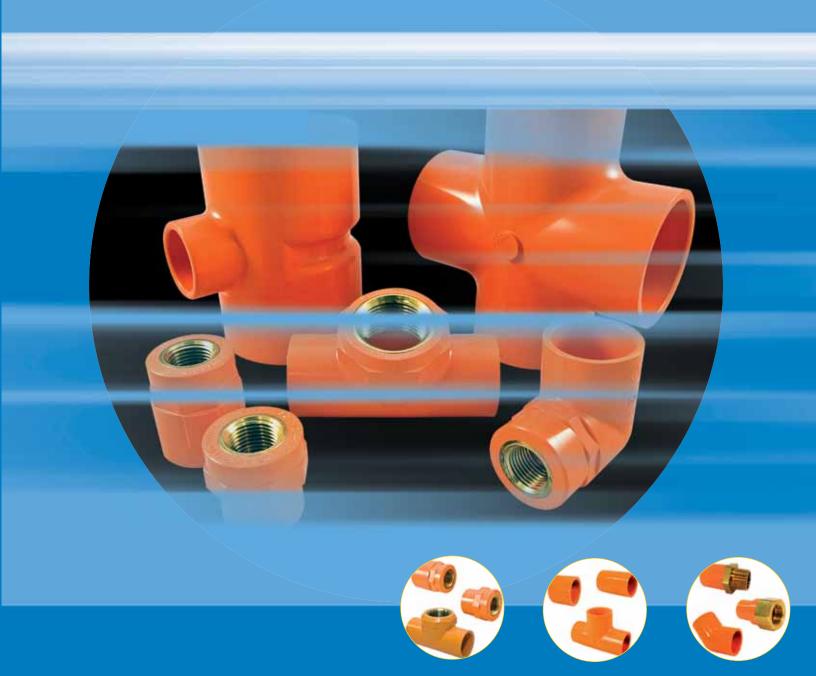
# 

AHEAD OF THE FLOW®



CPVC BlazeMaster® Fire Protection Fittings

## **Business-to-Business Solutions**

Look to NIBCO for technology leadership.

The velocity with which e-business evolves demands that new products and services be continuously developed and introduced to keep our customers at the center of our business efforts.

NIBCO provides an entire suite of business-to-business solutions that is changing the way we interact with customers.



NIBCOpartner.com<sup>sm</sup> is an exclusive set of secure web applications that allow quick access to customer-specific information and online order processing. This self-service approach gives you 24/7 access to your order status putting you in total control of your business.

Real time information includes:

- Online order entry
- Viewable invoices & reports
- Inventory availability
- Current price checks
- Order status
- Online library of price sheets, catalogs & submittals



Electronic Data Interchange (EDI) makes it possible to trade business documents at the speed of light. This technology cuts the cost of each transaction by eliminating the manual labor and paperwork involved in traditional order taking. This amounts to cost-savings, increased accuracy and better use of resources.

With EDI, you can trade:

- Purchase orders
- PO Acknowledgements
- Invoices

- Product activity data
- Advanced ship notices
- Remittance advice



Vendor Managed Inventory (VMI), a sophisticated service for automated inventory management, reduces your overhead by transferring inventory management, order entry and forecasting to NIBCO. This is an on-going, interactive partnership with NIBCO.

Through automation, VMI brings results:

- Improves customer service
- Optimum inventory efficiencies
- Better forecasting

- Cuts transaction costs
- Peace of mind
- Relief from day-to-day management







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## **Key to NIBCO Figure Numbers**

### TYPE OF MATERIAL

50 = CPVC Fire Protection

### TYPE OF FITTING & DESCRIPTION

- 01 = Coupling
- 03 = Female Adapter
- 04 = Male Adapter
- $06 = 45^{\circ}$  Elbow
- $07 = 90^{\circ}$  Elbow
- 11 = Tee
- 12 = Sprinkler Head Tee (Thread on Outlet)
- 14 = Sprinkler Head Tee (Thread on Run)
- 17 = Cap
- 18 = Bushing
- 19 = Blind Flange
- 33 = Unions
- 35 = Cross
- 51 = Solid Flange

### TYPE OF CONNECTIONS

- 2 = Fitting Connection Spigot
- 3 = Female NPT Thread Connection
- 4 = Male NPT Thread Connection
- S = Sprinkler Head Adapter
- BI = Brass Insert
- BT = BRASTIC™
- R = Reducing

### **Fitting Terms and Abbreviations**

FNPT = Female NPT Thread

MNPT = Male NPT Thread

S or SLIP = Female Socket

SPG = Male End (Spigot)

G = Grooved

L = Large

S = Small

H = Heavy

IPS = Iron Pipe Size

CTS = Copper Tube Size

Q = Quart

P = Pint



## **Specifications and Engineering Data**

### Introduction

NIBCO® **BlazeMaster**® CPVC Fire Sprinkler products produced by NIBCO are manufactured from high quality, Post-Chlorinated Polyvinyl Chloride (CPVC), a specialty thermoplastic material tested and listed by certifying agencies for use in CPVC fire sprinkler systems. NIBCO CPVC Fire Sprinkler products provide unique advantages over traditional metal fire sprinkler systems through superior hydraulics, ease of installation and handling and quick assembly using readily available, inexpensive tools. These products also are based on a technology with a continuous and proven service history of more than forty (40) years.

### **Pressure Rating**

NIBCO **BlazeMaster**® CPVC Fittings of nominal sizes 3/4" -3" (20 - 80 mm) are rated for continuous service of 175 psi (1270 kPa) at 150°F (65°C).

### **Approvals**

NIBCO **BlazeMaster**® CPVC fittings for fire sprinkler systems meet the approval and listing requirements of NFPA 13, 13D, and 13R.

NIBCO **BlazeMaster**® CPVC Fittings are listed by NSF to ANSI / NSF Standard 61 for health effects and may be used in potable water applications.

NIBCO **BlazeMaster**® CPVC Fittings carry the markings of Factory Mutual (FM) and Underwriters Laboratories Inc. (C-UL-US) for listings in the United States and Canada.

NIBCO **BlazeMaster**® CPVC 3/4" to 3" Fittings are listed by the Loss Prevention Safety Board (LPCB).

NIBCO **BlazeMaster**® CPVC Fittings are accepted for use by the City of New York Department of Buildings MEA 280-07-E.





Certified by NSF **CPVC FIRE SPRINKLER FITTING** International. Listed for use with potable





### Use with other Manufacturers' Pipes, **Fittings, & Solvent Cements**

NIBCO **BlazeMaster**® CPVC Fire Sprinkler products are listed by UL standard 1821 & C-UL standard UCC/ORD-C199P and FM standard 1635. These listings require rigorous testing to ensure the products will function as a component of the assembled fire protection system. For Fire Protection CPVC pipe the current UL standard is 1821 & C-UL standard UCC/ORD-C199P and FM standard 1635. NIBCO warrants our fittings with all CPVC pipe and fittings that are in compliance with the same listings by UL & FM. A current list of compatible UL and C-UL Listed CPVC manufacturers are: Viking (pipe), Harvel (pipe), TYCO Fire Products (pipe & fittings), IPEX (pipe & fittings) and Spears (pipe & fittings).

NOTICE: While NIBCO BlazeMaster® CPVC Fire Sprinkler Products are UL Listed for use in combination with other listed manufacturers' products, specific application approvals may not be the same among manufacturers. It is the installer's responsibility to verify suitability of products used in combination according to each manufacturer's installation instructions. Contact NIBCO if you have guestions on any application not addressed in this manual.

### **Engineering Data – Product Specifications**

NIBCO **BlazeMaster**® CPVC Fire Sprinkler Products are made for use with Listed CPVC Fire Sprinkler Pipe Produced in SDR 13.5 dimensions, as specified in ASTM F 442.

NIBCO **BlazeMaster**® CPVC Fire Sprinkler Fittings are produced in Schedule 40 dimensions for sizes 3/4 inch (20 mm) through 1-1/4 inch (32 mm) in accordance with ASTM F 438 and Schedule 80 dimensions for sizes 1-1/2 inch (40 mm) through 3 inch (80 mm) in accordance with ASTM F 439. These products are UL and C-UL Listed, and FM Approved for a rated working pressure of 175 psi (1200 kPa) at 150°F (65°C) for sprinkler service.

### Installation Instructions

For complete installation instructions see NIBCO's "Installation and Design Manual."







## **CPVC Standard Fire Protection Fittings**

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Crosses	
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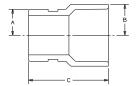


## BlazeMaster® Fire Protection Fittings – STANDARD

### **ADAPTERS**

5001-G





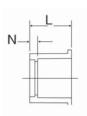
### **Grooved Coupling Adapters (G x S)**

UNIV. FIG. NO.	NOM. Size	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. B Inches	DIM. C INCHES	JOINT
5001-G	1-1/4"	0.17	0.83	1.04	2.98	GXS
5001-G	1-1/2"	0.20	0.95	1.17	3.15	GXS
5001-G	2"	0.30	1.18	1.43	3.37	GXS
5001-G	2-1/2"	0.52	1.43	1.74	3.66	GXS
5001-G	3"	0.72	3.50	_	_	GXS

### **BUSHINGS**

5018





### **Bushings**

UNIV. FIG. NO.	NOM. SIZE	APPROX. NET WT./LBS.	DIM. L INCHES	DIM. N INCHES	JOINT
5018	1"x3/4"	0.04	1.28	0.29	SPGXS
5018	1-1/4"x1"	0.08	1.41	0.29	SPGXS
5018	1-1/4"x3/4"	0.10	1.41	0.41	SPGXS
5018	1-1/2"x1-1/4"	0.07	1.54	0.27	SPGXS
5018	1-1/2"x1"	0.12	1.54	0.39	SPGXS
5018	1-1/2"x3/4"	0.16	1.54	0.53	SPGXS
5018	2"x1-1/2"	0.16	1.66	0.27	SPGXS
5018	2"x1-1/4"	0.20	1.66	0.40	SPGXS
5018	2"x1"	0.22	1.66	0.52	SPGXS
5018	2"x3/4"	0.22	1.66	0.64	SPGXS
5018	2-1/2"x2"	0.24	1.94	0.44	SPGXS
5018	2-1/2"x1-1/2"	0.36	1.94	0.57	SPGXS
5018	2-1/2"x1-1/4"	0.37	1.94	0.68	SPGXS
5018	2-1/2"x1"	0.36	1.94	0.81	SPGXS
5018	3"x2-1/2"	0.47	2.42	0.60	SPGXS
5018	3"x2"	0.66	2.42	0.93	SPGXS
5018	3"x1-1/2"	0.73	2.42	1.03	SPGXS





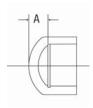
## **BlazeMaster® Fire Protection Fittings — STANDARD**

### **CAPS**

5017

**NIBCO** 





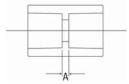
### Caps

UNIV. FIG. NO.	NOM. SIZE	APPROX. NET WT./LBS.	DIM. A Inches	JOINT
5017	3/4"	0.04	0.31	S
5017	1"	0.06	0.39	S
5017	1-1/4"	0.22	0.56	S
5017	1-1/2"	0.30	0.68	S
5017	2"	0.42	0.68	S
5017	2-1/2"	0.62	1.20	S
5017	3"	0.96	1.26	S

### **COUPLINGS**

5001 5001-R





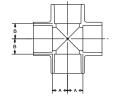
### **Couplings**

UNIV. FIG. NO.	NOM. Size	APPROX. NET WT./LBS.	DIM. A Inches	JOINT
5001	3/4"	0.06	0.12	SXS
5001	1"	0.08	0.09	SXS
5001	1-1/4"	0.12	0.08	SXS
5001	1-1/2"	0.30	0.27	SXS
5001	2"	0.44	0.28	SXS
5001	2-1/2"	0.72	0.20	SXS
5001	3"	1.10	0.22	SXS
5001-R	1"x3/4"	0.08	0.29	SXS
5001-R	1-1/4"x1"	0.12	0.35	SXS
5001-R	1-1/2"x1-1/4"	0.38	0.51	SXS
5001-R	1-1/2"x1"	0.36	0.67	SXS
5001-R	1-1/2"x3/4"	0.34	0.80	SXS
5001-R	2"x1-1/2"	0.52	0.51	SXS
5001-R	2"x1"	0.48	0.75	SXS

### **CROSSES**

5035 5035-R





### **Crosses**

UNIV. FIG. NO.	NOM. Size	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. B Inches	JOINT
5035	3/4"	0.12	0.61	0.61	SXSXSXS
5035	1"	0.24	0.75	0.75	SXSXSXS
5035	1-1/4"	0.34	0.90	0.90	SXSXSXS
5035	1-1/2"	0.69	1.23	1.23	SXSXSXS
5035	2"	1.02	1.53	1.53	SXSXSXS
5035	2-1/2"	1.70	1.75	1.75	SXSXSXS
5035	3"		FUTURE OFFER	ING	
5035-R	1"x1"x3/4"x3/4"	0.18	0.61	0.73	SXSXSXS



BlazeMaster® is a registered trademark of The Lubrizol Corporation.

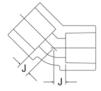


## **BlazeMaster® Fire Protection Fittings – STANDARD**

### **ELBOWS**

### 5006





### 45° Elbows

UNIV. FIG. NO.	NOM. SIZE	APPROX. NET WT./LBS.	DIM. J Inches	JOINT
5006	3/4"	0.06	0.32	SXS
5006	1"	0.12	0.39	SXS
5006	1-1/4"	0.18	0.48	SXS
5006	1-1/2"	0.36	0.47	SXS
5006	2"	0.54	0.58	SXS
5006	2-1/2"	1.00	0.65	SXS
5006	3"	1.28	0.76	SXS

### 5007 5007-R





### 90° Elbows

UNIV. FIG. NO.	NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. B Inches	JOINT
5007	3/4"	0.08	0.56	0.56	SXS
5007	1"	0.14	0.69	0.69	SXS
5007	1-1/4"	0.22	0.91	0.91	SXS
5007	1-1/2"	0.41	1.06	1.06	SXS
5007	2"	0.60	1.24	1.24	SXS
5007	2-1/2"	1.16	1.50	1.50	SXS
5007	3"	1.66	1.81	1.81	SXS
5007-R	1"x3/4"	0.12	0.61	0.75	SXS





## **BlazeMaster® Fire Protection Fittings — STANDARD**

### **FLANGES**

Future Offering

5019-H



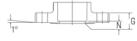


### **Blind Flanges - Solid**

UNIV. FIG. NO.	NOM. SIZE	APPROX. NET WT./LBS.	DIM. G INCHES	DIM. OB Inches
5019-H	3/4"	0.32	0.58	0.80
5019-H	1"	0.43	0.64	0.84
5019-H	1-1/4"	0.57	0.69	0.94
5019-H	1-1/2"	0.69	0.78	1.00
5019-H	2"	1.08	0.83	1.13
5019-H	2-1/2"	1.81	0.96	1.22
5019-H	3"	2.45	1.05	1.31

### 5051-H





### Flanges - Solid

UNIV. FIG. NO.	NOM. Size	APPROX. Net Wt./LBS.	DIM. G Inches	DIM. N Inches	JOINT
5051-H	3/4"	0.31	0.58	0.17	S
5051-H	1"	0.41	0.64	0.18	S
5051-H	1-1/4"	0.53	0.69	0.20	S
5051-H	1-1/2"	0.68	0.78	0.23	S
5051-H	2"	1.03	0.83	0.27	S
5051-H	2-1/2"	1.61	1.96	0.20	S
5051-H	3"	2.08	1.05	0.29	S



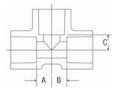


## BlazeMaster® Fire Protection Fittings – STANDARD

### **TEES**

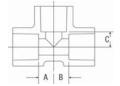
### 5011





5011-R





### **Tees**

5011         3/4*         0.10         0.57         0.57         SXSXS           5011         1*         0.17         0.69         0.69         0.69         SXSXS           5011         1-1/4*         0.28         0.89         0.89         0.89         SXSXS           5011         1-1/2*         0.58         1.05         1.05         1.05         SXSXS           5011         2*1/2*         1.58         1.53         1.53         1.53         SXSXS           5011         3*         2.14         1.84         1.84         1.84         SXSXS           5011-R         3/4*X3/4*x1*         0.14         0.70         0.70         0.73         SXSXS           5011-R         1*x3/4*x3/4*         0.16         0.61         0.61         0.94         SXSXS           5011-R         1*3/4*x3/4*         0.20         0.76         0.99         0.78         SXSXS           5011-R         1*1/4*x1*1/4*x3/4*         0.20         0.76         0.99         0.77         SXSXS           5011-R         1*1/4*x1*1/4*x3/4*         0.20         0.60         0.60         0.89         SXSXS           5011-R         1*1/4*x1*1/4*x3/4*         0.20 <th>UNIV. FIG. NO.</th> <th>NOM. NOM. SIZE</th> <th>APPROX. NET WT./LBS.</th> <th>DIM. A Inches</th> <th>DIM. B Inches</th> <th>DIM. C INCHES</th> <th>JOINT</th>	UNIV. FIG. NO.	NOM. NOM. SIZE	APPROX. NET WT./LBS.	DIM. A Inches	DIM. B Inches	DIM. C INCHES	JOINT
5011         1"         0.17         0.69         0.69         0.69         SXSXS           5011         1-1/4"         0.28         0.89         0.89         0.89         SXSXS           5011         1-1/2"         0.58         1.05         1.05         1.05         SXSXS           5011         2"         0.82         1.25         1.25         1.25         SXSXS           5011         3"         2.14         1.84         1.84         1.84         SXSXS           5011-R         3/4"x3/4"x1"         0.14         0.70         0.70         0.73         SXSXS           5011-R         1"x1"x3/4"x1"         0.16         0.61         0.61         0.94         SXSXS           5011-R         1"x3/4"x3/4"         0.16         0.60         0.87         0.77         SXSXS           5011-R         1"1/4"x1"1/4"x1"         0.24         0.73         0.73         0.89         SXSXS           5011-R         1-1/4"x1"x1"1/4"x1"         0.24         0.73         0.73         0.89         SXSXS           5011-R         1-1/4"x1"x1"1/4"x1"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1			•				SXSXS
5011         1-1/2"         0.58         1.05         1.05         1.05         SXSXS           5011         2"         0.82         1.25         1.25         1.25         SXSXS           5011         2-1/2"         1.58         1.53         1.53         SXSXS           5011         3"         2.14         1.84         1.84         1.84         SXSXS           5011-R         3/4"x3/4"x1"         0.14         0.70         0.70         0.73         SXSXS           5011-R         1"x3/4"x3/4"         0.16         0.61         0.61         0.94         SXSXS           5011-R         1"x3/4"x3/4"         0.16         0.60         0.87         0.77         SXSXS           5011-R         1-1/4"x1-1/4"x3/4"         0.20         0.76         0.99         0.78         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/4"x1"         0.24         0.73         0.73         0.89         SXSXS           5011-R         1-1/4"x1"x1-1/4"x1-1/4"         0.28         0.88         1.03         0.87         SXSXS           5011-R         1-1/4"x1"x1-1/4"x1-1/4"x1-1/4"         0.28         0.88         1.03         0.87         SXSXS           5011-R	5011		0.17	0.69	0.69	0.69	SXSXS
5011         2"         0.82         1.25         1.25         1.25         SXSXS           5011         2-1/2"         1.58         1.53         1.53         SXSXS           5011         3"         2.14         1.84         1.84         1.84         SXSXS           5011-R         3/4"x3/4"x1"         0.14         0.70         0.70         0.73         SXSXS           5011-R         1"x3/4"x3/4"         0.16         0.61         0.61         0.94         SXSXS           5011-R         1"x3/4"x3/4"         0.16         0.60         0.87         0.77         SXSXS           5011-R         1"x3/4"x3/4"         0.16         0.60         0.87         0.77         SXSXS           5011-R         1-1/4"x1-1/4"x3/4"         0.24         0.73         0.73         0.89         SXSXS           5011-R         1-1/4"x1"x1-1/4"x1-1/4"         0.28         0.88         1.03         0.87         SXSXS           5011-R         1-1/4"x1"x1-1/4"x1-1/4" v1-1/2"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/4"x1-1/4" v1-1/4"         0.28         0.88         1.03         0.87         SXSXS	5011	1-1/4"	0.28	0.89	0.89	0.89	SXSXS
5011         2-1/2"         1.58         1.53         1.53         SXSXS           5011         3"         2.14         1.84         1.84         1.84         SXSXS           5011-R         3/4"x3/4"x1"         0.14         0.70         0.70         0.73         SXSXS           5011-R         1"x1"x3/4"x1"         0.16         0.61         0.61         0.99         0.78         SXSXS           5011-R         1"x3/4"x3/4"         0.16         0.60         0.87         0.77         SXSXS           5011-R         1"1/4"x1-1/4"x1"         0.24         0.73         0.73         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x3/4"         0.20         0.60         0.60         0.89         SXSXS           5011-R         1-1/4"x1"x1-1/4"x1"         0.24         0.73         0.73         0.89         SXSXS           5011-R         1-1/4"x1"x1-1/4"x1"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1"x1-1/4"x1"-1/2"         0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/4"x1"         0.40         0.77         0.77         0.96         SXSXS	5011	1-1/2"	0.58	1.05	1.05	1.05	SXSXS
5011         3°         2.14         1.84         1.84         1.84         SXSX           5011-R         3/4"x3/4"x1"         0.14         0.70         0.70         0.73         SXSXS           5011-R         1"x1"x3/4"x1"         0.16         0.61         0.61         0.94         SXSXS           5011-R         1"x3/4"x3/4"         0.16         0.60         0.87         0.77         SXSXS           5011-R         1-1/4"x1-1/4"x1"         0.24         0.73         0.73         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x3/4"         0.20         0.60         0.60         0.89         SXSXS           5011-R         1-1/4"x1"x1-1/4"         0.22         0.60         0.60         0.89         SXSXS           5011-R         1-1/4"x1"x1-1/4"x1"         0.28         0.88         1.03         0.87         SXSXS           5011-R         1-1/4"x1"x1-1/4"x1"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/2"         0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/2"x1"         0.46         0.89         0.89         1.04         SXSXS<	5011	2"	0.82	1.25	1.25	1.25	SXSXS
5011-R         3/4"x3/4"x1"         0.14         0.70         0.70         0.73         SXSXS           5011-R         1"x1"x3/4"x1"         0.16         0.61         0.61         0.94         SXSXS           5011-R         1"x3/4"x1"         0.20         0.76         0.99         0.78         SXSXS           5011-R         1"x3/4"x3/4"         0.16         0.60         0.87         0.77         SXSXS           5011-R         1-1/4"x1"x1-1/4"x1"         0.24         0.73         0.73         0.89         SXSXS           5011-R         1-1/4"x1"x1-1/4"         0.20         0.60         0.60         0.89         SXSXS           5011-R         1-1/4"x1"x1"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1"x1"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1"x1"x1"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/2"         0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/2"x1"         0.46         0.89         0.89         1.04         SXSXS <td>5011</td> <td>2-1/2"</td> <td>1.58</td> <td>1.53</td> <td>1.53</td> <td>1.53</td> <td>SXSXS</td>	5011	2-1/2"	1.58	1.53	1.53	1.53	SXSXS
5011-R         1"x1"x3/4"         0.16         0.61         0.61         0.94         SXSXS           5011-R         1"x3/4"x1"         0.20         0.76         0.99         0.78         SXSXS           5011-R         1"x3/4"x3/4"         0.16         0.60         0.87         0.77         SXSXS           5011-R         1-1/4"x1-1/4"x1"         0.24         0.73         0.73         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x3/4"         0.20         0.60         0.60         0.89         SXSXS           5011-R         1-1/4"x1"x1-1/4"         0.28         0.88         1.03         0.87         SXSXS           5011-R         1-1/4"x1"x1-1/4"x1"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/2"         0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/2"x1-1/4"         0.46         0.89         0.89         1.04         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/2"x3/4"         0.54         0.77         0.77         0.96         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.50         0.67         0.67         1.04	5011	3"	2.14	1.84	1.84	1.84	SXSXS
5011-R         1"x3/4"x1"         0.20         0.76         0.99         0.78         SXSXS           5011-R         1"x3/4"x3/4"         0.16         0.60         0.87         0.77         SXSXS           5011-R         1-1/4"x1-1/4"x1"         0.24         0.73         0.73         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x3/4"         0.20         0.60         0.60         0.89         SXSXS           5011-R         1-1/4"x1"x1-1/4"         0.28         0.88         1.03         0.87         SXSXS           5011-R         1-1/4"x1"x1"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1"x3/4"         0.20         0.61         0.76         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/2"         0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/4"x1-1/2"         0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/4"         0.46         0.89         0.89         1.04         SXSXS           5011-R         1-1/2"x1-1/2"x3/4"         0.50         0.67         0.67         1.04	5011-R	3/4"x3/4"x1"	0.14	0.70	0.70	0.73	SXSXS
5011-R         1*x3/4*x3/4*         0.16         0.60         0.87         0.77         SXSXS           5011-R         1-1/4*x1-1/4*x1*         0.24         0.73         0.73         0.89         SXSXS           5011-R         1-1/4*x1-1/4*x3/4*         0.20         0.60         0.60         0.89         SXSXS           5011-R         1-1/4*x1*x1-1/4*         0.28         0.88         1.03         0.87         SXSXS           5011-R         1-1/4*x1*x1-1/4*         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4*x1*x3/4*         0.20         0.61         0.76         0.89         SXSXS           5011-R         1-1/4*x1-1/4*x1-1/2*         0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2*x1-1/2*x1-1/4*         0.46         0.89         0.89         1.04         SXSXS           5011-R         1-1/2*x1-1/2*x1-1/4*x1*         0.54         0.77         0.77         0.96         SXSXS           5011-R         1-1/2*x1-1/4*x1*         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2*x1-1/2*x2-1/2*x2*         0.88         1.30         1.30         1	5011-R	1"x1"x3/4"	0.16	0.61	0.61	0.94	SXSXS
5011-R         1-1/4"x1-1/4"x1"         0.24         0.73         0.73         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x3/4"         0.20         0.60         0.60         0.89         SXSXS           5011-R         1-1/4"x1"x1-1/4"         0.28         0.88         1.03         0.87         SXSXS           5011-R         1-1/4"x1"x1"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/2"         0.20         0.61         0.76         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/2"         0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/4"x1"         0.46         0.89         0.89         1.04         SXSXS           5011-R         1-1/2"x1-1/2"x1"         0.54         0.77         0.77         0.96         SXSXS           5011-R         1-1/2"x1-1/4"x1"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/4"x1"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/2"x2"         0.88         1.30         1.30         1.14 </td <td>5011-R</td> <td>1"x3/4"x1"</td> <td>0.20</td> <td>0.76</td> <td>0.99</td> <td>0.78</td> <td>SXSXS</td>	5011-R	1"x3/4"x1"	0.20	0.76	0.99	0.78	SXSXS
5011-R         1-1/4"x1-1/4"x3/4"         0.20         0.60         0.60         0.89         SXSXS           5011-R         1-1/4"x1"x1-1/4"         0.28         0.88         1.03         0.87         SXSXS           5011-R         1-1/4"x1"x1"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/2"         0.20         0.61         0.76         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/2"         0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/4"         0.46         0.89         0.89         1.04         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/2"x1"         0.54         0.77         0.77         0.96         SXSXS           5011-R         1-1/2"x1-1/4"x1"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/4"x1"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/4"x1"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/2"x2"         0.88         1.30         1.30         1.	5011-R	1"x3/4"x3/4"	0.16	0.60	0.87	0.77	SXSXS
5011-R         1-1/4"x1"x1-1/4"         0.28         0.88         1.03         0.87         SXSXS           5011-R         1-1/4"x1"x1"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1"x3/4"         0.20         0.61         0.76         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/2" 0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/4" 0.46         0.89         0.89         1.04         SXSXS           5011-R         1-1/2"x1-1/2"x1"         0.54         0.77         0.77         0.96         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.50         0.67         0.67         1.04         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.36         0.60         0.78         1.02         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.36         0.60         0.78         1.02         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.06         1.06         1.37         SXSXS	5011-R	1-1/4"x1-1/4"x1"	0.24	0.73	0.73	0.89	SXSXS
5011-R         1-1/4"x1"x1"         0.24         0.71         0.90         0.89         SXSXS           5011-R         1-1/4"x1"x3/4"         0.20         0.61         0.76         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/2"         0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/4"         0.46         0.89         0.89         1.04         SXSXS           5011-R         1-1/2"x1-1/2"x1"         0.54         0.77         0.77         0.96         SXSXS           5011-R         1-1/2"x1-1/2"x3/4"         0.50         0.67         0.67         1.04         SXSXS           5011-R         1-1/2"x1-1/4"x1"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.36         0.60         0.78         1.02         SXSXS           5011-R         1-1/2"x1-1/2"x2"         0.88         1.30         1.30         1.14         SXSXS           5011-R         2"x2"x1-1/2"         0.86         1.06         1.06         1.37         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28 <td< td=""><td>5011-R</td><td>1-1/4"x1-1/4"x3/4"</td><td>0.20</td><td>0.60</td><td>0.60</td><td>0.89</td><td>SXSXS</td></td<>	5011-R	1-1/4"x1-1/4"x3/4"	0.20	0.60	0.60	0.89	SXSXS
5011-R         1-1/4"x1"x3/4"         0.20         0.61         0.76         0.89         SXSXS           5011-R         1-1/4"x1-1/4"x1-1/2"         0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2"x1-1/2"x1-1/4"         0.46         0.89         0.89         1.04         SXSXS           5011-R         1-1/2"x1-1/2"x1"         0.54         0.77         0.77         0.96         SXSXS           5011-R         1-1/2"x1-1/2"x3/4"         0.50         0.67         0.67         1.04         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.36         0.60         0.78         1.02         SXSXS           5011-R         1-1/2"x1-1/2"x2"         0.88         1.30         1.30         1.14         SXSXS           5011-R         2"x2"x1-1/2"         0.86         1.06         1.06         1.37         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25 <td< td=""><td>5011-R</td><td>1-1/4"x1"x1-1/4"</td><td>0.28</td><td>0.88</td><td>1.03</td><td>0.87</td><td>SXSXS</td></td<>	5011-R	1-1/4"x1"x1-1/4"	0.28	0.88	1.03	0.87	SXSXS
5011-R         1-1/4"x1-1/4"x1-1/2"         0.44         1.01         1.01         0.88         SXSXS           5011-R         1-1/2"x1-1/2"x1"         0.46         0.89         0.89         1.04         SXSXS           5011-R         1-1/2"x1-1/2"x1"         0.54         0.77         0.77         0.96         SXSXS           5011-R         1-1/2"x1-1/2"x3/4"         0.50         0.67         0.67         1.04         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.36         0.60         0.78         1.02         SXSXS           5011-R         1-1/2"x1-1/2"x2"         0.88         1.30         1.30         1.14         SXSXS           5011-R         2"x2"x1-1/2"         0.86         1.06         1.06         1.37         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x1-1/2"x2"x1         0.68         0.70         0.70         1.25 <t< td=""><td>5011-R</td><td>1-1/4"x1"x1"</td><td>0.24</td><td>0.71</td><td>0.90</td><td>0.89</td><td>SXSXS</td></t<>	5011-R	1-1/4"x1"x1"	0.24	0.71	0.90	0.89	SXSXS
5011-R         1-1/2"x1-1/2"x1-1/4"         0.46         0.89         0.89         1.04         SXSXS           5011-R         1-1/2"x1-1/2"x1"         0.54         0.77         0.77         0.96         SXSXS           5011-R         1-1/2"x1-1/2"x3/4"         0.50         0.67         0.67         1.04         SXSXS           5011-R         1-1/2"x1-1/4"x1"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.36         0.60         0.78         1.02         SXSXS           5011-R         1-1/2"x1-1/2"x2"         0.88         1.30         1.30         1.14         SXSXS           5011-R         2"x2"x1-1/2"         0.86         1.06         1.06         1.37         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x1"         0.72         0.80         0.80         1.25         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS </td <td>5011-R</td> <td>1-1/4"x1"x3/4"</td> <td>0.20</td> <td>0.61</td> <td>0.76</td> <td>0.89</td> <td>SXSXS</td>	5011-R	1-1/4"x1"x3/4"	0.20	0.61	0.76	0.89	SXSXS
5011-R         1-1/2"x1-1/2"x1"         0.54         0.77         0.77         0.96         SXSXS           5011-R         1-1/2"x1-1/2"x3/4"         0.50         0.67         0.67         1.04         SXSXS           5011-R         1-1/2"x1-1/4"x1"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.36         0.60         0.78         1.02         SXSXS           5011-R         1-1/2"x1-1/2"x2"         0.88         1.30         1.30         1.14         SXSXS           5011-R         2"x2"x1-1/2"         0.86         1.06         1.06         1.37         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x1-1/4"         0.72         0.80         0.80         1.25         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/2"         1.32         1.26         1.26         1.53         SXSXS	5011-R	1-1/4"x1-1/4"x1-1/2	" 0.44	1.01	1.01	0.88	SXSXS
5011-R         1-1/2"x1-1/2"x3/4"         0.50         0.67         0.67         1.04         SXSXS           5011-R         1-1/2"x1-1/4"x1"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.36         0.60         0.78         1.02         SXSXS           5011-R         1-1/2"x1-1/2"x2"         0.88         1.30         1.30         1.14         SXSXS           5011-R         2"x2"x1-1/2"         0.86         1.06         1.06         1.37         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS           5011-R         2-1/2"x2-1/2"x2"x1-1/2"         1.32         1.26         1.26         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.12         0.91         0.91         1.53         SXSXS<	5011-R	1-1/2"x1-1/2"x1-1/4	" 0.46	0.89	0.89	1.04	SXSXS
5011-R         1-1/2"x1-1/4"x1"         0.40         0.72         0.91         1.01         SXSXS           5011-R         1-1/2"x1-1/4"x3/4"         0.36         0.60         0.78         1.02         SXSXS           5011-R         1-1/2"x1-1/2"x2"         0.88         1.30         1.30         1.14         SXSXS           5011-R         2"x2"x1-1/2"         0.86         1.06         1.06         1.37         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x1"         0.72         0.80         0.80         1.25         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS           5011-R         2-1/2"x2-1/2"x2"         1.32         1.26         1.26         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/2"         1.21         1.06         1.06         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.12         0.91         0.91         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.05         0.74         0.74         1.53         SXSXS	5011-R	1-1/2"x1-1/2"x1"	0.54	0.77	0.77	0.96	SXSXS
5011-R         1-1/2"x1-1/4"x3/4"         0.36         0.60         0.78         1.02         SXSXS           5011-R         1-1/2"x1-1/2"x2"         0.88         1.30         1.30         1.14         SXSXS           5011-R         2"x2"x1-1/2"         0.86         1.06         1.06         1.37         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS           5011-R         2-1/2"x2-1/2"x2"         1.32         1.26         1.26         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/2"         1.21         1.06         1.06         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.12         0.91         0.91         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1"         1.05         0.74         0.74         1.53         SXSXS           5011-R         3"x3"x2-1/2"         1.71         1.53         1.53         1.84         SXSXS	5011-R	1-1/2"x1-1/2"x3/4"	0.50	0.67	0.67	1.04	SXSXS
5011-R         1-1/2"x1-1/2"x2"         0.88         1.30         1.30         1.14         SXSXS           5011-R         2"x2"x1-1/2"         0.86         1.06         1.06         1.37         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x1"         0.72         0.80         0.80         1.25         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS           5011-R         2-1/2"x2-1/2"x2"         1.32         1.26         1.26         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/2"         1.21         1.06         1.06         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.12         0.91         0.91         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.05         0.74         0.74         1.53         SXSXS           5011-R         3"x3"x2-1/2"         1.71         1.53         1.53         1.84         SXSXS           5011-R         3"x3"x2"         1.56         1.26         1.26         1.84         SXSXS <td>5011-R</td> <td>1-1/2"x1-1/4"x1"</td> <td>0.40</td> <td>0.72</td> <td>0.91</td> <td>1.01</td> <td>SXSXS</td>	5011-R	1-1/2"x1-1/4"x1"	0.40	0.72	0.91	1.01	SXSXS
5011-R         2"x2"x1-1/2"         0.86         1.06         1.06         1.37         SXSXS           5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x1"         0.72         0.80         0.80         1.25         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS           5011-R         2-1/2"x2-1/2"x2"         1.32         1.26         1.26         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/2"         1.21         1.06         1.06         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.12         0.91         0.91         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.05         0.74         0.74         1.53         SXSXS           5011-R         3"x3"x2-1/2"         1.71         1.53         1.53         1.84         SXSXS           5011-R         3"x3"x2"         1.56         1.26         1.26         1.84         SXSXS	5011-R	1-1/2"x1-1/4"x3/4"	0.36	0.60	0.78	1.02	SXSXS
5011-R         2"x2"x1-1/4"         0.67         1.00         1.00         1.28         SXSXS           5011-R         2"x2"x1"         0.72         0.80         0.80         1.25         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS           5011-R         2-1/2"x2-1/2"x2"         1.32         1.26         1.26         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/2"         1.21         1.06         1.06         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.12         0.91         0.91         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1"         1.05         0.74         0.74         1.53         SXSXS           5011-R         3"x3"x2-1/2"         1.71         1.53         1.53         1.84         SXSXS           5011-R         3"x3"x2"         1.56         1.26         1.26         1.84         SXSXS	5011-R	1-1/2"x1-1/2"x2"	0.88	1.30	1.30	1.14	SXSXS
5011-R         2"x2"x1"         0.72         0.80         0.80         1.25         SXSXS           5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS           5011-R         2-1/2"x2-1/2"x2"         1.32         1.26         1.26         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/2"         1.21         1.06         1.06         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.12         0.91         0.91         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1"         1.05         0.74         0.74         1.53         SXSXS           5011-R         3"x3"x2-1/2"         1.71         1.53         1.53         1.84         SXSXS           5011-R         3"x3"x2"         1.56         1.26         1.26         1.84         SXSXS	5011-R	2"x2"x1-1/2"	0.86	1.06	1.06	1.37	SXSXS
5011-R         2"x2"x3/4"         0.68         0.70         0.70         1.25         SXSXS           5011-R         2-1/2"x2-1/2"x2"         1.32         1.26         1.26         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/2"         1.21         1.06         1.06         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.12         0.91         0.91         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1"         1.05         0.74         0.74         1.53         SXSXS           5011-R         3"x3"x2-1/2"         1.71         1.53         1.53         1.84         SXSXS           5011-R         3"x3"x2"         1.56         1.26         1.26         1.84         SXSXS	5011-R	2"x2"x1-1/4"	0.67	1.00	1.00	1.28	SXSXS
5011-R         2-1/2"x2-1/2"x2"         1.32         1.26         1.26         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/2"         1.21         1.06         1.06         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.12         0.91         0.91         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1"         1.05         0.74         0.74         1.53         SXSXS           5011-R         3"x3"x2-1/2"         1.71         1.53         1.53         1.84         SXSXS           5011-R         3"x3"x2"         1.56         1.26         1.26         1.84         SXSXS	5011-R	2"x2"x1"	0.72	0.80	0.80	1.25	SXSXS
5011-R         2-1/2"x2-1/2"x1-1/2"         1.21         1.06         1.06         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1-1/4"         1.12         0.91         0.91         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1"         1.05         0.74         0.74         1.53         SXSXS           5011-R         3"x3"x2-1/2"         1.71         1.53         1.53         1.84         SXSXS           5011-R         3"x3"x2"         1.56         1.26         1.26         1.84         SXSXS	5011-R	2"x2"x3/4"	0.68	0.70	0.70	1.25	SXSXS
5011-R         2-1/2"x2-1/2"x1-1/4"         1.12         0.91         0.91         1.53         SXSXS           5011-R         2-1/2"x2-1/2"x1"         1.05         0.74         0.74         1.53         SXSXS           5011-R         3"x3"x2-1/2"         1.71         1.53         1.53         1.84         SXSXS           5011-R         3"x3"x2"         1.56         1.26         1.26         1.84         SXSXS	5011-R	2-1/2"x2-1/2"x2"	1.32	1.26	1.26	1.53	SXSXS
5011-R         2-1/2"x2-1/2"x1"         1.05         0.74         0.74         1.53         SXSXS           5011-R         3"x3"x2-1/2"         1.71         1.53         1.53         1.84         SXSXS           5011-R         3"x3"x2"         1.56         1.26         1.26         1.84         SXSXS	5011-R	2-1/2"x2-1/2"x1-1/2"	1.21	1.06	1.06	1.53	SXSXS
5011-R         3"x3"x2-1/2"         1.71         1.53         1.53         1.84         SXSXS           5011-R         3"x3"x2"         1.56         1.26         1.26         1.84         SXSXS	5011-R	2-1/2"x2-1/2"x1-1/4	1.12	0.91	0.91	1.53	SXSXS
5011-R 3"x3"x2" 1.56 1.26 1.26 1.84 SXSXS	5011-R	2-1/2"x2-1/2"x1"	1.05	0.74	0.74	1.53	SXSXS
	5011-R	3"x3"x2-1/2"	1.71	1.53	1.53	1.84	SXSXS
5011-R         3"x3"x1-1/2"         1.39         1.06         1.06         1.82         SXSXS	5011-R	3"x3"x2"	1.56	1.26	1.26	1.84	SXSXS
	5011-R	3"x3"x1-1/2"	1.39	1.06	1.06	1.82	SXSXS

Note: All NIBCO reducing tees are molded to size, not fabricated.





## **BlazeMaster® Fire Protection Fittings — STANDARD**

### **UNIONS**

5033-E





### **Unions (O-ring Material EPDM)**

UNIV. FIG. NO.	NOM. NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. L INCHES	JOINT
5033-E	3/4"	0.27	2.46	0.43	SXS
5033-E	1"	0.40	2.70	0.43	SXS
5033-E*	1-1/4"	0.87	3.31	0.79	SXS
5033-E*	1-1/2"	0.93	3.58	0.80	SXS
5033-E*	2"	1.83	3.82	0.80	SXS

<sup>\*</sup> Future Offering





CP	VC	Threade	d Fire	<b>Protec</b>	ction	<b>Fitting</b>	IS
UP \	<b>V G</b>	ımreaue	u rire	rrotet	HOIL	<u> FILLIII</u>	

Adapters	15-16
Crosses	17
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## **CPVC Transition Fittings**



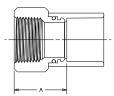


## **BlazeMaster® Fire Protection Fittings — THREADED**

### **ADAPTERS**

5003-BI



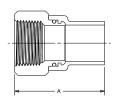


### **Female Adapters with Metal Thread Insert**

UNIV. FIG. NO.	NOM. Size	APPROX. NET WT./LBS.	DIM. A INCHES	JOINT
5003-BI	3/4"	0.28	1.19	SXFNPT
5003-BI	1"	0.63	1.59	SXFNPT
5003-BI	1-1/4"	1.02	1.96	SXFNPT
5003-BI	1-1/2"	1.26	1.98	SXFNPT
5003-BI	2"	1.98	1.99	SXFNPT

### 5003-2-BI



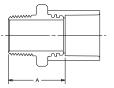


### **Spigot Female Adapters with Metal Thread Insert**

UNIV. FIG. NO.	NOM. Size	APPROX. NET WT./LBS.	DIM. A Inches	JOINT
5003-2-BI	3/4"	0.28	2.00	SPGXFNPT
5003-2-BI	1"	0.61	2.72	SPGXFNPT

### 5004-BI





### **Male Adapters with Metal Thread Insert**

UNIV. FIG. NO.	NOM. Size	APPROX. NET WT./LBS.	DIM. A Inches	JOINT
5004-BI	3/4"	0.22	1.35	SxMNPT
5004-BI	1"	0.46	1.82	SxMNPT
5004-BI	1-1/4"	0.74	2.05	SxMNPT
5004-BI	1-1/2"	1.06	2.14	SxMNPT
5004-BI	2"	1.80	2.31	SxMNPT



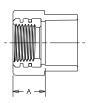


## **BlazeMaster® Fire Protection Fittings – THREADED**

### **ADAPTERS**

5003-S-BI



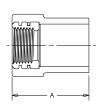


## Female Sprinkler Head Adapters with Metal Thread Insert

UNIV. FIG. NO.	NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	JOINT
5003-S-BI	3/4"x1/2"	0.16	0.72	SXFNPT
5003-S-BI	1"x1/2"	0.18	0.73	SXFNPT
5003-S-BI	1"x3/4"	0.18	0.93	SXFNPT

5003-2-S-BI



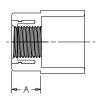


## Spigot Female Sprinkler Head Adapters with Metal Thread Insert

UNIV. FIG. NO.	NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	JOINT
5003-2-S-BI	1"X1/2"	0.16	1.84	SPGXFNPT
5003-2-S-BI	3/4"x1/2"	0.15	1.53	SPGXFNPT

5003-S-BT





## BRASTIC™ Female Sprinkler Head Adapters with Metal Starter Thread

UNIV. FIG. NO.	NOM. Size	APPROX. NET WT./LBS.	DIM. A Inches	JOINT
5003-S-BT	1" x 1/2"	0.17	.75	S x FNPT
5003-S-BT	3/4" x 1/2"	0.15	.75	S x FNPT

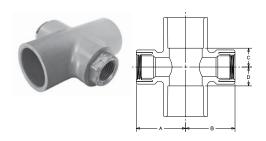




## **BlazeMaster® Fire Protection Fittings – THREADED**

### **CROSSES**

5035-3-S-BI-S 5035-3-S-BI-L



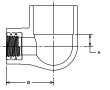
## Sprinkler Head Back To Back Crosses with Metal Thread Inserts

UNIV. FIG. NO.	NOM. Size n	APPROX. NET WT./LBS.	DIM. A Inches	DIM. B Inches	DIM. C Inches	DIM. D Inches	JOINT
5035-3-S-BI-S	1x1"x1/2"x1/2" 3-3/8" Take Ou	0.46 t	1.69	1.69	0.62	0.62	SXSXFNPTXFNPT
5035-3-S-BI-L	1x1"x1/2"x1/2" 3-5/8" Take Ou	0.48 t	1.81	1.81	0.62	0.62	SXSXFNPTXFNPT

### **ELBOWS**

5007-3-S-BI





### **Sprinkler Head 90 with Metal Thread Insert**

UNIV. FIG. NO.	NOM. Size	APPROX. NET WT./LBS.	DIM. A Inches	DIM. B Inches	JOINT
5007-3-S-BI	3/4"x1/2"	0.22	0.56	1.62	SxFNPT
5007-3-S-BI	1"x1/2"	0.27	0.50	1.76	SxFNPT
5007-3-S-BI	1"x3/4"	0.26	0.59	1.88	SxFNPT
5007-3-S-BI	1-1/4"x1/2"	0.30	0.48	1.95	SxFNPT



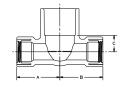


## **BlazeMaster® Fire Protection Fittings – THREADED**

### **TEES**

5011-3-3-S-BI-S 5011-3-3-S-BI-L



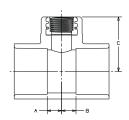


### **Back To Back Tees with Metal Thread Inserts**

UNIV. FIG. NO.	NOM. SIZE	APPROX. NET WT./LBS.	DIM. A Inches	DIM. B Inches	DIM. C Inches	JOINT
5011-3-3-S-BI-S	1/2"x1/2"x1" 3-3/8" Take Out	0.44	1.69	1.69	.62	FNPTXFNPTXS
5011-3-3-S-BI-L	1/2"x1/2"x1" 3-5/8" Take Out	0.46	1.81	1.81	.62	FNPTXFNPTXS

### 5012-S-BI 5012R-S-BI



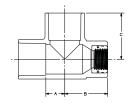


### **Sprinkler Head Tees with Metal Thread Insert**

UNIV. FIG. NO.	NOM. Size	APPROX. NET WT./LBS.	DIM. A Inches	DIM. B Inches	DIM. C INCHES	JOINT
5012-S-BI	3/4"x3/4"x1/2"	0.22	0.42	0.42	1.60	SXSXFNPT
5012-S-BI	1"	0.44	0.80	0.80	1.48	SXSXFNPT
5012-S-BI	1"x1"x1/2"	0.29	0.41	0.41	1.76	SXSXFNPT
5012-S-BI	1-1/4"x1-1/4"x1/2"	0.34	0.52	0.52	1.95	SXSXFNPT
5012-S-BI	1-1/2"x1-1/2"x1/2"	0.46	0.45	0.45	2.13	SXSXFNPT
5012-S-BI	2"x2"x1/2"	0.58	0.47	0.47	1.68	SXSXFNPT
5012R-S-BI	1"x3/4"x1/2"	0.28	0.46	0.83	1.69	SXSXFNPT
5012R-S-BI	1-1/4"x1"x1/2"	0.34	0.51	0.63	1.94	SXSXFNPT
5012R-S-BI	1-1/2"x1-1/4"x1/2"	0.47	0.46	0.67	2.13	SXSXFNPT
5012R-S-BI	2"x1-1/2"x1/2"	0.58	0.48	0.78	2.38	SXSXFNPT

### 5014R-S-BI





### **Sprinkler Head Tees with Metal Thread Insert**

UNIV. FIG. NO.	NOM. Size	APPROX. NET WT./LBS.		DIM. B INCHES		JOINT
501//R_S_RI	1"v1/2"v1"	U 3U	N 71	1 7/	1 90	CXENIPTYC



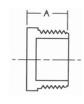


## BlazeMaster® Fire Protection Fittings – THREADED

### **TEST PLUG**

450-005





### **Test Plugs**

UNIV. FIG. NO.	NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	JOINT
450-005	1/2"	0.03	1.06	MPT

Note: Test plug is white PVC Schedule 40 material and is intended for testing the system only.

Test plug should not be included as a component in the completed system.

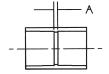
### **IPS TO CTS TRANSITION FITTINGS**



FOR USE IN MULTI-PURPOSE NFPA-13D SYSTEMS (WHERE APPROVED).

4701-T





Transition Couplings (Slip IPS x Slip CTS)

NOM. Size		APPROX. NET WT./LBS.		DIM. A Inches
3/4	(IPS) x 3/4 (CTS)	.039		1/8
1	(IPS) x 1 (CTS)	.068		1/8
2	(IPS) x 2 (CTS)	.330		1/8

4718-T





Transition Bushings (Spigot IPS x Slip CTS)

NOM. SIZE		APPROX. NET WT./LBS.	DIM. A Inches
1	(IPS) x 1 (CTS)	.030	9/32
11/4	(IPS) x 11/4 (CTS)	.057	1/4
11/2	(IPS) x 11/2 (CTS)	.070	3/16
2	(IPS) x 2 (CTS)	.111	1/8

Note: For joining BlazeMaster  $^\circ$  and FlowGuard Gold  $^\circ$  pipe and fittings, use NIBCO  $^\circ$  FP-1000 One-Step Cement.

IPS = Iron Pipe Size CTS = Copper Tube Size

**BlazeMaster**® FIRE SPRINKLER FITTINGS



## BlazeMaster® Fire Protection Fittings – ACCESSORIES

### **CEMENT AND ACCESSORIES**



### **Solvent Cement**

FIG. NO.	SIZE	DESCRIPTION	LBS./CASE
50970	Quart	NIBCO FP-1000 One Step Cement	27
5097P	Pint	NIBCO FP-1000 One Step Cement	14
C5097Q	Quart	NIBCO FP-1000 One Step Cement	27
		Canada compliant label	
C5097P	Pint	NIBCO FP-1000 One Step Cement	14
		Canada compliant label	

Note: Pint can lid is the correct size dauber for 3/4" through 1-1/4" pipe and fitting assembly; quart can lid is the correct size dauber for 1-1/2" through 3" pipe and fittings.



### **Empty Can**

FIG. NO.	SIZE	DESCRIPTION	LBS./CASE
50980	Quart	Empty Can Quart	3
5098P	Pint	Empty Can Pint	2
5098G	Gallon	Empty Can Gallon	5



### **Brush**

FIG. NO.	SIZE	DESCRIPTION	LBS./CASE
5096	NA	Brush BP-1	11



### Roller

FIG. NO.	SIZE	DESCRIPTION	LBS./CASE
5097	NA	Roller 6020	4



### **Dauber**

FIG. NO.	SIZE	DESCRIPTION	LBS./CASE
5093S	Small	Dauber CM-75 (for pipe sizes 3/4" - 1-1/4")	2
5093L	Large	Dauber CM-150 (for pipe sizes 1-1/4" - 3")	2



BlazeMaster® is a registered trademark of The Lubrizol Corporation.



## BlazeMaster® Fire Protection Fittings – ACCESSORIES

### **CEMENT AND ACCESSORIES**



### **Thread Sealant**

FIG. NO.	SIZE	DESCRIPTION	LBS./CASE	CANS/CASE
5094	Half Pint	Thread Sealant	24.0	24
5094	Pint	Thread Sealant	24.0	12
5094	Quart	Thread Sealant	38.4	12

NOTE: Only use thread sealant that is compatible with NIBCO manufactured BlazeMaster® CPVC fittings. Thread sealants which carry the FGG /-BM-/ CZ mark have been determined to be chemically compatible.



### **PTFE Tape**

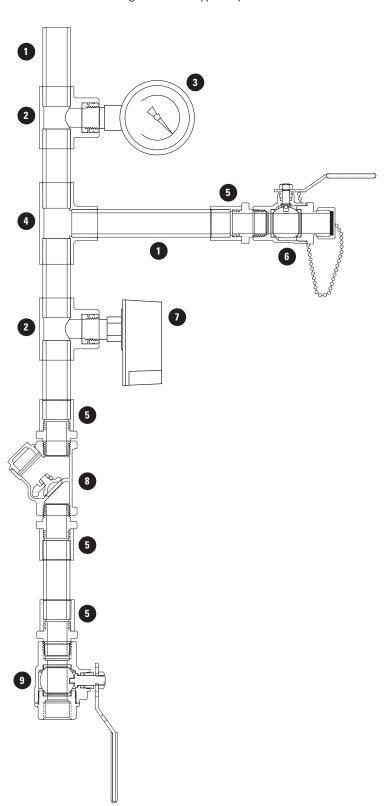
FIG. NO.	SIZE	DESCRIPTION	LBS./CASE
5099	1/2"x260"	PTFE Tape	11



## **Typical Residential Riser**

**NIBCO** 

NIBCO valves and fittings that are typically used with CPVC *BlazeMaster*® pipe.



- CPVC BlazeMaster® Pipe
- NIBCO #5012-S-BI
- Pressure Gauge
- NIBCO #5011
- NIBCO #5004-BI
- NIBCO Hose End T-585-70-HC / 66-HC
- Flow Switch
- NIBCO Check T-480, T-480-Y, T-413-Y, TI3
- NIBCO Isolation T-585-70 / 66 / UL / IC MTT-585-70, T-FP-600





### **Valves for Residential Fire Protection**

### **ISOLATION VALVES**

### T-585-70 / 66



600 PSI CWP 150 PSI SWP 2-Piece Bronze Body Full Port Bronze or SS Stem Chrome/Nickel Plate or SS Ball Threaded Connection MSS SP-110 1/4" - 2"

### KT-580-70-UL KT-585-70-UL



300 PSI Non-Shock Cold Water 2-Piece Bonze Body Full Port 1/4" - 1", Convential Port 1-1/4" - 3" Bronze Stem Chrome/Nickel Plate Ball Threaded Connection MSS SP-110, UL/FM 1/4" - 3"

### MTT-585-70



600 PSI CWP 150 PSI SWP 2-Piece Bronze Body Full Port Bronze Stem. Chrome Chrome/Nickel Plate Ball Male x Female Threaded End Connection MSS SP-110 1/2" - 2"

### T-FP-600A



600 PSI CWP 2-Piece Brass Body Full Port Bronze or Brass Stem Chrome/Nickel Plate Ball Threaded Connection MSS SP-110. UL 1/4" - 2"

### T-685-80-LF



Lead-Free\* 600 PSI CWP 2-Piece Body Full Port ECO-BRASS Ball/Stem Threaded Connection MSS SP-110 1/2" - 2"

### **HOSE END DRAIN**

### T-413-Y/W



**CHECK VALVES** 

200 PSI CWP Horizontal Swing Check Bronze Body PTFE or Buna Disc Integral Seat Threaded Connection MSS SP-80 1/2" - 2"

Lead-Free\* version available as T-413-Y-LF

T-480-Y T-480

250 PSI CWP In-Line Lift Type Check Bronze Body PTFE or Buna Disc Integral Seat Threaded Connection 3/8" - 2"

Lead-Free\* version available as T-480-Y-LF

### T-585-70-HC / 66-HC 600 PSI CWP Ball Valve with Cap & Chain 2-Piece Bronze Body Full Port Bronze or SS Stem Chrome Plated or SS Ball Threaded Connection MSS SP-110 1/2" - 3/4"

\* Lead-Free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content <0.25%. Source: California Health & Safety Code (116875); Vermont Act 193.

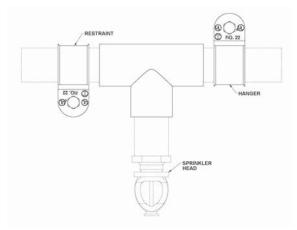
NOTE: To view NIBCO's entire fire protection valve offering, visit www.nibco.com.

BlazeMaster® is a registered trademark of The Lubrizol Corporation.

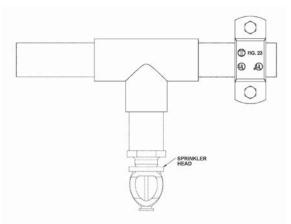


**NIBCO** 

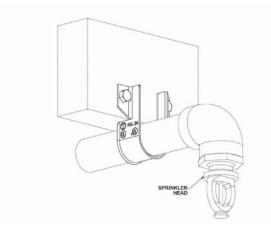
## **Hangers for Residential Fire Protection**



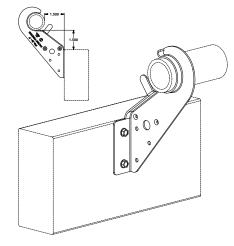
TOLCO Fig. 22 - Hanger for CPVC Plastic Pipe Single Fastener Strap Type



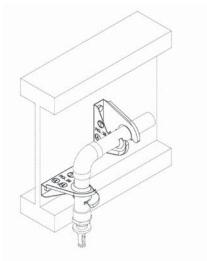
TOLCO Fig. 23 –Hanger for CPVC Plastic Pipe Double Fastener Strap Type



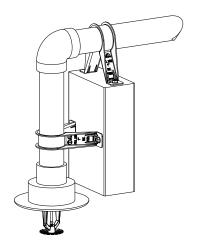
TOLCO Fig. 24 - Hanger fro CPVC Plastic Pipe Double Fastener Strap Type – Side Mount



TOLCO Fig. 29 – Double Offset Hanger & Restrainer for CPVC Plastic Pipe



TOLCO Fig. 28 - "Stand-Off" Hanger & Restrainer for CPVC Plastic Pipe



TOLCO Fig. 28M – CPVC Hanger and Restrainer for CPVC Plastic Pipe

NOTE: To view TOLCO's entire fire protection hanger & strut offering, visit www.nibco.com.



## Review - Do's & Don'ts

### Do's

- Installation should be made only by a qualified installer or contractor in accordance with all applicable codes and requirements.
- Read and follow the installation instructions.
- · Follow recommended safe work practices.
- Make certain that thread sealants, gasket lubricants, or firestop materials are compatible with CPVC.
- Keep pipe and fittings in original packaging until needed.
- Cover pipe and fittings with an opaque tarp if stored outdoors.
- Follow proper handling procedures.
- Use tools specifically designed for use with plastic pipe and fittings.
- Use the proper solvent cement and follow application instructions.
- Use a drop cloth to protect interior finishes.
- Cut the pipe ends square.
- Deburr and bevel the pipe end with a chamfering tool.
- Rotate the pipe 1/4 turn when bottoming pipe in fitting socket.
- Make certain no solvent cement is on sprinkler head and adapter threads.
- Make certain that solvent cement does not run and plug the sprinkler head orifice.
- Follow the manufacturer's recommended cure times prior to pressure testing.
- Fill lines slowly and only at a proper pressure.
- Bleed the air from the system prior to pressure testing.
- Support sprinkler head properly to prevent lift up of the head through the ceiling when activated.
- Keep threaded rod within 1/16" of the pipe or use a surge arrestor.
- Install NIBCO® BlazeMaster® CPVC Fire Sprinkler Products in wet systems only.
- Use only insulation and/or glycerin and water solutions for freeze protection.
- Allow for movement due to expansion and contraction.
- Ensure installers have been properly trained per the NIBCO
   BlazeMaster® CPVC Fire Sprinkler System Installation and Design Manual and renew your training every three years at a minimum.

### **Don'ts**

- · Do not use edible oils as a gasket lubricant.
- Do not use petroleum or solvent-based sealants, lubricants, or fire stop materials.
- Do not use any glycol-based solutions as an anti-freeze.
- Do not contaminate the CPVC system with cutting oils or compressor oils.
- Do not mix glycerin and water solutions in contaminated containers.
- Do not use solvent cement that exceeds its shelf life or has become discolored or jellied.
- Do not allow solvent cement to plug the sprinkler head orifice.
- Do not connect rigid metal couplers to CPVC grooved adapters.
- Do not thread or groove CPVC pipe.
- Do not use solvent cement near sources of heat, open flame, or when smoking.
- Do not pressure test with air.
- Do not pressure test until recommended cure times are met.
- Do not exceed proper pressure for testing.
- Do not use ratchet cutters below 50°F.
- Do not use CPVC pipe that has been stored outdoors, unprotected and is faded in color.
- Do not allow threaded rod to come in contact with the pipe.
- Do not install NIBCO **BlazeMaster**® CPVC Fire Sprinkler Products in cold weather without allowing for expansion.
- Do not install NIBCO BlazeMaster® CPVC Fire Sprinkler Products in dry systems.
- Do not allow puddling of cement in fittings and pipe.
- Do not use dull or broken cutting tool blades when cutting pipe.





## **CPVC Cross Reference Sheet**

### **STANDARD FITTINGS**

<u> </u>	MIDAI	12 111 1111	<u>,                                    </u>	
	NIBCO FIG. NO.	SIZE	SPEARS FIG. NO.	TYCO FIG. NO.
ER.	5001-G	1-1/4"	4233-012	80160
	5001-G	1-1/2"	4233-015	80161
ADAPTER	5001-G	2"	4233-020	80162
AD	5001-G	2-1/2"	4233-025	80163
	5001-G	3"	4233-030	80164
	5018	1"x3/4"	4237-131	80200
	5018	1-1/4"x1"	4237-168	80202
	5018	1-1/4"x3/4"	4237-167	80201
	5018	1-1/2"x1-1/4"	4237-212	80205
	5018	1-1/2"x1"	4237-211	80204
	5018	1-1/2"x3/4"	4237-210	80203
CS.	5018	2"x1-1/2"	4237-251	80209
₹.	5018	2"x1-1/4"	4237-250	80208
BUSHINGS	5018	2"x1"	4237-249	80207
Ω.	5018	2"x3/4"	4237-248	80206
	5018	2-1/2"x2"	4237-292	80211
	5018	2-1/2"x1-1/2"	4237-291	80213
	5018	2-1/2"x1-1/4"	4237-290	80214
	5018	2-1/2"x1"	N/A	80215
	5018	3"x2-1/2"	4237-339	80212
	5018	3"x2"	4237-338	80210
	5018	3"x1-1/2"	N/A	N/A
	5017	3/4"	4247-007	80100
	5017	1"	4247-010	80101
PS	5017	1-1/4"	4247-012	80102
CAPS	5017	1-1/2"	4247-015	80103
	5017	2"	4247-020	80104
	5017	2-1/2"	4247-025	80105
	5017	3"	4247-030	80106
	5001	3/4" 1"	4229-007	80075
	5001 5001		4229-010	80076
	5001	1-1/4"	4229-012 4229-015	80077 80078
	5001	1-1/2" 2"	4229-013	80079
S	5001	2-1/2"	4229-025	80080
Z.	5001	3"	4229-030	80081
COUP	5001-R	1"x3/4"	4229-131	80220
2	5001 H	1-1/4"x1"	4229-168	N/A
	5001 H	1-1/2"x3/4"	4229-210	N/A
	5001-R	1-1/2"x1"	4229-211	N/A
	5001-R	1-1/2"x1-1/4"	4229-212	N/A
	5001 H	2"x1"	4229-249	N/A
	5001-R	2"x1-1/2"	4229-251	N/A
	5035	3/4"	4220-007	80009
ES	5035	1"	4220-010	80010
CROSSES	5035	1-1/4"	4220-012	80011
CRC	5035	1-1/2"	4220-015	80012
		,		

### STANDARD FITTINGS

	NIBCO FIG. NO.	SIZE	SPEARS FIG. NO.	TYCO FIG. NO.
S	5035	2"	4220-020	80013
SE	5035	2-1/2"	4220-025	80014
CROSSES	5035	3"	4220-030	80008
	5035-R	1"x3/4"x1"x3/4"	4220-131	80015
	5006	3/4"	4217-007	80050
	5006	1"	4217-010	80051
	5006	1-1/4"	4217-012	80052
	5006	1-1/2"	4217-015	80053
	5006	2"	4217-020	80054
<b>(0</b>	5006	2-1/2"	4217-025	80055
ELBOWS	5006	3"	4217-030	80056
PB.	5007	3/4"	4206-007	80025
ш	5007	1"	4206-010	80026
	5007	1-1/4"	4206-012	80027
	5007	1-1/2"	4206-015	80028
	5007	2"	4206-020	80039
	5007	2-1/2"	4206-025	80030
	5007	3"	4206-030	80031
	5007-R	1"x3/4"	4206-131	80032
	5019-H	3/4"	4253-007	N/A
	5019-H	1"	4253-010	N/A
	5019-H	1-1/4"	4253-012	N/A
	5019-H	1-1/2"	4253-015	N/A
	5019-H	2"	4253-020	N/A
	5019-H	2-1/2"	4253-025	N/A
s.	5019-H	3"	4253-030	N/A
FLANGES	5051-A	3"	4254-030	N/A
.₹	5051-2-A	3"	4256-030	N/A
ш.	5051-H	3/4"	4251-007	N/A
	5051-H	1"	4251-010	N/A
	5051-H	1-1/4"	4251-012	N/A
	5051-H	1-1/2"	4251-015	N/A
	5051-H	2"	4251-020	N/A
	5051-H	2-1/2"	4251-025	N/A
	5051-H	3"	N/A	N/A
	5011	3/4"	4201-007	8000
	5011	1"	4201-010	8001
	5011	1-1/4"	4201-012	8002
	5011	1-1/2"	4201-015	8003
TEES	5011	2"	4201-020	80004
=	5011	2-1/2"	4201-025	8005
	5011	3"	4201-030	80006
	5011-R	3/4"x3/4"x1"	4201-102	80132
	5011-R	1"x1"x3/4"	4201-131	80260
-	5011-R	1"x3/4"x1"	4201-126	80134



 $Blaze Master^{\scriptsize \circledcirc}$  is a registered trademark of The Lubrizol Corporation.



## **CPVC Cross Reference Sheet**

### STANDARD FITTINGS

	NIBCO		SPEARS	TYCO
	FIG. NO.	SIZE	FIG. NO.	FIG. NO.
	5011-R	1"x3/4"x3/4"	4201-125	80133
	5011-R	1-1/4"x1-1/4"x1"	4201-168	80262
	5011-R	1-1/4"x1-1/4"x3/4"	4201-167	80261
	5011-R	1-1/4"x1"x1-1/4"	4201-159	80137
	5011-R	1-1/4"x1"x1"	4201-158	80136
	5011-R	1-1/4"x1"x3/4"	4201-157	80135
	5011-R	1-1/4"x1-1/4"x1-1/2"	4201-169	80138
	5011-R	1-1/2"x1-1/2"x1-1/4"	4201-212	80275
	5011-R	1-1/2"x1-1/2"x1"	4201-211	80264
_	5011-R	1-1/2"x1-1/2"x3/4"	4201-210	80263
<b>(0</b>	5011-R	1-1/2"x1-1/4"x1"	4201-202	80140
岜.	5011-R	1-1/2"x1-1/4"x3/4"	4201-201	80140
_	5011-R	1-1/2"x1-1/2"x2"	4201-213	N/A
•	5011-R	2"x2"x1-1/2"	4201-251	80274
•	5011-R	2"x2"x1-1/4"	4201-250	80267
•	5011-R	2"x2"x1"	4201-249	80266
•	5011-R	2"x2"x3/4"	4201-248	80265
•	5011-R	2-1/2"x2-1/2"x2"	4201-292	80276
	5011-R	2-1/2"x2-1/2"x1-1/2"	4201-291	80273
•	5011-R	2-1/2"x2-1/2"x1-1/4"	4201-290	80272
•	5011-R	2-1/2"x2-1/2"x1"	4201-289	80271
•	5011-R	3"x3"x2-1/2"	4201-339	80269
	5011-R	3"x3"x2"	4201-338	80268
•	5011-R	3"x3"x1-1/2"	4201-337	80270
	5033-E	3/4"	4257-007	N/A
S	5033-E	1"	4257-010	N/A
<u> </u>	5033-E	1-1/4"	4257-012	N/A
N	5033-E	1-1/2"	4257-015	N/A
	5033-E	2"	4257-020	N/A

### THREADED FITTINGS

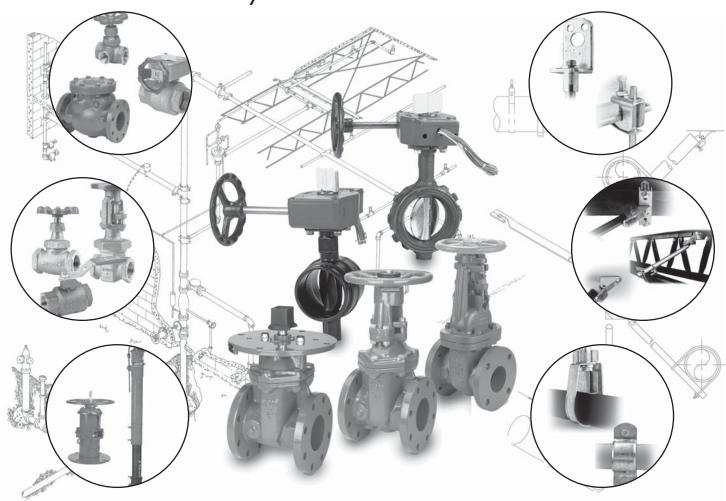
	NIBCO FIG. NO.	SIZE	SPEARS FIG. NO.	TYCO FIG. NO.
	5003-BI	3/4"	4235-007	80142
_	5003-BI	1"	4235-010	80145
	5003-BI	1-1/4"	4235-012	80146
	5003-BI	1-1/2"	4235-015	80147
	5003-BI	2"	4235-020	80148
	5003-2-BI	3/4"	4278-007	N/A
RS	5003-2-BI	1"	4278-010	N/A
ADAPTERS	5003-S-BI	3/4"x1/2"	4235-101	80175E or 80175W
AF.	5003-S-BI	1"x1/2"	4235-130	80176E or 80175W
A	5003-S-BI	1"x3/4"	4235-131	80179
	5003-2-S-BI	3/4"x1/2"	4238-101	N/A
	5003-2-S-BI	1"x1/2"	4238-130	N/A
	5004-BI	3/4"	N/A	80157
	5004-BI	1"	N/A	80158
	5004-BI	1-1/4"	N/A	N/A
	5004-BI	1-1/2"	N/A	N/A
	5004-BI	2"	N/A	N/A
CROSSES	5035-3-S-BI-S	1"x1"x1/2"x1/2"	N/A	80462
CRO	5035-3-S-BI-L	1"x1"x1/2"x1/2"	N/A	80463
s –	5007-3-S-BI	3/4"x1/2"	4207-101	80199
ELBOWS	5007-3-S-BI	1"x1/2"	4207-130	80198
	5007-3-S-BI	1"x3/4"	4207-131	N/A
	5007-3-S-BI	1-1/4"x1/2"	4207-166	N/A
	5011-3-3-S-BI-S	1/2"x1/2"x1"	N/A	80460
	5011-3-3-S-BI-L	1/2"x1/2"x1"	N/A	80459
	5012-S-BI	1"	4202-010	N/A
_	5012-S-BI	3/4"x3/4"x1/2"	4202-101	80250
_	5012-R-S-BI	1"x3/4"x1/2"	4202-124	N/A
S _	5012-S-BI	1"x1"x1/2"	4202-130	80251
ES	5012-R-S-BI	1"x1/2"x1"	4203-122	N/A
	5012-R-S-BI	1-1/4"x1"x1/2"	4202-156	80256
	5012-S-BI	1-1/4"x1-1/4"x1/2"	4202-166	80252
	5012-R-S-BI	1-1/2"x1-1/4"x1/2"	4202-199	80257
	5012-S-BI	1-1/2"x1-1/2"x1/2"	4202-209	80254
	5012-S-BI	2"x2"x1/2"	4202-247	80253
	5012-R-S-BI	2"x1-1/2"x1/2"	4202-237	80258
TEST	450-005	1/2"	4250-005	N/A



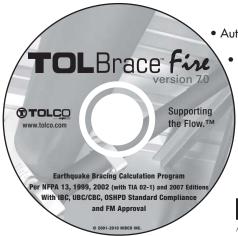


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NIBCO INC. warrants each NIBCO BlazeMaster® Fire Protection CPVC plastic fitting to be free from defects in materials and workmanship under normal use and service for a period of ten (10) years from the date of purchase.

In the event any defect occurs which the owner believes is covered by this Warranty, the owner should immediately contact NIBCO INC., Technical Services, either in writing or by telephone call, (888) 446-4226 or (574) 295-3000. The owner will be instructed to return said fitting or valve, at the owner's expense, to NIBCO INC. or an authorized NIBCO INC. representative for inspection. In the event said inspection discloses to NIBCO INC.'s satisfaction that said fitting or valve is defective, a replacement shall be mailed free of charge to the owner, and NIBCO INC. shall further pay the installing contractor the sum of ten (\$10.00) dollars to apply on the cost of installation of said replacement fitting.

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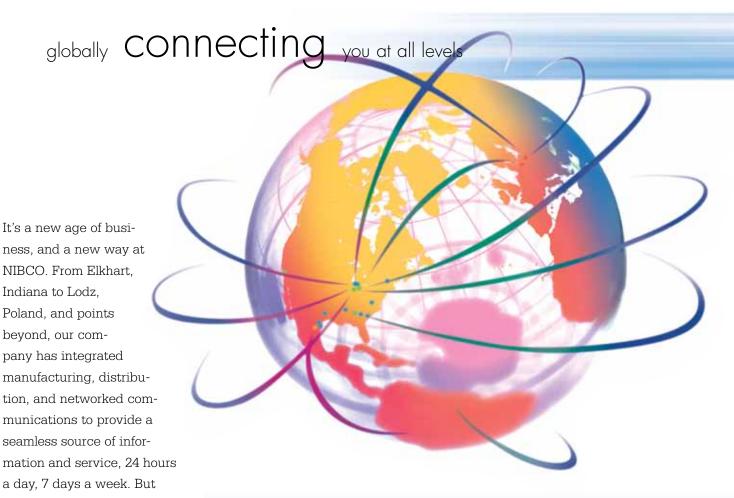
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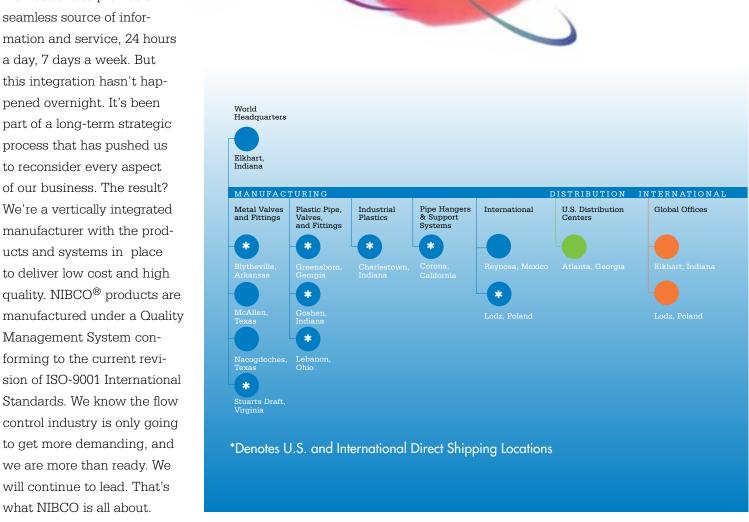
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