



Factory Sealed

Snap-Lock Pipe
and Fittings System





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Green indicates that product has been factory sealed.


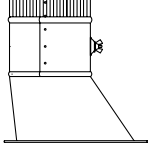
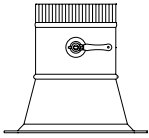
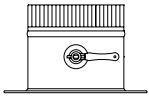
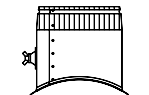
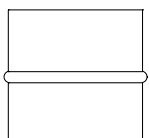
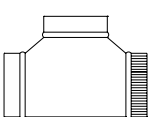
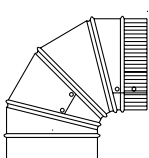
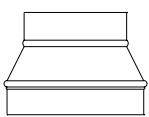



This symbol denotes a GSI Sealed Fitting

Product Families



Yellow label pipe and fittings are available standard.

 Snap-Lock Pipe 2-4
 High Efficiency Take-Offs..... 5-7
 Conicals 8-9
 Starting Collars 10-15
 Saddle Taps 11
 Couplers 16-18
 Tee Joints 19
 Adjustable Elbows 20-21
 Reducers22
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ICC-ES Certified in Compliance with the following codes:

- 2018, 2015, 2012 and 2009 International Mechanical Code® (IMC)
- 2018, 2015, 2012 and 2009 International Residential Code® (IRC)
- 2018, 2015, 2012 and 2009 International Energy Conservation Code® (IEEC)
- 2018, 2015, 2012 and 2009 Uniform Mechanical Code® (UMC)

GreenSeam® Plus

Factory Sealed Snap-Lock Pipe



Technical Data

- GreenSeam Plus Pipe is designed and tested to surpass SMACNA Class 3 Leakage Standards
- Meets the requirements for SMACNA Seal Class A
- Transverse & Longitudinal seam is pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: -1" wg - +2" wg
- Button Lock Pipe meets SMACNA RL-8
- Exclusive technology:
 - Patent # 7,478,467
 - Patent # 8,505,185
 - Patent # 7,708,034
 - Patent # 9,074,709
 - Patent # 7,992,904
 - Patent # 10,190,796
 - Patent # 8,151,430

Product Availability

Size (Ød)	24" Lengths					60" Lengths				
	Gauge			Quantity		Gauge			Quantity	
	28 Ga.	26 Ga.	24 Ga.	Bundle	Skid/Rack	28 Ga.	26 Ga.	24 Ga.	Bundle	Skid/Rack
4"	Yes	‡	-	-	-	Yes	‡	-	-	-
5"	Yes	‡	-	-	-	Yes	‡	-	-	-
6"	Yes	Yes	Yes	10	360	Yes	Yes	Yes	5	150
7"	Yes	Yes	Yes	10	220	Yes	Yes	Yes	5	100
8"	Yes	Yes	Yes	10	160	Yes	Yes	Yes	5	100
9"	Yes	Yes	Yes	10	140	Yes	Yes	Yes	5	80
10"	Yes	Yes	Yes	10	120	Yes	Yes	Yes	5	60
12"	Yes	Yes	Yes	10	90	Yes	Yes	Yes	5	45
14"	Yes	Yes	Yes	10	70	Yes	Yes	Yes	5	30

‡ Consult factory for availability.

Part Number Schematic

Example: **60SPBGP10GA26**** = 60" long, 10" round GreenSeam®+ Snap Pipe in 26Ga. Galvanized Steel

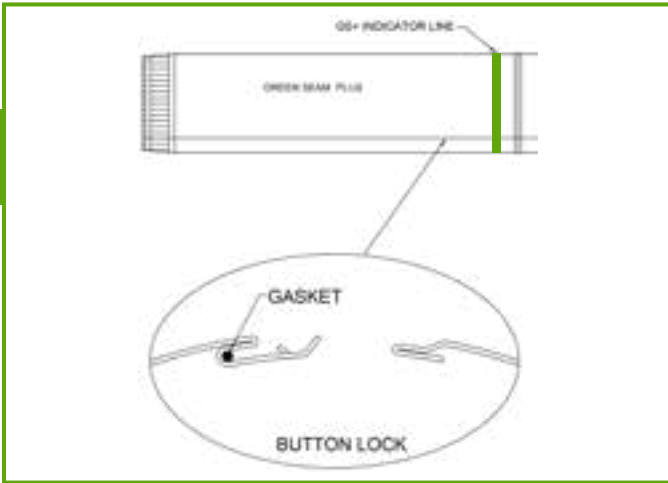
60	SP	B	GP	10	GA	26
Pipe Length 24 - 2' 0" 60 - 5' 0" 48 - 4' 0" AL, S4 Only	Snap Pipe	Lock Type B - Button	GreenSeam Plus	Pipe Diameter (Ød)	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA: 28, 26, 24 AL: 25 S4: 26

** Add 90 for G90 Galvanized Coating
Items in green denote available options
Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.



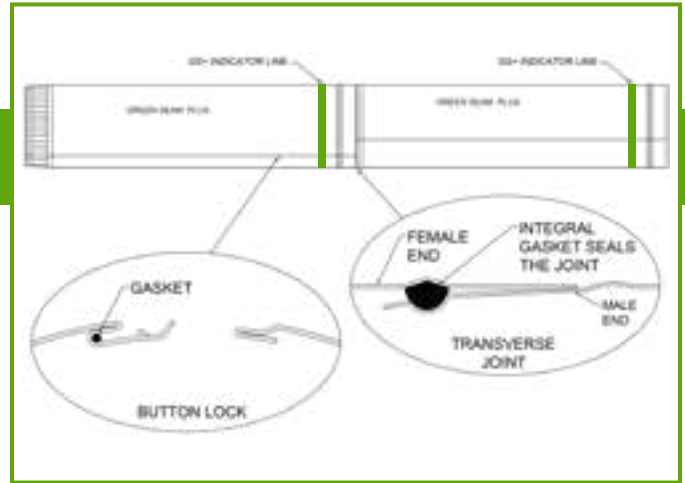
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Gasket Specifications



Longitudinal Gasket Composition

This material is made of butyl and E.P.D.M. rubbers, and proprietary co-polymer. It contains some process aids, antioxidants, tackifying resins, and is fungi resistant.



Transverse Gasket Composition

This material is a two-component polyurethane foamed gasket. The gasket is liquid applied directly onto the pipe by using FIPFG (formed-in-place foam gasket) technology. This produces a flexible tack-free foam gasket.

Test Data

Color: Black
Odor: None
Melt Point: Ball & Ring, 300° F
Slump: 3/8" Bd @ 250° F — no slump or sag.
Solids Content (% by weight): 100%
Elongation (0° F, 77° F): 450%, 900%
Tensile Strength: ASTM D412 Die C — 65 psi
Plasticizer Migration: ASTM C772-74; no bleed or stain.
Cold Temperature Flexibility: ASTM C765-73 — passes.
Water Resistance: ASTM D1056 — 0.01%
Shelf and Service Life: 20 years min.
Force to Compress: As measured when one cubic inch of 3/8" thick material is compressed to 3/16" thick material at 2" per min.
 0° F — 60 psi
 77° F — 30 psi
 120° F — 15psi
Aging Characteristics: ASTM D750-68 (1000 hrs.) on surface — slight haze
VOCs: 0
Surface Burning Characteristics: ASTM E-84 Test GreenSeam Plus Longitudinal Gasket applied to Galvanized Steel.
 Test Results: Flame Spread Index - 0
 Smoke Developed Index - 30
 Test applied in two 3/8" wide strips 8" on center (coverage of 3% of the exposed test sample area)
Full test report available upon request

Test Data

Color: Black
Odor: None
Service Temperature: -40°F to 212°F
Rebound (% after compression to z"): 80% +/- 20%
Long Term Flexibility: Indefinitely Flexible
VOCs: 0
Surface Burning Characteristics: ASTM E-84 Test GreenSeam Plus Transverse Gasket applied to Galvanized Steel.
 Test Results: Flame Spread Index - 0
 Smoke Developed Index - 30
 Test applied in two 3/8" wide strips 8" on center (coverage of 3% of the exposed test sample area)
Full test report available upon request

Time Study/Labor Savings

Material Costs - Unsealed Pipe
 Sealant Cost: \$12.00 per Gallon
 Sealant applied: 1/16" 2" wide band
 Pipe Size: 8" diameter 5' Length
 Material Cost: \$0.56

Labor Costs - Sealing Pipe

In time studies, it took 2 and a 1/2 minutes to seal a single 8" 5' piece of pipe.

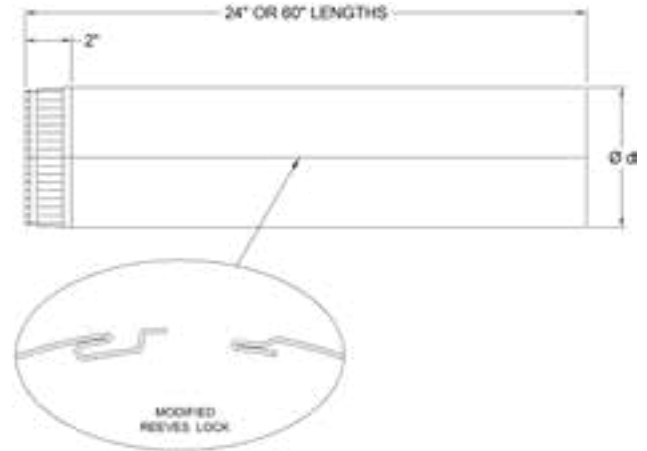
Round Reeves Lock

Snap-Lock Pipe



Technical Data

- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: -1 w.g. to +2 w.g.
- SPR - Reeves Lock Pipe meets SMACNA RL-6A&B
- Dimensional Tolerance: $\pm 1/4"$



Product Availability

Size (Ød)	24" Lengths		Quantity		60" Lengths		Quantity	
	24 (R)*		Bundle	Skid/Rack	24 (R)*		Bundle	Skid/Rack
16"	Yes		10	60	Yes		5	25
18"	Yes		10	50	Yes		5	20
20"	Yes		10	50	Yes		5	20
22"	‡		‡	‡	‡		‡	‡
24"	‡		‡	‡	‡		‡	‡

* (R) - Reeves Lock unsealed pipe ONLY (GreenSeam® is not available over 14").

‡ Consult factory for availability.

Part Number Schematic

Example: **60SPR16GA24**** = 60" long, 16" round Reeves Lock Snap Pipe in 24Ga. Galvanized Steel

60	SP	R	16	GA	24
Pipe Length 24 - 2' 0" 60 - 5' 0" 48 - 4' 0" AL, S4 Only	Snap Pipe	Lock Type R - Reeves	Pipe Diameter (Ød)	Material GA-Galvanized AL - Aluminum S4 - 304 S.S	Gauge GA: 24 AL: 25 S4: 26

** Add 90 for G90 Galvanized Coating

Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

Straight-Sided High Efficiency Takeoff

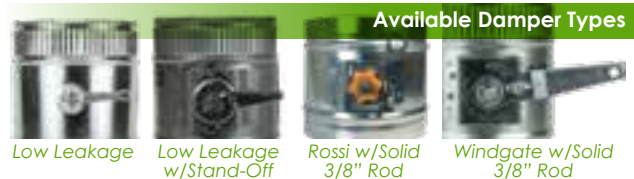
Patent #
10,898,920



Technical Data

- GSI HETOs are designed and tested to surpass SMACNA Class 3 Leakage Standards.*
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

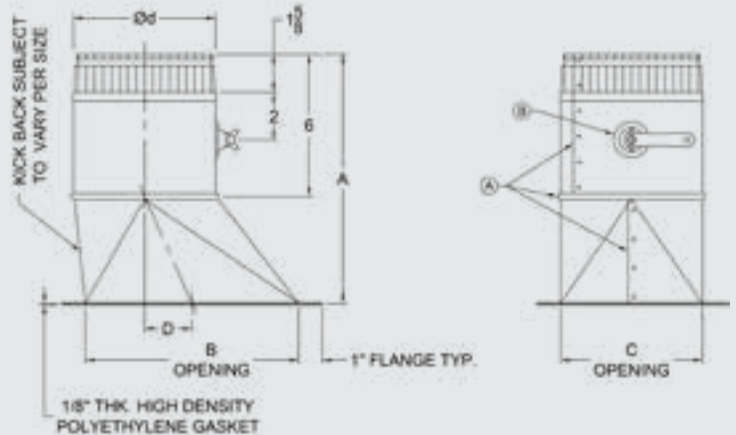
* Test performed on standard fittings without dampers



Product Availability

Size (Ød)	Gauge Availability		Quantity	Dimension			
	26 Ga.	24 Ga.		A	B	C	D
4"	Yes	-	8	10 1/2"	7"	4"	1 1/2"
5"	Yes	Yes	8	10 1/2"	8"	5"	2 1/2"
6"	Yes	Yes	12	10 1/2"	9"	6"	2"
7"	Yes	Yes	8	10 1/2"	10"	7"	2"
8"	Yes	Yes	8	11 1/2"	11"	8"	2 1/2"
9"	Yes	Yes	6	11 1/2"	12"	9"	2 1/2"
10"	Yes	Yes	6	11 1/2"	12"	10"	2 1/2"
12"	Yes	Yes	4	11 1/2"	14"	12"	3"
14"	Yes	Yes	2	12"	16"	14"	3"
16"	Yes	Yes	1	13"	18"	16"	3"
18"	Yes	Yes	1	13"	20"	18"	3"
20"	Yes	Yes	1	14"	22"	20"	3"

Dampered fittings are available with 2" Stand-Off. See Damper Hardware options on pages 27-30.



A. HETOs now come standard with sealed joints! The riveted seam on the collar and boot, as well as the co-latch seam between the collar and boot are sealed with the GreenSeam integral gasket. Unsealed fittings are available upon request.

B. Non-dampered HETOs are supplied with a 3/8" knock-out. Dampered HETOs are supplied with 24GA. damper blades and GSI's proprietary low-leakage hardware. See Page 27.

Part Number Schematic

Example: **SHTS1510GA26**D38** = Straight HETO for 10" Pipe in 26Ga. Galvanized Steel, with a Solid Rod Damper and 1 1/2" Stand-Off

SHT Straight-Sided High Efficiency Take-Off	S2 Stand-Off S2 - 2" (Opt. on Dampers Only)	10 Straight-Sided HETO Diameter (Ød)	GA Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S.	26 Gauge GA - 26, 24 AL - 32 S4 - 26	D Damper (Opt.)	C Windgate hardware 38 Rossi hardware (Opt. on Dampers Only) See Damper Hardware options on pages 27-30
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** Add 90 for G90 Galvanized Coating
Items in green denote other available features
Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

Tapered High Efficiency Takeoff

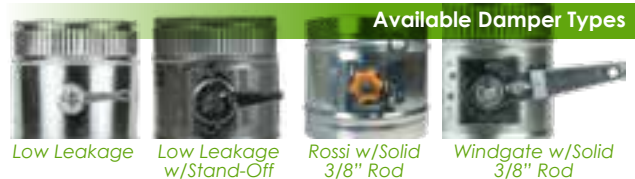
Patent #
10,898,920



Technical Data

- GSI HETOs are designed and tested to surpass SMACNA Class 3 Leakage Standards.*
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

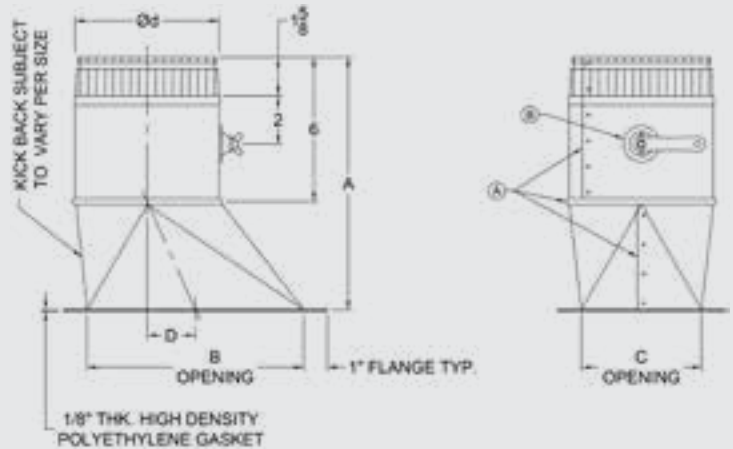
* Test performed on standard fittings without dampers



Product Availability

Size (Ød)	Gauge Availability		Quantity	Dimension			
	26 Ga.	24 Ga.		A	B	C	D
4"	Yes	-	8	10 1/2"	7"	4"	1 1/2"
5"	Yes	Yes	8	10 1/2"	9"	5"	2 1/2"
6"	Yes	Yes	12	10 1/2"	9"	5"	2"
7"	Yes	Yes	8	10 1/2"	11"	5"	2 1/2"
8"	Yes	Yes	8	11 1/2"	12"	6"	2 1/2"
9"	Yes	Yes	6	11 1/2"	13"	7"	2 1/2"
10"	Yes	Yes	6	11 1/2"	14"	8"	2 1/2"
12"	Yes	Yes	4	11 1/2"	16"	10"	3"
14"	Yes	Yes	2	12"	18"	12"	3"
16"	Yes	Yes	1	13"	20"	14"	3"
18"	Yes	Yes	1	13"	22"	16"	3"
20"	Yes	Yes	1	13"	24"	18"	3"

Dampened fittings are available with 2" Stand-Off. See Damper Hardware options on pages 27-30.



A. HETOs now come standard with sealed joints! The riveted seam on the collar and boot, as well as the co-latch seam between the collar and boot are sealed with the GreenSeam integral gasket. Unsealed fittings are available upon request.

B. Non-dampened HETOs are supplied with a 3/8" knock-out. Dampened HETOs are supplied with 24GA. damper blades and GSI's proprietary low-leakage hardware. See Page 27.

Part Number Schematic

Example: **HTS1510GA26**D38** = Tapered HETO for 10" Pipe in 26Ga. Galvanized Steel, with a Solid Rod Damper and 1 1/2" Stand-Off

HT	S2	10	GA	26	D	C
Tapered High Efficiency Take-Off	Stand-Off S2 - 2" (Opt. on Dampers Only)	Tapered HETO Diameter (Ød)	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA - 26, 24 AL - 32 S4 - 26	Damper (Opt.)	Windgate hardware 38 Rossi hardware (Opt. on Dampers Only) See Damper Hardware options on pages 27-30

** Add 90 for G90 Galvanized Coating
Items in green denote other available features
Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

Center High Efficiency Takeoff

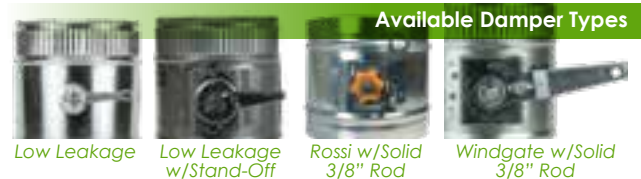
Patent #
10,898,920



Technical Data

- GSI HETOs are designed and tested to surpass SMACNA Class 3 Leakage Standards.*
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

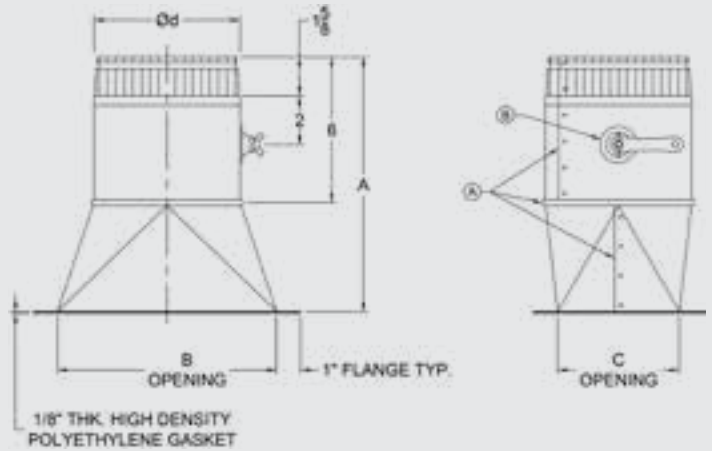
* Test performed on standard fittings without dampers



Product Availability

Size (Ød)	Gauge Availability		Quantity	Dimension		
	26 Ga.	24 Ga.		A	B	C
5"	Yes	Yes	8	10 1/2"	9"	5"
6"	Yes	Yes	12	11 1/2"	9"	5"
7"	Yes	Yes	8	11 1/2"	11"	5"
8"	Yes	Yes	8	11 1/2"	12"	6"
9"	Yes	Yes	6	11 1/2"	13"	7"
10"	Yes	Yes	6	11 1/2"	14"	8"
12"	Yes	Yes	4	11 1/2"	16"	10"
14"	Yes	Yes	2	12"	18"	12"
16"	Yes	Yes	1	13"	20"	14"
18"	Yes	Yes	1	13"	22"	16"
20"	Yes	Yes	1	13"	24"	18"

Dampened fittings are available with 2" Stand-Off. See Damper Hardware options on pages 27-30.



A. HETOs now come standard with sealed joints! The riveted seam on the collar and boot, as well as the co-latch seam between the collar and boot are sealed with the GreenSeam integral gasket. Unsealed fittings are available upon request.

B. Non-dampened HETOs are supplied with a 3/8" knock-out. Dampened HETOs are supplied with 24GA. damper blades and GSI's proprietary low-leakage hardware. See Page 27.

Part Number Schematic

Example: **HTCS1510GA26**D38** = Center HETO for 10" Pipe in 26Ga. Galvanized Steel, with a Solid Rod Damper and 1 1/2" Stand-Off

HTC	S2	10	GA	26	D	C
Center High Efficiency Take-Off	Stand-Off S2 - 2" (Opt. on Dampers Only)	Center HETO Diameter (Ød)	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA - 26, 24 AL - 32 S4 - 26	Damper (Opt.)	Windgate hardware 38 Rossi hardware (Opt. on Dampers Only) See Damper Hardware options on pages 27-30

** Add 90 for G90 Galvanized Coating
Items in green denote other available features
Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

Spun Press-On Conical

Patent #
10,898,920

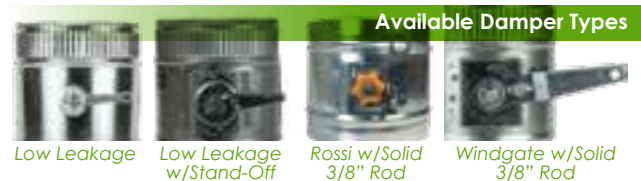


Technical Data

- GSI Conicals are designed and tested to surpass SMACNA Class 3 Leakage Standards.*
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals**:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

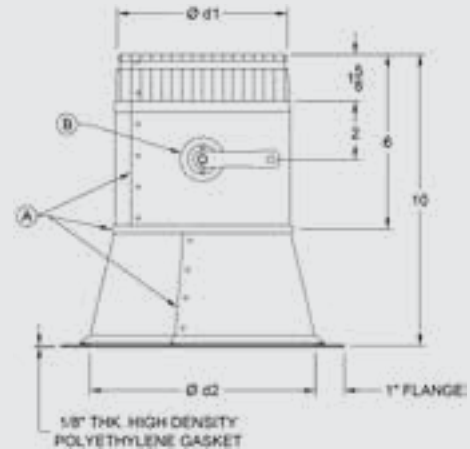
* Test performed on standard fittings without dampers

** 3 piece conical provided on Aluminum and Stainless Steel.



Product Availability

Size (Ød1)	Gauge Availability		Quantity		Dimension Ød2
	26 Ga.	24 Ga.	Carton	Skid	
4"	Yes	-	16	200 - 45x45	5 3/4"
5"	Yes	Yes	16	200 - 45x45	6 3/4"
6"	Yes	Yes	16	160 - 45x45	7 3/4"
7"	Yes	Yes	6	72 - 45x45	8 3/4"
8"	Yes	Yes	6	72 - 45x45	9 3/4"
9"	Yes	Yes	6	72 - 48x48	10 3/4"
10"	Yes	Yes	6	72 - 48x48	11 3/4"
12"	Yes	Yes	4	40 - 45x45	13 3/4"
14"	Yes	Yes	4	40 - 45x45	15 3/4"
16"	Yes	Yes	4	40 - 45x45	17 3/4"
18"	Yes	Yes	2	24 - 45x45	19 3/4"
20"	Yes	Yes	1	12 - 48x48	21 3/4"



Dampened fittings are available with 2" Stand-Off.
See Damper Hardware options on pages 27-30.

A. Conicals now come standard with sealed joints! The riveted seam on the collar and cone, as well as the co-latch seam between the collar and cone are sealed with the GreenSeam integral gasket. Unsealed fittings are available upon request.

B. Non-dampened Conicals are supplied with a 3/8" knock-out. Dampened Conicals are supplied with 24GA. damper blades and GSI's proprietary low-leakage hardware. See Page 27.

Part Number Schematic

Example: **CNS15PR10GA26**D38** = Press-on Conical for 10" Pipe in 26Ga. Galvanized Steel, with a Solid Rod Damper and 1 1/2" Stand-Off

S	CN	S2	P	R	10	GA	26	D	C
Scoop (Opt.)	Conical	Stand-Off S2 - 2" (Opt. on Dampers Only)	Press-On	Riveted	Conical Diameter (Ød1)	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA - 26, 24 AL - 32 S4 - 26	Damper (Opt.)	Windgate hardware 38 Rossi hardware (Opt. on Dampers Only) See Damper Hardware options on pages 27-30

** Add 90 for G90 Galvanized Coating

Items in green denote other available features

Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

Spin-In Conical

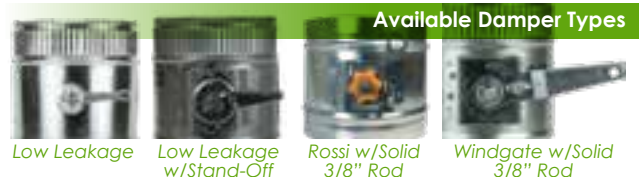
Patent #
10,898,920



Technical Data

- GSI Conicals are designed and tested to surpass SMACNA Class 3 Leakage Standards.*
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

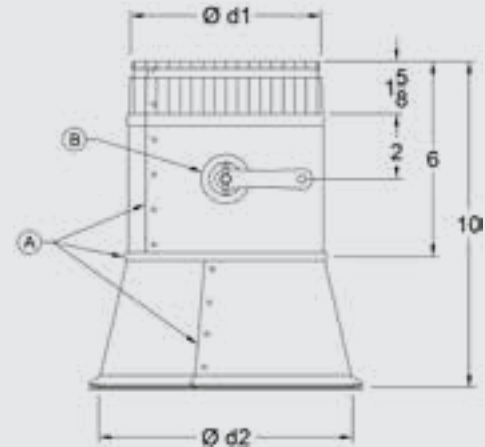
* Test performed on standard fittings without dampers



Product Availability

Size (Ød1)	Gauge Availability		Quantity		Dimension Ød2
	26 Ga.	24 Ga.	Carton	Skid	
4"	Yes	-	16	200 - 45x45	5 3/4"
5"	Yes	Yes	16	200 - 45x45	6 3/4"
6"	Yes	Yes	16	160 - 45x45	7 3/4"
7"	Yes	Yes	6	72 - 45x45	8 3/4"
8"	Yes	Yes	6	72 - 45x45	9 3/4"
9"	Yes	Yes	6	72 - 48x48	10 3/4"
10"	Yes	Yes	6	72 - 48x48	11 3/4"
12"	Yes	Yes	4	40 - 45x45	13 3/4"
14"	Yes	Yes	4	40 - 45x45	15 3/4"
16"	Yes	Yes	4	40 - 45x45	17 3/4"
18"	Yes	Yes	2	24 - 45x45	19 3/4"
20"	Yes	Yes	1	12 - 48x48	21 3/4"

Dampened fittings are available with 2" Stand-Off. See Damper Hardware options on pages 27-30.



A. Conicals now come standard with sealed joints! The riveted seam on the collar and cone, as well as the co-latch seam between the collar and cone are sealed with the GreenSeam integral gasket. Unsealed fittings are available upon request.

B. Non-dampened Conicals are supplied with a 3/8" knock-out. Dampened Conicals are supplied with 24GA. damper blades and GSI's proprietary low-leakage hardware. See Page 27.

Part Number Schematic

Example: **CNS15R10GA26**D38** = Spin-in Conical for 10" Pipe in 26Ga. Galvanized Steel, with a Solid Rod Damper and 1 1/2" Stand-Off

S	CN	S2	R	10	GA	26	D	C
Scoop (Opt.)	Spin-In Conical	Stand-Off S2 - 2" (Opt. on Dampers Only)	Riveted	Conical Diameter (Ød1)	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA - 26, 24 AL - 32 S4 - 26	Damper (Opt.)	Windgate hardware 38 Rossi hardware (Opt. on Dampers Only) See Damper Hardware options on pages 27-30

** Add 90 for G90 Galvanized Coating
Items in green denote other available features
Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

Spun Press-On Collar

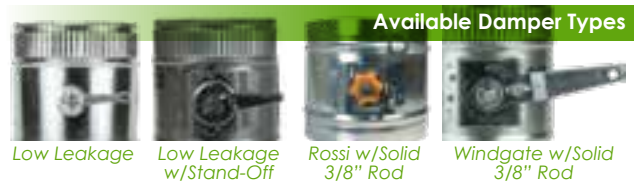


Technical Data

- GSI Collars are designed and tested to surpass SMACNA Class 3 Leakage Standards.*
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals**:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

* Test performed on standard fittings without dampers

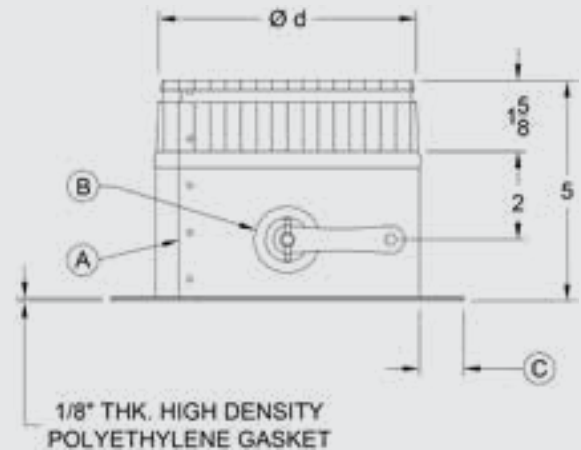
** 2 piece collar provided on Aluminum and Stainless Steel.



Product Availability

Size (Ød)*	Gauge Availability		Quantity	
	26 Ga.	24 Ga.	Carton	Skid
4"	Yes	-	25	300 - 45x45
5"	Yes	Yes	25	300 - 45x45
6"	Yes	Yes	20	240 - 45x45
7"	Yes	Yes	20	240 - 45x45
8"	Yes	Yes	20	240 - 45x45
9"	Yes	Yes	10	120 - 45x45
10"	Yes	Yes	10	120 - 45x45
12"	Yes	Yes	10	120 - 48x48
14"	Yes	Yes	5	60 - 45x45
16"	Yes	Yes	5	60 - 45x45
18"	Yes	Yes	5	60 - 45x45
20"	Yes	Yes	2	24 - 45x45

Dampened fittings are available with 2" Stand-Off. See Damper Hardware options on pages 27-30.



1/8" THK. HIGH DENSITY POLYETHYLENE GASKET

- A. Collars now come standard with sealed joints! The riveted seam is sealed with the GreenSeam integral gasket. Unsealed fittings are available upon request.
- B. Non-dampened Collars are supplied with a 3/8" knock-out. Dampened Collars are supplied with 24GA. damper blades and GSI's proprietary low-leakage hardware. See Page 27.
- C. 7/8" flange for 4" and 5" collars. 1" flange for 6" and larger collars.

Part Number Schematic

Example: **6POS15CR10GA26**D38** = Spun Press-on Collar for 10" Pipe in 26Ga. Galv. Steel, with a Solid Rod Damper and 1 1/2" Stand-Off

S	6	PO	S2	C	R	10	GA	26	D	C
Scoop (Opt.)	Collar Length	Press-On Start Collar	Stand-Off S2 - 2" (Opt. on Dampers Only)	End C - Crimped (Std.)	Riveted	Collar Diameter (Ød)	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA - 26, 24 AL - 32 S4 - 26	Damper (Opt.)	Windgate hardware 38 Rossi hardware (Opt. on Dampers Only) See Damper Hardware options on pages 27-30

** Add 90 for G90 Galvanized Coating

Items in green denote other available features

Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

Press-On Saddle Tap



Technical Data

- GSI Press-on Saddle Taps are designed and tested to surpass SMACNA Class 3 Leakage Standards.*
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Dimensional Tolerance: $\pm 1/4"$

* Test performed on standard fittings without dampers



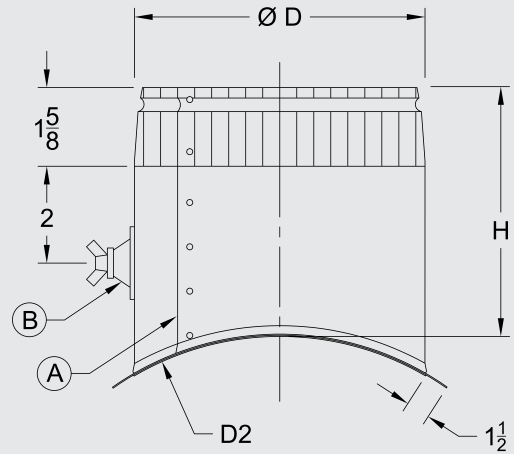
Available Damper Types

Product Availability

Collar Dia	Pipe Dia (D2)	H	Collar Dia	Pipe Dia (D2)	H
4"	6"	5 1/4"	10"	16" - 18"	5 1/4"
4"	8" - 10"	5 1/4"	10"	20" - 22"	5 1/4"
5"	7" - 9"	5 1/4"	12"	12"	7 3/4"
5"	10" - 12"	5 1/4"	12"	14" - 16"	7 3/4"
6"	6"	5 1/4"	12"	18" - 20"	7 3/4"
6"	7"	5 1/4"	12"	22" - 24"	7 3/4"
6"	8" - 10"	5 1/4"	14"	14"	7 3/4"
6"	12" - 14"	5 1/4"	14"	16" - 18"	7 3/4"
6"	16" - 18"	5 1/4"	14"	20" - 22"	7 3/4"
6"	20" - 22"	5 1/4"	14"	24" - 26"	7 3/4"
7"	10" - 12"	5 1/4"	16"	16"	7 3/4"
7"	14" - 16"	5 1/4"	16"	18" - 20"	7 3/4"
8"	8"	5 1/4"	16"	22" - 24"	7 3/4"
8"	10" - 12"	5 1/4"	18"	18"	7 3/4"
8"	14" - 16"	5 1/4"	18"	20" - 22"	7 3/4"
8"	18" - 20"	5 1/4"	18"	24"	7 3/4"
8"	22" - 24"	5 1/4"	20"	20"	7 3/4"
10"	10"	5 1/4"	20"	22" - 24"	7 3/4"
10"	12" - 14"	5 1/4"			

All Saddle Taps Available in 26 and 24 Gauge - 4" x 6" Only Available in 26 Ga.

Dampered Fittings are available with 2" Stand-Off. See Damper Hardware options on pages 27-30.



A. Saddle Taps now come standard with sealed joints! The riveted seam is sealed with the GreenSeam integral gasket. Unsealed fittings are available upon request.

B. Non-dampered Saddle Taps are supplied with a 3/8" knock-out. Dampered Collars are supplied with 24GA. damper blades and GSI's proprietary low-leakage hardware. See Page 27.

Part Number Schematic

Example: **STS268GA26**D38** = Press-On Saddle Tap with 6" takeoff designed to fit 8-10" range pipe in galvanized material with damper and 3/8" Rossi hardware

ST Press-On Saddle Tap	S2 Stand-Off S2 - 2" (Opt. on Dampers Only)	6 Collar Diameter (Ød)	8* Pipe Diameter (D2) <i>* Use Smallest Size In Range</i>	GA Material GA-Galvanized (Std.)	26 Gauge GA - 26	D Damper (Opt.)	38 Rossi hardware (Opt. on Dampers Only) See Damper Hardware options on pages 27-30
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** Add 90 for G90 Galvanized Coating

Items in green denote other available features

Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

3" Long Tabbed Start Collar



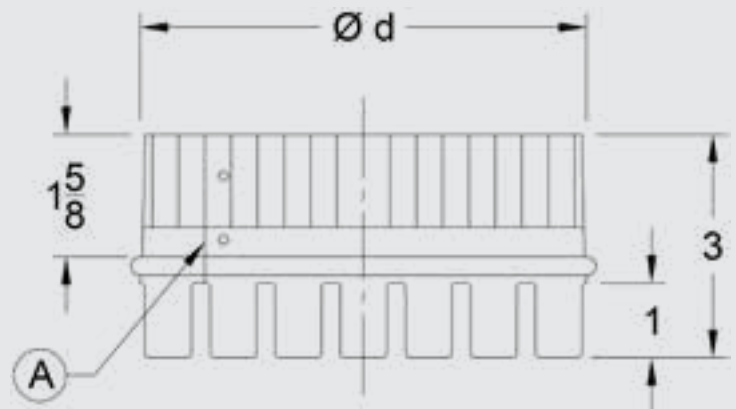
Technical Data

- GSI Collars are designed and tested to surpass SMACNA Class 3 Leakage Standards.
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

Product Availability

Size (Ød)	Gauge Availability		Quantity	
	26 Ga.	24 Ga.	Carton	Skid
4"	Yes	-	60	780
5"	Yes	Yes	60	780
6"	Yes	Yes	50	600
7"	Yes	Yes	40	480
8"	Yes	Yes	40	480
9"	Yes	Yes	40	480
10"	Yes	Yes	40	480
12"	Yes	Yes	20	240
14"	Yes	Yes	10	120
16"	Yes	Yes	10	120
18"	Yes	Yes	10	120
20"	Yes	Yes	10	120
22"	‡	‡	‡	‡
24"	‡	‡	‡	‡

‡ Consult factory for availability.



A. Collars now come standard with sealed joints! The riveted seam is sealed with the GreenSeam integral gasket. Unsealed fittings are available upon request.

Part Number Schematic

Example: **3SCCR10GA26**** = 3" Long Tabbed Collar for 10" Pipe in 26Ga. Galvanized Steel

3	SC	C	R	10	GA	26
Collar Length	Tabbed Start Collar	End C - Crimped (Std.)	Riveted	Collar Diameter (Ød)	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA - 26, 24 AL - 32 S4 - 26

** Add 90 for G90 Galvanized Coating
Items in green denote other available features
Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

6" Long Tabbed Start Collar



Technical Data

- GSI Collars are designed and tested to surpass SMACNA Class 3 Leakage Standards.*
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

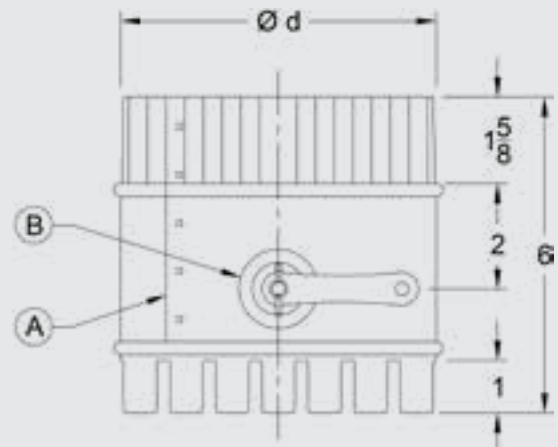
* Test performed on standard fittings without dampers



Product Availability

Size (Ød)	Gauge Availability		Quantity	
	26 Ga.	24 Ga.	Carton	Skid
4"	Yes	-	30	360
5"	Yes	Yes	30	360
6"	Yes	Yes	20	240
7"	Yes	Yes	20	240
8"	Yes	Yes	20	240
9"	Yes	Yes	20	240
10"	Yes	Yes	20	240
12"	Yes	Yes	10	120
14"	Yes	Yes	10	120
16"	Yes	Yes	5	60
18"	Yes	Yes	5	60
20"	Yes	Yes	5	60
22"	‡	‡	5	‡
24"	‡	‡	5	‡

‡ Consult factory for availability.
Dampened fittings are available with 2" Stand-Off.
See Damper Hardware options on pages 27-30.



- A. Collars now come standard with sealed joints! The riveted seam is sealed with the GreenSeam integral gasket. Unsealed fittings are available upon request.
- B. Non-dampened Collars are supplied with a 3/8" knock-out. Dampened Collars are supplied with 24GA. damper blades and GSI's proprietary low-leakage hardware. See Page 27.

Part Number Schematic

Example: **6SCS15CR10GA26**D38** = 6" Long Tabbed Collar for 10" Pipe in 26Ga. Galv. Steel, with a Solid Rod Damper and 1 1/2" Stand-Off

6	SC	S2	C	R	10	GA	26	D	C
Collar Length	Tabbed Start Collar	Stand-Off S2 - 2" (Opt. on Dampers Only)	End C - Crimped (Std.)	R Riveted	Collar Diameter (Ød)	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA - 26, 24 AL - 32 S4 - 26	D Damper (Opt.)	Windgate hardware 38 Rossi hardware (Opt. on Dampers Only) See Damper Hardware options on pages 27-30

** Add 90 for G90 Galvanized Coating
Items in green denote other available features
Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

3" Long Spin-In Collar



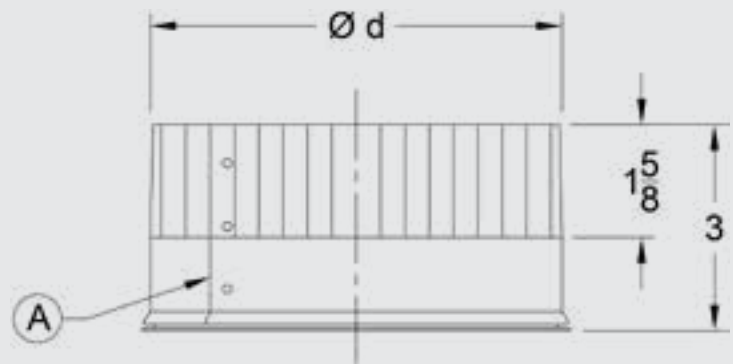
Technical Data

- GSI Collars are designed and tested to surpass SMACNA Class 3 Leakage Standards.
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

Product Availability

Size (Ød)	Gauge Availability		Quantity	
	26 Ga.	24 Ga.	Carton	Skid
4"	Yes	-	60	780
5"	Yes	Yes	60	780
6"	Yes	Yes	50	600
7"	Yes	Yes	40	480
8"	Yes	Yes	40	480
9"	Yes	Yes	40	480
10"	Yes	Yes	40	480
12"	Yes	Yes	20	240
14"	Yes	Yes	10	120
16"	Yes	Yes	10	120
18"	Yes	Yes	10	120
20"	Yes	Yes	10	120
22"	‡	‡	‡	‡
24"	‡	‡	‡	‡

‡ Consult factory for availability.



A. Collars now come standard with sealed joints! The riveted seam is sealed with the GreenSeam integral gasket. Unsealed fittings are available upon request.

Part Number Schematic

Example: **3SICR10GA26**** = 3" Long Spin-in Collar for 10" Pipe in 26Ga. Galvanized Steel with a Crimped End

3	SI	C	R	10	GA	26
Collar Length	Spin-in Start Collar	End C - Crimped (Std.)	Riveted	Collar Diameter (Ød)	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA - 26, 24 AL - 32 S4 - 26

** Add 90 for G90 Galvanized Coating
 Items in green denote other available features
 Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

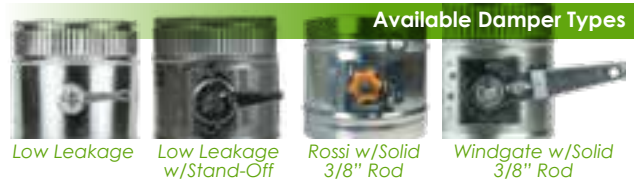
6" Long Spin-In Collar



Technical Data

- GSI Collars are designed and tested to surpass SMACNA Class 3 Leakage Standards.*
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

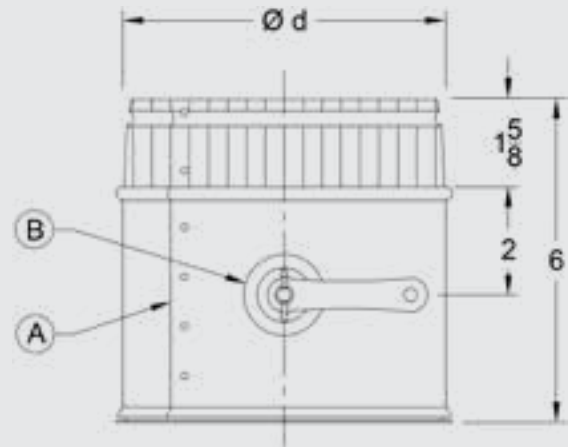
* Test performed on standard fittings without dampers



Product Availability

Size (Ød)	Gauge Availability		Quantity	
	26 Ga.	24 Ga.	Carton	Skid
4"	Yes	-	30	360
5"	Yes	Yes	30	360
6"	Yes	Yes	20	240
7"	Yes	Yes	20	240
8"	Yes	Yes	20	240
9"	Yes	Yes	20	240
10"	Yes	Yes	20	240
12"	Yes	Yes	10	120
14"	Yes	Yes	10	120
16"	Yes	Yes	5	60
18"	Yes	Yes	5	60
20"	Yes	Yes	5	60
22"	‡	‡	5	‡
24"	‡	‡	5	‡

‡ Consult factory for availability.
Dampened Fittings are available with 2" Stand-Off.
See Damper Hardware options on pages 27-30.



- A. Collars now come standard with sealed joints! The riveted seam is sealed with the GreenSeam integral gasket. Unsealed fittings are available upon request.
- B. Non-dampened Collars are supplied with a 3/8" knock-out. Dampened Collars are supplied with 24GA. damper blades and GSI's proprietary low-leakage hardware. See Page 27.

Part Number Schematic

Example: **S6SIS15CR10GA26**D38** = 6" Long Spin-in Collar for 10" Pipe in 26Ga. Galv. Steel, with a Solid Rod Damper, 1 1/2" Stand-Off, Crimped End, and a Scoop.

S	6	SI	S2	C	R	10	GA	26	D	C
Scoop (Opt.)	Collar Length	Spin-in Start Collar	Stand-Off S2 - 2" (Opt. on Dampers Only)	End C - Crimped (Std.)	Riveted	Collar Diameter (Ød)	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA - 26, 24 AL - 32 S4 - 26	Damper (Opt.)	Windgate hardware 38 Rossi hardware (Opt. on Dampers Only) See Damper Hardware options on pages 27-30

** Add 90 for G90 Galvanized Coating
Items in green denote other available features
Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

6" Long Coupler

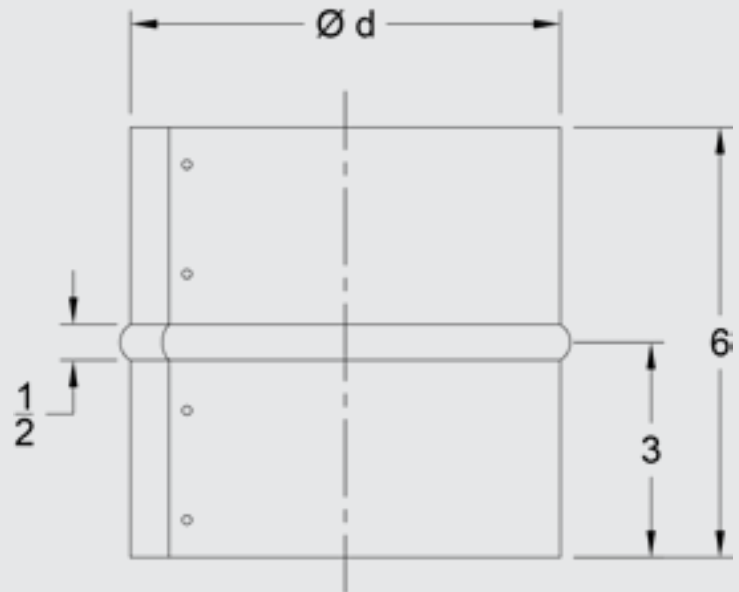


Technical Data

- GSI Couplers are designed and tested to surpass SMACNA Class 3 Leakage Standards.
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

Product Availability

Size (Ød)	Gauge Availability		Quantity	
	26 Ga.	24 Ga.	Carton	Skid
6"	Yes	Yes	20	240
7"	Yes	Yes	20	240
8"	Yes	Yes	20	240
9"	Yes	Yes	20	240
10"	Yes	Yes	20	240
12"	Yes	Yes	10	120
14"	Yes	Yes	10	120



Part Number Schematic						
Example: 6COPR10GA26** = 6" Long Coupler for 10" Pipe in 26Ga. Galvanized Steel with Plain Ends.						
6 Coupler Length	CO Coupler	P Plain End (Crimping Unavailable)	R Riveted	10 Coupler Diameter (Ød)	GA Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	26 Gauge GA - 26, 24 AL - 32 S4 - 26

** Add 90 for G90 Galvanized Coating
 Items in green denote other available features
 Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

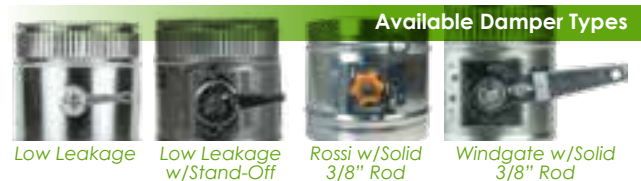
8" Long Coupler



Technical Data

- GSI Couplers are designed and tested to surpass SMACNA Class 3 Leakage Standards.*
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

* Test performed on standard fittings without dampers

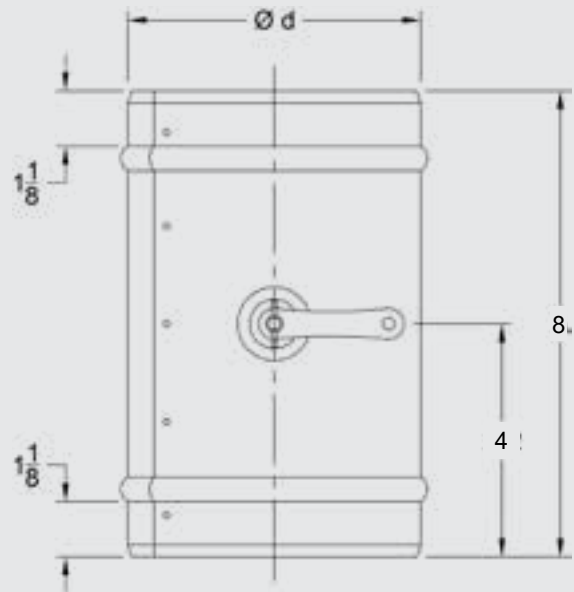


Product Availability

Size (Ød)	Gauge Availability		Quantity	
	26 Ga.	24 Ga.	Carton	Skid
6"	Yes	Yes	12	144
7"	Yes	Yes	12	144
8"	Yes	Yes	12	144
9"	Yes	Yes	12	144
10"	Yes	Yes	12	144
12"	Yes	Yes	6	72
14"	Yes	Yes	6	72

Dampened fittings are available with 2" Stand-Off. See Damper Hardware options on pages 27-30.

- A. Coupler now come standard with sealed joints! The riveted seam is sealed with the GreenSeam integral gasket. Unsealed fittings are available upon request.
- B. Non-dampened Coupler are supplied with a 3/8" knock-out. Dampened Coupler are supplied with 24GA. damper blades and GSI's proprietary low-leakage hardware. See Page 27.



Part Number Schematic

Example: **8COPR10GA26**D** = 8" Long Coupler for 10" pipe in 26Ga. Galvanized Steel with a Damper.

8 Coupler Length	CO Coupler	S2 Stand-Off S2 - 2" (Opt. on Dampers Only)	P Plain End (Crimping Unavailable)	R Riveted	10 Coupler Diameter (Ød)	GA Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	26 Gauge GA - 26, 24 AL - 32 S4 - 26	D Damper (Opt.)	C Windgate hardware 38 Rossi hardware (Opt. on Dampers Only) See Damper Hardware options on pages 27-30
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** Add 90 for G90 Galvanized Coating
Items in green denote other available features
Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

6" In-Line Sleeved Damper



Technical Data

- GSI Sleeved Dampers are designed and tested to surpass SMACNA Class 3 Leakage Standards.*
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Dimensional Tolerance: $\pm 1/4"$

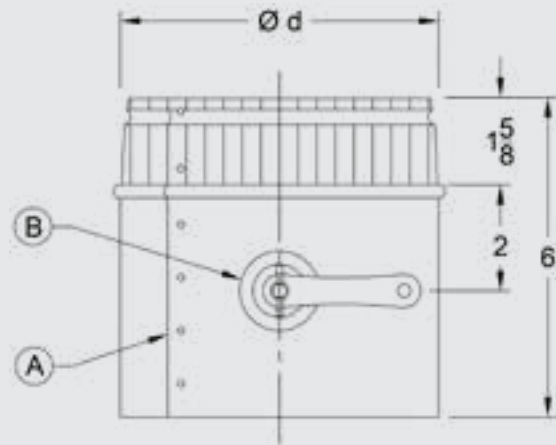
* Test performed on standard fittings without dampers



Product Availability

Size (Ød)	Gauge Availability	
	26 Ga.	24 Ga.
4"	Yes	Yes
5"	Yes	Yes
6"	Yes	Yes
7"	Yes	Yes
8"	Yes	Yes
9"	Yes	Yes
10"	Yes	Yes
12"	Yes	Yes
14"	Yes	Yes

Dampened fittings are available with 2" Stand-Off. See Damper Hardware options on pages 27-30.



- A. In-Line Sleeved Dampers now come standard with sealed joints and a sealed riveted seam on the damper! Unsealed fittings are available upon request.
- B. In-Line Sleeved Dampers are supplied with a 2" Stand-Off and 3/8" Solid Rod Damper. In-Line Sleeved Dampers are also available with Windgate hardware or GSI standard low leakage hardware.

Part Number Schematic

Example: **NF6S2C4GA26**D38** = In-Line Damper for 4" Pipe in 26Ga. Galvanized Steel, with a 3/8" Solid Rod Damper and 2" Stand-Off

NF6	S2	C	4	GA	26	D	C
Damper Sleeve	Stand-Off S2 - 2"	Crimped	In-Line Damper Diameter (Ød)	Material GA-Galvanized (Std.)	Gauge GA - 26, 24	Damper	Windgate hardware
				AL S4	AL S4		38 Rossi hardware
							See Damper Hardware options on pages 27-30

** Add 90 for G90 Galvanized Coating
Items in green denote other available features
Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

Free Flow Tee Joint



Technical Data

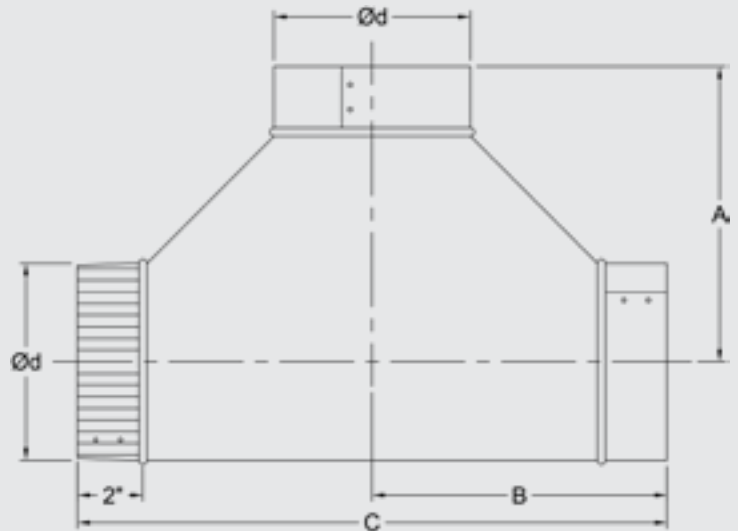
- GSI Free Flow Tees are designed and tested to surpass SMACNA Class 3 Leakage Standards.
- Pre-sealed with gasket made of EPDM rubber and proprietary co-polymer
- Zero VOCs
- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

Product Availability

Size (Ød)*	Gauge Availability		Quantity	Dimension		
	26 Ga.	24 Ga.		A	B	C
4"	Yes	-	20	6"	5 1/4"	10 1/2"
5"	Yes	Yes	15	6 1/2"	12 1/8"	14 1/8"
6"	Yes	Yes	15	6 1/2"	6 1/2"	13"
7"	Yes	Yes	4	7 1/2"	7 1/4"	14 1/2"
8"	Yes	Yes	8	8 3/8"	8 1/16"	15 3/4"
9"	Yes	Yes	1	9"	8 3/8"	16 3/4"
10"	Yes	Yes	1	9 3/8"	10"	20"
12"	Yes	Yes	1	10 3/4"	10 3/4"	21 1/2"
14"	Yes	Yes	1	11 1/2"	12"	24"

* Standard 90° Tee Joint Sizes 3" and 14"-20" are available upon request.

A. Free Flow Tee Joints now come standard with sealed joints and a sealed riveted seam. Unsealed fittings are available upon request.



Part Number Schematic

Example: **FTJ10GA26**** = Free-Flow Tee Joint for 10" Pipe in 26Ga. Galvanized Steel

FTJ Free-Flow Tee Joint	10 Tee Diameter (Ød)	GA Material GA - Galvanized (Std.) <i>AL - Aluminum</i> <i>S4 - 304 S.S</i>	26 Gauge GA - 26, 24 <i>AL - 32</i> <i>S4 - 26</i>
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** Add 90 for G90 Galvanized Coating
Items in green denote other available features
Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

45 Degree Adjustable Elbow



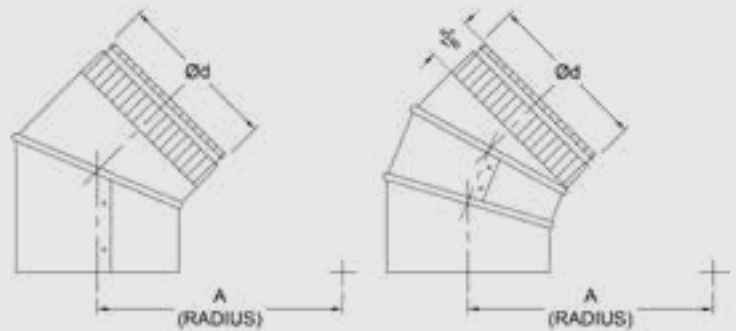
Technical Data

- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: -1" WG to +2" WG
- Dimensional Tolerance: $\pm 1/4"$

Product Availability

	Size (Ød)	Gauge Availability		Quantity		Dimension
		26 Ga.	24 Ga.	Carton	Skid	A
3 Piece Elbows	4"	Yes	Yes	24	384	6 $\frac{1}{8}$ "
	5"	Yes	Yes	24	384	7 $\frac{1}{8}$ "
	6"	Yes	Yes	24	384	8 $\frac{1}{8}$ "
	7"	Yes	Yes	24	288	10 $\frac{1}{2}$ "
	8"	Yes	Yes	24	288	12"
2 Piece Elbows	9"	Yes	Yes	24	288	9"
	10"	Yes	Yes	24	192	10"
	12"	Yes	Yes	24	48	12"
	14"	Yes	Yes	16	48	14"
	16"	Yes	Yes	16	40	16"
	18"	Yes	Yes	8	24	17 $\frac{1}{8}$ "
	20"	Yes	Yes	8	24	20"
	22"	‡	‡	8	24	22"
24"	‡	‡	8	24	24"	

‡ Consult factory for availability.



Part Number Schematic

Example: **AEC845GA26**** = 45° Adjustable Elbow for 8" Pipe in 26Ga. Galvanized Steel with Both Ends Crimped

AE Adjustable Elbow	C Crimp Both Ends (Opt. Special Order)	8 Elbow Diameter (Ød)	45 45° Elbow	GA Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	26 Gauge GA - 26, 24 AL - 32 S4 - 26
-------------------------------	---	---------------------------------	------------------------	--	---

** Add 90 for G90 Galvanized Coating
 Items in green denote other available features
 Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

90 Degree Adjustable Elbow



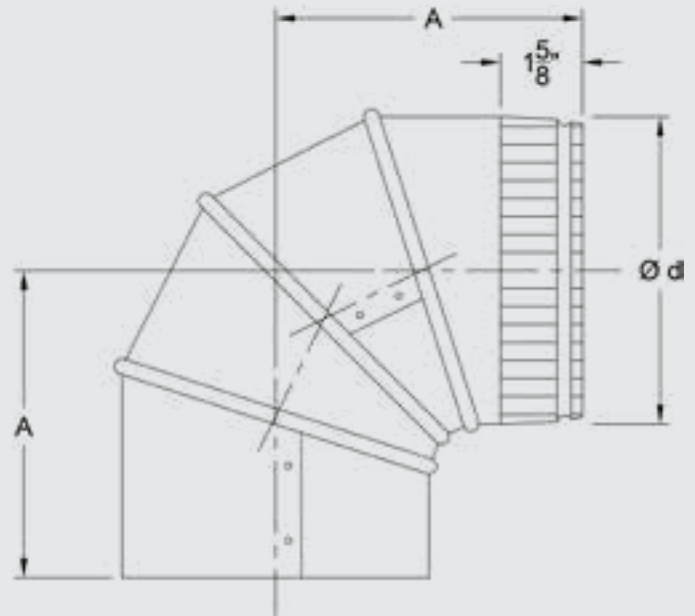
Technical Data

- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: -1" WG to +2" WG
- Dimensional Tolerance: $\pm 1/4"$

Product Availability

Size (Ød)	Gauge Availability			Quantity Per Skid	Dimension A
	28 Ga.	26 Ga.	24 Ga.		
3"	Yes	Yes	Yes	960 - 36x48	4 1/2"
4"	Yes	Yes	Yes	576 - 36x48	5"
5"	Yes	Yes	Yes	324 - 36x48	5 1/2"
6"	Yes	Yes	Yes	216 - 36x48	6"
7"	Yes	Yes	Yes	144 - 42x42	6 1/2"
8"	Yes	Yes	Yes	144 - 42x42	7"
9"	Yes	Yes	Yes	96 - 44x44	8 1/2"
10"	Yes	Yes	Yes	96 - 48x48	9"
12"	Yes	Yes	Yes	96 - 65x65	10"
14"	Yes	Yes	Yes	80 - 65x65	10 1/2"
16"	Yes	Yes	Yes	64 - 65x65	12"
18"	Yes	Yes	Yes	16 - 48x48	14"
20"	Yes	Yes	Yes	12 - 48x48	15"
22"	‡	‡	‡	1 - 48x48	‡
24"	‡	‡	‡	1 - 48x48	‡

‡ Consult factory for availability.



Part Number Schematic

Example: **AEC890GA26**** = 90° Adjustable Elbow for 8" Pipe in 26Ga. Galvanized Steel with Both Ends Crimped

AE	C	8	90°	GA	26
Adjustable Elbow	Crimp Both Ends (Opt. Special Order)	Elbow Diameter (Ød)	90° Elbow	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA - 28, 26, 24 AL - 32 S4 - 26

** Add 90 for G90 Galvanized Coating
Items in green denote other available features
Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

Reducers



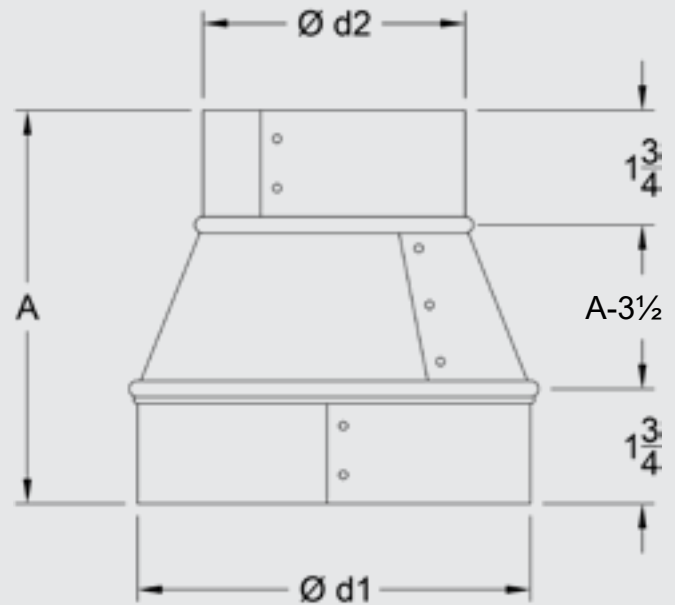
Technical Data

- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

Product Availability

Size	Ga. Availability			Qty.	Dim.	Size	Ga. Availability			Qty.	Dim.
$\text{Ød1} \times \text{Ød2}$	26 Ga.	24 Ga.	Carton	A	$\text{Ød1} \times \text{Ød2}$	26 Ga.	24 Ga.	Carton	A		
4" x 3"	Yes	Yes	25	6"	10" x 7"	Yes	Yes	20	8"		
5" x 3"	Yes	Yes	25	6"	10" x 8"	Yes	Yes	40	6"		
5" x 4"	Yes	Yes	20	6"	10" x 9"	Yes	Yes	40	8"		
6" x 3"	Yes	Yes	20	8"	12" x 6"	Yes	Yes	20	10"		
6" x 4"	Yes	Yes	20	6"	12" x 7"	Yes	Yes	20	10"		
6" x 5"	Yes	Yes	20	6"	12" x 8"	Yes	Yes	20	8"		
7" x 3"	Yes	Yes	20	8"	12" x 9"	Yes	Yes	20	8"		
7" x 4"	Yes	Yes	20	8"	12" x 10"	Yes	Yes	20	6"		
7" x 5"	Yes	Yes	40	6"	14" x 8"	Yes	No	20	8"		
7" x 6"	Yes	Yes	40	6"	14" x 10"	Yes	Yes	20	8"		
8" x 4"	Yes	Yes	20	8"	14" x 12"	Yes	Yes	20	6"		
8" x 5"	Yes	Yes	20	8"	16" x 10"	Yes	Yes	10	10"		
8" x 6"	Yes	Yes	40	6"	16" x 12"	Yes	Yes	10	8"		
8" x 7"	Yes	Yes	40	6"	16" x 14"	Yes	Yes	10	6"		
9" x 5"	Yes	Yes	20	8"	18" x 14"	Yes	Yes	10	8"		
9" x 6"	Yes	Yes	40	8"	18" x 16"	Yes	Yes	10	6"		
9" x 7"	Yes	Yes	40	6"	20" x 14"	‡	‡	8	10"		
9" x 8"	Yes	Yes	40	6"	20" x 16"	‡	‡	10	8"		
10" x 6"	Yes	Yes	40	8"	20" x 18"	‡	‡	10	6"		

‡ Consult factory for availability.



Part Number Schematic

Example: **R4P3PGA26**** = Reducer with a 4" Plain large end and a 3" Plain** small end in 26 Ga. Galvanized Steel

R	4	P	3	P	GA	26
Reducer	Large End Diameter (Ød1)	Large End P - Plain (Std.) C - Crimped (Opt.)	Small End Diameter (Ød2)	Small End P - Plain (Std.) C - Crimped (Opt.)	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA - 26, 24 AL - 32 S4 - 26

** Add 90 for G90 Galvanized Coating

Items in green denote other available features

Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

End Caps



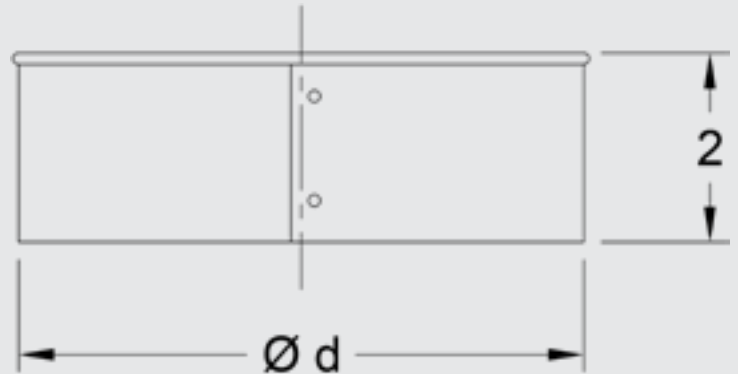
Technical Data

- Galvanized Steel (ASTM A653 and A924)
- Standard product is supplied in 26 GA, G-60 coating (ASTM A653 and ASTM A90)
- Available in Specialty Metals:
 - G-90 Galvanized Steel
 - Aluminum (ASTM B209 Alloy 3003 Temper H14)
 - 304 Stainless Steel (ASTM A480 2B Finish)
- Pressure Rating: Designed per SMACNA Third Edition 2005 Section 4.8 Figure 4-6 Branch Connections
- Dimensional Tolerance: $\pm 1/4"$

Product Availability

Size (Ød)	Gauge Availability		Quantity Carton
	26 Ga.	24 Ga.	
3"	Yes	-	30
4"	Yes	Yes	25
5"	Yes	Yes	40
6"	Yes	Yes	40
7"	Yes	Yes	20
8"	Yes	Yes	20
9"	Yes	Yes	10
10"	Yes	Yes	10
12"	Yes	Yes	5
14"	Yes	Yes	5
16"	Yes	Yes	10
18"	Yes	Yes	10
20"	Yes	Yes	10
22"	‡	‡	‡
24"	‡	‡	‡

‡ Consult factory for availability.



Part Number Schematic

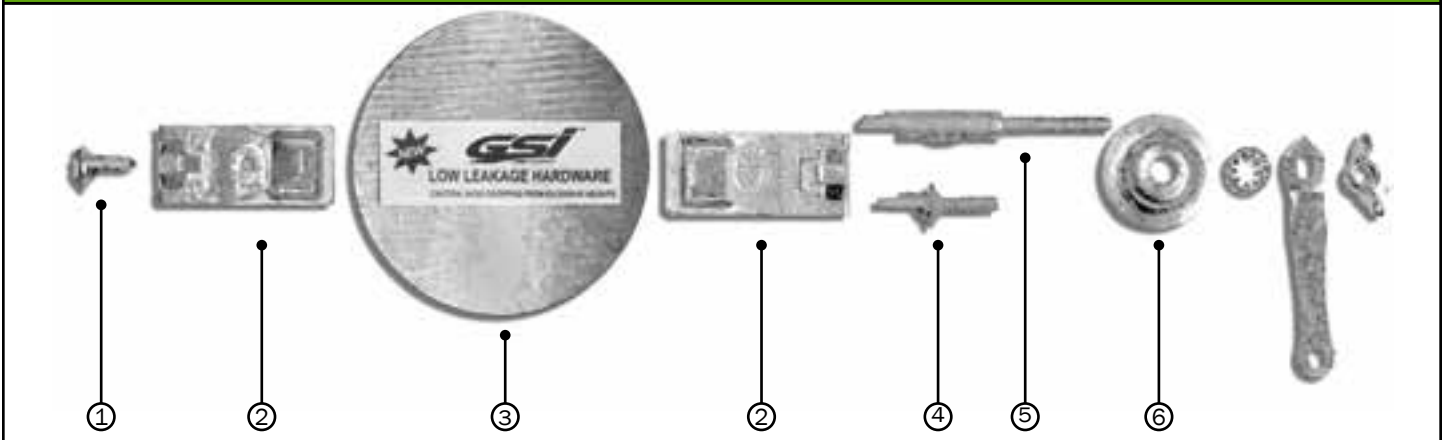
Example: **ECC10GA26**** = End Cap with a Crimped End in 26 Ga. Galvanized Steel with Crimped Ends.

EC	P	10	GA	26
End Cap	P - Plain (Std.) C - Crimped (Opt.)	End Cap Diameter (Ød)	Material GA-Galvanized (Std.) AL - Aluminum S4 - 304 S.S	Gauge GA - 26, 24 AL - 32 S4 - 26

** Add 90 for G90 Galvanized Coating
 Items in green denote other available features
 Check with your sales representative for availability of any size, gauge, or specialty metal item not shown here.

Damper Hardware

GSI's Low-Leakage Hardware



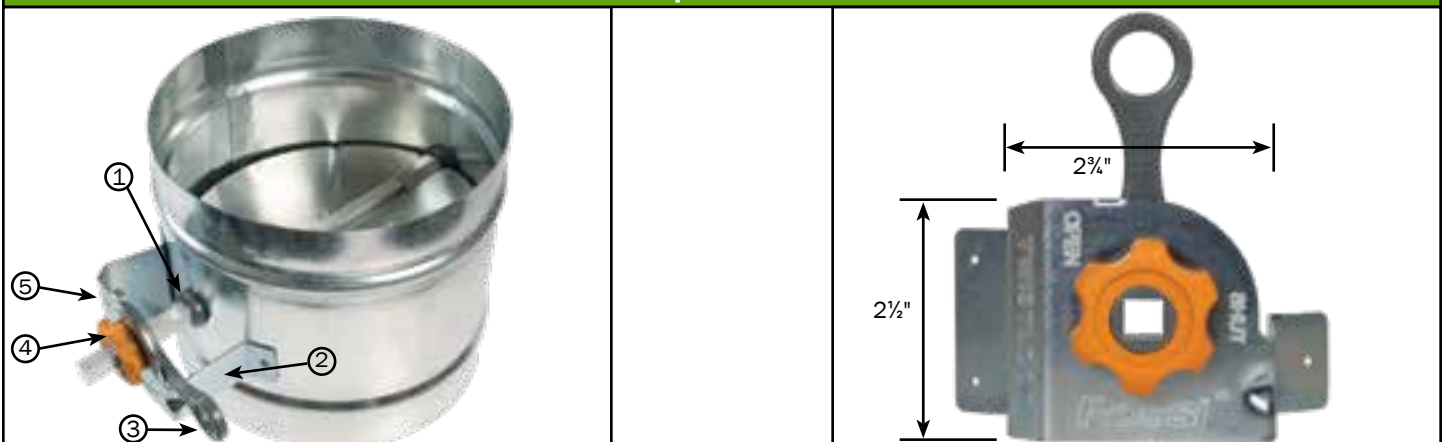
GSI Low Leakage Damper Hardware Components

1. **GSI Die Cast Insert (Dead End)** - Zinc-Aluminum Cast Alloy. $\frac{1}{32}$ " Diameter shaft x $\frac{5}{16}$ " Diameter Cap to Seal $\frac{3}{8}$ " Diameter Hole in Fitting Body
2. **GSI Damper Clip (2 Req'd.)** - 18 Gauge G-60 Galvanized Steel
3. **Damper Blade** - 24 Gauge G-60 Galvanized Steel. Damper Blades that are 12" Diameter and Larger are Stiffened with (2) $\frac{3}{8}$ " Crimps $2\frac{1}{4}$ " Apart Straddling the Damper Clips
4. **GSI Die Cast Insert (Threaded End)** - Zinc-Aluminum Cast Alloy. $\frac{1}{32}$ " Diameter Shaft with $\frac{5}{16}$ "-18 UNC-1A Threads
5. **GSI Die Cast Insert (Threaded End for Stand-Off)** - Zinc-Aluminum Cast Alloy. $\frac{1}{32}$ " Diameter with $\frac{5}{16}$ "-18 UNC-1A Threads. Supplied with Dampered Fittings with a $1\frac{1}{2}$ " or 2" Stand-Off (page 28)
6. **Cup Washer** - 18 Gauge G-60 Galvanized Steel
7. **Lock Washer** - $\frac{5}{16}$ " Internal Tooth Zinc Coated Lock Washer
8. **Damper Handle** - 18 Gauge G-60 Galvanized Steel
9. **Wing Nut** - $\frac{5}{16}$ " Zinc Coated Wing Nut

Notes:

- All Galvanized Steel Components Meet ASTM A653 and A924
- All G-60 Galvanized Coating Meets ASTM A653 and A90

Rossi $\frac{3}{8}$ " Rod Damper & Stand-off Hardware



Rossi $\frac{3}{8}$ " Rod Damper Hardware Components

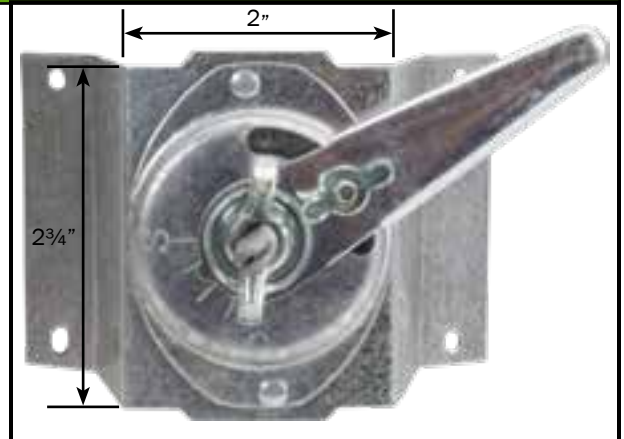
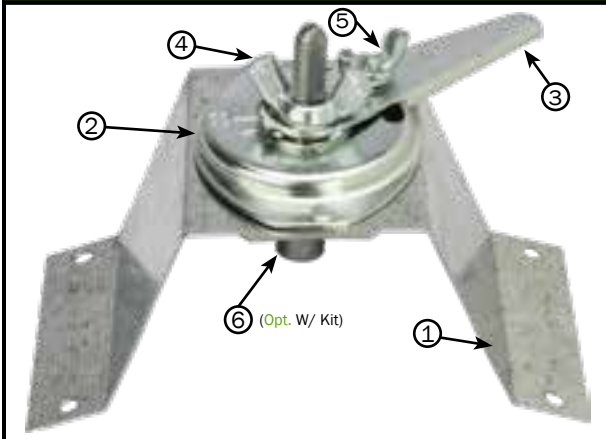
1. **$\frac{3}{8}$ " Bushing** - Cast resin
2. **Standoff** - 18 gauge G90 galvanized steel (available in $1\frac{1}{2}$ " or 2" heights)
3. **Handle** - Super-tough engineered 6/6 nylon resin
4. **Locking Knob**
5. **Stamped Regulator**

Notes:

- Galvanized steel standoff bracket meets ASTM A527 LFQ G90
- Non-metallic materials are UL listed, SMACNA approved & plenum rated

1/2" or 2" Stand-Offs

Stand-Off Hardware



Stand-Off Hardware Components

1. **Stand-Off Bracket** – Available in 1 1/2" and 2". 26 Gauge G-60 Galvanized Steel
2. **1/4 Turn Dial Regulator** - 20 Gauge G-60 Galvanized Steel
3. **Damper Handle** – 20 Gauge G-60 Galvanized Steel.
4. **Wing Nut** – 5/16" Zinc Coated Wing Nut
5. **Handle Lock Wing Nut** – Galvanized (used to lock handle in desired position)
6. **Shaft Extension (Optional w/Kit)** – Zinc-Aluminum Cast Alloy with 5/16"-18 UNC-1A Threads and a 1/8" Set Screw. Supplied with Stand-Off Kits listed below.

Notes:

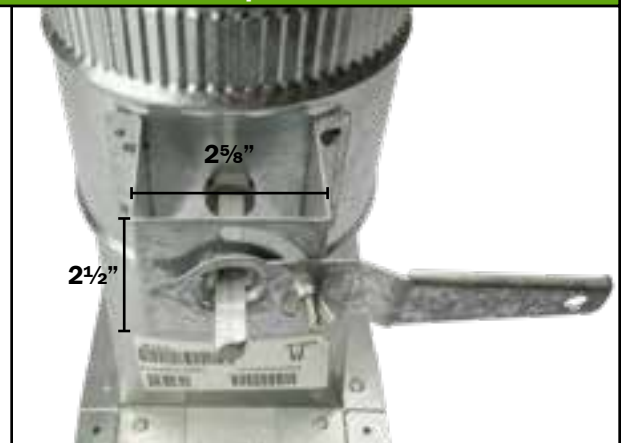
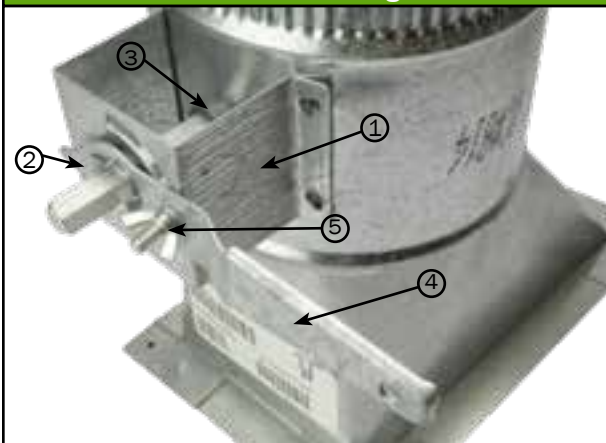
- All Galvanized Steel Components Meet ASTM A653 and A924.
- All G-60 Galvanized Coating Meets ASTM A653 and A90

Part Numbers

Stand-Off Kits (Available for Retrofit. 50/Cartron):

- SDRKIT15** 1 1/2" Stand-Off Kit (Includes Items 1-6 Listed Above)
SDRKIT2 2" Stand-Off Kit (Includes Items 1-6 Listed Above)

Windgate 3/8" Rod Damper & Stand-off Hardware Specs



Windgate 3/8" Rod Damper & Stand-off Hardware Components

1. **Standoff** – Available in 2" Galvanized Steel
2. **3/8" Dial Regulator** – 18 Gauge Galvanized Steel
3. **3/8" Bushing** – Cast resin
4. **Handle** – 16 Gauge Galvanized Steel
5. **Handle Lock Wing Nut** – Forged Steel Wing Nut

Damper Hardware

BANGIT™ Damper Hardware From



Description	Ordering Information		
	Part Number	Box Quantity	Box Weight
<u>Spring Clip</u> Precision stamped galvanized damper clip. Superior spring loaded design for labor saving installation. Engineered with an oversized point for increased strength.	BDHBSC	1,250	77 Lbs.
<u>Blank Clip</u> Precision stamped galvanized damper clip, with threaded post for easy installation. Engineered with an oversized point for increased strength.	BDHBC	2,000	71 Lbs.
<u>Washer</u> Stamped from galvanized steel for increased strength and corrosion resistance.	BDHBW	10,000	43 Lbs.
<u>Damper Handle</u> Stamped from galvanized steel for increased strength and corrosion resistance. Allows for fast and easy adjustment of the dampers. (BDHBH is used on Spring Clip)	BDHBH	5,000	82 Lbs.
<u>Wing Nut</u> This galvanized steel wing nut is die cast for superior strength and reliability.	BDHBWN	5,000	54 Lbs.
<u>BANGIT Hardware</u> Comes completely assembled with 2-Springs Clips, Handle, washer and wingnut	DBLR_GASDH	N/A	N/A
<u>BANGIT Hardware</u> Comes completely assembled with 1- Spring Clip, 1-Blank Clip, handle, washer and wingnut	DBLR_GABDH	N/A	N/A

Damper Materials

		damper blade	standoff	handle	rod	bushing	screws, nuts, and other hardware	other comments
Low leakage damper	Galvanized steel fitting with low leakage damper and no standoff	ga	n/a	ga	n/a	n/a	ga	
	Galvanized steel fitting with low leakage damper 2" standoff	ga	ga	ga	n/a	n/a	ga	
	Aluminum fitting with low leakage damper and no standoff	al	n/a	ga	n/a	n/a	ga	
	Aluminum fitting with low leakage damper and 2" standoff	al	ga	ga	n/a	n/a	ga	
	Stainless Steel fitting with low leakage damper and no standoff	ss	n/a	ga	n/a	n/a	ga	
	Stainless Steel fitting with low leakage damper and 2" standoff	ss	ga	ga	n/a	n/a	ga	
Nylon & Steel 3/8" Rod Damper Hardware	Galvanized steel fitting with damper and no standoff	n/a	n/a	n/a	n/a	n/a	n/a	Fittings are not available with damper and no standoff.
	Galvanized steel fitting with damper and 2" standoff	22 Gauge	ga	nylon	steel	nylon	ga	
	Aluminum fitting with damper and no standoff	n/a	n/a	n/a	n/a	n/a	n/a	Fittings are not available with aluminum damper and no standoff.
	Aluminum fitting with damper and 2" standoff	n/a	n/a	n/a	n/a	n/a	n/a	
	Stainless Steel fitting with damper and no standoff	n/a	n/a	n/a	n/a	n/a	n/a	Fittings are not available with stainless damper and no standoff.
	Stainless Steel fitting with damper and 2" standoff	n/a	n/a	n/a	n/a	n/a	n/a	
Metal 3/8" Rod Damper Hardware	Galvanized steel fitting with steel damper and no standoff	n/a	n/a	n/a	n/a	n/a	n/a	Fittings are not available with steel damper and no standoff.
	Galvanized steel fitting with steel damper and 2" standoff	22 Gauge	ga	ga	steel	nylon	ga	
	Aluminum fitting with steel damper and no standoff	n/a	n/a	n/a	n/a	n/a	n/a	Fittings are not available with steel damper and no standoff.
	Aluminum fitting with aluminum damper and 2" standoff	al	al	al	al	nylon	al	Additional lead time required.
	Stainless Steel fitting with stainless damper and no standoff	n/a	n/a	n/a	n/a	n/a	n/a	Fittings are not available with stainless damper and no standoff.
	Stainless Steel fitting with damper and 2" standoff	ss	ss	ss	ss	nylon	ss	Additional lead time required.

Galvanized Sheet Thickness Tolerances

Gage	Thickness In Inches			Weight				Thickness In Millimeters		
	Min.	Max.	Nom.	Min Lb/Ft ²	Nom. Lb/Ft ²	Max. Lb/Ft ²	Nom. Kg/M ²	Min.	Max.	Nom.
33	.0060	.0120	.0090	.2409	.376	.486		.1524	.3048	.2286
32	.0104	.0164	.0134	.4204	.563	.665		.2642	.4166	.3404
31	.0112	.0172	.0142	.4531	.594	.698		.2845	.4369	.3607
30	.0127	.0187	.0157	.5143	.656	.759	.3.20	.3188	.4783	.3988
29	.0142	.020	.0172	.5755	.719	.820		.3569	.5169	.4369
28	.0157	.0217	.0187	.6367	.781	.881	3.81	.3950	.5550	.4750
27	.0172	.0232	.0202	.6879	.884	.943		.4331	.5931	.5131
26	.0187	.0247	.0217	.7591	.906	1.004	4.42	4.712	.6312	.5512
25	.0217	.0287	.0247	.8407		1.167		.5274	.7274	.6274
24	.0236	.0316	.0276	.9590	1.156	1.285	5.64	.6010	.8010	.7010
23	.0266	.0346	.0306	1.0814		1.408		.6772	.8772	.7772
22	.0296	.0376	.0336	1.2038	1.406	1.530	6.86	.7534	.9534	.8534
21	.0326	.0406	.0336	1.3263		1.653		.8296	1.0296	.9296
20	.0356	.0436	.0396	1.4486	1.656	1.775	8.08	.906	1.106	1.006
19	.0406	.0506	.0456	1.6526		2.061		1.028	1.288	1.158
18	.0466	.0566	.0516	1.8974	2.156	2.305	10.52	1.181	1.441	1.311
17	.0525	.0625	.0575	2.1381		2.546		1.331	1.591	1.461
16	.0575	.0695	.0635	2.342	2.656	2.832	12.96	1.463	1.763	1.613
15	.0650	.0770	.0710	2.6481		3.138		1.653	1.953	1.803
14	.0705	.0865	.0785	2.8725	3.281	3.525	16.01	1.784	2.204	1.994
13	.0854	.1014	.0934	3.4804		4.133		2.162	2.5823	2.372
12	.0994	.1174	.1084	4.0516	4.531	4.786	22.11	2.523	2.983	2.753
11	.1143	.1323	.1233	4.6505		5.394		2.902	3.362	3.132
10	.1292	.1472	.1382	5.2675	5.781	6.002	28.21	3.280	3.740	3.510
9	.1442	.1622	.1532	5.8795		6.614		3.661	4.121	3.891
8	.1591	.1771	.1681	6.4874	6.875	7.222		4.040	4.500	4.270

NOTES:

These measurements are based on ASTM A924/924M-94, Standard Specification for General Requirements for Sheet Steel, Metallic Coated by the Hot-Dip Process (formerly ASTMA525); and ASTMA653/A653M-94, Standard Specification for Sheet Steel, Zinc-Coat (Galvanized) or Zinc-Iron Alloy Coated (Galvanized) by the Hot-Dip Process.

Continuous Sheet Galvanized Coating Specifications

English Measurement Total Both Sides		Metric Measurement Total Both Sides		Zinc Coating Thickness	
Designation	Oz/Ft ²	Designation	G/M ²	Thickness (mils)	Thickness (microns)
G30	0.30	Z90	90	0.27	6.90
G40	0.40	Z120	120	0.36	9.10
G60	0.60	Z180	180	0.54	13.7
G90	0.90	Z275	275	0.81	20.6
G100	1.00	Z300	300	0.90	23.0
G115	1.15	Z350	350	1.04	26.3
G140	1.40	Z450	450	1.26	32.0
G165	1.65	Z500	500	1.49	37.7
G185	1.85	Z550	550	1.67	42.3
G210	2.10	Z600	600	1.89	48.0
G235	2.35	Z700	700	2.12	53.7
G300	3.00	Z900	900	2.70	68.6
G360	3.60	Z1100	1100	3.24	82.3



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