



**BTS** INDUSTRIES GROUP  
MILLIONS OF QUALITY

Plumbing Systems >

**Group Introduction**



Full Support of  
your needs  
in **Plumbing Industry**



BTS Industries Group



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- Iran National Standard
- Technical Certificate of RHDRC, Housing and Development Research Center
- IQNet and DQS Certificates
- Sewage Push-Fit Standards



## BTS Industries Group

BTS Industries Group is one of the largest and most specialized technical and engineering complexes and manufacturers of brass fittings, brass valves and five-layer pipes in the country and region. Members of this industrial group are Faraz Gostar Sepahan, Behtarashan Sepahan and Ehdas Sanat Pishrafteh. Initial formation of this group began in 1988 with design and creation of complex machines, such as transfer machines needed for the valve and brass fittings industry. Currently, BTS Industries Group in Isfahan Province is operating in an area of over 20,000 square meters with 500 personnel. Brass products which are made by BTS have the capability of being used by all five-layer standard pipes. Therefore, diverse range of clients, including those who are working in housing, water supply systems designers, five-layer pipe manufacturers ,etc. have joined with BTS big family. We are delighted for being with you for years to bring comfort to your environment.



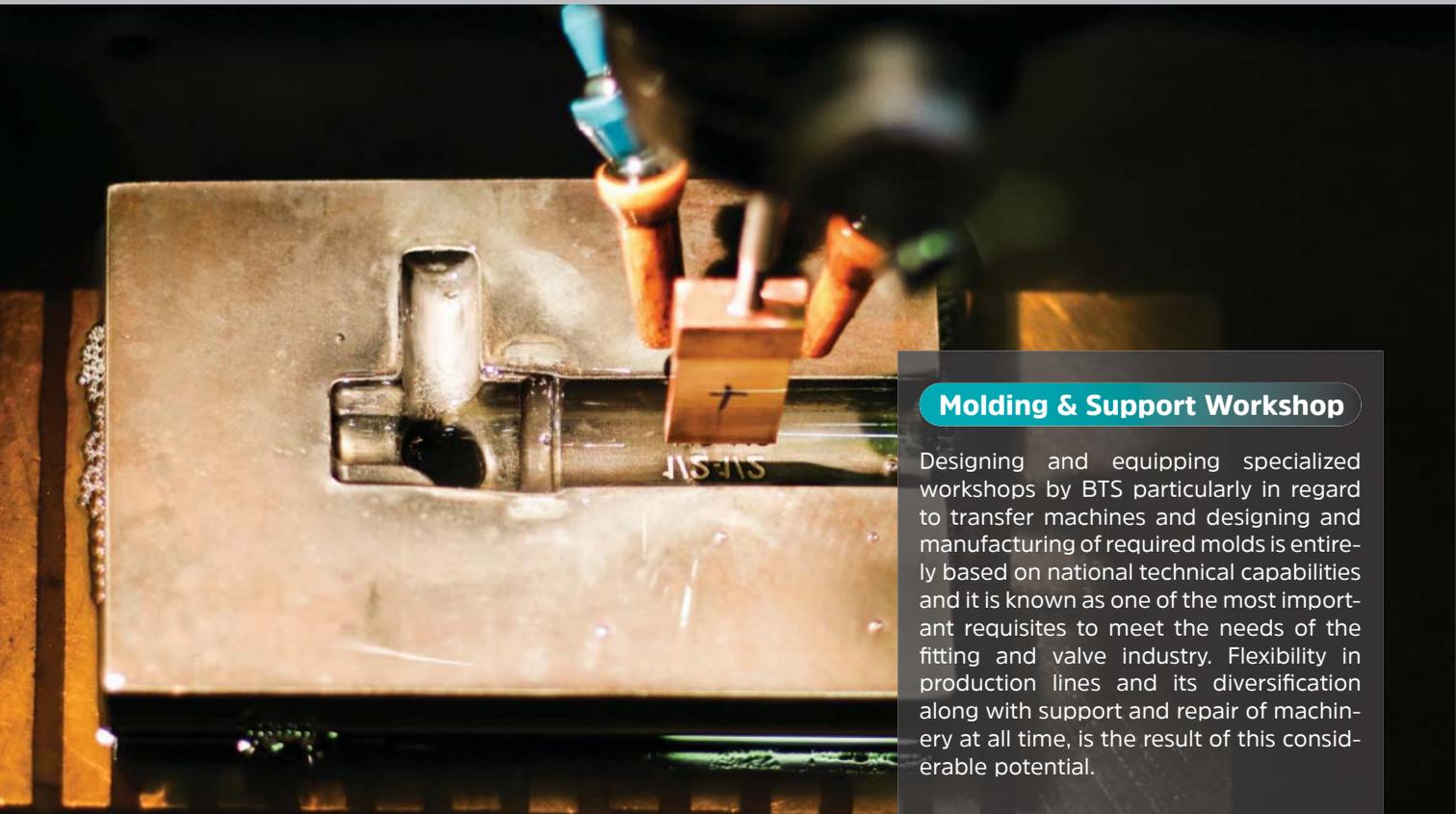
### Machine Manufacturing Workshop

The machine manufacturing workshop of BTS Industries Group is responsible for designing, creating and installing a variety of transfer machines and other equipment needed for mass production of brass parts. Designing and manufacturing all parts, controlling tools, jaws, and machining tools, etc. are done in this workshop. Due to the main nature of this workshop, its continuous coordination with forging, pressing, machining and molding workshops is of great importance. This harmonization of the mass production of complex components and new parts results in maximum precision and minimum time.



### Tool Manufacturing Workshop

Considering the wide range of products manufactured by BTS and the variety of shapes and dimensions of these products, there must be various tools in transfer workstations for machining these parts. These tools and their holders are designed and created using special tool manufacturing machines in this workshop. Having a specialized workshop for tool manufacturing which is an integral part in machine manufacturing workshop plays a significant role in producing millions of quality.



### Molding & Support Workshop

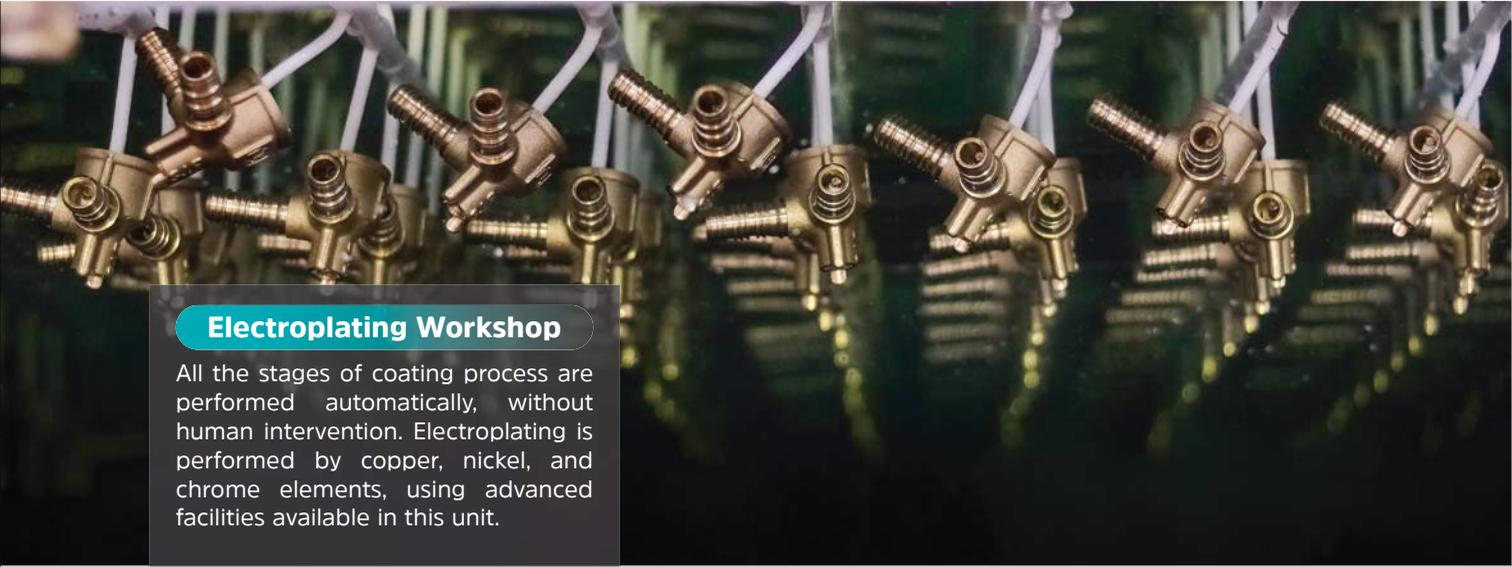
Designing and equipping specialized workshops by BTS particularly in regard to transfer machines and designing and manufacturing of required molds is entirely based on national technical capabilities and it is known as one of the most important requisites to meet the needs of the fitting and valve industry. Flexibility in production lines and its diversification along with support and repair of machinery at all time, is the result of this considerable potential.

**Forging Workshop**

Different steps such as cutting brass bars, preheating, forging, trimming, surface treatment, and removing flashes are performed in this workshop.

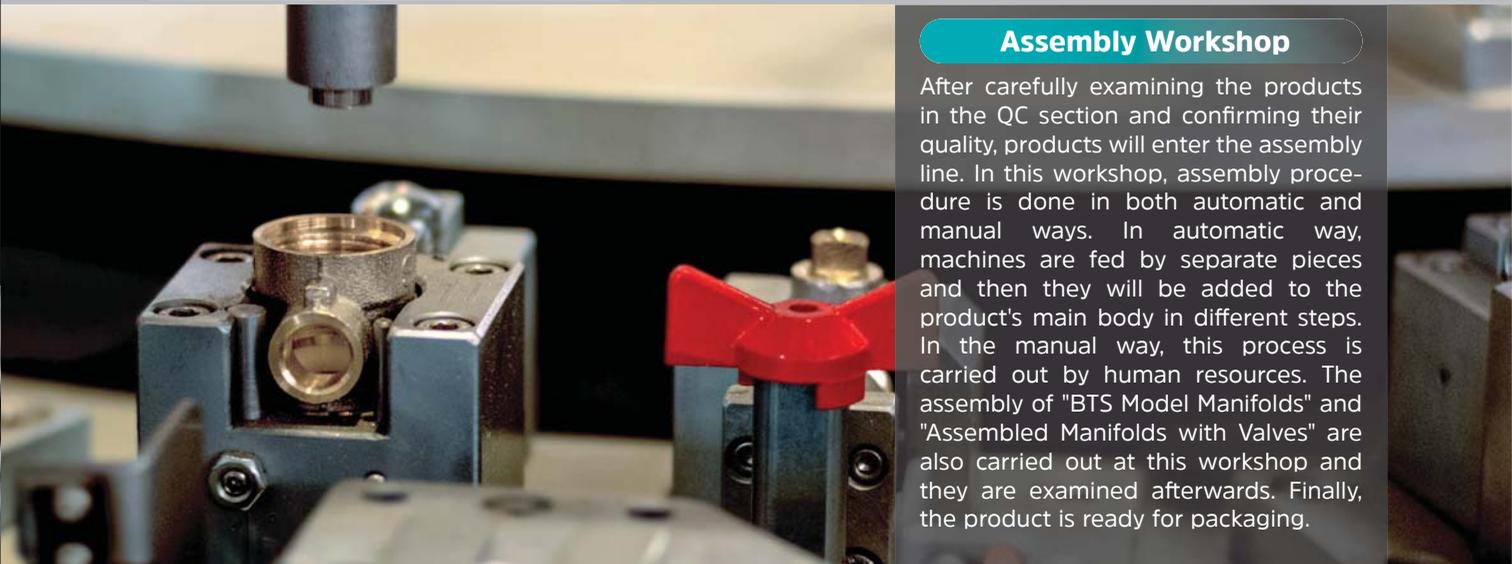
**Machining Workshop**

Machining workshop is one of the most equipped units in BTS. Manufactured pieces in forging unit enter into this unit to accomplish their manufacturing process. This unit is equipped with the most advanced transfer machines which are exclusively unique. Utilizing these machines allows to perform mechanical processing with highest possible accuracy and speed.



## Electroplating Workshop

All the stages of coating process are performed automatically, without human intervention. Electroplating is performed by copper, nickel, and chrome elements, using advanced facilities available in this unit.



## Assembly Workshop

After carefully examining the products in the QC section and confirming their quality, products will enter the assembly line. In this workshop, assembly procedure is done in both automatic and manual ways. In automatic way, machines are fed by separate pieces and then they will be added to the product's main body in different steps. In the manual way, this process is carried out by human resources. The assembly of "BTS Model Manifolds" and "Assembled Manifolds with Valves" are also carried out at this workshop and they are examined afterwards. Finally, the product is ready for packaging.



## Multi-Layer Pipe Manufacturing Workshop

Pipe manufacturing workshop is one of the newest sections in BTS. Pipe manufacturing is highly monitored in this workshop. Every step of production, including selection of high-quality raw materials, device settings and accurate monitoring of production line is done with high sensitivity. This meticulous manufacturing process besides strict quality control over each produced roll of pipe makes the "BTS" pipes one of the best in the market

In addition to inspections performed on all products, there are random examinations to be performed in the laboratory to ensure the quality and performance of the products. BTS specialized laboratory is one of the most well-equipped laboratories in multilayer pipe and fittings industry, and it works in accordance with the required standards of such products. Here is a list of the most important laboratory tests and brief description of them.

### Thermal Cycling Test

**Goal** Leakage resistance investigation of pipes and fittings in test condition

**Standard** ASTM F 1281/EN 12293





### Long-Term Pressure Strength Test

- Goal** Resistance evaluation of multi-layer pipes in sustained pressure condition
- Standard** ASTM 1281 / ASTM D 1598



### Ring Test

- Goal** Pipe layers tensile strength resistance and aluminum welding quality
- Standard** ASTM F 1281



### Adhesion Test

- Goal** Investigation on adhesion strength resistance of the layers in a multi-layer pipe
- Standard** ASTM F 1281

### Tensile properties Test

- Goal** Determination of tensile strength and relative elongation of aluminum tube layer
- Standard** ASTM F 1281





**Gel Content Test**

**Goal** Evaluation of the crosslinking degree of the PEX layer in tube by gel content

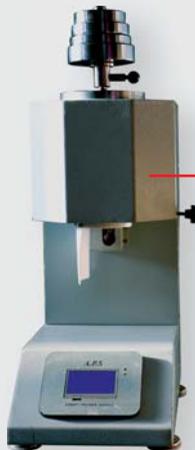
**Standard** ASTM F 1281/ASTM-D2765



**O-ring Compression Test**

**Goal** Determination of the compressive strength characteristics of O-rings at high temperatures

**Standard** ISIRI 7491/ ISIRI 7605



**Melt Mass-Flow Rate (MFR) Test**

**Goal** Investigation of mass flow rate of polymer melt

**Standard** ISO 1133



**BTS is chosen for  
Producing millions  
of products  
with exclusive quality**



**BTS Pipe & Fittings**



**BTS Valves**



**BTS Manifold**





BTS UnderFloor Heating



Sewage Push-fit



BTS Tools

**BTS Pipes and Fittings**

Multi-layer pipes and fittings are the last generation of the products used in plumbing industry. BTS Industries Group offers a complete range of products, such as brass press fittings, compression fittings, threaded fittings as well as multi-layer PE-Xb/Al/PE-RT (Type II) pipes in two general categories: small sizes (16-32) and large sizes (40-63). These products are used in water supply systems, heating systems, including underfloor heating and radiator heating, and fan coil cooling-heating systems.





**BTS Valves**

More than 50 types of brass valves from DN 1/2 to 3 are currently manufacturing in BTS Industries Group. These include ball valve, manifold ball valve, compression ball valve and ball valve with special usage, such as garden valve and washing machine valve. Various and stringent examinations on mentioned products in the BTS specialized laboratory guarantees their proper and long-term performance for different usages.



### BTS Plumbing Manifold

Manifolds used in water supply and heating systems need to be strong and tolerant to possible extreme pressures. They also need to be flexible, easy to use, as well as having a long lifespan and a good appearance.

These manifolds are made of brass by forging technology that ensures their optimal performance in difficult conditions and also in relation to other components of a system. Male-female threaded ends in BTS manifold allow the users to have their desired number of outputs due to the modular nature of joints.



### BTS Underfloor Heating System

Underfloor heating system is recognize as one of the most effective and newest systems for residential, commercial, industrial, sports, and other public spaces. Proper design and implementation of the heating system can minimize energy consumption while provides the users with comfort. For this reason, BTS Industries Group offers a wide range of options as it is supplying a complete set of products for underfloor heating systems in addition to technical and engineering services.

**BTS Tools**

One of the most important factors in the accurate implementation of an installation system is the use of up-to-date and high-performance tools, which results the ultimate upgrade of system's quality. Utilizing tools include measuring and auxiliary tools, cutting and bending tools, press tools and testing tools for water supply, heating and wastewater systems, which, along with a reliable and long-lasting operation, can be implemented quickly and easily for facility operators.





Water & Energy  
Department



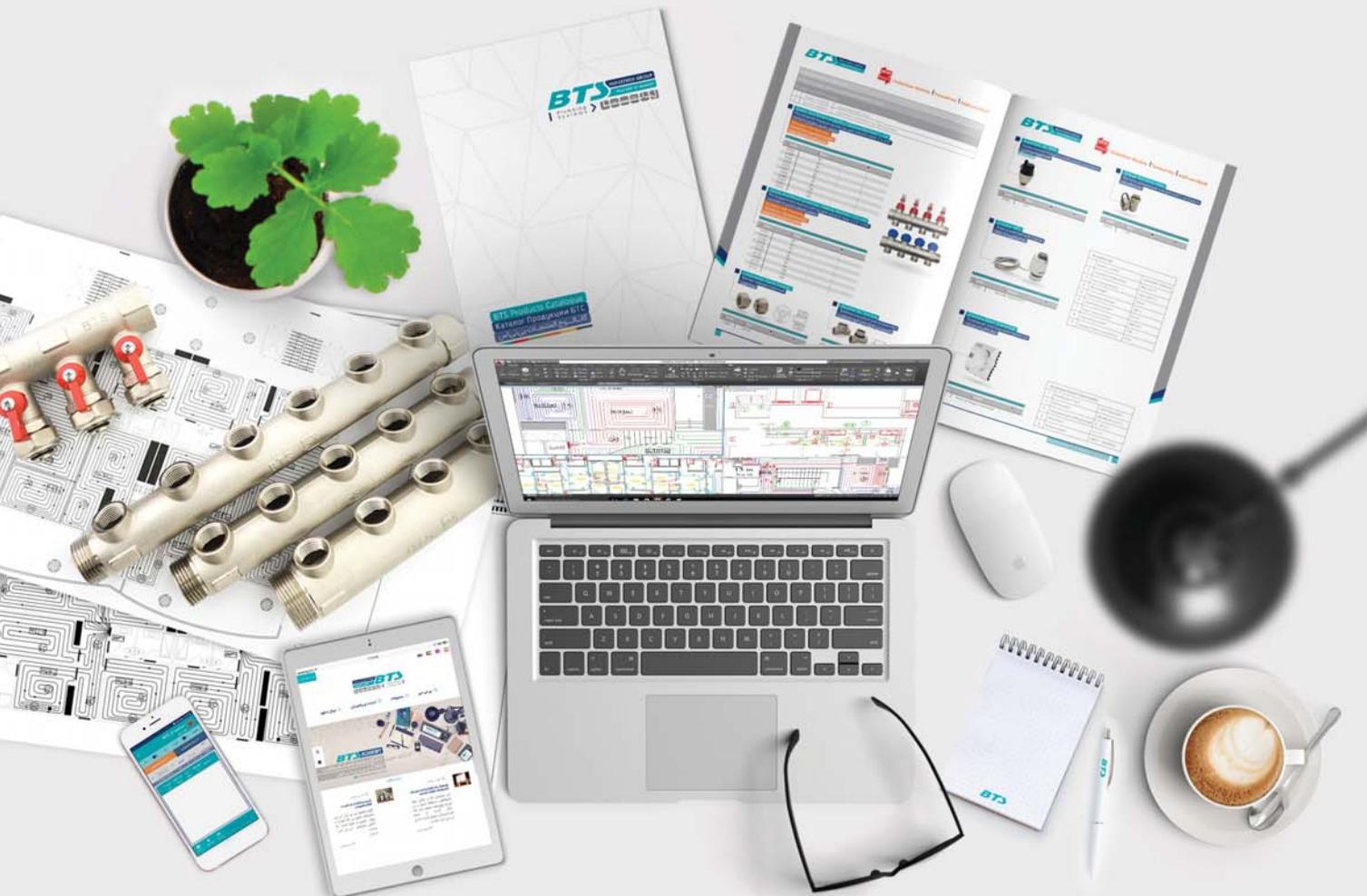
After-Sales  
Service

**BTS** ACADEMY

Combination of  
Knowledge  
& Experience



BTS  
Applications



Water and  
Energy Department

# Water Supply Services



### Consulting Services

Selecting the best water supply system for hot and cold sanitary systems or heating/cooling systems (radiator, fan coil) is very important. Considering building requirements, water and energy department offers proper consultations regarding the advantages and disadvantages of the methods and their usages.



### Design

Designing of water supply systems is very diverse. Estimating the heating/cooling load, understanding the climate of which the building is located, utilization of different spaces in the building, and the design limitations in the building space are among the most influential parameters in designing.



### Implementation

Along with the principled design and selection of high-quality products, the way of installing and implementing these products plays a significant role in the ultimate quality of the system. Skilled and well-trained staff and up-to-date equipment will bring the system into a principled operation and provide a high level of comfort for the client.



### Supervision

Examining the accuracy of the water supply and heating system, performing pressure testing and BTS engineers' visits to the execution stages along with recording and archiving the design and implementation documentation ensures optimal system performance. During the inspection, the supervisor tests the water supply system in accordance with the BTS piping system testing guidelines to ensure proper system performance.

Water and

Energy Department

# UnderFloor Heating Services



### Consulting Services

Providing advice on choosing the type of heating system or multiple types of heating systems at the same time for a building, providing useful solutions for choosing an appropriate and up-to-date temperature control system, choosing the type of heating systems based on the type of materials compared the type of the building is carried out by BTS Water and Energy Department.



### Design

The design of underfloor heating system should be based on a true understanding of the design of the heating systems, accurate thermal load calculations, climatic and building materials. Among the important factors in a good design are proper pipe arrangement, spacing, exact location of expansion joints and manifold location, which improves system performance and provides comfort to the consumer during the cold seasons.



### Implementation

What distinguishes underfloor heating system from other heating systems is its step-by-step, accurate and consistent execution based on the designed plan. Being in compliance with the executive requirements is crucial to the proper functioning of these systems.



### Supervision

Due to the sensitivity of underfloor heating system, monitoring the implementation process at each step ensures the optimal performance of the system. Moreover, the supervisor will also conducts some tests based on the BTS underfloor heating system test instructions once the project has been completed to ensure it is functioning properly.

**Water and  
Energy Department****Sewage Services****Consulting Services**

Selection and design of the best sewage system appropriate to the type of building is of great importance. With the knowledge of the advantages and disadvantages of different methods, the water and energy department, offers the necessary suggestion required for designing the system and selecting the right sewage products.

**Design**

The proper design of a sewage disposal system is one of the most important issues in building installations. Estimating the size of wastewater sewage pipes, air vents and risers, with regard to use of different spaces, design limitations in building spaces are among the most influential parameters in designing such systems.

**Implementation**

Unprincipled way of execution of branches and careless implementation by a plumber causes leakage, malfunction and technical failure in the system, and it is very time and cost consuming. Employing experienced and skilled personnel besides modern equipment ensures a suitable system functionality and provides a high level of comfort for consumers.

**Supervision**

Careful inspection of the sewage system to make certain it is based on the designed plans and required standards, along with pressure testing and BTS engineers' visits during the execution stages, together with recording and archiving of implementation documentation, ensures optimal system performance.

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## app BTS Applications

The principled design of water supply, heating/cooling and sewage systems is time consuming and requires precise calculations. Any error in these calculations can cause in the malfunction of the system and necessity of repeating the entire design process. By offering specialized and practical software and providing quick access to plumbing industry's data for scientific and conceptual design, BTS Industries Group tries to make this calculations easier for engineers and plumbers. These programs include comprehensive and quick calculations for sanitary water and heating systems such as underfloor heating, radiators, etc. and they are designed to be practical and user-friendly for plumbing engineers and designers. It should be noted that some of these programs have been created based on BTS multi-layer pipes and brass fittings and for this reason they help users to choose the right products.



BTS General Application



## Calculator Application



For Download  
SCAN QR CODE

BTS Calculator-Thermal Resistance



For Download  
SCAN QR CODE

BTS Calculator-UFH Systems



For Download  
SCAN QR CODE

BTS Calculator-Pipe Sizer  
(Water Supply)



For Download  
SCAN QR CODE

BTS Calculator-Head Loss

The logo for BTS Academy, featuring the letters 'BTS' in a stylized blue font followed by the word 'ACADEMY' in a white font on a dark blue rectangular background. The background image of the top half of the page shows a blurred office scene with people working at desks with laptops and documents.

## Academy

BTS Academy holds various training courses given the wide diversity of provided products and services in BTS Industries Group in order to enhance audiences' knowledge. These courses provide a better understanding of products and their technical specifications. Knowledge about their proper utilization and use in installation design process, and certainly about the compatibility between execution of plumbing systems and BTS products, etc.

BTS Academy training program covers a wide range of audiences such as sales staff, sales agents, plumbers, plumbing engineers, project managers and general audiences.

BTS training program, includes distance learning and webinars (virtual), in-person workshops, and hands-on trainings, and "Technical Training Stands" made by BTS Industries Group facilitate the process of training. Instructions on some plumbing software is also placed on BTS Academy agenda. The content of training programs covers a diverse range of subjects, namely water supply systems, heating and cooling systems, sewage systems, and plumbing standards.

For further information on contents of the courses and their schedules, contact us via email or follow BTS on social media.

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**Guarantee and After-Sales Service**

Having a firm assurance about the products which are going to be used in your homes, workplaces, buildings, stores, and even factories for years is more important than any other factor. In this regard, parameters such as product quality, meeting national and international standards, and passing strict examinations will assure the consumer of products' proper function and durability.

Despite the high quality of millions of parts made by BTS, we believe that costumers should use our products as comfortably as possible. Therefore, favorable conditions are considered for long-term warranty of BTS products and they are covered by valid insurances. You can find out more about the details by contacting BTS after-sales services or customer relationships units.



Certificates

Certificates



►DQS : IMS (Integrated Management System)



►Iran National Standard for BTS Multi-layer Pipes



►Iran National Incentive Standard for BTS Valves



►Iran National Standard for BTS Fittings



►DQS : ISO 9001 : 2015



►DQS : ISO 14001 : 2015



►DQS : BS OHSAS 18001 : 2007



►Technical Approval for BTS Multi-layer Pipes



►Technical Approval for BTS Fittings



►IQNET : ISO 9001 : 2015



►IQNET : ISO 14001 : 2015



►IQNET : BS OHSAS 18001 : 2007



►GIG Certificate of Conformity  
PN-EN 1-1451



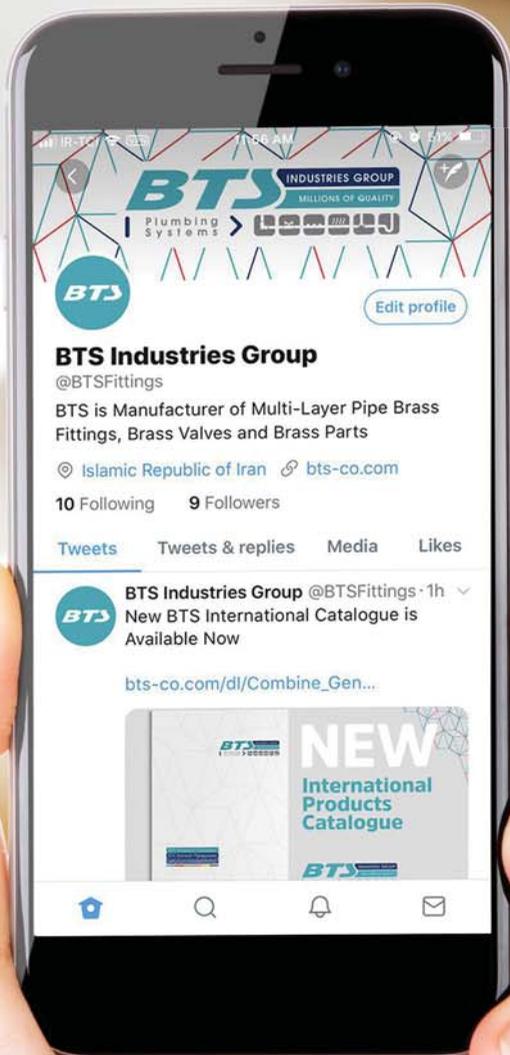
►ITB Technical Approval



►Hygienic Certificate



►Certificate of Conformity - DQS

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