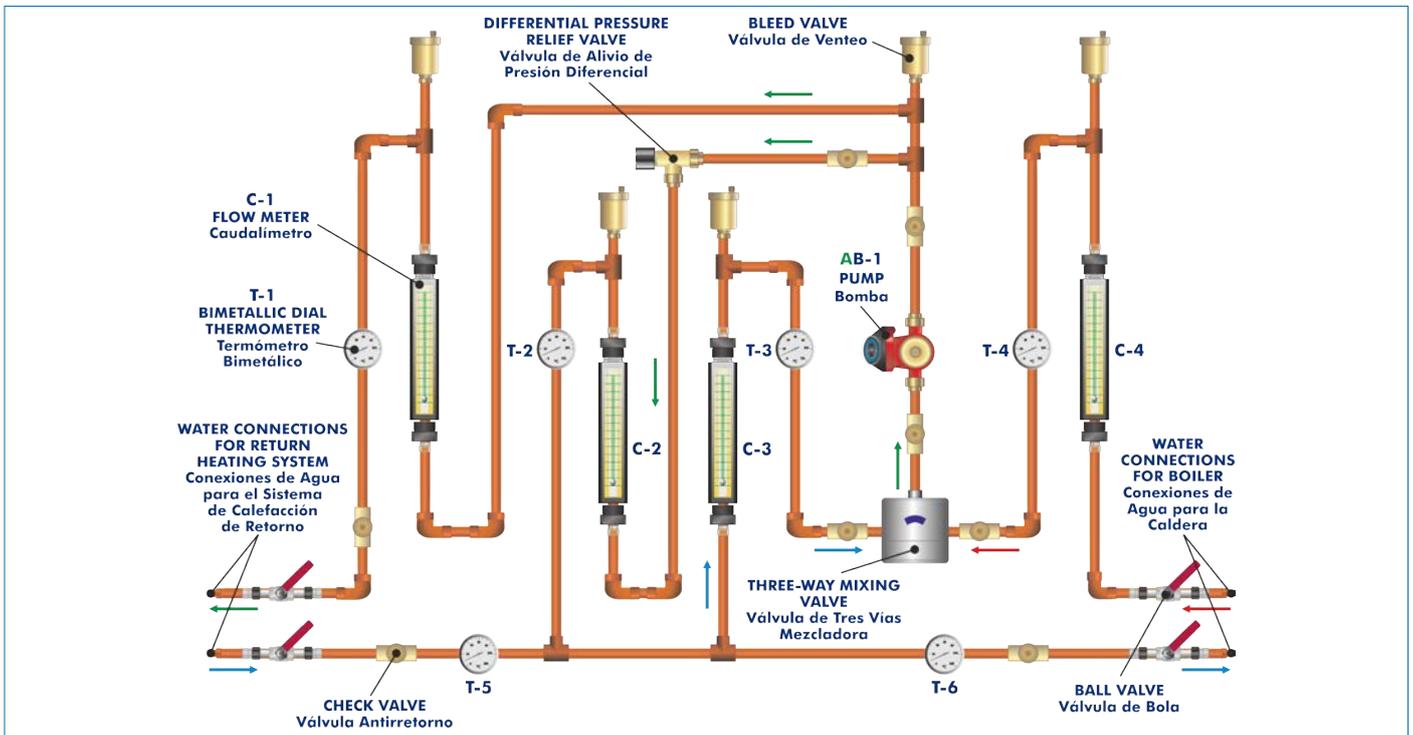




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 Products range
 Units
 9.- Thermodynamics & Thermotechnics

PROCESS DIAGRAM AND UNIT ELEMENTS ALLOCATION



ISO 9000: Quality Management (for Design, Manufacturing, Commercialization and After-sales service)



European Union Certificate (total safety)



Certificates ISO 14000 and ECO-Management and Audit Scheme (environmental management)



Worlddidac Quality Charter Certificate and Worlddidac Member

INTRODUCTION

Mixing valves are designed for mixing two fluids of different temperatures in such a ratio that the desired outgoing temperature is reached. Three-way and four-way mixing valves are commonly used.

Three-way mixing valves mix two inlets into one outlet and mixing is done by throttling/opening the flow in either inlet. These valves are typically used for mixing heating water for heating circuits (floor heating, wall heating, radiators), or for mixing the return line in boilers in order to avoid low-temperature corrosion.

The Three-Way Mixing Valve Training Unit "TEV3V" allows to train on hot water heating systems and plumbing.

GENERAL DESCRIPTION

The Three-Way Mixing Valve Training Unit "TEV3V" allows to demonstrate the function of a three-way mixing valve in a hot water heating system. The three-way mixing valve in the heating system regulates the supply water temperature to a heating system.

The unit includes a three-way mixing valve, a boiler water circuit, a return heating system water circuit, a circulating pump, several thermometers and flowmeters.

The boiler water line (hot water) and the return heating system water line (cold water) includes several dial thermometers and flowmeters to visualize the water temperature and flow in the inlets and outlet of the three-way mixing valve.

A pump circulates the mixture water in the system. The differential pressure across the system is limited using a differential pressure relief valve.

Several bleed valves (air vents) remove the air from water and are situated in different points of the circuits. Several valves allow control the boiler water flow and the return heating system water flow.

SPECIFICATIONS

Anodized aluminum frame and panel made of painted steel. It includes wheels for its mobility.

Diagram in the front panel with similar distribution to the elements in the real unit.

The unit includes:

Three-way mixing valve with actuator motor:

Size: DN20.

Setting angle: 90°.

Opening time: 100 s.

A circulating pump:

Power consumption: 70 W.

Max. flow rate: 60 l./min.

Max. head: 5 m.

Four flowmeters:

Three flowmeters situated in the boiler water circuit (hot water), the return heating system water circuit (cold water) and the three-way mixing valve outlet, range: 2.5-28 l./min.

One flowmeter situated in the outlet of the differential pressure relief valve, range: 0.6-6.5 l./min.

Six bimetallic dial thermometers, range: 0-100°C.

Five bleed valves (air vents) to remove the air from the water.

Two water connections with quick-release couplings for boiler water (hot water), size: DN15.

Two water connections with quick-release couplings for return heating system water (cold water), size: DN15.

Four ball valves allow control the boiler water flow and the return heating system water flow.

Manuals: This unit is supplied with the following manuals: Required services, Assembly and Installation, Starting-up, Safety, Maintenance and Practices manual.

EXERCISES AND PRACTICAL POSSIBILITIES

- 1.- Study of the function and operation of a three-way mixing valve.
- 2.- Study of the function and operation of a differential pressure relief valve.
- 3.- Study of the effect of mixing ratio on feed flow or circulating flow temperature.
- 4.- Study of the effect of mixer setting on the flow rate.

REQUIRED SERVICES

- Electrical supply: single-phase, 220V/50Hz or 110V/60Hz.
- Hot water supply, flow: 30 l./min.
- Cold water supply.
- Drainage.

DIMENSIONS AND WEIGHTS

- Dimensions: 1900 x 550 x 1700 mm. approx.
(74.80 x 21.65 x 66.93 inches approx.)
- Weight: 100 Kg. approx.
(220 pounds approx.).

* Specifications subject to change without previous notice, due to the convenience of improvement of the product.



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Edition: ED01/16
Date: April/2016

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