Fusion-Tech Pipe
Multi-Layer Pipe
Safety-Pol Fittings

aquatechnik®

Professional **PP-R Fusion Pipe** Solutions for Fluid Handling Systems since 1985

Three Decades of PP-R Fusion Pipe Quality and Reliability

Since 1985, **aquatechnik®** has been at the forefront of manufacturing the highest of quality of polypropylene fusion welding pipe and fittings for multiple fluid handling systems. Today, the firm's manufacturing plant in Magnano, Italy produces a full range of PP-RCT fusion pipe and fitting solutions for export to a growing number of countries world-wide – now including the United States and Canada.

A firm commitment to quality, reliability and safety has remained a hallmark of **aquatechnik®** success since its inception. The **aquatechnik®** Fusion-Tech Pipe carries a 30-year warranty. All **aquatechnik®** products are made to meet and exceed stringent certification standards and, above all, the needs and demands of professional installers.

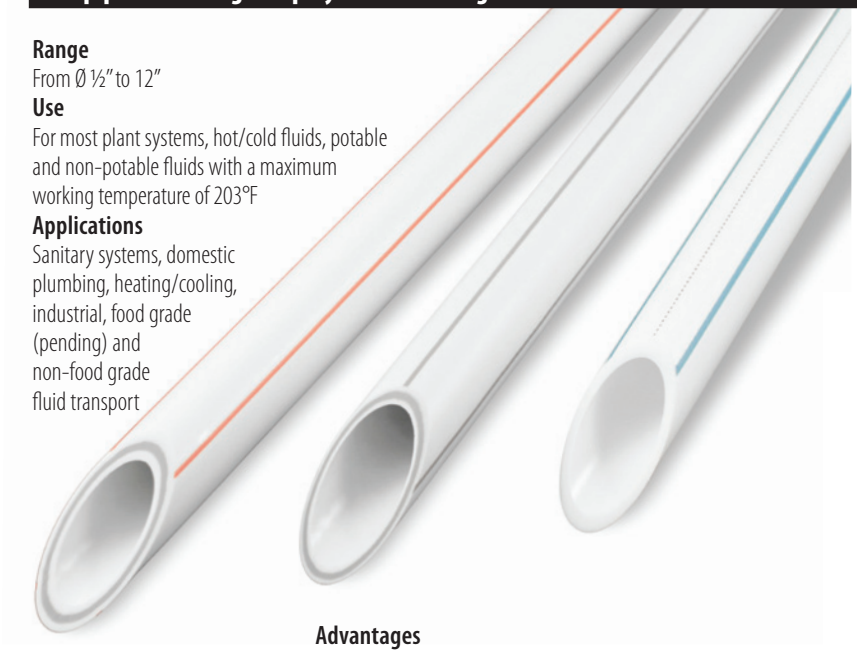
In launching **aquatechnik®** in North America, it is clear that this proven flame-free PP-RCT fusion pipe installation will quickly emerge as a preferred alternative to conventional soldering and welding methods.

The new **aquatechnik® North America** team believes that building owners, engineers, architects and mechanical contractors in HVAC and other sectors will welcome a versatile green building product that is safer, more affordable, easier and faster to install in a wide range of applications -- always promising decades of reliable performance.

Welcome to the future of **aquatechnik®** PP-RCT fusion pipe quality and reliability.

Fusion-Tech Pipe

PP-R pipe and fittings for polyfusion welding



Range
From Ø ½" to 12"

Use
For most plant systems, hot/cold fluids, potable and non-potable fluids with a maximum working temperature of 203°F

Applications
Sanitary systems, domestic plumbing, heating/cooling, industrial, food grade (pending) and non-food grade fluid transport

Advantages

- Leader in high flow rate and low pressure drop
- Resistant to lime, cement, plaster and electro-chemical reaction
- Completely compatible with warm and cold fluids
- Economical quick-and-easy installation.

The **Fusion-Tech Pipe** family includes the new **faser FIBER-T** and **faser FIBER-COND** pipes with special re-enforced fibers in the middle layer.

The **faser FIBER-T** is ideal for heating, air conditioning, domestic hot water, warm water transport, irrigation and compressed air systems.

The **faser FIBER-COND** is designed for heating, chilled water and other mechanical systems.

Like all the pipes in the system, the **FIBER-T** and the **FIBER-COND** can be polyfused with the Fusion-Tech fittings. All PP-R fittings with brass are lead-free.

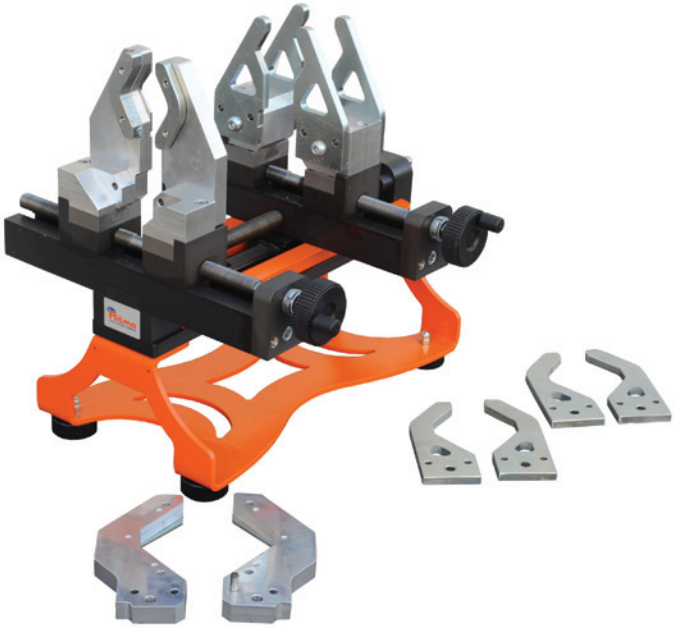
FUSION-TECH PIPE FIELDS OF APPLICATION

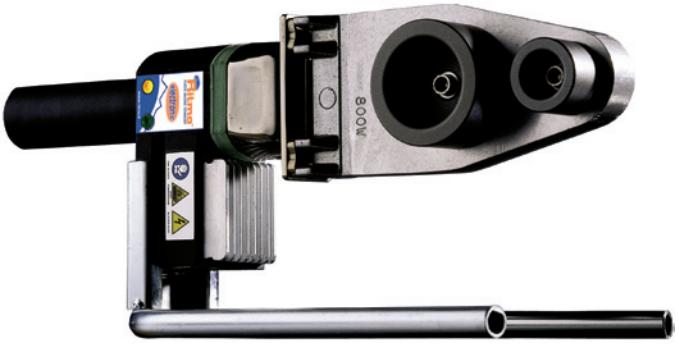
	PLUMBING SYSTEMS faser FIBER-T Red-Striped Pipe	MECHANICAL SYSTEMS faser FIBER-COND Grey-Striped Pipe	RAIN WATER COLLECTION Violet Pipe (not shown)
HEATING SYSTEMS	**Yes**	**Yes**	**No**
CHILLED WATER SYSTEMS	**Yes**	**Yes**	**No**
MARINE APPLICATIONS	**Yes**	**Yes**	**No**
RAINWATER COLLECTION	**No**	**No**	**Yes**
COMPRESSED AIR SYSTEMS	**Yes**	**Yes**	**No**
IN-FLOOR HEATING	**Yes**	**Yes**	**No**
CHEMICAL APPLICATION	**Consult Factory**	**Consult Factory**	**No**
POTABLE WATER*	**Yes**	**No**	**No**
FOOD GRADE	**Pending**	**No**	**No**
FIRE PROTECTION	**Pending**	**Pending**	**No**
UNDERGROUND APPLICATIONS	**Yes**	**Yes**	**No**
IRRIGATION	**No**	**No**	**Yes**

Notes: * Blue-Striped Pipe is used for potable cold water only
For all other applications, please consult your **aquatechnik®** PP-RCT fusion pipe distributor
aquatechnik® Fusion-Tech pipe and fittings are NSF/ANSI 14 and 61 certified

Heat Fusion Methods and Tools

Socket Fusion Welding





Socket welding is generally used with pipe/fitting diameters of ½" through 4". This is a widely used technique for joining plastic piping systems using injection moulded fittings. The operating principles are straightforward, with the welding cycle basically consisting of a heating phase and a cooling/welding phase. To obtain a proper fusion, be sure to cut and mark the pipe to the proper depth. The pipe and fitting are heated for a specified period of time, after which the pipe is inserted into the fitting to cool.

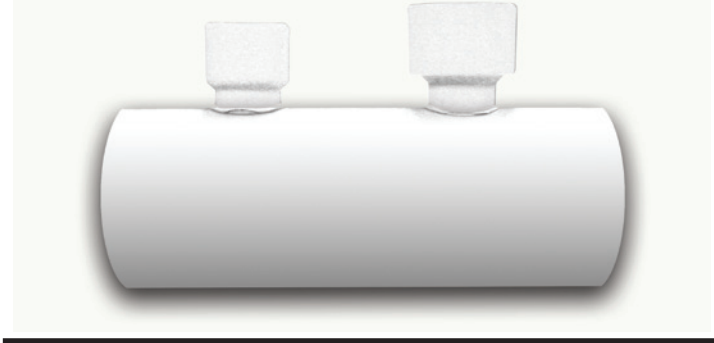
Butt Fusion Welding

This technique is generally used for pipe and fittings ranging from 6" and larger. The process involves the joining of plain-end pipe with plain-end fittings. The pipe and fittings are heated while being pressed against a "heated plate" for a specified period of time. The heat is absorbed into the pipe and fitting, allowing them to weld together, and then cooled. Welding and cooling time is determined by the pipe diameter and wall thickness.

Electrofusion

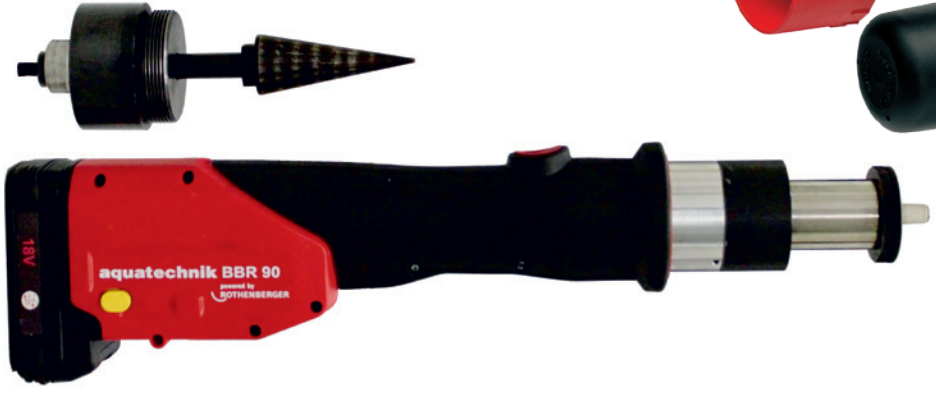
The electrofusion process involves the use of moulded socket fittings containing an electric heating coil. The pipe ends are inserted into the sockets and clamped. An electrical current is then passed through the coil for a pre-set time. Heating of the surrounding plastic and heat transfer to the pipe wall then takes place. This process is commonly used where space is limited and/or lateral pipe movement is not possible.

Outlet Fusion



This method may be used as an alternative to using reducing tees. The fusion outlets can be fused to the outside of the pipe with ease. Fusion outlets are socket fused using welding heads and heating irons.

Safety®-Pol Tools



The main features of the **safety-pol** system are:

- patented **aquatechnik®** tools flare the pipe around the fitting to maintain precise inside diameters of the fittings, reducing pressure drops throughout the fittings
- the pipe is locked on the fitting by a tight collar/cap connection, but can be unlocked and used again.

Multi-Layer Pipe

Multi-Calor

Multi-Layer PEX-AL-PEX

Range
From Ø ½" to 2½"

Use
Transport of hot/cold, potable and non-potable fluids with maximum working temperature/pressure 203°F/145psi

Applications
Domestic plumbing, heating/cooling, industrial, food grade and non-food grade fluid transport

Advantages
- Extremely flexible
- High working temperature and pressure
- Chemically safe and stable for food-grade fluids
- Non-corrosive
- Leader in high flow rates and low pressure drops
- Economical quick-and-easy installation
- Impermeable to oxygenated fluids

Multi-Eco

Multi-Layer PEX-AL-PE-HD

Range
From Ø ½" to 1"

Use
Transport of hot/cold and non-potable fluids with maximum working temperature/pressure 203°F/145psi

Applications
Heating/cooling, industrial and non-food grade fluids transport

Advantages
- Extremely flexible
- High working temperature and pressure
- Chemically safe and stable for food-grade fluids
- Non-corrosive
- Leader in high flow rates and low pressure drops
- Economical quick-and-easy installation
- Impermeable to oxygenated fluids
- Excellent price/product value

Polipert

PE-RT pipe with an EVOH oxygen barrier

Range
From Ø ½" to ⅝"

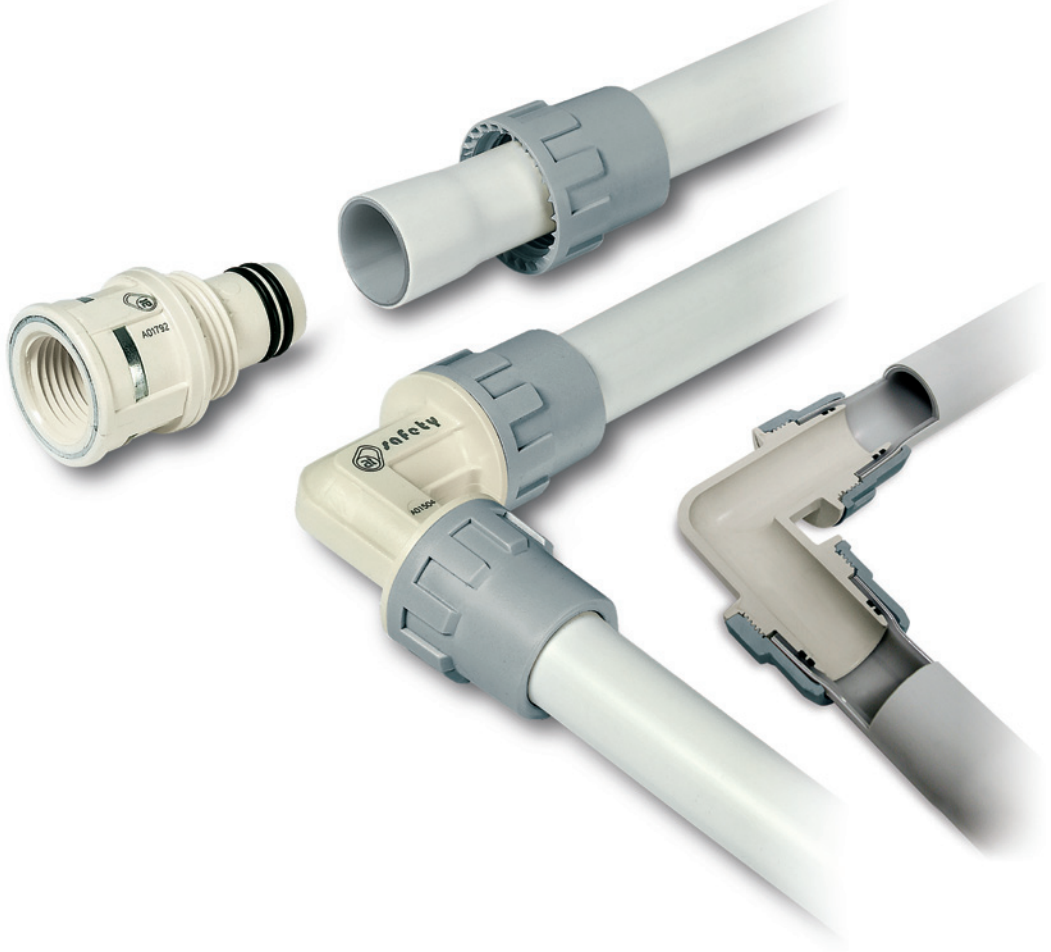
Use
Heating systems

Applications
Heating systems with radiators, conditioning systems and floor heating/cooling systems for industrial and community structures

Advantages
- Simple and safe connections for in-wall and free-hanging installations
- Extremely flexible
- Easy laying operations
- Long life and reliability of systems
- Non-corrosive
- Extremely flexible using the aquatechnik® coupling tool
- Economical quick-and-easy installation
- Impermeable to oxygenated fluids
- Excellent price/product value
- Less processing waste when used with safety fittings

Safety®-Pol Fittings

Patented fittings of PPSU with PAM caps



Range
From Ø ½" to 2½"

Use
Transport of hot/cold fluid and non-potable fluids with maximum working temperature/ pressure 203°F/145psi

Applications
Heating/cooling and industrial fluid transport

Advantages
- Simple and safe connections for in-wall installations
- High impact-resistant
- High flow rates and low pressure drops
- Quick-and-easy installation
- Possibility to unlock fittings for re-use
- Resistant to lime, cement, plaster and electro-chemical reaction
- Low cost and economical dedicated tools
- Less waste by re-using fittings

The **safety-pol** fittings are the product of continuous technical innovation and research, which are an integral to **aquatechnik®** success. This new range was designed and patented by the **aquatechnik® group spa** to reach the highest safety standards regarding the connection of in-wall multi-layer pipe installations.

The main features of the **safety-pol** system are:
- patented **aquatechnik®** tools flare the pipe around the fitting to maintain precise inside diameters of the fittings, reducing pressure drops throughout the fittings
- the pipe is locked on the fitting by a tight collar/cap connection, but can be unlocked and used again.

The idea to develop the **safety-pol** fittings came from the decision to increase the flow – consequently decreasing pressure drops and friction - making a greater diameter socket on the pipe head for the connection.
The project has been carried out step by step, going through all necessary tests and paying great attention to reliability factors for its in-wall piping use.
The industrial production began only after receiving certifications from international authorities for the whole range and its dedicated accessories.
The socket on the pipe head is made by special tool that ensure a quick, reliable and safe connection.

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