

Edition No. 8 2016 | 1st July 2016

TECHNEWS

technews@aquatherm.de



aquatherm

state of the pipe

AQUATHERM PASSES MOST STRINGENT USP CLASS VI MEDICAL DEVICE TESTING

The U.S. Pharmacopeial Convention (USP) was established in 1820 to create a national set of requirements for pharmaceuticals and health products. This non-profit organization is now a global entity relying on experts around the world to create standards for medical devices and materials along with many other areas such as dietary supplements, food ingredients, medicines and other healthcare products. USP standards are recognized by and integrated into US federal legislation and used in more than 140 countries.

In addition to medicines, the USP publishes biocompatibility protocols for the plastics and polymers used in medical devices or surgical equipment that may come in contact with human tissue. This strict standard was recognized as a good test for other products, and is now used in a large variety of medical and pharmaceutical applications. Depending on the specific use of the plastic, as well as other factors such as the length of patient contact time (limited, prolonged, or permanent), materials are categorized into one of six classes. The USP Class VI designation is considered the most stringent and is now the standard requirement for many products and materials.

In addition to demonstrating an extremely low level of toxicity by passing the Class VI tests, the material will be subjected to several elevated temperature assessments for set periods of time. As such, materials and products that meet USP Class VI standards are generally considered to be of a higher quality level and are more readily accepted with the FDA and USDA.

Aquatherm sponsored a study to determine if the green pipe material, fusiolen®, would comply with the requirements of USP Class VI testing. This is the most stringent level of testing for plastic materials in medical devices, and is used as a reference for plastics products such as piping systems pharmaceutical plants. The study was conducted in full compliance with 21 CFR 58 Good Laboratory Practice (GLP) for Nonclinical Laboratory Studies. As noted in the study report, "Based on the criteria of the protocol and the USP Guidelines for Class VI Plastics – 70°C, the test article, aquatherm Greenpipe, meets the requirements of the test."

This helps to ensure that when Aquatherm piping is being used in highly sensitive areas such as pharmaceutical and biochemistry plants and applications, the piping will not contaminate or otherwise interfere with the biological and chemical processes being used. For a summary of the study results, please contact your Regional Sales Manager.



Edition No. 8 2016 | 1st July 2016

TECHNEWS

technews@aquatherm.de



aquatherm

state of the pipe

aquatherm Prefabrication: Advantages

Investors

- Support from planning to commissioning
- Service technicians provide advice and support on site
- Development of customized solutions
- Time- and cost savings due to pre-fabrication
- Cost transparency
- Quick and easy installation into existing systems
- Reduce dead-time
- Over 40 years of proven quality and experience
- Insurance cover up to 20 million Euros per individual case

Architects and planners

- Planning support from the aquatherm design team
- Support for the plausibility and completeness check
- Provision of CAD and planning data
- Detailed planning data for testing and production release
- 3D drawings minimize design errors
- Early detailed planning means planning and cost reliability
- High precision of the components due to pre-fabrication
- Time saving through pre-fabrication
- More than 40 years of experience in manifold and plant construction

Advantages of aquatherm manifolds and special components

- Industrial pre-fabrication "Made in Germany"
- Certified and inspected – ISO 9001/ISO 14001/ISO 50001
- Resistance to corrosion, chemicals and aggressive media
- Pre-insulated available
- Thinner insulation
- UV-resistance available
- Heat- / sound-insulating properties
- Oxygen-tight¹
- Hygienic²
- Weight reduction due to the use of PP-R
- No silting by corrosion products
- Less pipe roughness and high abrasion resistance
- High impact strength
- Tight connection of pipe and fitting by fusion
- Three-layer pipe structure with glass fiber-reinforced middle-layer
- Flame resistant according to DIN 4102-1, building material class B 1³
- Recyclable
- Durable

Plumbers / Plant engineers

- High, tested quality with a 10 years warranty
- Support and advice of service technicians on site
- Highest accuracy due to detailed planning
- Order monitoring and delivery by the specialized wholesale
- No delays due to missing parts
- Low tooling costs
- Rapid add-on by aquatherm saddle-technique
- Weight reduction due to the use of PP-R, thus easier handling during transport and on site
- No improvise on site
- Fast installation times
- Installation in confined spaces is possible
- Compensation of skills shortage

¹ aquatherm blue pipe OT

² aquatherm green pipe

³ aquatherm red pipe

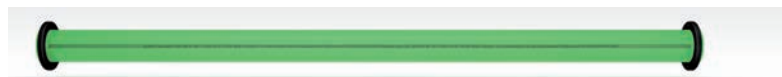
MODULE PRODUCTION – A SIGNIFICANT STEP FOR THE PLANT PRODUCTION

aquatherm now offers its customers, in addition to the complete, individual pre-fabrication of distributors, standardized modules for quick and easy manifold construction. The modules consist of 5.8 and 11.6 meter pipes, which have on one or both sides a flange adapter and a loose flange, and also one or both sides with flange adapter and 90° elbows provides with a loose flange. The module production means an important step for the plant construction and includes the types of pipe of aquatherm green pipe SDR 9 and SDR 11, aquatherm blue pipe SDR 11, SDR 11 OT and SDR 17.6 as normal and insulated pipe.

Pipe distribution networks can be installed efficiently and without cost-intensive processing times with flange adapters. The combination of aquatherm saddle technology and the extensive aquatherm PP-R fitting range provide that now many projects can be implemented more easily and more effectively.

The following tables provide an overview of all currently available modules. The prices can be obtained from your aquatherm contact person.

PIPE MODULE



aquatherm COMPOSITE PIPE TWO-SIDED WITH FLANGE ADAPTER AND LOOSE FLANGE 5.8 M

Fiber composite pipe as single pipe in 5.8 m length

Outside diameter	aquatherm green pipe SDR 9	aquatherm green pipe SDR 11	aquatherm blue pipe SDR 11	aquatherm blue pipe ot SDR 11	aquatherm blue pipe SDR 17,6	PU
Medium pipe	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	m/pc
160 mm	7270729	7310229*	8370129	8570129	8470129	5,8
200 mm	7270733	7310233*	8370133	8570133	8470133	5,8
250 mm	7270737	7310237*	8370137	8570137	8470137	5,8
315 mm	7270741	7310241*	8370141		8470141	5,8
355 mm	7270743	7310243*	8370143		8470143	5,8
400 mm		7310245	8370145		8470145	5,8
450 mm		7310247	8370147		8470147	5,8
500 mm					8470149	5,8
560 mm					8470151	5,8
630 mm					8470153	5,8

* single layer

PIPE MODULE



aquatherm FIBER COMPOSITE PIPE **TWO-SIDED** WITH FLANGE ADAPTER AND LOOSE FLANGE 11.6 M

Fiber composite pipe as single pipe in 11.6 m length

Outside diameter	aquatherm green pipe SDR 9	aquatherm green pipe SDR 11	aquatherm blue pipe SDR 11	aquatherm blue pipe ot SDR 11	aquatherm blue pipe SDR 17,6	PU
Medium pipe	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	m/pc
160 mm	7270730	7310230*	8370130	8570130	8470130	11,6
200 mm	7270734	7310234*	8370134	8570134	8470134	11,6
250 mm	7270738	7310238*	8370138	8570138	8470138	11,6
315 mm	7270742	7310242*	8370142		8470142	11,6
355 mm	7270744	7310244*	8370144		8470144	11,6
400 mm		7310246			8470146	11,6
450 mm		7310248			8470148	11,6
500 mm					8470150	11,6
560 mm					8470152	11,6
630 mm					8470154	11,6

* single layer



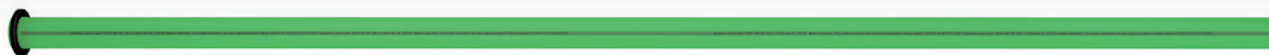
aquatherm FIBER COMPOSITE PIPE **ONE-SIDED** WITH FLANGE ADAPTER AND LOOSE FLANGE 5.8 M

Fiber composite pipe as single pipe in 5.8 m length

Outside diameter	aquatherm green pipe SDR 9	aquatherm green pipe SDR 11	aquatherm blue pipe SDR 11	aquatherm blue pipe ot SDR 11	aquatherm blue pipe SDR 17,6	PU
Medium pipe	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	m/pc
160 mm	7270829	7310329*	8370329	8570329	8470329	5,8
200 mm	7270833	7310333*	8370333	8570333	8470333	5,8
250 mm	7270837	7310337*	8370337	8570337	8470337	5,8
315 mm	7270841	7310341*	8370341		8470341	5,8
355 mm	7270843	7310343*	8370343		8470343	5,8
400 mm		7310345	8370345		8470345	5,8
450 mm		7310347	8370347		8470347	5,8
500 mm					8470349	5,8
560 mm					8470351	5,8
630 mm					8470353	5,8

* single layer

PIPE MODULE

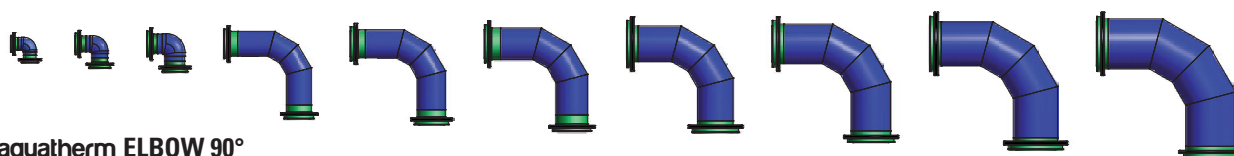


aquatherm FIBER COMPOSITE PIPE ONE-SIDED WITH FLANGE ADAPTER AND LOOSE FLANGE 11.6 M

Fiber composite pipe as single pipe in 11.6 m length

Outside diameter	aquatherm green pipe SDR 9	aquatherm green pipe SDR 11	aquatherm blue pipe SDR 11	aquatherm blue pipe ot SDR 11	aquatherm blue pipe SDR 17,6	PU
Medium pipe	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	m/pc
160 mm	7270830	7310330*	8370330	8570330	8470330	11,6
200 mm	7270834	7310334*	8370334	8570334	8470334	11,6
250 mm	7270838	7310338*	8370338	8570338	8470338	11,6
315 mm	7270842	7310342*	8370342		8470342	11,6
355 mm	7270844	7310344*	8370344		8470344	11,6
400 mm		7310346	8370346		8470346	11,6
450 mm		7310348	8370348		8470348	11,6
500 mm					8470350	11,6
560 mm					8470352	11,6
630 mm					8470354	11,6

* single layer



aquatherm ELBOW 90°

Outside diameter	aquatherm green pipe SDR 9	aquatherm green pipe SDR 11	aquatherm blue pipe SDR 11	aquatherm blue pipe ot SDR 11	aquatherm blue pipe SDR 17,6	PU
Medium pipe	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	m/pc
160 mm	7212130	7312131	8312131	8512131	8412130	1
200 mm	7212134	7312135	8312135	8512135	8412134	1
250 mm	7212138	7312139	8312139	8512139	8412138	1
315 mm	7212142	7312143	8312143		8412142	1
355 mm	7212144	7312145	8312145		8412144	1
400 mm		7312147	8312147		8412146	1
450 mm		7312149	8312149		8412148	1
500 mm					8412150	1
560 mm					8412152	1
630 mm					8412154	1

On demand also available in design 60° und 75°

PIPE MODULE



aquatherm TI FIBER COMPOSITE PIPE TWO-SIDED WITH FLANGE ADAPTER AND LOOSE FLANGE 5.8 M

Fiber composite pipe as single pipe in 5.8 m length with PUR- rigid foam insulation and PE-casing pipe.

Outside diameter		aquatherm green pipe ti SDR 9	aquatherm blue pipe ti SDR 11	aquatherm blue pipe ot ti SDR 11	aquatherm blue pipe ti SDR 17,6	PU
Medium pipe	Casing pipe	Art.-No.	Art.-No.	Art.-No.	Art.-No.	m/pc
160 mm	250 mm	7470729	8770129	8970129	8870129	5,8
200 mm	315 mm	7470733	8770133	8970133	8870133	5,8
250 mm	400 mm	7470737	8770137	8970137	8870137	5,8
315 mm	450 mm	7470741	8770141		8870141	5,8
355 mm	500 mm	7470743	8770143		8870143	5,8



aquatherm TI FIBER COMPOSITE PIPE TWO-SIDED WITH FLANGE ADAPTER AND LOOSE FLANGE 11.6 M

Fiber composite pipe as single pipe in 11.6 m length with PUR- rigid foam insulation and PE-casing pipe.

Outside diameter		aquatherm green pipe ti SDR 9	aquatherm blue pipe ti SDR 11	aquatherm blue pipe ot ti SDR 11	aquatherm blue pipe ti SDR 17,6	PU
Medium pipe	Casing pipe	Art.-No.	Art.-No.	Art.-No.	Art.-No.	m/pc
160 mm	250 mm	7470730	8770130	8970130	8870130	11,6
200 mm	315 mm	7470734	8770134	8970134	8870134	11,6
250 mm	400 mm	7470738	8770138	8970138	8870138	11,6
315 mm	450 mm	7470742	8770142		8870142	11,6
355 mm	500 mm	7470744	8770144		8870144	11,6



aquatherm TI FIBER COMPOSITE PIPE ONE-SIDED WITH FLANGE ADAPTER AND LOOSE FLANGE 5.8 M

Fiber composite pipe as single pipe in 5.8 m length with PUR- rigid foam insulation and PE-casing pipe.

Outside diameter		aquatherm green pipe ti SDR 9	aquatherm blue pipe ti SDR 11	aquatherm blue pipe ot ti SDR 11	aquatherm blue pipe ti SDR 17,6	PU
Medium pipe	Casing pipe	Art.-No.	Art.-No.	Art.-No.	Art.-No.	m/pc
160 mm	250 mm	7470829	8770329	8970329	8870329	5,8
200 mm	315 mm	7470833	8770333	8970333	8870333	5,8
250 mm	400 mm	7470837	8770337	8970337	8870337	5,8
315 mm	450 mm	7470841	8770341		8870341	5,8
355 mm	500 mm	7470843	8770343		8870343	5,8

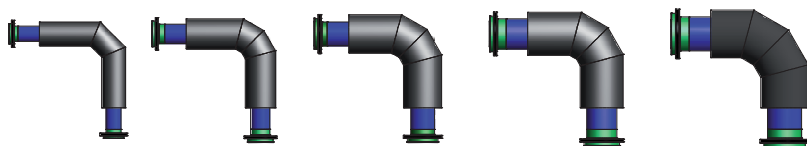
PIPE MODULE



aquatherm TI FIBER COMPOSITE PIPE **ONE-SIDED** WITH FLANGE ADAPTER AND LOOSE FLANGE 11.6 M

Fiber composite pipe as single pipe in 11.6 m length with PUR- rigid foam insulation and PE-casing pipe.

Outside diameter		aquatherm green pipe ti SDR 9	aquatherm blue pipe ti SDR 11	aquatherm blue pipe ot ti SDR 11	aquatherm blue pipe ti SDR 17,6	PU
Medium pipe	Casing pipe	Art.-No.	Art.-No.	Art.-No.	Art.-No.	m/pc
160 mm	250 mm	7470830	8770330	8970330	8870330	11,6
200 mm	315 mm	7470834	8770334	8970334	8870334	11,6
250 mm	400 mm	7470838	8770338	8970338	8870338	11,6
315 mm	450 mm	7470842	8770342		8870342	11,6
355 mm	500 mm	7470844	8770344		8870344	11,6



aquatherm ti ELBOW 90°

with PUR-rigid foam insulation and PE-casing pipe

Outside diameter		aquatherm green pipe ti SDR 9	aquatherm blue pipe ti SDR 11	aquatherm blue pipe ot ti SDR 11	aquatherm blue pipe ti SDR 17,6	PU
Medium pipe	Casing pipe	Art.-No.	Art.-No.	Art.-No.	Art.-No.	m/pc
160 mm	250 mm	7412130	8712131	8912131	8812130	1
200 mm	315 mm	7412134	8712135	8912135	8812134	1
250 mm	400 mm	7412138	8712139	8912139	8812138	1
315 mm	450 mm	7412142	8712143		8812142	1
355 mm	500 mm	7412144	8712145		8812144	1

On demand also available in design 60° und 75°


AQUATHERM DISTRIBUTOR QUERY FORMS

The aquatherm distributor query forms help to determine the most important information quickly and in detail. You can download the forms directly and fill in in digital under the following link: www.aquatherm-pipesystems.com/index.php?id=1244&L=2

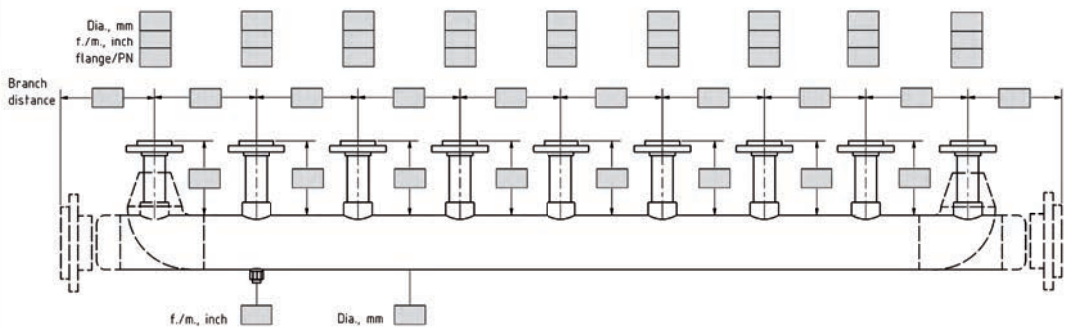
Manifold inquiry Sanitary Dia. 20-630 mm:

The offer and respective drawing, as well as one revision are free of charge. As of the second revision, incurred expenses will be invoiced acc. to time and effort involved.

Client: Date:
 Building owner:
 Project:
 Type of pipe/system: Total length of manifold,mm: Max. service overpressure:
 Max. service temperature: Shut-off valves(type/brand): Remarks:



aquatherm
state of the pipe




☐ Manifold without dead storage zones

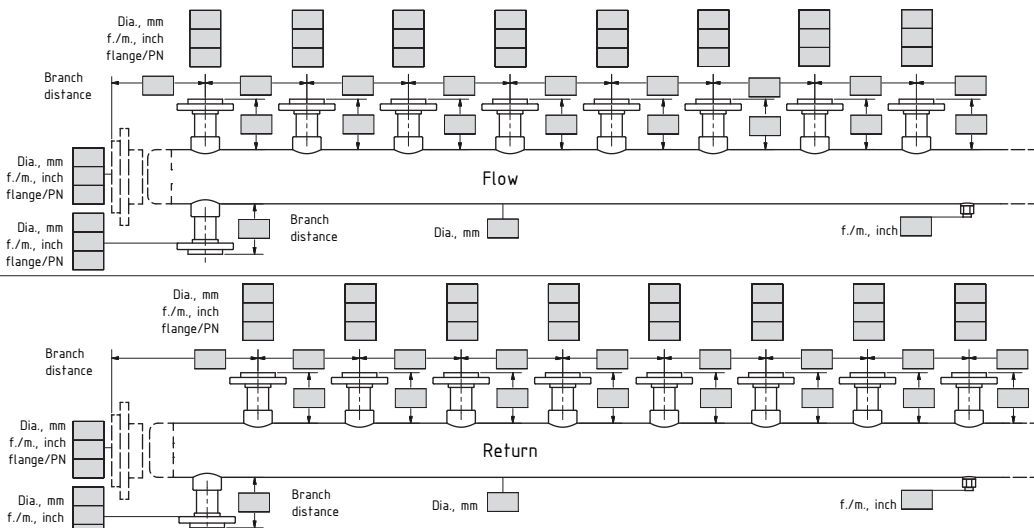
Manifold inquiry Heating/Cold Dia. 20-630 mm:

The offer and respective drawing, as well as one revision are free of charge. As of the second revision, incurred expenses will be invoiced acc. to time and effort involved.

Client: Date:
 Building owner:
 Project:
 Type of pipe/system: Total length of manifold,mm: Max. service overpressure:
 Max. service temperature: Shut-off valves(type/brand): Remarks:



aquatherm
state of the pipe



Edition No. 8 2016 | 1st July 2016

TECHNEWS

technews@aquatherm.de



aquatherm

state of the pipe

ZURO-CONSTRUCTION SITE UP-DATED WEBCAM-PHOTO

As already described in Technews No. 1 2015, you can select the up-dated ZuRo-Webcam on the website of our website www.aquatherm.de. The photo is updated and rewritten every ten minutes around the clock.

The most recent photo of our construction project is presented in each Technews edition:

HERE ARISES ZURO – THE FUTURE OF PIPE PRODUCTION

