

Grooved Couplings or Fittings

Grooved couplings are used to join pipe and fittings in both wet and dry sprinkler systems. Unless otherwise noted, these couplings are intended to provide some flexibility in piping systems. Typical applications are in sprinkler risers, in feed mains passing through walls from one building area to another, in locations subject to earthquakes, in the discharge line from aboveground pump suction tanks, in new connections to existing feed mains and in air or water fire service lines subject to excessive vibration or difficult alignment.

Unless otherwise noted, these couplings are limited to use with rolled or cut groove-ended pipe, valves and fittings, at a minimum rated working pressure of 175 psi (1205 kPa) and are suitable for aboveground service. Higher rated pressures are noted in the text of the listing. Selection of pipe schedules for use with grooved pipe couplings should be made according to applicable FM Global Property Loss Prevention Data Sheets installation standards. These pipe schedules determine system pressure ratings and may take precedence over the higher rated working pressures listed for some couplings.

Installation must be made according to the manufacturer's instructions and requirements. Where couplings are used to join FM Approved pipe, the pipe manufacturer's installation instructions and requirements must also be observed. Grooves should be made according to ANSI/AWWA C606 (latest edition), "Grooved and Shouldered Joints", unless otherwise specified.

FM Approved grooved pipe couplings joining steel pipe may be used in underground service, subject to the installation restrictions placed upon the pipe and to the coupling manufacturer's recommendations and requirements.

Unless otherwise stated in the listing, these couplings have been evaluated for a maximum ambient temperature of 225°F (107°C), suitable for use in normal warehouse protection. For special applications, temperatures, or environments, the manufacturer's recommendations and requirements are to be followed.

Grooved Couplings, Standard-Flexible

These couplings join pipe, valves or fittings having equal nominal-sized diameters.

65LF

<i>Product Description</i>	<i>Nominal Pipe Size</i>	<i>Pipe Ends</i>	<i>Remarks</i>	<i>Max Working Pressure, psi (bar)</i>
65LF	1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 5, 6, 8 33.7, 76, 108, 133, 140, 159, and 165 mm	Rolled Groove, Cut Groove	a, b, c, d e, f, g, k, m, n, r, s, t, u, v, w	300 (20)
	33.7, 76, 108, 133, 140, 159, and 165 mm	Rolled Groove, Cut Groove	c, d, h	300 (20)
	10	Cut Groove	a, c	175 (12)
	12	Rolled Groove, Cut Groove	a, b, c	175 (12)

- a. Min schedule cut groove pipe to be joined: 6 in. or smaller – Schedule 40; 8 in. or larger – Schedule 30.
b. Min schedule rolled groove pipe to be joined: 6 in. or smaller – Schedule 10; 8 or 10 in. – 0.188 in. (5 mm) wall. c. With EPDM gasket.
d. For use with GB/T 3091-93 or GB/T 8163-99 Pipe
e. Min schedule pipe to be joined: 3 in. or smaller, Allied Tube & Conduit FM Approved "XL", "Super XL" and "Super 40" Thinwall pipe.
f. Min schedule pipe to be joined: Allied Tube "Dyna Flow" and "Super-flo" Lightwall pipe, 1 1/4 4 in. 300 psi (2070 kPa).
g. Min schedule pipe to be joined: Allied Tube & Conduit "Dyna-thread", BLT Thinwall pipe, 1 1/4 2 in. 300 psi (2070 kPa)
h. Metric Pipe: Equivalent to 76.1, 108, 133, 139.7, 159 and 165.1 mm. British Standard 1387, medium or equal. k. Tex Tube Co. "Tex Flow" non threadable Lightwall pipe.
m. For use with Northwest "EZ Flow" in 3 through 6 in. sizes.
n. Youngstown Tube "Fire Flo" Non Threadable Lightwall Sprinkler Pipe, and EZ-thread Thinwall Pipe.
r. IDOD Systems Gal 7 and Gal flo pipe.
s. Western International Fire Line Flow or Fire Line Thread pipe.
t. Wheatland Mega Flow, Mega thread, MLT, GL, and WLS pipe.
u. Bull Moose EDDY flow, EDDY lite, and EDDY-thread pipe.
v. For use with Yieh Phui SPS Flow Pipe in 1 1/4 through 4 in. NPS.
w. For use with Welded Tube-Berkeley LLC "Steady Flow" Lightwall steel sprinkler pipe.

Company Name:	Smith-Cooper International
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Company Address:	2867 S. Vail Ave, Commerce, California 90040, USA
Company Website:	http://www.smithcooper.com
Listing Country:	United States of America
Certification Type:	FM Approved

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Grooved Couplings, Standard-Rigid

These couplings join pipe, valves or fittings having equal diameters.

65LR

Product Designation	Nominal Pipe Size	Pipe Ends	Remarks	Max Working Pressure, psi (bar)
65LR	1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 5, 6, 8	Rolled Groove, Cut Groove	a, b, c, d e, f, g, k, m, n, r, s, t, u, v, w	300 (20)
	33.7, 76, 108, 133, 140, 159, and 165 mm	Rolled Groove, Cut Groove	c, d, h	300 (20)
	10 and 12	Rolled Groove, Cut Groove	a, b, c	175 (12)

- a. Min schedule cut groove pipe to be joined: 6 in. or smaller – Schedule 40; 8 in. or larger – Schedule 30.
- b. Min schedule rolled groove pipe to be joined: 6 in. or smaller – Schedule 10; 8 or 10 in. – 0.188 in. (5 mm) wall.
- c. With EPDM gasket.
- d. For use with GB/T 3091-93 or GB/T 8163-99 Pipe
- e. Min schedule pipe to be joined: 3 in. or smaller Allied Tube & Conduit FM Approved "XL", "Super XL" and "Super 40" Thinwall pipe.
- f. Min schedule pipe to be joined: Allied Tube & Conduit "Dyna Flow" and "Super-flo" Lightwall pipe, 1 1/4 4 in. 300 psi (2070 kPa).
- g. Min schedule pipe to be joined: Allied Tube & Conduit "Dyna-Thread", BLT Thinwall pipe, 1 1/4 2 in. 300 psi (2070 kPa).
- h. Metric Pipe: Equivalent to 76.1, 108, 133, 139.7, 159 and 165.1 mm. British Standard 1387, medium or equal.
- k. Tex Tube Co. "Tex Flow" non threadable Lightwall pipe.
- m. For use with Northwest "EZ Flow" in 3 through 6 in. sizes.
- n. Youngstown Tube "Fire Flo" Non Threadable Lightwall Sprinkler Pipe, and EZ-thread Thinwall Pipe.
- r. IDOD Systems Gal 7 and Gal flo pipe.
- s. Western International Fire Line Flow or Fire Line Thread Light pipe.
- t. Wheatland Mega Flow, Mega thread, MLT, GL, and WLS pipe.
- u. Bull Moose EDDY flow, EDDY lite, and EDDY-Thread Pipe.
- v. For use with Yieh Phui SPS Flow Pipe in 1 1/4 through 4 in. NPS.
- w. For use with Welded Tube-Berkeley LLC "Steady Flow" Lightwall steel sprinkler pipe.

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Installation must be made according to the manufacturer's instructions and requirements. Where couplings are used to join FM Approved pipe, the pipe manufacturer's installation instructions and requirements must also be observed. Grooves should be made according to ANSI/AWWA C606 (latest edition), "Grooved and Shouldered Joints", unless otherwise specified.

FM Approved grooved pipe couplings joining steel pipe may be used in underground service, subject to the installation restrictions placed upon the pipe and to the coupling manufacturer's recommendations and requirements.

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Grooved Couplings, Reducing-Flexible

These couplings join pipe, valves or fittings having different nominal pipe diameters.

65RC

<i>Product Description</i>	<i>Nominal Pipe Size</i>	<i>Pipe Ends</i>	<i>Remarks</i>	<i>Max Working Pressure, psi (bar)</i>
65RC	2 x 1 1/2; 2 1/2 x 2; 3 x 2, 2 1/2; 4 x 2, 2 1/2, 3; 6 x 4; 8 x 6	Rolled Groove, Cut Groove	a, b, c, d e, f, k, m, n, r, s, t, u, v, w	300 (20)

- a. Min schedule cut groove pipe to be joined: 6 in. or smaller - Schedule 40; 8 in. or larger - Schedule 30.
- b. Min schedule rolled groove pipe to be joined: 6 in. or smaller - Schedule 10; 8 or 10 in. - 0.188 in. (5 mm) wall.
- c. With EPDM gasket.
- d. Min schedule pipe to be joined: 3 in. or smaller Allied Tube & Conduit FM Approved "XL", "SuperXL" and "Super40" Thinwall pipe.
- e. Min schedule pipe to be joined: Allied Tube "DynaFlow" and "Super-flo" 1 1/4 in. 300 psi (2070 kPa).
- f. Min schedule pipe to be joined: Allied Tube & Conduit "Dyna-thread" and BLT Lightwall pipe, 1 1/4 in. 300 psi (2070 kPa).
- g. For use with GB/T 3091-93 or GB/T 8163-99 Pipe
- h. Metric Pipe: Equivalent to 76.1, 108, 133, 139.7, 159 and 165.1 mm. British Standard 1387, medium or equal.
- k. TexTube Co. "TexFlow" nonthreadable Lightwall pipe.
- m. For use with Northwest "EZFlow" in 3 through 6 in. sizes.
- n. Youngstown Tube "FireFlo" NonThreadable Lightwall Sprinkler Pipe, and EZ-thread Thinwall pipe.
- r. IDOD Systems Gal7 and Galflo pipe.
- s. Western International Fire Line Flow or Fire Line Thread Light pipe.
- t. Wheatland MegaFlow, Megathread, MLT, GL, and WLS pipe.
- u. Bull Moose EDDYflow, EDDYlite, and EDDY-thread pipe.
- v. For use with Yieh Phui SPS Flow Pipe in 1 1/4 through 4 in. NPS.

w. For use with Welded Tube-Berkeley LLC "SteadyFlow" Lightwall steel sprinkler pipe.

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Installation must be made according to the manufacturer's instructions and requirements. Where couplings are used to join FM Approved pipe, the pipe manufacturer's installation instructions and requirements must also be observed. Grooves should be made according to ANSI/AWWA C606 (latest edition), "Grooved and Shouldered Joints", unless otherwise specified.

FM Approved grooved pipe couplings joining steel pipe may be used in underground service, subject to the installation restrictions placed upon the pipe and to the coupling manufacturer's recommendations and requirements.

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Grooved Split Flanges-Flexible

Split Flanged-These fittings join pipe, valves or fittings having equal diameters.

65FH

<i>Product Description</i>	<i>Pipe Actual Size mm</i>	<i>Pipe Ends</i>	<i>Remarks</i>	<i>Max Working Pressure, psi (bar)</i>
65FH	2, 2 1/2, 3, 4, 6	Rolled Groove, Cut Groove	a, b, c, e, f, g, k, m, n, r, s, t, u, v, w	300 (20)
	8	"	"	250 (17)

- a. Min schedule cut groove pipe to be joined: 6 in. or smaller – Schedule 40; 8 in. or larger – Schedule 30.
 b. Min schedule rolled groove pipe to be joined: 6 in. or smaller – Schedule 10; 8 or 10 in. – 0.188 in. (5 mm) wall. c. With EPDM gasket.
 d. For use with GB/T 3091-93 or GB/T 8163-99 Pipe
 e. Min schedule pipe to be joined: 3 in. or smaller Allied Tube & Conduit FM Approved "XL", "Super XL" and "Super 40" Thinwall pipe.
 f. Min schedule pipe to be joined: Allied Tube "Dyna Flow" and "Super-flo" Lightwall pipe, 1 1/4 4 in. 300 psi (2070 kPa).
 g. Min schedule pipe to be joined: Allied Tube & Conduit "Dyna-thread" and BLT Thinwall pipe, 1 1/4 2 in. 300 psi (2070 kPa).
 h. Metric Pipe: Equivalent to 76.1, 108, 133, 139.7, 159 and 165.1 mm. British Standard 1387, medium or equal. k. Tex Tube Co. "Tex Flow" non threadable Lightwall pipe.
 m. For use with Northwest "EZ Flow" in 3 through 6 in. sizes.
 n. Youngstown Tube "Fire Flo" Non Threadable Lightwall Sprinkler Pipe, aqnd EZ-thread Thinwall pipe.
 r. IDOD Systems Gal 7 and Gal flo pipe.
 s. Western International Fire Line Flow or Fire Line Thread Light pipe.
 t. Wheatland Mega Flow, Mega thread, MLT, GL, and WLS pipe. u. Bull Moose EDDY flow, EDDY lite, and EDDY-thread pipe.
 v. For use with Yieh Phui SPS Flow Pipe in 1 1/4 through 4 in. NPS.
 w. For use with Welded Tube-Berkeley LLC "Steady Flow" Lightwall steel sprinkler pipe.

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Pipe Fittings

These fittings are suitable for interconnecting piping, valves and other components in both wet and dry automatic sprinkler systems. Installation should be according to applicable sprinkler system fabrication rules. These rules limit the minimum size of sprinkler piping to 1 in., nominal. FM Approved pipe fittings of smaller sizes are intended for use as valve trim, gauge connections, and for other peripheral service. The water flow path of the sprinkler system cannot be designed using smaller sizes than 1 in., nominal. Unless otherwise noted in the listing, these fittings have 175 psi (1205 kPa) rated working pressure.

Threaded connections on fittings can be made to FM Approved threadable thinwall pipe or to Schedule 40 pipe. Refer to the "Steel Pipe" listings for a summary of the various types of FM Approved steel pipe suitable for threading or grooving."

The fittings manufacturer's installation instructions must be observed in all cases. When connections are made to FM Approved pipe, the pipe manufacturer's installation instructions must also be followed.

Unless otherwise stated below, the maximum ambient temperature to which these fittings should be subjected is 225°F (107°C).

Fittings, Side Outlet, Rigid

These fittings allow installation of a perpendicular branch line of reduced size, while joining inline pipes of equal diameters. These fittings bolt over a hole in the run pipe, and allow installation of a perpendicular branch line of reduced size. The maximum branch line size is one pipe size reduced from the run pipe size.

65MT, 65MG, 65MU

Product Designation	Nominal Pipe Size	Fitting Description	Remarks	Max Working Pressure, psi (bar)
65MT	76×1, 1 1/4, 1 1/2 3×1, 1 1/4, 1 1/2 108×1, 1 1/4, 1 1/2, 2, 76 4×1, 1 1/4, 1 1/2, 2 133×1 1/4, 1 1/2, 2 139×1, 1 1/4, 1 1/2, 2 159×1, 1 1/4, 1 1/2, 2 165×1, 1 1/4, 1 1/2, 2, 76 8×1, 1 1/4, 1 1/2, 2, 76, 3	Outlet (ISO Threaded)	a, b, c, d, h	300 (20)
65MT	2 x 1/2, 3/4, 1, 1 1/4, 1 1/2 2 1/2 x 1/2, 3/4, 1, 1 1/4, 1 1/2, 3x1, 1 1/4, 1 1/2, 2 4x1, 1 1/4, 1 1/2, 2, 2 1/2, 3 5x1 1/4, 1 1/2, 2, 2 1/2, 3 6x1 1/4, 1 1/2, 2, 2 1/2, 3, 4 8x2, 2 1/2, 3, 4	Outlet (NPT Threaded)	a, b, c, e, f, g, k m, n, r, s, t, u, v, w	300 (20)

- a. Min schedule cut groove pipe to be joined: 6 in. or smaller – Schedule 40; 8 in. or larger – Schedule 30.
- b. Min schedule rolled groove pipe to be joined: 6 in. or smaller – Schedule 10; 8 or 10 in. – 0.188 in. (5 mm) wall. c. With EPDM gasket.
- d. For use with GB/T 3091-93 or GB/T 8163-99 Pipe
- e. Min schedule pipe to be joined: 3 in. or smaller Allied Tube & Conduit FM Approved "XL", "Super XL" and "Super 40" Thinwall pipe.
- f. Min schedule pipe to be joined: Allied Tube "Dyna Flow" and "Super-flo" Lightwall pipe, 1 1/4 4 in. 300 psi (2070 kPa).
- g. Min schedule pipe to be joined: Allied Tube & Conduit "Dyna-thread" and BLT Thinwall pipe, 1 1/4 2 in. 300 psi (2070 kPa).
- h. Metric Pipe: Equivalent to 76.1, 108, 133, 139.7, 159 and 165.1 mm. British Standard 1387, medium or equal. k. Tex Tube Co. "Tex Flow" non threadable Lightwall pipe.
- m. For use with Northwest "EZ Flow" in 3 through 6 in. sizes.
- n. Youngstown Tube "Fire Flo" Non Threadable Lightwall Sprinkler Pipe, and EZ-thread Thinwall Pipe.
- r. IDOD Systems Gal 7 and Gal flo pipe.
- s. Western International Fire Line Flow or Fire Line Thread Light pipe.
- t. Wheatland Mega Flow, Mega thread, MLT, GL, and WLS pipe.
- u. Bull Moose EDDY flow, EDDY lite, and EDDY-thread pipe.
- v. For use with Yieh Phui SPS Flow Pipe in 1 1/4 through 4 in. NPS.
- w. For use with Welded Tube-Berkeley LLC "Steady Flow" Lightwall steel sprinkler pipe.

Product Designation	Nominal Pipe Size	Remarks	Max Working Pressure, psi (bar)
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65MU	1 1/4 x 1/2, 3/4, 1	a, b, c, e, f, g, k, m, n, r, s, t, u, v, w	300 (20)
	1 1/2 x 1/2, 3/4, 1	"	300 (20)
	2 x 1/2, 3/4, 1	"	300 (20)
	2 1/2 x 1/2, 3/4, 1	"	300 (20)
	76 mm x 1/2, 3/4, 1	c, h, d	300 (20)

- a. Min schedule cut groove pipe to be joined: 6 in. or smaller – Schedule 40; 8 in. or larger – Schedule 30.
b. Min schedule rolled groove pipe to be joined: 6 in. or smaller – Schedule 10; 8 or 10 in. – 0.188 in. (5 mm) wall. c. With EPDM gasket.
d. For use with GB/T 3091-93 or GB/T 8163-99 Pipe
e. Min schedule pipe to be joined: 3 in. or smaller Allied Tube & Conduit FM Approved "XL", "Super XL" and "Super 40" Thinwall pipe.
f. Min schedule pipe to be joined: Allied Tube "Dyna Flow" and "Super-flo Lightwall pipe, 1 1/4 4 in. 300 psi (2070 kPa).
g. Min schedule pipe to be joined: Allied Tube & Conduit "Dyna-thread" and BLT Thinwall pipe, 1 1/4 2 in. 300 psi (2070 kPa).
h. Metric Pipe: Equivalent to 76.1, 108, 133, 139.7, 159 and 165.1 mm. British Standard 1387, medium or equal. k. Tex Tube Co. "Tex Flow" non threadable Lightwall pipe.
m. For use with Northwest "EZ Flow" in 3 through 6 in. sizes. n. Youngstown Tube "Fire Flo" Non Threadable Lightwall Sprinkler Pipe, and EZ-thread Pipe.
r. IDOD Systems Gal 7 and Gal flo pipe.
s. Western International Fire Line Flow or Fire Line Thread Light pipe.
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u. Bull Moose EDDY flow, EDDY lite, and EDDY-thread pipe.
v. For use with Yieh Phui SPS Flow Pipe in 1 1/4 through 4 in. NPS
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Threaded connections on fittings can be made to FM Approved threadable thinwall pipe or to Schedule 40 pipe. Refer to the "Steel Pipe" listings for a summary of the various types of FM Approved steel pipe suitable for threading or grooving."

The fittings manufacturer's installation instructions must be observed in all cases. When connections are made to FM Approved pipe, the pipe manufacturer's installation instructions must also be followed.

Unless otherwise stated below, the maximum ambient temperature to which these fittings should be subjected is 225°F (107°C).

Fittings, Side Outlet, Rigid

These fittings allow installation of a perpendicular branch line of reduced size, while joining inline pipes of equal diameters. These fittings bolt over a hole in the run pipe, and allow installation of a perpendicular branch line of reduced size. The maximum branch line size is one pipe size reduced from the run pipe size.

65E, 65F, 65T, 65RT, 65X, 65C, 65CF, 65CR, 65FA, 65TT

Standard grooved and threaded pipe fittings conforming to ASTM A-536 (Grade 65-45-12) ductile iron, ANSI B2.1 taper threads according to NPT.

<i>Product Designation</i>	<i>Pipe Size in.</i>	<i>Fitting Description</i>	<i>Max Working Pressure, psi (kPa)</i>
65E	1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 5, 6 and 8	90° Elbow	300 (2070)
	76, 108, 133, 140, 159, 165 mm	"	"
	10 and 12	90° Elbow	175 (1205)
65F	1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 5, 6 and 8	45° Elbow	300 (2070)
	76, 108, 133, 140, 159, 165 mm	"	"
	10 and 12	45° Elbow	175 (1205)
65T	1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 5, 6 and 8	Tee	300 (2070)
	76, 108, 133, 140, 159, 165 mm	Tee	"
	10 and 12	Tee	175 (1205)
65RT	2x1 1/4, 2x1 1/2, 2 1/2x2, 3x2, 3x2 1/2, 4 x 2, 4x2 1/2, 4x3, 5x2 1/2, 5x3, 5x4, 6x2, 6x2 1/2, 6x3, 6x4, 6x5, 8x4, and 8x6 76x2, 3x76, 108x76, 108x3, 4x76, 133x76, 133x3, 133x108, 133x4, 140x76, 140x3, 140x4, 159x76, 159x3, 159x108,	Reducing Tee	300 (2070)

	159×4, 159×133, 159×140, 165×2, 165×2 1/2, 165×76, 165×3, 165×4, 165×140, 6×76, 168×108, 6×133, 6×140, 8×108, 219×133, 219×140, 219×159, 219×165		
65RT	10×8, 12×8 and 12×10 10×159, 10×165 12×159, 12×165	Reducing Tee	175 (1205)
65X	2, 3, 4, 5, 6 and 8 76, 108, 133, 140, 159, 165 mm	Cross	300 (2070)
65X	10 and 12	Cross	175 (1205)
65C	1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 5, 6 and 8 76, 108, 133, 140, 159, 165 mm	Cap	300 (2070)
65C	10 and 12	Cap	175 (1205)
65CF	2x1/2, 2x3/4, 2x1, 2x1 1/4, 2x1 1/2, 2 1/2x1, 2 1/2x1 1/4, 2 1/2x 1 1/2 3x1/2, 3x3/4, 3x1, 3x1 1/4, 3x1 1/2, 3x2, 3x2 1/2, 4x1/2, 4x3/4, 4x1, 4x1 1/4, 4x1 1/2, 4x2, 4x2 1/2, 4x3, 5x1, 5x1 1/4, 5x1 1/2, 6x1, 6x1 1/4, 6x1 1/2, 6x2, 6x2 1/2 6x3, 8x1, 8x1 1/4, 8x1 1/2, 8x2, 8x2 1/2, 8x3 76x1/2, 76x3/4, 76x1, 76x1 1/4, 76x1 1/2, 76x2, 108x1, 108x1 1/4, 108x1 1/2, 108x2, 133x1, 133x1 1/4, 133x1 1/2, 133x2, 140x1, 140x1 1/4, 140x1 1/2, 140x2, 140x2 1/2, 140x3, 159x1, 159x1 1/4, 159x1 1/2, 159x2, 165x1, 165x1 1/4, 165x1 1/2, 165x2, 165x2 1/2, 165x3	Concentric Reducer (Threaded)	300 (2070)
65CR	2x1 1/4, 2x1 1/2, 2 1/2x1 1/2, 2 1/2x2, 3x1 1/4, 3x1 1/2, 3x2, 89×2 1/2, 4x1 1/4, 4x1 1/2, 4x2, 4x2 1/2, 4×3, 5x2, 5x2 1/2, 5x3, 5x4, 6x2, 6 x 2 1/2, 6×3, 6×4, 6x5, 8x2 1/2, 8×3, 8×4, 8×5, 8x6 76x1 1/4, 76x1 1/2, 76×2, 108×76, 108×3, 133×76, 133×3, 133×108,	Concentric Reducer (Grooved)	300 (1205)

	133×4, 140×2, 140×76, 140×3, 140×4, 159×76, 159×3, 159×108, 159×4, 159×133, 159×140, 165×2, 165×76, 165×3, 165×4, 165×140		
65CR	10×4, 10×6, 10×8, 12×6, 12×8 and 12×10 10 x 108,- 133, - 140,-159, -165 12 x 159, -165 mm	Concentric Reducer (Grooved)	175 (1205)
65FA	2, 2 1/2, 3, 4, 5, 6 and 8	ANSI 150 Flange Adapter	300 (2070)
65FA	10 and 12	ANSI 150 Flange Adapter	175 (1205)
65TT	1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 6 and 8 76, 140, 165 mm	22.5° Elbow	300 (2070)
65TT	10 and 12	22.5° Elbow	175 (1205)

Company Name:	Smith-Cooper International
Company Address:	2867 S. Vail Ave, Commerce, California 90040, USA
Company Website:	http://www.smithcooper.com
Listing Country:	United States of America
Certification Type:	FM Approved

Pipe Fittings

These fittings are suitable for interconnecting piping, valves and other components in both wet and dry automatic sprinkler systems. Installation should be according to applicable sprinkler system fabrication rules. These rules limit the minimum size of sprinkler piping to 1 in., nominal. FM Approved pipe fittings of smaller sizes are intended for use as valve trim, gauge connections, and for other peripheral service. The water flow path of the sprinkler system cannot be designed using smaller sizes than 1 in., nominal. Unless otherwise noted in the listing, these fittings have 175 psi (1205 kPa) rated working pressure.

Threaded connections on fittings can be made to FM Approved threadable thinwall pipe or to Schedule 40 pipe. Refer to the "Steel Pipe" listings for a summary of the various types of FM Approved steel pipe suitable for threading or grooving."

The fittings manufacturer's installation instructions must be observed in all cases. When connections are made to FM Approved pipe, the pipe manufacturer's installation instructions must also be followed.

Unless otherwise stated below, the maximum ambient temperature to which these fittings should be subjected is 225°F (107°C).

Pipe Fittings

Pipe Fittings

Cast Iron Screwed Fittings 300 psi (2070 kPa) rated pressure.

<i>Product Designation</i>	<i>Fitting Description</i>	<i>Nominal Outlet Size, in.</i>	<i>Nominal Pipe Size, in.</i>
37E	90° Elbow		1/2-2 1/2
37F	45° Elbow		1/2-2
37RE	90° Reducing Elbow		1 by 3/4, 3/4; 1 1/4 by 3/4, 3/4, 1; 1 1/2 by 3/4, 3/4, 1, 1 1/4; 2 by 3/4, 3/4, 1, 1 1/4, 1 1/2; 2 1/2 by 3/4, 1, 1 1/4, 1 1/2, 2;
37T	Tee		1/2 to 2
37RT	Reducing Tee		1 by 3/4 by 3/4, 3/4, 1; 1 by 3/4 by 3/4, 3/4, 1; 1 by 1 by 3/4, 3/4, 1 1/4; 1 by 1/4 by 1; 1 1/4 by 1 1/4 by 3/4, 3/4, 1, 1 1/2, 2; 1 1/4 by 1 by 3/4,

$\frac{3}{4}$, 1, 1
 $\frac{1}{4}$, 1
 $\frac{1}{2}$;
 1 $\frac{1}{4}$ by
 $\frac{3}{4}$ by 1
 $\frac{1}{4}$;
 1 $\frac{1}{4}$ by
 $\frac{3}{4}$ by 1
 $\frac{1}{4}$;
 1 $\frac{1}{2}$ by
 1 $\frac{1}{2}$ by
 $\frac{3}{4}$, $\frac{3}{4}$,
 1, 1 $\frac{1}{4}$,
 2;
 1 $\frac{1}{2}$ by
 1 $\frac{1}{4}$ by
 $\frac{3}{4}$, $\frac{3}{4}$,
 1, 1 $\frac{1}{4}$,
 1 $\frac{1}{2}$;
 1 $\frac{1}{2}$ by
 1 by $\frac{3}{4}$,
 $\frac{3}{4}$, 1, 1
 $\frac{1}{4}$, 1
 $\frac{1}{2}$, 2;
 1 $\frac{1}{2}$ by
 $\frac{3}{4}$ by 1
 $\frac{1}{4}$, 1
 $\frac{1}{2}$;
 1 $\frac{1}{2}$ by
 $\frac{1}{2}$ by 1
 $\frac{1}{4}$, 1
 $\frac{1}{2}$;
 2 by 2
 by $\frac{3}{4}$,
 $\frac{3}{4}$, 1, 1
 $\frac{1}{4}$, 1
 $\frac{1}{2}$;
 2 by 1
 $\frac{1}{2}$ by
 $\frac{3}{4}$, $\frac{3}{4}$,
 1, 1 $\frac{1}{4}$,
 1 $\frac{1}{2}$, 2;
 2 by 1
 $\frac{1}{4}$ by
 $\frac{3}{4}$, 1, 1
 $\frac{1}{4}$, 1
 $\frac{1}{2}$, 2;
 2 by 1
 by $\frac{3}{4}$, 1,
 1 $\frac{1}{4}$, 2;
 2 by 2
 by 2 $\frac{3}{4}$;
 2 $\frac{1}{2}$ by
 2 by $\frac{3}{4}$,
 $\frac{3}{4}$, 1,
 1 $\frac{1}{4}$, 1
 $\frac{1}{2}$, 2, 2
 $\frac{1}{2}$;
 2 by 1
 $\frac{1}{4}$ by 2
 $\frac{1}{2}$;
 2 by 1
 by 2 $\frac{1}{2}$;
 2 by $\frac{3}{4}$

			by 2 1/2; 2 1/2 by 1/2 by 2, 2 1/2
37RC	Concentric Reducer		1 by 3/4, 3/4; 2 by 1
Threaded Ductile Iron Fittings. Rated working pressure is 500 psi (3445 kPa)			
35E	90° Elbow		1/2 to 2 1/2
35F	45° Elbow		1/2 to 2 1/2
35RE	90° Red. Elbow		3/4 by 1/2; 1 by 3/4, 3/4; 1 1/4 by 3/4, 3/4, 1; 1 1/2 by 3/4, 1, 1 1/4; 2 by 3/4, 1, 1 1/4, 1 1/2; 2 1/2 by 1 1/2, 2;
35CP	Straight Coupling		1/2 to 2 1/2
35T	Tee		1/2 to 2 1/2
35C	Cap		1/2 to 2 1/2
35RT	Reducing Tee		3/4 by 3/4 by 1/2, 1; 3/4 by 1/2 by 3/4, 1/2; 1 by 1 by 1/2, 3/4, 1 1/4, 1 1/2; 1 by 3/4 by 3/4, 1; 1 by 1/2 by 1; 1 1/4 by 1 1/4 by 3/4, 3/4, 1, 1 1/2, 2; 1 1/4 by 1 by 3/4, 3/4, 1, 1 1/4, 1

			<p>1/2; 1 1/4 by 3/4 by 1 1/4; 1 1/4 by 1/2 by 1 1/4; 1 1/2 by 1 1/2 by 3/4, 3/4, 1, 1 1/4, 2; 1 1/2 by 1 1/4 by 3/4, 3/4, 1, 1 1/4, 1 1/2; 1 1/2 by 1 by 3/4, 3/4, 1, 1 1/4, 1 1/2; 1 1/2 by 3/4 by 1 1/4, 1 1/2; 1 1/2 by 1/2 by 1 1/4, 1 1/2; 2 by 2 by 3/4, 3/4, 1, 1 1/4, 1 1/2, 2 1/2; 2 by 1 1/2 by 3/4, 3/4, 1, 1 1/4, 1 1/2, 2; 2 by 1 1/4 by 2; 2 by 1 by 2; 2 1/2 by 2 1/2 by 3/4, 1, 1 1/4, 1 1/2, 2, 3;</p>
35X	Cross		1 to 2
35RC	Concentric Reducer		<p>1 by 3/4, 3/4; 1 1/4 by 3/4; 2 by 1</p>

35HB	Bushing		1 by 3/4, 3/4; 1 1/4 by 1; 1 1/2 by 1, 1 1/4; 2 by 1, 1 1/4, 1 1/2;
35U	Union		1 thru 2
35C	End Cap		3/4 thru 2 1/2
35SP	Sq. Head Pipe Plug		3/4 to 2
35RX	Reducing Cross		1 1/4 by 1, 1 1/2 by 1, 2 by 1
C90	90° Elbows		1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2
C90R	Reduc. Elbows		1 x 1/2, 3/4; 1 1/4 x 1/2, 3/4, 1; 1 1/2 x 1/2, 3/4, 1, 1 1/4; 2 x 1/2, 3/4, 1, 1 1/4, 1 1/2; 2 1/2 x 3/4, 1, 1 1/4, 1 1/2, 2
C120	45° Elbows		1/2, 3/4, 1, 1 1/4, 1 1/2, 2
C130	Tees		1/2, 3/4, 1, 1 1/4, 1 1/2, 2
C130R	Reduc. Tees		1 by 1/2 by 1 thru 2 1/2 by 2 1/2 by 2
C240H	Conc. Reducer		1 x 1/2, 3/4 2 x 1
33E	90° Elbows	1/2 thru 4	500 (3445)
		5, 6	300 (2070)

33RE	Reducing Elbows, 90	1/2 x 1/4 thru 4 x 3	500 (2070)
33SE	Street Elbows, 90	1/2 thru 4	500 (3445)
		6	300 (2070)
33F	Elbows, 45	1/2 thru 4	500 (3445)
		5, 6	300 (2070)
33SF	Street Elbow, 45	1/2 thru 4	500 (3445)
33OE	Side Outlet Elbows	1/2 thru 2	500 (3445)
33T	Tees	1/2 thru 4	500 (3445)
		5,6	300 (2070)
33RT	Reducing Tees	1/2x1/2x1/4, 3/8 1/2x1/4x1/2 1/2x3/8x1/2 3/4x3/4x1/4, 3/8, 1/2 3/4x1/2x1/2, 3/4 1x1x1/4, 3/8, 1/2, 3/4 1x1/2x1/2, 3/4, 1 1x3/4x1/2, 3/4, 1 1-1/4x1/2x1/2, 3/4, 1, 1-1/4 1-1/4x3/4x3/4, 1, 1-1/4 1-1/4x1x1/2, 3/4, 1, 1-1/4, 1-1/2 1-1/4x1-1/4x3/8, 1/2, 3/4, 1 1-1/2x1/2x3/4, 1-1/2 1-1/2x3/4x1/2, 3/4, 1, 1-1/4, 1-1/2 1-1/2x1x1/2, 3/4, 1, 1-1/4, 1-1/2 1-1/2x1-1/4x1/2, 3/4, 1, 1-1/4, 1-1/2, 2 1-1/2x1-1/2x1/2, 3/4, 1, 1-1/4 2x1/2x2 2x3/4x2 2x1x1, 1-1/2, 2 2x1-1/4x1, 1-1/4, 1-1/2, 2 2x1-1/2x1/2, 3/4, 1, 1-1/4, 1-1/2, 2 2x2x1/2, 3/4, 1, 1-1/4, 1-1/2 2-1/2x1-1/2x2, 2-1/2	500 (3445)

		2-1/2x2x2, 2-1/2 2-1/2x2-1/2x1/2, 3/4, 1, 1-1/4, 1-1/2, 2 3x2x2, 3 3x3x1/2, 3/4, 1, 1-1/4, 1-1/2, 2, 2-1/2 4x4x1/2, 3/4, 1, 1-1/4, 1-1/2, 2, 2-1/2, 3	
33BT	Bullhead Tees	3/8x3/8x1/2 1/2x1/2x3/4, 1 3/4x3/4x1 1x1x1-1/4, 1-1/2, 2 1-1/4x1-1/4x1-1/2, 2 1-1/2x1-1/2x2 2x2x2-1/2	500 (3445)
33ST	Service Tee	1/2 thru 2	500 (3445)
33L	Lateral Y Branch	1/2 thru 4	500 (3445)
33X	Cross	1/2 thru 4	500 (3445)
		5,6	300 (2070)
33RX	Reducing Cross	3/4x1/2 1x3/4 1-1/4x3/4, 1 1-1/2x3/4, 1/1-1/4 2x3/4, 1/1-1/4, 1-1/2 2-1/2x1, 1-1/4, 1-1/2, 2 3x1, 1-1/4, 1-1/2, 2, 2-1/2 4x2-1/2, 3	500 (3445)
33CP	Coupling	1/2 thru 4	500 (3445)
33RC	Reducing Coupling	1/2 x 3/8 3/4 x 3/8, 1/2 1 x 3/8, 1/2, 3/4 1 1/4 x 1/2, 3/4, 1 1 1/2 x 1/2, 3/4, 1, 1 1/4 2 x 1/2, 3/4, 1, 1 1/4, 1 1/2 2 1/2 x 1 1/2, 2 3 x 1 1/2, 2, 2 1/2 4 x 2, 3	500 (3445)
33HB	Bushing	1/2 x 1/4, 3/8 3/4 x 3/8, 1/2 1 x 1/2, 3/4 1 1/4 x 1/2, 3/4, 1 1 1/2 x 3/8, 1/2, 3/4, 1, 1 1/4 2 x 3/8, 1/2, 3/4,	500 (3445)

		1, 1 1/4, 1 1/2 2 1/2 x 1/2, 3/4, 1, 1 1/4, 1 1/2, 2 3 x 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2 3 1/2 x 2 1/2, 3 4 x 3/4, 1 1/4, 1 1/2, 3, 3 1/2 5 x 2, 3, 4 6 x 2, 2 1/2, 3, 3 1/2, 4, 5	
33P	Plug, Sq. Hd.	1/2 thru 4	500 (3445)
33BP	Plug, Cross slotted	4	500 (3445)
		5, 6	300 (2070)
33C	Cap	1/2 thru 4	500 (3445)
		5, 6	300 (2070)
33U	Unions	1/2 thru 4	500 (3445)

<i>Product Designation</i>	<i>Fitting Description</i>	<i>Nominal Run Pipe Size</i>	<i>Nominal Outlet Size in.</i>	<i>Remarks</i>
Figure 701 Coop-lets	90° Branchlet Threaded FNPT Outlet	1 1 1/4 1 1/2 2 2 1/2 3 4 6 8	1/2, 3/4 1/2, 3/4, 1 1/2, 3/4, 1, 1 1/4 1/2, 3/4, 1, 1 1/4, 1 1/2 1/2, 3/4, 1, 1 1/4, 1 1/2, 2 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2 1 1/4, 1 1/2, 2, 2 1/2, 3 1 1/4, 1 1/2, 2, 2 1/2, 3, 4 2 1/2, 3, 4	a, b a, b, c, d a, b, c, d a, b, c, d a, b, d a, b, d a, b, d a, b a, b
Figure 702 Coop-lets	Cut Groove Outlet	1 1/2 2 2 1/2 3 4 6 8	1 1/4 1 1/4, 1 1/2 1 1/4, 1 1/2, 2 1 1/4, 1 1/2, 2, 2 1/2 1 1/4, 1 1/2, 2, 2 1/2, 3 1 1/4, 1 1/2, 2, 2 1/2, 3, 4 1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 6	a, b, c, d a, b, c, d a, b, d a, b, d a, b, d a, b a, b

- a. For use with schedule 10, schedule 40, or non-threadable lightwall pipe, rated working pressure of 300 psi (2070 kPa)
- b. For use with schedule 5 pipe, rated working pressure of 175 psi (1205 kPa).
- c. For use with IDOD Gal 7 pipe, rated working pressure of 300 psi (2070 kPa).
- d. For use with Welded Tube-Berkeley LLC Steady Flow pipe, rated working pressure of 300 psi (2070 kPa).

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