

*Specialist for air conditioning, heating
and plant technology*

aquatherm **blue**



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History __

- 1973 aquatherm founded by Gerhard Rosenberg
- 1981 development of the first pipe system made of polypropylene; the colour green becomes a characteristic feature of aquatherm
- 1991 subsidiary Radeberg was founded
- 1996 first certification of the quality management system in accordance with ISO 9001
- 1997 foundation of the sales company in Italy
- 1999 development of fusiotherm® fibre composite pipe
- 2001 aquatherm operates in more than 50 export markets
- 2002 market launch of the aquatherm blue pipe
- 2005 market launch of the aquatherm red pipe and aquatherm black system
- 2010 system expansion of the pipe size to max. ø 630 mm
- 2010 Christof, Dirk and Maik Rosenberg assume company management
- 2012 first certification of the environment management system in accordance with ISO 14001
- 2012 market launch of the material fusiolen® PP-RP
- 2013 first certification of the energy management system in accordance with ISO 50001
- 2017 opening of the new pipe extrusion plant
- 2018 opening of the new injection moulding facility
- 2018 foundation of the sales company in England
- 2019 expansion of the industrial prefabrication operation
- 2021 participation in the distribution company aquatherm iberica s.l.
- 2022 opening of the aquatherm Campus
- 2023 aquatherm celebrates it's 50th anniversary
- 2024 Jan Kriedel takes over the management with Maik Rosenberg



AQUATHERM BLUE

Plastic piping systems made of polypropylene __

aquatherm is the world's leading manufacturer of plastic piping systems made from polypropylene for plant construction and building services. The areas of application include drinking water applications, heating systems, fire protection sprinkler systems, air-conditioning and refrigeration technology, as well as surface cooling systems. The product range comprises more than 17,000 articles in six product lines.

To guarantee the worldwide availability of the products and to offer local service, aquatherm works closely with long-standing partners in more than 70 countries. The company employs approx. 500 people in Germany, Italy and England. Production is

carried out exclusively at the German sites in Atten-dorn (headquarters) and Ennest. Customers all over the world can therefore rely on innovative and safe PP-R piping systems of the highest quality, „100% Made in Germany“. **The family business is now managed by Maik Rosenberg, son of aquatherm founder Gerhard Rosenberg, and Jan Kriedel.**

AQUATHERM BLUE

Future-proof in all fields of application with individual solutions

aquatherm has the solution for your challenge - benefit from the versatile application possibilities of aquatherm blue systems. Here you get an exemplary overview of the fields of application where you can trust in aquatherm blue. Yesterday. Today. Tomorrow.



Connection to heating and cooling



Heating system construction



Industrial floor heating



Refrigeration



Maritime applications



Swimming pool technology



Sports floor heating and cooling













Abbreviations pipe structure:

- S single-layer
- M multi-layer
- MF multi-layer, fibre-reinforced
- RP raised pressure resistance
- UV UV-resistant
- OT oxygen-tight
- TI thermally insulated
- HI hardly inflammable

Abbreviations material:

- PP polypropylene
- PP-R polypropylene random copolymer
- PP-RCT polypropylene random copolymer with raised pressure resistance
- PE-RT polyethylene with raised temperature resistance

Fields of applications:

-  fire protection sprinkler-systems
-  heating and cooling networks
-  refrigeration
-  connection heating and cooling
-  ceiling heating and cooling
-  surface heating and cooling
-  heating system construction
-  industrial floor heating
-  maritime applications
-  swimming pool technology
-  sports floor heating and cooling
-  potable water application

Lengths units in mm unless otherwise specified

Weight weight data in kg/m

Radius all data in inches

Volume water content in litre/metre

SDR standard dimension ratio

PU packing unit

Pipe diameter

The diameter of the PP pipe determines its location and intended use. In order to be able to install a pipeline from the connection to the outlet, the pipe diameter of the individual pipes and fittings must be compatible with each other.

aquatherm blue

| Diameter in mm | 16 | 17 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 | 125 | 160 | 200 | 250 | 315 | 355 | 400 | 450 | 500 | 630 | |
|-------------------|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| SDR 7,4 MF | | | ● | ● | | | | | | | | | | | | | | | | | | |
| SDR 7,4 MF UV | | | ● | ● | | | | | | | | | | | | | | | | | | |
| SDR 7,4 MF OT | | | ● | ● | | | | | | | | | | | | | | | | | | |
| SDR 9 MF RP | | | | | ● | | | | | | | | | | | | | | | | | |
| SDR 9 MF RP UV | | | | | ● | | | | | | | | | | | | | | | | | |
| SDR 9 MF RP OT | | | | | ● | | | | | | | | | | | | | | | | | |
| SDR 11 S | | | ● | ● | | | | | | | | | | | | | | | | | | |
| SDR 11 MF RP | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| SDR 11 MF RP UV | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| SDR 11 MF RP OT | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| SDR 17,6 MF RP | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| SDR 17,6 MF RP UV | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

aquatherm green

| Diameter in mm | 16 | 17 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 | 125 | 160 | 200 | 250 | 315 | 355 | 400 | 450 | 500 | 630 | |
|----------------|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| SDR 6 S | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | |
| SDR 7,4 S | ● | | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | | |
| SDR 7,4 MF | | | ● | ● | ● | | | | | | | | | | | | | | | | | |
| SDR 7,4 MF UV | | | ● | ● | ● | | | | | | | | | | | | | | | | | |
| SDR 9 MF RP | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| SDR 9 MF RP UV | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| SDR 11 S | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

aquatherm energy green & blue

| Diameter in mm | 16 | 17 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 | 125 | 160 | 200 | 250 | 315 | 355 | 400 | 450 | 500 | 630 | |
|----------------|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| SDR 9 MF RP | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| SDR 9 MF RP | | | | | ● | | | | | | | | | | | | | | | | | |
| SDR 9 MFRPOT | | | | | ● | | | | | | | | | | | | | | | | | |
| SDR 11 MF RP | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| SDR 11 MFRPOT | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| SDR 17,6 MF RP | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

Fields of applications

Areas of application include heating system construction as well as refrigeration and air conditioning technology - you can find all areas of application here:

| | refrigeration | connection heating and cooling | heating system construction | maritime applications | swimming pool technology | sports floor heating and cooling | potable water |
|------------------------|---------------|--------------------------------|-----------------------------|-----------------------|--------------------------|----------------------------------|---------------|
| aquatherm blue | ● | ● | ● | ● | ● | ● | |
| aquatherm green | | | | ● | ● | | ● |





aquatherm blue
Product types

AQUATHERM PRODUCT TYPES

Polypropylene pipe systems __

The history of the aquatherm pipe systems began in 1973 when Gerhard Rosenberg founded a company for hot water underfloor heating systems. Initially, the owner’s garage and basement served as the company’s headquarters and production facility. A lot has happened since then.

In the past 50 years, aquatherm has proven to be the world’s leading manufacturer of plastic pipe systems made of polypropylene for plant engineering and building services. The numerous product lines provide superior solutions in potable water applications, heating

systems, fire sprinkler systems, air conditioning and refrigeration technology, as well as in surface heating and cooling systems. The product range comprises almost 17,000 articles in six product lines.

Due to their special material properties, the aquatherm pipe systems convince by their diverse application possibilities.

The aquatherm pipe systems can be used in all areas of new installation, repair and renovation.

Characteristics __

aquatherm polypropylene pipe systems stop corrosion damages. All materials are corrosion-resistant and have reduced flow noise compared to metallic pipes. aquatherm pipes are opaque, therefore there is no risk of algae formation.

Installation __

aquatherm pipes and fittings are connected by heat fusion, which creates a homogeneous, cohesive unit with no leak paths. Heat fusion connections are stronger than the pipe itself, providing lasting safety at these critical points of a piping system. A properly executed aquatherm fusion creates a permanent leakproof connection. An aquatherm pipe with an outside diameter of 20 mm can be heat fused in only 5 seconds.

aquatherm pipe connections can be hydraulic pressure tested or put into operation directly after their fusion. There are no waiting times.



Quality __

Quality is very important to aquatherm. This is not only reflected in the national and international certification marks, but also in the high satisfaction level of aquatherm customers, installers and engineers. You can find our international certificates here: [Certificate](#)

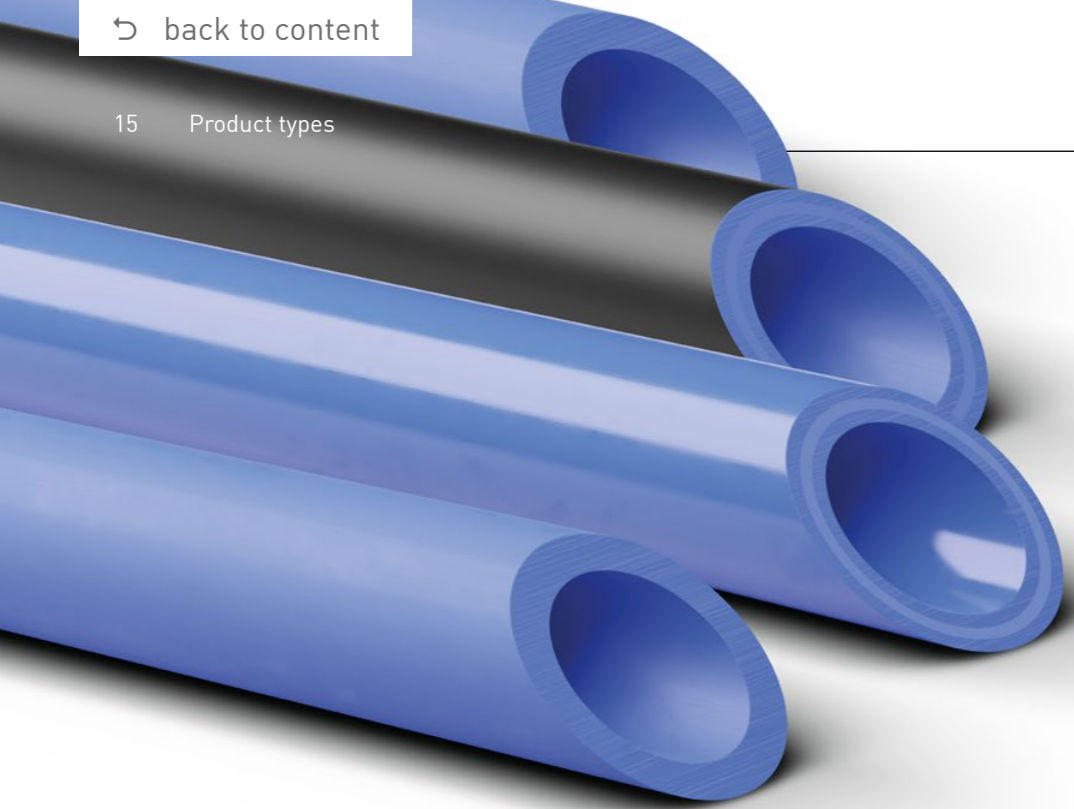
Warranty __

Due to the high product quality, aquatherm offers a 10-year warranty on all pipes and fittings instead of the 2 years applicable under German law. The extended warranty period is covered by a comprehensive insurance policy from a leading insurance company in our industry. For details, see the Warranty section of this catalogue.

Price advantage __

aquatherm offers you high quality, durable piping systems at an optimal price/ performance ratio.





PRODUCT TYPES

AQUATHERM BLUE

Made of corrosion-resistant polypropylene, aquatherm blue is ideal for the transport of cooling and heating media in closed systems. It is particularly well suited for a wide variety of industrial applications. The physical properties of the plastic, such as its high temperature capacity and pressure resistance, are tailored to the specific needs of the heating and cooling sector. aquatherm blue is joined via reliable

heat fusion, which produces a virtually leak-free and cohesive unit with excellent safety and durability.

Application areas

- Connection to heating/cooling
- Refrigeration
- Heating system construction
- Maritime applications
- Swimming pool technology
- Sports floor heating/cooling

System components

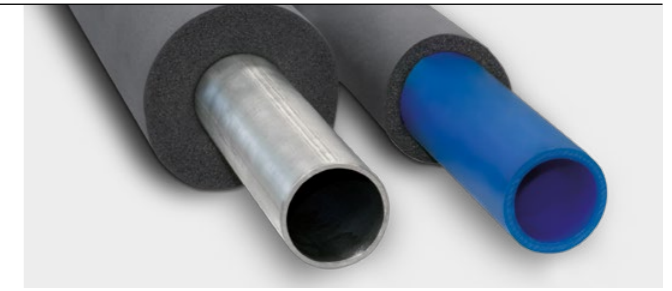
In combination with the aquatherm green pipe fittings, the system provides all components required for the piping installation of air conditioning, refrigeration, heating systems, and industrial applications. The dimensions range from 20 mm to 630 mm outside diameter.

- Pipes in straight lengths and/or coils
- Fittings
- Flanged joints
- Water point connections and accessories
- Welding devices and machines
- Weld-in and weld-on saddles
- Manifolds
- Shut-off devices
- Installation guide and fastenings
- Transition joints from polypropylene to metal, or from metal to polypropylene



AQUATHERM BLUE stops corrosion damages

Steel pipes used in air conditioning systems are particularly susceptible to corrosion on the outside of the pipe. Condensed water that forms between the insulation and the pipe attack the pipe surface and causes it to corrode. aquatherm blue is made from 100% corrosion-resistant fusiolen® PP-RCT, which considerably extends the life of the air conditioning system.



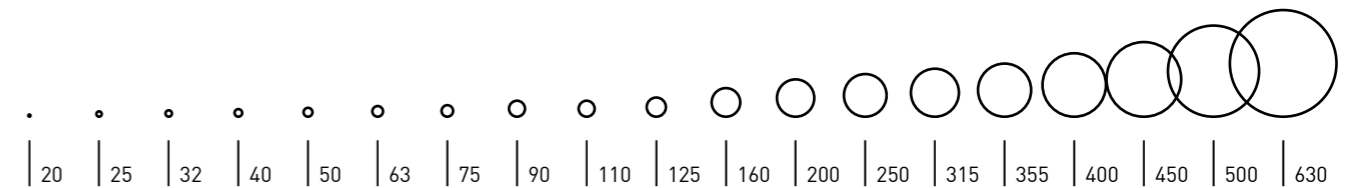
Insulation against energy loss

Due to their excellent thermal insulation properties, aquatherm blue pipes compared to metal pipes require a considerably thinner insulation.

Diameter

The diameter of the PP pipe determines its location and intended use. In order to be able to lay a pipeline from the connection to the outlet, the pipe diameter of the individual pipes and fittings must be compatible

with each other. aquatherm blue is available in the following diameters: 20, 25, 32, 40, 50, 63, 75, 90, 110, 125, 160, 200, 250, 315, 355, 400, 450, 500 and 630 mm.



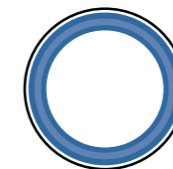
Standard dimension ratio (SDR)

The SDR (Standard Dimension Ratio) is a ratio indicating the resistance to pressure. In order to guarantee a certain pressure resistance, a certain maximum SDR number is necessary, depending on the type of material. The following applies: the greater the wall

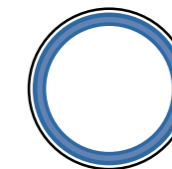
thickness, the smaller the SDR number and the more pressure-resistant the plastic pipe. The unit indicates the ratio between outer diameter and wall thickness of a pipe. aquatherm blue is available in the following SDR sizes:



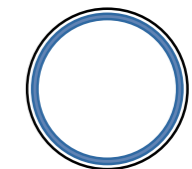
SDR 7,4



SDR 9



SDR 11



SDR 17,6

PRODUCT TYPES

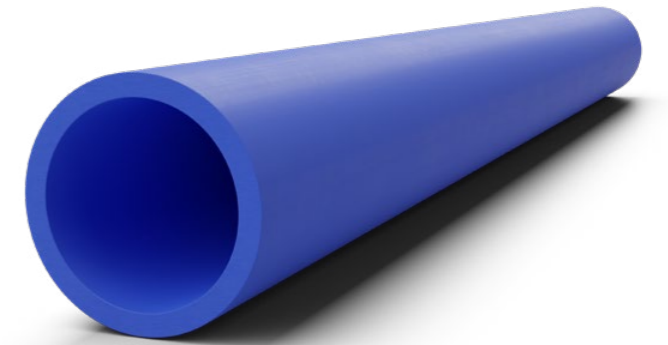
AQUATHERM BLUE – Overview

We offer aquatherm blue in different pipe constructions.

| | SDR 7,4 | SDR 9,0 | SDR 11,0 | SDR 17,6 |
|---|-------------|----------|--------------|---------------|
| aquatherm blue S | | | ○ | |
| S = single | | | ø: 20–32 mm | |
| aquatherm blue MF | ○ | | | |
| MF = multi-layer and fibre-reinforced composite pipe | ø: 20–25 mm | | | |
| aquatherm blue MF UV | ○ | | | |
| MF UV = multi-layer and fibre-reinforced and composite pipe, UV-resistant | ø: 20–25 mm | | | |
| aquatherm blue MF OT | ○ | | | |
| MF OT = multi-layer and fibre-reinforced composite pipe with diffusion barrier - oxygen tight | ø: 20–25 mm | | | |
| aquatherm blue MF RP | | ○ | ○ | ○ |
| multi-layer and fibre-reinforced composite pipe, raised pressure resistance | | ø: 32 mm | ø: 40–450 mm | ø: 125–630 mm |
| aquatherm blue MF RP UV | | ○ | ○ | ○ |
| multi-layer and fibre-reinforced and composite pipe, UV-resistant, raised pressure resistance | | ø: 32 mm | ø: 40–450 mm | ø: 160–630 mm |
| aquatherm blue MF RP OT | | ○ | ○ | |
| multi-layer and fibre-reinforced and composite pipe, oxygen tight, raised pressure resistance | | ø: 32 mm | ø: 40–250 mm | |

AQUATHERM BLUE S

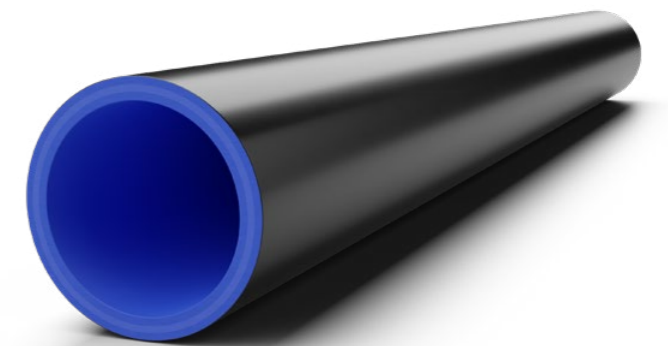
aquatherm blue S is single-layered. Single-layer pipes are particularly suitable for use in installations with a medium temperature of up to 25°C.



AQUATHERM BLUE UV

aquatherm blue is UV-resistant. Fusiolen® pipes are normally not exposed to the effects of UV rays when installed. To bridge the transport and assembly time, aquatherm polypropylene pipes and fittings are packaged UV-protected. The maximum outdoor storage time is 6 months.

For outdoor pipe installation, aquatherm offers polypropylene composite pipes with a UV layer of polyethylene. Damaging influences caused by the sun's rays are then excluded.



UV adhesive tape

As an alternative to our polypropylene pipes with UV protection layer, wrapping with UV-resistant adhesive tape is possible, if moulded parts or short pipe sections are to be protected. For this purpose, the adhesive tape recommended by aquatherm (art. no. 9700010871) should be selected, which shows good

resistance to abrasion, moisture, oils, light acids and alkalis as well as weather influences outdoors. The tape should always be applied to a dry, clean and grease-free surface. The winding should be done with a slight pull and at least 50% overlap.

AQUATHERM BLUE OT

aquatherm blue OT is a fibre reinforced, oxygen-tight pipe that is equipped with an oxygen barrier and thus meets the requirements of DIN 4726.

Easy and quick installation technology

aquatherm blue OT also convinces by its easy but effective installation and connection technology. The pipe end and the connecting part are heated up. After joining, the two elements create a permanent bond. aquatherm blue OT has to be peeled with peeling tools (art. no. 9800050479–9800050488) before processing.

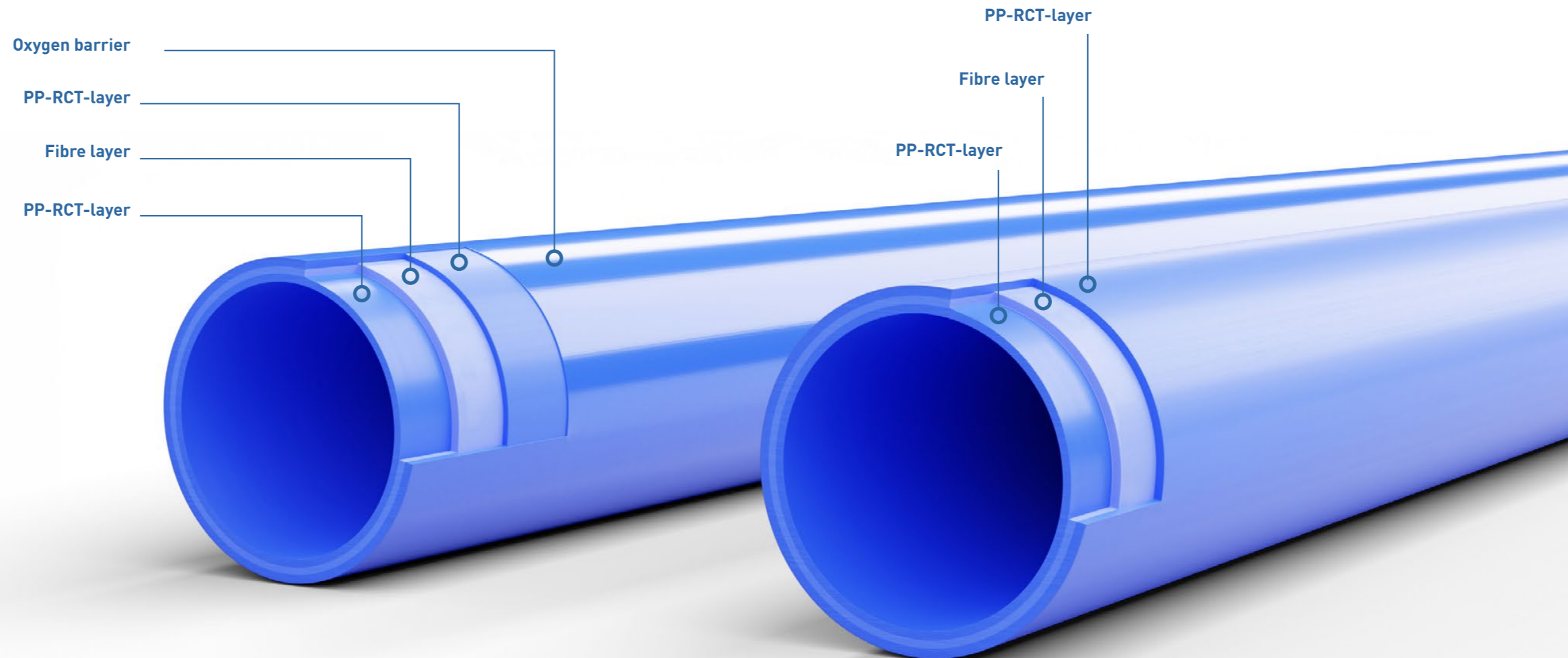
- Oxygen-tight by diffusion barrier
- Certified according to DIN 4726
- Absolutely corrosion resistant
- Less pipe friction
- High stability
- High heat-stability
- High environmental compatibility
- High impact rate
- Resistant against chemicals
- Heat and sound insulating characteristics
- Very good welding properties
- Considerably thinner insulation

AQUATHERM BLUE MF

aquatherm blue MF is a multi-layer fibre-composite pipe. The pipe is made in a multi-layer extrusion process.

The manufacturing process developed by aquatherm enables the integration of glass fibres within the material polypropylene in the middle layer of the pipe. This reinforces the pipe and restricts expansion and contraction.

- The linear expansion is reduced by at least 75 % compared with standard PP pipes
- The flow rate is increased by 20% at the same pressure conditions due to smaller wall thicknesses.
- High stability
- The coefficient of linear expansion is nearly identical to that of metal pipes, so that compared with common plastic pipes the support intervals can be extended and the number of clamps can be reduced.
- Optimum cost-performance ratio
- Lower weight
- High impact rate
- Simply cut and weld





Permissible working pressure for general pressure pipe applications in permanent operation __

| Years of service | aquatherm blue SDR 17.6 MF RP | aquatherm blue SDR 11 MF RP | aquatherm blue SDR 11 S | aquatherm blue SDR 9 MF RP |
|-------------------------------------|-------------------------------|-----------------------------|-------------------------|----------------------------|
| at temperature up to 10 °C (50 °F) | | | | |
| 10 | 13.1 bar | 25.3 bar | 19.3 bar | 27.5 bar |
| 25 | 12.9 bar | 24.7 bar | 18.7 bar | 27.1 bar |
| 50 | 12.7 bar | 24.1 bar | 18.2 bar | 26.7 bar |
| 100 | 12.6 bar | 23.5 bar | 17.8 bar | 26.3 bar |
| at temperature up to 15 °C (59 °F) | | | | |
| 10 | 12.3 bar | 23.4 bar | 17.8 bar | 25.7 bar |
| 25 | 12.1 bar | 22.8 bar | 17.2 bar | 25.2 bar |
| 50 | 11.9 bar | 22.2 bar | 16.8 bar | 24.9 bar |
| 100 | 11.7 bar | 21.6 bar | 16.3 bar | 24.5 bar |
| at temperature up to 20 °C (68 °F) | | | | |
| 10 | 11.4 bar | 21.4 bar | 16.4 bar | 23.9 bar |
| 25 | 11.2 bar | 21.0 bar | 15.9 bar | 23.5 bar |
| 50 | 11.0 bar | 20.4 bar | 15.4 bar | 23.1 bar |
| 100 | 10.9 bar | 19.9 bar | 15.0 bar | 22.8 bar |
| at temperature up to 30 °C (86 °F) | | | | |
| 10 | 9.8 bar | 18.3 bar | 13.9 bar | 20.6 bar |
| 25 | 9.6 bar | 17.8 bar | 13.4 bar | 20.2 bar |
| 50 | 9.5 bar | 17.3 bar | 13.0 bar | 19.9 bar |
| 100 | 9.4 bar | 16.8 bar | 12.7 bar | 19.7 bar |
| at temperature up to 40 °C (104 °F) | | | | |
| 10 | 8.4 bar | 15.5 bar | 11.8 bar | 17.7 bar |
| 25 | 8.3 bar | 15.0 bar | 11.3 bar | 17.3 bar |
| 50 | 8.1 bar | 14.6 bar | 11.0 bar | 17.1 bar |
| 100 | 8.0 bar | 14.1 bar | 10.7 bar | 16.8 bar |
| at temperature up to 50 °C (122 °F) | | | | |
| 10 | 7.2 bar | 13.0 bar | 9.9 bar | 15.1 bar |
| 25 | 7.0 bar | 12.6 bar | 9.5 bar | 14.7 bar |
| 50 | 6.9 bar | 12.2 bar | 9.2 bar | 14.5 bar |
| 100 | 6.8 bar | 11.9 bar | 9.0 bar | 14.3 bar |
| at temperature up to 60 °C (140 °F) | | | | |
| 10 | 6.1 bar | 10.9 bar | 8.3 bar | 12.7 bar |
| 25 | 5.9 bar | 10.6 bar | 8.0 bar | 12.4 bar |
| 50 | 5.8 bar | 10.3 bar | 7.7 bar | 12.2 bar |
| at temperature up to 70 °C (158 °F) | | | | |
| 10 | 5.1 bar | 8.5 bar | 7.0 bar | 10.7 bar |
| 25 | 5.0 bar | 8.3 bar | 6.0 bar | 10.4 bar |
| 50 | 4.9 bar | 8.1 bar | 5.1 bar | 10.2 bar |
| at temperature up to 75 °C (167 °F) | | | | |
| 10 | 4.6 bar | 7.7 bar | 6.0 bar | 9.7 bar |
| 25 | 4.5 bar | 7.6 bar | 4.8 bar | 9.5 bar |
| 50 | 4.4 bar | 7.3 bar | 4.0 bar | 9.3 bar |
| at temperature up to 80 °C (176 °F) | | | | |
| 5 | 4.3 bar | 7.2 bar | 5.7 bar | 9.0 bar |
| 10 | 4.2 bar | 7.0 bar | 4.8 bar | 8.9 bar |
| 25 | 4.1 bar | 6.8 bar | 3.9 bar | 8.6 bar |
| at temperature up to 90 °C (194 °F) | | | | |
| 5 | 3.5 bar | 5.9 bar | 3.7 bar | 7.4 bar |
| 10 | 3.4 bar | 5.8 bar | 3.2 bar | 7.3 bar |

SDR = Standard Dimension Ratio (diameter/wall thickness ratio)

S = single-layer

MF = multi-layer fibre

MF RP = multi-layer fibre - raised pressure resistance

For fittings of butt-welded pipe segments a reduction factor of 0.75 [reduction of the table values by 25 %] is effective.



aquatherm blue
**Characteristics and
special features**

AQUATHERM CHARACTERISTICS AND SPECIAL FEATURES

Material fusiolen® __

aquatherm blue is made of corrosion-resistant material. This considerably extends the service life of the pipeline, for example for an air conditioning system. The material of aquatherm is characterized among other things by its special high heat and extraction stability. The physical and chemical properties are

adapted to the special needs of the heating and cooling sector. Due to the exceptionally good welding properties, pipe and fitting fuse to form a homogeneous, materially bonded unit; this has made the material fusiolen® famous worldwide.



The advantages of aquatherm pipes and fusiolen® polypropylene __

- corrosion resistant
- resistant against many chemicals
- high environmental compatibility
- less pipe roughness
- heat and sound insulating characteristics
- very good welding properties
- high heat-stabilised
- high mechanical stability
- lighter in weight than steel and copper
- easy processing
- well-priced
- installation aids and fixings

Our material fusiolen® Polypropylene __

Newly opened markets place ever increasing demands on the pipe material. Versatile applications require the greatest possible independence of the processed materials. Raw materials with novel properties that could not be achieved until then are required. For this reason, aquatherm has been developing and producing its own innovative polypropylene materials for several years, which meet the global challenges in sanitary and heating technology, in air-conditioning and refrigeration technology, in industrial applications and agriculture, in shipbuilding, and in fire protection. Successful results of this research are fusiolen® PP-R, fusiolen® PP-RCT and fusiolen® PP-RFS.

Environment __

The environmentally friendly material polypropylene fusiolen® PP-R/PP-RCT is recyclable and can be ground, melted and reutilised for various applications e.g. motor-protections, wheel linings, laundry baskets and other kinds of transport boxes. There are no polluting substances with PP-R/PP-RCT either in its processing or in its disposal.

Use of metal deactivators __

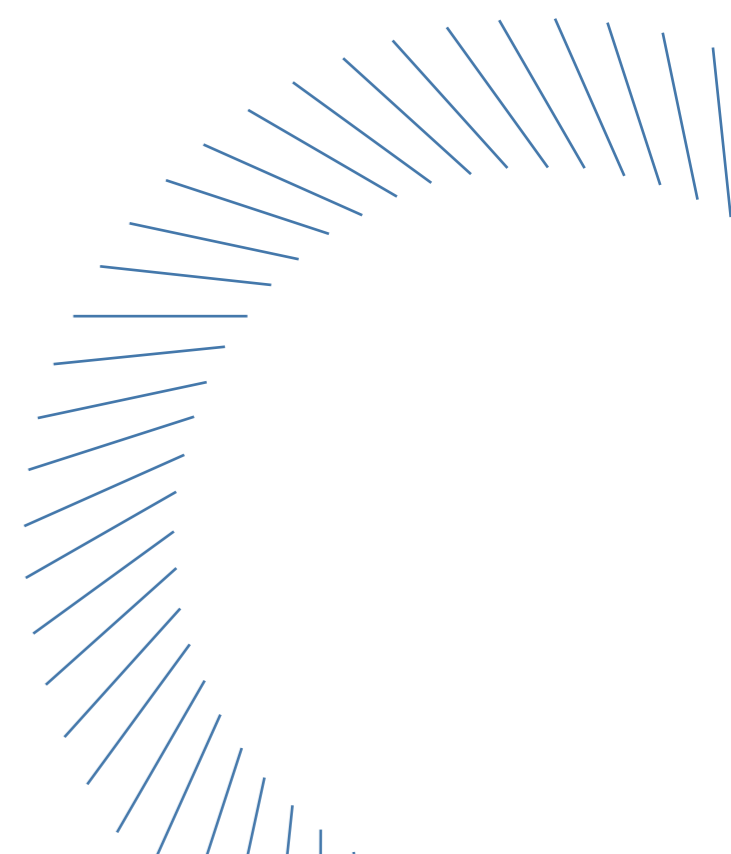
By adding suitable food-approved additives the risk of material damage caused by metal ions under extreme operating conditions is reduced.

Higher long-term heat stabilisation __

The long-term heat stabilisation has been increased to resist to the potential effects of peak temperatures within higher safety parameters.

Material properties __

The extrapolated service life of aquatherm PP-RCT pipes is more than 50 years. Peak temperatures of 100 °C arising from short disruptions are unproblematic. Permanent temperatures from 70 °C up to 90 °C reduce the service life of the pipe (see table "Permissible Working Pressure", page 21).



AQUATHERM CHARACTERISTICS AND SPECIAL FEATURES

This is how aquatherm is committed ___

17 goals to change the world: In 2015, the global community developed the „Agenda 2030“, a roadmap for the future.

This is intended to enable a dignified life world-wide and to preserve the natural foundations of life in the long term. We at aquatherm would like to contribute to the achievement of these goals with all our actions. Our sustainable products,

our comprehensive service and our leading expert knowledge are part of the solution on the way to a climate-neutral life.

We are also a member of the German Sustainable Building Council (DGNB e.V.) and work with the non-profit organisation to find ways and solutions to build for tomorrow today.

Climate change ___

Climate change is one of the greatest challenges of our time. Released CO₂ is the main problem: it enters the atmosphere and intensifies the greenhouse effect - the earth continues to heat up.

We are convinced that we humans will find solutions to meet this challenge and thus also significantly reduce CO₂ emissions in all sectors.

Construction industry ___

The construction industry is responsible for 36% of global energy consumption and 39% of energy- and process-related CO₂ emissions.*

The construction industry has already begun to face up to this responsibility. In order to achieve the final goal of a “net zero building” over the entire life cycle, the but the steps are still too small.

More courageous and visionary pioneers are needed, who will show the right way and set an example for the entire industry.

Exceptionally environmentally friendly ___

The European Plastic Pipe Association TEPPFA analysed the environmental impact of plastic pipe systems as part of its EPD project. The result: plastic pipe systems have excellent environmental performance in various areas of application, leaving a smaller ecological footprint than pipe systems made of other materials.

A pipe system made of polypropylene (25 mm, SDR 7.4), for example, has approximately seven times lower CO₂ emissions than a comparable steel pipe.

Success through consistent environmental protection ___

We live environmental protection – and do so consistently. All corporate processes are geared to conserving valuable resources, minimising energy use, and avoiding or recycling waste.

We developed the first fibre composite pipe as early as 1999. This required significantly less energy in the production process than the conventional aluminium composite pipe.

Technical data sheet ___

| Technical properties | fusiolen® PP-R | fusiolen® PP-R/PP-RCT fibrepipe |
|-----------------------------------|---------------------------------------|--|
| Melt-flow index 190 °C/5 kg | 0,5 g/10 min. | 0,5 g/10 min. |
| Melt-flow index 230 °C/2.16 kg | 0,3 g/10 min. | 0,3 g/10 min. |
| Modulus of elasticity | 800 N/mm ² | 1200 N/mm ² |
| Yield stress | 25 N/mm ² | 30 N/mm ² |
| Density | 0,9 g/cm ³ | 1,0 g/cm ³ |
| Tensile strength | 25 MPa | 35 MPa |
| Inflammation temperature | 430-450 °C | 490-500 °C |
| Thermal expansion coefficient | 1,5 *10 ⁻⁴ K ⁻¹ | 0,35 *10 ⁻⁴ K ⁻¹ |
| Coefficient of thermal conduction | 0,15 W/mK (measured at pipe) | 0,15 W/mK (measured at pipe) |
| Coefficient of friction in pipes | 0,007 | 0,007 |
| Bending radius | 6 x d | |
| Water absorption | < 0,02 % | < 0,02 % |
| Electrical properties | fusiolen® PP-R | fusiolen® PP-R/PP-RCT fibrepipe |
| Relative permittivity | 2,3 (in case of 1 MHz) | 2,3 (in case of 1 MHz) |
| Puncture voltage | 500 kV/cm | 500 kV/cm |
| Specific resistance | > 10 ¹⁷ Ω cm | > 10 ¹⁷ Ω cm |
| Surface resistance | 10 ¹⁴ Ω | 10 ¹⁴ Ω |
| Dissipation coefficient | 0,0002 (in case of 50 Hertz) | 0,0002 (in case of 50 Hertz) |

AQUATHERM CHARACTERISTICS AND SPECIAL FEATURES

aquatherm Environmental Product Declaration ___

What is an Environmental Product Declaration? ___

An Environmental Product Declaration (EPD) describes the environmental impact of a product or service on the environment. It records the consumption of resources and emissions over the entire life cycle of the product - from the extraction of raw materials to disposal - and quantifies and evaluates them. Therefore, an Environmental Product Declaration offers the possibility to compare different products with each other.

In the Environmental Product Declaration, the characteristics of a product are identified neutrally using internationally recognised standards. A precise methodology according to ISO 14025 and EN 15804 is followed, and all values are checked by independent third parties regarding their completeness, plausibility, and conformity with standards.

However, the EPD is not a certificate, i.e. there are requirements placed on the quality and format of the data, but not on the quality of the product. For the building sector, it forms an important basis for the ecological assessment of buildings.

What are product category rules? ___

To be able to evaluate functionally similar products in the same way and in the context of an Environmental Product Declaration, Product Category Rules (PCRs) are used. These are a set of specific rules, requirements or guidelines according to which products are classified into groups. Product Category Rules exist, for example, for thermal insulation materials, windows and doors, or building piping systems.

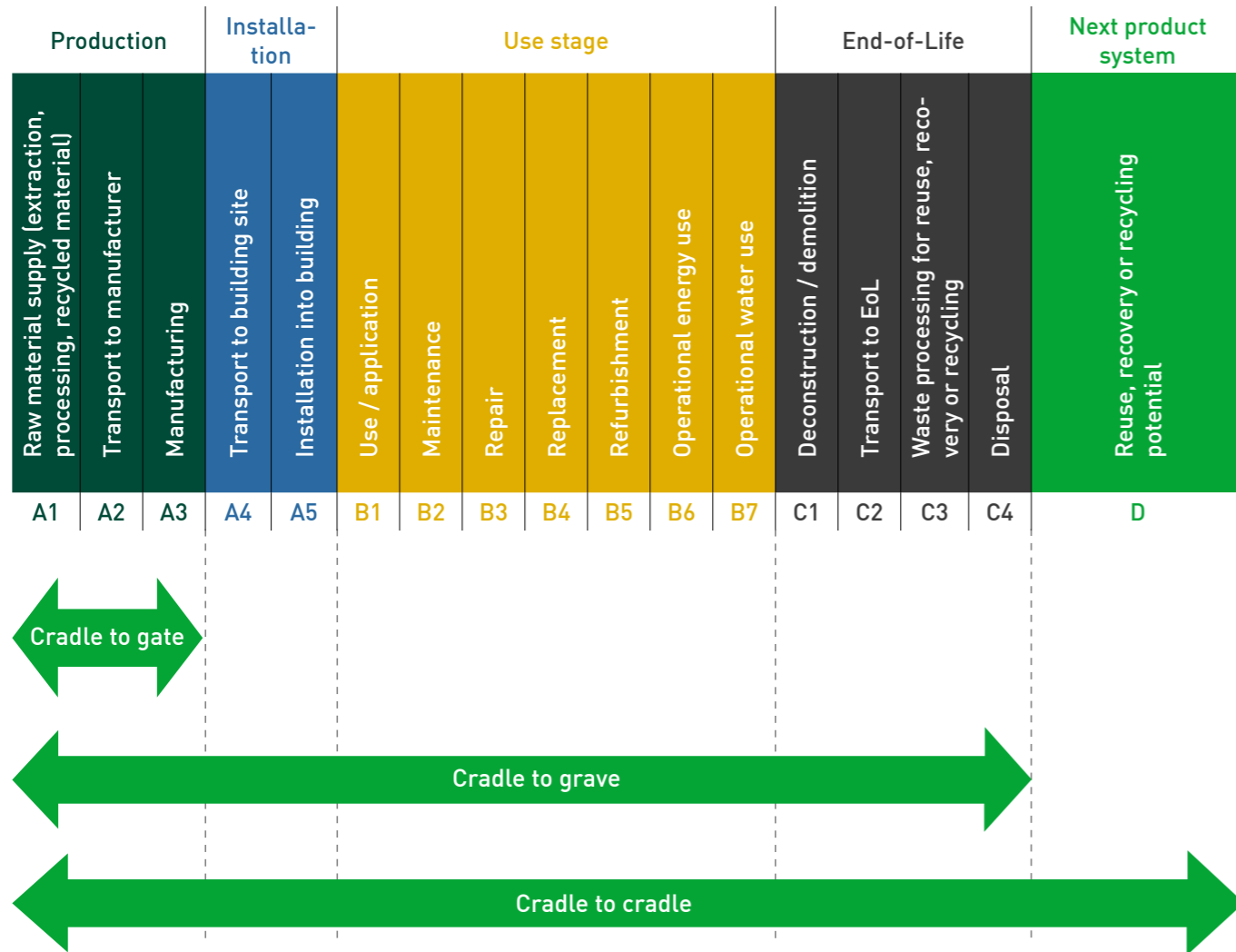
What is a Life Cycle Assessment? ___

The aim of a Life Cycle Assessment (LCA) is not only to provide environmentally relevant data on specific products, but also to estimate potential environmental issues which then can assist in making a decision for or against a particular product. The basis of the Life Cycle Assessment is the life cycle of a product. It consists of different phases: Raw material extraction, material production, use, waste treatment and final disposal. All environmental inputs and outputs are listed. In other words, everything that flows into and out of the product is measured. These can be raw materials or resources, different types of energy, water or emissions into the air, soil or water.



What does the **Product life cycle** include? __

A life cycle assessment considers either the entire life cycle of a product or parts of it. Therefore, there are three different approaches to assessing the product life cycle:



What are the **environmental impact indicators**? __

Life Cycle Assessments provide information on the potential impact of a product (or service) on the environment. EN 15804+A2 describes 13 core Environmental Impact Indicators to be reported for an Environmental Product Declaration and 6 additional optional Environmental Impact Indicators.

Core indicators according to EN 15804+A2:

| Core indicator | Unit |
|----------------|-------------------------|
| GWP-total | kg CO ₂ -Äq. |
| GWP-fossil | kg CO ₂ -Äq. |
| GWP-biogenic | kg CO ₂ -Äq. |
| GWP-luluc | kg CO ₂ -Äq. |
| ODP | kg CFC11-Äq. |
| AP | mol H ⁺ -Äq. |
| EP-freshwater | kg PO ₄ -Äq. |
| EP-marine | kg N-Äq. |
| EP-terrestrial | mol N-Äq. |
| POCP | kg NMVOC-Äq. |
| ADPE | kg Sb-Äq. |
| ADPF | MJ |
| WDP | m3 World-Äq. withdrawn |

Legend
 GWP = Global warming potential
 ODP = Stratospheric ozone depletion potential
 AP = Acidification potential of soil and water
 EP = Eutrophication potential
 POCP = Potential for formation of tropospheric ozone
 ADPE = Potential for depletion of abiotic resources - non-fossil resources (ADP - substances)
 ADPF = Potential for depletion of abiotic resources - fossil fuels (ADP - fossil fuels)
 WDP = Water depletion potential (users)

Additional impact categories according to EN 15804+A2-optional:

| Indicator | Unit |
|-----------|---------------|
| PM | Illness cases |
| IR | kBq U235-Äq. |
| ETP-fw | CTUe |
| HTP-c | CTUh |
| HTP-nc | CTUh |
| SQP | - |

Legend
 PM = Potential incidence of disease due to particulate matter emissions.
 IR = Potential effect from human exposure to U235
 ETP-fw = Potential toxicity comparison unit for ecosystems
 HTP-c = Potential toxicity comparison unit for humans (carcinogenic effect)
 HTP-nc = Potential toxicity comparison unit for humans (non-carcinogenic effect)
 SQP = Potential soil quality index

How reliable is an **Environmental Product Declaration**? __

Neutral and in accordance with internationally recognised standards: This is how the characteristics of a product are recorded in an Environmental Product Declaration. The exact methodology follows ISO 14025 and EN 15804, and all values are verified by independent third parties. The Environmental Product Declaration is valid for a period of five years. If there are changes in the manufacture of the product during this period, leading to major deviations from the previous values, a review must be carried out.

What advantages does the **Environmental Product Declaration** offer me? __

Environmental Product Declarations enable companies, for example, to participate in public tenders or investors to have their building's sustainability systems, such as BREEAM, LEED or DGNB, in place. In addition, an Environmental Product Declaration forms the basis for the development and optimisation of sustainable products.

aquatherm **Environmental Product Declaration** __

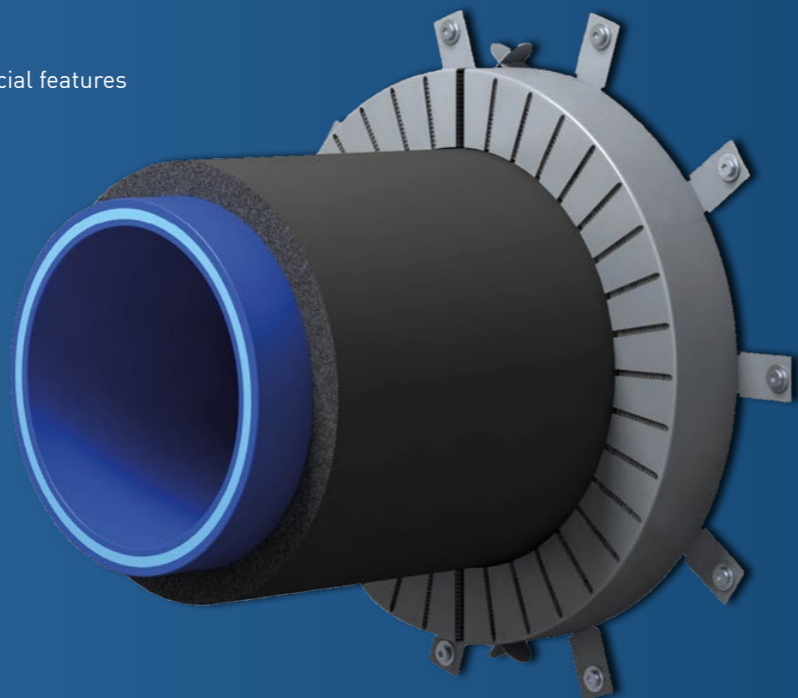
Environmental Product Declarations are important - for the construction industry, for us, and our customers. That is why we have had our products evaluated according to the „cradle to gate“ concept.

Our Environmental Product Declarations

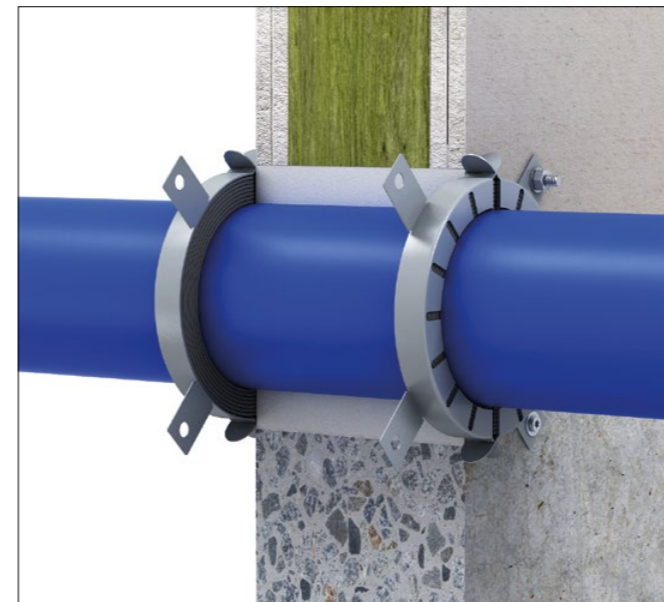


are available for the following product group:

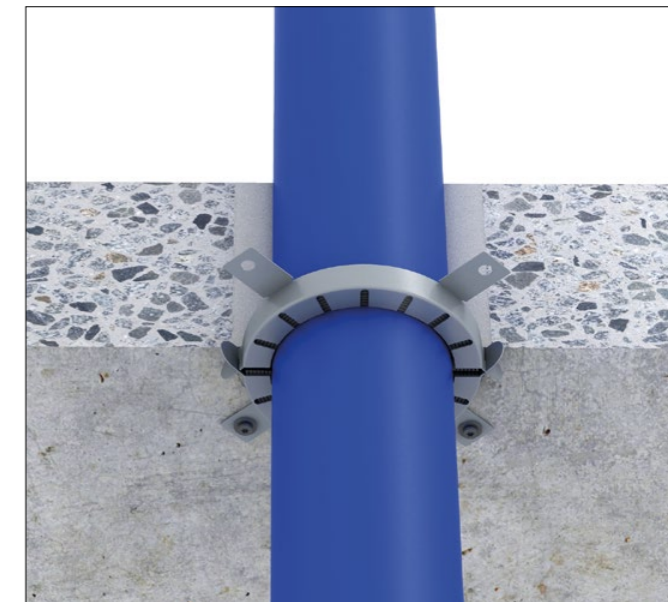
- aquatherm green/blue S/MF pipe
- aquatherm red pipe S/MF
- aquatherm black system
- aquatherm green/blue S/MF pipe (OT)
- aquatherm green/blue S/MF pipe (UV)
- aquatherm green/blue S/MF pipe (TI)



Roku System AWM II in the wall



Roku System AWM II in the ceiling



AQUATHERM CHARACTERISTICS AND SPECIAL FEATURES

Fire protection ___

The aquatherm polypropylene pipe systems comply with the requirements of the fire classification B2 DIN 4102 (normal inflammable). Compared to natural products like wood, cork or wool, aquatherm PP-R pipes do not produce any gas toxicity. In case of fire, there is no risk of dioxin emissions.

To avoid fire and smoke transmission, aquatherm advises the use of fire retardant seals. The fire resistance period is the minimum period in minutes.

The extent of the preventive measures depends on the type of installation. The determination of fire areas and fire classification has to be made in accordance with the law of the country. Information is given by the Planning Department and Building Control Office or the Fire Protection Representative.

Basically, fire walls and ceilings with pipe passages have to be installed to the same fire resistance classification. All fire protection systems with a corresponding classification are suitable for aquatherm polypropylene pipes.

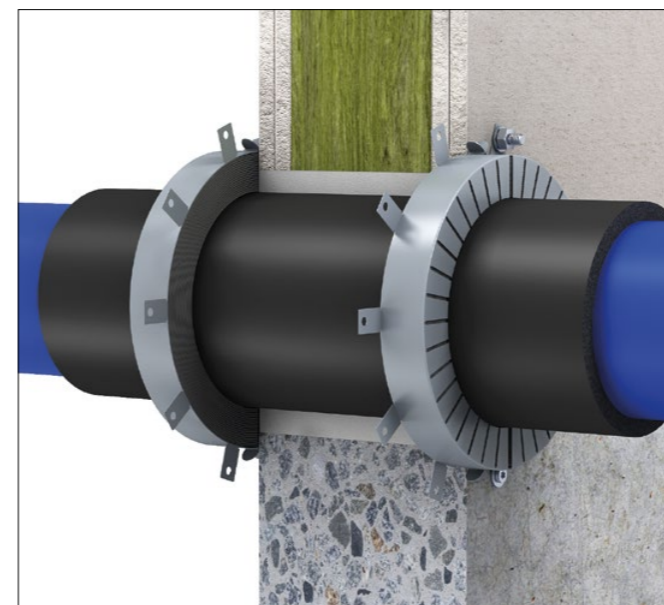
The following companies offer suitable fire protection solutions: ___

Fire protection pipe shell Conlit 150 U:
 DEUTSCHE ROCKWOOL GmbH & Co. KG
 Rockwool Straße 37-41
 45966 Gladbeck
 Tel: +49 2043 408 0
 www.rockwool.de

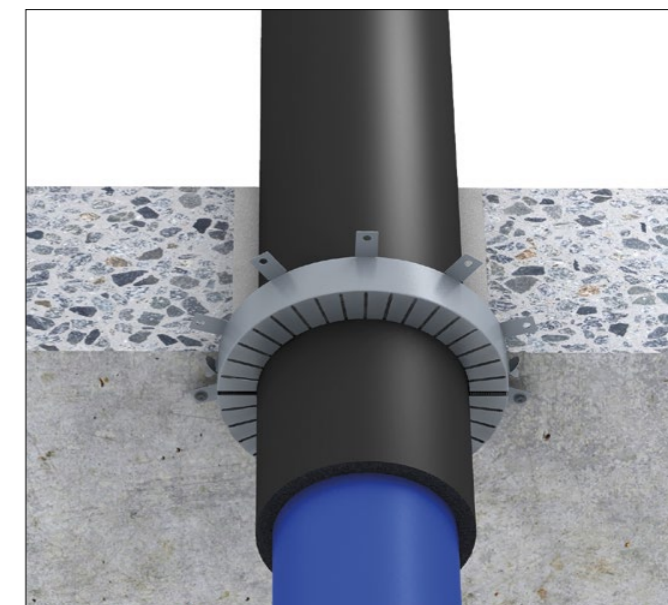
Fire protection sleeve AWM II:
 Flamro Brandschutz Vertriebs GmbH
 Am Sportplatz 2
 56291 Leiningen
 Tel. +49 6746 9410-0
 Mail: info@flamro.com
 www.flamro.de

Hilti Deutschland AG
 Hiltistrasse 2 · 86916 Kaufering
 Tel: +49 800 888 · www.hilti.de

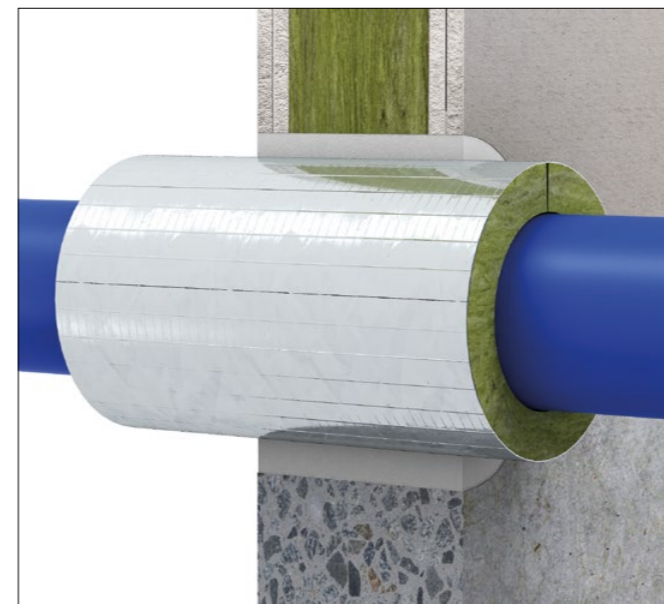
Roku System AWM II with synthesis rubber in the wall



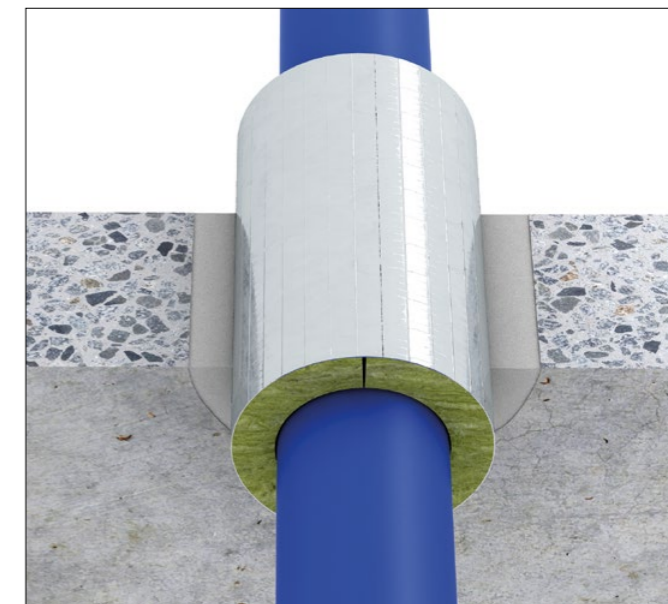
Roku System AWM II with synthesis rubber in the ceiling



Rockwool Conlit 150 U in the wall



Rockwool Conlit 150 U in the ceiling



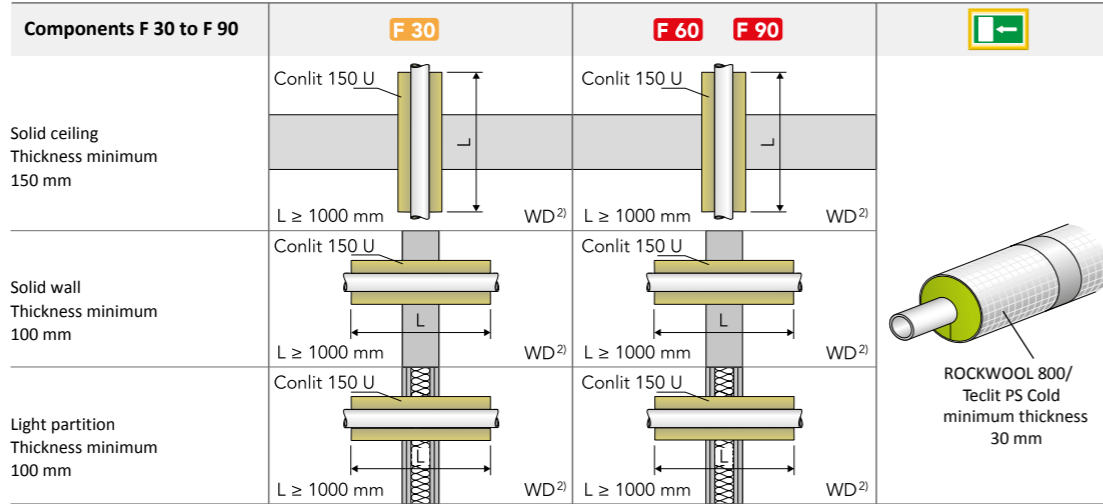
Excerpt from the **Rockwool planning and installation aid** [...](#)

R 30- to R 90 pipe penetrations for the aquatherm installation systems with non-combustible media, such as drinking water, heating and cooling

**Product name/
Material:**

aquatherm green
PP-R
SDR 6 S
SDR 7,4 S
SDR 7,4 MF
SDR 7,4 MF UV
SDR 11 S

aquatherm green
PP-RCT
SDR 9 MF RP
SDR 9 MF RP UV



Variant according to ROCKWOOL abP P3726/4140MPA BS

aquatherm blue
PP-R
SDR 7,4 MF
SDR 7,4 MF OT
SDR 7,4 MF UV
SDR 11 S

aquatherm blue
PP-RCT
SDR 9 MF RP
SDR 9 MF RP OT
SDR 9 MF RP UV
SDR 11 MF RP
SDR 11 MF RP OT
SDR 11 MF RP UV

| System | Pipe dimension Outer diameter Da [mm] | Conlit 150 U | | | ROCKWOOL 800 ^{1), 2), 3)} TECLIT PS Cold ^{1), 2), 3)} | | |
|-------------------------------|---|--------------------|--|--------------------------|--|---------------------------|--|
| | | Type ³⁾ | Insulation thickness ⁴⁾ s [mm] | Core drilling DK [mm] | EnEV 100 % hot, type | EnEV 50 % hot, type | DIN 1988- 200 cold, type ³⁾ |
| | 14,0 | 12/24 | 24,0 | 60 | 15/20 | 15/20 | 15/20 |
| | 16,0 | 16/22 | 22,0 | 60 | 18/20 | 18/20 | 18/20 |
| pipes without OT or UV layer | 17,0 | 17/21,5 | 21,5 | 60 | 18/20 | 18/20 | 18/20 |
| | 20,0 | 20/20 | 20,0 | 60 | 22/20 | 22/20 | 22/20 |
| aquatherm green | 25,0 | 25/17,5 | 17,5 | 60 | 28/20 | 28/20 | 28/20 |
| aquatherm blue | 26,0 | 26/17 | 17,0 | 60 | 28/20 | 28/20 | 28/20 |
| aquatherm red | 32,0 | 32/24 | 24,0 | 80 | 35/30 | 35/20 | 35/30 |
| aquatherm grey | 40,0 | 40/20 | 20,0 | 80 | 42/40 | 42/20 | 42/40 |
| aquatherm black | 50,0 | 50/25 | 25,0 | 100 | 54/40 | 54/30 | 54/40 |
| aquatherm orange | 63,0 | 63/33,5 | 33,5 | 130 | 64/50 | 64/30 | 64/50 |
| | 75,0 | 75/52,5 | 52,5 | 180 | 76/70 | 76/40 | 76/70 |
| | 90,0 | 90/65 | 65,0 | 220 | 102/80 | 102/40 | 102/80 |
| | 110,0 | 110/70 | 70,0 | 250 | 114/100 | 114/50 | 114/100 |
| | 16,0 | 18/21 | 21,0 | 60 | 18/20 | 18/20 | 18/20 |
| | 20,0 | 22/19 | 19,0 | 60 | 22/20 | 22/20 | 22/20 |
| pipes without OT or UV layer | 25,0 | 27/16,5 | 16,5 | 60 | 28/20 | 28/20 | 28/20 |
| | 32,0 | 34/23 | 23,0 | 80 | 35/30 | 35/20 | 35/30 |
| aquatherm green UV | 40,0 | 42/19 | 19,0 | 80 | 42/40 | 42/20 | 42/40 |
| | 50,0 | 52/24 | 24,0 | 100 | 54/40 | 54/30 | 54/40 |
| aquatherm blue OT + UV | 63,0 | 65/57,5 | 57,5 | 180 | 76/50 | 76/30 | 76/50 |
| | 75,0 | 77/51,5 | 51,5 | 180 | 89/70 | 89/40 | 89/70 |
| | 90,0 | 90/65 | 65,0 | 220 | 102/80 | 102/40 | 102/80 |
| | 110,0 | 113/53,5 | 53,5 | 220 | 114/100 | 114/50 | 114/100 |

Notes/special installation conditions

- 1) In some cases, the available minimum insulation thickness is specified.
- 2) For further insulation, the insulation ROCKWOOL 800 or TECLIT PS Cold can be used.
- 3) For cold pipes, a vapor barrier must be available according to DIN 1988-200, therefore only use fire protection pipe shell Conlit 150U/ Insulating shell ROCKWOOL 800 or TECLIT PS Cold.
- 4) Insulation thickness according to EnEV 50% and according to DIN 1988-200 suitable for the core bore diameter DK.

All basic conditions of the specified general building inspectorate test certificates must be considered.

Fire load [...](#)

The values required for determining the fire load within a fire section are calculated from the total of all flammable materials located within this area. The calculation for establishing the combustion heat V [kWh/m] for a fire section in the event of an outbreak is dependent on dimensions and materials. The basis used for the calculation of pipe systems made of polypropylene is the lower calorific value $H_u = 12.2 \text{ kWh/kg}$ (as per DIN V 18230 T1) in conjunction with the mass of material m_{pipe} [kg/m]. The integrated layers of fibres in the aquatherm fibre composite pipes are also considered.

Depending on the calculation procedure, the fire load is worked out with reference to the burn-up factor. This value is designated as m_{factor} and is taken as 0.8 for polypropylene.

Combustion values V [kWh/m] for aquatherm blue

| Dimension mm | aquatherm blue SDR 7,4 MF/OT | aquatherm blue SDR 9 MF/OT | aquatherm blue SDR 11 MF/OT | aquatherm blue SDR 17,6 MF |
|--------------|---------------------------------|-------------------------------|--------------------------------|-------------------------------|
| 20 | 1,76 | - | - | - |
| 25 | 2,74 | - | - | - |
| 32 | - | 4,39 | 3,14 | - |
| 40 | - | - | 4,83 | - |
| 50 | - | - | 7,48 | - |
| 63 | - | - | 11,82 | - |
| 75 | - | - | 16,48 | - |
| 90 | - | - | 23,86 | - |
| 110 | - | - | 35,33 | - |
| 125 | - | - | 45,83 | 30,03 |
| 160 | - | - | 74,88 | 48,53 |
| 200 | - | - | 116,64 | 75,68 |
| 250 | - | - | 181,42 | 117,64 |
| 315 | - | - | 285,82 | 186,32 |
| 355 | - | - | 362,93 | 236,07 |
| 400 | - | - | 460,78 | 299,73 |
| 450 | - | - | 583,21 | 378,64 |
| 500 | - | - | - | 468,24 |
| 630 | - | - | - | 740,59 |

AQUATHERM CHARACTERISTICS AND SPECIAL FEATURES

Processing

There are many possibilities for the connection of aquatherm blue piping systems. Whether welding or plugging: With the fusion techniques of aquatherm

you quickly create a permanently tight connection.



Welding techniques

Due to their exceptionally good welding properties, pipe and fitting fuse to form a homogeneous, materially bonded unit. For this purpose, the pipe and fitting are briefly heated with the aid of tools provided for this purpose and then simply joined together; that's it! Double material thickness at the joint - this means double safety at the otherwise critical point of a piping system.

Socket welding

A safe and fast connection in the socket welding process is possible with our manual welder for pipes with dimensions of 20 to 63 mm.

[▶ View video](#)

Socket welding with welding machine

With pipe dimensions from 50 to 125 mm, our aquatherm welding machines ensure a safe and durable connection.

[▶ View video](#)

Butt welding

Large pipe dimensions from 160 to 630 mm are welded with special butt welding machines.

[▶ View video](#)

Electric welding jig

The aquatherm electrical welding jig facilitates the fusion of pipes with diameters of 63 to 125 mm.

[▶ View video](#)

Electric socket welding

Electric socket welding (heating coil welding) is suitable in hard-to-reach areas for pipes with dimensions of 20 to 250 mm. In this welding process, special sleeves with integrated heating wires are electrically heated and fused to the pipe.

[▶ View video](#)

Welding techniques for aquatherm blue OT

Weld-in saddle OT

Branches in aquatherm blue OT can be easily produced with welding calipers, even subsequently. The use of shrink-wrapping calipers also reduces the amount of material and time.

[▶ View video](#)

Socket welding OT

A secure and quick connection for the oxygen-tight aquatherm blue pipe OT pipes in the dimensions 20 to 125 mm is possible using the socket welding method.

[▶ View video](#)

Push-fit technique

Push-fit fittings

Highest safety in a few minutes: This is offered by the new aquatherm push-fit fittings. Compared to the electro socket welding process, pipe connections can be made up to 40 % faster with the aquatherm push-in socket. In addition, the tooling requirement is significantly lower.

[▶ View video](#)

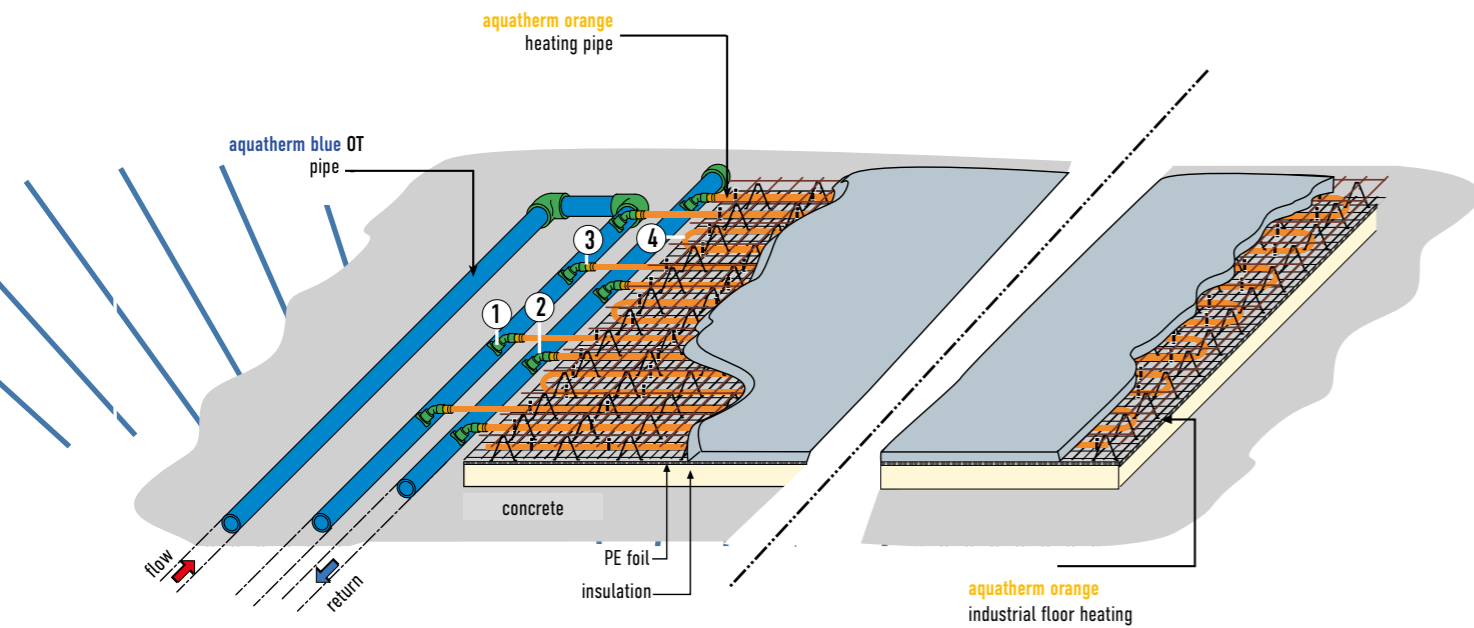
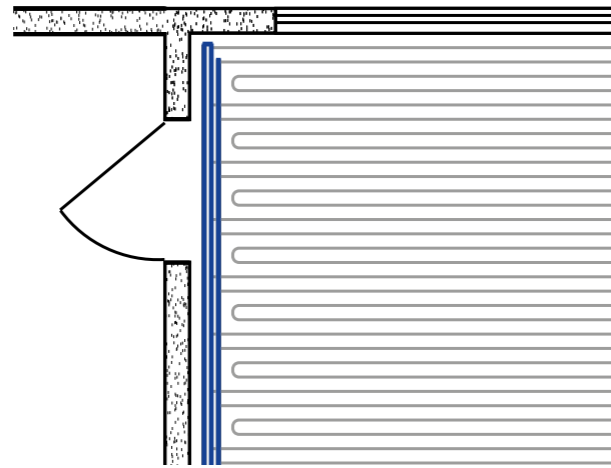
AQUATHERM CHARACTERISTICS AND SPECIAL FEATURES

Connection ___

Reverse return technique (Tichelmann-principle) ___

The weld-in saddle technique, developed by aquatherm orange provides the connection of the heating pipes to a continuous manifold pipe according to reverse return. This technique is applied for the double swing floor design a+b and industrial floor heating.

On applying the reverse return technique, all heating circuits have the same length. Therefore the pipe layout ensures the same pressure loss for all heating circuits. A hydraulic balancing of the heating circuits is not required.



- 1. aquatherm weld-in saddle
- 2. aquatherm elbow 45°

- 3. aquatherm transition adapter
- 4. heating pipe



Integration of other systems or components with aquatherm piping for pressure pipe applications ___

When integrating aquatherm piping systems with other systems or components not made of polypropylene (e.g. valves, pumps, other piping, check valves, strainers, etc), care must be taken to ensure the operating parameters for polypropylene won't damage the other materials or vice versa. Be aware that even if the aquatherm pipe is compatible with the fluid being transported, other materials in the system may not be. All parts of the system must be verified as compatible with the medium being carried before installing them. And, while aquatherm pipe does not require treatment to protect it from corrosion, metals (ferrous and non-ferrous) in the system may be susceptible to corrosion.

Do not mix aquatherm pipe with other piping systems in conditions that will cause the other system or components to fail.



aquatherm blue
Fields of application

Fields of application

aquatherm has the solution for your challenge - Benefit from the versatile application possibilities of our products. The field of application of aquatherm products is wide. Here you get an overview of the fields of application in which you can rely on our products. Yesterday. Today. Tomorrow.



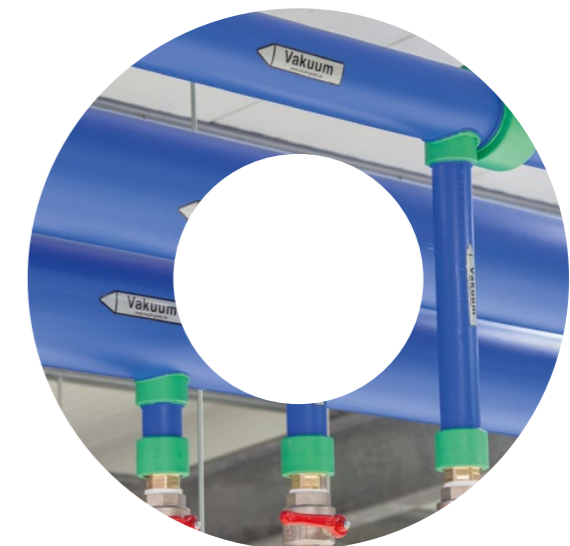
AQUATHERM BLUE FIELDS OF APPLICATION

Heating system construction

Smooth operation over many decades: this is a simply formulated, although not always easy to realise, wish in the field of heating, ventilation and air conditioning technology. Steel pipes used in air conditioning systems, for example, are particularly susceptible to corrosion on the outside of the pipe. Condensation that forms between the insulation and the pipe attacks the pipe surface and breaks it down. In heating systems, corrosion inside the pipe is a big problem: it leads to pressure losses as well as increased energy consumption for the pumps used.

With aquatherm blue, corrosion damage is a thing of the past, because it consists of the 100% corrosion-resistant material polypropylene. This considerably extends the service life of the air-conditioning or heating system.

Due to its heat and sound insulating properties, aquatherm blue requires significantly less insulation against heat and cold loss or condensation when the temperature falls below the dew point compared to metallic pipes, making it ideal for heating and cooling systems from commercial buildings to single-family homes. Its light weight also facilitates installation and brings significant time benefits.



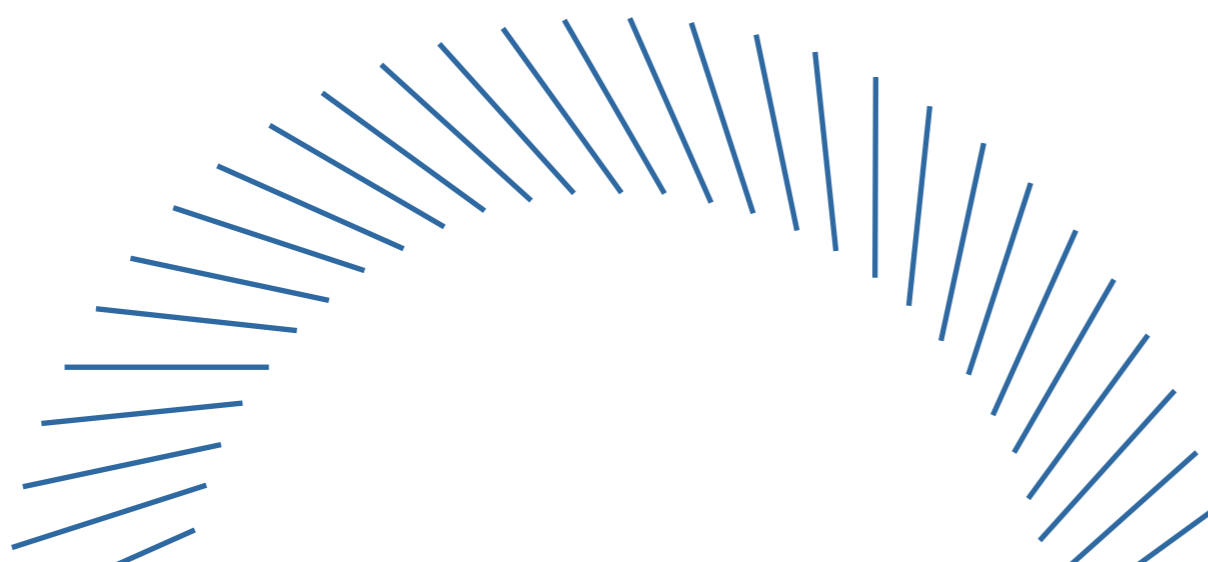


AQUATHERM BLUE FIELDS OF APPLICATION

Swimming pool technology __

aquatherm blue ensures, among other things, that perfectly cleaned water remains perfectly clean during transport - thanks to the material polypropylene, which is not only self-insulating and corrosion-resistant, but also particularly temperature and pressure-resistant. The system is rounded off by its exceptionally good welding properties, which ensure strong connections, a long service life and maximum safety.

And as a swimming pool operator, you can also rely on us above water: aquatherm not only offers you piping systems for water management and transport, but also for all needs in the area of heating, ventilation and cooling - for example as surface heating.





AQUATHERM BLUE FIELDS OF APPLICATION

Refrigeration

The product for piping refrigerant circuits in refrigeration systems

Regardless of whether you want to bring a server room to a specific temperature, or to cool food, drinks, or medicines, we will work with you to find an outstanding solution for your refrigeration system's pipework. aquatherm blue, made of corrosion-resistant and diffusion-proof polypropylene, is ideal for the transport of cooling media in closed systems and is therefore particularly well-suited for a wide variety of refrigeration applications.

| Industry | Industrial refrigeration | Comfort refrigeration | |
|---|---|--|---|
| Type of cooling | gree cooling, cooling towers | Compression chillers | Compression chillers |
| Temperature range | > 20 °C | -40 °C bis +10 °C | 6 °C bis 20 °C |
| Circuit types and cold carrier means | open and closed water circuits, including those contaminated with chemicals | refrigerant circuits (all known water-glycol mixtures, water-alcohol mixtures, brine) Re-cooling circuits of condenser cooling and oil cooling (water-glycol mixtures) | refrigerant circuits in air conditioning systems (water) Re-cooling circuits of condenser cooling (water-glycol mixtures) |



Free cooling

Common problem with open recooling circuits:

- strong corrosion due to strong oxygen enrichment in the cooling water
- severe corrosion due to chemical additives in the cooling water

Compression chillers for industrial refrigeration

Common problem with compression chillers:

- increasing incrustation of steel pipes
- therefore increased energy consumption and costs

Compression chillers for comfort cooling

Common problem with open recooling circuits:

- strong corrosion due to strong oxygen enrichment in the cooling water
- severe corrosion due to chemical additives in the cooling water

Prefabrication



AQUATHERM BLUE FIELDS OF APPLICATION

Maritime applications

Sustainable and weight-saving piping systems for shipbuilding. The global shipbuilding market has been growing steadily for many years and at the same time is experiencing a profound change due to the raising of environmental standards. With our sustainable and weight-saving piping systems that help to reduce fuel consumption, we support you in solving emerging technical, operational and environmental challenges.

Corrosion resistance to aggressive media and seawater with low pH values make aquatherm blue the ideal piping system in shipbuilding. For example, for ballast and cooling systems or exhaust gas scrubbers.

A major advantage of the saltwater-resistant piping systems is the easy and quick processing, as well as easy repair work, even at sea.





aquatherm blue
Quality assurance

AQUATHERM QUALITY ASSURANCE

Quality „100 % Made in Germany“

To produce safe and innovative piping systems - that is the lived promise of aquatherm. This already starts with the raw material: We develop and refine our polypropylene granulate under the fusiolen® brand. This way we can always perfectly adjust the properties of our products to the requirements of the different fields of application. No matter whether its pipes or fittings: „100 % Made in Germany“ applies to all of them. We produce exclusively and with the latest manufacturing technology at our German sites in Attendorn (headquarters), Ennest and Radeberg.

Only tested products then start their journey to our customers worldwide. In addition to the permanent

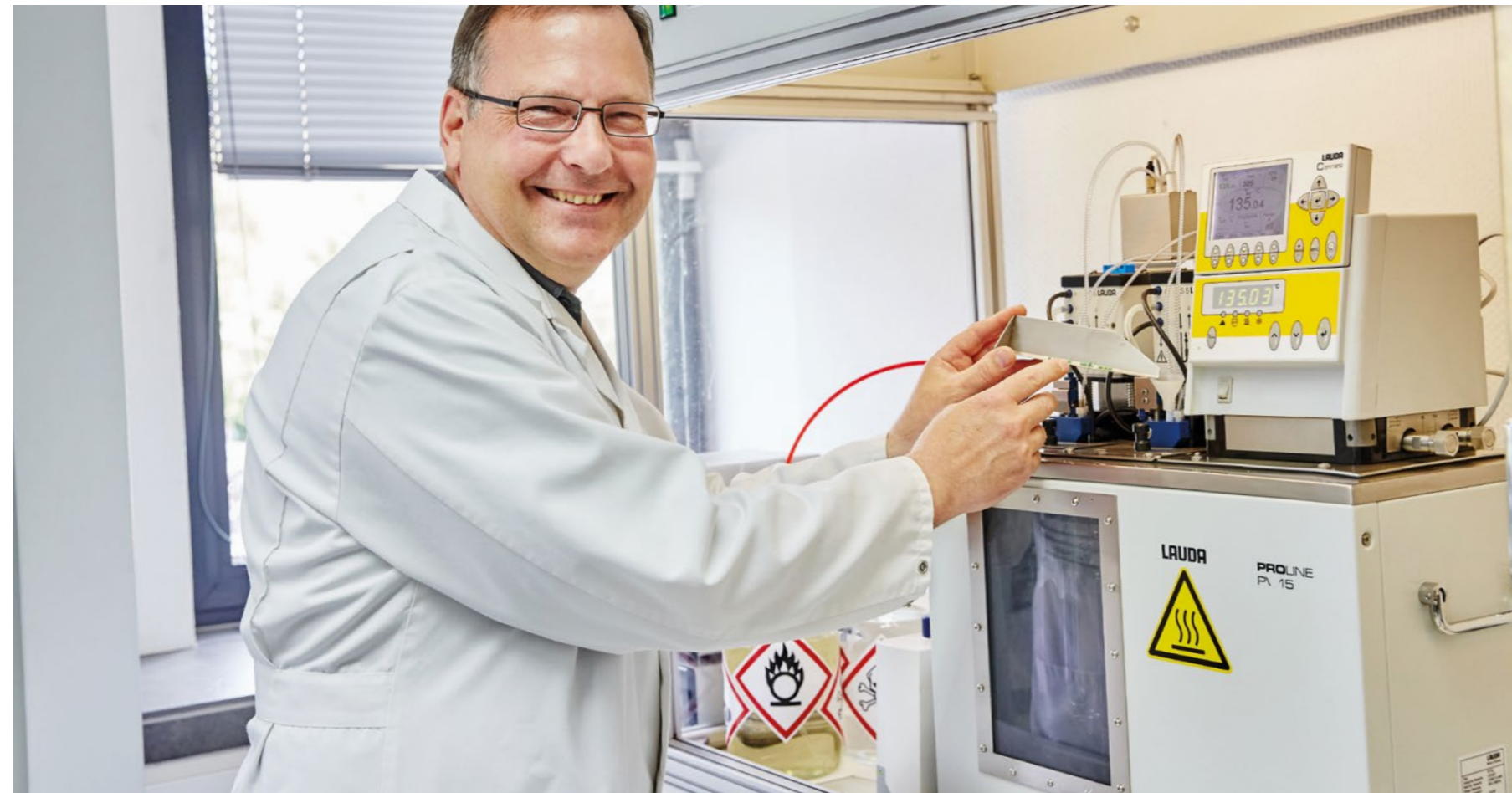
in-house quality assurance, which includes the monitoring of testing equipment, process, production and incoming goods inspections as well as the final inspection, external monitoring is carried out by e.g. the Süddeutsche Kunststoffzentrum (SKZ), NSF (National Sanitation Foundation, USA), IIP (Istituto Italiano di Plastici, Italy), CSTB (Centre Scientifique et Technique du Bâtiment, France), TGM (Technologisches Gewerbemuseum, Austria) and the Hygieneinstitut des Ruhrgebiets. Numerous national and international neutral authorities and institutions confirm the high aquatherm quality standard.

Numerous national and international quality seals and approval certificates as well as our satisfied customers confirm again and again the high quality of our products.

Since 1996 aquatherm fulfills the requirements of the quality management system according to DIN ISO 9001.

This success is another step towards strengthening our competitive position and to meet the high requirements and the responsibility for our customers, partners and the environment.

See for yourself!



Compliance with the system standard

Various national and international independent authorities and institutions confirm aquatherm's quality standard. You can see our certificates on our website.

The product certificates are provided for reference purposes only. The certificates have been issued in accordance with the laws, regulations and product standards applicable in the respective country. The certificates can therefore not be used outside the respective jurisdiction. They contain neither express nor imply warranties of aquatherm GmbH or its affiliates.

You can find the overview of our international certificates here: [Certificate](#)



aquatherm blue
Planning services



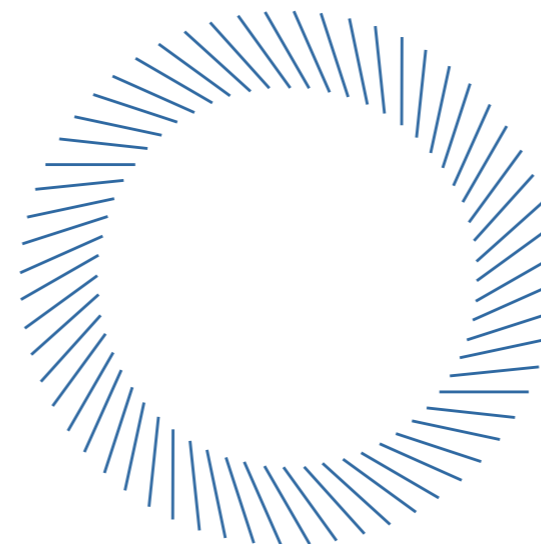


AQUATHERM PLANNING SERVICES

What planning services does aquatherm offer? __

„Time is money“ - a wisdom that proves true every day, especially in the construction industry. The sanitary, heating, and air-conditioning installations of any building project are always a time challenge, not only for architects and planners. The implementation on site often presents the executing site managers and installers with inconsiderable problems. If you choose aquatherm, you have a strong partner at your side who supports you before, during and after the completion of your project.

[Digital planning tools on our website](#)



AQUATHERM PLANNING SERVICES

Optimise the efficiency of your entire project workflow __

[Contact - Our experts for your request](#)

Our team has many years of experience in the field of building services and is very familiar with the aquatherm product portfolio. Regular training ensures that our project planning is always up to date and that all legal regulations are implemented. This saves you the planning work and gives you significantly more time to concentrate on your core business.



AQUATHERM PLANNING SERVICES

Pressure loss __

For hydraulic pipeline calculations for the mathematical determination in pipe fittings, pressure loss coefficients are required. These result from friction, deflection and detachment losses. Losses often account for an inconsiderable proportion of the total pipe system.

The following table shows the calculated pressure loss coefficients or resistance coefficients for aquatherm fittings.

[PDF Planning and design](#)



aquatherm blue
References

AQUATHERM BLUE REFERENCES

Refrigeration systems

Project

Novva Data Center

Location

Salt Lake City, Utah (USA)

Completion

2021, extension follows

Application

Refrigeration systems

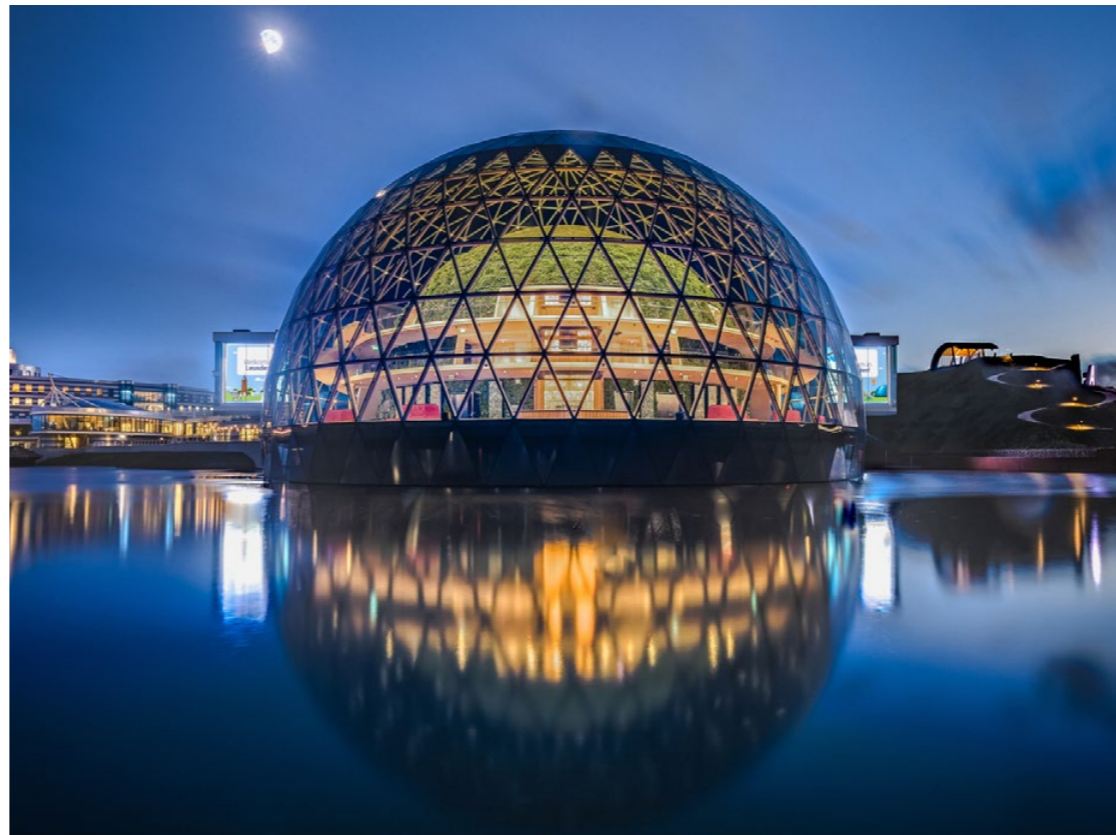
The challenge

For the piping of the cooling system in the Novva data centre, a piping system was required that was not only corrosion-resistant but could also be easily integrated into the underfloor structure.

The solution

aquatherm blue met the high demands of the client. Furthermore, aquatherm aided with the scan-to-fab service.





AQUATHERM BLUE REFERENCES

Refrigeration systems

Project

AFAS Clubhouse

Location

Leusden, Netherlands

Completion

2021

Application

Refrigeration systems

The challenge

For the new headquarters of software company AFAS, the clients were looking for a chilled water system that would fit into the building's sustainability concept.

The solution

aquatherm blue made of the corrosion resistant plastic polypropylene (PP-R) was installed over 6,532 metres. Its significantly lower CO² emissions compared to steel pipes and its very good recyclability were decisive for the choice of the system.

AQUATHERM BLUE REFERENCES

Refrigeration systems

Project

Kunst-Depot Boijmans Van Beuningen

Location

Rotterdam, Netherlands

Completion

2021

Application

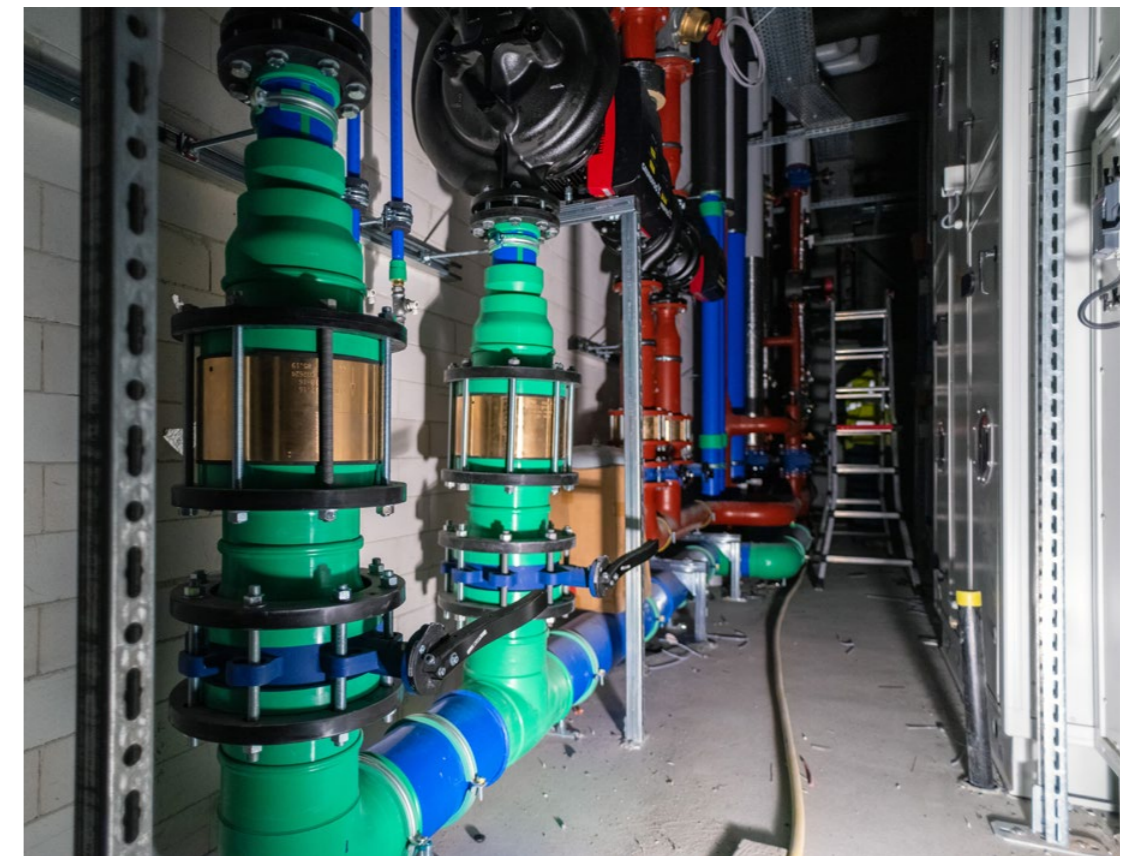
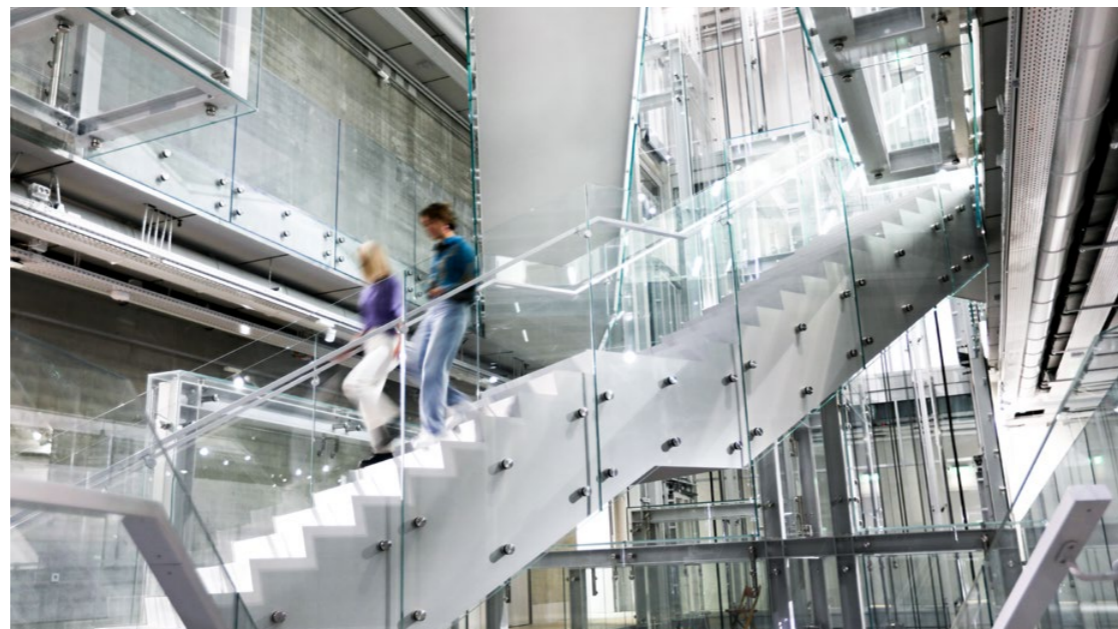
Refrigeration systems

The challenge

The Kunst-Depot focuses on sustainability in numerous areas. Accordingly, the cooling water system also had to fit into the building's sustainability concept.

The solution

aquatherm blue made of the plastic polypropylene (PP-RP) convinced the designers with its significantly lower CO² emissions compared to steel pipes. Due to its technical properties, the piping system is also optimally suited for refrigeration installation.





AQUATHERM BLUE REFERENCES

Technical water

Project
Hybrid superyacht "Artefact"

Location
Nobiskrug Shipyard
Rendsburg, Germany

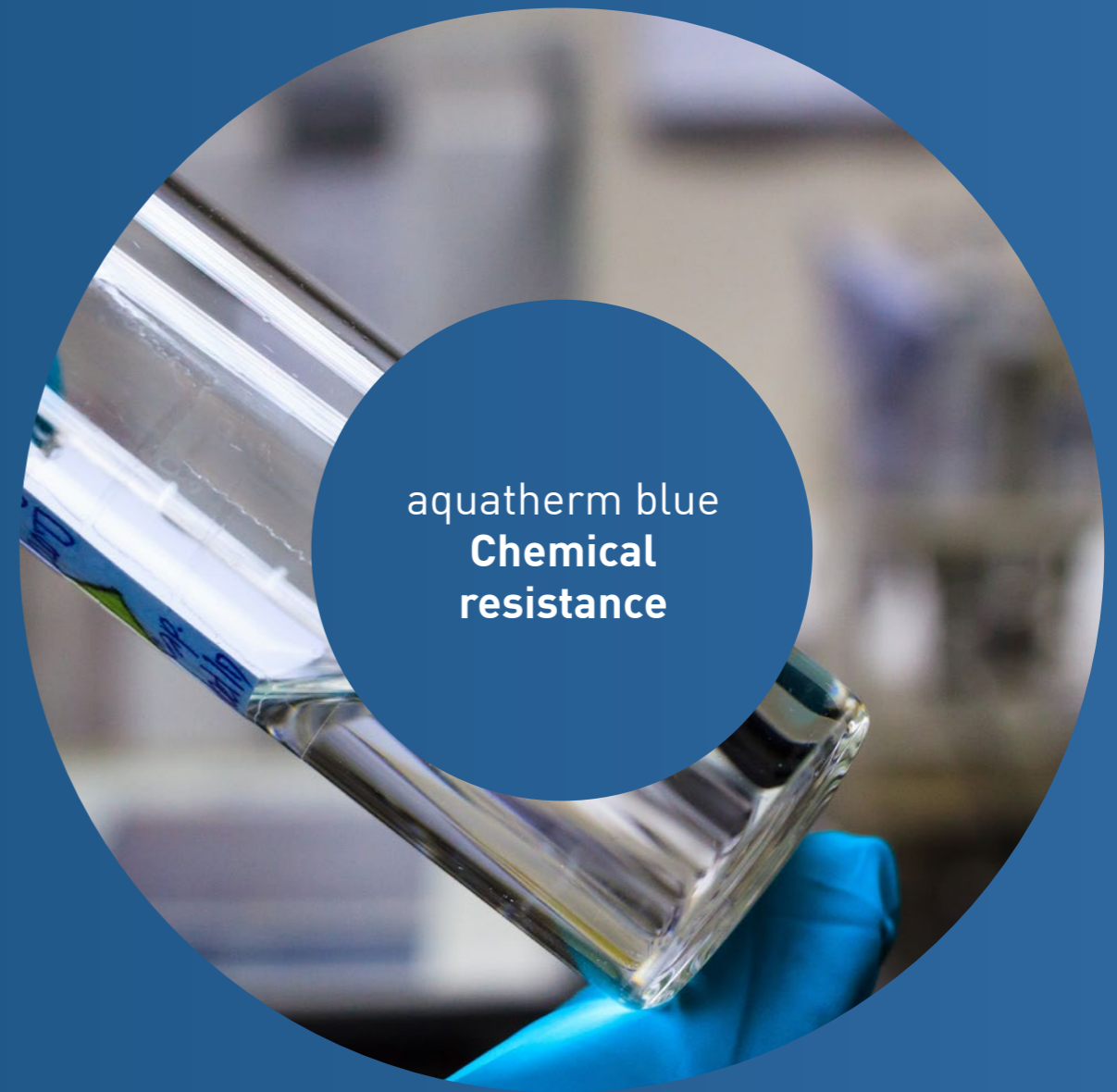
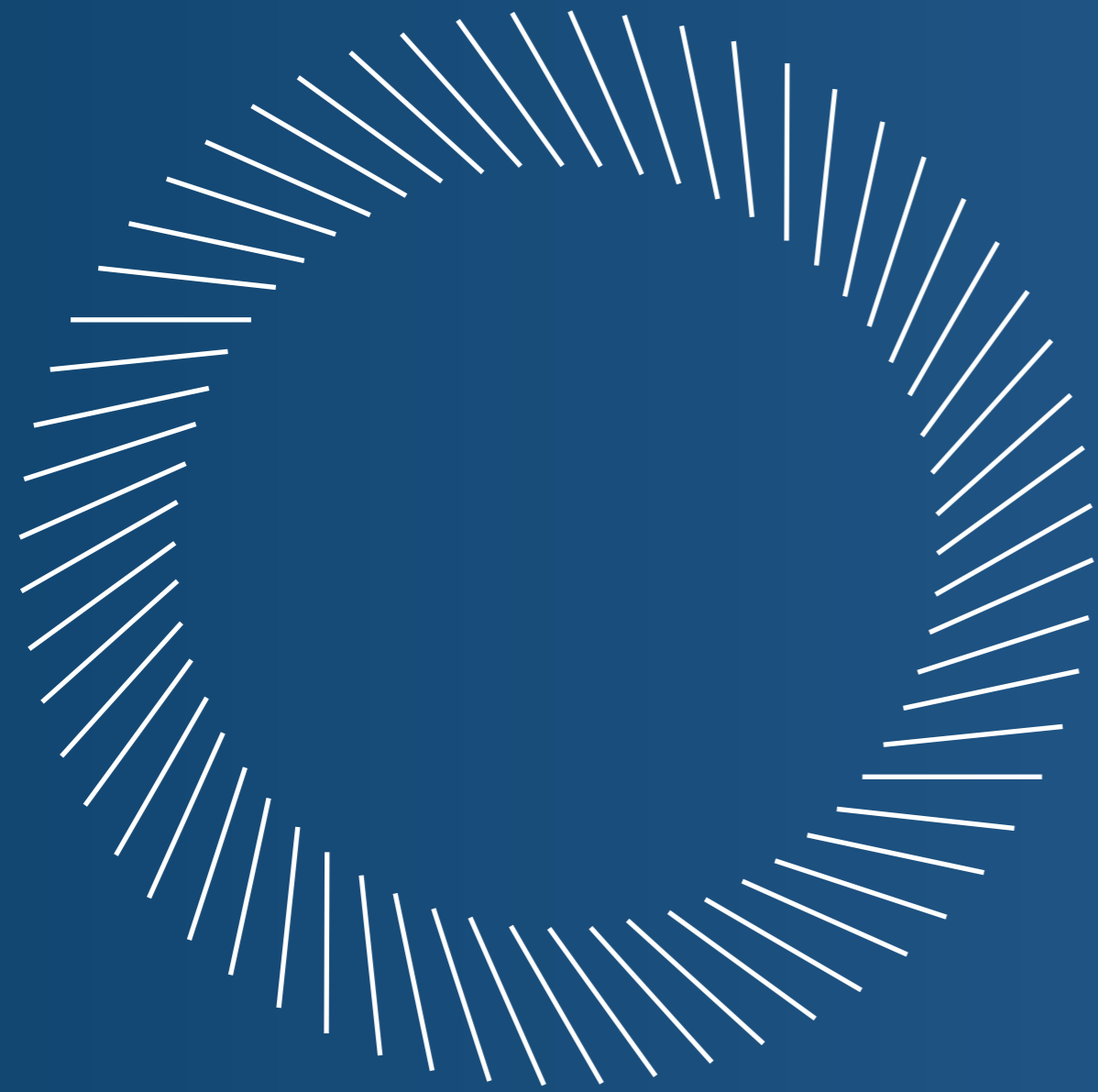
Completion
2020

Application
Potable water
Waste water
Technical water

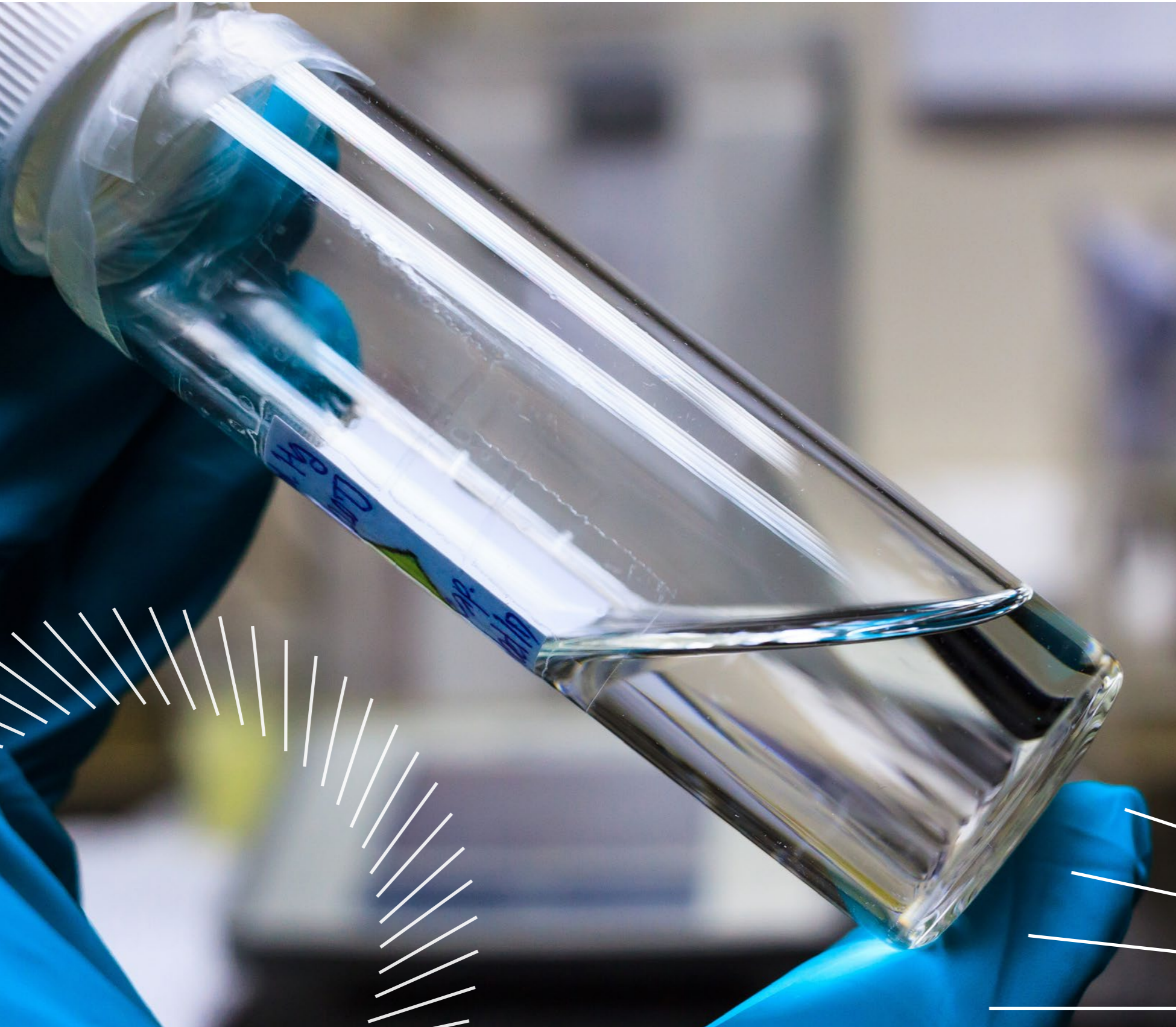
The challenge
Highest quality in all areas - this should also apply to the piping systems used on the hybrid superyacht „Artefact“ for drinking water, waste water and technical water.

The solution
Products from aquatherm are not only corrosion-resistant, but were also ideal in the context of the new construction of the "Artefact" for, among other things, their insulating effect and secure connection technology.





aquatherm blue
**Chemical
resistance**



AQUATHERM CHEMICAL RESISTANCE

Resistance

Our corrosion-resistant material polypropylene is resistant to many acids and alkalis. However, each individual case must always be examined with special care. Chemical resistance must always be considered in conjunction with other factors such as operating temperature, operating pressure or external stresses. Detailed information is available from our competent team of experts, who will be happy to deal with individual enquiries.

[↶ Table „Chemical resistance“](#)

[↶ Formular „Chemical resistance request“](#)





aquatherm blue
Warranty

Explanatory comments on the aquatherm GmbH warranty

1. Foreword

Thank you very much for making the decision to use a product from aquatherm GmbH, Germany (herein referred to as "aquatherm"). With nearly 50 years of experience in the international plastic pipes market, and our trendsetting innovations, we have the expertise needed to offer you engineered piping solutions made in Germany.

The trust placed in the quality of our products has motivated us to offer all pipes and moulded, fabricated, machined, and/or assembled parts with a 10-year warranty instead of the standard 2-year warranty required by German law. This extended time covered by warranty is backed by a comprehensive insurance policy from a leading insurance company for our line of business. The warranty period will begin with the date of delivery by aquatherm GmbH, but only comes valid with the successful pressure test, which must be carried out and documented in accordance with the aquatherm specification.

2. Scope of warranty

The aquatherm warranty protects you from financial loss proven to be caused by material defects, manufacturing defects and/or aquatherm's consulting/engineering services. The warranty coverage shall apply for the following product groups:

- aquatherm green pipe (fusiotherm und aquatherm ISO)
- aquatherm blue pipe (climatherm und aquatherm ISO)
- aquatherm red pipe (firestop)
- aquatherm black system (climasystem)
- aquatherm lilac pipe (aquatherm lilac)
- aquatherm orange system (aquatherm heating systems)
- aquatherm grey pipe (aquatherm SHT-system)
- assemblies fabricated by aquatherm from these product groups

2.1 What is covered by the aquatherm warranty?

The aquatherm warranty covers three aspects of damages: property damage, financial loss and personal injury.

2.1.1 What is property damage?

The damage to or destruction of a tangible item as a result of a defective product (e.g. classic water damages as a result of a leak). As a result of this, the suitability of the tangible item to fulfill its actual purpose is impaired. The term property damage is used if tangible items are damaged or destroyed. Considerable costs can be incurred as a result of property damage, such as renovation costs, repair costs or replacement costs.

2.1.2 What is meant by financial loss?

Financial loss may either be out-of-pocket loss or loss of business. Out-of-pocket financial loss is for example the costs of removing products and installing replacements after damage. Loss of business is the financial disadvantage suffered by an injured party as a result of a dama-

ging event (e.g. lost income as a result of renovations following property damage).

2.1.3 What is meant by personal injury?

If a person suffers physical injury, this is known as personal injury. For the purposes of this document, the coverage of personal injury means the direct medical costs incurred as a result of the injury.

3. What is not covered?

Costs related to the damages incurred such as a result of:

- Non-compliance with the operating parameters defined and specified by aquatherm as found in aquatherm's technical documents. In cases of doubt, contact your local aquatherm manufacturer's rep. Exceptions must be provided for, in writing, by a member of aquatherm's engineering team.
- Non-compliance with the installation guidelines as set out in the aquatherm Catalogue, with emphasis to the required installation of aquatherm propriety clipping or other compatible with aquatherm piping.
- Non-compliance with respective National Plumbing Standards and Regulations.
- Joints which were not made in accordance with the aquatherm guidelines, including but not limited to: improper fusion technique, use of contaminated materials or tools, use of faulty or unsuitable tools, use of damaged materials or tools, or any connection made by an installer without sound knowledge of the aquatherm connection techniques and their processes.
- Improperly assembled connections to other pipeline systems and/or components (threads, flanges, stubs, mechanical joints not intended for use with aquatherm PP piping etc.).
- All sealing elements used in the product lines manufactured by aquatherm.
- Tools and accessories sold by aquatherm GmbH are covered for the warranty period by law under the statutory warranty provisions.
- Systems with defective pipeline sections or fittings that were not subjected to the aquatherm pressure test or alternative testing approved by aquatherm prior to start-up.
- Damage to our products caused by incorrect handling after the material has left aquatherm's possession.
- Damage caused or exacerbated by copper in the water resulting from erosion/corrosion or other degradation of copper components in a domestic hot water recirculating system.
- Time delay, caused by incorrect planning, delivery problems and/or incorrect orders.
- Damage caused by entrained air, cavitation and pressure fluctuations.

Note: This list only includes the most prominent examples. Other circumstances, which compromise the integrity of the products, may also jeopardise the coverage.

4. How is the amount of compensation under the aquatherm warranty determined?

In the event of a material failure, samples of the damaged/faulty product are collected by the national aquatherm partner to forward them to aquatherm GmbH for examination and analysis. Working in collaboration with the injured party, aquatherm will identify the cause of the damage, and call in external bodies (test institutes, laboratories, assessors, etc.) as needed. If the damage has been caused by a material and/or manufacturing defect or by aquatherm's consulting/engineering services, the underwriter shall quantify the compensation claim for damages. All expenditures associated with the damages for this claim must be verified/recorded in detail and in a verifiable format as a required measure.

5. How much is the maximum coverage?

For the first 5 years of the warranty period, property damage, personal injury and financial loss is covered for the sum of €20 million per insurance claim. Total coverage for all claims made in a year is a maximum of €40 million. For years 6-10 of the warranty period, these coverage amounts are €8.5 and €17 million respectively. Sublimit for losses on designed projects (Professional Indemnity) €2 million and €6 million for all losses in the annual aggregate.

6. Why is the coverage stated in Euro?

The insured manufacturer, aquatherm, as well as the insurer, are both based in the EU, so that their agreements are issued in Euros (€). Since exchange rates fluctuate, the exchange rate current on the date of compensation shall apply.

7. What is the channel of communication for notifying claims under warranty and making enquiries about them?

Warranty claims have to be made to aquatherm via the national aquatherm GmbH partners. Information about the progress of the claim will only be released by the aquatherm partner or aquatherm GmbH.

8. Legal note

If a discrepancy or conflict arises between this document and the underlying insurance policy, the latter shall in all cases prevail.

9. Information about avoiding damage

I) Manufacture under certified quality level

As a trusted manufacturer, aquatherm works to a certified quality standard (ISO 9001); constant internal quality controls are part of the daily routine. In addition to this, all employees are integrated into a quality assurance program. As a result of this, products failing to comply

with our high standards are quickly identified and removed from our product range.

II) **Preventing damage caused by incorrect handling**
Our products must be handled conscientiously and carefully when they are delivered from our production plants. Experience shows that most damage is caused in transit, storage and/or when working on site. At this point we would draw close attention to the fact that correct handling contributes to maintaining the product quality.

III) **Work is to be carried out by qualified installers**
Installation defects are easy to avoid. Our training courses teach the correct techniques in detail for working with our products. In doing so, particular importance is attached to work being carried out attentively and with care. The work of installers trained by us or our aquatherm partners is much more reliable and carried out much more efficiently.

For a safe connection, we recommend using only aquatherm PP products in a piping system. Mixing with other PP piping systems should be avoided.

February 2023
aquatherm GmbH, Biggen 5, 57439 Attendorn, Germany



aquatherm blue
Transport and storage

AQUATHERM TRANSPORT AND STORAGE

Careful storage __

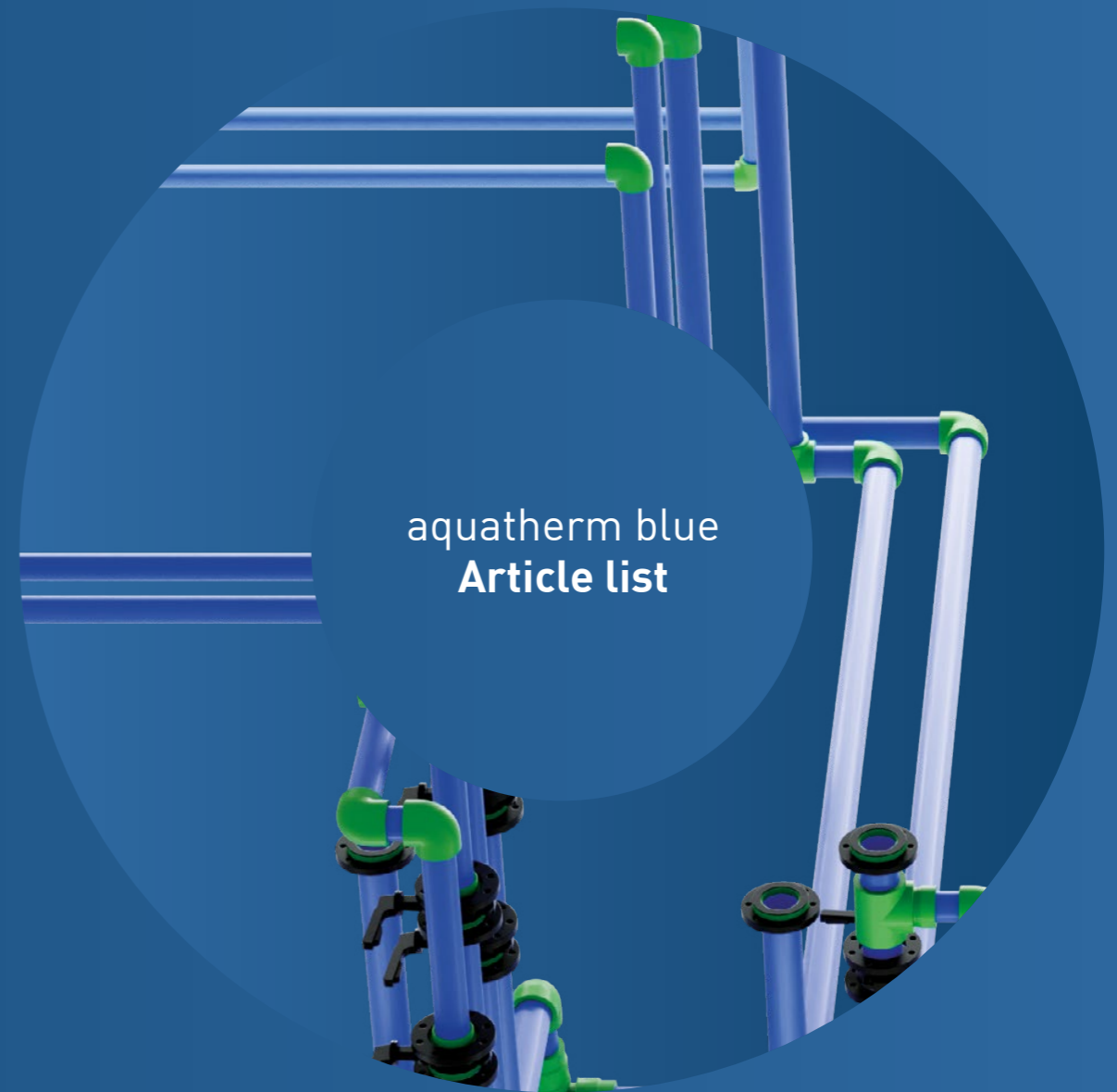
aquatherm polypropylene pipes may be stored outside at any temperature. A solid base for the pipe is very important to avoid a deformation of the pipes while in transport and storage.

treated with care. UV-radiation has effects on all high polymer plastics. Do not store permanently outdoor. The maximum permissible storage time outdoors is 6 months.



At temperatures below 0 °C it is possible to damage the pipes through strong impacts. The material has to be treated with caution at low temperatures. In spite of its high resistance, aquatherm pipes should be





Pipes / basic elements

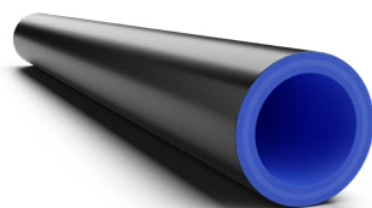


aquatherm blue SDR 7,4 MF

MF = multi-layer, fibre-reinforced

Material: fusiolen® PP-R / PP-RCT
 Pipe series: SDR 7,4 / S 3,2
 Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11, ISO 21003
 Colour: blue
 Packing unit: 4 m straight lengths

| Article no. | d | s | di | l/m | kg/m | DN | PU [m] |
|----------------|----|-----|------|-------|-------|----|--------|
| socket welding | | | | | | | |
| 2012020006 | 20 | 2,8 | 14,4 | 0,163 | 0,157 | 15 | 100 |
| 2012025008 | 25 | 3,5 | 18,0 | 0,254 | 0,244 | 20 | 100 |

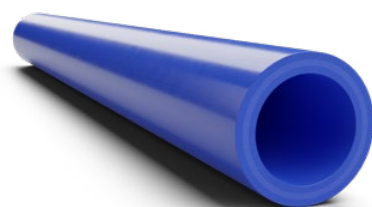


aquatherm blue SDR 7,4 MF UV

MF = multi-layer, fibre-reinforced
 UV = UV-resistant

Material: fusiolen® PP-R
 Pipe series: SDR 7,4 / S 3,2
 Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11, ISO 21003
 Colour: outside: black / inside: blue
 Packing unit: 4 m straight lengths

| Article no. | d | s | di | l/m | kg/m | DN | PU [m] |
|----------------|----|-----|------|-------|-------|----|--------|
| socket welding | | | | | | | |
| 2212020006 | 20 | 2,8 | 14,4 | 0,163 | 0,210 | 15 | 100 |
| 2212025008 | 25 | 3,5 | 18,0 | 0,254 | 0,314 | 20 | 100 |



aquatherm blue SDR 7,4 MF OT

MF = multi-layer, fibre-reinforced
 OT = oxygen-tight

Material: fusiolen® PP-R
 Pipe series: SDR 7,4 / S 3,2
 Standards: DIN 8077 / 78, DIN EN ISO 15874, ASTM F 2389, CSA B 137.11, ISO 21003
 Colour: blue
 Packing unit: 4 m straight lengths

| Article no. | d | s | di | l/m | kg/m | DN | PU [m] |
|----------------|----|-----|------|-------|-------|----|--------|
| socket welding | | | | | | | |
| 2112020006 | 20 | 2,8 | 14,4 | 0,163 | 0,211 | 15 | 100 |
| 2112025008 | 25 | 3,5 | 18,0 | 0,254 | 0,316 | 20 | 100 |

Pipes / basic elements

aquatherm blue SDR 9 MF RP

MF = multi-layer, fibre-reinforced
 RP = raised pressure resistance

Material: fusiolen® PP-RCT
 Pipe series: SDR 9 / S 4
 Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11, ISO 21003
 Colour: blue
 Packing unit: 4 m straight lengths

| Article no. | d | s | di | l/m | kg/m | DN | PU [m] |
|----------------|----|-----|------|-------|-------|----|--------|
| socket welding | | | | | | | |
| 2013032010 | 32 | 3,6 | 24,8 | 0,539 | 0,334 | 25 | 40 |

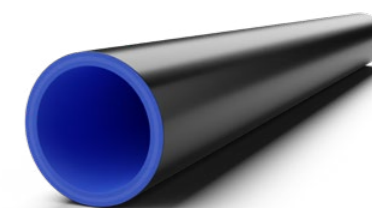


aquatherm blue SDR 9 MF RP UV

MF = multi-layer, fibre-reinforced
 RP = raised pressure resistance
 UV = UV-resistant

Material: fusiolen® PP-RCT
 Pipe series: SDR 9 / S 4
 Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11, ISO 21003
 Colour: outside: black / inside: blue
 Packing unit: 4 m straight lengths

| Article no. | d | s | di | l/m | kg/m | DN | PU [m] |
|----------------|----|-----|------|-------|-------|----|--------|
| socket welding | | | | | | | |
| 2213032010 | 32 | 3,6 | 24,8 | 0,483 | 0,328 | 25 | 40 |



aquatherm blue SDR 9 MF RP OT

MF = multi-layer, fibre-reinforced
 RP = raised pressure resistance
 OT = oxygen-tight

Material: fusiolen® PP-RCT
 Pipe series: SDR 9 / S 4
 Standards: DIN 8077 / 78, DIN EN ISO 15874, ASTM F 2389, CSA B 137.11, ISO 21003
 Colour: blue
 Packing unit: 4 m straight lengths

| Article no. | d | s | di | l/m | kg/m | DN | PU [m] |
|----------------|----|-----|------|-------|-------|----|--------|
| socket welding | | | | | | | |
| 2113032010 | 32 | 3,6 | 24,8 | 0,483 | 0,328 | 25 | 0,328 |



Legend table abbreviations: (Units in mm unless otherwise specified)

| | | | | | |
|-----------|-------------------------|-------------|-------------------------------|------------|--|
| d | diameter in mm | l/m | water content in litres/metre | SDR | standard dimension ratio (Diameter/wall thickness ratio) |
| D | diameter in mm | kg/m | weight data in kg per metre | | |
| s | wall thickness in mm | DN | diameter nominal | | |
| di | internal diameter in mm | PU | packing unit in metre | | |



Pipes / basic elements



aquatherm blue SDR 11 S

S = single-layer

Material: fusiolen® PP-R
 Pipe series: SDR 11 / S 5
 Standards: DIN 8077 / 78, DIN EN ISO 15874, ASTM F 2389, CSA B 137.11, NSF 14
 Colour: blue
 Packing unit: 4 m straight lengths

| Article no. | d | s | di | l/m | kg/m | DN | PU [m] |
|----------------|----|-----|------|-------|-------|----|--------|
| socket welding | | | | | | | |
| 2014020006 | 20 | 1,9 | 16,2 | 0,206 | 0,108 | 15 | 100 |
| 2014025008 | 25 | 2,3 | 20,4 | 0,327 | 0,165 | 20 | 100 |
| 2014020306 * | 20 | 1,9 | 16,2 | 0,206 | 0,108 | 15 | 100 |
| 2014025308 * | 25 | 2,3 | 20,4 | 0,327 | 0,165 | 20 | 100 |
| 2014032310 * | 32 | 2,9 | 26,2 | 0,539 | 0,261 | 25 | 50 |

*Packing unit: in coils



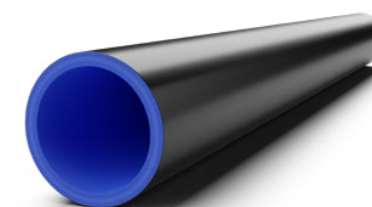
aquatherm blue SDR 11 MF RP

MF = multi-layer, fibre-reinforced
 RP = raised pressure resistance

Material: fusiolen® PP-RCT
 Pipe series: SDR 11 / S 5
 Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11, ISO 21003
 Colour: blue
 Packing unit: ø 20 – 125 mm straight lengths 4 m
 ø 160 – 630 mm straight lengths 5.8 m

| Article no. | d | s | di | l/m | kg/m | DN | PU [m] |
|----------------|-----|------|-------|---------|--------|-----|--------|
| socket welding | | | | | | | |
| 2014040012 | 40 | 3,7 | 32,6 | 0,834 | 0,430 | 32 | 40 |
| 2014050014 | 50 | 4,6 | 40,8 | 1,307 | 0,651 | 40 | 20 |
| 2014063016 | 63 | 5,8 | 51,4 | 2,074 | 1,062 | 50 | 20 |
| 2014075018 | 75 | 6,8 | 61,4 | 2,959 | 1,494 | 65 | 20 |
| 2014090020 | 90 | 8,2 | 73,6 | 4,252 | 2,141 | 80 | 12 |
| 2014110022 | 110 | 10,0 | 90,0 | 6,359 | 3,239 | - | 8 |
| 2014125024 | 125 | 11,4 | 102,2 | 8,199 | 4,092 | 100 | 4 |
| butt welding | | | | | | | |
| 2014160026 | 160 | 14,6 | 130,8 | 13,430 | 6,710 | 125 | 5,8 |
| 2014200028 | 200 | 18,2 | 163,6 | 21,010 | 10,442 | 150 | 5,8 |
| 2014250030 | 250 | 22,7 | 204,6 | 32,861 | 16,579 | 200 | 5,8 |
| 2014315032 | 315 | 28,6 | 257,8 | 52,172 | 26,223 | 250 | 5,8 |
| 2014355034 | 355 | 32,2 | 290,6 | 66,290 | 33,276 | 300 | 5,8 |
| 2014400036 | 400 | 36,3 | 327,6 | 84,290 | 42,266 | 300 | 5,8 |
| 2014450038 | 450 | 40,9 | 368,2 | 106,470 | 53,566 | 400 | 5,8 |

Pipes / basic elements



aquatherm blue SDR 11 MF RP UV

MF = multi-layer, fibre-reinforced
 RP = raised pressure resistance
 UV = UV-resistant

Material: fusiolen® PP-RCT
 Pipe series: SDR 11
 Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11, ISO 21003
 Colour: outside: black / inside: blue
 Packing unit: ø 20 – 125 mm straight lengths 4 m
 ø 160 – 630 mm straight lengths 5.8 m

| Article no. | d | s | di | l/m | kg/m | DN | PU [m] |
|----------------|-----|------|-------|---------|--------|-----|--------|
| socket welding | | | | | | | |
| 2214040012 | 40 | 3,7 | 32,6 | 0,834 | 0,555 | 32 | 40 |
| 2214050014 | 50 | 4,6 | 40,8 | 1,307 | 0,827 | 40 | 20 |
| 2214063016 | 63 | 5,8 | 51,4 | 2,074 | 1,260 | 50 | 20 |
| 2214075018 | 75 | 6,8 | 61,4 | 2,959 | 1,712 | 65 | 20 |
| 2214090020 | 90 | 8,2 | 73,6 | 4,252 | 2,480 | 80 | 12 |
| 2214110022 | 110 | 10,0 | 90,0 | 6,359 | 3,693 | - | 8 |
| 2214125024 | 125 | 11,4 | 102,2 | 8,199 | 4,774 | 100 | 4 |
| butt welding | | | | | | | |
| 2214160026 | 160 | 14,6 | 130,8 | 13,430 | 7,181 | 125 | 5,8 |
| 2214200028 | 200 | 18,2 | 163,6 | 21,010 | 11,029 | 150 | 5,8 |
| 2214250030 | 250 | 22,7 | 204,6 | 32,861 | 17,312 | 200 | 5,8 |
| 2214315032 | 315 | 28,6 | 257,8 | 52,172 | 26,223 | 250 | 5,8 |
| 2214355034 | 355 | 32,2 | 290,6 | 66,292 | 34,315 | 300 | 5,8 |
| 2214400036 | 400 | 36,3 | 327,4 | 84,145 | 43,437 | 300 | 5,8 |
| 2214450038 | 450 | 40,9 | 368,2 | 106,423 | 54,883 | 400 | 5,8 |

aquatherm blue SDR 11 MF RP OT

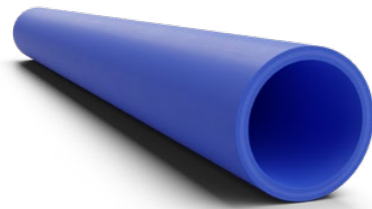
MF = multi-layer, fibre-reinforced
 RP = raised pressure resistance
 OT = oxygen-tight

Material: fusiolen® PP-RCT
 Pipe series: SDR 11 / S 5
 Standards: DIN 8077 / 78, DIN EN ISO 15874, ASTM F 2389, CSA B 137.11, ISO 21003
 Colour: blue
 Packing unit: ø 20 – 125 mm straight lengths 4 m
 ø 160 – 250 mm straight lengths 5,8 m

| Article no. | d | s | di | l/m | kg/m | DN | PU [m] |
|----------------|-----|------|-------|--------|--------|-----|--------|
| socket welding | | | | | | | |
| 2114040012 | 40 | 3,7 | 32,6 | 0,834 | 0,562 | 32 | 40 |
| 2114050014 | 50 | 4,6 | 40,8 | 1,307 | 0,695 | 40 | 20 |
| 2114063016 | 63 | 5,8 | 51,4 | 2,074 | 1,279 | 50 | 20 |
| 2114075018 | 75 | 6,8 | 61,4 | 2,959 | 1,739 | 65 | 20 |
| 2114090020 | 90 | 8,2 | 73,6 | 4,252 | 2,533 | 80 | 12 |
| 2114110022 | 110 | 10,0 | 90,0 | 6,359 | 3,752 | - | 8 |
| 2114125024 | 125 | 11,4 | 102,2 | 8,199 | 4,201 | 100 | 4 |
| butt welding | | | | | | | |
| 2114160026 | 160 | 14,6 | 130,8 | 13,430 | 6,847 | 125 | 5,8 |
| 2114200028 | 200 | 18,2 | 163,6 | 21,010 | 10,520 | 150 | 5,8 |
| 2114250030 | 250 | 22,7 | 204,6 | 32,861 | 16,226 | 200 | 5,8 |



Pipes / basic elements

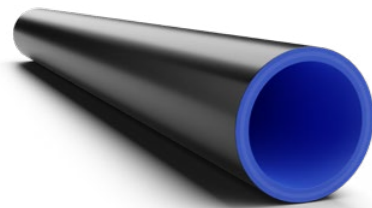


aquatherm blue SDR 17,6 MF RP

MF = multi-layer, fibre-reinforced
RP = raised pressure resistance

Material: fusiolen® PP-R / PP-RCT
Pipe series: SDR 17,6 / S5
Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11, ISO 21003
Colour: blue
Packing unit: 5.8 m straight lengths

| Article no. | d | s | di | L/m | kg/m | DN | PU [m] |
|----------------|-----|------|-------|---------|--------|----|--------|
| socket welding | | | | | | | |
| 2017125224 | 125 | 7,1 | 110,8 | 9,637 | 2,666 | | 4 |
| butt welding | | | | | | | |
| 2017160026 | 160 | 9,1 | 141,8 | 15,792 | 4,390 | | 5,8 |
| 2017200028 | 200 | 11,4 | 177,2 | 24,661 | 6,927 | | 5,8 |
| 2017250030 | 250 | 14,2 | 221,6 | 38,568 | 10,636 | | 5,8 |
| 2017315032 | 315 | 17,9 | 279,2 | 61,223 | 16,606 | | 5,8 |
| 2017355034 | 355 | 20,1 | 314,8 | 77,832 | 21,589 | | 5,8 |
| 2017400036 | 400 | 22,7 | 354,6 | 98,756 | 27,468 | | 5,8 |
| 2017450038 | 450 | 25,5 | 399,0 | 125,036 | 34,716 | | 5,8 |
| 2017500040 | 500 | 28,4 | 443,2 | 154,272 | 42,955 | | 5,8 |
| 2017630042 | 630 | 35,7 | 558,6 | 245,070 | 68,044 | | 5,8 |



aquatherm blue SDR 17,6 MF RP UV

MF = multi-layer, fibre-reinforced
RP = raised pressure resistance
UV = UV-resistant

Material: fusiolen® PP-RCT
Pipe series: SDR 17,6 / 8,3
Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11, ISO 21003
Colour: outside: black / inside: blue
Packing unit: 5.8 m straight lengths

| Article no. | d | s | di | L/m | kg/m | DN | PU [m] |
|--------------|-----|------|-------|---------|--------|-----|--------|
| butt welding | | | | | | | |
| 2217160026 | 160 | 9,1 | 141,8 | 15,784 | 4,860 | 150 | 5,8 |
| 2217200028 | 200 | 11,4 | 177,2 | 24,649 | 7,514 | 200 | 5,8 |
| 2217250030 | 250 | 14,2 | 221,6 | 38,549 | 11,369 | 250 | 5,8 |
| 2217315032 | 315 | 17,9 | 279,2 | 61,193 | 17,529 | 300 | 5,8 |
| 2217355034 | 355 | 20,1 | 314,8 | 77,793 | 22,628 | 350 | 5,8 |
| 2217400036 | 400 | 22,7 | 354,6 | 98,707 | 28,639 | 350 | 5,8 |
| 2217450038 | 450 | 25,5 | 399,0 | 124,973 | 36,033 | 400 | 5,8 |
| 2217500040 | 500 | 28,4 | 443,2 | 154,195 | 44,418 | 450 | 5,8 |
| 2217630042 | 630 | 35,7 | 558,6 | 245,947 | 69,887 | 500 | 5,8 |

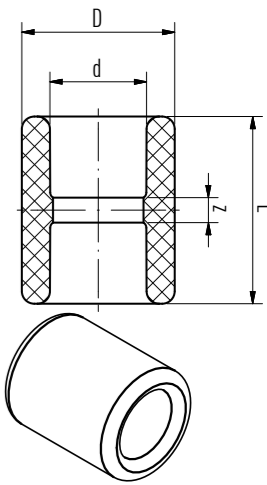
Socket

Socket

SDR 6 / 7,4 / 9 / 11 / 17,6

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | D | L | z | kg | PU |
|----------------|-----|-------|------|------|-------|----|
| socket welding | | | | | | |
| 1040020002 | 20 | 27,0 | 32,0 | 3,0 | 0,008 | 10 |
| 1040025003 | 25 | 34,0 | 35,0 | 3,0 | 0,013 | 10 |
| 1040032004 | 32 | 43,0 | 40,5 | 4,5 | 0,026 | 5 |
| 1040040005 | 40 | 52,0 | 47,5 | 6,5 | 0,044 | 5 |
| 1040050006 | 50 | 68,0 | 53,0 | 6,0 | 0,084 | 5 |
| 1040063007 | 63 | 84,0 | 60,5 | 5,5 | 0,139 | 1 |
| 1040075008 | 75 | 100,0 | 66,5 | 6,5 | 0,226 | 1 |
| 1040090009 | 90 | 120,0 | 72,5 | 6,5 | 0,343 | 1 |
| 1040110010 | 110 | 147,0 | 82,0 | 8,0 | 0,581 | 1 |
| 1040125011 | 125 | 167,0 | 92,0 | 12,0 | 0,845 | 1 |



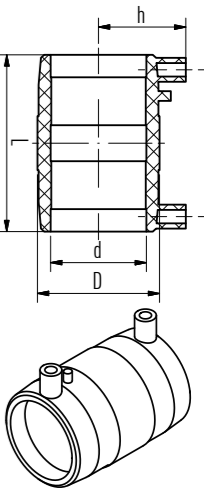
Electrofusion socket

SDR 6 / 7,4 / 9 / 11 / 17,6

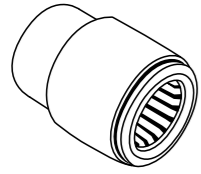
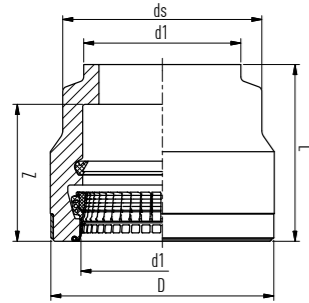
Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | D | L | h | kg | PU |
|----------------|-----|-------|-------|-------|-------|----|
| socket welding | | | | | | |
| 1040020094 | 20 | 31,5 | 70,0 | 36,0 | 0,049 | 1 |
| 1040025100 | 25 | 36,5 | 78,0 | 38,5 | 0,057 | 1 |
| 1040032101 | 32 | 45,0 | 80,0 | 42,5 | 0,077 | 1 |
| 1040040102 | 40 | 54,0 | 92,0 | 47,0 | 0,103 | 1 |
| 1040050103 | 50 | 65,0 | 103,0 | 52,0 | 0,142 | 1 |
| 1040063104 | 63 | 81,5 | 118,0 | 58,0 | 0,239 | 1 |
| 1040075105 | 75 | 96,0 | 130,0 | 64,5 | 0,347 | 1 |
| 1040090106 | 90 | 113,5 | 145,0 | 72,0 | 0,501 | 1 |
| 1040110107 | 110 | 139,0 | 160,0 | 82,5 | 0,821 | 1 |
| 1040125108 | 125 | 156,0 | 172,0 | 90,0 | 1,097 | 1 |
| 1040160109 * | 160 | 197,0 | 186,0 | 109,5 | 1,754 | 1 |
| 1040200110 * | 200 | 243,0 | 210,0 | 134,0 | 3,625 | 1 |
| 1040250111 * | 250 | 315,0 | 250,0 | 170,0 | 7,142 | 1 |

do not use with 160 - 250 mm fittings
*do not use with aquatherm blue MF OT



Socket

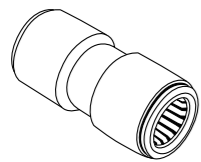
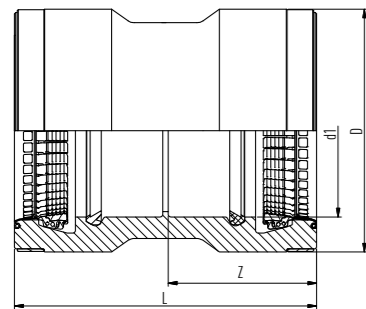


Push-fit adapter

Material: fusiolen® PP-RP / EPDM
Standards: DIN EN ISO 15874
Colour: green

| Article no. | d1 | ds | D | L | z | kg | PU |
|-------------|-----|-----|-------|-------|-------|--------|----|
| SDR 11 | | | | | | | |
| 2054090000 | 90 | 112 | 152,0 | 170,0 | 140,0 | 1,200 | 1 |
| 2054110001 | 110 | 140 | 175,0 | 205,0 | 170,0 | 2,000 | 1 |
| 2054125002 | 125 | 161 | 190,0 | 210,0 | 172,0 | 2,300 | 1 |
| 2054160004 | 160 | 202 | 234,0 | 227,0 | 183,0 | 3,800 | 1 |
| 2054200006 | 200 | 250 | 285,0 | 285,0 | 231,0 | 6,500 | 1 |
| 2054250008 | 250 | 317 | 375,0 | 315,0 | 243,0 | 15,000 | 1 |
| 2054315010 | 315 | 400 | 450,0 | 355,0 | 275,0 | 24,000 | 1 |
| 2054355012 | 355 | 450 | 492,0 | 370,0 | 283,0 | 28,000 | 1 |
| 2054400014 | 400 | 500 | 540,0 | 390,0 | 300,0 | 34,000 | 1 |
| 2054450016 | 450 | 560 | 600,0 | 415,0 | 318,0 | 44,000 | 1 |
| SDR 17,6 | | | | | | | |
| 2057125003 | 125 | 161 | 190,0 | 210,0 | 172,0 | 2,300 | 1 |
| 2057160005 | 160 | 202 | 234,0 | 227,0 | 183,0 | 3,800 | 1 |
| 2057200007 | 200 | 250 | 285,0 | 285,0 | 231,0 | 6,500 | 1 |
| 2057250009 | 250 | 295 | 355,0 | 315,0 | 243,0 | 11,500 | 1 |
| 2057315011 | 315 | 370 | 425,0 | 345,0 | 275,0 | 16,300 | 1 |
| 2057355013 | 355 | 415 | 470,0 | 360,0 | 283,0 | 20,000 | 1 |
| 2057400015 | 400 | 465 | 510,0 | 390,0 | 300,0 | 23,800 | 1 |
| 2057450017 | 450 | 520 | 565,0 | 400,0 | 318,0 | 27,800 | 1 |

Do not use for aquatherm blue MF RP OT
Fittings and connecting parts e.g. elbows (45°/90°), T-pieces, Red. T-pieces etc. on request



Push-fit coupling

SDR 11 / 17,6

Material: fusiolen® PP-RP / EPDM
Standards: DIN EN ISO 15874
Colour: green

| Article no. | d1 | D | L | z | kg | PU |
|-------------|-----|-------|-------|-------|--------|----|
| 2054090020 | 90 | 152,0 | 285,0 | 140,0 | 2,300 | 1 |
| 2054110021 | 110 | 175,0 | 345,0 | 170,0 | 3,700 | 1 |
| 2054125022 | 125 | 190,0 | 350,0 | 172,0 | 4,300 | 1 |
| 2054160023 | 160 | 234,0 | 372,0 | 183,0 | 6,600 | 1 |
| 2054200024 | 200 | 285,0 | 470,0 | 231,0 | 11,000 | 1 |
| 2054250025 | 250 | 375,0 | 496,0 | 243,0 | 20,420 | 1 |
| 2054315026 | 315 | 450,0 | 560,0 | 275,0 | 40,200 | 1 |
| 2054355027 | 355 | 492,0 | 576,0 | 283,0 | 45,700 | 1 |
| 2054400028 | 400 | 540,0 | 610,0 | 300,0 | 54,800 | 1 |
| 2054450029 | 450 | 600,0 | 646,0 | 318,0 | 69,600 | 1 |

Do not use for aquatherm blue MF RP OT

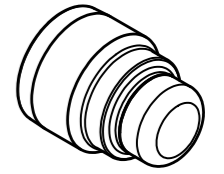
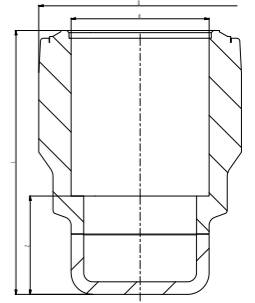
Elbow

End cap with push-fit adapter

Material: fusiolen® PP-RP / EPDM
Standards: DIN EN ISO 15874
Colour: green

| Article no. | d | l | D | z | kg | PU |
|-------------|-----|-------|-------|-------|--------|----|
| SDR 11 | | | | | | |
| 2054090030 | 90 | 236,5 | 152,0 | 87,5 | 1,647 | 1 |
| 2054110031 | 110 | 269 | 175,0 | 90,0 | 2,771 | 1 |
| 2054125032 | 125 | 291 | 190,0 | 110,0 | 3,368 | 1 |
| 2054160033 | 160 | 306 | 235,0 | 114,0 | 4,431 | 1 |
| 2054200034 | 200 | 374 | 285,0 | 134,0 | 7,570 | 1 |
| 2054250035 | 250 | 405 | 375,0 | 162,0 | 16,989 | 1 |
| 2054315036 | 315 | 425 | 450,0 | 150,0 | 28,200 | 1 |
| 2054355037 | 355 | 450 | 492,0 | 167,0 | 34,410 | 1 |
| 2054400038 | 400 | 460 | 540,0 | 160,0 | 41,190 | 1 |
| 2054450039 | 450 | 495 | 600,0 | 177,0 | 54,500 | 1 |
| SDR 17,6 | | | | | | |
| 2057160040 | 160 | 306 | 235,0 | 114,0 | 4,479 | 1 |
| 2057200041 | 200 | 374 | 285,0 | 134,0 | 7,425 | 1 |
| 2057250042 | 250 | 405 | 355,0 | 162,0 | 12,805 | 1 |
| 2057315043 | 315 | 415 | 425,0 | 140,0 | 20,800 | 1 |
| 2057355044 | 355 | 430 | 470,0 | 147,0 | 25,540 | 1 |
| 2057400045 | 400 | 465 | 510,0 | 165,0 | 29,800 | 1 |
| 2057450046 | 450 | 470 | 565,0 | 152,0 | 36,320 | 1 |

Do not use for aquatherm blue MF RP OT

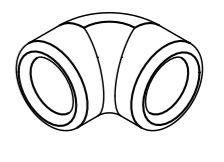
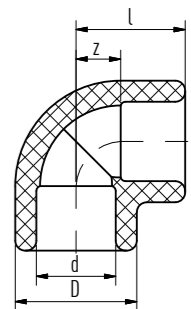


Elbow 90° socket welding

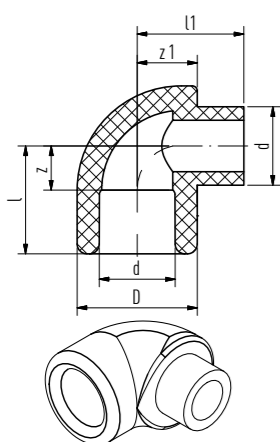
SDR 6 / 7,4 / 9 / 11 / 17,6

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | D | z | kg | PU |
|----------------|-----|-------|-------|------|-------|----|
| socket welding | | | | | | |
| 1080020041 | 20 | 25,5 | 27,0 | 11,0 | 0,013 | 10 |
| 1080025042 | 25 | 29,5 | 34,0 | 13,5 | 0,023 | 10 |
| 1080032043 | 32 | 35,0 | 43,0 | 17,0 | 0,043 | 5 |
| 1080040044 | 40 | 41,5 | 52,0 | 21,0 | 0,077 | 5 |
| 1080050045 | 50 | 49,5 | 68,0 | 26,0 | 0,162 | 5 |
| 1080063046 | 63 | 60,0 | 84,0 | 32,5 | 0,293 | 1 |
| 1080075047 | 75 | 68,5 | 100,0 | 38,5 | 0,445 | 1 |
| 1080090048 | 90 | 79,0 | 120,0 | 46,0 | 0,729 | 1 |
| 1080110049 | 110 | 93,0 | 147,0 | 56,0 | 1,292 | 1 |
| 1080125050 | 125 | 116,5 | 167,0 | 76,5 | 2,004 | 1 |



Elbow

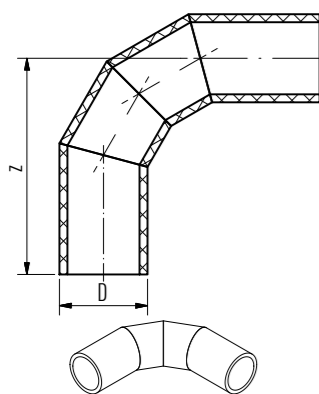
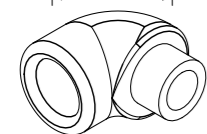


Elbow 90° female/male

SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | l1 | D | z | z1 | kg | PU |
|----------------|----|------|------|------|------|------|-------|----|
| socket welding | | | | | | | | |
| 1080020061 | 20 | 25,5 | 25,5 | 27,0 | 11,0 | 13,5 | 0,032 | 10 |
| 1080025062 | 25 | 29,5 | 29,5 | 34,0 | 13,5 | 17,0 | 0,023 | 10 |
| 1080032063 | 32 | 35,0 | 39,0 | 43,0 | 17,0 | 21,5 | 0,048 | 5 |
| 1080040064 | 40 | 41,5 | 45,5 | 52,0 | 21,0 | 26,0 | 0,080 | 5 |



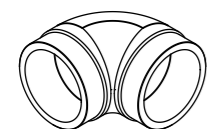
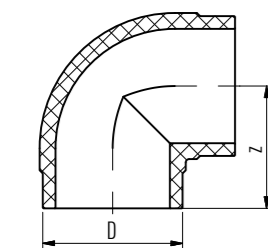
Elbow 90° butt welding

pipe segment

Material: fusiolen® PP-R / PP-RCT
Standards: DIN 16962, DIN EN ISO 15874
Colour: blue / green

| Article no. | D | z | kg | PU |
|--------------|-------|---------|---------|----|
| butt welding | | | | |
| SDR 11 | | | | |
| 1084160052 * | 160,0 | 145,0 | 1,956 | 1 |
| 1084200054 * | 200,0 | 209,0 | 4,575 | 1 |
| 1084250056 * | 250,0 | 240,0 | 7,180 | 1 |
| 2084315028 | 315,0 | 773,0 | 37,300 | 1 |
| 2084355032 | 355,0 | 833,0 | 57,074 | 1 |
| 2084400036 | 400,0 | 900,0 | 74,500 | 1 |
| 2084450040 | 450,0 | 975,0 | 89,080 | 1 |
| SDR 17,6 | | | | |
| 2087160021 * | 160,0 | 145,0 | 1,512 | 1 |
| 2087200023 * | 200,0 | 209,0 | 3,640 | 1 |
| 2087250025 * | 250,0 | 240,0 | 6,011 | 1 |
| 2087315029 | 315,0 | 773,0 | 24,000 | 1 |
| 2087355033 | 355,0 | 833,0 | 32,000 | 1 |
| 2087400037 | 400,0 | 900,0 | 42,549 | 1 |
| 2087450041 | 450,0 | 975,0 | 62,200 | 1 |
| 2087500043 | 500,0 | 1.100,0 | 91,000 | 1 |
| 2087630045 | 630,0 | 1.295,0 | 164,600 | 1 |

Segment welded article



Injection moulded part

*Injection moulded fitting

Please note! Electrofusion sockets can not be processed directly with injection moulded fittings. When using electrofusion sockets either segment welded special fittings must be used or pipe pieces must be welded to the injection moulded fittings.

Elbow

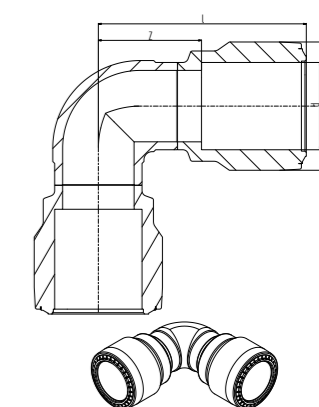
Elbow 90° with push-fit adapter

Material: fusiolen® PP-RP / EPDM
Standards: DIN EN ISO 15874
Colour: green

| Article no. | d | l | D | z | kg | PU |
|--------------|-----|-------|-------|-------|---------|----|
| SDR 11 | | | | | | |
| 2054090100 | 90 | 248 | 152,0 | 99,0 | 3,290 | 1 |
| 2054110101 | 110 | 297 | 175,0 | 118,0 | 4,907 | 1 |
| 2054125102 | 125 | 324,5 | 190,0 | 143,5 | 6,996 | 1 |
| 2054160103 | 160 | 381 | 235,0 | 189,0 | 9,556 | 1 |
| 2054200104 | 200 | 503 | 285,0 | 263,0 | 17,575 | 1 |
| 2054250105 | 250 | 555 | 375,0 | 312,0 | 37,180 | 1 |
| 2054315106 * | 315 | 875 | 450,0 | 600,0 | 85,850 | 1 |
| 2054355107 * | 355 | 940 | 492,0 | 658,0 | 105,000 | 1 |
| 2054400018 * | 400 | 1020 | 540,0 | 720,0 | 130,800 | 1 |
| 2054450109 * | 450 | 1104 | 600,0 | 786,0 | 177,500 | 1 |
| SDR 17,6 | | | | | | |
| 2057160090 | 160 | 381 | 235,0 | 189,0 | 9,111 | 1 |
| 2057200091 | 200 | 503 | 285,0 | 263,0 | 16,640 | 1 |
| 2057250092 | 250 | 555 | 355,0 | 312,0 | 29,011 | 1 |
| 2057315093 * | 315 | 875 | 425,0 | 600,0 | 56,600 | 1 |
| 2057355094 * | 355 | 940 | 470,0 | 658,0 | 72,000 | 1 |
| 2057400095 * | 400 | 1020 | 510,0 | 720,0 | 90,150 | 1 |
| 2057450096 * | 450 | 1104 | 565,0 | 786,0 | 117,800 | 1 |

* pipe segment

Do not use for aquatherm blue MF RP OT

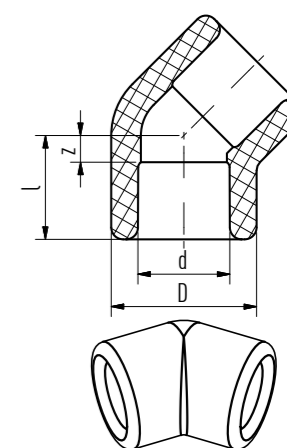


Elbow 45° socket welding

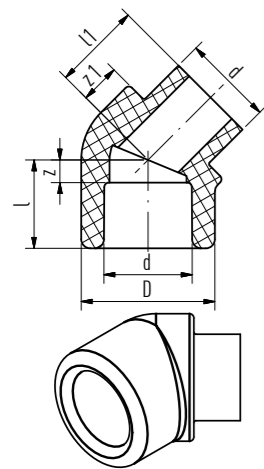
SDR 6 / 7,4 / 9 / 11 / 17,6

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | D | z | kg | PU |
|----------------|-----|------|-------|------|-------|----|
| socket welding | | | | | | |
| 1080020002 | 20 | 19,5 | 29,5 | 5,0 | 0,014 | 10 |
| 1080025003 | 25 | 22 | 34,0 | 6,0 | 0,018 | 10 |
| 1080032004 | 32 | 25 | 43,0 | 7,5 | 0,035 | 5 |
| 1080040005 | 40 | 30 | 52,0 | 9,5 | 0,053 | 5 |
| 1080050006 | 50 | 35 | 68,0 | 11,5 | 0,112 | 5 |
| 1080063007 | 63 | 41,5 | 84,0 | 14,0 | 0,227 | 1 |
| 1080075008 | 75 | 46,5 | 100,0 | 16,5 | 0,350 | 1 |
| 1080090009 | 90 | 52,5 | 120,0 | 19,5 | 0,568 | 1 |
| 1080110010 | 110 | 60,5 | 147,0 | 23,5 | 1,025 | 1 |
| 1080125011 | 125 | 67 | 167,0 | 27,0 | 1,329 | 1 |



Elbow

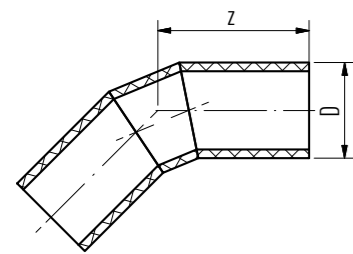


Elbow 45° female/male

SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | l1 | D | z | z1 | kg | PU |
|----------------|----|------|------|------|-----|------|-------|----|
| socket welding | | | | | | | | |
| 1080020020 | 20 | 19,5 | 19,5 | 29,5 | 5,0 | 9,0 | 0,013 | 10 |
| 1080020021 | 25 | 22,0 | 22,0 | 34,0 | 6,0 | 8,5 | 0,017 | 10 |
| 1080032022 | 32 | 25,5 | 29,0 | 43,0 | 7,5 | 11,5 | 0,036 | 5 |
| 1080040023 | 40 | 30,0 | 33,0 | 52,0 | 9,5 | 13,5 | 0,057 | 5 |

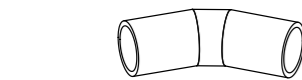


Elbow 45° butt welding

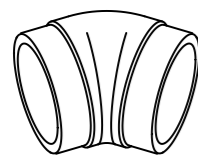
pipe segments (**or injection moulded fitting)

Material: fusiolen® PP-RCT
Standards: DIN 16962, DIN EN ISO 15874
Colour: blue / green

| Article no. | D | z | kg | PU |
|---------------|-------|-------|--------|----|
| butt welding | | | | |
| SDR 11 | | | | |
| 1084160013 ** | 160,0 | 95,0 | 1,371 | 1 |
| 1084200015 ** | 200,0 | 146,0 | 3,310 | 1 |
| 1084250017 ** | 250,0 | 182,0 | 6,218 | 1 |
| 2084315026 * | 315,0 | 498,0 | 27,100 | 1 |
| 2084355030 * | 355,0 | 520,0 | 38,158 | 1 |
| 2084400034 * | 400,0 | 548,0 | 44,712 | 1 |
| 2084450038 * | 450,0 | 580,0 | 60,260 | 1 |



Segment welded article



Injection moulded part

SDR 17.6

| | | | | |
|---------------|-------|-------|--------|---|
| 2087160020 ** | 160,0 | 95,0 | 1,080 | 1 |
| 2087200022 ** | 200,0 | 146,0 | 1,990 | 1 |
| 2087250024 ** | 250,0 | 182,0 | 3,875 | 1 |
| 2087315027 * | 315,0 | 498,0 | 18,000 | 1 |
| 2087355031 * | 355,0 | 520,0 | 22,058 | 1 |
| 2087400035 * | 400,0 | 548,0 | 30,800 | 1 |
| 2087450039 * | 450,0 | 580,0 | 39,123 | 1 |
| 2087500042 * | 500,0 | 665,0 | 55,112 | 1 |
| 2087630044 * | 630,0 | 741,0 | 97,148 | 1 |

*mechanically stabilised through a fibre mix integrated in the middle layer of the fusiolen® PP-RCT.

**Injection moulded fitting (green)

Please note! Electrofusion sockets can not be processed directly with injection moulded fittings. When using electrofusion sockets either segment welded special fittings must be used or pipe pieces must be welded to the injection moulded fittings.

T-piece

Elbow 45° with push-fit adapter

pipe segments

Material: fusiolen® PP-RCT / EPDM
Standards: DIN EN ISO 15874
Colour: green

| Article no. | d | l | D | z | kg | PU |
|--------------|-----|-------|-------|-------|---------|----|
| SDR 11 | | | | | | |
| 2054090070 * | 90 | 221,5 | 152,0 | 72,5 | 5,419 | 1 |
| 2054110071 * | 110 | 264,5 | 175,0 | 85,5 | 7,482 | 1 |
| 2054125072 * | 125 | 276 | 190,0 | 95,0 | 6,321 | 1 |
| 2054160073 * | 160 | 331 | 235,0 | 139,0 | 8,971 | 1 |
| 2054200074 * | 200 | 440 | 285,0 | 200,0 | 16,310 | 1 |
| 2054250075 * | 250 | 497 | 375,0 | 254,0 | 36,218 | 1 |
| 2054315076 | 315 | 607 | 450,0 | 332,0 | 75,300 | 1 |
| 2054355077 | 355 | 638 | 492,0 | 355,0 | 82,650 | 1 |
| 2054400078 | 400 | 675 | 540,0 | 375,0 | 112,900 | 1 |
| 2054450079 | 450 | 719 | 600,0 | 401,0 | 148,500 | 1 |

SDR 17.6

| | | | | | | |
|--------------|-----|-----|-------|-------|--------|---|
| 2057160080 * | 160 | 331 | 235,0 | 139,0 | 8,680 | 1 |
| 2057200081 * | 200 | 440 | 285,0 | 200,0 | 14,990 | 1 |
| 2057250082 * | 250 | 497 | 355,0 | 254,0 | 26,875 | 1 |
| 2057315083 | 315 | 597 | 425,0 | 322,0 | 50,600 | 1 |
| 2057355084 | 355 | 628 | 470,0 | 345,0 | 62,058 | 1 |
| 2057400085 | 400 | 675 | 510,0 | 285,0 | 78,400 | 1 |
| 2057450086 | 450 | 704 | 565,0 | 386,0 | 94,723 | 1 |

*Injection moulded fitting (green)

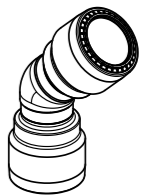
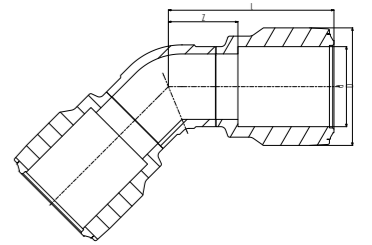
Do not use for aquatherm blue MF RP OT

T-piece socket welding

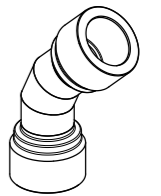
SDR 6 / 7.4 / 9 / 11 / 17.6 - injection moulded fittings

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

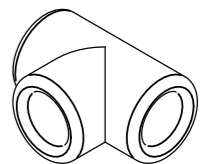
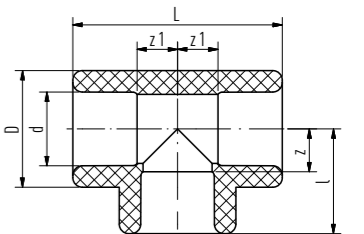
| Article no. | d | l | D | L | z | z1 | kg | PU |
|----------------|-----|-------|-------|-------|------|------|-------|----|
| socket welding | | | | | | | | |
| 1060020016 | 20 | 25,5 | 27,0 | 51,0 | 11,0 | 11,0 | 0,017 | 10 |
| 1060025017 | 25 | 30,5 | 34,0 | 62,0 | 14,5 | 15,0 | 0,033 | 10 |
| 1060032018 | 32 | 33,5 | 43,0 | 70,0 | 15,5 | 17,0 | 0,054 | 5 |
| 1060040019 | 40 | 40,5 | 52,0 | 81,0 | 20,0 | 20,0 | 0,099 | 5 |
| 1060050020 | 50 | 49,5 | 68,0 | 99,0 | 26,0 | 26,0 | 0,177 | 5 |
| 1060063021 | 63 | 60,0 | 84,0 | 120,0 | 32,5 | 32,5 | 0,368 | 1 |
| 1060075022 | 75 | 68,5 | 100,0 | 137,0 | 38,5 | 38,5 | 0,541 | 1 |
| 1060090023 | 90 | 79,0 | 120,0 | 158,0 | 46,0 | 46,0 | 0,920 | 1 |
| 1060110024 | 110 | 93,0 | 147,0 | 186,0 | 56,0 | 56,0 | 1,598 | 1 |
| 1060125025 | 125 | 116,5 | 167,0 | 233,0 | 76,5 | 76,5 | 2,673 | 1 |



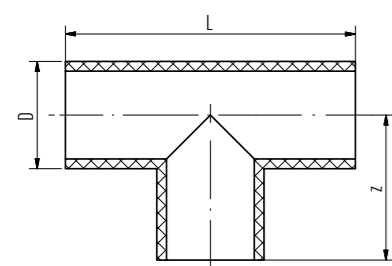
Injection moulded fitting



Fitting made of pipe segments



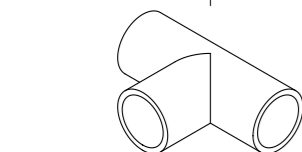
T-piece



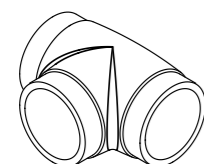
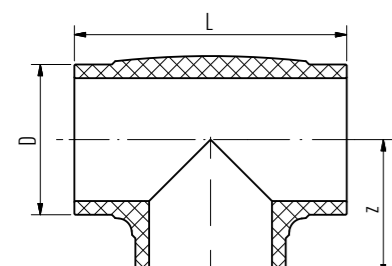
T-piece butt welding pipe segment

Material: fusiolen® PP-RCT / Glass fibre
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | D | L | z | kg | PU |
|---------------------|-------|---------|-------|---------|----|
| butt welding | | | | | |
| SDR 11 | | | | | |
| 1064160013 * | 160,0 | 290,0 | 145,0 | 2,943 | 1 |
| 1064200015 * | 200,0 | 410,0 | 205,0 | 6,099 | 1 |
| 1064250017 * | 250,0 | 486,0 | 243,0 | 10,710 | 1 |
| 2064315001 | 315,0 | 920,0 | 460,0 | 36,674 | 1 |
| 2064355002 | 355,0 | 960,0 | 480,0 | 40,000 | 1 |
| 2064400003 | 400,0 | 1.000,0 | 500,0 | 62,100 | 1 |
| 2064450004 | 450,0 | 1.050,0 | 525,0 | 82,792 | 1 |
| SDR 17,6 | | | | | |
| 2067160010 * | 160,0 | 290,0 | 145,0 | 2,348 | 1 |
| 2067200011 * | 200,0 | 410,0 | 205,0 | 4,500 | 1 |
| 2067250012 * | 250,0 | 486,0 | 243,0 | 8,868 | 1 |
| 2067315013 | 315,0 | 920,0 | 460,0 | 19,800 | 1 |
| 2067355014 | 355,0 | 960,0 | 480,0 | 27,500 | 1 |
| 2067400015 | 400,0 | 1.000,0 | 500,0 | 40,395 | 1 |
| 2067450016 | 450,0 | 1.050,0 | 525,0 | 45,400 | 1 |
| 2067500017 | 500,0 | 1.200,0 | 600,0 | 75,726 | 1 |
| 2067630018 | 630,0 | 1.330,0 | 665,0 | 122,500 | 1 |



Segment welded article



Injection moulded part

*mechanically stabilised through a fibre mix integrated in the middle layer of the fusiolen® PP-RCT.
**Injection moulded fitting (green)
Please note! Electrofusion sockets can not be processed directly with injection moulded fittings. When using electrofusion sockets either segment welded special fittings must be used or pipe pieces must be welded to the injection moulded fittings.

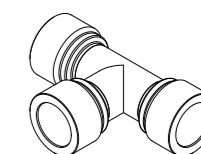
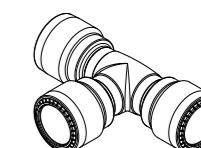
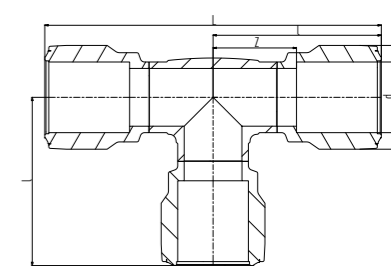
T-piece

aquatherm T-piece with push-fit adapter

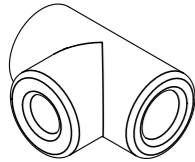
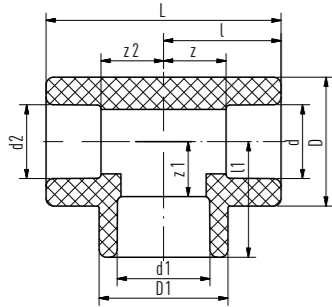
Material: fusiolen® PP-RCT / EPDM
Standards: DIN EN ISO 15874
Colour: green

| Article no. | d | l | D | L | z | kg | PU |
|-----------------|-----|-------|-------|---------|-------|---------|----|
| SDR 11 | | | | | | | |
| 2054090050 | 90 | 248 | 152,0 | 496,0 | 99,0 | 4,765 | 1 |
| 2054110051 | 110 | 325,5 | 175,0 | 651,0 | 118,0 | 8,006 | 1 |
| 2054125052 | 125 | 325,5 | 190,0 | 651,0 | 144,5 | 10,162 | 1 |
| 2054160053 | 160 | 381 | 235,0 | 762,0 | 189,0 | 14,340 | 1 |
| 2054200054 | 200 | 499 | 285,0 | 998,0 | 259,0 | 25,599 | 1 |
| 2054250055 | 250 | 558 | 375,0 | 1.116,0 | 315,0 | 55,710 | 1 |
| 2054315056 * | 315 | 645 | 450,0 | 1.290,0 | 370,0 | 92,450 | 1 |
| 2054355057 * | 355 | 685 | 492,0 | 1.370,0 | 402,0 | 129,072 | 1 |
| 2054400058 * | 400 | 725 | 540,0 | 1.450,0 | 425,0 | 165,100 | 1 |
| 2054450059 * | 450 | 775 | 600,0 | 1.550,0 | 457,0 | 215,300 | 1 |
| SDR 17,6 | | | | | | | |
| 2057160060 | 160 | 381 | 235,0 | 762,0 | 189,0 | 13,747 | 1 |
| 2057200061 | 200 | 499 | 285,0 | 998,0 | 259,0 | 24,000 | 1 |
| 2057250062 * | 250 | 558 | 355,0 | 1.116,0 | 315,0 | 43,368 | 1 |
| 2057315063 * | 315 | 635 | 425,0 | 1.270,0 | 360,0 | 68,700 | 1 |
| 2057355064 * | 355 | 675 | 470,0 | 1.350,0 | 392,0 | 87,500 | 1 |
| 2057400065 * | 400 | 725 | 510,0 | 1.450,0 | 425,0 | 111,795 | 1 |
| 2057450066 * | 450 | 760 | 565,0 | 1.520,0 | 442,0 | 128,800 | 1 |

*pipe segments
Do not use for aquatherm blue MF RP OT



T-piece



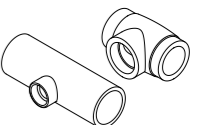
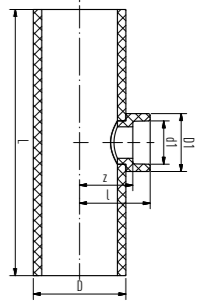
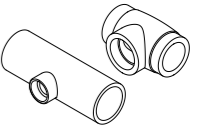
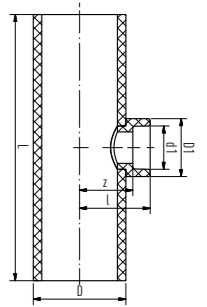
Red. T-piece socket welding

SDR 6 / 7,4 / 9 / 11 / 17,6 – injection moulded fittings

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | d1 | d2 | l | l1 | D | D1 | L | z | z1 | z2 | kg | PU |
|----------------|-----|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|----|
| socket welding | | | | | | | | | | | | | |
| 1060020033 | 20 | 25,0 | 20,0 | 31,0 | 30,5 | 34,0 | 34,0 | 62,0 | 16,5 | 14,5 | 16,5 | 0,040 | 10 |
| 1060025037 | 25 | 20,0 | 20,0 | 31,0 | 30,5 | 34,0 | 34,0 | 62,0 | 15,0 | 16,0 | 16,5 | 0,039 | 10 |
| 1060025038 | 25 | 20,0 | 25,0 | 31,0 | 30,5 | 34,0 | 34,0 | 62,0 | 15,0 | 16,0 | 15,0 | 0,036 | 10 |
| 1060032039 | 32 | 16,0 | 32,0 | 35,0 | 31,0 | 43,0 | 29,5 | 70,0 | 17,0 | 18,0 | 17,0 | 0,053 | 5 |
| 1060032040 | 32 | 20,0 | 20,0 | 36,8 | 37,0 | 43,0 | 43,0 | 73,5 | 18,8 | 22,5 | 22,3 | 0,076 | 5 |
| 1060032041 | 32 | 20,0 | 32,0 | 35,0 | 31,0 | 43,0 | 29,5 | 70,0 | 17,0 | 16,5 | 17,0 | 0,053 | 5 |
| 1060032042 | 32 | 25,0 | 25,0 | 35,0 | 34,5 | 43,0 | 43,0 | 70,0 | 17,0 | 18,5 | 19,0 | 0,069 | 5 |
| 1060032043 | 32 | 25,0 | 32,0 | 35,0 | 32,0 | 43,0 | 34,0 | 70,0 | 17,0 | 16,0 | 17,0 | 0,050 | 5 |
| 1060040044 | 40 | 20,0 | 40,0 | 41,5 | 36,0 | 52,0 | 34,0 | 83,0 | 21,0 | 21,5 | 21,0 | 0,091 | 5 |
| 1060040045 | 40 | 25,0 | 40,0 | 41,5 | 36,0 | 52,0 | 34,0 | 83,0 | 21,0 | 20,0 | 21,0 | 0,089 | 5 |
| 1060040046 | 40 | 32,0 | 40,0 | 42,0 | 40,5 | 52,0 | 52,0 | 84,0 | 21,5 | 22,5 | 21,5 | 0,092 | 5 |
| 1060050047 | 50 | 20,0 | 50,0 | 49,5 | 40,5 | 68,0 | 29,5 | 99,0 | 26,0 | 26,0 | 26,0 | 0,162 | 5 |
| 1060050048 | 50 | 25,0 | 50,0 | 49,5 | 44,5 | 68,0 | 34,0 | 99,0 | 26,0 | 28,5 | 26,0 | 0,158 | 5 |
| 1060050049 | 50 | 32,0 | 50,0 | 49,5 | 44,5 | 68,0 | 43,0 | 99,0 | 26,0 | 26,5 | 26,0 | 0,160 | 5 |
| 1060050050 | 50 | 40,0 | 50,0 | 49,5 | 49,5 | 68,0 | 68,0 | 99,0 | 26,0 | 29,0 | 26,0 | 0,161 | 5 |
| 1060063051 | 63 | 20,0 | 63,0 | 60,0 | 48,5 | 84,0 | 34,0 | 120,0 | 32,5 | 34,0 | 32,5 | 0,335 | 1 |
| 1060063052 | 63 | 25,0 | 63,0 | 60,0 | 48,5 | 84,0 | 34,0 | 120,0 | 32,5 | 32,5 | 32,5 | 0,331 | 1 |
| 1060063053 | 63 | 32,0 | 63,0 | 60,0 | 53,0 | 84,0 | 52,0 | 120,0 | 32,5 | 35,5 | 32,5 | 0,340 | 1 |
| 1060063054 | 63 | 40,0 | 63,0 | 60,0 | 53,0 | 84,0 | 52,0 | 120,0 | 32,5 | 33,0 | 32,5 | 0,332 | 1 |
| 1060063055 | 63 | 50,0 | 63,0 | 60,0 | 56,0 | 84,0 | 68,0 | 120,0 | 32,5 | 36,5 | 32,5 | 0,398 | 1 |
| 1060075056 | 75 | 20,0 | 75,0 | 68,5 | 54,5 | 100,0 | 34,0 | 137,0 | 38,5 | 40,0 | 38,5 | 0,501 | 1 |
| 1060075057 | 75 | 25,0 | 75,0 | 68,5 | 54,5 | 100,0 | 34,0 | 137,0 | 38,5 | 38,5 | 38,5 | 0,497 | 1 |
| 1060075058 | 75 | 32,0 | 75,0 | 68,5 | 59,0 | 100,0 | 52,0 | 137,0 | 38,5 | 41,0 | 38,5 | 0,505 | 1 |
| 1060075059 | 75 | 40,0 | 75,0 | 68,5 | 59,0 | 100,0 | 52,0 | 137,0 | 38,5 | 38,5 | 38,5 | 0,497 | 1 |
| 1060075060 | 75 | 50,0 | 75,0 | 68,5 | 66,0 | 100,0 | 84,0 | 137,0 | 38,5 | 42,5 | 38,5 | 0,550 | 1 |
| 1060075061 | 75 | 63,0 | 75,0 | 68,5 | 66,0 | 100,0 | 84,0 | 137,0 | 38,5 | 38,5 | 38,5 | 0,515 | 1 |
| 1060090062 | 90 | 32,0 | 90,0 | 79,0 | 64,0 | 120,0 | 43,0 | 158,0 | 46,0 | 46,0 | 46,0 | 0,880 | 1 |
| 1060090063 | 90 | 40,0 | 90,0 | 79,0 | 66,5 | 120,0 | 52,0 | 158,0 | 46,0 | 46,0 | 46,0 | 0,862 | 1 |
| 1060090064 | 90 | 50,0 | 90,0 | 79,0 | 69,5 | 120,0 | 68,0 | 158,0 | 46,0 | 46,0 | 46,0 | 0,905 | 1 |
| 1060090065 | 90 | 63,0 | 90,0 | 79,0 | 73,5 | 120,0 | 84,0 | 158,0 | 46,0 | 46,0 | 46,0 | 0,876 | 1 |
| 1060090066 | 90 | 75,0 | 90,0 | 79,0 | 76,0 | 120,0 | 100 | 158,0 | 46,0 | 46,0 | 46,0 | 0,991 | 1 |
| 1060110067 | 110 | 63,0 | 110,0 | 93,0 | 83,5 | 147,0 | 84,0 | 186,0 | 56,0 | 56,0 | 56,0 | 1,534 | 1 |
| 1060110068 | 110 | 75,0 | 110,0 | 93,0 | 86,0 | 147,0 | 100,0 | 186,0 | 56,0 | 56,0 | 56,0 | 1,517 | 1 |
| 1060110069 | 110 | 90,0 | 110,0 | 93,0 | 89,0 | 147,0 | 120,0 | 186,0 | 56,0 | 56,0 | 56,0 | 1,548 | 1 |
| 1060125070 | 125 | 75,0 | 125,0 | 116,5 | 106,5 | 167,0 | 100,0 | 233,0 | 76,5 | 76,5 | 76,5 | 2,427 | 1 |
| 1060125071 | 125 | 90,0 | 125,0 | 116,5 | 109,5 | 167,0 | 120,0 | 233,0 | 76,5 | 76,5 | 76,5 | 2,509 | 1 |
| 1060125072 | 125 | 110,0 | 125,0 | 116,5 | 113,5 | 167,0 | 147,0 | 233,0 | 76,5 | 76,5 | 76,5 | 2,563 | 1 |

T-piece



Red. T-piece, socket- & butt welding

branch: socket welding

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | D | d1 | l | D1 | L | z | kg | PU |
|---------------------------|-------|-------|-------|-------|-------|------|-------|----|
| Departure: socket welding | | | | | | | | |
| SDR 11 | | | | | | | | |
| 1064160074 | 160,0 | 75,0 | 122,0 | 100,0 | 460,0 | 92,0 | 3,140 | 1 |
| 1064160076 | 160,0 | 90,0 | 125,0 | 120,0 | 460,0 | 92,0 | 3,176 | 1 |
| 1064160078 * | 160,0 | 125,0 | 120,0 | 167,0 | 290,0 | 80,0 | 2,842 | 1 |

*Injection moulded fitting

Please note! Electrofusion sockets can not be processed directly with injection moulded fittings. When using electrofusion sockets either segment welded special fittings must be used or pipe pieces must be welded to the injection moulded fittings.

aquatherm blue red. T-piece, socket & butt welding

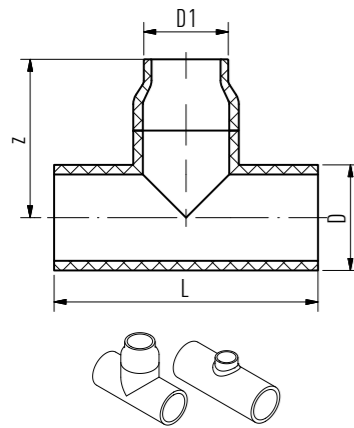
branch: socket welding, pipes with weld-in saddle

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: blue / green

| Article no. | D | d1 | l | D1 | L | z | kg | PU |
|---------------------------|-------|-------|-------|-------|---------|-------|--------|----|
| Departure: socket welding | | | | | | | | |
| SDR 11 | | | | | | | | |
| 2064200020 | 200,0 | 75,0 | 142,0 | 100,0 | 500,0 | 112,0 | 5,460 | 1 |
| 2064200021 | 200,0 | 90,0 | 145,0 | 120,0 | 500,0 | 112,0 | 5,580 | 1 |
| 2064200022 | 200,0 | 110,0 | 149,0 | 147,0 | 500,0 | 112,0 | 5,810 | 1 |
| 2064200023 | 200,0 | 125,0 | 155,0 | 167,0 | 500,0 | 115,0 | 6,100 | 1 |
| 2064250025 | 250,0 | 75,0 | 167,0 | 100,0 | 750,0 | 137,0 | 12,440 | 1 |
| 2064250026 | 250,0 | 90,0 | 170,0 | 120,0 | 750,0 | 137,0 | 12,420 | 1 |
| 2064250027 | 250,0 | 110,0 | 174,0 | 147,0 | 750,0 | 137,0 | 12,760 | 1 |
| 2064250028 | 250,0 | 125,0 | 180,0 | 167,0 | 750,0 | 140,0 | 13,030 | 1 |
| 2064315031 | 315,0 | 125,0 | 213,0 | 167,0 | 920,0 | 173,0 | 25,000 | 1 |
| 2064355035 | 355,0 | 125,0 | 233,0 | 167,0 | 960,0 | 193,0 | 32,500 | 1 |
| 2064400040 | 400,0 | 125,0 | 255,0 | 167,0 | 1.000,0 | 215,0 | 42,100 | 1 |
| 2064450046 | 450,0 | 125,0 | 280,0 | 167,0 | 1.050,0 | 240,0 | 55,700 | 1 |
| SDR 17,6 | | | | | | | | |
| 2067160060 | 160,0 | 75,0 | 122,0 | 100,0 | 460,0 | 92,0 | 2,227 | 1 |
| 2067160061 | 160,0 | 90,0 | 125,0 | 120,0 | 460,0 | 92,0 | 2,364 | 1 |
| 2067160062 * | 160,0 | 125,0 | 120,0 | 167,0 | 290,0 | 80,0 | 2,309 | 1 |
| 2067200063 | 200,0 | 75,0 | 142,0 | 100,0 | 500,0 | 112,0 | 3,620 | 1 |
| 2067200064 | 200,0 | 90,0 | 145,0 | 120,0 | 500,0 | 112,0 | 3,742 | 1 |
| 2067200065 | 200,0 | 110,0 | 149,0 | 147,0 | 500,0 | 112,0 | 3,976 | 1 |
| 2067200066 | 200,0 | 125,0 | 155,0 | 167,0 | 500,0 | 115,0 | 4,269 | 1 |
| 2067250068 | 250,0 | 75,0 | 167,0 | 100,0 | 750,0 | 137,0 | 8,149 | 1 |
| 2067250069 | 250,0 | 90,0 | 170,0 | 120,0 | 750,0 | 137,0 | 8,274 | 1 |
| 2067250070 | 250,0 | 110,0 | 174,0 | 147,0 | 750,0 | 137,0 | 8,504 | 1 |
| 2067250071 | 250,0 | 125,0 | 180,0 | 167,0 | 750,0 | 140,0 | 9,000 | 1 |
| 2067315074 | 315,0 | 125,0 | 213,0 | 167,0 | 920,0 | 173,0 | 17,570 | 1 |
| 2067355078 | 355,0 | 125,0 | 233,0 | 167,0 | 960,0 | 193,0 | 21,500 | 1 |
| 2067400083 | 400,0 | 125,0 | 255,0 | 167,0 | 1.000,0 | 215,0 | 27,690 | 1 |
| 2067450089 | 450,0 | 125,0 | 280,0 | 167,0 | 1.050,0 | 240,0 | 36,470 | 1 |
| 2067500096 | 500,0 | 125,0 | 305,0 | 167,0 | 1.200,0 | 265,0 | 51,250 | 1 |
| 2067630104 | 630,0 | 125,0 | 370,0 | 167,0 | 1.330,0 | 330,0 | 89,170 | 1 |

pipes with weld-in saddle / *injection moulded

T-piece



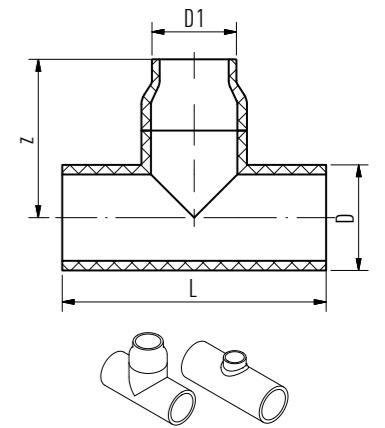
aquatherm blue SDR 11 Red. T-piece butt welding

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: blue / green

| Article no. | D | D1 | L | z | kg | PU |
|--------------|-------|-----|---------|-------|--------|----|
| butt welding | | | | | | |
| SDR 11 | | | | | | |
| 2064200024 | 200,0 | 160 | 500,0 | 300,0 | 7,650 | 1 |
| 2064250029 | 250,0 | 160 | 750,0 | 375,0 | 19,030 | 1 |
| 2064250030 | 250,0 | 200 | 750,0 | 375,0 | 21,100 | 1 |
| 2064315032 * | 315,0 | 160 | 920,0 | 237,5 | 25,000 | 1 |
| 2064315033 | 315,0 | 200 | 920,0 | 460,0 | 33,200 | 1 |
| 2064315034 | 315,0 | 250 | 920,0 | 460,0 | 31,500 | 1 |
| 2064355036 * | 355,0 | 160 | 960,0 | 257,5 | 32,500 | 1 |
| 2064355037 * | 355,0 | 200 | 960,0 | 267,5 | 30,200 | 1 |
| 2064355038 | 355,0 | 250 | 960,0 | 480,0 | 40,000 | 1 |
| 2064355039 | 355,0 | 315 | 960,0 | 480,0 | 40,000 | 1 |
| 2064400041 * | 400,0 | 160 | 1.000,0 | 354,0 | 44,100 | 1 |
| 2064400042 * | 400,0 | 200 | 1.000,0 | 318,0 | 44,100 | 1 |
| 2064400043 * | 400,0 | 250 | 1.000,0 | 280,0 | 46,000 | 1 |
| 2064400044 | 400,0 | 315 | 1.000,0 | 500,0 | 57,790 | 1 |
| 2064400045 | 400,0 | 355 | 1.000,0 | 500,0 | 52,715 | 1 |
| 2064450047 * | 450,0 | 160 | 1.050,0 | 379,0 | 57,900 | 1 |
| 2064450048 * | 450,0 | 200 | 1.050,0 | 343,0 | 57,900 | 1 |
| 2064450049 * | 450,0 | 250 | 1.050,0 | 305,0 | 57,900 | 1 |
| 2064450050 * | 450,0 | 315 | 1.050,0 | 315,0 | 58,400 | 1 |
| 2064450051 | 450,0 | 355 | 1.050,0 | 525,0 | 62,491 | 1 |
| 2064450052 | 450,0 | 400 | 1.050,0 | 525,0 | 62,683 | 1 |

Pipe with reducer / *Pipe with weld-in saddle

T-piece



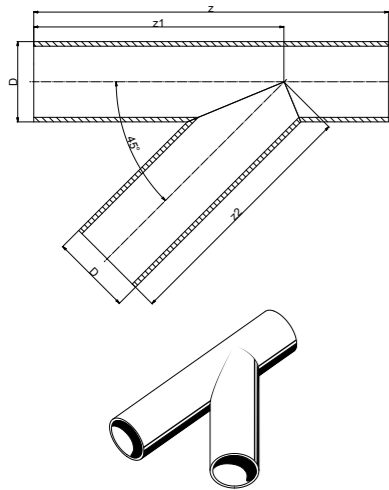
aquatherm blue SDR 17,6 red. T-piece, butt welding

Material: fusiolen® PP-RCT
Standards: DIN 16962, DIN EN ISO 15874
Colour: blue/green

| Article no. | D | D1 | L | z | kg | PU |
|--------------|-------|-----|---------|-------|--------|----|
| butt welding | | | | | | |
| SDR 17,6 | | | | | | |
| 2067200067 | 200,0 | 160 | 500,0 | 300,0 | 5,000 | 1 |
| 2067250072 | 250,0 | 160 | 750,0 | 375,0 | 11,600 | 1 |
| 2067250073 | 250,0 | 200 | 750,0 | 375,0 | 11,500 | 1 |
| 2067315075 * | 315,0 | 160 | 920,0 | 237,5 | 16,500 | 1 |
| 2067315076 | 315,0 | 200 | 920,0 | 460,0 | 23,600 | 1 |
| 2067315077 | 315,0 | 250 | 920,0 | 460,0 | 22,600 | 1 |
| 2067355079 * | 355,0 | 160 | 960,0 | 257,5 | 21,500 | 1 |
| 2067355080 * | 355,0 | 200 | 960,0 | 267,5 | 21,900 | 1 |
| 2067355081 | 355,0 | 250 | 960,0 | 480,0 | 28,300 | 1 |
| 2067355082 | 355,0 | 315 | 960,0 | 480,0 | 30,500 | 1 |
| 2067400084 * | 400,0 | 160 | 1.000,0 | 354,0 | 29,700 | 1 |
| 2067400085 * | 400,0 | 200 | 1.000,0 | 318,0 | 29,700 | 1 |
| 2067400086 * | 400,0 | 250 | 1.000,0 | 280,0 | 29,000 | 1 |
| 2067400087 | 400,0 | 315 | 1.000,0 | 500,0 | 30,667 | 1 |
| 2067400088 | 400,0 | 355 | 1.000,0 | 500,0 | 30,748 | 1 |
| 2067450090 * | 450,0 | 160 | 1.050,0 | 379,0 | 37,000 | 1 |
| 2067450091 * | 450,0 | 200 | 1.050,0 | 343,0 | 37,000 | 1 |
| 2067450092 * | 450,0 | 250 | 1.050,0 | 305,0 | 37,000 | 1 |
| 2067450093 * | 450,0 | 315 | 1.050,0 | 315,0 | 37,000 | 1 |
| 2067450094 | 450,0 | 355 | 1.050,0 | 525,0 | 50,500 | 1 |
| 2067450095 | 450,0 | 400 | 1.050,0 | 525,0 | 50,100 | 1 |
| 2067500097 * | 500,0 | 160 | 1.200,0 | 404,0 | 53,400 | 1 |
| 2067500098 * | 500,0 | 200 | 1.200,0 | 368,0 | 53,500 | 1 |
| 2067500099 * | 500,0 | 250 | 1.200,0 | 330,0 | 53,500 | 1 |
| 2067500100 | 500,0 | 315 | 1.200,0 | 340,0 | 54,000 | 1 |
| 2067500101 | 500,0 | 355 | 1.200,0 | 600,0 | 57,039 | 1 |
| 2067500102 | 500,0 | 400 | 1.200,0 | 600,0 | 57,245 | 1 |
| 2067500103 | 500,0 | 450 | 1.200,0 | 600,0 | 57,365 | 1 |
| 2067630105 * | 630,0 | 160 | 1.330,0 | 474,0 | 91,530 | 1 |
| 2067630106 * | 630,0 | 200 | 1.330,0 | 438,0 | 91,500 | 1 |
| 2067630107 * | 630,0 | 250 | 1.330,0 | 400,0 | 91,500 | 1 |
| 2067630108 * | 630,0 | 315 | 1.330,0 | 405,0 | 92,350 | 1 |
| 2067630109 | 630,0 | 400 | 1.330,0 | 665,0 | 97,299 | 1 |
| 2067630110 | 630,0 | 450 | 1.330,0 | 665,0 | 97,703 | 1 |
| 2067630111 | 630,0 | 500 | 1.330,0 | 665,0 | 98,032 | 1 |

Pipe with reducer / *Pipe with weld-in saddle

Y-pieces/Cross/Cross over fitting



aquatherm blue Y-pieces

MF = multi-layer, fibre-reinforced

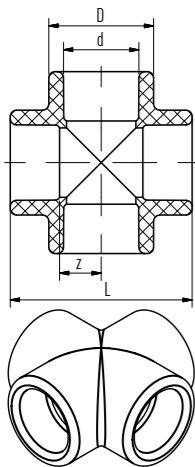
Material: fusiolen® PP-RCT / Glass fibre
Standards: DIN16962-2
Colour: blue

| Article no. | D | z | z1 | z2 | kg | PU |
|----------------|-------|---------|-------|-------|--------|----|
| socket welding | | | | | | |
| SDR 11 | | | | | | |
| 2084063001 | 63,0 | 560,0 | 380,0 | 380,0 | 0,843 | 1 |
| 2084075002 | 75,0 | 570,0 | 405,0 | 405,0 | 1,210 | 1 |
| 2084090003 | 90,0 | 577,0 | 412,0 | 412,0 | 1,750 | 1 |
| 2084110004 | 110,0 | 610,0 | 435,0 | 435,0 | 2,730 | 1 |
| 2084125005 | 125,0 | 665,0 | 475,0 | 475,0 | 3,840 | 1 |
| butt welding | | | | | | |
| 2084160007 | 160,0 | 782,0 | 551,0 | 551,0 | 7,300 | 1 |
| 2084200009 | 200,0 | 925,0 | 650,0 | 650,0 | 13,360 | 1 |
| 2084250011 | 250,0 | 1.105,0 | 780,0 | 780,0 | 24,780 | 1 |
| SDR 17,6 | | | | | | |
| socket welding | | | | | | |
| 2087125006 | 125,0 | 665,0 | 475,0 | 475,0 | 2,470 | 1 |
| butt welding | | | | | | |
| 2087160008 | 160,0 | 782,0 | 551,0 | 551,0 | 4,700 | 1 |
| 2087200010 | 200,0 | 925,0 | 650,0 | 650,0 | 8,640 | 1 |
| 2087250012 | 250,0 | 1.105,0 | 780,0 | 780,0 | 16,010 | 1 |

Special fittings on demand, Mechanically stabilised through a fibre mix integrated in the middle layer of the fusiolen® PP-RCT

Attention – please note!

These branches are for special applications in unpressurised areas, e.g. in vacuum dewatering within shipbuilding.



Cross

SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

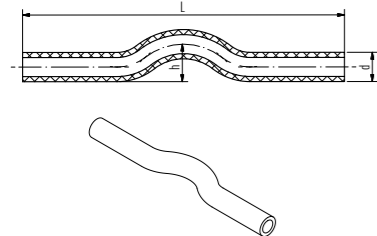
| Article no. | d | D | L | z | kg | PU |
|----------------|----|------|------|------|-------|----|
| socket welding | | | | | | |
| 1040020090 | 20 | 29,5 | 51,5 | 11,3 | 0,025 | 10 |
| 1040025091 | 25 | 34,0 | 59,0 | 13,5 | 0,035 | 10 |
| 1040032092 | 32 | 43,0 | 70,0 | 17,0 | 0,062 | 5 |
| 1040040093 | 40 | 52,0 | 83,0 | 21,0 | 0,099 | 5 |

Cross over fitting

SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | L | h | kg | PU |
|----------------|----|-------|------|-------|----|
| socket welding | | | | | |
| 1090020002 | 20 | 352,0 | 32,0 | 0,060 | 10 |
| 1090025003 | 25 | 352,0 | 37,5 | 0,091 | 10 |
| 1090032004 | 32 | 352,0 | 48,0 | 0,154 | 5 |



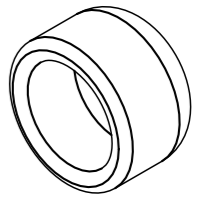
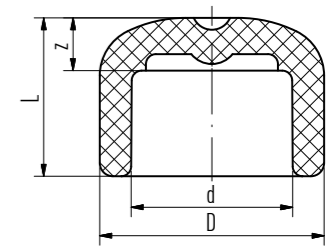
End cap

End cap

SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

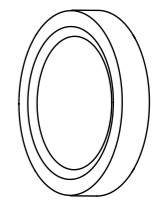
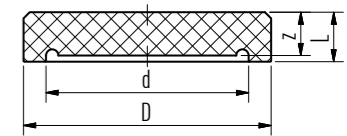
| Article no. | d | D | L | z | kg | PU |
|----------------|-----|-------|------|------|-------|----|
| socket welding | | | | | | |
| 1020020002 | 20 | 29,5 | 24,0 | 9,5 | 0,009 | 10 |
| 1020025003 | 25 | 34,0 | 24,0 | 8,0 | 0,011 | 10 |
| 1020032004 | 32 | 43,0 | 29,0 | 11,0 | 0,023 | 5 |
| 1020040005 | 40 | 52,0 | 38,0 | 17,5 | 0,042 | 5 |
| 1020050006 | 50 | 68,0 | 44,5 | 21,0 | 0,082 | 5 |
| 1020063007 | 63 | 84,0 | 52,0 | 24,5 | 0,146 | 1 |
| 1020075008 | 75 | 100,0 | 58,5 | 28,5 | 0,243 | 1 |
| 1020090009 | 90 | 120,0 | 67,5 | 34,5 | 0,365 | 1 |
| 1020110010 | 110 | 147,0 | 65,0 | 28,0 | 0,635 | 1 |
| 1020125011 | 125 | 167,0 | 82,0 | 42,0 | 0,872 | 1 |



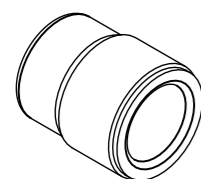
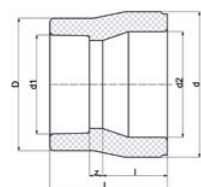
End cap butt-welding

Material: fusiolen® PP-RP
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | D | d | L | z | kg | PU |
|--------------|-------|-------|------|------|--------|----|
| butt welding | | | | | | |
| SDR 11 | | | | | | |
| 1024160013 | 160,0 | 130,8 | 70,0 | 14,6 | 0,631 | 1 |
| 1024200015 | 200,0 | 163,6 | 80,0 | 18,2 | 1,070 | 1 |
| 1024250017 | 250,0 | 204,6 | 90,0 | 22,7 | 1,989 | 1 |
| 1024315018 | 315,0 | 257,8 | 70,0 | 52,5 | 4,200 | 1 |
| 1024355019 | 355,0 | 290,6 | 80,0 | 67,5 | 6,410 | 1 |
| 1024400020 | 400,0 | 327,4 | 70,0 | 60,0 | 7,190 | 1 |
| 1024450021 | 450,0 | 368,2 | 80,0 | 70,0 | 10,500 | 1 |
| SDR 17,6 | | | | | | |
| 2027160001 | 160,0 | 141,8 | 70,0 | 9,1 | 0,679 | 1 |
| 2027200002 | 200,0 | 177,2 | 80,0 | 11,4 | 0,925 | 1 |
| 2027250003 | 250,0 | 221,6 | 90,0 | 14,2 | 1,305 | 1 |
| 2027315004 | 315,0 | 279,2 | 70,0 | 60,0 | 4,500 | 1 |
| 2027355005 | 355,0 | 314,8 | 70,0 | 60,0 | 5,540 | 1 |
| 2027400006 | 400,0 | 354,6 | 75,0 | 65,0 | 6,000 | 1 |
| 2027450007 | 450,0 | 399,0 | 70,0 | 56,0 | 8,520 | 1 |
| 2027500008 | 500,0 | 443,2 | 75,0 | 62,0 | 12,500 | 1 |
| 2027630009 | 630,0 | 558,6 | 90,0 | 78,0 | 23,500 | 1 |



Reducing piece



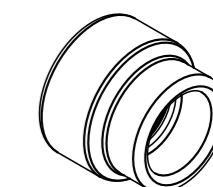
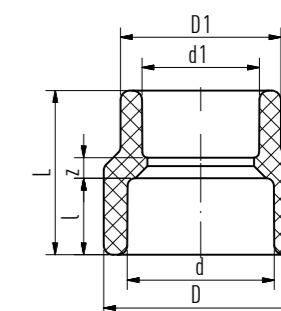
Reducing socket, socket welding

SDR 6 / 7,4 / 9 / 11 / 17,6

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | d1 | d2 | l | D | L | z | kg | PU |
|----------------|-----|-------|------|------|-------|-------|------|-------|----|
| socket welding | | | | | | | | | |
| 1040025022 | 25 | 20,0 | 16,5 | 16,0 | 29,5 | 38,5 | 8,0 | 0,012 | 10 |
| 1040032023 | 32 | 20,0 | 21,5 | 18,0 | 29,5 | 37,5 | 5,0 | 0,015 | 5 |
| 1040032024 | 32 | 25,0 | 21,0 | 18,0 | 34,0 | 38,0 | 4,0 | 0,016 | 5 |
| 1040040025 | 40 | 20,0 | 26,5 | 20,5 | 29,5 | 45,0 | 10,0 | 0,025 | 5 |
| 1040040026 | 40 | 25,0 | 26,5 | 20,5 | 34,0 | 50,0 | 13,5 | 0,028 | 5 |
| 1040040027 | 40 | 32,0 | 26,5 | 20,5 | 43,0 | 50,0 | 11,5 | 0,032 | 5 |
| 1040050028 | 50 | 20,0 | 33,5 | 23,5 | 29,5 | 55,0 | 17,0 | 0,045 | 5 |
| 1040050029 | 50 | 25,0 | 33,5 | 23,5 | 34,0 | 55,0 | 15,5 | 0,044 | 5 |
| 1040050030 | 50 | 32,0 | 33,5 | 23,5 | 43,0 | 54,0 | 12,5 | 0,048 | 5 |
| 1040050031 | 50 | 40,0 | 33,5 | 23,5 | 52,0 | 53,0 | 9,0 | 0,053 | 5 |
| 1040063032 | 63 | 20,0 | 42,0 | 27,5 | 29,5 | 65,0 | 23,0 | 0,073 | 1 |
| 1040063033 | 63 | 25,0 | 42,0 | 27,5 | 34,0 | 65,0 | 21,5 | 0,071 | 1 |
| 1040063034 | 63 | 32,0 | 42,0 | 27,5 | 43,0 | 62,0 | 16,5 | 0,080 | 1 |
| 1040063035 | 63 | 40,0 | 42,0 | 27,5 | 52,0 | 64,5 | 16,5 | 0,089 | 1 |
| 1040063036 | 63 | 50,0 | 42,0 | 27,5 | 68,0 | 63,5 | 12,5 | 0,107 | 1 |
| 1040075037 | 75 | 40,0 | 50,0 | 30,0 | 52,0 | 69,5 | 19,0 | 0,131 | 1 |
| 1040075038 | 75 | 50,0 | 50,0 | 30,0 | 68,0 | 63,0 | 9,5 | 0,141 | 1 |
| 1040075039 | 75 | 63,0 | 50,0 | 30,0 | 84,0 | 71,0 | 13,5 | 0,170 | 1 |
| 1040075040 | 75 | 20,0 | 50,0 | 30,0 | 34,5 | 65,5 | 21,0 | 0,113 | 1 |
| 1040075041 | 75 | 25,0 | 50,0 | 30,0 | 34,5 | 65,5 | 19,5 | 0,111 | 1 |
| 1040075042 | 75 | 32,0 | 50,0 | 30,0 | 52,0 | 69,5 | 21,5 | 0,140 | 1 |
| 1040090043 | 90 | 50,0 | 60,0 | 33,0 | 68,0 | 75,0 | 18,5 | 0,193 | 1 |
| 1040090044 | 90 | 63,0 | 60,0 | 33,0 | 84,0 | 78,0 | 17,5 | 0,224 | 1 |
| 1040090045 | 90 | 75,0 | 60,0 | 33,0 | 100,0 | 81,5 | 18,5 | 0,273 | 1 |
| 1040110046 | 110 | 63,0 | 73,5 | 37,0 | 84,0 | 86,0 | 21,5 | 0,356 | 1 |
| 1040110047 | 110 | 75,0 | 73,5 | 37,0 | 100,0 | 89,0 | 22,0 | 0,383 | 1 |
| 1040110048 | 110 | 90,0 | 73,5 | 37,0 | 120,0 | 99,0 | 29,0 | 0,500 | 1 |
| 1040125049 | 125 | 75,0 | 84,0 | 40,0 | 100,0 | 101,0 | 31,0 | 0,518 | 1 |
| 1040125050 | 125 | 90,0 | 84,0 | 40,0 | 120,0 | 99,0 | 26,0 | 0,588 | 1 |
| 1040125051 | 125 | 110,0 | 84,0 | 40,0 | 147,0 | 112,0 | 35,0 | 0,832 | 1 |

Reducing piece



Reducing socket female/female

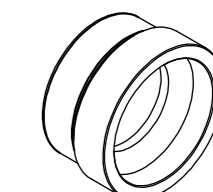
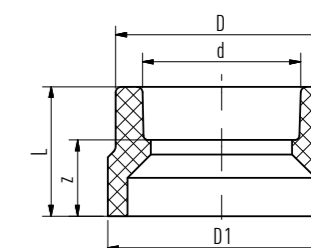
SDR 6 / 7,4 / 9 / 11 / 17,6

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

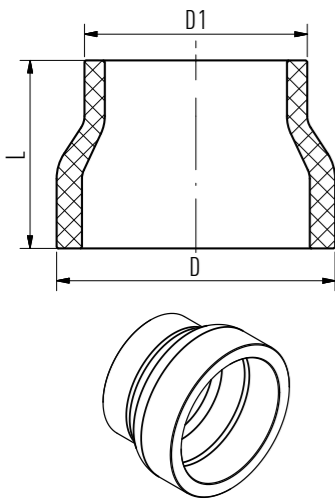
| Article no. | d | d1 | l | D | D1 | L | z | kg | PU |
|----------------|-----|-------|------|-------|-------|------|------|-------|----|
| socket welding | | | | | | | | | |
| 1040040073 | 40 | 32,0 | 20,5 | 52,0 | 43,0 | 44,0 | 5,5 | 0,035 | 1 |
| 1040050074 | 50 | 32,0 | 23,5 | 68,0 | 43,0 | 53,0 | 11,5 | 0,066 | 1 |
| 1040050075 | 50 | 40,0 | 23,5 | 68,0 | 52,0 | 50,5 | 6,3 | 0,069 | 1 |
| 1040063076 | 63 | 40,0 | 27,5 | 84,0 | 52,0 | 61,0 | 13,0 | 0,115 | 1 |
| 1040063077 | 63 | 50,0 | 27,5 | 84,0 | 68,0 | 56,0 | 5,0 | 0,120 | 1 |
| 1040075078 | 75 | 50,0 | 30,0 | 100,0 | 68,0 | 68,0 | 14,5 | 0,192 | 1 |
| 1040075079 | 75 | 63,0 | 30,0 | 100,0 | 84,0 | 62,5 | 5,0 | 0,185 | 1 |
| 1040090080 | 90 | 63,0 | 33,0 | 120,0 | 84,0 | 74,0 | 13,5 | 0,276 | 1 |
| 1040090081 | 90 | 75,0 | 33,0 | 120,0 | 100,0 | 69,0 | 6,0 | 0,297 | 1 |
| 1040110082 | 110 | 75,0 | 37,0 | 147,0 | 100,0 | 85,0 | 18,0 | 0,516 | 1 |
| 1040110083 | 110 | 90,0 | 37,0 | 147,0 | 120,0 | 77,3 | 7,3 | 0,520 | 1 |
| 1040125084 | 125 | 90,0 | 40,0 | 167,0 | 120,0 | 91,0 | 18,0 | 0,749 | 1 |
| 1040125085 | 125 | 110,0 | 40,0 | 167,0 | 147,0 | 87,0 | 10,0 | 0,726 | 1 |

Reducing socket, socket & butt welding

| Article no. | D1 | d | D | L | z | kg | PU |
|--|-----|-----|-------|-------|------|-------|----|
| one side socket welding, other side butt welding | | | | | | | |
| SDR 11 | | | | | | | |
| 1044160053 | 160 | 110 | 147,0 | 90,0 | 53,0 | 0,673 | 1 |
| 1044160055 | 160 | 125 | 167,0 | 90,0 | 50,0 | 0,709 | 1 |
| 1044200057 | 200 | 125 | 167,0 | 135,0 | 95,0 | 1,341 | 1 |
| SDR 17,6 | | | | | | | |
| 2047160001 | 160 | 110 | 147,0 | 90,0 | 53,0 | 0,589 | 1 |
| 2047160002 | 160 | 125 | 167,0 | 90,0 | 50,0 | 0,614 | 1 |
| 2047200003 | 200 | 125 | 167,0 | 135,0 | 95,0 | 1,055 | 1 |



Reducing piece/Transition piece



Reducing socket, butt welding

Material: fusiolen® PP-RCT
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | D | D1 | L | kg | PU |
|---------------------------|-------|-----|-------|--------|----|
| double sided butt welding | | | | | |
| SDR 11 | | | | | |
| 1044200059 | 200,0 | 160 | 135,0 | 1,140 | 1 |
| 1044250061 | 250,0 | 160 | 172,5 | 2,152 | 1 |
| 1044250063 | 250,0 | 200 | 172,5 | 2,681 | 1 |
| 1044315065 | 315,0 | 250 | 225,0 | 4,690 | 1 |
| 1044355066 | 355,0 | 250 | 170,0 | 4,548 | 1 |
| 1044355067 | 355,0 | 315 | 160,0 | 4,401 | 1 |
| 1044400069 | 400,0 | 315 | 122,0 | 4,550 | 1 |
| 1044400070 | 400,0 | 355 | 110,0 | 4,620 | 1 |
| 1044450071 | 450,0 | 315 | 142,0 | 6,500 | 1 |
| 1044450072 | 450,0 | 355 | 132,0 | 6,500 | 1 |
| 1044450073 | 450,0 | 400 | 122,0 | 6,000 | 1 |
| SDR 17,6 | | | | | |
| 2047200004 | 200,0 | 160 | 135,0 | 1,012 | 1 |
| 2047250005 | 250,0 | 160 | 172,5 | 1,500 | 1 |
| 2047250006 | 250,0 | 200 | 172,5 | 1,602 | 1 |
| 2047315008 | 315,0 | 200 | 225,0 | 2,886 | 1 |
| 2047315009 | 315,0 | 250 | 225,0 | 3,420 | 1 |
| 2047355010 | 355,0 | 250 | 170,0 | 4,480 | 1 |
| 2047355011 | 355,0 | 315 | 160,0 | 3,108 | 1 |
| 2047400012 | 400,0 | 250 | 152,0 | 3,240 | 1 |
| 2047400013 | 400,0 | 315 | 122,0 | 3,000 | 1 |
| 2047400014 | 400,0 | 355 | 112,0 | 2,500 | 1 |
| 2047450015 | 450,0 | 315 | 142,0 | 4,000 | 1 |
| 2047450016 | 450,0 | 355 | 132,0 | 4,000 | 1 |
| 2047450017 | 450,0 | 400 | 122,0 | 4,000 | 1 |
| 2047500018 | 500,0 | 315 | 172,0 | 6,500 | 1 |
| 2047500019 | 500,0 | 355 | 152,0 | 7,000 | 1 |
| 2047500020 | 500,0 | 400 | 142,0 | 6,500 | 1 |
| 2047500021 | 500,0 | 450 | 122,0 | 5,500 | 1 |
| 2047630022 | 630,0 | 400 | 192,0 | 14,500 | 1 |
| 2047630023 | 630,0 | 450 | 172,0 | 12,500 | 1 |
| 2047630024 | 630,0 | 500 | 152,0 | 11,000 | 1 |

Transition piece with female thread

with spanner flat – SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass or stainless steel
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | D | L | z | z1 | R | SW | kg | PU |
|-------------------------|----|------|-------|------|------|------|--------|----|-------|----|
| one side socket welding | | | | | | | | | | |
| 1070020008 | 20 | 34,5 | 38,5 | 50,5 | 36,0 | 10,0 | 1/2" | 24 | 0,078 | 10 |
| 1070020009 | 20 | 29,0 | 43,5 | 50,0 | 35,5 | 10,0 | 3/4" | 31 | 0,112 | 10 |
| 1070025010 | 25 | 36,0 | 38,5 | 52,0 | 36,0 | 10,0 | 1/2" | 24 | 0,081 | 10 |
| 1070025011 | 25 | 29,0 | 43,5 | 50,0 | 34,0 | 10,0 | 3/4" | 31 | 0,109 | 10 |
| 1070032012 | 32 | 32,0 | 43,5 | 53,0 | 35,0 | 10,0 | 3/4" | 31 | 0,114 | 5 |
| 1070032013 | 32 | 37,5 | 60,0 | 59,5 | 41,5 | 14,0 | 1" | 39 | 0,239 | 5 |
| 1070040014 | 40 | 40,0 | 60,0 | 62,0 | 41,5 | 14,0 | 1" | 39 | 0,227 | 5 |
| 1070040015 | 40 | 40,0 | 74,0 | 63,0 | 42,5 | 15,0 | 1 1/4" | 50 | 0,385 | 5 |
| 1070050016 | 50 | 43,0 | 74,0 | 66,0 | 42,5 | 15,0 | 1 1/4" | 50 | 0,404 | 5 |
| 1070050017 | 50 | 45,0 | 85,5 | 67,0 | 43,5 | 15,0 | 1 1/2" | 55 | 0,418 | 5 |
| 1070063018 | 63 | 51,5 | 84,0 | 73,5 | 46,0 | 15,0 | 1 1/2" | 55 | 0,442 | 1 |
| 1070063019 | 63 | 51,0 | 101,0 | 77,0 | 49,5 | 19,0 | 2" | 67 | 0,600 | 1 |
| 1070075020 | 75 | 51,0 | 100,0 | 77,0 | 47,0 | 19,0 | 2" | 67 | 0,608 | 1 |
| 1070032066 * | 32 | 37,5 | 60,0 | 59,5 | 41,5 | 14,0 | 1" | 39 | 0,232 | 5 |
| 1070040067 * | 40 | 40,0 | 60,0 | 62,0 | 41,5 | 14,0 | 1" | 39 | 0,219 | 5 |
| 1070040068 * | 40 | 40,0 | 74,0 | 63,0 | 42,5 | 15,0 | 1 1/4" | 50 | 0,331 | 5 |
| 1070050069 * | 50 | 43,0 | 74,0 | 66,0 | 42,5 | 15,0 | 1 1/4" | 50 | 0,351 | 5 |
| 1070050070 * | 50 | 45,0 | 84,0 | 67,0 | 43,5 | 15,0 | 1 1/2" | 55 | 0,445 | 5 |
| 1070063071 * | 63 | 51,5 | 84,0 | 73,5 | 46,0 | 15,0 | 1 1/2" | 55 | 0,425 | 1 |
| 1070063072 * | 63 | 51,0 | 101,0 | 77,0 | 49,5 | 19,0 | 2" | 67 | 0,196 | 1 |
| 1070075073 * | 75 | 51,0 | 100,0 | 77,0 | 47,0 | 19,0 | 2" | 67 | 0,676 | 1 |

*stainless steel

Transition piece with male thread

round, self sealing – SDR 6 / 7,4 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | d1 | d2 | D | L | z | z2 | R | kg | PU |
|-------------------------|----|------|------|------|------|------|------|------|-------|----|
| one side socket welding | | | | | | | | | | |
| 1070020051 | 20 | 21,0 | 14,0 | 38,5 | 52,5 | 38,0 | 12,0 | 1/2" | 0,090 | 10 |
| 1070025052 | 25 | 21,0 | 14,0 | 38,5 | 54,0 | 38,0 | 12,0 | 1/2" | 0,078 | 10 |
| 1070025053 | 25 | 26,5 | 18,0 | 38,5 | 53,5 | 37,5 | 13,0 | 3/4" | 0,085 | 10 |

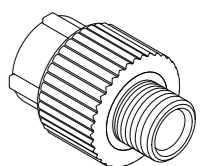
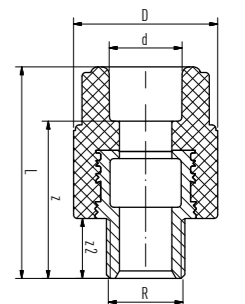
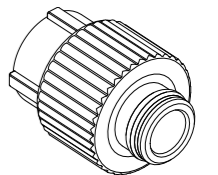
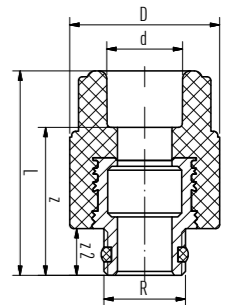
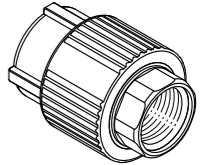
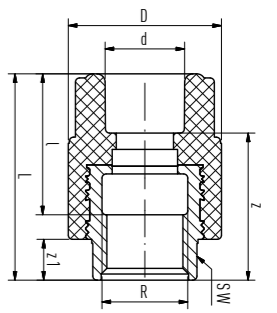
Transition piece with male thread

round, brass or stainless steel – SDR 6 / 7,4 / 9 / 11

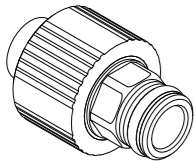
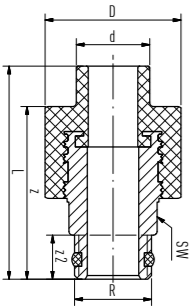
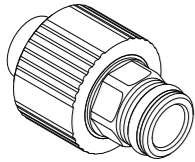
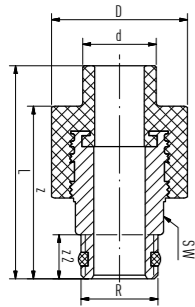
Material: fusiolen® PP-R / brass or stainless steel
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | D | L | z | z2 | R | kg | PU |
|-------------------------|----|------|------|------|------|------|-------|----|
| one side socket welding | | | | | | | | |
| 1070020022 | 20 | 38,5 | 56,5 | 42,0 | 16,0 | 1/2" | 0,084 | 10 |
| 1070020023 | 20 | 38,5 | 57,5 | 43,0 | 17,0 | 3/4" | 0,109 | 10 |
| 1070025024 | 25 | 38,5 | 58,0 | 42,0 | 16,0 | 1/2" | 0,085 | 10 |
| 1070025025 | 25 | 38,5 | 57,5 | 41,5 | 17,0 | 3/4" | 0,090 | 10 |
| 1070032026 | 32 | 38,5 | 59,5 | 41,5 | 17,0 | 3/4" | 0,095 | 5 |
| 1070020074 * | 20 | 38,5 | 56,5 | 42,0 | 16,0 | 1/2" | 0,096 | 10 |
| 1070020075 * | 20 | 38,5 | 57,5 | 43,0 | 17,0 | 3/4" | 0,108 | 10 |
| 1070025076 * | 25 | 38,5 | 58,0 | 42,0 | 16,0 | 1/2" | 0,098 | 10 |
| 1070025077 * | 25 | 38,5 | 57,5 | 41,5 | 17,0 | 3/4" | 0,108 | 10 |
| 1070032078 * | 32 | 38,5 | 59,5 | 41,5 | 17,0 | 3/4" | 0,115 | 5 |

*stainless steel



Transition piece



Transition piece with male thread

self sealing, with hex shaped threaded transition – SDR 6 / 7,4 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | D | L | z | z2 | R | SW | kg | PU |
|-------------------------|----|------|------|------|------|------|----|-------|----|
| one side socket welding | | | | | | | | | |
| 1070020056 | 20 | 38,5 | 63,5 | 49,0 | 13,0 | 1/2" | 22 | 0,111 | 10 |

Transition piece with male thread

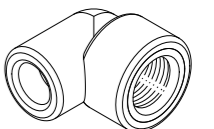
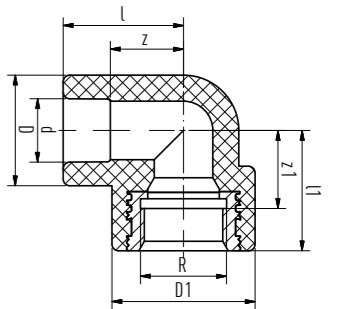
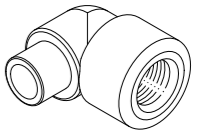
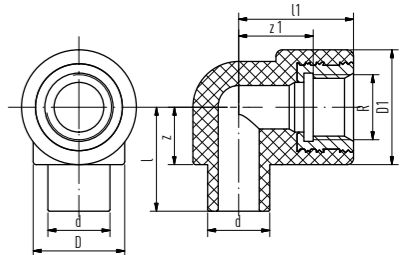
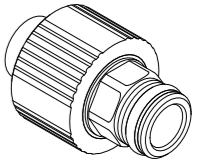
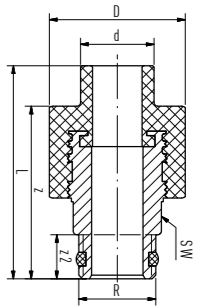
with spanner flat, brass or stainless steel – SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass or stainless steel
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | D | L | z | z2 | R | SW | kg | PU |
|-------------------------|-----|-------|-------|-------|------|--------|-----|-------|----|
| one side socket welding | | | | | | | | | |
| 1070020027 | 20 | 38,5 | 66,5 | 52,0 | 16,0 | 1/2" | 22 | 0,104 | 10 |
| 1070020028 | 20 | 38,5 | 67,5 | 53,0 | 17,0 | 3/4" | 24 | 0,129 | 10 |
| 1070025029 | 25 | 38,5 | 68,0 | 52,0 | 16,0 | 1/2" | 21 | 0,107 | 10 |
| 1070025030 | 25 | 38,5 | 67,5 | 51,5 | 17,0 | 3/4" | 24 | 0,103 | 10 |
| 1070032031 | 32 | 53,0 | 78,5 | 60,5 | 20,0 | 1" | 32 | 0,216 | 5 |
| 1070032032 | 32 | 68,0 | 81,0 | 63,0 | 21,0 | 1 1/4" | 42 | 0,318 | 5 |
| 1070040033 | 40 | 52,0 | 81,0 | 60,5 | 20,0 | 1" | 32 | 0,222 | 5 |
| 1070040034 | 40 | 68,0 | 84,5 | 64,0 | 21,0 | 1 1/4" | 42 | 0,324 | 5 |
| 1070050035 | 50 | 68,0 | 85,5 | 62,0 | 21,0 | 1 1/4" | 42 | 0,351 | 5 |
| 1070050036 | 50 | 74,0 | 88,5 | 65,0 | 22,0 | 1 1/2" | 46 | 0,425 | 5 |
| 1070063037 | 63 | 72,5 | 94,5 | 67,0 | 22,0 | 1 1/2" | 46 | 0,467 | 1 |
| 1070063038 | 63 | 84,0 | 102,5 | 75,0 | 23,5 | 2" | 50 | 0,685 | 1 |
| 1070075039 | 75 | 84,0 | 102,0 | 72,0 | 23,5 | 2" | 50 | 0,733 | 1 |
| 1070075040 | 75 | 100,0 | 105,0 | 75,0 | 26,7 | 2 1/2" | 65 | 0,970 | 1 |
| 1070090041 | 90 | 120,0 | 121,0 | 88,0 | 30,0 | 3" | 85 | 1,326 | 1 |
| 1070110042 | 110 | 147,0 | 148,0 | 111,0 | 39,0 | 4" | 105 | 2,730 | 1 |
| 1070032079 * | 32 | 53,0 | 78,5 | 60,5 | 20,0 | 1" | 32 | 0,204 | 5 |
| 1070032080 * | 32 | 68,0 | 81,0 | 63,0 | 21,0 | 1 1/4" | 41 | 0,360 | 5 |
| 1070040081 * | 40 | 52,0 | 81,0 | 60,5 | 20,0 | 1" | 32 | 0,251 | 5 |
| 1070040082 * | 40 | 68,0 | 84,5 | 64,0 | 21,0 | 1 1/4" | 41 | 0,362 | 5 |
| 1070050083 * | 50 | 68,0 | 85,5 | 62,0 | 21,0 | 1 1/4" | 41 | 0,389 | 5 |
| 1070050084 * | 50 | 74,0 | 88,5 | 65,0 | 22,0 | 1 1/2" | 46 | 0,480 | 5 |
| 1070063085 * | 63 | 72,5 | 94,5 | 67,0 | 22,0 | 1 1/2" | 46 | 0,523 | 1 |
| 1070063086 * | 63 | 84,0 | 102,5 | 75,0 | 23,5 | 2" | 50 | 0,708 | 1 |
| 1070075087 * | 75 | 84,0 | 102,0 | 72,0 | 23,5 | 2" | 50 | 0,699 | 1 |

*stainless steel

Transition piece



Transition piece with male thread

self-sealing, with hex shaped threaded transition female/male
SDR 6 / 7,4 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | D | L | z | z2 | R | SW | kg | PU |
|-------------------------|----|------|------|------|------|------|----|-------|----|
| one side socket welding | | | | | | | | | |
| 1070020054 | 20 | 38,5 | 59,0 | 48,0 | 13,0 | 1/2" | 22 | 0,107 | 10 |

Transition elbow with female thread

SDR 6 / 7,4 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | l1 | D | D1 | z | z1 | R | kg | PU |
|-------------------------|----|------|------|------|------|------|------|------|-------|----|
| one side socket welding | | | | | | | | | | |
| 1070020097 | 20 | 33,5 | 37,0 | 29,5 | 37,0 | 18,5 | 24,0 | 1/2" | 0,076 | 10 |

Transition elbow with female thread

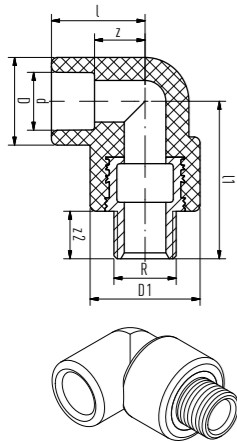
brass or stainless steel – SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass or stainless steel
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | l1 | D | D1 | z | z1 | R | kg | PU |
|-------------------------|----|------|------|------|------|------|------|------|-------|----|
| one side socket welding | | | | | | | | | | |
| 1070020091 | 20 | 37,0 | 37,0 | 34,0 | 44,0 | 22,5 | 24,0 | 3/4" | 0,102 | 10 |
| 1070020092 | 20 | 31,0 | 31,5 | 29,5 | 37,0 | 16,5 | 18,5 | 1/2" | 0,076 | 10 |
| 1070025093 | 25 | 37,0 | 37,0 | 34,0 | 44,0 | 21,0 | 24,0 | 3/4" | 0,100 | 10 |
| 1070025094 | 25 | 33,5 | 31,5 | 34,0 | 37,0 | 17,5 | 18,5 | 1/2" | 0,075 | 10 |
| 1070032095 | 32 | 27,5 | 51,0 | 43,0 | 44,0 | 9,5 | 38,0 | 3/4" | 0,104 | 5 |
| 1070032096 | 32 | 34,0 | 66,5 | 43,0 | 60,5 | 16,0 | 44,5 | 1" | 0,249 | 5 |
| 1070020110 * | 20 | 37,0 | 37,0 | 29,5 | 37,0 | 22,5 | 24,0 | 3/4" | 0,095 | 10 |
| 1070020111 * | 20 | 31,0 | 31,5 | 29,5 | 37,0 | 16,5 | 18,5 | 1/2" | 0,081 | 10 |
| 1070025112 * | 25 | 37,0 | 37,0 | 34,0 | 44,0 | 21,0 | 24,0 | 3/4" | 0,101 | 10 |
| 1070025113 * | 25 | 33,5 | 31,5 | 34,0 | 37,0 | 17,5 | 18,5 | 1/2" | 0,082 | 10 |
| 1070032114 * | 32 | 35,0 | 37,0 | 43,0 | 37,0 | 17,0 | 24,0 | 1/2" | 0,112 | 5 |
| 1070032115 * | 32 | 27,5 | 51,0 | 43,0 | 44,0 | 9,5 | 38,0 | 3/4" | 0,097 | 5 |
| 1070032116 * | 32 | 34,0 | 66,5 | 43,0 | 60,5 | 16,0 | 44,5 | 1" | 0,240 | 5 |

*stainless steel

Transition piece



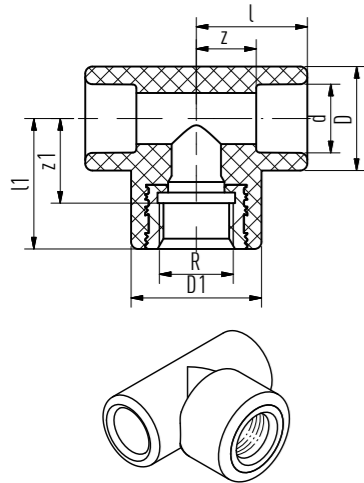
Transition elbow with male thread

brass or stainless steel – SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass or stainless steel
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | l1 | D | D1 | z | z2 | R | kg | PU |
|-------------------------|----|------|------|------|------|------|------|------|-------|----|
| one side socket welding | | | | | | | | | | |
| 1070020099 | 20 | 31,5 | 53,0 | 29,5 | 37,0 | 17,0 | 16,0 | 1/2" | 0,108 | 10 |
| 1070020100 | 20 | 31,5 | 54,0 | 34,0 | 38,0 | 17,0 | 17,0 | 3/4" | 0,128 | 10 |
| 1070025101 | 25 | 31,5 | 54,0 | 34,0 | 38,0 | 15,5 | 17,0 | 3/4" | 0,104 | 10 |
| 1070032102 | 32 | 27,5 | 68,0 | 43,0 | 38,0 | 9,5 | 17,0 | 3/4" | 0,112 | 5 |
| 1070032103 | 32 | 31,0 | 85,5 | 43,0 | 52,0 | 13,0 | 20,0 | 1" | 0,231 | 5 |
| 1070020117 * | 20 | 31,5 | 53,0 | 29,5 | 37,0 | 17,0 | 16,0 | 1/2" | 0,035 | 10 |
| 1070020118 * | 20 | 31,5 | 54,0 | 34,0 | 38,0 | 17,0 | 17,0 | 3/4" | 0,123 | 10 |
| 1070025119 * | 25 | 31,5 | 54,0 | 34,0 | 38,0 | 15,5 | 17,0 | 3/4" | 0,121 | 10 |
| 1070032120 * | 32 | 27,5 | 68,0 | 43,0 | 38,0 | 9,5 | 17,0 | 3/4" | 0,128 | 5 |

*stainless steel



Threaded branch tee with female thread

brass or stainless steel – SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass or stainless steel
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | l1 | D | D1 | z | z1 | R | kg | PU |
|-------------------------|----|------|------|------|------|------|------|------|-------|----|
| one side socket welding | | | | | | | | | | |
| 1060020141 | 20 | 31,5 | 37,0 | 29,5 | 37,0 | 17,0 | 24,0 | 1/2" | 0,086 | 10 |
| 1060020142 | 20 | 37,0 | 37,0 | 34,0 | 44,0 | 22,5 | 24,0 | 3/4" | 0,121 | 10 |
| 1060025143 | 25 | 34,0 | 38,0 | 34,0 | 37,0 | 18,0 | 25,0 | 1/2" | 0,090 | 10 |
| 1060025144 | 25 | 37,0 | 37,0 | 34,0 | 44,0 | 21,0 | 24,0 | 3/4" | 0,109 | 10 |
| 1060032145 | 32 | 35,0 | 37,0 | 43,0 | 37,0 | 17,0 | 24,0 | 1/2" | 0,103 | 5 |
| 1060032146 | 32 | 27,5 | 51,0 | 43,0 | 44,0 | 9,5 | 38,0 | 3/4" | 0,111 | 5 |
| 1060032147 | 32 | 31,5 | 67,0 | 43,0 | 60,0 | 13,5 | 45,0 | 1" | 0,255 | 5 |
| 1060040148 | 40 | 42,0 | 40,0 | 52,0 | 37,0 | 21,5 | 27,0 | 1/2" | 0,142 | 5 |
| 1060040149 | 40 | 40,5 | 40,5 | 52,0 | 52,0 | 20,0 | 27,5 | 3/4" | 0,147 | 5 |
| 1060040150 | 40 | 41,5 | 56,0 | 52,0 | 60,0 | 21,0 | 34,0 | 1" | 0,276 | 5 |
| 1060050151 | 50 | 49,5 | 63,5 | 68,0 | 60,0 | 26,0 | 41,5 | 1" | 0,385 | 5 |
| 1060050152 | 50 | 49,5 | 44,5 | 68,0 | 43,0 | 26,0 | 31,5 | 1/2" | 0,237 | 5 |
| 1060050153 | 50 | 49,5 | 44,5 | 68,0 | 43,0 | 26,0 | 31,5 | 3/4" | 0,243 | 5 |
| 1060020160 * | 20 | 31,5 | 37,0 | 29,5 | 37,0 | 17,0 | 24,0 | 1/2" | 0,087 | 10 |
| 1060020161 * | 20 | 37,0 | 37,0 | 34,0 | 44,0 | 22,5 | 24,0 | 3/4" | 0,108 | 10 |
| 1060025162 * | 25 | 34,5 | 38,0 | 34,0 | 37,0 | 18,5 | 25,0 | 1/2" | 0,093 | 10 |
| 1060025163 * | 25 | 37,0 | 37,0 | 34,0 | 44,0 | 21,0 | 24,0 | 3/4" | 0,111 | 10 |
| 1060032164 * | 32 | 35,0 | 37,0 | 43,0 | 37,0 | 17,0 | 24,0 | 1/2" | 0,113 | 5 |
| 1060032165 * | 32 | 27,5 | 51,0 | 43,0 | 44,0 | 9,5 | 38,0 | 3/4" | 0,111 | 5 |
| 1060032166 * | 32 | 31,5 | 67,0 | 43,0 | 60,0 | 13,5 | 45,0 | 1" | 0,082 | 5 |

*stainless steel

NOTICE: aquatherm green-metal compound fittings are manufactured from fusiolen® PP-R and brass. Metal inserts, without hex shaped spanner flat, with 1/2" and 3/4" female are also available in stainless steel.

Weld-in and weld-on saddle

Transition piece with female thread

round, brass or stainless steel – SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass or stainless steel
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | D | L | z | R | kg | PU |
|-------------------------|----|------|------|------|------|------|-------|----|
| one side socket welding | | | | | | | | |
| 1070020002 | 20 | 27,5 | 37,5 | 40,5 | 26,0 | 1/2" | 0,064 | 10 |
| 1070020003 | 20 | 27,5 | 43,5 | 40,5 | 26,0 | 3/4" | 0,089 | 10 |
| 1070025004 | 25 | 29,5 | 38,5 | 42,5 | 26,5 | 1/2" | 0,065 | 10 |
| 1070025005 | 25 | 27,5 | 43,5 | 40,5 | 24,5 | 3/4" | 0,087 | 10 |
| 1070032006 | 32 | 30,5 | 43,5 | 43,5 | 25,5 | 3/4" | 0,092 | 5 |
| 1070020060 * | 20 | 27,5 | 37,5 | 40,5 | 26,0 | 1/2" | 0,069 | 10 |
| 1070020061 * | 20 | 27,5 | 43,5 | 40,5 | 26,0 | 3/4" | 0,090 | 10 |
| 1070025062 * | 25 | 29,5 | 38,5 | 42,5 | 26,5 | 1/2" | 0,069 | 10 |
| 1070025063 * | 25 | 27,5 | 43,5 | 40,5 | 24,5 | 3/4" | 0,086 | 10 |
| 1070032064 * | 32 | 30,5 | 43,5 | 43,5 | 25,5 | 3/4" | 0,092 | 5 |
| 1070032065 * | 32 | 28,0 | 37,0 | 41,0 | 23,0 | 1/2" | 0,078 | 5 |

*stainless steel

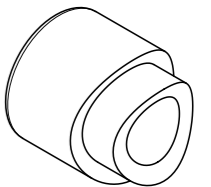
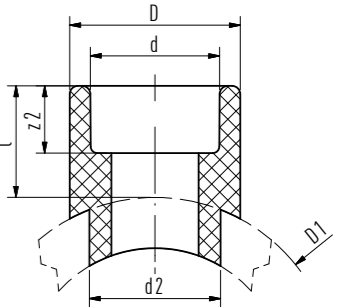
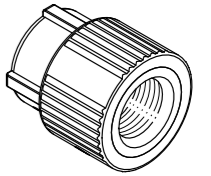
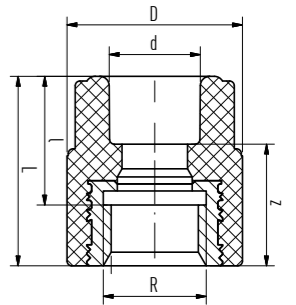
Weld-in saddle

socket welding – SDR 6 / 7,4 / 9 / 11 / 17,6

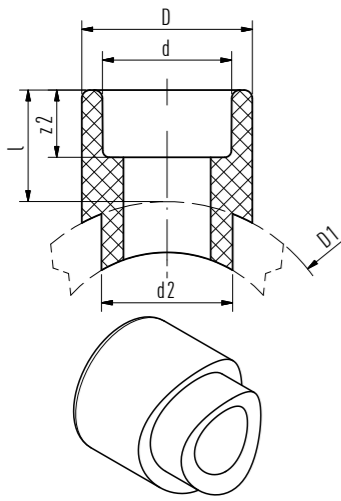
Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | D1 | d | d2 | l | D | z2 | kg | PU |
|----------------|-----|----|------|------|------|------|-------|----|
| socket welding | | | | | | | | |
| 1030040001 * | 40 | 20 | 25,0 | 27,0 | 29,5 | 14,5 | 0,016 | 5 |
| 1030040002 * | 40 | 25 | 25,0 | 28,5 | 34,0 | 16,0 | 0,017 | 5 |
| 1030050003 | 50 | 20 | 25,0 | 27,5 | 29,5 | 14,5 | 0,018 | 5 |
| 1030050004 | 50 | 25 | 25,0 | 28,5 | 34,0 | 16,0 | 0,019 | 5 |
| 1030063005 | 63 | 20 | 25,0 | 27,5 | 29,5 | 14,5 | 0,017 | 5 |
| 1030063006 | 63 | 25 | 25,0 | 28,5 | 34,0 | 16,0 | 0,019 | 5 |
| 1030063007 | 63 | 32 | 32,0 | 30,0 | 43,0 | 18,0 | 0,028 | 5 |
| 1030075008 | 75 | 20 | 25,0 | 27,5 | 29,5 | 14,5 | 0,018 | 5 |
| 1030075009 | 75 | 25 | 25,0 | 28,5 | 34,0 | 16,0 | 0,019 | 5 |
| 1030075010 | 75 | 32 | 32,0 | 30,0 | 43,0 | 18,0 | 0,028 | 5 |
| 1030075011 | 75 | 40 | 40,0 | 34,0 | 52,0 | 20,5 | 0,049 | 5 |
| 1030090012 | 90 | 20 | 25,0 | 27,5 | 29,5 | 14,5 | 0,018 | 5 |
| 1030090013 | 90 | 25 | 25,0 | 28,5 | 34,0 | 16,0 | 0,019 | 5 |
| 1030090014 | 90 | 32 | 32,0 | 30,0 | 43,0 | 18,0 | 0,029 | 5 |
| 1030090015 | 90 | 40 | 40,0 | 34,0 | 52,0 | 20,5 | 0,048 | 5 |
| 1030110016 | 110 | 20 | 25,0 | 27,5 | 29,5 | 14,5 | 0,019 | 5 |
| 1030110017 | 110 | 25 | 25,0 | 28,5 | 34,0 | 16,0 | 0,020 | 5 |
| 1030110018 | 110 | 32 | 32,0 | 30,0 | 43,0 | 18,0 | 0,030 | 5 |
| 1030110019 | 110 | 40 | 40,0 | 34,0 | 52,0 | 20,5 | 0,050 | 5 |
| 1030110020 | 110 | 50 | 50,0 | 34,0 | 68,0 | 23,5 | 0,091 | 5 |
| 1030125021 | 125 | 20 | 25,0 | 27,5 | 29,5 | 14,5 | 0,019 | 5 |
| 1030125022 | 125 | 25 | 25,0 | 28,5 | 34,0 | 16,0 | 0,020 | 5 |
| 1030125023 | 125 | 32 | 32,0 | 30,0 | 43,0 | 18,0 | 0,029 | 5 |
| 1030125024 | 125 | 40 | 40,0 | 34,0 | 52,0 | 20,5 | 0,050 | 5 |
| 1030125025 | 125 | 50 | 50,0 | 34,0 | 68,0 | 23,5 | 0,090 | 5 |
| 1030125026 | 125 | 63 | 63,0 | 38,0 | 84,0 | 27,5 | 0,149 | 5 |
| 1030160027 | 160 | 20 | 25,0 | 27,5 | 29,5 | 14,5 | 0,021 | 5 |

*not for aquatherm blue DT
continued on next page ...



Weld-in and weld-on saddle



Weld-in saddle

(continued) socket welding – SDR 6 / 7,4 / 9 / 11 / 17,6

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | D1 | d | d2 | l | D | z2 | kg | PU |
|-------------|---------|-----|-------|------|-------|------|-------|----|
| 1030160028 | 160 | 25 | 25,0 | 28,5 | 34,0 | 16,0 | 0,023 | 5 |
| 1030160029 | 160 | 32 | 32,0 | 30,0 | 43,0 | 18,0 | 0,034 | 5 |
| 1030160030 | 160 | 40 | 40,0 | 34,0 | 52,0 | 20,5 | 0,054 | 5 |
| 1030160031 | 160 | 50 | 50,0 | 34,0 | 68,0 | 23,5 | 0,094 | 5 |
| 1030160032 | 160 | 63 | 63,0 | 38,0 | 84,0 | 27,5 | 0,157 | 5 |
| 1030160033 | 160 | 75 | 75,0 | 42,0 | 100,0 | 30,0 | 0,238 | 5 |
| 1030160034 | 160 | 90 | 90,0 | 45,0 | 120,0 | 33,0 | 0,360 | 5 |
| 1030250035 | 200-250 | 20 | 25,0 | 27,5 | 29,5 | 14,5 | 0,020 | 5 |
| 1030250036 | 200-250 | 25 | 25,0 | 28,5 | 34,0 | 16,0 | 0,021 | 5 |
| 1030250037 | 200-250 | 32 | 32,0 | 30,0 | 43,0 | 18,0 | 0,031 | 5 |
| 1030200038 | 200 | 40 | 40,0 | 34,0 | 52,0 | 20,5 | 0,049 | 5 |
| 1030200039 | 200 | 50 | 50,0 | 34,0 | 68,0 | 23,5 | 0,087 | 5 |
| 1030200040 | 200 | 63 | 63,0 | 37,5 | 84,0 | 27,5 | 0,146 | 5 |
| 1030200041 | 200 | 75 | 75,0 | 42,0 | 100,0 | 30,0 | 0,225 | 5 |
| 1030200042 | 200 | 90 | 90,0 | 45,0 | 120,0 | 33,0 | 0,356 | 5 |
| 1030200043 | 200 | 110 | 110,0 | 49,0 | 147,0 | 37,0 | 0,638 | 5 |
| 1030200044 | 200 | 125 | 125,0 | 55,0 | 167,0 | 40,0 | 0,862 | 5 |
| 1030250045 | 250 | 40 | 40,0 | 34,0 | 52,0 | 20,5 | 0,053 | 5 |
| 1030250046 | 250 | 50 | 50,0 | 34,0 | 68,0 | 23,5 | 0,090 | 5 |
| 1030250047 | 250 | 63 | 63,0 | 37,5 | 84,0 | 27,5 | 0,152 | 5 |
| 1030250048 | 250 | 75 | 75,0 | 42,0 | 100,0 | 30,0 | 0,222 | 5 |
| 1030250049 | 250 | 90 | 90,0 | 45,0 | 120,0 | 33,0 | 0,348 | 5 |
| 1030250050 | 250 | 110 | 110,0 | 49,0 | 147,0 | 37,0 | 0,602 | 5 |
| 1030250051 | 250 | 125 | 125,0 | 55,0 | 167,0 | 40,0 | 0,820 | 5 |
| 1030315052 | 315-355 | 63 | 63,0 | 37,5 | 84,0 | 27,5 | 0,153 | 1 |
| 1030315053 | 315-355 | 75 | 75,0 | 42,0 | 100,0 | 30,0 | 0,230 | 1 |
| 1030315054 | 315 | 90 | 90,0 | 45,0 | 120,0 | 33,0 | 0,363 | 1 |
| 1030315055 | 315 | 110 | 110,0 | 49,0 | 147,0 | 37,0 | 0,592 | 1 |
| 1030315056 | 315 | 125 | 125,0 | 55,0 | 167,0 | 40,0 | 0,830 | 1 |
| 1030355058 | 355 | 90 | 90,0 | 45,0 | 120,0 | 33,0 | 0,355 | 1 |
| 1030355059 | 355 | 110 | 110,0 | 49,0 | 147,0 | 37,0 | 0,586 | 1 |
| 1030355060 | 355 | 125 | 125,0 | 55,0 | 167,0 | 40,0 | 0,813 | 1 |
| 1030500062 | 400-500 | 75 | 75,0 | 42,0 | 100,0 | 30,0 | 0,216 | 1 |
| 1030450063 | 400-450 | 110 | 110,0 | 49,0 | 147,0 | 37,0 | 0,535 | 1 |
| 1030400064 | 400 | 125 | 125,0 | 55,0 | 167,0 | 40,0 | 0,693 | 1 |
| 1030500065 | 400-500 | 90 | 90,0 | 45,0 | 120,0 | 33,0 | 0,330 | 1 |
| 1030500066 | 450-500 | 125 | 125,0 | 55,0 | 167,0 | 40,0 | 0,671 | 1 |
| 1030630067 | 400-630 | 63 | 63,0 | 37,5 | 84,0 | 27,5 | 0,498 | 1 |
| 1030560068 | 500 | 110 | 110,0 | 49,0 | 147,0 | 37,5 | 0,533 | 1 |
| 1030630069 | 630 | 75 | 75,0 | 42,0 | 100,0 | 30,0 | 0,260 | 1 |
| 1030630070 | 630 | 90 | 90,0 | 45,0 | 120,0 | 33,0 | 0,350 | 1 |
| 1030630071 | 630 | 125 | 125,0 | 55,0 | 167,0 | 40,0 | 0,689 | 1 |
| 1030630072 | 630 | 110 | 110,0 | 49,0 | 147,0 | 37,0 | 0,567 | 1 |

With weld-on surface and additional weld-in socket for the fusion with the inner pipe wall. The necessary tools for the fusion of aquatherm green weld-in saddles are listed in the Tools chapter.

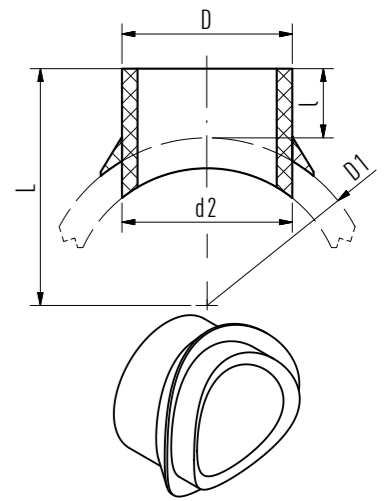
Weld-in and weld-on saddle

Weld-in saddle butt welding

Material: fusiolen® PP-RCT / Glass fibre
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | D1 | D | d2 | l | L | kg | PU |
|--------------|-----|-------|-------|------|-------|-------|----|
| butt welding | | | | | | | |
| SDR 9 | | | | | | | |
| 1033315073 | 315 | 160,0 | 160,0 | 80,0 | 237,5 | 0,831 | 1 |
| 1033355074 | 355 | 160,0 | 160,0 | 80,0 | 257,5 | 0,845 | 1 |
| SDR 11 | | | | | | | |
| 1034315057 | 315 | 160,0 | 160,0 | 80,0 | 237,5 | 0,862 | 1 |
| 1034355061 | 355 | 160,0 | 160,0 | 80,0 | 257,5 | 0,867 | 1 |

With weld-on surface and additional weld-in socket for the fusion with the inner pipe wall. The necessary tools for the fusion of aquatherm green weld-in saddles are listed in the Tools chapter.



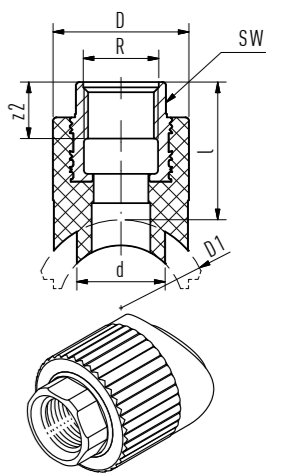
Weld-in saddle with female thread

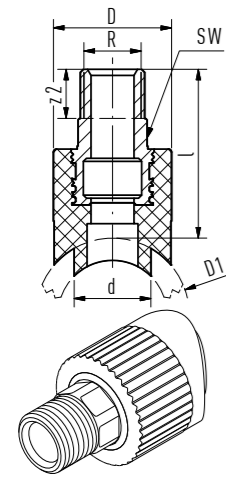
with spanner flat – SDR 6 / 7,4 / 9 / 11 / 17,6

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | D1 | d | l | D | z2 | R | SW | kg | PU |
|-------------------------|---------|----|------|------|------|------|----|-------|----|
| one side socket welding | | | | | | | | | |
| 1030040100 * | 40 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,088 | 5 |
| 1030050106 | 50 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,090 | 5 |
| 1030063112 | 63 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,089 | 5 |
| 1030075118 | 75 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,083 | 5 |
| 1030090126 | 90 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,090 | 5 |
| 1030110134 | 110 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,089 | 5 |
| 1030125142 | 125 | 25 | 39,0 | 38,0 | 16,0 | 1/2" | 24 | 0,092 | 5 |
| 1030160150 | 160 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,092 | 5 |
| 1030250158 | 200-250 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,092 | 5 |
| 1030040101 | 40 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,107 | 5 |
| 1030050107 | 50 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,110 | 5 |
| 1030063113 | 63 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,109 | 5 |
| 1030075119 | 75 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,109 | 5 |
| 1030090127 | 90 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,110 | 5 |
| 1030110135 | 110 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,110 | 5 |
| 1030125143 | 125 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,112 | 5 |
| 1030160151 | 160 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,112 | 5 |
| 1030250159 | 200-250 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,112 | 5 |
| 1030075120 | 75 | 32 | 43,0 | 60,0 | 22,0 | 1" | 39 | 0,223 | 5 |
| 1030090128 | 90 | 32 | 43,0 | 60,0 | 22,0 | 1" | 39 | 0,223 | 5 |
| 1030110136 | 110 | 32 | 43,0 | 60,0 | 22,0 | 1" | 39 | 0,223 | 5 |
| 1030125144 | 125 | 32 | 43,0 | 60,0 | 22,0 | 1" | 39 | 0,224 | 5 |
| 1030160152 | 160 | 32 | 43,0 | 60,0 | 22,0 | 1" | 39 | 0,226 | 5 |
| 1030250160 | 200-250 | 32 | 43,0 | 60,0 | 22,0 | 1" | 39 | 0,244 | 5 |

*do not use with aquatherm blue DT



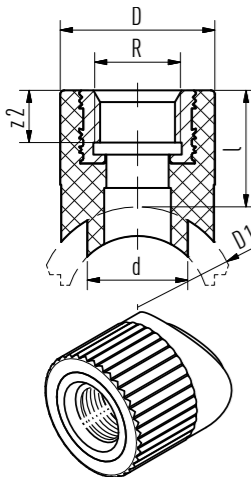


Weld-in saddle with male thread
with spanner flat – SDR 6 / 7,4 / 9 / 11 / 17,6

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | D1 | d | l | D | z2 | R | SW | kg | PU |
|-------------------------|-----|----|------|------|------|------|----|-------|----|
| one side socket welding | | | | | | | | | |
| 1030040102 * | 40 | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,088 | 5 |
| 1030050108 | 50 | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,090 | 5 |
| 1030063114 | 63 | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,089 | 5 |
| 1030075121 | 75 | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,097 | 5 |
| 1030090129 | 90 | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,090 | 5 |
| 1030110137 | 110 | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,089 | 5 |
| 1030125145 | 125 | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,092 | 5 |
| 1030160153 | 160 | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,092 | 5 |
| 1030040103 * | 40 | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,107 | 5 |
| 1030050109 | 50 | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,110 | 5 |
| 1030063115 | 63 | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,109 | 5 |
| 1030075122 | 75 | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,109 | 5 |
| 1030090130 | 90 | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,110 | 5 |
| 1030110138 | 110 | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,110 | 5 |
| 1030125146 | 125 | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,112 | 5 |
| 1030160154 | 160 | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,112 | 5 |

*do not use with aquatherm blue OT



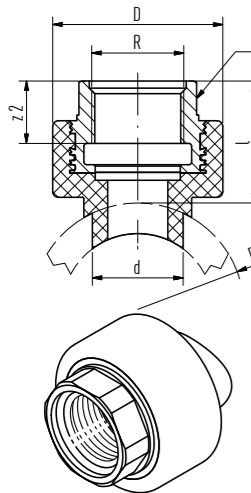
Weld-in saddle with female thread
SDR 6 / 7,4 / 9 / 11 / 17,6

Material: fusiolen® PP-R / stainless steel
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | D1 | d | l | D | z2 | R | SW | kg | PU |
|-------------------------|---------|----|------|------|------|------|----|-------|----|
| one side socket welding | | | | | | | | | |
| 1030040104 ** | 40 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | - | 0,062 | 5 |
| 1030050110 | 50 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | - | 0,064 | 5 |
| 1030063116 | 63 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | - | 0,064 | 5 |
| 1030075123 | 75 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | - | 0,064 | 5 |
| 1030090131 | 90 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | - | 0,064 | 5 |
| 1030110139 | 110 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | - | 0,069 | 5 |
| 1030125147 | 125 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | - | 0,065 | 5 |
| 1030160155 | 160 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | - | 0,066 | 5 |
| 1030250161 | 200-250 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | - | 0,065 | 5 |
| 1030040105 | 40 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | - | 0,082 | 5 |
| 1030050111 | 50 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | - | 0,074 | 5 |
| 1030063117 | 63 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | - | 0,073 | 5 |
| 1030075124 | 75 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | - | 0,074 | 5 |
| 1030090132 | 90 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | - | 0,074 | 5 |
| 1030110140 | 110 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | - | 0,083 | 5 |
| 1030125148 | 125 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | - | 0,074 | 5 |
| 1030160156 | 160 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | - | 0,076 | 5 |
| 1030250162 | 200-250 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | - | 0,084 | 5 |
| 1030075125 * | 75 | 32 | 43,0 | 60,0 | 22,0 | 1" | 39 | 0,234 | 5 |
| 1030090133 * | 90 | 32 | 43,0 | 60,0 | 22,0 | 1" | 39 | 0,235 | 5 |
| 1030110141 * | 110 | 32 | 43,0 | 60,0 | 22,0 | 1" | 39 | 0,236 | 5 |
| 1030125149 * | 125 | 32 | 43,0 | 60,0 | 22,0 | 1" | 39 | 0,235 | 5 |
| 1030160157 * | 160 | 32 | 43,0 | 60,0 | 22,0 | 1" | 39 | 0,238 | 5 |
| 1030250163 * | 200-250 | 32 | 43,0 | 60,0 | 22,0 | 1" | 39 | 0,237 | 5 |

*with spanner

**do not use with aquatherm blue OT



Screwed connections

aquatherm weld-on saddle

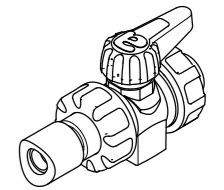
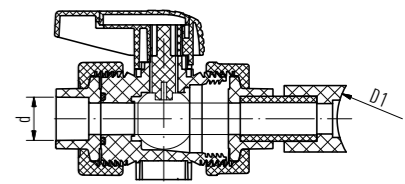
with ball valve for installation under pressure in use with tapping tool
SDR 6 / 7,4 / 9 / 11 / 17,6

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | D1 | PU |
|----------------|----|---------|----|
| socket welding | | | |
| 1090075010 | 40 | 75 | 1 |
| 1090090011 | 40 | 90 | 1 |
| 1090110012 | 40 | 110 | 1 |
| 1090125013 | 40 | 125 | 1 |
| 1090125014 | 63 | 125 | 1 |
| 1090160015 | 40 | 160 | 1 |
| 1090160016 | 63 | 160 | 1 |
| 1090200017 | 40 | 200 | 1 |
| 1090200018 | 63 | 200 | 1 |
| 1090250019 | 40 | 250 | 1 |
| 1090250020 | 63 | 250 | 1 |
| 1090315021 | 63 | 315-355 | 1 |
| 1090400022 | 63 | 400-630 | 1 |

do not use with aquatherm blue OT

With hex shaped male thread, weld-in surface and weld-in socket for fusion with the inner wall of the pipe. The necessary tools for the fusion of aquatherm green weld-in saddles are listed in the Tools chapter.

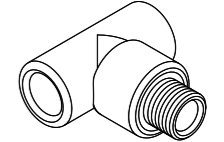
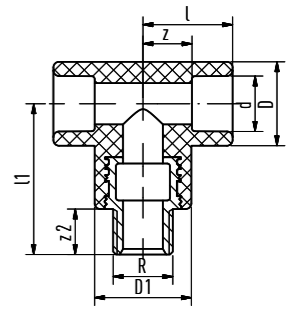


Threaded branch tee with female thread

SDR 6 / 7,4 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | l1 | D | D1 | z | z2 | R | kg | PU |
|-----------------------------|----|------|------|------|------|------|------|------|-------|----|
| double-sided socket welding | | | | | | | | | | |
| 1060020154 | 20 | 31,5 | 53,0 | 29,5 | 37,0 | 17,0 | 16,0 | 1/2" | 0,102 | 10 |

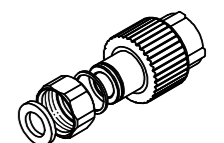
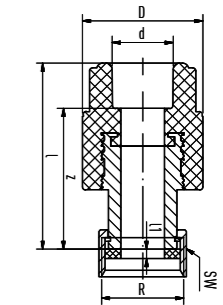


Water meter nut adapter

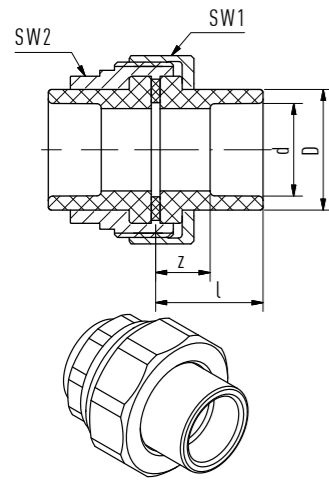
with gasket – SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | l1 | D | z | R | SW | kg | PU |
|-------------------------|----|------|-----|------|------|------|----|-------|----|
| one side socket welding | | | | | | | | | |
| 1050020090 | 20 | 59,5 | 3,0 | 38,5 | 45,0 | 3/4" | 30 | 0,136 | 1 |
| 1050025091 | 25 | 61,0 | 3,0 | 38,5 | 45,0 | 3/4" | 30 | 0,155 | 1 |
| 1050032092 | 32 | 62,0 | 3,0 | 43,5 | 44,0 | 3/4" | 30 | 0,162 | 1 |



Screwed connections

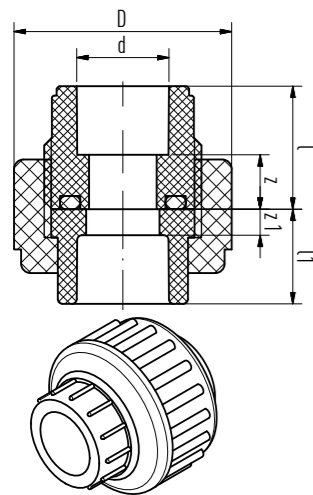


Coupling screw joint, brass

SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green, brass

| Article no. | d | l | D | z | SW1 | SW2 | kg | PU |
|----------------|----|------|------|------|-----|-----|-------|----|
| socket welding | | | | | | | | |
| 1050032040 | 32 | 36,5 | 41,0 | 18,5 | 64 | 50 | 0,479 | 1 |
| 1050040041 | 40 | 38,0 | 50,0 | 17,5 | 80 | 60 | 0,841 | 1 |
| 1050050042 | 50 | 41,0 | 61,0 | 17,5 | 86 | 70 | 0,821 | 1 |
| 1050063043 | 63 | 45,0 | 76,0 | 17,5 | 108 | 90 | 1,498 | 1 |
| 1050075044 | 75 | 31,0 | 90,0 | 17,5 | 128 | 104 | 1,998 | 1 |

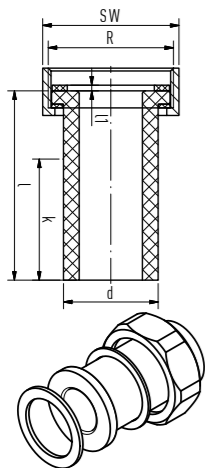


Coupling screw joint

SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | l1 | D | z | z1 | kg | PU |
|----------------|----|------|------|-------|------|-----|-------|----|
| socket welding | | | | | | | | |
| 1050020050 | 20 | 26,0 | 20,0 | 46,0 | 12,0 | 5,5 | 0,036 | 10 |
| 1050025051 | 25 | 28,0 | 21,0 | 56,0 | 12,0 | 5,0 | 0,058 | 10 |
| 1050032052 | 32 | 30,0 | 23,0 | 66,0 | 12,0 | 5,0 | 0,089 | 5 |
| 1050040053 | 40 | 34,0 | 25,5 | 79,0 | 13,5 | 5,0 | 0,136 | 5 |
| 1050050054 | 50 | 39,0 | 28,8 | 87,0 | 15,5 | 5,0 | 0,170 | 5 |
| 1050063055 | 63 | 47,5 | 32,5 | 107,0 | 20,0 | 5,0 | 0,240 | 1 |
| 1050075056 | 75 | 50,0 | 36,0 | 128,0 | 20,0 | 6,0 | 0,546 | 1 |



Loose nut adapter

with gasket – SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | l1 | k | R | SW | kg | PU |
|-------------------------|----|-------|-----|------|--------|----|-------|----|
| one side socket welding | | | | | | | | |
| 1050020082 | 20 | 100,0 | 3,0 | 65,0 | 1" | 36 | 0,079 | 1 |
| 1050025083 | 25 | 100,0 | 3,0 | 62,0 | 1 1/4" | 46 | 0,104 | 1 |
| 1050032084 | 32 | 100,0 | 3,0 | 58,0 | 1 1/2" | 52 | 0,175 | 1 |
| 1050040085 | 40 | 100,0 | 3,0 | 53,0 | 2" | 64 | 0,258 | 1 |

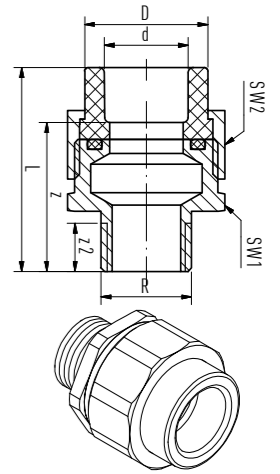
Screwed connections

Transition coupling with male thread

with union nut and welding socket – SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | D | L | z | z2 | R | SW1 | SW2 | kg | PU |
|-------------------------|----|------|------|------|------|--------|-----|-----|-------|----|
| one side socket welding | | | | | | | | | | |
| 1050020070 | 20 | 27,5 | 52,5 | 38,0 | 13,5 | 1/2" | 34 | 36 | 0,145 | 1 |
| 1050025071 | 25 | 36,0 | 59,5 | 43,5 | 14,5 | 3/4" | 42 | 46 | 0,243 | 1 |
| 1050032072 | 32 | 41,5 | 64,5 | 46,5 | 16,8 | 1" | 48 | 52 | 0,336 | 1 |
| 1050040073 | 40 | 53,0 | 70,0 | 49,5 | 19,1 | 1 1/4" | 60 | 64 | 0,517 | 1 |
| 1050050074 | 50 | 59,0 | 84,8 | 61,3 | 22,0 | 1 1/2" | 48 | 72 | 0,624 | 1 |
| 1050063075 | 63 | 74,0 | 95,5 | 68,0 | 25,0 | 2" | 62 | 89 | 1,045 | 1 |

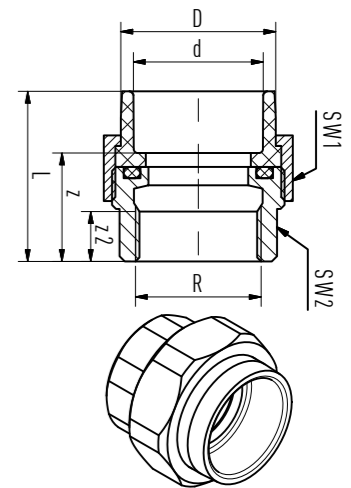


Transition coupling with female thread

with union nut and welding socket – SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | D | L | z | z2 | R | SW1 | SW2 | kg | PU |
|-------------------------|----|------|------|------|------|--------|-----|-----|-------|----|
| one side socket welding | | | | | | | | | | |
| 1050020076 | 20 | 27,5 | 45,0 | 30,5 | 15,0 | 1/2" | 36 | 24 | 0,112 | 1 |
| 1050025077 | 25 | 36,0 | 49,0 | 33,0 | 15,5 | 3/4" | 46 | 32 | 0,193 | 1 |
| 1050032078 | 32 | 41,5 | 54,0 | 36,0 | 15,0 | 1" | 52 | 40 | 0,291 | 1 |
| 1050040079 | 40 | 53,0 | 56,5 | 36,0 | 20,0 | 1 1/4" | 64 | 47 | 0,423 | 1 |
| 1050050080 | 50 | 59,0 | 64,8 | 41,3 | 19,0 | 1 1/2" | 72 | 57 | 0,610 | 1 |
| 1050063081 | 63 | 74,0 | 74,5 | 47,0 | 18,0 | 2" | 89 | 68 | 0,924 | 1 |

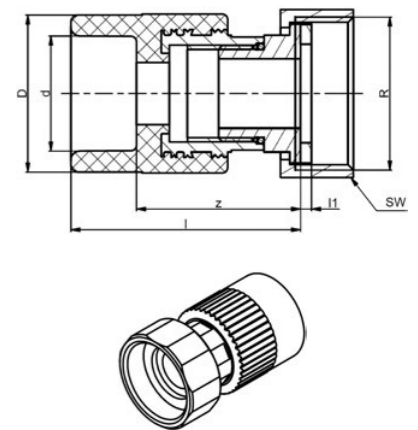


Nut adapter ISO-standard

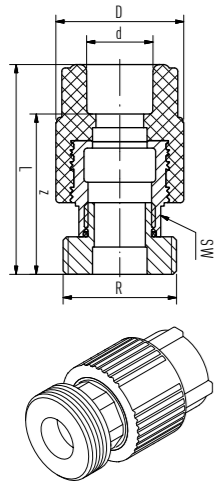
SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | l1 | D | z | R | SW | kg | PU |
|-------------------------|----|------|-----|-------|------|--------|-----|-------|----|
| one side socket welding | | | | | | | | | |
| 1050020097 | 20 | 58,5 | 3,0 | 38,5 | 34,0 | 1" | 36 | 0,182 | 10 |
| 1050025098 | 25 | 60,0 | 3,0 | 38,5 | 44,0 | 1" | 36 | 0,186 | 10 |
| 1050025099 | 25 | 60,0 | 3,0 | 43,5 | 44,0 | 1 1/4" | 46 | 0,274 | 10 |
| 1050032100 | 32 | 63,0 | 3,0 | 43,5 | 45,0 | 1 1/4" | 46 | 0,279 | 5 |
| 1050032101 | 32 | 69,5 | 3,0 | 60,0 | 51,5 | 1 1/2" | 52 | 0,446 | 5 |
| 1050040102 | 40 | 72,0 | 3,0 | 60,0 | 51,5 | 1 1/2" | 52 | 0,421 | 5 |
| 1050040103 | 40 | 72,0 | 3,0 | 74,0 | 51,5 | 2" | 64 | 0,719 | 5 |
| 1050050104 | 50 | 75,0 | 3,0 | 74,0 | 51,5 | 2" | 64 | 0,736 | 5 |
| 1050050105 | 50 | 77,0 | 3,0 | 84,0 | 53,5 | 2 1/4" | 72 | 0,831 | 5 |
| 1050063106 | 63 | 83,5 | 3,0 | 84,0 | 56,0 | 2 1/4" | 72 | 0,889 | 1 |
| 1050063107 | 63 | 82,5 | 3,0 | 101,0 | 55,0 | 2 3/4" | 89 | 1,306 | 1 |
| 1050075108 | 75 | 85,0 | 3,0 | 100,0 | 55,0 | 2 3/4" | 89 | 1,275 | 1 |
| 1050075109 | 75 | 91,0 | 3,0 | 100,0 | 61,0 | 3 1/2" | 110 | 1,818 | 1 |



Screwed connections

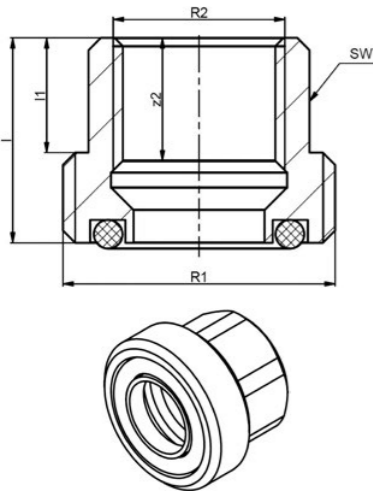


Counterpart with male thread

with welding socket for ISO-standard – SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | D | L | z | R | SW | kg | PU |
|-------------------------|----|-------|-------|------|--------|----|-------|----|
| one side socket welding | | | | | | | | |
| 1050020110 | 20 | 37,5 | 61,5 | 47,0 | 1" | 24 | 0,151 | 10 |
| 1050025111 | 25 | 37,5 | 63,0 | 47,0 | 1" | 24 | 0,153 | 10 |
| 1050025112 | 25 | 43,5 | 63,0 | 47,0 | 1 1/4" | 31 | 0,221 | 10 |
| 1050032113 | 32 | 43,5 | 66,0 | 48,0 | 1 1/4" | 31 | 0,226 | 5 |
| 1050032114 | 32 | 60,0 | 76,5 | 58,5 | 1 1/2" | 39 | 0,408 | 5 |
| 1050040115 | 40 | 60,0 | 79,0 | 58,5 | 1 1/2" | 39 | 0,414 | 5 |
| 1050040116 | 40 | 74,0 | 79,0 | 58,5 | 2" | 50 | 0,650 | 5 |
| 1050050117 | 50 | 74,0 | 82,0 | 58,5 | 2" | 50 | 0,634 | 5 |
| 1050050118 | 50 | 84,0 | 83,0 | 59,5 | 2 1/4" | 55 | 0,750 | 5 |
| 1050063119 | 63 | 84,0 | 89,5 | 62,0 | 2 1/4" | 55 | 0,728 | 1 |
| 1050063120 | 63 | 101,0 | 95,0 | 65,5 | 2 3/4" | 67 | 1,093 | 1 |
| 1050075121 | 75 | 100,0 | 95,0 | 65,0 | 2 3/4" | 67 | 1,117 | 1 |
| 1050075122 | 75 | 100,0 | 100,0 | 70,0 | 3 1/2" | 67 | 1,436 | 1 |

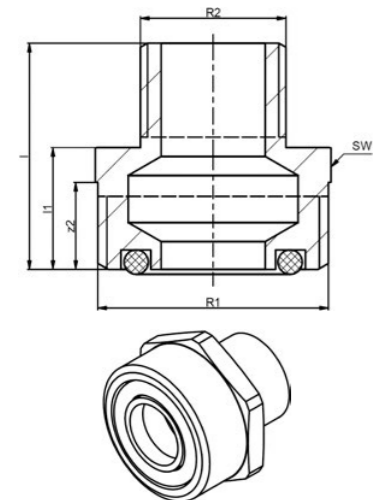


Brass counterpart with female thread

for ISO-standard adapter/loose nut adapter – SDR 6 / 7.4 / 9 / 11

Material: brass

| Article no. | l1 | L | z2 | R1 | R2 | SW | kg | PU |
|-------------|------|------|------|--------|--------|----|-------|----|
| 1050000130 | 14,0 | 25,0 | 15,0 | 1" | 1/2" | 25 | 0,063 | 10 |
| 1050000131 | 12,5 | 26,0 | 14,0 | 1 1/4" | 3/4" | 32 | 0,119 | 10 |
| 1050000132 | 15,0 | 31,0 | 17,0 | 1 1/2" | 1" | 40 | 0,175 | 5 |
| 1050000133 | 17,0 | 33,0 | 22,0 | 2" | 1 1/4" | 47 | 0,263 | 5 |
| 1050000134 | 20,0 | 36,0 | 19,0 | 2 1/4" | 1 1/2" | 57 | 0,333 | 5 |
| 1050000135 | 24,0 | 42,0 | 24,0 | 2 3/4" | 2" | 68 | 0,517 | 1 |
| 9600027522 | 24,0 | 46,0 | 27,0 | 3 1/2" | 2 1/2" | 84 | 0,801 | 1 |
| 9600027524 | 27,0 | 46,0 | 27,0 | 4" | 3" | 97 | 0,943 | 1 |



Brass counterpart with male thread

for ISO-standard adapter/loose nut adapter – SDR 6 / 7.4 / 9 / 11

Material: brass

| Article no. | l1 | L | z2 | R1 | R2 | SW | kg | PU |
|-------------|------|------|------|--------|--------|----|-------|----|
| 1050000138 | 17,5 | 32,5 | 10,5 | 1" | 1/2" | 34 | 0,109 | 10 |
| 1050000139 | 21,0 | 38,5 | 12,5 | 1 1/4" | 3/4" | 42 | 0,188 | 10 |
| 1050000140 | 22,5 | 41,5 | 13,5 | 1 1/2" | 1" | 48 | 0,211 | 5 |
| 1050000141 | 22,5 | 44,5 | 13,0 | 2" | 1 1/4" | 60 | 0,363 | 5 |
| 1050000142 | 34,0 | 56,0 | 16,0 | 2 1/4" | 1 1/2" | 48 | 0,472 | 5 |
| 1050000143 | 38,0 | 63,0 | 16,0 | 2 3/4" | 2" | 62 | 0,803 | 1 |
| 9600027722 | 42,0 | 70,0 | 22,0 | 3 1/2" | 2 1/2" | 82 | 1,189 | 1 |
| 9600027724 | 42,0 | 74,0 | 22,0 | 4" | 3" | 97 | 1,398 | 1 |

Flange adapter

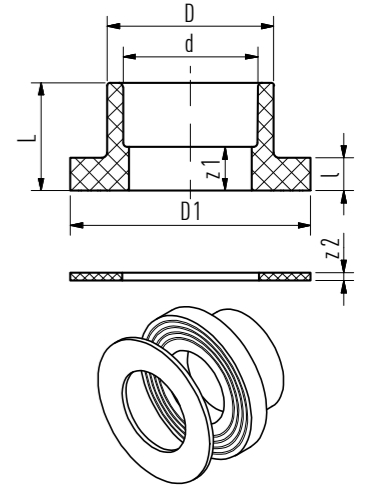
Flange adapter

with gasket – SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | L | l | D | D1 | z1 | z2 | kg | PU |
|-------------------------|-----|-------|------|-------|-------|------|-----|-------|----|
| one side socket welding | | | | | | | | | |
| 1050032020 | 32 | 34,0 | 10,0 | 41,0 | 68,0 | 16,0 | 3,0 | 0,053 | 1 |
| 1050040021 | 40 | 35,5 | 11,0 | 50,0 | 78,0 | 15,0 | 3,0 | 0,071 | 1 |
| 1050050022 | 50 | 39,5 | 12,0 | 61,0 | 88,0 | 16,0 | 3,0 | 0,071 | 1 |
| 1050063023 | 63 | 43,5 | 14,0 | 76,0 | 102,0 | 16,0 | 3,0 | 0,112 | 1 |
| 1050075024 | 75 | 46,0 | 16,0 | 90,0 | 122,0 | 16,0 | 3,0 | 0,169 | 1 |
| 1050090025 | 90 | 50,0 | 17,0 | 108,0 | 138,0 | 17,0 | 3,0 | 0,261 | 1 |
| 1050110026 | 110 | 55,5 | 18,5 | 131,0 | 158,0 | 18,5 | 3,0 | 0,329 | 1 |
| 1050125028 | 125 | 63,0 | 20,0 | 165,0 | 188,0 | 23,0 | 3,0 | 0,724 | 1 |
| 1050125027 * | 125 | 195,0 | 18,5 | 131,0 | 158,0 | - | 3,0 | 1,180 | 1 |

*only use with fitting 125 mm; with 110 mm flange adapter / Suitable flange adapter for shut off valves are available on request.



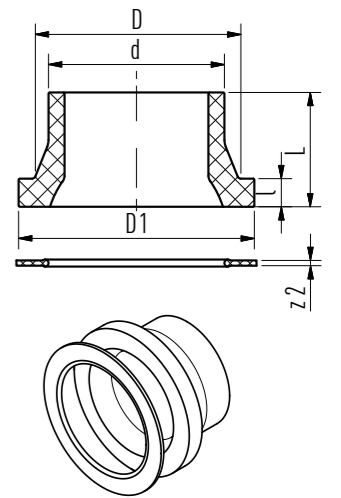
Flange adapter butt welding

with gasket

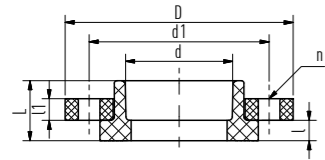
Material: fusiolen® PP-RP
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | D | D1 | L | z2 | kg | PU |
|------------------------|-----|------|-------|-------|-------|-----|--------|----|
| one sided butt welding | | | | | | | | |
| SDR 11 | | | | | | | | |
| 1054160030 | 160 | 25,0 | 175,0 | 212,0 | 93,0 | 3,0 | 0,955 | 1 |
| 1054200032 | 200 | 32,0 | 232,0 | 268,0 | 130,0 | 6,0 | 1,957 | 1 |
| 1054250034 | 250 | 35,0 | 285,0 | 320,0 | 130,0 | 6,0 | 2,717 | 1 |
| 1054315035 | 315 | 35,0 | 335,0 | 370,0 | 168,0 | 6,0 | 6,000 | 1 |
| 1054355036 | 355 | 40,0 | 373,0 | 430,0 | 180,0 | 6,0 | 7,930 | 1 |
| 1054400037 | 400 | 46,0 | 427,0 | 482,0 | 195,0 | 6,0 | 12,000 | 1 |
| 1054450038 | 450 | 60,0 | 514,0 | 585,0 | 139,0 | 7,0 | 15,200 | 1 |
| SDR 17.6 | | | | | | | | |
| 2057160100 | 160 | 18,0 | 175,0 | 212,0 | 80,0 | 3,0 | 0,821 | 1 |
| 2057200101 | 200 | 32,0 | 232,0 | 268,0 | 130,0 | 6,0 | 1,849 | 1 |
| 2057250102 | 250 | 35,0 | 285,0 | 320,0 | 130,0 | 6,0 | 2,736 | 1 |
| 2057315103 | 315 | 25,0 | 335,0 | 370,0 | 168,0 | 6,0 | 4,500 | 1 |
| 2057355104 | 355 | 30,0 | 373,0 | 430,0 | 184,0 | 6,0 | 7,000 | 1 |
| 2057400105 | 400 | 33,0 | 427,0 | 482,0 | 195,0 | 6,0 | 7,360 | 1 |
| 2057450106 | 450 | 46,0 | 514,0 | 585,0 | 142,0 | 7,0 | 10,400 | 1 |
| 2057500107 | 500 | 46,0 | 530,0 | 585,0 | 138,0 | 7,0 | 8,700 | 1 |
| 2057630108 | 630 | 50,0 | 642,0 | 685,0 | 140,0 | 7,0 | 12,530 | 1 |

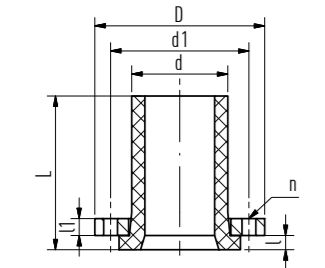
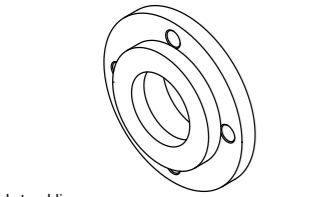
Up to 160 mm EPDM-gasket without steel ring insert. From 200 mm EPDM-gasket with steel ring insert. Suitable flange adapter for shut off valves available on request.



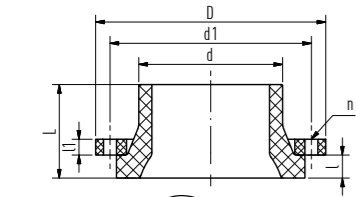
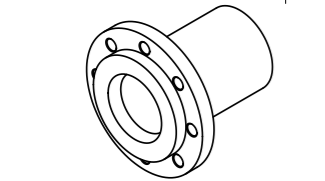
Flange adapter



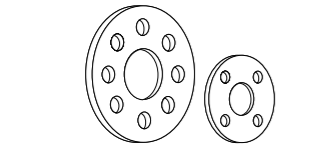
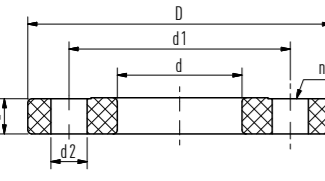
socket welding



SDR 6 / 7,4 / 9 / 11 / 17,6



butt welding



Flange adapter incl. Flange PN6 without gasket

Material: Flange: steel galvanised, Flange adapter: fusiolen® PP-R
Standards: Flange according to DIN 2641
Colour: Flange: black / Flange adapter: green

| Article no. | d | D | d1 | l | l1 | L | n | kg | PU |
|-----------------------------|-----|-------|-------|------|------|-------|---|-------|----|
| socket welding | | | | | | | | | |
| SDR 6 / 7,4 / 9 / 11 / 17,6 | | | | | | | | | |
| 1050032001 | 32 | 100,0 | 75,0 | 10,0 | 10,0 | 34,0 | 4 | 1,090 | 1 |
| 1050040002 | 40 | 120,0 | 90,0 | 11,0 | 10,0 | 35,5 | 4 | 1,170 | 1 |
| 1050050003 | 50 | 130,0 | 100,0 | 12,0 | 10,0 | 39,5 | 4 | 1,360 | 1 |
| 1050063004 | 63 | 140,0 | 110,0 | 14,0 | 10,0 | 43,5 | 4 | 0,886 | 1 |
| 1050075005 | 75 | 160,0 | 130,0 | 16,0 | 10,0 | 46,0 | 4 | 1,148 | 1 |
| 1050090006 | 90 | 190,0 | 150,0 | 17,0 | 10,0 | 50,0 | 4 | 1,618 | 1 |
| 1050110007 | 110 | 210,0 | 170,0 | 18,5 | 10,0 | 55,5 | 4 | 1,824 | 1 |
| 1050125009 | 125 | 240,0 | 200,0 | 20,0 | 12,0 | 63,0 | 4 | 3,945 | 1 |
| SDR 6 / 7,4 / 9 / 11 / 17,6 | | | | | | | | | |
| 1050125008 * | 125 | 210,0 | 170,0 | 18,5 | 10,0 | 195,0 | 8 | 2,715 | 1 |
| butt welding | | | | | | | | | |
| SDR 11 | | | | | | | | | |
| 1050160010 | 160 | 265,0 | 225,0 | 25,0 | 12,0 | 93,0 | 8 | 4,136 | 1 |
| 1050200011 | 200 | 320,0 | 280,0 | 32,0 | 12,0 | 130,0 | 8 | 6,694 | 1 |
| 1050250012 | 250 | 375,0 | 335,0 | 35,0 | 12,0 | 130,0 | 8 | 9,500 | 1 |

d = Connection dimension, d1 = hole-circle, PN 6 = Flange according to DIN 2641
*125 mm Fitting with 110 mm, flange adapter incl. flange PN6 use only in combination with a fitting

Plastic coated steel flange

SDR 6 / 7,4 / 9 / 11 / 17,6

Material: PP / steel
Standards: Flange according to DIN EN 1092, DIN 2501
Colour: grey

| Article no. | fitting Art. no. | Ø | DN | d | d1 | D | d2 | L | n | kg | PU |
|---------------|--------------------------|-----|-----|-------|-------|-------|------|------|----|--------|----|
| 1040032150 | 1050032020 | 32 | 25 | 42,0 | 85,0 | 116,0 | 14,0 | 15,5 | 4 | 0,469 | 1 |
| 1040040151 | 1050040021 | 40 | 32 | 51,0 | 100,0 | 141,0 | 18,0 | 17,5 | 4 | 0,722 | 1 |
| 1040050152 | 1050050022 | 50 | 40 | 62,0 | 110,0 | 151,0 | 18,0 | 17,5 | 4 | 0,770 | 1 |
| 1040063153 | 1050063023 | 63 | 50 | 78,0 | 125,0 | 166,0 | 18,0 | 19,0 | 4 | 0,911 | 1 |
| 1040075154 | 1050075024 | 75 | 65 | 92,0 | 145,0 | 186,0 | 18,0 | 19,0 | 4 | 1,132 | 1 |
| 1040090155 | 1050090025 | 90 | 80 | 110,0 | 160,0 | 201,0 | 18,0 | 21,0 | 8 | 1,356 | 1 |
| 1040110156 | 1050110026 1050125027 | 110 | 100 | 133,0 | 180,0 | 221,0 | 18,0 | 22,0 | 8 | 1,475 | 1 |
| 1040125157 | 1050125028 (125 mm) | 125 | 125 | 167,0 | 210,0 | 251,0 | 18,0 | 26,0 | 8 | 2,082 | 1 |
| 1040160158 | 1052160029 1054160030 | 160 | 150 | 178,0 | 240,0 | 286,0 | 22,0 | 27,0 | 8 | 3,671 | 1 |
| 1040200159 * | 1052200031 1054200032 | 200 | 200 | 235,0 | 295,0 | 341,0 | 22,0 | 28,0 | 8 | 4,709 | 1 |
| 1040250160 * | 1052250033 1054250034 | 250 | 250 | 288,0 | 350,0 | 406,0 | 22,0 | 31,0 | 12 | 7,094 | 1 |
| 1040315161 * | 1054315035 | 315 | 300 | 340,0 | 400,0 | 460,0 | 22,0 | 33,5 | 12 | 9,500 | 1 |
| 1040355162 * | 1054355036 | 355 | 350 | 376,0 | 460,0 | 520,0 | 22,0 | 39,0 | 16 | 15,300 | 1 |
| 1040400163 * | 2057400105 | 400 | 400 | 430,0 | 515,0 | 565,0 | 26,0 | 34,0 | 16 | 19,680 | 1 |
| 1040450164 ** | 2057450106 | 450 | 500 | 517,0 | 620,0 | 670,0 | 26,0 | 42,0 | 20 | 22,880 | 1 |
| 1040500165 ** | 2057500107 | 500 | 500 | 533,0 | 620,0 | 670,0 | 26,0 | 38,0 | 20 | 19,000 | 1 |
| 1040630166 ** | 2057630108 | 630 | 600 | 645,0 | 725,0 | 785,0 | 30,0 | 40,0 | 20 | 25,800 | 1 |

d = Connection dimension, d1 = hole-circle, PN10/16 = Flange according to DIN EN1092, DIN2501
*Flange PN16 200 - 630 mm (Art. no. 9700015934-9700015954) available on request.
**Material: steel/epoxy

Valves

PP-ball valve, with union nut and welding socket

SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R
Colour: green

| Article no. | d | d1 | D | h | l1 | l2 | l3 | L | l | kg | PU |
|----------------|----|------|-------|-------|------|-------|-------|-------|-------|-------|----|
| socket welding | | | | | | | | | | | |
| 1090020052 | 20 | 13,5 | 50,3 | 48,0 | 25,0 | 56,5 | 68,0 | 97,0 | 48,0 | 0,118 | 1 |
| 1090025053 | 25 | 18,5 | 59,0 | 56,5 | 25,0 | 65,5 | 78,0 | 110,0 | 59,0 | 0,184 | 1 |
| 1090032054 | 32 | 23,9 | 70,3 | 64,5 | 26,0 | 72,0 | 84,5 | 120,5 | 59,0 | 0,274 | 1 |
| 1090040055 | 40 | 31,0 | 85,9 | 83,3 | 45,0 | 85,0 | 100,0 | 141,0 | 63,5 | 0,483 | 1 |
| 1090050056 | 50 | 38,5 | 99,5 | 89,4 | 45,0 | 89,0 | 107,0 | 154,0 | 63,5 | 0,648 | 1 |
| 1090063057 | 63 | 50,0 | 125,5 | 115,0 | 45,0 | 101,0 | 118,0 | 173,0 | 108,0 | 1,206 | 1 |
| 1090075051 | 75 | - | 129,0 | 139,0 | - | - | 216,0 | 276,0 | 152,0 | 2,441 | 1 |

Also suitable for vacuum pipes.

PP-ball valve, with flange connection on both sides

SDR 6 / 7,4 / 9 / 11 / 17,6

Material: fusiolen® PP-R
Colour: green

| Article no. | für Ø | d | l | D | z | h1 | h2 | kg | PU |
|-------------|-------|-------|-------|-------|-------|-------|-------|--------|----|
| 1090090058 | 90 | 77,0 | 210,0 | 160,0 | 124,0 | 150,0 | 93,0 | 4,196 | 1 |
| 1090110059 | 110 | 94,0 | 260,0 | 180,0 | 145,0 | 165,0 | 103,0 | 5,612 | 1 |
| 1090160060 | 160 | 135,0 | 310,0 | 240,0 | 205,0 | 210,0 | 136,5 | 13,420 | 1 |

Also suitable for vacuum pipes.

For dimension 125 mm the PP-ball valve Art. no. 1090110059 with flange adapter Art. no. 1050125027 and flange Art. no. 1040110156 is used. For connection with aquatherm green weldable flange adapter (Art. no. 3050090006 - 1054160030) and aquatherm green plastic coated steel flange (Art. no. 1040090155 - 1040160158). Hexagon screw M 16x60 mm for Art. no. 1090090058/1090110059 Hexagon screw M 20x80 mm for Art. no. 1090110059 corresponding flat washer M 16.

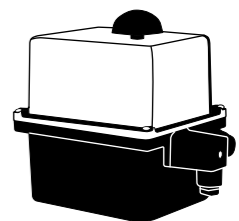
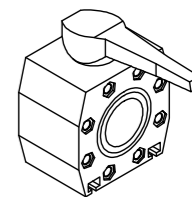
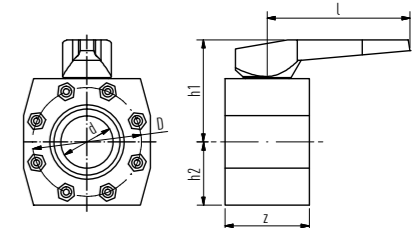
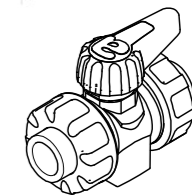
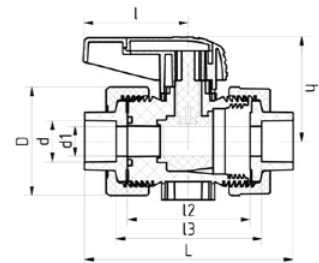
NOTICE: These are not included in the above articles.

Electrical drive for ball valve

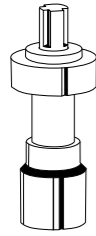
for article no. 1090020052 - 1090063057 (*for article no. 1090090058 - 1090110059)

Colour: black / red

| Article no. | Dimension | for Article no. | kg | PU |
|--------------|-----------|-------------------------------|-------|----|
| 230 Volt | | | | |
| 9700041489 | 20 | incl. fixtures for 1090020052 | 1,500 | 1 |
| 9700041491 | 25 | incl. fixtures for 1090025053 | 1,600 | 1 |
| 9700041493 | 32 | incl. fixtures for 1090032054 | 1,600 | 1 |
| 9700041495 | 40 | incl. fixtures for 1090040055 | 1,600 | 1 |
| 9700041497 | 50 | incl. fixtures for 1090050056 | 1,700 | 1 |
| 9700041499 | 63 | incl. fixtures for 1090063057 | 1,700 | 1 |
| 9700041603 * | 90 | incl. fixtures for 1090090058 | 3,300 | 1 |
| 9700041605 * | 110 | incl. fixtures for 1090110059 | 3,400 | 1 |
| 9700041608 * | 160 | incl. fixtures for 1090160060 | 3,700 | 1 |
| 24 Volt | | | | |
| 9700041589 | 20 | incl. fixtures for 1090020052 | 1,500 | 1 |
| 9700041591 | 25 | incl. fixtures for 1090025053 | 1,600 | 1 |
| 9700041593 | 32 | incl. fixtures for 1090032054 | 1,600 | 1 |
| 9700041595 | 40 | incl. fixtures for 1090040055 | 1,600 | 1 |
| 9700041597 | 50 | incl. fixtures for 1090050056 | 1,700 | 1 |
| 9700041599 | 63 | incl. fixtures for 1090063057 | 1,700 | 1 |
| 9700041703 * | 90 | incl. fixtures for 1090090058 | 3,300 | 1 |
| 9700041705 * | 110 | incl. fixtures for 1090110059 | 3,400 | 1 |
| 9700041708 * | 160 | incl. fixtures for 1090160060 | 3,700 | 1 |



Valves



Extension for ball valve

for article no. 1090020052- 1090160060

Material: PVC
Colour: grey

| Article no. | l | kg | PU |
|-------------|-----|-------|----|
| 9700098900 | 100 | 0,020 | 1 |
| 9700098901 | 100 | 0,025 | 1 |
| 9700098902 | 100 | 0,030 | 1 |
| 9700098903 | 100 | 0,125 | 1 |

aquatherm blue shut-off valve

with lever or with drive

Material: fusiolen® PP-R, steel
Colour: blue

| Article no. | d | L | z | kg | PU |
|--|-----|-------|-------|--------|----|
| socket welding | | | | | |
| with lever or with drive for SDR 6 / 7.4 / 9 / 11 / 17.6 | | | | | |
| 9702041820 | 75 | 138,0 | 78,0 | 6,763 | 1 |
| 9702041822 | 90 | 146,0 | 80,0 | 9,134 | 1 |
| 9702041824 | 110 | 163,0 | 89,0 | 10,400 | 1 |
| 9702041826 | 125 | 184,0 | 104,0 | 15,600 | 1 |
| butt welding | | | | | |
| with lever or with drive for SDR 11 | | | | | |
| 9702041830 | 160 | 242,0 | 227,0 | 22,000 | 1 |
| with lever or with drive for SDR 17.6 | | | | | |
| 9702541830 | 160 | 242,0 | 227,0 | 21,700 | 1 |
| with drive for SDR 11 | | | | | |
| 9702041834 | 200 | 320,0 | 305,0 | 41,400 | 1 |
| 9702041838 | 250 | 328,0 | 313,0 | 59,200 | 1 |
| 9702041842 | 315 | 432,0 | 412,0 | 81,800 | 1 |
| with drive for SDR 17.6 | | | | | |
| 9702541834 | 200 | 320,0 | 305,0 | 40,900 | 1 |
| 9702541838 | 250 | 328,0 | 313,0 | 58,400 | 1 |
| 9702541842 | 315 | 432,0 | 412,0 | 78,600 | 1 |

Ball valve for manifold

female/male — SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Colour: green

| Article no. | d | l | l1 | D | z | z1 | h | kg | PU |
|----------------|----|------|-------|------|------|------|------|-------|----|
| socket welding | | | | | | | | | |
| 1050032189 | 32 | 63,0 | 108,0 | 47,5 | 45,0 | 46,5 | 78,0 | 0,575 | 2 |

Supporting strap for four-port manifold

with clamps, galvanised, double

Material: Steel galvanised

| Article no. | d | l | l1 | l2 | h | h1 | kg | PU |
|-------------|----|-------|------|------|------|------|-------|----|
| 9600060210 | 32 | 210,0 | 80,0 | 57,0 | 66,0 | 46,0 | 0,226 | 2 |

Valves

Globe valve

for surface installation, socket welding — SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Colour: green

| Article no. | d | l | D | z | h | kg | PU |
|----------------|----|------|------|------|-------|-------|----|
| socket welding | | | | | | | |
| 1090020040 | 20 | 35,0 | 29,5 | 20,5 | 75,3 | 0,165 | 1 |
| 1090025041 | 25 | 38,0 | 34,0 | 22,0 | 75,0 | 0,172 | 1 |
| 1090032042 | 32 | 49,0 | 43,0 | 31,0 | 97,0 | 0,314 | 1 |
| 1090040043 | 40 | 60,0 | 52,0 | 39,5 | 111,5 | 0,585 | 1 |

Concealed valve, chromium plated

SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Colour: green

| Article no. | d | l | D | z | h | h1 | H2 | kg | PU |
|----------------|----|------|------|------|-------|------|------|-------|----|
| socket welding | | | | | | | | | |
| 1050020150 | 20 | 35,0 | 29,5 | 20,5 | 116,0 | 28,0 | 59,0 | 0,319 | 1 |
| 1050025151 | 25 | 38,0 | 34,0 | 22,0 | 116,0 | 28,0 | 59,0 | 0,330 | 1 |
| 1050032152 | 32 | 49,0 | 43,0 | 31,0 | 121,0 | 34,0 | 59,0 | 0,416 | 1 |

Extension for concealed valve

chromium-plated for art. no. 1050020150-1050032152

Material: brass
Colour: chrome

| Article no. | H | kg | PU |
|-------------|-------|-------|----|
| 9600040900 | 92,0 | 0,148 | 1 |
| 9600040902 | 132,0 | 0,209 | 1 |

Concealed valve, tamper proof

chromium-plated / short design, socket welding — SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Colour: green, chrome

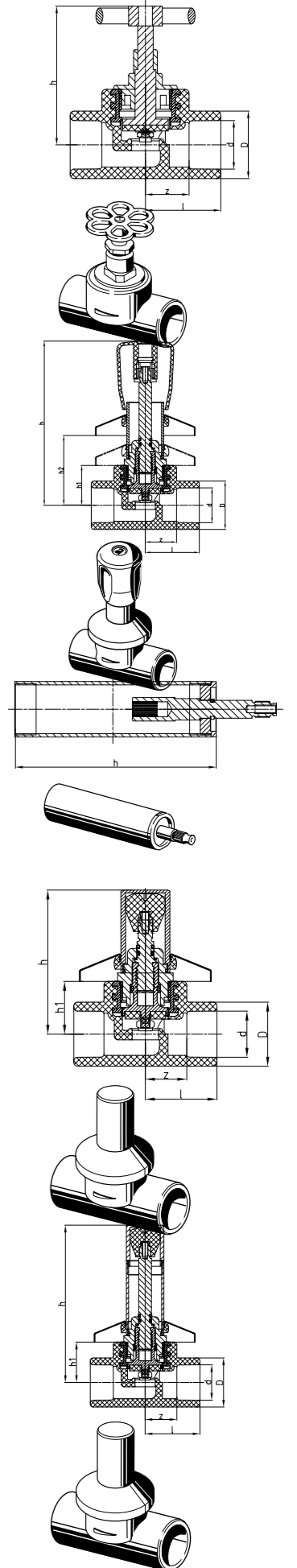
| Article no. | d | l | D | z | h | h1 | kg | PU |
|----------------|----|------|------|------|------|------|-------|----|
| socket welding | | | | | | | | |
| 1050020153 | 20 | 35,0 | 29,5 | 20,5 | 71,5 | 28,0 | 0,258 | 1 |
| 1050025154 | 25 | 38,0 | 34,0 | 22,0 | 72,0 | 28,0 | 0,288 | 1 |
| 1050032155 | 32 | 49,0 | 43,0 | 31,0 | 82,5 | 34,0 | 0,376 | 1 |

Concealed valve, tamper proof

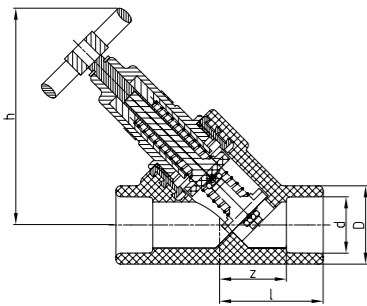
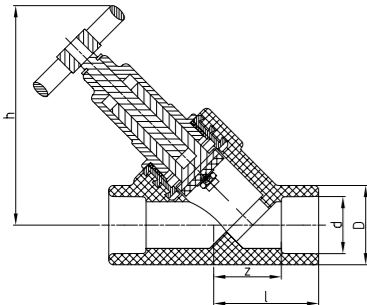
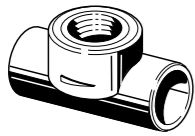
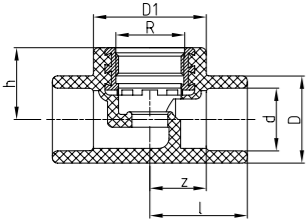
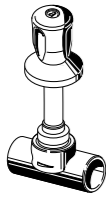
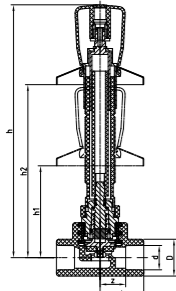
chromium-plated / long design, socket welding — SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Colour: green, chrome

| Article no. | d | l | D | z | h | h1 | kg | PU |
|----------------|----|------|------|------|-------|------|-------|----|
| socket welding | | | | | | | | |
| 1050020159 | 20 | 35,0 | 29,5 | 20,5 | 109,0 | 28,0 | 0,342 | 1 |
| 1050025160 | 25 | 38,0 | 34,0 | 22,0 | 109,0 | 28,0 | 0,350 | 1 |
| 1050032161 | 32 | 49,0 | 43,0 | 31,0 | 115,0 | 34,0 | 0,432 | 1 |



Valves



Concealed valve, construction depth 55–100 mm

suitable for construction depth 55 mm to 100 mm, socket welding
SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Colour: green, chrome

| Article no. | d | l | D | z | h | h1 | H2 | kg | PU |
|----------------|----|------|------|------|-------|------|-------|-------|----|
| socket welding | | | | | | | | | |
| 1050020156 | 20 | 35,0 | 29,5 | 20,5 | 213,0 | 59,0 | 147,0 | 0,357 | 1 |
| 1050025157 | 25 | 38,0 | 34,0 | 22,0 | 213,0 | 59,0 | 147,0 | 0,369 | 1 |
| 1050032158 | 32 | 49,0 | 43,0 | 31,0 | 219,0 | 65,0 | 153,0 | 0,455 | 1 |

Stop valve body

Material: fusiolen® PP-R / brass
Colour: green

| Article no. | d | l | D | D1 | z | h | R | kg | PU |
|----------------|----|------|------|------|------|------|--------|-------|----|
| socket welding | | | | | | | | | |
| 1090020046 | 20 | 35,0 | 29,5 | 44,0 | 20,0 | 28,0 | 3/4" | 0,082 | 1 |
| 1090025047 | 25 | 38,0 | 34,0 | 44,0 | 22,0 | 28,0 | 3/4" | 0,101 | 1 |
| 1090032048 | 32 | 49,0 | 43,0 | 52,0 | 31,0 | 34,0 | 1" | 0,146 | 1 |
| 1090040049 | 40 | 60,0 | 52,0 | 69,0 | 39,5 | 41,0 | 1 1/4" | 0,313 | 1 |

Inclined valve

without drain, socket welding – SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Colour: green

| Article no. | d | l | D | z | h | kg | PU |
|----------------|----|------|------|------|-------|-------|----|
| socket welding | | | | | | | |
| 1050020162 | 20 | 45,0 | 34,0 | 30,5 | 95,5 | 0,294 | 1 |
| 1050025163 | 25 | 45,0 | 34,0 | 29,0 | 95,5 | 0,283 | 1 |
| 1050032164 | 32 | 56,0 | 43,0 | 38,0 | 111,5 | 0,421 | 1 |
| 1050040165 | 40 | 65,0 | 52,0 | 44,5 | 135,0 | 0,834 | 1 |

Non-return valve

without drain, socket welding – SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Colour: green

| Article no. | d | l | D | z | h | kg | PU |
|----------------|----|------|------|------|-------|-------|----|
| socket welding | | | | | | | |
| 1050020170 | 20 | 45,0 | 34,0 | 30,5 | 95,5 | 0,297 | 1 |
| 1050025171 | 25 | 45,0 | 34,0 | 29,0 | 95,5 | 0,292 | 1 |
| 1050032172 | 32 | 56,0 | 43,0 | 38,0 | 111,5 | 0,432 | 1 |
| 1050040173 | 40 | 65,0 | 52,0 | 44,5 | 135,0 | 0,840 | 1 |

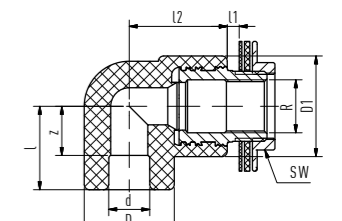
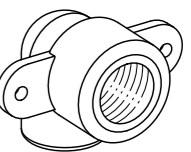
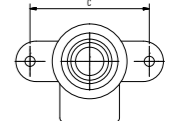
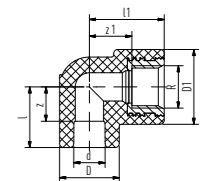
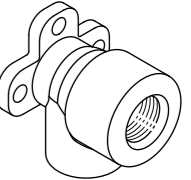
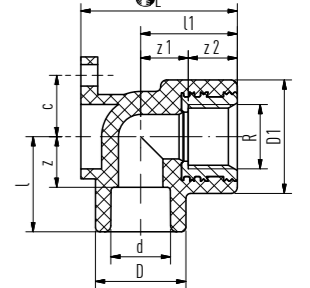
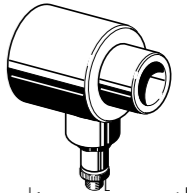
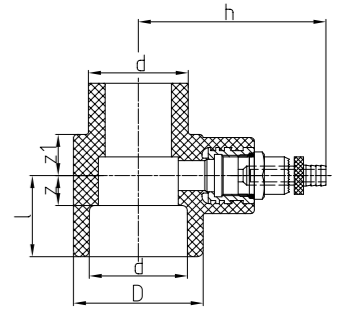
Assembly elements

Draining branch

to weld in aquatherm green valves, socket welding
SDR 6 / 7.4 / 9 / 11

Material: fusiolen® PP-R / brass
Colour: green

| Article no. | d | l | D | z | z1 | h | kg | PU |
|----------------|----|------|------|------|------|------|-------|----|
| socket welding | | | | | | | | |
| 1050020183 | 20 | 26,0 | 34,0 | 11,5 | 16,5 | 71,0 | 0,098 | 1 |
| 1050025184 | 25 | 26,0 | 34,0 | 10,0 | 16,5 | 71,0 | 0,096 | 1 |
| 1050032185 | 32 | 32,0 | 43,0 | 14,0 | 17,0 | 74,5 | 0,118 | 1 |
| 1050040186 | 40 | 32,5 | 52,0 | 12,0 | 16,5 | 80,5 | 0,140 | 1 |
| 1050050187 | 50 | 39,0 | 68,0 | 15,5 | 17,0 | 88,0 | 0,202 | 1 |
| 1050063188 | 63 | 44,0 | 84,0 | 16,5 | 16,5 | 96,0 | 0,288 | 1 |



Back plate elbow

brass (*stainless steel) – SDR 6 / 7.4 / 11

Material: fusiolen® PP-R / brass or stainless steel
Standards: DIN 1692, DIN EN ISO 15874
Colour: green

| Article no. | d | R | l | l1 | D | D1 | L | z | z1 | z2 | c | kg | PU |
|-------------------------|----|------|------|------|------|------|------|------|------|------|------|-------|----|
| one side socket welding | | | | | | | | | | | | | |
| 1040020151 | 20 | 1/2" | 31,0 | 31,5 | 29,5 | 37,0 | 51,0 | 16,5 | 18,5 | 13,0 | 20,0 | 0,079 | 10 |
| 1040020152 | 20 | 3/4" | 37,0 | 37,0 | 34,0 | 44,0 | 54,0 | 22,5 | 24,0 | 13,0 | - | 0,106 | 10 |
| 1040025153 | 25 | 3/4" | 37,0 | 37,0 | 34,0 | 44,0 | 54,0 | 21,0 | 24,0 | 13,0 | - | 0,105 | 10 |
| 1040025154 | 25 | 1/2" | 33,5 | 31,0 | 34,0 | 37,0 | 53,0 | 17,5 | 18,0 | 13,0 | 20,0 | 0,080 | 10 |
| 1090020070 * | 20 | 1/2" | 31,0 | 31,5 | 29,5 | 37,0 | 51,0 | 16,5 | 18,5 | 13,0 | 20,0 | 0,084 | 10 |
| 1090020071 * | 20 | 3/4" | 37,0 | 37,0 | 34,0 | 44,0 | 54,0 | 22,5 | 24,0 | 13,0 | - | 0,101 | 10 |
| 1090025072 * | 25 | 3/4" | 37,0 | 37,0 | 34,0 | 44,0 | 54,0 | 21,0 | 24,0 | 13,0 | - | 0,111 | 10 |
| 1090025073 * | 25 | 1/2" | 33,5 | 31,0 | 34,0 | 37,0 | 53,0 | 17,5 | 18,0 | 13,0 | 20,0 | 0,076 | 10 |

*stainless steel

Back plate elbow for dry construction

brass (*stainless steel) – SDR 6 / 7.4 / 11

Material: fusiolen® PP-R / brass or stainless steel
Standards: DIN 1692, DIN EN ISO 15874
Colour: green

| Article no. | d | l | l1 | D | D1 | z | z1 | R | kg | PU |
|-------------------------|----|------|------|------|------|------|------|------|-------|----|
| one side socket welding | | | | | | | | | | |
| 1040020156 | 20 | 30,0 | 37,0 | 29,5 | 37,0 | 15,5 | 24,0 | 1/2" | 0,079 | 10 |
| 1090020074 * | 20 | 30,0 | 37,0 | 29,5 | 37,0 | 15,5 | 24,0 | 1/2" | 0,078 | 10 |

*stainless steel

Transition piece with counternut

with gasket and tension washer, socket welding – SDR 6 / 7.4 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 1692, DIN EN ISO 15874
Colour: green

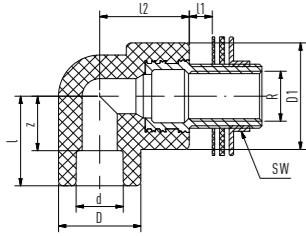
| Article no. | d | l | l1 | l2 | D | D1 | z | R | SW | kg | PU |
|-------------------------|----|------|-----|------|------|------|------|------|----|-------|----|
| one side socket welding | | | | | | | | | | | |
| 1050020062 | 20 | 37,0 | 3,5 | 35,0 | 29,5 | 44,0 | 22,5 | 1/2" | 29 | 0,154 | 10 |
| 1050025063 | 25 | 37,0 | 3,5 | 37,0 | 34,0 | 44,0 | 21,0 | 1/2" | 29 | 0,206 | 10 |

Mounting units

Transition elbow for plasterboard

SDR 6 / 7,4 / 11

Material: fusiolen® PP-R / brass
Colour: green



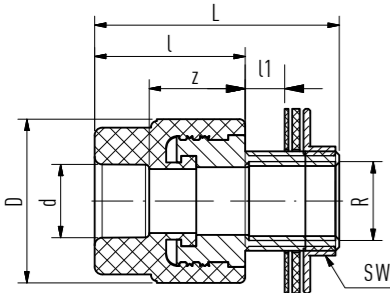
| Article no. | d | l | l1 | l2 | D | D1 | z | R | SW | kg | PU |
|--|----|------|------|------|------|------|------|------|----|-------|----|
| one side socket welding | | | | | | | | | | | |
| 1050020064 | 20 | 37,0 | 18,5 | 35,0 | 29,5 | 44,0 | 22,5 | 1/2" | 29 | 0,223 | 10 |
| with 30 mm thread, counternut, gasket and tension washer | | | | | | | | | | | |



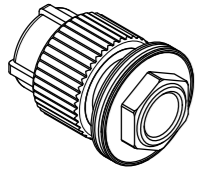
Transition piece with counternut

with gasket and tension washer, socket welding – SDR 6 / 7,4 / 11

Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

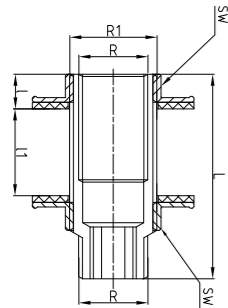


| Article no. | d | l | l1 | D | L | z | R | SW | kg | PU |
|-------------------------|----|------|------|------|------|------|------|----|-------|----|
| one side socket welding | | | | | | | | | | |
| 1050020060 | 20 | 40,0 | 13,5 | 43,5 | 65,0 | 25,5 | 1/2" | 29 | 0,204 | 10 |

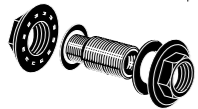


Dry construction wall fitting

Material: brass



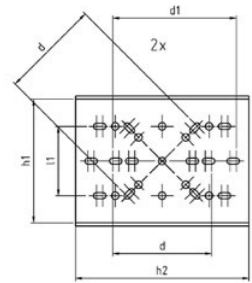
| Article no. | R | R1 | l | l1 | L | SW | kg | PU |
|-------------|------|------|------|------|------|----|-------|----|
| 9600020114 | 1/2" | 3/4" | 10,5 | 26,0 | 62,0 | 30 | 0,213 | 10 |



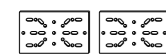
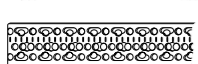
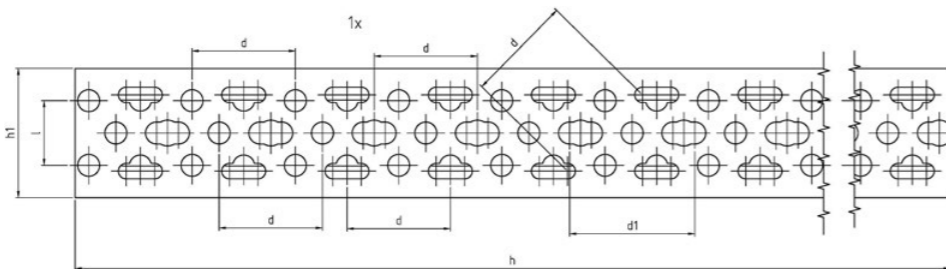
Mounting plate galvanised

to fix back plate elbows as double connection including 2 fixing plates and 4 screws

Material: Iron / galvanised



| Article no. | d | d1 | l | l1 | h | h1 | h2 | kg | PU |
|-------------|----|------|----|----|-----|----|----|-------|----|
| 7050000016 | 40 | 50,0 | 25 | 28 | 560 | 50 | 70 | 0,546 | 1 |

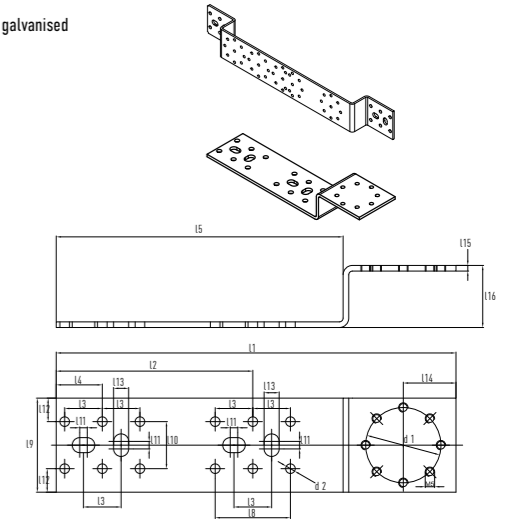
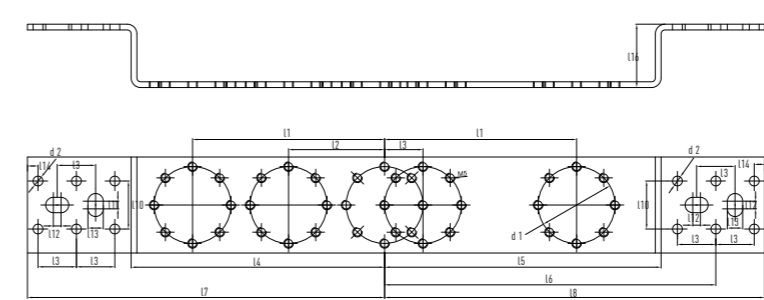


Mounting units

Mounting rail (double and single)

Material: Iron / galvanised

| Article no. | d1 | d2 | kg | PU |
|-------------|------|-----|-------|----|
| 7050000017 | 40,0 | 5,1 | 0,412 | 2 |
| 7050000018 | 40,0 | 5,1 | 0,235 | 2 |



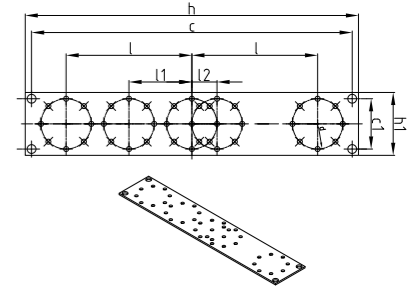
Mounting plate galvanised

to fix back plate elbows as double connection

Material: Iron / galvanised

| Article no. | d | l | l1 | l2 | c | c1 | h | h1 | kg | PU |
|-------------|----|-----|----|----|-----|----|-----|----|-------|----|
| 7050000020 | 40 | 100 | 50 | 20 | 255 | 40 | 265 | 50 | 0,221 | 1 |

not suitable for connection with sound insulation plate (art. no. 7020000015). We recommend mounting rail art. no. 7050000016

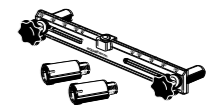


Assembling jig

as water level with 2 plugs 1/2"

Material: fusiolen® PP-R
Colour: green

| Article no. | kg | PU |
|-------------|-------|----|
| 9800050700 | 0,252 | 1 |

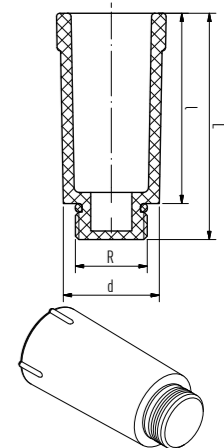


Plug for pressure tests

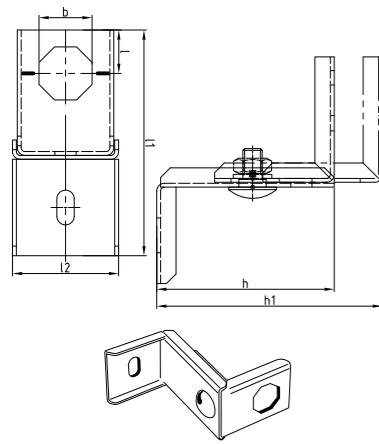
with gasket

Material: fusiolen® PP-R
Colour: green

| Article no. | d | l | L | R | kg | PU |
|-------------|----|------|------|------|-------|----|
| 9800050708 | 28 | 55,5 | 66,0 | 1/2" | 0,022 | 10 |
| 9800050710 | 34 | 55,5 | 66,0 | 3/4" | 0,027 | 10 |



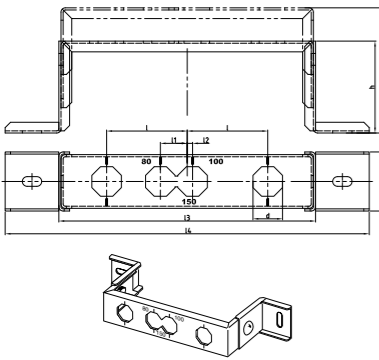
Mounting units



Mounting unit, single

Material: Iron / galvanised

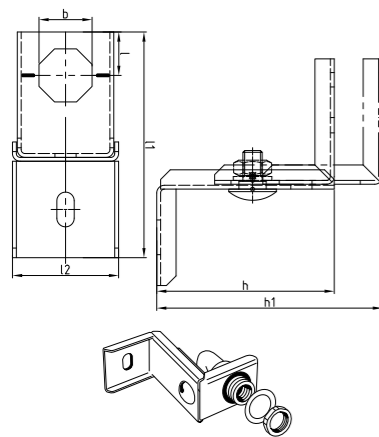
| Article no. | B | l | l1 | l2 | h | h1 | kg | PU |
|-------------|------|-----|------|----|------|-------|-------|----|
| 705000002 | 27,5 | 118 | 22,5 | 55 | 92,5 | 122,5 | 0,278 | 1 |



Mounting unit, double

Material: Iron / galvanised

| Article no. | b | l | l1 | l2 | h | h1 | l3 | l4 | l5 | kg | PU |
|-------------|------|----|----|----|------|-------|-----|-----|----|-------|----|
| 705000001 | 27,5 | 75 | 25 | 5 | 92,5 | 122,5 | 239 | 339 | 55 | 0,630 | 1 |

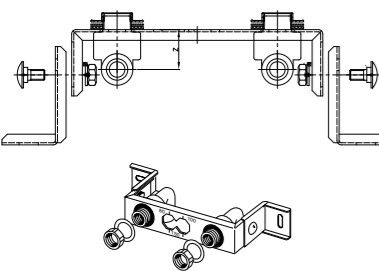


Mounting unit with one aquatherm green transition elbow

with one aquatherm green transition elbow, with counternut, gasket and tension washer

Material: fusioten® PP-R / brass, Iron / galvanised

| Article no. | b | l | l1 | l2 | h | h1 | kg | PU |
|-------------|------|------|-----|----|------|-------|-------|----|
| 705000004 | 27,5 | 22,5 | 118 | 55 | 92,5 | 122,5 | 0,434 | 1 |



Mounting unit with two aquatherm green transition elbows

with two aquatherm green transition elbows, with counternut, gasket and tension washer

Material: fusioten® PP-R / brass, Iron / galvanised

| Article no. | b | l | l1 | l2 | h | h1 | l3 | l4 | l5 | kg | PU |
|-------------|------|----|----|----|------|-------|-----|-----|----|-------|----|
| 705000003 | 27,5 | 75 | 25 | 5 | 92,5 | 122,5 | 239 | 339 | 55 | 0,942 | 1 |

Distribution elements

Four-port manifold

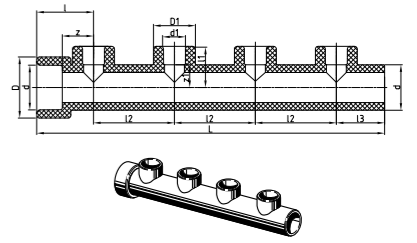
length: 246 mm, with 4 branches – SDR 6 / 7.4 / 9 / 11

Material: fusioten® PP-R green
Colour:

| Article no. | d | d1 | l | l1 | l2 | l3 | D | D1 | L | z | z1 | kg | PU |
|-------------|----|------|----|----|----|----|------|------|-------|------|------|-------|----|
| 1090032032 | 32 | 16,0 | 40 | 29 | 57 | 36 | 43,0 | 29,5 | 245,0 | 22,0 | 16 | 0,148 | 1 |
| 1090032033 | 32 | 20,0 | 40 | 29 | 57 | 36 | 43,0 | 29,5 | 245,0 | 22,0 | 14,5 | 0,134 | 1 |

socket welding

The four-port manifold can be shortened or extended by fusion with further four-port manifolds, if required.



Manifold end piece with female thread

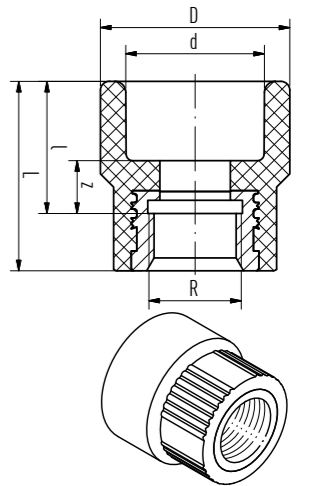
SDR 6 / 7.4 / 9 / 11

Material: fusioten® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

| Article no. | d | l | D | L | z | R | kg | PU |
|-------------|----|------|------|------|------|------|-------|----|
| 1090032034 | 32 | 30,0 | 43,0 | 43,0 | 12,0 | 1/2" | 0,073 | 1 |

one side socket welding

Transition piece as manifold endpiece with female thread



Distribution block plumbing

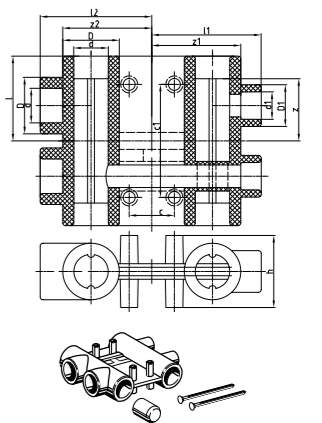
SDR 6 / 7.4 / 11

Material: fusioten® PP-R green
Colour:

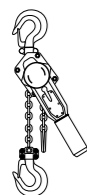
| Article no. | d | d1 | l | l1 | l2 | D | D1 | z | z1 | z2 | c | c1 | cl | l3 | h | kg | PU |
|-------------|----|------|----|------|----|------|------|------|----|------|----|----|-----|----|----|-------|----|
| 1050025016 | 25 | 20,0 | 60 | 77,5 | 79 | 40,0 | 29,5 | 44,0 | 63 | 63,0 | 32 | 80 | 100 | 36 | 51 | 0,273 | 1 |

socket welding

including 1 plug and 2 fasteners



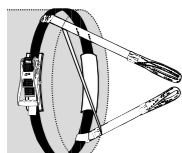
Accessories



Chain hoist

Tools for assembling push-in couplings

| Article no. | kg | PU |
|-------------|-------|----|
| 9800050530 | 2,800 | 1 |



Tension band

width 50 mm including towing eyes. For fixing the pipe when assembling push-in couplings

| Article no. | kg | PU |
|-------------|-------|----|
| 9800050533 | 2,500 | 1 |

50 mm incl. towing eyes

Brush

for applying lubricant when assembling push-in coupling systems

| Article no. | kg | PU |
|-------------|-------|----|
| 9800050534 | 0,045 | 1 |

Lubricant

250 ml for use when assembling push-in coupling systems

| Article no. | kg | PU |
|-------------|-------|----|
| 9800050535 | 0,280 | 1 |

Adhesive tape to protect against UV-radiation

| Article no. | Dimension | kg | PU |
|-------------|------------------------|-------|----|
| 9700010871 | Dimension 50 mm x 10 m | 0,133 | 1 |

aquatherm-PP-Primer

for aquatherm PP pipes

| Article no. | Container | kg | PU |
|-------------|----------------|-------|----|
| 9700050230 | Container: 1l | 0,994 | 1 |
| 9700050231 | Container: 10l | 9,269 | 1 |

aquatherm special top coat

for aquatherm PP pipes

| Article no. | Container | kg | PU |
|-------------|-----------------------|-------|----|
| 9700050232 | black Container: 2,5l | 3,007 | 1 |
| 9700050233 | white Container: 2,5l | 3,436 | 1 |

Accessories

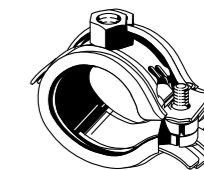
Pipe clamps

suitable for sliding and fixed point installation

| Article no. | for pipe diameters | kg | PU |
|-------------|--------------------|-------|----|
| 9600060516 | 16 | 0,045 | 50 |
| 9600060520 | 20 | 0,048 | 50 |
| 9600060525 | 25 | 0,051 | 50 |
| 9600060532 | 32 | 0,060 | 50 |
| 9600060540 | 40 | 0,067 | 50 |
| 9600060550 | 50 | 0,079 | 50 |
| 9600060563 | 63 | 0,091 | 25 |
| 9600060575 | 75 | 0,105 | 25 |
| 9600060590 | 90 | 0,128 | 25 |
| 9600060594 | 110 | 0,155 | 25 |
| 9600060595 | 125 | 0,212 | 25 |
| 9600060597 | 160 | 0,342 | 25 |
| 9600060650 | 200 | 1,014 | 1 |
| 9600060654 | 250 | 1,193 | 1 |
| 9600060658 | 315 | 1,618 | 1 |
| 9600060660 | 355 | 1,920 | 1 |

Thread connection: M8 & M10 for 16 - 125 mm | M10 for 160 mm | M16 for 200 - 355 mm

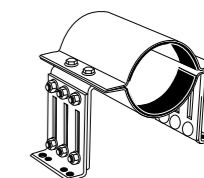
Material: steel



Pipe clamps suitable for fixed point installation

| Article no. | for pipe diameters | kg | PU |
|-------------|--------------------|--------|----|
| 9600060768 | 160 | 8,548 | 1 |
| 9600060770 | 200 | 9,449 | 1 |
| 9600060774 | 250 | 19,367 | 1 |
| 9600060778 | 315 | 22,753 | 1 |
| 9600060780 | 355 | 24,840 | 1 |
| 9600060782 | 400 | 43,642 | 1 |
| 9600060784 | 450 | 46,253 | 1 |
| 9600060786 | 500 | 48,865 | 1 |
| 9600060790 | 630 | 55,659 | 1 |

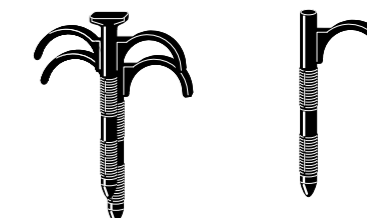
Material: steel



Pipe fastening bow 16-32 mm

| Article no. | for pipe diameters | kg | PU |
|-------------|----------------------------|-------|----|
| 7020016005 | for pipes 16-32 mm L=45 mm | 0,005 | 50 |
| 7020016006 | for pipes 16-32 mm L=75 mm | 0,007 | 50 |
| 7020016007 | for pipes 16-32 mm L=45 mm | 0,007 | 50 |
| 7020016008 | for pipes 16-32 mm L=75 mm | 0,009 | 50 |

Material: PA



Plastic pipe clamps 16-40 mm

| Article no. | for pipe diameters | kg | PU |
|-------------|--------------------|-------|----|
| 7090016010 | for pipes 16 mm | 0,007 | 50 |
| 7090020011 | for pipes 20 mm | 0,008 | 50 |
| 7090025012 | for pipes 25 mm | 0,016 | 30 |
| 7090032013 | for pipes 32 mm | 0,017 | 30 |
| 7040040014 | for pipes 40 mm | 0,020 | 30 |

Material: fusiolen® PP-R

