	16	53.4	46	15.4	33.9	38
PDWHP-6.35C-R	6.35	R3/8	11.2	4.8	14	16	17	54.5	47.1	15.4	33.9	39.1
PDWHP-6.35D-R	6.35	R1/2	11.2	4.8	14	16	22	60.8	53.4	15.4	33.9	45.4
PDWHP-9.52A-R	9.52	R1/8	14.3	4.8	17	22	22	53.1	45.5	17.2	37.1	35.9
PDWHP-9.52B-R	9.52	R1/4	14.3	7.1	17	22	22	57.6	50	17.2	37.1	40.4
PDWHP-9.52C-R	9.52	R3/8	14.3	7.1	17	22	22	57.6	50	17.2	37.1	40.4
PDWHP-9.52D-R	9.52	R1/2	14.3	7.1	17	22	22	64.1	56.5	17.2	37.1	46.9
PDWHP-12.7A-R	12.7	R1/8	19.1	4.8	22	24	24	58.8	48.5	23	42	35.8
PDWHP-12.7B-R	12.7	R1/4	19.1	7.1	22	24	24	63.4	53.1	23	42	40.4
PDWHP-12.7C-R	12.7	R3/8	19.1	9.4	22	24	24	63.4	53.1	23	42	40.4
PDWHP-12.7D-R	12.7	R1/2	19.1	10.4	22	24	24	69	58.7	23	42	46

Also available with NPT (ANSI) threads.

# STRAIGHT UNIONS



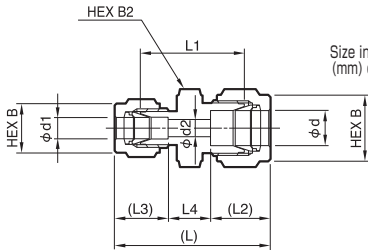
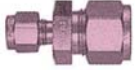
Size in mm	Part number	Nominal dia. d	d1	B	B1	L	L1	L2	L3
	PDFW-3-R	3	2.4	10	12	34.9	22.1	12.7	9.5
	PDFW-4-R	4	2.4	12	12	37.1	24.1	13.6	9.9
	PDFW-6-R	6	4.8	14	14	40.6	26.2	15.2	10.2
	PDFW-8-R	8	6.4	16	16	43.1	28.2	16.2	10.7
	PDFW-10-R	10	7.9	19	19	45.8	31	17	11.8
	PDFW-12-R	12	9.5	22	22	50.6	31	22.5	5.6

Size in metric equivalents (mm) of fractional inches

Part number	Nominal dia. d	d1	B	B1	L	L1	L2	L3
PDFW-3.2-R	3.2	2.3	12	12	35.7	22.4	13	9.7
PDFW-6.35-R	6.35	4.8	14	14	40.9	26.2	15.4	10.1
PDFW-9.52-R	9.52	7.1	17	17	45.4	30.2	17.2	11
PDFW-12.7-R	12.7	10.4	22	22	51.5	31	23	5.5

# POWERFULL SERIES

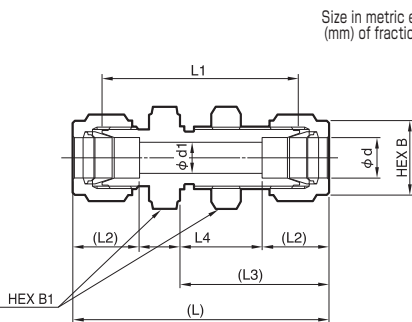
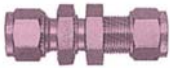
## REDUCING UNIONS



Size in mm	Part number	Nominal dia. d	Nominal dia. d1	d2	B	B1	B2	L	L1	L2	L3	L4
	<b>PDWF-4×3-R</b>	4	3	2.4	12	10	12	36.5	23.6	13.6	12.7	10.2
	<b>PDWF-6×3-R</b>	6	3	2.4	14	10	14	38.2	24.6	15.2	12.7	10.3
	<b>PDWF-6×4-R</b>	6	4	2.4	14	12	14	39.1	25.4	15.2	13.6	10.3
	<b>PDWF-8×6-R</b>	8	6	4.8	16	14	16	42.1	27.4	16.2	15.2	10.7
	<b>PDWF-10×6-R</b>	10	6	4.8	19	14	19	44.1	29.5	17	15.2	11.9
	<b>PDWF-10×8-R</b>	10	8	6.4	19	16	19	44.9	30	17	16.2	11.7
	<b>PDWF-12×6-R</b>	12	6	4.8	22	14	22	46.5	29.5	22.5	15.2	8.8
	<b>PDWF-12×8-R</b>	12	8	6.4	22	16	22	47.5	30.2	22.5	16.2	8.8
	<b>PDWF-12×10-R</b>	12	10	7.9	22	19	22	48.2	31	22.5	17	8.7

Size in metric equivalents (mm) of fractional inches	Part number	Nominal dia. d	Nominal dia. d1	d2	B	B1	B2	L	L1	L2	L3	L4
	<b>PDWF-6.35×3.2-R</b>	6.35	3.2	2.3	14	12	14	38.7	24.6	15.4	13	10.3
	<b>PDWF-9.52×6.35-R</b>	9.52	6.35	4.8	17	14	17	43.4	28.4	17.2	15.4	10.8
	<b>PDWF-12.7×6.35-R</b>	12.7	6.35	4.8	22	14	22	47.2	29.5	23	15.4	8.8
	<b>PDWF-12.7×9.52-R</b>	12.7	9.52	7.1	22	17	22	48.9	31	23	17.2	8.7

## BULKHEAD UNIONS

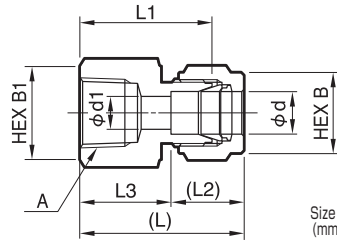


Size in mm	Part number	Nominal dia. d	Panel hole dia.	d1	B	B1	L	L1	L2	L3	L4
	<b>PDWP-3-R</b>	3	8	2.4	10	14	50.9	38.1	12.7	30.7	25.5
	<b>PDWP-4-R</b>	4	9.6	2.4	12	14	53.4	40.4	13.6	31.9	26.2
	<b>PDWP-6-R</b>	6	11.2	4.8	14	16	57.3	42.9	15.2	33.7	26.9
	<b>PDWP-8-R</b>	8	12.8	6.4	16	19	60.9	46	16.2	36.1	28.5
	<b>PDWP-10-R</b>	10	16	7.9	19	22	63.3	48.5	17	36.8	29.3
	<b>PDWP-12-R</b>	12	19.1	9.5	22	24	70.4	50.8	22.5	41.5	25.4

Size in metric equivalents (mm) of fractional inches	Part number	Nominal dia. d	Panel hole dia.	d1	B	B1	L	L1	L2	L3	L4
	<b>PDWP-3.2-R</b>	3.2	8	2.3	12	14	51.4	38.1	13	31	25.4
	<b>PDWP-6.35-R</b>	6.35	11.2	4.8	14	16	57.6	42.9	15.4	33.9	26.8
	<b>PDWP-9.52-R</b>	9.52	14.3	7.1	17	22	62.7	47.5	17.2	37.1	28.3
	<b>PDWP-12.7-R</b>	12.7	19.1	10.4	22	24	71.3	50.8	23	42	25.3

# FEMALE CONNECTORS

(Rc thread)



Size in metric equivalents (mm) of fractional inches

Size in mm	Part number	Nominal dia. d	A	d1	B	B1	L	L1	L2	L3
	PDWG-3A-R	3	Rc1/8	2.4	10	14	28.5	22.1	12.7	15.8
	PDWG-3B-R	3	Rc1/4	2.4	10	19	33.3	26.9	12.7	20.6
	PDWG-4A-R	4	Rc1/8	2.4	12	14	29.6	23.1	13.6	16
	PDWG-4B-R	4	Rc1/4	2.4	12	19	34.2	27.7	13.6	20.6
	PDWG-6A-R	6	Rc1/8	4.8	14	14	31.1	23.9	15.2	15.9
	PDWG-6B-R	6	Rc1/4	4.8	14	19	35.6	28.4	15.2	20.4
	PDWG-6C-R	6	Rc3/8	4.8	14	22	36.7	29.5	15.2	21.5
	PDWG-6D-R	6	Rc1/2	4.8	14	26	42.3	35.1	15.2	27.1
	PDWG-8A-R	8	Rc1/8	6.4	16	16	32.1	24.6	16.2	15.9
	PDWG-8B-R	8	Rc1/4	6.4	16	19	37	29.5	16.2	20.8
	PDWG-8C-R	8	Rc3/8	6.4	16	22	37.7	30.2	16.2	21.5
	PDWG-8D-R	8	Rc1/2	6.4	16	26	43.3	35.8	16.2	27.1
	PDWG-10A-R	10	Rc1/8	7.9	19	19	32.8	25.4	17	15.8
	PDWG-10B-R	10	Rc1/4	7.9	19	19	37.6	30.2	17	20.6
	PDWG-10C-R	10	Rc3/8	7.9	19	22	38.4	31	17	21.4
	PDWG-10D-R	10	Rc1/2	7.9	19	26	44	36.6	17	27
	PDWG-12A-R	12	Rc1/8	8.3	22	22	38.2	28.4	22.5	15.7
	PDWG-12B-R	12	Rc1/4	9.5	22	22	40	30.2	22.5	17.5
	PDWG-12C-R	12	Rc3/8	9.5	22	22	40.8	31	22.5	18.3
	PDWG-12D-R	12	Rc1/2	9.5	22	26	46.4	36.6	22.5	23.9

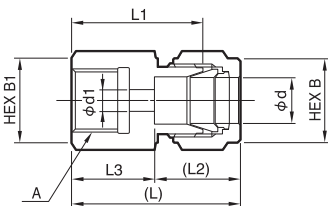
Also available with NPT (ANSI) threads.

Part number	Nominal dia. d	A	d1	B	B1	L	L1	L2	L3
PDWG-3.2A-R	3.2	Rc1/8	2.3	12	14	28.8	22.1	13	15.8
PDWG-3.2B-R	3.2	Rc1/4	2.3	12	19	33.6	26.9	13	20.6
PDWG-6.35A-R	6.35	Rc1/8	4.8	14	14	31.3	23.9	15.4	15.9
PDWG-6.35B-R	6.35	Rc1/4	4.8	14	19	35.8	28.4	15.4	20.4
PDWG-6.35C-R	6.35	Rc3/8	4.8	14	22	37.6	30.2	15.4	22.2
PDWG-6.35D-R	6.35	Rc1/2	4.8	14	26	42.5	35.1	15.4	27.1
PDWG-9.52A-R	9.52	Rc1/8	7.1	17	16	33	25.4	17.2	15.8
PDWG-9.52B-R	9.52	Rc1/4	7.1	17	19	37.8	30.2	17.2	20.6
PDWG-9.52C-R	9.52	Rc3/8	7.1	17	22	39.4	31.8	17.2	22.2
PDWG-9.52D-R	9.52	Rc1/2	7.1	17	26	44.2	36.6	17.2	27
PDWG-12.7A-R	12.7	Rc1/8	7	22	22	38.7	28.4	23	15.7
PDWG-12.7B-R	12.7	Rc1/4	10.4	22	22	40.5	30.2	23	17.5
PDWG-12.7C-R	12.7	Rc3/8	10.4	22	22	42.1	31.8	23	19.1
PDWG-12.7D-R	12.7	Rc1/2	10.4	22	26	46.9	36.6	23	23.9

Also available with NPT (ANSI) threads.

# FEMALE CONNECTORS

(G thread)



Size in metric equivalents (mm) of fractional inches

Size in mm	Part number	Nominal dia. d	A	d1	B	B1	L	L1	L2	L3
	PDWG-3AF-R	3	G1/8	5.5*	10	14	32.1	25.7	12.7	19.4
	PDWG-3BF-R	3	G1/4	5.5*	10	19	35.1	28.7	12.7	22.4
	PDWG-4AF-R	4	G1/8	5.5*	12	14	33.2	26.7	13.6	19.6
	PDWG-4BF-R	4	G1/4	5.5*	12	19	36.2	29.7	13.6	22.6
	PDWG-6AF-R	6	G1/8	5.5*	14	14	34.4	27.2	15.2	19.2
	PDWG-6BF-R	6	G1/4	5.5*	14	19	37.4	30.2	15.2	22.2
	PDWG-6CF-R	6	G3/8	5.5*	14	22	37.4	30.2	15.2	22.2
	PDWG-6DF-R	6	G1/2	5.5*	14	26	42.8	35.6	15.2	27.6
	PDWG-8AF-R	8	G1/8	5.5	16	16	35.5	28	16.2	19.3
	PDWG-8BF-R	8	G1/4	5.5	16	19	38.5	31	16.2	22.3
	PDWG-8CF-R	8	G3/8	5.5	16	22	36.2	28.7	16.2	20
	PDWG-8DF-R	8	G1/2	5.5	16	26	40.5	33	16.2	24.3
	PDWG-10AF-R	10	G1/8	5.5	19	19	36.2	28.8	17	19.2
	PDWG-10BF-R	10	G1/4	5.5	19	19	39.2	31.8	17	22.2
	PDWG-10CF-R	10	G3/8	5.5	19	22	38.6	31.2	17	21.6
	PDWG-10DF-R	10	G1/2	5.5	19	26	41.2	33.8	17	24.2
	PDWG-12AF-R	12	G1/8	5.5	22	22	38.6	28.8	22.5	16.1
	PDWG-12BF-R	12	G1/4	5.5	22	22	41.6	31.8	22.5	19.1
	PDWG-12CF-R	12	G3/8	5.5	22	22	44.1	34.3	22.5	21.6
	PDWG-12DF-R	12	G1/2	5.5	22	26	47.9	38.1	22.5	25.4**

Part number	Nominal dia. d	A	d1	B	B1	L	L1	L2	L3
PDWG-3.2AF-R	3.2	G1/8	5.5*	12	14	32.4	25.7	13	19.4
PDWG-3.2BF-R	3.2	G1/4	5.5*	12	19	35.4	28.7	13	22.4
PDWG-6.35AF-R	6.35	G1/8	5.5	14	14	34.6	27.2	15.4	19.2
PDWG-6.35BF-R	6.35	G1/4	5.5	14	19	37.6	30.2	15.4	22.2
PDWG-6.35CF-R	6.35	G3/8	5.5	14	22	37.6	30.2	15.4	22.2
PDWG-6.35DF-R	6.35	G1/2	5.5	14	26	43	35.6	15.4	27.6
PDWG-9.52AF-R	9.52	G1/8	5.5	17	16	36.4	28.8	17.2	19.2
PDWG-9.52BF-R	9.52	G1/4	5.5	17	19	39.4	31.8	17.2	22.2
PDWG-9.52CF-R	9.52	G3/8	5.5	17	22	38.8	31.2	17.2	21.6
PDWG-9.52DF-R	9.52	G1/2	5.5	17	26	41.4	33.8	17.2	24.2
PDWG-12.7AF-R	12.7	G1/8	5.5	22	22	39.1	28.8	23	16.1
PDWG-12.7BF-R	12.7	G1/4	5.5	22	22	42.1	31.8	23	19.1
PDWG-12.7CF-R	12.7	G3/8	5.5	22	22	44.6	34.3	23	21.6
PDWG-12.7DF-R	12.7	G1/2	5.5	22	26	48.4	38.1	23	25.4

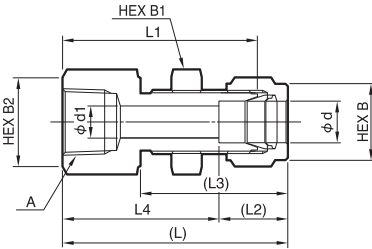
For fittings with a nominal diameter of 3mm, 3.2mm (1/8"), 4mm, and 6mm, the inner diameter of the gasket ( $\phi D1$ ) is 5.5mm. However, the interior of the fitting's body is stepped such that the portion directly behind the gasket and in front of the tube is as follows:

Tube OD (mm): 3.4, 3.2, 6      Fitting ID (mm): 2.4, 2.3, 4.8

# POWERFULL SERIES

## BULKHEAD FEMALE CONNECTORS

(Rc thread)



Size in mm	Part number	Nominal dia. d	A	Panel hole dia. d1	B	B1	B2	L	L1	L2	L3	L4
	PDWGP-3A-R	3	Rc1/8	8	2.4	10	14	44.2	37.8	12.7	30.7	31.5
	PDWGP-3B-R	3	Rc1/4	8	2.4	10	14	49	42.6	12.7	30.7	36.3
	PDWGP-4A-R	4	Rc1/8	9.6	2.4	12	14	45.4	38.9	13.6	31.9	31.8
	PDWGP-4B-R	4	Rc1/4	9.6	2.4	12	14	50	43.5	13.6	31.9	36.4
	PDWGP-6A-R	6	Rc1/8	11.2	4.8	14	16	47.2	40	15.2	33.7	32
	PDWGP-6B-R	6	Rc1/4	11.2	4.8	14	16	51.7	44.5	15.2	33.7	36.5
	PDWGP-6C-R	6	Rc3/8	11.2	4.8	14	16	52.8	45.6	15.2	33.7	37.6
	PDWGP-6D-R	6	Rc1/2	11.2	4.8	14	16	58.4	51.2	15.2	33.7	43.2
	PDWGP-8A-R	8	Rc1/8	12.8	6.4	16	19	49.6	42.1	16.2	36.1	33.4
	PDWGP-8B-R	8	Rc1/4	12.8	6.4	16	19	54.5	47	16.2	36.1	38.3
	PDWGP-8C-R	8	Rc3/8	12.8	6.4	16	19	55.2	47.7	16.2	36.1	39
	PDWGP-8D-R	8	Rc1/2	12.8	6.4	16	19	60.8	53.5	16.2	36.1	44.6
	PDWGP-10A-R	10	Rc1/8	16	7.9	19	22	50.3	42.9	17	36.8	33.3
	PDWGP-10B-R	10	Rc1/4	16	7.9	19	22	55.1	47.7	17	36.8	38.1
	PDWGP-10C-R	10	Rc3/8	16	7.9	19	22	55.9	48.5	17	36.8	38.9
	PDWHG-10D-R	10	Rc1/2	16	7.9	19	22	61.5	54.1	17	36.8	44.5
	PDWGP-12A-R	12	Rc1/8	19.1	8.3	22	24	58	48.2	22.5	41.5	35.5
	PDWGP-12B-R	12	Rc1/4	19.1	9.5	22	24	59.8	50	22.5	41.5	37.3
	PDWGP-12C-R	12	Rc3/8	19.1	9.5	22	24	60.6	50.8	22.5	41.5	38.1
	PDWGP-12D-R	12	Rc1/2	19.1	9.5	22	24	66.2	56.4	22.5	41.5	43.7

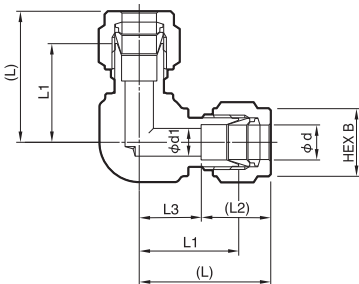
Also available with NPT (ANSI) threads.

Size in metric equivalents (mm) of fractional inches

Part number	Nominal dia. d	A	Panel hole dia. d1	B	B1	B2	L	L1	L2	L3	L4
PDWGP-3.2A-R	3.2	Rc1/8	8	2.3	12	14	44.5	37.8	13	31	31.5
PDWGP-3.2B-R	3.2	Rc1/4	8	2.3	12	14	49.3	42.6	13	31	36.3
PDWGP-6.35A-R	6.35	Rc1/8	11.2	4.8	14	16	47.4	40	15.4	33.9	32
PDWGP-6.35B-R	6.35	Rc1/4	11.2	4.8	14	16	51.9	44.5	15.4	33.9	36.5
PDWGP-6.35C-R	6.35	Rc3/8	11.2	4.8	14	16	53.7	46.3	15.4	33.9	38.3
PDWGP-6.35D-R	6.35	Rc1/2	11.2	4.8	14	16	58.6	51.2	15.4	33.9	43.2
PDWGP-9.52A-R	9.52	Rc1/8	14.3	7.1	17	22	50.6	43	17.2	37.1	33.4
PDWGP-9.52B-R	9.52	Rc1/4	14.3	7.1	17	22	55.4	47.8	17.2	37.1	38.2
PDWGP-9.52C-R	9.52	Rc3/8	14.3	7.1	17	22	57	49.4	17.2	37.1	39.8
PDWGP-9.52D-R	9.52	Rc1/2	14.3	7.1	17	22	61.8	54.2	17.2	37.1	44.6
PDWGP-12.7A-R	12.7	Rc1/8	19.1	8.8	22	24	58.5	48.2	23	42	35.5
PDWGP-12.7B-R	12.7	Rc1/4	19.1	10.4	22	24	60.3	50	23	42	37.3
PDWGP-12.7C-R	12.7	Rc3/8	19.1	10.4	22	24	61.9	51.6	23	42	38.9
PDWGP-12.7D-R	12.7	Rc1/2	19.1	10.4	22	24	66.7	56.4	23	42	43.7

Also available with NPT (ANSI) threads.

## ELBOW UNIONS



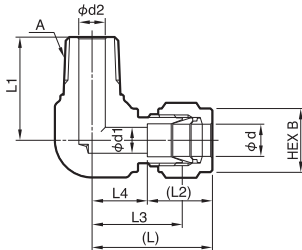
Size in metric equivalents (mm) of fractional inches

Part number	Nominal dia. d	d1	B	L	L1	L2	L3
PDWL-3-R	3	2.4	10	22.1	15.7	12.7	9.4
PDWL-4-R	4	2.4	12	25.3	18.8	13.6	11.7
PDWL-6-R	6	4.8	14	26.8	19.6	15.2	11.6
PDWL-8-R	8	6.4	16	28.8	21.3	16.2	12.6
PDWL-10-R	10	7.9	19	33.3	25.9	17	16.3
PDWL-12-R	12	9.5	22	35.7	25.9	22.5	13.2
PDWL-3.2-R	3.2	2.3	12	22.4	15.7	13	9.4
PDWL-6.35-R	6.35	4.8	14	27	19.6	15.4	11.6
PDWL-9.52-R	9.52	7.1	17	30.7	23.1	17.2	13.5
PDWL-12.7-R	12.7	10.4	22	36.2	25.9	23	13.2



# MALE ELBOWS

(R thread)



Size in mm	Part number	Nominal dia. d	A	d1	B	L	L1	L2	L3	L4
	PDWL-3A-R	3	R1/8	2.4	10	23.4	17.8	12.7	17	10.7
	PDWL-3B-R	3	R1/4	2.4	10	24.4	23.4	12.7	18	11.7
	PDWL-4A-R	4	R1/8	2.4	12	25.3	18.8	13.6	18.8	11.7
	PDWL-4B-R	4	R1/4	2.4	12	25.3	23.4	13.6	18.8	11.7
	PDWL-6A-R	6	R1/8	4.8	14	26.8	18.8	15.2	19.6	11.6
	PDWL-6B-R	6	R1/4	4.8	14	26.8	23.4	15.2	19.6	11.6
	PDWL-6C-R	6	R3/8	4.8	14	29.6	26.2	15.2	22.4	14.4
	PDWL-6D-R	6	R1/2	4.8	14	31.6	33	15.2	24.4	16.4
	PDWL-8A-R	8	R1/8	4.8	16	28.8	19.8	16.2	21.3	12.6
	PDWL-8B-R	8	R1/4	6.4	16	28.8	24.4	16.2	21.3	12.6
	PDWL-8C-R	8	R3/8	6.4	16	30.6	26.2	16.2	23.1	14.4
	PDWL-8D-R	8	R1/2	6.4	16	32.6	33	16.2	25.1	16.4
	PDWL-10A-R	10	R1/8	4.8	19	33.3	23.6	17	25.9	16.3
	PDWL-10B-R	10	R1/4	7.1	19	33.3	28.2	17	25.9	16.3
	PDWL-10C-R	10	R3/8	7.9	19	33.3	28.2	17	25.9	16.3
	PDWL-10D-R	10	R1/2	7.9	19	33.3	33	17	25.9	16.3
	PDWL-12A-R	12	R1/8	4.8	22	35.7	23.6	22.5	25.9	13.2
	PDWL-12B-R	12	R1/4	7.1	22	35.7	28.2	22.5	25.9	13.2
	PDWL-12C-R	12	R3/8	9.5	22	35.7	28.2	22.5	25.9	13.2
	PDWL-12D-R	12	R1/2	9.5	22	35.7	33	22.5	25.9	13.2

Also available with NPT (ANSI) threads.

Size in metric equivalents  
(mm) of fractional inches

Part number	Nominal dia. d	A	d1	B	L	L1	L2	L3	L4
PDWL-3.2A-R	3.2	R1/8	2.3	12	23.7	17.8	13	17	10.7
PDWL-3.2B-R	3.2	R1/4	2.3	12	24.7	23.4	13	18	11.7
PDWL-6.35A-R	6.35	R1/8	4.8	14	27	18.8	15.4	19.6	11.6
PDWL-6.35B-R	6.35	R1/4	4.8	14	27	23.4	15.4	19.6	11.6
PDWL-6.35C-R	6.35	R3/8	4.8	14	29.8	26.2	15.4	22.4	14.4
PDWL-6.35D-R	6.35	R1/2	4.8	14	31.8	33	15.4	24.4	16.4
PDWL-9.52A-R	9.52	R1/8	4.8	17	30.7	20.8	17.2	23.1	13.5
PDWL-9.52B-R	9.52	R1/4	7.1	17	30.7	25.4	17.2	23.1	13.5
PDWL-9.52C-R	9.52	R3/8	7.1	17	31.5	26.2	17.2	23.9	14.3
PDWL-9.52D-R	9.52	R1/2	7.1	17	33.5	33	17.2	25.9	16.3
PDWL-12.7A-R	12.7	R1/8	4.8	22	36.2	23.6	23	25.9	13.2
PDWL-12.7B-R	12.7	R1/4	7.1	22	36.2	28.2	23	25.9	13.2
PDWL-12.7C-R	12.7	R3/8	9.7	22	36.2	28.2	23	25.9	13.2
PDWL-12.7D-R	12.7	R1/2	10.4	22	36.2	33	23	25.9	13.2

Also available with NPT (ANSI) threads.

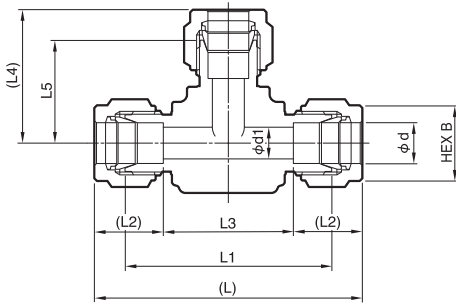
# POWERFULL SERIES

## TEE UNIONS



Size in mm	Part number	Nominal dia. d	d1	B	L	L1	L2	L3	L4	L5
	<b>PDWT-3-R</b>	3	2.4	10	44.2	31.4	12.7	18.8	22.1	15.7
	<b>PDWT-4-R</b>	4	2.4	12	50.6	37.6	13.6	23.4	25.3	18.8
	<b>PDWT-6-R</b>	6	4.8	14	53.4	39	15.2	23	26.7	19.5
	<b>PDWT-8-R</b>	8	6.4	16	59.7	44.8	16.2	27.3	29.9	22.4
	<b>PDWT-10-R</b>	10	7.9	19	66.6	51.8	17	32.6	33.3	25.9
	<b>PDWT-12-R</b>	12	9.5	22	71.4	51.8	22.5	26.4	35.7	25.9

Size in metric equivalents (mm) of fractional inches



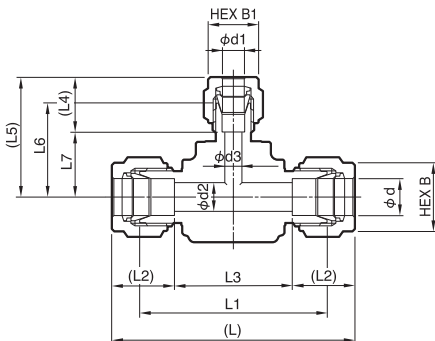
Part number	Nominal dia. d	d1	B	L	L1	L2	L3	L4	L5
<b>PDWT-3.2-R</b>	3.2	2.3	12	44.9	31.6	13	18.9	22.5	15.8
<b>PDWT-6.35-R</b>	6.35	4.8	14	53.7	39	15.4	22.9	26.9	19.5
<b>PDWT-9.52-R</b>	9.52	7.1	17	61.4	46.2	17.2	27	30.7	23.1
<b>PDWT-12.7-R</b>	12.7	10.4	22	72.3	51.8	23	26.3	36.2	25.9

## REDUCING TEE UNIONS



Size in mm	Part number	Nominal dia. d	Nominal dia. d1	d2	d3	B	B1	L	L1	L2	L3	L4	L5	L6	L7
	<b>PDWT-8x8x6-R</b>	8	6	6.4	4.8	16	14	59.7	44.8	16.2	27.3	15.2	29.6	22.4	14.4
	<b>PDWT-10x10x6-R</b>	10	6	7.9	4.8	19	14	66.6	51.8	17	32.6	15.2	33.1	25.9	17.9
	<b>PDWT-10x10x8-R</b>	10	8	7.9	6.4	19	16	66.6	51.8	17	32.6	16.2	33.4	25.9	17.2
	<b>PDWT-12x12x6-R</b>	12	6	9.5	4.8	22	14	71.4	51.8	22.5	26.4	15.2	33.1	25.9	17.9
	<b>PDWT-12x12x8-R</b>	12	8	9.5	6.4	22	16	71.4	51.8	22.5	26.4	16.2	33.4	25.9	17.2
	<b>PDWT-12x12x10-R</b>	12	10	9.5	7.9	22	19	71.4	51.8	22.5	26.4	17	33.3	25.9	16.3

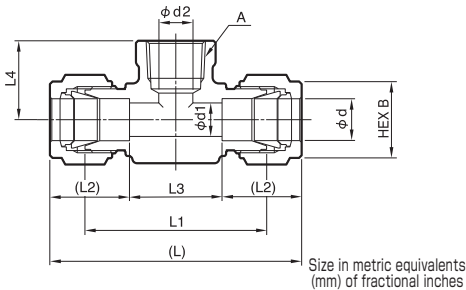
Size in metric equivalents (mm) of fractional inches



Part number	Nominal dia. d	Nominal dia. d1	d2	d3	B	B1	L	L1	L2	L3	L4	L5	L6	L7
<b>PDWT-9.52x9.52x6.35-R</b>	9.52	6.35	7.1	4.8	17	14	61.4	46.2	17.2	27	15.4	30.5	23.1	15.1
<b>PDWT-12.7x12.7x6.35-R</b>	12.7	6.35	10.4	4.8	22	14	72.3	51.8	23	26.3	15.4	33.3	25.9	17.9
<b>PDWT-12.7x12.7x9.52-R</b>	12.7	9.52	10.4	7.1	22	17	72.3	51.8	23	26.3	17.2	33.5	25.9	16.3

# FEMALE BRANCH TEES

(Rc thread)



Part number	Nominal dia. d	A	d1	d2	B	L	L1	L2	L3	L4
PDWTG-3A-R	3	Rc1/8	2.4	7	10	48.9	36.1	12.7	22.7	19.1
PDWTG-3B-R	3	Rc1/4	2.4	7	10	54.4	41.6	12.7	29	22.4
PDWTG-4A-R	4	Rc1/8	2.4	7	12	50.6	37.6	13.6	23.4	19.1
PDWTG-4B-R	4	Rc1/4	2.4	7	12	54.6	41.6	13.6	27.4	22.4
PDWTG-6A-R	6	Rc1/8	4.8	7	14	53.5	39.1	15.2	22.5	19.1
PDWTG-6B-R	6	Rc1/4	4.8	7	14	59.1	44.7	15.2	28.1	22.4
PDWTG-6C-R	6	Rc3/8	4.8	7	14	63.2	48.8	15.2	32.8	22.4
PDWTG-8A-R	8	Rc1/8	6.4	7	16	57.5	42.6	16.2	25.1	19.1
PDWTG-8B-R	8	Rc1/4	6.4	7	16	61.1	46.2	16.2	28.7	22.4
PDWTG-8C-R	8	Rc3/8	6.4	7	16	63.7	48.8	16.2	31.3	22.4
PDWTG-10A-R	10	Rc1/8	7.9	7	19	66.6	51.8	17	32.6	22.4
PDWTG-10B-R	10	Rc1/4	7.9	7.9	19	66.6	51.8	17	32.6	22.4
PDWTG-10C-R	10	Rc3/8	7.9	7.9	19	66.6	51.8	17	32.6	22.4
PDWTG-12A-R	12	Rc1/8	8.3	7	22	71.4	51.8	22.5	26.4	22.4
PDWTG-12B-R	12	Rc1/4	9.5	9.5	22	71.4	51.8	22.5	26.4	22.4
PDWTG-12C-R	12	Rc3/8	9.5	9.5	22	71.4	51.8	22.5	26.4	22.4

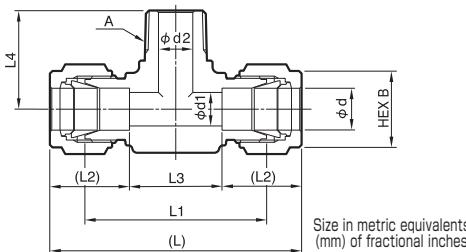
Also available with NPT (ANSI) threads.

Part number	Nominal dia. d	A	d1	d2	B	L	L1	L2	L3	L4
PDWTG-3.2A-R	3.2	Rc1/8	2.3	7.1	12	49.4	36.1	13	23.4	19.1
PDWTG-3.2B-R	3.2	Rc1/4	2.3	7.1	12	54.9	41.6	13	28.9	22.4
PDWTG-6.35A-R	6.35	Rc1/8	4.8	7.1	14	53.8	39.1	15.4	23	19.1
PDWTG-6.35B-R	6.35	Rc1/4	4.8	7.1	14	59.4	44.7	15.4	28.6	22.4
PDWTG-6.35C-R	6.35	Rc3/8	4.8	7.1	14	63.5	48.8	15.4	32.7	22.4
PDWTG-9.52A-R	9.52	Rc1/8	7.1	7.1	17	61.4	46.2	17.2	27	19.1
PDWTG-9.52B-R	9.52	Rc1/4	7.1	7.1	17	63	47.8	17.2	28.6	22.4
PDWTG-9.52C-R	9.52	Rc3/8	7.1	7.1	17	67	51.8	17.2	32.6	22.4
PDWTG-12.7A-R	12.7	Rc1/8	10.4	7.1	22	72.3	51.8	23	26.3	22.4
PDWTG-12.7B-R	12.7	Rc1/4	10.4	9.5	22	72.3	51.8	23	26.3	22.4
PDWTG-12.7C-R	12.7	Rc3/8	10.4	10.4	22	72.3	51.8	23	26.3	22.4

Also available with NPT (ANSI) threads.

# MALE BRANCH TEES

(R thread)



Part number	Nominal dia. d	A	d1	d2	B	L	L1	L2	L3	L4
PDWTS-3A-R	3	R1/8	2.4	4.8	10	46.8	34	12.7	21.4	17.8
PDWTS-3B-R	3	R1/4	2.4	4.8	10	48.9	36.1	12.7	23.5	23.4
PDWTS-4A-R	4	R1/8	2.4	4.8	12	48.6	35.6	13.6	21.4	17.8
PDWTS-4B-R	4	R1/4	2.4	4.8	12	48.6	35.6	13.6	21.4	23.4
PDWTS-6A-R	6	R1/8	4.8	4.8	14	53.5	39.1	15.2	23.1	18.8
PDWTS-6B-R	6	R1/4	4.8	4.8	14	53.5	39.1	15.2	23.1	23.4
PDWTS-6C-R	6	R3/8	4.8	4.8	14	59.2	44.8	15.2	28.8	26.2
PDWTS-6D-R	6	R1/2	4.8	4.8	14	63.2	48.8	15.2	32.8	33
PDWTS-8A-R	8	R1/8	6.4	4.8	16	59.6	44.7	16.2	27.2	20.8
PDWTS-8B-R	8	R1/4	6.4	6.4	16	59.6	44.7	16.2	27.2	25.4
PDWTS-8C-R	8	R3/8	6.4	6.4	16	61.1	46.2	16.2	28.7	26.2
PDWTS-8D-R	8	R1/2	6.4	6.4	16	65.1	50.2	16.2	32.7	33
PDWTS-10A-R	10	R1/8	7.9	4.8	19	66.6	51.8	17	32.6	23.6
PDWTS-10B-R	10	R1/4	7.9	7.1	19	66.6	51.8	17	32.6	28.2
PDWTS-10C-R	10	R3/8	7.9	7.9	19	66.6	51.8	17	32.6	28.2
PDWTS-10D-R	10	R1/2	7.9	7.9	19	66.6	51.8	17	32.6	33
PDWTS-12A-R	12	R1/8	9.5	4.8	22	71.4	51.8	22.5	26.4	23.6
PDWTS-12B-R	12	R1/4	9.5	7.1	22	71.4	51.8	22.5	26.4	28.2
PDWTS-12C-R	12	R3/8	9.5	9.5	22	71.4	51.8	22.5	26.4	28.2
PDWTS-12D-R	12	R1/2	9.5	9.5	22	71.4	51.8	22.5	26.4	33

Also available with NPT (ANSI) threads.

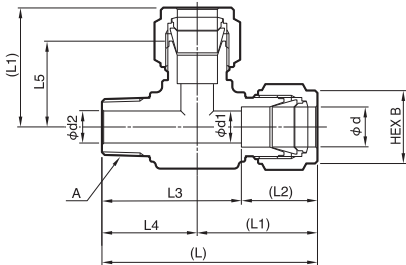
Part number	Nominal dia. d	A	d1	d2	B	L	L1	L2	L3	L4
PDWTS-3.2A-R	3.2	R1/8	2.3	4.8	12	47.3	34	13	21.3	17.8
PDWTS-3.2B-R	3.2	R1/4	2.3	4.8	12	49.4	36.1	13	23.4	23.4
PDWTS-6.35A-R	6.35	R1/8	4.8	4.8	14	53.8	39.1	15.4	23	18.8
PDWTS-6.35B-R	6.35	R1/4	4.8	4.8	14	53.8	39.1	15.4	23	23.4
PDWTS-6.35C-R	6.35	R3/8	4.8	4.8	14	59.5	44.8	15.4	28.7	26.2
PDWTS-6.35D-R	6.35	R1/2	4.8	4.8	14	63.5	48.8	15.4	32.7	33
PDWTS-9.52A-R	9.52	R1/8	7.1	4.8	17	61.4	46.2	17.2	27	20.8
PDWTS-9.52B-R	9.52	R1/4	7.1	7.1	17	61.4	46.2	17.2	27	25.4
PDWTS-9.52C-R	9.52	R3/8	7.1	7.1	17	67	51.8	17.2	32.6	28.2
PDWTS-9.52D-R	9.52	R1/2	7.1	7.1	17	67	51.8	17.2	32.6	33
PDWTS-12.7A-R	12.7	R1/8	10.4	4.8	22	72.3	51.8	23	26.3	23.6
PDWTS-12.7B-R	12.7	R1/4	10.4	7.1	22	72.3	51.8	23	26.3	28.2
PDWTS-12.7C-R	12.7	R3/8	10.4	9.7	22	72.3	51.8	23	26.3	28.2
PDWTS-12.7D-R	12.7	R1/2	10.4	10.4	22	72.3	51.8	23	26.3	33

Also available with NPT (ANSI) threads.

# POWERFULL SERIES

## MALE RUN TEES

(R thread)



Size in mm	Part number	Nominal dia. d	A	d1	d2	B	L	L1	L2	L3	L4	L5
	PDWTL-3A-R	3	R1/8	2.4	4.8	10	41.2	23.4	12.7	28.5	17.8	17
	PDWTL-3B-R	3	R1/4	2.4	4.8	10	47.8	24.4	12.7	35.1	23.4	18
	PDWTL-4A-R	4	R1/8	2.4	4.8	12	42.1	24.3	13.6	28.5	17.8	17.8
	PDWTL-4B-R	4	R1/4	2.4	4.8	12	47.7	24.3	13.6	34.1	23.4	17.8
	PDWTL-6A-R	6	R1/8	4.8	4.8	14	45.6	26.8	15.2	30.4	18.8	19.6
	PDWTL-6B-R	6	R1/4	4.8	4.8	14	50.2	26.8	15.2	35	23.4	19.6
	PDWTL-6C-R	6	R3/8	4.8	4.8	14	55.8	29.6	15.2	40.6	26.2	22.4
	PDWTL-6D-R	6	R1/2	4.8	4.8	14	64.6	31.6	15.2	49.4	33	24.4
	PDWTL-8A-R	8	R1/8	6.4	4.8	16	50.7	29.9	16.2	34.5	20.8	22.4
	PDWTL-8B-R	8	R1/4	6.4	6.4	16	55.3	29.9	16.2	39.1	25.4	22.4
	PDWTL-8C-R	8	R3/8	6.4	6.4	16	56.8	30.6	16.2	40.6	26.2	23.1
	PDWTL-8D-R	8	R1/2	6.4	6.4	16	65.6	32.6	16.2	49.4	33	25.1
	PDWTL-10A-R	10	R1/8	7.9	4.8	19	56.9	33.3	17	39.9	23.6	25.9
	PDWTL-10B-R	10	R1/4	7.9	7.1	19	61.5	33.3	17	44.5	28.2	25.9
	PDWTL-10C-R	10	R3/8	7.9	7.9	19	61.5	33.3	17	44.5	28.2	25.9
	PDWTL-10D-R	10	R1/2	7.9	7.9	19	66.3	33.3	17	49.3	33	25.9
	PDWTL-12A-R	12	R1/8	9.5	4.8	22	59.3	35.7	22.5	36.8	23.6	25.9
	PDWTL-12B-R	12	R1/4	9.5	7.1	22	63.9	35.7	22.5	41.4	28.2	25.9
	PDWTL-12C-R	12	R3/8	9.5	9.5	22	63.9	35.7	22.5	41.4	28.2	25.9
	PDWTL-12D-R	12	R1/2	9.5	9.5	22	68.7	35.7	22.5	46.2	33	25.9

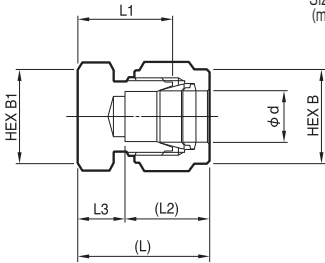
Also available with NPT (ANSI) threads.

Size in metric equivalents  
(mm) of fractional inches

Part number	Nominal dia. d	A	d1	d2	B	L	L1	L2	L3	L4	L5
PDWTL-3.2A-R	3.2	R1/8	2.3	4.8	12	41.5	23.7	13	28.5	17.8	17
PDWTL-3.2B-R	3.2	R1/4	2.3	4.8	12	48.1	24.7	13	35.1	23.4	18
PDWTL-6.35A-R	6.35	R1/8	4.8	4.8	14	45.8	27	15.4	30.4	18.8	19.6
PDWTL-6.35B-R	6.35	R1/4	4.8	4.8	14	50.4	27	15.4	35	23.4	19.6
PDWTL-6.35C-R	6.35	R3/8	4.8	4.8	14	56	29.8	15.4	40.6	26.2	22.4
PDWTL-6.35D-R	6.35	R1/2	4.8	4.8	14	64.8	31.8	15.4	49.4	33	24.4
PDWTL-9.52A-R	9.52	R1/8	7.1	4.8	17	51.5	30.7	17.2	34.3	20.8	23.1
PDWTL-9.52B-R	9.52	R1/4	7.1	7.1	17	56.1	30.7	17.2	38.9	25.4	23.1
PDWTL-9.52C-R	9.52	R3/8	7.1	7.1	17	61.7	33.5	17.2	44.5	28.2	25.9
PDWTL-9.52D-R	9.52	R1/2	7.1	7.1	17	66.5	33.5	17.2	49.3	33	25.9
PDWTL-12.7A-R	12.7	R1/8	10.4	4.8	22	59.8	36.2	23	36.8	23.6	25.9
PDWTL-12.7B-R	12.7	R1/4	10.4	7.1	22	64.4	36.2	23	41.4	28.2	25.9
PDWTL-12.7C-R	12.7	R3/8	10.4	9.7	22	64.6	36.4	23	41.6	28.2	25.9
PDWTL-12.7D-R	12.7	R1/2	10.4	10.4	22	69.4	36.4	23	46.4	33	25.9

Also available with NPT (ANSI) threads.

# CAP UNIONS

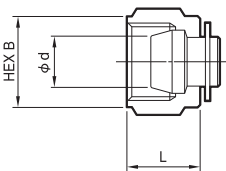


Size in metric equivalents  
(mm) of fractional inches

Size in mm	Part number	Nominal dia. d	B	B1	L	L1	L2	L3
	PDWJC-3-R	3	10	12	19.9	13.5	12.7	7.2
	PDWJC-4-R	4	12	12	21.2	14.7	13.6	7.6
	PDWJC-6-R	6	14	14	22.9	15.7	15.2	7.7
	PDWJC-8-R	8	16	16	24.5	17	16.2	8.3
	PDWJC-10-R	10	19	19	26.4	19	17	9.4
	PDWJC-12-R	12	22	22	28.8	19	22.5	6.3

Part number	Nominal dia. d	B	B1	L	L1	L2	L3
PDWJC-3.2-R	3.2	12	12	20.2	13.5	13	7.2
PDWJC-6.35-R	6.35	14	14	23.4	16	15.4	8
PDWJC-9.52-R	9.52	17	17	25.9	18.3	17.2	8.7
PDWJC-12.7-R	12.7	22	22	29.4	19.1	23	6.4

# PLUG UNIONS



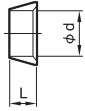
Size in metric equivalents  
(mm) of fractional inches

Size in mm	Part number	Nominal dia. d	B	L
	PDWJP-3-R	3	10	11.8
	PDWJP-4-R	4	12	11.9
	PDWJP-6-R	6	14	12.6
	PDWJP-8-R	8	16	13.4
	PDWJP-10-R	10	19	15
	PDWJP-12-R	12	22	17.4

Part number	Nominal dia. d	B	L
PDWJP-3.2-R	3.2	12	11.8
PDWJP-6.35-R	6.35	14	12.6
PDWJP-9.52-R	9.52	17	14.2
PDWJP-12.7-R	12.7	22	17.4

# POWERFULL SERIES

## FRONT FERRULES



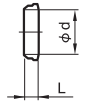
Size in metric equivalents  
(mm) of fractional inches

Size in mm	Part number	Nominal dia. d	L
	PDW-3S-R	3	4.9
	PDW-4S-R	4	4.9
	PDW-6S-R	6	4.9
	PDW-8S-R	8	4.9
	PDW-10S-R	10	4.9
	PDW-12S-R	12	7.3

Size in mm	Part number	Nominal dia. d	L
	PDW-3.2S-R	3.2	4.9
	PDW-6.35S-R	6.35	4.9
	PDW-9.52S-R	9.52	4.9
	PDW-12.7S-R	12.7	7.3

## BACK FERRULES



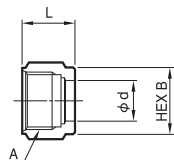
Size in metric equivalents  
(mm) of fractional inches

Size in mm	Part number	Nominal dia. d	L
	PDW-3R-R	3	2.6
	PDW-4R-R	4	2.6
	PDW-6R-R	6	2.6
	PDW-8R-R	8	2.6
	PDW-10R-R	10	2.6
	PDW-12R-R	12	3.8

Size in mm	Part number	Nominal dia. d	L
	PDW-3.2R-R	3.2	2.6
	PDW-6.35R-R	6.35	2.6
	PDW-9.52R-R	9.52	2.6
	PDW-12.7R-R	12.7	3.8

## NUTS



Size in metric equivalents  
(mm) of fractional inches

Size in mm	Part number	Nominal dia. d	A	B	L
	PDW-3N-R	3	5/16-20UN	10	11.8
	PDW-4N-R	4	3/8-20UN	12	11.9
	PDW-6N-R	6	7/16-20UNF	14	12.6
	PDW-8N-R	8	1/2-20UNF	16	13.4
	PDW-10N-R	10	5/8-20UN	19	15
	PDW-12N-R	12	3/4-20UNEF	22	17.4

Size in mm	Part number	Nominal dia. d	A	B	L
	PDW-3.2N-R	3.2	5/16-20UN	12	11.8
	PDW-6.35N-R	6.35	7/16-20UNF	14	12.6
	PDW-9.52N-R	9.52	9/16-20UN	17	14.2
	PDW-12.7N-R	12.7	3/4-20UNEF	22	17.4

## ● Before Installation

- The tubes used must:
  - Be made of soft (O, annealed) or hard (1/2H) copper.
  - Have a tolerance within  $\pm 0.1$  mm of the tube OD.
  - Be free of visible scratches 30mm from either end of the tube.
  - Refer a wall thickness greater than the minimum wall thickness listed in the table below.
 Consult with Fujikin before using non-copper tubes.
- Before assembling the fittings, cut the tubes to the required length. Cutting tubes after fitting assembly will cause bending stress at the fitting seals and may result in leakage.
- Use a tube cutter to cut the tubes to the required length. If it is necessary to use a different method, be sure to cut the tubes at a right angle, and then remove burrs carefully from the outer circumference by filing at a 45° angle to the centerline. Use a scraper or a round file to remove burrs inside the tubes. Ensure that no burrs remain.

In case of using "O (annealed)" copper tube

Nominal Dia. mm	Inches	Nominal Wall Thicknesses of tubes (mm)
3	3.2 (1/8 <sup>OD</sup> )	0.5
4	—	0.8
6	6.35 (1/4 <sup>OD</sup> )	1~1.5
8,10	9.52 (3/8 <sup>OD</sup> )	1~1.5
12	12.7 (1/2 <sup>OD</sup> )	1.2~1.5
—	19.05 (3/4 <sup>OD</sup> )	1.5~2

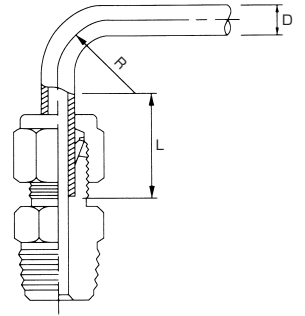
In case of using "1/2H" copper tube

Nominal Dia. mm	Inches	Nominal Wall Thicknesses of tubes (mm)
6	6.35 (1/4 <sup>OD</sup> )	0.8
8,10	9.52 (3/8 <sup>OD</sup> )	0.8
12	12.7 (1/2 <sup>OD</sup> )	1.2

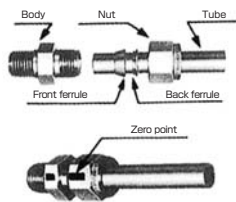
- When installing fittings near tube bends, there must be a sufficient straight length of tubing to allow for proper installation (see the table to the left; units in millimeters).

D (mm)	L (mm)		R (mm)
	L1	L2	
6, 6.35	21	17	14.3
8	22	18	17.5
10, 9.52	24	19.5	23.8
12, 12.7	31	26	38.1

L1: Recommended straight tube length.  
L2: Minimum straight tube length.

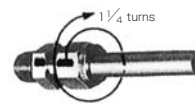


## ● Assembly



Ensure that the parts are installed in the order shown in the picture (left). Assembling them in the wrong order may result in leakage.

Insert the tube completely until it makes contact with the body. Hand-tighten the nut until it cannot be tightened further. After manually tightening the nut, mark both the body and the nut. This point is the zero point.



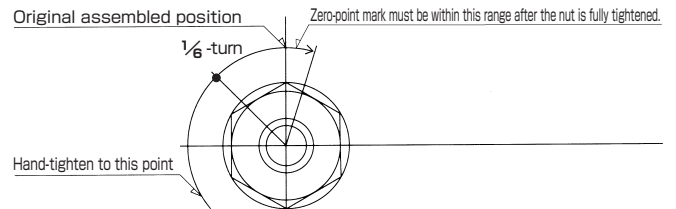
With a wrench, tighten the nut 1/4-turns from the zero point. Assembly is then complete.

Exceptions:

- Fittings with nominal diameters of 4mm, 3.2mm (1/8" OD) or smaller: Tighten the nut a 3/4 turn.
- Plug unions (product number: PDWJP): Tighten the nut a 1/4 turn, regardless of size.

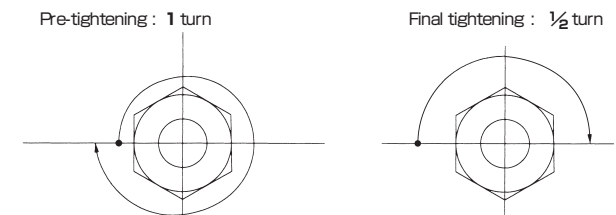
## ● Reassembly

- Hand-tighten the nut until it cannot be tightened further. Then use a wrench to tighten it another 1/8 turn.
- Note: After reassembly, the body and the nut should return to their original position, or be tightened slightly further.



## ● Preswaging

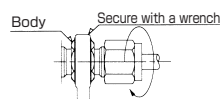
- In situations where it may be difficult to tighten the ferrules (e.g., in installation locations where a wrench cannot be used), the fittings may not be assembled correctly. In such situations, attach the front ferrule, back ferrule, and nut to the tube beforehand.
- Hand-tighten the nut until it cannot be tightened further (zero point). With a wrench, further tighten the nut 1 turn. Next, loosen the nut until it can be manually turned. At the fitting's actual installation location, use a wrench to tighten the nut another 1/2 turn from the zero point. Assembly is then complete.



## ● Preparations: Before Operation

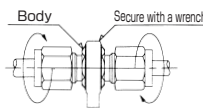
- For tightening, use the appropriate wrench.
- Before tightening the fitting, ensure that its body has been secured using a wrench. Never hold the nut in place while attempting to tighten the body.

- Assembling Male Connectors  
Use a wrench to secure the body.



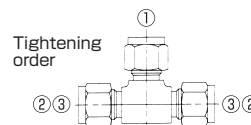
- Assembling Straight Unions

Secure the body and tighten either the left nut or the right nut. Then tighten the other nut. Do not attempt to tighten one nut while holding onto the other.



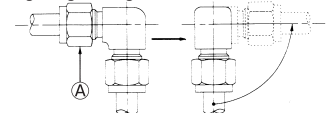
- Assembling Tee Unions

Secure the body. Always start tightening from Position 1. Preswaging the nut and ferrules at Position 1 facilitates installation.



- Changing the Orientation of an Assembled Elbow Union

Loosen the fitting at Location A before attempting to change its orientation. Failure to do so will strip the threads and result in leakage that cannot be stopped by retightening the fitting.



- Support longer tubes to control vibration and prevent movement. If there is minor vibration, the line should be supported at every 2m interval. If there is significant vibration, the line should be supported at every 1m interval.

## ● Troubleshooting

Fujikin POWERFULLOK fittings are manufactured to the most rigorous quality control standards. Leakage should not occur if the fittings are installed and used properly. However, should leakage occur, take the following measures.

- Leakage may occur

- If leakage persists after the nut has been tightened, it may be caused by the following:
  - Fitting damage caused by forcible overtightening.
  - Fitting eroded or corroded by the fluid media.
  - Corrosion caused by a reaction between leak detection fluid and the fluid media.
  - Incorrect fitting assembly.
  - Fitting and tube size mismatch.

Review the conditions of use, and consult with Fujikin if you have any questions.

**Fujikin®**



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**Fujikin® Carp® Group**



The Year 2005  
The 1st Monozukuri (manufacturing)  
Nippon Grand Awards  
: Excellence Prize

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