R-flex™

Insulated Piping Systems

Insulated supply and return piping is perfect for:

- Hydronic heating
- Hydronic snow melting
- District heating
- Commercial and process piping
- Cooling towers & chilled water systems
- Agricultural piping
- Biomass heat sources
- Wood-fired boilers
- Solar
- Geothermal

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WATTS®

Extra protection through unique double outer casing

A unique feature of Microflex pipes is the double-walled outer casing. Its 'closed cell' structure consists of a thick, ribbed outer wall - a guarantee of strength - and a slightly corrugated inner wall - a guarantee of unparalleled flexibility.

This double-walled outer casing of PE-HD is waterproof, and also protects the heat transfer pipe and the insulation from external effects such as shock and aggressive fluids.

A solid proven system.

R-flex is a pre-insulated, flexible, energy-saving PEX piping system with a durable, waterproof outer cover. R-flex is used as cost-effective distribution for heating and cooling applications in schools, universities, resorts, housing developments, and much more. It consists of a long-lasting PEX carrier pipe or pipes surrounded by thick insulation layers, all contained in a unique double-wall outer casing for maximum protection. The flexibility and light weight of R-flex make it far easier to install than rigid piping systems.

At the core.

At the core of R-flex is either one or two barrier PEX carrier pipes. R-flex PEX is manufactured in an ISO 9001 facility for Watts Europe using the Engel extrusion method. Watts Europe has manufactured millions of feet of insulated PEX since 1994.

The barrier

Each of the carrier PEX pipes is coated with an EVOH oxygen barrier which prevents oxygen from permeating into the piping system. Reducing oxygen in a closed-loop hydronic system increases the life expectancy of the system components.

Max Temperature	Max pressure
200°F (93.3°C)	80 psi (5.52 bar)
180°F (82.2°C)	100 psi (6.89 bar)
73.4°F (23°C)	160 psi (11.03 bar)

Barrier PEX offers several advantages.

- high resistance to corrosion and pressure at high temperatures
- exceptionally high abrasion resistance
- superb chemical resistance
- proven product with excellent longevity at high temperatures

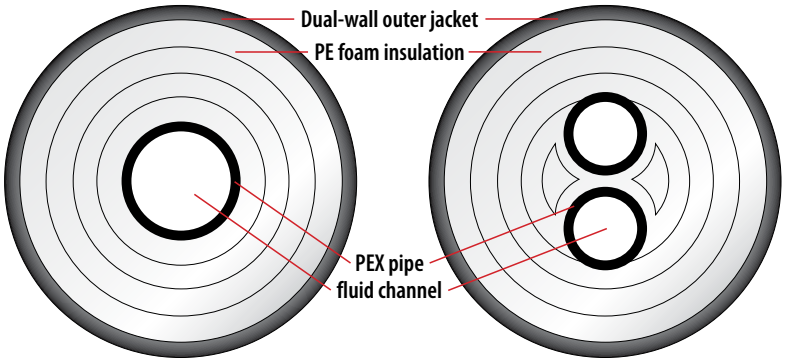
Rust-free is worry-free.

Superior protection.

Surrounding the inner PEX carrier pipe are several layers of micro-cellular, cross-linked polyethylene foam with a closed cellular structure. This unique design provides R-flex a low water vapor absorption, an enhanced R-value insulation, and an excellent resistance to extreme temperatures.

Most importantly, R-flex is able to maintain these insulation properties over time. Other insulation types, such as polyurethane (PUR) foam, can crush when the pipe is bent, causing them to lose their insulative properties.

A double-wall, corrugated, high density polyethylene PE-HD twin outer wall casing protects both the carrier pipe and the insulation from jobsite damage and water absorption. The unique double-wall casing offers far superior protection and greater flexibility compared to single-wall products or installer fabricated methods.



Carrier pipes in Dual R-flex are marked with a single dash line and a double dashed line to provide easy identification at transition points.

R-flex is manufactured to ASTM F876/F877 for 1" and DIN 16892 and 16893 for 32 mm – 110 mm sizes (nominal 1"- 4")

Flexible, fast, and easy.

R-flex derives a unique benefit from the use of the polyethylene foam insulation and the double-wall outer shell; increased flexibility. This feature provides an advantage when running R-flex between buildings, around trench corners, or through wall penetrations. The ability to maintain tighter bends makes handling easier and installations quicker.

Simply dig a trench, lay down a sand foundation, and lay the R-flex in a gentle serpentine pattern. R-flex is self-compensating, eliminating the need for expensive expansion loops. Single and Dual R-flex carrier pipe options provide greater system design flexibility and reduced installation time.

Long coil lengths minimize the need for mid-run connections translating into reduced installation costs and a reduced potential of leaks.

Design it with RadiantWorks Professional®

RadiantWorks Professional allows designers to properly determine the amount of R-flex required for a project and an estimated amount of transitional heat loss.

Design it once. Design it right.
Design with RadiantWorks Professional!

R-flex™
insulated piping systems

The art of simplicity.

Traditional carrier pipes, such as copper or black iron, require installers to cut and install transition fittings to work around an obstacle. With R-flex, installers no longer have to cut pipe and add connecting points. R-flex bends around the obstacle.

Fewer connections translate into reduced cost of parts and labor, less risk of leakages, and shorter installation times. Each buried transition, or connection, is sealed in a durable casing, protecting the connections from stress, water, and time. Moreover, R-flex system accessories can be installed without any special tools.

R-flex connections are an additional time-saver. Each connection is made with a standard torque wrench. No special tools required.

R-flex in action.

If there is a need to transfer heated water, or water/glycol, from one location to another, then there is a need for R-flex.

R-flex coils ready to be shipped.

Fittings, Components, Accessories

DUAL R-FLEX

- 1” Carrier Pipe with 125 mm jacket
- 32 mm Carrier Pipe with 125 mm
- 40 mm Carrier Pipe with 160 mm jacket
- 50 mm Carrier Pipe with 200 mm jacket
- 63 mm Carrier Pipe with 200 mm jacket

SINGLE R-FLEX

- 40 mm Carrier Pipe with 160 mm jacket
- 50 mm Carrier Pipe with 160 mm jacket
- 63 mm Carrier Pipe with 160 mm jacket
- 75 mm Carrier Pipe with 200 mm jacket
- 90 mm Carrier Pipe with 200 mm jacket
- 110 mm Carrier Pipe with 200 mm jacket

CASINGS

Casings are designed to protect the R-flex connection when buried and can be used with all R-flex, from 125 mm to 200 mm jacket sizes.

Casings are available in Tee, Elbow, and Coupling configurations.

ADAPTERS

All adapters are R-flex by NPT and are designed for use solely with the R-flex product line.

R-flex™
Insulated Piping Systems

WATTS®

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