FireLock™ Outlet-T
Style 922

10.52



1.0 PRODUCT DESCRIPTION

Available Sizes

- 1 ¼ – 2 ½"/DN32 – DN65
- **Threaded Outlet Sizes:** ½"/DN15, ¾"/DN20, and 1"/DN25

NOTE

- IGS Grooved 1"/DN25 Outlets available for this product. See publication 10.54.

Maximum Working Pressure

- 300 psi/2068 kPa/21 Bar

Application

- Provides a convenient method of incorporating outlets for directly connecting sprinklers, drop nipples, sprigs, gauges, drains and other outlet products

Pipe Material

- Carbon steel
- Contact Victaulic for use on additional pipe types and wall thicknesses

2.0 CERTIFICATION/LISTINGS

LPS 1186: Issue 3.1 Cert/LPCB Ref. 491a/27

EN 10311 CPR (EU) No. 305/2011

BS EN 10311 CPR (UK) 2019 No. 465

NOTES

- See Section 7.2 REFERENCE MATERIALS for additional certification information.

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

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3.0 SPECIFICATIONS - MATERIAL

Housing: Ductile iron conforming to ASTM A536, Grade 65-45-12. Ductile iron conforming to ASTM A395, Grade 65-45-15, is available upon special request.

Housing Coating: (specify choice)

- ☐ Orange coating.
- ☐ Red coating (standard for EMEA-I and Asia Pacific).
- ☐ Optional: Contact Victaulic with your requirements for other coatings.
- ☐ Optional: Hot dipped galvanized.

Gasket[1]:

- ☐ **Grade "E" EPDM (Type A)**

  EPDM (Violet color code) Applicable for wet and dry (oil-free air) sprinkler services only. Listed/Approved for continuous use in wet and dry systems. Listed/Approved for dry systems at -40˚F/-40˚C and above. NOT COMPATIBLE FOR USE WITH HOT WATER SERVICES OR STEAM SERVICES.

[1] Services listed are General Service Guidelines only. It should be noted that there are services for which these gaskets are not compatible. Reference should always be made to the latest Victaulic Seal Selection Guide for specific gasket service guidelines and for a listing of services which are not compatible.

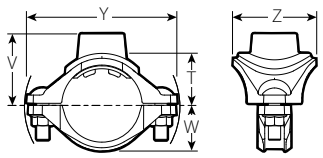
Bolts/Nuts:

- ☐ Standard: Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449 (imperial) and ISO 898-1 Class 9.8 (metric). Carbon steel hex flange nuts meeting the mechanical property requirements of ASTM A563 Grade B (imperial – hex nuts) and ASTM A563M Class 9 (metric – hex nuts). Track bolts and hex flange nuts are zinc electroplated per ASTM B633 Fe/Zn 5, finish Type III (imperial) or Type II (metric).

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4.0 DIMENSIONS

Style 922



Style 922

Size						Bolt/Nut		Dimensions					Weight
Nominal Run x Branch FPT[2] inches DN			Actual Outside Diameter inches mm			Qty.	Size inches mm	T[3] inches mm	V inches mm	W inches mm	Y inches mm	Z inches mm	Approximate (Each) lb kg
1 ¼ DN32	x	½ DN15	1.660 42.4	x	0.840 21.3	2	⅜ x 1 ⅜	1.30 33	1.83 47	1.10 28	3.87 98	2.56 65	1 0.5
		¾ DN20			1.050 26.9	2	⅜ x 1 ⅜	1.28 33	1.83 47	1.10 28	3.87 98	2.56 65	1 0.5
		1 DN25			1.315 33.7	2	⅜ x 1 ⅜	1.52 39	2.18 55	1.10 28	3.87 98	2.56 65	1 0.5
1 ½ 40	x	½ DN15	1.900 48.3	x	0.840 21.3	2	⅜ x 1 ⅜	1.42 36	1.95 50	1.22 31	4.08 104	2.56 65	1 0.5
		¾ DN20			1.050 26.9	2	⅜ x 1 ⅜	1.40 36	1.95 50	1.22 31	4.08 104	2.56 65	1 0.5
		1 DN25			1.315 33.7	2	⅜ x 1 ⅜	1.64 42	2.30 58	1.22 31	4.08 104	2.56 65	1 0.6
2 50	x	½ DN15	2.375 60.3	x	0.840 21.3	2	⅜ x 1 ⅜	1.66 42	2.19 56	1.46 37	4.60 117	2.56 65	1 0.6
		¾ DN20			1.050 26.9	2	⅜ x 1 ⅜	1.64 42	2.19 56	1.46 37	4.60 117	2.56 65	1 0.6
		1 DN25			1.315 33.7	2	⅜ x 1 ⅜	1.88 48	2.54 65	1.46 37	4.60 117	2.56 65	2 0.7
2 ½	x	½ DN15	2.875 73.0	x	0.840 21.3	2	⅜ x 1 ⅜	1.91 49	2.44 62	1.71 43	5.40 137	2.56 65	2 0.7
		¾ DN20			1.050 26.9	2	⅜ x 1 ⅜	1.89 48	2.44 62	1.71 43	5.40 137	2.56 65	2 0.7
		1 DN25			1.315 33.7	2	⅜ x 1 ⅜	2.13 54	2.79 71	1.71 43	5.40 137	2.56 65	2 0.7
DN65	x	½ DN15	3.000 76.1	x	0.840 21.3	2	⅜ x 1 ⅜	1.91 49	2.44 62	1.71 43	5.50 140	2.56 65	2 0.7
		¾ DN20			1.050 26.9	2	⅜ x 1 ⅜	1.89 48	2.44 62	1.71 43	5.50 140	2.56 65	2 0.7
		1 DN25			1.315 33.7	2	⅜ x 1 ⅜	2.13 54	2.79 71	1.71 43	5.50 140	2.56 65	2 0.8

[2] Victaulic female threaded products are designed to accommodate standard NPT or BSPT (optional) male pipe threads only. Refer to the specific literature for these types of special male-threaded products for guidance and possible limitations for use. Failure to verify suitability in advance may result in assembly problems or leakage.

[3] Center of run to engaged pipe end for NPT threads (dimensions are approximate).

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5.0 PERFORMANCE

Style 922

Run Size x Outlet Size inches DN			Equivalent Length of 1 inch Schedule 40 Steel Pipe (per UL 213, Section 16) (C=120)[4]	
			Threaded feet meters	**Grooved**[5] feet meters
1 ¼ DN32	x	1 DN25	8.5 2.6	12.5 3.8
1 ½ DN40	x	1 DN25	8.5 2.6	12.5 3.8
2 DN50	x	1 DN25	8.5 2.6	12.5 3.8
2 ½	x	1 DN25	8.5 2.6	12.5 3.8
DN65	x	1 DN25	8.5 2.6	12.5 3.8

4 Hazen-Williams coefficient of friction is 120.
5 1" FireLock™ Innovative Groove System (IGS) outlet

6.0 NOTIFICATIONS

WARNING



- **Read and understand all instructions before attempting to install, remove, adjust, or maintain any Victaulic piping products.**
- **Depressurize and drain the piping system before attempting to install, remove, adjust, or maintain any Victaulic piping products.**
- **Wear safety glasses, hardhat, and foot protection.**

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

7.0 REFERENCE MATERIALS

	Dimensions	
	Minimum Hole Diameter/ Hole Saw Size inches mm	**Maximum Hole Diameter/ Hole Saw Size** inches mm
All Outlet Sizes	1 3⁄16	1 ¼
	30	32

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7.1 REFERENCE MATERIALS

Size	Services Pressures per Regulatory Approvals and Listings[6]					
Nominal inches DN	**UL** psi kPa	**ULC** psi kPa	**FM** psi kPa	**VdS** psi kPa	**LPCB** psi kPa	**CNBOP** psi kPa
1 ¼ x ½ DN32 X DN15	300 2068	300 2068	300 2068	232 1600	232 1600	232 1600
1 ¼ x ¾ DN32 X DN20	300 2068	300 2068	300 2068	232 1600	232 1600	232 1600
1 ¼ x 1 DN32 X DN25	300 2068	300 2068	300 2068	232 1600	232 1600	232 1600
1 ½ x ½ DN40 X DN15	300 2068	300 2068	300 2068	232 1600	232 1600	232 1600
1 ½ x ¾ DN40 X DN20	300 2068	300 2068	300 2068	232 1600	232 1600	232 1600
1 ½ x 1 DN40 X DN25	300 2068	300 2068	300 2068	232 1600	232 1600	232 1600
2 x ½ DN50 X DN15	300 2068	300 2068	300 2068	232 1600	232 1600	232 1600
2 x ¾ DN50 X 20	300 2068	300 2068	300 2068	232 1600	232 1600	232 1600
2 x 1 DN50 X DN25	300 2068	300 2068	300 2068	232 1600	232 1600	232 1600
2 ½ x ½	300 2068	300 2068	300 2068	232 1600	232 1600	232 1600
2 ½ x ¾	300 2068	300 2068	300 2068	232 1600	232 1600	232 1600
2 ½ x 1	300 2068	300 2068	300 2068	232 1600	232 1600	232 1600
DN65 X DN15	–	–	300 2068	232 1600	232 1600	232 1600
DN65 X DN20	–	–	300 2068	232 1600	232 1600	232 1600
DN65 X DN25	–	–	300 2068	232 1600	232 1600	232 1600

6 Pressures listed in this chart are based upon standard wall pipe. Approved and Listed pressures may vary by pipe schedule.

NOTE

- Consult regulatory agency websites for details and the most recent regulatory information.

7.2 REFERENCE MATERIALS

05.01: Victaulic Seal Selection Guide

29.01: Victaulic Terms and Conditions of Sale

I-100: Installation Instructions

I-922: Installation Instructions FireLock™ Outlet-T

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, and the applicable building codes and related regulations 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 WeChat.

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

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Victaulic® Carbon Steel Couplings and Grooved Fittings


Style L07


Style LW07


Style L77


No. L100/LW100


No. L110/LW110


No. L20/LW20


No. L25/LW25


No. L45/LW45


No. L46


No. L50/LW50


No. L51/LW51


No. L52


No. L60/LW60


No. L920N

1.0 PRODUCT DESCRIPTION

This product line consists of couplings and fittings manufactured from ASME code-compliant carbon steel material.

Style L07 and LW07 Rigid Couplings, Style L77 Flexible Coupling, and Grooved Fittings

Available Sizes

- Style L07 Rigid Coupling, Style L77 Flexible Coupling and OGS Fittings: 1 ½ – 12"/DN40 – DN300
- Style LW07 Rigid Coupling and AGS Fittings: 14 – 16"/DN350 – DN400

Pipe Material

- Carbon steel

Maximum Working Pressure

- Style L07 and Style LW07 Rigid Couplings: 750 psi/5171 kPa/52 bar on standard weight carbon steel pipe.
- Style L77 Flexible Couplings: 1000 psi/6895 kPa/69 bar.
- OGS and AGS Fittings: Pressure rating is equivalent to the pressure rating of the coupling used to install it (see section 5.0 for Style L07, Style LW07 and Style L77 pressure ratings).

Operating Temperature Range

- Dependent on housing and gasket selection from Section 3.0.14-16

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

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1.0 PRODUCT DESCRIPTION (CONTINUED)

Pipe Preparation

- Style L07 and Style L77 couplings are exclusively for use with fittings, valves, accessories and pipe which feature ends formed with the Victaulic Original Groove System (OGS) groove profile. Cut or roll grooved in accordance with publication 25.01: Victaulic Standard Groove Specification
- The Style LW07 coupling is exclusively for use with fittings, valves, accessories and pipe which feature ends formed with the Advanced Groove System (AGS) grooved profile. Cut or roll grooved in accordance with publication 25.09: Victaulic Advanced Groove System (AGS) Roll Groove Specification
- All fittings less than 14"/DN350 are supplied with the Victaulic OGS groove. These fittings are exclusively for use with Victaulic couplings, valves, accessories and pipe which feature ends formed with the Victaulic OGS groove.
- All fittings 14"/DN350 or larger are supplied with the Victaulic AGS groove. These fittings are exclusively for use with Victaulic couplings, valves, accessories and pipe which feature ends formed with the Victaulic AGS groove.

Codes and Requirements

- In accordance with or conforms to all material requirements of ASME piping codes. Style L07, Style WL07, and Style L77 couplings also meet the design intent of the ASME piping codes.

NOTE

- Material Test Reports (MTRs) are available for all products. Please specify requirement at time of order.

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2.0 CERTIFICATION/LISTINGS

Victaulic standard IPS couplings and grooved end fittings may be utilized on ASME B31.3 Piping Code applications within their published temperature and pressure parameters. For more information, contact Victaulic.

These products are registered in Canada in accordance with CSA B51, the Canadian Boiler, Pressure Vessel and Pressure Piping Code. Contact Victaulic for registered working pressures, temperatures and confirmation of the applicable CRN by Province or Territory.

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

3.0 SPECIFICATIONS – MATERIAL

Housing: (specify choice)

- ☐ Standard: Carbon steel conforming to ASTM SA352 Grade LCC for use on applications to –50°F/–46°C.
- ☐ Optional: Carbon steel confirming to ASTM A216 Grade WCB for use on applications to –20°F/–29°C.

Fittings & Trunnion Fittings:

Carbon steel wall thickness is standard weight unless otherwise noted. All fittings are cast from ASTM SA352 Grade LCC or ASTM A216 Grade WCB, or fabricated from ASTM A420 WPL6 or ASTM A333 Grade 6 for code compliant applications.

Housing and Fitting Coating: (specify choice)

- ☐ Standard: Orange enamel.
- ☐ Optional: Hot dipped galvanized conforming to ASTM A123.
- ☐ Optional: Contact Victaulic with your requirements for other coatings.

Gasket: (specify choice[1])

- ☐ **Grade "E" EPDM**

  EPDM (Green stripe color code). Temperature range –50°F to +230°F/-46°C to +110°C. May be specified for cold and hot water service within the specified temperature range plus a variety of dilute acids, oil-free air and many chemical services. UL classified in accordance with ANSI/NSF 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and ANSI/NSF 372. NOT COMPATIBLE FOR PETROLEUM SERVICES.

- ☐ **Grade "L" Silicone[2]**

  Silicone (Red gasket color code) Temperature range –50°F to +350°F/–46°C to +177°C. May be specified for dry heat, air without hydrocarbons to +350°F/+177°C and certain chemical services.

- ☐ **Grade "T" Nitrile**

  Nitrile (Orange stripe color code). Temperature range –20°F to +180°F/–29°C to +82°C. May be specified for petroleum products, hydrocarbons, air with oil vapors, vegetable and mineral oils within the specified temperature range; not compatible for hot dry air over +140°F/+60°C and water over +150°F/+66°C. NOT COMPATIBLE FOR USE WITH HOT WATER SERVICES OR STEAM SERVICES.

1 Services listed are General Service Guidelines only. It should be noted that there are services for which these gaskets are not compatible. Reference should always be made to the latest Victaulic Gasket Selection Guide for specific gasket service guidelines and for a listing of services which are not compatible.

2 Grade "L" Silicone not available for the No. L920N Mechanical-T

Hardware: (specify choice)

- ☐ Standard: Stainless steel oval neck track bolts: ASTM A193, Grade B8M, Class 2. Heavy hex nuts with galling reducing coating: ASTM A194, Grade 8M.
- ☐ Optional: Alloy steel studs: ASTM A193, Grade B7. Heavy hex nuts: ASTM A194 Grade 2H.
- ☐ Optional: Stainless steel studs: ASTM A193, Grade B8M, Class 2. Heavy hex nuts with galling reducing coating: ASTM A194, Grade 8M.
- ☐ Optional: Carbon steel oval neck track bolts: ASTM A449 (imperial) and ISO 898-1 Class 9.8 (metric). Carbon steel hex nuts: ASTM A563 Grade B (imperial – heavy hex nuts) and ASTM A563M Class 9 (metric – hex nuts). Track bolts and hex nuts are zinc electroplated: ASTM B633 ZN/FE5, finish Type III (imperial) or Type II (metric).

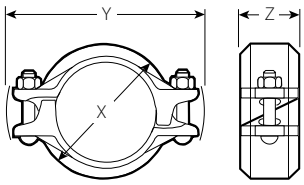
NOTE

- For other materials, contact Victaulic.

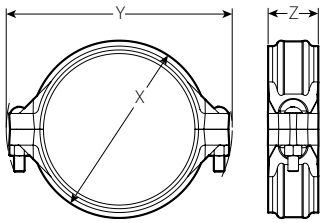
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4.0 DIMENSIONS

Style L07 Rigid Coupling
Style LW07 AGS Rigid Coupling



L07 Rigid Coupling
1 ½ – 12"/DN40 – DN300



LW07 AGS Rigid Coupling
14 – 16"/DN350 – DN400

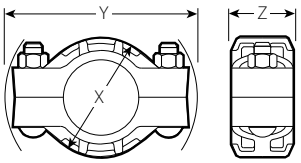
Size			Bolting			Dimensions			Weight
Nominal Size inches DN	**Actual Outside Diameter** inches mm	**Pipe End Separation[3] Allowable** inches mm	**Qty.**	**Bolt Size** inches mm	**Stud Size** inches mm	**X** inches mm	**Y** inches mm	**Z** inches mm	**Approximate (Each)** lb kg
1 ½ DN40	1.900 48.3	0.05 1.2	2	⅜ × 2	⅜ x 3	2.94 75	5.81 148	1.84 47	1.8 0.8
2 DN50	2.375 60.3	0.07 1.7	2	½ × 2 ½	½ x 3 ½	3.35 85	5.78 147	1.84 47	2.5 1.1
2 ½	2.875 73.0	0.07 1.7	2	½ x 2 ½	½ x 3 ½	3.88 99	6.38 162	1.84 47	2.9 1.3
3 DN80	3.500 88.9	0.07 1.7	2	½ × 2 ½	½ x 3 ½	4.54 115	6.81 173	1.84 47	3.3 1.5
4 DN100	4.500 114.3	0.16 4.1	2	½ × 2 ¾	½ x 3 ½	5.81 148	8.21 209	2.07 53	5.8 2.6
6 DN150	6.625 168.3	0.16 4.1	2	⅝ × 3 ¼	⅝ x 4 ½	8.26 210	10.83 275	2.07 53	9.1 4.1
8 DN200	8.625 219.1	0.19 4.8	2	¾ × 4 ¼	⅝ x 4 ½	10.54 268	13.74 349	2.51 64	16.6 7.5
10 DN250	10.750 273	0.13 3.3	2	⅞ × 6 ½	⅞ x 8	12.86 327	16.98 431	2.56 65	25.9 11.7
12 DN300	12.750 323.9	0.13 3.3	2	⅞ × 6 ½	⅞ x 8	14.86 377	18.88 480	2.56 65	31 14.1
AGS™ LW07 AGS Rigid Coupling									
14 DN350	14.000 355.6	0.25 6.4	2	1 × 5 ½	1 x 7	15.88 403	20.63 524	4.75 121	59 26.8
16 DN400	16.000 406.4	0.25 6.4	2	1 × 5 ½	1 x 7	18.13 460	23.5 597	4.75 121	72 32.7

[3] The allowable pipe end separation dimension shown is for system layout purposes only. Style L07 rigid couplings are considered rigid connections and will not accommodate expansion/contraction or angular movement of the piping system. Contact Victaulic for torsional resistance information.

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4.1 DIMENSIONS

Style L77 Flexible Coupling



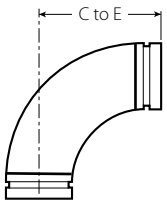
Size		Pipe End Separation[4]	Deflection from Centerline[4]		Bolt/Nut		Dimensions			Weight
Nominal inches DN	Actual Outside Diameter inches m	Allowable inches mm	Per Cplg. Degrees	Pipe inches/ft. mm/m	Qty.	Size inches	X inches mm	Y inches mm	Z inches mm	Approx. (Each) lb kg
1 ½ DN40	1.900 48.3	0–0.06 0–1.6	1°–56′	0.40 33	2	½ x 2½	3.13 79	5.38 137	1.88 48	2.3 1.1
2 DN50	2.375 60.3	0–0.06 0–1.6	1°–31′	0.32 26	2	½ x 2½	3.63 92	5.88 149	1.88 48	2.9 1.3
2 ½	2.875 73.0	0–0.06 0–1.6	1°–15′	0.26 22	2	½ x 2¾	4.25 108	6.50 165	1.88 48	3.4 1.6
3 DN80	3.500 88.9	0–0.06 0–1.6	1°–2′	0.22 18	2	½ x 2¾	5.00 127	7.13 181	1.88 48	4.1 1.9
4 DN100	4.500 114.3	0–0.13 0–3.2	1°–36′	0.34 28	2	⅝ x 3¼	6.13 156	8.88 226	2.13 54	7.4 3.4
6 DN150	6.625 168.3	0–0.13 0–3.2	1°–5′	0.23 18	2	¾ x 4¼	8.63 219	11.88 302	2.13 54	13.3 6.0
8 DN200	8.625 219.1	0–0.13 0–3.2	0°–50′	0.18 14	2	⅞ x 5	11.00 279	14.75 375	2.50 63	23.1 1.5
10 DN250	10.750 273.0	0–0.13 0–3.2	0°–40′	0.14 12	2	1 x 6	13.63 346	17.13 435	2.63 67	30.9 14.0
12 DN300	12.750 323.9	0–0.13 0–3.2	0°–34′	0.12 9	2	1 x 6½	15.63 397	19.25 489	2.63 67	34.5 15.7

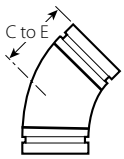
[4] Allowable Pipe End Separation and Deflection figures show the maximum nominal range of movement available at each joint for standard roll grooved pipe. Figures for standard cut grooved pipe may be doubled. These figures are maximums; for design and installation purposes these figures should be reduced by: 50% for ¾ – 3 ½"/DN20 – DN90; 25% for 4"/DN100 and larger.

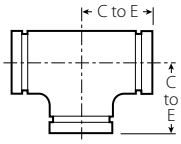
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4.2 DIMENSIONS

No. L100 90° Long Radius Elbow
No. LW100 AGS 90° Long Radius Elbow
No. L110 45° Long Radius Elbow
No. LW110 AGS 45° Long Radius Elbow
No. L20 Tee
No. LW20 AGS Tee







Nominal Size inches DN	Actual Outside Diameter inches mm	No. L100 90° Elbow C to E inches mm	No. L100 90° Elbow Approximate Weight (Each) lb kg	No. L110 45° Elbow C to E inches mm	No. L110 45° Elbow Approximate Weight (Each) lb kg	No. L20 Tee C to E inches mm	No. L20 Tee Approximate Weight (Each) lb kg
1 ½[5] DN40	1.900 48.3	3.63 92	1.8 0.8	2.5 64	1.3 0.6	2.75 70	2.4 1.1
2[5] DN50	2.375 60.3	4.38 111	3.6 1.6	2.75 70	2.1 1.0	3.25 83	3.7 1.7
2 ½[5]	2.875 73.0	5.13 131	6.89 175	3.0 76	4.0 1.8	3.75 95	6.6 3.0
3[5] DN80	3.500 88.9	5.88 149	8.2 3.7	3.38 86	5.8 2.6	4.25 108	9.2 4.2
4 DN100	4.500 114.3	7.50 191	12.0 5.4	4.00 102	7.7 3.5	5.00 127	11.7 5.3
6 DN150	6.625 168.3	10.75 273	31.0 14.1	5.50 140	18.0 8.2	6.50 165	35.9 16.3
8 DN200	8.625 219.1	14.25 362	65.0 29.5	7.25 184	49.0 22.2	7.75 197	65.6 29.8
10[6] DN250	10.750 273.0	17.5 445	130.0 59.0	8.5 216	78.0 35.4	10.75 273	136.0 61.7
12[6] DN300	12.750 323.9	20.5 521	192.0 87.1	10.0 254	95.0 43.1	12.5 318	151.0 68.5
AGS™		No. LW100 AGS 90° Elbow		No. LW110 AGS 45° Elbow		No. LW20 AGS Tee	
14 DN350	14.00 355.6	21.00 533	273.0 123.8	8.75 222	144.0 65.3	11.00 279	170.0 77.1
16 DN400	16.000 406.4	24.00 610	366.0 166.0	10.00 254	208.0 94.3	12.00 305	278.0 126.1

[5] Schedule 80 wall thickness. For other wall thickness options, contact Victaulic

[6] ASTM A420 WPL6 wrought fitting with A333 Grade 6 tangents. Contact Victaulic for cast options.

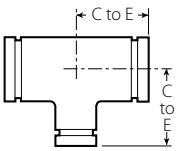
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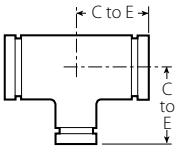
- All fittings are cast except as noted.
- Fitting flow data for 1 ½ – 12" I DN40 – DN300, refer to publication 07.01.
- Fitting flow data for 14 – 16" I DN350 – DN400, refer to publication 20.05.

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4.3 DIMENSIONS

No. L25 Reducing Tee
No. LW25 AGS Reducing Tee





Nominal Size inches DN						No. L25 Reducing Tee		
						C to E (Run) inches mm	C to E (Branch) inches mm	Approx. Weight (Each) lb kg
2 DN50	x	2 DN50	x	1 ½[5] DN40		3.25 83	3.00 76	3.1 1.4
3 DN80	x	3 DN80	x	1 ½[5] DN40		4.25 108	4.00 102	7.9 3.6
				2[5] DN50		4.25 108	4.00 102	8.1 3.7
4 DN100	x	4 DN100	x	1 ½[5] DN40		5.00 127	4.00 102	12.9 5.8
				2[5] DN50		5.00 127	4.00 102	13.0 5.9
				2 ½[5]		5.00 127	5.00 127	16.9 7.7
				3[5] DN80		5.00 127	5.00 127	14.3 6.5
6 DN150	x	6 DN150	x	2[5] DN50		6.50 165	5.50 140	33.6 15.2
				3[5] DN80		6.50 165	6.00 152	35.5 16.1
				4 DN100		6.50 165	6.00 152	34.5 15.6
8 DN200	x	8 DN200	x	2[5] DN50		7.75 197	6.50 165	60.9 27.6
				2 ½[5]		7.75 197	7.25 184	66.0 30.0
				3[5]		7.75 197	7.25 184	66.0 30.0
				4 DN100		7.75 197	7.25 184	60.5 27.4
				6 DN150		7.75 197	7.50 191	62.3 28.3
10 DN250	x	10 DN250	x	6 DN150		9.00 229	9.00 229	96.7 43.9
				8 DN200		9.00 229	9.00 229	100.3 45.5

Nominal Size inches DN						No. L25 Reducing Tee		
						C to E (Run) inches mm	C to E (Branch) inches mm	Approx. Weight (Each) lb kg
12 DN300	x	12 DN300	x	8[6] DN200		12.5 318	11.25 286	172.0 78.0
				10[6] DN250		12.5 318	11.75 298	182.0 82.6
AGS™						No. LW25 AGS Reducing Tee		
14 DN350	x	14 DN350	x	4 DN100		11.00 279	10.00 254	210.0 95.3
				8 DN200		11.00 279	10.50 267	205.0 93.0
				10 DN250		11.00 279	10.50 267	200.0 90.7
16 DN400	x	16 DN400	x	4 DN100		12.00 305	11.00 279	234.0 106.1
				6 DN000		12.00 305	11.50 292	238.0 108.0
				8 DN200		12.00 305	11.75 298	248.0 112.5
				10 DN250		12.00 305	11.75 298	262.0 118.8

[5] Schedule 80 wall thickness. For other wall thickness options, contact Victaulic

[6] ASTM A420 WPL6 wrought fitting with A333 Grade 6 tangents. Contact Victaulic for cast options.

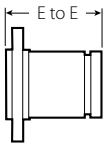
NOTES

- All fittings are cast except as noted.
- Fitting flow data for 1 ½ – 12" I DN40 – DN300, refer to publication 07.01.
- Fitting flow data for 14 – 16" I DN350 – DN400, refer to publication 20.05.
- Outlets 12"/DN300 and smaller will be provided with OGS grooves.

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4.4 DIMENSIONS

No. L45R Flange Adapter Nipple 150# – Raised Face
No. LW45R AGS Flange Adapter Nipple 150# – Raised Face
No. L46R Flange Adapter Nipple 300# – Raised Face



Nominal Size inches DN	Actual Outside Diameter inches mm	No. L45R Flange Adapter Nipple 150#		No. L46R Flange Adapter Nipple 300#	
		E to E inches mm	Approximate Weight (Each) lb kg	E to E inches mm	Approximate Weight (Each) lb kg
1½ DN40	1.900 48.3	4.00 102	3.7 1.7	4.00 102	6.5 2.9
2 DN50	2.375 60.3	4.00 102	6.8 3.1	4.00 102	8.0 3.6
2½	2.875 73.0	4.00 102	10.1 4.6	–	–
3 DN80	3.500 88.9	4.00 102	11.7 4.9	4.00 102	15.8 7.2
4 DN100	4.500 114.3	6.00 152	16.4 7.4	6.00 152	28.4 12.9
6 DN150	6.625 168.3	6.00 152	26.0 11.8	6.00 152	42.2 19.1
8 DN200	8.625 219.1	6.00 152	39.6 18.0	6.00 152	64.6 29.3
10 DN250	10.750 273.0	8.00 203	61.6 27.9	8.00 203	103.0 46.7
12 DN300	12.750 323.9	8.00 203	85.8 38.9	8.00 203	133.0 60.3
AGS™		No. LW45R AGS Flange Adapter Nipple 150#			
14 DN350	14.00 355.6	8.00 203	128.0 58.1	–	–
16 DN400	16.000 406.4	8.00 203	149 67.6	–	–

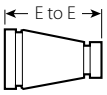
NOTES

- Flange facing to be serrated raised face.
- Outlets 12"/DN300 and smaller supplied with OGS grooved ends

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4.5 DIMENSIONS

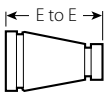
No. L50 Concentric Reducer
No. LW50 AGS Concentric Reducer



Nominal Size inches DN			E to E inches mm	Approximate Weight (Each) lb kg
2 DN50	x	1½[5] DN40	3.00 76	1.32 0.6
3 DN80	x	1½[5] DN40	3.50 89	2.2 1.0
		2[5] DN50	3.50 89	2.2 1.0
4 DN100	x	1½[5] DN40	4.00 102	3.9 1.8
		2[5] DN50	4.00 102	3.5 1.6
		2½[5] DN40	4.00 102	4.6 2.1
		3[5] DN80	4.00 102	4.4 2.0
6 DN150	x	2[5] DN50	5.50 140	7.8 3.6
		3[5] DN80	5.50 140	9.9 44.9
		4 DN100	5.50 140	7.3 3.3
8 DN200	x	4 DN100	6.00 152	15.7 7.1
		6 DN150	6.00 152	17.9 8.1
10 DN250	x	4 DN100	7.00 178	24.0 10.9
		6 DN150	7.00 178	26.9 12.2
		8 DN200	7.00 178	29.2 13.2

[5] Schedule 80 wall thickness. For other wall thickness options, contact Victaulic

NOTE
- Outlets 12"/DN300 and smaller will be provided with OGS grooves.



Nominal Size inches DN			E to E inches mm	Approximate Weight (Each) lb kg
12 DN300	x	8 DN200	8.00 203	26.6 12.1
		10 DN250	8.00 203	43.5 19.7
AGS™			**No. LW50 AGS Concentric Reducer**	
14 DN350	x	8 DN200	14.00 356	90.0 40.8
		10 DN250	14.00 356	96.0 43.5
		12 DN300	14.00 356	105.0 47.6
16 DN400	x	8 DN200	14.00 356	104.0 47.2
		10 DN250	14.00 356	108.0 49.0
		12 DN300	14.00 356	112.0 50.8
		14 DN350	14.00 356	116.0 52.6

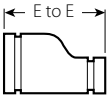
[5] Schedule 80 wall thickness. For other wall thickness options, contact Victaulic

NOTE
- Outlets 12"/DN300 and smaller will be provided with OGS grooves.

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4.6 DIMENSIONS

No. L51 Eccentric Reducer
No. LW51 AGS Eccentric Reducer



Nominal Size inches DN			No. L51 Eccentric Reducer E to E inches mm	Approximate Weight (Each) lb kg
2 DN50	x	1½[5] DN40	3.00 76	1.0 0.5
3 DN80	x	1½[5] DN40	3.50 89	2.9 1.3
		2[5] DN50	3.50 89	2.2 1.0
4 DN100	x	1½[5] DN40	4.00 102	4.2 1.9
		2[5] DN50	4.00 102	3.4 1.5
		3[5] DN80	4.00 102	4.1 1.9
6 DN150	x	2[5] DN50	5.50 140	8.8 4.0
		3[5] DN80	5.50 140	9.1 4.1
		4 DN100	5.50 140	10.3 4.7
8 DN200	x	4 DN100	6.00 152	11.7 5.3
		6 DN150	6.00 152	12.7 5.8
10 DN250	x	6 DN150	7.00 178	19.1 8.7
		8 DN200	7.00 178	19.8 9.0
12 DN300	x	8 DN200	8.00 203	40.2 18.2
		10 DN250	8.00 203	31.7 14.4
AGS™			No. LW51 AGS Eccentric Reducer	
14 DN350	x	8 DN200	14.00 356	100.0 45.4
		12 DN300	14.00 356	124.0 56.2
16 DN400	x	8 DN200	14.00 356	132.0 59.9
		10 DN250	14.00 356	138.0 62.6

[5] Schedule 80 wall thickness. For other wall thickness options, contact Victaulic

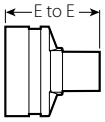
NOTE

- Outlets 12"/DN300 and smaller will be provided with OGS grooves.

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4.7 DIMENSIONS

No. L52 Threaded Reducer (Female - NPT)

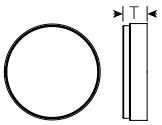


Nominal Size inches DN			E to E inches mm	Approximate Weight (Each) lb kg
1 ½ DN40	x	¾[5] DN20	2.50 64	1.0 0.5
		1[5] DN25	2.50 63.5	1.0 0.5
2 DN50	x	¾[5] DN20	2.50 64	1.4 0.6
		1[5] DN25	2.50 64	1.3 0.6
		1 ½[5] DN40	2.50 64	1.3 0.6

[5] Schedule 80 wall thickness. For other wall thickness options, contact Victaulic

4.8 DIMENSIONS

NO. L60 CAP
NO. LW60 AGS CAP



Nominal Size inches DN	Actual Outside Diameter inches mm	"T" Thickness inches mm	Approximate Weight (Each) lb kg
1 ½ DN40	1.900 48.3	0.82 20.8	0.5 0.2
2 DN50	2.375 60.3	0.88 22.4	0.8 0.4
3 DN80	3.500 88.9	0.88 22.4	1.8 0.8
4 DN100	4.500 114.3	1.00 25.4	3.7 1.7
6 DN150	6.625 168.3	1.00 25.4	8.3 3.8
8 DN1200	8.625 219.1	1.13 28.7	15.8 7.2
10 DN250	10.750 273.0	1.06 26.9	28.0 12.7
12 DN300	12.750 323.9	1.25 31.8	41.6 18.9
AGS™		**No. LW60 AGS Cap**	
14 DN350	14.000 355.6	6.50 165.0	33.2 15.1
16 DN400	16.000 406.4	7.00 178.0	41.2 18.7

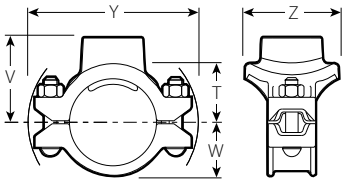
NOTE

- End caps are available with an NPT/BSPT tapped port. For more information, contact Victaulic.

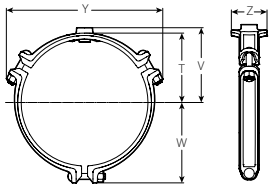
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4.9 DIMENSIONS

No. L920N Mechanical T-Outlet (Female – NPT)



2 – 12"/DN50 – DN300



14 – 16"/DN350 – DN400

Nominal Size inches DN	Maximum Working Pressure[7] psi bar	Dimensions						Weight
		Hole Diameter +0.13 -0.00 inches mm	T[8] inches mm	V inches mm	W inches mm	Y inches mm	Z inches mm	Approximate (Each) lb kg
2 x ½ DN50 DN15	500 34	1.50 38.1	1.97 50	2.53 64	1.61 41	5.35 136	2.75 70	3.3 1.5
¾ DN20	500 34	1.50 38.1	1.97 50	2.53 64	1.61 41	5.35 136	2.75 70	3.1 1.4
1 DN40	500 34	1.50 38.1	1.85 47	2.53 64	1.61 41	5.35 136	2.75 70	3.0 1.4
3 x ¾ DN80 DN20	500 34	1.50 38.1	2.49 63	3.05 78	2.28 58	6.15 156	2.75 70	3.4 1.6
1 DN40	500 34	1.50 38.1	2.38 61	3.06 78	2.28 58	6.15 156	2.75 70	3.3 1.6
4 x ½ DN100 DN15	500 34	1.50 38.1	3.03 77	3.56 90	2.69 68	7.01 178	2.75 70	3.7 1.8
¾ DN20	500 34	1.50 38.1	3.00 76	3.56 90	2.69 68	7.01 178	2.75 70	3.7 1.8
1 DN40	500 34	1.50 38.1	2.88 73	3.56 90	2.69 68	7.01 178	2.75 70	3.7 1.7
6 x ¾ 150 DN20	500 34	1.50 38.1	3.73 95	4.64 118	3.79 96	9.15 232	3.25 83	5.1 2.3
1 ½ DN40	500 34	2.00 50.8	4.40 112	5.13 130	3.79 96	9.15 232	3.25 83	5.7 2.6
2 DN50	500 34	2.50 63.5	4.38 111	5.13 130	3.79 96	9.15 232	3.88 99	6.5 2.9
8 x ¾ DN200 DN20	500 34	1.50 38.1	5.01 127.3	5.69 144.5	4.81 122.2	12.42 315.5	4.50 114	11.3 5.1
2 DN50	500 34	2.75 69.9	5.44 138	6.19 157	4.81 122	12.42 316	4.50 114	11.6 5.3
10 x ¾ DN250 DN20	500 34	1.50 38.1	6.01 152.7	6.69 170.0	6.00 152.4	14.67 372.6	4.50 114	16.5 7.5
1 ½ DN40	500 34	2.75 69.9	6.01 152.7	6.69 170.0	6.00 152.4	14.67 372.6	4.50 114	15.2 6.9
12 x ¾ DN300 DN20	500 34	1.50 38.1	7.13 181.1	7.81 198.4	7.13 181.1	17.38 441.5	4.50 114	19.4 8.8
1 ½ DN40	500 34	2.75 69.9	7.13 181.1	7.81 198.4	7.13 181.1	17.38 441.5	4.50 114	20.5 9.3
14 x ¾ DN350 DN20	500 34	1.50 38.1	7.75 196.9	8.43 214.1	9.11 231.4	17.95 455.9	4.50 114	24.2 11.0
1 ½ DN40	500 34	2.75 69.9	7.75 196.9	8.43 214.1	9.11 231.4	17.95 455.9	4.50 114	24.2 11.0
16 x ¾ DN400 DN20	500 34	1.50 38.1	8.75 222.3	9.43 239.5	10.14 257.6	19.74 501.4	4.50 114	26.6 12.1

[7] Presure ratings listed are on Schedules 10 and 40 carbon steel pipe.

[8] Center of run to engaged pipe end (dimensions approximate).

NOTE

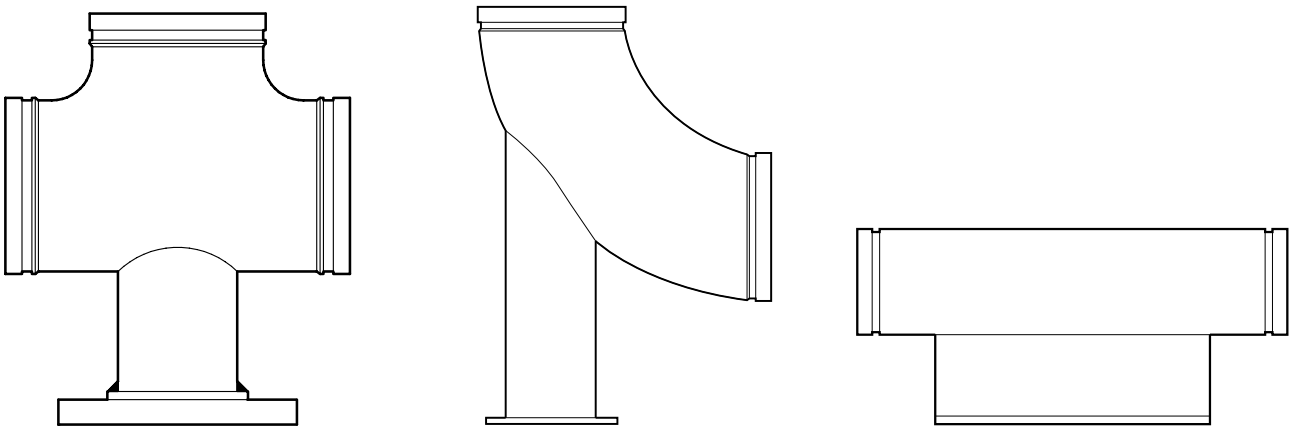
- WARNING: FOR ONE-TIME FIELD TEST ONLY, Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown

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4.10 DIMENSIONS

No. TRU Grooved End Trunnion Fittings

Fabricated custom pipe supports can be supplied with tees, elbows, or as straight pipe configurations. For additional information, contact Victaulic with detailed specifications.



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5.0 PERFORMANCE

Style L07 Rigid Coupling
Style LW07 AGS Rigid Coupling

Size		Maximum Working Pressure[9]	Maximum End Load[9]
Nominal Size inches DN	Actual Outside Diameter inches mm	psi kPa	lb N
1½ DN40	1.900 48.3	750 5171	2109 9381
2 DN50	2.375 60.3	750 5171	3286 14617
2½	2.875 73.0	750 5171	4825 21463
3 DN80	3.500 88.9	750 5171	7136 31743
4 DN100	4.500 114.3	750 5171	11793 52458
6 DN150	6.625 168.3	750 5171	25402 112994
8 DN200	8.625 219.1	750 5171	43544 193693
10 DN250	10.750 273	750 5171	66620 296341
12 DN300	12.750 323.9	750 5171	94360 419734
AGS™ **LW07 AGS Rigid Coupling**			
14 DN350	14.000 355.6	740 5102	117481 522582
16 DN400	16.000 406.4	740 5102	153455 682602

[9] Working Pressure and End Load are total, from all internal and external loads, based on standard weight (ANSI) steel pipe, standard roll or cut grooved in accordance with Victaulic specifications.

NOTE

- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1½ times the figures shown.

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5.1 PERFORMANCE

Style L77

Size		Working Pressure[9]	End Load[9]
Nominal inches mm	**Actual Outside Diameter** inches mm	**Maximum** psi kPa	**Maximum** lb N
1½ DN40	1.900 48.3	1000 6894	2835 12,615
2 DN50	2.375 60.3	1000 6894	4430 19,715
2½	2.875 73.0	1000 6894	6490 28,880
3 DN80	3.500 88.9	1000 6894	9620 42,810
4 DN100	4.500 114.3	1000 6894	15900 70,755
6 DN150	6.625 168.3	1000 6894	34470 153,390
8 DN200	8.625 219.1	800 5515	46740 207,995
10 DN250	10.750 273.0	800 5515	73280 326,100
12 DN300	12.750 323.9	800 5515	102000 453,900

[9] Working Pressure and End Load are total, from all internal and external loads, based on standard weight (ANSI) steel pipe, standard roll or cut grooved in accordance with Victaulic specifications.

NOTE

- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1½ times the figures shown.

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6.0 NOTIFICATIONS

⚠ WARNING



- **Read and understand all instructions before attempting to install, remove, adjust, or maintain any Victaulic piping products.**
- **Depressurize and drain the piping system before attempting to install, remove, adjust, or maintain any Victaulic piping products.**
- **Wear safety glasses, hardhat, and foot protection.**

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

7.0 REFERENCE MATERIALS

05.01: Victaulic Gasket Selection Guide
07.01: Grooved End Fitting Submittal
20.05: Victaulic AGS Grooved End Fittings Submittal
24.01: Victaulic Pipe Preparation Tool Specifications
25.01: Victaulic Standard Groove Specifications
25.09: Victaulic AGS Roll Groove Specifications
I-ENDCAP: Victaulic End Caps Installation Instructions
I-100: Victaulic Field Installation Handbook for Carbon Steel
I-IMPACT: Victaulic Impact Tool Usage Guidelines

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, and the applicable building codes and related regulations 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.

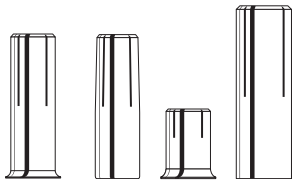
Installation
Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our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

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

Trademarks
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Multi-Set II®



SPECIFIED FOR ANCHORAGE INTO CONCRETE

Drop-In, shell-type anchors feature an internally threaded, all-steel shell with expansion cone insert and flush embedment lip. "Anchors are manufactured from zinc-plated carbon steel, 18-8 stainless steel and 316 stainless steel.

Anchors should be installed with carbide tipped hammer drill bits made in accordance to ANSI B212.15-1994 specifications.

Anchors should be tested to ASTM E488 criteria and listed by ICC (formerly ICBO). Anchors should also be listed by the following agencies as required by the local building code: UL, FM, City of Los Angeles, California State Fire Marshal and Cal Trans.

APPROVALS/LISTINGS

Meets or exceeds U.S. Government G.S.A. Specification A-A-55614 Type 1 (Formerly GSA: FF-S-325 Group VIII)

Underwriters Laboratories

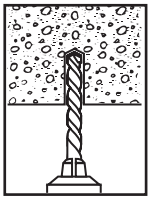
Factory Mutual

California State Fire Marshal

Caltrans

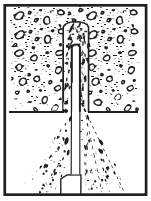
For the most current approvals/listings visit: www.itw-redhead.com

INSTALLATION STEPS



To set anchor flush with surface:

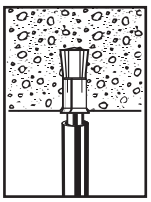
1. Drill hole to required embedment (see Table on page 73).



2. Clean hole with pressurized air.



3. Drive anchor flush with surface of concrete.



4. Expand anchor with setting tool provided (see chart). Anchor is properly expanded when shoulder of setting tool is flush with top of anchor.

To set anchor below surface:

Drill hole deeper than anchor length. Thread bolt into anchor. Hammer anchor into hole until bolt head is at desired depth. Remove bolt and set anchor with setting tool.

PERFORMANCE TABLE

Multi-Set II Drop-In Anchors — Ultimate Tension and Shear Values (Lbs/kN) in Concrete*

BOLT DIA. In. (mm)	ANCHOR DIA. In. (mm)	MIN. EMBEDMENT DEPTH In. (mm)	ANCHOR TYPE	TENSION Lbs. (kN)			SHEAR Lbs. (kN)
				f'c = 2000 PSI (13.8 MPa)	f'c = 4000 PSI (27.6 MPa)	f'c = 6000 PSI (41.4 MPa)	f'c ≥2000 PSI (13.8 MPa)
1/4 (6.4)	3/8 (9.5)	1 (25.4)	RM, RL or CL-Carbon or SRM-18-8 S.S. or SSRM-316 S.S.	1,680 (7.5)	2,360 (10.5)	2,980 (13.3)	1,080 (4.8)
3/8 (9.5)	1/2 (12.7)	1-5/8 (41.3)		2,980 (13.3)	3,800 (16.9)	6,240 (27.8)	3,160 (14.1)
1/2 (12.7)	5/8 (15.9)	2 (50.8)		3,300 (14.7)	5,840 (26.0)	8,300 (36.9)	4,580 (20.4)
5/8 (15.9)	7/8 (22.2)	2-1/2 (63.5)		5,500 (24.5)	8,640 (38.4)	11,020 (49.0)	7,440 (33.1)
3/4 (19.1)	1 (25.4)	3-3/16 (81.0)		8,280 (36.8)	9,480 (42.2)	12,260 (54.5)	10,480 (46.6)

*Allowable values are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values.

*For continuous extreme low temperature applications, use stainless steel.

Combined Tension and Shear Loading—for Multi-Set Anchors

Allowable loads for anchors subjected to combined shear and tension forces are determined by the following equation:

$$(Ps/Pt)^{5/3} + (Vs/Vt)^{5/3} \leq 1$$

Ps = Applied tension load **Vs = Applied shear load** **Pt = Allowable tension load** **Vt = Allowable shear load**

PERFORMANCE TABLES

Multi-Set II Drop-In Anchors — Ultimate Tension and Shear Values (Lbs/kN) in Lightweight Concrete*

BOLT DIA. In. (mm)	ANCHOR DIA. In. (mm)	MINIMUM EMBEDMENT DEPTH In. (mm)	ANCHOR TYPE	LIGHTWEIGHT CONCRETE f'c = 3000 PSI (20.7 MPa)		LOWER FLUTE OF STEEL DECK WITH LIGHTWEIGHT CONCRETE FILL f'c = 3000 PSI (20.7 MPa)	
				TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)
3/8 (9.5)	1/2 (12.7)	1-5/8 (39.7)	RM, RL or CL-Carbon or SRM-18-8 S.S. or SSRM-316 S.S.	2,035 (9.1)	1,895 (8.4)	3,340 (14.9)	4,420 (19.6)
1/2 (12.7)	5/8 (15.9)	2 (50.8)		2,740 (12.2)	2,750 (12.2)	3,200 (14.2)	4,940 (22.0)
5/8 (15.9)	7/8 (22.2)	2-1/2 (63.5)		4,240 (18.9)	4,465 (19.9)	5,960 (26.5)	5,840 (26.0)
3/4 (19.1)	1 (25.4)	3-3/16 (81.0)		5,330 (23.7)	6,290 (28.0)	8,180 (36.4)	9,120 (40.6)

*Allowable values are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values.

Multi-Set II Drop-In Anchors — Recommended Edge and Spacing Distance Requirements*

BOLT DIA. In. (mm)	DRILL BIT SIZE In. (mm)	EMBEDMENT DEPTH In. (mm)	ANCHOR TYPE	EDGE DISTANCE REQUIRED TO OBTAIN MAX. WORKING LOAD In. (mm)	MIN. EDGE DISTANCE AT WHICH LOAD FACTOR APPLIED =.80 FOR TENSION =.70 FOR SHEAR In. (mm)	SPACING REQUIRED TO OBTAIN MAX. WORKING LOAD In. (mm)	MIN. ALLOWABLE SPACING BETWEEN ANCHORS LOAD FACTOR APPLIED =.80 FOR TENSION =.55 FOR SHEAR In. (mm)
1/4 (6.4)	3/8 (9.5)	1 (25.4)	RM, RL or CL-Carbon or SRM-18-8 S.S. or SSRM-316 S.S.	1-3/4 (44.5)	7/8 (22.2)	3-1/2 (88.9)	1-3/4 (44.5)
3/8 (9.5)	1/2 (12.7)	1-5/8 (41.3)		2-7/8 (73.0)	1-7/16 (36.5)	5-11/16 (144.5)	2-7/8 (73.0)
1/2 (12.7)	5/8 (15.9)	2 (50.8)		3-1/2 (88.9)	1-3/4 (44.5)	7 (177.8)	3-1/2 (88.9)
5/8 (15.9)	7/8 (22.2)	2-1/2 (63.5)		4-3/8 (111.1)	2-3/16 (55.6)	8-3/4 (222.3)	4-3/8 (111.1)
3/4 (19.1)	1 (25.4)	3-3/16 (81.0)		5-5/8 (142.9)	2-13/16 (71.4)	11-3/16 (284.2)	5-5/8 (142.9)

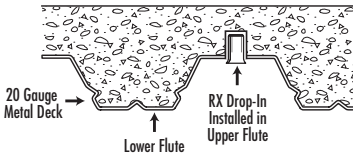
*Spacing and edge distances shall be divided by 0.75 when anchors are placed in structural lightweight concrete. Linear interpolation may be used for intermediate spacing and edge distances.

Multi-Set II Drop-In Anchors — Ultimate Tension and Shear Values (Lbs/kN) for RX-series (3/4" and 1" Embedment)*

BOLT DIA. In. (mm)	DRILL BIT SIZE In. (mm)	EMBEDMENT In. (mm)	2500 PSI (17.2 MPa) CONCRETE		4000 PSI (27.6 MPa) CONCRETE		HOLLOW CORE	
			TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)
3/8 (9.5)	1/2 (12.7)	3/4 (19.1)	1,571 (7.0)	2,295 (10.2)	1,987 (8.8)	2,903 (12.9)	1,908 (8.5)	2,401 (10.7)
1/2 (12.7)	5/8 (15.9)	1 (25.4)	2,113 (9.4)	2,585 (11.5)	2,673 (11.9)	3,270 (14.5)	2,462 (11.0)	2,401 (10.7)

* The tabulated values are for RX anchors installed at a minimum of 12 diameters on center and minimum edge distance of 6 diameters for 100 percent anchor efficiency. Spacing and edge distance may be reduced to 6 diameters spacing and 3 diameter edge distance provided the values are reduced 50 percent. Linear Interpolation may be used for intermediate spacings and edge margins.

* Allowable values are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values.



Multi-Set II Drop-In Anchors — Anchoring Overhead in 3000 PSI Lightweight Concrete On Metal Deck

ANCHOR In. (mm)	DRILL HOLE DIAMETER	EMBEDMENT In. (mm)	3000PSI (20.7 MPa) CONCRETE		
			ULTIMATE TENSION LOAD Lbs. (kN)		ALLOWABLE WORKING LOAD Lbs. (kN)
RX-38 Drop-In	1/2 (12.7)	3/4 (19.1)	Upper Flute	1,410 (6.3)	353 (1.6)
			Lower Flute	1,206 (5.4)	301 (1.3)

*Allowable values are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values.

Fire Sprinkler Pipe

Schedule 40

Submittal Data Sheet



FM Approved and Fully Listed Sprinkler Pipe
Wheatland Tube's Schedule 40 steel fire sprinkler pipe is FM Approved and UL® and C-UL Listed.

Approvals and Specifications
Schedule 40 meets or exceeds the following standards:

- ASTM A795, Type E, Grade A (Schedule 40, 1–2 NPS)
- ASTM A53, Type E, Grade B (Schedule 40, 2–8 NPS)
- ASTM A53, Type F, Grade A (Schedule 40, 1–4 NPS)
- NFPA® 13 and NFPA 14

Manufacturing Protocols
Schedule 40 is subjected to the toughest possible testing protocols to ensure the highest quality and long-lasting performance.

Finishes and Coatings
Schedule 40 can be ordered in black or hot-dip galvanized to meet FM/UL requirements for dry systems that meet the zinc coating specifications of ASTM A53 or A795.

Schedule 40 receives a proprietary mill coating to ensure a clean, corrosion-resistant surface that outperforms and outlasts standard lacquer coatings. This coating allows the pipe to be easily painted without special preparation.

Every black steel Schedule 40 pipe also receives our MIC SHIELD™ antimicrobial coating to limit corrosion from microbes on the interior of the pipe.

Product Marking
Each length of Wheatland fire sprinkler pipe is continuously stenciled to show the manufacturer, type of pipe, grade, size and length. Bar coding is acceptable as a supplementary identification method.

SUBMITTAL INFORMATION

PROJECT: _____ CONTRACTOR: _____ DATE: _____

ENGINEER: _____ SPECIFICATION REFERENCE: _____ SYSTEM TYPE: _____

LOCATIONS: _____ COMMENTS: _____

☐ BLACK ☐ HOT-DIP GALVANIZED

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Wheatland, PA 16161
P 800.257.8182
F 724.346.7260

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Fire Sprinkler Pipe

Schedule 40

Submittal Data Sheet



SCHEDULE 40 WEIGHTS AND DIMENSIONS

NPS	NOMINAL OD		NOMINAL ID		NOMINAL WALL		WT./FT.	WT./FT. H_2O FILLED	PCS./LIFT	WT./LIFT 21'	WT./LIFT 24'	WT./LIFT 25'	UL
	in.	mm	in.	mm	in.	mm	lbs.	lbs.		lbs.	lbs.	lbs.	CRR*
1	1.315	33.4	1.049	26.6	0.133	3.38	1.68	2.055	70	2470	2822	2940	1.000
1¼	1.660	42.2	1.380	35.1	0.140	3.56	2.27	2.922	51	2431	2778	2894	1.000
1½	1.900	48.3	1.610	40.9	0.145	3.68	2.72	3.602	44	2513	2872	2992	1.000
2	2.375	60.3	2.067	52.5	0.154	3.91	3.66	5.109	24	1845	2108	2196	1.000
2½	2.875	73.0	2.469	62.7	0.203	5.16	5.80	7.871	20	2436	2784	2900	1.000
3	3.500	88.9	3.068	77.9	0.216	5.49	7.58	10.783	13	2069	2365	2464	1.000
3½	4.000	101.6	3.548	90.1	0.226	5.74	9.12	13.400	10	1915	2189	2280	1.000
4	4.500	114.3	4.026	102.3	0.237	6.02	10.80	16.311	10	2268	2592	2700	1.000
5	5.563	141.3	5.047	158.2	0.258	6.55	14.63	23.262	7	2151	2458	2560	1.000
6	6.625	168.3	6.065	154.1	0.280	7.11	18.99	31.498	5	1994	2279	2374	1.000
8**	8.625	219.1	7.981	202.7	0.322	8.18	28.58	50.240	5	3001	3430	3573	1.000

** Calculated using Standard UL CRR formula, UL Fire Protection Directory, Category VIZY. The CRR is a ratio value used to measure the ability of a pipe to withstand corrosion. Threaded Schedule 40 steel pipe is used as the benchmark (value of 1.0).*

*** 8 NPS Schedule 40 is FM Approved but not UL Listed.*

WFS-072921

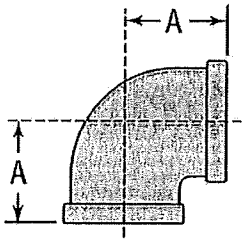
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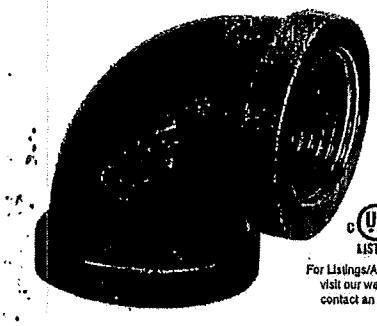
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FIG. 3201

90° Elbow





c UL us LISTED FM APPROVED

For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil® Sales Representative.

FIGURE 3201 - 90° ELBOW			
Nominal Size	Maximum Working Pressure▲	Dimension A	Approx. Wt. Each
In. (mm)	*PSI (kPa)*	*In. (mm)*	*Lbs. (kg)*
1 *20*	500 *3450*	1.50 *38.10*	0.62 *0.28*
1¼ *32*	500 *3450*	1.75 *44.45*	0.90 *0.41*
1½ *40*	500 *3450*	1.94 *49.276*	1.20 *0.54*
2 *50*	500 *3450*	2.25 *57.15*	1.85 *0.84*

▲ – Working Pressure Ratings are for reference only and based on Sch. 40 pipe. For the latest UL/ULC, and FM pressure ratings versus pipe schedule, please visit anvilintl.com or contact your local Anvil Representative.

MATERIAL SPECIFICATIONS

Dimensions: ASME B16.3

Material: ASTM A536 Grade 65-45-12

Finish: Black

Threads: NPT per ASME B1.20.1

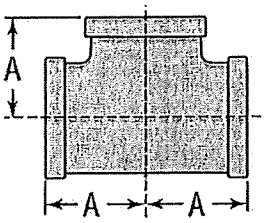
Agency Approvals: All ductile iron threaded fittings are UL/ULC Listed and FM Approved.

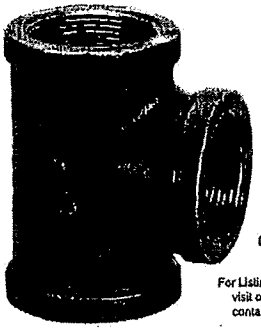
NOTICE: Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened approximately three turns beyond hand tight, but no more than four turns.

PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	**Remarks:**
Submittal Date:	
Notes 1:	
Notes 2:	

FIG. 3205

Straight Tee





c UL us LISTED FM APPROVED

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FIGURE 3205 - STRAIGHT TEE

Nominal Size	Maximum Working Pressure▲	Dimension A	Approx. Wt. Each
In. (mm)	*PSI (kPa)*	*In. (mm)*	*Lbs. (kg)*
1 *25*	500 *3450*	1.50 *38.10*	0.85 *0.39*
1¼ *32*	500 *3450*	1.75 *44.45*	1.22 *0.55*
1½ *40*	500 *3450*	1.94 *49.27*	1.55 *0.70*
2 *50*	500 *3450*	2.25 *57.15*	2.45 *1.11*

▲ – Working Pressure Ratings are for reference only and based on Sch. 40 pipe. For the latest UL/ULC, and FM pressure ratings versus pipe schedule, please visit anvilintl.com or contact your local Anvil Representative.

MATERIAL SPECIFICATIONS

Dimensions: ASME B16.3

Material: ASTM A536 Grade 65-45-12

Finish: Black

Threads: NPT per ASME B1.20.1

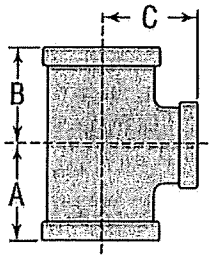
Agency Approvals: All ductile iron threaded fittings are UL/ULC Listed and FM Approved.

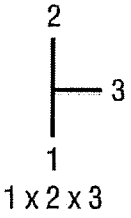
NOTICE: Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened approximately three turns beyond hand tight, but no more than four turns.

PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	**Remarks:**
Submittal Date:	
Notes 1:	
Notes 2:	

FIG. 3205R

Reducing Tee





1 x 2 x 3



c UL us LISTED FM APPROVED

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FIGURE 3205R - REDUCING TEE

Nominal Size 1 x 2 x 3	Max. Working Pressure▲	Dimensions A	B	C	Approx. Wt. Each
In. (mm)	PSI (kPa)	In. (mm)	In. (mm)	In. (mm)	Lbs. (kg)
1 x ½ x 1 25 x 15 x 25	500 3450	1.50 38.10	1.36 34.54	1.50 38.10	0.64 0.29
1 x ¾ x 1 25 x 20 x 25	500 3450	1.50 38.10	1.45 36.83	1.50 38.10	0.73 0.33
1 x 1 x ½ 25 x 25 x 15	500 3450	1.26 32.00	1.26 32.00	1.36 34.54	0.71 0.32
1 x 1 x ¾ 25 x 25 x 20	500 3450	1.37 34.80	1.37 34.80	1.45 36.83	0.76 0.34
1 x 1 x 1¼* 25 x 25 x 32	500 3450	1.67 42.41	1.67 42.41	1.58 40.13	0.98 0.44
1 x 1 x 1½* 25 x 25 x 40	500 3450	1.80 45.72	1.80 45.72	1.65 41.91	1.16 0.53
1¼ x 1 x ½* 32 x 25 x 15	500 3450	1.34 34.04	1.26 32.00	1.53 38.86	0.82 0.37
1¼ x 1 x ¾ 32 x 25 x 20	500 3450	1.45 36.83	1.37 34.80	1.62 41.15	0.90 0.41
1¼ x 1 x 1 32 x 25 x 25	500 3450	1.58 40.13	1.50 38.10	1.67 42.42	1.00 0.45
1¼ x 1 x 1¼ 32 x 25 x 32	500 3450	1.75 44.45	1.67 42.42	1.75 44.45	1.08 0.49
1¼ x 1 x 1½ 32 x 25 x 40	500 3450	1.88 47.75	1.80 45.72	1.82 46.22	1.42 0.64
1¼ x 1¼ x ½ 32 x 32 x 15	500 3450	1.34 34.04	1.34 34.04	1.53 38.86	0.86 0.39

MATERIAL SPECIFICATIONS

Dimensions: ASME B16.3

Material: ASTM A536 Grade 65-45-12

Finish: Black

Threads: NPT per ASME B1.20.1

Agency Approvals: All ductile iron threaded fittings are UL/ULC Listed and FM Approved.

NOTICE: Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened approximately three turns beyond hand tight, but no more than four turns.

FIGURE 3205R - REDUCING TEE

Nominal Size 1 x 2 x 3	Max. Working Pressure▲	Dimensions A	B	C	Approx. Wt. Each
In. (mm)	PSI (kPa)	In. (mm)	In. (mm)	In. (mm)	Lbs. (kg)
1¼ x 1¼ x ¾ 32 x 32 x 20	500 3450	1.45 36.83	1.45 36.83	1.62 41.15	0.92 0.42
1¼ x 1¼ x 1 32 x 32 x 25	500 3450	1.58 40.13	1.58 40.13	1.67 42.42	0.95 0.43
1¼ x 1¼ x 1½* 32 x 32 x 40	500 3450	1.88 47.75	1.88 47.75	1.82 46.22	1.45 0.66

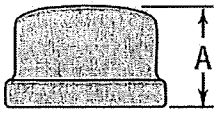
▲ Working Pressure Ratings are for reference only and based on Sch. 40 pipe. For the latest UL/ULC, and FM pressure ratings versus pipe schedule, please visit anvilintl.com or contact your local Anvil Representative.

* Part supplied as "Bull Head Tee".

PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

FIG. 3224

Cap





c UL us LISTED FM APPROVED

For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil® Sales Representative.

FIGURE 3224 - CAP

Nominal Size	Maximum Working Pressure▲	Dimension A	Approx. Wt. Each
In. (mm)	*PSI (kPa)*	*In. (mm)*	*Lbs. (kg)*
1 *25*	500 *3450*	1.16 *29.46*	0.32 *0.15*
1¼ *32*	500 *3450*	1.28 *32.51*	0.43 *0.20*
1½ *40*	500 *3450*	1.33 *33.78*	0.60 *0.27*
2 *50*	500 *3450*	1.45 *36.83*	0.91 *0.41*

▲ – Working Pressure Ratings are for reference only and based on Sch. 40 pipe. For the latest UL/ULC, and FM pressure ratings versus pipe schedule, please visit anvilintl.com or contact your local Anvil Representative.

MATERIAL SPECIFICATIONS

Dimensions: ASME B16.3

Material: ASTM A536 Grade 65-45-12

Finish: Black

Threads: NPT per ASME B1.20.1

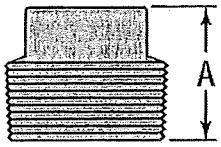
Agency Approvals: All ductile iron threaded fittings are UL/ULC Listed and FM Approved.

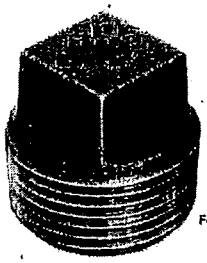
NOTICE: Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened approximately three turns beyond hand tight, but no more than four turns.

PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	**Remarks:**
Submittal Date:	
Notes 1:	
Notes 2:	

FIG. 3388

Cored Plug





c UL us LISTED FM APPROVED

For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil® Sales Representative.

FIGURE 3388 - CORED PLUG

Nominal Size	Maximum Working Pressure▲	Dimension A	Approx. Wt. Each
In. (mm)	*PSI (kPa)*	*In. (mm)*	*Lbs. (kg)*
½*	500	0.94	0.10
15	*3450*	*23.87*	*0.05*
¾	500	1.07	0.17
20	*3450*	*27.17*	*0.08*
1	500	1.25	0.28
25	*3450*	*31.75*	*0.13*
1¼	500	1.36	0.44
32	*3450*	*34.54*	*0.20*
1½	500	1.45	0.62
40	*3450*	*36.83*	*0.28*
2	500	1.56	0.91
50	*3450*	*39.62*	*0.41*

▲ – Working Pressure Ratings are for reference only and based on Sch. 40 pipe. For the latest UL/ULC, and FM pressure ratings versus pipe schedule, please visit anvilintl.com or contact your local Anvil Representative.

* Part supplied as Solid Plug.

MATERIAL SPECIFICATIONS

Dimensions: ASME B16.14

Material: ASTM A536 Grade 65-45-12

Finish: Black

Threads: NPT per ASME B1.20.1

Agency Approvals: All ductile iron threaded fittings are UL/ULC Listed and FM Approved.

▲ Pressure - Temperature Ratings in accordance with ASME B16.3 Class 150

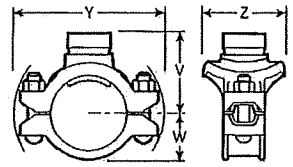
NOTICE: Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened approximately three turns beyond hand tight, but no more than four turns.

PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	**Remarks:**
Submittal Date:	
Notes 1:	
Notes 2:	

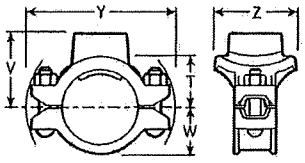
Mechanical-T® Bolted Branch Outlets

STYLES 920 AND 920N

DIMENSIONS



GROOVED OUTLET



FEMALE THREADED OUTLET

- Provides a direct branch connection at any location where a hole can be cut in the pipe
- A pressure responsive gasket provides the seal
- Request Publication 11.03 for Mechanical-T cross assemblies
- Pressure rated up to 500 psi/3450 kPa on steel pipe; also available for use with HDPE pipe
- Sizes from 2 × ½"/50 × 15 mm through 8 × 4"/200 × 100 mm

Size Run × Branch Nominal Size Inches mm			Style No. 920 or 920N	Max. Work Pressure@ psi kPa	Dimensions Hole Diameter +0.13 −0.00 Inches mm	T** Inches mm	V ‡ # Thd. Inches mm	V ‡ Grv. Inches mm	W Inches mm	Y Inches mm	Z Inches mm	Approx. Weight Each Female Thd. Lbs. kg	Grv. Lbs. kg
2 50	×	½ (a) ¤ 15	920N	500 3450	1.50 38.1	2.00 51	2.53 64	—	1.61 41	5.35 136	2.75 70	3.1 1.5	—
		¾ (a) ¤ 20	920N	500 3450	1.50 38.1	1.97 50	2.53 64	—	1.61 41	5.35 136	2.75 70	3.1 1.5	—
		1 (a) ¤ 25	920N	500 3450	1.50 38.1	1.85 47	2.53 64	—	1.61 41	5.35 136	2.75 70	3.0 1.4	—
		1¼ (a) †¤ 32	920N	500 3450	1.75 44.5	2.05 52	2.75 70	3.00 76	1.61 41	5.35 136	3.00 76	3.5 1.7	3.2 1.5
		1½ (a) †¤ 40	920N	500 3450	1.75 44.5	2.03 52	2.75 70	3.12 79	1.61 41	5.35 136	3.25 83	3.6 1.7	3.2 1.5
2½ 65	×	½ (a) §¤ 15	920N	500 3450	1.50 38.1	2.21 56	2.74 70	—	1.82 46	5.64 143	2.75 70	3.0 1.4	—
		¾ (a) §¤ 20	920N	500 3450	1.50 38.1	2.18 55	2.74 70	—	1.82 46	5.64 143	2.75 70	3.0 1.4	—
		1 (a) §¤ 25	920N	500 3450	1.50 38.1	2.06 52	2.74 70	—	1.82 46	5.64 143	2.75 70	2.9 1.4	—
		1¼ † (a) ¤ 32	920N	500 3450	1.75 44.5	2.30 58	3.00 76	3.25 83	1.82 46	6.29 160	3.00 76	3.5 1.7	3.2 1.5
		1½ † (a) ¤ 40	920N	500 3450	2.00 50.8	2.28 58	3.00 76	3.25 83	1.82 46	6.26 159	3.25 83	3.6 1.7	3.3 1.6
76.1	×	½ (a) 15	920N	300 2065	1.50 38.1	2.22 56	2.75 70	—	2.25 57	6.46 164	3.18 81	3.9 1.8	—
		¾ (a) 20	920N	300 2065	1.50 38.1	2.19 56	2.75 70	—	2.25 57	6.46 164	3.18 81	3.9 1.8	—
		1 (a) 25	920N	300 2065	1.50 38.1	2.07 53	2.75 70	—	2.25 57	6.46 164	3.18 81	3.8 1.7	—
		1¼ (a) ¤ 32	920N	500 3450	1.75 44.5	2.30 58	3.00 76	3.31 84	1.92 49	6.29 160	3.00 76	3.5 1.6	3.2 1.5
		1½ (a) ¤ 40	920N	500 3450	2.00 50.8	2.28 58	3.00 76	3.31 84	1.92 49	6.29 160	3.25 83	3.5 1.6	3.3 1.5
3 80	×	½ (a) ¤ 15	920N	500 3450	1.50 38.1	2.52 64	3.05 78	—	2.28 58	6.15 156	2.75 70	3.4 1.6	—
		¾ (a) ¤ 20	920N	500 3450	1.50 38.1	2.49 63	3.05 78	—	2.28 58	6.15 156	2.75 70	3.4 1.6	—
		1 (a) 25	920N	500 3450	1.50 38.1	2.38 61	3.06 78	—	2.28 58	6.15 156	2.75 70	3.3 1.6	—
		1¼ (a) †¤ 32 (b)	920N	500 3450	1.75 44.5	2.55 65	3.25 83	3.56 90	2.28 58	6.15 156	3.00 76	3.8 1.8	3.7 1.8
		1½ (a) †¤ 40 (b)	920N	500 3450	2.00 50.8	2.78 71	3.50 89	3.56 90	2.28 58	6.15 156	3.25 83	4.1 1.9	3.8 1.8
		2 (a) ¤ 50	920N	500 3450	2.50 63.5	2.75 70	3.50 89	3.56 90	2.28 58	6.75 172	3.88 99	4.9 2.3	4.6 2.1
3½ 90	×	2 50	920N	500 3450	2.50 63.5	3.00 76	—	3.75 95	2.44 62	6.72 171	3.88 99	—	3.8 1.8

TABLE CONTINUED ON PG. 3

IMPORTANT NOTES:

Style 920 and Style 920N housings cannot be mated to one another to achieve cross connections.

** Center of run to engaged pipe end, female threaded outlet only (dimensions approximate).

† Available with grooved or female threaded outlet. Specify choice on order.

‡ Center of run to end of fitting.

Female threaded outlets are available to NPT and BSPT specifications.

@ See page 7 for Fire Protection approvals and pressure ratings.

(a) British Standard female pipe threaded outlet is available as listed. Specify "BSPT" clearly on order.

(b) For 76.1 mm threaded outlet, specify 2½" BSPT clearly on order.

§ Vds approved for fire protection services

¤ LPCB approved for fire protection services

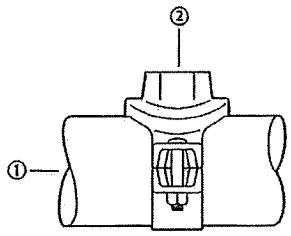
Ø Approved for use in China by Tianjin Approvals Company.

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Mechanical-T® Bolted Branch Outlets

STYLES 920 AND 920N

FLOW DATA



Exaggerated for clarity

Flow test data has shown that the total head loss between point (1) and (2) for the Style 920, 920N and 929 Mechanical-T® fittings can best be expressed in terms of the pressure difference across the inlet and branch. The pressure difference can be obtained from the relationship below.

C_V and Kv Values

Values for flow of water at +60°F/+16°C are shown in the table below.

Formulas for C_V/K_V Values:

$$\Delta P = \frac{Q^2}{C_v^2}$$

$$Q = C_v \times \sqrt{\Delta P}$$

Where:
Q = Flow (GPM)
ΔP = Pressure Drop (psi)
C_v = Flow Coefficient

$$\Delta P = \frac{Q^2}{K_v^2}$$

$$Q = K_v \times \sqrt{\Delta P}$$

Where:
Q = Flow (m^3/hr)
ΔP = Pressure Drop (Bar)
K_v = Flow Coefficient

OUTLET SIZE		Equivalent Length of Outlet Size Schedule 40 Carbon Steel Pipe (per UL 213, Sec. 16) (C = 120)‡ FT		C_v/K_v Values	
NOMINAL DIAMETER in/mm	ACTUAL O.D. in/mm	GROOVED	THREADED	GROOVED	THREADED
½ 15	0.840 21.3	-	2	-	11 9.4
¾ 20	1.050 26.7	-	4	-	16 13.7
1 25	1.315 33.7	3**	8	-	21 1.8
1 ¼ 32	1.660 42.7	5 ½	6	50 42.9	48 41.1
1 ½ 40	1.900 98.3	11	11	53 45.4	53 45.4
2 50	2.375 60.3	9	10 ½	112 96	104 89.1
2 ½ 65	2.875 73.0	20	12 ½ *	119 102	150 128.5
76.1 mm	3.000 76.1	16*	-	161 138.1	-
3 80	3.500 88.9	14	15 ½	249 213.4	237 203.1
4 100	4.500 114.3	20	22	421 360.8	401 343.6

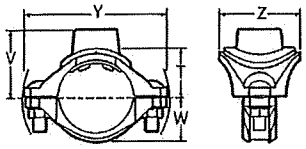
‡ Hazen-Williams coefficient of friction is 120.
* Pipe with a wall thickness of 0.165in./4.2mm.
** 1" FireLock™ Innovative Groove System (IGS) outlet

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FireLock® Outlet-T

STYLE 922

DIMENSIONS



Nominal Size inches/mm			Hole Diameter	Dimensions – inches/millimeters					Approx. Weight Each
Run	X	Branch FPT†	+0.06/+1.5 -0.00/-0.0	T*	V	W	Y	Z	lbs/kg
1¼	X	½	13/16	1.30	1.83	1.10	3.87	2.56	1.0
32		15	30.2	33.0	46.5	27.9	98.3	65.0	0.45
		¾	13/16	1.28	1.83	1.10	3.87	2.56	1.1
		20	30.2	32.5	46.5	27.9	98.3	65.0	0.50
		1	13/16	1.52	2.18	1.10	3.87	2.56	1.2
		25	30.2	38.6	55.4	27.9	98.3	65.0	0.54
1½	X	½	13/16	1.42	1.95	1.22	4.08	2.56	1.2
40		15	30.2	36.1	49.5	31.0	103.6	65.0	0.54
		¾	13/16	1.40	1.95	1.22	4.08	2.56	1.2
		20	30.2	35.6	49.5	31.0	103.6	65.0	0.54
		1	13/16	1.64	2.30	1.22	4.08	2.56	1.3
		25	30.2	41.7	58.4	31.0	103.6	65.0	0.59
2	X	½	13/16	1.66	2.19	1.46	4.60	2.56	1.3
50		15	30.2	42.2	55.6	37.1	116.8	65.0	0.59
		¾	13/16	1.64	2.19	1.46	4.60	2.56	1.4
		20	30.2	41.7	55.6	37.1	116.8	65.0	0.64
		1	13/16	1.88	2.54	1.46	4.60	2.56	1.5
		25	30.2	47.8	64.5	37.1	116.8	65.0	0.68
2½	X	½	13/16	1.91	2.44	1.71	5.40	2.56	1.6
65		15	30.2	48.5	62.0	43.4	137.2	65.0	0.73
		¾	13/16	1.89	2.44	1.71	5.40	2.56	1.6
		20	30.2	48.0	62.0	43.4	137.2	65.0	0.73
		1	13/16	2.13	2.79	1.71	5.40	2.56	1.6
		25	30.2	54.1	70.9	43.4	137.2	65.0	0.73
76.1 mm	X	½	13/16	1.91	2.44	1.71	5.50	2.56	1.6
		15	30.2	48.5	62.0	43.4	139.7	65.0	0.73
		¾	13/16	1.89	2.44	1.71	5.50	2.56	1.6
		20	30.2	48.0	62.0	43.4	139.7	65.0	0.73
		1	13/16	2.13	2.79	1.71	5.50	2.56	1.7
		25	30.2	54.1	70.9	43.4	139.7	65.0	0.80

† Victaulic female threaded products are designed to accommodate standard NPT or BSPT (optional) male pipe threads only. Use of male threaded products with special features, such as probes, dry pendent sprinklers, etc., should be verified as suitable for use with this Victaulic product. Failure to verify suitability in advance may result in assembly problems or leakage.

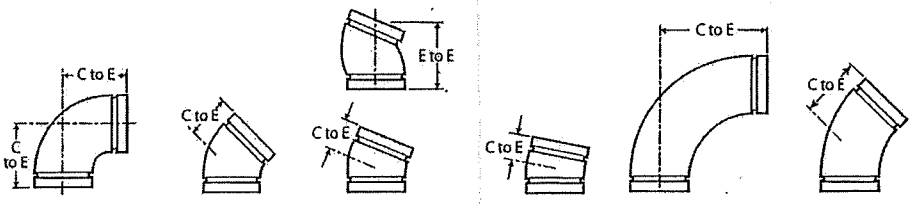
*Center of run to engaged pipe end for NPT threads (dimensions are approximate).

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4.0 DIMENSIONS

Elbows

No. 10 90° Elbow
No. 11 45° Elbow
No. 12 22½° Elbow
No. 13 11¼° Elbow
No. 100 90° Long Radius Elbow
No. 110 45° Long Radius Elbow



Standard and GSNK

Size		No. 10 90° Elbow		No. 11 45° Elbow		No. 12 22½° Elbow		No. 13 11¼° Elbow		No. 100 90° Long Radius Elbow		No. 110 45° Long Radius Elbow	
Nominal inches DN	Actual Outside Diameter inches mm	C to E inches mm	Approx. Wgt. (Each) lb kg	C to E inches mm	Approx. Wgt. (Each) lb kg	C to E inches mm	Approx. Wgt. (Each) lb kg	C to E inches mm	Approx. Wgt. (Each) lb kg	C to E inches mm	Approx. Wgt. (Each) lb kg	C to E inches mm	Approx. Wgt. (Each) lb kg
¾ DN20	1.050 26.9	2.25 57	0.5 0.2	1.50 38	0.5 0.2	1.63 (sw) 41	—	1.38 (sw) 35	—	2.50 (sw) 64	0.4 0.2	1.88 (sw) 48	0.3 0.1
1 DN25	1.315 33.7	2.25 57	0.6 0.3	1.75 44	0.6 0.3	3.25[1] 83	0.6 0.3	1.38 (sw) 35	0.3 0.1	2.88 (sw) 73	0.6 0.3	2.25 (sw) 57	0.5 0.2
1 ¼ DN32	1.660 42.4	2.75 70	1.0 0.5	1.75 44	0.9 0.4	1.75 44	0.8 0.4	1.38 (sw) 35	0.5 0.2	3.25 (sw) 83	1.1 0.5	2.38 (sw) 60	0.7 0.3
1 ½ DN40	1.900 48.3	2.75 70	1.2 0.5	1.75 44	0.9 0.4	1.75 44	0.8 0.4	1.38 (sw) 35	0.5 0.2	3.63 (sw) 92	2.2 1.0	2.50 (sw) 64	1.3 0.6
2 DN50	2.375 60.3	3.25 83	1.8 0.8	2.00 51	1.3 0.6	1.88 48	1.2 0.5	1.38 35	1.0 0.5	4.38 111	2.5 1.1	2.75 70	1.8 0.8
2 ½	2.875 73.0	3.75 95	3.2 1.5	2.25 57	2.2 1.0	4.00[1] 102	2.3 1.0	1.50 38	1.1 0.5	5.13 130	3.4 1.5	3.00 76	2.8 1.3
DN65	3.000 76.1	3.75 95	3.7 1.7	2.25 57	3.4 1.5	2.25 57	—	1.50 38	—	—	—	—	—
3 DN80	3.500 88.9	4.25 108	4.5 2.0	2.50 64	3.1 1.4	4.50[1] 114	3.1 1.4	1.50 38	2.1 1.0	5.88 149	6.0 2.7	3.38 86	4.9 2.2
3 ½ DN90	4.000 101.6	4.50 114	5.6 2.5	2.75 70	4.3 2.0	2.50 (sw) 64	4.0 1.8	1.75 (sw) 44	2.7 1.2	—	—	—	—
4 DN100	4.500 114.3	5.00 127	7.1 3.2	3.00 76	5.6 2.5	2.88 73	5.6 2.5	1.75 44	3.6 1.6	7.50 191	12.3 5.6	4.00 102	7.3 3.3
	4.250 108.0	5.00 127	11.0 5.0	3.00 76	5.6 2.5	—	—	—	—	—	—	—	—
	5.000 127.0	5.25 (sw) 133	10.0 4.5	3.13 (sw) 79	6.0 2.7	3.50 (sw) 89	6.6 3.0	1.88 (sw) 48	4.2 1.9	—	—	—	—
5	5.563 141.3	5.50 140	11.7 5.3	3.25 83	8.3 3.8	2.88 (sw) 73	7.8 3.5	2.00 (sw) 51	5.0 2.2	9.25 (sw) 235	18.0 8.2	4.88 (sw) 124	14.8 6.7
	5.250 133.0	5.50 140	11.7 5.3	3.25 83	8.3 3.8	—	—	—	—	—	—	—	—
DN125	5.500 139.7	5.50 140	11.7 5.3	3.25 83	8.3 3.8	2.88 73	—	2.00 51	—	—	—	—	—
6 DN150	6.625 168.3	6.50 165	17.2 7.8	3.50 89	10.8 4.9	6.25[1] 159	12.2 5.5	2.00 51	7.0 3.2	10.75 273	30.4 13.8	5.50 140	17.4 7.9
	6.250 159.0	6.50 165	18.6 8.4	3.50 89	10.8 4.9	—	—	—	—	—	—	—	—
	6.500 165.1	6.50 165	15.5 7.0	3.50 89	9.8 4.4	3.13 79	11.4 5.2	2.00 51	7.4 3.4	10.75 (sw) 273	29.0 13.2	5.50 (sw) 140	19.0 8.6

[1] Gooseneck design, end-to-end dimension fittings in this size, contact your nearest Victaulic sales representative.

(s) = Carbon Steel Direct Roll Groove (OGS)

(sw) = Carbon Steel Segmentally Welded

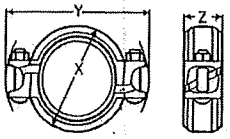
NOTE

- All fittings are ductile iron unless otherwise noted with an (sw) or (s).

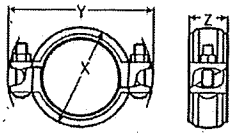
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4.0 DIMENSIONS

Style 009N



Style 009N Pre-Assembled
(Push On Condition)



Style 009N Joint Assembled

Nominal Size inches mm	Actual Outside Diameter inches mm	Maximum Working Pressure[3] psi kPa	Maximum End Load[3] lb N	Allow. Pipe End Separation[4] inches mm	Bolt/Nut Qty.	Bolt/Nut Size inches mm	Dimensions Pre-assembled (Push On Condition) X inches mm	Dimensions Pre-assembled (Push On Condition) Y inches mm	Dimensions Joint Assembled X inches mm	Dimensions Joint Assembled Y inches mm	Dimensions Joint Assembled Z inches mm	Weight Approx. (Each) lb kg
1¼ 32	1.660 42.4	365 2517	790 3514	0.10 2.54	2	⅜ × 2 M10 x 51	3.13 79	5.00 127	2.75 70	5.00 127	2.00 51	1.4 0.6
1½ 40	1.900 48.3	365 2517	1035 4604	0.10 2.54	2	⅜ × 2 M10 x 51	3.38 86	5.13 130	3.00 76	5.13 130	2.00 51	1.5 0.7
2 50	2.375 60.3	365 2517	1616 7193	0.12 3.05	2	⅜ × 2½ M10 x 63	4.00 102	5.63 143	3.50 89	5.63 143	2.00 51	1.9 0.9
2½ 65	2.875 73.0	365 2517	2370 10542	0.12 3.05	2	⅜ × 2½ M10 x 63	4.50 114	6.13 156	4.00 102	6.13 156	2.00 51	2.1 1.0
76.1 mm	3.000 76.1	365 2517	2580 11476	0.12 3.05	2	⅜ × 2½ M10 x 63	4.63 118	6.00 152	4.13 105	6.13 156	2.00 51	2.1 1.0
3 80	3.500 88.9	365 2517	3512 15622	0.12 3.05	2	⅜ × 2½ M10 x 63	5.13 130	6.75 171	4.63 117	6.75 171	2.00 51	2.3 1.0
4 100	4.500 114.3	365 2517	5805 25822	0.17 4.32	2	⅜ × 2½ M10 x 63	6.00 152	7.88 200	5.63 143	7.50 191	2.13 54	2.9 1.3
108.0 mm	4.250 108.0	365 2517	5175 23020	0.17 4.32	2	⅜ × 2½ M10 x 63	5.63 152	7.38 1.87	5.38 137	7.38 187	2.13 54	3.1 1.4
5 125	5.563 141.3	365 2000	8870 39456	0.17 4.32	2	½ × 3 M12 x 76	7.25 184	9.25 235	6.75 171	9.13 232	2.25 57	5.0 2.3
133.0 mm	5.250 133.0	365 2517	7897 35106	0.17 4.32	2	½ × 3 M12 x 76	6.63 168	9.00 229	6.38 162	9.00 229	2.25 57	4.8 2.2
139.7 mm	5.500 139.7	365 2517	8667 38529	0.17 4.32	2	½ × 3 M12 x 76	6.88 175	9.25 235	6.75 171	9.13 232	2.25 57	4.9 2.2
159.0 mm	6.250 159.0	365 2517	11192 49753	0.17 4.32	2	½ × 3 ¼ M12 x 83	7.88 200	10.00 254	7.38 187	9.88 251	2.25 57	5.6 2.5
165.1 mm	6.500 165.1	365 2517	12105 53813	0.17 4.32	2	½ × 3 ¼ M12 x 83	8.00 203	10.25 260	7.75 197	10.13 257	2.25 57	6.0 2.7
6 150	6.625 168.3	365 2000	12582 44469	0.17 4.32	2	½ × 3 ¼ M12 x 83	8.38 213	10.38 264	7.88 200	10.13 257	2.25 57	6.0 2.7
216.0 mm	8.500 216.0	365 2517	20712 55968	0.17 4.32	2	⅝ × 4 M16 x 101	10.63 270	13.25 337	10.25 260	10.13 257	2.63 67	11.4 5.2
8 200	8.625 219.1	365 1620	21326 94863	0.17 4.32	2	⅝ × 4 M16 x 101	10.88 276	13.38 340	10.25 260	13.13 333	2.50 64	11.4 5.2
10 250	10.750 273.0	300 2068	27229 121121	0.25 6.4	2	⅞ × 6½ M22 x 165	13.75 349	17.00 432	13.25 337	17.13 435	2.75 70	22.6 10.3
12 300	12.750 323.9	300 2068	38303 170380	0.25 6.4	2	⅞ × 6½ M22 x 165	16.00 406	19.00 483	15.50 394	19.13 486	2.75 70	27.6 12.5

[3] Working Pressure and End Load are total, from all internal and external loads, based on standard weight (ANSI) steel pipe, standard roll or cut grooved in accordance with Victaulic specifications. See the Listings/Approvals section of this publication for ratings on other pipe.

[4] The allowable pipe separation dimension shown is for system layout purposes only. FireLock EZ™ couplings are considered rigid connections and will not accommodate expansion or contraction of the piping system.

NOTES

- When assembling FireLock EZ™ couplings onto end caps, take additional care to make certain the end cap is fully seated against the gasket end stop. For FireLock EZ™ Style 009N couplings, use FireLock No. 006 end caps containing the "EZ" marking on the inside face or No. 60 end caps containing the "QV EZ" marking on the inside face. Non-Victaulic end cap products shall not be used with Style 009N couplings. IMPORTANT: Gaskets intended for the Style 009 or Style 009V couplings cannot be used with the Style 009N coupling. There is no interchanging of gaskets or housings between coupling styles.
- **Use Of Flushseal Gaskets For Dry Pipe Systems** FireLock EZ™ couplings are supplied with FireLock EZ™ Grade "E" Type A gaskets. These gaskets include an integral pipe stop, that once installed provides the similar benefits as a FlushSeal gasket for dry pipe systems. It should be noted that standard Victaulic Flush-Seal™ gaskets are not compatible and cannot be used with the FireLock EZ™ couplings.

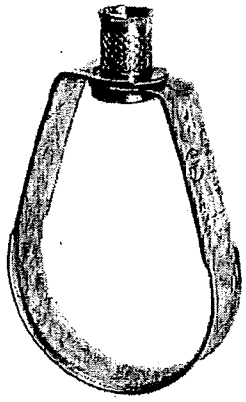
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Fig. 69 (Formerly Afcon Fig. 300) Adjustable Swivel Ring, Tapped Per NFPA Standards

Size Range: 1/2" through 8"
Material: Carbon steel
Finish: Strap is Pre-Galvanized Zinc Material. Nut is Zinc Plated.
Service: Recommended for suspension of non-insulated **stationary** pipe line.
Maximum Temperature: 450° F
Approvals: Complies with Federal Specification A-A-1192A (Type 10), *WW-H-171-E (Type 10)*, and ANSI/MSS SP-58 (Type 10). UL Listed and FM Approved (Sizes 3/4" - 8").
Features:

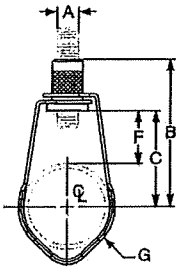
- 1/2" - 2" sizes designed for use with steel and CPVC piping and manufactured with FBC System Compatible oil.
- Threads are countersunk so that they cannot become burred or damaged.
- Knurled swivel nut provides vertical adjustment after piping is in place.
- Captured swivel nut in the 1/2" through 6" sizes. The capture is permanent in the bottom portion of the band, allowing the hanger to be opened during installation if desired, but not allowing the nut to fall completely out.

Ordering: Specify size, figure number and name.
Non-captured nut also available upon request.

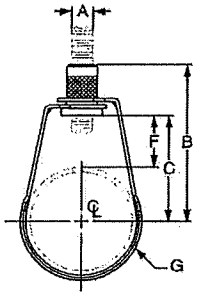


1/2" through 2" Size
Rounded Edge Design

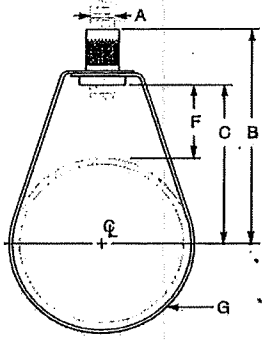
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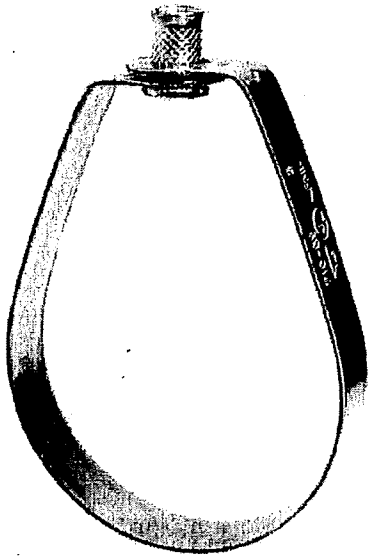
1/2" through 1" pipe



1 1/4" through 2" pipe



2 1/2" through 8" pipe



2 1/2" through 8" Size

FIG. 69: DIMENSIONS (IN) • LOADS (LBS) • WEIGHT (LBS)

Pipe Size	Max Load	Weight	Rod Size A	B	C	F	G Width
1/2	300	0.10	3/8	2 7/8	2	1 9/16	5/8
3/4		0.10		2 3/4	1 7/8	1 5/16	
1		0.10		2 9/16	1 11/16	1	
1 1/4		0.10		2 5/8	1 3/4	7/8	
1 1/2		0.10		2 3/4	1 7/8		
2		0.11		3 1/4	2 3/8	1 1/8	
2 1/2	525	0.20		4	2 3/4	1 5/16	3/4
3		0.20		3 13/16	2 15/16	1 3/16	
4	650	0.30		4 11/16	3 13/16	1 9/16	
5	1,000	0.54	1/2	5 5/16	4 3/8		
6		0.65		6 11/16	5 9/16	2 1/4	
8		1.00		8 9/16	7 9/16	3 1/4	

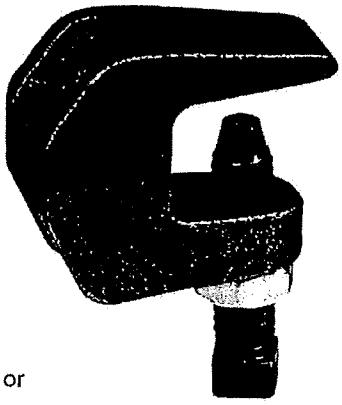
PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

Fig. 92 (Formerly Afcon Fig. 100) Universal C-type Clamp (Standard Throat)

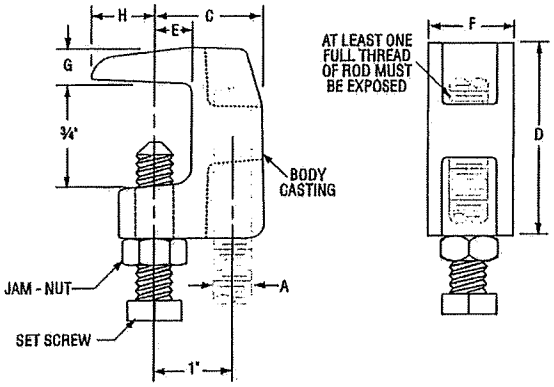
Size Range: 3/8" and 1/2"
Material: Ductile iron, hardened steel cup point set screw and locknut.
Finish: ☐ Plain or ☐ Zinc Plated (Hot-Dip Galvanized optional)
Service: Recommended for use under roof installations with bar joist type construction, or for attachment to the top or bottom flange of structural shapes where the vertical hanger rod is required to be offset from the edge of the flange and where the thickness of joist or flange does not exceed 3/4".
Approvals: Complies with Federal Specification A-A-1192A (Type 19 & 23) *WW-H-171-E (Type 23)*, ANSI/MSS SP-69 and MSS SP-58 (Type 19 & 23). UL, ULC Listed and FM Approved.
How to size: Size of clamp is determined by size of rod to be used.
Installation: Follow recommended set screw torque values per MSS-SP-69.
Features:

- They may be attached to horizontal flanges of structural members in either the top beam or bottom beam positions.
- Secured in place by a cup-pointed Set Screw tightened against the flange. A Jam Nut is provided for tightening the Set Screw against the Body Casting.
- Thru tapping of the body casting permits extended adjustment of the threaded rod.
- Can be used with Fig 89X retaining clip for seismic applications.

Ordering: Specify rod size, figure number, name of clamp and finish.



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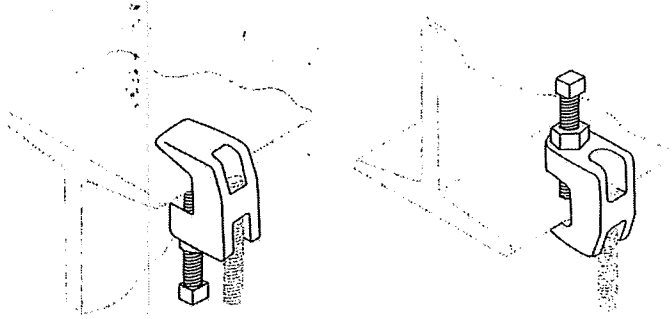


FIG. 92: DIMENSIONS (IN) • LOAD (LBS) • TORQUE (IN-LBS) • WEIGHT (LBS)											
Rod Size A	Set Screw Size	Torque Value	Max Loads ■		Weight	C	D	E	F	G	H
			Top	Bottom							
3/8	3/8	60	500	250	0.34	1 5/16	1 9/16	9/16	13/16	3/8	1/2
1/2	1/2	125	950	760	0.63	1 3/8	1 13/16	1/2	1 1/16	7/16	23/32

■ Maximum temperature of 450° F

PROJECT INFORMATION	APPROVAL STAMP
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Address:	☐ Approved as noted
Contractor:	☐ Not approved
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Submittal Date:	
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Notes 2:	

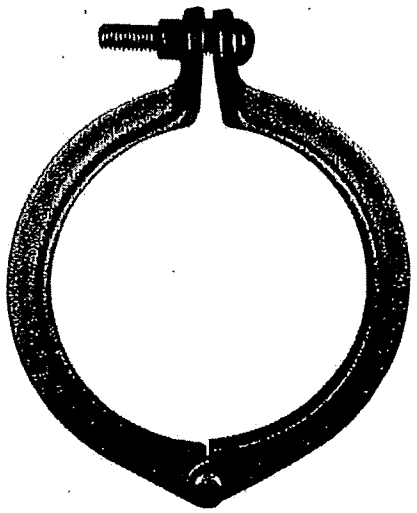
Fig. 108

Split Pipe Ring

Size Range: 3/8" through 8"
Material: Malleable iron
Finish: Plain
Service: Recommended for suspension of non-insulated **stationary** pipe lines or conduit. May be used with rod socket Fig. 110R or turnbuckle adjuster Fig. 114.
Maximum Temperature: 450° F
Approvals: Complies with Federal Specification A-A-1192A (Type 11) *WW-H-171-E (Type 11)*, ANSI/MSS SP-69 and MSS SP-58 (Type 11).
Features:

- Permits installation before or after pipe is in place.
- Provides economical installation.
- Permits use of universally adaptable parts.

Ordering: Specify pipe size, figure number, name.



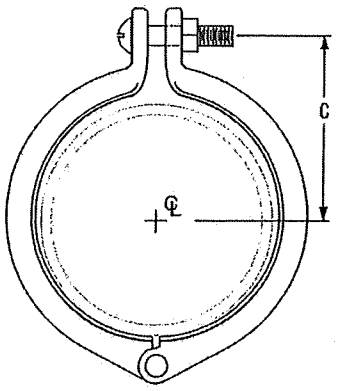


FIGURE 108:
DIMENSIONS (IN) • LOADS (LBS) • WEIGHT (LBS)

Pipe Size	Max Load	Weight	C	Bolt Size
3/8	200	0.06	3/4	#10 x 7/8
1/2		0.09	15/16	1/4 x 1
3/4	300	0.11	1 1/8	
1		0.13	1 1/4	
1 1/4		0.18	1 9/16	
1 1/2		0.26	1 11/16	1/4 x 1 1/4
2		0.33	2 1/16	
2 1/2	450	0.44	2 1/4	
3		0.63	2 3/4	
3 1/2		0.81	3 1/8	
4	520	0.97	3 5/8	3/8 x 2
5		1.50	4 1/2	
6	1,300	2.60	5 7/16	1/2 x 2
8	1,800	5.20	6 3/8	

PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	**Remarks:**
Submittal Date:	
Notes 1:	
Notes 2:	

FIG. 110

Adjustable Swivel Ring Hanger, NFPA



SERVICE: For suspension of non-insulated, stationary piping services. Approved for use without additional locking nuts normally required with pipe hangers.

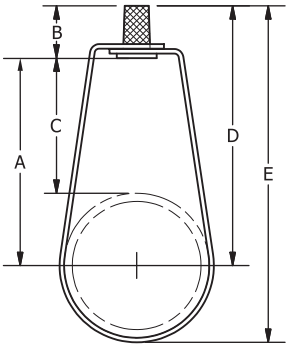
MATERIAL: Carbon Steel

FINISH: Electro-Galvanized

STANDARDS: MSS SP-58 Type 10

APPROVALS: FM NFPA ¾" - 8", UL NFPA ¾" - 8"

ORDERING: Specify figure number and pipe size.



SPRINKLER SERVICE HANGER - NFPA								
PIPE SIZE	NFPA ROD SIZE	A	B	C	D	E	WEIGHT EACH, LBS.	MAX. REC. LOAD, LBS.
½	⅜	1 5/8	⅞	1 3/16	2 ½	2 ⅞	0.08	400
¾	⅜	1 9/16	⅞	1 1/16	2 7/16	2 15/16	0.08	400
1	⅜	1 ¾	⅞	1 1/16	2 ⅝	3 ¼	0.08	600
1 ¼	⅜	1 11/16	⅞	⅞	2 9/16	3 ⅜	0.10	600
1 ½	⅜	1 13/16	⅞	⅞	2 11/16	3 ⅝	0.10	600
2	⅜	2 ½	⅞	1 5/16	3 ⅜	4 ½	0.12	600
2 ½	⅜	3 ⅛	⅞	1 ⅜	3 ⅞	5 ⅜	0.24	600
3	⅜	3 ⅝	⅞	1 ⅝	4 ½	6 ¼	0.28	600
3 ½	⅜	4	⅞	1 ¾	4 ⅞	6 ⅞	0.32	600
4	⅜	4 ⅛	⅞	1 ⅝	5	7 ¼	0.32	1000
5	½	4 ¼	1 1/16	1 ⅞	5 ¾	8 ½	0.62	1000
6	½	5 ⅛	1 1/16	2 ⅛	6 ¾	10 ⅛	0.65	1250
8	½	7	1 1/16	2 ⅜	7 ⅞	12 ¼	1.00	1250

NOTE: In accordance with the National Fire Protection Association (NFPA 13)