

# AGS Grooved End Fabricated Stainless Steel Fittings Schedule 10S



17.05



## 1.0 PRODUCT DESCRIPTION

### Available Sizes

- 14 – 24"/DN350 - DN600

### Maximum Pressure Rating

- Fitting pressure ratings are equivalent to the joint pressure ratings composed of AGS couplings installed on Schedule 10S Type 304/304L or 316/316L stainless pipe (See section 7.0 for Reference Materials).

### Function

- Connects pipe sections, provides change in direction, and adapts sizes or components. Provides transitions between different joining methods.
- Stainless steel AGS fittings are supplied with Victaulic AGS grooves. Fittings are exclusively for use with Victaulic couplings, valves, accessories and pipe which feature ends formed with the Victaulic AGS groove profile.

### Codes and Requirements

- Support hanger spacing corresponds to ASME B31.1 Power Piping Code and ASME B31.9 Building Services Piping Code.

## 2.0 CERTIFICATION/LISTINGS



Product designed and manufactured under the Victaulic Quality Management System, as certified by LPCB in accordance with ISO-9001:2015.

## 3.0 MATERIAL SPECIFICATIONS

**Wrought Fittings:** Stainless steel conforming to ASTM A403M Grade WP, Class 5 Types 304L or 316L, as specified.

**Segmentally Welded Fittings and Pipe Nipples:** Fabricated from Schedule 10S stainless steel pipe conforming to A312/A312M, Types 304L or 316L, as specified.

**Flange Adapter Nipple:** Forged slip-on flange, conforming to ASME B16.5 Class 150 and the material requirements of ASTM A182, Grade F304L or F316L. Schedule 10S stainless steel pipe nipples conforming to ASTM A312 Types 304L or Type 316L, as specified.

**Concentric and Eccentric Reducers:** Stainless steel concentric reducer dimensions per ASME B16.9, materials per ASTM A403 Type 304/304L or 316/316L, Grade WP-WX, Schedule 10S wall thickness as specified.

**End Cap:** Type 304L or 316L stainless steel plate in accordance with ASTM A240 with a 2:1 ratio Type 304L or 316L stainless steel ellipsoidal head conforming to ASME Code Section VIII, Division 1.

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

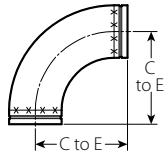


## 4.0 DIMENSIONS

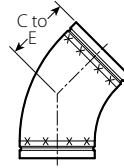
No. W410 90° Long Radius Elbow

No. W411 45° Elbow

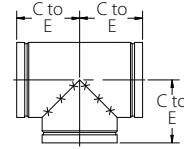
No. W420 Tee



No. W410



No. W411



No. W420

Size		No. W410 90° Elbow		No. W411 45° Elbow		No. W420 Tee	
Nominal Size	Actual Outside Diameter	C to E	Weight Approximate (Each)	C to E	Weight Approximate (Each)	C to E	Weight Approximate (Each)
inches DN	inches mm	inches mm	lb kg	inches mm	lb kg	inches mm	lb kg
14 DN350	14.000 355.6	24.00 610	91.9 41.7	11.75 298	53.3 24.2	11.00 279	77.2 35.0
16 DN400	16.000 406.4	27.00 686	117.9 53.5	13.00 330	67.4 30.6	12.00 305	123.5 56.0
18 DN450	18.000 457.0	30.00 762	147.2 66.8	14.25 362	91.0 41.3	13.50 343	130.0 59.0
20 DN500	20.000 508.0	33.00 838	208.0 94.3	15.50 394	116.3 52.8	15.00 381	144.4 65.5
24 DN600	24.000 610.0	39.00 991	337.2 152.9	18.00 457	185.7 84.2	17.00 432	173.1 78.5

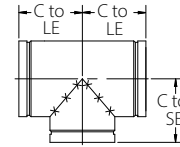
**NOTE**

- Contact Victaulic for dimensional data on sizes not shown above.

## 4.1 DIMENSIONS

### Tees

#### No. W425 REDUCING TEE



No. W425

Size				No. W425 Reducing Tee								
Nominal inches DN				Actual Outside Diameter			C to LE	C to SE	Weight Approx. (Each)			
				inches mm			inches mm	inches mm	lbs kg			
14 DN350	x	14 DN350	x	4 DN100	14.000 355.6	x	14.000 355.6	x	4.500 114.3	11.00 279	9.38 238	56.0 25.4
				6 DN150			6.625 168.3		11.00 279	9.38 238	59.0 26.8	
				8 DN200			8.625 219.1		11.00 279	9.75 248	62.0 28.1	
				10 DN250			10.750 273.0		11.00 279	10.13 257	67.0 30.4	
				12 DN300			12.750 323.9		11.00 279	10.63 270	73.0 33.1	
				16 DN400			16.000 406.4		12.00 305	10.38 264	69.0 31.3	
				18 DN450			18.000 457.2		13.50 343	11.38 289	90.0 40.8	
16 DN400	x	16 DN400	x	4 DN100	16.000 406.4	x	16.000 406.4	x	4.500 114.3	12.00 305	10.38 264	69.0 31.3
				6 DN150			6.625 168.3		12.00 305	10.38 264	72.0 32.7	
				8 DN200			8.625 219.1		12.00 305	10.75 273	76.0 34.5	
				10 DN250			10.750 273.0		12.00 305	11.13 283	81.0 36.7	
				12 DN300			12.750 323.9		12.00 305	11.63 295	88.0 39.9	
				14 DN350			14.000 355.6		12.00 305	12.00 305	92.0 41.7	
				18 DN450			18.000 457.2		13.50 343	11.38 289	90.0 40.8	
18 DN450	x	18 DN450	x	6 DN150	18.000 457.2	x	18.000 457.2	x	6.625 168.3	13.50 343	11.38 289	90.0 40.8
				8 DN200			8.625 219.1		13.50 343	11.75 298	94.0 42.6	
				10 DN250			10.750 273.0		13.50 343	12.13 308	101.0 45.8	
				12 DN300			12.750 323.9		13.50 343	12.63 321	105.0 47.6	
				14 DN350			14.000 355.6		13.50 343	13.00 330	109.0 49.4	
				16 DN400			16.000 406.4		13.50 343	13.00 330	115.3 52.3	
				18 DN450			18.000 457.2		13.50 343	13.00 330	115.3 52.3	

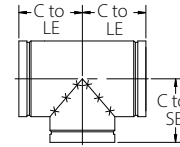
#### NOTES

- Outlet sizes 12"/300 mm and smaller will be provided with OGS Victaulic roll grooves, suitable for use with original Victaulic grooved couplings in that size range.
- Contact Victaulic for dimensional data on sizes not shown above.

## 4.1 DIMENSIONS

### Tees

#### No. W425 REDUCING TEE



No. W425

Size				No. W425 Reducing Tee			Weight Approx. (Each)							
Nominal inches DN				Actual Outside Diameter inches mm			C to LE inches mm	C to SE inches mm	lbs kg					
20 DN500	x	20 DN500	x	6 DN150	20.000 508.0	20.000 508.0	6.625 168.3	15.00 381	12.38 314	125.0 56.7				
				8 DN200			8.625 219.1	15.00 381	12.75 324	130.0 59.0				
				10 DN250			10.750 273.0	15.00 381	13.13 333	136.0 61.7				
				12 DN300			12.750 323.9	15.00 381	13.63 346	143.0 64.9				
				14 DN350			14.000 355.6	15.00 381	14.00 356	148.0 67.1				
				16 DN400			16.000 406.4	15.00 381	14.00 356	153.0 69.4				
				18 DN450			18.000 457.2	15.00 381	14.50 368	159.0 72.1				
				24 DN600	x	24 DN600	x	6 DN150	24.000 609.6	24.000 609.6	6.625 168.3	17.00 432	14.38 365	191.0 86.6
								8 DN200			8.625 219.1	17.00 432	14.75 375	197.0 89.4
								10 DN250			10.750 273.0	17.00 432	15.13 384	204.0 92.5
								12 DN300			12.750 323.9	17.00 432	15.63 397	212.0 96.2
				14 DN350			14.000 355.6	17.00 432	16.00 406	217.0 98.4				
				16 DN400			16.000 406.4	17.00 432	16.00 406	223.0 101.2				
				18 DN450			18.000 457.2	17.00 432	16.50 419	229.0 103.9				
				20 DN500			20.000 508.0	17.00 432	17.00 432	246.0 111.6				

#### NOTES

- Outlet sizes 12"/300 mm and smaller will be provided with OGS Victaulic roll grooves, suitable for use with original Victaulic grooved couplings in that size range.
- Contact Victaulic for dimensional data on sizes not shown above.

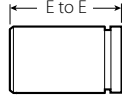
## 4.2 DIMENSIONS

### Adapter Nipple

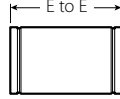
No. W442 AGS Grv. × Bev.

No. W443 AGS Grv. × AGS Grv.

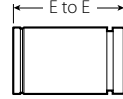
No. W449 AGS Grv. × OGS Grv.



No. W442



No. W443



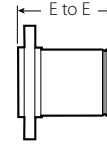
No. W449

Size		No. W442 Adapter Nipple		No. W443 Adapter Nipple		No. W449 Adapter Nipple	
Nominal Size	Actual Outside Diameter	E to E	Weight Approximate (Each)	E to E	Weight Approximate (Each)	E to E	Weight Approximate (Each)
inches DN	inches mm	inches mm	lb kg	inches mm	lb kg	inches mm	lb kg
14	14.000	8.00	18.7	8.00	18.7	8.00	18.7
DN350	355.6	203	8.5	203	8.5	203	8.5
16	16.000	8.00	21.4	8.00	21.4	8.00	21.4
DN400	406.4	203	9.7	203	9.7	203	9.7
18	18.000	8.00	24.1	8.00	24.1	8.00	24.1
DN450	457.0	203	10.9	203	10.9	203	10.9
20	20.000	8.00	31.0	8.00	31.0	8.00	31.0
DN500	508.0	203	14.1	203	14.1	203	14.1
24	24.000	8.00	42.7	8.00	42.7	8.00	42.7
DN600	610.0	203	19.4	203	19.4	203	19.4

### 4.3 DIMENSIONS

#### Flanged Adapter Nipple

No. W445R ANSI Class 150 Raised Face



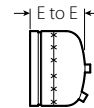
No. W445R

Size		No. W445R Flanged Adapter Nipple		
Nominal Size inches DN	Actual Outside Diameter inches mm	E to E inches mm	Weight Approximate (Each) lb kg	
14 DN350	14.000 355.6	8.00 203	108.7 49.3	
16 DN400	16.000 406.4	8.00 203	127.4 57.8	
18 DN450	18.000 457.0	8.00 203	154.1 69.9	
20 DN500	20.000 508.0	8.00 203	196.0 88.9	
24 DN600	24.000 610.0	8.00 203	262.7 119.2	

### 4.4 DIMENSIONS

#### Cap

No. W460



No. W460

Size		No. W460 Cap		
Nominal Size inches DN	Actual Outside Diameter inches mm	E to E inches mm	Weight Approximate (Each) lb kg	
14 DN350	14.000 355.6	9.50 241	25.0 11.3	
16 DN400	16.000 406.4	10.00 254	28.5 12.9	
18 DN450	18.000 457.0	11.00 279	37.0 16.8	
20 DN500	20.000 508.0	12.00 305	50.0 22.7	
24 DN600	24.000 610.0	13.50 343	64.0 29.0	

**NOTE**

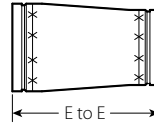
- Optional threaded weld outlets are shown in the graphic above. The welded outlets may be located in the center or to the extremes on the dished area only. Please contact Victaulic for tap sizes.

## 4.5 DIMENSIONS

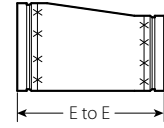
### Concentric/Eccentric Reducer

No. W450 Concentric

No. W451 Eccentric



No. W450



No. W451

Size			No. W450 Concentric Reducer		No. W451 Eccentric Reducer					
Nominal inches DN		Actual Outside Diameter inches mm	E to E inches mm	Weight Approx. (Each) lbs kg	E to E inches mm	Weight Approx. (Each) lbs kg				
14 DN350	x	4 DN100	14.000 355.6	4.500 114.3	19.00 483	43.0 19.5	19.00 483	31.0 14.1		
		6 DN150		6.625 168.3	19.00 483	44.1 20.0	19.00 483	32.6 14.8		
		8 DN200		8.625 219.1	19.00 483	45.0 20.4	19.00 483	35.4 16.1		
		10 DN250		10.750 273.0	19.00 483	46.0 20.9	19.00 483	38.7 17.6		
		12 DN300		12.750 323.9	19.00 483	47.4 21.5	19.00 483	40.4 18.3		
		16 DN400	x	4 DN100	16.000 406.4	4.500 114.3	20.00 508	47.5 21.5	20.00 508	41.0 18.6
				6 DN150		6.625 168.3	20.00 508	48.0 21.8	20.00 508	42.0 19.1
8 DN200				8.625 219.1	20.00 508	49.0 22.2	20.00 508	42.4 19.2		
10 DN250				10.750 273.0	20.00 508	50.0 22.7	20.00 508	44.7 20.3		
12 DN300				12.750 323.9	20.00 508	51.0 23.1	20.00 508	47.1 21.4		
14 DN350				14.000 355.6	20.00 508	52.0 23.6	20.00 508	50.1 22.7		
18 DN450	x			6 DN150	18.000 457.2	6.625 168.3	21.00 533	51.0 23.1	21.00 533	50.0 22.7
		8 DN200		8.625 219.1	21.00 533	52.0 23.6	21.00 533	50.0 22.7		
		10 DN250		10.750 273.0	21.00 533	53.0 24.0	21.00 533	50.7 23.0		
		12 DN300		12.750 323.9	21.00 533	54.1 24.5	21.00 533	54.1 24.5		
		14 DN350		14.000 355.6	21.00 533	56.1 25.4	21.00 533	56.1 25.4		
		16 DN400		16.000 406.4	21.00 533	57.0 25.9	21.00 533	59.1 26.8		

**NOTE**

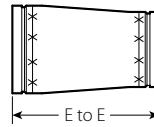
- The ends that are 12"/300 mm and smaller on concentric/eccentric reducers will be provided with OGS Victaulic roll grooves, suitable for use with standard Victaulic OGS grooved couplings in that size range.

## 4.5 DIMENSIONS

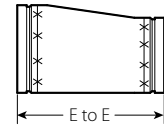
### Concentric/Eccentric Reducer

No. W450 Concentric

No. W451 Eccentric



No. W450



No. W451

Size				No. W450 Concentric Reducer		No. W451 Eccentric Reducer						
Nominal inches DN	x	Nominal DN	Actual Outside Diameter inches mm	E to E inches mm	Weight Approx. (Each)							
					lbs kg	E to E inches mm	lbs kg					
20 DN500	x	6 DN150	20.000 508.0	x	6.625 168.3	26.00 660	70.0 31.8	26.00 660	74.0 33.6			
		8 DN200	8.625 219.1		26.00 660	72.0 32.7	26.00 660	76.0 34.5				
		10 DN250	10.750 273.0		26.00 660	74.0 33.6	26.00 660	78.0 35.4				
		12 DN300	12.750 323.9		26.00 660	81.7 37.1	26.00 660	81.7 37.1				
		14 DN350	14.000 355.6		26.00 660	84.7 38.4	26.00 660	84.7 38.4				
		16 DN400	16.000 406.4		26.00 660	89.7 40.7	26.00 660	89.7 40.7				
		18 DN450	18.000 457.2		26.00 660	93.7 42.5	26.00 660	93.7 42.5				
		24 DN600	x		6 DN150	24.000 609.6	x	6.625 168.3	26.00 660	98.0 44.5	26.00 660	98.0 44.5
					8 DN200	8.625 219.1		26.00 660	100.0 45.4	26.00 660	100.0 45.4	
					10 DN250	10.750 273.0		26.00 660	102.6 46.5	26.00 660	102.6 46.5	
					12 DN300	12.750 323.9		26.00 660	107.0 48.5	26.00 660	107.9 48.9	
14 DN350	14.000 355.6			26.00 660	110.9 50.3	26.00 660		110.9 50.3				
16 DN400	16.000 406.4			26.00 660	113.9 51.7	26.00 660		113.9 51.7				
18 DN450	18.000 457.2			26.00 660	118.0 53.5	26.00 660		117.9 53.5				
20 DN500	20.000 508.0			26.00 660	132.3 60.0	26.00 660		124.5 56.5				

**NOTE**

- The ends that are 12"/300 mm and smaller on concentric/eccentric reducers will be provided with OGS Victaulic roll grooves, suitable for use with standard Victaulic OGS grooved couplings in that size range.



## 5.0 PERFORMANCE

The chart expresses the frictional resistance of various Victaulic fittings as equivalent feet/meters of straight pipe. Fittings not listed can be estimated from the data given, for example, a 22 ½° elbow is approximately one-half the resistance of a 45° elbow.

Size		Elbows		Tees	
Nominal Size inches DN	Actual Outside Diameter inches mm	90° Elbows	45° Elbows	W420	
		No. W410	No. W411	Branch	Run
14 DN350	14.000 355.6	15.8 4.8	11.0 3.4	70.0 21.3	23.0 7.0
16 DN400	16.000 406.4	18.0 5.5	13.0 4.0	80.0 24.4	27.0 8.2
18 DN450	18.000 457.0	20.0 6.1	14.0 7.2	90.0 27.4	30.0 9.1
20 DN500	20.000 406.4	22.5 6.9	16.0 4.9	100.0 30.5	33.0 10.1
24 DN600	24.000 406.4	27.0 8.2	19.0 5.8	120.0 36.6	40.0 12.2

### NOTES

- The flow data listed is based upon the pressure drop of Schedule 10S pipe.
- Contact Victaulic for frictional resistance data on the fittings types and sizes not shown above.

## 6.0 NOTIFICATIONS

### WARNING



- Read and understand all instructions before attempting to install any Victaulic products.
- Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Confirm that any equipment, branch lines, or sections of piping that may have been isolated for/during testing or due to valve closures/positioning are identified, depressurized, and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- The installer shall understand the use of this product and why it was specified for the particular application.
- The installer shall understand common industry safety standards and potential consequences of improper product installation.

- Wear safety glasses, hardhat, and foot protection.

Failure to follow these instructions could result in death or serious personal injury and property damage.

### WARNING

- Victaulic AGS products use a patented groove profile that requires the use of special AGS rolls. AGS products must not be used on pipe that has been grooved using standard grooving rolls.

Failure to use AGS products on AGS grooved pipe could result in serious personal injury, property damage, joint leakage or joint separation.

## 7.0 REFERENCE MATERIALS

[05.01: Seal Selection Guide](#)

[17.01: Victaulic Pipe Preparation for use on Stainless Steel Pipe With Victaulic Products](#)

[17.09: Victaulic Pressure Ratings and End Loads for Victaulic Ductile Iron Grooved Couplings on Stainless Steel Pipe](#)

[17.16: OGS Stainless Steel Fittings](#)

[20.02: Victaulic AGS Rigid Coupling Style W07](#)

[20.03: Victaulic AGS Flexible Coupling Style W77/W77B](#)

[20.15: W89 AGS Rigid Coupling](#)

[20.17: W489 AGS Stainless Steel Rigid Coupling](#)

[24.01: Pipe Preparation Tool Specifications](#)

[25.01: Victaulic Standard Groove Specifications](#)

[25.09: Victaulic Advanced Groove System \(AGS\) Roll Groove Specifications](#)

[26.01: Victaulic Design Data](#)

[29.01: Victaulic Terms and Conditions of Sale](#)

[I-100: Field Installation Manual](#)

[I-W100: Field Installation Handbook](#)

### User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

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### Note

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

### Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our website at [www.victaulic.com](http://www.victaulic.com).

### Warranty

Refer to the Warranty section of the current Price List or contact Victaulic for details.

### Trademarks

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