

## MODEL C-7 OUTLET COUPLING

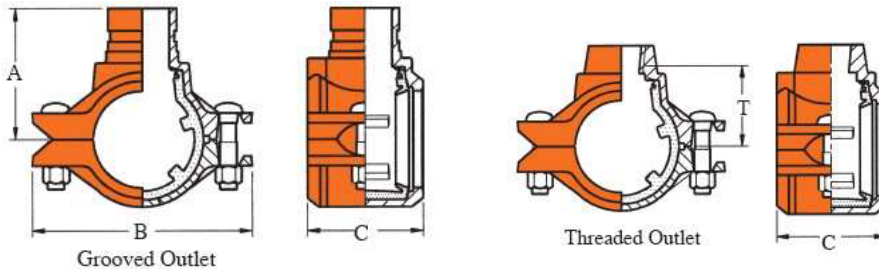
The Model C-7 Outlet Coupling combines the features of a coupling and a reducing outlet. The C-7 is a joining device with an integral reducing outlet, eliminating the need for a mechanical tee or a reducing tee and couplings. The C-7 is available with grooved, male threaded or female threaded outlets. The C-7 coupling is recommended for fire sprinkler services and other applications up to 300 psi (20 Bar) depending on the size and schedule of pipe being used. The C-7 can be used for dry pipe systems or vacuum services up to -10 inHg or 254 mmHg which may occur when the system is drained. All Model C-7 couplings are comprised of an upper and lower ductile iron housings segment, EPDM rubber gasket and plated track bolts & nuts. Housings segments are supplied with our standard painted finishes, i.e. orange or RAL3000 red. Optional finishes such as hot dipped zinc galvanized and custom epoxy coatings are available.



For Fire Protection pressure rating, listing, and approval information, refer to Data Sheet B-42 or visit **SHURJOINT** website, [www.shurjoint.com](http://www.shurjoint.com) for details or contact your **SHURJOINT** Representative.



C-7 couplings should always be installed so that the coupling bolt pads make metal to metal contact.



Full warranty terms can be found on [www.shurjoint.com](http://www.shurjoint.com)

Model C-7 Outlet Coupling											
Nominal Size			Max. Working Pressure (CWP)*	Axial Displacement	Max. End Load (CWP)	Dimensions				Bolt Size	Weight
Run Pipe	Outlet					T**	A	B	C		
	FPT	Gr/MPT	PSI	in	Lbs	in	in	in	in	in	Lbs
	in	in	Bar	mm	KN	mm	mm	mm	mm	mm	Kgs
1½ 40	½	---	500	0.81~0.88	1050 4.7	2.06	---	4.50	2.75	¾ x 2½ M10 x 55	2.6
	15	---	35	20~22		52	---	114.3	70.0		1.2
	¾	---	500	0.81~0.88		2.06	---	4.50	2.75		2.6
	20	---	35	20~22		52	---	114.3	70.0		1.2
2 50	1	---	500	0.81~0.88	2180 9.7	1.94	---	4.50	2.75	¾ x 2½ M10 x 55	2.9
	25	---	35	20~22		49	---	114.3	70.0		1.3
	¾	---	500	0.81~0.88		2.32	---	5.00	2.75		3.1
	20	---	35	20~22		59	---	127.0	70.0		1.4
2½ 65	1	1	500	0.81~0.88	3200 14.2	2.20	3.50	5.00	2.75	½ x 2¾ M12 x 60	3.3
	25	33.4	35	20~22		56	89.0	127.0	70.0		1.5
	½	---	500	1.25~1.50		2.32	---	5.00	2.75		3.1
	15	---	35	32~38		59	---	127.0	70.0		1.4
	¾	---	500	1.25~1.50		2.20	---	5.00	2.75		3.3
	20	---	35	32~38		56	---	161.0	83.0		2.2
3 80	1	---	500	1.25~1.50	4750 21.0	2.56	---	6.33	3.25	½ x 3 M12 x 75	4.6
	20	---	35	32~38		65	---	161.0	83.0		2.1
	¾	---	500	1.25~1.50		2.44	---	6.33	3.25		4.4
	25	---	35	32~38		62	---	161.0	83.0		2.0
	1¼	1¼	500	1.25~1.50		2.36	3.70	6.33	3.25		5.1
	32	42.2	35	32~38		60	94.0	161.0	83.0		2.3
3 80	---	1½	500	1.25~1.50	4750 21.0	---	3.70	6.33	3.25	½ x 3 M12 x 75	5.9
	---	48.3	35	32~38		---	94.0	161.0	83.0		2.4
	¾	---	500	1.25~1.50		2.83	---	6.87	3.25		5.9
	20	---	35	32~38		72	---	175.0	83.0		2.7
3 80	1	1	500	1.25~1.50	4750 21.0	2.75	4.00	6.87	3.25	½ x 3 M12 x 75	6.2
	25	33.4	35	32~38		70	102.0	175.0	83.0		2.8
	1¼	1¼	500	1.25~1.50		2.75	4.00	6.87	3.25		6.2
	32	42.2	35	32~38		70	102.0	175.0	83.0		2.8
3 80	1½	1½	500	1.25~1.50	4750 21.0	2.75	4.00	6.87	3.25	½ x 3 M12 x 75	6.4
	40	48.3	35	32~38		70	102.0	175.0	83.0		2.9

**Model C-7 Outlet Coupling**

Nominal Size		Outlet		Max. Working Pressure (CWP)*	Axial Displacement	Max. End Load (CWP)	Dimensions				Bolt Size	Weight
Run Pipe	FPT	Gr/MPT	PSI				Bar	T**	A	B		
in / mm	in / mm	in / mm	in / mm	in / mm	Lbs / KN	in / mm	in / mm	in / mm	in / mm	in / mm	Lbs / Kgs	
4 100	3/4 20	---	500 35	1.63~1.81 41~46	7840 34.9	3.70 94	---	8.31 211.0	3.66 93.0	5/8 x 3 1/2 M16 x 90	9.2 4.2	
	1 25	1 33.4	500 35	1.63~1.81 41~46		3.58 91	4.88 124.0	8.31 211.0	3.66 93.0		9.5 4.3	
	1 1/2 40	1 1/2 48.3	500 35	1.63~1.81 41~46		3.31 84	4.88 124.0	8.31 211.0	3.66 93.0		9.5 4.3	
	2 50	2 60.3	500 35	1.63~1.81 41~46		3.50 89	4.88 124.0	8.31 211.0	3.66 93.0		9.9 4.5	
	---	---	---	---		---	---	---	---		---	---
6 150	3/4 20	---	400 28	1.63~1.81 41~46	14000 62.3	4.76 121	---	10.86 276.0	3.70 94.0	5/8 x 3 1/2 M16 x 90	13.2 6.0	
	1 25	---	400 28	1.63~1.81 41~46		4.76 121	---	10.86 276.0	3.70 94.0		13.2 6.0	
	1 1/2 40	1 1/2 48.3	400 28	1.63~1.81 41~46		4.76 121	6.06 154.0	10.86 276.0	3.70 94.0		13.6 6.2	
	2 50	2 60.3	400 28	1.63~1.81 41~46		4.40 111	6.06 154.0	10.86 276.0	3.70 94.0		14.3 6.5	
	---	2 1/2 76.1	400 28	1.63~1.81 41~46		---	6.00 152.5	11.04 280.5	4.09 104.0		3/4 x 4 3/4 M20 x 120	18.7 8.5

FPT: Female threaded outlet Gr: Grooved outlet MPT: Male threaded outlet.  
 \*\* T: Center of run pipe to end of outlet pipe (dimensions approximate). Female threaded outlet only.  
 \* Working pressure is based on roll grooved standard wall carbon steel pipe.

**Performance Data**

The following tables show the maximum working pressures (CWP) of **Shurjoint** Model C-7 Outlet Coupling used on both carbon steel and stainless steel pipes. **Shurjoint** ductile iron couplings can be used in conjunction with stainless steel pipe in non-corrosive environment as the flow media does not come in direct contact with the coupling housings but rather only the gasket.

Unit: psi / Bar

Model C-7 on Carbon Steel Pipe					
Nom. Size	Cut-Grooved		Roll-Grooved		
	XS	STD	STD	Sch. 10	Sch. 7
1 1/2 x *	500	500	500	350	300
40 x *	35	35	35	24	20
2 x *	500	500	500	350	300
50 x *	35	35	35	24	20
2 1/2 x *	500	500	500	350	300
65 x *	35	35	35	24	20
3 x *	500	500	500	350	300
80 x *	35	35	35	24	20
4 x *	500	500	500	350	300
100 x *	35	35	35	24	20
6 x *	400	400	400	350	300
150 x *	28	28	28	24	20

\* = all branch sizes, threaded and grooved

Unit: psi / Bar

Model C-7 on Stainless Steel Pipe					
Nom. Size	Cut-Grooved		Roll-Grooved		
	Sch. 80S	Sch. 40S	Sch. 40S	Sch. 10S	Sch. 5S
1 1/2 x *	500	500	350	300	250
40 x *	35	35	24	20	17
2 x *	500	500	350	300	250
50 x *	35	35	24	20	17
2 1/2 x *	500	500	350	300	250
65 x *	35	35	24	20	17
3 x *	500	500	350	300	250
80 x *	35	35	24	20	17
4 x *	500	500	350	300	250
100 x *	35	35	24	20	17
6 x *	400	400	300	300	250
150 x *	28	28	20	20	17

\* = all branch sizes, threaded and grooved

## MATERIAL SPECIFICATIONS

### • Housing:

Ductile Iron to ASTM A536, Gr. 65-45-12 and or ASTM A395, Gr. 65-45-15, min. tensile strength 65,000 psi (448 MPa).

### • Surface Finish:

Standard painted finishes in orange or RAL3000 red.

- Hot dip zinc galvanized (Option).
- Epoxy Coatings in RAL3000 red or other colors (Option)

### • Rubber Gasket:

**Grade "E" EPDM** (Color code: Green stripe) Good for cold & hot water up to +230°F (+110°C). Also good for services for water with acid, water with chlorine, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals.

**Not recommended for petroleum oils, minerals oils, solvents and aromatic hydrocarbons.**

Maximum Temperature Range: -30°F (-34°C) to +230°F (+110°C)\*.

\*EPDM gaskets for water services are not recommended for steam services unless couplings or components are accessible for frequent gasket replacement.

- (Option) **Grade "T" Nitrile** (Color code: Orange stripe) Recommended for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range. Also good for water services under +150°F (+66°C). Temperature range: -20°F to +180°F (-29°C to +82°C).

**Do not use for HOT WATER above +150 F (+66 C) or HOT DRY AIR above +140 °F (+60 °C).**

- Other options: Grade "O" - Fluoroelastomer.  
Grade "L" - Silicone.  
For additional details contact **Shurjoint**.

### • Bolts & Nuts:

Heat treated carbon manganese steel track bolts to ASTM A449-83a (or A183 Gr. 2), minimum tensile strength 110,000 psi (758 MPa), Zinc electroplated, with heavy-duty hexagonal nuts to ASTM A563.

## Flow Data – C<sub>v</sub> Values

Values for flow of water at +60°F (+16°C).

$$C_r = \frac{Q}{\sqrt{\Delta P}}$$

Where: C<sub>v</sub> = Flow coefficient  
Q = Flow (GPM)  
ΔP = Pressure drop (psi)

	Grooved Outlet	Threaded Outlet
Nominal Size in / mm	C <sub>v</sub> Values	C <sub>v</sub> Values
½ 15	---	---
¾ 20	---	15
1 25	25	25
1¼ 32	42	40
1½ 40	53	60
2 50	88	---
2½ 65	125	---

## Flow Characteristics

	Grooved Outlet	Threaded Outlet
Nominal Size in / mm	Equivalent Length feet / m	Equivalent Length feet / m
½ 15	---	2.6 0.8
¾ 20	---	3.9 1.2
1 25	3.0 0.9	3.0 0.9
1¼ 32	6.2 1.9	6.2 1.9
1½ 40	5.6 1.7	5.6 1.7
2 50	7.9 2.4	---

2½ 65	8.9 2.7	---
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**General Notes:**

- **Maximum Working Pressure (CWP)** listed is the maximum cold water pressure for general piping services tested to ASTM F1476 and or AWWA C606 methods. Figures listed are based on roll- or cut-grooved standard wall carbon steel pipe. For other pipe schedules or pipe materials, contact **Shurjoint** for additional information.
- **Max. End Load** is calculated based on the maximum working pressure (CWP).
- **Listed and or Approved Pressures** are pressure ratings for fire protection systems, tested and approved by various approval bodies. Please always refer to the latest approval data posted on the **Shurjoint** website.
- **Field Joint Test:** For one time only the system may be tested hydrostatically at 1½ times the maximum working pressure listed (AWWA C606 5.2.3).
- **Warning:** Piping systems must always be depressurized and drained before attempting disassembly and or removal of any components.
- **The 10 Year Limited Warranty** applies to manufacturing defects only and does not cover severe service/temperature applications or wear parts.
- **Shurjoint** reserves the right to change specifications, designs and or standard without notice and without incurring any obligations.

*Shurjoint product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact **Shurjoint Technical Service**. **Shurjoint** reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligations to make such changes and modifications on **Shurjoint** products previously subsequently sold.*