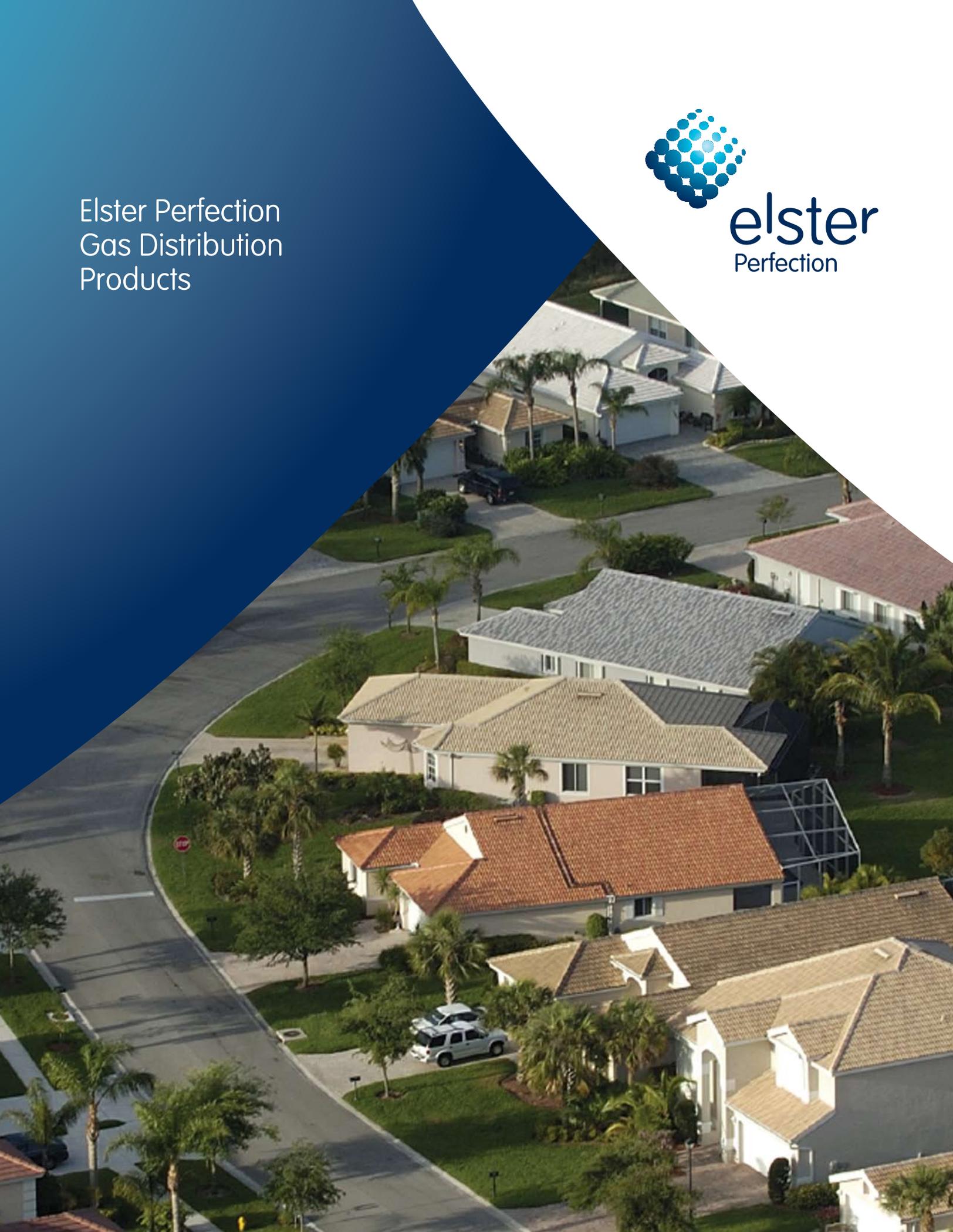


Elster Perfection
Gas Distribution
Products



elster
Perfection



PSV™ polyethylene shut-off valves

The Elster Perfection PSV polyethylene shut-off valve replaces non-PE and metallic valves to provide economical compatibility with all PE gas distribution systems. It eliminates the need for corrosion inhibiting coatings, cathodic protection, federally mandated corrosion inspection and record-keeping.

- Sizes from 1/2" to 8" (20 mm to 200 mm)
- 1/2" to 1-1/4" sizes are available with quarter turn (90°) or full turn (360°) actuators
- 2" to 8" sizes are available with quarter turn (90°) only
- Temperatures from -20°F (-29°C) to 100°F (38°C)
- Available with Permasert outlets from 1/2" CTS through 2" IPS (20 mm - 63 mm)
- Fusion outlets available from 1/2" CTS through 8" IPS (20 mm - 200 mm)
- Meets or exceeds requirements of ASTM D 2513, US DOT Part 192, ANSI B16.40 and CSA B137.4

PermaLock® mechanical tapping tees

Our full-encirclement mechanical tapping tee is the safe, reliable and economical way to join a polyethylene service line to a polyethylene gas main. PermaLock tees provide a gas-tight, mechanical service line connection that installs in as little as five minutes without special equipment. Once the PMTT is installed, it's locked onto the main.

- Main sizes of 1-1/4" through 12" (40 mm, 63 mm, 90 mm and 110 mm)
- Permasert or fusion outlet sizes from 1/2" CTS to 2" IPS (20 mm to 63 mm)
- Large 0.8" cutter/port size on 2" through 12" PermaLock tees
- Specially designed Non-Interrupt Service Transfer (NIST) mechanical tapping tees for the "live" transfer of 1" CTS and 1-1/4" CTS service lines to a replacement polyethylene main
- Molded from PE4710/PE3408 materials that meet or exceed requirements of ASTM D 2513 and EN 1555

Additional Tees

- Saddle fusion and electrofusion tapping tees with Permasert coupling outlets available
- Brass base service tee is designed for tapping into cast iron mains, available with 1" and 1-1/4" IPS base threads

EFV excess flow valves

The Elster Perfection EFV prevents catastrophic gas leakage by automatically shutting off gas flow when flow exceeds a predetermined rate. Elster Perfection's excess flow valves are incorporated into our gas distribution products for easy installation in your distribution system.

- Available in Permasert couplings, fusion and mechanical tapping tee outlets
- Available in fusion outlet sticks, steel pipe nipples, and incorporated into our PSV valves
- Self-actuating valve with automatic reset
- Complies with the requirements of MSS SP-115, US DOT CFR Title 49 Part 192.381, ASTM F 1802 and ASTM F 2138

Prefabricated meter sets and steel products

Elster Perfection meter loops, bends, swivels and meter manifold/headers can simplify your meter set installations. Our precision fabricated products are ideal for both single dwelling and multiple family/commercial applications. The Elster Perfection prefabricated meter sets simplify installation, reduce the number of threaded joints (potential leak points) and improve the appearance of your finished installation.

- Custom configurations and assemblies available
- All welds meet the requirements of US DOT CFR 49, Part 192 and ASME Boiler and Pressure Vessel Code Section IX

Tools and accessories

Elster Perfection offers a complete line of tools and accessories to assist field crews during the installation of our gas distribution products. Among these items are chamfering tools and kits, PE cutters/snippers, tools for mechanical tees, protective sleeves, tubing end protectors, marking pencils, polyethylene clamping devices, moisture seals and gaskets, and a variety of riser mounting brackets.



PSV™ polyethylene shut-off valves



PermaLock® mechanical tapping tees



EFV excess flow valves



Prefabricated meter sets and steel products

Elster Perfection...

Our commitment is to consistently provide you with optimum solutions — through superior products, enterprise-wide solutions, industry leading technical capabilities and end-to-end services.

Elster Perfection is focused on helping you meet job site needs and lowering installation costs. Elster's enterprise-wide solution approach helps you meet these challenges through our unique combination of World Class Products, Value-Added Services, and Expertise at the local level.

Bringing world class products to you

Whether application requirements are simple or complex, the breadth and depth of Elster Perfection's product line provides the optimal solution.

At Elster Perfection, we deliver complete gas utility solutions through well-known products that customers have relied upon for years. Elster Perfection product lines are engineered utilizing the most current technologies required to implement a fast and safe solution in virtually every situation. When you choose Elster Perfection, you're assured of obtaining the most advanced, proven technology. We design our new products to be compatible with current systems, while leveraging the best from the latest R&D technologies.

Reliability you can trust

Exceptional performance with superior reliability and time proven products

For more than 35 years, Elster Perfection has been supplying gas distribution products to utilities around the world. During this time, we've earned the confidence of our customers. The reason... with millions of our products in use in every conceivable climate and soil condition, our products continue to deliver safe, uninterrupted service.

Improving gas distribution integrity

Elster Perfection molds a complete line of mechanical joining products from PE4710/PE3408. This resin shares many of the same properties as PE2406 and PE3408, while offering several significant performance enhancements.

PE4710/PE3408 offers:

- Excellent resistance to Rapid Crack Propagation (RCP) and Slow Crack Growth (SCG).
- 20 and 60 times more resistant to SCG than typical PE2406 and PE3408.
- Greater than 6,000 hours PENT (PE Notching Test)
- A proven track record around the world for more than 20 years.



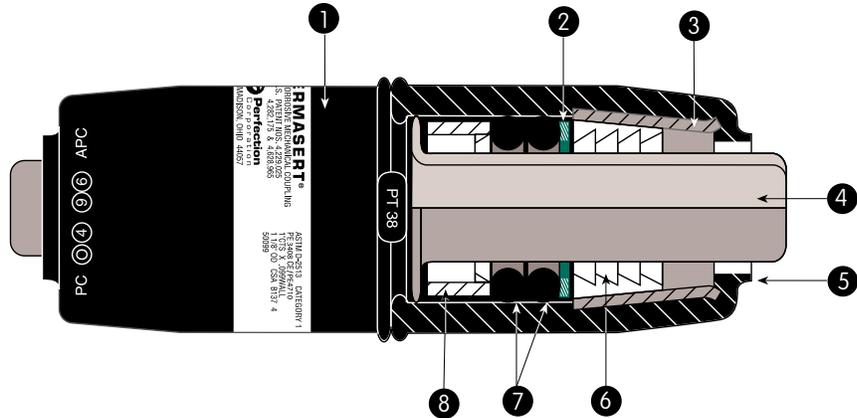
Permasert®...The heart of our system

The Permasert polyethylene mechanical coupling revolutionized the natural gas industry for the same reason it's number one today... it's safe and remarkably quick and easy to install.

Permasert fittings utilize a slotted, tapered collet to "grip" the tubing. With this system, the greater the pull-out force, the more tightly the collet grips the tubing. As a result, the pull-out strength of Permasert couplings is greater than the connected polyethylene tubing. The coupling's one piece construction ensures consistent, gas-tight connections in any weather condition.

Benefits

- Fast and easy installation, requires only one person
- Total installed cost savings versus electrofusion and heat-fusion joined polyethylene
- No special tools or costly installation equipment
- No special training required to install
- Non-corrosive couplings eliminate the need for protective coatings and cathodic protection
- Safe, dependable performance since market introduction in 1976
- Minimal stress on PE tubing
- Molded from industry leading PE4710/PE3408 resin



- 1 Permasert® Coupling - Molded from PE4710/PE3408 resin. Permasert meets or exceeds ASTM D 2513, category 1; US DOT Part 192; NFPA 58; ISO 4437; and NF T 54 069/54 067; IAPMO®/UPC® listed; and CSA B 137.4 and DVGW VP 600 certified
- 2 Thrust Washer - Provides even distribution of force on the collet
- 3 Support Ring - Stainless steel ring molded into body of coupling for added strength
- 4 Stiffener - Zinc-plated steel stiffener guarantees proper alignment and adds support
- 5 Moisture Seal - Prevents entry of dust, dirt and moisture
- 6 Collet - Tapered gripping collet prevents pipe pull-out
- 7 "O" Rings - BUNA-N (Nitrile) elastomer seals provide permanent leak-proof protection
- 8 Spacer Retainer Ring - Guarantees precise centering of pipe and increases the locking power of collet

The foundation of our system

Permasert® mechanical couplings are available in many different configurations and sizes to satisfy widely varying field requirements. Among the styles of Permasert couplings are straight couplings, reducing couplings, repair couplings, 3-way tees, 3-way reducing tees, elbows, wyes, blind end caps, blind end stubs, and our CopperSert™ transition coupling.

- Sizes from 1/2" CTS (5/8" OD) to 2" IPS (20 mm to 63 mm)
- Available for all plastic pipe wall thicknesses



Product performance that improves productivity and lowers total cost

Permasert® XL large diameter mechanical couplings

Elster Perfection's large diameter mechanical couplings provide the non-corrosive benefits of plastic combined with the fast, easy installation features of mechanical couplings for joining PE-to-PE, PE-to-Steel, PE-to-PVC or PE-to-Cast Iron main line piping systems.

- 2", 3", 4", 6" and 8" IPS sizes available
- Center body section constructed of ASTM D 2513/ISO 4437 gas grade high density (PE 3408) polyethylene or polyamide 11
- Pipe sizes include SDR 9/9.3, 11/11.5, 13.5
- Pull-out strength is greater than the connected PE piping
- Meets the applicable requirements of US DOT CFR Title 49, Part 192.283(b) and ASTM D 2513 category 1

Anodeless service line risers & transition fittings

Elster Perfection's anodeless service line risers provide an excellent meter connection that requires no cathodic protection.

Elster Perfection's steel-to-polyethylene transition fittings are ideal for gas and oil applications.

Our transition fittings and risers provide a connection with a pull-out strength greater than the PE tubing to which it's connected, and a positive seal is ensured with added "O" ring protection.

- Outlet sizes from 1/2" to 12" IPS
- Inlet sizes from 1/2" CTS to 12" IPS
- Available with Permasert couplings or fusion connection on riser pigtail
- Risers available with an additional below grade fire safety seal
- Galvanized, epoxy coated or flexible casings available
- Manufactured to customer specifications (custom configurations available)

- Threaded and weld style transition fittings and risers available
- Meets or exceeds the requirements of ASTM D 2513 category 1, ANSI B 1.20, ANSI B 31.8, US DOT Part 192, NFPA 58 and CSA B137.4

Servi-Sert® fittings

The service-head Servi-Sert adapter fitting, out-performs all conventional service heads for both safety and ease of installation. Servi-Sert fittings function on the same principle as our Permasert couplings, providing a permanent, leak-proof seal. It also offers the security of knowing its pull-out strength is greater than the connected polyethylene tubing. Servi-Sert fittings are zinc-plated for extra protection against corrosion. The fittings deliver long term reliability by operating as a single, self-contained unit with no loose parts.

- Threaded outlet sizes from 1/2" NPT to 1-1/2" NPT
- PE sizes from 1/2" CTS to 1-1/4" IPS (Metric sizes also available)
- Available for all plastic pipe wall thicknesses
- Servi-Sert top connected risers available with flexible and pre-bent steel casings
- Meets or exceeds requirements of ASTM D 2513 category 1, ANSI B 1.20, ANSI B 31.8, US DOT Part 192, NFPA 58 and CSA B137.4



Permasert® XL large diameter mechanical couplings



Anodeless service line risers & transition fittings



ServiSert® fittings



About Elster Group

A world leader in advanced metering infrastructure, integrated metering, and utilization solutions to the gas, electricity and water industries. Elster's metering and system solutions reflect over 170 years of knowledge and experience in measuring precious resources and energy.

Elster provides solutions and advanced technologies to help utilities more easily, efficiently and reliably obtain and use advanced metering intelligence to improve customer service, enhance operational efficiency, and increase revenues. Elster's AMI solutions enable utilities to cost-effectively generate, deliver, manage, and conserve the life-essential resources of gas, electricity, and water.

Elster has a staff of over 7,500 serving customers globally in North America, Central America, South America, Europe, Asia, Africa and the Middle East.

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