

FLUE GAS VENTING SYSTEMS



System 636®
FLUE GAS VENTING



FLUE GAS VENTING SYSTEMS

SYSTEM 636®

- Fully Certified to ULC S636
- System 636® PVC is rated for flue gas temperatures up to and including 65°C
- System 636® CPVC is rated for flue gas temperatures up to and including 90°C


IPEX
by aliaxis

We build tough products for tough environments®



The Certified System for FLUE GAS VENTING

The use of plastic venting systems on gas fired water heaters, furnaces and boilers has undergone a significant change. CSA B149.1 Natural Gas and Propane Installation Code now requires all special venting material to be certified to ULC S636 across Canada. IPEX addressed this market need with System 636®, a fully certified flue gas vent system.

Since the inception of System 636, IPEX has made numerous product line additions and extensions to now offer the most complete product offering in the market. Also, System 636 is very professionally represented by IPEX with sales, technical, code issues and training support.

Front and centre to aid installers and inspectors is our System 636 Installation Guide. The contents of this guide are part of the certification process and contain many important aspects of installation to ensure successful, code-compliant installations. Issues addressed in the Guide include support spacing, expansion and contraction, solvent cementing procedures and special installation and terminations.

WHAT CERTIFIED PLASTIC VENT MATERIALS ARE AVAILABLE?

That's where IPEX can help with our certified System 636 flue gas venting systems. IPEX offers complete certified systems of pipes, fittings and cements meeting the stringent demands of the ULC S636 venting standard. All with the quality, performance and support you've come to expect from IPEX.

ONE CODE CHANGE, TWO CERTIFIED SOLUTIONS

We offer System 636 in two distinct materials, each with a unique temperature rating. These venting systems are approved as Type BH vents and are designed for negative or positive pressure venting of gas-fired appliances.

SYSTEM 636 PVC

System 636 PVC is classified as Type BH Class IIA vent, suitable for use on appliances with flue gas temperatures up to and including 65°C (149°F). Sizes include 1-1/2", 2", 2-1/2", 3", 4" and 6". Coloured white with unique blue certification markings, System 636 PVC pipe is made to sturdy Sch. 40 dimensions to provide a strong, rigid pipe for the application. A full range of System 636 PVC vent fittings and accessories are also offered.

SYSTEM 636 CPVC

System 636 CPVC is classified as Type BH Class IIB vent, suitable for use on appliances with flue gas temperatures up to and including 90°C (194°F). CPVC sizes include 1-1/2", 2", 2-1/2", 3", 4", 6" and 8". Coloured grey, System 636 CPVC pipe is also made to Sch. 40 dimensions to be tough enough for the application's demands.

SYSTEM 636 CEMENTS & PRIMERS

System 636 PVC & CPVC solvent cements are specifically formulated and certified for flue gas venting applications. We also offer a PVC & CPVC Primer for applications where the gas venting system is to be installed in temperatures below 0°C (32°F). A certified Transition Cement is available for connections to ABS appliance connectors.



SYSTEM 636® FLUE GAS VENTING

Only IPEX offers System 636, a complete, fully certified, system of pipe, fittings, termination kits, and cements engineered and manufactured to IPEX's strict quality, performance and dimensional standards.

System 636 PVC and CPVC includes a full range of fitting configurations commonly found in gas venting application for appliances having exhaust temperatures up to and including 90°C (CPVC). IPEX publishes a certifier-approved System 636 Installation Guide to assist installers on critical aspects of installation such as hanger spacing, expansion/contraction, termination options and solvent cement assembly. The booklet may be obtained from IPEX or may be viewed online at www.ipexinc.com/system636.



i Unparalleled sales support, technical assistance and field training are all readily available from IPEX Sales Professionals across North America.

System 636 is backed by IPEX – Canada's leading plastic pipe system supplier.

Visit www.ipexinc.com/system636 for further details.

ADVANTAGES

FULLY CERTIFIED as a complete pipe, fittings and cement system

2 SYSTEM OPTIONS cover a broad range of operating temperatures

MANUFACTURED AND SUPPORTED by PVC & CPVC piping system experts

INSTALLER TRAINING AVAILABLE focusing on proper solvent welding and other aspects on installation. Contact IPEX for details



MATERIAL DESCRIPTION

PVC (POLYVINYL CHLORIDE)

System 636 PVC carries a ULC S636 Class IIA certification and is certified for use up to and including 65°C (149°F).

Ensure the proper System 636 PVC Cement and Primer is to be used for installation.

CPVC (CHLORINATED POLYVINYL CHLORIDE)

System 636 CPVC carries a ULC S636 Class IIB certification and is certified for use up to and including 90°C (194°F).

Ensure the proper System 636 CPVC Cement and Primer is to be used for installation.

MATERIAL IDENTIFICATION

Material type and/or temperature rating is included in the pipe print line as well as on the mandatory orange and black warning label applied to each fitting. All certified IPEX System 636 products carry a Warnock Hersey mark.

Warning labels on pipe and fittings are required by ULC S636 and clearly distinguish a certified gas venting system from every day, non-certified plumbing pipe. Look for the orange and black label and the mark of a recognized certification agency as assurance the system being used is certified.

SPECIAL NOTES

System 636 Pipe, Fittings and Cements are certified as a system and must be installed as such. Different manufacturers have different materials, joining systems and adhesives. Do NOT mix pipe, fittings, solvents, or joining methods from different BH Vent manufacturers, this can result in unsafe conditions.

Exchanging components from various manufacturers violates the conditions of certification in the ULC S636 standard and would void the IPEX product warranty.

IPEX ABS plumbing pipe and fittings do not meet ULC S636 requirements and must not be installed for flue gas venting.

When retrofitting existing water heaters, furnaces or boilers, do not connect System 636 certified vent systems to existing, non-certified appliance vent materials. Replace the entire venting system with listed product to ensure compliance.

Before connecting any piping system to an appliance, ensure the manufacturers' installation instructions are followed, especially with respect to vent material selection.



WARNING



NEVER use compressed air or gas in PVC/CPVC pipe and fittings.
NEVER test PVC/CPVC pipe and fittings with compressed air or gas, or air-over-water boosters.
Use of compressed air or gas in PVC/CPVC pipe and fittings can result in explosive failures and cause severe injury or death.

SYSTEM 636® FLUE GAS VENTING

TERMINATION KITS

UNIVERSAL CONCENTRIC VENT KITS (UCVK™)

System 636 PVC & CPVC Universal Concentric Vent kit (UCVK™) offers horizontal coaxial termination specifically for venting tank-less water heaters installed on an exterior wall. An engineered air intake hub pivots to accommodate the spacing requirements between the fresh air and exhaust collars for most brands of tankless water heaters offered on the market today. Designed utilizing the fundamentals of the Concentric Vent Kits, the UCVK is made to optimize productivity through ease of installation.



CONCENTRIC VENT KITS

System 636 PVC & CPVC Concentric Vent Kits (CVK), are available in a variety of lengths and come in 2", 3" and 4" diameters. These "pipe-in-pipe" kits allow for both exhaust and intake pipes to penetrate the roof or side wall through only one hole. The concentric vent kits are now certified with mechanically fastened rain caps. When installed with the included stainless steel screw/nut, the rain cap can be easily removed for cleaning or maintenance. Vent screens and round face plates for side wall terminations are also available.



- Screw/bolt assembly for mechanically fastening the cap yet allowing future removal for cleaning or maintenance
- Socket end to the vent pipe portion of the cap which allows attachment of additional pipe and fittings to extend the vent pipe further away from the CVK if required
- The 45° wye component of our CVK is more compact than other available models and thus structurally stronger and more resistant to cracking due to bending stresses during installation
- Allows complete system installation with components from a single manufacturer
- Concentric Vent Kits can be field modified, providing compliance with BOTH the appliance manufacturers' and IPEX's guidelines

ACCESSORIES

WALL TERMINATION KITS

For a traditional vent style, IPEX's PVC Wall Termination Vent Kits are available in convenient 2", 2-1/2" and 3" sizes. These PVC kits require only two small wall penetrations for intake and exhaust. Kits include a white finishing plate with a self sealing foam back that can be screwed to the exterior wall. Vent screens not included.



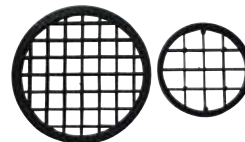
LOW PROFILE TERMINATION KITS (PVC)

These kits offer a lower profile alternative to the typical two pipe side wall termination kit. They include integrally molded vent screens, and the design neatly disguises both the intake and exhaust. Each kit is molded with a ULC S636 certified beige PVC compound.



VENT SCREENS

IPEX also offers 2", 3", 4", 6" and 8" vent screens (plastic or stainless steel) to prevent debris and rodents from entering and plugging the venting system. These non-certified vent screens can be friction fit into any IPEX termination kit.



ACCESS TEES

The Access Tee allows an inline point for flue monitoring using fully certified System 636 components. The tee is available in PVC and CPVC.



- May be installed in new installations or added to existing lines when monitoring is required
- May be used on vent lines in diameters (1-1/2" – 4")
- Certified for use only on IPEX System 636 flue gas vent lines
- Molded tee design with IPEX System 636 removable 1/2" MPT plug
- More compact and robust design

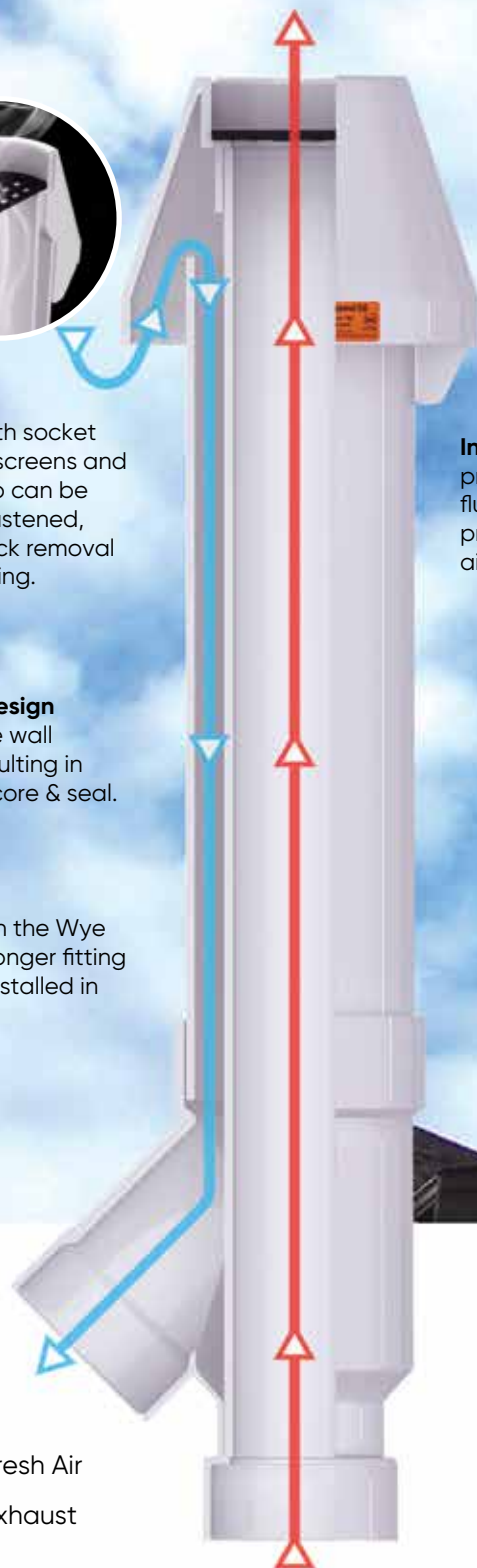


Molded Cap with socket allows for vent screens and extensions. Cap can be mechanically fastened, allowing for quick removal and easy cleaning.

Pipe-in-pipe Design allows for single wall penetration resulting in fewer holes to core & seal.

Short Branch on the Wye makes for a stronger fitting which can be installed in tighter spaces.

■ Fresh Air
■ Exhaust



1. Concentric Vent Kits (PVC & CPVC)
2", 3" & 4" diameters



2. Wall Termination Kits (PVC)
2", 2-1/2" & 3" diameters



3. Low Profile Termination Kits (PVC)

Integral Fins

prevent the cap from sitting flush to the wall, ensuring proper spacing needed for air flow.

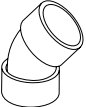
The System 636 Concentric Vent Kit

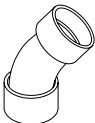
SYSTEM 636® FLUE GAS VENTING

PRODUCT SELECTION CHART

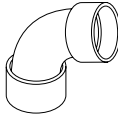
		Dimension		Product Code
		inches	mm	
GAS VENT PIPE Plain end (10 ft lengths)				
	PVC	1-1/2	40	194003
		2	50	194000
		2-1/2	65	194004
		3	75	194001
		4	100	194002
		6	150	194011
	CPVC	1-1/2	40	198003
		2	50	198001
		2-1/2	65	198004
		3	75	198000
		4	100	198002
	CPVC LG DIA.	6	150	198005
		8	200	198006

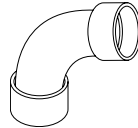
FGV 22-1/2° ELBOW H x H				
	PVC	2	50	196252

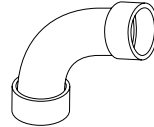
FGV 45° ELBOW H x H				
	PVC	1-1/2	40	196241
		2	50	196242
		2-1/2	65	196487
		3	75	196243
		4	100	196244
		6	150	197169
	CPVC	2	50	197169
		3	75	197171
		4	100	197172
		6	150	197173
		8	200	197174
		8	200	197174

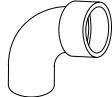
FGV 45° LONG ELBOW H x H				
	PVC	2	50	196010
		3	75	196011

FGV 45° LONG ELBOW H x SP				
	PVC	2	50	196071
		3	75	196223

FGV 90° ELBOW H x H				
	PVC	2	50	196035
		2-1/2	65	196525
		3	75	196025
		6	150	196140
		2	50	197199
		3	75	197201
	CPVC	4	100	197202
		6	150	197203
		8	200	197204
		6	150	197203
		8	200	197204
		8	200	197204

FGV 90° LONG ELBOW H x H				
	PVC	1-1/2	40	196121
		2	50	196122
		2-1/2	65	196120
		3	75	196123
		4	100	196124
		2	50	197122
	CPVC	3	75	197123
		4	100	197124
		6	150	197125
		8	200	197126
		8	200	197126
		8	200	197126

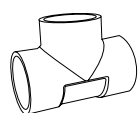
FGV 90° EXTRA LONG ELBOW H x H				
	PVC	2	50	196022
		3	75	196023

FGV 90° STREET ELBOW SP x H				
	PVC	2	50	196232
		3	75	196233

PVC Note: For use with gas fired appliances producing flue gases 65°C (149°F) or less.

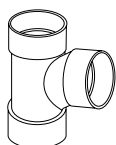
CPVC Note: For use with gas fired appliances producing flue gases 90°C (194°F) or less.

FGV TEE H x H x H



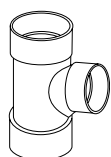
		Dimension		Product Code
		inches	mm	
CPVC		2	50	197486
		3	75	197488
		4	100	197489
CPVC LG DIA.		6	150	197490
		8	200	197491

FGV SANITARY TEE H x H x H



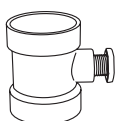
PVC	1-1/2	40	196081
	2	50	196082
	2-1/2	65	196781
	3	75	196083
	4	100	196084
	6	150	196785

FGV REDUCER TEE H x H x H



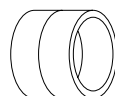
PVC	2 x 1-1/2	50 x 40	196056
	3 x 1-1/2	75 x 40	196061
	3 x 2	75 x 50	196822
	4 x 2	100 x 50	196828
CPVC	3 x 2	75 x 50	197502
	4 x 2	100 x 50	197504
CPVC LG DIA.	6 x 6 x 4	150x150x100	197506
	8 x 8 x 6	200x200x150	197567

FGV ACCESS TEE H x H x FPT



PVC	1-1/2	40	196510
	2	50	196511
	3	75	196512
	4	100	196513
CPVC	1-1/2	40	197510
	2	50	197511
	3	75	197512
	4	100	197513

FGV COUPLING H x H



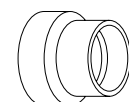
PVC	1-1/2	40	196452
	2	50	196352
	2-1/2	65	196454
	3	75	196353
	4	100	196354
	6	150	196142
CPVC	2	50	197026
	3	75	197027
	4	100	197023
CPVC LG DIA.	6	150	197141
	8	200	197142

FGV DEEP SOCKET COUPLING H x H



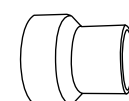
PVC	2	50	196453
	3	75	196455
CPVC	2	50	197137
	2-1/2	65	197138
	3	75	197139
	4	100	197140

FGV INCREASER COUPLING H x H



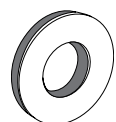
PVC	2 x 1-1/2	50 x 40	196362
	3 x 2	75 x 50	196364
	4 x 2	100 x 50	196365
	4 x 3	100 x 75	196366
CPVC	6 x 4	150 x 100	196367
	3 x 2	75 x 50	197470
	4 x 3	100 x 50	197472

FGV APPLIANCE ADAPTER H x SP



PVC	2-1/2 x 2	65 x 50	196302
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FACEPLATE – ROUND (w/ self sealing foam back)

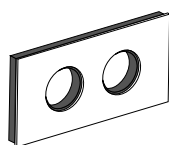


PVC

Dimension		Product Code
inches	mm	
2	50	196063
3	75	196064
4	100	196055
2 grey	50	197053
3 grey	75	197054
4 grey	100	197055

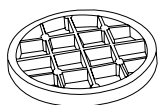
grey matches CPVC

FACEPLATE – RECTANGULAR (white w/ self sealing foam back)



2	50	196216
2-1/2	65	196218
3	75	196219

TERMINATION VENT SCREENS



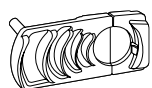
* 2	50	196050
* 3	75	196051
* 4	100	196052
† 6	150	196090
† 8	200	196091

Vent screens are not ULC S636 Certified.

Friction fit vent screens inside termination fitting bells to prevent debris & rodents from entering vent.

* Polyethylene † Stainless Steel

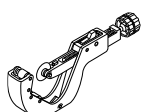
DEBURRING TOOL (DEB 4)



1-1/2 to 4 pipe	40 to 100 pipe	196246
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To ensure quality solvent cement connections, deburr all pipe ends prior to cementing. For guidance on deburring 6" & 8" (150mm & 200mm) pipe, contact IPEX.

CUTTER



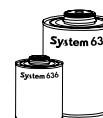
1-1/2 to 3	40 to 75	196247
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PVC CEMENT (LOW VOC)



Volume		Product Code
imperial	ml	
1/4 pint	118	296366
1 pint	473	196040
1 quart	946	196041

CPVC CEMENT (LOW VOC)



1 pint	473	196046
1 quart	946	196047

also certified for transitions to PVC

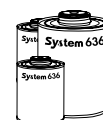
TRANSITION CEMENT



1 pint	473	196044
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for transitions to ABS only

PVC / CPVC PRIMER (LOW VOC)



1/4 pint (purple)	118 (purple)	296367
1 pint (purple)	473 (purple)	196042
1 pint (clear)	473 (clear)	196017
1 quart (purple)	946 (purple)	196043

- Primer shall be used when installing System 636® PVC or CPVC products at temperatures below 0°C (32°F).
- Primer is always required on 6" & 8".
- Primer is required in some jurisdictions regardless of temperature, verify with your local Authority Having Jurisdiction.

Note: Use only System 636 cements and primers. Substituting other cements and primers will void certification and warranty.

All pint and quart cans supplied with dauber (applicator) for use up to 4".

Swab



gallon	3785	074456
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For pipe diameters 6" and larger fits 074425 can.

IPEX components are dimensionally matched; do not install system of mixed brands without our expressed written consent.

SYSTEM 636® FLUE GAS VENTING

FLAME SPREAD & SMOKE DEVELOPMENT RATINGS

Both System 636 PVC and CPVC pipe exhibit a Flame Spread Rating of 10, while CPVC pipe has the added feature of a Smoke Developed Classification of 50. These properties are listed as per the ULC S102.2 test standard.

SYSTEM 636 PVC MAY BE USED IN:

- Noncombustible buildings, as detailed in clause 3.1.5.16 of the National Building Code (NBC)

SYSTEM 636 CPVC MAY BE USED IN:

- Noncombustible buildings, as detailed in clause 3.1.5.16 of the National Building Code (NBC)
- Air plenums, as per NBC article 3.6.4.3.(1)
- Buildings deemed to be high-rise, as per NBC article 3.2.6.

ULC S636 STANDARD – PLASTIC VENT PIPE FOR GAS FIRED APPLIANCE

IPEX recommends the use of certified thermoplastics for flue gas venting and offers a fully certified system in both PVC and CPVC, System 636.

Reasons for the implementation of the ULC S636 standard

- ❖ Appliance standards do not address the flue gas venting system and its acceptability for the application.
- ❖ Prior to 2007, uncertified flue gas piping failures forced the adoption and enforcement of a national standard for flue gas venting.
- ❖ Beyond the testing involved in the certification process the standard goes an important step further to ensure safety. ULC S636 stipulates that no mixing of components from different manufactures can occur in the venting system. This would include pipe, fittings, cements and terminations.
- ❖ The no mixing clause ensures quality and compatibility.
- ❖ Several appliance manufactures specify certain approved materials for venting in their installation manuals. The ULC S636 standard ensures that these materials meet the testing and specifications, creating a safer flue gas venting system.
- ❖ ULC S636 has been enforced nationwide in Canada since 2007.

❖ Enforcing the ULC S636 Standard will ensure:

- Pipe, fittings, and cements compatibility
- Proper use of materials and product for the application
- Long life of the venting system
- Single source liability
- Single source product support

POTABLE WATER

AquaRise®

1/2" – 4" (12mm – 100mm)

IPS SDR11 CPVC pipe, valves and fittings for hot and cold water distribution.



Pipe-with-the-Stripe®

1/2" – 2" (12mm – 50mm)

Pipe with the Stripe is available in standard and CSA-certified Polyethylene, with a permanent coloured stripe ID system.



Blue904™

3/4" – 2" (19mm – 51mm)

PEX water service tubing made to CTS OD (SDR 9).



Q-Line®

3/4" & 1" (20mm & 25mm)

AWWA C903 composite water service tubing.



Philmac® 3G™

Water line compression fittings

3/4" – 2" (20mm – 50mm)

Water line compression fittings in CTS OD and ID series sizes.



System 636®

Flue Gas Venting

1-1/2" – 8" (40mm – 200mm)

PVC-FGV Type BH Class II A vent pipe and fittings and CPVC-FGV Type BH Class II B vent.



GAS VENTING

XIRTEC & CORZAN

Xirtec 140® PVC – Corzan® CPVC

1/2" – 24" (12mm – 600mm)

XIRTEC 140®: PVC Schedule 40 & 80 pipe and fittings systems.

CORZAN®: CPVC Schedule 80 pipe and fittings systems cell classification 24448 & 23447



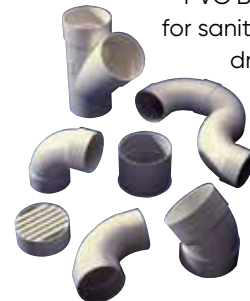
PLUMBING & MECHANICAL PRODUCTS

Drainway® ABS DWV Systems
1-1/4" – 6" (32mm – 150mm)
ABS DWV pipe and fittings.
Also available in cell core.



Solvent Weld Sewer & Drain Piping Systems
3" – 6" (75mm – 150mm)

PVC Building Drain Sewer for sanitary, storm or septic drainage. Perforated pipe for perimeter drainage or septic fields.



DWV SYSTEMS

Backwater Valves
1-1/2" – 6" (40mm – 150mm)
Available in both PVC and ABS lightweight, corrosion-resistant plastic.



DWV System 15® & System XFR®

1-1/2" – 24" (40mm – 600mm)

System 15: Drain, Waste and Vent piping for low-rise commercial or residential.

System XFR: Drain, Waste and Vent piping for high-rise commercial or residential including air plenum installations.



Cements & Primers
A complete range of cements, primers and applicators specially formulated for your pipe, valves and fittings.

CEMENTS & PRIMERS

FIRE PROTECTION

Blazemaster® Fire Sprinkler Systems
3/4" – 3" (20mm – 75mm)
CPVC Pipe & Fittings for Fire Sprinkler Systems.



Products manufactured by IPEX Inc.

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NOTES:

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- Municipal pressure and gravity piping systems
- Plumbing and mechanical piping systems
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