

# GRUVLOK®



[www.anvilintl.com](http://www.anvilintl.com)

G-1-02





## Solutions for...

- *Military*
- *Power Plant*
- *Original Equipment*
- *Water Treatment*
- *HVAC*
- *Plumbing*
- *Fire Protection*
- *Mining*
- *Oil Field*
- *Process & Industrial Piping*
- *Marine*
- *Offshore*

Anvil International is building the most advanced Grooved Piping Resource in the industry. We seek to set a new standard in Product Performance, Customer Service, and Technical Support. Our Value Proposition is clear. The **Gruvlok** team will meet and surpass Industry Requirements in Manufacturing, Distribution and Service in Support of Every Customer – Every Time.

**INTRODUCTION ..... 2-8**  
 Application Examples ..... 2-3  
 Table of Contents ..... 4-5  
 Gruvlok - Products for Grooved Piping System ..... 6  
 Gruvlok - The Engineered Coupling ..... 7  
 The Gruvlok Piping Method ..... 8

**GRUVLOK COUPLINGS FOR GROOVED-END PIPE ..... 9-19**  
 Gruvlok Coupling Specifications ..... 9  
 7001 Standard Coupling ..... 10  
 7011 Standard Coupling ..... 11  
 7401 Rigidlok® Coupling ..... 12  
 7000 Lightweight Coupling ..... 13  
 7400 Rigidlite® Coupling ..... 14  
 7003 Hingelok® Coupling ..... 14  
 7010 Reducing Coupling ..... 15  
 7012 Flange ..... 16 - 17  
 7013 300# Flange ..... 16 - 17  
 7042 Outlet Coupling ..... 18 - 19

**GRUVLOK BRANCH OUTLETS ..... 20-23**  
 7045 Clamp-T, Threaded Branch ..... 20 - 21  
 7046 Clamp-T, Grooved Branch ..... 21 - 22  
 7047 Clamp-T Cross (FPT x FPT) ..... 21 - 22  
 7048 Clamp-T Cross (GR x GR) ..... 21 - 22  
 7049 Clamp-T Cross (Gr x FPT) ..... 21 - 22  
 7044 Branch Outlet ..... 23

**GRUVLOK FITTINGS FOR GROOVED-END PIPE ..... 24-40**  
 Gruvlok Fitting Specifications ..... 24  
 7050 90° Elbow ..... 25  
 7051 45° Elbow ..... 25  
 7052 22½° Elbow ..... 25  
 7053 11½° Elbow ..... 25  
 7050LR Long Radius 90° Elbow ..... 25  
 7051LR Long Radius 45° Elbow ..... 25  
 7060 Tee ..... 26  
 7063 Tee With Threaded Branch ..... 26  
 7061 Standard Reducing Tee ..... 27  
 7064 Reducing Tee With Threaded Branch ..... 28  
 7072 Concentric Reducer ..... 29  
 7076 Concentric Reducers (GR x THD) ..... 29  
 7073 Eccentric Reducer ..... 30  
 7097 Eccentric Reducer (GR x THD) ..... 30  
 7077 Swaged Nipples (GR x GR) ..... 31  
 7078 Swaged Nipples (GR x THD) ..... 31  
 7079 Swaged Nipples (GR x BEV) ..... 31  
 7069 45° Lateral ..... 32  
 7070 45° Reducing Lateral ..... 32  
 7066 Tee Wyes ..... 33  
 7067 Reducing Tee Wyes ..... 33  
 7071 True Wye ..... 34  
 7084 Groove x Class 150 Flange ..... 34  
 7085 Groove x Class 300 Flange ..... 34  
 7050RF Reducing Base Support Elbows (GR x FL) ... 35

7055 90° Adapter Elbows (GR x MPT) ..... 35  
 7056 45° Adapter Elbows (GR x MPT) ..... 35  
 7087 Female Thread Adapter (GR x FPT) ..... 35  
 7068 Cross ..... 36  
 7074 Cap ..... 36  
 7075 Bull Plug ..... 36  
 7050-3D 90° Long Radius Elbow ..... 37  
 7057-3D 60° Long Radius Elbow ..... 37  
 7051-3D 45° Long Radius Elbow ..... 37  
 7058-3D 30° Long Radius Elbow ..... 37  
 7052-3D 22½° Long Radius Elbow ..... 37  
 7053-3D 11½° Long Radius Elbow ..... 37  
 7050-5D 90° Long Radius Elbow ..... 38  
 7057-5D 60° Long Radius Elbow ..... 38  
 7051-5D 45° Long Radius Elbow ..... 38  
 7058-5D 30° Long Radius Elbow ..... 38  
 7052-5D 22½° Long Radius Elbow ..... 38  
 7053-5D 11½° Long Radius Elbow ..... 38  
 7050-6D 90° Long Radius Elbow ..... 39  
 7057-6D 60° Long Radius Elbow ..... 39  
 7051-6D 45° Long Radius Elbow ..... 39  
 7058-6D 30° Long Radius Elbow ..... 39  
 7052-6D 22½° Long Radius Elbow ..... 39  
 7053-6D 11½° Long Radius Elbow ..... 39  
 7062 Bullhead Tee (GR x GR xFPT) ..... 40  
 7065 Standpipe Tee (GR x GR x FPT) ..... 40  
 7080 Adapter Nipple (GR x GR) ..... 40  
 7081 Adapter Nipple (GR x MPT) ..... 40  
 7082 Adapter Nipple (GR x BEV) ..... 40  
 7086 Hose Nipples (GR x Hose) ..... 40

**GRUVLOK BUTTERFLY VALVES ..... 41-48**  
 7700 Butterfly Valve ..... 41 - 43  
 7600 Butterfly Valve ..... 44 - 45  
 8000GR Butterfly Valve ..... 46 - 48

**GRUVLOK FLOW CONTROL COMPONENTS ..... 49-64**  
 400G Grooved-End Silent Check Valve ..... 49  
 7800 Gruvlok Check Valve ..... 50 - 51  
 7500 Gruvlok Ball Valve ..... 52 - 53  
 GBV-A Grooved-End Angle Balancing Valve ..... 54  
 GBV-G Grooved-End Straight Balancing Valve ..... 54  
 GBV-S Sweat Four Turn Balancing Valve ..... 55  
 GBV-T Threaded Four Turn Balancing Valve ..... 55  
 FTV-S & FTV-A Gruvlok Tri-Service Valve ..... 56  
 7260 Gruvlok Tee Strainer ..... 57  
 758G Grooved-End “Wye” Strainer ..... 58  
 768G Grooved-End “Wye” Strainer ..... 59  
 7250 Suction Diffuser ..... 60 - 61  
 GAV-15 Automatic Air Vent ..... 62  
 GAV-30 Automatic Air Vent ..... 63  
 SF21-GG GR x GR Flex Connectors ..... 64  
 SF21-GF GR x FL Flex Connectors ..... 64  
 SF21-FF FL x FL Flex Connectors ..... 64

<b>GRUVLOK HIGH PRESSURE SYSTEM</b> .....	<b>65-646</b>	<b>GRUVLOK SOCK-IT® PIPING METHOD</b> .....	<b>81-84</b>
7004HPR Coupling .....	65	Gruvlok Sock-It® Specifications .....	81
7004EG End Guard® Coupling .....	65	7100 90° Elbow (Sock-It x Sock-It) .....	81
7022EG High Pressure Header Tee .....	66	7101 90° Reducing Elbow (Sock-It x NPT) .....	82
7050EG High Pressure 90° LR Elbow .....	66	7103 Sock-It Straight Tee .....	82
7051EG High Pressure 45° LR Elbow .....	66	7105 Sock-It Tee .....	83
7060EG High Pressure Tee .....	66	7106 Sock-It Reducing Tee (S x S x NPT) .....	84
7068EG High Pressure Cross .....	66	7107 Sock-It Coupling (S x S) .....	84
<b>GRUVLOK ADVANCED COPPER METHOD</b> .....	<b>67-72</b>	<b>GRUVLOK STAINLESS STEEL METHOD</b> .....	<b>85-90</b>
Copper Method Performance Data .....	67	7400SS Rigidlite Stainless Steel Coupling .....	85
7400 Rigidlite® Coupling .....	68	7500 Stainless Steel Grooved-End Ball Valve .....	86 - 87
7012 Gruvlok Flange .....	69	7050SS 90° Stainless Steel Elbow .....	88
7550 Copper 90° Elbow .....	70	7051SS 45° Stainless Steel Elbow .....	88
7551 Copper 45° Elbow .....	70	7060SS Stainless Steel Tee .....	88
7560 Copper Tees .....	70	7061SS Stainless Steel Reducing Tee .....	89
7572 Copper (Gr x Gr) Concentric Reducer .....	70	7074SS Stainless Steel Caps .....	89
7561A Copper (Gr x Gr x Gr) Reducing Tee .....	71	7072SS Stainless Steel Concentric Reducers .....	90
7564A Copper (Gr x Gr x Cup) Reducing Tee .....	71	7073SS Stainless Steel Eccentric Reducers .....	90
7575 Copper (Gr x Cup) Reducing Adapter .....	71	<b>GRUVLOK TECHNICAL DATA</b> .....	<b>91-117</b>
7574 Copper End Caps .....	71	Gruvlok Gasket Styles .....	91
7582 Copper Transition Fitting .....	71	Gasket Grade Index & Recommendations .....	92-94
7500C Grooved-End Copper Valve .....	72	Gruvlok Extreme Temperature Lubricant .....	95
<b>GRUVLOK DI-LOK® NIPPLE CONNECTION</b> .....	<b>73-74</b>	Gruvlok Quick Dry Lubricant .....	95
Gruvlok DI-LOK Nipple Specifications .....	73	Gruvlok Flow Control Components .....	96
7088 DI-LOK Nipple (GR x THD) .....	74	Design Factors- Linear & Angular Movement .....	97
7090 DI-LOK Nipple (THD x THD) .....	74	Movement Applications .....	98-101
7089 DI-LOK Nipple (GR x GR) .....	74	Pipe Support .....	102-104
<b>GRUVLOK PLAIN-END PIPING METHOD</b> .....	<b>75-78</b>	Drafting Symbols for Gruvlok Piping Systems .....	105
Gruvlok Plain-End Specifications .....	75	1007 Roll Groover .....	106 - 107
7005 Roughneck® Coupling .....	75	3007 Roll Groover .....	106 - 107
7050P Plain-End 90° Elbow .....	76	3006 Roll Groover .....	108 - 109
7051P Plain-End 45° Elbow .....	76	3006C Roll Groover .....	108 - 109
7060P Plain-End Tee .....	76	Cut Grooving Pipe Preparation .....	110
7068P Plain-End Cross .....	76	Roll Grooving Pipe Preparation .....	110
7050LRP Plain-End 90° LR Elbow .....	77	Branch Outlet Pipe Clamp-T® Pipe Preparation .....	111
7051LRP Plain-End 45° LR Elbow .....	77	Sock-It® Pipe Preparation .....	111
7061P Plain-End Reducing Tee .....	77	Roughneck® Pipe Preparation .....	111
7069P Plain-End 45° Lateral .....	77	Roll Groove Specifications .....	112
7071P Plain-End 90° True Wye .....	77	Cut Groove Specifications .....	113
7075P Plain-End Bull Plug .....	77	Cut Groove End Guard® Specifications .....	114
7080P Adapter Nipples (PL x GR) .....	78	Roll Groove End Guard® Specifications .....	115
7081P Adapter Nipples (PL x THD) .....	78	Gruvlok Copper Method Prep Specifications .....	116
7082P Adapter Nipples (PL x BEV) .....	78	Terms & Conditions .....	117
7084P Plain-End x Class 150 Flange .....	78	Design Services .....	118 - 119
7085P Plain-End x Class 300 Flange .....	78	Index .....	120 - 121
7077P Plain-End Swagged Nipples .....	78		
<b>GRUVLOK HDPE COUPLINGS</b> .....	<b>79-80</b>		
Gruvlok HDPE Coupling Specifications .....	79		
7305 HDPE Coupling .....	79 - 80		
7307 HDPE Transition Coupling .....	79 - 80		

## PRODUCTS FOR GROOVED PIPING SYSTEM

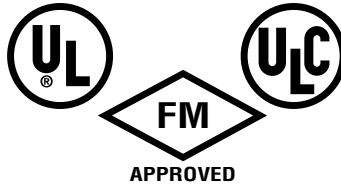
The Gruvlok® System has been manufactured since the late 1960's. The Gruvlok product line has grown from standard couplings and fittings to today's extensive range of grooved product, plain-end product, butterfly valves, check valves, pump protection components, pipe

preparation tools and various accessories.

Gruvlok is part of our overall commitment to provide today's piping industry with tomorrow's products.



Certified to  
ANSI/NSF 61



## INDUSTRY AND GOVERNMENT STANDARDS & APPROVALS

ANSI	American National Standards Institute	COE	Corps of Engineers: CEGS 15000
AWWA	American Water Works Association: C-606	FAA	Federal Aviation Administration: HVAC, Plumbing, Fire Protection
API	American Petroleum Institute: API Std. 5L, Sect. 7.5	FHA	Federal Housing Administration
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers	GSA	General Services Administration: 15000 Series
ASME	American Society of Mechanical Engineers: Power Piping, B-31.1; Chemical Plant and Petroleum Refinery Piping, B-31.3; Refrigeration Piping, B-31.5; Building Services Piping, B-31.9; Slurry Pipelines, B-31.11	MIL	Military Specifications: MILP-10388 Fittings; MIL-C-10387 Couplings; MIL-P-11087A(CE) Steel Pipe, Grooved MIL-I-45208 Inspection Procedure
ASTM	American Society of Testing and Materials: F-1476, F-1387	NASA	National Aeronautics and Space Administration: 15000 Series
BBA	British Board of Agreement	NAVFAC	Naval Facilities Engineering Command: NFGS 15000 Series
CSA	Canadian Standards Association: B-242	NIH	National Institute of Health (Dept. of Health): 15000 Series
FM	Factory Mutual Engineering Corp.	TVA	Tennessee Valley Authority: Fire protection, storm drains
IAPMO	International Association of Plumbing & Mechanical Officials	VA	Veterans Affairs : 15000 Series
LLOYD'S	Lloyd's Register of Shipping		
MEA	Materials & Equipment Acceptance	<b>Worldwide</b>	
NFPA	National Fire Protection Association	BV	Bureau Veritas
NY-BSA	New York Board of Standards and Appeals	DNV	Det Norske Veritas
NSF	NSF International		Hong Kong Fire Services Board
SBCCI	Southern Building Code Congress International: Standard Plumbing and Mechanical Code		New Zealand Insurance Council
UL	Underwriter's Laboratories, Inc.		New Zealand Building Act. (1991)
ULC	Underwriter's Laboratories of Canada	SSL	Scientific Services Laboratory
	Bureau of Marine Inspection: Salt and fresh water, oil transfer		Standards Australia
	Bureau of Public Roads; Div. of Bridges: Drain lines and bridge crossings	VdS	Verband der Sachversicherer e.V.
	Canadian Coast Guard	LPC	Loss Prevention Council
	U.S. Coast Guard – Approves each vessel individually	WRC	Water Research Council
ABS	American Bureau of Shipping	DVGW	Deutscher Vereindes Gas und Wasserfaches e.V.
		BBA	SM Board of Agreement

## Gruvlok – The Engineered Coupling

### Housing (A) Flexible or Rigid

The Gruvlok Coupling housing is designed to self-center around the pipe. The housing encircles and retains the gasket against the application of internal system pressure or vacuum.

The housing key sections fit into and engage the pipe-end grooves around the entire pipe circumference, thus restraining the pipe ends from separation due to the application of internal pressure.

Flexible Couplings provide designed-in clearances between the housing key sections and the pipe grooves to permit both angular and longitudinal movement of the pipe. Rigid couplings grip the pipe and lock the joint into position.

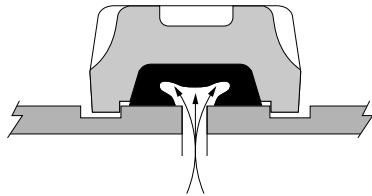
All housings are coated with lead free paint for general service applications. The paint serves to provide protection against normal atmospheric corrosion. However, for couplings used in corrosive environments, hot-dip galvanizing, and stainless steel are available.

### Gasket (B)

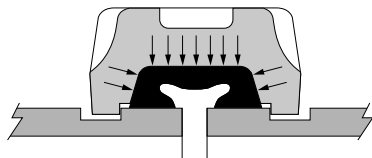
The unique single piece “C” style design of the gasket has been engineered to provide a pressure responsive, leak-tight seal in both pressure and vacuum applications without the aid of external forces. The “lips” of the gasket are molded so that upon installation onto the pipe ends they provide compression against the pipe surface to establish the leak-tight seal.

The gasket cavity functions as a “pressure reservoir”. Pressure within the pipe system is applied to the internal surfaces of the gasket which increases the sealing force and enhances the leak-tight seal. In vacuum systems, non-pressure-responsive seals tend to “lift off” the pipe, producing leak paths. However, the Gruvlok gasket reacts to the negative pressure (higher outside atmospheric pressure) as to improve the sealing capability of the gasket.

Gasket Reaction To Pressure



Gasket Reaction To Vacuum



### Bolts and Nuts (C)

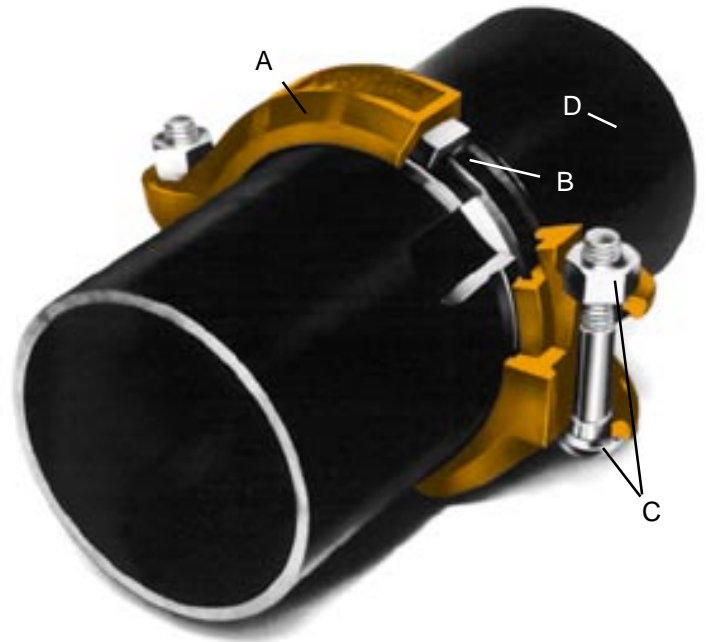
Heat treated oval neck track head bolts serve to connect and secure the housing segments together. The oval neck design prevents turning of the bolt while tightening the hex nut with a single wrench. The bolt size and corresponding wrench (or socket) size for the hex nuts are shown in the chart below.

#### ANSI

Bolt Size	3/8	1/2	5/8	3/4	7/8	1	1 1/4
Wrench Size	1 1/16	7/8	1 1/16	1 1/4	1 7/16	1 5/8	2

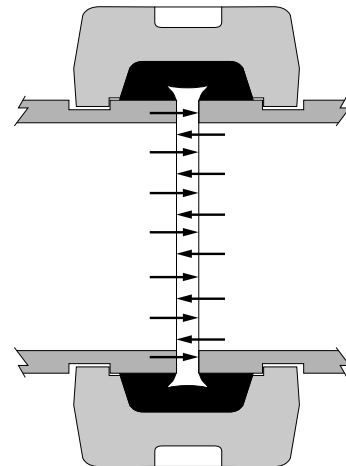
#### Metric

Bolt Size	M10	M12	M16	M20	M22
Wrench Size	16	22	24	30	34



### Grooved Pipe Ends (D)

The ends of the pipe must have a groove in them which may be either cut grooved or roll grooved. The grooved pipe ends engage the coupling keys, thus, providing a self-restraining, mechanical joint capable of resisting the separation of the pipe ends due to the application of system pressure. The groove diameters must be dimensionally accurate to obtain the maximum benefit of the Gruvlok Coupling.



## The Gruvlok Piping Method

Gruvlok couplings and grooved-end fittings are widely used for joining pipe in a wide variety of piping systems. Gruvlok couplings for grooved-end pipe are designed to provide a self-centering joint which accommodates the application of pressure, vacuum and other external forces, while limiting the burdensome need for special supports, expansion joints, etc.

The Gruvlok piping method offers many mechanical design features which benefit the design engineer, the contractor, and the end user. Utilization of the functional characteristics of the Gruvlok coupling will aid in pipe system design and must be considered for proper installation, assembly and performance.

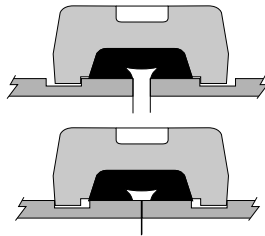
The design factors presented in the Gruvlok technical data section should always be referenced to when designing any grooved piping system to obtain the maximum benefit of the Gruvlok piping method.



### GRUVLOK FEATURES

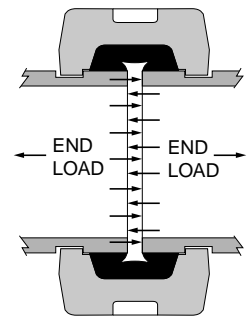
#### RIGIDITY OR FLEXIBILITY

Couplings are available where rigid connections are required. Couplings with flexible design allow for pipe expansion and contractions with temperature changes. The need for an expansion joint is minimized or eliminated.



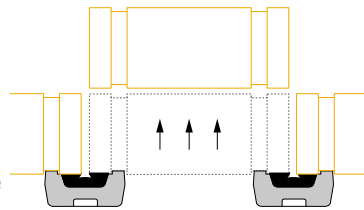
#### SELF RESTRAINING JOINT

The couplings engage the pipe around the entire circumference and restrain the pipe ends from separation due to pressure and other forces, up to the maximum coupling rated working pressure.



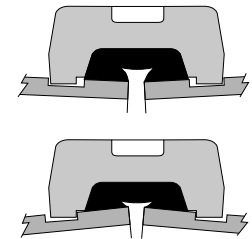
#### CONVENIENT JOINT

Gruvlok couplings can be disassembled easily permitting maintenance and servicing of the piping system. It will facilitate periodic rotation of pipe to distribute internal wear from slurries or other abrasive media.



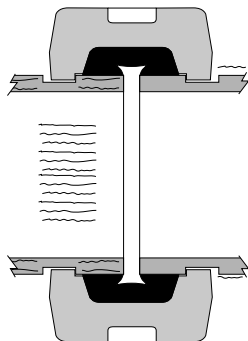
#### ABSORBS PIPING STRESS

Flexibility designed in the Gruvlok coupling absorbs and eliminates stress from settlement of buried pipe or those induced by seismic tremors.



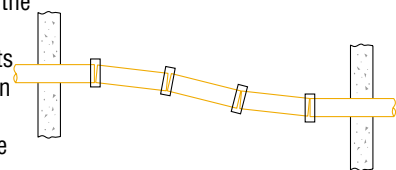
#### HANDLES NOISE & VIBRATION

The resilient elastomeric gasket and pre-designed gap of the Gruvlok coupling help isolate and absorb noise and vibration, this minimizes vibration transmission.



#### ACCOMMODATES JOINT DEFLECTION & MISALIGNMENT

The flexibility designed into the Gruvlok coupling will accommodate misalignments caused by imprecise location of pipe opening through walls and floors, will provide pitch for drainage piping systems and facilitate laying pipe on uneven terrain, thus permitting deflection in any direction.





## Gruvlok Couplings for Grooved-End Pipe

Gruvlok couplings for grooved-end pipe are available in nominal pipe sizes 1" thru 30" and metric sizes. The variety of coupling designs provides a universal means for the connection for pipe, fittings, and pipe system components. The wide assortment of Gruvlok couplings and gaskets permit selection of the most suitable combination for a specific application, thus providing the most versatile and economical pipe system installation.

### Material Specifications:

#### Housing:

Ductile Iron conforming to ASTM A536, Grade 65-45-12.

#### Coatings:

Rust inhibiting lead-free paint

Color: ORANGE (standard)

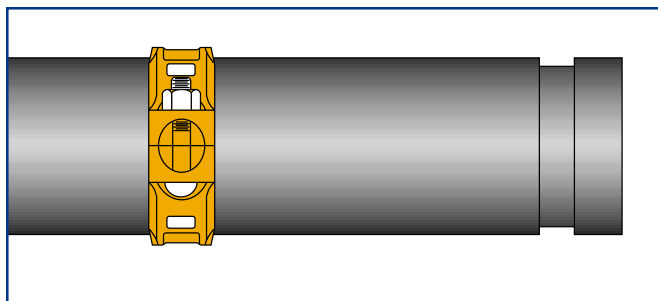
RED (optional)

Hot Dipped Zinc Galvanized (optional)

For other coating requirements contact Gruvlok.

#### Gaskets:

Elastomers with properties as designated in accordance with ASTM D2000 for each gasket grade. Refer to the Gruvlok Gasket Selection Guide for details.



#### ANSI Bolts and Heavy Hex Nuts:

Heat treated, oval neck track head bolts conforming to ASTM A183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A563. Bolts and nuts are provided zinc electroplated as standard.

#### Metric Bolts and Heavy Hex Nuts:

Heat treated, zinc electroplated oval neck track head bolts made of carbon steel with mechanical properties per ISO 898-1 Class 8.8 or 9.8. Hex nuts are zinc electroplated followed by a yellow chromate dip.

**Stainless Steel Bolts and Nuts** are also available.

Contact your Gruvlok representative for details.

## Coupling Data Chart Notes

COUPLING DATA CHART NOTES													
Nom. Size <i>In./DN(mm)</i>	Pipe OD <i>In./mm</i>	Max. Wk. Pressure <i>PSI/bar</i>	Max. End Load <i>Lbs./kN</i>	Range of Pipe End Separation <i>In./mm</i>	Deflection from $\mathcal{C}$		Coupling Dimensions			Coupling Bolts Qty.	Bolt Torque <i>Ft.-Lbs./N-M</i>	Approx. Wt. Ea. <i>Lbs./Kg</i>	
					Per Coupling <i>Degrees</i>	Per in./ft. <i>mm/m</i>	X <i>In./mm</i>	Y <i>In./mm</i>	Z <i>In./mm</i>				
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>				

- 1** Gruvlok Couplings are identified by either the nominal ANSI pipe size in inches or pipe O.D. in millimeters (see column 2).
- 2** Nominal Outside Diameter of Pipe.
- 3** Maximum line pressure, including surge, to which a joint can be subjected. Working pressure ratings are based on standard wall steel pipe with standard cut or roll grooves in accordance with Gruvlok specifications. For Performance Data on other than standard wall pipe, refer to Technical data section.  
**Note: For one time field test only the maximum joint working pressure may be increased to 1½ times the figure shown.**
- 4** Maximum end load from all interior and/or exterior forces to which the joint can be subjected are based on standard wall steel pipe with standard cut or roll grooves in accordance with Gruvlok specifications.
- 5** Range of pipe end separation is the gap between the pipe ends due to assembly.
- 6** Maximum allowable angular deflection of pipe from centerline when using standard cut grooved steel pipe. For details see design factors in Gruvlok Technical data section.
- 7** "X", "Y", and "Z" are external dimensions for reference purposes only.
- 8** The quantity of bolts equals the number of housing segments per coupling.
- 9** When applicable, nuts must be tightened alternating and evenly to the recommended bolt torque.
- 10** Approximate weight for a fully assembled coupling with gasket, bolts, and nuts.

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## FIG. 7001 STANDARD FLEXIBLE COUPLING

The Fig. 7001 is designed for a wide range of applications, including Commercial/Industrial Construction, Mining, Process piping, and many others.

The housing design allows for optimum strength without excessive casting weight. The Fig. 7001 coupling has a working pressure rating up to 1000 psi (69 bar).

**Working Pressure, End Load, Pipe End Separation and Deflection values** are based on standard wall steel pipe with cut or roll grooves in accordance with Gruvlok specifications.

For standard Roll Groove steel pipe reduce the values for deflection from  $\mathcal{C}$  by 50%. See page 97 for Deflection data

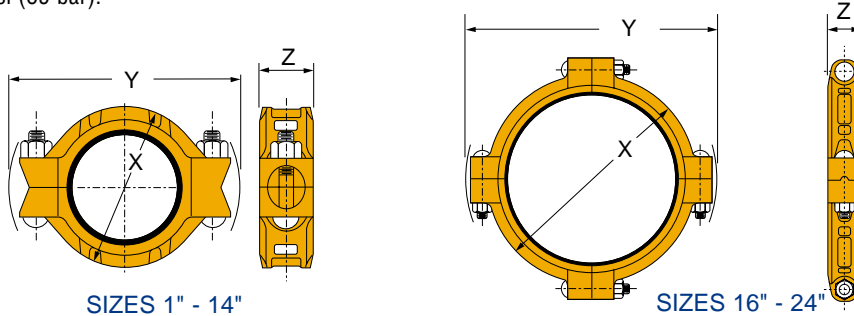


FIGURE 7001 STANDARD COUPLING

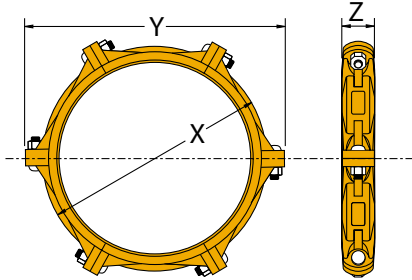
Nom. Size	Pipe OD	Max. Wk. Pressure	Max. End Load	Range of Pipe End Separation	Deflection from $\mathcal{C}$ Per Coupling	Per in./ft.	Coupling Dimensions			Coupling Bolts* Size	Approx. Wt. Ea.	
							X	Y	Z			
In./DN(mm)	In./mm	PSI/bar	Lbs./kN	In./mm	Degrees	mm/m	In./mm	In./mm	In./mm	Qty.	In./mm	Lbs./Kg
1	1.315	1000	1,358	0 - 1/8	5° 26'	1.14	2 1/2	4 1/2	1 1/8	2	3/8 x 2 1/4	1.3
25	33.4	68.9	6.04	0 - 3.2		94.7	64	114	48		M10 x 57	0.6
1 1/4	1.660	1000	2,164	0 - 1/8	4° 19'	0.90	2 3/4	4 1/2	1 1/8	2	3/8 x 2 1/4	1.4
32	42.2	68.9	9.63	0 - 3.2		75.3	70	114	48		M10 x 57	0.6
1 1/2	1.900	1000	2,835	0 - 1/8	3° 46'	0.79	3	4 5/8	1 1/8	2	3/8 x 2 1/4	1.5
40	48.3	68.9	12.61	0 - 3.2		65.7	76	117	48		M10 x 57	0.7
2	2.375	1000	4,430	0 - 1/8	3° 1'	0.63	3 3/8	6 1/8	1 1/8	2	1/2 x 3	3.1
50	60.3	68.9	19.71	0 - 3.2		52.6	92	156	48		M12 x 76	1.4
2 1/2	2.875	1000	6,492	0 - 1/8	2° 29'	0.52	4 1/4	6 1/2	1 1/8	2	1/2 x 3	3.7
65	73.0	68.9	28.88	0 - 3.2		43.3	108	165	48		M12 x 76	1.7
3 OD	2.996	1000	7,050	0 - 1/8	2° 23'	0.50	4 1/4	6 3/4	1 1/8	2	1/2 x 3	4.3
65	76.1	68.9	31.36	0 - 3.2		41.6	108	171	48		M12 x 76	2.0
3	3.500	1000	9,621	0 - 1/8	2° 3'	0.43	4 7/8	7 1/8	1 1/8	2	1/2 x 3	4.3
80	88.9	68.9	42.80	0 - 3.2		35.8	124	181	48		M12 x 76	2.0
3 1/2	4.000	1000	12,566	0 - 1/8	1° 48'	0.38	5 1/4	8 1/4	1 1/8	2	5/8 x 3 1/2	5.1
90	101.6	68.9	55.90	0 - 3.2		31.4	133	210	48		M16 x 89	2.3
4	4.500	1000	15,904	0 - 1/4	3° 11'	0.67	6 1/4	8 3/4	2	2	5/8 x 3 1/2	6.8
100	114.3	68.9	70.75	0 - 6.4		55.5	159	222	51		M16 x 89	3.1
5	5.563	1000	24,306	0 - 1/4	2° 35'	0.54	7 1/4	11 1/4	2	2	3/4 x 4 1/2	9.6
125	141.3	68.9	108.12	0 - 6.4		45.1	184	286	51		M20 x 110	4.4
6	6.625	1000	34,472	0 - 1/4	2° 10'	0.45	8 5/8	11 3/4	2	2	3/4 x 4 1/2	11.8
150	168.3	68.9	153.34	0 - 6.4		37.8	219	298	51		M20 x 110	5.4
6 1/2 OD	6.500	1000	33,183	0 - 1/4	2° 12'	0.46	8 1/4	11 3/4	2	2	3/4 x 4 1/2	11.8
150	165.1	68.9	147.61	0 - 6.4		38.4	210	298	51		M20 x 110	5.4
8	8.625	800	46,741	0 - 1/4	1° 40'	0.35	11	14 3/8	2 3/8	2	7/8 x 5	21.7
200	219.1	55.2	207.91	0 - 6.4		29.1	279	365	60		M22 x 140	9.8
10	10.750	800	72,610	0 - 1/4	1° 20'	0.28	13 1/8	16 5/8	2 5/8	2	7/8 x 5	27.0
250	273.0	55.2	322.99	0 - 6.4		23.3	333	422	67		M22 x 140	12.2
12	12.750	800	102,141	0 - 1/4	1° 7'	0.23	15 1/2	18 5/8	2 5/8	2	7/8 x 5	35.0
300	323.9	55.2	454.35	0 - 6.4		19.5	394	473	67		M22 x 140	15.9
14	14.000	300	46,181	0 - 1/4	1° 2'	0.22	16 1/8	20 1/2	3	2	7/8 x 5	37.0
350	355.6	20.7	205.43	0 - 6.4		18.0	410	521	76		M22 x 140	16.8
16	16.000	300	60,319	0 - 1/4	0° 54'	0.19	18 1/8	22 7/8	3	4	1 x 5 1/2	50.0
400	406.4	20.7	268.31	0 - 6.4		15.7	460	581	76		-	22.7
18	18.000	300	76,341	0 - 1/4	0° 48'	0.17	21 1/8	25 3/8	3 3/8	4	1 x 5 1/2	72.0
450	457.2	20.7	339.58	0 - 6.4		14.0	537	645	79		-	32.7
20	20.000	300	94,248	0 - 1/4	0° 43'	0.15	23	28 1/4	3 3/8	4	1 x 5 1/2	82.0
500	508.0	20.7	419.23	0 - 6.4		12.5	584	718	79		-	37.2
24	24.000	300	135,717	0 - 1/4	0° 36'	0.13	27	32 3/8	3 3/8	4	1 1/8 x 5 1/2	90.0
600	609.6	20.7	603.70	0 - 6.4		10.5	686	822	79		-	40.8
28 ID	28.875	150	98,226	0 - 1/4	0° 33'	0.12	33 1/2	35 1/2	3 3/8	6	1 1/8 x 5 1/2	105
700	733.4	10.3	436.93	0 - 6.4		9.6	851	902	79		-	47.6
30 ID	31.000	150	113,215	0 - 1/4	0° 28'	0.10	33 3/4	38 1/4	3 5/8	6	1 x 5 1/2	137
750	787.4	10.3	503.61	0 - 6.4		8.1	857	972	92		-	62.1

\* Available in ANSI or metric bolt sizes only as indicated. For additional details see coupling data chart notes on page 9.

## FIG. 7011 STANDARD COUPLING

The Gruvlok® Figure 7011 Standard Coupling is a flexible coupling designed to join roll grooved or cut grooved 30" OD pipe for a wide range of applications, including Commercial/Industrial Construction, Mining, Process Piping and many others. This coupling's operating temperature ranges from -40°F to +230°F (-40°C to +110°C) with the Grade E EPDM gasket and -20°F to +180°F (-29°C to +82°C) with the Grade T Nitrile gasket. The operating pressure ranges 15" of Hg. vacuum to 300 psig on standard wall steel pipe.

**Housing Design:** This six-segment coupling's housing is cast in ductile iron per ASTM A536 Grade 65-45-12. Each housing segment is machined to assure a close dimensional fit with pipe ends that are prepared in accordance with Gruvlok "Larger Diameter Roll and Cut Groove Specifications" shown in data sheet #32.



**Gasket Design:** The gasket design is a "C" Style cross section and features a larger cross section to provide optimal sealing throughout the range of pipe dimensional variations and operating conditions. The gasket is available in EPDM and Nitrile, to facilitate use in a wide range of applications. For Gruvlok gasket material recommendations see page 93 - 94 of this catalog.

**Bolts and Heavy Hex Nuts:** Heat treated, oval neck track bolts of carbon steel conforming to ASTM A183 Grade 2 and heavy hex nuts of carbon steel conforming to ASTM A563. Bolts and nuts are zinc plated per ASTM B633 as standard.

**Pipe End Preparation:** Pipe grooving is simple, easy and quick. It is critical that the pipe ends be prepared in accordance with the Gruvlok "Larger Diameter Roll and Cut Groove Specifications" shown in data sheet #32. **For roll grooved pipe, grinding the weld seam on the interior and exterior of the pipe may be required. Not performing this operation may result in improper assembly of the coupling, gasket leakage and damage to the roll grooving machine.**



FIGURE 7011 STANDARD COUPLING

Nom. Size In./DN(mm)	Pipe OD In./mm	Max. Wk. Pressure PSI/bar	Max. End Load Lbs./kN	Range of Pipe End Separation In./mm	Deflection from $\mathcal{C}$ Per Coupling Degrees	Deflection from $\mathcal{C}$ Per in./ft. mm/m	Coupling Dimensions			Coupling Bolts* Qty.	Approx. Wt. Ea. Lbs./Kg	
							X In./mm	Y In./mm	Z In./mm			
30 ID 750	30.000 762.0	300 20.7	212,058 943.2	0 - 3/16 0 - 4.8	0° 40'	0.14 11.5	34 864	39 1/2 1003	5 127	6	1 1/4 x 4 3/8 -	200 90.9

Working pressure and end load values are for standard wall pipe.  
For additional information see "Coupling Data Chart Notes" page 9.  
Roll and Cut Grooving Specifications can be found on page 112 and 113  
For installation instructions refer to data sheet #32

### LARGE DIAMETER PIPE ROLL AND CUT GROOVE SPECIFICATIONS

Nominal IPS Pipe Size In./DN(mm)	Pipe OD			Gasket Seat "A" In./mm	Groove Width "B" In./mm	Groove Diameter "C"		Groove Depth "D" In./mm (Ref. Only)	Min. Wall Thickness "T"		Max. Flare Dia. In./mm
	Actual In./mm	+In./mm Tolerance	-In./mm			Actual In./mm	Tol. -In./mm		Roll Groove In./mm	Cut Groove In./mm	
30 OD 750	30.000 762.0	0.093 2.36	0.031 0.79	1.750 44.45	0.625 15.88	29.500 749.30	0.063 1.60	0.250 6.35	0.250 6.35	0.625 15.88	30.200 767.1

- Pipe OD must be within specified dimensions
- Gasket Seat must be free from scores, seams, chips, rust or other scale, which may interfere with proper sealing of the gasket. Gasket Seat width, dimension A, is to be measured from the pipe end to the vertical flank in the groove.
- Groove width, dimension B, is to be measured between the vertical flank of the groove side walls.
- Groove depth must be uniform depth around the entire pipe circumference. (Reference column 6.)
- Maximum Flare Diameter is to be measured at the most extreme pipe end.
- Out of Roundness: Difference between the maximum and minimum pipe OD measured at 90° must not exceed the total pipe OD tolerance listed (Reference column 2).
- The maximum allowable tolerance from square cut ends is .125" measured from a true square line.
- Beveled end pipe in conformance with ANSI B16.25 (37 1/2°) is acceptable, however square cut is preferred.

**Special Roll Grooving Instruction:**

- Weld seams must be ground flush with the pipe OD and ID prior to roll grooving. Failure to do so may result in damage to the roll grooving machine and unacceptable roll grooves may be produced.

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

## FIG. 7401 – RIGIDLOK® COUPLING

The Fig. 7401 Rigidlok Coupling from Gruvlok provides a rigid, locked in pipe connection. Rigidity is attained simply; it is designed in.

The Fig. 7401 Rigidlok coupling is based on a technologically advanced housing design that conforms to and grips the pipe. With the Fig. 7401 there emerges a new generation of rigid couplings.

Coupling installation is fast and easy, remove only one nut and swing the housing over the gasket and into the grooves. The exclusive Guidelok® feature automatically separates the grooved pipe ends and guides the coupling into position as the bolts are tightened. Precisely sized and oriented tines in the housing key section firmly grip the pipe. The combination of these designed in features produce a secure, rigid pipe joint connection.

This coupling is an ideal connector for pumps, valves and most other applications that require a rigid connection.

The Fig. 7401 Rigidlok Coupling is designed for use with roll grooved or cut grooved standard weight and roll grooved lightweight pipe, as well as with grooved-end fittings and valves. The Rigidlok Coupling maintains a rigid connection with support and hanging in conformance with applicable ANSI B31.1 Power Piping Code, ANSI B31.9 Building Service Pipe Code as well as NFPA 13 sprinkler systems.

The Fig. 7401 Rigidlok Coupling allows for working pressure ratings to 750 psi (51.7 bar) when used on standard wall roll or cut grooved pipe.

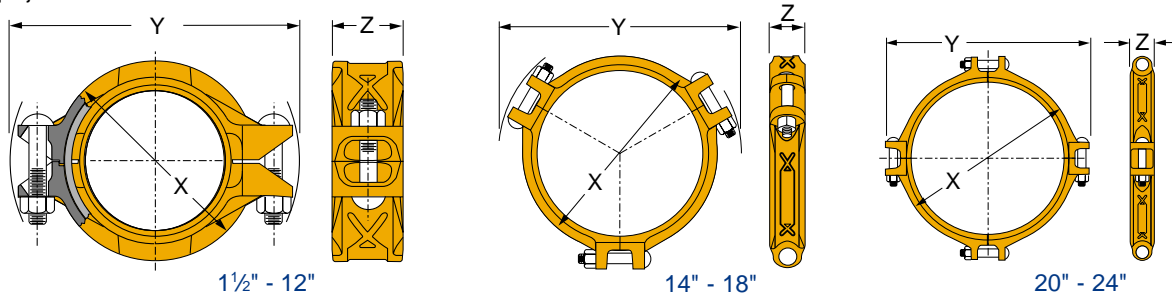


FIGURE 7401 RIGIDLOK COUPLING

Nom. Size In./DN(mm)	Pipe OD In./mm	Max. Wk. Pressure PSI/bar	Max. End Load Lbs./kN	Range of Pipe End Separation In./mm	Coupling Dimensions			Coupling Bolts* Qty.	Approx. Wt. Ea. Lbs./Kg	
					X In./mm	Y In./mm	Z In./mm			
1½	1.900	750	2,126	0 - 1/8	3	5 1/8	1 1/8	2	3/8 x 2 1/4	1.8
40	48.3	51.7	9.46	0 - 3.2	76	130	48		M10 x 57	0.8
2	2.375	750	3,323	0 - 1/8	3 1/2	5 5/8	1 1/8	2	3/8 x 2 1/2	2.4
50	60.3	51.7	14.78	0 - 3.2	89	143	48		M10 x 70	1.1
2½	2.875	750	4,869	0 - 1/8	4	6 1/8	1 1/8	2	3/8 x 2 1/2	2.9
65	73.0	51.7	21.66	0 - 3.2	102	156	48		M10 x 70	1.3
3 OD	2.996	750	5,287	0 - 1/8	4 1/8	6 1/8	1 1/8	2	3/8 x 2 1/2	3.4
65	76.1	51.7	23.52	0 - 3.2	105	156	48		M10 x 70	1.5
3	3.500	750	7,216	0 - 1/8	4 3/4	7 1/4	1 1/8	2	1/2 x 3	3.6
80	88.9	51.7	32.10	0 - 3.2	121	184	48		M12 x 76	1.6
4	4.500	750	11,928	0 - 1/4	5 1/8	8 3/8	2 1/8	2	1/2 x 3	5.0
100	114.3	51.7	53.06	0 - 6.4	149	213	54		M12 x 76	2.3
5	5.563	750	18,229	0 - 1/4	7	10	2 1/8	2	5/8 x 3 1/2	6.9
125	141.3	51.7	81.09	0 - 6.4	178	254	54		M16 x 89	3.1
5½ OD	5.500	750	17,819	0 - 1/4	7	9 3/4	2 1/8	2	5/8 x 3 1/2	6.9
125	139.7	51.7	79.26	0 - 6.4	178	248	54		M16 x 89	3.1
6	6.625	750	25,854	0 - 1/4	8 1/8	11 1/8	2 1/8	2	5/8 x 3 1/2	7.9
150	168.3	51.7	115.00	0 - 6.4	206	283	54		M16 x 89	3.6
6½ OD	6.500	750	24,887	0 - 1/4	8	11	2 1/8	2	5/8 x 3 1/2	7.6
150	165.1	51.7	110.70	0 - 6.4	203	279	54		M16 x 89	3.4
8	8.625	600	35,056	0 - 1/4	10 1/2	14 1/8	2 3/8	2	3/4 x 4 1/2	15.9
200	219.1	51.7	155.94	0 - 6.4	267	359	67		M20 x 110	7.2
10	10.750	500	45,381	0 - 1/4	12 1/8	17 1/2	2 3/8	2	1 x 6	25.6
250	273.1	51.7	201.87	0 - 6.4	327	445	67		-	11.6
12	12.750	400	51,070	0 - 1/4	15	19 1/2	2 3/8	2	1 x 6	30.5
300	323.9	51.7	227.17	0 - 6.4	381	495	67		-	13.8
14	14.000	300	46,181	0 - 1/4	16 1/4	19 3/4	3	3	7/8 x 5 1/2	36.1
350	355.6	20.7	205.43	0 - 6.4	413	502	76		-	16.4
16	16.000	300	60,319	0 - 1/4	18 1/8	22 1/4	3	3	7/8 x 5 1/2	40.8
400	406.4	20.7	268.31	0 - 6.4	460	565	76		-	18.5
18	18.000	300	76,341	0 - 1/4	20 1/2	24 3/8	3 1/8	3	7/8 x 5 1/2	51.6
450	457.2	20.7	339.58	0 - 6.4	521	619	79		-	23.4
20	20.000	300	94,248	0 - 1/4	23	26 1/8	3 1/8	4	1 x 6	68.3
500	508.0	20.7	419.23	0 - 6.4	581	683	79		-	31.0
24	24.000	250	113,097	0 - 1/4	27 1/8	30 1/8	3 1/8	4	1 x 6	89.3
600	609.6	17.2	503.08	0 - 6.4	689	784	79		-	40.5

\* Available in ANSI or metric bolt sizes only as indicated.

For additional details see coupling data chart notes page 9.

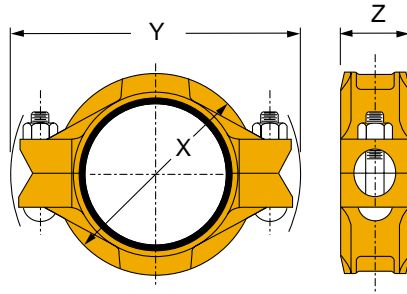
## FIG. 7000 – LIGHTWEIGHT FLEXIBLE COUPLING

The Fig. 7000 Coupling is designed for applications requiring moderate internal pressures.

The Fig. 7000 Coupling is approximately 30% lighter in weight than the Fig. 7001 Coupling, and allows for working pressure ratings up to 600 psi (41.4 bar).

The Figure 7000 Lightweight Coupling is intended for use in several applications. See page 91 for gasket Grade Index and recommendations.

For standard Roll Groove steel pipe reduce the values for deflection from  $\varnothing$  by 50%. See page 97 for deflection data



**FIGURE 7000 COUPLING**

Nom. Size In./DN(mm)	Pipe OD In./mm	Max. Wk. Pressure PSI/bar	Max. End Load Lbs./kN	Range of Pipe End Separation In./mm	Deflection from $\varnothing$ Per Coupling Degrees	Deflection from $\varnothing$ Per in./ft. mm/m	Coupling Dimensions			Coupling Bolts Qty.	Coupling Bolts Size In./mm	Approx. Wt. Ea. Lbs./Kg
							X In./mm	Y In./mm	Z In./mm			
1 25	1.315 33.4	600 41.4	815 3.62	0 - 1/8 0 - 3.2	5° 26'	1.14 94.7	2 3/8 60	4 1/4 108	1 3/4 44	2 M10 x 57	1.3 0.6	
1 1/4 32	1.660 42.2	600 41.4	1,299 5.78	0 - 1/8 0 - 3.2	4° 19'	0.90 75.3	2 3/4 70	4 3/8 111	1 3/4 44	2 M10 x 57	1.4 0.6	
1 1/2 40	1.900 48.3	600 41.4	1,701 7.57	0 - 1/8 0 - 3.2	3° 46'	0.79 65.7	3 76	4 5/8 117	1 3/4 44	2 M10 x 57	1.5 0.7	
2 50	2.375 60.3	600 41.4	2,658 11.82	0 - 1/8 0 - 3.2	3° 1'	0.63 52.6	3 1/2 89	5 1/2 140	1 3/4 44	2 M10 x 57	3.1 1.4	
2 1/2 65	2.875 73.0	600 41.4	3,895 17.33	0 - 1/8 0 - 3.2	2° 29'	0.52 43.3	4 102	5 3/4 146	1 3/4 44	2 M10 x 57	2.3 1.0	
3 OD 65	2.996 76.1	600 41.4	4,230 18.82	0 - 1/8 0 - 3.2	2° 23'	0.50 41.6	4 102	6 1/8 156	1 3/4 44	2 M10 x 57	2.3 1.0	
3 80	3.500 88.9	600 41.4	5,773 25.68	0 - 1/8 0 - 3.2	2° 3'	0.43 35.8	4 3/8 117	6 3/4 171	1 3/4 44	2 M12 x 76	2.9 1.3	
3 1/2 90	4.000 101.6	600 41.4	7,540 33.54	0 - 1/8 0 - 3.2	1° 48'	0.38 31.4	5 1/8 130	7 3/8 194	1 3/4 44	2 M12 x 76	3.1 1.4	
4 100	4.500 114.3	600 41.4	9,543 42.45	0 - 1/4 0 - 6.4	3° 11'	0.67 55.5	5 1/8 149	8 1/8 206	2 51	2 M12 x 76	4.6 2.1	
4 1/4 OD 100	4.250 108.0	600 41.4	8,512 37.86	0 - 1/4 0 - 6.4	3° 22'	0.70 58.7	5 1/2 140	7 3/4 197	2 51	2 M12 x 76	4.0 1.8	
5 125	5.563 141.3	500 34.5	12,153 54.06	0 - 1/4 0 - 6.4	2° 35'	0.54 45.1	7 178	9 3/8 244	2 51	2 M16 x 89	6.1 2.8	
5 1/4 OD 125	5.236 133.0	500 34.5	10,766 47.89	0 - 1/4 0 - 6.4	2° 44'	0.57 47.7	6 1/2 165	9 3/8 232	2 51	2 M16 x 89	5.7 2.6	
5 1/2 OD 125	5.500 139.7	500 34.5	11,879 52.84	0 - 1/4 0 - 6.4	2° 36'	0.54 45.4	6 3/4 171	9 3/8 238	2 51	2 M16 x 89	6 2.7	
6 150	6.625 168.3	500 34.5	17,236 76.67	0 - 1/4 0 - 6.4	2° 10'	0.45 37.8	8 203	11 279	2 51	2 M16 x 89	8.1 3.7	
6 1/4 OD 150	6.259 159.0	500 34.5	15,384 68.43	0 - 1/4 0 - 6.4	2° 17'	0.48 39.8	7 1/2 191	10 3/8 264	2 51	2 M16 x 89	6.7 3.0	
6 1/2 OD 150	6.500 165.1	500 34.5	16,592 73.80	0 - 1/4 0 - 6.4	2° 12'	0.46 38.4	7 3/4 197	10 3/4 273	2 51	2 M16 x 89	7.0 3.2	
8 200	8.625 219.1	500 34.5	29,213 129.95	0 - 1/4 0 - 6.4	1° 40'	0.35 29.1	10 264	13 1/4 337	2 3/8 60	2 M20 x 110	14.2 6.4	

For additional details see coupling data chart notes page 9

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## FIG. 7400 – RIGIDLITE® COUPLING

The Fig. 7400 Rigidlite Coupling from Gruvlok is specially designed to provide a rigid, locked-in pipe connection to meet the specific demands of rigid design steel pipe and copper tube systems. Fast and easy swing-over installation of the rugged lightweight housing produces a secure, rigid pipe joint.

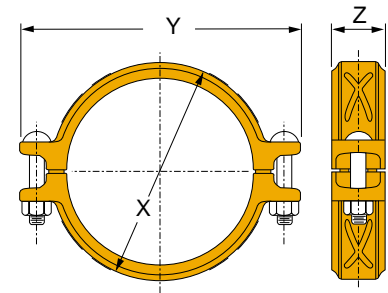
The Fig. 7400 Rigidlite Coupling is UL Listed and FM Approved for 300 psi (20.7 bar) fire protection service in both wet and dry systems with

roll grooved or cut grooved steel pipe prepared in accordance with Gruvlok grooving specifications. Figure 7400 Rigidlite Coupling is available with the Grade E “C” intended for use with the Gruvlok Copper Method.

The Fig. 7400 Rigidlite Coupling is intended for use in several applications. See page 91 for gasket grade index and recommendations

**FIGURE 7400 RIGIDLITE COUPLING**

Nom. Size In./DN(mm)	Pipe OD In./mm	Max. Wk. Pressure PSI/bar	Max. End Load Lbs./kN	Range of Pipe End Separation In./mm	Coupling Dimensions			Coupling Bolts Qty.	Approx. Wt. Ea. Lbs./Kg
					X In./mm	Y In./mm	Z In./mm		
1 25	1.315 33.4	300 20.7	407 1.81	0 - 1/8 0 - 3.2	2 1/4 57	4 1/2 114	1 3/4 44	2 M10 x 57	1.2 0.5
1 1/4 32	1.660 42.2	300 20.7	649 2.89	0 - 1/8 0 - 3.2	2 5/8 67	4 3/4 121	1 3/4 44	2 M10 x 57	1.3 0.6
1 1/2 40	1.900 48.3	300 20.7	851 3.78	0 - 1/8 0 - 3.2	2 7/8 73	4 7/8 124	1 3/4 44	2 M10 x 57	1.4 0.6
2 50	2.375 60.3	300 20.7	1,329 5.91	0 - 1/8 0 - 3.2	3 1/4 83	5 1/2 140	1 3/4 44	2 M10 x 57	1.6 0.7
2 1/2 65	2.875 73.0	300 20.7	1,948 8.66	0 - 1/8 0 - 3.2	3 7/8 98	6 152	1 3/4 44	2 M10 x 57	1.9 0.9
3 OD 65	2.996 76.1	300 20.7	2,115 9.41	0 - 1/8 0 - 3.2	4 102	5 7/8 149	1 3/4 44	2 M10 x 57	1.9 0.9
3 80	3.500 88.9	300 20.7	2,886 12.84	0 - 1/8 0 - 3.2	4 1/2 114	6 3/4 171	1 3/4 44	2 M10 x 70	2.1 1.0
4 100	4.500 114.3	300 20.7	4,771 21.22	0 - 1/4 0 - 6.4	5 1/2 143	7 3/4 197	1 1/2 48	2 M10 x 70	3.1 1.4
5 125	5.563 141.3	300 20.7	7,292 32.44	0 - 1/4 0 - 6.4	6 1/2 175	9 1/4 235	2 51	2 M12 x 76	4.6 2.1
5 1/2 OD 125	5.500 139.7	300 20.7	7,127 31.70	0 - 1/4 0 - 6.4	6 3/4 171	9 1/4 235	2 51	2 M12 x 76	4.5 2.0
6 150	6.625 168.3	300 20.7	10,341 46.00	0 - 1/4 0 - 6.4	7 1/2 200	10 3/8 264	2 51	2 M12 x 76	5.5 2.5
6 1/2 OD 150	6.500 165.1	300 20.7	9,955 44.28	0 - 1/4 0 - 6.4	7 3/4 197	10 3/8 264	2 51	2 M12 x 76	5.5 2.5
8 200	8.625 219.1	300 20.7	17,528 77.97	0 - 1/2 0 - 3.2	10 1/4 260	12 3/4 324	2 3/8 60	2 M12 x 76	8.4 3.8

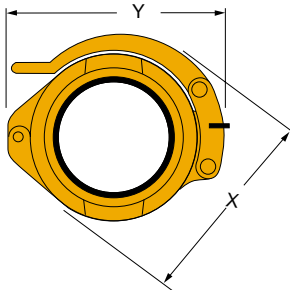


For additional detail see coupling data chart notes page 9.

## FIG. 7003 – HINGELOK® COUPLING

The Fig. 7003 Hingelok Coupling is specially designed for applications requiring a quick connection and/or disconnection of a pipe joint. The two coupling halves are hinged for ease of handling and are secured by a cam-action handle. Sizes 1 1/2" to 4" use toggle link plates and sizes 5"

to 8" use a toggle bolt to attach the cam-action handle to the housings. A locking pin through the handle prevents accidental opening of the coupling. Fig. 7003 Hingelok Coupling is a flexible coupline and allows working pressure ratings up to 300 psi (20.7 bar).



**Special Note:**

Fig. 7003 Hingelok Couplings are not designed for eccentric loading and therefore are not recommended for use at the end of concrete pumping booms or vertical risers above 30 feet (9.1 meters). Shockload must be considered and is to be included in the maximum working pressure listed above. Coupling keys, gasket cavity, and pipe grooves must be kept free of all foreign matter. Proper anchoring practice must always be exercised. **For additional detail see coupling data chart notes page 9.**

\* Z - Coupling Width

**FIGURE 7003 HINGELOK COUPLING**

Nom. Size In./DN(mm)	Pipe OD In./mm	Max. Wk. Pressure PSI/bar	Max. End Load Lbs./kN	Range of Pipe End Separation In./mm	Deflection from C Per Coupling Degrees	Per in./ft. mm/m	Coupling Dimensions			Approx. Wt. Ea. Lbs./Kg
							X In./mm	Y In./mm	Z In./mm	
1 1/2 40	1.900 48.3	300 20.7	851 3.78	0 - 1/8 0 - 3.2	3° 46'	0.79 65.7	3 3/8 92	4 1/4 108	1 7/8 48	1.7 0.8
2 50	2.375 60.3	300 20.7	1,329 5.91	0 - 1/8 0 - 3.2	3° 1'	0.63 52.6	4 1/4 108	4 1/2 124	1 1/2 48	2.2 1.0
2 1/2 65	2.875 73.0	300 20.7	1,948 8.66	0 - 1/8 0 - 3.2	2° 29'	0.52 43.3	5 1/4 133	5 1/2 149	1 1/2 48	3.2 1.5
3 80	3.500 88.9	300 20.7	2,886 12.84	0 - 1/8 0 - 3.2	2° 3'	0.43 35.8	5 3/8 143	6 1/2 165	1 1/2 48	3.6 1.6
4 100	4.500 114.3	300 20.7	4,771 21.22	0 - 1/4 0 - 6.4	3° 11'	0.67 55.5	7 178	7 3/4 197	2 51	5.1 2.3
5 125	5.563 141.3	300 20.7	7,292 32.44	0 - 1/4 0 - 6.4	2° 35'	0.54 45.1	8 3/8 219	9 1/2 241	2 1/2 54	9.5 4.3
6 150	6.625 168.3	300 20.7	10,341 46.00	0 - 1/4 0 - 6.4	2° 10'	0.45 37.8	9 1/8 251	10 3/8 276	2 1/2 54	11.2 5.1
8 200	8.625 219.1	300 20.7	17,528 77.97	0 - 1/4 0 - 6.4	1° 40'	0.35 29.1	12 305	13 1/8 333	2 1/2 64	18.1 8.2

## FIG. 7010 – REDUCING COUPLING

The Fig. 7010 Reducing Coupling makes it possible to directly connect two different pipe sizes, eliminating the need for two couplings and a reducing fitting. The specially designed reducing coupling gasket with a center rib assures proper positioning of the gasket and prevents the smaller pipe from telescoping into the larger during assembly. Fig. 7010 Reducing Coupling allows for working pressure ratings up to 500 PSI (34.5 bar).

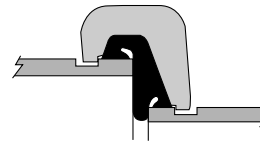
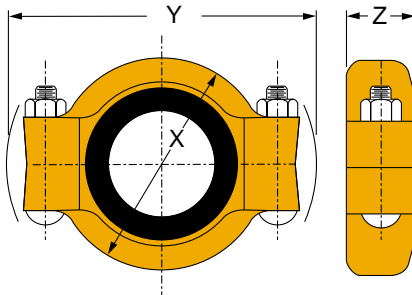


Fig. 7010  
Coupling with Gasket



FIGURE 7010 REDUCING COUPLING														
Nom. Size	Larger Pipe OD	Smaller Pipe OD	Max. Wk. Pressure	Max. End Load	Range of Pipe End Separation	Deflection from $\perp$ Per Coupling	Per in./ft.	Coupling Dimensions			Coupling Bolts Size	Approx. Wt. Ea.		
In./DN(mm)	In./mm	In./mm	PSI/bar	Lbs./kN	In./mm	Degrees	mm/m	X	Y	Z	Qty.	In./mm	Lbs./Kg	
2 x 1½	2.375	1.900	500	2,215	0 - ½	1° 53'	0.39	3⅝	5⅞	1⅞	2	½ x 2¼	2.0	
50 x 40	60.3	48.3	34.5	9.85	0 - 3.2		32.9	92	149	48		M12 x 76	0.9	
2½ x 2	2.875	2.375	500	3,246	0 - ½	1° 33'	0.32	4¼	6⅞	1⅞	2	½ x 2¼	3.5	
65 x 50	73.0	60.3	34.5	14.44	0 - 3.2		27.0	108	162	48		M12 x 76	1.6	
3 x 2	3.500	2.375	500	4,811	0 - ½	1° 17'	0.27	4⅞	7⅞	1⅞	2	½ x 2¼	4.4	
80 x 50	88.9	60.3	34.5	21.40	0 - 3.2		22.4	124	181	48		M12 x 76	2.0	
3 x 2½	3.500	2.875	500	4,811	0 - ½	1° 17'	0.27	4⅞	7⅞	1⅞	2	½ x 2¼	4.1	
80 x 65	88.9	73.0	34.5	21.40	0 - 3.2		22.4	124	181	48		M12 x 76	1.9	
4 x 2	4.500	2.375	500	7,952	0 - ¾	2° 38'	0.55	6¼	8⅞	2	2	¾ x 3½	8.9	
100 x 50	114.3	60.3	34.5	35.37	0 - 4.8		45.9	159	225	51		M16 x 89	4.0	
4 x 2½	4.500	2.875	500	7,952	0 - ¾	2° 38'	0.55	6¼	8⅞	2	2	¾ x 3½	7.9	
100 x 65	114.3	73.0	34.5	35.37	0 - 4.8		45.9	159	225	51		M16 x 89	3.6	
4 x 3	4.500	3.500	500	7,952	0 - ¾	2° 38'	0.55	6¼	8⅞	2	2	¾ x 4½	6.7	
100 x 80	114.3	88.9	34.5	35.37	0 - 4.8		45.9	159	225	51		M20 x 110	3.0	
5 x 4	5.563	4.500	500	12,153	0 - ¾	2° 5'	0.44	7¼	10⅞	2⅞	2	¾ x 4½	11.4	
125 x 100	141.3	114.3	34.5	54.06	0 - 6.4		36.4	184	270	54		M20 x 110	5.2	
6 x 4	6.625	4.500	500	17,236	0 - ¾	1° 44'	0.36	8¼	11⅞	2⅞	2	¾ x 4½	13.4	
150 x 100	168.3	114.3	34.5	76.67	0 - 6.4		30.2	210	295	54		M20 x 110	6.1	
6 x 5	6.625	5.562	500	17,236	0 - ¾	1° 44'	0.36	8½	11⅞	2⅞	2	¾ x 4½	13.5	
150 x 125	168.3	141.3	34.5	76.67	0 - 6.4		30.2	216	295	54		M20 x 110	6.1	
8 x 6	8.625	6.625	500	29,213	0 - ¾	1° 15'	0.26	10½	14	2¼	2	¾ x 4¼	17.7	
200 x 150	219.1	168.3	34.5	129.95	0 - 6.4		21.8	267	356	57		-	8.0	

For additional details see coupling Data Chart Notes page 9.

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## FIG. 7012 AND FIG. 7013 – GRUVLOK FLANGES

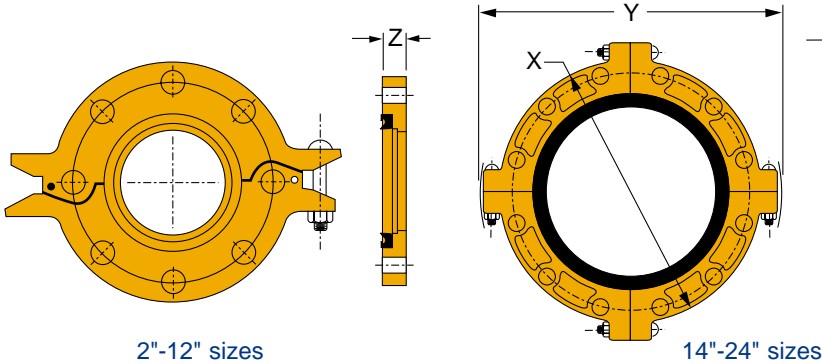
The Gruvlok Fig. 7012 Flange allows direct connection of Class 125 or Class 150 flanged components to a grooved piping system.

The Gruvlok Fig. 7013 300# Flange allows direct connection of Class 250 or Class 300 flanged components to a Gruvlok piping system. The two halves of the 2" thru 12" sizes of both Gruvlok Flanges are drawn together by a latch bolt which eases assembly on the pipe. The 14"

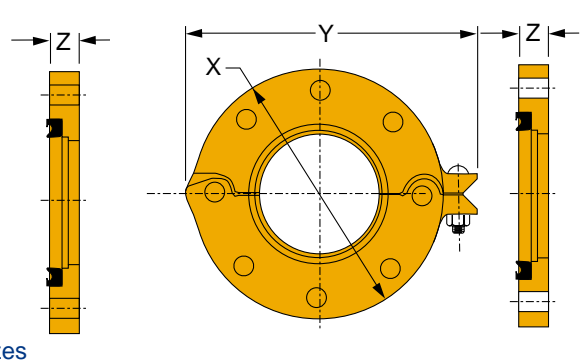
thru 24" sizes of the Gruvlok Fig. 7012 Flange are cast in four segments. A specially designed gasket provides a leak-tight seal on both the pipe and the mating flange face.

Gruvlok Flanges have designed-in anti-rotation tangs which bite into and grip the side of the pipe groove to provide a secure, rigid connection.

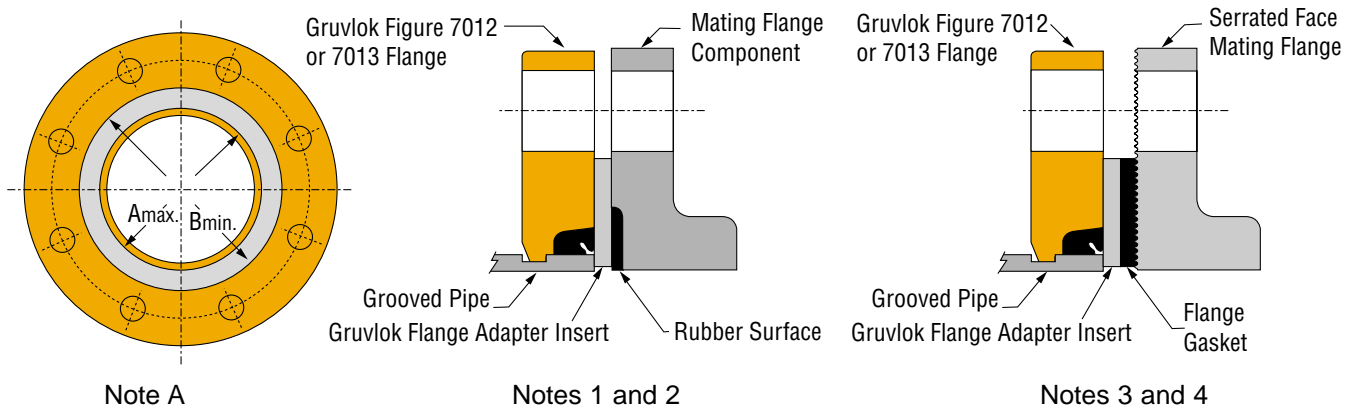
### FIG. 7012 – FLANGE



### FIG. 7013 – 300# FLANGE



## GRUVLOK FLANGES – Fig. 7012 and Fig. 7013



- A. The sealing surfaces A Max. to B. Min. of the mating flange must be free from gouges, undulations and deformities of any type to ensure proper sealing of the gasket.
- B. Gruvlok Flanges are to be assembled on butterfly valves so as not to interfere with actuator or handle operation.
- C. Do not use Gruvlok Flanges within 90 degrees of one another on standard fittings because the outside dimensions may cause interference.
- D. Gruvlok Flanges should not be used as anchor points for tie-rods across non-restrained joints.
- E. Fig. 7012 and Fig. 7013 Gruvlok Flange sealing gaskets require a hard flat surface for adequate sealing. The use of a Gruvlok Flange Adapter Insert is required for applications against rubber faced valves or other equipment. The Gruvlok Flange Adapter Insert is installed between the Gruvlok Flange sealing gasket and the mating flange or surface to provide a good sealing surface area.
- F. Gruvlok Flanges are not recommended for use against formed rubber flanges.

- G. An additional bolt is recommended for the hinge side of the 2" - 12" Figure 7012 when connection to lug valves.
- H. Contact Gruvlok for Di-Electric Flange connections.

### Applications which require a Gruvlok Flange Adapter Insert:

1. When mating to a wafer valve (lug valve), if the valve is rubber faced in the area designated by the sealing surface dimensions (A Max. to B Min.), place the Gruvlok Flange Adapter Insert between the valve and the Gruvlok flange.
2. When mating to a rubber-faced metal flange, the Gruvlok Flange Adapter Insert is placed between the Gruvlok Flange and the rubber-faced flange.
3. When mating to a serrated flange surface, a standard full-faced flange gasket is installed against the serrated flange face and the Gruvlok Flange Adapter Insert is placed between the Gruvlok Flange and the standard Flange gasket.
4. When mating to valves or other component equipment where the flange face has an insert, use procedure described in note 3.





## GRUVLOK FIGURE 7012 FLANGE: ANSI CLASS 125 AND 150 OR ISO PN10 OR PN16 BOLT PATTERNS

Nom. Size In./DN(mm)	Pipe OD In./mm	Max. Wk. Pressure PSI/bar	Max. End Load Lbs./kN	Latch* Bolt Size In./mm	Range Dimensions			Sealing Surface		Mating Flange Bolts Qty. ANSI PN10 (16)	Mating Flange Bolts Size (ANSI) in. (ISO) mm	Approx. Wt. Ea. Lbs./Kg
					X In./mm	Y In./mm	Z In./mm	A Max. In./mm	B Min. In./mm			
2 50	2.375 60.3	300 20.7	1,329 5.91	3/8 x 2 3/4 M10 x 70	6 1/4 159	8 3/8 213	3/4 19	2 3/8 60	3 7/16 87	4 4	5/8 x 2 3/4 M16 x 70	4.2 1.9
2 1/2 65	2.875 73.0	300 20.7	1,948 8.66	3/8 x 2 3/4 M10 x 70	7 178	9 1/2 241	3/4 19	2 7/8 73	4 102	4 -	5/8 x 2 3/4 -	4.6 2.1
3 OD 65	2.996 76.1	300 20.7	2,115 9.41	- M10x70	7 1/4 184	9 3/4 248	3/4 19	3 76	4 1/8 105	- 4	- M16 x 70	4.8 2.2
3 80	3.500 88.9	300 20.7	2,886 12.84	3/8 x 2 3/4 M10 x 70	7 7/8 200	10 1/2 267	3/4 19	3 1/2 89	4 9/16 116	4 8	5/8 x 2-3/4 M16 x 70	6.0 2.7
4 100	4.500 114.3	300 20.7	4,771 21.22	3/8 x 2 3/4 M10 x 70	9 229	11 1/2 292	3/4 19	4 1/2 114	5 9/16 141	8 8	5/8 x 2 3/4 M16 x 70	6.3 2.9
5 125	5.563 141.3	300 20.7	7,292 32.44	3/8 x 2 3/4 M10 x 70	10 254	12 1/2 318	7/8 22	5 9/16 141	6 3/4 171	8 -	3/4 x 2 7/8 -	8.8 4.0
5 1/2 OD 125	5.500 139.7	300 20.7	7,127 31.70	- M10 x 70	9 7/8 251	12 5/8 327	7/8 22	5 9/16 141	6 3/4 171	- 8	- M16 x 75	15.6 7.1
6 150	6.625 168.3	300 20.7	10,341 46.00	3/8 x 2 3/4 M10 x 70	11 279	14 356	7/8 22	6 5/8 168	7 13/16 198	8 8	3/4 x 3 1/8 M20 x 80	9.6 4.4
6 1/2 OD 150	6.500 165.1	300 20.7	9,955 44.28	- M10 x 70	11 1/4 286	14 356	7/8 22	6 5/8 168	7 13/16 198	- 8	- M20 x 80	9.7 4.4
8 200	8.625 219.1	300 20.7	17,528 77.97	3/8 x 2 3/4 M10 x 70	13 1/2 343	16 1/2 419	1 25	8 5/8 219	10 254	8 8 (12)	3/4 x 3 1/4 M20 x 80	15.6 7.1
10 250	10.750 273.1	300 20.7	27,229 121.12	3/8 x 2 3/4 M10 x 70	16 406	19 483	1 25	10 3/4 273	12 1/8 308	12 12	7/8 x 3 1/2 M20 x 90#	18.2 8.3
12 300	12.750 323.9	300 20.7	38,303 170.38	3/8 x 2 3/4 M10 x 70	19 483	21 3/4 552	1 1/4 32	12 3/4 324	14 1/8 359	12 12	7/8 x 3 3/4 -	29.9 13.6
12 (PN) 300	12.750 323.9	300 20.7	38,303 170.38	- M10 x 70	18 3/8 460	21 1/4 540	1 25	12 3/4 324	14 1/8 359	12 12	- M20 x 90#	20.9 9.5
14 350	14.000 355.6	300 20.7	46,181 205.43	5/8 x 4 1/4 -	21 533	24 610	1 1/2 38	14 356	16 406	12 -	1 x 4 1/4 -	52.5 23.8
16 400	16.000 406.4	300 20.7	60,319 268.31	5/8 x 4 1/4 -	23 1/2 597	26 1/2 673	1 1/2 38	16 406	18 457	16 -	1 x 4 1/4 -	67.0 30.4
18 450	18.000 457.2	300 20.7	76,341 339.58	3/4 x 5 -	25 635	29 737	1 5/8 41	18 457	20 508	16 -	1 1/8 x 4 3/4 -	82.5 37.4
20 500	20.000 508.0	300 20.7	94,248 419.23	3/4 x 5 -	27 1/2 699	31 1/2 800	1 3/4 44	20 508	22 559	20 -	1 1/8 x 4 3/4 -	106.5 48.3
24 600	24.000 609.6	250 17.2	113,097 503.08	7/8 x 5 1/2 -	32 813	36 1/2 927	1 7/8 48	24 610	26 660	20 -	1 1/4 x 5 1/2 -	138.5 62.8

## GRUVLOK FIGURE 7013 FLANGE: ANSI CLASS 250 AND 300 BOLT PATTERN

Nom. Size In./DN(mm)	Pipe OD In./mm	Max. Wk. Pressure PSI/bar	Max. End Load Lbs./kN	Latch* Bolt Size In./mm	Range Dimensions			Sealing Surface		Mating Flange Bolts Qty. ANSI PN10 (16)	Mating Flange Bolts Size (ANSI) in. (ISO) mm	Approx. Wt. Ea. Lbs./Kg
					X In./mm	Y In./mm	Z In./mm	A Max. In./mm	B Min. In./mm			
2 50	2.375 60.3	750 51.7	3,323 14.78	3/8 x 2 1/2 M10 x 70	6 1/2 165	8 203	1 25	2 3/8 60	3 7/16 87	8 -	5/8 x 3 -	5.0 2.3
2 1/2 65	2.875 73.0	750 51.7	4,869 21.66	3/8 x 2 1/2 M10 x 70	7 1/2 191	9 1/8 232	1 25	2 7/8 73	4 102	8 -	3/4 x 3 1/4 -	6.9 3.1
3 80	3.500 88.9	750 51.7	7,216 32.10	3/8 x 2 1/2 M10 x 70	8 1/4 210	9 7/8 251	1 1/8 29	3 1/2 89	4 9/16 116	8 -	3/4 x 3 1/2 -	9.4 4.3
4 100	4.500 114.3	750 51.7	11,928 53.06	3/8 x 2 1/2 M10 x 70	10 254	11 1/8 289	1 1/4 32	4 1/2 114	5 5/8 143	8 -	3/4 x 3 3/4 -	14.4 6.5
5 125	5.563 141.3	750 51.7	18,229 81.09	3/8 x 2 1/2 M10 x 70	11 279	12 5/8 321	1 5/8 35	5 9/16 141	6 3/4 171	8 -	3/4 x 4 1/4 -	18.3 8.3
6 150	6.625 168.3	750 51.7	25,854 115.00	3/8 x 2 1/2 M10 x 70	12 1/2 318	14 1/8 359	1 1/2 38	6 5/8 168	7 13/16 198	12 -	3/4 x 4 1/4 -	24.9 11.3
8 200	8.625 219.1	750 51.7	43,820 194.92	1/2 x 2 1/2 -	15 381	16 1/8 429	1 5/8 41	8 5/8 219	10 254	12 -	7/8 x 4 3/4 -	35.4 16.1
10 250	10.750 273.1	750 51.7	68,072 302.80	1/2 x 2 1/2 -	17 1/2 445	19 3/8 492	1 7/8 48	10 3/4 273	12 1/8 308	16 -	1 x 5 -	54.0 24.5
12 300	12.750 323.9	750 51.7	95,757 425.95	1/2 x 2 1/2 -	20 1/2 521	22 1/2 572	2 51	12 3/4 324	14 3/16 360	16 -	1 1/8 x 5 3/4 -	74.8 33.9

# PN 16 uses M24 x 90 (PN) Dimensions for PN 10 and 16 flanges

\* Available in ANSI or metric bolt sizes only as indicated.

- Effective sealing area of mating flange must be free from gouges, undulations or deformities of any type to ensure proper sealing of the gasket.
- Flange cannot be assembled directly to Series 7700 butterfly valve. Flange can be assembled to one side of series 7500 and 7600 valve.

## FIG. 7042 – OUTLET COUPLING

The Gruvlok Fig. 7042 Outlet Coupling is designed to join two sections of grooved end pipe and form a reducing outlet connection. The outlet couplings are available for the 1½ through 6" IPS or ISO run pipe sizes with the outlet pipe sizes ranging from ½ through 2".

Assembly of the coupling will create a gap between the pipe ends allowing the space required for the introduction of an outlet connection. The outlet connections are available grooved (Fig. 7042G), FPT (Fig. 7042F) and MPT (Fig. 7042M).

The gaskets are available in EPDM and Nitrile to suit a wide range of applications. The gasket design is a unique pressure responsive design that provides a higher sealing force as pressure is increased. The outlet gasket seal is reinforced by a steel ring and is mated to a machined housing surface to assure a leak-tight outlet seal. Center ribs inside the

gasket ease positioning of the pipe during installation and provide additional support to the gasket. The outlet couplings are **NOT** recommended for vacuum applications or for use with the Gruvlok Copper Method.



The Figure 7074 Cast Caps are **NOT** recommended for use on run connections. Figure 7075 Bull Plugs must be used on end of line run connections. Figure 7074 Cast Caps may be used on Figure 7042G outlet connections. Flow into the outlet connection of the Figure 7042 Outlet Couplings must not exceed 7 ft./sec.

### Material Specifications:

#### Housing:

Ductile Iron conforming to ASTM A536, Grade 65-45-12

#### Coating:

Rust inhibiting paint - color: orange

#### ANSI Bolts and Heavy Hex Nuts:

Heat treated, zinc electroplated, carbon steel oval-neck track bolts conforming to ASTM A183.

Zinc electroplated carbon steel heavy hex nuts conforming to ASTM A563.

#### Gaskets: (Specify when ordering)

Properties in accordance with ASTM D2000

Grade E EPDM (Green color code); Service Temperature Range: -40°F to 230°F (-40°C to 110°C).

Recommended for water service, dilute acids, alkaline solutions, oil free air and many chemical services. **NOT FOR USE IN PETROLEUM APPLICATIONS**

Grade T Nitrile (Orange color code); Service Temperature Range: -20°F to 180°F (-40°C to 110°C).

Recommended for petroleum applications, air with oil vapor, vegetable, and mineral oils. **NOT FOR USE WITH HOT WATER OR HOT AIR**

For specific chemical applications, reference the Gruvlok Gasket Recommendations section.

### Installation and Assembly

These instructions are based on pipe grooved in accordance with Gruvlok grooving specifications. Prior to assembly check the pipe ends for proper groove dimensions and to assure that the pipe ends are free of indentations, projections or other imperfections, which could prevent proper sealing.

ALWAYS USE ONE OF THE GRUVLOK LUBRICANTS FOR PROPER COUPLING ASSEMBLY. Thorough lubrication of the gasket is essential to prevent pinching and possible damage to the gasket.



#### 1. Check & Lubricate the Gasket

Check the gasket to be sure it is compatible for the intended service. Apply a thin coating of Gruvlok lubricant to the outside and to the sealing lips of the gasket. Ensure that foreign particles do not adhere to the lubricated surfaces.



#### 2. Gasket Installation

Slip the gasket over one pipe end making sure the pipe abuts the gasket's center ribs.



#### 3. Alignment

Align the pipe ends and pull the pipe into the gasket until the center ribs are in contact with the pipe ends. The gasket should not extend into the groove on either pipe. Rotate the gasket to align the outlet of the gasket to the same direction as the branch outlet.



#### 4. Housing Assembly

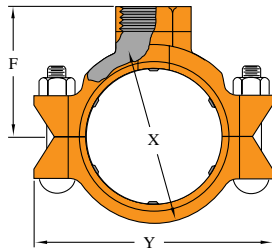
With one nut and bolt removed and the other loosened, place one side of the housing over the gasket. Make sure the ribs on the outside of the gasket align with the recesses in the housing and the keys in the housing are in the grooves on both pipes. Swing the other housing over the gasket and into the grooves on both sides of the pipe. Make sure the recess in the outlet of the housing is properly aligned with gasket outlet.



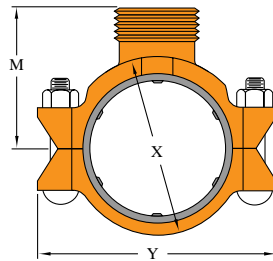
#### 5. Tighten Nuts

Re-insert the bolt and run-up both nuts finger tight. Securely tighten the nuts alternately and equally until they are completely tightened and there is no gap between the bolt pads.

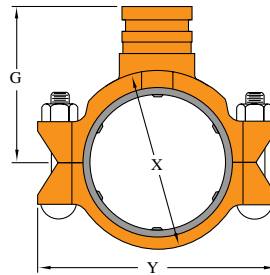
**CAUTION:** Make sure the ribs on the exterior of the gasket are enclosed in the housing recesses.



Female IPS Outlet  
7042F



Male IPS Outlet  
7042M



Grooved Outlet  
7042G



Grooved Outlet  
7042G Side View

**FIGURE 7042 - OUTLET COUPLING**

Run	Nominal IPS Pipe Size		Working Pressure	Max. Run End Load	Pipe End Separation	Coupling Dimensions							Approx. Wt. Each
	Outlet	Outlet				X	Y	Z	FPT	MPT	Grv.		
In./DN(mm)	FPT F In./mm	MPT/Grv. M/G In./mm	psi/bar	Lbs./kN	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg	
1½ 40	½	—	500	1418	¾-1½/16	2½/16	4¾	2¾	2½/16	2½	—	2.6	
	15	—	34.5	6.31	19-27	75	121	70	52	64	—	1.2	
	¾	—	500	1418	¾-1½/16	2½/16	4¾	2¾	2½/16	2½	—	2.6	
2	20	—	34.5	6.31	19-27	75	121	70	52	64	—	1.2	
	1	—	500	1418	¾-1½/16	2½/16	4¾	2¾	1½/16	2½	—	2.6	
	25	—	34.5	6.31	19-27	75	121	70	49	64	—	1.2	
2 50	½	—	500	2215	1½/16-1	3¼	5¼	2¾	2½/16	2½	—	3.3	
	15	—	34.5	9.85	17-25	87	133	70	59	73	—	1.5	
	¾	—	500	2215	1½/16-1	3¼	5¼	2¾	2½/16	2½	—	3.3	
	20	—	34.5	9.85	17-25	87	133	70	59	73	—	1.5	
2½ 65	1	1	500	2215	1½/16-1	3¼	5¼	2¾	2½/16	2½	3.5	3.3	
	25	25	34.5	9.85	17-25	87	133	70	56	73	89	1.5	
	½	—	500	3246	1¾-1½/2	4¾/16	6½	3¼	2½/16	3½	—	4.8	
	15	—	34.5	14.44	30-38	106	165	83	65	79	—	2.2	
	¾	—	500	3246	1¾-1½/2	4¾/16	6½	3¼	2½/16	3½	—	4.8	
3	20	—	34.5	14.44	30-38	106	165	83	65	79	—	2.2	
	1	—	500	3246	1¾-1½/2	4¾/16	6½	3¼	2½/16	3½	—	4.8	
	25	—	34.5	14.44	30-38	106	165	83	62	79	—	2.2	
	—	1¼	500	3246	1¾-1½/2	4¾/16	6½	3¼	—	—	3.625	5.5	
	—	32	34.5	14.44	30-38	106	165	83	—	—	92	2.5	
3 80	¾	—	500	4811	1¾-1½/2	4¾	7¼	3¼	2½/16	3½	—	7.9	
	20	—	34.5	21.40	30-38	121	184	83	72	86	—	3.6	
	1	1	500	4811	1¾-1½/2	4¾	7¼	3¼	2½/16	3½	4	7.9	
	25	25	34.5	21.40	30-38	121	184	83	70	86	102	3.6	
4 100	—	1½	500	4811	1¾-1½/2	4¾	7¼	3¼	—	—	4	8.6	
	—	40	34.5	21.40	30-38	121	184	83	—	—	102	3.9	
	¾	—	500	7952	1¾-1½/8	6¾/16	8½	3½	3½/16	4¼	—	9.9	
	20	—	34.5	35.37	40-48	157	225	92	94	108	—	4.5	
	1	—	500	7952	1¾-1½/8	6¾/16	8½	3½	3½/16	4¼	—	9.9	
6 150	25	—	34.5	35.37	40-48	157	225	92	91	108	—	4.5	
	—	1½	500	7952	1¾-1½/8	6¾/16	8½	3½	—	—	4.875	11.0	
	—	25	34.5	35.37	40-48	157	225	92	—	—	124	5.0	
	—	2	500	7952	1¾-1½/8	6¾/16	8½	3½	—	—	4.875	11.0	
	—	50	34.5	35.37	40-48	157	225	92	—	—	124	5.0	
6 150	1	—	500	17236	1¾-1½/16	8½	11¼	3¾	4¾	5¾	—	18.0	
	25	—	34.5	76.66	41-51	206	286	95	121	137	—	8.2	
	1½	1½	500	17236	1¾-1½/16	8½	11¼	3¾	4¾	5¾	6	18.0	
	40	40	34.5	76.66	41-51	206	286	95	121	137	152	8.2	
6 150	—	2	500	17236	1¾-1½/16	8½	11¼	3¾	—	—	6	18.7	
	—	50	34.5	76.66	41-51	206	286	95	—	—	152	8.5	

- Pipe ends must be prepared in accordance with Gruvlok "Roll or Cut Groove Specifications for Steel and Other IPS or ISO size Pipe".
- Pressure and end load ratings are for use with standard wall steel pipe.
- For a one-time field test only, the maximum working pressure may be increased 1½ times the figure shown.

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## GRUVLOK CLAMP-T®

The Gruvlok Clamp-T provides a quick and easy outlet at any location along the pipe. A hole drilled or cut in the pipe to receive the locating collar of the Clamp-T is all that is required. The full, smooth outlet area provides for optimum flow characteristics.

The Clamp-T housing is specially engineered to conform to the pipe OD and the Clamp-T gasket providing a leak tight reliable seal in both positive pressure and vacuum conditions. The maximum working pressure for all sizes is 500 PSI (34.5 bar) when assembled on standard wall steel pipe.



**Fig. 7045 – CLAMP-T, FPT BRANCH**

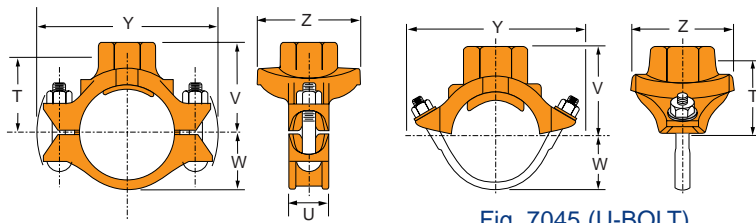
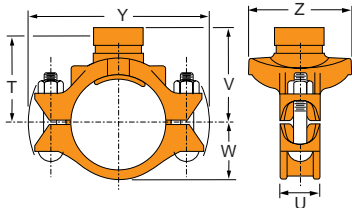


Fig. 7045 (U-BOLT)

**Fig. 7046 – CLAMP-T, GROOVED BRANCH**



The Gruvlok Clamp-T provides for a branch or cross connection in light wall or standard wall steel pipe.

The Fig. 7045 Clamp-T female pipe thread branch is available with NPT or ISO 7/1 connection and the Fig. 7046 Clamp-T has grooved-end branch connection.

Clamp-T cross connections are available in various sizes allowing greater versatility in piping design.

Note: Variable End Configurations are Possible --

Thd x Thd, Gr. x Gr. and Gr. x Thd. Sizes -- 2 1/2" x 1" through 8" x 4"

**Fig. 7047 - Fig. 7049 – CLAMP-T CROSS**

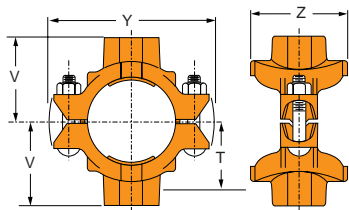


Fig. 7047 – Thread x Thread

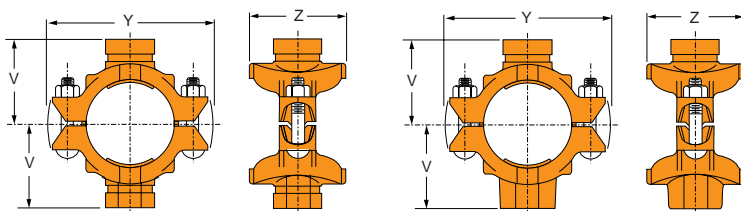


Fig. 7048 – Groove x Groove

Fig. 7049 – Groove x Thread

### Material Specifications:

#### Housing:

Ductile Iron conforming to ASTM A-536 or Malleable Iron conforming to ASTM A-47.

#### Coatings:

Rust inhibiting lead-free paint

Color: ORANGE (standard) RED (optional)

Hot Dipped Zinc Galvanized (optional).

For other coating requirements contact Gruvlok.

#### Bolts and nuts:

Heat treated, oval-neck track head bolts of carbon steel conforming to ASTM A-183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A563. Bolts and nuts are provided zinc electroplated as standard.

#### Gasket:

Grade E (EPDM) or Grade T (Nitrile) Elastomers with properties designed in accordance with ASTM D 2000.

### CLAMP-T FLOW DATA (FRICTIONAL RESISTANCE)

Branch Size Inches DN/mm	Fig. 7045 Threaded Branch Equiv. Pipe Length Feet Meters		Fig. 7046 Grooved Branch Equiv. Pipe Length Feet Meters	
	C.V. Value		C.V. Value	
1/2	22	1.0	-	-
15		0.3		
3/4	25	2.0	-	-
20		0.6		
1	44	2.0	-	-
25		0.6		
1 1/4	76	2.5	5.4	5.0
32		0.8		1.5
1 1/2	89	4.0	95	3.5
40		1.2		1.1
2	164	3.5	148	4.5
50		1.1		1.4
2 1/2	152	12.5	205	7.0
65		3.8		2.1
3	318	8.5	294	9.5
80		2.6		2.9
4	536	8.0	571	7.0
100		2.4		2.1

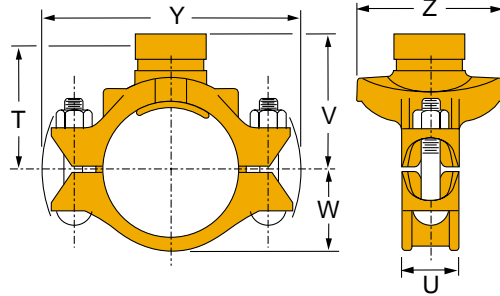
## FIGURE 7045-FPT BRANCH

Nom. Size In./DN(mm)	Pipe OD In./mm	Hole Dimensions		Max. Working Pressure psi/bar	Clamp-T Dimensions							Bolt Size In./mm	Approx. Wt. Each Lbs./Kg
		Hole Saw Size In./mm	Max. Diameter In./mm		T	U	V Threaded	W	Y	Z			
2 x 1/2 50 x 15	2.375 x 0.840 60.3 x 21.3	1 1/2 38	1 1/8 41	500 34.5	2 1/8 54	3/16 14	2 3/8 67	1 1/2 38	5 1/2 140	3 76	1/2 U-Bolt	3.0 1.4	
2 x 3/4 50 x 20	2.375 x 1.050 60.3 x 26.7	1 1/2 38	1 1/8 41	500 34.5	2 1/8 54	3/16 14	2 3/8 67	1 1/2 38	5 1/2 140	3 76	1/2 U-Bolt	2.9 1.3	
2 x 1 50 x 25	2.375 x 1.315 60.3 x 33.7	1 1/2 38	1 1/8 41	500 34.5	2 51	3/16 14	2 3/8 67	1 1/2 38	5 1/2 140	3 76	1/2 U-Bolt	2.9 1.3	
2 x 1 1/4 50 x 32	2.375 x 1.660 60.3 x 42.4	2 51	2 1/8 54	500 34.5	2 3/16 55	3/16 14	2 3/8 73	1 1/2 38	7 178	3 89	1/2 U-Bolt	4.0 1.8	
2 x 1 1/2 50 x 40	2.375 x 1.900 60.3 x 48.3	2 51	2 1/8 54	500 34.5	2 3/16 55	3/16 14	2 3/8 73	1 1/2 38	7 178	3 89	1/2 U-Bolt	3.9 1.8	
2 1/2 x 1/2 65 x 15	2.875 x 0.840 73.0 x 21.3	1 1/2 38	1 1/8 41	500 34.5	2 3/8 60	3/16 14	2 3/8 73	1 3/4 44	6 1/2 156	3 76	1/2 U-Bolt	3.0 1.4	
2 1/2 x 3/4 65 x 20	2.875 x 1.050 73.0 x 26.7	1 1/2 38	1 1/8 41	500 34.5	2 3/8 60	3/16 14	2 3/8 73	1 3/4 44	6 1/2 156	3 76	1/2 U-Bolt	2.9 1.3	
2 1/2 x 1 65 x 25	2.875 x 1.315 73.0 x 33.7	1 1/2 38	1 1/8 41	500 34.5	2 3/8 57	3/16 14	2 3/8 73	1 3/4 44	6 1/2 156	3 76	1/2 U-Bolt	2.9 1.3	
2 1/2 x 1 1/4 65 x 32	2.875 x 1.660 73.0 x 42.4	2 51	2 1/8 54	500 34.5	2 3/16 61	3/16 14	3 1/8 79	1 3/4 44	6 1/2 156	3 86	1/2 U-Bolt	3.4 1.5	
2 1/2 x 1 1/2 65 x 40	2.875 x 1.900 73.0 x 48.3	2 51	2 1/8 54	500 34.5	2 3/16 61	3/16 14	3 1/8 79	1 3/4 44	6 1/2 156	3 86	1/2 U-Bolt	3.4 1.5	
3 x 1/2 80 x 15	3.500 x 0.840 88.9 x 21.3	1 1/2 38	1 1/8 41	500 34.5	2 3/8 64	3/16 14	3 76	2 1/2 54	7 178	3 3/4 95	1/2 U-Bolt	-2.8 -1.2	
3 x 3/4 80 x 20	3.500 x 1.050 88.9 x 26.7	1 1/2 38	1 1/8 41	500 34.5	2 1/2 64	3/16 14	3 76	2 1/2 54	7 178	3 3/4 95	1/2 U-Bolt	2.7 1.2	
3 x 1 80 x 25	3.500 x 1.315 88.9 x 33.7	1 1/2 38	1 1/8 41	500 34.5	2 3/8 60	3/16 14	3 76	2 1/2 54	7 178	3 3/4 95	1/2 U-Bolt	2.7 1.2	
3 x 1 1/4 80 x 32	3.500 x 1.660 88.9 x 42.4	2 51	2 1/8 54	500 34.5	2 1/16 68	1 1/2 38	3 3/8 86	2 1/2 54	6 1/2 175	3 3/4 95	1/2 x 2 3/4	3.4 1.5	
3 x 1 1/2 80 x 40	3.500 x 1.900 88.9 x 48.3	2 51	2 1/8 54	500 34.5	2 1/16 68	1 1/2 38	3 3/8 86	2 1/2 54	6 1/2 175	3 3/4 95	1/2 x 2 3/4	4.4 2.0	
3 x 2 80 x 50	3.500 x 2.375 88.9 x 60.3	2 1/2 64	2 3/8 67	500 34.5	2 3/8 67	1 1/2 38	3 3/8 86	2 1/2 54	6 1/2 175	4 1/8 105	1/2 x 2 3/4	4.6 2.1	
4 x 1/2 100 x 15	4.500 x 0.840 114.3 x 21.3	1 1/2 38	1 1/8 41	500 34.5	3 76	3/16 14	3 1/2 89	2 3/4 67	7 3/4 197	3 3/4 95	1/2 U-Bolt	2.9 1.3	
4 x 3/4 100 x 20	4.500 x 1.050 114.3 x 26.7	1 1/2 38	1 1/8 41	500 34.5	3 76	3/16 14	3 1/2 89	2 3/4 67	7 3/4 197	3 3/4 95	1/2 U-Bolt	2.8 1.3	
4 x 1 100 x 25	4.500 x 1.315 114.3 x 33.7	1 1/2 38	1 1/8 41	500 34.5	2 3/8 73	3/16 14	3 1/2 89	2 3/4 67	7 3/4 197	3 3/4 95	1/2 U-Bolt	2.7 1.2	
4 x 1 1/4 100 x 32	4.500 x 1.660 114.3 x 42.4	2 51	2 1/8 54	500 34.5	3 3/8 81	1 1/2 48	3 3/8 98	2 3/4 67	7 1/2 191	3 3/4 95	1/2 x 2 3/4	4.5 2.0	
4 x 1 1/2 100 x 40	4.500 x 1.900 114.3 x 48.3	2 51	2 1/8 54	500 34.5	3 3/8 81	1 1/2 48	3 3/8 98	2 3/4 67	7 1/2 191	3 3/4 95	1/2 x 2 3/4	4.6 2.1	
4 x 2 100 x 50	4.500 x 2.375 114.3 x 60.3	2 1/2 64	2 3/8 67	500 34.5	3 1/2 83	1 1/2 48	4 102	2 3/4 67	7 1/2 191	4 1/8 105	1/2 x 2 3/4	5.2 2.4	
4 x 2 1/2 100 x 65	4.500 x 2.875 114.3 x 73.0	2 3/4 70	2 3/8 73	500 34.5	3 1/2 77	1 1/2 48	4 102	2 3/4 67	7 1/2 191	4 1/8 111	1/2 x 2 3/4	5.2 2.4	
4 x 3 100 x 80	4.500 x 3.500 114.3 x 88.9	3 1/2 89	3 3/8 92	500 34.5	3 3/4 83	1 1/2 48	4 1/4 108	2 3/4 67	7 1/2 191	5 1/4 133	1/2 x 3 1/2	6.5 2.9	
4 x 3 OD 100 x 80	4.500 x 2.996 114.3 x 76.1	2 3/4 70	2 3/8 73	500 34.5	3 1/16 77	1 1/8 48	4 102	2 3/4 67	7 1/2 191	4 3/8 111	1/2 x 2 3/4	5.2 2.4	
5 x 1 1/4 125 x 32	5.563 x 1.660 141.3 x 42.4	2 51	2 1/8 54	500 34.5	3 1/16 94	1 1/2 48	4 3/8 111	3 1/4 83	9 1/2 232	3 3/4 95	5/8 x 3 1/4	5.4 2.4	
5 x 1 1/2 125 x 40	5.563 x 1.900 141.3 x 48.3	2 51	2 1/8 54	500 34.5	3 1/16 94	1 1/2 48	4 3/8 111	3 1/4 83	9 1/2 232	3 3/4 95	5/8 x 3 1/4	5.5 2.5	
5 x 2 125 x 50	5.563 x 2.375 141.3 x 60.3	2 1/2 64	2 3/8 67	500 34.5	3 3/4 95	1 1/2 48	4 1/2 114	3 1/4 83	9 1/2 232	4 1/8 105	5/8 x 3 1/4	5.7 2.6	
5 x 2 1/2 125 x 65	5.563 x 2.875 141.3 x 73.0	2 3/4 70	2 3/8 73	500 34.5	3 3/8 81	1 1/2 48	4 3/4 121	3 1/4 83	9 1/2 232	4 3/8 111	5/8 x 3 1/4	7.0 3.2	
5 x 3 125 x 80	5.563 x 3.500 141.3 x 88.9	3 1/2 89	3 3/8 92	500 34.5	4 102	1 1/2 48	5 127	3 1/4 83	9 1/2 232	5 1/4 133	5/8 x 3 1/4	8.7 3.9	
5 x 3 OD 125 x 80	5.563 x 2.996 141.3 x 76.1	2 3/4 70	2 3/8 73	500 34.5	3 3/16 81	1 1/2 48	4 3/4 121	3 1/4 83	9 1/2 232	4 3/8 111	3/4 x 4 1/4	7.0 3.2	
6 x 1 1/4 150 x 32	6.625 x 1.660 168.3 x 42.4	2 51	2 1/8 54	500 34.5	4 1/8 106	2 51	4 3/8 124	3 1/2 98	10 1/2 267	3 3/4 95	5/8 x 4 1/4	7.8 3.5	
6 x 1 1/2 150 x 40	6.625 x 1.900 168.3 x 48.3	2 51	2 1/8 54	500 34.5	4 1/8 106	2 51	4 3/8 124	3 1/2 98	10 1/2 267	3 3/4 95	5/8 x 4 1/4	7.8 3.5	
6 x 2 150 x 50	6.625 x 2.375 168.3 x 60.3	2 1/2 64	2 3/8 67	500 34.5	4 1/8 105	2 51	4 3/8 124	3 1/2 98	10 1/2 267	4 1/8 105	5/8 x 4 1/4	7.8 3.5	
6 x 2 1/2 150 x 65	6.625 x 2.875 168.3 x 73.0	2 3/4 70	2 3/8 73	500 34.5	4 1/2 105	2 51	5 1/2 130	3 1/2 98	10 1/2 267	4 3/8 111	5/8 x 4 1/4	8.4 3.8	
6 x 3 150 x 80	6.625 x 3.500 168.3 x 88.9	3 1/2 89	3 3/8 92	500 34.5	4 3/8 111	2 51	5 3/8 137	3 1/2 98	10 1/2 267	5 1/4 133	5/8 x 4 1/4	9.6 4.4	
6 x 3 OD 150 x 80	6.625 x 2.996 168.3 x 76.1	2 3/4 70	2 3/8 73	500 34.5	4 1/2 105	2 51	5 1/2 130	3 1/2 98	10 1/2 267	4 3/8 111	5/8 x 4 1/4	8.4 3.8	
6 x 4 150 x 100	6.625 x 4.500 168.3 x 114.3	4 1/2 114	4 3/8 117	500 34.5	4 3/8 111	2 51	5 1/2 140	3 1/2 98	10 1/2 267	6 1/2 165	5/8 x 4 1/4	10.5 4.8	
8 x 2 200 x 50	8.625 x 2.750 219.1 x 70.0	2 1/2 67	2 3/8 73	500 34.5	5 1/2 130	2 1/4 57	5 1/2 149	5 127	12 3/4 324	4 1/4 108	3/4 x 4 1/4	10.9 4.9	
8 x 2 1/2 200 x 65	8.625 x 2.875 219.1 x 73.0	2 3/4 70	2 3/8 73	500 34.5	5 1/2 134	2 1/4 57	6 1/4 159	5 127	12 3/4 324	4 3/8 111	3/4 x 4 1/2	11.1 5.0	
8 x 3 200 x 80	8.625 x 3.500 219.1 x 88.9	3 1/2 89	3 3/8 92	500 34.5	5 1/2 137	2 1/4 57	6 1/2 162	5 127	12 3/4 324	5 1/4 133	3/4 x 4 1/2	13.0 5.9	
8 x 3 OD 200 x 80	8.625 x 2.996 219.1 x 76.1	2 3/4 70	2 3/8 73	500 34.5	5 1/8 134	2 1/4 57	6 1/4 159	5 127	12 3/4 324	4 3/8 111	3/4 x 4 1/2	11.1 5.0	
8 x 4 200 x 100	8.625 x 4.500 219.1 x 114.3	4 1/2 114	4 3/8 117	500 34.5	5 3/8 137	2 1/4 57	6 1/2 165	5 127	12 3/4 324	6 1/2 165	3/4 x 4 1/2	16.2 7.3	

Note: 2 1/2", 5" and 6" Nom. size run pipe may be used on 3" OD, 5 1/2" OD and 6 1/2" OD pipe  
Size 8 x 2 is a bushed down 8 x 2 1/2" housing

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

**Fig. 7046**



**FIGURE 7046-GR BRANCH**

Nom. Size	Pipe OD	Hole Dimensions		Max. Working Pressure	Clamp-T Dimensions						Bolt Size	Approx. Wt. Each
		Hole Saw Size	Maximum Diameter		T	U	Grooved V	W	Y	Z		
In./DN(mm)	In./mm	In./mm	In./mm	psi/bar	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg
2½ x 1¼	2.875 x 1.660	2	2½	500	27/16	9/16	3½	1¾	6½	3½	½ U-Bolt	3.4
65 x 32	73.0 x 42.4	51	54	34.5	61	14	79	44	156	89	-	1.5
2½ x 1½	2.875 x 1.900	2	2½	500	27/16	9/16	3½	1¾	6½	3½	½ U-Bolt	3.4
65 x 40	73.0 x 48.3	51	54	34.5	61	14	79	44	156	89	-	1.5
3 x 1¼	3.500 x 1.660	2	2½	500	27/16	1½	3½	2½	6½	3¾	½ x 2¾	3.4
80 x 32	88.9 x 42.4	51	54	34.5	68	38	89	54	175	95	-	1.5
3 x 1½	3.500 x 1.900	2	2½	500	27/16	1½	3½	2½	6½	3¾	½ x 2¾	4.4
80 x 40	88.9 x 48.3	51	54	34.5	68	38	89	54	175	95	-	2.0
3 x 2	3.500 x 2.375	2½	2½	500	2½	1½	3½	2½	6½	4½	½ x 2¾	4.6
80 x 50	88.9 x 60.3	64	67	34.5	67	38	89	54	175	105	-	2.1
4 x 1¼	4.500 x 1.660	2	2½	500	37/16	1½	4	2½	7½	3¾	½ x 2¾	4.2
100 x 32	114.3 x 42.4	51	54	34.5	81	48	102	67	191	95	-	1.9
4 x 1½	4.500 x 1.900	2	2½	500	37/16	1½	4	2½	7½	3¾	½ x 2¾	4.3
100 x 40	114.3 x 48.3	51	54	34.5	81	48	102	67	191	95	-	2.0
4 x 2	4.500 x 2.375	2½	2½	500	37/16	1½	4	2½	7½	4½	½ x 2¾	4.6
100 x 50	114.3 x 60.3	64	67	34.5	83	48	102	67	191	105	-	2.1
4 x 2½	4.500 x 2.875	2¾	2½	500	37/16	1½	4	2½	7½	4½	½ x 2¾	5.0
100 x 65	114.3 x 73.0	70	73	34.5	77	48	102	67	191	111	-	2.3
4 x 3	4.500 x 3.500	3½	3½	500	37/16	1½	4	2½	7½	5¼	½ x 3½	5.6
100 x 80	114.3 x 88.9	89	92	34.5	83	48	102	67	191	133	-	2.5
4 x 3 OD	4.500 x 2.996	2¾	2½	500	37/16	1½	4	2½	7½	4½	½ x 2¾	5.0
100 x 80	114.3 x 76.1	70	73	34.5	77	48	102	67	191	111	-	2.3
5 x 1¼	5.563 x 1.660	2	2½	500	37/16	1½	4¼	3¼	9½	3¾	5/8 x 3¼	5.6
125 x 32	141.3 x 42.4	51	54	34.5	94	48	108	83	232	95	-	2.5
5 x 1½	5.563 x 1.900	2	2½	500	37/16	1½	4¼	3¼	9½	3¾	5/8 x 3¼	5.6
125 x 40	141.3 x 48.3	51	54	34.5	94	48	108	83	232	95	-	2.5
5 x 2	5.563 x 2.375	2½	2½	500	3¾	1½	4¼	3¼	9½	4½	5/8 x 3¼	5.5
125 x 50	141.3 x 60.3	64	67	34.5	95	48	108	83	232	105	-	2.5
5 x 2½	5.563 x 2.875	2¾	2½	500	37/16	1½	4¼	3¼	9½	4½	5/8 x 3¼	5.8
125 x 65	141.3 x 73.0	70	73	34.5	81	48	108	83	232	111	-	2.6
5 x 3	5.563 x 3.500	3½	3½	500	4	1½	4½	3¼	9½	5¼	5/8 x 3¼	7.1
125 x 80	141.3 x 88.9	89	92	34.5	102	48	117	83	232	133	-	3.2
6 x 1½	6.625 x 1.900	2	2½	500	47/16	2	5	3½	10½	3¾	5/8 x 4¼	7.2
150 x 40	168.3 x 48.3	51	54	34.5	106	51	127	98	257	95	*	3.3
6 x 2	6.625 x 2.375	2½	2½	500	4½	2	5	3½	10½	4½	5/8 x 4¼	7.8
150 x 50	168.3 x 60.3	64	67	34.5	105	51	127	98	257	105	*	3.5
6 x 2½	6.625 x 2.875	2¾	2½	500	4½	2	5½	3½	10½	4½	5/8 x 4¼	7.6
150 x 65	168.3 x 73.0	70	73	34.5	105	51	130	98	257	111	*	3.4
6 x 3	6.625 x 3.500	3½	3½	500	4¾	2	5½	3½	10½	5¼	5/8 x 4¼	8.0
150 x 80	168.3 x 88.9	89	92	34.5	111	51	130	98	257	133	*	3.6
6 x 3 OD	6.625 x 2.996	2¾	2½	500	4½	2	5½	3½	10½	4½	5/8 x 4¼	7.6
150 x 80	168.3 x 76.1	70	73	34.5	105	51	130	98	257	111	*	3.4
6 x 4	6.625 x 4.500	4½	4½	500	4¾	2	5¼	3¾	10½	6½	5/8 x 4¼	10.4
150 x 100	168.3 x 114.3	114	117	34.5	111	51	133	98	257	165	*	4.7
8 x 2	8.625 x 2.375	2½	2½	500	5½	2¼	6½	5	12¾	4¼	¾ x 4¼	10.4
200 x 50	219.1 x 60.3	64	67	34.5	130	57	156	127	324	108	-	4.7
8 x 2½	8.625 x 2.875	2¾	2½	500	57/16	2¼	6½	5	12¾	4¾	¾ x 4½	10.6
200 x 65	219.1 x 73.0	70	73	34.5	134	57	156	127	324	111	M20 x 110	4.8
8 x 3	8.625 x 3.500	3½	3½	500	5¾	2¼	6½	5	12¾	5¼	¾ x 4½	11.5
200 x 80	219.1 x 88.9	89	92	34.5	137	57	156	127	324	133	M20 x 110	5.2
8 x 4	8.625 x 4.500	4½	4½	500	5¾	2¼	6¼	5	12¾	6½	¾ x 4½	16.2
200 x 100	219.1 x 114.3	114	117	34.5	137	57	159	127	324	165	M20 x 110	7.3

Note: 2½", 5" and 6" Nom. size run pipe may be used on 3" OD, 5½" OD and 6½" OD pipe

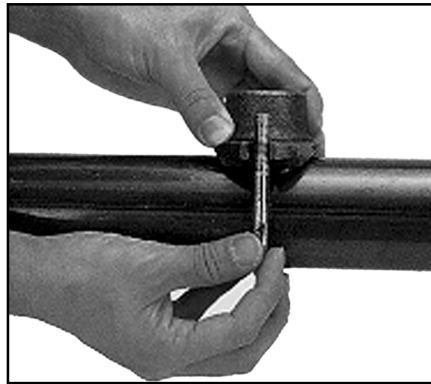
**Fig. 7044 BRANCH OUTLET**

For direct connection of sprinkler heads, drop nipples and/or gauges, just cut a hole, saddle up and fasten it with the U-bolt. Ductile iron housings with Grade E gasket and carbon steel U-bolt (3/8 dia.) with flanged nuts. Ductile iron housings are available black or galvanized.

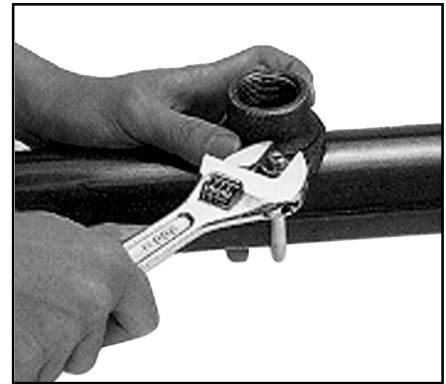
Max Working Pressure: 175 PSI (12.1 bar)



Drill the appropriate size hole in the pipe and remove burrs from around the hole. Visually inspect the gasket seating area for surface defects which may prevent gasket sealing.



Lubricate the gasket with Gruvlok<sup>®</sup> lubricant. Attach the U-bolt from the other side and fasten the nuts finger tight.



Make sure the fitting is properly located about the hole and tighten the nuts alternatively, to a recommended torque of 30 Lbs.-Ft. (40N-m).

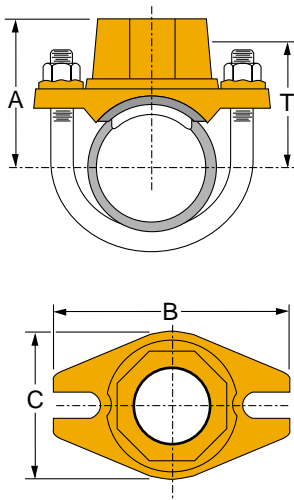


FIGURE 7044 BRANCH OUTLET							
Nom. Size	Pipe OD	Hole Dia. Min - Max	A	Dimensions B C		Take-out T	Approx. Wt. Each
In./DN(mm)	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg
1¼ x ½	1.660 x 0.840	1.18 - 1.25	2.08	3.50	2.20	1.38	0.8
32 x 15	42.4 x 21.3	30 - 32	53	89	56	35	0.4
1¼ x ¾	1.660 x 1.050	1.18 - 1.25	2.08	3.50	2.20	1.38	0.8
32 x 20	42.4 x 26.7	30 - 32	53	89	56	35	0.4
1¼ x 1	1.660 x 1.315	1.18 - 1.25	2.20	3.50	2.20	1.50	0.9
32 x 25	42.4 x 33.7	30 - 32	56	89	56	38	0.4
1½ x ½	1.900 x 0.840	1.18 - 1.25	2.16	3.50	2.20	1.38	0.8
40 x 15	48.3 x 21.3	30 - 32	55	89	56	35	0.4
1½ x ¾	1.900 x 1.050	1.18 - 1.25	2.16	3.50	2.20	1.38	0.8
40 x 20	48.3 x 26.7	30 - 32	55	89	56	35	0.4
1½ x 1	1.900 x 1.315	1.18 - 1.25	2.28	3.50	2.20	1.50	0.9
40 x 25	48.3 x 33.7	30 - 32	58	89	56	38	0.4
2 x ½	2.375 x 0.840	1.18 - 1.25	2.51	3.85	2.20	1.65	0.8
50 x 15	60.3 x 21.3	30 - 32	64	98	56	42	0.4
2 x ¾	2.375 x 1.050	1.18 - 1.25	2.51	3.85	2.20	1.65	0.8
50 x 20	60.3 x 26.7	30 - 32	64	98	56	42	0.4
2 x 1	2.375 x 1.315	1.18 - 1.25	2.63	3.85	2.20	1.77	0.9
50 x 25	60.3 x 33.7	30 - 32	67	98	56	45	0.4
2½ x ½	2.875 x 0.840	1.18 - 1.25	2.71	4.37	2.20	2.00	0.8
65 x 15	73.0 x 21.3	30 - 32	69	111	56	51	0.4
2½ x ¾	2.875 x 1.050	1.18 - 1.25	2.71	4.37	2.20	2.00	0.9
65 x 20	73.0 x 26.7	30 - 32	69	111	56	51	0.4
2½ x 1	2.875 x 1.315	1.18 - 1.25	2.83	4.37	2.20	2.13	1.0
65 x 25	73.0 x 33.7	30 - 32	72	111	56	54	0.5

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It<sup>®</sup>

Stainless Steel

Technical Data

## GRUVLOK FITTINGS FOR GROOVED-END PIPE



Gruvlok fittings are available through 24" nominal pipe size in a variety of styles. Use the Fitting Size Table to convert nominal pipe size to corresponding pipe O.D.

These fittings are designed to provide minimum pressure drop and uniform strength.

Depending on styles and size, Gruvlok fittings are provided in various materials including malleable iron, ductile iron, forged steel or fabricated steel.

Pressure ratings of Gruvlok standard fittings conform to those of Fig. 7001 Gruvlok coupling.

### Material Specifications

#### Cast Fittings:

Ductile iron conforming to ASTM A 536 or  
Malleable iron conforming to ASTM A 47

#### Fabricated Fittings:

1-4" Carbon steel, Schedule 40, conforming to ASTM A53, Grade B  
5-6" Carbon steel, Schedule 40 conforming to ASTM A53, Grade B  
8-12" Carbon steel, Schedule 30, conforming to ASTM A53, Grade B  
14-24" Carbon steel, 0.375 wall, conforming to ASTM A53, Grade B

#### Adapter Flanges:

Class 125 - carbon steel  
Class 150 - carbon steel  
Class 300 - carbon steel

#### Coating:

Rust inhibiting lead-free paint, ORANGE (Standard), RED (Optional)  
Hot-dipped zinc galvanized (Optional).  
For other coatings contact Gruvlok.

The Fitting Size Chart is used to determine the OD of the pipe that the fittings is to be used with. Gruvlok Fittings are identified by either the Nominal size in inches or the Pipe OD in/mm.

FITTING SIZE			
Nominal Size Inches	Pipe O.D. Inches	Nominal Size Inches	Pipe O.D. Inches
DN/mm	mm	DN/mm	mm
1	1.315	5½ OD	5.500
25	33.7	125	139.7
1¼	1.660	6	6.625
32	42.4	150	168.3
1½	1.900	6¼ OD	6.259
40	48.3	150	159.0
2	2.375	6½ OD	6.500
50	60.3	150	165.1
2½	2.875	8	8.625
65	73.0	200	219.1
3 OD	2.996	10	10.750
65	76.1	250	273.0
3	3.500	12	12.750
80	88.9	300	323.9
3½	4.000	14	14.000
65	101.6	350	355.6
4	4.500	16	16.000
100	114.3	400	406.4
4¼ OD	4.250	18	18.000
100	108.0	450	457.2
5	5.563	20	20.000
140	141.3	500	508.0
5¼ OD	5.236	24	24.000
125	133.0	600	609.6

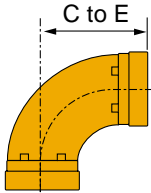
### FLOW DATA – FRICTIONAL RESISTANCE (EXPRESSED AS EQUIVALENT STRAIGHT PIPE)

Nom. Size In./DN(mm)	Pipe OD In./mm	Pipe Wall Thickness In./mm	Elbow		Tee	
			90° Ft./m	45° Ft./m	Branch Ft./m	Run Ft./m
1	1.315	0.133	1.7	0.9	4.4	1.7
25	33.4	3.4	0.5	0.3	1.3	0.5
1¼	1.660	0.14	2.3	1.2	5.8	2.3
32	42.2	3.6	0.7	0.4	1.8	0.7
1½	1.900	0.145	2.7	1.3	6.7	2.7
40	48.3	3.7	0.8	0.4	2.0	0.8
2	2.375	0.154	3.4	1.7	8.6	3.4
50	60.3	3.9	1.0	0.5	2.6	1.0
2½	2.875	0.203	4.1	2.1	10.3	4.1
65	73.0	5.2	1.2	0.6	3.1	1.2
3 OD	2.996	0.197	4.3	2.2	10.8	4.3
65	76.1	5.0	1.3	0.7	3.3	1.3
3	3.500	0.216	5.1	2.6	12.8	5.1
80	88.9	5.5	1.6	0.8	3.9	1.6
4	4.500	0.237	6.7	3.4	16.8	6.7
100	114.3	6.0	2.0	1.0	5.1	2.0
4¼ OD	4.250	0.220	6.4	3.2	16.1	6.4
100	108.0	5.6	2.0	1.0	4.9	2.0
5	5.563	0.258	8.4	4.2	21.0	8.4
125	141.3	6.6	2.6	1.3	6.4	2.6
5¼ OD	5.236	0.248	8.0	4.0	20.1	8.0
125	133.0	6.3	2.4	1.2	6.1	2.4
5½ OD	5.500	0.248	8.3	4.2	20.9	8.3
125	139.7	6.3	2.5	1.3	6.4	2.5
6	6.625	0.280	10.1	5.1	25.3	10.1
150	168.3	7.1	3.1	1.6	7.7	3.1
6¼ OD	6.259	0.280	9.7	4.9	24.3	9.7
150	159.0	7.1	3.0	1.5	7.4	3.0
6½ OD	6.500	0.280	10.0	5.0	24.9	10.0
150	165.1	7.1	3.0	1.5	7.6	3.0
8	8.625	0.322	13.3	6.7	33.3	13.3
200	219.1	8.2	4.1	2.0	10.1	4.1
10	10.750	0.365	16.7	8.4	41.8	16.7
250	273.1	9.3	5.1	2.6	12.7	5.1
12	12.750	0.375	20.0	10.0	50.0	20.0
300	323.9	9.5	6.1	3.0	15.2	6.1
14	14.000	0.375	22.2	11.1	55.6	22.2
350	355.6	9.5	6.8	3.4	19.6	6.8
16	16.000	0.375	25.5	12.8	63.9	25.5
400	406.4	9.5	7.8	3.9	22.5	7.8
18	18.000	0.375	28.9	14.5	72.3	28.9
450	457.2	9.5	8.8	4.4	26.6	8.8
20	20.000	0.375	32.2	16.1	81.3	32.2
500	508.0	9.5	9.8	4.9	29.7	9.8
24	24.000	0.375	38.9	19.5	99.9	38.9
600	609.6	9.5	11.9	5.9	34.4	11.9

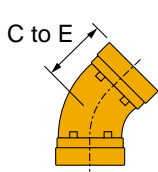
For the reducing tee and branches, use the value that is corresponding to the branch size. For example: for 6" x 6" x 3" tee, the branch value of 3" is 12.8 ft (3.9).



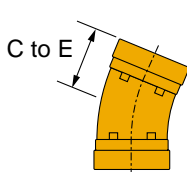
**Fig. 7050**  
90° Elbow\*



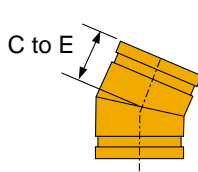
**Fig. 7051**  
45° Elbow\*



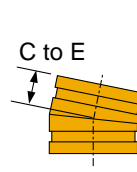
**Fig. 7052**  
22½° Elbow



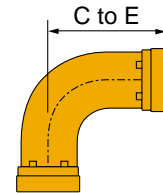
**Fig. 7052**  
22½° Elbow



**Fig. 7053**  
11½° Elbow



**Fig. 7050LR**  
90° Long Radius Elbow\*



**Fig. 7051LR**  
45° Long Radius Elbow\*

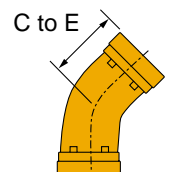


FIGURE 7050 90° ELBOW*			
Nom. Size	Pipe OD	Center to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
1	1.315	2¼ C	0.6
25	33.4	57	0.3
1¼	1.660	2¾ C	1.0
32	42.2	70	0.5
1½	1.900	3¼ C	1.2
40	48.3	70	0.5
2	2.375	3¾ C	1.7
50	60.3	83	0.8
2½	2.875	3¾ C	2.6
65	73.0	95	1.2
3	3.500	4¼ C	4.0
80	88.9	108	1.8
3 OD	2.996	4 C	3.6
65	76.1	102	1.6
3½	4.000	4½ C	5.5
90	101.6	114	2.5
4	4.500	5 C	7.7
100	114.3	127	3.5
4¼ OD	4.250	4¾ C	7.7
100	108.0	121	3.5
5	5.563	5½ C	11.1
125	141.3	140	5.0
5¼ OD	5.236	5¼ C	10.4
125	133.0	133	4.7
5½ OD	5.500	5¼ C	10.9
125	139.7	133	4.9
6	6.625	6½ C	16.5
150	168.3	165	7.5
6¼ OD	6.259	6 C	15.2
150	159.0	152	6.9
6½ OD	6.500	6½ C	17.4
150	165.1	165	7.9
8	8.625	7¾ C	30.6
200	219.1	197	13.9
10	10.750	9 C	53.5
250	273.1	229	24.3
12	12.750	10 C	82
300	323.9	25.4	37.2
14	14.000	21	169.0
350	355.6	533	76.7
16	16.000	24	222.0
400	406.4	610	100.7
18	18.000	27	280.0
450	457.2	686	127.0
20	20.000	30	344.0
500	508.0	762	156.0
24	24.000	36	490.0
600	609.6	914	222.3

FIGURE 7051 45° ELBOW*		
Center to End	Approx. Wt. Ea.	
In./mm	Lbs./Kg	
1¾ C	0.5	
44	0.2	
1¾ C	0.7	
44	0.3	
1¾ C	0.9	
44	0.4	
2 C	1.5	
51	0.7	
2¼ C	1.9	
57	0.9	
2½ C	3.3	
64	1.5	
2½ C	2.2	
64	1.0	
2¾ C	4.3	
70	2.0	
3 C	5.4	
76	2.4	
2¾ C	4.4	
83	2.0	
3¼ C	9.0	
83	4.1	
3¼ C	7.3	
83	3.3	
3¼ C	7.8	
83	3.5	
3½ C	11.2	
89	5.1	
3½ C	10.1	
89	4.6	
3½ C	11.1	
89	5.0	
4¼ C	19.8	
108	9.0	
4¾ C	34.3	
121	15.6	
5¼ C	50.0	
133	22.7	
8¾	92.0	
222	41.7	
10	117.0	
254	53.1	
11¼	146.0	
286	66.2	
12½	179.0	
317	81.2	
15	255.0	
381	115.7	

FIGURE 7052 22½° ELBOW		
Center to End	Approx. Wt. Ea.	
In./mm	Lbs./Kg	
3¼	0.5	
83	0.2	
1¾	0.7	
44	0.3	
1¾	0.8	
44	0.4	
1¾ C	1.5	
48	0.7	
2	1.9	
51	0.9	
2¼ C	3.2	
57	1.5	
-	-	
-	-	
2½	4.0	
64	1.8	
2¾ C	5.3	
67	2.4	
-	-	
-	-	
2¾	7.2	
73	3.3	
-	-	
-	-	
-	-	
-	-	
3¾ C	8.2	
79	3.7	
-	-	
-	-	
-	-	
3¾ C	17.8	
98	8.1	
4¾	30.0	
111	13.6	
4¾	40.4	
124	18.3	
5	46.0	
127	20.9	
5	52.2	
127	23.7	
5½	65.0	
140	29.5	
6	80.0	
152	36.3	
7	112.0	
178	50.8	

FIGURE 7053 11½° ELBOW		
Center to End	Approx. Wt. Ea.	
In./mm	Lbs./Kg	
1¾	0.3	
35	0.1	
1¾	0.5	
35	0.2	
1¾	0.7	
35	0.3	
1¾	0.9	
35	0.4	
1½	1.5	
38	0.7	
1½	2.0	
38	0.9	
-	-	
-	-	
1¾	2.8	
44	1.3	
1¾	3.3	
44	1.5	
-	-	
-	-	
2	5.0	
51	2.3	
-	-	
-	-	
-	-	
2	6.5	
51	2.9	
-	-	
-	-	
-	-	
2	10.0	
51	4.5	
2¾	14.5	
54	6.6	
2¼	18.7	
57	8.5	
3½	32.1	
89	14.6	
4	42.0	
102	19.1	
4½	53.2	
114	24.1	
5	65.7	
127	29.8	
6	96.0	
152	43.5	

FIG. 7050 LR LONG RADIUS 90° ELBOW*		
Center to End	Approx. Wt. Ea.	
In./mm	Lbs./Kg	
3½	0.9	
89	0.4	
3¾	1.3	
98	0.6	
4¼	1.7	
108	0.8	
4¾ C	2.5	
136	1.1	
5¼	4.9	
146	2.2	
5¾ C	6.5	
181	2.9	
-	-	
-	-	
7¼	9.7	
184	4.4	
7½ C	11.5	
191	5.2	
-	-	
-	-	
9½	20.9	
241	9.5	
-	-	
-	-	
-	-	
10¾	29.1	
273	13.2	
-	-	
-	-	
-	-	
15	59.2	
381	26.9	
18	104.0	
457	47.2	
21	147.0	
533	66.7	
21	169.0	
533	76.7	
24	222.0	
610	100.7	
27	280.0	
686	127.0	
30	344.0	
762	156.0	
36	490.0	
914	222.3	

FIG. 7051 LR LONG RADIUS 45° ELBOW*		
Center to End	Approx. Wt. Ea.	
In./mm	Lbs./Kg	
2½	0.7	
64	0.3	
2½	1.0	
64	0.5	
2½	1.2	
64	0.5	
2¾	1.7	
70	0.8	
3	2.9	
76	1.3	
3¾	4.3	
86	2.0	
-	-	
-	-	
3½	5.3	
89	2.4	
4	7.2	
102	3.3	
-	-	
-	-	
5	12.2	
127	5.5	
-	-	
-	-	
-	-	
5½	17.4	
140	7.9	
-	-	
-	-	
-	-	
7¼	34.0	
184	15.4	
8½	57.4	
216	26.0	
10	82.6	
254	37.5	
8¾	92.0	
222	41.7	
10	117.0	
254	53.1	
11¼	146.0	
286	66.2	
12½	179.0	
317	81.2	
15	255.0	
381	115.7	

C - Cast malleable or ductile iron, all others are fabricated steel.

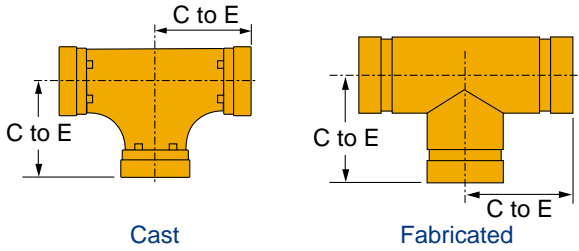
\* 14"-24" Standard Radius 90° & 45° Elbows are 1½D.

Center to end dimensions and weights may differ from that shown in the chart. Contact your Gruvlok representative for details.

## TEES

### Fig. 7060

Tee



## Fig. 7063

### Tee with Threaded Branch

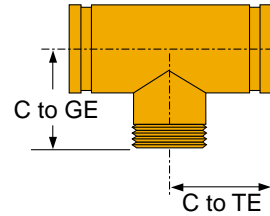


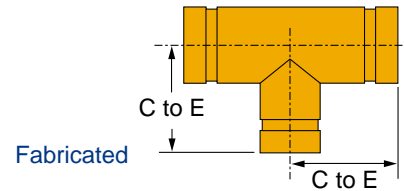
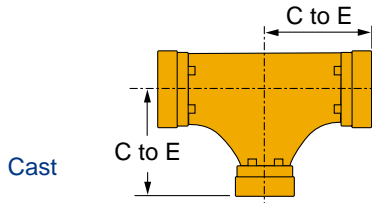
FIGURE 7060				
TEE				
Nom. Size	Pipe OD	C to E	Approx. Wt. Ea.	
In./DN(mm)	In./mm	In./mm	Lbs./Kg	
1	1.315	2¼ C	0.9	
25	33.4	57	0.4	
1¼	1.660	2¾ C	1.5	
32	42.2	70	0.7	
1½	1.900	2¾ C	1.8	
40	48.3	70	0.8	
2	2.375	3¼ C	2.4	
50	60.3	83	1.1	
2½	2.875	3¾ C	4.0	
65	73.0	95	1.8	
3	3.500	4¼ C	5.8	
80	88.9	108	2.6	
3 OD	2.996	4 C	4.6	
65	76.1	101	2.1	
3½	4.000	4½ C	9.8	
90	101.6	114	4.4	
4	4.500	5 C	10.3	
100	114.3	127	4.7	
4¼ OD	4.250	4¾ C	9.3	
100	108.0	121	4.2	
5	5.563	5½ C	16.2	
125	141.3	140	7.3	
5¼ OD	5.236	5¼ C	14.1	
125	133.0	133	6.4	
5½	5.500	5½ C	16.1	
125	0.0	140	7.3	
6	6.625	6½ C	25.7	
150	168.3	165	11.7	
6¼	6.236	6 C	20.8	
150	0.0	152	9.4	
6½ OD	6.500	6½ C	24.4	
150	165.1	165	11.1	
8	8.625	7¾ C	41.1	
200	219.1	197	18.6	
10	10.750	9 C	74.5	
250	273.1	229	33.8	
12	12.750	10 C	94.7	
300	323.9	254	43.0	
14	14.000	11	118.0	
350	355.6	279	53.5	
16	16.000	12	146.0	
400	406.4	305	66.2	
18	18.000	15½	218.0	
450	457.2	394	98.9	
20	20.000	17¼	275.0	
500	508.0	438	125	
24	24.000	20	379.0	
600	609.6	508	172	

FIGURE 7063				
TEE WITH THREADED BRANCH				
Nom. Size	Pipe OD	C to GE	C to TE	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	In./mm	Lbs./Kg
1	1.315	2¼	2¼	0.9
25	33.4	57	57	0.4
1¼	1.660	2¾	2¾	1.4
32	42.2	70	70	0.6
1½	1.900	2¾	2¾	1.7
40	48.3	70	70	0.8
2	2.375	3¼	4¼	2.9
50	60.3	83	108	1.3
2½	2.875	3¾	3¾	4.7
65	73.0	95	95	2.1
3	3.500	4¼	6	8.1
80	88.9	108	152	3.7
3½	4.000	4½	4½	8.8
90	101.6	114	114	4.0
4	4.500	5	7¼	13.5
100	114.3	127	184	6.1
5	5.563	5½	5½	16.7
125	140	140	7.6	
6	6.625	6½	6½	25.6
150	168.3	165	165	11.6
8	8.625	7¾	7¾	45.0
200	219.1	197	197	20.4
10	10.750	9	9	73.0
250	273.1	229	229	33.1
12	12.750	10	10	98.0
300	323.9	254	254	44.5

C - Cast Malleable or Ductile Iron, all others are Fabricated Steel.

## REDUCING TEES

**Fig. 7061**  
**Reducing Tee Standard**



**FIGURE 7061 STANDARD REDUCING TEE**

Nom. Size (See pg. 23 for O.D.) In./DN(mm)	Center to End In./mm	Approx. Wt. Ea. Lbs./Kg
1¼ x 1¼ x 1	2¾	1.5
32 x 32 x 25	70	0.7
1½ x 1½ x 1	2¾	1.8
40 x 40 x 25	70	0.8
1½ x 1½ x 1¼	2¾	1.8
40 x 40 x 32	70	0.8
2 x 2 x 1	3¼ C	2.6
50 x 50 x 25	83	1.2
2 x 2 x 1¼	3¼	1.7
50 x 50 x 32	83	0.8
2 x 2 x 1½	3¼ C	2.7
50 x 50 x 40	83	1.2
2½ x 2½ x 1	3¾	4.1
65 x 65 x 25	95	1.9
2½ x 2½ x 1¼	3¾	4.2
65 x 65 x 32	95	1.9
2½ x 2½ x 1½	3¾	4.3
65 x 65 x 40	95	2.0
2½ x 2½ x 2	3¾	4.4
65 x 65 x 50	95	2.0
3 x 3 x 1	4¼ C	7.0
80 x 80 x 25	108	3.2
3 x 3 x 1¼	4¼	5.8
80 x 80 x 32	108	2.6
3 x 3 x 1½	4¼	5.9
80 x 80 x 40	108	2.7
3 x 3 x 2	4¼ C	5.5
80 x 80 x 50	108	2.5
3 x 3 x 2½	4¼	6.3
80 x 80 x 65	108	2.9
4 x 4 x 1	3¾	7.0
100 x 100 x 25	95	3.2
4 x 4 x 1¼	5	9.6
100 x 100 x 32	127	4.4
4 x 4 x 1½	5	10.2
100 x 100 x 40	127	4.6
4 x 4 x 2	5 C	10.2
100 x 100 x 50	127	4.6
4 x 4 x 2½	5 C	11.2
100 x 100 x 65	127	5.1
4 x 4 x 3	5 C	11.4
100 x 100 x 80	127	5.2
5 x 5 x 1	5½	13.6
125 x 125 x 25	140	6.2
5 x 5 x 1½	5½	13.8
125 x 125 x 40	140	6.3
5 x 5 x 2	5½	14
125 x 125 x 50	140	6.4
5 x 5 x 2½	5½	14.3
125 x 125 x 65	140	6.5
5 x 5 x 3	5½	14.6
125 x 125 x 80	140	6.6
5 x 5 x 4	5½ C	17.9
125 x 125 x 100	140	8.1
6 x 6 x 1	6½	20.5
150 x 150 x 25	165	9.3
6 x 6 x 1½	6½	21.0
150 x 150 x 40	165	9.5
6 x 6 x 2	6½ C	26.4
150 x 150 x 50	165	12.0

Nom. Size (See pg. 23 for O.D.) In./DN(mm)	Center to End In./mm	Approx. Wt. Ea. Lbs./Kg
6 x 6 x 2½	6½ C	26.5
150 x 150 x 65	165	12.0
6 x 6 x 3	6½ C	26.5
150 x 150 x 80	165	12.0
6 x 6 x 4	6½ C	26.5
150 x 150 x 100	165	12.0
6 x 6 x 5	6½ C	28.0
150 x 150 x 125	165	12.7
8 x 8 x 1½	7¾	33.0
200 x 200 x 40	197	15.0
8 x 8 x 2	7¾	32.7
200 x 200 x 50	197	14.8
8 x 8 x 2½	7¾	33.0
200 x 200 x 65	197	15.0
8 x 8 x 3	7¾	33.5
200 x 200 x 80	197	15.2
8 x 8 x 4	7¾ C	50.0
200 x 200 x 100	197	22.7
8 x 8 x 5	7¾	34.7
200 x 200 x 125	197	15.7
8 x 8 x 6	7¾ C	54.0
200 x 200 x 150	197	24.5
10 x 10 x 1½	9	52.0
250 x 250 x 40	229	23.6
10x 10x 2	9	52.2
250 x 250 x 50	229	23.7
10 x 10 x 2½	9	52.6
250 x 250 x 65	229	23.9
10x 10x 3	9	53.0
250 x 250 x 80	229	24.0
10x 10x 4	9	53.6
250 x 250 x 100	229	24.3
10x 10x 5	9	54.2
250 x 250 x 125	229	24.6
10x 10x 6	9 C	55.0
250 x 250 x 150	229	24.9
10x 10x 8	9 C	64.7
250 x 250 x 200	229	29.3
12 x 12 x 1	10	77.0
300 x 300 x 25	254	34.9
12 x 12 x 2	10	80.0
300 x 300 x 50	254	36.3
12 x 12 x 2½	10	78.0
300 x 300 x 65	254	35.4
12 x 12 x 3	10	74.6
300 x 300 x 80	254	33.8
12 x 12 x 4	10	75.1
300 x 300 x 100	254	34.1
12 x 12 x 5	10	75.6
300 x 300 x 125	254	34.3
12 x 12 x 6	10	76.2
300 x 300 x 150	254	34.6
12 x 12 x 8	10	76.3
300 x 300 x 200	254	34.6
12 x 12 x 10	10	77.6
300 x 300 x 250	254	35.2
14 x 14 x 4	11	100.0
350 x 350 x 100	279	45.4
14 x 14 x 6	11	101
350 x 350 x 150	279	45.8

Nom. Size (See pg. 23 for O.D.) In./DN(mm)	Center to End In./mm	Approx. Wt. Ea. Lbs./Kg
14 x 14 x 8	11	103
350 x 350 x 200	279	46.7
14 x 14 x 10	11	104
350 x 350 x 250	279	47.2
14 x 14 x 12	11	105
350 x 350 x 300	279	47.6
16 x 16 x 4	12	126
400 x 400 x 100	305	57.2
16 x 16 x 6	12	127
400 x 400 x 150	305	57.6
16 x 16 x 8	12	128
400 x 400 x 200	305	58.1
16 x 16 x 10	12	129
400 x 400 x 250	305	58.5
16 x 16 x 12	12	130
400 x 400 x 300	305	59.0
16 x 16 x 14	12	132
400 x 400 x 350	305	59.9
18 x 18 x 4	15½	188
450 x 450 x 100	394	85.3
18 x 18 x 6	15½	190
450 x 450 x 150	394	86.2
18 x 18 x 8	15½	192
450 x 450 x 200	394	87.1
18 x 18 x 10	15½	194
450 x 450 x 250	394	88.0
18 x 18 x 12	15½	196
450 x 450 x 300	394	88.9
18 x 18 x 14	15½	201
450 x 450 x 350	394	91.2
18 x 18 x 16	15½	203
450 x 450 x 400	394	92.1
20x 20x 6	17¼	240
500 x 500 x 150	438	108.9
20x 20x 8	17¼	242
500 x 500 x 200	438	109.8
20x 20x 10	17¼	244
500 x 500 x 250	438	110.7
20x 20x 12	17¼	246
500 x 500 x 300	438	111.6
20x 20x 14	17¼	248
500 x 500 x 350	438	112.5
20x 20x 16	17¼	250
500 x 500 x 400	438	113.4
20x 20x 18	17¼	252
500 x 500 x 450	451	114.3
24 x 24 x 8	20	327
600 x 600 x 200	508	148.3
24 x 24 x 10	20	330
600 x 600 x 250	508	149.7
24 x 24 x 12	20	334
600 x 600 x 300	508	151.5
24 x 24 x 14	20	340
600 x 600 x 350	508	154.2
24 x 24 x 16	20	342
600 x 600 x 400	508	155.1
24 x 24 x 18	20	345
600 x 600 x 450	508	156.5
24 x 24 x 20	20	347
600 x 600 x 500	508	157.4

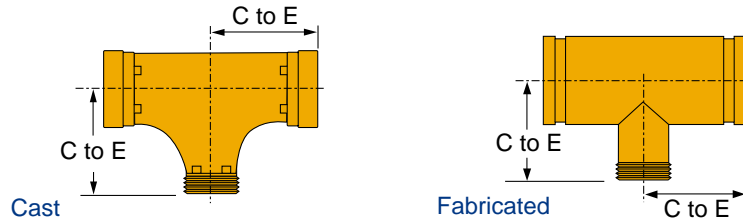
C - Cast Malleable or Ductile iron, all others are Fabricated steel.

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

## REDUCING TEES

**Fig. 7064**

Reducing Tee  
with Threaded Branch



**FIGURE 7064 REDUCING TEE WITH THREADED BRANCH**

Nominal Size	Center to End	Approx. Wt. Ea.
<i>In./DN(mm)</i>	<i>In./mm</i>	<i>Lbs/Kg</i>
2 x 2 x 3/4	3/4	1.6
<i>50 x 50 x 20</i>	<i>83</i>	<i>0.7</i>
2 x 2 x 1	3/4 C	2.6
<i>50 x 50 x 25</i>	<i>83</i>	<i>1.2</i>
2 x 2 x 1 1/4	3/4	1.7
<i>50 x 50 x 32</i>	<i>83</i>	<i>0.8</i>
2 x 2 x 1 1/2	3/4 C	2.7
<i>50 x 50 x 40</i>	<i>83</i>	<i>1.2</i>
2 1/2 x 2 1/2 x 1	3 3/4	4.1
<i>65 x 65 x 25</i>	<i>95</i>	<i>1.9</i>
2 1/2 x 2 1/2 x 1 1/2	3 3/4	4.3
<i>65 x 65 x 40</i>	<i>95</i>	<i>2</i>
2 1/2 x 2 1/2 x 2	3 3/4	4.4
<i>65 x 65 x 50</i>	<i>95</i>	<i>2</i>
3 x 3 x 3/4	4 1/4	5.7
<i>80 x 80 x 20</i>	<i>108</i>	<i>2.6</i>
3 x 3 x 1	4 1/4 C	7.0
<i>80 x 80 x 25</i>	<i>108</i>	<i>3.2</i>
3 x 3 x 1 1/2	4 1/4	5.3
<i>80 x 80 x 40</i>	<i>108</i>	<i>2.4</i>
3 x 3 x 2	4 1/4	5.5
<i>80 x 80 x 50</i>	<i>108</i>	<i>2.5</i>
3 x 3 x 2 1/2	4 1/4	5.8
<i>80 x 80 x 65</i>	<i>108</i>	<i>2.6</i>
4 x 4 x 3/4	3 3/4	7.2
<i>100 x 100 x 20</i>	<i>95</i>	<i>3.3</i>
4 x 4 x 1	3 3/4	7.0
<i>100 x 100 x 25</i>	<i>95</i>	<i>3.2</i>
4 x 4 x 1 1/2	5	9.2
<i>100 x 100 x 40</i>	<i>127</i>	<i>4.2</i>
4 x 4 x 2	5	10.2
<i>100 x 100 x 50</i>	<i>127</i>	<i>4.6</i>
4 x 4 x 2 1/2	5	11.2
<i>100 x 100 x 65</i>	<i>127</i>	<i>5.1</i>
4 x 4 x 3	5	11.4
<i>100 x 100 x 80</i>	<i>127</i>	<i>5.2</i>
5 x 5 x 2	5 1/2	14.5
<i>125 x 125 x 50</i>	<i>140</i>	<i>6.6</i>
5 x 5 x 3	5 1/2	16.1
<i>125 x 125 x 80</i>	<i>140</i>	<i>7.3</i>
5 x 5 x 4	5 1/2 C	17.9
<i>125 x 125 x 100</i>	<i>140</i>	<i>8.1</i>
6 x 6 x 2	6 1/2	26.4
<i>150 x 150 x 50</i>	<i>165</i>	<i>12</i>
6 x 6 x 2 1/2	6 1/2	26.5
<i>150 x 150 x 65</i>	<i>165</i>	<i>12</i>
6 x 6 x 3	6 1/2	26.5
<i>150 x 150 x 80</i>	<i>165</i>	<i>12</i>
6 x 6 x 4	6 1/2	26.5
<i>150 x 150 x 100</i>	<i>165</i>	<i>12</i>
6 x 6 x 5	6 1/2 C	28.0
<i>150 x 150 x 125</i>	<i>165</i>	<i>12.7</i>
8 x 8 x 2	7 3/4	37.5
<i>200 x 200 x 50</i>	<i>197</i>	<i>17</i>
8 x 8 x 3	7 3/4	38.7
<i>200 x 200 x 80</i>	<i>197</i>	<i>17.6</i>

Nominal Size	Center to End	Approx. Wt. Ea.
(See pg. 23 for O.D.) <i>In./DN(mm)</i>	<i>In./mm</i>	<i>Lbs/Kg</i>
8 x 8 x 4	7 3/4	50.0
<i>200 x 200 x 100</i>	<i>197</i>	<i>22.7</i>
8 x 8 x 5	7 3/4	41.0
<i>200 x 200 x 125</i>	<i>197</i>	<i>18.6</i>
8 x 8 x 6	7 3/4	54.0
<i>200 x 200 x 150</i>	<i>197</i>	<i>24.5</i>
10 x 10 x 2	9	61.8
<i>250 x 250 x 50</i>	<i>229</i>	<i>28.0</i>
10 x 10 x 3	9	63.0
<i>250 x 250 x 80</i>	<i>229</i>	<i>28.6</i>
10 x 10 x 4	9	64.0
<i>250 x 250 x 100</i>	<i>229</i>	<i>29.0</i>
10 x 10 x 5	9	65.1
<i>250 x 250 x 125</i>	<i>229</i>	<i>29.5</i>
10 x 10 x 6	9	55.0
<i>250 x 250 x 150</i>	<i>229</i>	<i>24.9</i>
10 x 10 x 8	9	64.7
<i>250 x 250 x 200</i>	<i>229</i>	<i>29.3</i>
12 x 12 x 3	10	84.9
<i>300 x 300 x 80</i>	<i>254</i>	<i>38.5</i>
12 x 12 x 4	10	85.8
<i>300 x 300 x 100</i>	<i>254</i>	<i>38.9</i>
12 x 12 x 5	10	87.0
<i>300 x 300 x 125</i>	<i>254</i>	<i>39.5</i>
12 x 12 x 6	10	88.3
<i>300 x 300 x 150</i>	<i>254</i>	<i>40.1</i>
12 x 12 x 8	10	91.2
<i>300 x 300 x 200</i>	<i>254</i>	<i>41.4</i>
12 x 12 x 10	10	94.8
<i>300 x 300 x 250</i>	<i>254</i>	<i>43.0</i>
14 x 14 x 8	11	110.0
<i>350 x 350 x 200</i>	<i>279</i>	<i>49.7</i>
14 x 14 x 10	11	114.0
<i>350 x 350 x 250</i>	<i>279</i>	<i>51.5</i>
14 x 14 x 12	11	117.0
<i>350 x 350 x 300</i>	<i>279</i>	<i>52.8</i>
16 x 16 x 8	12	135.0
<i>400 x 400 x 200</i>	<i>305</i>	<i>61.2</i>
16 x 16 x 10	12	139.0
<i>400 x 400 x 250</i>	<i>305</i>	<i>63.0</i>
16 x 16 x 12	12	142.0
<i>400 x 400 x 300</i>	<i>305</i>	<i>64.4</i>
18 x 18 x 10	15 1/2	204.0
<i>450 x 450 x 250</i>	<i>394</i>	<i>92.5</i>
18 x 18 x 12	15 1/2	209.0
<i>450 x 450 x 300</i>	<i>394</i>	<i>94.8</i>
18 x 18 x 14	15 1/2	211.0
<i>450 x 450 x 350</i>	<i>0</i>	<i>95.7</i>
18 x 18 x 16	15 1/2	216.0
<i>450 x 450 x 400</i>	<i>0</i>	<i>98.0</i>
24 x 24 x 8	20	334.0
<i>600 x 600 x 200</i>	<i>508</i>	<i>152</i>
24 x 24 x 10	20	342.0
<i>600 x 600 x 250</i>	<i>508</i>	<i>155</i>
24 x 24 x 12	20	349.0
<i>600 x 600 x 300</i>	<i>508</i>	<i>158</i>

C - Cast Malleable or Ductile iron, all others are fabricated steel.

## CONCENTRIC REDUCERS

### FIGURE 7072 CONCENTRIC REDUCER

Nom. Size (See pg. 23 for O.D.) In./DN(mm)	End to End In./mm	Approx. Wt. Ea. Lbs./Kg
1¼ x 1 32 x 25	2½ 64	0.6 0.3
1½ x 1 40 x 25	2½ 64	0.6 0.3
1½ x 1¼ 40 x 32	2½ 64	0.6 0.3
2 x 1 50 x 25	2½ 64	0.8 0.4
2 x 1¼ 50 x 32	2½ C 64	1.3 0.6
2 x 1½ 50 x 40	2½ C 64	1.3 0.6
2½ x 1 65 x 25	2½ 64	1.0 0.5
2½ x 1¼ 65 x 32	2½ 64	1.0 0.5
2½ x 1½ 65 x 40	2½ 64	1.3 0.6
2½ x 2 65 x 50	2½ C 64	1.6 0.7
3 x 1 80 x 25	2½ 64	1.2 0.5
3 x 1¼ 80 x 32	2½ 64	1.3 0.6
3 x 1½ 80 x 40	2½ 64	1.3 0.6
3 x 2 80 x 50	2½ C 64	1.4 0.6
3 x 2½ 80 x 65	2½ 64	1.5 0.7
3½ x 3 90 x 80	3 76	1.8 0.8
4 x 1 100 x 25	3 C 76	2.2 1.0
4 x 1¼ 100 x 32	3 76	2.2 1.0
4 x 1½ 100 x 40	3 76	2.3 1.0
4 x 2 100 x 50	3 C 76	2.4 1.1
4 x 2½ 100 x 65	3 C 76	2.6 1.2
4 x 3 100 x 80	3 C 76	3.2 1.5
4 x 3½ 100 x 90	3 C 76	3.6 1.6
5 x 2 125 x 50	3½ 89	4.6 2.1
5 x 2½ 125 x 65	3½ 89	4.5 2.0
5 x 3 125 x 80	3½ 89	4.4 2.0
5 x 4 125 x 100	3½ C 89	4.5 2.0
6 x 1 150 x 25	4 102	6.8 3.1
6 x 1½ 150 x 40	4 102	6.9 3.1
6 x 2 150 x 50	4 C 102	6.0 2.7
6 x 2½ 150 x 65	4 102	6.0 2.7
6 x 3 150 x 80	4 C 102	5.4 2.4
6 x 4 150 x 100	4 C 102	5.6 2.5
6 x 5 150 x 125	4 C 102	6.0 2.7
8 x 3 200 x 80	5 127	12.0 5.5

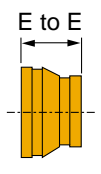
Nom. Size (See pg. 23 for O.D.) In./DN(mm)	End to End In./mm	Approx. Wt. Ea. Lbs./Kg
8 x 4 200 x 100	5 C 127	9.0 4.1
8 x 5 200 x 125	5 127	11.5 5.2
8 x 6 200 x 150	5 C 127	10.6 4.8
10 x 4 250 x 100	6 152	20 9.1
10 x 5 250 x 125	6 152	20 9.1
10 x 6 250 x 150	6 152	20 9.1
10 x 8 250 x 200	6 152	23.9 10.8
12 x 4 300 x 100	7 178	25 11.3
12 x 6 300 x 150	7 178	29 13.2
12 x 8 300 x 200	7 178	29 13.2
12 x 10 300 x 250	7 203	32.4 14.7
14 x 6 350 x 150	13 330	54.3 24.6
14 x 8 350 x 200	13 330	54.5 24.7
14 x 10 350 x 250	13 330	55.7 25.3
14 x 12 350 x 300	13 330	57.3 26.0
16 x 8 400 x 200	14 356	65.4 29.7
16 x 10 400 x 250	14 356	66.7 30.3
16 x 12 400 x 300	14 356	68.1 30.9
16 x 14 400 x 350	14 356	71.0 32.2
18 x 10 450 x 250	15 381	82.3 37.3
18 x 12 450 x 300	15 381	83.6 37.9
18 x 14 450 x 350	15 381	86.2 39.1
18 x 16 450 x 400	15 381	87.2 39.6
20 x 10 500 x 250	20 508	123.0 55.8
20 x 12 500 x 300	20 508	125.0 56.7
20 x 14 500 x 350	20 508	129.0 58.5
20 x 16 500 x 400	20 508	131.0 59.4
20 x 18 500 x 450	20 508	133.0 60.3
24 x 10 600 x 250	20 508	147.0 66.7
24 x 12 600 x 300	20 508	149.0 67.6
24 x 14 600 x 350	20 508	152.0 68.9
24 x 16 600 x 400	20 508	153.0 69.4
24 x 18 600 x 450	20 508	154.0 69.9
24 x 20 600 x 500	20 508	155.0 70.3

### Fig. 7072 GR x GR

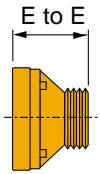


(CAST)

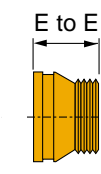
### Fig. 7076 GR x THD\*



(WELD)



(CAST)



(WELD)

### FIGURE 7076 CONCENTRIC REDUCER GROOVE BY THREAD

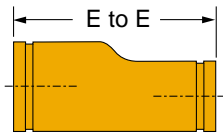
Nom. Size (See pg. 23 for O.D.) In./DN(mm)	End to End In./mm	Approx. Wt. Ea. Lbs./Kg
1½ x 1 40 x 25	2½ 64	0.6 0.3
2 x ¾ 50 x 80	2½ 64	1.0 0.5
2 x 1 50 x 25	2½ 64	0.8 0.4
2 x 1¼ 50 x 32	2½ 64	1.3 0.6
2 x 1½ 50 x 40	2½ 64	1.3 0.6
2½ x 1 65 x 25	2½ 64	1.0 0.5
2½ x 1¼ 65 x 40	2½ 64	1.3 0.6
2½ x 2 65 x 50	2½ 64	1.2 0.5
3 x ¾ 80 x 80	2½ 64	1.2 0.5
3 x 1 80 x 25	2½ 64	1.2 0.5
3 x 1½ 80 x 40	2½ 64	1.3 0.6
3 x 2 80 x 50	2½ 64	1.3 0.6
3 x 2½ 80 x 65	2½ 64	1.5 0.7
3½ x 3 90 x 80	3 76	1.8 0.8
4 x 1 100 x 25	3 76	2.2 1.0
4 x 1¼ 100 x 32	3 76	2.2 1.0
4 x 1½ 100 x 40	3 76	2.3 1.0
4 x 2 100 x 50	3 76	2.4 1.1
4 x 2½ 100 x 65	3 76	2.6 1.2
4 x 3 100 x 80	3 76	3.2 1.5
4 x 3½ 100 x 90	3 76	3.6 1.6
5 x 2 125 x 50	3½ 89	4.6 2.1
5 x 2½ 125 x 65	3½ 89	4.5 2.0
5 x 3 125 x 80	3½ 89	4.4 2.0
5 x 4 125 x 100	3½ 89	4.5 2.0
6 x 1 150 x 25	4 102	6.8 3.1
6 x 1½ 150 x 40	4 102	6.9 3.1
6 x 2 150 x 50	4 102	6.0 2.7
6 x 2½ 150 x 65	4 102	6.0 2.7
6 x 3 150 x 80	4 102	5.4 2.4
6 x 4 150 x 100	4 102	5.6 2.5
6 x 5 150 x 125	4 102	6.0 2.7
8 x 3 200 x 80	5 127	12.0 5.5

C-Cast Malleable or Ductile Iron, all others are Fabricated Steel. Center to end dimensions may differ from those shown above, contact Gruvlok for details.

Grooved-End Couplings  
Branch Outlets  
Fittings  
Flow Control Components  
High Pressure  
Copper  
Dielectric Nipple  
Plain-End  
HDPE  
Sock-It®  
Stainless Steel  
Technical Data

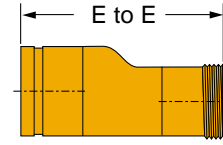
ECENTRIC REDUCERS

Fig. 7073  
GR x GR



(FABRICATED)

Fig. 7097  
GR x THD



(FABRICATED)

FIGURE 7073 & 7097 ECCENTRIC REDUCER

Nom. Size In./DN(mm)	End to End In./mm	Approx. Wt. Ea. Lbs./Kg
1¼ x 1	8½	1.5
32 x 25	216	0.7
1½ x ¾	8½	1.6
40 x 20	216	0.7
1½ x 1	8½	1.7
40 x 25	216	0.8
1½ x 1¼	8½	4.5
40 x 32	216	2.0
2 x ¾	9	2.1
50 x 80	229	1.0
2 x 1	9	2.2
50 x 25	229	1.0
2 x 1¼	9	2.4
50 x 32	229	1.1
2 x 1½	9	2.5
50 x 40	229	1.1
2½ x 1	9½	3.2
65 x 25	241	1.5
2½ x 1¼	9½	3.4
65 x 32	241	1.5
2½ x 1½	9½	3.6
65 x 40	241	1.6
2½ x 2	9½	4.0
65 x 50	241	1.8
3 x 1	9½	4.0
80 x 25	241	1.8
3 x 1¼	9½	4.3
80 x 32	241	2.0
3 x 1½	9½	4.5
80 x 40	241	2.0
3 x 2	9½	4.8
80 x 50	241	2.2
3 x 2½	9½	5.6
80 x 65	241	2.5
3½ x 3	9½	6.6
90 x 80	241	3.0
4 x 1	10	5.9
100 x 25	254	2.7
4 x 1¼	10	6.3
100 x 32	254	2.9
4 x 1½	10	6.4
100 x 40	254	2.9
4 x 2	10	6.7
100 x 50	254	3.0
4 x 2½	10	7.3
100 x 65	254	3.3
4 x 3	10	7.9
100 x 80	254	3.6

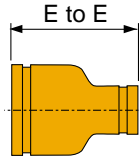
Nom. Size In./DN(mm)	End to End In./mm	Approx. Wt. Ea. Lbs./Kg
4 x 3½	10	8.5
100 x 90	254	3.9
5 x 2	11	9.3
125 x 50	279	4.2
5 x 2½	11	9.9
125 x 65	279	4.5
5 x 3	11	10.7
125 x 80	279	4.9
5 x 4	11	11.9
125 x 100	279	5.4
6 x 1	11½	12.0
150 x 25	292	5.4
6 x 1½	11½	12.1
150 x 40	292	5.5
6 x 2	11½	12.2
150 x 50	292	5.5
6 x 2½	11½	12.8
150 x 65	292	5.8
6 x 3	11½	13.6
150 x 80	292	6.2
6 x 4	11½	14.9
150 x 100	292	6.8
6 x 5	11½	16.2
150 x 125	292	7.3
8 x 3	12	17.9
200 x 80	305	8.1
8 x 4	12	19.7
200 x 100	305	8.9
8 x 5	12	21.4
200 x 125	305	9.7
8 x 6	12	23.2
200 x 150	305	10.5
10x 4	13	29.7
250 x 100	330	13.5
10x 5	13	31.7
250 x 125	330	14.4
10x 6	13	34.0
250 x 150	330	15.4
10x 8	13	34.4
250 x 200	330	15.6
12 x 4	14	44.8
300 x 100	356	20.3
12 x 6	14	45.2
300 x 150	356	20.5
12 x 8	14	47.7
300 x 200	356	21.6
12 x 10	14	52.0
300 x 250	356	23.6

Nom. Size In./DN(mm)	to End In./mm	Approx. Wt. Ea. Lbs./Kg
14 x 6	13	78
350 x 150	330	35.4
14 x 8	13	80
350 x 200	330	36.3
14 x 10	13	84
350 x 250	330	38.1
14 x 12	13	88
350 x 300	330	39.9
16 x 8	14	91
400 x 200	356	41.3
16 x 10	14	96
400 x 250	356	43.5
16 x 12	14	99
400 x 300	356	44.9
16 x 14	14	104
400 x 350	356	47.2
18 x 10	15	110
450 x 250	381	49.9
18 x 12	15	113
450 x 300	381	51.3
18 x 14	15	117
450 x 350	381	53.1
18 x 16	15	121
450 x 400	381	54.9
20x 10	20	145
500 x 250	508	65.8
20x 12	20	149
500 x 300	508	67.6
20x 14	20	152
500 x 350	508	68.9
20x 16	20	156
500 x 400	508	70.8
20x 18	20	160
500 x 450	508	72.6
24 x 10	20	174
600 x 250	508	78.9
24 x 12	20	179
600 x 300	508	81.2
24 x 14	20	184
600 x 350	508	83.5
24 x 16	20	189
600 x 400	508	85.7
24 x 18	20	194
600 x 450	508	88
24 x 20	20	199
600 x 500	508	90.3

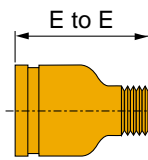
Fabricated Steel \*Figure 7097 is available in sizes 1¼ x 1 through 12 x 10.  
Center to end dimensions may differ from those shown above. Contact Gruvlok for details.

**SWAGED NIPPLES**

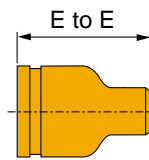
**Fig. 7077**  
GR x GR



**Fig. 7078**  
GR x THD



**Fig. 7079**  
GR x BEV



**FIGURE 7077, 7078 & 7079 SWAGED NIPPLES**

Nom. Size In./DN(mm)	End to to End In./mm	Approx. Wt. Ea. Lbs./Kg
2 x 1 50 x 25	6½ 165	2.0 0.9
2 x 1¼ 50 x 32	6½ 165	2.0 0.9
2 x 1½ 50 x 40	6½ 165	2.0 0.9
2½ x 1 65 x 25	7 178	3.5 1.6
2½ x 1¼ 65 x 32	7 178	3.5 1.6
2½ x 1½ 65 x 40	7 178	3.5 1.6
2½ x 2 65 x 50	7 178	3.5 1.6
3 x 1 80 x 25	8 203	5.0 2.3
3 x 1¼ 80 x 32	8 203	5.0 2.3
3 x 1½ 80 x 40	8 203	5.0 2.3
3 x 2 80 x 50	8 203	5.0 2.3
3 x 2½ 80 x 65	8 203	5.0 2.3
3½ x 3 90 x 80	8 203	7.0 3.2
4 x 1 100 x 25	9 229	8.0 3.6
4 x 1¼ 100 x 32	9 229	8.0 3.6
4 x 1½ 100 x 40	9 229	8.0 3.6
4 x 2 100 x 50	9 229	8.0 3.6

Nom. Size In./DN(mm)	End to to End In./mm	Approx. Wt. Ea. Lbs./Kg
4 x 2½ 100 x 65	9 229	8.0 3.6
4 x 3 100 x 80	9 229	8.0 3.6
4 x 3½ 100 x 90	9 229	8.0 3.6
5 x 2 125 x 50	11 279	12.0 5.4
5 x 2½ 125 x 65	11 279	12.0 5.4
5 x 3 125 x 80	11 279	12.0 5.4
5 x 4 125 x 100	11 279	12.0 5.4
6 x 1 150 x 25	12 305	19.0 8.6
6 x 1¼ 150 x 32	12 305	19.0 8.6
6 x 1½ 150 x 40	12 305	19.0 8.6
6 x 2 150 x 50	12 305	19.0 8.6
6 x 2½ 150 x 65	12 305	19.0 8.6
6 x 3 150 x 80	12 305	19.0 8.6
6 x 3½ 150 x 90	12 305	17.0 7.7
6 x 4 150 x 100	12 305	19.0 8.6
6 x 5 150 x 125	12 305	19.0 8.6

Grooved-End  
Couplings

Branch  
Outlets

Fittings

Flow Control  
Components

High  
Pressure

Copper

Dielectric  
Nipple

Plain-End

HDPE

Sock-It®

Stainless  
Steel

Technical  
Data

LATERALS

FIG. 7069 – 45° Lateral

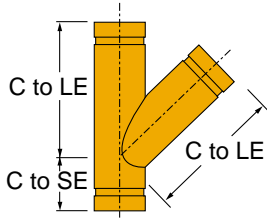


FIGURE 7069 LATERALS

Nom. Size	Pipe OD	Center to Long End	Center to Short End	Approx. Wt. Ea.	Nom. Size	Pipe OD	Center to Long End	Center to Short End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	In./mm	Lbs./Kg	In./DN(mm)	In./mm	In./mm	In./mm	Lbs./Kg
1	1.315	5	2¼	1.5	6	6.625	14	4½	46.6
25	33.4	127	57	0.7	150	168.3	356	114	21.1
1¼	1.660	5¾	2½	2.5	8	8.625	18	6	82.8
32	42.2	146	64	1.1	200	219.1	457	152	37.6
1½	1.900	6¼	2¾	3.5	10	10.750	20½	6½	127
40	48.3	159	70	1.6	250	273.1	521	165	57.4
2	2.375	7	2¾	4.5	12	12.750	23	7	165
50	60.3	178	70	2.0	300	323.9	584	178	74.8
2½	2.875	7¾	3	10.0	14	14.000	26½	7½	215
65	73.0	197	76	4.5	350	355.6	673	191	97.5
3	3.500	8½	3¼	11.0	16	16.000	29	8	345
80	88.9	216	83	5.0	400	406.4	737	203	157
3½	4.000	10	3½	14.0	18	18.000	32	8½	425
90	101.6	254	89	6.4	450	457.2	813	216	193
4	4.500	10½	3¾	18.3	20	20.000	35	9	517
100	114.3	267	95	8.3	500	508.0	889	229	235
5	5.563	12½	4	30.0	24	24.000	40	10	940
125	141.3	318	102	13.6	600	609.6	1016	254	426

FIG. 7070  
45° Reducing Lateral

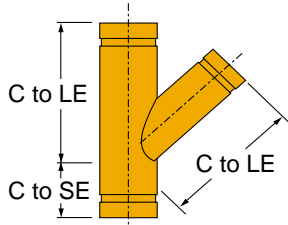


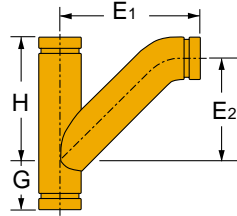
FIGURE 7070 REDUCING LATERALS

Nom. Size	Center to Long End	Center to Short End	Approx. Wt. Ea.	Nom. Size	Center to Long End	Center to Short End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg	In./DN(mm)	In./mm	In./mm	Lbs./Kg
3 x 3 x 2	8½	3¼	9.8	12 x 12 x 10	23	7	168
80 x 80 x 50	216	83	4.4	300 x 300 x 250	584	178	76.2
3 x 3 x 2½	8½	3¼	11.5	14 x 14 x 4	26½	7½	173
80 x 80 x 65	216	83	5.2	350 x 350 x 100	673	191	78.5
4 x 4 x 2	10½	3¾	15.5	14 x 14 x 6	26½	7½	185
100 x 100 x 50	267	95	7.0	350 x 350 x 150	673	191	83.9
4 x 4 x 2½	10½	3¾	17.0	14 x 14 x 8	26½	7½	195
100 x 100 x 65	267	95	7.7	350 x 350 x 200	673	191	88.5
4 x 4 x 3	10½	3¾	18.5	14 x 14 x 10	26½	7½	223
100 x 100 x 80	267	95	8.4	350 x 350 x 250	673	191	101
5 x 5 x 2	12½	4	22.5	14 x 14 x 12	26½	7½	240
125 x 125 x 50	318	102	10.2	350 x 350 x 300	673	191	109
5 x 5 x 3	12½	4	26.5	16 x 16 x 6	29	8	235
125 x 125 x 80	318	102	12.0	400 x 400 x 150	737	203	107
5 x 5 x 4	12½	4	30.5	16 x 16 x 8	29	8	250
125 x 125 x 100	318	102	13.8	400 x 400 x 200	737	203	113
6 x 6 x 2	14	4½	33.0	16 x 16 x 10	29	8	263
150 x 150 x 50	356	114	15.0	400 x 400 x 250	737	203	119
6 x 6 x 3	14	4½	37.0	16 x 16 x 12	29	8	283
150 x 150 x 80	356	114	16.8	400 x 400 x 300	737	203	128
6 x 6 x 4	14	4½	40.0	16 x 16 x 14	29	8	307
150 x 150 x 100	356	114	18.1	400 x 400 x 350	737	203	139
6 x 6 x 5	14	4½	45.0	18 x 18 x 6	32	8½	275
150 x 150 x 125	356	114	20.4	450 x 450 x 150	813	216	125
8 x 8 x 4	18	6	59.6	18 x 18 x 8	32	8½	306
200 x 200 x 100	457	152	27.0	450 x 450 x 200	813	216	139
8 x 8 x 5	18	6	68.0	18 x 18 x 10	32	8½	321
200 x 200 x 125	457	152	30.8	450 x 450 x 250	813	216	146
8 x 8 x 6	18	6	75.0	18 x 18 x 12	32	8½	333
200 x 200 x 150	457	152	34.0	450 x 450 x 300	813	216	151
10 x 10 x 4	20½	6½	83.0	18 x 18 x 14	32	8½	358
250 x 250 x 100	521	165	37.6	450 x 450 x 350	813	216	162
10 x 10 x 5	20½	6½	100.0	18 x 18 x 16	32	8½	382
250 x 250 x 125	521	165	45.4	450 x 450 x 400	813	216	173
10 x 10 x 6	20½	6½	105.0	20 x 20 x 12	35	9	390
250 x 250 x 150	521	165	47.6	500 x 500 x 300	889	229	177
10 x 10 x 8	20½	6½	116.0	20 x 20 x 14	35	9	410
250 x 250 x 200	521	165	52.6	500 x 500 x 350	889	229	186
12 x 12 x 4	23	7	137.0	20 x 20 x 16	235	9	440
300 x 300 x 100	584	178	62.1	500 x 500 x 400	889	229	200
12 x 12 x 6	23	7	140.0	24 x 24 x 16	40	10	725
300 x 300 x 150	584	178	63.5	600 x 600 x 400	1016	254	329
12 x 12 x 8	23	7	147.0	24 x 24 x 20	40	10	785
300 x 300 x 200	584	178	66.7	600 x 600 x 500	1016	254	356



**TEE WYES**

**FIG. 7066**  
Tee Wye

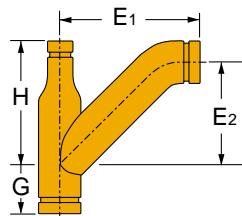


**FIGURE 7066 TEE WYES**

Nom. Size In./DN(mm)	G In./mm	H In./mm	E1 In./mm	E2 In./mm	Approx. Wt. Ea. Lbs./Kg
2 x 2 x 2 50 x 50 x 50	2 <sup>3</sup> / <sub>4</sub> 70	7 178	9 229	4 <sup>5</sup> / <sub>8</sub> 117	6.4 2.9
2 1/2 x 2 1/2 x 2 1/2 65 x 65 x 65	3 76	7 <sup>3</sup> / <sub>4</sub> 197	10 1/2 267	5 <sup>3</sup> / <sub>4</sub> 146	11.5 5.2
3 x 3 x 3 80 x 80 x 80	3 1/4 83	8 1/2 216	11 1/2 292	6 1/2 165	16.5 7.5
3 1/2 x 3 1/2 x 3 1/2 90 x 90 x 90	3 1/2 89	10 254	13 330	7 <sup>3</sup> / <sub>4</sub> 197	22 10.0
4 x 4 x 3 100 x 100 x 80	3 <sup>3</sup> / <sub>4</sub> 95	10 1/2 267	12 3/8 327	7 <sup>7</sup> / <sub>8</sub> 200	23 10.4
4 x 4 x 4 100 x 100 x 100	3 <sup>3</sup> / <sub>4</sub> 95	10 1/2 267	13 <sup>5</sup> / <sub>8</sub> 346	8 1/8 206	26 11.8
5 x 5 x 3 125 x 125 x 80	4 102	12 1/2 318	14 1/4 362	9 1/4 235	32 14.5
5 x 5 x 4 125 x 125 x 100	4 102	12 1/2 318	15 1/8 384	9 <sup>5</sup> / <sub>8</sub> 244	35 15.9
5 x 5 x 5 125 x 125 x 125	4 102	12 1/2 318	16 1/8 410	10 254	40 18.1
6 x 6 x 3 150 x 150 x 80	4 1/2 114	14 356	15 <sup>5</sup> / <sub>16</sub> 3937	10 <sup>5</sup> / <sub>16</sub> 2667	50 22.7
6 x 6 x 4 150 x 150 x 100	4 1/2 114	14 356	16 1/4 413	10 <sup>3</sup> / <sub>4</sub> 273	55 24.9
6 x 6 x 5 150 x 150 x 125	4 1/2 114	14 356	17 1/4 438	11 1/8 283	58 26.3
6 x 6 x 6 150 x 150 x 150	4 1/2 114	14 356	18 1/4 464	11 1/2 292	60.5 27.4
8 x 8 x 3 200 x 200 x 80	6 152	18 457	18 <sup>3</sup> / <sub>16</sub> 4648	13 <sup>3</sup> / <sub>16</sub> 3378	100 45.4
8 x 8 x 4 200 x 200 x 100	6 152	18 457	19 483	13 1/2 343	110 49.9

Nom. Size In./DN(mm)	G In./mm	H In./mm	E1 In./mm	E2 In./mm	Approx. Wt. Ea. Lbs./Kg
8 x 8 x 5 200 x 200 x 125	6 152	18 457	20 508	13 <sup>3</sup> / <sub>8</sub> 352	111 50.3
8 x 8 x 6 200 x 200 x 150	6 152	18 457	21 1/8 537	14 <sup>3</sup> / <sub>8</sub> 365	112 50.8
8 x 8 x 8 200 x 200 x 200	6 152	18 457	23 3/4 591	15 1/4 387	120 54.4
10x 10x 3 250 x 250 x 80	6 1/2 165	20 1/2 521	19 7/8 505	14 7/8 378	130 59.0
10x 10x 4 250 x 250 x 100	6 1/2 165	20 1/2 521	20 3/4 527	15 1/4 387	135 61.2
10x 10x 5 250 x 250 x 125	6 1/2 165	20 1/2 521	21 7/8 556	15 3/4 400	140 63.5
10x 10x 6 250 x 250 x 150	6 1/2 165	20 1/2 521	22 7/8 581	16 1/8 410	145 65.8
10x 10x 8 250 x 250 x 200	6 1/2 165	20 1/2 521	27 1/4 692	19 1/4 489	150 68.0
10x 10x 10 250 x 250 x 250	6 1/2 165	20 1/2 521	27 1/4 692	18 457	190 86.2
12 x 12 x 3 300 x 300 x 80	7 178	23 584	20 3/4 527	15 3/4 400	140 63.5
12 x 12 x 4 300 x 300 x 100	7 178	23 584	21 1/2 546	16 406	145 65.8
12 x 12 x 6 300 x 300 x 150	7 178	23 584	23 3/4 603	17 432	165 74.8
12 x 12 x 8 300 x 300 x 200	7 178	23 584	26 660	18 457	175 79.4
12 x 12 x 10 300 x 300 x 250	7 178	23 584	28 711	18 3/4 476	200 90.7
12 x 12 x 12 300 x 300 x 300	7 178	23 584	31 787	20 1/2 521	240 109

**REDUCING TEE WYES**



**FIG. 7067**  
Reducing Tee Wye

**FIGURE 7067 REDUCING TEE WYES**

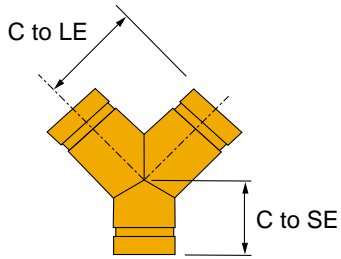
Nom. Size In./DN(mm)	G In./mm	H In./mm	E1 In./mm	E2 In./mm	Approx. Wt. Ea. Lbs./Kg
4 x 3 x 3 12 x 12 x 10	1 5/8 41	7 3/8 187	10 3/4 273	5 5/8 143	16.0 7.3
4 x 3 x 4 12 x 12 x 10	3 3/4 267	10 1/2 346	13 3/8 206	8 1/8 12.2	27.0
5 x 3 x 3 12 x 12 x 10	1 1/4 32	9 3/4 248	11 1/2 292	6 1/2 165	25.0 11.3
5 x 3 x 5 12 x 12 x 10	4 102	12 1/2 318	16 1/8 410	10 254	44.0 20.0
5 x 4 x 3 12 x 12 x 10	1 1/8 48	9 1/8 232	11 1/8 302	6 3/8 175	21.0 9.5
5 x 4 x 4 12 x 12 x 10	1 1/8 48	9 1/8 232	12 3/4 324	7 1/4 184	25.0 11.3
6 x 4 x 6 12 x 12 x 10	4 1/2 114	14 356	18 1/4 464	11 1/2 292	61.0 27.7
6 x 5 x 3 12 x 12 x 10	1 1/4 32	10 3/4 273	13 330	8 203	27.0 12.2
6 x 5 x 4 12 x 12 x 10	1 1/4 32	10 3/4 273	13 3/8 352	8 3/8 213	31.0 14.1
8 x 6 x 4 12 x 12 x 10	1 25	12 305	14 3/4 375	9 1/4 235	45.0 20.4
8 x 6 x 8 12 x 12 x 10	6 152	18 457	23 1/4 591	15 1/4 387	95.0 43.1

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

TRUE Y

FIGURE 7071 TRUE WYE

FIG. 7071  
True Wye



Nom. Size	Pipe OD	Center to Long End	Center to Short End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	In./mm	Lbs./Kg
1	1.315	2¼	2¼	1.1
25	33.4	57	57	0.5
1¼	1.660	2¾	2½	1.5
32	42.2	70	64	0.7
1½	1.900	2¾	2¾	1.8
40	48.3	70	70	0.8
2	2.375	3¼	2¾	2.3
50	60.3	83	70	1.0
2½	2.875	3¾	3	5.0
65	73.0	95	76	2.3
3	3.500	4¼	3¼	6.1
80	88.9	108	83	2.8
3½	4.000	4½	3½	8.3
90	101.6	114	89	3.8
4	4.500	5	3¾	10.5
100	114.3	127	95	4.8
5	5.563	5½	4	15
125	141.3	140	102	6.8

Nom. Size	Pipe OD	Center to Long End	Center to Short End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	In./mm	Lbs./Kg
6	6.625	6½	4½	21.6
150	168.3	165	114	9.8
8	8.625	7¾	6	36.0
200	219.1	197	152	16.3
10	10.750	9	6½	51.0
250	273.1	229	165	23.1
12	12.750	10	7	160.0
300	323.9	254	178	72.6
14	14.000	11	7½	136.0
350	355.6	279	191	61.7
16	16.000	12	8	166.0
400	406.4	305	203	75.3
18	18.000	15½	8½	234
450	457.2	394	216	106
20	20.000	17¼	9	281
500	508.0	438	229	128
24	24.000	20	10	523
600	609.6	508	254	237

ADAPTERS

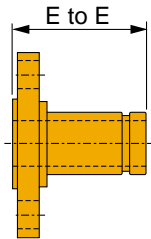


FIGURE 7084  
GROOVE X  
CLASS 150 FLANGE

Nom. Size	Pipe OD	End to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
1	1.315	3	2.5
25	33.4	76	1.1
1¼	1.660	4	3.8
32	42.2	102	1.7
1½	1.900	4	4.1
40	48.3	102	1.9
2	2.375	4	6.0
50	60.3	102	2.7
2½	2.875	4	9.2
65	73.0	102	4.2
3	3.500	4	10.4
80	88.9	102	4.7
3½	4.000	4	14.0
90	101.6	102	6.4
4	4.500	6	19.1
100	114.3	152	8.7
5	5.563	6	23.0
125	141.3	152	10.4
6	6.625	6	29.5
150	168.3	152	13.4
8	8.625	6	43.5
200	219.1	152	19.7
10	10.750	8	68.2
250	273.1	203	30.9
12	12.750	8	96.1
300	323.9	203	43.6
14	14.000	*	*
350	355.6	*	*
16	16.000	*	*
400	406.4	*	*
18	18.000	*	*
450	457.2	*	*
20	20.000	*	*
500	508.0	*	*
24	24.000	*	*
600	609.6	*	*

FIGURE 7085  
GROOVE X  
CLASS 300 FLANGE

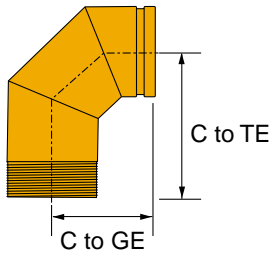
End to End	Approx. Wt. Ea.
In./mm	Lbs./Kg
3	3.6
76	1.6
4	4.6
102	2.1
4	7.1
102	3.2
4	8.2
102	3.7
4	11.9
102	5.4
4	15.5
102	7.0
4	21.0
102	9.5
6	28.0
152	12.7
6	35.0
152	15.9
6	50.0
152	22.7
6	72.0
152	32.7
8	*
203	*
8	*
203	*
*	*
*	*
*	*
*	*
*	*
*	*
*	*
*	*

\* Contact Gtuvlok for dimensions and weight

**ADAPTERS**

**Fig. 7055**

GR x MPT - 90° Adapter Elbow



**Fig. 7056**

GR x MPT - 45° Adapter Elbow

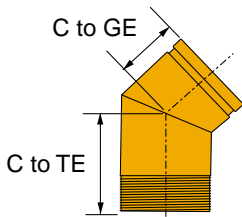


FIGURE 7055 ADAPTER ELBOWS					
Nom. Size	Fitting OD	Center to Grooved End	Center to Threaded End	Approx. Wt. Ea.	
In./DN(mm)	In./mm	In./mm	In./mm	Lbs./Kg	
1	1.315	2¼	2¼	0.6	
25	33.4	57	57	0.3	
1¼	1.660	2¾	2¾	1.0	
32	42.2	70	70	0.5	
1½	1.900	2¾	2¾	1.2	
40	48.3	70	70	0.5	
2	2.375	3¼	4¼	2.3	
50	60.3	83	108	1.0	
2½	2.875	3¾	3¾	3.7	
65	73.0	95	95	1.7	
3	3.500	4¼	6	6.5	
80	88.9	108	152	2.9	
3½	4.000	4½	6¼	8.2	
90	101.6	114	159	3.7	
4	4.500	5	7¼	11	
100	114.3	127	184	5.0	
6	6.625	6½	6½	19.8	
150	168.3	165	165	9.0	

FIGURE 7056 ADAPTER ELBOWS			
Center to Grooved End	Center to Threaded End	Approx. Wt. Ea.	
In./mm	In./mm	Lbs./Kg	
1¼	1¾	0.6	
44	44	0.3	
1¾	1¾	0.7	
44	44	0.3	
1¾	1¾	0.8	
44	44	0.4	
2	3	1.6	
51	76	0.7	
2¼	2¼	2.2	
57	57	1.0	
2½	4¼	4.3	
64	108	2.0	
2¾	2¾	4.2	
70	70	1.9	
3	5¼	7.5	
76	133	3.4	
3½	3½	11.1	
89	89	5.0	

**REDUCING BASE SUPPORT ELBOWS**

**Fig. 7050RF**

Grooved x Flanged (GxF)

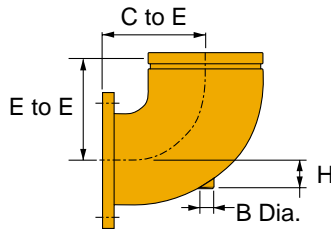


FIGURE 7050 RF REDUCING BASE SUPPORT ELBOWS					
Nom. Size	Grooved End OD	Center to End	H	B Dia. Threaded	Approx. Wt. Ea. GxF
In./DN(mm)	In./mm	In./mm	In./mm	NPSC	Lbs./Kg
6 x 4	6.625	12	2½	1½	38.5
150 x 100	168.3	305	64	38	17.5
6 x 5	6.625	12½	2½	1½	45.4
150 x 125	168.3	318	64	38	20.6
8 x 5	8.625	16	3	1½	65.5
200 x 125	219.1	406	76	38	29.7
8 x 6	8.625	16	3	1½	73
200 x 150	219.1	406	76	38	33.1
10x 6	10.750	19	3½	1½	100
250 x 150	273.1	483	89	38	45.4
10x 8	10.750	19	3½	1½	127
250 x 200	273.1	483	89	38	57.6
12 x 8	12.750	22	4	1½	155
300 x 200	323.9	559	102	38	70.3
12 x 10	12.750	22	4	1½	186
300 x 250	323.9	559	102	38	84.4

**FEMALE THREAD ADAPTER**

**Fig. 7087**

GR x FPT

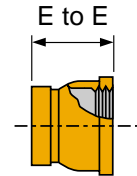


FIGURE 7087 FEMALE THREAD ADAPTER			
Nom. Size	Grooved End OD	End to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
1	1.315	2¼	0.7
25	33.4	533	0.3
1¼	1.660	2¾	1.4
32	42.2	635	0.6
1½	1.900	2¾	1.5
40	48.3	635	0.7
2	2.375	2½	1.6
50	60.3	64	0.7
3	3.500	2¾	2.5
80	88.9	70	1.1
4	4.500	3¼	4.5
100	114.3	83	2.0

Grooved-End Couplings  
Branch Outlets  
Fittings  
Flow Control Components  
High Pressure  
Copper  
Dielectric Nipple  
Plain-End  
HDPE  
Sock-It®  
Stainless Steel  
Technical Data

## CAP

Fig. 7074

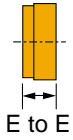


FIGURE 7074 CAP			
Nom. Size	Pipe OD	End to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
1 C	1.315	1¼	0.3
25	33.4	32	0.1
1¼ C	1.660	1¼	0.4
32	42.2	32	0.2
1½ C	1.900	1¼	0.5
40	48.3	32	0.2
2 C	2.375	1	0.5
50	60.3	25	0.2
2½ C	2.875	1	0.7
65	73.0	25	0.3
3 OD C	2.996	1	0.8
65	76.1	25	0.4
3 C	3.500	1	1.1
80	88.9	25	0.5
3½ C	4.000	1	1.4
90	101.6	25	0.6
4 C	4.500	1½	2.8
100	114.3	29	1.3
4¼ OD C	4.250	1½	2.0
100	108.0	29	0.9
5 C	5.563	1½	4.0
125	141.3	29	1.8
5¼ OD C	5.236	1½	3.2
125	133.0	29	1.5
5½ OD C	5.500	1½	4.0
125	139.7	29	1.8
6 C	6.625	1½ <sup>15</sup> / <sub>16</sub>	6.0
150	168.3	381	2.7
6¼ OD C	6.259	1½	5.1
150	159.0	29	2.3
6½ OD C	6.500	1½	6.0
150	165.1	29	2.7
8 C	8.625	1½	12.5
200	219.1	38	5.7
10 C	10.750	1½	21.9
250	273.1	38	9.9
12 C	12.750	1½	33.8
300	323.9	38	15.3
14*	14.000	8½	40
350	355.6	216	18.1
16*	16.000	9	45
400	406.4	229	20.4
18*	18.000	10	58
450	457.2	254	26.3
20*	20.000	11	79
500	508.0	279	35.8
24*	24.000	12½	100
600	609.6	318	45.4

\* Machined Cap  
C - Cast Malleable or Ductile Iron

## BULL PLUG

Fig. 7075

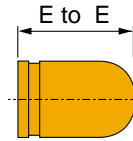


FIGURE 7075 BULL PLUG

Nom. Size	Fitting OD	End to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
2	2.375	4	2.5
50	60.3	102	1.1
2½	2.875	5	3.1
65	73.0	127	1.4
3	3.500	6	4.4
80	88.9	152	2.0
4	4.500	7	7.4
100	114.3	178	3.4
5	5.563	*	*
125	141.3	*	*
6	6.625	10	18.5
150	168.3	254	8.4

\* Contact Gruvlok for dimensions and weight

## CROSS

Fig. 7068

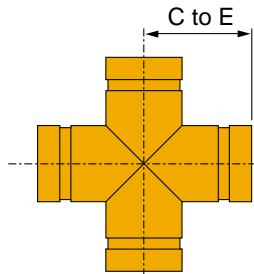


FIGURE 7068 CROSS

Nom. Size	Pipe OD	Center to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
1	1.315	2¼	1.3
25	33.4	57	0.6
1¼	1.660	2¾	2.1
32	42.2	70	1.0
1½	1.900	2¾	2.5
40	48.3	70	1.1
2	2.375	3¼	2.9
50	60.3	83	1.3
2½	2.875	3¾	5.2
65	73.0	95	2.4
3	3.500	4¼	7.5
80	88.9	108	3.4
3½	4.000	4½	9.8
90	101.6	114	4.4
4	4.500	5	12.2
100	114.3	127	5.5
5	5.563	5½	17.6
125	141.3	140	8.0
6	6.625	6½	28.3
150	168.3	165	12.8
8	8.625	7¾	48.0
200	219.1	197	21.8
10	10.750	9	70.0
250	273.1	229	31.8
12	12.750	10	110
300	323.9	254	49.9
14	14.000	11	140
350	355.6	279	63.5
16	16.000	12	170
400	406.4	305	77.1
18	18.000	15½	260
450	457.2	394	118
20	20.000	17¼	320
500	508.0	438	145
24	24.000	20	585
600	609.6	508	265

# LONG RADIUS ELBOWS

## Fig. 7050 3D

1. Long radius elbows 3D in sizes up to and including 4" are provided with 4" (101.6mm) long integral tangent. Remaining sizes provided with integral tangents with lengths equal to nominal pipe size.
2. Grooved or plain - end available - specify choice on order.
3. Material: standard wall steel pipe to ASTM A53, Grade B. (Other materials available on request).
4. Bends to conform to above radii.
5. C to E tolerances: 2" through 6" ± 1/8" (3.2 mm); 8" through 16 ± 1/4" (6.4 mm); 18" through 24" + 3/8" (9.5mm).
6. All weights are approximate, based on calculated weight of pipe.

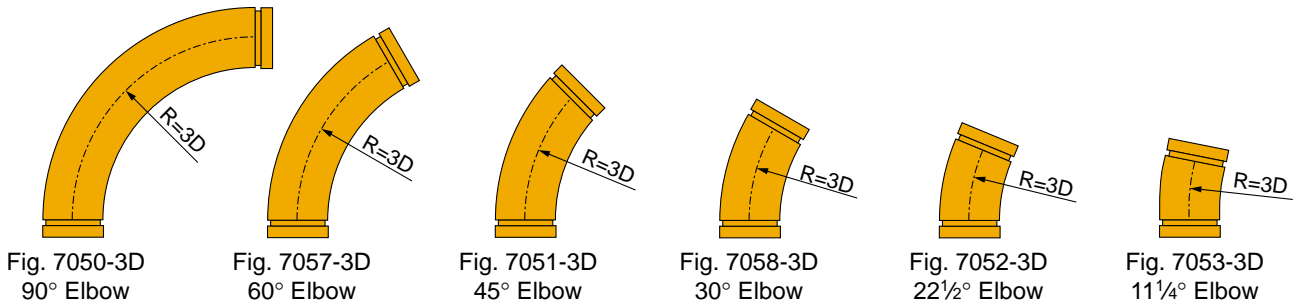


FIGURE 7050-3D 90° ELBOW				FIG. 7057-3D 60° ELBOW		FIG. 7051-3D 45° ELBOW		FIG. 7058-3D 30° ELBOW		FIG. 7052-3D 22½° ELBOW		FIG. 7053-3D 11¼° ELBOW	
Nom. Size	Pipe OD	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg
2	2.375	10	5.3	7½	4.3	6½	3.9	5¾	3.4	5¼	3.2	4½	2.8
50	60.3	254	2.4	191	2.0	165	1.8	146	1.5	133	1.5	114	1.3
2½	2.875	11½	9.5	8¼	7.7	7¼	6.7	6	5.8	5½	5.3	4¾	4.6
65	73	292	4.3	210	3.5	184	3.0	152	2.6	140	2.4	121	2.1
3	3.500	13	14.0	9¼	11.0	7¾	9.5	6½	8.0	5¾	7.3	5	6.2
80	88.9	330	6.4	235	5.0	197	4.3	165	3.6	146	3.3	127	2.8
3½	4.000	14½	18.6	10	14.4	8½	12.3	6¾	10.2	6	9.2	5	7.6
90	101.6	368	8.4	254	6.5	216	5.6	171	4.6	152	4.2	127	3.4
4	4.500	16	24.1	11	18.5	9	15.7	7¼	12.8	6½	11.4	5¼	9.3
100	114.3	406	10.9	279	8.4	229	7.1	184	5.8	165	5.2	133	4.2
5	5.563	20	40.9	13¾	31.3	11¼	26.5	9	21.8	8	19.4	6½	15.8
125	141.3	508	18.6	349	14.2	286	12.0	229	9.9	203	8.8	165	7.2
6	6.625	24	63.7	16½	48.8	13½	41.3	10¾	33.9	9½	30.1	7¾	24.6
150	168.3	610	28.9	419	22.1	343	18.7	273	15.4	241	13.7	197	11.2
8	8.625	32	127.8	22	97.9	18	82.9	14½	68.0	12¾	60.5	10½	49.3
200	219.1	813	58.0	559	44.4	457	37.6	368	30.8	324	27.4	267	22.4
10	10.750	40	226.4	27¼	173.4	22½	146.9	18	120.5	16	107.2	13	87.3
250	273.1	1016	102.7	692	78.7	572	66.6	457	54.7	406	48.6	330	39.6
12	12.750	48	332.7	32¾	254.8	27	215.9	21¾	177.0	19¼	157.5	15½	128.3
300	323.9	1219	150.9	832	115.6	686	97.9	552	80.3	489	71.4	394	58.2
14	14.000	56	427.3	38¼	327.3	31½	227.3	25¼	227.3	22½	202.3	18¼	164.8
350	355.6	1422	193.8	972	148.5	800	103.1	641	103.1	572	91.8	464	74.8
16	16.000	64	560.1	43¾	429.0	36	363.5	29	297.9	25½	265.2	20¾	216.0
400	406.4	1626	254.1	1111	194.6	914	164.9	737	135.1	648	120.3	527	98.0
18	18.000	72	710.7	49¼	544.4	40½	461.3	32½	378.1	28¾	336.5	23.35	274.1
450	457.2	1829	322.4	1251	246.9	1029	209.2	826	171.5	730	152.6	593	124.3
20	20.000	80	879.3	54¾	673.5	45	540.7	36	467.8	32	416.3	26	339.2
500	508	2032	398.8	1391	305.5	1143	245.3	914	212.2	813	188.8	660	153.9
24	24.000	96	1270.3	65½	973.0	53¾	824.4	43¼	675.7	38¾	601.4	31	490.0

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

# LONG RADIUS ELBOWS

## Fig. 7050 5D

1. Long radius elbows 5D in sizes up to and including 4" are provided with 4" (101.6mm) long integral tangent. Remaining sizes provided with integral tangents with lengths equal to nominal pipe size.
2. Grooved or plain - end available - specify choice on order.
3. Material: standard wall steel pipe to ASTM A53, Grade B. (Other materials available on request).
4. Bends to conform to above radii.
5. C to E tolerances: 2" through 6" ± 1/8" (3.2 mm); 8" through 16 ± 1/4" (6.4 mm); 18" through 24" + 3/8" (9.5mm).
6. All weights are approximate, based on calculated weight of pipe.

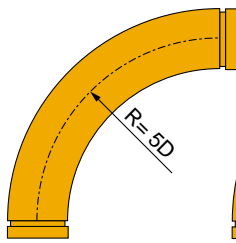


Fig. 7050-5D  
90° Elbow

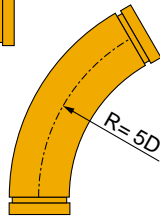


Fig. 7057-5D  
60° Elbow

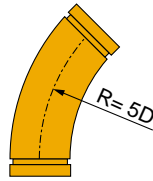


Fig. 7051-5D  
45° Elbow

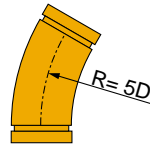


Fig. 7058-5D  
30° Elbow

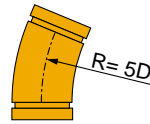


Fig. 7052-5D  
22½° Elbow

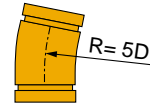


Fig. 7053-5D  
11¼° Elbow

FIGURE 7050-5D 90° ELBOW				FIG. 7057-5D 60° ELBOW		FIG. 7051-5D 45° ELBOW		FIG. 7058-5D 30° ELBOW		FIG. 7052-5D 22½° ELBOW		FIG. 7053-5D 11¼° ELBOW	
Nom. Size	Fitting OD	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg
2	2.375	14	7.2	9¾	5.6	8¼	4.8	6¾	4.0	6	3.6	5	3.0
50	60.3	356	3.3	248	2.5	210	2.2	171	1.8	152	1.6	127	1.4
2½	2.875	16½	13.3	11¼	10.2	9¼	8.6	7½	7.0	6½	6.2	5¼	5.0
65	73	419	6.0	286	4.6	235	3.9	191	3.2	165	2.8	133	2.3
3	3.500	19	19.9	12¾	15.0	10¼	12.5	8	10.0	7	8.8	5½	6.9
80	88.9	483	9.0	324	6.8	260	5.7	203	4.5	178	4.0	140	3.1
3½	4.000	21½	26.9	12¼	20.0	11¼	16.5	8¾	13.0	7½	11.3	5¾	8.7
90	101.6	546	12.2	311	9.1	286	7.5	222	5.9	191	5.1	146	3.9
4	4.500	24	35.4	15½	26.0	12½	21.3	9½	16.6	8	14.3	6	10.7
100	114.3	610	16.1	394	11.8	318	9.7	241	7.5	203	6.5	152	4.9
5	5.563	30	60.0	19½	44.1	15½	36.1	11¼	28.1	10	24.1	7½	18.2
125	141.3	762	27.2	495	20.0	394	16.4	298	12.7	254	10.9	191	8.3
6	6.625	36	93.5	23¼	68.6	18½	56.2	14	43.8	12	37.6	9	28.3
150	168.3	914	42.4	591	31.1	470	25.5	356	19.9	305	17.1	229	12.8
8	8.625	48	187.6	31	137.7	24½	112.8	18¾	87.9	16	75.4	12	56.8
200	219.1	1219	85.1	787	62.5	622	51.2	476	39.9	406	34.2	305	25.8
10	10.750	60	332.4	39	244.1	30¾	199.9	23½	155.8	20	133.7	15	100.6
250	273.1	1524	150.8	991	110.7	781	90.7	597	70.7	508	60.6	381	45.6
12	12.750	72	488.4	46¾	358.6	37	293.7	28	228.9	24	196.4	18	147.8
300	323.9	1829	221.5	1187	162.7	940	133.2	711	103.8	610	89.1	457	67.0
14	14.000	84	627.4	54½	460.7	43	377.3	32¾	294.0	28	252.3	21	189.8
350	355.6	2134	284.6	1384	209.0	1092	171.1	832	133.4	711	114.4	533	86.1
16	16.000	96	822.2	62¼	603.8	49¼	494.5	37½	385.3	32	330.7	24	248.8
400	406.4	2438	372.9	1581	273.9	1251	224.3	953	174.8	813	150.0	610	112.9
18	18.000	108	1,043.4	70	766.2	55¼	627.6	42¼	489.0	36	419.7	27	315.7
450	457.2	2743	473.3	1778	347.5	1403	284.7	1073	221.8	914	190.4	686	143.2
20	20.000	120	1,290.9	77¾	947.9	61½	776.4	46¾	605.0	40	519.2	30	390.6
500	508	3048	585.5	1975	430.0	1562	352.2	1187	274.4	1016	235.5	762	177.2
24	24.000	144	1,864.8	93¼	1,369.3	73¾	1,121.6	56¼	873.9	48	750.1	35¾	564.3
600	609.6	3658	845.9	2369	621.1	1873	508.7	1429	396.4	1219	340.2	908	256.0

# LONG RADIUS ELBOWS

## Fig. 7050 6D

1. Long radius elbows 6D in sizes up to and including 4" are provided with 4" (101.6mm) long integral tangent. Remaining sizes provided with integral tangents with lengths equal to nominal pipe size.
2. Grooved or plain - end available - specify choice on order.
3. Material: standard wall steel pipe to ASTM A53, Grade B. (Other materials available on request).
4. Bends to conform to above radii.
5. C to E tolerances: 2" through 6" ± 1/8" (3.2 mm); 8" through 16 ± 1/4" (6.4 mm); 18" through 24" + 3/8" (9.5mm).
6. All weights are approximate, based on calculated weight of pipe.

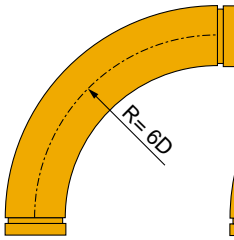


Fig. 7050-6D  
90° Elbow

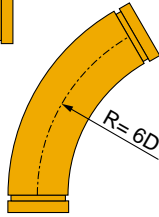


Fig. 7057-6D  
60° Elbow

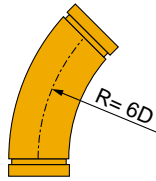


Fig. 7051-6D  
45° Elbow

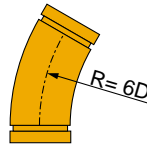


Fig. 7058-6D  
30° Elbow

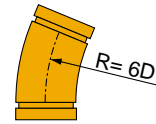


Fig. 7052-6D  
22½° Elbow

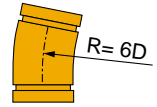


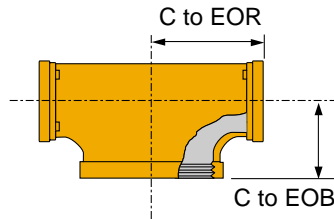
Fig. 7053-6D  
11¼° Elbow

FIGURE 7050-6D 90° ELBOW				FIG. 7057-6D 60° ELBOW		FIG. 7051-6D 45° ELBOW		FIG. 7058-6D 30° ELBOW		FIG. 7052-6D 22½° ELBOW		FIG. 7053-6D 11¼° ELBOW	
Nom. Size	Fitting OD	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg
2	2.375	16	8.2	11	6.3	9	5.3	7¼	4.3	6½	3.9	5¼	3.2
50	60.3	406	3.7	279	2.9	229	2.4	184	2.0	165	1.8	133	1.5
2½	2.875	19	15.2	12¾	11.4	10¾	9.5	8	7.7	7	6.7	5½	5.3
65	73	483	6.9	324	5.2	260	4.3	203	3.5	178	3.0	140	2.4
3	3.500	22	22.9	14½	17.0	1½	14.0	8¾	11.0	7½	9.5	5¾	7.3
80	88.9	559	10.4	368	7.7	38	6.4	222	5.0	191	4.3	146	3.3
3½	4.000	25	31.1	16¼	22.8	12¾	18.6	9¾	14.4	8¼	12.3	6	9.2
90	101.6	635	14.1	413	10.3	324	8.4	248	6.5	210	5.6	152	4.2
4	4.500	28	41.1	18	29.8	14	24.1	10½	18.5	8¾	15.7	6½	11.4
100	114.3	711	18.6	457	13.5	356	10.9	267	8.4	222	7.1	165	5.2
5	5.563	35	69.6	22¼	50.5	17½	40.9	13	31.3	11	26.5	8	19.4
125	141.3	889	31.6	565	22.9	445	18.6	330	14.2	279	12.0	203	8.8
6	6.625	42	108.4	26¾	78.6	21	63.7	15¾	48.8	13¾	41.3	9½	30.1
150	168.3	1067	49.2	679	35.7	533	28.9	400	22.1	337	18.7	241	13.7
8	8.625	56	217.5	35¾	157.7	28	127.8	21	97.9	17½	82.9	12¾	60.5
200	219.1	1422	98.7	908	71.5	711	58.0	533	44.4	445	37.6	324	27.4
10	10.750	70	385.4	44¾	279.4	35	226.4	26	173.4	22	146.9	16	107.2
250	273.1	1778	174.8	1137	126.7	889	102.7	660	78.7	559	66.6	406	48.6
12	12.750	84	566.2	53½	410.5	41¾	332.7	31¾	254.8	26¼	215.9	19	157.5
300	323.9	2134	256.8	1359	186.2	1060	150.9	794	115.6	667	97.9	483	71.4
14	14.000	98	727.4	62½	527.3	48¾	427.3	36½	327.3	30¾	277.3	22¼	202.3
350	355.6	2489	329.9	1588	239.2	1238	193.8	927	148.5	781	125.8	565	91.8
16	16.000	112	953.3	71½	691.1	55¾	560.1	41¾	429.0	35¼	363.5	25½	265.2
400	406.4	2845	432.4	1816	313.5	1416	254.1	1060	194.6	895	164.9	648	120.3
18	18.000	126	1,209.7	80½	877.1	62¾	710.7	47	544.4	39½	461.3	28¾	336.5
450	457.2	3200	548.7	2045	397.8	1594	322.4	1194	246.9	1003	209.2	730	152.6
20	20	140	1,496.6	89¾	1,085.1	69¾	879.3	52¼	673.5	44	570.7	31¾	416.3
500	508	3556	678.8	2267	492.2	1772	398.8	1327	305.5	1118	258.9	806	188.8
24	24	168	2,162.0	107¼	1,567.5	83¾	1,270.3	62½	973.0	52.34	824.4	38¾	601.4
600	609.6	4267	980.7	2724	711.0	2127	576.2	1588	441.3	1329	373.9	972	272.8

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

SPECIALTY  
TEES

**Fig. 7062**  
Bullhead Tee  
(GR x GR x FPT)



**Fig. 7065**  
Standpipe Tee  
(GR x GR x FPT)

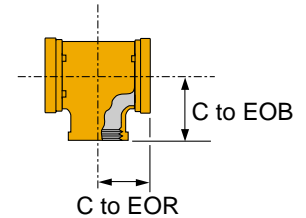
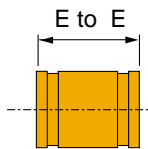


FIGURE 7062 BULLHEAD TEE (GR x GR x FPT)			
Nom. Size (See pg. 23 for O.D.) In./DN(mm)	Center to End of Run In./mm	Center to End of Branch In./mm	Approx. Wt. Ea. Lbs./Kg
5 x 5 x 8 125 x 125 x 200	7¾ 197	5½ 140	31.0 14.1
6 x 6 x 8 150 x 150 x 200	7¾ 197	6½ 165	37.6 17.1

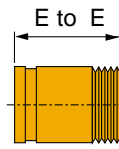
FIGURE 7065 STANDPIPE TEE (GR x GR x FPT)				
Nom. Size In./DN(mm)	Pipe OD In./mm	Center to End of Run In./mm	Center to End of Branch In./mm	Approx. Wt. Ea. Lbs./Kg
4 x 4 x 2½	4.500	3¼	4	7.6
100 x 100 x 65	114.3	83	102	3.4
6 x 6 x 2½	6.625	3¼	5½	11.2
150 x 150 x 65	168.3	83	130	5.1

NIPPLES

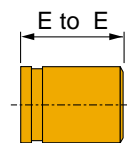
**Fig. 7080**  
GR x GR



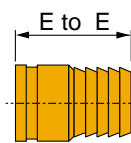
**Fig. 7081**  
GR x MPT



**Fig. 7082**  
GR x BEV



**Fig. 7086**  
GR x HOSE



**FIGURE 7080, 7081 & 7082**  
ADAPTER NIPPLES

Nom. Size In./DN(mm)	Pipe OD In./mm	End to End In./mm	Approx. Wt. Ea. Lbs./Kg
1	1.315	3	0.4
25	33.4	76	0.2
1¼	1.660	4	0.8
32	42.2	102	0.4
1½	1.900	4	0.9
40	48.3	102	0.4
2	2.375	4	1.2
50	60.3	102	0.5
2½	2.875	4	1.9
65	73.0	102	0.9
3	3.500	4	2.5
80	88.9	102	1.1
3½	4.000	4	3.1
90	101.6	102	1.4
4	4.500	6	5.5
100	114.3	152	2.5
5	5.563	6	7.4
125	141.3	152	3.4
6	6.625	6	9.5
150	168.3	152	4.3
8	8.625	6	14.2
200	219.1	152	6.4
10	10.750	8	27.0
250	273.1	203	12.2
12	12.750	8	33.0
300	323.9	203	15.0

**FIGURE 7086**  
HOSE NIPPLES

End to End In./mm	Approx. Wt. Ea. Lbs./Kg
¾	0.4
83	0.2
3½	0.7
92	0.3
4	0.8
102	0.4
4½	1.3
117	0.6
5½	2.1
140	1.0
6	3.3
152	1.5
—	—
—	—
7¼	5.5
184	2.5
9¾	8.1
248	3.7
11	13.2
279	6.0
12½	24.0
318	10.9
14	29.0
356	13.2
16	46.0
406	20.9



## GRUVLOK BUTTERFLY VALVE

### Series 7700

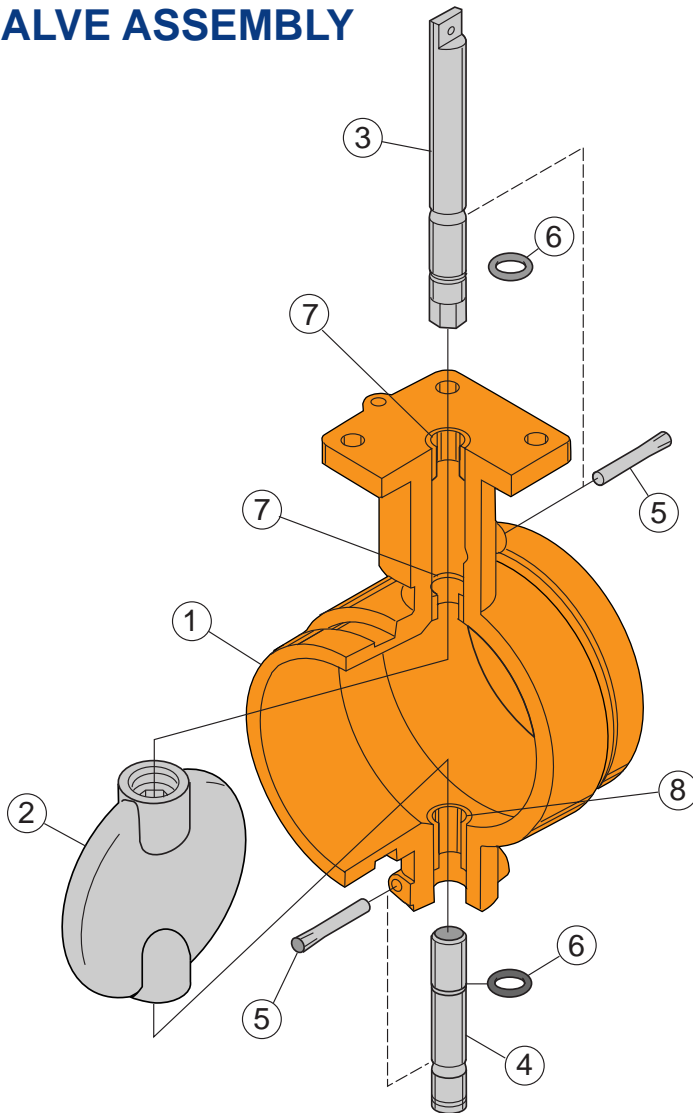
For use in Grooved-End Pipe Systems 2" to 12"

#### Features:

- \* 300 psi bubble tight shutoff
- \* Outstanding flow characteristics
- \* Low torque operation
- \* Superior flow control
- \* Thin profile disc
- \* Standard valve eliminates the need for stainless, bronze or galvanized options
- \* Neck design will readily accept insulation
- \* Suitable for HVAC applications
- \* End-of-line service capabilities
- \* MSS-SP-67
- \* UL Listed & FM Approved



## SERIES 7700 VALVE ASSEMBLY



#### Material Specifications:

1. **Body:**  
Ductile Iron conforming to ASTM A-536, Grade 65-45-12  
**Body Coating:** (Specify when ordering)  
Epoxy: 180°F (82°C) maximum service temperature  
Nylon: 190°F (110°C) maximum service temperature

2. **Disc:**  
Ductile Iron conforming to ASTM A-536, Grade 65-45-12  
**Disc Encapsulation:** (Specify when ordering)  
Properties as specified in accordance with ASTM D-2000.

#### Grade E (EPDM):

-40°F to +230°F (service temperature range)  
(-40°C to +110°C)  
Recommended for water service, dilute acids, alkalis, oil-free air and many chemical services.

**NOT FOR USE IN PETROLEUM SERVICES**

#### Grade T (Nitrile):

-20°F to +180°F (service temperature range)  
(-29°C to +82°C)

Recommended for petroleum products, air with oil vapors, vegetable oils and mineral oils.  
**NOT FOR USE IN HOT WATER SERVICES.**

#### Grade O (Fluoro Elastomer):

+20°F to +300°F (service temperature range)  
(-6°C to +149°C)

Recommended for high temperature resistance to oxidizing acids, petroleum oils, hydraulic fluids, halogenated hydrocarbons and lubricants.

- 3., 4. **Upper and Lower Shaft:**

Type 416 Stainless Steel

5. **Retention Pins:**

Zinc Electroplated Steel

6. **O-Rings:**

Neoprene as specified per ASTM D-2000

- 7., 8. **Upper and Lower Shaft Bearings:**

Bronze conforming to ASTM B-438 Grade 1, Type 1

Grooved-End  
Couplings

Branch  
Outlets

Fittings

Flow Control  
Components

High  
Pressure

Copper

Dielectric  
Nipple

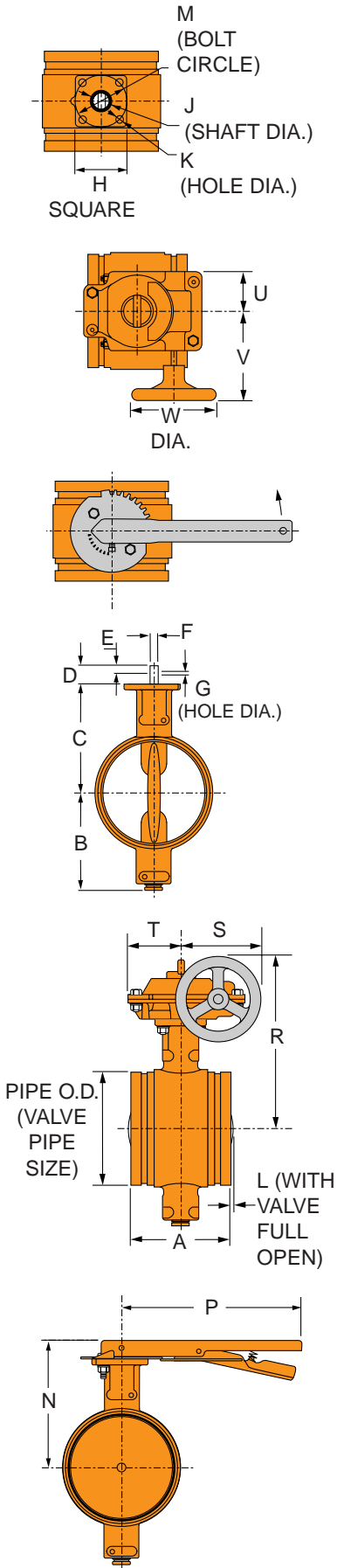
Plain-End

HDPE

Sock-It®

Stainless  
Steel

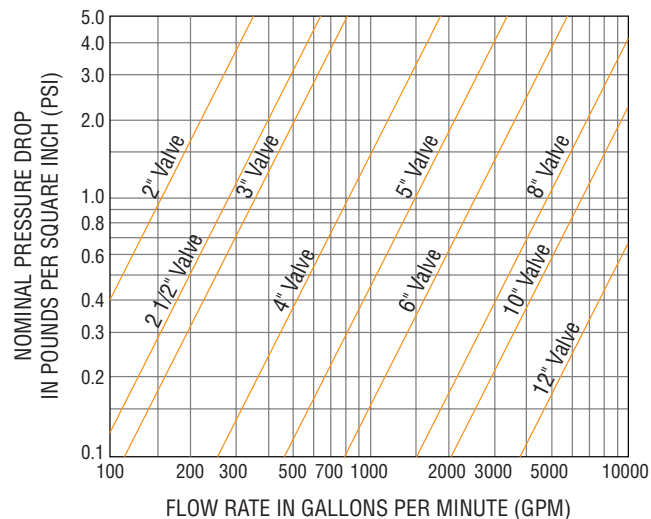
Technical  
Data



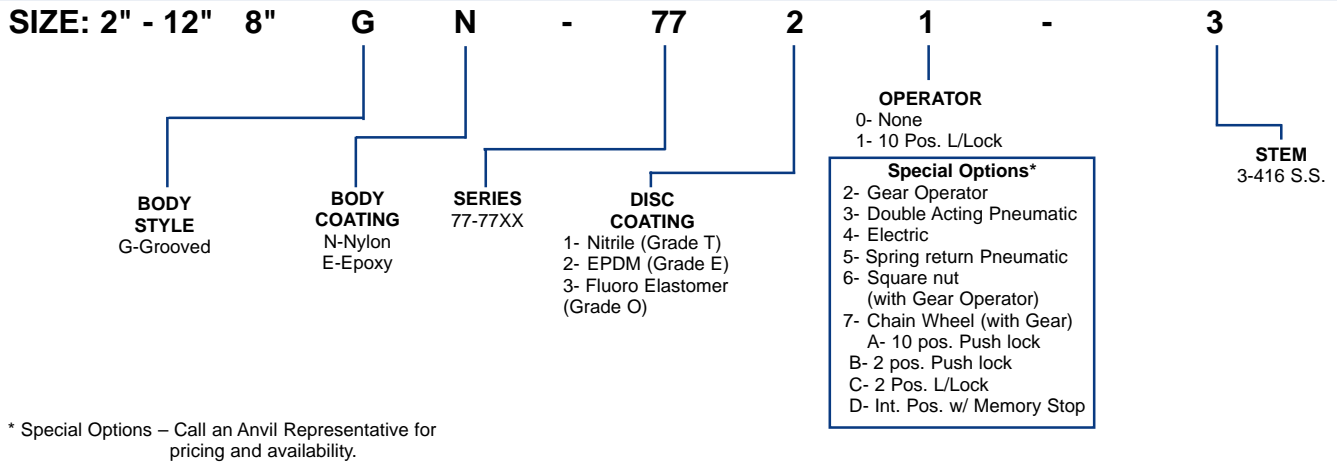
### FIGURE 7700 BUTTERFLY VALVE DIMENSIONS

Dimension	Valve Size (ANSI/DN)								
	2	2½	3	4	5	6	8	10	12
In./mm	50	65	80	100	125	150	200	250	300
Pipe O.D.	2.375	2.875	3.500	4.500	5.563	6.625	8.625	10.750	12.750
In./mm	60.3	73.0	88.9	114.3	141.3	168.3	219.1	273.0	323.9
A	3.19	3.81	3.81	4.62	5.81	5.81	5.25	6.25	6.50
	81	97	97	117	148	148	133	159	165
B	3.23	3.32	3.88	4.50	5.00	5.69	7.13	8.19	9.13
	82	84	99	114	127	145	181	208	232
C	3.87	4.38	4.62	5.38	5.88	6.37	7.75	9.00	10.50
	98	111	117	137	149	162	197	229	267
D	1.09	1.09	1.09	1.09	1.09	1.09	1.62	1.62	1.62
	28	28	28	28	28	28	41	41	41
E	0.45	0.45	0.45	0.45	0.45	0.45	0.56	0.56	0.56
	11	11	11	11	11	11	14	14	14
F	0.44	0.44	0.44	0.44	0.44	0.44	0.75	0.75	0.75
	11	11	11	11	11	11	19	19	19
G(dia)	0.25	0.25	0.25	0.25	0.25	0.25	0.38	0.38	0.38
	6	6	6	6	6	6	10	10	10
H	3.00	3.00	3.00	3.00	3.00	3.00	5.00	5.00	5.00
	76	76	76	76	76	76	127	127	127
J(dia)	0.56	0.56	0.56	0.62	0.88	1.00	1.12	1.12	1.12
	14	14	14	16	22	25	28	28	28
K(dia)	0.41	0.41	0.41	0.41	0.41	0.41	0.53	0.53	0.53
	10	10	10	10	10	10	13	13	13
L	0	0	0	0	0	0.13	1.37	1.85	2.76
	0	0	0	0	0	3	35	47	70
M(dia)	3.00	3.00	3.00	3.00	3.00	3.00	5.00	5.00	5.00
	76	76	76	76	76	76	127	127	127
N	4.96	5.47	5.71	6.47	6.97	7.46	9.37	10.62	12.12
	126	139	145	164	177	189	238	270	308
P	10.50	10.50	10.50	10.50	10.50	10.50	15.00	15.00	15.00
	267	267	267	267	267	267	381	381	381
R	7.61	8.12	8.36	9.12	9.62	10.11	15.11	16.36	17.86
	193	206	212	232	244	257	384	416	454
S	4.66	4.66	4.66	4.66	4.66	4.66	8.52	8.52	8.52
	118	118	118	118	118	118	216	216	216
T	3.00	3.00	3.00	3.00	3.00	3.00	3.13	3.13	3.13
	76	76	76	76	76	76	80	80	80
U	2.28	2.28	2.28	2.28	2.28	2.28	3.46	3.46	3.46
	58	58	58	58	58	58	88	88	88
V	5.17	5.17	5.17	5.17	5.17	5.17	8.62	8.62	8.62
	131	131	131	131	131	131	219	219	219
W(dia)	5.00	5.00	5.00	5.00	5.00	5.00	12.00	12.00	12.00
	127	127	127	127	127	127	305	305	305

### Pressure Drop (P.S.I.) vs. Flow (G.P.M.)



## GRUVLOK BUTTERFLY VALVES SERIES 7700 (ORDERING INFORMATION)



## Gruvlok Butterfly Valve Performance Data

MAXIMUM WORKING PRESSURE RATING: 300 PSI (Commercial Applications - Sizes 2" thru 12")

		Cv VALUES							
Valve Size	Pipe O.D.	Disc Position (degrees open)							
		25°	30°	40°	50°	60°	70°	80°	90°
In./mm	In./mm								
2	2.375	4	7	19	44	48	80	111	158
50	60.3	0.3	0.5	1.3	3.0	3.3	5.5	7.7	10.9
2½	2.875	9	14	34	78	84	142	196	280
65	73.0	0.6	1.0	2.3	5.4	5.8	9.8	13.5	19.3
3	3.500	14	20	50	112	128	215	285	400
80	88.9	1.0	1.4	3.4	7.7	8.8	14.8	19.7	27.6
4	4.500	29	41	100	239	250	420	582	826
100	114.3	2.0	2.8	6.9	16.5	17.2	29.0	40.1	57.0
5	5.563	62	76	182	415	445	780	1,100	1,480
125	141.3	4.3	5.2	12.5	28.6	30.7	53.8	75.8	102.0
6	6.625	96	141	325	755	809	1,370	1,920	2,678
150	168.3	6.6	9.7	22.4	52.1	55.8	94.5	132.4	184.6
8	8.625	172	252	592	1,365	1,460	2,430	3,410	4,819
200	219.1	11.9	17.4	40.8	94.1	100.7	167.5	235.1	332.3
10	10.750	230	328	792	1,825	1,962	3,260	4,590	6,431
250	273.1	15.9	22.6	54.6	125.8	135.3	224.8	316.5	443.4
12	12.750	418	604	1,440	3,350	3,590	5,980	8,750	11,947
300	323.9	28.8	41.6	99.3	231.0	247.5	412.3	603.3	823.7

		TORQUE VALUES				
Size	In./DN(mm)	Operating Pressure				
		50 PSIG	100 PSIG	150 PSIG	200 PSIG	300 PSIG
		Breakaway Torque† (In. - Lbs.) / n-m				
2	72	90	100	120	200	
50	8.1	10.2	11.3	13.6	22.6	
2½	105	126	144	162	250	
65	11.9	14.2	16.3	18.3	28.2	
3	126	139	168	195	425	
80	14.2	15.7	19.0	22.0	48.0	
4	265	285	320	355	800	
100	29.9	32.2	36.2	40.1	90.4	
5	491	578	615	674	850	
125	55.5	65.3	69.5	76.2	96.0	
6	625	678	760	820	1,650	
150	70.6	76.6	85.9	92.7	186.4	
8	1,170	1,400	1,640	1,760	3,200	
200	132.2	158.2	185.3	198.9	361.6	
10	1,930	2,375	2,860	3,100	6,000	
250	218.1	268.4	323.2	350.3	678.0	
12	2,900	3,420	4,760	5,600	11,000	
300	327.7	386.4	537.9	632.8	1,242.9	

† These values are valid for water and lubricating fluid service only. Contact factory for information on torques for dry and non-lubricating fluid service.

## HEADLOSS EQUIVALENT LENGTH OF PIPE

Valve Size	Equivalent Feet of Pipe* C = 120		
	Sch. 10	Sch. 30	Sch. 40
In.			
2	5.8	-	4.7
50	1.8	-	1.4
2½	5.1	-	3.7
65	1.6	-	1.1
3	9.6	-	7.2
80	2.9	-	2.2
4	7.5	-	5.7
100	2.3	-	1.7
5	7.0	-	5.6
125	2.1	-	1.7
6	6.1	-	4.8
150	1.9	-	1.5
8	6.3	5.7	-
200	1.9	1.7	-
10	11.3	10.2	-
250	3.4	3.1	-
12	8.4	7.4	-
300	2.6	2.3	-

\* The equivalent feet of pipe is based on the Hazen and Williams formula and the flow rates typically used with each size valve.

## MAXIMUM INSULATING THICKNESS

Size	Thickness
In./mm	In./mm
2, 3	2
50, 80	50
2½, 4, 5, 6 & 8	2½
65, 100, 125, 150 & 200	65
10	3
250	80
12	3½
300	90

Based on Pipe OD

## BUTTERFLY VALVE

### Series 7600

The versatile Series 7600 Grooved-end Butterfly Valve has features that can satisfy a wide range of service requirements and allow it to be used with diverse fluids. Its ductile iron body is epoxy coated to resist atmospheric attack, and the elastomer encapsulated disc can be ordered with EPDM or nitrile materials. Rugged enough to take the punishment, yet the Series 7600 Valve is light in weight for easy handling and installation.

The Series 7600 Valve is rated 200 PSI to full vacuum, at temperatures from 0° to 150° F. Every valve is seat tested to 110 % of rated pressure.

**Pressure/Temperature Range:**

- Full Vacuum to 200 psi
- 0°-150°F (18° - 66°C)



### General Specifications

**Body:**

One-piece ductile iron, fully epoxy coated – light weight for easy handling.

**Disc:**

Streamlined profile for maximum flow and minimal seat wear. The ductile iron disc is available with a choice of EPDM or NBR coverings.

**Stem/Disc Attachment:**

A splined interference fit creates a permanent rigid connection between the disc and stem, and eliminates the need for pins or bolts in the flow way.

**Stem:**

Two-piece design for maximum flow. Top stem is Double D, giving positive indication of disc position at all times.

**Stem Seal:**

The interference between the rubber covered disc hub and the smooth, epoxy coated body provides the primary stem seal. O-rings on both upper and lower stems provide a secondary seal.

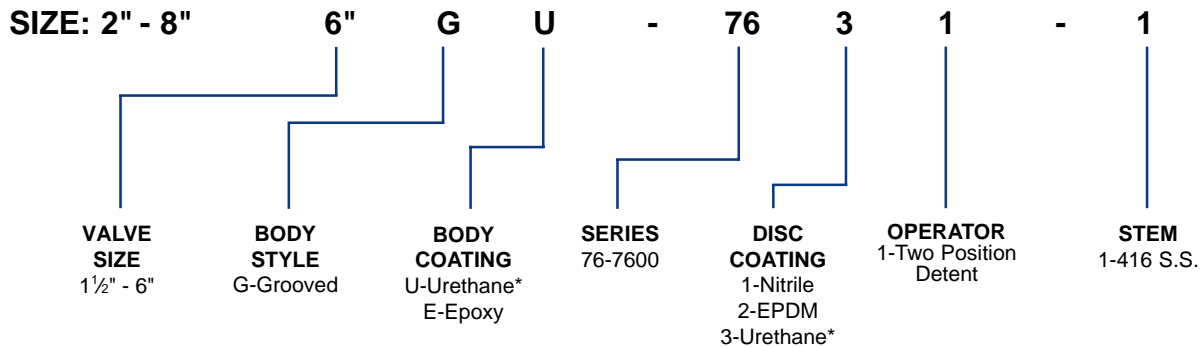
**Handle:**

Two position on/off handle is standard.

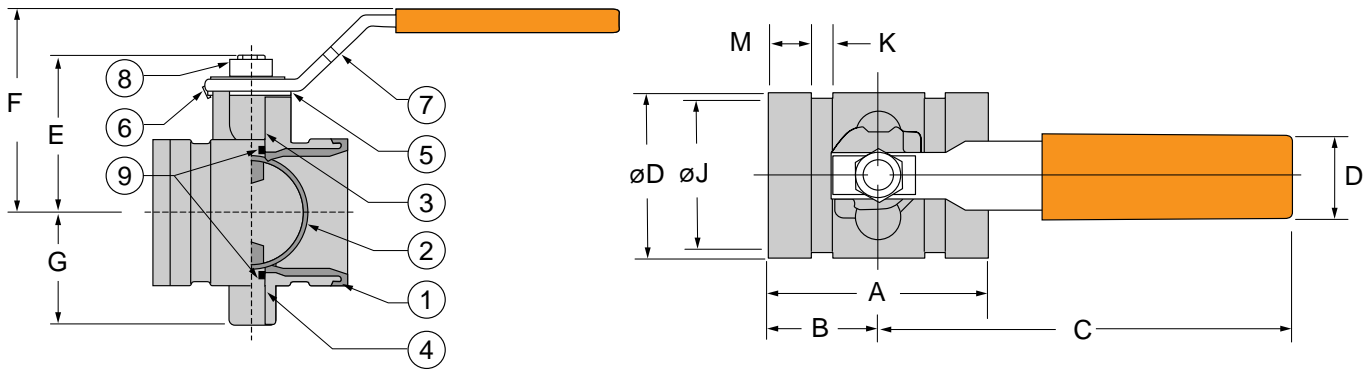
**Testing and Conformance:**

Testing to MSS SP-67. Grooved ends conform to the requirements of C606 for steel pipe.

### GRUVLOK BUTTERFLY VALVES SERIES 7600 (ORDERING INFORMATION)



\* - Urethane body and discs are available only as a combination



**FIGURE 7600 BUTTERFLY VALVE**

Valve	Pipe OD	A	B	C max	D	E	Fmax	G	J	K	M
In./DN(mm)	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm
2	2.375	3.19	1.60	6.00	2.38	2.25	3.47	1.81	2.250	0.344	0.625
50	60.3	81	41	152	60	57	88	46	57	9	16
2½	2.875	3.81	1.90	6.00	2.88	2.25	3.65	1.94	2.720	0.344	0.625
65	73.0	97	48	152	73	57	93	49	69	9	16
3	3.500	3.81	1.90	8.00	3.50	3.24	4.46	2.57	3.344	0.344	0.625
80	88.9	97	48	203	89	82	113	65	85	9	16
4	4.500	4.57	2.38	12.00	4.50	4.00	5.34	3.25	4.334	0.344	0.625
100	114.3	116	60	305	114	102	136	83	110	9	16
6	6.625	5.81	2.90	16.00	6.63	5.19	6.90	4.31	6.455	0.344	0.625
150	168.3	148	74	406	168	132	175	109	164	9	16
8	8.625	5.81	2.90	16.00	8.63	6.30	7.95	5.39	8.441	0.469	0.750
200	219.1	148	74	406	219	160	202	137	214	11	19

For chemical compatibility consult factory.

## Material Specifications

- Body:** Epoxy Coated, ASTM A-536
- Disc:** EPDM or NBR, ASTM A-536
- Shaft, Drive:** Type 410 Stainless Steel
- Shaft Bottom:** Type 410 Stainless Steel
- Latch Plate:** Zinc Plate, ASTM A-228
- Latch Spring:** Electrolytic Coloring, ASTM A-228
- Handle:** Zinc Plated, ASTM A-619
- Nut, Self Locking:** ASTM A-563
- Stem O-Ring:** NBR

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

## GRUVLOK BUTTERFLY VALVE SERIES 8000GR

For use in Grooved-End Piping Systems 14" to 24"

**Features:**

- \* Up to 200psig WOG (non-shock)
- \* Outstanding flow characteristics
- \* Low torque operation
- \* Superior flow control
- \* Streamline profile disc
- \* Suitable for HVAC applications
- \* Vacuum service to 29.5" (750 mm) Hg
- \* End-of-line service capabilities



### Gruvlok Butterfly Valve Performance Data

**Pressure Ratings:**

- 150 PSIG WOG (non-shock)
- 200 PSIG WOG (non-shock)
- Special order - available upon request.
- 29.5" (750 mm) Hg Vacuum Service

**Grade T (Nitrile)**

- 20°F to 180°F (Service Temperature Range)
- (-29°C to 82°C)
- Recommended for petroleum products, air with oil vapors, vegetable oils and mineral oils.
- NOT FOR USE IN HOT WATER SERVICES.**

**Temperature Ratings:**

**Grade E (EPDM)**

- 40°F to 230°F (-40°C to 110°C) (Service Temperature Range)
- Recommended for water service, dilute acids, alkaline, oil-free air and many chemical services.
- NOT FOR USE IN PETROLEUM SERVICES.**

### SERIES 8000GR BUTTERFLY VALVES (ORDERING INFORMATION)

<b>SIZE: 14" - 24"</b>	<b>18" G C</b>	<b>-</b>	<b>8</b>	<b>2</b>	<b>7</b>	<b>2 -</b>	<b>6</b>
Valve Size 14" - 24"	BODY STYLE G-Grooved-End	BODY MATERIAL C-Cast iron	SERIES 8-8000	SEAT MATERIAL 1-Nitrile 2-EPDM	DISC MATERIAL 0-Nickel-plated ductile iron 7-316 S.S. 8-Bronze (Al-Brz)	OPERATOR 0-None 2-Gear Operator 3-Pneumatic 4-Electric 5-Spring Return Pneumatic 6-Square nut (with Gear Operator) 7-Chain Wheel (with Gear)	STEM 6-416 S.S. w/RTFE bearing 7-316 S.S. w/RTFE bearing

## Material Specifications:

### Body:

Cast Iron - ASTM A 126 CL.B

### Extension Body:

Pipe - ASTM A 53 Steel

Flange - ANSI B 16.5 Forged Steel

### Liner:

Grade E (EPDM), GRADE T (Nitrile)

### Disc:

Stainless Steel - ASTM A 351

Aluminum Bronze - ASTM B 148 C95400

Ductile Iron - ASTM A 536 Grade 65-45-12

### Drive Shaft:

Stainless Steel - ASTM A 582 Type 416

Stainless Steel - ASTM A 276 Type 316

### Bottom Shaft:

Stainless Steel - ASTM A 582 Type 416

Stainless Steel - ASTM A 276 Type 316

### Retaining Screw:

Steel

### Thrust Washer:

Acetal

### Plug:

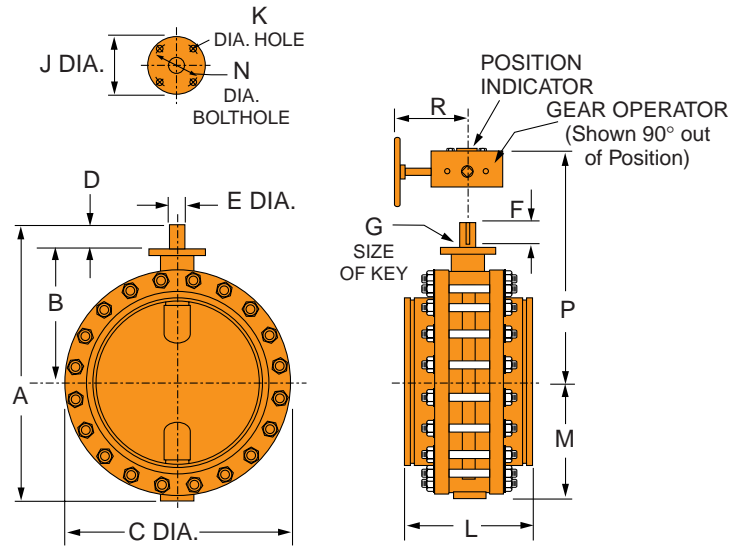
Cast Iron - ASTM A 126 CL.B

### Upper Bearing:

Teflon (Reinforced)

### Lower Bearing:

Teflon (Reinforced)



### FIGURE 800GR - DIMENSIONS (14" TO 24")

Valve Size ANSI/DN.	OD	A		B		C		D		E		F		G		J		K		L		M		N		P		R	
		DN/mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm
14	14.000	26.25	13.25	21.00	2.25	1.50	2.00	3/8 x 3/8	6.00	0.53	13.06	10.75	5.00	17.94	10.00														
350	356	667	337	533	57	38	51	87	152	13	332	273	127	456	254														
16	16.000	29.50	14.75	23.50	2.25	1.50	2.00	3/8 x 3/8	6.00	0.53	14.33	12.5	5.00	19.44	10.00														
400	406	749	375	597	57	38	51	87	152	13	364	318	127	494	254														
18	18.000	32.75	15.75	25.00	3.00	1.75	2.38	3/8 x 3/8	6.75	0.53	15.40	14.00	5.00	20.44	10.00														
450	457	832	400	635	76	44	60	87	171	13	391	356	127	519	254														
20	20.000	34.00	16.25	27.50	3.00	1.75	2.60	3/8 x 3/8	6.75	0.53	16.38	15.00	5.00	20.94	10.00														
500	508	864	413	699	76	44	66	87	171	13	416	381	127	532	254														
24	24.000	39.37	19.12	32.00	3.00	2.25	3.25	1/2 x 1/2	9.50	0.81	18.26	16.75	6.50	24.38	10.25														
600	610	1,000	486	813	76	57	83	116	241	21	464	425	165	619	260														

### FIGURE 800GR - WEIGHT

Valve Size ANSI/in.	Pipe OD	Weight (Lbs./Kg.)	
		Valve Only	Valve with Gear Operator
14	14	354	378
350	355.6	160.6	171.5
16	16	428	452
400	406.4	194.1	205.0
18	18	524	548
450	457.2	237.7	248.6
20	20	704	728
500	508.0	319.3	330.2
24	24	1,027	1,097
600	609.6	465.8	497.6

## SERIES 8000 BUTTERFLY VALVE TORQUE DATA

Torque is the rotary effort required to operate a valve. This turning force in a butterfly valve is determined by three factors; the friction of the disc and seat due to interference for sealing, bearing friction, and fluid dynamic torque.

Breakaway torque is the total of the torques resulting from bearing friction and disc/seat interference friction at a given pressure differential. This value is normally the highest required torque to operate a valve, and is used to size the actuator. Listed below are recommended sizing torques.

Note: These values are based on testing performed in the Gruvlok Research & Development Center. These values include a safety factor and are valid for water and lubricating fluids only at 70° F.

Since torques are greatly increased for dry and non-lubricating fluids and temperature variations, contact your Gruvlok Sales Office for accurate values in these applications.

ACTUATOR SIZING FOR GENERAL SERVICE APPLICATION SERIES 8000GR BREAKAWAY TORQUE					
Line Pressure (PSI)/Bar	Valve Size (In.)				
	14	16	18	20	24
50	4,000	4,800	5,400	10,000	13,000
3.4	452	542	610	1,130	1,469
100	4,800	5,200	6,200	12,500	18,000
6.9	542	588	701	1,412	2,034
150	5,500	6,500	8,500	13,500	21,500
10.3	621	734	960	1,525	2,429

Note: For Teflon seated valves, contact your Gruvlok Sales Office. These values are valid for water and lubricating fluid service only. Contact factory for information on torques for dry and non-lubricating fluid service.

C <sub>v</sub> VALUES (WATER @ 70°F SP. GR. = 1.00)								
Valve Size In./mm	Disc Position (Degrees Open)							
	25°	30°	40°	50°	60°	70°	80°	90°
14	650	825	1,500	2,300	3,500	6,200	9,700	10,500
350	44.8	56.9	103.4	158.6	241.3	427.5	668.8	723.9
16	850	1,000	1,850	2,900	4,600	7,500	10,600	13,500
400	58.6	68.9	127.6	199.9	317.2	517.1	730.8	930.8
18	1,100	1,400	2,450	3,800	5,000	9,700	13,850	18,000
450	75.8	96.5	168.9	262.0	344.7	668.8	954.9	1,241.1
20	1,400	1,650	3,050	4,800	7,400	12,500	17,750	23,000
500	96.5	113.8	210.3	330.9	510.2	861.8	1,223.8	1,585.8
24	2,000	2,400	4,200	6,600	10,500	17,000	23,000	31,000
600	137.9	165.5	289.6	455.1	723.9	1,172.1	1,585.8	2,137.4

AREA OF PIPE	
Pipe Size (Sch 40)	Area
In./mm	Sq. ft/Sq. cm
14	0.940
350	873.29
16	1.227
400	1,140
18	1.553
450	1,443
20	1.931
500	1,794
24	2.792
600	2,594

Fluid Dynamic Torque is the force exerted when a fluid passes over the surface of the butterfly valve disc. The magnitude of this force is dependent on valve size, disc opening and flow through the valve. Typically, fluid dynamic torque is a maximum at an approximate 75° disc opening. Generally, the effects of dynamic torque can be ignored when the velocity is less than 15 feet/second for liquids and 15,000 feet/minute for gases to minimize the effects of turbulence on the valve. For applications above these limits, consult engineering.

The formula for determining the velocity for liquids is:

$$V = 0.0022 \frac{Q}{A}$$

V = Velocity of liquid (feet/second)

Q = Flow (gallons/minute)

A = Area of upstream pipe (sq. ft.)

See "Area of Pipe" chart

The formula for determining the velocity of gases:

$$V_g = \frac{Q_f}{A}$$

V<sub>g</sub> = Velocity of gas (feet/minute)

Q<sub>f</sub> = Flow of gas @ flowing condition\*  
(cubic feet/minute)

A = Area of upstream pipe (sq. ft.)

See "Area of Pipe" Chart

\* Flowing condition means at temperature and pressure of gas stream in the valve



## GRUVLOK GROOVED-END SILENT CHECK VALVE

**Fig. 400G**

Available in Sizes 2" through 10"

The 400G is a center guided, spring loaded, silent check valve.

Designed and engineered for silent operation with low head loss, the valve disc will close prior to the reversal of flow, thereby preventing or minimizing water hammer and damaging shock.

- The 400G can be used in any HVAC, industrial or commercial grooved piping systems.

### Material Specifications

Standard materials:

- Cast Iron body ASTM A48, Class 35
- Bronze Disc and Seat ASTM B584 Alloy 838
- Ductile Iron Grooved-Ends ASTM A395

Optional Trim materials:

- Bronze with Nitrile seats
- Stainless Steel seats
- Stainless with Nitrile seats

1. Body:

Cast Iron ASTM A48, Class 35

2. Seat:

Bronze ASTM B584, Copper Alloy 838

3. Plug:

Bronze ASTM B584, Copper Alloy 838

4. Spring:

Stainless Steel T304, ASTM A313

5. Bushing:

Bronze ASTM B584, Copper Alloy 836

6. Screws:

Stainless Steel T304, ASTM A276

7. Grooved-End:

Ductile Iron ASTM A395

8. Gasket:

Non Asbestos

9. Bolts:

Carbon Steel

Other materials and resilient seats are available... contact your Sales representative.

MAX. NON-SHOCK WORKING PSI		
125# ANSI B16.1 FLANGE RATING		
Size	Temperature	
2" - 10"	150°F	200°F
	65°C	90°C
	200 PSI	190 PSI
	19.90 bar	18.90 bar

- The valve is designed for liquid service with any pipe orientation, flow up or down.
- Bronze metal seats are standard, with Stainless Steel or resilient seats available as an option.
- Flow coefficients for this valve are some of the lowest in the industry and are listed for each size on the drawing.



Note: Valve is designed for liquid service only. Install 3 to 4 pipe diameters downstream from pump discharge or elbows to avoid flow turbulence.

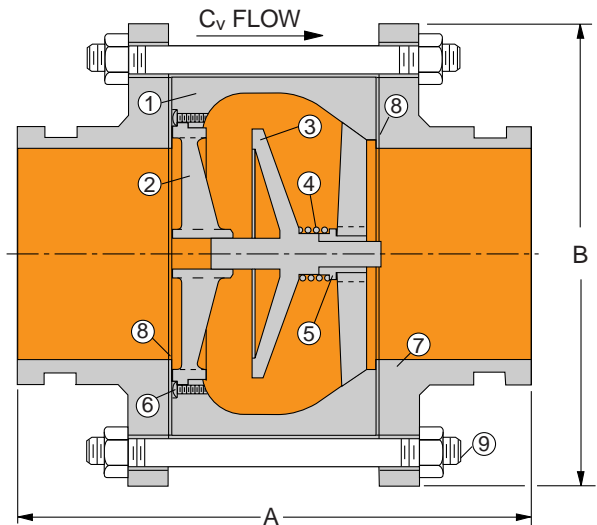


FIGURE 400G GROOVED-END SILENT CHECK VALVE						
Valve Size	Pipe OD	Model	A	B	Cv Flow	Approx. Wt. Each
In./mm	In./mm	Number	In./mm	In./mm		Lbs./Kg
2	2.375	402G	6	6	66	12
50	60.3		152	152	1,676	5.4
2½	2.875	4025G	6¼	7	88	15
65	73.0		159	178	2,235	6.8
3	3.500	403G	6½	7½	130	20
80	88.9		164	191	3,302	9.1
4	4.500	404G	8½	9	228	36
100	114.3		206	229	5,791	16.3
5	5.563	405G	8¾	10	350	50
125	141.3		222	254	8,890	22.7
6	6.625	406G	9½	11	520	68
150	168.3		244	279	13,208	30.8
8	8.625	408G	11½	13½	900	140
200	219.1		295	343	22,860	63.5
10	10.750	410G	13¾	16	1,450	198
250	273.1		352	406	36,830	89.8

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

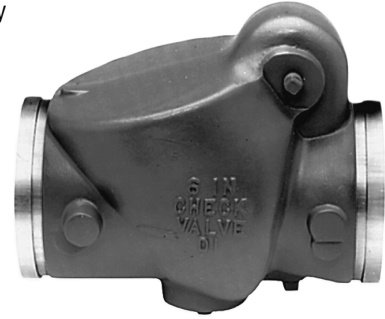
## GRUVLOK CHECK VALVES SERIES 7800

For use in Grooved-End Piping Systems

The Gruvlok Series 7800 Check Valve is a compact, cost effective valve offering low pressure-drop, non-slam performance. The Series 7800 Check Valve assembly is lighter and faster to install, and costs less than flanged and wafer valve assemblies.

In the full-open position the Series 7800 swing clapper is held tightly against the valve body, out of the flow stream, to provide maximum flow area and prevention of clapper flutter. The clapper design produces quick, non-slam closure before flow reversal can occur, while meeting FM requirements for an anti-water hammer valve rating.

Each valve is hydrostatically tested for leak tightness to 500 PSI. The clapper-seat design permits leak free sealing of back pressures in service conditions ranging from 300 PSI to as low as 1 PSI (28" water head).



### Performance:

#### Pressure Rating:

Commercial Applications - Sizes 2" thru 12" inclusive, 300 psi maximum working pressure.

### Material Specifications:

#### Body:

Ductile iron conforming to ASTM A 536, Grade 65-45-12

#### Coating:

Rust inhibiting paint on exterior - color, orange  
Nickel Electroplated, Zn Electroplated (optional)

#### Clapper:

2"- 5" Type 304 or 302 stainless steel to ASTM A 167  
6"-12" Ductile iron conforming to ASTM A 536, Grade 65-45-12

#### Clapper Facing:

(Specify when ordering)

Grade E EPDM

-40° to 230°F (-40° to 110°C) Service Temperature Range

Recommended for water service, dilute acids, alkaline, oil-free air and many chemical services.

**NOT FOR USE IN PETROLEUM SERVICES.**

Grade T Nitrile:

-20° to 180°F (-29° to 80°C) Service Temperature Range

Recommended for petroleum products, air with oil vapors, vegetable oils and mineral oils.

**NOT FOR USE IN HOT WATER SERVICES**

#### Seat Ring:

Type 304 stainless steel to ASTM A 123, ASTM A 213,  
ASTM A 312 or ASTM A 269

#### Spring:

Type 302 stainless steel to ASTM A 313

#### Hinge Pin:

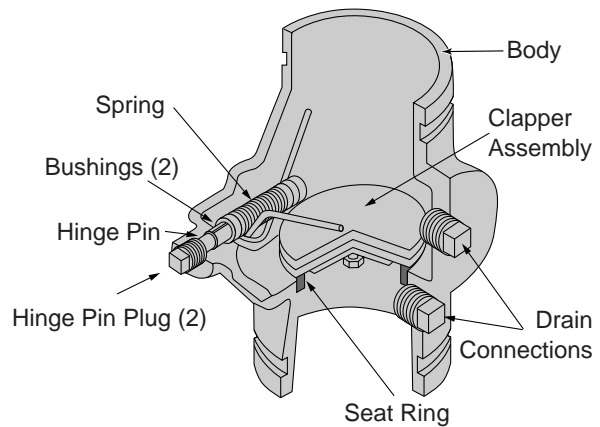
Type 304 or 302 stainless steel to ASTM A 580

#### Hinge Pin Bushings:

Sintered bronze to ASTM B 438

#### Hinge Pin Plugs and Drain Plugs:

Cast iron to ASTM A 126 Class A



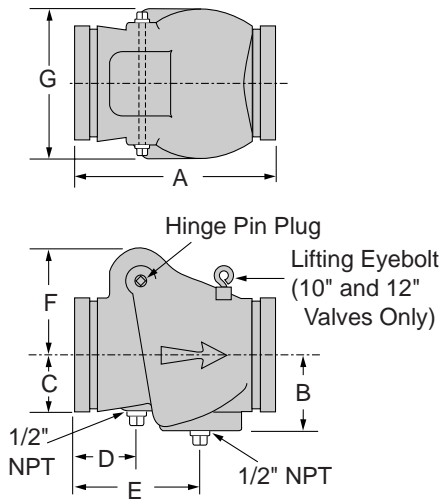
### GRUVLOK SERIES 7800 CHECK VALVES (ORDERING INFORMATION)

SIZE: 2" - 12" 4"	GLV	-	78	X	X	-	X
SIZE 2" - 12"	Gruvlok Valve	SERIES 78 - 7800	CLAPPER FACING MATERIAL 1-EPDM (STD) 2-Nitrile (STD) 3-Special*	BODY FINISH 1-Painted (STD) 2-Ni Electroplated (Optional) 3-Zn Electroplated (Optional) 4-Special*	SPECIAL CONFIGURATION 1-Stainless Steel Clapper Sizes 6"-12" 2-Other*		

\*Contact Gruvlok with details for price and delivery

Ex 08GLV7811 8" Gruvlok Check Valve Series 7800 with EPDM Clapper Facing and Painted Body.

## Dimensions & Weights:



Nominal Size	Pipe OD	Nominal Dimensions								Valve Weight
In./DN(mm)	In./mm	A	B	C	D	E	F	G	Lbs./Kg.	
2	2.375	6 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>8</sub>	7.5	
50	60.3	171	60	36	44	114	81	111	3.4	
2½	2.875	7¼	2 <sup>7</sup> / <sub>16</sub>	1 <sup>9</sup> / <sub>16</sub>	1¾	3 <sup>13</sup> / <sub>16</sub>	3 <sup>5</sup> / <sub>8</sub>	4½	10.5	
65	73.0	184	61	39	44	96	92	114	4.8	
3	3.500	7¾	2 <sup>5</sup> / <sub>8</sub>	2	1 <sup>13</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	4 <sup>15</sup> / <sub>16</sub>	11.5	
80	88.9	197	67	51	46	103	93	125	5.2	
4	4.500	8½	3 <sup>7</sup> / <sub>8</sub>	2¼	2½	5 <sup>1</sup> / <sub>16</sub>	4¼	6	13.5	
100	114.3	206	79	57	64	128	108	152	6.1	
5	5.563	9¾	3½	2¾	2 <sup>7</sup> / <sub>16</sub>	5 <sup>13</sup> / <sub>16</sub>	4 <sup>5</sup> / <sub>8</sub>	6¾	19.0	
125	141.3	248	89	70	61	147	117	171	8.6	
6	6.625	12¾	4¼	3 <sup>5</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>8</sub>	6¼	6¾	8½	33.5	
150	168.3	324	108	84	79	159	171	216	15.2	
8	8.625	14¾	5 <sup>1</sup> / <sub>16</sub>	3 <sup>15</sup> / <sub>16</sub>	4	5 <sup>15</sup> / <sub>16</sub>	8	10¼	59.0	
200	219.1	365	128	100	102	150	203	260	26.8	
10	10.750	18	6 <sup>5</sup> / <sub>16</sub>	4 <sup>15</sup> / <sub>16</sub>	4 <sup>9</sup> / <sub>16</sub>	6 <sup>7</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>16</sub>	12 <sup>11</sup> / <sub>16</sub>	130.0	
250	273.1	457	160	125	115	175	233	322	59.0	
12	12.750	21	7 <sup>5</sup> / <sub>16</sub>	6	5 <sup>1</sup> / <sub>16</sub>	7¼	10 <sup>3</sup> / <sub>8</sub>	14¾	183.0	
300	323.9	533	185	152	128	184	264	375	83.0	

### Flow Data:

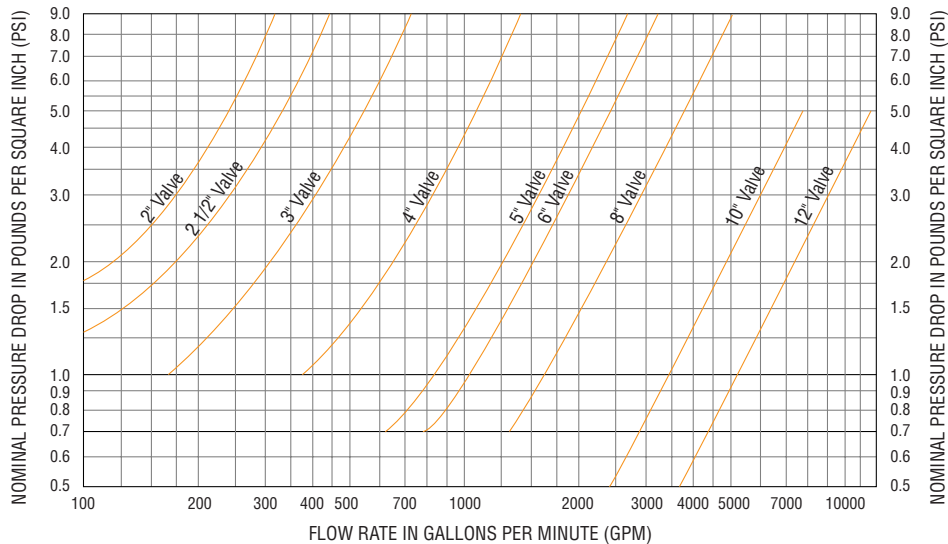
The approximate friction losses, based on the Hazen and Williams formula, expressed in equivalent length of pipe is given below. The friction losses have been calculated on the basis of flow rates typically used with each size valve.

Valve Size	Pipe OD	C=100			C=120		
		Sch. 10	Sch. 30	Sch. 40	Sch. 10	Sch. 30	Sch. 40
In./mm	In./mm	Ft./M	Ft./M	Ft./M	Ft./M	Ft./M	Ft./M
2	2.375	10	—	8	14	—	11
50	60.3	3.0	—	2.4	4.3	—	3.4
2½	2.875	14	—	10	20	—	15
65	73.0	4.3	—	3.0	6.1	—	4.6
3	3.500	17	—	12	23	—	17
80	88.9	5.2	—	3.7	7.0	—	5.2
4	4.500	17	—	13	23	—	18
100	114.3	5.2	—	4.0	7.0	—	5.5
5	5.563	14	—	11	20	—	15
125	141.3	4.3	—	3.4	6.1	—	4.6
6	6.625	23	—	19	33	—	26
150	168.3	7.0	—	5.8	10.1	—	7.9
8	8.625	35	32	30	50	45	43
200	219.1	10.7	9.8	9.1	15.2	13.7	13.1
10	10.750	28	25	24	40	36	34
250	273.1	8.5	7.6	7.3	12.2	11.0	10.4
12	12.750	31	28	26	44	39	37
300	323.9	9.4	8.5	7.9	13.4	11.9	11.3

### Important Note:

Check valve life may be shortened and system damage may occur if check valves are installed too close to a source of unstable flow. Check valves must be installed at a reasonable distance away from pumps, elbows, expanders, reducers or other similar devices. Sound piping practices dictate a minimum of five (5) times the pipe diameter for general use. Distances between three (3) and five (5) diameters are allowable provided the flow velocity is less than 8 feet per second. Distances less than 3 diameters are not recommended.

Friction Loss Series 7800 Check Valve (Water at 65°F)



## GRUVLOK BALL-VALVES SERIES 7500

The Series 7500 grooved-end ball valve line consists of a 2" to 6" standard port, two piece design, and is available in several configurations to address a broad spectrum of application requirements.

The Series 7500 has generous factors of safety for pressure retention and stem torsional strength. In addition, it has a blow-out proof stem design, low operating torque, and high  $C_v$ .

The Series 7500 is compliant with NACE MR01-75 when stainless steel trim is specified.

The all stainless steel valve incorporates additional features for more demanding applications. These valves include standard reinforced PTFE seats, live loaded PTFE chevron stem seals, and lock-out provisions. These options are available on the Ductile Iron valve on special order.



### PERFORMANCE:

#### PRESSURE-RATING:

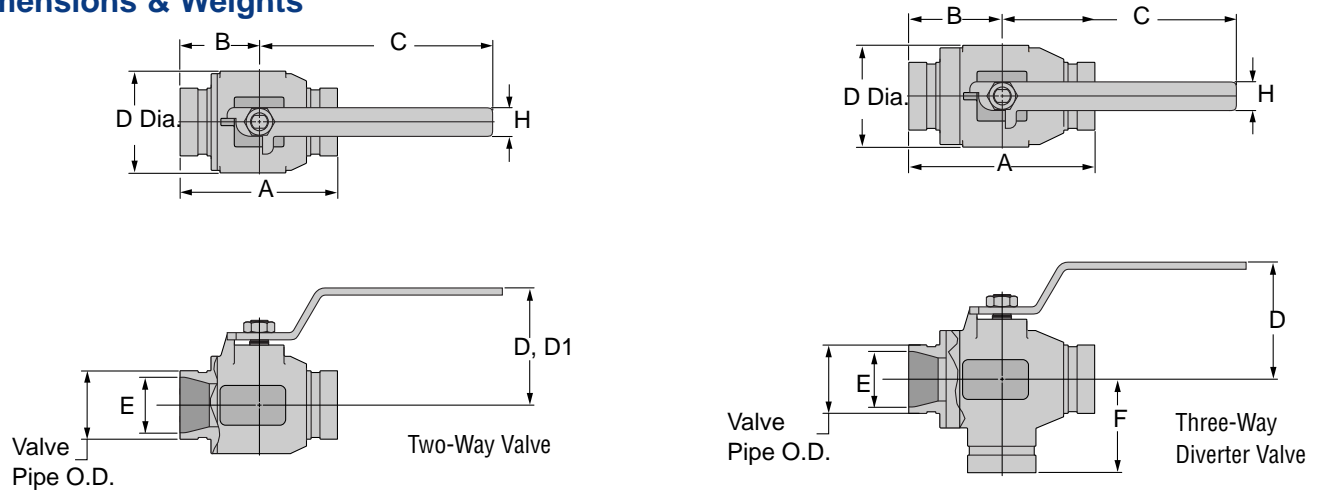
740 psig CWP in ASTM A395 Ductile Iron

720 psig CWP in ASTM A351 CF8M Stainless Steel

FIGURE 7500 MATERIAL SPECIFICATIONS

Description	Material (DI/CS)	Material (DI/SS)	Material (SS/SS)
Body	Ductile Iron ASTM A395	Ductile Iron ASTM A395	Stainless Steel ASTM A351 CF8M
Endplate	Ductile Iron ASTM A395	Ductile Iron ASTM A395	Stainless Steel ASTM A351 CF8M
Ball	Carbon Steel Chrome Plated	316 Stainless Steel	316 Stainless Steel
Stem	Carbon Steel Chrome Plated	316 Stainless Steel	316 Stainless Steel
Thrust Washer	RTFE	RTFE	RTFE
Stem Seal	Flouroelastomer	Flouroelastomer	PTFE Chevron
Retaining Ring	Carbon Steel Oxide Coated	300 Series Steel	300 Series Steel
Handle	Carbon Steel Zinc Plated	Carbon Steel Zinc Plated	Carbon Steel Zinc Plated
Handle Nut	Carbon Steel Zinc Plated	300 Series Stainless Steel	300 Series Stainless Steel
Seat	Nylon	Nylon	RTFE
Body Seal	Flouroelastomer	Flouroelastomer	Flouroelastomer
Lock Plate	N/A	N/A	300 Series Stainless Steel
Lock Stop	N/A	N/A	300 Series Stainless Steel
Follower	N/A	N/A	300 Series Stainless Steel
Packing Nut	N/A	N/A	300 Series Stainless Steel
Belleville Washer	N/A	N/A	17-7 Stainless Steel

## Dimensions & Weights



TWO-WAY VALVES											
Size ANSI	Pipe OD	Dimensions								Cv	Weight
		A	B	C	D	D1*	E				
In./DN	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg		
2	2.375	5.50	2.75	8.22	4.13	4.79	1.50	165	7.2		
50	60.3	140	70	209	105	122	38	15.8			
3	3.500	6.71	3.35	10.03	4.78	5.55	2.25	310	15.4		
80	88.9	170	85	255	121	141	57	33.9			
4	5.562	8.25	4.13	16.00	6.13	7.43	3.00	815	34.9		
100	114.3	210	105	406	156	189	76	76.8			
6	6.500	10.10	5.05	28.00	7.64	8.64	4.38	1500	78.1		
150	168.3	257	128	711	194	220	111	171.8			

\*D1 for Stainless Steel

THREE-WAY DIVERTER VALVES											
Size ANSI	Pipe OD	Dimensions								Cv	Weight
		A	B	C	D	E	F				
In./DN	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg		
2 RP	2.375 RP	6.50	3.25	8.22	4.13	1.50	3.25	36	9		
50	60.3	165	83	209	105	38	83	19.8			
2 FP	2.375 FP	6.50	3.25	10.38	5.38	2.00	3.25	135	14.2		
50	60.3	165	83	264	137	51	83	31.2			

## GRUVLOK BALL VALVES SERIES 7500 (ORDERING INFORMATION)

SIZE: 2" - 6"

4"

G

I

-

75

1

2

-

1

SIZE  
2" - 6"

**CONFIGURATION**  
G - 2 way Grooved End  
D - 3 way diverter grooved-end standard port (2")  
F - 3 way diverter grooved-end full port (2")

**BODY/END MATERIAL**  
I - Ductile Iron  
ASTM A 395  
S - Stainless Steel  
ASTM A 351  
Grade CF8M

**SERIES**  
75 - 7500

**BALL AND STEM MATERIAL**  
1 - Chrome Plated  
Carbon Steel  
2 - 316 Stainless

**SEAT MATERIAL**  
2 - RTFE/  
Flouoroelastomer

**OPERATOR**  
1 - 2 pos. Handle  
2 - 2 pos. locking handle  
3 - bare stem

**SPECIAL REQ'S**  
x - Write on Order

## BALANCING VALVES

### Series GBV-G & GBV-A

Ductile Iron, Grooved-End and Cast Bronze, Solder & Threaded GBV

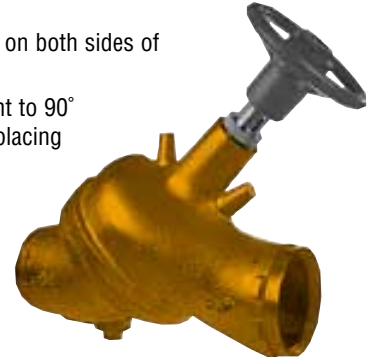
The Series GBV is a multi-turn, Y-style globe valve designed for accurate determination and control of fluid flow to circuits requiring precise balancing.

Max. Working Pressure  
375 PSI (2575kPa)

Max. Working Temperature  
230°F (110°C)

### Features and Benefits

- Pressure differential ports on both sides of the valve
- Convertible design, straight to 90° angle by removing and replacing four set screws
- Positive shutoff for equipment servicing
- Multi-turn adjustment
- Ergonomically designed handwheel
- Micrometer type adjustment scale
- Tamper-proof hidden memory stop



### GBV-G

2½" to 12" Ductile Iron, Grooved-End Straight

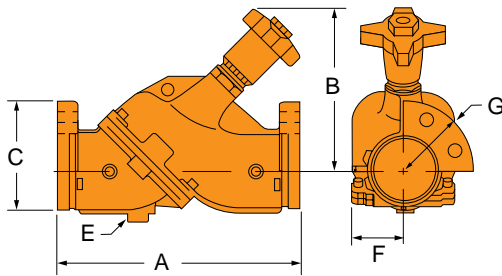


FIGURE GBV-G GROOVED-END STRAIGHT BALANCING VALVES

Nominal Size In./DN(mm)	Pipe OD In./mm	A In./mm	B Open In./mm	C In./mm	E In./mm	F In./mm	Flange Diameter G		Approx. Wt. Each Lbs./Kg
							Flange 125# In./mm	Flange 250# In./mm	
2½ 65	2.875 73.0	12 305	9¾ 244	2¼ 70	1 25	2⅝ 65	7 178	7½ 191	25 11.3
3 80	3.500 88.9	12 305	10½ 267	2⅝ 61	1 25	3 76	7½ 191	8¼ 210	28 12.7
4 100	4.500 114.3	14 356	10⅞ 268	3 76	1¼ 32	3⅝ 87	9¼ 235	10 254	41 18.6
5 125	5.563 141.3	17½ 445	13⅞ 331	3⅝ 92	1¼ 32	4⅝ 125	10 254	11 279	90 40.8
6 150	6.625 168.3	20⅞ 525	13¾ 349	4⅞ 112	2 51	5⅝ 149	11 279	12½ 318	130 59.0
8 200	8.625 219.1	28⅞ 716	24⅝ 625	5⅞ 144	2¼ 57	7⅝ 200	13½ 343	15 381	310 140.6
10 250	10.750 273.1	30 762	26½ 673	6⅞ 166	2¼ 57	9⅝ 240	16 406	17½ 445	460 208.7
12 300	12.750 323.9	38⅞ 966	28⅞ 722	7⅝ 194	2¼ 57	12⅝ 321	19 483	20½ 521	870 394.6

### GBV-A

2½" to 12" Ductile Iron, Grooved-End Angle

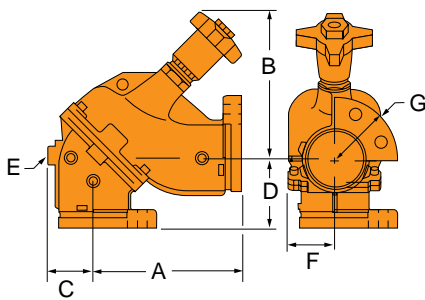


FIGURE GBV-A GROOVED-END ANGLE BALANCING VALVES

Nominal Size In./DN(mm)	Pipe OD In./mm	A In./mm	B Open In./mm	C In./mm	D In./mm	E In./mm	F In./mm	Flange Diameter G		Approx. Wt. Each Lbs./Kg
								Flange 125# In./mm	Flange 250# In./mm	
2½ 65	2.875 73.0	7⅝ 187	9⅝ 244	2¼ 70	4⅝ 117	1 25	2⅝ 65	7 178	7½ 191	25 11.3
3 80	3.500 88.9	8⅝ 213	10½ 267	2⅝ 61	3⅝ 98	1 25	3 76	7½ 191	8¼ 210	28 12.7
4 100	4.500 114.3	9⅝ 244	10⅞ 268	3 76	4⅝ 111	1¼ 32	3⅝ 87	9¼ 235	10 254	41 18.6
5 125	5.563 141.3	12 305	13⅞ 331	3⅝ 92	5½ 140	1¼ 32	4⅝ 125	10 254	11 279	90 40.8
6 150	6.625 168.3	14⅞ 359	13¾ 349	4⅞ 112	6⅝ 168	2 51	5⅝ 149	11 279	12½ 318	130 59.0
8 200	8.625 219.1	18⅝ 481	24⅝ 625	5⅞ 144	9⅞ 233	2¼ 57	7⅝ 200	13½ 343	15 381	310 140.6
10 250	10.750 273.1	20⅝ 515	26½ 673	6⅞ 166	9¾ 248	2¼ 57	9⅝ 240	16 406	17½ 445	460 208.7
12 300	12.750 323.9	24⅞ 611	28⅞ 722	7⅝ 194	14 356	2¼ 57	12⅝ 321	19 483	20½ 521	870 394.6

### Materials Specifications

- Body** Ductile Iron ASTM A 536 GR 65-45-12
- Disc** Bronze ASTM B 584 C-84400
- Seat** Ultra High Strength Engineered Resin
- Trim** Brass C-37700
- "O" Ring** Nitrile

Note: Grooved-Ends are for connection of components with dimensions conforming to Gruvlok® standard grooved specifications for IPS pipe.

## GLOBE VALVES

### GBV-S & GBV-T

1/2" to 2" Cast Bronze, Solder (GBV-S) & Threaded (GBV-T)

#### Description

The Series GBV is a multi-turn, Y-style globe valve designed for accurate determination and control of fluid flow to circuits requiring precise balancing.

#### Features and Benefits

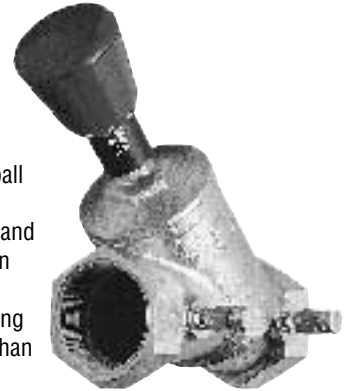
- Multi-turn adjustment
- Pressure differential ports on both sides of the valve
- Positive shutoff for equipment servicing
- Micrometer type handwheel adjustment
- Tamper-proof memory stop
- Precision instrument function and performance
- Easiest and fastest field balancing

FIGURE GBV-S SWEAT FOUR TURN BALANCING VALVES						
Nominal Size	Pipe OD	A	B	C	Approx. Wt. Each	
In./DN(mm)	In./mm	In./mm	In./mm	In./mm	Lbs./Kg	
1/2	0.840	3 3/8	5 3/16	2	2	
15	21.3	86	131	51	0.9	
3/4	1.050	3 7/8	5 3/16	2	2	
20	26.7	98	131	51	0.9	
1	1.315	4 5/8	5 1/2	2 1/16	3	
25	33.4	117	140	52	1.4	
1 1/4	1.660	5	6	2 1/4	4	
32	42.2	127	152	57	1.8	
1 1/2	1.900	6 1/8	6 7/16	2 3/8	4 1/2	
40	48.3	156	163	60	2.0	
2	2.375	7 1/4	6 3/4	3 5/8	5 1/2	
50	60.3	184	171	92	2.5	

FIGURE GBV-T THREADED FOUR TURN BALANCING VALVES						
Nominal Size	Pipe OD	A	B	C	Approx. Wt. Each	
In./DN(mm)	In./mm	In./mm	In./mm	In./mm	Lbs./Kg	
1/2	0.840	3 3/16	5 3/16	2	2	
15	21.3	81	131	51	0.9	
3/4	1.050	3 3/16	5 3/16	2	2	
20	26.7	81	131	51	0.9	
1	1.315	3 3/4	5 1/2	2 1/16	3	
25	33.4	95	140	52	1.4	
1 1/4	1.660	4 3/8	6	2 1/4	4	
32	42.2	111	152	57	1.8	
1 1/2	1.900	5 1/8	6 7/16	4 1/2	4 1/2	
40	48.3	130	163	114	2.0	
2	2.375	6 1/4	6 3/4	3 5/8	5 1/2	
50	60.3	159	171	92	2.5	

#### Throttling Performance

- Ball valves adapted for balancing have only a 90° range from open to closed. A small adjustment in the ball opening can mean a huge change in flow. GBV sweat and threaded balancing valves in Cast Bronze from 1/2" to 2" have four full turns, providing 16 times finer adjustment than a ball valve.



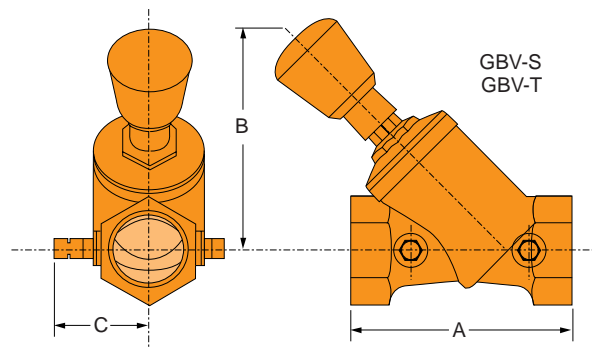
#### Balanced Circuits

Many systems tend to be overdesigned, causing some circuits to have too much flow, or insufficient flow, depending on their proximity to the source of the flow. The benefits of a balanced circuit:

- Save energy
- Make occupied spaces more comfortable
- Ensure that pumps operate against the lowest possible pressure
- Reduce capital and maintenance costs
- Ensure that the system operates according to the intent of the design

#### 1/2" - 2" Cast Bronze, Solder & Threaded GBV's

- Sweat and Threaded 1/2" to 2"
- Unique flow control plug
  - Precision contoured channels
  - High strength accurately molded resin
- Ergonomically designed handwheel
- Micrometer type adjustment scale
- Tamper-proof hidden memory stop



Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## TRI-SERVICE VALVE – FTV-S & FTV-A

### Pressure Temperature Rating

#### SERVICE RECOMMENDATIONS

The Model FTV-S & FTV-A Tri-Service Valve is primarily designed for installation in pump discharge piping where it functions as a spring loaded silent check valve, flow control valve and shut off valve.

#### OPERATION

The Model FTV Tri-Service Valve operates automatically & silently. Line pressure of approximately ¼ PSI will open the disc. The spring closes the disc as the line flow approaches zero in order to prevent flow reversal & water hammer. The flow through the valve can be adjusted from bubble tight shut off to full flow by the threaded rising stem.

#### Benefits

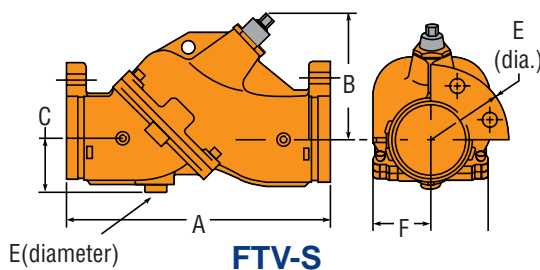
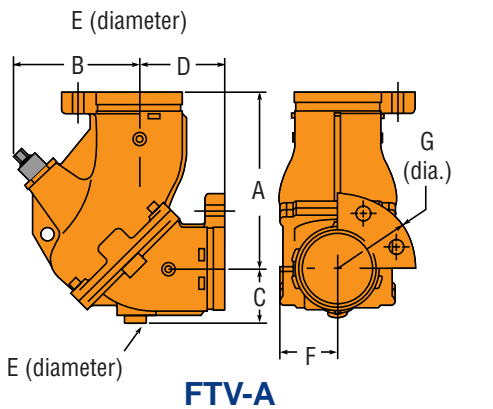
- Three functions, one valve — 1. Spring-closure design, 2. Non-slam check valve, 3. Flow throttling valve
- Reduced field installation & material cost
- Stainless steel spring
- High-strength resin seat EPDM for 8" and larger
- Anti-rotation lugs on the inlet and outlet. These lugs, combined with the Gruvlok® flange adapter provides for a ridged rotation free installation
- Flow measurement and pump throttling capabilities
- Temperature measurement capability
- Spring-closure design check valve prevents gravity or reverse circulation when pump is not operating
- Bonnet "O" Ring can be replaced under full system pressure by back seating of valve stem

- Suitable for maximum working pressure to 375 psi (2586 kPa) and temperatures to 230°F. (110°C).
- Valve seat can be changed in the field without use of special tools
- Low pressure drop due to "Y" pattern valve design
- Valve Cv designed to ASHRAE flow recommendations for quiet system operation
- Drip-tight shut off valve



#### Material Specifications

- Body:** Ductile Iron ASTM A 536 GR 65-45-12
- Disc:** Bronze ASTM B 584 C-84400
- Stem:** Stainless Steel ASTM A582 Type 416
- Spring:** Stainless Steel ASTM A302
- "O" Rings:** BUNA
- Seat:** High Strength Engineered Resin
- Flanges:** Ductile Iron ASTM A536 Grade 65 45-12 with optional EPDM Gaskets. Note: EPDM is not suitable for oil service..
- Insulation:** Optional pre-formed insulation is available to meet ASTM D1784 Class 14253-C, MEA #7-87, ASTM E84 and ASTM E136 with a flame spread rating of 25 or less and a smoke development rating of 50 or less.



MODEL FTV-A (ANGLE)									
Connection Size	B (fully open)			D	E	F	Flange		Weight
	A	C	G				125/150 PSI	250/300 PSI	
inches	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	lbs/kg
2 1/2	7 3/8 (187)	7 (178)	2 3/4 (70)	4 5/8 (117)	1 (25)	2 9/16 (65)	7 (178)	7 1/2 (191)	19 (9)
3	8 3/16 (208)	7 13/16 (198)	2 7/16 (62)	3 7/8 (98)	1 (25)	3 (76)	7 1/2 (191)	8 1/4 (210)	24 (11)
4	9 5/8 (244)	8 (203)	3 (76)	4 3/8 (111)	1 1/4 (32)	3 7/16 (87)	9 1/4 (235)	10 (254)	42 (19)
5	12 (305)	10 1/8 (257)	3 5/8 (92)	5 1/2 (140)	1 1/4 (32)	4 15/16 (125)	10 (254)	11 (279)	81 (37)
6	14 1/8 (359)	10 3/8 (264)	4 7/16 (113)	6 5/8 (168)	2 (51)	5 7/8 (149)	11 (279)	12 1/2 (318)	120 (54)
8	18 15/16 (481)	18 3/4 (476)	5 11/16 (144)	9 9/16 (233)	2 1/4 (57)	7 7/8 (200)	13 1/2 (343)	15 (381)	300 (136)
10	20 9/16 (516)	24 (610)	6 9/16 (167)	9 3/4 (248)	2 1/4 (57)	9 15/32 (241)	16 (409)	17 1/2 (445)	450 (204)
12	24 1/16 (611)	26 1/4 (667)	7 5/8 (194)	14 (356)	2 1/4 (57)	12 5/8 (321)	19 (483)	20 1/2 (521)	860 (390)

MODEL FTV-S (STRAIGHT)									
Connection Size	B (fully open)			D	E	F	Flange		Weight
	A	C	G				125/150 PSI	250/300 PSI	
inches	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	lbs/kg
2 1/2	12 (305)	7 (178)	2 3/4 (70)	-	1 (25)	2 9/16 (65)	7 (178)	7 1/2 (191)	19 (9)
3	12 (305)	7 13/16 (198)	2 7/16 (62)	-	1 (25)	3 (76)	7 1/2 (191)	8 1/4 (210)	24 (11)
4	14 (356)	8 (203)	3 (76)	-	1 1/4 (32)	3 7/16 (87)	9 1/4 (235)	10 (254)	42 (19)
5	17 1/2 (445)	10 1/8 (257)	3 5/8 (92)	-	1 1/4 (32)	4 15/16 (125)	10 (254)	11 (279)	81 (37)
6	20 11/16 (525)	10 3/8 (264)	4 7/16 (113)	-	2 (51)	5 7/8 (149)	11 (279)	12 1/2 (318)	120 (54)
8	28 3/16 (716)	22 13/16 (579)	5 11/16 (144)	-	2 1/4 (57)	7 7/8 (200)	13 1/2 (343)	15 (381)	300 (136)
10	30 (762)	28 5/8 (727)	6 9/16 (167)	-	2 1/4 (57)	9 15/32 (241)	16 (409)	17 1/2 (445)	450 (204)
12	38 1/16 (967)	32 5/8 (829)	7 5/8 (194)	-	2 1/4 (57)	12 5/8 (321)	19 (483)	20 1/2 (521)	860 (390)



## GRUVLOK TEE STRAINER FIG. 7260

### Material Specifications

**Body:** 2"-12" — Malleable iron conforming to ASTM A-47 or Ductile iron conforming to ASTM A-536 14" — Carbon steel pipe conforming to ASTM A-53.

**Strainer Basket:** Stainless steel type 304 bar and woven wire screen. 12 mesh in sizes 2" - 3" and 6 mesh in sizes 4" - 14". Other mesh sizes available on request.

**Access Coupling and End Cap:** Malleable iron conforming to ASTM A-47 or Ductile iron conforming to ASTM A-536

**Bolts and Nuts:** Heat treated, oval-neck track head bolts conforming to ASTM A183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A563. Bolts and nuts are provided zinc electroplated as standard.

**Coupling Gaskets:** Elastomer properties as designated by ASTM D-2000 Grade "E" EPDM -40°F to +230°F (services temp. range)

**Drain Plug:** Carbon steel square head plug conforming to ANSI B-16.11

**Tap sizes:** 2"-4" — ½ NPT, 5"-8" — ¾ NPT, 10"-14" — 1 NPT

**Coating:** Rust-inhibiting paint — color: orange (standard) Hot Dip Galvanized conforming to ASTM A-153 (optional)



The Fig. 7260 Gruvlok Tee Strainer provides an economical, compact and hydraulically efficient means of protecting valuable piping system components. The in-line, twin-fold strainer basket provides more than 100% of the projected pipe area for open flow through the strainer screen which results in excellent flow performance across the strainer.

Gruvlok Strainers are designed and tested to ensure long term, reliable service in working pressures to 750 psi, depending on size and the pressure rating of the connecting coupling.

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

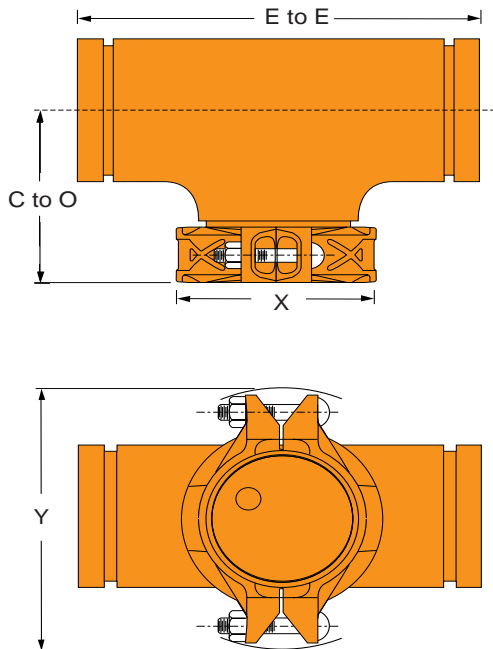
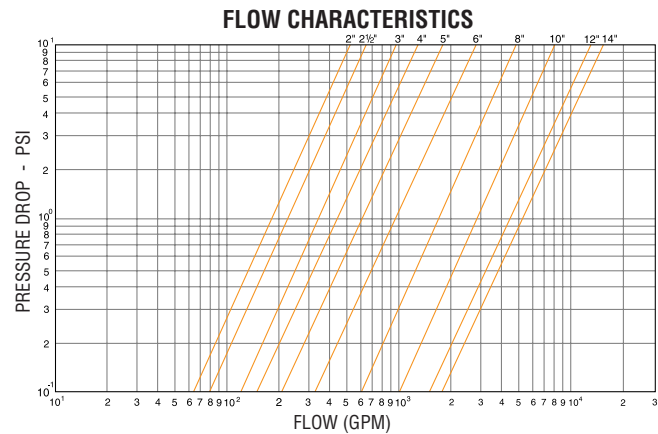
Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data



NOTE: The above illustration shows the required orientation of the Rigidlok access coupling for assembly with a grooved-end flange.

**Note:**

Most U.S. piping engineers specify system startup instructions for new systems which include removing and cleaning the strainer screen after system flushing of main piping before the system is put into normal operation. After flushing, replace the strainer screen. Flow data values are based on flow of clean water at ambient temperatures. The pressure drop across a strainer, 50% clogged, is approximately twice as great as that of a clean strainer. Strainer baskets need a routine maintenance program to maintain efficiency and to prevent excess pressure drop caused by a clogged screen.

FIGURE 7260 TEE STRAINER

Nom. Size In./DN(mm)	Pipe OD In./mm	Maximum* Working Pressure		E to E In./mm	C to O In./mm	X In./mm	Y In./mm	Basket Removal Clearance	Strainer Wt. Ea. Lbs./Kg
		PSI/bar							
2	2.375	750		6½	4¼	3½	5⅞	4¾	6.0
50	60.3	51.7		165	108	89	149	111	2.7
2½	2.875	750		7½	4¾	4	6½	5½	8.0
65	73.0	51.7		191	121	102	165	130	3.6
3	3.500	750		8½	5¼	4¾	7	6	13.0
80	88.9	51.7		216	133	121	178	152	5.9
4	4.500	750		10	6½	5½	8¾	7¼	19.0
100	114.3	51.7		254	156	149	213	184	8.6
5	5.563	750		11	6⅝	7	10½	8¼	30.0
125	141.3	51.7		279	168	178	257	210	13.6
6	6.625	750		13	7⅝	8½	11½	9¾	45.0
150	168.3	51.7		330	194	206	283	248	20.4
8	8.625	600		15½	9½	10½	14½	12	79.0
200	219.1	41.4		394	232	267	359	305	35.8
10	10.750	500		18	10¾	12¾	17½	14¼	133
250	273.1	34.5		457	264	327	435	362	60.3
12	12.750	400		20	11¾	15	19½	16¼	187
300	323.9	27.6		508	289	381	486	413	84.8
14	14.000	300		22	12¾	16½	20½	17¼	272
350	355.6	20.7		559	324	410	521	438	123.4
16	16.000	300		24	12	18¾	22¼	20	350
400	406.4	20.7		610	305	460	565	508	158.8
18	18.000	300		31	15½	20½	24¾	24½	400
450	457.2	20.7		787	394	521	619	622	181.4

\*Maximum working pressure is based upon the performance capability of the Gruvlok Strainer. Maximum system working pressure is dependent upon the couplings used for installation and the pressure capability of other system components.

## GROOVED-END "WYE" STRAINER

### Model 758G

#### SERVICE RECOMMENDATIONS

For use in water, oil and gas piping to provide economical protection for pumps, meters, valves, compressors, traps and similar equipment.

#### SCREENS

Standard screens for Y-Strainer are perforated 304 Stainless Steel with spot welded seam. Mesh lining is available in all alloys for extra fine straining. Recommended standard perforations are listed below.

#### WATER, OIL, GAS

1/16" sizes 2" - 4"

1/8" sizes 5" - 12"

Consult Gruvlok for other applications.

#### GRUVLOK STRAINER BASKET

Furnished as standard in sizes 8" and larger. A one-quarter turn securely locks the screen in its seat and frees the serviceman for securing the cover flange to the body of the strainer.



### Material Specifications

Body and Cover: Ductile Iron  
ASTM A 395 Grade 60-40-18

Flat Gaskets:  
Non-asbestos

Screen:  
304 Stainless Steel  
(Consult Gruvlok for other materials)

#### CONSTRUCTION

All covers have an NPT blowoff outlet at location "C". Recessed seat in the cover ensures accurate screen alignment. Bosses at the inlet and outlet flanges are provided for gauge taps.



Self-cleaning is done by opening the valve or plug connected to the blowoff outlet. (Advise when strainers are to be mounted in vertical piping, so we can rotate the cover to position the blowoff at the lowest point.)

#### BLOWOFF OUTLETS

Tapped NPT size specified in the dimension table. Blowoff outlets are not normally furnished with plugs.

### INDIVIDUALLY HYDROSTATICALLY TESTED

#### Working Pressures Non-Shock

- 640 PSI @ 150°F
- 45 Bar @ 65°C

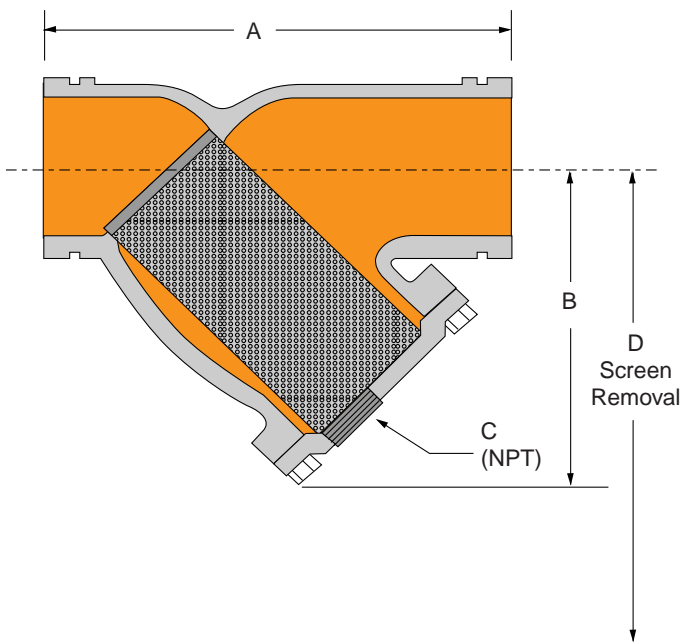


FIGURE 758 G GROOVED-END "WYE" STRAINER

Nom. Size	Pipe OD	Dimensions		C Plug Size	D	Approx. Wt. Each
		A	B			
In./DN(mm)	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg
2	2.375	7 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	1/2	7	12.0
50	60.3	200	133	25	178	5.4
2 1/2	2.875	10	6 1/2	1	9 3/4	18.0
65	73.0	254	165	25	248	8.2
3	3.500	10 1/8	7	1	10	23.0
80	88.9	257	178	25	254	10.4
4	4.500	12 1/8	8 1/4	1 1/2	12	42.0
100	114.3	308	210	38	305	19.1
5	5.563	15 5/8	11 1/4	2	17	80.0
125	141.3	396	286	51	432	36.3
6	6.625	18 1/2	13 1/2	2	20	112.0
150	168.3	470	343	51	508	50.8
8	8.625	21 5/8	15 1/2	2	22 3/4	205.0
200	219.1	549	394	51	577	93.0
10	10.750	27 5/8	18 1/2	2	28	277.0
250	273.1	702	470	51	711	125.6
12	12.750	32 1/4	21 3/4	2	30	470.0
300	323.9	819	552	51	762	213.2

\*Maximum working pressure is based upon the performance capability of the Gruvlok® Strainer. Maximum system working pressure is dependant upon the couplings used for installation and the pressure capacity of other system components.

## GROOVED-END "WYE" STRAINER Model 768G

### Material Specifications:

**Body:**

Ductile iron ASTM A 536 Grade 65-45-12

**End Cap:**

Ductile iron ASTM A 536 Grade 65-45-12

**Screen:\***

2" - 3" Type 304 Stainless Steel 1/16" (1.6mm) dia. holes

4" - 12" Type 304 Stainless Steel 1/8" (3.2mm) dia. holes.

**Coupling:**

Ductile iron ASTM A536 Grade 65-45-12

**Gasket:\***

EPDM Temp range -40°F - +230°F (-40° to 110°C)

Nitrile Temperature range -20°F to 180°F (-29° to 82°C)

**Blow Down Port:**

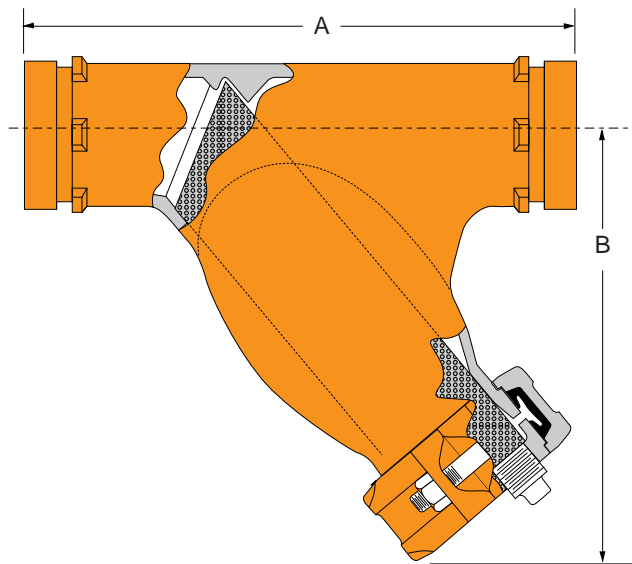
2" & 2½": ½" tapped with plug,

3" & 4": 1" tapped with plug,

6" - 12": 1½" tapped with plug

\* Custom screens and/or gaskets are available upon request.

Strainer baskets need a routine maintenance program to maintain efficiency and to prevent excess pressure drop caused by a clogged screen.



**FIGURE 768 G GROOVED-END "WYE" STRAINER**

Nom. Size In./DN(mm)	Pipe OD In./mm	Maximum W.P. PSI/bar	Dimensions		C Plug Size In./mm	Approx. Wt. Each Lbs./Kg
			A In./mm	B In./mm		
2	2.375	300	9.75	7.54	½	10.0
50	60.3	20.7	248	192	12	4.5
2½	2.875	300	10.75	8.32	½	14.0
65	73.0	20.7	273	211	12	6.4
3	3.500	300	11.75	9.08	1	20.0
80	88.9	20.7	298	231	25	9.1
4	4.500	300	14.25	11.06	1	32.0
100	114.3	20.7	362	281	25	14.5
6	6.625	300	18.5	14.44	1½	72.0
150	168.3	20.7	470	367	38	32.7
8	8.625	300	24	18.38	1½	125.0
200	219.1	20.7	610	467	38	56.7
10	10.750	300	27	22	1½	205.0
250	273.1	20.7	686	559	38	93.0
12	12.750	300	30	24.75	1½	280.0
300	323.9	20.7	762	629	38	127.0

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## SUCTION DIFFUSER

**Fig. 7250**

The Fig. 7250 Gruvlok Suction Diffuser protects your pump and saves you money on your overall installed cost while offering you these advantages:

**Saves Space:**

Mounts directly to the pump inlet.

**Saves Labor and Material:**

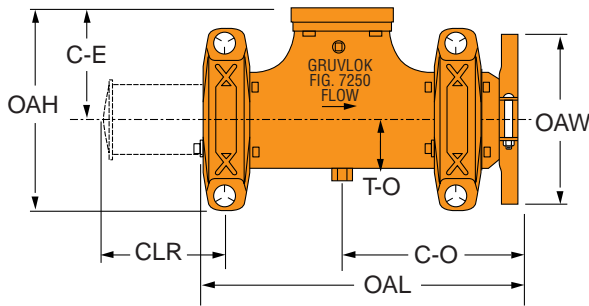
The lightweight compact design is easily installed with no need for welding.

**Improves Pump Performance:**

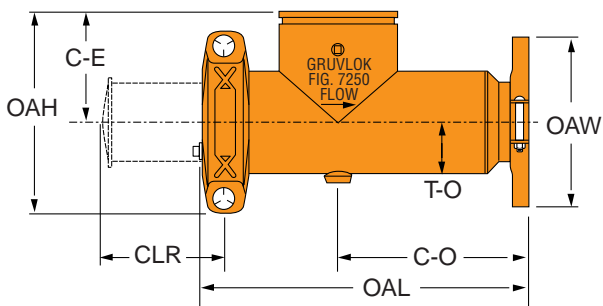
The one-piece diffuser vane and strainer design reduces flow turbulence, streamlines the flow, and traps any hazardous foreign material to better protect your pump.



2 1/2" x 2 1/2"  
thru  
10" x 8"



10" x 10"  
thru  
16" x 14"



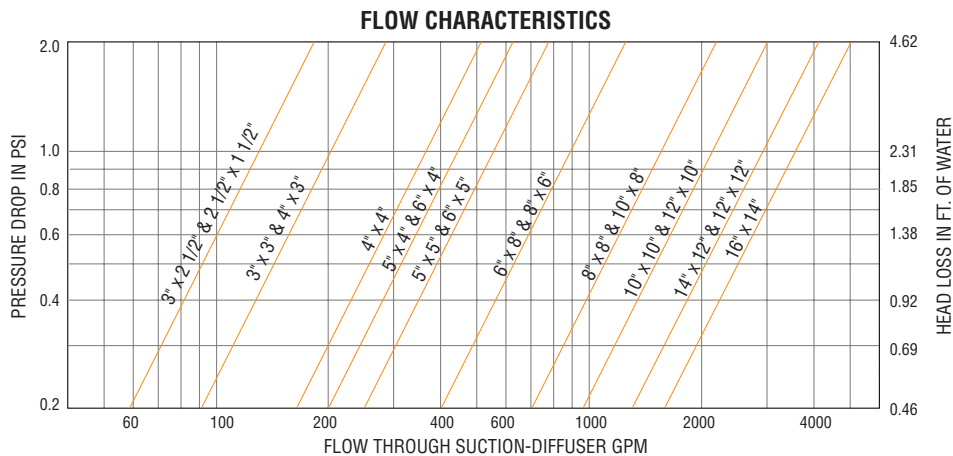
**Flow Data:**

**Note 1.**

Most U.S. piping engineers specify system startup instructions for new systems which include removing the pre-filter screen after system flushing of the main piping before the system is put into normal operation. Flow data values are based on flow of clean water at ambient temperatures. The pressure drop across the diffuser basket strainer, 50% clogged, is approximately twice as great as that of a clean strainer.

**Note 2.**

Suction Diffuser baskets need a routine maintenance program to maintain system efficiency.



### FIGURE 7250 SUCTION DIFFUSER

Nom. Size	Pipe OD	System Side	Pump Side	C-E	C-O	OAL	OAH	OAW	CLR	T-O	Orifice Cylinder Open Area	Max Working Pressure	Approx. Wt. Each
In./DN(mm)	In./mm	(Grooved)	(Flanged)	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In. Sq.	PSI	Lbs.
											cm. Sq.	bar	Kg
2½ x 2½	2.875 x 2.875	2½	2½	5	8¼	13½	9	9½	12½	2⅜	32.7	300	36
65 x 65	73.0 x 73.0	64	64	127	210	343	229	241	318	56	211	20.7	16.3
3 x 2½	3.500 x 2.875	3	2½	5	8¼	13½	9	9½	12½	2⅜	32.7	300	36
80 x 65	88.9 x 73.0	76	64	127	210	343	229	241	318	56	211	20.7	16.3
3 x 3	3.500 x 3.500	3	3	5	8¼	13½	9	9½	12½	2⅜	45.3	300	37
80 x 80	88.9 x 88.9	76	76	127	210	343	229	241	318	56	292	20.7	16.8
4 x 2½	4.500 x 2.875	4	2½	5	6⅞	13⅞	6⅞	7	12⅞	2⅜	45.3	300	38
100 x 65	114.3 x 2.875	102	64	127	167	333	178	308	318	56	292	20.7	17.2
4 x 3	4.500 x 3.500	4	3	5	8¼	13½	9	10	12½	2⅜	45.3	300	38
100 x 80	114.3 x 88.9	102	76	127	210	343	229	254	318	56	292	20.7	17.2
4 x 4	4.500 x 4.500	4	4	6½	10½	17½	11¾	11½	16½	3¼	81.3	300	72
100 x 100	114.3 x 114.3	102	102	165	267	445	298	292	419	83	525	20.7	32.7
5 x 4	5.563 x 4.500	5	4	6½	10½	17½	11¾	11½	16½	3¼	81.3	300	74
125 x 100	141.3 x 114.3	127	102	165	267	445	298	292	419	83	525	20.7	33.6
5 x 5	5.563 x 5.563	5	5	6½	10½	17½	11¾	12½	16½	3¼	124.0	300	75
125 x 125	141.3 x 141.3	127	127	165	267	445	298	318	419	83	800	20.7	34.0
6 x 4	6.625 x 4.500	6	4	6½	10½	17½	11¾	11½	16½	3¼	81.3	300	72
150 x 100	168.3 x 114.3	152	102	165	267	445	298	292	419	83	525	20.7	32.7
6 x 5	6.625 x 5.563	6	5	6½	10½	17½	11¾	12½	16½	3¼	124.0	300	74
150 x 125	168.3 x 141.3	152	127	165	267	445	298	318	419	83	800	20.7	33.6
6 x 6	6.625 x 6.625	6	6	7¾	13¼	21½	14¾	13½	20½	4⅞	182.0	300	133
150 x 150	168.3 x 168.3	152	152	197	337	546	375	343	521	124	1,174	20.7	60.3
8 x 5*	8.625 x 5.563	8	5	7¾	13¼	21½	10⅞	10	19½	4⅞	182.0	300	118
200 x 125	219.1 x 141.3	203	127	197	337	546	278	254	495	124	1,174	20.7	53.5
8 x 6	8.625 x 6.625	8	6	7¾	13¼	21½	14¾	13½	20½	4⅞	182.0	300	118
200 x 150	219.1 x 168.3	203	152	197	337	546	375	343	521	124	1,174	20.7	53.5
8 x 8	8.625 x 8.625	8	8	9	15¼	24½	17½	19	23½	5⅞	283.5	300	190
200 x 200	219.1 x 219.1	203	203	229	387	622	445	483	597	149	1,829	20.7	86.2
10 x 8	10.750 x 8.625	10	8	9	15¼	24½	17½	19	23½	5⅞	283.5	300	203
250 x 200	273.1 x 219.1	254	203	229	387	622	445	483	597	149	1,829	20.7	92.1
10 x 10*	10.750 x 10.750	10	10	10	17¼	28	19⅞	22	26	7⅞	397.0	300	192
250 x 250	273.1 x 273.1	254	254	254	438	711	498	559	660	187	2,561	20.7	87.1
12 x 10*	12.750 x 10.750	12	10	10	17¼	28	19⅞	22	26	7⅞	397.0	300	196
300 x 250	323.9 x 273.1	305	254	254	438	711	498	559	660	187	2,561	20.7	88.9
12 x 12*	12.750 x 12.750	12	12	11	24¼	36	20½	24	34	8	571.0	300	382
300 x 300	323.9 x 323.9	305	305	279	616	914	521	610	864	203	3,684	20.7	173.3
14 x 10*	14.000 x 10.750	14	10	11	24¼	36	20½	24	34	8	571.0	300	382
350 x 250	355.6 x 273.1	356	254	279	616	914	521	610	864	203	3,684	20.7	173.3
14 x 12*	14.000 x 12.750	14	12	11	24¼	36	20½	24	34	8	571.0	300	382
350 x 300	355.6 x 323.9	356	305	279	616	914	521	610	864	203	3,684	20.7	173.3
14 x 14*	14.000 x 14.000	14	14	12	26¼	39	23	26¼	37	9	993.0	300	467
350 x 350	355.6 x 355.6	356	356	305	667	991	584	667	940	229	6,406	20.7	211.8
16 x 14*	16.000 x 14.000	16	14	12	26¼	39	23	26¼	37	9	993.0	300	467
400 x 350	406.4 x 355.6	406	356	305	667	991	584	667	940	229	6,406	20.7	211.8

\* Fabricated

Other sizes available on special request. Contact Gruvlok for ordering information. Dimensions may vary contact Gruvlok for certified values.

Notes:

1. "CLR" Dimension indicates clearance needed for diffuser basket removal.
2. Drain Holes: (End Cap)
  - ¾" NPT for sizes 2½ x 2½ thru 6 x 5
  - 1" NPT for sizes 6 x 6 thru 16 x 14.
3. Pipe Support
  - Use 1¼" SCH. 40 Pipe for 2½" thru 10" pipe and 2" SCH. 40 Pipe for 12" and larger diffusers.

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

## Models GAV-15 & GAV-30

### Automatic Air Vents For Ultimate Performance

- Two Sizes Equip All Riser Systems
- Spherical Float for Strength
- Stainless Steel Float and Trim
- Special Design Eliminates Blow-by



The Air Vent (GAV) features a Stainless Steel spherical float design. Air in the piping system is vented through the discharge valve that is normally open. Rising water activates the float to close the valve. The valve outlet is tapped to take a safety drain line.

Simplicity of design in the GAV ensures long-lasting efficiency. The Stainless Steel float and valve mechanism involve no wearing parts, and no intricate function. The precision formed cast iron body custom-fits the float and valve, and protectively houses their operation under the most demanding conditions.

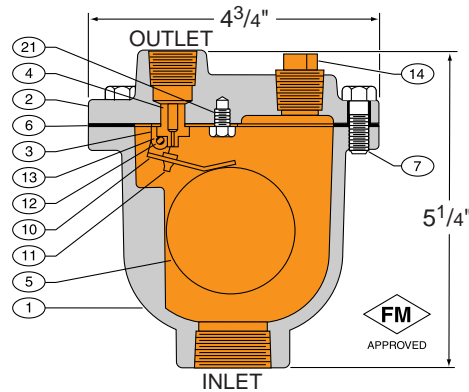
#### MODELS GAV-15 & GAV-30 AUTOMATIC AIR VENT

Type	Max. Water Pressure psi/bar	Max. Temp. °F/°C	Inlet Size in/mm	Outlet Size NPT in/mm	Valve Orifice in/mm	..... Height in/mm	..... Overall Width in/mm	..... Length in/mm	Net Wt. Lbs./Kg
GAV-15	150	250	1/2, 3/4 & 1	3/8	1/16	5 1/4	4 3/4	4 3/4	5 1/2
	10	120	15, 20 & 25	10	2	130	100	100	2.5
GAV-30	300	250	1/2, 3/4 & 1	1/2	1/16	6	5 1/8	5 1/8	7 1/2
	21	120	15, 20 & 25	15	2	150	125	125	3.4

#### MODEL GAV-15

Max. Working Pressure  
175 PSI @ 150°F  
150 PSI @ 250°F

Test Pressure  
300 PSI @ 70°F



#### MODELS GAV-15 AUTOMATIC AIR VENT

Valve Size in/mm	Maximum Temp. °F/°C	Inlet Size NPT in/mm	Outlet Size NPT in/mm	Orifice Size in/mm	Shipping Wt. Lbs./Kg
1/2	250	1/2	1/2	1/16	5 1/2
15	120	15	15	2	3
3/4	250	3/4	1/2	1/16	5 1/2
20	120	20	15	2	3
1	250	1	1/2	1/16	5 1/2
25	120	25	15	2	3

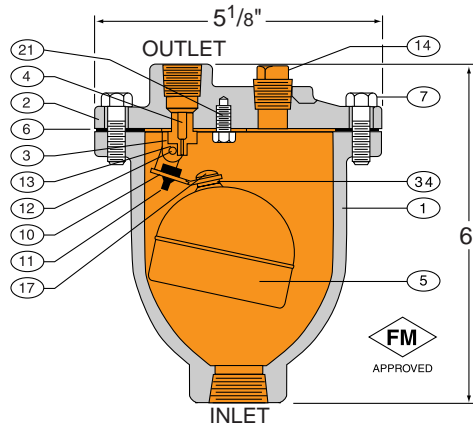
#### MATERIAL SPECIFICATIONS

Part No.	Name	Material / ASTM No.
1	Body	Cast Iron-A126, Class B
2	Cover	Cast Iron-A126, Class B
3	Lever Frame	Stainless Steel-T304, A240
4	Seat	Stainless Steel-T303, 582
5	Float	Stainless Steel-T304, A240
6	Gasket	Non Asbestos
7	Cover Bolt	Carbon Steel-Sae Grade 5
10	Float Arm	Stainless Steel-T304, A240
11	Orifice Button	Viton
12	Pivot Pin	Stainless Steel-T303, 582
13	Pin Retainer*	Stainless Steel-Ph 15-7 MO
14	Pipe Plug 1/2"	Steel
21	Locator	Stainless Steel-T304, F593

\* Not Shown

## MODEL GAV-30

Max. Working Pressure  
300 PSI  
Test Pressure  
450 PSI



### MODELS GAV-30 AUTOMATIC AIR VENT

Valve Size	Maximum Temperature	Inlet Size NPT	Outlet Size NPT	Orifice Size	Shipping Wt. Lbs.
in/mm	°F/°C	in/mm	in/mm	in/mm	Lbs/Kg
1/2	250	1/2	1/2	1/16	8
15	120	15	15	2	3
3/4	250	3/4	1/2	1/16	8
20	120	20	15	2	3

### MATERIAL SPECIFICATIONS

Part No.	Name	Material
1	Body	Cast Iron ASTM A 126, Class B
2	Cover	Cast Iron ASTM A 126, Class B
3	Lever Frame	Stainless Steel ASTM A240
4	Seat	Stainless Steel T303, A582
5	Float	Stainless Steel T304, A240
6	Gasket	Non Asbestos
7	Cover Bolt	Alloy Steel ASTM A 449 Grade 5
10	Float Arm	Stainless Steel T304, A240
11	Orifice Button	Viton
12	Pivot Pin	Stainless Steel T303, A582
13	Pin Retainer	Stainless Steel Ph 15-7 MO
14	Pipe Plug	Steel
17	Float Retainer	Stainless Steel T304, F879
21	Locator	Stainless Steel T304, F593
34	Lock Washer	Stainless Steel T304, A240

Note: All specification as last revised

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## FLEX CONNECTORS

**Fig. SF21-GG**  
**Fig. SF21-GF**  
**Fig. SF21-FF**



- Units are designed to tolerate pump vibration and slight misalignment.
- Live length manufactured to pump Gರುವಲಕ್'s standards.
- Longer and shorter lengths available.
- Threaded connectors available on request.

### SF21-GG

Grooved-Ends

### Material Specifications

Hose:

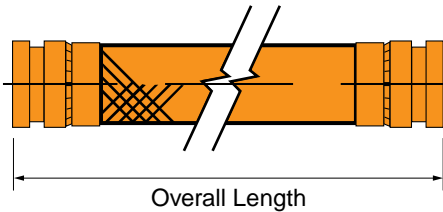
Type 321  
 Stainless Steel

Braid:

Type 304  
 Stainless Steel

Ends:

Schedule 40  
 Carbon Steel  
 Grooved-Ends



### SF21-GF

Grooved x Flanged

### Material Specifications

Hose:

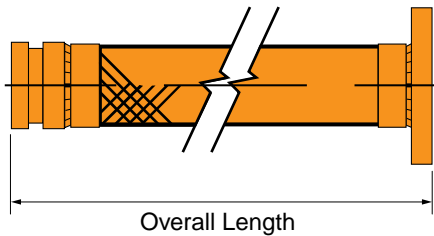
Type 321  
 Stainless Steel

Braid:

Type 304  
 Stainless Steel

Ends:

Schedule 40  
 Carbon Steel  
 Grooved-Ends x  
 ANSI Class 150#  
 Plate CS Flange



### SF21-FF

Flange x Flange

### Material Specifications

Hose:

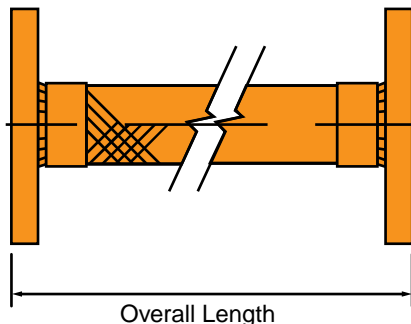
Type 321  
 Stainless Steel

Braid:

Type 304  
 Stainless Steel

Ends:

ANSI Class  
 150# Plate CS  
 Flange Each End



**FIGURE SF21-GG GRxGR FLEX CONNECTORS**

Nom. Size In./DN(mm)	Pipe OD In./mm	Model Number	Overall Length In./mm	Max. Wk. Pressure at 70°F PSI/bar	Max. Wk. Pressure at 230°F PSI/bar
2 50	2.375 60.3	GFPC-200-GG	12 305	535 36.9	492 33.9
2½ 65	2.875 73.0	GFPC-250-GG	14 356	395 27.2	363 25.0
3 80	3.500 88.9	GFPC-300-GG	14 356	385 26.5	354 24.4
4 100	4.500 114.3	GFPC-400-GG	16 406	270 18.6	248 17.1
5 125	5.563 141.3	GFPC-500-GG	17 432	225 15.5	207 14.3
6 150	6.625 168.3	GFPC-600-GG	18 457	170 11.7	156 10.8
8 200	8.625 219.1	GFPC-800-GG	20 508	235 16.2	216 14.9
10 250	10.750 273.1	GFPC-1000-GG	24 610	260 17.9	267 18.4
12 300	12.750 323.9	GFPC-1200-GG	25 635	160 11.0	147 10.1

**FIGURE SF21-GF GRxFL FLEX CONNECTORS**

Nom. Size In./DN(mm)	Pipe OD In./mm	Model Number	Overall Length In./mm	Max. Wk. Pressure at 70°F PSI/bar	Max. Wk. Pressure at 230°F PSI/bar
2 50	2.375 60.3	GFPC-200-GF	12 305	535 36.9	492 33.9
2½ 65	2.875 73.0	GFPC-250-GF	12 305	395 27.2	363 25.0
3 80	3.500 88.9	GFPC-300-GF	13 330	385 26.5	354 24.4
4 100	4.500 114.3	GFPC-400-GF	13 330	270 18.6	248 17.1
5 125	5.563 141.3	GFPC-500-GF	14 356	225 15.5	207 14.3
6 150	6.625 168.3	GFPC-600-GF	14 356	170 11.7	156 10.8
8 200	8.625 219.1	GFPC-800-GF	15 381	235 16.2	216 14.9
10 250	10.750 273.1	GFPC-1000-GF	16 406	260 17.9	267 18.4
12 300	12.750 323.9	GFPC-1200-GF	17 432	160 11.0	147 10.1

**FIGURE SF21-FF FLxFL FLEX CONNECTORS**

Nom. Size In./DN(mm)	Pipe OD In./mm	Model Number	Overall Length In./mm	Max. Wk. Pressure at 70°F PSI/bar	Max. Wk. Pressure at 230°F PSI/bar
2 50	2.375 60.3	GFPD-200-FF	9 229	535 36.9	492 33.9
2½ 65	2.875 73.0	GFPD-250-FF	9 229	395 27.2	363 25.0
3 80	3.500 88.9	GFPD-300-FF	9 229	385 26.5	354 24.4
4 100	4.500 114.3	GFPD-400-FF	9 229	270 18.6	248 17.1
5 125	5.563 141.3	GFPD-500-FF	11 279	225 15.5	207 14.3
6 150	6.625 168.3	GFPD-600-FF	11 279	170 11.7	156 10.8
8 200	8.625 219.1	GFPD-800-FF	12 305	235 16.2	216 14.9
10 250	10.750 273.1	GFPD-1000-FF	13 330	260 17.9	267 18.4
12 300	12.750 323.9	GFPD-1200-FF	14 356	160 11.0	147 10.1



**FIG. 7004 – HPR® COUPLING**

The Gruvlok Fig. 7004 HPR is designed to provide the versatility of a grooved joint while providing a connection for rigid pipe joint applications.

The Fig. 7004 HPR coupling permits working pressure ratings up to 1000 psi (68.9 bar).

This coupling is also suited for lower pressure systems which experience pressure pulses. Systems used for high pressure auto and truck washes will benefit from the increased pressure capability.

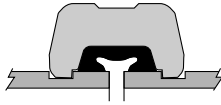
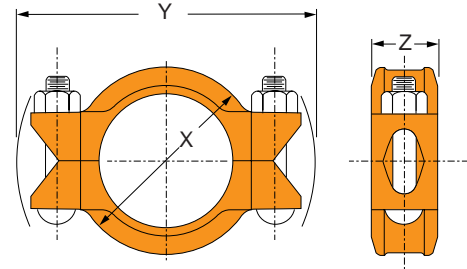


Fig. 7004 HPR with standard gasket.



Working Pressure & End Load values are based on cut grooved standard or extra heavy steel pipe.

Fig. 7004 provides a basically rigid joint and does not allow for expansion or contraction. Painted couplings are green.

Note: Sizes 2" - 6" when used with a cast fig. 7050 fitting the UL/FM pressure is limited to 500 psi.

Note: Fig. 7004 HPR can be used with EG fittings as a commercial joint only

FIGURE 7004 HPR COUPLING											
Nom. Size	Pipe OD	Max. Wk. Pressure	Max. End Load	Range of Pipe End Separation	Coupling Dimensions			Coupling Bolts		Approx. Wt. Ea.	
In./DN(mm)	In./mm	PSI/bar	Lbs./kN	In./mm	X	Y	Z	Qty.	In./mm	Lbs./Kg	
2	2.375	1200	5,316	0 - 1/8	3 5/8	6 1/4	1 1/8	2	5/8 x 2 3/4	3.9	
50	60.3	82.8	23.65	0 - 3.2	92	159	48		-	1.8	
2 1/2	2.875	1200	7,790	0 - 1/8	4 1/4	6 3/8	1 1/8	2	5/8 x 3 1/2	4.6	
65	73.0	82.8	34.65	0 - 3.2	108	175	48		-	2.1	
3	3.500	1200	11,545	0 - 1/8	4 7/8	7 1/2	1 1/8	2	5/8 x 3 1/2	5.2	
80	88.9	82.8	51.36	0 - 3.2	124	191	48		-	2.4	
4	4.500	1200	19,085	0 - 1/4	6 1/4	9 1/2	2 1/4	2	3/4 x 4 1/4	8.6	
100	114.3	82.8	84.90	0 - 6.4	159	241	57		-	3.9	
5	5.563	1200	29,167	0 - 1/4	7 1/2	11	2 1/4	2	7/8 x 5 1/2	14.0	
125	141.3	82.8	129.74	0 - 6.4	191	279	57		-	6.4	
6	6.625	1200	41,366	0 - 1/4	8 3/4	12 1/8	2 1/4	2	7/8 x 5 1/2	15.5	
150	168.3	82.8	184.00	0 - 6.4	222	308	57		-	7.0	
8	8.625	1000	58,426	0 - 1/4	11 1/8	14 1/8	2 5/8	2	1 x 5 1/2	25.6	
200	219.1	68.9	259.89	0 - 6.4	283	378	67		-	11.6	
10	10.750	800	72,610	0 - 1/4	13 1/2	17	2 5/8	2	1 x 6 1/2	32.3	
250	273.1	55.2	322.99	0 - 6.4	343	432	67		-	14.7	
12	12.750	800	102,141	0 - 1/4	15 1/2	19 1/4	2 5/8	2	1 x 6 1/2	43.9	
300	323.9	55.2	454.35	0 - 6.4	403	489	67		-	19.9	

For additional details, see coupling data chart notes page 9.

**FIG. 7004 EG® – END GUARD®**

The Gruvlok Fig. 7004EG Coupling uses the specially designed "END GUARD" gasket with "EG" grooved pipe. The "EG" gasket has a center rib which extends between the pipes to provide for pipe end protection which makes it ideally suited for internally lined or coated pipe applications.

The Fig. 7004EG Coupling permits working pressure ratings up to 2500 psi (172.4 bar).

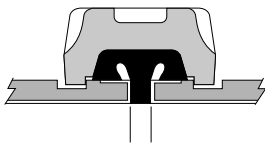
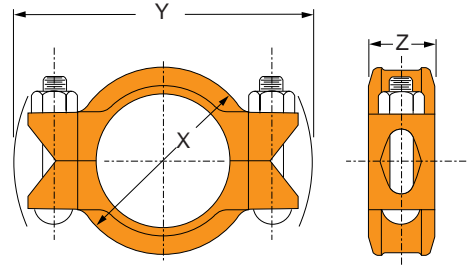


Fig. 7004 EG with "EG" gasket.

Working Pressure and End Load values are based on "EG" cut grooved standard or extra heavy steel pipe. Fig. 7004EG provides a basically rigid joint and does not allow for expansion or contraction. Beveled end pipe should not be used with "EG" gaskets. Painted couplings are green.

FIGURE 7004 END GUARD (EG) COUPLING											
Nom. Size	Pipe OD	Max. Wk. Pressure	Max. End Load	Range of Pipe End Separation	Coupling Dimensions			Coupling Bolts		Approx. Wt. Ea.	
In./DN(mm)	In./mm	PSI/bar	Lbs./kN	In./mm	X	Y	Z	Qty.	In./mm	Lbs./Kg	
2	2.375	2500	11,075	0 - 1/8	3 5/8	6 1/4	1 1/8	2	5/8 x 2 3/4	4.1	
50	60.3	172.4	49.27	0 - 3.2	92	159	48		-	1.9	
2 1/2	2.875	2500	16,230	0 - 1/8	4 1/4	6 3/8	1 1/8	2	5/8 x 3 1/2	5.1	
65	73.0	172.4	72.19	0 - 3.2	108	175	48		-	2.3	
3	3.500	2500	24,053	0 - 1/8	4 7/8	7 1/2	1 1/8	2	5/8 x 3 1/2	5.5	
80	88.9	172.4	106.99	0 - 3.2	124	191	48		-	2.5	
4	4.500	2500	39,761	0 - 1/4	6 1/4	9 1/2	2 1/4	2	3/4 x 4 1/4	9.0	
100	114.3	172.4	176.86	0 - 6.4	159	241	57		-	4.1	
6	6.625	2000	68,943	0 - 1/4	8 3/4	12 1/8	2 1/4	2	7/8 x 5 1/2	15.5	
150	168.3	137.9	306.67	0 - 6.4	222	308	57		-	7.0	
8	8.625	1500	87,639	0 - 1/4	11 1/8	14 1/8	2 5/8	2	1 x 5 1/2	25.6	
200	219.1	103.4	389.84	0 - 6.4	283	378	67		-	11.6	
10	10.750	1250	113,453	0 - 1/4	13 1/2	17	2 5/8	2	1 x 6 1/2	32.3	
250	273.1	86.2	504.66	0 - 6.4	343	432	67		-	14.7	
12	12.750	1250	159,595	0 - 1/4	15 1/2	19 1/4	2 5/8	2	1 x 6 1/2	43.9	
300	323.9	86.2	709.92	0 - 6.4	403	489	67		-	19.9	

For additional details, see coupling data chart notes page 9.

Graded-End Couplings  
Branch Outlets  
Fittings  
Flow Control Components  
High Pressure  
Copper  
Dielectric Nipple  
Plain-End  
HDPE  
Sock-It®  
Stainless Steel  
Technical Data

## GRUVLOK HIGH-PRESSURE EG FITTINGS

Gruvlok End Guard fittings are fabricated from extra heavy (XS) materials. The groove conforms to Gruvlok End Guard cut grooving specification. These fittings may be used for high pressure systems and where lined or coated fittings are required. Gruvlok EG fittings conform to NACE STD-RP-04-72 (contact Gruvlok with specific service details). End Guard fittings should only be used with Series 7004 EG Couplings.

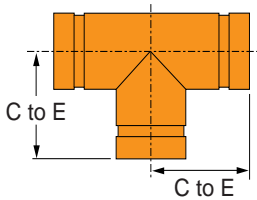


FIGURE 7022 EG HIGH PRESSURE HEADER TEE			
Nom. Size	Pipe OD	Centers To-End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
2	2.375	6½	4.9
50	60.3	165	2.2
2	2.375	5	3.6
50	60.3	127	1.6

### Material Specifications:

#### Elbows:

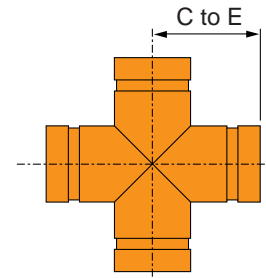
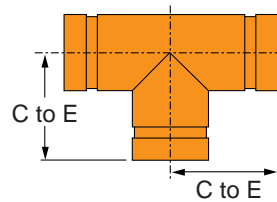
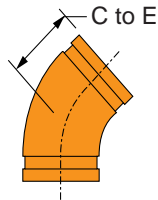
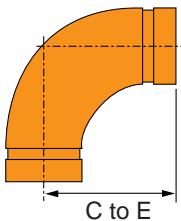
Extra strong forged steel fittings conforming to ASTM A234 with welded tangents of schedule 80 steel pipe conforming to ASTM A53, type "S", Grade "B".

#### Tees & Crosses:

Segment welded schedule 80 steel pipe conforming to ASTM A53, type "S", Grade "B".

#### Coatings:

Rust inhibiting paint, Color: Green Standard or Hot-Dipped Galvanized (Optional). For other coatings contact Gruvlok.



5FIGURE 7050 EG, HIGH PRESSURE 90° LR ELBOW			
Nom. Size	Pipe OD	Centers To-End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
2	2.375	3¼	2.5
50	60.3	83	1.1
2½	2.875	3¾	4.2
65	73.0	95	1.9
3	3.500	4¼	6.0
80	88.9	108	2.7
4	4.500	5	11.0
100	114.3	127	5.0
6	6.625	6½	27.2
150	168.3	165	12.4
8	8.625	*	*
200	219.1	*	*
10	10.750	*	*
250	273.0	*	*
12	12.750	*	*
300	323.9	*	*

FIG. 7051 EG HIGH PRESSURE 45° LR ELBOW	
Centers To-End	Approx. Wt. Ea.
In./mm	Lbs./Kg
2	1.8
51	0.8
2½	2.9
57	1.3
2½	4.3
64	2.0
3	7.5
76	3.4
3½	16.5
89	7.5
*	*
*	*
*	*
*	*
*	*

FIGURE 7060 EG HIGH PRESSURE TEE			
Nom. Size	Pipe OD	Centers To-End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
2	2.375	3¼	3.3
50	60.3	83	1.5
2½	2.875	3¾	5.1
65	73.0	95	2.3
3	3.500	4¼	9.3
80	88.9	108	4.2
4	4.500	5	15.9
100	114.3	127	7.2
6	6.625	6½	38.5
150	168.3	165	17.5
8	8.625	*	*
200	219.1	*	*
10	10.750	*	*
250	273.1	*	*
12	12.750	*	*
300	323.9	*	*

FIG. 7068 EG HIGH PRESSURE CROSS	
Centers To-End	Approx. Wt. Ea.
In./mm	Lbs./Kg
3¼	3.9
83	1.8
3¾	6.8
95	3.1
4¼	11.5
108	5.2
5	19.3
127	8.8
6½	46.0
165	20.9
*	*
*	*
*	*
*	*

\*Contact Gruvlok for details

## Material Specifications Couplings and Flanges

### Housing:

Ductile iron conforming to ASTM A536, Grade 65-45-12

### Coating:

Rust inhibiting lead-free paint — Color: orange (standard)

Hot Dipped Zinc Galvanized (optional)

For other coatings requirements contact a Gruvlok Representative.

### ANSI Bolts and Heavy Hex Nuts:

Heat treated, oval-neck track head bolts conforming to ASTM A183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A563. Bolts and nuts are provided zinc electroplated as standard. **Stainless Steel bolts and nuts are also available.**

**Contact a Gruvlok Representative for details.**

### Hinge Pin: (Gruvlok Flange)

Carbon steel

### Gaskets: (specify when ordering)

Properties as designated in accordance with ASTM D2000

**Grade E EPDM (Green color code)** NSF 61 Certified Service Temperature Range: -40°F to +190°F (-40°C to +88°C) Recommended for water service, dilute acids, alkalis, alkaline solutions, oil-free air and many chemical services.

**NOT FOR USE IN PETROLEUM SERVICES.**

### Lubricant:

#### Gruvlok Xtreme™ Lubricant:

Lubricant is to be applied to the entire surface, both internal and external, of the gasket. For additional important information concerning Gruvlok Xtreme™ Lubricant see Gruvlok Data Sheet 3 “Gruvlok Lubricants”.

## Material Specifications – Copper Fittings:

Copper per ASTM B75 and ANSI B16.22, alloy C12200

8" fittings are 316 Stainless Steel with a copper electroplated surface.

### Performance Data:

The Gruvlok Copper Method may be used with types K, L, M and DWV copper tubing. The pressure ratings shown below are for Gruvlok Fig. 7400 Rigidlite Coupling, Fig. 7012 Gruvlok Flange, and Gruvlok Copper

## 99.9% Lead-Free!

Method Fittings when used with the specific type of tubing indicated.

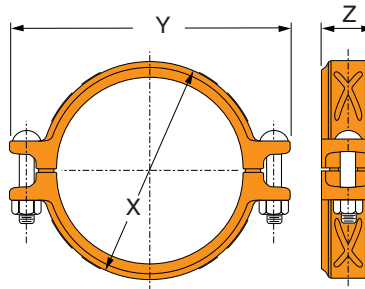
### PERFORMANCE DATA COUPLING COPPER METHOD

TYPE “K” ASTM B-88				TYPE “L” ASTM B-88			TYPE “M” ASTM B-88			DWV ASTM B-306		
1 Nominal Tube Size	2 Wall Thickness	3 Max. Joint Work. Pressure	4 Max. Permis. End Load	2 Wall Thickness	3 Max. Joint Work. Pressure	4 Max. Permis. End Load	2 Wall Thickness	3 Max. Joint Work. Pressure	4 Max. Permis. End Load	2 Wall Thickness	3 Max. Joint Work. Pressure	4 Max. Permis. End Load
Inches	In./mm	PSI/bar	Lbs./kN	In./mm	PSI/bar	Lbs./kN	In./mm	PSI/bar	Lbs./kN	In./mm	PSI/bar	Lbs./kN
2	0.083 <i>2.11</i>	300 <i>20.7</i>	1,329 <i>5.91</i>	0.070 <i>1.78</i>	300 <i>20.7</i>	1,329 <i>5.91</i>	0.058 <i>1.47</i>	250 <i>17.2</i>	1,108 <i>4.93</i>	–	–	–
2 1/2	0.095 <i>2.41</i>	300 <i>20.7</i>	1,948 <i>8.66</i>	0.080 <i>2.03</i>	300 <i>20.7</i>	1,948 <i>8.66</i>	0.065 <i>1.65</i>	250 <i>17.2</i>	1,623 <i>7.22</i>	–	–	–
3	0.109 <i>2.77</i>	300 <i>20.7</i>	2,886 <i>12.84</i>	0.090 <i>2.29</i>	300 <i>20.7</i>	2,886 <i>12.84</i>	0.072 <i>1.83</i>	250 <i>17.2</i>	2,405 <i>10.75</i>	0.045 <i>1.14</i>	100 <i>6.9</i>	962 <i>4.28</i>
4	0.134 <i>3.4</i>	300 <i>20.7</i>	4,771 <i>21.22</i>	0.110 <i>2.79</i>	300 <i>20.7</i>	4,771 <i>21.22</i>	0.095 <i>2.41</i>	250 <i>17.2</i>	3,976 <i>17.69</i>	0.058 <i>1.47</i>	100 <i>6.9</i>	1,590 <i>7.07</i>
5	0.160 <i>4.06</i>	300 <i>20.7</i>	7,289 <i>32.42</i>	0.125 <i>3.18</i>	300 <i>20.7</i>	7,289 <i>32.42</i>	0.109 <i>2.77</i>	200 <i>13.8</i>	4,859 <i>21.61</i>	0.072 <i>1.83</i>	100 <i>6.9</i>	2,430 <i>10.81</i>
6	0.192 <i>4.88</i>	300 <i>20.7</i>	10,341 <i>46.00</i>	0.140 <i>3.56</i>	300 <i>20.7</i>	10,341 <i>46</i>	0.122 <i>3.10</i>	200 <i>13.8</i>	6,894 <i>30.67</i>	0.083 <i>2.11</i>	100 <i>6.9</i>	3,447 <i>15.33</i>
8	0.271 <i>6.88</i>	300 <i>20.7</i>	15,555 <i>69.19</i>	0.200 <i>5.08</i>	300 <i>20.7</i>	15,555 <i>69.19</i>	0.170 <i>4.32</i>	200 <i>13.8</i>	10,370 <i>46.12</i>	0.109 <i>2.77</i>	100 <i>6.9</i>	5,185 <i>23.06</i>

- Notes: (1) Gruvlok Coupling and Gruvlok Flange size are identified by nominal tubing size  
 (2) Nominal tube wall thickness.  
 (3) Maximum line pressure, including surge, to which joint shall be subjected. Working pressure ratings are based on the specified copper tubing roll grooved per Gruvlok Copper Method Copper-Prep Specifications.  
 NOTE: For one time field test only. The maximum joint working pressure may be increased to 1½ times the figure shown.  
 (4) Maximum end load from all internal and/or external forces, to which the joint shall be subjected.

## FIG. 7400 – RIGIDLITE® COUPLING

The Fig. 7400 Rigidlite Coupling provides a rigid, locked-in connection to meet the specific demands of copper tubing installation. Available with the EPDM “C” style gasket as the standard gasket. The Rigidlite Coupling maintains a rigid connection, on copper piping systems.



### PRIOR TO INSTALLATION:

Check tube ends for proper groove dimensions and to assure that the tube ends are free of indentations, projections or other imperfections which could prevent proper sealing.

ALWAYS USE GRUVLOK XTREME™ TEMPERATURE LUBRICANT FOR PROPER COUPLING ASSEMBLY. Thorough lubrication of the gasket is essential to prevent pinching and possible damage to the gasket. For additional important information concerning Gruvlok Xtreme™ Lubricant see Gruvlok Data Sheet 3 “Gruvlok Lubricants”.



FIGURE 7400 RIGIDLITE COUPLING

Nom. Size In./DN(mm)	Pipe OD In./mm	Range of Pipe End Separation In./mm	Coupling Dimensions			Qty.	Coupling Bolts Size In./mm	Approx. Wt. Ea. Lbs./Kg
			X In./mm	Y In./mm	Z In./mm			
2 50	2.375 60.3	0 - 1/8 0 - 3.2	3 1/4 83	5 1/2 140	1 3/4 44	2	3/8 x 2 1/4 M10 x 57	1.6 0.7
2 1/2 65	2.875 73.0	0 - 1/8 0 - 3.2	3 7/8 98	5 127	1 3/4 44	2	3/8 x 2 1/4 M10 x 57	1.9 0.9
3 80	3.500 88.9	0 - 1/8 0 - 3.2	4 1/2 114	6 3/4 171	1 3/4 44	2	3/8 x 2 3/4 M10 x 70	2.1 1.0
4 100	4.500 114.3	0 - 1/4 0 - 6.4	5 5/8 143	7 3/4 197	1 7/8 48	2	3/8 x 2 3/4 M10 x 70	3.1 1.4
5 125	5.563 141.3	0 - 1/4 0 - 6.4	6 7/8 175	9 1/4 235	2 51	2	1/2 x 3 M12 x 76	4.6 2.1
6 150	6.625 168.3	0 - 1/4 0 - 6.4	7 1/8 200	10 3/8 264	2 51	2	1/2 x 3 M12 x 76	5.5 2.5
8 200	8.625 219.1	0 - 1/2 0 - 3.2	10 1/4 260	12 3/4 324	2 3/8 60	2	1/2 x 3 M12 x 76	8.4 3.8

## INSTALLATION & ASSEMBLY

These instructions are based on copper tubing grooved in accordance with Gruvlok Copper-Prep grooving specifications.

**1. Check & lubricate gasket** – Check the gasket to be sure it is compatible for the intended service. Apply a thin coating of Gruvlok Extreme Temperature lubricant to the entire surface lips of the gasket. Be careful that foreign particles do not adhere to lubricated surfaces.



**2. Gasket Installation** – Slip the gasket over one tube end making sure the gasket lip does not overhang the tube end.



**3. Alignment** – After aligning the two tube ends together, pull the gasket into position centering it between the grooves on each tube. The gasket should not extend into the groove on either tube.



**4. Housing** – Remove one nut and bolt and loosen the other nut. Place one housing over the gasket making sure the housing keys fit into the tube grooves. Swing the other housing over the gasket and into the grooves on both tubes making sure the tongue and recess of each housing are properly mated.



**5. Tighten Nuts** – Re-insert the bolt and run-up both nuts finger tight. Securely tighten nuts alternately and equally until fully tightened keeping the gaps at the bolt pads evenly spaced.

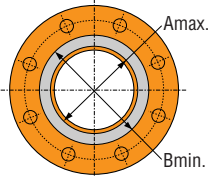
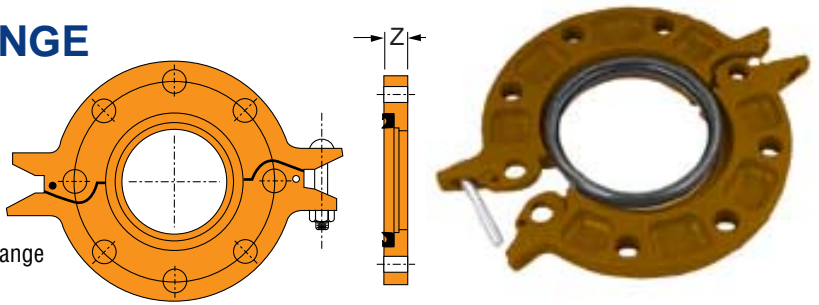
**CAUTION:** Uneven tightening may cause the gasket to pinch. Gasket should not be visible between segments after bolts are tightened.



## FIG. 7012 – GRUVLOK FLANGE

The Fig. 7012 Gruvlok Flange allows a direct connection of Class 125 or Class 150 flanged components to a Gruvlok Copper Method pipe system.

**Note:** Where a transition of copper to steel is accommodated by use of a Figure 7012 Gruvlok Flange, the pipe system designer must determine if the use of a dielectric flange kit is required. For details contact Gruvlok.






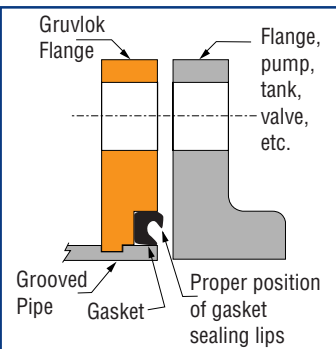
**PRIOR TO INSTALLATION:** Check the tube ends for proper groove dimensions and to assure that the tube ends are free of indentations and projections which could prevent proper sealing of the Gruvlok Flange gasket. Check to assure that the sealing surfaces  $A_{max}$  to  $B_{min}$  of the mating flange face is flat and free of indentations or projections which could prevent proper sealing of the Gruvlok Flange gasket.

FIGURE 7012 FLANGE											
Nom. Size	Pipe OD	Latch Bolt Flange Dimensions				Z	Sealing Surface		Mating Flange Bolt Size		Approx. Wt. Ea.
		Size	X	Y	A Max.		B Min.	Qty.	In./mm	Lbs./Kg	
In./DN(mm)	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm			
2	2.375	3/8 x 2 3/4	6 1/4	8 3/8	3/4	2 3/8	3 1/16	4	5/8 x 2 3/4	4.6	
50	60.3	M10 x 70	159	213	19	60	87	—	—	2.1	
2 1/2	2.875	3/8 x 2 3/4	7	9 1/2	3/4	2 1/8	4	4	5/8 x 2 3/4	6.2	
65	73.0	M10 x 70	178	241	19	73	102	—	—	2.8	
3	3.500	3/8 x 2 3/4	7 1/8	10 1/2	3/4	3 1/2	4 9/16	4	5/8 x 2 3/4	6.6	
80	88.9	M10 x 70	200	267	19	89	116	—	—	3.0	
4	4.500	3/8 x 2 3/4	9	11 1/2	3/4	4 1/2	5 9/16	8	5/8 x 3	9.3	
100	114.3	M10 x 70	229	292	19	114	141	—	—	4.2	
5	5.563	3/8 x 2 3/4	10	12 1/2	7/8	5 9/16	6 3/4	8	3/4 x 3	10.2	
125	141.3	M10 x 70	254	318	22	141	171	—	—	4.6	
6	6.625	3/8 x 2 3/4	11	14	7/8	6 3/8	7 13/16	8	3/4 x 3 1/4	12.0	
150	168.3	M10 x 70	279	356	22	168	198	—	—	5.4	
8	8.625	3/8 x 2 3/4	13 1/2	16 1/2	1	8 3/8	10	8	3/4 x 3 1/4	15.6	
200	219.1	M10 x 70	343	419	25	219	254	—	—	7.1	

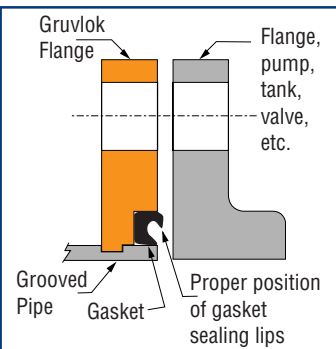
## INSTALLATION & ASSEMBLY


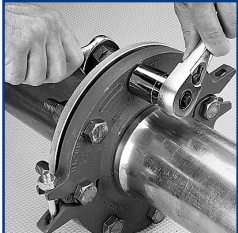
These instructions are based on copper tubing grooved in accordance with Gruvlok Copper-Prep grooving specifications. For additional Flange instructions, see "Gruvlok Flanges" section.

- Loosen the nut on the latch bolt to the end of the bolt thread. (It is not necessary to remove the nut from the latch bolt.) Swing the latch bolt out of the slot. Open the Gruvlok Flange and place it around the grooved tube with the key section fitting into the groove. The flange gasket cavity must face the tube end. 
- Swing the latch bolt back into the slotted hole. Tighten the nut until the flange halves make solid contact. 
- Check the gasket grade to verify that it is properly suited for the intended service. Lubricate the entire surface of the gasket using Gruvlok Extreme Temperature lubricant. Position the Gruvlok Flange Gasket around the tube end and press the gasket into the cavity between the tube O.D. and the flange recess. The gasket must be properly positioned as shown in Step 4. Be careful that foreign particles do not adhere to lubricated surfaces. 

- The correct positioning and relationship of all components comprising a Gruvlok Flange joint. The Fig. 7012 Gruvlok Flange gasket must be inserted so that the sealing lips face toward the tube end and the mating flange face and away from the Gruvlok Flange itself. 

**NOTE:** Design of the Gruvlok Flange provides sealing only with the special Gruvlok Flange gasket. Only Gruvlok Flange gaskets may be used with Fig. 7012 Gruvlok Flanges.



- Align the Gruvlok Flange bolt holes with the mating flange bolt holes. Insert a standard bolt or stud through the bolt hole, and thread a nut on hand tight. Insert the next bolt or stud opposite the first and again thread the nut on hand tight. Continue this procedure until all holes have been fitted. 
- Tighten the nuts evenly so that the flange faces remain parallel and make firm even contact around the entire flange. Torque all bolts to required flange joint torque levels. 

**NOTE:** Take care to assure that the gasket lip is not bent backwards or pinched between the two flanges.

## GRUVLOK COPPER METHOD FITTINGS

Gruvlok Copper Method Fittings are wrought fittings, per ASTM B75 and ANSI B16.22 alloy C12200 copper, full flow design with ends grooved to Gruvlok Copper-Prep Specifications. Installation is quick and easy with Gruvlok. Fig. 7400 Rigidlite Coupling or Fig. 7012 Gruvlok Flange.

The fittings are to be used with Gruvlok Fittings are identified by either the Nominal size in inches or the Pipe OD in mm.

### Gruvlok Copper Method Notes:

- 1) The Gruvlok Copper Method has been designed and tested for use only with the Fig. 7400 Rigidlite Coupling and Fig. 7012 Gruvlok Flange. Use of couplings or flanges from other manufacturers is not recommended.
- 2) To provide dielectric protection, a dielectric component is recommended for connection into the pipeline at the transition point between the steel pipe and copper tube.

The Fitting Size Chart is used to determine the OD of the pipe that

FITTING SIZE			
Nominal Size Inches	Pipe O.D. Inches	Nominal Size Inches	Pipe O.D. Inches
DN/mm	mm	DN/mm	mm
1	1.315	3	3.500
25	33.7	80	88.9
1¼	1.660	4	4.500
32	42.4	100	114.3
1½	1.900	5	5.563
40	48.3	140	141.3
2	2.375	6	6.625
50	60.3	150	168.3
2½	2.875	8	8.625
65	73.0	200	219.1

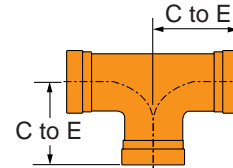
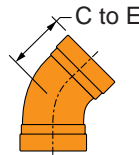
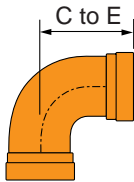


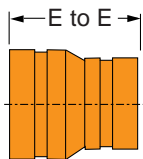
FIGURE 7550 90° ELBOW			
Nom. Size In./DN(mm)	Pipe OD In./mm	Center to End In./mm	Approx. Wt. Ea. Lbs./Kg
2	2.375	3¼	0.9
50	60.3	83	0.4
2½	2.875	3¾	1.5
65	73.0	95	0.7
3	3.500	4¼	2.4
80	88.9	108	1.1
4	4.500	5	5.5
100	114.3	127	2.5
5	5.563	5½	9.3
125	141.3	140	4.2
6	6.625	6½	17.6
150	168.3	165	8.0
8	8.625	7¾	29.4
200	219.1	197	13.3

FIGURE 7551 45° ELBOW			
Nom. Size In./DN(mm)	Pipe OD In./mm	Center to End In./mm	Approx. Wt. Ea. Lbs./Kg
2	2.375	2½	0.6
50	60.3	54	0.3
2½	2.875	2¾	1.1
65	73.0	60	0.5
3	3.500	2¾	1.6
80	88.9	67	0.7
4	4.500	3¾	3.5
100	114.3	86	1.6
5	5.563	3¼	6.1
125	141.3	83	2.8
6	6.625	3½	11.7
150	168.3	89	5.3
8	8.625	4¼	19.4
200	219.1	108	8.8

FIGURE 7560 TEES			
Nom. Size In./DN(mm)	Pipe OD In./mm	Center to End In./mm	Approx. Wt. Ea. Lbs./Kg
2	2.375	3¼	1.7
50	60.3	83	0.8
2½	2.875	3¾	2.5
65	73.0	95	1.1
3	3.500	4¼	3.5
80	88.9	108	1.6
4	4.500	5	7.3
100	114.3	127	3.3
5	5.563	5½	7.9
125	141.3	140	3.6
6	6.625	6½	13.4
150	168.3	165	6.1
8	8.625	7¾	41.7
200	219.1	197	18.9

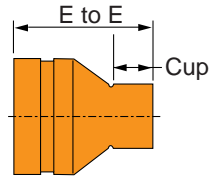
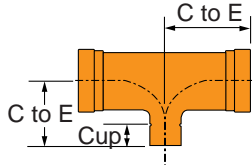
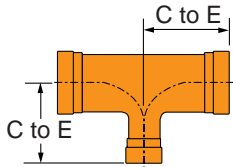
8" fittings are copper coated stainless steel

### FIGURE 7572 (GR x GR) CONCENTRIC REDUCER



Nom. Size (See Above for O.D.) In./DN(mm)	End to End In./mm	Approx. Wt. Ea. Lbs./Kg
2½ x 2	3¼	0.6
65 x 50	83	0.3
3 x 2	3¾	1.0
80 x 50	98	0.5
3 x 2½	3¾	0.9
80 x 65	92	0.4
4 x 2	5	2.2
100 x 50	127	1.0
4 x 2½	4¾	2.0
100 x 65	121	0.9
4 x 3	4¾	2.0
100 x 80	121	0.9

Nom. Size (See Above for O.D.) In./DN(mm)	End to End In./mm	Approx. Wt. Ea. Lbs./Kg
5 x 3	5½	2.8
125 x 80	140	1.3
5 x 4	5¾	3.3
125 x 100	143	1.5
6 x 3	6½	4.9
150 x 80	165	2.2
6 x 4	6½	4.8
150 x 100	165	2.2
6 x 5	6½	5.2
150 x 125	165	2.4

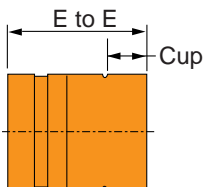
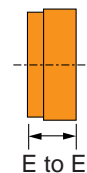


<b>FIGURE 7561A (GR X GR X GR) REDUCING TEE</b>			
Nom. Size <i>(See prev. page for O.D.)</i>	End to End	Cup	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
2½ x 2½ x 2	7½	3¾	1.8
65 x 65 x 50	191	95	0.8
3 x 3 x 2	8½	4¼	2.7
80 x 80 x 50	216	108	1.2
3 x 3 x 2½	8½	4¼	2.1
80 x 80 x 65	216	108	1.0
4 x 4 x 2	10	5	4.8
100 x 100 x 50	254	127	2.2
4 x 4 x 2½	10	5	4.9
100 x 100 x 65	254	127	2.2
4 x 4 x 3	10	5	5.1
100 x 100 x 80	254	127	2.3
5 x 5 x 3	11	5½	7.5
125 x 125 x 80	279	140	3.4
5 x 5 x 4	11	5½	7.8
125 x 125 x 100	279	140	3.5
6 x 6 x 2½	13	6½	11.5
150 x 150 x 65	330	165	5.2
6 x 6 x 3	13	6½	11.7
150 x 150 x 80	330	165	5.3
6 x 6 x 4	13	6½	12.1
150 x 150 x 100	330	165	5.5
6 x 6 x 5	13	6½	12.4
150 x 150 x 125	330	165	5.6
8 x 8 x 2½	15	7¾	18
200 x 200 x 65	381	197	8.2
8 x 8 x 3	15	7¾	18.2
200 x 200 x 80	381	197	8.3
8 x 8 x 4	15	7¾	18.4
200 x 200 x 100	381	197	8.3
8 x 8 x 5	15	7¾	18.8
200 x 200 x 125	381	197	8.5
8 x 8 x 6	15	7¾	19
200 x 200 x 150	381	197	8.6

8" are copper coated stainless steel

<b>FIGURE 7564A (GR X GR X CUP) REDUCING TEE</b>			
Nom. Size <i>(See prev. page for O.D.)</i>	End to End	Cup	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
2 x 2 x ¾	6½	¾	1.0
50 x 50 x 80	165	83	0.5
2 x 2 x 1	6½	¾	1.0
50 x 50 x 25	165	83	0.5
2 x 2 x 1¼	6½	¾	1.1
50 x 50 x 32	165	83	0.5
2 x 2 x 1½	6½	¾	1.1
50 x 50 x 40	165	83	0.5
2½ x 2½ x ¾	7½	¾	1.6
65 x 65 x 80	191	95	0.7
2½ x 2½ x 1	7½	¾	1.7
65 x 65 x 25	191	95	0.8
2½ x 2½ x 1¼	7½	¾	1.7
65 x 65 x 32	191	95	0.8
2½ x 2½ x 1½	7½	¾	1.7
65 x 65 x 40	191	95	0.8
2½ x 2½ x 2	7½	¾	1.8
65 x 65 x 50	191	95	0.8
3 x 3 x 1	8½	4¼	2.5
80 x 80 x 25	216	108	1.1
3 x 3 x 1¼	8½	4¼	2.5
80 x 80 x 32	216	108	1.1
3 x 3 x 1½	8½	4¼	2.6
80 x 80 x 40	216	108	1.2
3 x 3 x 2	8½	4¼	2.7
80 x 80 x 50	216	108	1.2
4 x 4 x ¾	10	5	4.5
100 x 100 x 80	254	127	2.0
4 x 4 x 1	10	5	4.6
100 x 100 x 25	254	127	2.1
4 x 4 x 1¼	10	5	4.7
100 x 100 x 32	254	127	2.1
4 x 4 x 1½	10	5	4.7
100 x 100 x 40	254	127	2.1
4 x 4 x 2	10	5	4.8
100 x 100 x 50	254	127	2.2

<b>FIGURE 7575 (GR X CUP) REDUCING ADAPTER</b>			
Nom. Size <i>(See prev. page for O.D.)</i>	End to End	Cup	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
2 x 1	3	0.91	0.4
50 x 25	76	23	0.2
2 x 1¼	3	0.97	0.4
50 x 32	76	25	0.2
2 x 1½	2⅞	1.09	0.4
50 x 40	73	28	0.2
2½ x 1	3½	0.91	0.6
65 x 25	89	23	0.3
2½ x 1¼	3½	0.97	0.6
65 x 32	89	25	0.3
2½ x 1½	3½	1.09	0.7
65 x 40	89	28	0.3
2½ x 2	3¼	1.34	0.7
65 x 50	83	34	0.3
3 x 1½	3⅞	1.09	1.1
80 x 40	98	28	0.5
3 x 2	3⅞	1.34	1.0
80 x 50	98	34	0.5
4 x 2	5	1.34	2.2
100 x 50	127	34	1.0



<b>FIGURE 7582 TRANSITION FITTING</b>				
Nom. Size	Pipe OD	End to End	Cup	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	In./mm	Lbs./Kg
2	2.375	2¾	1⅜	0.4
50	60.3	70	35	0.2
2½	2.875	3	1½	0.6
65	73.0	76	38	0.3
3	3.500	3⅞	1⅞	1.0
80	88.9	87	42	0.5
4	4.500	4⅞	2⅞	2.0
100	114.3	112	55	0.9
5	5.563	5⅞	2⅞	3.3
125	141.3	138	67	1.5
6	6.625	6⅞	3⅞	5.3
150	168.3	162	79	2.4

<b>FIGURE 7574 END CAPS</b>			
Nom. Size	Pipe OD	End to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
2	2.375	1¼	0.3
50	60.3	32	0.1
2½	2.875	1¼	0.4
65	73.0	32	0.2
3	3.500	1¼	0.6
80	88.9	32	0.3
4	4.500	1¼	1.0
100	114.3	32	0.5
5	5.563	1¼	2.2
125	141.3	32	1.0
6	6.625	1¼	2.8
150	168.3	32	1.3
8	8.625	4	11.0
200	219.1	203	5.0

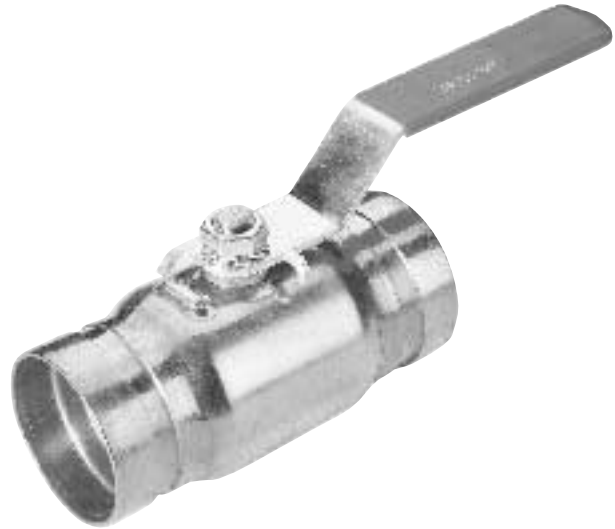
8" is copper coated stainless steel

## SERIES 7500C GROOVED-END COPPER BALL VALVE

The Gruvlok Series 7500C Grooved-End Copper Ball Valve is a premium quality valve for manual on-off operation in a wide range of commercial and industrial applications. The unique patented one-piece formed body eliminates body joints along with the need for body joint seals. The PTFE primary live loaded stem seal is complimented by a fully encapsulated EPDM O-ring secondary stem seal to provide a leak tight valve for temperatures ranging from -40°F to 230°F. Standard trim material is 316 stainless steel.

The safety first design of the stem and ball prevents stem blow out while maintaining bi-directional bubble tight sealing at the rated pressure of 300psi. The lead free copper body is provided with grooved-ends, which are dimensionally compatible with Gruvlok steel pipe and copper system grooved-ends dimensions, creating an easy connection with other Gruvlok components.

The Gruvlok Series 7500C Copper Ball Valve, and all the Gruvlok Copper Method components are **99.9% lead free**.



### Material Specifications – Series 7500C:

**Body:**

Chemical composition and mechanical properties as per ASTM B88 Copper

**Ball/Stem:**

316 stainless steel

**Support Ring:**

316 stainless steel

**Seats:**

Virgin PTFE

**Stem Seals:**

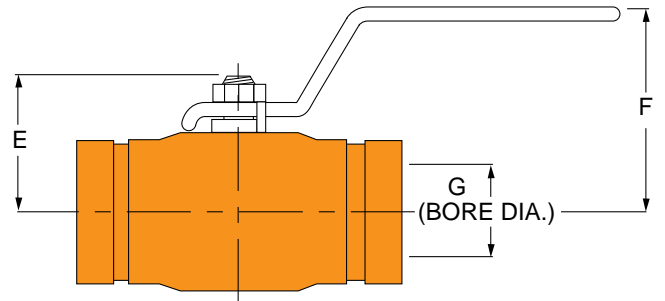
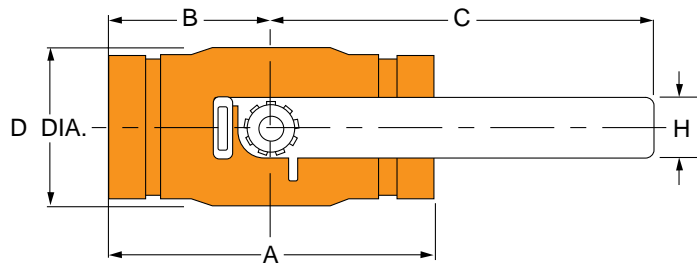
25% glass filled PTFE primary seal; EPDM O-ring secondary seal

**External Hardware:**

Zinc plated Carbon steel and brass gland follower

**Pressure Ratings:**

300 PSIG CWP



**FIGURE 7500C GROOVED-END COPPER VALVE**

Valve Size	Pipe OD	Dimensions									Cv Value	Approx. Wt. Ea.
		A	B	C	D	E	F	G	H			
In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg	
2	2.375	5.50	2.75	6.00	2.63	2.14	2.70	1.50	1.10	115	2.8	
50	60.3	140	70	152	67	54	69	38	28	115	1.3	
2½	2.875	6.30	3.15	12.00	3.75	3.25	4.50	2.00	1.25	195	7.3	
65	73.0	160	80	305	95	83	114	51	32	195	3.3	
3	3.500	6.71	3.36	12.00	4.13	3.50	4.85	2.25	1.25	245	9.8	
80	88.9	170	85	305	105	89	123	57	32	245	4.4	
4	4.500	8.25	4.12	15.00	5.95	4.75	6.50	3.00	1.25	470	23.0	
100	114.3	210	105	381	151	121	165	76	32	470	10.4	

**How to Order:** Specify size and figure number (example: 2" GC-7500C)



## GRUVLOK DI-LOK<sup>®</sup> NIPPLE DI-ELECTRIC PIPE CONNECTION

The Gruvlok Fig. 7088, 7089 and 7090 DI-LOK Nipple inhibits the formation of a galvanic cell between steel pipe and copper tube at the transition from threaded or grooved-end steel pipe to a Gruvlok Copper Method pipe system. Patented Gruvlok Copper Method tube end preparation makes it possible to connect copper tube to steel pipe using a standard Gruvlok Figure 7400 Rigidlite Coupling or a Figure 7012 Gruvlok Flange; costly special adapter couplings are not needed. Gruvlok DI-LOK Nipples are easily installed between the copper tube and steel pipe in groove to groove or groove to thread configurations, producing a dielectric connection.

The separation of copper from steel by the DI-LOK Nipple virtually eliminates the galvanic cell created by the dissimilar metals. The Gruvlok Figure 7400 Rigidlite Coupling and Figure 7012 Gruvlok Flange provide tines which produce an electrical connection on the outside of the DI-LOK Nipple providing a means for transmission of stray current outside of the fluid media effectively eliminating acceleration of corrosion to the wetted metals.

The Gruvlok DI-LOK Nipple is manufactured from ASTM A513 steel tube which provides tighter dimensional controls to that of steel pipe. The tube is zinc electroplated per ASTM B633 which provides added corrosion resistance and produces an attractive, easily identified appearance. Polypropylene molded into the steel tube creates a liner which meets the polypropylene tube lining requirements of ASTM F492. The polypropylene serves as a dielectric insulator between the copper tube and the steel pipe.

The grooved-ends are cut grooved to standard Gruvlok groove dimensions, meeting the dimensional requirements of AWWA C606.



The NPT threaded end of the DI-LOK Nipple is in conformance with ANSI B1.20.1.

The DI-LOK Nipple is designed for use at temperatures from -40°F to 230°F (-40°C to 110°C) and pressures to 300 PSIG (20.7 bar) in a wide range of applications.

### MATERIAL-SPECIFICATIONS:

**Housing:**

Steel Tube to ASTM A513

**Liner:**

Polypropylene to ASTM D4140

**INSTALLATION-AND-ASSEMBLY:**

For installation and assembly of grooved-end connections, see "Fig. 7400 Gruvlok Rigidlite Coupling" and "Fig. 7012 Gruvlok Flange".

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

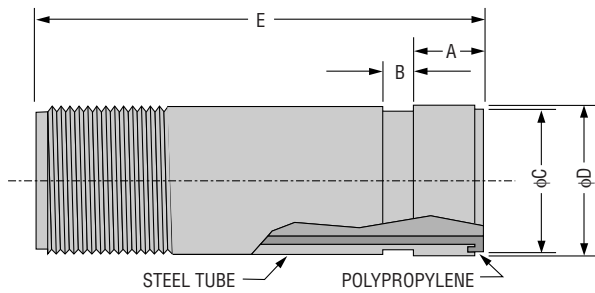
HDPE

Sock-It<sup>®</sup>

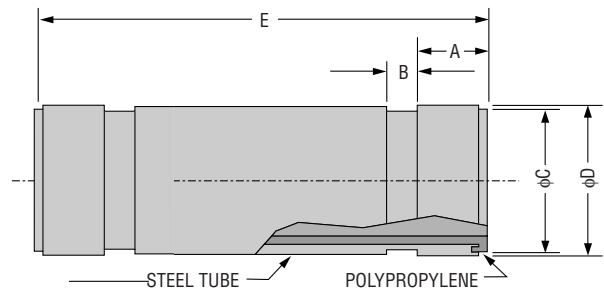
Stainless Steel

Technical Data

**Fig. 7088 – Groove by Thread**



**Fig. 7089 – Groove by Groove**



**Fig. 7090 – Thread by Thread**

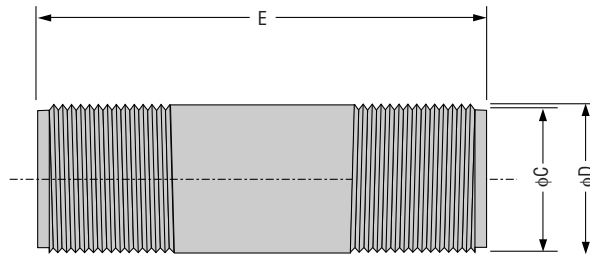


FIGURE 7088, 7089 & 7090 DI-LOK NIPPLE								
Nom. IPS	A	B	C	D		E		
Pipe Size	+/- .030	+/- .030	Actual	Tolerance	Actual	Tolerance	+/- .090	
NIPS/DN	in./mm	in./mm	in./mm	in./mm	in./mm	in./mm	in./mm	
3/4	1.050	n/a	n/a	n/a	1.063	+0.005/-0.000	3.000	
19	26.7	n/a	n/a	n/a	27.0	+0.13/-0.00	76	
1	1.315	n/a	n/a	n/a	1.313	+0.005/-0.000	4.000	
25	33.7	n/a	n/a	n/a	33.4	+0.13/-0.00	102	
1 1/4	1.660	n/a	n/a	n/a	1.660	+0.006/-0.000	4.000	
32	42.4	n/a	n/a	n/a	42.2	+0.15/-0.00	102	
1 1/2	1.900	n/a	n/a	n/a	1.900	+0.006/-0.000	4.000	
40	48.3	n/a	n/a	n/a	48.3	+0.15/-0.00	102	
2	2.375	0.625	0.312	2.250	-0.015	2.375	+0.007/-0.000	4.000
50	60.3	15.88	7.92	57	-0.37	60	+0.18/-0.00	102
2 1/2	2.875	0.625	0.312	2.720	-0.018	2.875	+0.008/-0.000	6.000
65	73.0	15.88	7.92	69	-0.45	73	+0.20/-0.00	152
3	3.500	0.625	0.312	3.344	-0.018	3.500	+0.010/-0.000	6.000
80	88.9	15.88	7.92	85	-0.45	89	+0.25/-0.00	152
4	4.500	0.625	0.375	4.334	-0.020	4.500	+0.013/-0.000	6.000
100	114.3	15.88	9.53	110	-0.50	114	+0.33/-0.00	152
5	5.563	0.625	0.375	5.395	-0.022	5.562	±0.010	6.000
125	141.3	15.88	9.53	137	-0.55	141	±0.25	152
6	6.625	0.625	0.375	6.455	-0.022	6.625	±0.015	6.000
150	168.3	15.88	9.53	164	-0.55	168	±0.38	152

Figure 7088 available in Nom. Pipe Sizes 2" through 4" only.

Figure 7089 available in Nom. Pipe Sizes 2" through 6" only.

Figure 7090 available in Nom. Pipe Sizes 3/4" through 1 1/2" only.

## GRUVLOK PLAIN-END PIPING METHOD

The Gruvlok Plain-End Piping Method is an efficient and cost effective method of joining either plain-end or beveled end pipe. Gruvlok Plain-End Couplings and Fittings allow a complete piping system to be installed without any pipe end preparation.

The Gruvlok Plain-End Piping Method is especially suited for repair or cut-in work, as well as new installations where rigid joints are required. The Roughneck Coupling “grippers” bite into the outside diameter of the steel pipe, providing for positive rigid joint connections.



### Material Specifications:

#### Housing:

Ductile Iron conforming to ASTM A536 or Malleable iron conforming to ASTM A47

#### Bolts and Nuts:

Heat treated, oval-neck track head bolts conforming to ASTM A183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel con-forming to ASTM A563. Bolts and nuts are provided zinc electroplated as standard.

#### Grippers:

Heat Treated, electroplated carbon steel.

#### Coatings:

Rust inhibiting paint - Color: Orange Standard Hot dipped Zinc Galvanized (Optional) For other coating requirements contact your Gruvlok representative.

#### Gasket:

Grade E (EPDM) or Grade T (Nitrile) Elastomers with properties as designed by ASTM D2000 for each gasket grade.

### Fig. 7005 – Roughneck® coupling

The Fig. 7005 Roughneck Coupling is an effective and reliable way of joining plain-end or beveled end pipe. The Roughneck Coupling is ideal for use in a variety of applications including mining, process piping, manifold piping and oilfield services. The unique gripper action provides a positive pipe joint and allows for working pressure ratings up to 750 PSI.

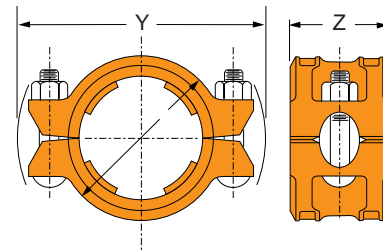


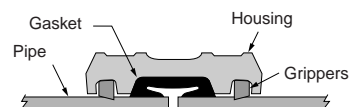
FIGURE 7005 ROUGHNECK COUPLING												
Nom. Size	Pipe OD	Max. Wk. Pressure	Max. End Load	Req'd Bolt Torque*	No. of Grippers	Coupling Dimensions			Coupling Bolts	Approx. Wt. Ea.		
In./DN(mm)	In./mm	PSI/bar	Lbs./kN	LbFt/N-m		X	Y	Z	Qty.	In./mm	Lbs./Kg	
2	2.375	750	3,323	150	8	3 <sup>3</sup> / <sub>4</sub>	6 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	2	5 <sup>8</sup> / <sub>16</sub> x 3 <sup>1</sup> / <sub>4</sub>	6.6	
50	60.3	51.7	1,507	203		95	162	89		-	3.0	
2 <sup>1</sup> / <sub>2</sub>	2.875	600	3,895	150	8	4 <sup>1</sup> / <sub>4</sub>	7 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	2	5 <sup>8</sup> / <sub>16</sub> x 3 <sup>1</sup> / <sub>4</sub>	7.4	
65	73.0	41.4	1,766	203		108	181	89		-	3.4	
3	3.500	600	5,773	200	8	4 <sup>7</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	2	3 <sup>4</sup> / <sub>16</sub> x 4 <sup>1</sup> / <sub>4</sub>	10.5	
80	88.9	41.4	2,618	271		124	206	89		-	4.8	
3 <sup>1</sup> / <sub>2</sub>	4.000	500	6,283	200	8	5 <sup>1</sup> / <sub>2</sub>	8 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	2	3 <sup>4</sup> / <sub>16</sub> x 4 <sup>1</sup> / <sub>4</sub>	11.0	
90	101.6	34.5	2,849	271		140	213	89		-	5.0	
4	4.500	450	7,157	200	8	6 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	2	3 <sup>4</sup> / <sub>16</sub> x 4 <sup>1</sup> / <sub>4</sub>	16.4	
100	114.3	31.0	3,246	271		162	238	105		-	7.4	
5	5.563	350	8,507	250	8	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>	2	7 <sup>8</sup> / <sub>16</sub> x 5	23.8	
125	141.3	24.1	3,858	339		191	283	111		-	10.8	
6	6.625	300	10,341	250	12	8 <sup>3</sup> / <sub>4</sub>	12 <sup>7</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>	2	1 x 6	31.7	
150	168.3	20.7	4,690	339		222	327	111		-	14.4	
8	8.625	300	17,528	250	12	10 <sup>7</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	4	7 <sup>8</sup> / <sub>16</sub> x 5	38.6	
200	219.1	20.7	7,950	339		276	368	114		-	17.5	
10	10.75	300	27,229	500	8	12 <sup>5</sup> / <sub>8</sub>	18	5 <sup>3</sup> / <sub>8</sub>	1	1 x 6 <sup>1</sup> / <sub>2</sub>	40	
250	273.1	20.7	12,377	678		321	457	137		-	18.1	
12	12.75	300	31,919	550	12	14 <sup>7</sup> / <sub>8</sub>	20 <sup>1</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>8</sub>	1	1 x 6 <sup>1</sup> / <sub>2</sub>	56	
300	323.9	20.7	14,509	746		378	514	137		-	25.4	
14	14	300	30,788	550	12	16 <sup>3</sup> / <sub>4</sub>	22 <sup>1</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>4</sub>	1	1 x 6 <sup>1</sup> / <sub>2</sub>	88	
350	355.6	20.7	13,995	746		425	562	159		-	39.9	
16	16	300	30,159	550	12	18 <sup>3</sup> / <sub>4</sub>	24	6 <sup>1</sup> / <sub>4</sub>	1	1 x 6 <sup>1</sup> / <sub>2</sub>	95	
400	406.4	20.7	13,709	746		476	610	159		-	43.1	

Working pressure and end load are based on a properly assembled Roughneck coupling with bolts fully torqued to the above specifications, on plain-end or beveled standard wall steel pipe and Gruvlok Plain-End Fittings.

Roughneck Couplings are designed to be used on plain-end pipe and Gruvlok Plain-End Fittings only. For externally coated pipe applications, contact Gruvlok.

Not recommended for use on steel pipe with a hardness greater than 150 Brinell, plastic, HDPE, cast iron or other brittle pipe.

\*Bolt torque ratings shown must be applied at installation.



Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## GRUVLOK PLAIN-END FITTINGS

Gruvlok plain-end fittings are manufactured to provide minimum pressure drop and uniform flow. Fittings are designed for use with the Fig. 7005 Roughneck Couplings only.

Gruvlok plain-end fittings are available in sizes through 8" nominal pipe size in a variety of styles. Depending on size and configuration, fittings are either segment-welded steel or forged steel.

Fittings are normally coated with a rust inhibiting paint. Other coatings including Hot Dipped Zinc Galvanizing, are available.



### Material Specifications:

#### Segment Welded Steel Fittings:

Carbon Steel pipe conforming to ASTM A53, sizes through 4", Type "F"; sizes 5" - 8"; Type "E" or "S", Grade "B".

#### Steel Fittings:

Forged Steel conforming to ASTM A106.

#### Adapter Flanges:

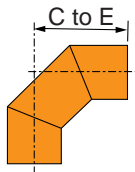
- Class 125 - Cast Iron conforming to ANSI B16.1
- Class 150 - Carbon Steel conforming to ANSI B16.5
- Class 300 - Carbon Steel conforming to ANSI B16.5

The Fitting Size Chart is used to determine the OD of the pipe that the fittings is to be used with. Gruvlok Fittings are identified by either the Nominal size in inches or the Pipe OD in mm.

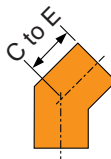
### FITTING SIZE

Nominal Size Inches	Pipe O.D. Inches	Nominal Size Inches	Pipe O.D. Inches
DN/mm	mm	DN/mm	mm
2	2.375	4	4.500
50	60.3	100	114.3
2½	2.875	5	5.563
65	73.0	140	141.3
3	3.500	6	6.625
80	88.9	150	168.3
3½	4.000	8	8.625
90	101.6	200	219.1

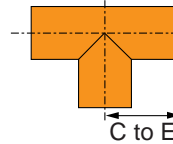
**Fig. 7050P**  
90° Elbow



**Fig. 7051P**  
45° Elbow



**Fig. 7060P**  
Tee



**Fig. 7068P**  
Cross

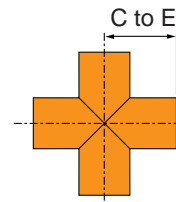


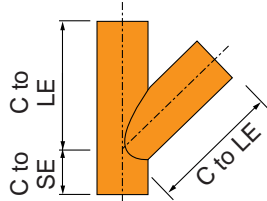
FIGURE 7050P 90° ELBOW			
Nom. Size	Pipe OD	Center To End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
2	2.375	4¾	2.7
50	60.3	121	1.2
2½	2.875	5½	4.8
65	73.0	140	2.2
3	3.500	6¼	7.2
80	88.9	159	3.3
3½	4.000	7	9.4
90	101.6	178	4.3
4	4.500	7¾	12.3
100	114.3	197	5.6
5	5.563	9½	13.4
125	141.3	241	6.1
6	6.625	11	31
150	168.3	279	14.1
8	8.625	11	38.7
200	219.1	279	17.6

FIGURE 7050P 45° ELBOW	
Center To End	Approx. Wt. Ea.
In./mm	Lbs./Kg
3½	2.0
79	0.9
3½	3.5
89	1.6
3¾	4.8
95	2.2
4	6.2
102	2.8
4¼	8.0
108	3.6
5½	9.2
130	4.2
5¾	18.5
146	8.4
6	24.9
152	11.3

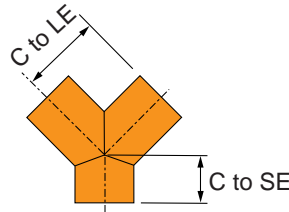
FIGURE 7060P TEE	
Center To End	Approx. Wt. Ea.
In./mm	Lbs./Kg
4¼	3.5
108	1.6
4¼	6.2
121	2.8
5½	8.6
130	3.9
5½	11
140	5.0
5½	13.8
149	6.3
6½	21.7
175	9.8
7½	30.9
194	14.0
10	61.1
254	27.7

FIGURE 7068P CROSS	
Center To End	Approx. Wt. Ea.
In./mm	Lbs./Kg
4¼	4.4
108	2.0
4¼	7.8
121	3.5
5½	10.7
130	4.9
5½	13.7
140	6.2
5½	17
149	7.7
6½	26.7
175	12.1
7½	37.7
194	17.1
10	74.6
254	33.8

**Fig. 7069P**  
45° Lateral



**Fig. 7071P**  
90° True Wye



**Fig. 7061P**  
Reducing Tee

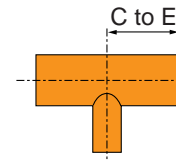
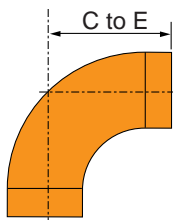


FIGURE 7069P 45° LATERAL				
Nom. Size	Pipe OD	Center to Long End	Center to Short End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	In./mm	Lbs./Kg
2	2.375	7¼	2¾	5.1
50	60.3	184	70	2.3
2½	2.875	7¾	3	9.5
65	73.0	197	76	4.3
3	3.500	8¾	3¼	12.8
80	88.9	222	83	5.8
3½	4.000	10	3½	20.0
90	101.6	254	89	9.1
4	4.500	10¾	3¾	22.2
100	114.3	273	95	10.1
5	5.563	12¾	4	38.0
125	141.3	324	102	17.2
6	6.625	14	4½	54.0
150	168.3	356	114	24.5
8	8.625	18	6	92.0
200	219.1	457	152	41.7

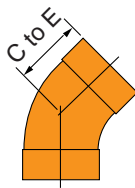
FIGURE 7071P 90° TRUE WYE			
Center to Long End	Center to Short End	Approx. Wt. Ea.	
In./mm	In./mm	Lbs./Kg	
4¼	2¾	3.5	
108	70	1.6	
4¾	3	6.2	
121	76	2.8	
5½	3¼	8.5	
130	83	3.9	
5½	3½	10.0	
140	89	4.5	
5½	3¾	14.0	
149	95	6.4	
6¾	4	21.6	
175	102	9.8	
7½	4½	31.2	
194	114	14.2	
10	6	53.6	
254	152	24.3	

FIGURE 7061P REDUCING TEE			
Nom. Size	Center To End	Approx. Wt. Ea.	
In./DN(mm)	In./mm	Lbs./Kg	
3 x 3 x 2	5½	7.1	
80 x 80 x 50	140	3.2	
4 x 4 x 2	5½	11.3	
100 x 100 x 50	149	5.1	
4 x 4 x 2½	5½	11.6	
100 x 100 x 65	149	5.3	
4 x 4 x 3	5½	11.9	
100 x 100 x 80	149	5.4	
6 x 6 x 2	7½	24.6	
150 x 150 x 50	194	11.2	
6 x 6 x 3	7½	25.4	
150 x 150 x 80	194	11.5	
6 x 6 x 4	7½	26.2	
150 x 150 x 100	194	11.9	
8 x 8 x 2	10	42.0	
200 x 200 x 50	254	19.1	
8 x 8 x 3	10	44.0	
200 x 200 x 80	254	20.0	
8 x 8 x 4	10	46.0	
200 x 200 x 100	254	20.9	
8 x 8 x 5	10	48.0	
200 x 200 x 125	2254	21.8	
8 x 8 x 6	10	50.0	
200 x 200 x 150	254	22.7	

**Fig. 7050LRP**  
90°LR Elbow



**Fig. 7051LRP**  
45° LR Elbow



**Fig. 7075P**  
Bull Plug

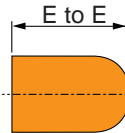
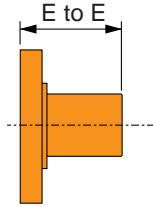


FIGURE 7050 LRP 90° LR ELBOW			
Nom. Size	Pipe OD	Center To End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
2	2.375	5	2.5
50	60.3	127	1.1
2½	2.875	5¾	4.9
65	73.0	146	2.2
3	3.500	6½	6.5
80	88.9	165	2.9
3½	4.000	7¼	9.8
90	101.6	184	4.4
4	4.500	8	11.5
100	114.3	203	5.2
5	5.563	9¼	21.5
125	141.3	248	9.8
6	6.625	11¼	28.5
150	168.3	286	12.9
8	8.625	15	56.7
200	219.1	381	25.7

FIGURE 7051 LRP 45° LR ELBOW		
Center To End	Approx. Wt. Ea.	
In./mm	Lbs./Kg	
3¾	1.8	
86	0.8	
3¾	3.6	
95	1.6	
4	4.5	
102	2.0	
4¼	6.7	
108	3.0	
4½	7.5	
114	3.4	
5½	13.8	
137	6.3	
6	17.3	
152	7.8	
8	34.0	
203	15.4	

FIGURE 7075P BULL PLUG		
Center To End	Approx. Wt. Ea.	
In./mm	Lbs./Kg	
4	2.3	
102	1.0	
5	3.0	
127	1.4	
6	4.5	
152	2.0	
6½	5.5	
165	2.5	
7	7.5	
178	3.4	
8½	12.5	
216	5.7	
10	17.0	
254	7.7	
11	29.0	
279	13.2	

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data



## ADAPTER FLANGES

### FIGURE 7084P PLAIN-END X CLASS 150 FLANGE

Nom. Size	Pipe OD	End To End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
2	2.375	4	6.0
50	60.3	102	2.7
2½	2.875	4	9.2
65	73.0	102	4.2
3	3.500	4	10.4
80	88.9	102	4.7
3½	4.000	4	14.0
90	101.6	102	6.4
4	4.500	6	19.1
100	114.3	152	8.7
5	5.563	6	23.0
125	141.3	152	10.4
6	6.625	6	29.5
150	168.3	152	13.4
8	8.625	6	43.5
200	219.1	152	19.7

### FIGURE 7085P PLAIN-END X CLASS 300 FLANGE

End To End	Approx. Wt. Ea.
In./mm	Lbs./Kg
4	8.2
102	3.7
4	11.9
102	5.4
4	15.5
102	7.0
4	21.0
102	9.5
6	28.0
152	12.7
6	35.0
152	15.9
6	50.0
152	22.7
6	72.0
152	32.7

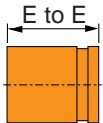


Fig. 7080P

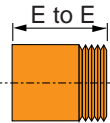


Fig. 7081P

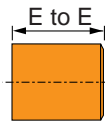
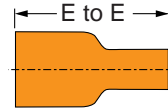


Fig. 7082P

### FIGURE 7080P, 7081P, 7082P ADAPTER NIPPLES

Nom. Size	Pipe OD	End To End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg
2	2.375	4	1.2
50	60.3	102	0.5
2½	2.875	4	1.9
65	73.0	102	0.9
3	3.500	4	2.5
80	88.9	102	1.1
3½	4.000	4	3.1
90	101.6	102	1.4
4	4.500	6	5.5
100	114.3	152	2.5
5	5.563	6	7.4
125	141.3	152	3.4
6	6.625	6	9.5
150	168.3	152	4.3
8	8.625	6	14.2
200	219.1	152	6.4



### FIGURE 7077P SWAGGED NIPPLES

Nom. Size	End Center To End	Approx. Wt. Ea.
In./DN(mm)	In./mm	Lbs./Kg
2½ x 2	7	3.0
65 x 50	178	1.4
3 x 2	8	4.5
80 x 50	203	2.0
3 x 2½	8	4.5
80 x 65	203	2.0
4 x 2	9	7.5
100 x 50	229	3.4
4 x 2½	9	7.5
100 x 65	229	3.4
4 x 3	9	7.5
100 x 80	229	3.4
5 x 2	11	11.5
125 x 50	279	5.2
5 x 3	11	11.5
125 x 80	279	5.2
5 x 4	11	11.5
125 x 100	279	5.2

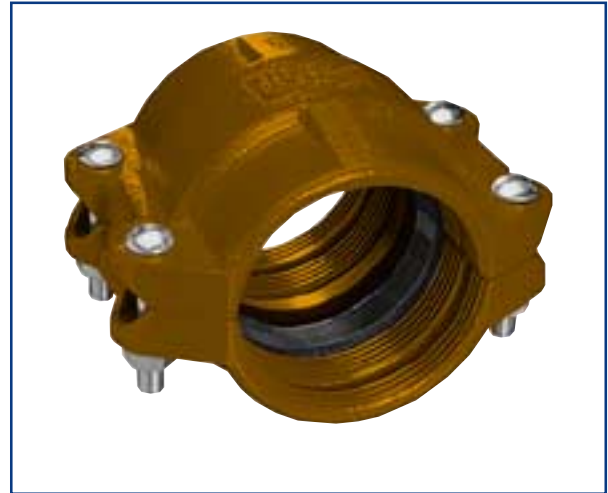
Nom. Size	End Center To End	Approx. Wt. Ea.
In./DN(mm)	In./mm	Lbs./Kg
6 x 2	12	17.0
150 x 50	305	7.7
6 x 2½	12	17.0
150 x 65	305	7.7
6 x 3	12	17.0
150 x 80	305	7.7
6 x 4	12	17.0
150 x 100	305	7.7
6 x 5	12	17.0
150 x 125	305	7.7
8 x 3	13	29.0
200 x 80	330	13.2
8 x 4	13	29.0
200 x 100	330	13.2
8 x 5	13	29.0
200 x 125	330	13.2
8 x 6	13	29.0
200 x 150	330	13.2

## FIG. 7305 – HDPE COUPLING

The Gtuvlok Figure 7305 couplings are designed for mechanically joining HDPE (high density polyethylene) pipe and fittings. Each coupling uses four bolts to drive the sharply machined housing teeth into the outside of the pipe. The teeth are arranged in two banks, each bank consisting of at least three rows of spiral teeth which effectively grip the pipe, providing a secure mechanical joint with pressure capabilities exceeding that of the HDPE pipe itself.

The banks of teeth are positioned away from the gasket enhancing the sealing ability of the gasket throughout the -30°F to 230°F (-34°C to 110°C) operating temperature range.

The Figure 7305 features a low profile contoured housing with a ramp along the outside diameter allowing the coupling to glide over most obstacles, while long lengths of the pipeline are being relocated. This cost effective easy to assemble mechanical joint is used to join SDR 32.5 to 7.3 wall thickness HDPE pipe conforming to ASTM D2447, D3000, D3035, or F714 and eliminates the need for costly fusion equipment.



## FIG. 7307 – HDPE TRANSITION COUPLING

The Gtuvlok Figure 7307 HDPE transition coupling allows for transition from HDPE pipe or fittings to grooved-end pipe prepared per Gtuvlok standard cut or roll groove specifications for steel pipe or Gtuvlok fittings. The Figure 7307 incorporates two banks of machined teeth on one side of the housing, and a key section on the other, that engages specifically grooved steel pipe or fittings. The banks of teeth are positioned away from the gasket enhancing the sealing ability of the gasket. The temperature and pressure capabilities of the Figure 7307 exceed the highest temperature and pressure ratings of the HDPE pipe.

The Figure 7307 features a low profile contoured housing with a ramp along the outside diameter on the half of the HDPE coupling. This easy to assemble mechanical joint is used to join HDPE pipe (conforming to ASTM D2447, D3000, D3035, or F714) to roll grooved or cut grooved standard weight and, roll grooved lightweight pipe, as well as with grooved-end fittings and valves. The coupling can be used with HDPE pipe having SDR values of 7.3 to 32.5.



## FIG. 7305 AND FIG. 7307 MATERIAL SPECIFICATIONS

- **Housing:**

Ductile Iron conforming to ASTM A536, Grade 65-45-12

- **Coating:**

Rust inhibiting paint – color: orange

- **ANSI Bolts and Heavy Hex Nuts:**

Heat treated, zinc electroplated, carbon steel oval-neck track bolts conforming to ASTM A183.

Zinc electroplated carbon steel heavy hex nuts conforming to ASTM A563.

- **Gaskets: (Specify when ordering)**

Properties in accordance with ASTM D2000

Grade E EPDM (Green color code) – Service Temperature Range: -30°F to 230°F (-34°C to 110°C). Recommended for water service, dilute acids, alkaline solutions, oil free air and many chemical services.

**NOT FOR USE IN PETROLEUM APPLICATIONS.**

Grade T Nitrile (Orange color code) – Service Temperature Range: -20°F to 180°F (-29°C to 82°C). Recommended for petroleum applications, air with oil vapor, vegetable and mineral oils.

**NOT FOR USE WITH HOT WATER OR HOT AIR.**

For specific chemical applications, reference the Gtuvlok Gasket Recommendations section of the Gtuvlok catalog.

**Warning:**

1. (Do NOT use standard Gtuvlok lubricant, hydrocarbon based oils, greases, or soap based solutions. The use of these lubricants with the Gtuvlok Figure 7305 or Figure 7307 and HDPE pipe may result in property damage or personal injury.) Gtuvlok products for HDPE pipe must be installed using Gtuvlok Extreme Temperature Lubricant.

2. The gasket temperature rating may exceed the manufacturer temperature rating for the HDPE pipe. Consult the HDPE pipe manufacturer for the temperature and pressure ratings.

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## Fig. 7305 – HDPE Coupling

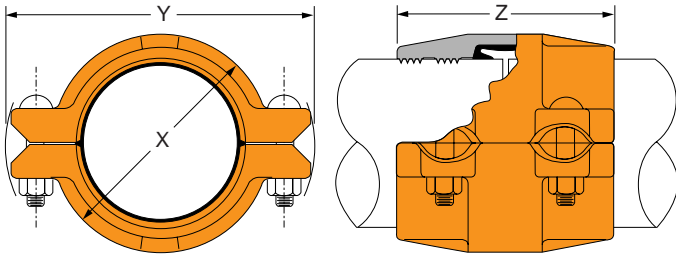


FIGURE 7305 HDPE COUPLING								
Nom. Size	Pipe OD	Coupling Dimensions			Coupling Bolts Qty.	Coupling Bolts Size	Approx. Wt. Ea.	
		X	Y	Z				
In./DN(mm)	In./mm	In./mm	In./mm	In./mm		In.	Lbs./Kg	
2	2.375	3 <sup>3</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	4 <sup>5</sup> / <sub>8</sub>	4	1/2 x 2 <sup>3</sup> / <sub>8</sub>	4.5	
50	60.3	86	133	117		-	2.0	
3	3.500	4 <sup>5</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>	4	4	1/2 x 2 <sup>3</sup> / <sub>4</sub>	8.5	
80	88.9	117	165	102		-	3.9	
4	4.500	5 <sup>3</sup> / <sub>4</sub>	8	5 <sup>3</sup> / <sub>4</sub>	4	1/2 x 3	12	
100	114.3	146	203	146		-	5.4	
6	6.625	7 <sup>7</sup> / <sub>8</sub>	10 <sup>3</sup> / <sub>4</sub>	5 <sup>7</sup> / <sub>8</sub>	4	5/8 x 3 <sup>1</sup> / <sub>2</sub>	18	
150	168.3	200	273	149		-	8.2	
8	8.625	10 <sup>3</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>8</sub>	6	4	5/8 x 3 <sup>1</sup> / <sub>2</sub>	30	
200	219.1	264	333	152		-	13.6	
10	10.750	12 <sup>1</sup> / <sub>2</sub>	15 <sup>5</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>	4	7/8 x 5 <sup>1</sup> / <sub>2</sub>	43	
250	273.1	318	397	165		-	19.5	
12	12.750	14 <sup>3</sup> / <sub>8</sub>	17 <sup>3</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	4	7/8 x 5 <sup>1</sup> / <sub>2</sub>	58	
300	323.9	365	448	200		-	26.3	

## Fig. 7307 – HDPE Transition Coupling

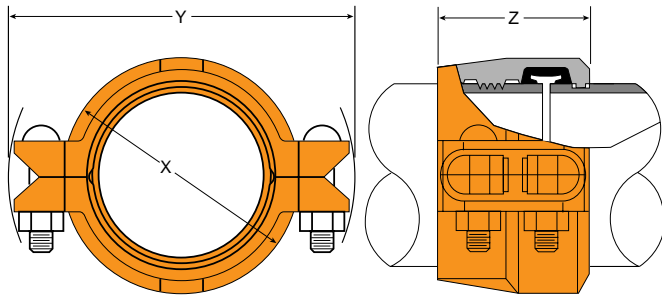


FIGURE 7307 HDPE TRANSITION COUPLING								
Nom. Size	Pipe OD Actual	Coupling Dimensions			Coupling Bolts Qty.	Coupling Bolts Size	Approx. Wt. Ea.	
		X	Y	Z				
In./DN(mm)	In./mm	In./mm	In./mm	In./mm		In./mm	Lbs./Kg	
2	2.375	3 <sup>3</sup> / <sub>8</sub>	6	3 <sup>1</sup> / <sub>8</sub>	4	1/2 x 2 <sup>3</sup> / <sub>8</sub>	4.5	
50	60.3	86	152	79		-	2.0	
3	3.500	4 <sup>1</sup> / <sub>2</sub>	7 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	4	1/2 x 3	6	
80	88.9	114	181	79		-	2.7	
4	4.500	5 <sup>3</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	4	1/2 x 3	8.5	
100	114.3	146	216	95		-	3.9	
6	6.625	8	11 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	4	5/8 x 3 <sup>1</sup> / <sub>2</sub>	12.5	
150	168.3	203	286	95		-	5.7	
8	8.625	10 <sup>1</sup> / <sub>2</sub>	13 <sup>5</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>4</sub>	4	5/8 x 3 <sup>1</sup> / <sub>2</sub>	20.5	
200	219.1	267	346	108		-	9.3	
10	10.750	12 <sup>5</sup> / <sub>8</sub>	17	5	4	7/8 x 5 <sup>1</sup> / <sub>2</sub>	34.5	
250	273.1	321	432	127		-	15.6	
12	12.750	14 <sup>3</sup> / <sub>4</sub>	19 <sup>1</sup> / <sub>2</sub>	5	4	7/8 x 5 <sup>1</sup> / <sub>2</sub>	42.5	
300	323.9	375	495	127		-	19.3	

### HDPE PIPE DIMENSIONAL SPECIFICATIONS

Nom. Size	Pipe OD Actual	Out Of Roundness Tolerance		Pipe Wall Thickness <sup>†</sup>						
		Tolerance +/-	+/- In./mm	SDR 7.3 In./mm	SDR 9 In./mm	SDR 11 In./mm	15.5 In./mm	SDR 17 In./mm	SDR 21 In./mm	SDR 32.5 In./mm
In./DN(mm)	In./mm	+/-	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm
2*	2.375	0.006	0.035	0.325	0.264	0.216	0.153	0.140	0.113	-
50	60.3	0.15	0.89	8.3	6.7	5.5	3.9	3.6	2.9	
3	3.500	0.016	0.040	0.479	0.389	0.318	0.226	0.206	0.167	0.108
80	88.9	0.41	1.02	12.2	9.9	8.1	5.7	5.2	4.2	2.7
4	4.500	0.020	0.040	0.616	0.500	0.409	0.290	0.265	0.214	0.138
100	114.3	0.51	1.02	15.6	12.7	10.4	7.4	6.7	5.4	3.5
6	6.625	0.030	0.050	0.908	0.736	0.602	0.427	0.327	0.265	0.204
150	168.3	0.76	1.27	23.1	18.7	15.3	10.8	8.3	6.7	5.2
8	8.625	0.039	0.075	1.182	0.958	0.784	0.556	0.507	0.340	0.265
200	219.1	0.99	1.91	30.0	24.3	19.9	14.1	12.9	8.6	6.7
10	10.750	0.048	0.075	1.473	1.194	0.977	0.694	0.632	0.512	0.331
250	273.1	1.22	1.91	37.4	30.3	24.8	17.6	16.1	13.0	8.4
12	12.750	0.057	0.075	1.747	1.417	1.159	0.823	0.750	0.607	0.392
300	323.9	1.45	1.91	44.4	36.0	29.4	20.9	19.1	15.4	10.0

<sup>†</sup> Per ASTM F714

\* Per ASTM D2447

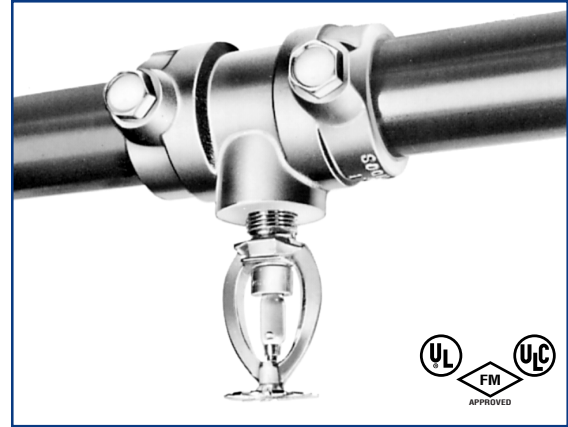
For steel pipe requirements refer to Gruvlok Groove Specifications for steel pipe



## GRUVLOK SOCK-IT® PIPING METHOD

The Gruvlok Sock-It Piping Method provides a quick, secure and reliable method of joining plain-end steel pipe. Several Sock-It configurations are available: tees with NPT outlets, reducing run tees with NPT outlets, straight couplings, 90 elbows, straight tees and reducing elbows. Pressure energized elastomeric gaskets provide the Sock-It with a leak-tight seal. Specially designed lock bolts secure the pipe in the Sock-It Fitting, providing a fast, dependable way of joining small diameter plain-end pipe.

**NOTE:** All Sock-It fittings are UL/ULC listed and FM approved for 175 psi working pressure when used to join Allied XL Pipe, Super Flo and Dyna-Flow Pipe.



### Material Specifications:

**Housing:**

Cast iron ASTM A126 CLASS A

**Bolts:**

Case hardened carbon steel, dichromate finish.

**Gaskets:**

EPDM, as specified in accordance with ASTM D2000

The Fitting Size Chart is used to determine the OD of the pipe that the fittings is to be used with. Gruvlok Fittings are identified by either the Nominal size in inches or the Pipe OD in mm.

FITTING SIZE			
Nominal Size Inches	Pipe O.D. Inches	Nominal Size Inches	Pipe O.D. Inches
DN/mm	mm	DN/mm	mm
1/2	0.840	1 1/2	1.900
15	21.3	40	48.3
3/4	1.050	2	2.375
20	26.7	50	60.3
1	1.315	2 1/2	2.875
25	33.7	65	73.0
1 1/4	1.660		
32	42.4		

**Fig. 7100 – 90° Elbow (Sock-It x Sock-It)**

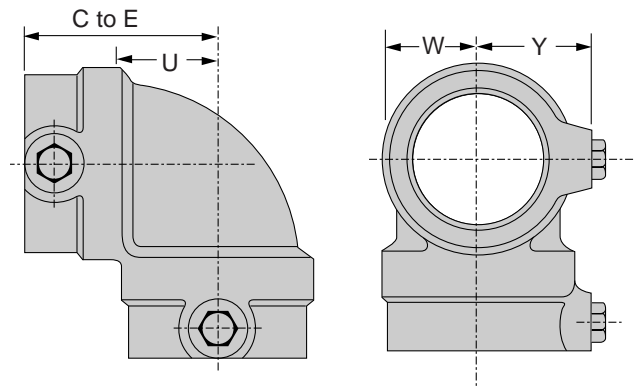


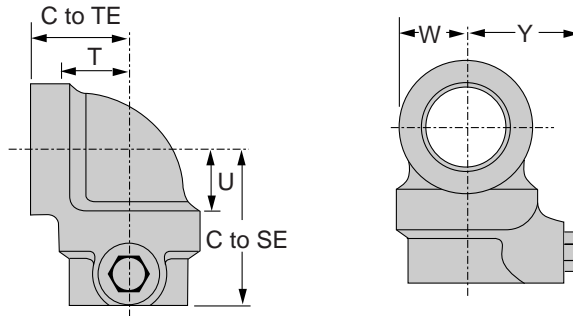
FIGURE 7100 SOCK-IT ELBOW								
Nom. Size In./DN(mm)	Pipe OD In./mm	Working Pressure*		Dimensions				Approx. Wt. Ea. Lbs./Kg
		UL/ULC Listed PSI/bar	FM Approved PSI/bar	Center To End In./mm	U** In./mm	W In./mm	Y In./mm	
1	1.315	300	300	2 5/16	7/8	1 1/16	1 3/4	1.9
25	33.7	20.7	20.7	59	22	17	44	0.9
1 1/4	1.660	300	300	2 5/16	1	1 1/4	1 13/16	2.3
32	42.4	20.7	20.7	62	25	32	46	1.0
1 1/2	1.900	300	300	2 5/8	1 1/8	1 3/8	1 15/16	2.7
40	48.3	20.7	20.7	67	29	35	49	1.2
2	2.375	175	250	3 1/4	1 9/16	1 5/8	2 3/16	4.0
50	60.3	12.1	17.2	83	40	41	56	1.8

\* Rated working pressures are based upon compliance with UL, ULC, and FM pressure test requirements on Sch. 10 or heavier wall steel pipe.

\*\* "U" - Run take-out dimension.

Grouted-End Couplings  
Branch Outlets  
Fittings  
Flow Control Components  
High Pressure  
Copper  
Dielectric Nipple  
Plain-End  
HDPE  
Sock-It®  
Stainless Steel  
Technical Data

## Fig. 7101 – 90° Reducing Elbow (Sock-It x NPT)

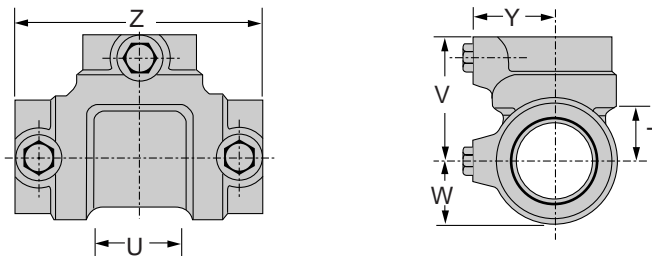


### FIGURE 7101 SOCK-IT REDUCING ELBOW

Nom. Size In./DN(mm)	Working Pressure*		Center to Center		Dimensions				Approx. Wt. Ea. Lbs./Kg
	UL/ULC Listed PSI/bar	FM Approved PSI/bar	Center to TE In./mm	Center To SE In./mm	U** In./mm	T** In./mm	W In./mm	Y In./mm	
1 x 1/2 25 x 15	300 20.7	300 20.7	1 7/16 37	2 5/16 59	7/8 22	1 25	1 1/16 17	1 11/16 43	1.7 0.8
1 x 3/4 25 x 20	300 20.7	300 20.7	1 7/16 37	2 5/16 59	7/8 22	7/8 22	1 1/16 17	1 11/16 43	1.6 0.7
1 x 1 25 x 25	300 20.7	300 20.7	1 7/16 37	2 5/16 59	7/8 22	7/8 22	1 1/16 17	1 11/16 43	1.5 0.7
1 1/4 x 1/2 32 x 15	300 20.7	300 20.7	1 9/16 40	2 1/2 64	1 1/16 17	1 1/8 29	1 1/4 32	1 13/16 46	2.2 1.0
1 1/4 x 3/4 32 x 20	300 20.7	300 20.7	1 9/16 40	2 1/2 64	1 1/16 17	1 25	1 1/4 32	1 13/16 46	2.1 1.0
1 1/4 x 1 32 x 25	300 20.7	300 20.7	1 9/16 40	2 1/2 64	1 1/16 17	1 25	1 1/4 32	1 13/16 46	2 0.9
1 1/2 x 1/2 40 x 15	300 20.7	300 20.7	1 11/16 43	2 1/2 64	1 25	1 1/4 32	1 1/8 35	1 15/16 49	2.5 1.1
1 1/2 x 3/4 40 x 20	300 20.7	300 20.7	1 11/16 43	2 1/2 64	1 25	1 1/8 29	1 1/8 35	1 15/16 49	2.4 1.1
1 1/2 x 1 40 x 25	300 20.7	300 20.7	1 11/16 43	2 1/2 64	1 25	1 1/8 29	1 1/8 35	1 15/16 49	2.3 1.0

\* Rated working pressures are based upon compliance with UL, ULC, and FM pressure test requirements on Sch. 10 or heavier wall steel pipe.  
 C to SE - Center to Sock-It End      \*\*\*U\* - Take-out dimension, Sock-It End.  
 C to TE - Center to Thread End      \*\*\*T\* - Take-out dimension, Thread End.

## Fig. 7103 – Straight Tee

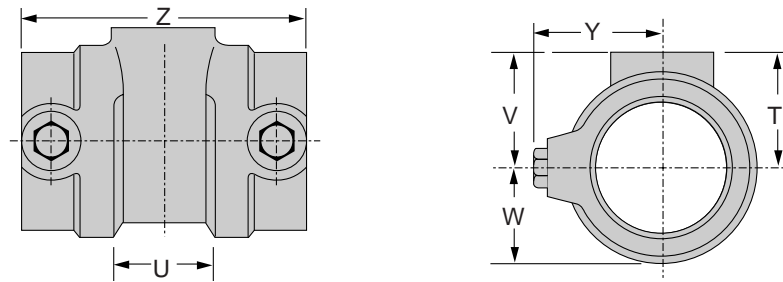


### FIGURE 7103 SOCK-IT STRAIGHT TEE

Nom. Size In./DN(mm)	Pipe OD In./mm	Working Pressure*		Run Take-Out Dimension		Dimensions				Approx. Wt. Ea. Lbs./Kg
		UL/ULC Listed PSI/bar	FM Approved PSI/bar	**T In./mm	U** In./mm	V In./mm	W In./mm	Y In./mm	Z In./mm	
1 25	1.315 33.7	300 20.7	300 20.7	1 3/16 21	1 3/8 41	2 1/4 57	1 1/16 17	1 11/16 43	4 1/2 114	2.3 1.0
1 1/4 32	1.660 42.4	175 12.1	300 20.7	1 25	2 51	2 1/16 62	1 1/4 32	1 13/16 46	4 7/8 124	2.9 1.3
1 1/2 40	1.900 48.3	175 12.1	300 20.7	1 1/16 17	2 1/8 54	2 3/16 65	1 3/8 35	1 15/16 49	5 1/2 130	3.4 1.5
2 50	2.375 60.3	175 12.1	250 17.2	1 5/16 23	2 3/8 67	3 76	1 11/16 43	2 3/16 56	6 152	5.6 2.5

\* Rated working pressures are based upon compliance with UL, ULC, and FM pressure test requirements on Sch. 10 or heavier wall steel pipe.  
 \*\* "T" - Outlet take-out dimension.      \*\* "U" - Run take-out dimension.

## Fig. 7105 – Sock-It Tee



### FIGURE 7105 SOCK-IT TEE

Nom. Size <i>In./DN(mm)</i>	Working Pressure*		Dimensions							Approx. Wt. Ea. <i>Lbs./Kg</i>
	UL/ULC Listed <i>PSI/bar</i>	FM Approved <i>PSI/bar</i>	**T <i>In./mm</i>	U** <i>In./mm</i>	V <i>In./mm</i>	W <i>In./mm</i>	Y <i>In./mm</i>	Z <i>In./mm</i>		
1 x 1 x 1/2 <i>25 x 25 x 15</i>	300 <i>20.7</i>	300 <i>20.7</i>	1 <i>25</i>	1 3/8 <i>35</i>	1 1/16 <i>37</i>	1 1/16 <i>17</i>	1 1/16 <i>43</i>	4 1/4 <i>108</i>	2.0 <i>0.9</i>	
1 x 1 x 3/4 <i>25 x 25 x 20</i>	300 <i>20.7</i>	300 <i>20.7</i>	7/8 <i>22</i>	1 3/8 <i>35</i>	1 1/16 <i>37</i>	1 1/16 <i>17</i>	1 1/16 <i>43</i>	4 1/4 <i>108</i>	1.9 <i>0.9</i>	
1 x 1 x 1 <i>25 x 25 x 25</i>	300 <i>20.7</i>	300 <i>20.7</i>	7/8 <i>22</i>	1 3/8 <i>35</i>	1 1/16 <i>37</i>	1 1/16 <i>17</i>	1 1/16 <i>43</i>	4 1/4 <i>108</i>	1.9 <i>0.9</i>	
1 1/4 x 1 1/4 x 1/2 <i>32 x 32 x 15</i>	300 <i>20.7</i>	300 <i>20.7</i>	1 1/8 <i>29</i>	1 3/8 <i>35</i>	1 5/8 <i>41</i>	1 1/4 <i>32</i>	1 13/16 <i>46</i>	4 1/4 <i>108</i>	2.2 <i>1.0</i>	
1 1/4 x 1 1/4 x 3/4 <i>32 x 32 x 20</i>	300 <i>20.7</i>	300 <i>20.7</i>	1 <i>25</i>	1 3/8 <i>35</i>	1 5/8 <i>41</i>	1 1/4 <i>32</i>	1 13/16 <i>46</i>	4 1/4 <i>108</i>	2.2 <i>1.0</i>	
1 1/4 x 1 1/4 x 1 <i>32 x 32 x 25</i>	300 <i>20.7</i>	300 <i>20.7</i>	1 <i>25</i>	1 3/8 <i>35</i>	1 5/8 <i>41</i>	1 1/4 <i>32</i>	1 13/16 <i>46</i>	4 1/4 <i>108</i>	2.0 <i>0.9</i>	
1 1/2 x 1 1/2 x 1/2 <i>40 x 40 x 15</i>	300 <i>20.7</i>	300 <i>20.7</i>	1 1/4 <i>32</i>	1 3/8 <i>35</i>	1 3/4 <i>44</i>	1 3/8 <i>35</i>	1 15/16 <i>49</i>	4 3/8 <i>111</i>	2.7 <i>1.2</i>	
1 1/2 x 1 1/2 x 3/4 <i>40 x 40 x 20</i>	300 <i>20.7</i>	300 <i>20.7</i>	1 1/8 <i>29</i>	1 3/8 <i>35</i>	1 3/4 <i>44</i>	1 3/8 <i>35</i>	1 15/16 <i>49</i>	4 3/8 <i>111</i>	2.6 <i>1.2</i>	
1 1/2 x 1 1/2 x 1 <i>40 x 40 x 25</i>	300 <i>20.7</i>	300 <i>20.7</i>	1 1/8 <i>29</i>	1 3/8 <i>35</i>	1 3/4 <i>44</i>	1 3/8 <i>35</i>	1 15/16 <i>49</i>	4 3/8 <i>111</i>	2.5 <i>1.1</i>	
2 x 2 x 1/2 <i>50 x 50 x 15</i>	175 <i>12.1</i>	250 <i>17.2</i>	1 1/2 <i>38</i>	1 3/8 <i>35</i>	1 15/16 <i>49</i>	1 5/8 <i>41</i>	2 3/16 <i>56</i>	4 3/4 <i>121</i>	3.5 <i>1.6</i>	
2 x 2 x 3/4 <i>50 x 50 x 20</i>	175 <i>12.1</i>	250 <i>17.2</i>	1 3/8 <i>35</i>	1 3/8 <i>35</i>	1 15/16 <i>49</i>	1 5/8 <i>41</i>	2 3/16 <i>56</i>	4 3/4 <i>121</i>	3.4 <i>1.5</i>	
2 x 2 x 1 <i>50 x 50 x 25</i>	175 <i>12.1</i>	250 <i>17.2</i>	1 3/8 <i>35</i>	1 3/8 <i>35</i>	1 15/16 <i>49</i>	1 5/8 <i>41</i>	2 3/16 <i>56</i>	4 3/4 <i>121</i>	3.3 <i>1.5</i>	
2 1/2 x 2 1/2 x 3/4 <i>65 x 65 x 20</i>	175 <i>12.1</i>	175 <i>12.1</i>	1 1/2 <i>38</i>	1 3/8 <i>35</i>	2 1/8 <i>54</i>	1 15/16 <i>49</i>	2 7/16 <i>62</i>	4 3/4 <i>121</i>	5.2 <i>2.4</i>	
2 1/2 x 2 1/2 x 1 <i>65 x 65 x 25</i>	175 <i>12.1</i>	175 <i>12.1</i>	1 1/2 <i>38</i>	1 3/8 <i>35</i>	2 1/8 <i>54</i>	1 15/16 <i>49</i>	2 7/16 <i>62</i>	4 3/4 <i>121</i>	5.2 <i>2.4</i>	

\* Rated working pressures are based upon compliance with UL, ULC, and FM pressure test requirements on Sch. 10 or heavier wall steel pipe.

\*\* "T" - Outlet take-out dimension.

\*\* "U" - Run take-out dimension.

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## Fig. 7106 – Reducing Tee

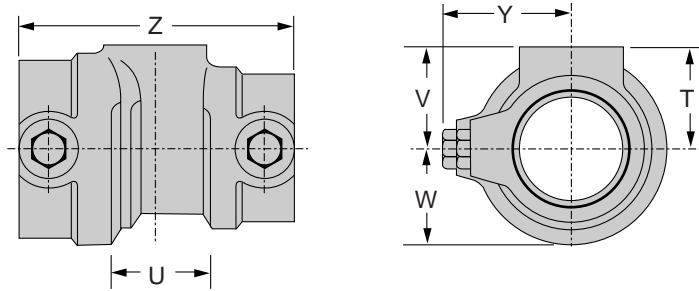


FIGURE 7106 SOCK-IT REDUCING TEE (S x S x NPT)										
Nom. Size	Working Pressure*		Dimensions							Approx. Wt. Ea.
	UL/ULC Listed	FM Approved	**T	U**	V	W	Y	Z	Lbs./Kg	
In./DN(mm)	PSI/bar	PSI/bar	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	
1 1/4 x 1 x 1/2	300	300	1	1 3/8	1 7/16	1 1/4	1 13/16	4 1/4	2.1	
32 x 25 x 15	2.1	2.1	25	35	37	32	46	108	1.0	
1 1/4 x 1 x 3/4	300	300	7/8	1 3/8	1 7/16	1 1/4	1 13/16	4 1/4	2.1	
32 x 25 x 20	20.7	20.7	22	35	37	32	46	108	1.0	
1 1/4 x 1 x 1	300	300	7/8	1 3/8	1 7/16	1 1/4	1 13/16	4 1/4	2.0	
32 x 25 x 25	20.7	20.7	22	35	37	32	46	108	0.9	
1 1/2 x 1 1/4 x 1/2	300	300	1 1/8	1 3/8	1 9/16	1 3/8	1 15/16	4 3/8	2.5	
40 x 32 x 15	20.7	20.7	29	35	40	35	49	111	1.1	
1 1/2 x 1 1/4 x 3/4	300	300	1	1 3/8	1 9/16	1 3/8	1 15/16	4 3/8	2.4	
40 x 32 x 20	20.7	20.7	25	35	40	35	49	111	1.1	
1 1/2 x 1 1/4 x 1	300	300	1	1 3/8	1 9/16	1 3/8	1 15/16	4 3/8	2.2	
40 x 32 x 25	20.7	20.7	25	35	40	35	49	111	1.0	
2 x 1 1/2 x 1/2	175	250	1 1/4	1 3/8	1 3/4	1 5/8	2 3/16	4 9/16	3.2	
50 x 40 x 15	12.1	17.2	32	35	44	41	56	116	1.5	
2 x 1 1/2 x 3/4	175	250	1 1/8	1 3/8	1 3/4	1 5/8	2 3/16	4 9/16	3.1	
50 x 40 x 20	12.1	17.2	29	35	44	41	56	116	1.4	
2 x 1 1/2 x 1	175	250	1 1/8	1 3/8	1 3/4	1 5/8	2 3/16	4 9/16	3.0	
50 x 40 x 25	12.1	17.2	29	35	44	41	56	116	1.4	

\* Rated working pressures are based upon compliance with UL, ULC, and FM pressure test requirements on Sch. 10 or heavier wall steel pipe.  
 \*\* "T" - Outlet take-out dimension. \*\* "U" - Run take-out dimension.

## Fig. 7107 – Coupling (Sock-It x Sock-It)

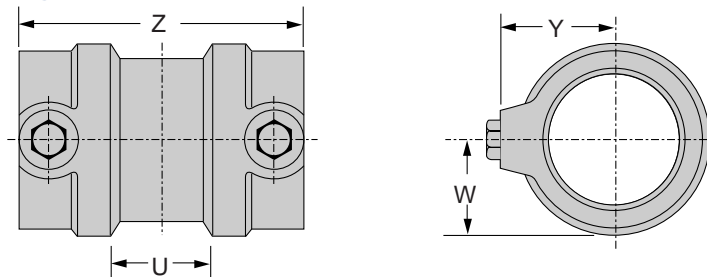


FIGURE 7107 SOCK-IT COUPLING (S x S)								
Nom. Size	Pipe OD	Working Pressure*		Dimensions				Approx. Wt. Ea.
		Listed	FM Approved	U**	W	Y	Z	
In./DN(mm)	In./mm	PSI/bar	PSI/bar	n./mm	In./mm	In./mm	In./mm	
1	1.315	300	300	1/4	1 1/16	1 11/16	3 1/8	1.7
25	33.7	20.7	20.7	6	17	43	79	0.8
1 1/4	1.660	300	300	1/4	1 1/4	1 13/16	3 1/8	1.9
32	42.4	20.7	20.7	6	32	46	79	0.9
1 1/2	1.900	300	300	1/4	1 3/8	1 15/16	3 1/4	2.1
40	48.3	20.7	20.7	6	35	49	83	1.0
2	2.375	175	250	1/4	1 5/8	2 3/16	3 5/8	2.9
50	60.3	12.1	17.2	6	41	56	92	1.3

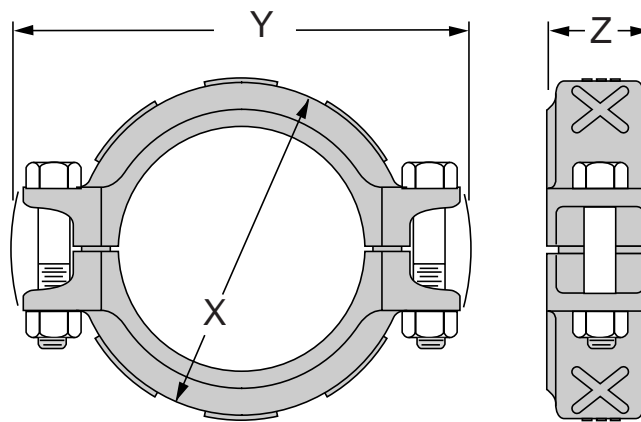
\* Rated working pressures are based upon compliance with UL, ULC, and FM pressure test requirements on Sch. 10 or heavier wall steel pipe.  
 \*\* "U" - Run take-out dimension.

## 7400SS RIGIDLITE® COUPLING

The Gruvlok Figure 7400SS coupling is available in 1¼" – 8" sizes. The standard material is ASTM A743 CF8M (Type 316) cast stainless steel which is ideal for corrosive environments.

Any Gruvlok gasket material may be utilized in the 7400SS coupling for a broad array of applications. Gasket properties are as designated

in accordance with ASTM D2000. The 7400SS is provided with ASTM A193 B8M bolts and ASTM A194 Grade 8M nuts. This bolt and nut combination minimize the chances of stress corrosion cracking.



**FIGURE 7400SS - RIGIDLITE STAINLESS STEEL COUPLING**

Nom. Size	Pipe OD	Max. Wk. Pressure†	Max. End Load†	Range of Pipe End Separation	Coupling Dimensions			Coupling Bolts* Size	Approx. Wt. Ea.
					X	Y	Z		
In./mm	In./mm	PSI/bar	Lbs./kN	In./mm	In./mm	In./mm	In./mm	Lbs./Kg	
1¼	1.66	275	595	0-½	2 7⁄8	4 1⁄8	1 ¾	¾x2 ¼	1.6
32	42.4	19.0	2.65	0-3.2	73	105	44	M10x57	0.7
1½	1.900	275	780	0-½	3 1⁄8	4 5⁄8	1 ¾	¾x2 ¼	1.7
40	48.3	19.0	3.47	0-3.2	79	117	44	M10x57	0.8
2	2.375	275	1,218	0-½	3 5⁄8	5 3⁄8	1 ¾	¾x2 ¼	2.1
50	60.3	19.0	5.42	0-3.2	92	137	45	M10x57	1.0
2½	2.875	275	1,785	0-½	4 1⁄8	5 7⁄8	1 ¾	¾x2 ¼	2.3
65	73.0	19.0	7.44	0-3.2	105	149	44	M10x57	1.0
3	3.500	275	2,646	0-½	4 3⁄8	6 5⁄8	1 ¾	½x2 ¾	3.1
80	88.9	19.0	11.77	0-3.2	117	168	44	M12x70	1.4
4	4.500	275	4,374	0-½	6	7 ¾	1 ½	½x2 ¾	4.4
100	114.3	19.0	19.46	0-6.4	152	197	48	M12x70	2.0
6	6.625	275	9,480	0-½	8 1⁄2	11 1⁄8	2	¾x3	7.8
150	168.3	19.0	42.17	0-6.4	206	283	51	M20x76	3.5
8	8.625	275	16,067	0-½	10 3⁄8	13 3⁄8	2 3⁄8	¾x3	13.2
200	219.1	19.0	71.47	0-6.4	264	346	60	M20x76	6.0

\* All bolts are hex head design Type 316 Grade B8M Class 1 stainless steel to ASTM A193, with Type 316 Grade 8M stainless steel heavy hex nuts conforming to ASTM A194.

† Ratings apply when used with Schedule 40 ASTM A312 Type 304 stainless steel pipe for all sizes. Refer to ratings chart for additional data.

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## SERIES 7500 STAINLESS STEEL GROOVED-END BALL VALVE

The Grinnell Series 7500 stainless steel grooved-end ball valve line consists of 1½" to 6" standard port two piece design. These valves are available in several configurations to address a broad spectrum of application requirements.

The all stainless steel valve incorporates additional features for more demanding applications. These features include standard reinforced

PTFE seats, live loaded PTFE chevron stem seals, and lock-out provisions.

The 7500 stainless steel grooved-end ball valve is rated to 720 psig CWP.

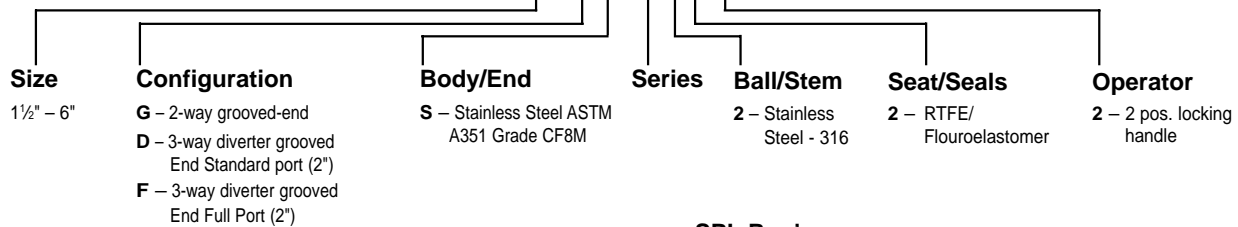
### MATERIALS OF CONSTRUCTION

Description	Material (SS/SS)
Body	Stainless Steel ASTM A351 CF8M
Endplate	Stainless Steel ASTM A351 CF8M
Ball	316 Stainless Steel
Stem	316 Stainless Steel
Thrust Washer	RTFE
Stem Seal	PTFE Chevron
Retaining Ring	300 Series Stainless Steel
Handle	Carbon Steel, Zinc Plated
Handle Nut	300 Series Stainless Steel
Seat	RTFE
Body Seal	Flouroelastomer
Lock Plate	300 Series Stainless Steel
Lock Stop	300 Series Stainless Steel
Follower	300 Series Stainless Steel
Packing Nut	300 Series Stainless Steel
Belleilve Washer	17-7 Stainless Steel

### HOW TO ORDER: ORDER BY FIGURE NUMBER

Size: 1½" – 6"

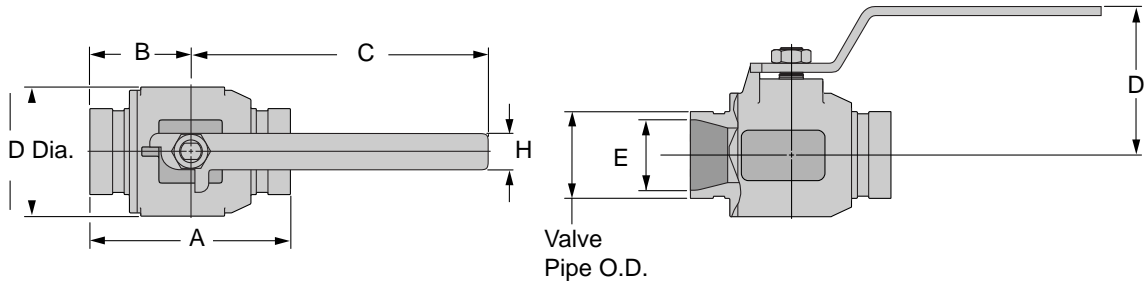
**4" GS-7522-2**



**SPL Req's**

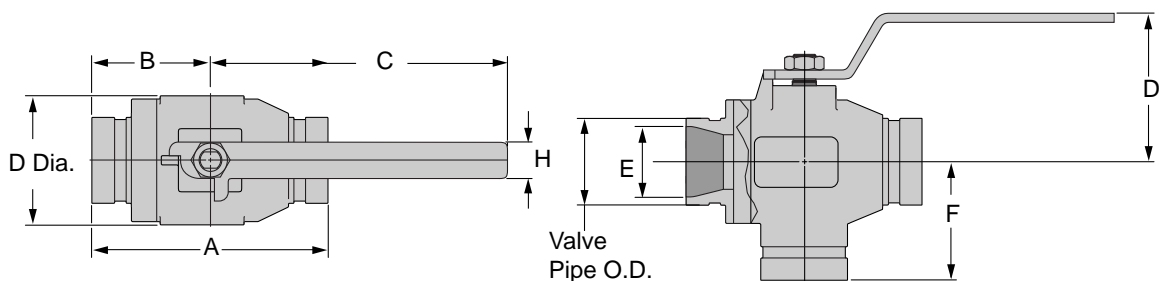
X – write on order

## SERIES 7500 STAINLESS STEEL GROOVED-END BALL VALVE



### TWO-WAY VALVES

Size ANSI	Pipe OD	Dimensions						Cv	Weight
		A	B	C	D	D1*	E		
In./DN	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm		LB/KG
1½	1.900	5.00	2.50	8.22	3.80	4.47	1.12	120	5.9
40	48.3	127	64	209	97	114	28		13.0
2	2.375	5.50	2.75	8.22	4.13	4.79	1.50	165	7.2
50	60.3	140	70	209	105	122	38		15.8
2½	2.875	6.30	3.15	10.03	4.51	5.25	1.87	260	10.9
65	73.0	160	80	255	115	133	48		24.0
3	3.500	6.71	3.35	10.03	4.78	5.55	2.25	310	15.4
80	88.9	170	85	255	121	141	57		33.9
4	5.562	8.25	4.13	16.00	6.13	7.43	3.00	815	34.9
100	114.3	210	105	406	156	189	76		76.8
6	6.500	10.10	5.05	28.00	7.64	8.64	4.38	1500	78.1
150	168.3	257	128	711	194	220	111		171.8



### THREE-WAY DIVERTER VALVES

Size ANSI	Pipe OD	Dimensions						Cv	Weight
		A	B	C	D	E	F		
In./DN	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm		LB/KG
2 RP	2.375 RP	6.50	3.25	8.22	4.13	1.50	3.25	36	9
50	60.3	165	83	209	105	38	83		19.8
2 FP	2.375 FP	6.50	3.25	10.38	5.38	2.00	3.25	135	14.2
50	60.3	165	83	264	137	51	83		31.2

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## PRESSURE RATINGS FOR STAINLESS STEEL PIPE AND FITTINGS

Following are pressure ratings for Gruvlok stainless steel piping systems. The ratings for Schedule 10S pipe are based upon the use of roll-groover roll sets that have been specifically designed for use on Schedule 10S stainless steel pipe. Using roll sets that were designed

for roll grooving carbon steel pipe may significantly reduce the pressure ratings that can be obtained. Consult Gruvlok for applications that involve roll grooving 10" or larger stainless steel pipe or that involves Schedule 5S stainless steel pipe.

	SIZE							
	1/4"	1/2"	2"	2 1/2"	3"	4"	6"	8"
<b>Schedule 10S</b>								
Pressure	275	275	275	275	275	275	250	200
End Load	595	780	1,218	1,785	2,646	4,374	8,618	11,685
<b>Schedule 40S</b>								
Pressure	275	275	275	275	275	275	275	275
End Load	595	780	1218	1785	2,646	4,374	9,480	16,067

## STAINLESS STEEL FITTINGS

Gruvlok® Stainless Steel Fittings are full flow design with ends grooved to Gruvlok specifications.

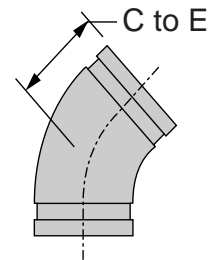
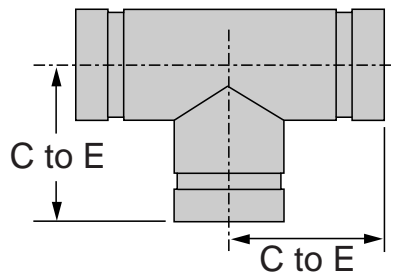
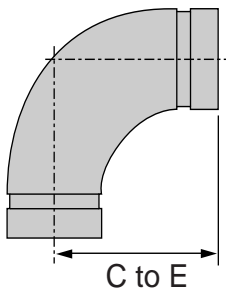


FIGURE 7050SS 90° STAINLESS STEEL ELBOW		
Nom. Size	Center to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	Lbs./Kg
1 1/4	2 3/4	1.2
32	70	0.5
1 1/2	2 3/4	1.4
40	70	0.6
2	3 1/4	2.3
50	83	1.0
2 1/2	3 3/4	3.3
65	95	1.5
3	4 1/4	4.6
80	108	2.1
4	5	7.9
100	127	3.6
6	6 1/2	17.0
150	165	7.7
8	7 3/4	29.4
200	197	13.4

FIGURE 7060SS STAINLESS STEEL TEE		
Nom. Size	Center to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	Lbs./Kg
1 1/4	2 3/4	1.5
32	70	0.7
1 1/2	2 3/4	1.8
40	70	0.8
2	3 1/4	2.4
50	83	1.1
2 1/2	3 3/4	4.0
65	95	1.8
3	4 1/4	5.8
80	108	2.6
4	5	10.3
100	127	4.7
6	6 1/2	25.7
150	165	11.7
8	7 3/4	41.1
200	197	18.6

FIGURE 7051SS 45° STAINLESS STEEL ELBOW		
Nom. Size	Center to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	Lbs./Kg
1 1/4	1 3/4	0.7
32	44	0.3
1 1/2	1 3/4	0.9
40	44	0.4
2	2	1.5
50	51	0.7
2 1/2	2 1/4	1.9
65	57	0.9
3	2 1/2	3.3
80	64	1.5
4	3	5.4
100	76	2.4
6	3 1/2	11.2
150	89	5.1
8	4 1/4	19.8
200	108	9.0

NOTE: Fabricated fittings weights are based on Schedule 10 pipe.



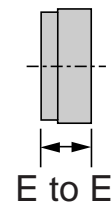
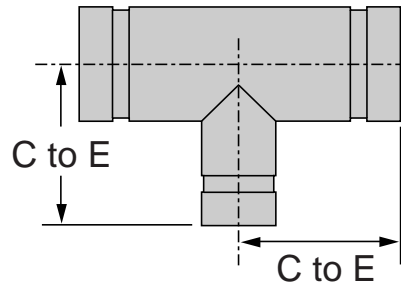
## STAINLESS STEEL FITTINGS

**FIGURE 7061SS**

**STAINLESS STEEL REDUCING TEE**

Nom. Size In./DN(mm)	Center to End In./mm	Approx. Wt. Ea. Lbs./Kg
1½ x 1½ x ¾ 40 x 40 x 20	2¾ 70	1.3 0.6
1½ x 1½ x 1 40 x 40 x 25	2¾ 70	1.4 0.6
1½ x 1½ x 1¼ 40 x 40 x 32	2¾ 70	1.5 0.7
2 x 2 x ¾ 50 x 50 x 20	3¼ 83	2.0 0.9
2 x 2 x 1 50 x 50 x 25	3¼ 83	2.1 1.0
2 x 2 x 1¼ 50 x 50 x 32	3¼ 83	2.3 1.0
2 x 2 x 1½ 50 x 50 x 40	3¼ 83	2.5 1.1
2½ x 2½ x ¾ 65 x 65 x 20	3¾ 95	2.8 1.3
2½ x 2½ x 1 65 x 65 x 25	3¾ 95	3.0 1.4
2½ x 2½ x 1½ 65 x 65 x 40	3¾ 95	3.5 1.6
2½ x 2½ x 2 65 x 65 x 50	3¾ 95	3.8 1.7
3 x 3 x ¾ 80 x 80 x 20	4¼ 108	4.0 1.8
3 x 3 x 1 80 x 80 x 25	4¼ 108	4.1 1.9
3 x 3 x 1¼ 80 x 80 x 32	4¼ 108	4.2 1.9
3 x 3 x 1½ 80 x 80 x 40	4¼ 108	4.3 1.9
3 x 3 x 2 80 x 80 x 50	4¼ 108	4.5 2.0
3 x 3 x 2½ 80 x 80 x 65	4¼ 108	4.8 2.2
4 x 4 x 2 100 x 100 x 50	5 127	5.8 2.6
4 x 4 x 2½ 100 x 100 x 65	5 127	5.9 2.7
4 x 4 x 3 100 x 100 x 80	5 127	6.0 2.7
6 x 6 x 3 150 x 150 x 80	6½ 165	14.0 6.4
6 x 6 x 4 150 x 150 x 100	6½ 165	14.5 6.6
8 x 8 x 4 200 x 200 x 100	7¾ 197	29.6 13.5
8 x 8 x 6 200 x 200 x 150	7¾ 197	31.1 14.1

NOTE: Fabricated fittings weights are based on Schedule 10 pipe.  
Additional sizes available contact Gruvlok



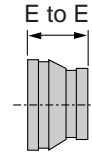
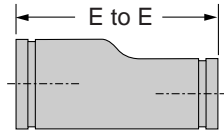
**FIGURE 7074SS**

**STAINLESS STEEL CAPS**

Nom. Size In./DN(mm)	End to End In./mm	Approx. Wt. Ea. Lbs./Kg
1¼ 32	1 25	0.4 0.2
1½ 40	1 25	0.5 0.2
2 50	1 25	0.8 0.4
2½ 65	1 25	1.1 0.5
3 80	1 25	1.6 0.7
4 100	1¼ 32	2.8 1.3
6 150	3½ 88	7.1 3.2
8 200	4 100	14.9 6.8

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

## STAINLESS STEEL FITTINGS

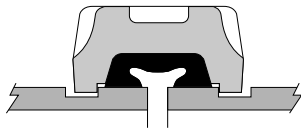


<b>FIGURE 7073SS</b>		
<b>STAINLESS STEEL ECCENTRIC REDUCERS</b>		
<b>Nom. Size</b>	<b>End to End</b>	<b>Approx. Wt. Ea.</b>
<i>In./DN(mm)</i>	<i>In./mm</i>	<i>Lbs./Kg</i>
1½ x 1	8½	1.7
40 x 25	216	0.8
1½ x 1¼	8½	4.5
40 x 32	216	2.0
2 x 1	9	2.2
50 x 25	229	1.0
2 x 1¼	9	2.4
50 x 32	229	1.1
2 x 1½	9	2.5
50 x 40	229	1.1
2½ x 1	9½	3.2
65 x 25	241	1.5
2½ x 1½	9½	3.6
65 x 40	241	1.6
2½ x 2	9½	4.0
65 x 50	241	1.8
3 x 1	9½	4.0
80 x 25	241	1.8
3 x 1¼	9½	4.3
80 x 32	241	2.0
3 x 1½	9½	4.5
80 x 40	241	2.0
4 x 2	10	6.7
100 x 50	254	3.0
4 x 2½	10	7.3
100 x 65	254	3.3
4 x 3	10	7.9
100 x 80	254	3.6
6 x 2½	11½	12.8
150 x 65	292	5.8
6 x 3	11½	13.6
150 x 80	292	6.2
6 x 4	11½	14.9
150 x 100	292	6.8
8 x 4	12	19.7
200 x 100	305	8.9
8 x 6	12	23.2
200 x 150	305	10.5

<b>FIGURE 7072SS</b>		
<b>STAINLESS STEEL CONCENTRIC REDUCERS</b>		
<b>Nom. Size</b>	<b>End to End</b>	<b>Approx. Wt. Ea.</b>
<i>In./DN(mm)</i>	<i>In./mm</i>	<i>Lbs./Kg</i>
1½ x 1	3⅞	0.7
40 x 25	79	0.3
1½ x 1¼	3⅞	0.7
40 x 32	79	0.3
2 x 1	3⅞	0.9
50 x 25	79	0.4
2 x 1¼	3⅞	0.9
50 x 32	79	0.4
2 x 1½	2⅞	1.2
50 x 40	73	0.5
2½ x 1	2⅞	1.1
65 x 25	73	0.5
2½ x 1½	2¾	1.2
65 x 40	70	0.5
2½ x 2	2⅞	1.2
65 x 50	73	0.5
3 x 1	3⅞	1.8
80 x 25	86	0.8
3 x 1¼	3⅞	1.8
80 x 32	86	0.8
3 x 1½	3¾	1.9
80 x 40	83	0.9
4 x 2	3¾	2.9
100 x 50	95	1.3
4 x 2½	3⅞	3.1
100 x 65	92	1.4
4 x 3	3½	3.1
100 x 80	89	1.4
6 x 2½	4¾	7.1
150 x 65	121	3.2
6 x 3	4⅝	7.0
150 x 80	117	3.2
6 x 4	4½	7.0
150 x 100	114	3.2
8 x 4	5⅞	11.7
200 x 100	130	5.3
8 x 6	5	11.5
200 x 150	127	5.2

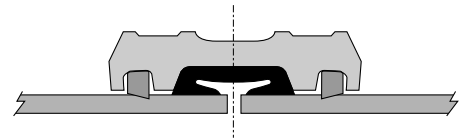
## GRUVLOK GASKET-STYLES

Gruvlok offers a variety of pressure responsive gasket styles. Each serves a specific function while utilizing the same basic sealing concept. Proper installation of the gasket compresses the inclined gasket lips on the pipe O.D., forming a leak-tight seal. This sealing action is reinforced when the gasket is encompassed and compressed by the coupling housings. The application of internal line pressure energizes the elastomeric gasket and further enhances the gasket sealing action.



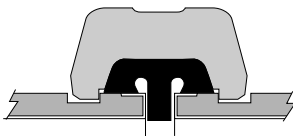
### "C" Style

The "C" Style cross section configuration is the most widely used gasket. It is the gasket style provided as standard in many Gruvlok Couplings (Fig. 7000, 7001, 7003, 7004, 7307, 7400 and 7401). Grade "E" and "T" are standard grades while other grades are available for special applications.



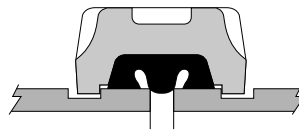
### Roughneck®

This "C" style gasket is similar in appearance and design to the Standard gasket but is only used with Fig. 7005 Roughneck Couplings and Fig. 7305 HDPE Couplings. The Roughneck gasket is wider, which allows for minor pipe end separation as line pressure sets the grippers into the plain end pipe.



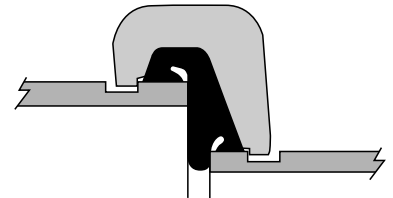
### End Guard®

The projecting rib fits between the ends of lined pipe to prevent damage to unprotected pipe ends during coupling joint assembly. The E.G. gasket is provided as standard with the Fig. 7004 E.G. Coupling. The E.G. gasket is available only in high-modulus Grade "T" elastomer.



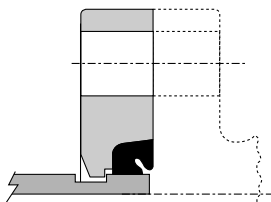
### Flush Gap®

Designed to prohibit contaminants from building up in the gasket cavity. The centering rib fits flush over the gap between the two pipe ends thus closing off the gasket cavity. It can be used with Fig. 7000, 7001, 7003, 7004, 7400 and 7401 Couplings for many applications. Recommended for use in dry fire protection systems. Not recommended for temperatures above 160°F.



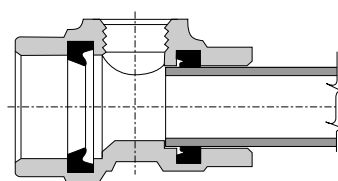
### Reducing Coupling

The centering rib allows for pipe positioning and serves to keep the smaller pipe from telescoping during installation. Used only with the Fig. 7010 Reducing Coupling.



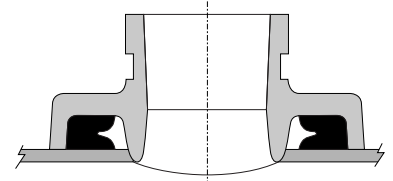
### Flange

A specially designed gasket for the Fig. 7012, 7013 Flange it provides for a reliable seal on both the pipe and the mating flange.



### Sock-It®

Used in Sock-It fittings only, this pressure energized gasket provides a leak-tight seal on plain end seal pipe. Available in Grade "E" material only.



### Clamp-T®

These gaskets conform to the curved exterior of the pipe to provide a pressure responsive seal. This unique design is only used with Fig. 7045, 7046 Clamp-T and Fig. 7047, 7048, and 7049 Clamp-T Crosses.

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End Coupling

HDPE

Sock-It®

Stainless Steel

Technical Data

## GASKET GRADE INDEX AND GASKET RECOMMENDATION

The lists are provided as an aid in selecting the optimum gasket grade for a specific application to assure the maximum service life.

The recommendations have been developed from current information supplied by manufacturers of the elastomers, technical publications, and industry applications. The information supplied should be considered as a basis for evaluation but not as a guarantee.

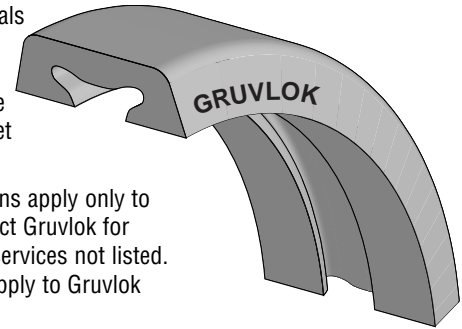
Selection of the optimum gasket grade for a specific service requires the consideration of many factors; primarily temperature, fluid concentration, and continuity of service. Unless otherwise noted, all gasket recommendations are based on 100°F (38°C) maximum temperature service condition. Where more than one gasket grade is shown, the preferred grade is listed first.

Combinations of fluids should be referred to Gruvlok for an engineering evaluation and recommendation. In unusual or severe

services, gasket materials should be subjected to simulated service conditions to determine the most suitable gasket grade.


Gasket recommendations apply only to Gruvlok gaskets. Contact Gruvlok for recommendations for services not listed. These listings do not apply to Gruvlok Butterfly Valves.

All Gruvlok products marked with UL, FM, ULC, VdS and/or LPC symbols are Listed/Approved with EPDM material. For other Listed/Approved materials, please contact Gruvlok.



### Gasket Grade Index

STANDARD GASKETS				
Temperature Grade	Range	Compound	Color Code	General Service Application
<b>E</b>	-40°F to +230°F	EPDM	Green	Water, dilute acids, alkalies, salts, and many chemical services not involving hydrocarbons, oils, or gases. Excellent oxidation resistance. <b>NOT FOR USE WITH HYDROCARBONS</b>
<b>T</b>	-20°F to +180°F	Nitrile (Buna-N)	Orange	Petroleum products, vegetable oils, mineral oils, and air contaminated with petroleum oils. <b>NOT FOR USE IN HOT WATER SERVICES</b>

SPECIAL GASKETS				
Temperature Grade	Range	Compound	Color Code	General Service Application
<b>O</b>	+20°F to +300°F	Fluoro Elastomer	Blue	High temperature resistance to oxidizing acids, petroleum oils, hydraulic fluids, halogenated hydrocarbons and lubricants.
<b>L</b>	-40°F to +350°F	Silicone	Red Gasket	Dry, hot air and some high temperature chemical services.
<b>E</b>	-40°F to +150°F		Violet	Water, dilute acids, alkalies, salts, and many chemical services not involving hydrocarbons, oils, or gases. Excellent oxidation resistance. <b>NOT FOR USE WITH HYDROCARBONS</b>
<b>S</b>	-30°F to +230°F		Red	Hot water saturated steam.

### Gasket Recommendation Listing

WATER & AIR	
Service	Gasket Grade
Air, (no oil vapors) Temp. -40°F to 230°F (-40°C to 110°C)	E
Air, (no oil vapors) Temp. -40°F to 350°F (-40°C to 177°C)	L
Air, Oil vapor Temp. -20°F to 150°F (-29°C to 66°C)	T
Air, Oil vapor Temp. 20°F to 300°F (-7°C to 149°C)	O
Water, Temp to 150°F (66°C)	E/T
Water, Temp to 230°F (110°C)	S/E
Water/Steam 230°	S
Water, Acid Mine	E/T
Water, Chlorine	(E/O)
Water, Deionized	E/T
Water, Seawater	E/T
Water, Waste	E/T
Water, Lime	E/T

PETROLEUM PRODUCTS	
Service	Gasket Grade
Crude Oil - Sour	T
Diesel Oil	T
Fuel Oil	T
Gasoline, Leaded	T
Gasoline, Unleaded*	(O)
Hydraulic Oil	T
JP-3, JP-4 and JP-5	T/O
JP-6, 100°F (38°C) Maximum Temp.	O
Kerosene	T
Lube Oil, to 150°F (66°C)	T
Motor Oil	T
Tar and Tar Oil	T
Transmission Fluid --Type A	O
Turbo Oil #15 Diester Lubricant	O

Where more than one gasket grade is shown the preferred gasket grade is listed first. Where the gasket grade is shown in parentheses, contact Gruvlok for an engineering evaluation and recommendation.

Specify gasket grade when ordering. Use Gruvlok lubricant on gasket. Check gasket color code to be certain it is recommended for the service intended.

Unless otherwise noted, all gasket listings are based upon 100°F (38°C) maximum temperature service conditions.

For services not listed contact Gruvlok for recommendation.

\*Contact Gruvlok for service evaluation.

### Vacuum Service

VACUUM SERVICE		
SIZE	VACUUM LEVEL	GASKET-RECOMMENDATION
1" - 6"	0" - 29.92" Hg	Standard or Flush Gap
8" - 12"	0" - 15 Hg	Standard or Flush Gap
1½" - 12"	0" - 29.92 Hg	Flush Gap

Larger Sizes: Contact Gruvlok for Details.

## GRUVLOK GASKET-RECOMMENDATIONS

CHEMICAL SERVICES		CHEMICAL SERVICES	
Chemical Composition	Gasket Grade	Chemical Composition	Gasket Grade
Acetic Acid 50%	E	Chlorobenzene Chloride	O
Acetic Acid Glacial	L/E	Chlorobromomethane	O
Acetone	E	Chloroform	O
Acethylene	E/T	Chrome Alum	E/T
Alkalis	T/E	Chrome Plating Solutions	O
Alums	E/T/O	Chromic Acid, to 50%	O
Aluminum Chloride	E/T	Citric Acid	E/T
Aluminum Fluoride	E/T/O	Coconut Oil	T
Aluminum Hydroxide	E/O	Cod Liver Oil	T
Aluminum Nitrate	E/T	Coke Oven Gas	T/O
Aluminum Salts	E	Copper Carbonate	E/T
Ammonia Gas, Cold	E	Copper Chloride	E/T
Ammonia Liquid	E	Copper Cyanide	E/T
Ammonium Chloride	T/E	Copper Sulphate	E/T
Ammonium Fluoride	E	Corn Oil	T
Ammonium Hydroxide	E	Cotton Seed Oil	T
Ammonium Nitrate	T/E	Cresole, Cresylic Acid	T/O
Amyl Acetate	E	Creosote, Coal Tar	(T/O)
Amyl Alcohol	E	Creosote, Wood	T/O
Aniline	E	Cupric Chloride	E/T
Animal Fats	T	Cupric Fluoride	E/T
Argon-Gas	L	Cupric Sulphate	E/T
Arsenic Acid, to 75%	T/E/O	Cychohexanol	O
Barium Carbonate	E/T	Diacetone Alcohol	E
Barium Chloride	E/T	Dichlorobenzene	O
Barium Hydroxide	E/T	Dichloroethylene	O
Barium Nitrate	E/O	Diocetyl Phthalate	(E)
Barium Sulphide	E/T	Epson-Salt	E/T
Beet Sugar Liquors	T	Ethane	E
Benzene	O	Ethanolamine	E
Benzene Sulfonic (Aromatic Acid)	(E)	Ethyl Acetate	(E)
Benzoic Acid	O	Ethyl Alcohol	E/T
Benzyl Alcohol	E	Ethyl-Chloride	E/T
Benzyl Chloride	E	Ethyl Ether	(T)
Black Sulphate Liquor	T	Ethylene Chloride	E
Bleach, 5% Active Cl <sub>2</sub>	E/O	Ethylene Chlorohydrin	E
Borax	E/O	Ethylene Diamine	E/T
Boric Acid	E/T	Ethylene Dichloride (Dichloroethane)	O
Bromine	O	Ethylene Glycol	E/T
Butyl Alcohol	E/T	Ethylene Oxide	(E)
Butyl Stearate	E	Ferric Chloride, to 35%	E/T
Butylene	T/O	Ferric Nitrate	E/T
Calcium Bisulfate	T/O	Ferric Sulphate	E/T
Calcium Bisulphide	T/O	Ferrous Chloride	E/T
Calcium Bisulphite	T/O	Fish Oils	T
Calcium Carbonate	E/T	Fluoroboric Acid	E
Calcium Chloride	E/T	Fluorosilicic Acid	E
Calcium Hydroxide (Lime)	E/T	Fly-Ash	E
Calcium Sulfate	E/T	Formaldehyde	E/T
Calcium Sulfide	E/T	Formamide	E/T
Caliche Liquors	E/T	Formic Acid	E/O
Cane Sugar Liquors	T	Freon 11, 130°F (54°C) Max.	T
Carbitol	E/T	Freon 12, 113, 114, 115, 130°F (54°C) Max.	T
Carbon Dioxide, Dry	E/T	Fructose	T
Carbon Dioxide, Wet	E/T	Furfuryl Alcohol	(E)
Carbon Monoxide	E	Glucose	E/T
Carbon Tetrachloride	O	Glue	T
Castor Oil	T	Glycerin	E/T
Caustic Potash	T	Glycerol	E/T
Caustic Soda	E	Gylcol	E/T
Cellosolve	E	Heptane	T
Chlorine Dry	(O)	Hexaldehyde	E
Chlorinate Solvents	(O)	Hexane	T
Chlorobenzene	O	Hexylene Glycol	T

Where more than one gasket grade is shown the preferred gasket grade is listed first. Where the gasket grade is shown in parentheses, contact Gruvlok for an engineering evaluation and recommendation. Check gasket grade when ordering. Use Gruvlok lubricant on gasket.

Unless otherwise noted, all gasket listings are based upon 100°F (38°C) maximum temperature service conditions. For services not listed contact Gruvlok for recommendation. Check gasket color code to be certain it is recommended for the service intended.

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

## GRUVLOK GASKET-RECOMMENDATIONS

CHEMICAL SERVICES	
Chemical Composition	Gasket Grade
Hydrochloric Acid, to 36%, 75°F (24°C)-Max.	E
Hydrochloric Acid, to 36%, 158°F (70°C)-Max.	(O)
Hydrofluoric Acid, to 75%, 158°F (70°C)-Max.	(O)
Hydrofluosilicic Acid	T/E
Hydrogen Peroxide, to 50%	E/T/O
Hydrogen Peroxide, to 90%	(L/O)
Hydroquinone	T/O
Iodine,-Wet	E
Isoamyl Alcohol	E
Isooctane	T
Isobutyl Alcohol	E
Isopropyl Alcohol	E
Lacquer	(O)
Lacquer Solvent	(O)
Lactic Acid	T
Lard Oil	T
Latex (1% Styrene &-Butadiene)	O
Lead Acetate	E/T
Linseed Oil	T
Lithium Bromide	T/O
Magnesium Chloride	E/T
Magnesium Hydroxide	E/T
Magnesium Nitrate	E
Magnesium Sulphate	E/T
Malonyl Nitrile	E/T
Mercuric Chloride	E/T
Mercuric Cyanide	E/T
Mercury	E/T
Methyl Acetate	(E)
Methyl Alcohol, Methanol	E/T
Methyl Cellosolve (Ether)	E
Methyl Chloride	(O)
Methyl Ethyl Ketone	(E)
Methyl Formate	E
Methyl Isobutyl Carbinol	E/T
Methyl Isobutyl Ketone	(E)
Mineral Oils	T
Naphtha, 160°F (71°C)-Max.	O
Naphthalene 176°F	O
Nickel Chloride	E/T
Nickel Nitrate	E
Nickel Plating Solution 125°F (52°C)-Max.	E
Nitric Acid, to 10%, 75°F-(24°C)-Max.	E
Nitric Acid, 10-50%, 75°F-(24°C)-Max.	O
Nitric Acid, 50-86%, 75°F (24°C)-Max.	(O)
Nitric Acid, Red Fuming	(O)
Nitro Benzene	(O)
Nitrous Oxide	E
Octyl Alcohol	T
Olive Oil	T
Oxalic Acid	E
Ozone	E
Phenol (Carbolic acid) 300°F (149°C)-Max.	O
Phenylhydrazine	(O)
Phosphate Ester	E
Phosphoric Acid, to 75% and 70°F (21°C)-Max.	E/T
Phosphoric Acid, to 85% and 150°F (66°C) Max.	O
Photographic Solutions	T
Potassium Bromide	E/T
Potassium Carbonate	E/T
Potassium Chloride	E/T
Plating Solutions (gold, brass, cadmium, copper, lead, silver, tin, zinc)	E
Potassium Chromate	T

CHEMICAL SERVICES	
Chemical Composition	Gasket Grade
Potassium Cyanide	E/T
Potassium Ferricyanide	E/T
Potassium Ferrocyanide	E/T
Potassium Hydroxide	T
Potassium Iodide	E/T
Potassium Nitrate	E/T
Potassium Permanganate, saturated, to 25%	E
Potassium Sulphate	E/T
Propanol	E
Propyl Alcohol	E/T
Propylene Glycol	E/T
Pydraul 312C	O
Pyroguard "C" &-"D"	T
Pyroguard 55	E
Pyrrrole	E
Salicylic Acid	E/T
Silver Cyanide	E
Silver Nitrate	E
Skydrol, 200°F (93°C)-Max.	L
Skydrol 500 Phosphate Ester	(L/E)
Soda Ash,-Sodium Carbonate	E/T
Sodium Bicarbonate	E/T
Sodium Bisulphate	E/T
Sodium Bisulphite (black liquor)	E/T
Sodium Bromide	E/T
Sodium Chlorate	E/T
Sodium Chloride	E/T
Sodium Cyanide	E/T
Sodium Hydroxide, to 50%	E
Sodium Hypochlorite, to 20%	E
Sodium Metaphosphate	E/T
Sodium Nitrate	E/T
Sodium Peroxide	E
Sodium Phosphate	E/T
Sodium Silicate	E/T
Sodium Sulphide	E/T
Sodium Sulphite Solution, to 20%	E/T
Sodium Thiosulphate, "Hypo"	E/T
Soybean Oil	T
Stannous Chloride, to 15%	E/T/O
Starch	E/T
Stearic Acid	T
Styrene	O
Sucrose Solutions	T
Sulphur	E
Sulphuric Acid, to 25%, 150°F (66°C)-Max.	E
Sulphuric Acid, 25-50%, 200°F (93°C) Max.	O
Sulphuric Acid, 50-95%, 150°F-(66°C)-Max.	O
Sulphuric Acid, Fuming	(O)
Sulphuric Acid, Oleum	(O)
Sulphurous Acid	(O)
Tetrachloroethylene	O
Toluene	O
Tributyl Phosphate	(E)
Trichloroethylene, 200°F-(93°C)-Max	O
Triethanolamine	E/T
Trisodium Phosphate	(E/T)
Turpentine 158°F-(70°C)-Max.	T/O
Urea	E/T
Vegetable Oils	T
Vinegar	T
Vinyl Acetate	(E)
White Liquor	E
Xylene (Xylol)-158°F (70°C)-Max.	O
Zinc Sulphate	E/T

Where more than one gasket grade is shown the preferred gasket grade is listed first. Where the gasket grade is shown in parentheses, contact Gruvlok for an engineering evaluation and recommendation. Check gasket grade when ordering. Use Gruvlok lubricant on gasket.

Unless otherwise noted, all gasket listings are based upon 100°F (38°C) maximum temperature service conditions. For services not listed contact Gruvlok for recommendation. Check gasket color code to be certain it is recommended for the service intended.

# GRUVLOK LUBRICANTS

## GRUVLOK Extreme Temperature Lubricant

GRUVLOK Extreme Temperature Lubricant has been developed for use with Gruvlok couplings in services where improved lubrication is beneficial. This lubricant has an operating temperature range from -65° F to 400° F, well exceeding the temperature range of Gruvlok gaskets. This lubricant is water-proof, thereby eliminating water washout and it will not dry out in the absence of water. There are five primary applications where the Extreme temperature Lubricant will provide increased benefits: low temperature applications (below -20° F), high temperature applications (above 180° F), applications where increase pipe joint flexibility is needed, lubrication of gaskets in copper systems, and for the lubrication of gaskets on HDPE couplings. Since it is formulated from a non-hydro carbon base, it can be used with EPDM, Nitrile gasket materials. It is not recommended for use with silicone gaskets.

- In low temperature applications the gasket will shrink, thereby lowering the sealing force on the gasket sealing lips. The temperature change will also force the gasket to slightly reposition itself. This will cause pipe end sealing surfaces, with small cuts or damage, to become more susceptible to leakage. Gruvlok Extreme Temperature Lubricant will maintain it's lubricating properties at lower temperatures allowing a properly lubricated pipe end and gasket (assembly) to reposition itself during temperature cycles.
- For high temperature service, it is recommended that the gasket be lubricated not only on the outside, as with the normal installation of a Gruvlok gasket, but also on the inside. Lubrication on the inside of the gasket is easily accomplished by turning the gasket inside out and applying the lubricant. Gruvlok Extreme Temperature Lubricant will maintain it's lubricating properties at higher temperatures, allowing a properly lubricated pipe end and gasket assembly to reposition itself during temperature cycles. Lubrication of the pipe end and gasket will help the gasket to adjust into the proper sealing position during temperature cycles. The lubricant on the interior of the gasket will act to improve the chemical resistance of the gasket material by providing a thin lubricant barrier between the piping system fluid and the gasket surface. This is particularly important at higher temperatures where oxidizing agents in the piping system become more aggressive. However, gasket chemical compatibility must still be considered.
- The Gruvlok Extreme Temperature Lubricant has been formulated from low viscosity, non-petroleum based oils to ease spreading of the lubricant. In applications where pipe movement is expected, proper lubrication of the gasket's exterior assists the gasket into the proper sealing position as pipe system movement occurs. This lubricating film enhances our flexible coupling gasket's ability to compensate for axial, transverse and rotational pipe movements.
- Gruvlok Extreme Temperature Lubricant is the only Gruvlok lubricant that is to be used with Gruvlok couplings and gaskets in HDPE and copper piping systems. It's low temperature capability and lubricity ensure a highly reliable connection.



Gruvlok Extreme Temperature Lubricant is a Teflon fortified white, tasteless and odorless grease made from Silicone Oil and other ingredients that are safe to ingest. It is sanctioned by the FDA under C.F.R. 21.172.878 & 21.177.1550 (Incidental Food Contact).

**Caution:** Silicone based lubricants are not allowed in some facilities.

®Teflon is a registered trademark of Dupont.

### Gruvlok Quick Dry Lubricant

GRUVLOK Quick Dry Lubricant is a fast drying lubricant that has been developed for applications where the piping system is exposed. The service temperature range for this lubricant is from 0° F, to 150° F and may be used with all Gruvlok gasket material grades. The lubricant is made from a water emulsion that is non-toxic, it will not impart taste or odor, and does not support bacterial growth. Gruvlok Quick Dry Lubricant is noncorrosive, nonflammable, and is NSF approved for use with potable water.

This lubricant is easy to apply by brush or hand, and it quickly dries to a thin film when in contact with air. It is water-soluble. The quick drying quality of the lubricant eliminates lubricant drips caused by over lubrication. If necessary, reapply lubricant prior to assembly. Do not thin or mix with solvents.

### Gruvlok Lubricant

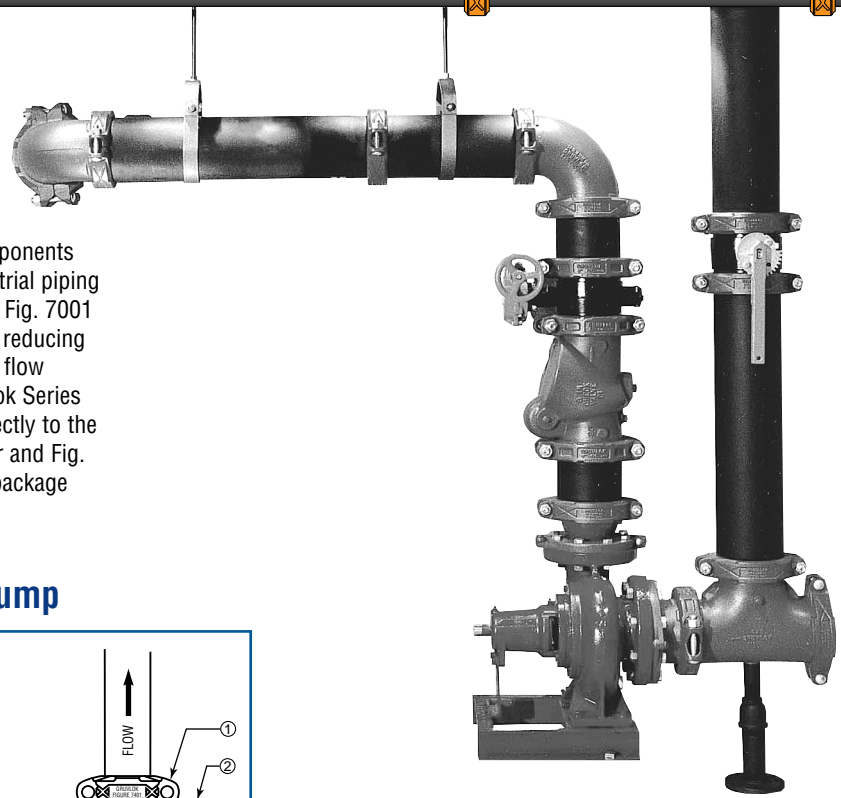
GRUVLOK Lubricant is the standard lubricant that has been provided for use with Gruvlok products for years. Gruvlok Lubricant is water soluble, nontoxic, noncorrosive, nonflammable, and will not impart taste or odor. It is NSF approved for use with potable water. This lubricant is acceptable for most applications, however, the Gruvlok Extreme Temperature Lubricant and Gruvlok Quick Dry Lubricant are now available to improve the performance of the couplings and flanges in certain applications.

**Caution:** HDPE pipe requires the use of GRUVLOK Extreme Temperature Lubricant and should not be used with GRUVLOK Lubricant.

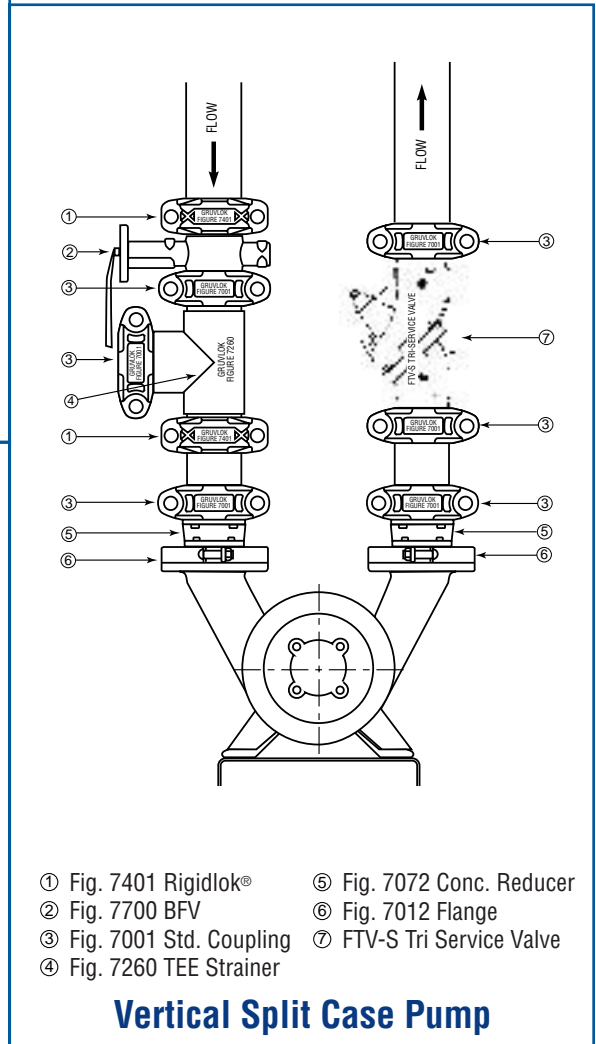
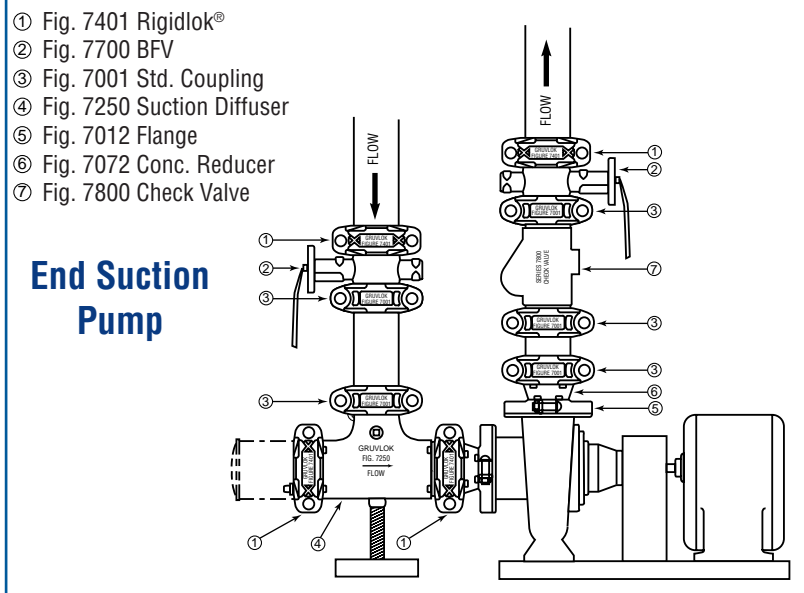
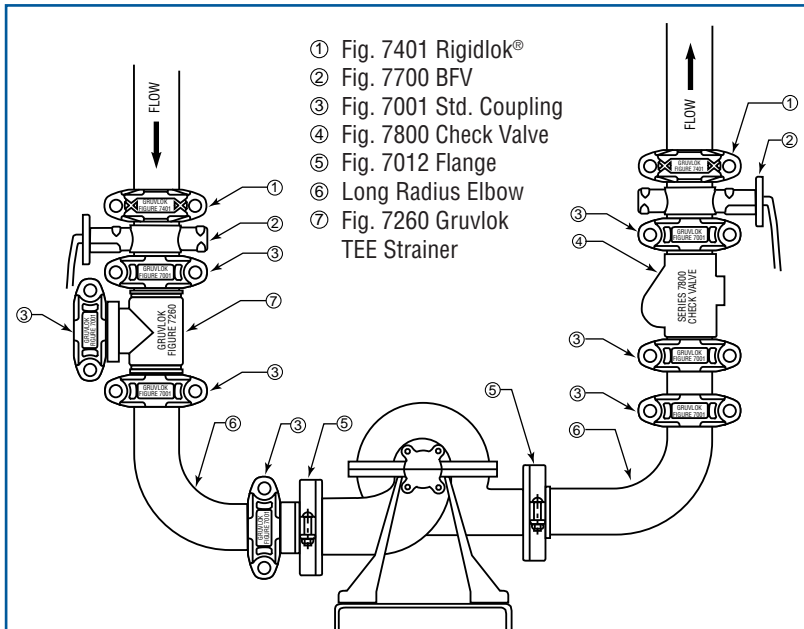
- Grooved-End Couplings
- Branch Outlets
- Fittings
- Flow Control Components
- High Pressure
- Copper
- Dielectric Nipple
- Plain-End
- HDPE
- Socket-It®
- Stainless Steel
- Technical Data

## GRUVLOK FLOW CONTROL COMPONENTS

Gruvlok has put together a complete array of Gruvlok components necessary to provide pump protection for HVAC and industrial piping needs. With the combination of the Fig. 7401 Rigidlok and Fig. 7001 Standard coupling, flex connectors can be eliminated thus reducing cost. The Series 7700 Gruvlok Butterfly valve has superior flow characteristics due to a thin profile disc design. The Gruvlok Series 7800 Check Valve is full port valve and can be stacked directly to the Series 7700 Butterfly Valve. The Fig. 7250 Suction Diffuser and Fig. 7260 Tee Strainer complete the Gruvlok pump protection package



### Horizontal Split Case Pump





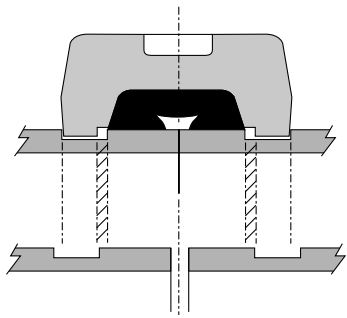
## DESIGN FACTORS

### Movement:

Each flexible design Gruvlok coupling can provide for pipe system movement up to the design maximum for the specific size and type coupling being utilized. Movement is possible in the Gruvlok coupling due to two factors: (1) designed-in clearance between the key of the

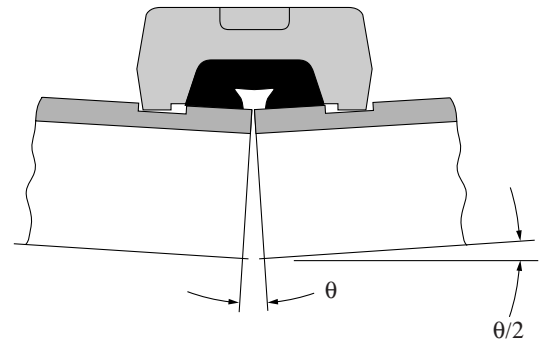
coupling and the groove diameter and groove width, and (2) the gap between pipe ends joined by the coupling.

### LINEAR MOVEMENT:



Represents Linear Movement Capabilities

### ANGULAR MOVEMENT:



### Flexible Coupling Linear Movement:

Linear movement is accommodated within the coupling by allowing the pipe ends to move together or apart in response to pressure thrusts and temperature changes. The available linear movement provided by Standard Gruvlok couplings is shown below:

Linear Movement		
Sizes	Roll Groove Pipe	Cut Groove Pipe
1" through 3½"	1/16"	1/16"
4" though 24"	3/32"	3/16"

### Flexible Coupling Angular Movement:

Designed-in clearances allow limited deflection of the pipe joint within the coupling, without introducing eccentric loads into the coupling joint.

The maximum available angular movement of Gruvlok coupling joints is shown in the performance data for each coupling type. The amount of angular flexibility varies for each coupling size and type. For design purposes the published figures should be reduced by the below listed factors to account for pipe, groove and coupling tolerances.

Angular Movement		
Sizes	Design Factor	
	Roll Groove	Cut Groove
1" through 3½"	Reduce 50%	Reduce 50%
4" though 24"	Reduce 50%	Reduce 25%

### Rigid Couplings

Gruvlok rigid couplings Fig. 7400, Fig. 7401 and Fig. 7004 HPR are designed to provide a joint with the attributes of a welded or flanged connection. Therefore, these joints would remain in strict alignment and would resist deflection and linear movement during service.

### Flexible Couplings

Figs. 7000, 7001, 7003, 7010 are the flexible couplings provided in the Gruvlok product line. The following information on movement applies to these flexible couplings.

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

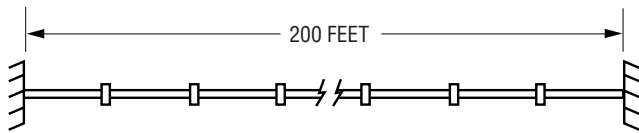
## MOVEMENT-APPLICATIONS

### Thermal Movement:

A sufficient amount of coupling joints must be provided to accommodate the calculated movement (expansion or contraction) in a pipe run or segment thereof.

#### Example:

A 200 foot long straight run of 4" steel cut grooved pipe between anchor points.  
 Minimum Temperature: 40°F. (at time of installation).  
 Maximum Oper. Temperature: 160°F.



Thermal expansion tables show this system will expand a total of 1.80" due to the temperature change.

#### Design Question:

How many couplings are required to account for the thermal growth?

#### Available Linear Movement Per Flexible Coupling:

Using the table on the previous page, we see that there is 0.188" linear movement per coupling (4" Flexible Coupling)

#### Couplings Required

As indicated above, the total movement is 1.80". Thus, the number of couplings is determined as follows:

$$\text{No. of Couplings} = \text{Tot. Movement} / \text{Avail. Movement per Coupling}$$

For our example:

$$\text{No. of Couplings} = (1.80") / (0.187") = 9.6,$$

Therefore 10 couplings are needed

#### Position of Couplings

In order for the couplings to provide for the movement indicated by the above example, it would be necessary to install all couplings with the maximum gap between pipe ends. Conversely, if the thermal movement was contraction due to a reduction of system temperature, the coupling joints would have to be installed with the pipe ends butted, thus accommodating the "shrink" of the pipe system.

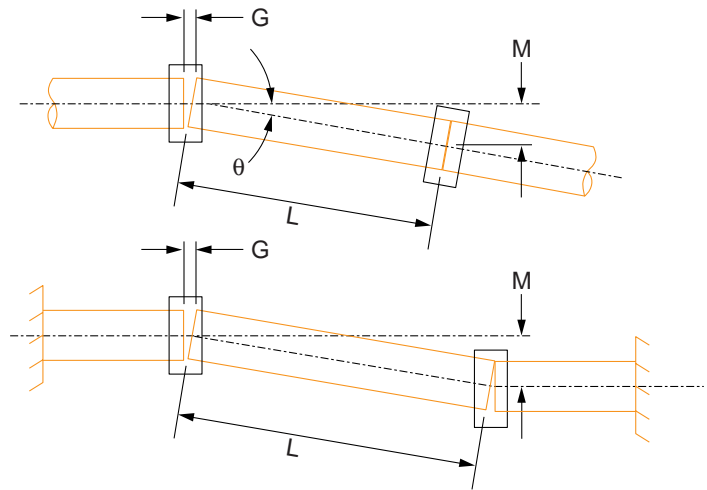
In either case the pipe run in question would have to be anchored at the proper locations to direct pipe system expansion or contraction into the coupling joints.

As can be seen from the above example, the pipe end gap within the coupling joint must be considered when designing a grooved-end pipe system to accommodate thermal movement. The couplings **do not** automatically provide for expansion and contraction of piping.

### Misalignment and Deflections:

The angular movement capability of the Gruvlok coupling permits the assembly of pipe joints where the piping is not properly aligned. At least two couplings are required to provide for lateral pipe misalignment. Deflection (longitudinal misalignment) may be accommodated within a single coupling as long as the angle of deflection does not exceed the value shown in the coupling performance data for the particular size and coupling type.

A pipe joint that utilizes the angular deflection capability of the Gruvlok coupling will react to pressure and thermal forces dependent upon the manner in which it is restrained. An unrestrained joint will react to these forces by straightening, thus reducing, if not eliminating, the deflection at the joint. If joint deflection has been designed into the pipe layout and must be maintained, then sufficient anchors must be provided to resist the lateral forces and hold the joint in the deflected condition.



The amount of deflection from pipe run centerline can be calculated utilizing the following equations:

$$M = L (\sin \theta)$$

$$\theta = \text{ArcSin} (G/D)$$

$$M = (G \times L)/D$$

Where:

M = Misalignment (inches)

G = Maximum Allowable Pipe End Movement (Inches) as shown under "Performance Data" (Value to be reduced by Design Factor)

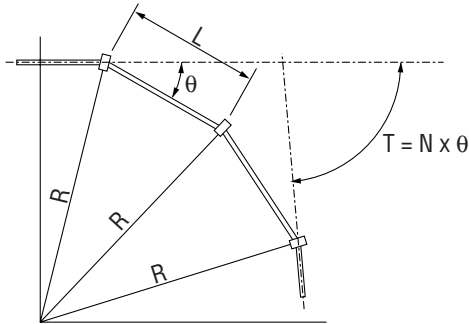
θ = Maximum Deflection (Degrees) from centerline as shown under "Performance Data" (Value to be reduced by Design Factor)

D = Pipe Outside Diameter (Inches)

L = Pipe Length (Inches)

### Curve Layout:

Utilizing the angular deflection at each coupling joint curves may be laid out using straight pipe lengths and Gruvlok Couplings.



This example shows how to calculate the curve radius, required pipe lengths, and number of required couplings.

$$R = L / (2 \times \sin(\theta/2))$$

$$L = 2 \times R \times \sin(\theta/2)$$

$$N = T / \theta$$

Where:

$N$  = Number of Couplings

$R$  = Radius of Curve (feet)

$L$  = Pipe Length (feet)

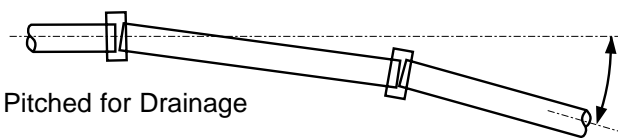
$\theta$  = Deflection from centerline (Degrees) of each Coupling.  
(See coupling performance data, value to be reduced by Design Factor)

$T$  = Total Angular Deflection of all Couplings.

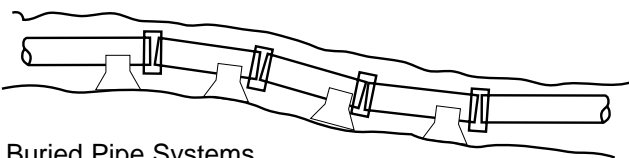
### Drainage, Buried Systems, Etc.:

The flexible design of the Gruvlok coupling makes it ideal for use in a wide variety of systems in which random changes of the pipe direction can be accommodated by the Gruvlok coupling's angular deflection capability rather than requiring the use of special fittings.

Pitched drainage systems, buried pipe systems where pipe laying conditions are subject to settlement, and exposed pipe systems laid on rough ground are but a few of the many types of pipe installations that present conditions where the functional capability of the Gruvlok coupling are useful.



Pitched for Drainage



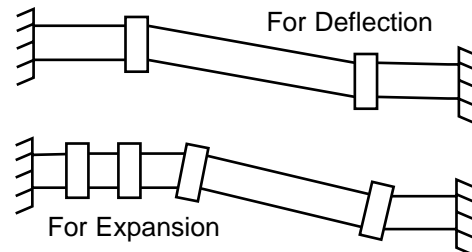
Buried Pipe Systems

### Combined Linear and Angular Movement:

The clearance in the grooved coupling joint, will allow a limited capability for combined linear and angular movement. A partially deflected joint will not provide full linear movement capability. A fully deflected coupling joint provides no linear movement capability. The Gruvlok coupling will not allow for both maximum linear and maximum angular movement simultaneously.

In systems where both are expected, additional joints may be required.

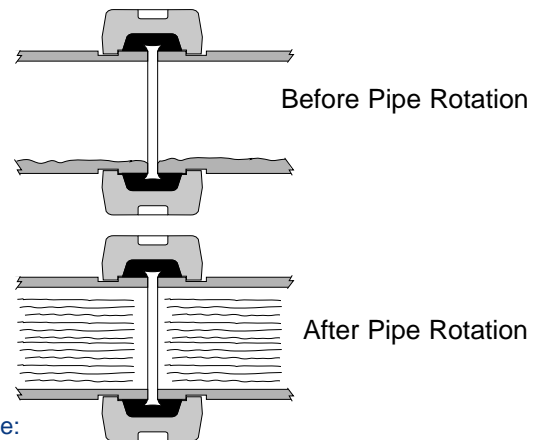
**NOTE: Fully Deflected Joint Will Not Allow For Linear Expansion.**



In the example above, two couplings were added to account for thermal expansion and the other couplings accommodate only the misalignment. The additional stress from the combined movement is therefore relieved.

### Rotational Movement:

Piping systems designed with Gruvlok Couplings can accommodate minor rotational movement from thermal expansion, settlement, vibration, or other similar movements. However, Gruvlok Couplings **should never be used as a continuous swivel joint**.



Example:

Utilizing the rotational capability of the Gruvlok Coupling, the pipe life of a slurry or similar coarse material piping system can be extended.

For pipe rotation, the system must be shut down and internal pressure relieved.

The pipe may then be rotated one-quarter turn, the couplings retightened, and service resumed. If performed on a regular basis, pipe rotation will evenly distribute wear over the entire inner surface of the pipe.

## GRUVLOK COUPLING WORKING PRESSURE RATING (PSI) ON LIGHT WALL ROLL GROOVED STEEL PIPE

Nom. Size In./DN(mm)	Pipe OD In./mm	Nom. Wall Thickness In.	Pipe Schedule Number	Maximum Working Pressure (PSI*)									
				Fig. 7000 Lightweight	Fig. 7001 Standard	Fig. 7003 Hingelok	Fig. 7004 HPR	Fig. 7010* Reducing	Fig. 7012 Flange	Fig. 7013 Flange	Fig. 7400 Rigidlite	Fig. 7401 Rigidlok	
1 25	1.315 33.4	0.065	5	300	500	–	–	–	–	–	–	175	–
		0.085	XL	300	300	–	–	–	–	–	–	300	–
		0.109	10	600	750	–	–	–	–	–	–	300	–
1¼ 32	1.660 42.2	0.065	5	300	500	–	–	–	–	–	–	175	–
		0.085	XL	300	300	–	–	–	–	–	–	300	–
		0.109	10	600	750	–	–	–	–	–	–	300	–
1½ 40	1.900 48.3	0.065	5	300	500	200	–	–	–	–	–	175	500
		0.090	XL	300	300	250	–	–	–	–	–	300	300
		0.109	10	600	750	300	–	–	–	–	–	300	750
2 50	2.375 60.3	0.065	5	300	500	200	500	250	200	500	500	175	500
		0.090	XL	300	300	250	300	300	300	300	300	300	300
		0.109	10	600	750	300	800	350	300	720	300	750	
2½ 65	2.875 73.0	0.083	5	300	500	200	500	250	200	500	500	175	500
		0.130	XL	300	300	250	300	300	300	300	300	300	300
		0.120	10	600	750	300	800	350	300	720	300	750	
3 80	3.500 88.9	0.083	5	300	500	200	500	250	200	500	500	175	500
		0.130	XL	300	300	250	300	300	300	300	300	300	300
		0.120	10	600	750	300	800	350	300	720	300	750	
3½ 90	4.000 101.6	0.083	5	300	500	–	–	–	–	–	–	–	–
		0.120	10	600	750	–	–	–	–	–	–	–	–
4 100	4.500 114.3	0.083	5	300	500	200	400	200	200	500	500	175	500
		0.120	10	600	750	300	600	300	300	720	300	750	
5 125	5.563 141.3	0.109	5	250	400	200	400	200	200	400	400	175	400
		0.134	10	500	500	250	600	300	300	500	300	500	
6 150	6.625 168.3	0.109	5	250	350	150	400	200	200	350	350	175	350
		0.134	10	400	500	200	500	300	300	500	300	500	
		0.188	–	400	500	200	700	350	300	500	300	500	
8 200	8.625 219.1	0.109	5	250	300	150	300	150	200	300	300	175	300
		0.148	10	350	400	200	400	250	300	400	400	175	400
		0.188	–	350	400	200	500	300	300	400	300	400	
10 250	10.750 273.1	0.250	20	350	500	250	600	300	300	500	500	300	500
		0.134	5	–	250	–	300	–	200	250	–	250	
		0.165	10	–	350	–	400	–	200	350	–	350	
12 300	12.750 323.9	0.188	–	–	350	–	400	–	300	350	–	350	
		0.250	20	–	400	–	500	–	300	400	–	400	
		0.156	5	–	200	–	200	–	200	200	–	200	
14 350	14.000 355.6	0.180	10	–	350	–	300	–	200	350	–	350	
		0.188	–	–	350	–	300	–	300	350	–	350	
		0.250	20	–	400	–	400	–	300	400	–	400	
16 400	16.000 406.4	0.156	5	–	125	–	–	–	125	–	–	125	
		0.250	10	–	250	–	–	–	250	–	–	250	
		0.312	20	–	275	–	–	–	250	–	–	275	
18 450	18.000 457.2	0.165	5	–	125	–	–	–	100	–	–	100	
		0.250	10	–	175	–	–	–	175	–	–	175	
		0.312	20	–	275	–	–	–	250	–	–	275	
20 500	20.000 508.0	0.250	10	–	100	–	–	–	100	–	–	100	
		0.312	20	–	175	–	–	–	175	–	–	175	
		0.375	20	–	300	–	–	–	250	–	–	250	
24 600	24.000 609.6	0.250	10	–	75	–	–	–	75	–	–	75	
		0.375	20	–	300	–	–	–	250	–	–	250	

Maximum line pressure, including surge, to which a joint should be subjected on pipe roll grooved to standard roll grooving specification with coupling properly assembled. For coupling performance on standard wall steel pipe, refer to individual Gruvlok Coupling performance listing.

\* Rating based on larger pipe size.

GRUVLOK COUPLING WORKING PRESSURE RATING (BAR) ON ROLL GROOVED ISO SIZE STEEL PIPE											
Nom. Size In./DN(mm)	Pipe OD In./mm	Nom. Wall Thickness In./mm	Maximum Working Pressure (bar)								
			Fig. 7000 Lightweight	Fig. 7001 Standard	Fig. 7003 Hingelok	Fig. 7004 HPR	Fig. 7010* Reducing	Fig. 7012 Flange	Fig. 7013 Flange	Fig. 7400 Rigidlite	Fig. 7401 Rigidlok
1 25	1.315 33.4	1.8	20.7	34.5	-	-	-	-	-	12.1	-
		2.9	41.4	51.7	-	-	-	-	-	20.7	-
		3.2	41.4	69.0	-	-	-	-	-	20.7	-
1¼ 32	1.660 42.2	1.8	20.7	34.5	-	-	-	-	-	12.1	-
		2.9	41.4	51.7	-	-	-	-	-	20.7	-
		3.6	41.4	69.0	-	-	-	-	-	20.7	-
1½ 40	1.900 48.3	1.8	20.7	34.5	13.8	-	-	-	-	12.1	34.5
		2.9	41.4	51.7	17.2	-	-	-	-	20.7	51.7
		3.6	41.4	69.0	20.7	-	-	-	20.7	51.7	51.7
2 50	2.375 60.3	1.8	20.7	34.5	13.8	34.5	17.2	13.8	34.5	12.1	34.5
		2.9	41.4	51.7	17.2	55.2	24.1	20.7	51.7	20.7	51.7
		3.6	41.4	69.0	20.7	82.3	24.1	20.7	69.0	20.7	51.7
2½ 65	2.875 73.0	2.0	20.7	34.5	13.8	34.5	17.2	13.8	34.5	12.1	34.5
		3.2	41.4	51.7	17.2	55.2	24.1	20.7	51.7	20.7	51.7
		5.0	41.4	69.0	20.7	82.3	24.1	20.7	69.0	20.7	51.7
3 OD 65	2.996 76.1	2.0	20.7	34.5	-	-	-	13.8	-	12.1	34.5
		3.2	41.4	51.7	-	-	-	20.7	-	20.7	51.7
		5.0	41.4	69.0	-	-	-	20.7	-	20.7	51.7
3 80	3.500 88.9	2.0	20.7	34.5	13.8	34.5	17.2	13.8	34.5	12.1	34.5
		3.2	41.4	51.7	17.2	55.2	24.1	20.7	51.7	20.7	51.7
		5.6	41.4	69.0	20.7	82.3	24.1	20.7	69.0	20.7	51.7
3½ 90	4.000 101.6	2.0	20.7	34.5	-	-	-	-	-	-	-
		3.2	41.4	51.7	-	-	-	-	-	-	-
		5.6	41.4	69.0	-	-	-	-	-	-	-
4 100	4.500 114.3	2.0	20.7	34.5	13.8	27.6	13.8	13.8	34.5	12.1	34.5
		3.2	41.4	51.7	17.2	41.4	20.7	20.7	51.7	20.7	51.7
		5.6	41.4	69.0	20.7	82.3	24.1	20.7	69.0	20.7	51.7
4¼ OD 100	4.250 108.0	2.0	20.7	-	-	-	-	-	-	-	-
		3.2	41.4	-	-	-	-	-	-	-	-
		5.6	41.4	-	-	-	-	-	-	-	-
5 125	5.563 141.3	2.9	17.2	27.6	10.3	27.6	13.8	13.8	27.6	12.1	27.6
		3.6	34.5	34.5	13.8	41.4	20.7	20.7	34.5	20.7	34.5
		6.3	34.5	69.0	20.7	82.3	24.1	20.7	69.0	20.7	51.7
5¼ OD 125	5.236 133.0	2.9	17.2	-	-	-	-	-	-	-	-
		3.6	34.5	-	-	-	-	-	-	-	-
		6.3	34.5	-	-	-	-	13.8	-	-	-
5½ OD 125	5.500 139.7	2.9	17.2	-	-	-	-	20.7	-	12.1	-
		3.6	34.5	-	-	-	-	20.7	-	20.7	-
		6.3	34.5	-	-	-	-	-	-	20.7	-
6 150	6.625 168.3	2.9	17.2	24.1	10.3	27.6	13.8	13.8	24.1	12.1	24.1
		3.6	27.6	34.5	13.8	34.5	20.7	20.7	34.5	20.7	34.5
		7.1	27.6	69.0	20.7	82.3	24.1	20.7	69	20.7	51.7
6¼ OD 150	6.259 159.0	2.9	17.2	-	-	-	-	-	-	-	-
		3.6	27.6	-	-	-	-	-	-	-	-
		7.1	27.6	-	-	-	-	-	-	-	-
6½ OD 150	6.500 165.1	2.9	17.2	24.1	-	-	-	13.8	-	12.1	24.1
		3.6	27.6	34.5	-	-	-	20.7	-	20.7	34.5
		7.1	27.6	69.0	-	-	-	20.7	-	20.7	51.7
8 200	8.625 219.1	2.9	17.2	20.7	10.3	20.7	10.3	13.8	20.7	12.1	20.7
		5	24.1	34.5	13.8	35.4	24.1	20.7	34.5	20.7	34.5
		8	24.1	55.2	20.7	69	24.1	20.7	55.2	20.7	51.7
10 250	10.750 273.1	3.6	-	17.2	-	20.7	-	13.8	17.2	-	17.2
		5	-	24.1	-	27.6	-	20.7	24.1	-	24.1
		8	-	55.2	-	55.2	-	20.7	55.2	-	51.7
12 300	12.750 323.9	4	-	17.2	-	13.8	-	13.8	17.2	-	17.2
		5	-	24.1	-	20.7	-	20.7	24.1	-	24.1
		8	-	55.2	-	55.2	-	20.7	55.2	-	51.7
14 350	14.000 355.6	4	-	8.6	-	-	-	8.6	-	-	8.6
		6.3	-	17.2	-	-	-	17.2	-	-	17.2
		8.8	-	20.7	-	-	-	20.7	-	-	20.7
16 400	16.000 406.4	4	-	6.9	-	-	-	6.9	-	-	6.9
		6.3	-	12.1	-	-	-	12.1	-	-	12.1
		8.8	-	20.7	-	-	-	20.7	-	-	20.7
18 450	18.000 457.2	5	-	5.2	-	-	-	5.2	-	-	5.2
		6.3	-	6.9	-	-	-	6.9	-	-	6.9
		8.8	-	17.2	-	-	-	17.2	-	-	17.2
20 500	20.000 508.0	5	-	3.4	-	-	-	3.4	-	-	3.4
		6.3	-	6.9	-	-	-	6.9	-	-	6.9
		8.8	-	17.2	-	-	-	17.2	-	-	17.2
24 600	24.000 609.6	5	-	1.7	-	-	-	1.7	-	-	1.7
		6.3	-	5.2	-	-	-	5.2	-	-	5.2
		8.8	-	17.2	-	-	-	17.2	-	-	17.2

Maximum line pressure, including surge, to which a joint should be subjected on pipe roll grooved to standard roll grooving specification with coupling properly assembled.

\* Rating based on larger pipe size

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

## PIPE SUPPORT

When designing the hangers, supports and anchors for a grooved-end pipe system, the piping designer must consider certain unique characteristics of the grooved type coupling in addition to many universal pipe hanger and support design factors. As with any pipe system, the hanger or support system must provide for

- 1) the weight of the pipe, couplings, fluid and pipe system components;
- 2) reduce stresses at pipe joints; and
- 3) permit required pipe system movement to relieve stress.

The following factors should be considered when designing hangers and supports for a grooved-end pipe system.

### Pipe Hanger Spacing:

The following charts show the maximum span between pipe hangers for straight runs of standard weight steel pipe filled with water or other similar fluids.

Do not use these values where critical span calculations are made or where there are concentrated loads between supports.

For straight runs without concentrated loads and where full linear movement is **not** required use the table on right.

HANGER SPACING LINEAR MOVEMENT NOT REQ'D	
Nominal Pipe Size Range	Maximum Span Between Supports
In./DNmm	Feet/meters
1 25	7 2.6
1¼-2 32-50	10 3.0
2½-4 65-100	12 3.7
5-8 125-200	14 4.3
10-12 250-300	16 4.9
14-16 350-400	18 5.5
18-24 450-600	20 6.1

For straight runs without concentrated loads and where full linear movement **is** required use the following tables.

HANGER SPACING - FLEXIBLE SYSTEM, STEEL PIPE FULL LINEAR MOVEMENT IS REQ'D AVERAGE HANGERS PER PIPE LENGTH EVENLY SPACED										
Nominal Pipe Size Range	Pipe Length in Feet/Meters									
	7	10	12	15	20	22	25	30	35	40
In. DNmm	2.1	3.3	3.7	4.6	6.1	6.7	7.6	9.1	10.7	12.2
1-2 25-50	1	2	2	2	3	3	4	4	5	6
2½-4 65-100	1	1	2	2	2	2	2	3	4	4
5-24 125-600	1	1	1	2	2	2	2	3	3	3

HANGER SPACING - RIGID SYSTEMS SUGGESTED MAXIMUM SPAN BETWEEN SUPPORTS								
Nominal Size In./DNmm	Steel Pipe Suggested Maximum Span Between Supports-Feet/Meters						Copper Tube Gas & Air Service Service	
	Water Service			Air Service			Water Service	Gas & Air Service
	*	**	***	*	**	***		
1 25	7 2.1	9 2.7	12 3.7	9 2.7	10 3.0	12 3.7	-	-
1¼ 32	7 2.1	11 3.4	12 3.7	9 2.7	12 3.6	12 3.7	-	-
1½ 40	7 2.1	12 3.7	15 4.6	9 2.7	13 4	15 4.6	-	-
2 50	10 3	13 4	15 4.6	13 4	15 4.6	15 4.6	9 2.7	12 3.6
2½ 65	11 3.4	15 4.6	15 4.6	14 4.3	17 5.1	15 4.6	9 2.7	12 3.6
3 OD 65	11 3.4	15 4.6	15 4.6	14 4.3	17 5.1	15 4.6	-	-
3 80	12 3.7	16 4.8	15 4.6	15 4.6	19 5.7	15 4.6	10 3	14 4.2
3½ 90	13 4	18 5.4	15 4.6	15 4.6	21 6.3	15 4.6	-	-
4 100	14 4.3	18 5.4	15 4.6	17 5.2	21 6.4	15 4.6	12 3.7	17 5.1
4¼ 100	14 4.3	18 5.4	15 4.6	17 5.2	19 5.7	15 4.6	-	-
5 125	16 4.9	20 6.0	15 4.6	20 6.1	24 7.3	15 4.6	13 4	18 5.7
5¼ 125	15 4.6	18 5.5	15 4.6	19 5.2	22 6.6	15 4.6	-	-
5½ 125	16 4.9	19 5.8	15 4.6	20 6.1	24 7.3	15 4.6	-	-
6 150	17 5.2	21 6.3	15 4.6	21 6.4	26 7.8	15 4.6	14 4.2	21 6.3
6¼ 150	16 4.9	20 6.0	15 4.6	20 6.1	24 7.3	15 4.6	-	-
6½ OD 150	17 5.2	21 6.3	15 4.6	21 6.4	25 7.6	15 4.6	-	-
8 200	19 5.8	23 6.9	15 4.6	24 7.3	29 8.7	15 4.6	-	-
10 250	19 5.8	25 7.5	15 4.6	24 7.3	33 9.9	15 4.6	-	-
12 300	23 7	26 7.8	15 4.6	30 9.1	36 10.8	15 4.6	-	-
14 350	23 7	26 7.8	15 4.6	30 9.1	37 11.1	15 4.6	-	-
16 400	27 8.2	26 7.8	15 4.6	35 10.7	40 12.0	15 4.6	-	-
18 450	27 8.2	27 8.1	15 4.6	35 10.7	42 12.6	15 4.6	-	-
20 500	30 9.1	27 8.1	15 4.6	39 11.9	45 13.5	15 4.6	-	-
24 600	32 9.8	26 7.8	15 4.6	42 12.8	48 14.7	15 4.6	-	-

\* Spacing by ANSI-B31.1 Power Piping Code.

\*\* Spacing by ANSI-B31.9 Building Service Piping Code, (1996 Edition), Fig. 921.1.3c, Table a, 250 psi and Fig. 921.1.3D, table a

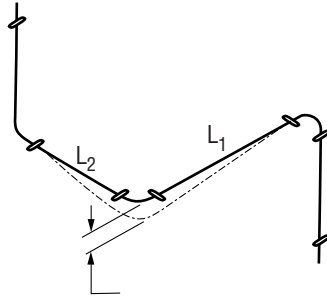
\*\*\* Spacing by NFPA-13 Installation of Sprinkler Systems, (1999 Edition), Table 6-2.2.

### Coupling Flexibility:

The grooved coupling's capability to allow angular and rotational movement within the coupling joint must be considered when deciding hanger and support locations. Spring hangers and supports providing for movement in more than one plane are often used to allow the pipe system to move without introducing additional stress into the pipe system.

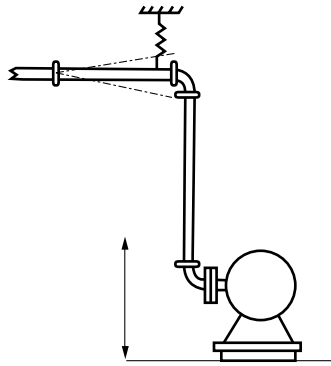
#### Example 1

This example demonstrates the need for each pipe length in a grooved system to be supported. The sag due to the flexibility of the Gruvlok joint could be eliminated with the proper positioning of hangers on both pipe segments "L1" and "L2".



#### Example 2

This illustrates the effect of pump oscillation on a piping system. A spring hanger should be used to support the pipe section and also respond to the induced vibrations. The couplings in the horizontal run above the riser, should accommodate the deflection without transmitting bending stresses through the pipe system.



### Pressure Thrusts:

Gruvlok couplings react to the application of system pressure and restrain the pipe ends from separation due to the pressure force. However, the coupling joint may not be in the self-restraining configuration prior to the application of system pressure. The Gruvlok coupling does not restrain adjacent pipe sections from separation due to pressure forces until the coupling key sections engage the groove walls.

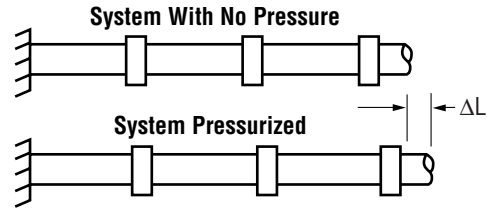
Random flexible coupling joint installation will produce installed coupling conditions ranging from pipe ends full butted to fully separated to the maximum available gap. Thus, only after system pressurization will the self-restraining function of the coupling be in effect.

The designer must account for the movement to be encountered when the system is pressurized and the joints are fully separated. Anchor and guide positions must be defined to direct the pipe joint movement that it is not detrimental to the pipe system.

Examples of the effect of pressure thrust are shown in the following illustrations.

#### Example 1

The coupling joints have been installed butted or partially open. When pressurized the pipe ends in the coupling joints will separate to the maximum amount permitted by the coupling design.

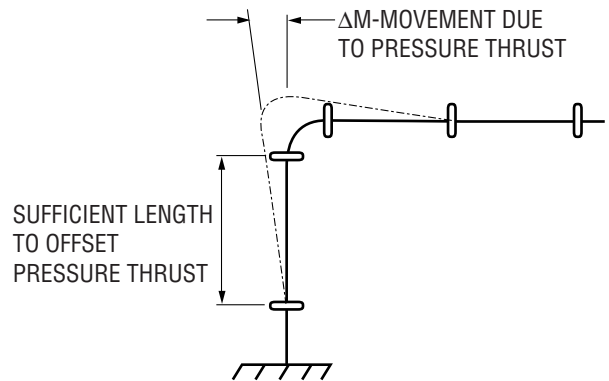


The coupling key sections will make contact with the groove walls and restrain the pipe from further separation.

The movement at each coupling joint will add with all other joints and produce  $\Delta L$ .

#### Example 2

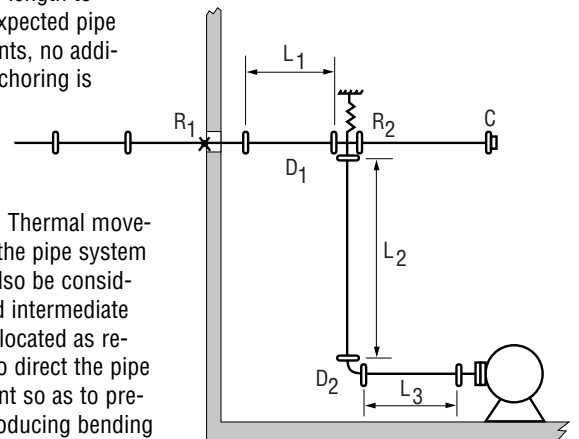
In the system shown here, the pipe will move and deflect at the elbow joint due to pressure thrust.



The pipe designer must assure himself that the system has the capability of deflecting sufficiently to absorb this movement without introducing additional stresses into the pipe system. In the deflected condition shown, temperature increases would produce further expansion of the pipe system thus increasing the deflection.

#### Example 3

To restrain this system provide a pressure thrust anchor at "R1" to resist the pressure thrust acting through the tee "D1" at the cap "C". Provide a hanger at Point "R2", or a base support at Point "D2" to support the vertical column. If the offsets L1, L2, and L3 are of adequate length to handle expected pipe movements, no additional anchoring is



required. Thermal movement of the pipe system should also be considered, and intermediate anchors located as required, to direct the pipe movement so as to prevent introducing bending stresses into the system.

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

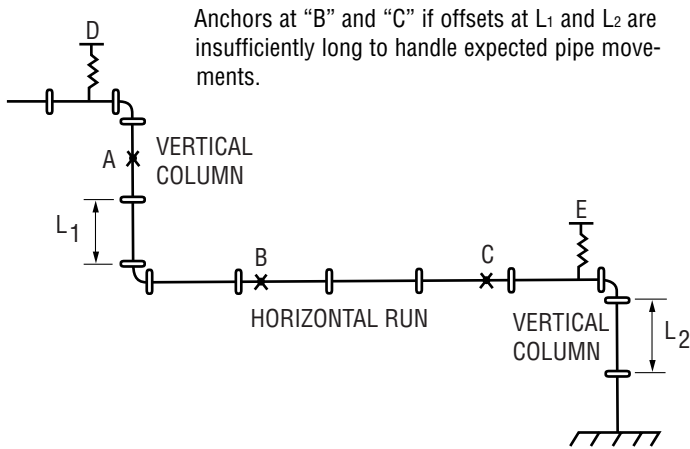
Sock-It®

Stainless Steel

Technical Data

## Example 4

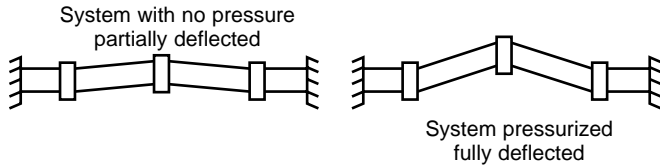
Anchor at "A" to support weight of vertical water column. Use spring hanger at "D" and "E" to allow movement of vertical piping.



## Lateral Restraint

### Example 5

A grooved coupling joint installed in a partially deflected condition between anchor locations will deflect to its fully deflected condition when pressurized. Hangers and supports must be selected with consideration of the hanger's capability to provide lateral restraint.



Light duty hangers, while acceptable in many installations, may deflect against the application of lateral forces and result in "snaking" conditions of the pipe system.

## RISER DESIGN:

Risers assembled with Gruvlok Flexible couplings are generally installed in either of two ways. In the most common method, the pipe ends are butted together within the coupling joint. Note that when installing risers, the gasket is first placed onto the lower pipe and rolled back away from the pipe end prior to positioning the upper pipe. Anchoring of the riser may be done prior to pressurization with the pipe ends butted or while pressurized, when, due to pressure thrust, the pipe ends will be fully separated.

An alternative method of riser installation is to place a metal spacer of a predetermined thickness, between the pipe ends when an additional length of pipe is added to the riser stack. The upper pipe length is anchored, the spacer removed and the coupling is then installed. This method creates a predetermined gap at each pipe joint which can be utilized in pipe systems where thermal movement is anticipated and in systems with rigid (threaded, welded, flanged) branch connections where shear forces due to pressure thrust could damage the rigid connections.

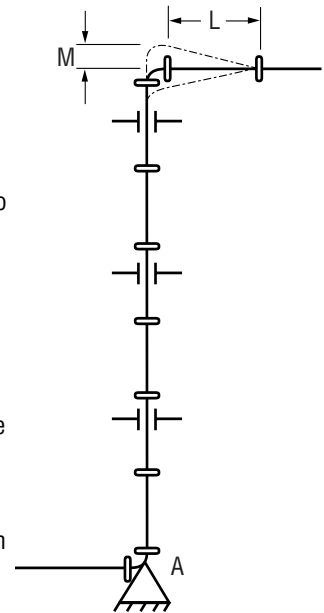
The following examples illustrate methods of installing commonly encountered riser designs.

## Risers Without Branch Connections

Install the riser with the pipe ends butted.

Located an anchor at the base of the riser (A) to support the total weight of the pipe, couplings and fluid. Provide pipe guides on every other pipe length, as a minimum, to prevent possible deflection of the pipe line at the coupling joints as the riser expands due to pressure thrust or thermal growth. Note that no intermediate anchors are required.

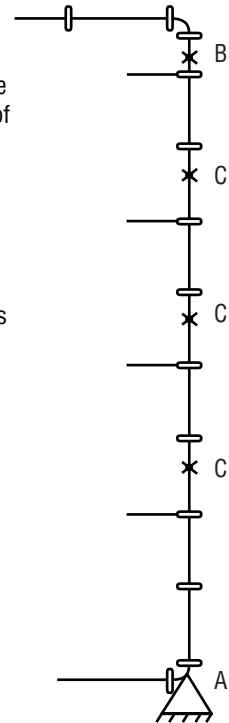
When the system is pressurized the pipe stack will "grow" due to pressure thrust which causes maximum separation of pipe ends within the couplings. The maximum amount of stack growth can be predetermined (see Linear Movement). In this example the pipe length "L" at the top of the riser must be long enough to permit sufficient deflection (see Angular Movement) to accommodate the total movement "M" from both pressure thrust and thermal gradients.



## Risers With Branch Connections

Install the riser with the predetermined gap method. Anchor the pipe at or near the base with a pressure thrust anchor "A" capable of supporting the full pressure thrust, weight of pipe and the fluid column. Anchor at "B" with an anchor capable of withstanding full pressure thrust at the top of the riser plus weight of pipe column. Place intermediate anchors "C" as shown, between anchors "A" and "B". Also place intermediate clamps at every other pipe length as a minimum.

When this system is pressurized, the pipe movement due to pressure thrust will be strained and there will be no shear forces acting at the branch connections.





**DRAFTING SYMBOLS FOR-GRUVLOK-PIPING-SYSTEMS**

COMPONENT	FIG. NO.	SYMBOL
BULL-PLUG	7075	
CAP	7074	
CLAMP-T		
GROOVED OUTLET	7046	
FEMALE THREADED OUTLET	7044 7045	
CLAMP-T-CROSS		
GROOVED OUTLETS	7048	
FEMALE THREADED OUTLETS	7047	
COUPLINGS	7000	
STRAIGHT	7000S 7001 7003 7004 7011 7400	
REDUCING	7401 7010	
CROSS	7068	
ELBOW		
90°	7050	
45°	7051	
TURNED-DOWN	-	
TURNED-UP	-	

COMPONENT	FIG. NO.	SYMBOL
ELBOW 90° ADAPTER	7055	
45° ADAPTER	7056	
EXPANSION JOINT	7092	
GRUVLOK FLANGE	7012 7013	
LATERAL 45° STRAIGHT	7069	
REDUCING	7070	
REDUCER		
CONCENTRIC	7072	
ECCENTRIC	7073	
TEE		
STRAIGHT	7060	
REDUCING	7061	
TURNED-DOWN	-	
TURNED-UP	-	
TRUE-WYE	7071	
GRUVLOK BUTTERFLY	SERIES 7700	
BALL VALVE	7500	
CHECK VALVE	7800	

All fittings are shown with couplings attached at the grooved-ends.

Grooved-End Couplings  
Branch Outlets  
Fittings  
Flow Control Components  
High Pressure  
Copper  
Dielectric Nipple  
Plain-End  
HDPE  
Sock-It®  
Stainless Steel  
Technical Data

## ROLL-GROOVERS

The new Gruvlok Model 1007 and Model 3007 Roll Groovers offer an advanced zero maintenance design to make roll grooving a more efficient, safer and easier task saving both time and money. Fast, accurate and repeatable grooves are the standard for all pipe sizes

from 2" through 16" on pipe lengths from 5" to 20 feet and all with hands clear operation. Quick and easy to set up with foot switch operation, roll grooving is now user friendly. Call your Gruvlok branch for a demonstration of the future of roll grooving.

### MODEL 1007 ROLL GROOVERS



### MODEL 3007 ROLL GROOVERS



- **WIDE GROOVING RANGE**

2" thru 16" standard wall & schedule 10 steel pipe,  
2" thru 12" Schedule 40 Stainless Steel and  
2" thru 8" copper tube type K, L, M, and DWV.

- **PIPE LENGTHS**

20' random schedule 40 (standard wall) to 5" groove  
by groove nipples. The shortest roll groove nipple  
capability in the industry; hands-clear operation.

- **HANDS CLEAR GROOVING OF PIPE AND NIPPLES**

Enhanced operator safety provided by outboard guide  
roll assembly.

- **ACCURATE, REPEATABLE-GROOVE**

- **DIAMETER CONTROL**

Simplified direct action design provides positive,  
repeatable, control.

- **FAST GROOVING TIMES**

Large capacity two-stage pump. Two-stage design  
saves time engaging pipe while providing smooth ap-  
plication of optimum grooving force with reduced  
operator effort.

- **BETTER CONTROL OF PIPE FLARE**

Outboard guide roll assembly registers pipe for proper  
orientation.

- **QUICK, EASY SETUP AND ROLL CHANGE**

- **RUGGED DESIGN REQUIRES ZERO MAINTENANCE**

Sealed bearings eliminate need for periodic mainte-  
nance.

- **USER FRIENDLY DESIGN**

Pump location is adjustable for operator comfort and  
safety.

- **EASE OF OPERATION**

High grooving forces obtained through use of larger  
capability ram requires less pump effort.

- **FOOT SWITCH POWER APPLICATION**

- **OPERATOR SAFE DESIGN**

## TECHNICAL DATA – MODEL 1007

### Grooving Capability:

(See chart below)

### Power Requirements:

115 volt, single phase, 60 cycle. Groover provided with 22 amp twist connection plug.

### Weights:

Shipping Weight: 650#

### Grooving Times:

(See chart below)

### Options:

- 2"– 6" Gruvlok Copper Method Grooving Assembly with groove and drive rolls, M&L copper guide roll assembly, and a 2"– 6" Universal Groove Diameter Gage.
- 2"– 6" Type K Copper Guide Roll Assembly
- 3"– 6" Type DWV Copper Guide Roll Assembly
- 2"– 12" Schedule 10 Rolls: Consisting of 2"– 6" and 8" – 12" roll sets.
- 8" Gruvlok Copper Method Assembly with groove and drive roll, hydraulic copper guide roll unit suitable for K, L, M, and DWV tubing, and an 8" Universal Diameter Gage.
- 14"– 16" Grooving Rolls (Model 1007 only)
- Optional 230 volt, 60Hz, 15 amp, single phase electrical panel with motor is available for the 1007 Roll Groover.

## TECHNICAL DATA – MODEL 3007

### Grooving Capability:

(See chart below)

### Power Requirements:

Rigid 300 Power Drive 115v/15A/60Hz

### Weights:

Shipping Weight: 330#

### Grooving Times:

(See chart below)

### Options:

- 2"– 6" Gruvlok Copper Method Grooving Assembly with groove and drive rolls, M&L copper guide roll assembly, and a 2"– 6" Universal Groove Diameter Gage.
- 2"– 6" Type K Copper Guide Roll Assembly
- 3"– 6" Type DWV Copper Guide Roll Assembly
- 2"– 12" Schedule 10 Rolls: Consisting of 2"– 6" and 8" – 12" roll sets.
- 8" Gruvlok Copper Method Assembly with groove and drive roll, hydraulic copper guide roll unit suitable for K, L, M, and DWV tubing, and an 8" Universal Diameter Gage.
- 14"– 16" Grooving Rolls (Model 1007 only)
- Optional 230 volt, 60Hz, 15 amp, single phase electrical panel with motor is available for

## GROOVER CAPABILITY

Pipe Material	Pipe Size/Wall Thickness (Schedule)											
	2	2½	3	4	5	6	8	10	12	14	16	
Steel	Schedule 40								STD.		STD.	
Stainless Steel	Schedule 40S								n/a		n/a	
Copper	K, L, M & DWV								n/a	n/a	n/a	n/a

### NOTES:

- (1) All wall thickness shown are the maximum wall thickness for the indicated pipe material.
- (2) Please contact Gruvlok for information on grooving alternate materials
- (3) Minimum wall thickness for each pipe materials and size is:
  - Steel: 2" - 12" – Schedule 10
  - Stainless Steel: 2" - 12" – Schedule 10S requires optional roller sets
  - Copper: 2" - 2½" – Type M  
3" - 8" – Type DWV

## MODEL 1007 & MODEL 3007 STEEL PIPE GROOVING TIMES (MIN: SEC.)

Pipe Size (Inches) – Sch. 40 (Std. Wall) Steel Pipe										
2	2½	3	4	5	6	8	10	12	14	16
0:20	0:20	0:25	0:30	1:00	1:20	1:35	1:50	2:20	2:40	3:00

This chart shows approximate grooving times with the groover setup for the proper size and groove diameter and the pipe properly positioned on the groover. The times shown are average times from the start of rotation of the pipe in the grooving rolls to completed groove.

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## MODEL 3006 & 3006C ROLL GROOVERS

The new Gruvlok Model 3006 roll groover features a low maintenance quick roll change out design. Able to groove schedule 40 steel pipe through 8" and schedule 20 through 12", it is also compatible with the Gruvlok Copper Method and will be able to groove pipe as small as 1" in diameter. Standard with each machine is the patent pending Gruvlok hands free nipple guide system. This one of a kind nipple guide system allows for the shortest nipple grooving in the business and is hands

free for increased operator safety. A special hydraulic pump with a reduced height handle and pivoting location allow each operator to customize the machine for maximum comfort while grooving. Low cost, lightweight, user friendly, and reliable, the Model 3006 Roll Groover follows the quality Gruvlok tradition started with 1007/3007 models and takes the future of roll grooving one step further.



- **Model 3006C**  
Dedicated copper roll grooving tool that can be adapted to steel.
- **WIDE GROOVING RANGE**  
2" thru 8" schedule 40 (standard wall) steel pipe,  
10" (.188" Wall) thru 12" (.219" wall),  
2" thru 8" Schedule 40S Stainless Steel Pipe,  
2" thru 6" copper type K, L, M, and DWV.
- **PIPE LENGTHS**  
20' random schedule 40 (standard wall ) to 5" groove by groove  
nipples. The shortest roll groove nipple capability in the industry:  
hands clear
- **HANDS-CLEAR GROOVING OF PIPE AND NIPPLES**  
Enhanced operator safety provided by outboard guide roll assembly
- **ACCURATE, REPEATABLE GROOVE DIAMETER CONTROL**  
Simplified direct action provided positive, repeatable control.
- **BETTER CONTROL OF PIPE FLARE**  
Outboard guide roll assembly registers pipe for proper orientation.
- **QUICK, EASY SETUP AND ROLL CHANGE**
- **RUGGED DESIGN REQUIRES MINIMAL MAINTENANCE**  
Only periodic application of grease via grease fittings required.
- **USER FRIENDLY DESIGN**  
Pump has a special reduced height handle and adjustable location for  
operator comfort and safety.
- **EASE OF OPERATION**  
High grooving forces obtained though use of large capacity ram re-  
quires less pump effort.

## TECHNICAL DATA – MODEL 3006

### Standard Equipment:

Roll Groover complete with Adjustable Support Leg Assembly and roller sets for grooving 2"-6" and 8"-12" steel pipe, Steel Guide Roll Assembly, hydraulic pump with pressure gauge, and two depth adjustment gauges. This unit is designed for direct attachment to your Ridgid® 300 Power Drive. Complete with comprehensive setup, operating and troubleshooting instructions. Shipped in a reusable wooden storage crate. Approximate shipping weight: 225 pounds.

Required Ridgid® 300 Power Drive not included.

### Optional Equipment:

Copper Option -

- 2" - 6" Copper Method Top and Bottom Rollers Copper Guide Roll Assembly
- 2" - 6" Universal Diameter Gauge

## TECHNICAL DATA – MODEL 3006C

### Standard Equipment:

Roll Groover complete with Adjustable Support Leg Assembly and Copper Method roller set for grooving 2"-6" copper tube, Copper Guide Roll Assembly, hydraulic pump with pressure gauge, and 2"-6" Universal Diameter Gauge. This unit is designed for direct attachment to your Ridgid® 300 Power Drive. Complete with comprehensive setup, operating and troubleshooting instructions. Shipped in reusable wooden storage crate. Shipping weight: 215 lbs.

Required Ridgid® 300 Power Drive (not included).

### Optional Equipment:

Steel Option -

- 2"-6" & 8"-12" Roller Sets Steel Guide Roll Assembly and Two Depth Adjustment Gauges

Note: See Roll Groover Manual, Section XI for further details of parts for the 3006 and 3006C Roll Groover.

## GROOVER CAPABILITY

Pipe Material	Pipe Size/Wall Thickness (Schedule)									
	2	2½	3	4	5	6	8	10	12	
Steel	Schedule 40								.188"	.219"
Stainless Steel	Schedule 40S				n/a				n/a	n/a
Copper	K, L, M & DWV				n/a				n/a	n/a

### NOTES:

(1) All wall thickness shown are the maximum wall thickness for the indicated pipe material.

(2) Minimum wall thickness for each pipe materials and size is:

Steel: All listed sizes – Schedule 10

Stainless Steel\*: Schedule 40S

Copper: 2", 2½" – Type M  
3" - 6" – Type DWV

(3) Please contact Gruvlok for more information on grooving alternate materials & wall thickness.

## MODEL 3006 & MODEL 3006C STEEL PIPE GROOVING TIMES (MIN: SEC.)

Pipe Size (Inches)/Max Steel Pipe Wall Thickness							
2	2½	3	4	6	8	10	12
0:20	0:20	0:25	0:30	1:20	1:55	0:40	1:20

**Grooving Times:** This chart shows approximate grooving times with the groover set-up for the proper size and groove diameter and the pipe properly positioned on the groover. The times shown are average times from the start of rotation of the pipe in the grooving rolls to completed groove.

## PIPE-PREPARATION:

To create a Gruzlok pipe joint, all pipe must be prepared to receive Gruzlok coupling or other Gruzlok pipe system components. The required pipe preparation may be grooving or cleaning the pipe ends, or cutting a hole in the pipe wall.

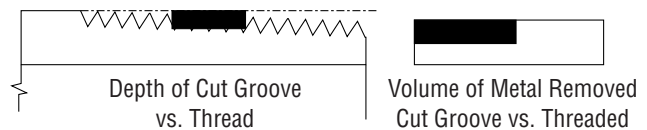
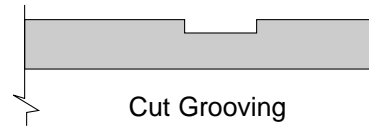
For grooved-end joints, pipe may be grooved by either of two methods; cut or roll grooving. Branch outlet connections require a properly sized and correctly located hole to be cut into the pipe. Sock-it connections

require cleaning of the pipe end. Gruzlok plain-end pipe couplings require that the pipe be free of burrs and other sharp projections which could damage the gasket; grooving is not required.

Gruzlok pipe grooving and hole cutting machines are available in a wide variety of designs to meet specific or general requirements. Gruzlok roll grooving machines produce a groove to proper dimensional tolerances, concentric with the pipe O.D., even on out-of-round pipe. Gruzlok hole cutting tools properly center holes for correct assembly of Gruzlok branch outlet components.

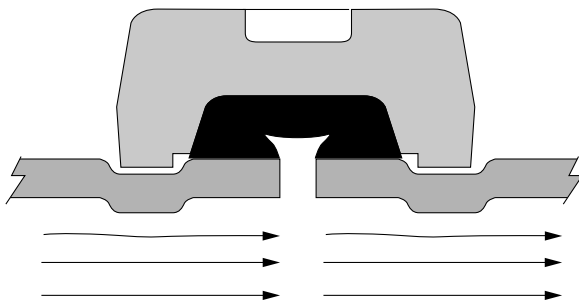
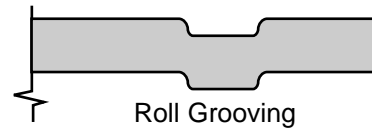
## CUT GROOVING:

Cut grooving is intended for use with standard and heavier wall pipe. Cut grooving produces a groove in the pipe wall by removing metal from the pipe O.D. The groove removes less than one half of the pipe wall and does not cut as deeply into the pipe wall as do standard pipe threads. The square cut edge of the groove allows for the full expansion, contraction, and deflection capabilities of the Gruzlok coupling.

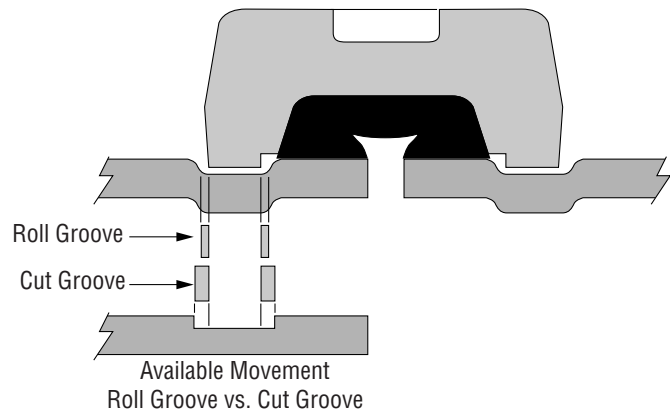


## ROLL GROOVING:

Roll grooving does not remove metal. Instead, metal is displaced while a groove is formed into the outer surface of the pipe wall. The groove configuration has slightly rounded edges resulting in a less flexible joint than a cut groove joint. This reduces available pipe joint movement by 50% over cut grooved coupling joints. Roll grooving is commonly used on a wide range of pipe thicknesses up to 0.375" wall steel pipe and sizes to 24" O.D.

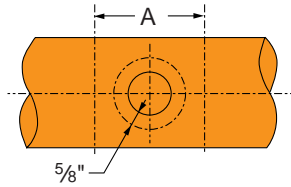


The I.D. "dimple" formed from roll grooving reduces the I.D. (on an average) less than 2%.



## BRANCH OUTLET PIPE: CLAMP-T®

Clamp-T installations require the cutting of a hole through the pipe wall. The hole must be properly sized and located on the centerline of the pipe to assure reliable performance of the Clamp-T gaskets.



After the hole has been cut into the pipe wall, any burrs and sharp or rough edges must be removed from the hole. The outside pipe surfaces within  $\frac{5}{8}$ " of the hole must be clean and smooth. Any scale, projections or indentation which might effect the gasket sealing on the pipe must be removed. The surface around the entire circumference of the pipe within the "A" dimension in the charts must be free from dirt, scale, or projections which might effect the proper assembly of the Clamp-T.

CLAMP-T INSTALLATION			
Branch Size	Hole Dimensions		
	Hole Saw Size	Max. Perm. Diameter	Surface Prep. "A"
DN/mm	In./mm	In./mm	In./mm
1/2, 3/4, 1	1 1/2	1 5/8	3 1/2
15, 20, 25	38.1	41.3	88.9
1 1/4, 1 1/2	2	2 1/8	4
32, 40	50.8	54.0	101.6
2	2 1/2	2 5/8	4 1/2
50	63.5	66.7	114.3
2 1/2	2 3/4	2 7/8	4 3/4
65	69.9	73.0	120.7
3	3 1/2	3 5/8	5 1/2
80	88.9	92.1	139.7
4	4 1/2	4 5/8	6 1/2
100	114.3	117.5	165.1

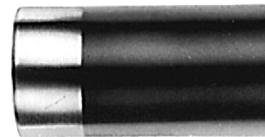
## SOCK-IT®

For Sock-It Fittings, the pipe ends must be square cut as measured from a true square line.

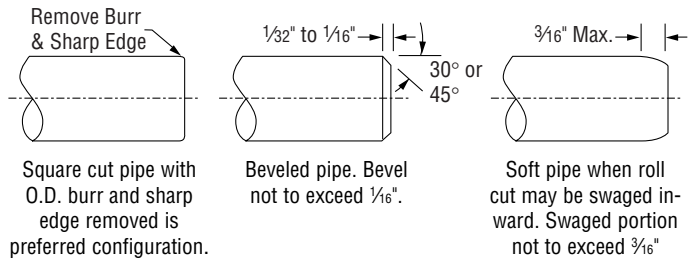
The maximum allowable tolerance is 0.030" (0.76mm) for all sizes. Any sharp edges, burrs, etc. left on the pipe from cutting must be removed. If these are not removed, they may damage the gasket as the pipe is inserted into the Sock-It Fitting.

After cutting, pipe ends must be completely cleaned a minimum of 1" (25.4mm) back from the pipe end to remove all pipe coating, weld beads, rust, sharp projections, etc., which might effect gasket sealing integrity.

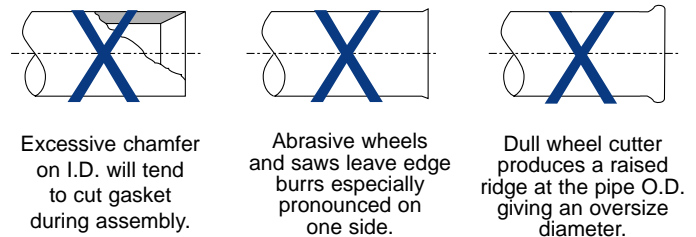
NOTE: When Allied XL pipe is used it is necessary only to remove sharp edges and burrs at the end of the pipe. No additional *cleaning* is required.



ACCEPTABLE PIPE END CONFIGURATION



### UNACCEPTABLE



The sharp O.D. edge left by different methods of cutting pipe **must be removed**. If this sharp edge is not removed, it may damage the gasket as the pipe is inserted into the Sock-It Fitting.

PIPE TOLERANCES				
Size	Schedule 10 & 40			XL
	Nom O.D.	Max. O.D.	Min. O.D.	Min. O.D.
DN/mm	In./mm	In./mm	In./mm	In./mm
1	1.315	1.325	1.295	1.285
25	33.4	33.6	32.9	32.6
1 1/4	1.660	1.670	1.642	1.630
32	42.2	42.4	41.7	41.4
1 1/2	1.900	1.910	1.882	1.875
40	48.3	48.5	47.8	47.6
2	2.375	2.385	2.357	2.352
50	60.3	60.6	59.9	59.7
2 1/2	2.875	2.904	2.846	2.837
65	73.0	73.8	72.3	72.1

## ROUGHNECK®

Plain end pipe for use with Fig. 7005 Roughneck Couplings must be free of any notches, bumps, weld bead, score marks, etc. for at least 1 1/2" (38mm) back from the pipe end to provide a smooth sealing surface for the gasket. Pipe ends (plain or beveled end) must be square cut as measured from a true square line with the maximum allowable tolerance as follows: 0.030" (0.7mm) for 2" through 3 1/2"; 0.045

(1.1mm) for 4" through 6"; and 0.060" (1.5mm) for 8" sizes. The nominal outside diameter of pipe should not vary more than  $\pm 1\%$  for sizes up to 2 1/2",  $+1\% - 1/32$ " for sizes 3"-5";  $+1/16" - 1/32$ " for sizes 6" and larger. Pipe ends must be marked a distance of 1" from the pipe end for Sizes 2"-4" and 1 1/4" from the pipe end for Sizes 5"-8" as a guide for centering of the gasket on the pipe ends.

## Roll Groove Specifications

### GRUVLOK STANDARD ROLL GROOVE SPECIFICATION FOR STEEL & OTHER IPS OR ISO SIZE PIPE

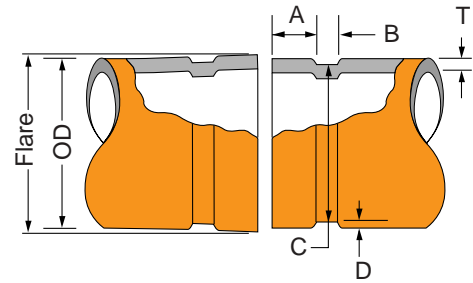
Nominal IPS Pipe Size	Pipe OD Actual	Tolerance		"A" "B"		"C" Actual	"C" Tol. +0.000	"D" (Ref. Only)	Min. Allow. Wall Thick "T"	Max. Flare Dia.
		+In./mm	-In./mm	In./mm	In./mm					
In./DN(mm)	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm
2	2.375	+0.024	-0.024	0.625	0.344	2.250	-0.015	0.063	0.065	2.480
50	60.3	+0.61	-0.61	15.88	8.74	57.15	-0.38	1.60	1.7	63.0
2½	2.875	+0.029	-0.029	0.625	0.344	2.720	-0.018	0.078	0.083	2.980
65	73.0	+0.74	-0.74	15.88	8.74	69.09	-0.46	1.98	2.1	75.7
3	3.500	+0.035	-0.031	0.625	0.344	3.344	-0.018	0.078	0.083	3.600
80	88.9	+0.89	-0.79	15.88	8.74	84.94	-0.46	1.98	2.1	91.4
3½	4.000	+0.040	-0.031	0.625	0.344	3.834	-0.020	0.083	0.083	4.100
90	101.6	+1.02	-0.79	15.88	8.74	97.38	-0.51	2.11	2.1	104.1
4	4.500	+0.045	-0.031	0.625	0.344	4.334	-0.020	0.083	0.083	4.600
100	114.3	+1.14	-0.79	15.88	8.74	110.08	-0.51	2.11	2.1	116.8
5	5.563	+0.056	-0.031	0.625	0.344	5.395	-0.022	0.084	0.109	5.660
125	141.3	+1.42	-0.79	15.88	8.74	137.03	-0.56	2.13	2.8	143.8
6	6.625	+0.063	-0.031	0.625	0.344	6.455	-0.022	0.085	0.109	6.730
150	168.3	+1.60	-0.79	15.88	8.74	163.96	-0.56	2.16	2.8	170.9
8	8.625	+0.063	-0.031	0.750	0.469	8.441	-0.025	0.092	0.109	8.800
200	219.1	+1.60	-0.79	19.05	11.91	214.40	-0.64	2.34	2.8	223.5
10	10.750	+0.063	-0.031	0.750	0.469	10.562	-0.027	0.094	0.134	10.920
250	273.1	+1.60	-0.79	19.05	11.91	268.27	-0.69	2.39	3.4	277.4
12	12.750	+0.063	-0.031	0.750	0.469	12.531	-0.030	0.109	0.156	12.920
300	323.9	+1.60	-0.79	19.05	11.91	318.29	-0.76	2.77	4.0	328.2
14 OD*	14.000	+0.063	-0.031	0.938	0.469	13.781	-0.030	0.109	0.156	14.100
350	355.6	+1.60	-0.79	23.83	11.91	350.04	-0.76	2.77	4.0	358.1
16 OD*	16.000	+0.063	-0.031	0.938	0.469	15.781	-0.030	0.109	0.165	16.100
400	406.4	+1.60	-0.79	23.83	11.91	400.84	-0.76	2.77	4.2	408.9

\* Sizes only for the 1007 and 3007 Roll Groovers

**Out of roundness:** Difference between maximum OD and minimum OD measured at 90° must not exceed total OD tolerance listed.

**For IPS pipe,** the maximum allowable tolerance from square cut ends is 0.03" for 2" thru 3½"; 0.045" for 4" thru 6"; and 0.060" for sizes 8" and above measured from a true square line.

**Beveled End Pipe** in conformance with ANSI B16.25 (37½°) is acceptable, however square cut is preferred.



#### COLUMN 1

Nominal IPS Pipe size.

#### COLUMN 2

IPS outside diameter.

#### COLUMN 3

Gasket seat must be free from scores, seams, chips, rust or scale which may interfere with proper sealing of the gasket. Gasket seat width is to be measured from the pipe end to the vertical flank in the groove wall.

#### COLUMN 4

Groove width is to be measured between vertical flank of the groove size walls

#### COLUMN 5

The groove must be of uniform depth around the entire pipe circumference. (See column 6).

#### COLUMN 6

Groove depth: for reference only. Groove must conform to the groove diameter "C" listed in column 5.

#### COLUMN 7

Minimum allowable wall thickness which may be roll grooved.

#### COLUMN 8

Maximum allowable pipe end flare diameter.

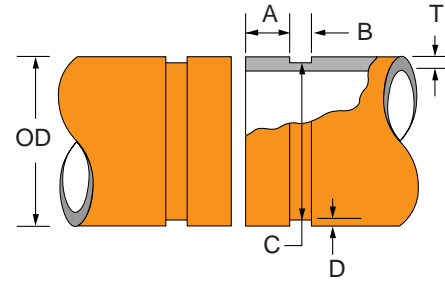
Measured at the most extreme pipe end diameter of the gasket seat area.



## Cut Groove Specifications

### GRUVLOK STANDARD CUT GROOVE SPECIFICATION FOR STEEL & OTHER IPS OR ISO SIZE PIPE

Nominal IPS Pipe Size	Pipe OD Tolerance		-3- Gasket Seat "A"	-4- Groove Width "B"	-5- Groove Diameter "C"	-6- Actual Groove Depth "D"	-7- Min. Allow. Wall Thick. "T"
	Actual		$\pm 0.030$ $\pm 0.76$	$\pm 0.030$ $\pm 0.76$	Actual ToL. $+0.000$ (Ref. Only)		
In./DN(mm)	In./mm	+In./mm -In./mm	In./mm	In./mm	In./mm -In./mm	In./mm -In./mm	In./mm
1	1.315	+0.028 -0.015	0.625	0.312	1.190 -0.015	0.062	0.133
25	33.4	+0.71 -0.38	15.88	7.92	30.23 -0.38	1.6	3.4
1¼	1.660	+0.029 -0.016	0.625	0.312	1.535 -0.015	0.062	0.140
32	42.2	+0.74 -0.41	15.88	7.92	38.99 -0.38	1.6	3.6
1½	1.900	+0.019 -0.019	0.625	0.312	1.775 -0.015	0.062	0.145
40	48.3	+0.48 -0.48	15.88	7.92	45.09 -0.38	1.6	3.7
2	2.375	+0.024 -0.024	0.625	0.312	2.250 -0.015	0.062	0.154
50	60.3	+0.61 -0.61	15.88	7.92	57.15 -0.38	1.6	3.9
2½	2.875	+0.029 -0.029	0.625	0.312	2.720 -0.018	0.078	0.187
65	73.0	+0.74 -0.74	15.88	7.92	69.09 -0.46	2.0	4.8
3	3.500	+0.035 -0.031	0.625	0.312	3.344 -0.018	0.078	0.188
80	88.9	+0.89 -0.79	15.88	7.92	84.94 -0.46	2.0	4.8
3 OD	2.996	+0.030 -0.030	0.625	0.312	2.845 -0.018	0.076	0.188
65	76.1	+0.76 -0.76	15.88	7.92	72.26 -0.46	1.9	4.8
3½	4.000	+0.040 -0.031	0.625	0.312	3.834 -0.020	0.083	0.188
90	101.6	+1.02 -0.79	15.88	7.92	97.38 -0.51	2.1	4.8
4	4.500	+0.045 -0.031	0.625	0.375	4.334 -0.020	0.083	0.203
100	114.3	+1.14 -0.79	15.88	9.53	110.08 -0.51	2.1	5.2
4¼ OD	4.250	+0.042 -0.031	0.625	0.375	4.084 -0.020	0.083	0.203
100	108.0	+1.07 -0.79	15.88	9.53	103.73 -0.51	2.1	5.2
5	5.563	+0.056 -0.031	0.625	0.375	5.395 -0.022	0.084	0.203
125	141.3	+1.42 -0.79	15.88	9.53	137.03 -0.56	2.1	5.2
5¼ OD	5.236	+0.052 -0.031	0.625	0.375	5.084 -0.020	0.076	0.203
125	133.0	+1.32 -0.79	15.88	9.53	129.13 -0.51	1.9	5.2
5½ OD	5.500	+0.055 -0.031	0.625	0.375	5.334 -0.020	0.083	0.203
125	139.7	+1.40 -0.79	15.88	9.53	135.48 -0.51	2.1	5.2
6	6.625	+0.063 -0.031	0.625	0.375	6.455 -0.022	0.085	0.219
150	168.3	+1.60 -0.79	15.88	9.53	163.96 -0.56	2.2	5.6
6¼ OD	6.259	+0.063 -0.031	0.625	0.375	6.084 -0.022	0.088	0.249
150	159.0	+1.60 -0.79	15.88	9.53	154.53 -0.56	2.2	6.3
6½ OD	6.500	+0.063 -0.031	0.625	0.375	6.334 -0.022	0.085	0.219
150	165.1	+1.60 -0.79	15.88	9.53	160.88 -0.56	2.2	5.6
8	8.625	+0.063 -0.031	0.750	0.437	8.441 -0.025	0.092	0.238
200	219.1	+1.60 -0.79	19.05	11.10	214.40 -0.64	2.3	6.1
10	10.750	+0.063 -0.031	0.750	0.500	10.562 -0.027	0.094	0.250
250	273.1	+1.60 -0.79	19.05	12.70	268.27 -0.69	2.4	6.4
12	12.750	+0.063 -0.031	0.750	0.500	12.531 -0.030	0.109	0.279
300	323.9	+1.60 -0.79	19.05	12.70	318.29 -0.76	2.8	7.1
14 OD	14.000	+0.063 -0.031	0.938	0.500	13.781 -0.030	0.109	0.281
350	355.6	+1.60 -0.79	23.83	12.70	350.04 -0.76	2.8	7.1
16 OD	16.000	+0.063 -0.031	0.938	0.500	15.781 -0.030	0.109	0.312
400	406.4	+1.60 -0.79	23.83	12.70	400.84 -0.76	2.8	7.9
18 OD	18.000	+0.063 -0.031	1.000	0.500	17.781 -0.030	0.109	0.312
450	457.2	+1.60 -0.79	25.40	12.70	451.64 -0.76	2.8	7.9
20 OD	20.000	+0.063 -0.031	1.000	0.500	19.781 -0.030	0.109	0.312
500	508.0	+1.60 -0.79	25.40	12.70	502.44 -0.76	2.8	7.9
24 OD	24.000	+0.063 -0.031	1.000	0.563	23.656 -0.030	0.172	0.375
600	609.6	+1.60 -0.79	25.40	14.30	600.86 -0.76	4.4	9.5
28 ID	28.875	+0.063 -0.031	1.000	0.563	28.531 -0.030	0.172	0.437
700	733.4	+1.60 -0.79	25.40	14.30	724.69 -0.76	4.4	11.1
30 ID	31.000	+0.063 -0.031	1.250	0.625	30.594 -0.030	0.203	0.500
750	787.4	+1.60 -0.79	31.75	15.88	777.09 -0.76	5.2	12.7



**COLUMN 1**  
Nominal IPS Pipe size.  
Nominal ISO Pipe size.

**COLUMN 2**  
IPS outside diameter.  
ISO outside diameter.

**COLUMN 3 AND 4**  
Gasket seat must be free from scores, seams, chips, rust or scale which may interfere with proper coupling assembly.

**COLUMN 5**  
The groove must be of uniform depth around the entire pipe circumference. (See column 6).

**COLUMN 6**  
Groove depth: for reference only. Groove must conform to the groove diameter "C" listed in column 5.

**COLUMN 7**  
Minimum allowable wall thickness which may be cut grooved.

**No equivalent metric pipe size.**

**Out of roundness:** Difference between maximum OD and minimum OD measured at 90° must not exceed total OD tolerance listed.

**For IPS pipe,** the maximum allowable tolerance from square cut ends is 0.03" for 1" thru 3½"; 0.045" for 4" thru 6"; and 0.060" for sizes 8" and above measured from a true square line.

**For ISO size pipe,** the maximum allowable tolerance from square cut ends is 0.75mm for sizes 25mm-80mm; 1.15mm for sizes 100mm-150mm; and 1.50mm for sizes 200mm and above, measured from a true square line.

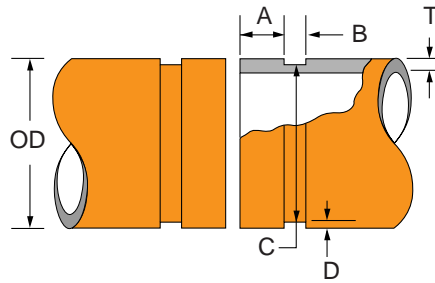
**Beveled-End Pipe** in conformance with ANSI B16.25 (37½°) is acceptable, however square cut is preferred.

**Beveled-End Pipe** is not to be used with End Guard gaskets.

Grooved-End Couplings  
Branch Outlets  
Fittings  
Flow Control Components  
High Pressure  
Copper  
Dielectric Nipple  
Plain-End  
HDPE  
Sock-It®  
Stainless Steel  
Technical Data

## Cut Groove End Guard® Specification

End Guard (EG) cut groove is designed for standard or heavier wall thickness pipe to be joined by HPR 7004 EG couplings. Gruvlok EG fittings are grooved in accordance with these dimensions

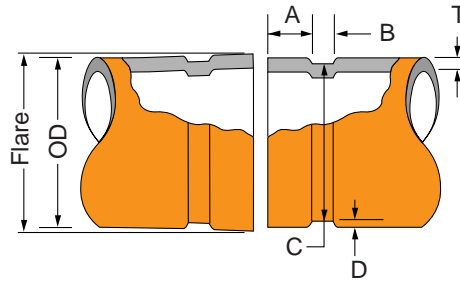


**END GUARD (EG) CUT GROOVE SPECIFICATIONS\***

Nominal IPS Pipe Size	Pipe Outside Diameter			Gasket Seat "A"		Groove Width "B"		Groove Diameter "C"		Groove Depth (Ref. Only) "D"	Min. Allow. Wall Thick. "T"
	Actual	+In./mm	-In./mm	Actual	Tol. +/-	Actual	Tol. (+0.010)	Actual	Tol.	In./mm	In./mm
In./DN(mm)	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm
2	2.375	+0.024	-0.024	0.562	+0.010	0.255	-0.005	2.250	-0.015	0.062	0.154
50	60.3	+0.61	-0.61	14.27	0.25	6.48	-0.13	57.15	-0.38	1.6	4.0
2 1/2	2.875	+0.029	-0.029	0.562	+0.010	0.255	-0.005	2.720	-0.018	0.078	0.188
65	73.0	+0.74	-0.74	14.27	0.25	6.48	-0.13	69.09	-0.46	2.0	4.8
3	3.500	+0.035	-0.031	0.562	+0.010	0.255	-0.005	3.344	-0.018	0.078	0.188
80	88.9	+0.89	-0.79	14.27	0.25	6.48	-0.13	84.94	-0.46	2.0	4.8
4	4.500	+0.045	-0.031	0.605	+0.015	0.305	-0.005	4.334	-0.020	0.083	0.203
100	114.3	+1.14	-0.79	15.37	0.38	7.75	-0.13	110.08	-0.51	2.1	5.2
5	5.563	+0.056	-0.031	0.605	+0.015	0.305	-0.005	5.395	-0.022	0.084	0.203
125	141.3	+1.42	-0.79	15.37	0.38	7.75	-0.13	137.03	-0.56	2.1	5.2
6	6.625	+0.063	-0.031	0.605	+0.015	0.305	-0.005	6.455	-0.022	0.085	0.219
150	168.3	+1.60	-0.79	15.37	0.38	7.75	-0.13	163.96	-0.56	2.2	5.6
8	8.625	+0.063	-0.031	0.714	+0.015	0.400	-0.010	8.441	-0.025	0.092	0.238
200	219.1	+1.60	-0.79	18.14	0.38	10.16	-0.254	214.40	-0.64	2.3	6.1
10	10.750	+0.063	-0.031	0.714	+0.015	0.400	-0.010	10.562	-0.027	0.094	0.250
250	273.1	+1.60	-0.79	18.14	0.38	10.16	-0.25	268.27	-0.69	2.4	6.4
12	12.750	+0.063	-0.031	0.714	+0.015	0.400	-0.010	12.531	-0.030	0.109	0.279
300	323.9	+1.60	-0.79	18.14	0.38	10.16	-0.25	318.29	-0.76	2.8	7.1

## Roll Groove End Guard® Specification

End Guard (EG) roll groove is designed for lightwall pipe to be joined by HPR 7004 EG couplings.



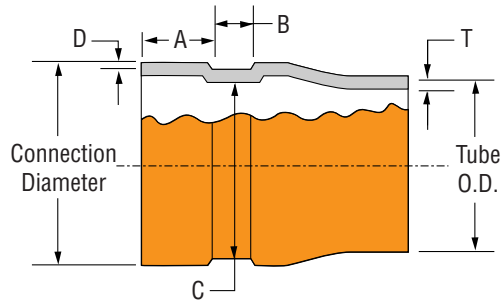
**END GUARD (EG) ROLL GROOVE SPECIFICATIONS \***

Nominal IPS Pipe Size	Pipe Outside Diameter			Gasket Seat "A"		Groove Width "B"		Groove Diameter "C"		Groove Depth (Ref. Only) "D"	Min. Allow. Wall Thick. "T"
	Actual	+In./mm	-In./mm	Actual	Tol. +/-	Actual	Tol. (+0.010)	Actual	Tol.	In./mm	In./mm
In./DN(mm)	In./mm	+In./mm	-In./mm	In./mm	In./mm	In./mm	-In./mm	In./mm	In./mm	In./mm	In./mm
2	2.375	+0.024	-0.024	0.572	-0.020	0.250	+0.015	2.250	-0.015	0.062	0.065
50	60.3	+0.61	-0.61	+14.53	-0.51	6.35	0.38	57.15	-0.38	1.6	1.7
2 1/2	2.875	+0.029	-0.029	0.572	-0.020	0.250	+0.015	2.720	-0.018	0.078	0.083
65	73.0	+0.74	-0.74	+14.53	-0.51	6.35	0.38	69.09	-0.46	2.0	2.1
3	3.500	+0.035	-0.031	0.572	-0.020	0.250	+0.015	3.344	-0.018	0.078	0.083
80	88.9	+0.89	-0.79	+14.53	-0.51	6.35	0.38	84.94	-0.46	2.0	2.1
4	4.500	+0.045	-0.031	0.610	-0.020	0.300	+0.020	4.334	-0.020	0.083	0.083
100	114.3	+1.14	-0.79	+15.49	-0.51	7.62	0.51	110.08	-0.51	2.1	2.1
5	5.563	+0.056	-0.031	0.610	-0.020	0.300	+0.020	5.395	-0.022	0.084	0.109
125	141.3	+1.42	-0.79	+15.49	-0.51	7.62	0.51	137.03	-0.56	2.1	2.8
6	6.625	+0.063	-0.031	0.610	-0.020	0.300	+0.020	6.455	-0.022	0.085	0.109
150	168.3	+1.60	-0.79	+15.49	-0.51	7.62	0.51	163.96	-0.56	2.2	2.8
8	8.625	+0.063	-0.031	0.719	-0.020	0.390	+0.020	8.441	-0.025	0.092	0.109
200	219.1	+1.60	-0.79	+18.26	-0.51	9.91	0.51	214.40	-0.64	2.3	2.8
10	10.750	+0.063	-0.031	0.719	-0.020	0.390	+0.020	10.562	-0.027	0.094	0.134
250	273.1	+1.60	-0.79	+18.26	-0.51	9.91	0.51	268.27	-0.69	2.4	3.4
12	12.750	+0.063	-0.031	0.719	-0.020	0.390	+0.020	12.531	-0.030	0.109	0.156
300	323.9	+1.60	-0.79	+18.26	-0.51	9.91	0.51	318.29	-0.76	2.8	4.0

\*Refer to additional notes on previous page

# GRUVLOK COPPER-METHOD: COPPER PREP SPECIFICATIONS

GRUVLOK COPPER PREP ROLL GROOVE SPECIFICATIONS FOR TYPES K, L, M AND DWV COPPER TUBING



GRUVLOK COPPER PREP SPECIFICATIONS													
-1-	-2-			-3-			-4-	-5-	-6-		-7-	-8-	-9-
Nominal Tubing Size	Tubing Outside Diameter		Tube End Connection Diameter			Gasket Seat A	Groove Width B	Groove Diameter "C"		Groove Depth D	Allow Wall Thick T	Max. Flare Dia.	
In./DN(mm)	In./mm	+In./mm	-In./mm	In./mm	+In./mm	-In./mm	In./mm	In./mm	In./mm	-In./mm	In./mm	In./mm	In./mm
2	2.125	0.002	0.002	2.375	0.045	0.024	0.625	0.344	2.250	-0.015	0.063	0.059	2.447
50	54.0	0.05	0.05	60.33	1.14	0.61	15.88	8.74	57.15	-0.381	1.60	1.50	62.15
2 1/2	2.625	0.002	0.002	2.875	0.029	0.029	0.625	0.344	2.720	-0.018	0.077	0.065	2.962
65	66.7	0.05	0.05	73.03	0.74	0.74	15.88	8.74	69.09	-0.46	1.96	1.65	75.23
3	3.125	0.002	0.002	3.500	0.035	0.031	0.625	0.344	3.344	-0.018	0.078	DWV	3.566
80	79.4	0.05	0.05	88.90	0.89	0.79	15.88	8.74	84.94	-0.46	1.98	DWV	90.58
4	4.125	0.002	0.002	4.500	0.045	0.031	0.625	0.344	4.334	-0.020	0.083	DWV	4.576
100	104.8	0.05	0.05	114.30	1.14	0.79	15.88	8.74	110.08	-0.51	2.11	DWV	116.23
5	5.125	0.002	0.002	5.562	0.056	0.031	0.625	0.344	5.395	-0.022	0.084	DWV	5.650
125	130.2	0.05	0.05	141.27	1.42	0.79	15.88	8.74	137.03	-0.56	2.13	DWV	143.51
6	6.125	0.002	0.002	6.625	0.063	0.031	0.625	0.344	6.455	-0.022	0.085	DWV	6.719
150	155.6	0.05	0.05	168.28	1.60	0.79	15.88	8.74	163.96	-0.56	2.16	DWV	170.66
8	8.125	0.002	0.004	8.625	0.063	0.031	0.750	0.469	8.441	-0.025	0.092	DWV	8.719
200	206.4	0.05	0.10	219.08	1.60	0.79	19.05	11.91	214.40	-0.64	2.34	DWV	221.46

- Notes:
- Out of roundness: Difference between maximum OD and minimum OD measured at 90° must not exceed tolerance listed.
  - The maximum allowable tolerance from square cut ends is 0.030" for 2" thru 3"; 0.045" for 4" thru 6"; and 0.060" for 8" measured from a true square line.

**COLUMN 1**

Nominal ASTM B88 copper tubing size.

**COLUMN 2**

Outside diameter of copper tubing in accordance with ASTM B88.

**COLUMN 3**

Outside diameter of Copper Prep roll grooved copper tubing.

**COLUMN 4**

Gasket seat and groove must be free from scores, seams, chips, rust or scale which may interfere with proper coupling assembly.

**COLUMN 5**

Groove width is to be measured between vertical flank of the groove size walls.

**COLUMN 6**

The groove must be of uniform depth around the entire tubing circumference. (See column 7).

**COLUMN 7**

Groove depth: for **reference only**. Groove must conform to the groove diameter "C" listed in column 6.

**COLUMN 8**

Minimum allowable copper tube wall thickness which may be prepared to Gruvlok Copper-Prep specifications.

**COLUMN 9**

Maximum allowable end flare diameter. Measured at the most extreme tubing end diameter of the gasket seat area.

## TERMS AND CONDITIONS

1. **CONTROLLING PROVISIONS:** These terms and conditions shall control with respect to any purchase order or sale of Seller's products.

No waiver, alteration or modification of these terms and conditions whether on Buyer's purchase order or otherwise shall be valid unless the waiver, alteration or modification is specifically accepted in writing and signed by an authorized representative of Seller.

2. **DELIVERY:** Seller will make every effort to complete delivery of products as indicated on Seller's acceptance of an order, but Seller assumes no responsibility or liability, and will accept no back charge, for loss or damage due to delay or inability to deliver caused by acts of God, war, labor difficulties, accident, delays of carriers, by contractors or suppliers, inability to obtain materials, shortages of fuel and energy, or any other causes of any kind whatsoever beyond the control of Seller. Seller may terminate any contract of sale of its products without liability of any nature, by written notice to Buyer, in the event that the delay in delivery or performance resulting from any of the aforesaid causes shall continue for a period of sixty (60) days. Under no circumstances shall Seller be liable for any special or consequential damages or for loss, damage, or expense (whether or not based on negligence) directly or indirectly arising from delays or failure to give notice of delay.

3. **WARRANTY:** Seller warrants for one year from the date of shipment Seller's manufactured products to the extent that Seller will replace those having defects in materials or workmanship when used for the purpose and in the manner which Seller recommends. If Seller's examination shall disclose to its satisfaction that the products are defective, and an adjustment is required, the amount of such adjustment shall not exceed the net sales price of the defective products only and no allowance will be made for labor or expense of repairing or replacing defective products or workmanship or damage resulting from the same. Seller warrants the products which it sells of other manufacturers to the extent of the warranties of their respective makers. Where engineering design or fabrication work is supplied, Buyer's acceptance of Seller's design or of delivery of work shall relieve Seller of all further obligation, other than as expressed in Seller's product warranty.

**THIS IS SELLER'S SOLE WARRANTY. SELLER MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED SELLER'S AFORESTATED OBLIGATION ARE HEREBY DISCLAIMED BY SELLER AND EXCLUDED FROM THIS WARRANTY.** Seller neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of its engineering designs or products. This warranty shall not apply to any products or parts of products which (a) have been repaired or altered outside of Seller's factory, in any manner; or (b) have been subjected to misuse, negligence or accidents; (c) have been used in a manner contrary to Seller's instructions or recommendations. Seller shall not be responsible for design errors due to inaccurate or incomplete information supplied by Buyer or its representatives.

4. **SELLER'S LIABILITY:** Seller will not be liable for any loss, damage, cost of repairs, incidental or consequential damages of any kind, whether based upon warranty (except for the obligation accepted by Seller under "Warranty" above), contract or negligence arising in connection with the design, manufacture, sale, use or repair of the products or of the engineering designs supplied to Buyer.

5. **RETURNS:** Seller cannot accept return of any products unless its written permission has been first obtained, in which case same will be credited subject to the following: (a) All material returned must, on its arrival at Seller's plant, be found to be in first-class condition; if not, cost of putting in saleable condition will be deducted from credit memoranda;

(b) A handling charge deduction of twenty percent (20%) will be made from all credit memoranda issued for material returned; (c) Transportation charges, if not prepaid, will be deducted from credit memoranda.

6. **SHIPMENTS:** All products sent out will be carefully examined, counted and packed. The cost of any special packing or special handling caused by Buyer's requirements or requests shall be added to the amount of the order. No claim for shortages will be allowed unless made in writing within ten (10) days of receipt of a shipment. Claims

for products damaged or lost in transit should be made on the carrier, as Seller's responsibility ceases, and title passes, on delivery to the carrier.

7. **SPECIAL PRODUCTS:** Orders covering special or non-standard products are not subject to cancellation except on such terms as Seller may specify on application.

8. **PRICES AND DESIGNS:** Prices and designs are subject to change without notice. All prices are F.O.B. Point of Shipment, unless otherwise stated.

9. **TAXES:** The amount of any sales, excise or other taxes, if any, applicable to the products covered by this order, shall be added to the purchase price and shall be paid by Buyer unless Buyer provides Seller with an exemption certificate acceptable to the taxing authorities.

10. **NUCLEAR PLANTS:** Where the products, engineering design or fabrication is for nuclear plant applications, Buyer agrees: (a) to take all necessary steps to add Seller as an insured under the American Nuclear Insurers' (ANI)-pool and under the Mutual Atomic Energy Reinsurance Pool (MAERP) for property damage and liability insurance and if necessary steps could have been taken, but are not taken, Buyer shall hold Seller harmless against all such losses which could have been thus covered, (b) to hold Seller harmless with respect to any personal injury (or death), property damage or other loss in a nuclear incident which is caused directly or indirectly by defective design, material, or workmanship furnished by Seller and which is covered by insurance maintained by Buyer (or which could be so covered but with respect to which Buyer has elected to self-insure), and further agrees to waive subrogation by its carriers of such insurance against Seller, and (c) as to nuclear hazards for which Buyer cannot obtain insurance coverage, the liability of Seller for any personal injury (or death), property damage or other loss directly caused by defective design, material, or workmanship furnished by Seller shall not exceed the value of the material furnished by Seller at the time of the loss occurrence.

11. **MINIMUM INVOICE:** \$25.00 plus transportation.

12. **TERMS:** Cash, net 30 days unless otherwise specified.

Grooved-End Couplings

Branch Outlets

Fittings

Flow Control Components

High Pressure

Copper

Dielectric Nipple

Plain-End

HDPE

Sock-It®

Stainless Steel

Technical Data

## *Anvil Design Services offers both Basic and Extended Services...*

*Contact your Anvil representative  
for more information.*

### **Basic Services**

Anvil Design Services produces fabrication drawings of mechanical room piping 2½" and larger including chillers, heat exchangers, boilers, and pumps from contractor supplied flow diagrams, mechanical drawings, and approved submittals and specifications.

The drawings include a Bill of Materials with tags referencing the components in the mechanical room. The piping is color coded by service and is represented in 3-D with plan, isometric, and elevation views.

Initially, Anvil personnel meet with you to determine your piping preferences. The project scope and fee is agreed upon in a Design Services contract.

The plans and specifications are then interpreted in terms of economy, accuracy, and compliance. We may suggest modifications in arrangement, construction, equipment location, or product to attain the desired results. Piping layouts are carefully analyzed to determine whether further economies can be attained in the piping system.

Piping drawings are then prepared to determine the most efficient pipe routing, taking equipment location and any interferences into consideration. Preliminary prints are sent to you for revision or approval.

Upon approval, (4) sets of drawings with tags and Bills of Materials of the included system components are sent to you. Copies of the electronic data file of the project drawings are available at no extra charge.

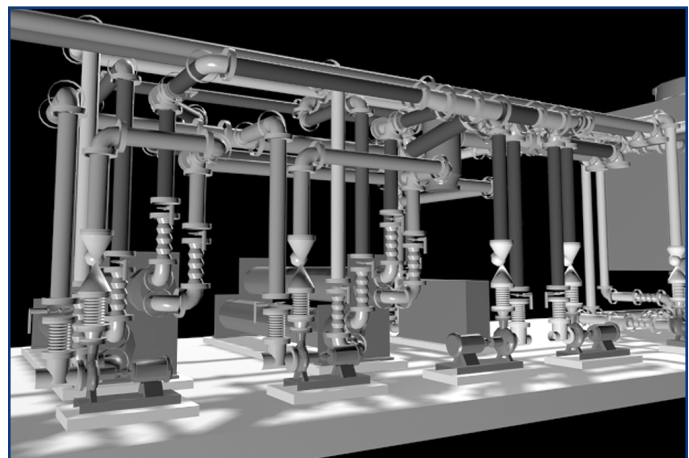
With Basic Services, you can plan the mechanical room. The preliminary drawings can be taken to coordination meetings with other trades to "reserve" space by "getting in" first. Also, your field supervisor can spend more time supervising and not calculating pipe lengths and pipe routing. The components can be grouped from the finished drawings for better workflow planning.

We usually reduce fitting counts by 10%-15% by moving equipment whenever possible, usually less than a foot. The more movement that is allowed, the more savings can be realized.

### **Extended Services:**

Extended Services include any scope beyond Basic Services. There are many different types of services offered as extended:

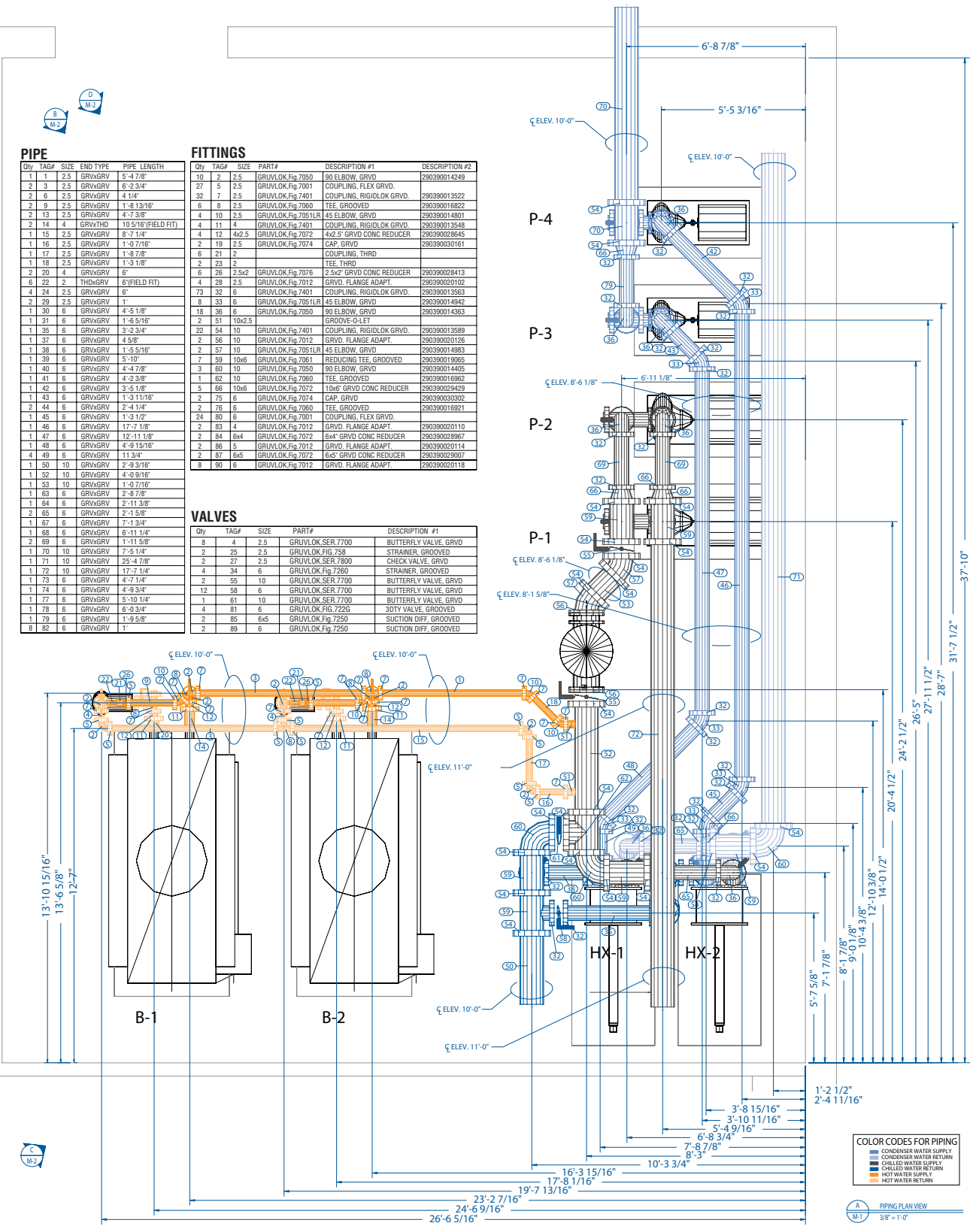
- > BOM by component (pump, chiller) or by system
- > Unique Tagging – adding unique tags to individual components
- > Air Handling Units – with associated ductwork
- > Single Line Routing – non-dimensional
- > Distribution Piping
- > Dimensioned Floor Penetrations
- > AWWA Piping - Total Scope
- > Commercial Piping
- > Oil Field Piping
- > Retrofit Projects - Field Survey
- > Hybrid Systems
- > Anything Else



PIPE			
Qty	TAG#	SIZE	PIPE LENGTH
1	2.5	GRVGRV	3'-4 7/8"
2	3	GRVGRV	6'-2 3/4"
2	6	GRVGRV	4'-1 1/4"
2	9	GRVGRV	1'-8 13/16"
2	13	GRVGRV	4'-7 3/8"
2	14	GRVTHD	10'-5 1/16" (FIELD FIT)
1	15	GRVGRV	8'-7 1/4"
1	16	GRVGRV	1'-0 7/16"
1	17	GRVGRV	1'-8 7/8"
1	18	GRVGRV	1'-3 1/8"
2	20	GRVGRV	6"
6	22	THDGRV	6" (FIELD FIT)
4	24	GRVGRV	6"
2	29	GRVGRV	1"
1	30	GRVGRV	4'-5 1/8"
1	31	GRVGRV	1'-6 3/16"
1	35	GRVGRV	3'-2 3/4"
1	37	GRVGRV	4'-5/8"
1	38	GRVGRV	1'-5 5/16"
1	39	GRVGRV	5'-10"
1	40	GRVGRV	4'-4 3/8"
1	41	GRVGRV	4'-2 3/8"
1	42	GRVGRV	3'-5 1/8"
1	43	GRVGRV	1'-3 11/16"
2	44	GRVGRV	2'-4 1/4"
1	45	GRVGRV	1'-3 1/2"
1	46	GRVGRV	17'-2 1/8"
1	47	GRVGRV	12'-11 1/8"
1	48	GRVGRV	4'-9 15/16"
4	49	GRVGRV	11 3/4"
1	50	GRVGRV	2'-9 3/16"
1	52	GRVGRV	4'-0 9/16"
1	53	GRVGRV	1'-0 7/16"
1	63	GRVGRV	2'-8 7/8"
1	64	GRVGRV	2'-11 3/8"
2	65	GRVGRV	4'-4 3/8"
1	67	GRVGRV	7'-1 3/4"
1	68	GRVGRV	6'-11 1/4"
2	69	GRVGRV	1'-11 5/8"
1	70	GRVGRV	7'-5 1/4"
1	71	GRVGRV	25'-4 7/8"
1	72	GRVGRV	17'-2 1/4"
1	73	GRVGRV	4'-7 1/4"
1	74	GRVGRV	4'-9 3/4"
1	77	GRVGRV	5'-10 1/4"
1	78	GRVGRV	6'-0 3/4"
1	79	GRVGRV	1'-9 5/8"
8	82	GRVGRV	1"

FITTINGS					
Qty	TAG#	SIZE	PART#	DESCRIPTION #1	DESCRIPTION #2
10	2	2.5	GRUVLOK.Fig.7060	90 ELBOW, GRVD.	290390014249
27	5	2.5	GRUVLOK.Fig.7001	COUPLING, FLEX GRVD.	
32	7	2.5	GRUVLOK.Fig.7401	COUPLING, RIGIDLOK GRVD.	290390013522
6	8	2.5	GRUVLOK.Fig.7060	TEE, GROOVED	290390016822
4	10	2.5	GRUVLOK.Fig.7051LR	45 ELBOW, GRVD.	290390014801
4	11	4	GRUVLOK.Fig.7401	COUPLING, RIGIDLOK GRVD.	290390013548
4	12	4x2.5	GRUVLOK.Fig.7072	4x2.5 GRVD CONC REDUCER	290390028645
2	19	2.5	GRUVLOK.Fig.7074	CAP, GRVD.	290390030161
6	21	2		COUPLING, THRD.	
2	23	2		TEE, THRD.	
6	26	2.5x2	GRUVLOK.Fig.7076	2.5x2 GRVD CONC REDUCER	290390028413
4	28	2.5	GRUVLOK.Fig.7012	GRVD. FLANGE ADAPT.	29039002102
73	32	6	GRUVLOK.Fig.7401	COUPLING, RIGIDLOK GRVD.	290390013563
8	33	6	GRUVLOK.Fig.7051LR	45 ELBOW, GRVD.	290390014942
18	36	6	GRUVLOK.Fig.7050	90 ELBOW, GRVD.	290390014363
2	51	10x2.5		GROOVE-O-LET	
22	54	10	GRUVLOK.Fig.7401	COUPLING, RIGIDLOK GRVD.	290390013589
2	56	10	GRUVLOK.Fig.7012	GRVD. FLANGE ADAPT.	290390020126
2	57	10	GRUVLOK.Fig.7051LR	45 ELBOW, GRVD.	290390014983
7	59	10x6	GRUVLOK.Fig.7061	REDUCING TEE, GROOVED	290390019065
3	60	10	GRUVLOK.Fig.7050	90 ELBOW, GRVD.	290390014405
1	62	10	GRUVLOK.Fig.7060	TEE, GROOVED	290390016962
5	66	10x6	GRUVLOK.Fig.7072	10x6 GRVD CONC REDUCER	290390029429
2	75	6	GRUVLOK.Fig.7074	CAP, GRVD.	290390030302
2	76	6	GRUVLOK.Fig.7060	TEE, GROOVED	290390016921
24	80	6	GRUVLOK.Fig.7001	COUPLING, FLEX GRVD.	290390014405
2	83	4	GRUVLOK.Fig.7012	GRVD. FLANGE ADAPT.	290390020110
2	84	6x4	GRUVLOK.Fig.7072	6x4 GRVD CONC REDUCER	290390028967
2	86	5	GRUVLOK.Fig.7012	GRVD. FLANGE ADAPT.	290390020114
2	87	6x5	GRUVLOK.Fig.7072	6x5 GRVD CONC REDUCER	290390029007
8	90	6	GRUVLOK.Fig.7012	GRVD. FLANGE ADAPT.	290390020118

VALVES				
Qty	TAG#	SIZE	PART#	DESCRIPTION #1
8	4	2.5	GRUVLOK.SER.7700	BUTTERFLY VALVE, GRVD.
2	25	2.5	GRUVLOK.Fig.758	STRAINER, GROOVED
2	27	2.5	GRUVLOK.SER.7900	CHECK VALVE, GRVD.
4	34	6	GRUVLOK.Fig.7260	STRAINER, GROOVED
2	55	10	GRUVLOK.SER.7700	BUTTERFLY VALVE, GRVD.
12	58	6	GRUVLOK.SER.7700	BUTTERFLY VALVE, GRVD.
1	61	10	GRUVLOK.SER.7700	BUTTERFLY VALVE, GRVD.
4	81	6	GRUVLOK.Fig.7225	SOOTY VALVE, GROOVED
2	85	6x5	GRUVLOK.Fig.7250	SUCTION DIFF. GROOVED
2	89	6	GRUVLOK.Fig.7250	SUCTION DIFF. GROOVED



Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

FIG./MODEL	DESCRIPTION	PAGE
400G	GROOVED-END SILENT CHECK VALVE	49
758G	GROOVED-END "WYE" STRAINER	58
768G	GROOVED-END "WYE" STRAINER	59
1007	ROLL GROOVER	106 – 107
3006	ROLL GROOVER	108 – 109
3006C	ROLL GROOVER	108 – 109
3007	ROLL GROOVER	106 – 107
7000	LIGHTWEIGHT COUPLING	13
7001	STANDARD COUPLING	10
7011	STANDARD COUPLING	11
7003	HINGELOCK® COUPLING	14
7004EG	END GUARD® COUPLING	65
7004HPR	HPR® COUPLING	65
7005	ROUGHNECK® COUPLING	75
7010	REDUCING COUPLING	15
7012	GRUVLOK® FLANGE	69
7012	GRUVLOK® FLANGE	16 – 17
7013	300# FLANGE	16 – 17
7022EG	HIGH PRESSURE HEADER TEE	66
7042	OUTLET COUPLING	18 – 19
7044	BRANCH OUTLET	23
7045	CLAMP-T® THREADED BRANCH	20 – 21
7046	CLAMP-T® GROOVED BRANCH	20 – 22
7047	TEE (FPT X FPT)	20
7048	TEE (GR X GR)	20
7049	TEE (GR X FPT)	20
7050	90° ELBOW	25
7050-3D	90° LONG RADIUS ELBOW	37
7050-5D	90° LONG RADIUS ELBOW	38
7050-6D	90° LONG RADIUS ELBOW	39
7050EG	HIGH PRESSURE 90° LR ELBOW	66
7050LR	LONG RADIUS 90° ELBOW	25
7050LRP	PLAIN END 90° LR ELBOW	77
7050P	PLAIN END 90° ELBOW	76
7050RF	REDUCING BASE SUPPORT ELBOWS (GR X FL)	35
7050SS	90° STAINLESS STEEL ELBOW	88
7051	45° ELBOW	25
7051-3D	45° LONG RADIUS ELBOW	37
7051-5D	45° LONG RADIUS ELBOW	38
7051-6D	45° LONG RADIUS ELBOW	39
7051EG	HIGH PRESSURE 45° LR ELBOW	66
7051LR	LONG RADIUS 45° ELBOW	25
7051LRP	PLAIN END 45° LR ELBOW	77
7051P	PLAIN END 45° ELBOW	76
7051SS	45° STAINLESS STEEL ELBOW	88
7052	221/2° ELBOW	25
7052-3D	221/2° LONG RADIUS ELBOW	37
7052-5D	221/2° LONG RADIUS ELBOW	38

FIG./MODEL	DESCRIPTION	PAGE
7052-6D	221/2° LONG RADIUS ELBOW	39
7053	111/4° ELBOW	25
7053-3D	111/4° LONG RADIUS ELBOW	37
7053-5D	111/4° LONG RADIUS ELBOW	38
7053-6D	111/4° LONG RADIUS ELBOW	39
7055	90° ADAPTER ELBOWS (GR X MPT)	35
7056	45° ADAPTER ELBOWS (GR X MPT)	35
7057-3D	60° LONG RADIUS ELBOW	37
7057-5D	60° LONG RADIUS ELBOW	38
7057-6D	60° LONG RADIUS ELBOW	39
7058-3D	30° LONG RADIUS ELBOW	37
7058-5D	30° LONG RADIUS ELBOW	38
7058-6D	30° LONG RADIUS ELBOW	39
7060	TEE	26
7060EG	HIGH PRESSURE TEE	66
7060P	PLAIN END TEE	76
7060SS	STAINLESS STEEL TEE	88
7061	STANDARD REDUCING TEE	27
7061P	PLAIN END REDUCING TEE	77
7061SS	STAINLESS STEEL REDUCING TEE	89
7062	BULLHEAD TEE (GR X GR xFPT)	40
7063	TEE WITH THREADED BRANCH	26
7064	REDUCING TEE W/THREADED BRANCH	28
7065	STANDPIPE TEE (GR X GR x FPT)	40
7066	TEE WYES	33
7067	REDUCING TEE WYES	33
7068	CROSS	36
7068EG	HIGH PRESSURE CROSS	66
7068P	PLAIN END CROSS	76
7069	45° LATERAL	32
7069P	PLAIN END 45° LATERAL	77
7070	45° REDUCING LATERAL	32
7071	TRUE WYE	34
7071P	PLAIN END 90° TRUE WYE	77
7072	CONCENTRIC REDUCER	29
7072SS	STAINLESS STEEL CONC. REDUCERS	90
7073	ECCENTRIC REDUCER	30
7073SS	STAINLESS STEEL ECCENTRIC REDUCERS	90
7074	CAP	36
7074SS	STAINLESS STEEL CAPS	89
7075	BULL PLUG	36
7075P	PLAIN END BULL PLUG	77
7076	CONCENTRIC REDUCERS (GR X THD)	29
7077	SWAGED NIPPLES (GR X GR)	31
7077P	PLAIN END SWAGED NIPPLES	78
7078	SWAGED NIPPLES (GR X THD)	31
7079	SWAGED NIPPLES (GR X BEV)	31
7080	ADAPTER NIPPLE (GR X GR)	40



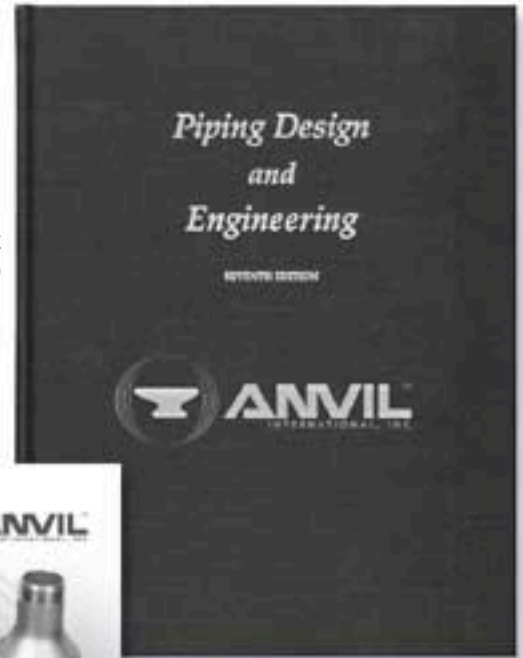
FIG./MODEL	DESCRIPTION	PAGE	FIG./MODEL	DESCRIPTION	PAGE
7080P	ADAPTER NIPPLES (PL x GR)	78	GAV-15	AUTOMATIC AIR VENT	62
7081	ADAPTER NIPPLE (GR x MPT)	40	GAV-30	AUTOMATIC AIR VENT	63
7081P	ADAPTER NIPPLES (PL x THD)	78	GBV-A	GROOVED-END ANGLE BALANCING VALVE	54
7082	ADAPTER NIPPLE (GR x BEV)	40	GBV-G	GROOVED-END STRAIGHT BALANCING VALVE	54
7082P	ADAPTER NIPPLES (PL x BEV)	78	GBV-S	SWEAT FOUR TURN BALANCING VALVE	55
7084	GROOVE X CLASS 150 FLANGE	34	GBV-T	THREADED FOUR TURN BALANCING VALVE	55
7084P	PLAIN END X CLASS 150 FLANGE	78	GRUVLOK - THE ENGINEERED COUPLING		6 – 8
7085	GROOVE X CLASS 300 FLANGE	34	GRUVLOK COUPLINGS FOR GROOVE-ENDED PIPE		9
7085P	PLAIN END X CLASS 300 FLANGE	78	LUBRICANTS		95
7086	HOSE NIPPLES (GR x HOSE)	40	SF21-FF	FL x FL FLEX CONNECTORS	64
7087	FEMALE THREAD ADAPTER (GR x FPT)	35	SF21-GF	GR x FL FLEX CONNECTORS	64
7088	DI-LOK® NIPPLE (GR x THD)	73 – 74	SF21-GG	GR x GR FLEX CONNECTORS	64
7089	DI-LOK® NIPPLE (GR x GR)	73 – 74	TABLE OF CONTENTS		4 – 5
7090	DI-LOK® NIPPLE (THD x THD)	73 – 74			
7097	ECCENTRIC REDUCER (GR x THD)	30			
7100	90° ELBOW (SOCK-IT x SOCK-IT)	81			
7101	90° REDUCING ELBOW (SOCK-IT x NPT)	82			
7103	SOCK-IT® STRAIGHT TEE	82			
7105	SOCK-IT® TEE	83			
7106	SOCK-IT® REDUCING TEE (S x S x NPT)	84			
7107	SOCK-IT COUPLING (S x S)	84			
7250	SUCTION DIFFUSER	60 – 61			
7260	GRUVLOK® TEE STRAINER	57			
7305	HDPE COUPLING	79 – 80			
7307	HDPE TRANSITION COUPLING	79 – 80			
7400	RIGIDLITE® COUPLING	14			
7400	RIGIDLITE® COUPLING	68			
7400SS	RIGIDLITE® STAINLESS STEEL COUPLING	85			
7401	RIGIDLOK® COUPLING	12			
7500	GRUVLOK® BALL VALVE	52 – 53			
7500	STAINLESS STEEL GROOVED-END BALL VALVE	86 – 87			
7500C	GROOVED-END COPPER VALVE	72			
7550	COPPER 90° ELBOW	70			
7551	COPPER 45° ELBOW	70			
7560	COPPER TEES	70			
7561A	COPPER (GR x GR x GR) REDUCING TEE	71			
7564A	COPPER (GR x GR x CUP) REDUCING TEE	71			
7572	COPPER (GR x GR) CONCENTRIC REDUCER	70			
7574	COPPER END CAPS	71			
7575	COPPER (GR x CUP) REDUCING ADAPTER	71			
7582	COPPER TRANSITION FITTING	71			
7600	BUTTERFLY VALVE	44 – 45			
7700	BUTTERFLY VALVE	41 – 43			
7800	GRUVLOK® CHECK VALVE	50 – 51			
8000GR	BUTTERFLY VALVE	46 – 48			
FTV-A	TRI-SERVICE VALVE (ANGLE)	56			
FTV-S	TRI-SERVICE VALVE (STRAIGHT)	56			
GASKETS		91 – 94			

Grooved-End Couplings  
 Branch Outlets  
 Fittings  
 Flow Control Components  
 High Pressure  
 Copper  
 Dielectric Nipple  
 Plain-End  
 HDPE  
 Sock-It®  
 Stainless Steel  
 Technical Data

# More of What You Need...



**ANVIL EXPERIENCE  
MIAMI, RITZ CARLTON**  
Order Document  
Number 915



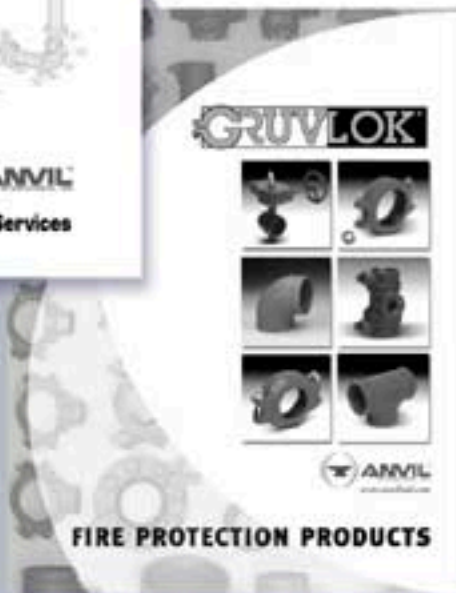
**PIPING DESIGN  
AND ENGINEERING**  
Order Document  
Number 360



**PIPE FITTINGS  
CATALOG (PF-11.01)**  
Order Document  
Number 010



**DESIGN SERVICES  
BROCHURE**  
Order Document  
Number 105



**FIRE PROTECTION PRODUCTS  
BROCHURE (FP 11.01)**  
Order Document Number 038

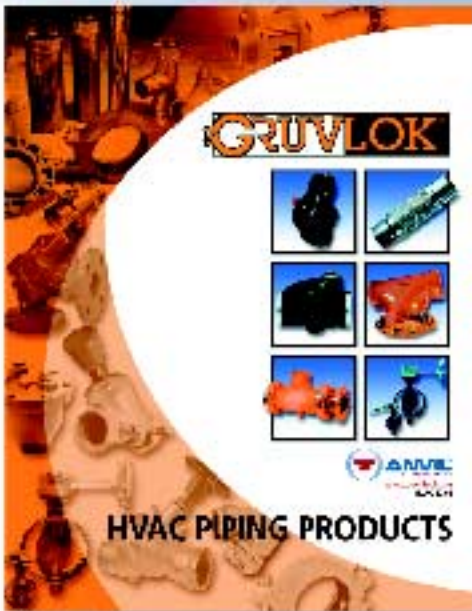


**GRUVLOK SPECIFICATION  
DOCUMENT (GS 11.01)**  
Order Document Number 095

Contact an Anvil Representative to Order Literature



**ANVIL**<sup>TM</sup>  
INTERNATIONAL, INC.



**HVAC PIPING PRODUCTS  
BROCHURE**  
Order Document Number 049

**PIPE HANGERS  
CATALOG**  
Order Document  
Number 165

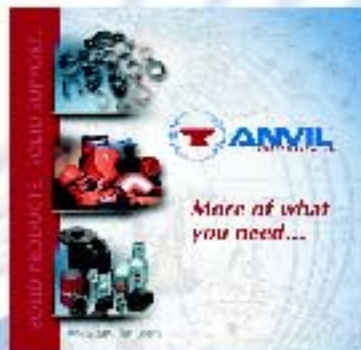


**ELECTRONIC COMMERCE  
BROCHURE**  
Order Document  
Number 003

**MINING PRODUCTS  
BROCHURE**  
Order Document  
Number 350



**PIPE FITTERS  
HANDBOOK**  
Order Document  
Number 030



**ANVIL INTERACTIVE CD**  
Order Document Number 899

- Gruvlok Interactive Catalog
- Gruvlok Submittal Package
- Gruvlok Fire Protection Brochure
- Interactive Pipe Hanger Catalog
- Interactive Pipe Fittings Catalog
- Pipe Fitters Handbook
- Anvil List Price Sheets
- Design Services Brochure
- Technical & Engineering Data
- Contact Information

Contact an Anvil Representative to Order Literature

[www.anvilintl.com](http://www.anvilintl.com)