



Grooved Mechanical Cross (Grooved)

Model: SDG-49

SHIELD SDG-49 allow a direct branch connection to be made on a pipe run where sufficient space allows a hole to be cut.



Product Specifications:

Available Size	3/8" - 10"
Material	Ductile Iron to ASTM A536 Grade 65-45-12 Ductile Iron, ASTM A536
Max. Working Pressure	300psi
Application	Water, HVAC & Fire-Fighting
Coating Finish	Red Painted, Hot Dipped Galvanized
Bolts & Nuts	Carbon Steel ISO 898-1 Class 8.8 heat treated, Hot Dipped Galvanized Nuts & Bolts
Threads	BSPT, NPT
Gasket	EPDM Rubber C Shaped Gasket conforms to ASTM D2000-1, Grade A
Lubricants	Use silicon based non-petroleum lubricants on the lips and outside back
Approvals/Listings	 

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Product Dimensions:

Nominal Size	Pipe O.D.	Max. Working Pressure	Hole Diameter + 1.6	Dimensions				Bolt/Nut No - Size
				Y mm	Z mm	V mm	W mm	
Inch	mm	psi	mm					mm
1 x 3/8	33.7 x 17.2	300.0	23.5	86.0	46.0	26.0	24.5	M8 x 30
1 x 1/2	33.7 x 21.3	300.0	23.5	86.0	46.0	26.0	24.5	M8 x 30
1 x 3/4	33.7 x 26.9	300.0	23.5	86.0	52.0	41.0	24.5	M8 x 30
1 x 1	33.7 x 33.7	300.0	23.5	86.0	57.0	45.0	24.5	M8 x 30
1 1/4 x 3/8	42.4 x 17.2	300.0	30	95.5	53.0	32.0	29.0	M10 x 35
1 1/4 x 1/2	42.4 x 21.3	300.0	30	95.5	57.0	32.0	29.0	M10 x 35
1 1/4 x 3/4	42.4 x 26.9	300.0	30	95.5	57.0	44.0	29.0	M10 x 35
1 1/4 x 1	42.4 x 33.7	300.0	30	95.5	57.0	53.0	29.0	M10 x 35
1 1/2 x 3/8	48.3 x 17.2	300.0	30	101.5	53.0	34.0	32.5	M10 x 35
1 1/2 x 1/2	48.3 x 21.3	300.0	30	101.5	57.0	35.5	32.5	M10 x 35
1 1/2 x 3/4	48.3 x 26.9	300.0	30	101.5	57.0	47.5	32.5	M10 x 35
1 1/2 x 1	48.3 x 33.7	300.0	30	101.5	57.0	56.0	32.5	M10 x 35
2 x 3/8	60.3 x 17.2	300.0	38	116.0	68.0	44.0	39.0	M10 x 57
2 x 1/2	60.3 x 21.3	300.0	38	116.0	68.0	60.0	39.0	M10 x 57
2 x 3/4	60.3 x 26.9	300.0	38	116.0	68.0	60.0	39.0	M10 x 57
2 x 1	60.3 x 33.7	300.0	38	116.0	68.0	60.0	39.0	M10 x 57
2 x 1 1/4	60.3 x 42.4	300.0	45	116.0	76.0	65.0	39.0	M10 x 57
2 x 1 1/2	60.3 x 48.3	300.0	45	116.0	76.0	65.0	39.0	M10 x 57
2 1/2 x 1/2	73.0 x 21.3	300.0	38	137.0	71.0	68.0	49.0	M12 x 70
2 1/2 x 3/4	73.0 x 26.9	300.0	38	137.0	71.0	68.0	49.0	M12 x 70
2 1/2 x 1	73.0 x 33.7	300.0	38	137.0	71.0	70.0	49.0	M12 x 70
2 1/2 x 1 1/4	73.0 x 42.4	300.0	51	137.0	84.5	73.0	49.0	M12 x 70
2 1/2 x 1 1/2	73.0 x 48.3	300.0	51	137.0	84.5	73.0	49.0	M12 x 70
3 O.D. x 1/2	76.1 x 21.3	300.0	38	137.0	71.0	61.5	49.5	M12 x 70
3 O.D. x 3/4	76.1 x 26.9	300.0	38	137.0	71.0	68.0	49.5	M12 x 70
3 O.D. x 1	76.1 x 33.7	300.0	38	137.0	71.0	75.0	49.5	M12 x 70
3 O.D. x 1 1/4	76.1 x 42.4	300.0	51	137.0	84.5	75.0	49.5	M12 x 70
3 O.D. x 1 1/2	76.1 x 48.3	300.0	51	137.0	84.5	75.0	49.5	M12 x 70
3 x 1/2	88.9 x 21.3	300.0	38	152.0	72.5	71.5	56.5	M12 x 76
3 x 3/4	88.9 x 26.9	300.0	38	152.0	72.5	71.5	56.5	M12 x 76
3 x 1	88.9 x 33.7	300.0	38	152.0	72.5	80.0	56.5	M12 x 76
3 x 1 1/4	88.9 x 42.4	300.0	51	152.0	85.5	80.0	56.5	M12 x 76
3 x 1 1/2	88.9 x 48.3	300.0	51	152.0	85.5	80.0	56.5	M12 x 76
3 x 2	88.9 x 60.3	300.0	64	152.0	98.0	80.0	56.5	M12 x 76
4 1/4 O.D. x 1/2	108.1 x 21.3	300.0	38	172.0	78.5	87.0	64.5	M12 x 76
4 1/4 O.D. x 3/4	108.1 x 26.9	300.0	38	172.0	78.5	87.0	64.5	M12 x 76
4 1/4 O.D. x 1	108.1 x 33.7	300.0	38	172.0	78.5	87.0	64.5	M12 x 76
4 1/4 O.D. x 1 1/4	108.1 x 42.4	300.0	51	172.0	89.0	87.0	64.5	M12 x 76

NOTE: Refer to UL/FM certificates for more details.

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Product Dimensions:

Nominal Size	Pipe O.D.	Max. Working Pressure	Hole Diameter + 1.6	Dimensions				Bolt/Nut No - Size
				Y mm	Z mm	V mm	W mm	
Inch	mm	psi	mm					mm
4¼ O.D. x 1½	108.0 x 48.3	300.0	51	172.0	89.0	87.0	64.5	M12 x 76
4¼ O.D. x 2	108.0 x 60.3	300.0	64	172.0	106.5	92.0	64.5	M12 x 76
4¼ O.D. x 3 O.D.	108.0 x 76.1	300.0	70	172.0	106.5	100.0	64.5	M12 x 76
4 x ½	114.3 x 21.3	300.0	38	188.0	78.5	90.0	70.0	M12 x 76
4 x ¾	114.3 x 26.9	300.0	38	188.0	78.5	90.0	70.0	M12 x 76
4 x 1	114.3 x 33.7	300.0	38	188.0	78.5	93.0	70.0	M12 x 76
4 x 1¼	114.3 x 42.4	300.0	51	188.0	89.0	95.0	70.0	M12 x 76
4 x 1½	114.3 x 48.3	300.0	51	188.0	89.0	97.0	70.0	M12 x 76
4 x 2	114.3 x 60.3	300.0	64	188.0	104.5	100.0	70.0	M12 x 76
4 x 2½	114.3 x 73.0	300.0	70	188.0	104.5	102.0	70.0	M12 x 76.5
4 x 3 O.D.	114.3 x 76.1	300.0	70	188.0	104.5	102.0	70.0	M12 x 76
4 x 3	114.3 x 88.9	300.0	89	188.0	128.0	102.0	70.0	M12 x 76
5¼ O.D. x 1¼	133.0 x 42.4	300.0	51	209.0	93.0	105.0	77.0	M16 x 85
5¼ O.D. x 1½	133.0 x 48.3	300.0	51	209.0	93.0	105.0	77.0	M16 x 85
5¼ O.D. x 2	133.0 x 60.3	300.0	64	209.0	112.5	110.0	77.0	M16 x 85
5½ O.D. x ½	139.7 x 21.3	300.0	38	221.5	78.0	110.0	84.0	M16 x 85
5½ O.D. x ¾	139.7 x 26.9	300.0	38	221.5	78.0	110.0	84.0	M16 x 85
5½ O.D. x 1	139.7 x 33.7	300.0	38	221.5	78.0	110.0	84.0	M16 x 85
5½ O.D. x 1¼	139.7 x 42.4	300.0	51	221.5	95.0	112.0	84.0	M16 x 85
5½ O.D. x 1½	139.7 x 48.3	300.0	51	221.5	95.0	112.0	84.0	M16 x 85
5½ O.D. x 2	139.7 x 60.3	300.0	64	221.5	112.5	115.0	84.0	M16 x 85
5½ O.D. x 3 O.D.	139.7 x 76.1	300.0	70	221.5	112.5	115.0	84.0	M16 x 85
5½ O.D. x 3	139.7 x 88.9	300.0	89	221.5	132.0	120.0	84.0	M16 x 85
5½ O.D. x 4	139.7 x 114.3	300.0	114	221.5	156.0	125.0	84.0	M16 x 85
6¼ O.D. x ½	159.0 x 21.3	300.0	38	244.0	78.0	116.0	94.0	M16 x 108
6¼ O.D. x 1	159.0 x 33.7	300.0	38	244.0	78.0	116.0	94.0	M16 x 108
6¼ O.D. x 1¼	159.0 x 42.4	300.0	51	244.0	93.0	118.0	94.0	M16 x 108
6¼ O.D. x 1½	159.0 x 48.3	300.0	51	244.0	93.0	118.0	94.0	M16 x 108
6¼ O.D. x 2	159.0 x 60.3	300.0	64	244.0	112.5	125.0	94.0	M16 x 108
6¼ O.D. x 3 O.D.	159.0 x 76.1	300.0	70	244.0	112.5	125.0	94.0	M16 x 108
6¼ O.D. x 3	159.0 x 88.9	300.0	89	244.0	133.0	125.0	94.0	M16 x 108
6¼ O.D. x 4	159.0 x 114.3	175.0	114	244.0	156.5	130.0	94.0	M16 x 108
6½ O.D. x ½	165.1 x 21.3	300.0	38	244.0	78.0	110.0	97.5	M16 x 108
6½ O.D. x ¾	165.1 x 26.9	300.0	38	244.0	78.0	110.0	97.5	M16 x 108
6½ O.D. x 1	165.1 x 33.7	300.0	38	244.0	78.0	118.0	97.5	M16 x 108
6½ O.D. x 1¼	165.1 x 42.4	300.0	51	244.0	93.0	118.0	97.5	M16 x 108
6½ O.D. x 1½	165.1 x 48.3	300.0	51	244.0	93.0	118.0	97.5	M16 x 108
6½ O.D. x 2	165.1 x 60.3	300.0	64	244.0	112.5	128.5	97.5	M16 x 108

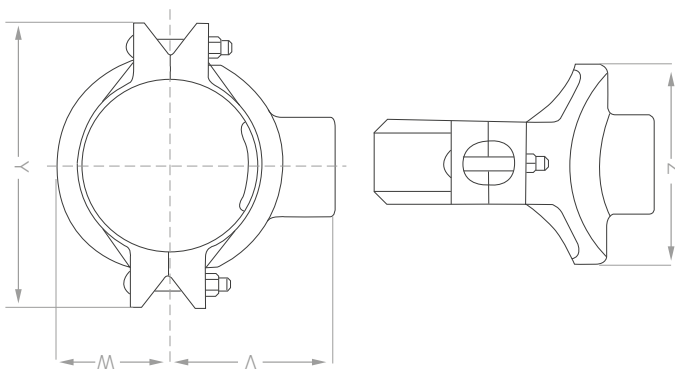
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Product Dimensions:

Nominal Size	Pipe O.D.	Max. Working Pressure	Hole Diameter + 1.6	Dimensions				Bolt/Nut No - Size
				Y mm	Z mm	V mm	W mm	
Inch	mm	psi	mm					mm
6½ O.D. x 3 O.D.	165.1 x 76.1	300.0	70	244.0	112.5	128.5	97.5	M16 x 108
6½ O.D. x 3	165.1 x 88.9	300.0	89	244.0	132.0	128.5	97.5	M16 x 108
6½ x 4	165.1 x 114.3	225.0	114	244.0	154.0	135.0	97.5	M16 x 108
6 x 1¼	168.3 x 42.4	300.0	51	247.0	95.0	122.0	98.5	M16 x 108
6 x 1½	168.3 x 48.3	300.0	51	247.0	95.0	122.0	98.5	M16 x 108
6 x 2	168.3 x 60.3	300.0	64	247.0	112.5	132.0	98.5	M16 x 108
6 x 2½	168.3 x 73.0	300.0	70	247.0	112.5	132.0	98.5	M16 x 108
6 x 3 O.D.	168.3 x 76.1	300.0	70	247.0	112.5	132.0	98.5	M16 x 108
6 x 3	168.3 x 88.9	300.0	89	247.0	132.0	140.0	98.5	M16 x 108
6 x 4	168.3 x 114.3	300.0	114	247.0	160.0	140.0	98.5	M16 x 108
8 x 1	219.1 x 33.7	300.0	38	320.0	79.5	150.0	125.0	M20 x 115
8 x 1¼	219.1 x 42.4	300.0	51	320.0	96.5	150.0	125.0	M20 x 115
8 x 1½	219.1 x 48.3	300.0	51	320.0	96.5	150.0	125.0	M20 x 115
8 x 2	219.1 x 60.3	300.0	64	320.0	117.0	160.0	125.0	M20 x 115
8 x 2½	219.1 x 73.0	300.0	70	320.0	118.0	160.0	125.0	M20 x 115
8 x 3 O.D.	219.1 x 76.1	300.0	70	320.0	118.0	160.0	125.0	M20 x 115
8 x 3	219.1 x 88.9	300.0	89	320.0	136.5	160.0	125.0	M20 x 115
8 x 4	219.1 x 114.3	300.0	114	320.0	164.0	160.0	125.0	M20 x 115
10 x 1½	273.0 x 48.3	300.0	51	376.0	95.5	180.0	155.0	M20 x 115
10 x 2	273.0 x 60.3	300.0	64	376.0	118.0	185.0	155.0	M20 x 115



SDG-42

Mechanical Tee - Threaded

Bolt Size	Recommended Bolt Torque N - m
3/8	40 ~ 60
1/2	110 ~ 135
5/8	135 ~ 175
3/4	175 ~ 245
7/8	245 ~ 325

The mechanical tee and cross features a gap between the bolt pads. Do not attempt to bring bolt pads together, which would result in metal to metal when tightening bolts and nuts. Note that excessive torque may cause joint failure - the following table provides recommended bolt fastening torque.

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Miscellaneous Data:

1. Ordering Information

Example: SDG49-1-1-4

- SDG49 is the part number
- (1) Red Painted Coating (2) Hot Dipped Galvanized Coating
- (1) Carbon Steel Bolts & Nuts (2) Hot Dipped Galvanized Bolts & Nuts
- (4) Size

2. Contact Information

For further information on any aspect of the SHIELD Grooved Fittings please contact below:

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