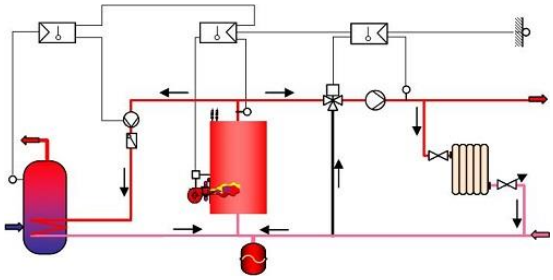
Nom: **Date:**

HVAC Learning.com

Exercise Booklet

Print this exercise booklet before studying the lesson on-line. It will enable you to write your answers to the HVAC learning exercises. You will thus be able to switch between reading or listening to the file on-line and writing in the booklet.



CONDENSING BOILERS WITH DHW – PART 1

English lesson
https://hvac-learning.com/heating/condensing-boiler-rooms-training/11788-2/

French version:
https://formation.xpair.com/cours/chaufferies-condensation-avec-production-ecs-partie1.htm

For each exercise, you will write your answer, then you will study its correction on-line before going to the next exercise.
*If you cannot do an exercise, you will be able to study its correction directly, but **force yourself to write your answer** as often as possible.*

Note that between 2 exercises, you will find it necessary to study the course. As a warning, in the booklet, you will sometimes find the following indication:

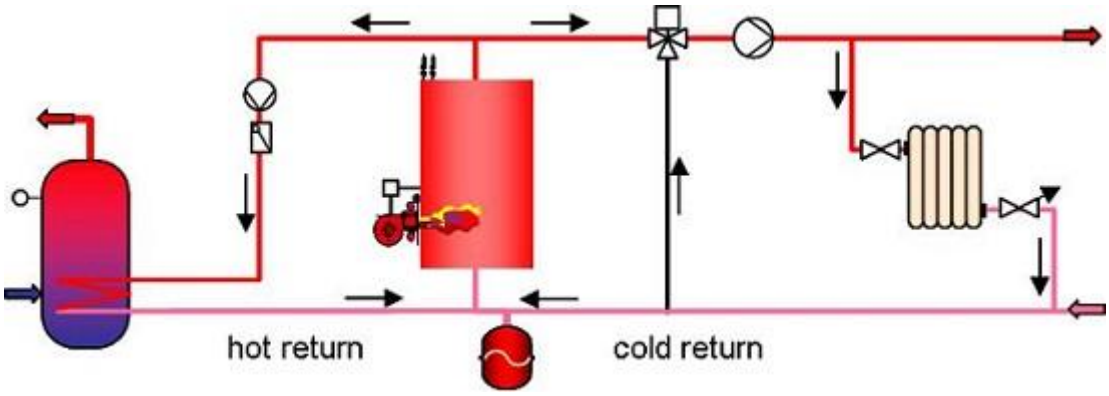
- *" **Study the course on-line before doing the next exercise**" or*
- *" **Study the course on-line before going to the next paragraph**"*

Only study the paragraphs or the exercises which have an equal or a lower level than the one your training requires.
NVQ Level = Vocational Certificate
A Level = High school Diploma
HND Level = Associate's Degree
MSC Level = Engineering Schools

Then, when you have completed a file, you will be able to assess your level on-line through a Multiple Choice Questionnaire in which you will only answer the questions related to the themes you have studied.
So now off you go and work well!
Good luck!
The Authors.

N°1 – DHW production and condensing boilers training – HND level

Study the course on-line before treating the next exercise.

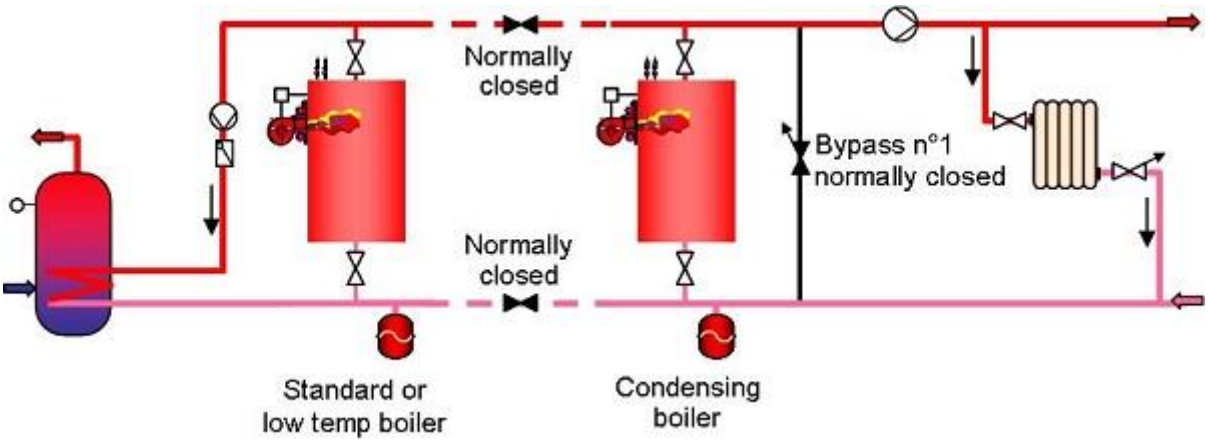


Question 1

Symbolise on the diagram above a control regulation system for the heating circuit and one for the DHW production (install 2 different regulators).

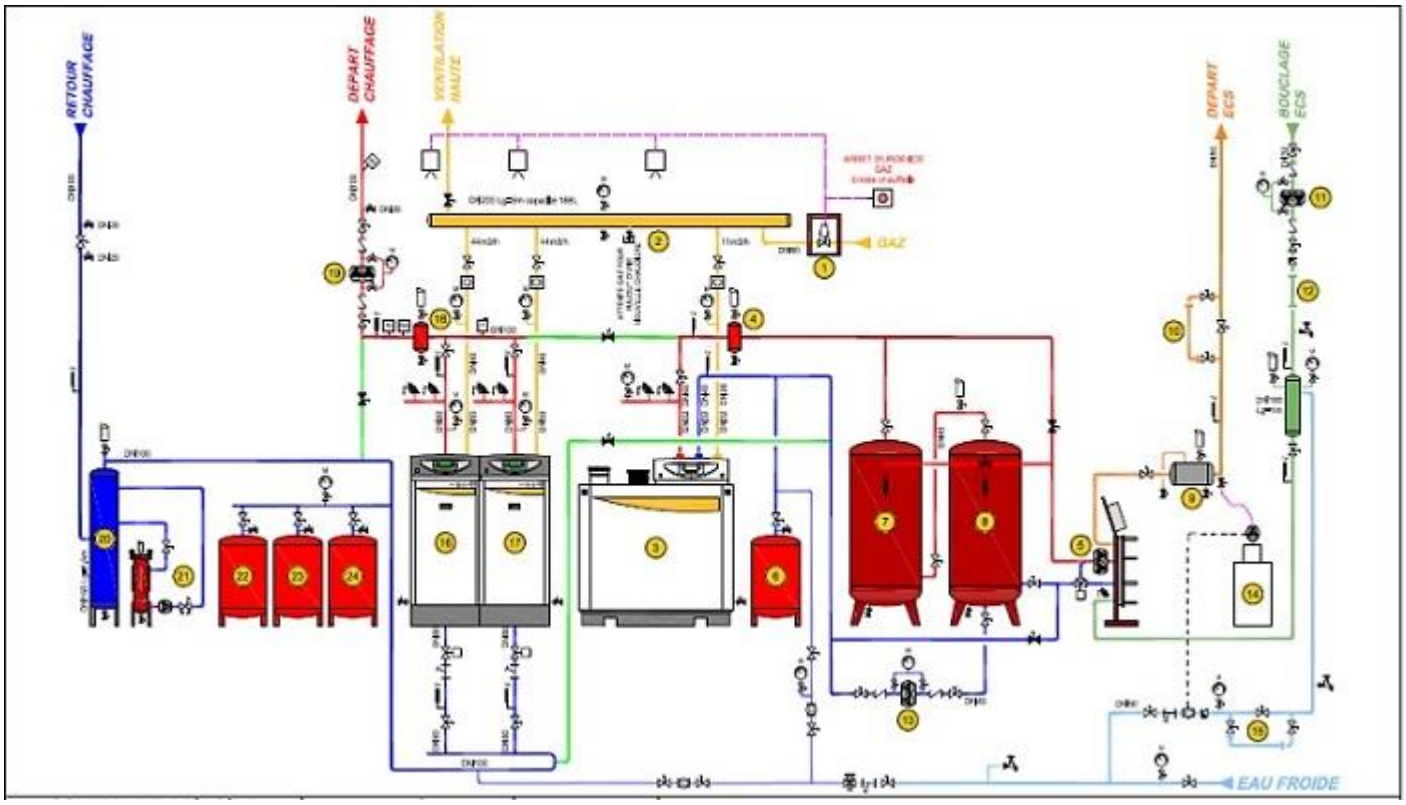
Question 2

What could be the role of the normally closed control valve fitted on the bypass n°1 below?



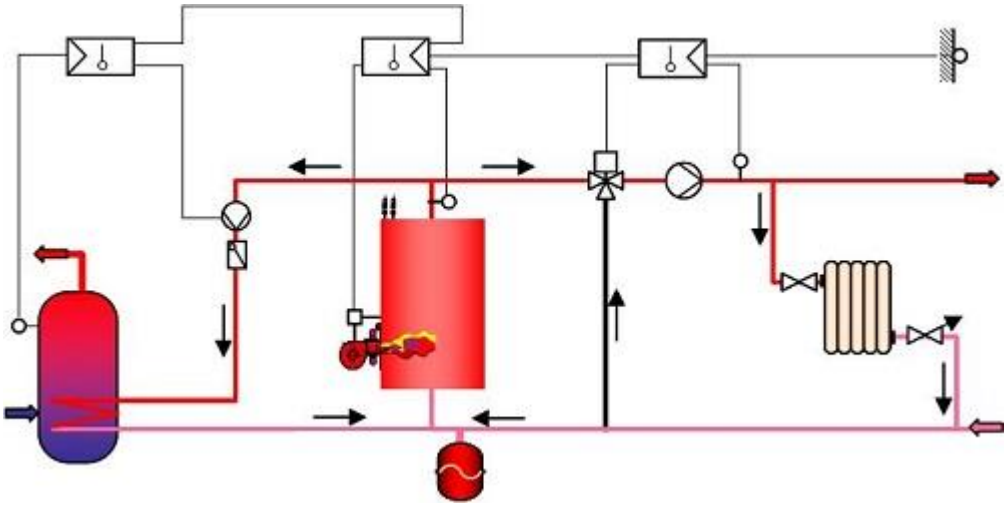
Question 3

On the draft lay-out below, the emergency bypass pipes between the 2 productions are drawn in which colour?



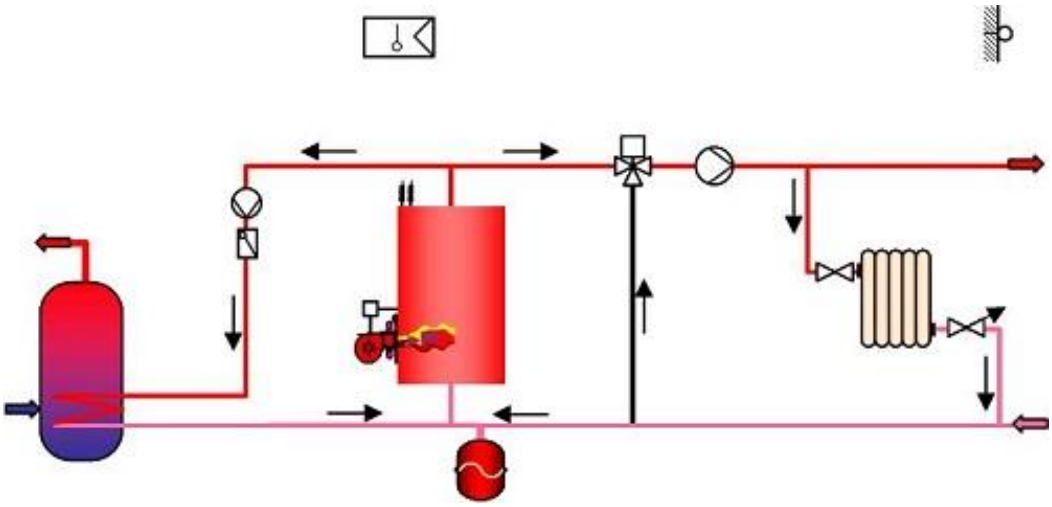
N°2 – Heating systems with DHW production & 2 connection condensing boilers training – HND level

Study the course on-line before treating the next exercise.



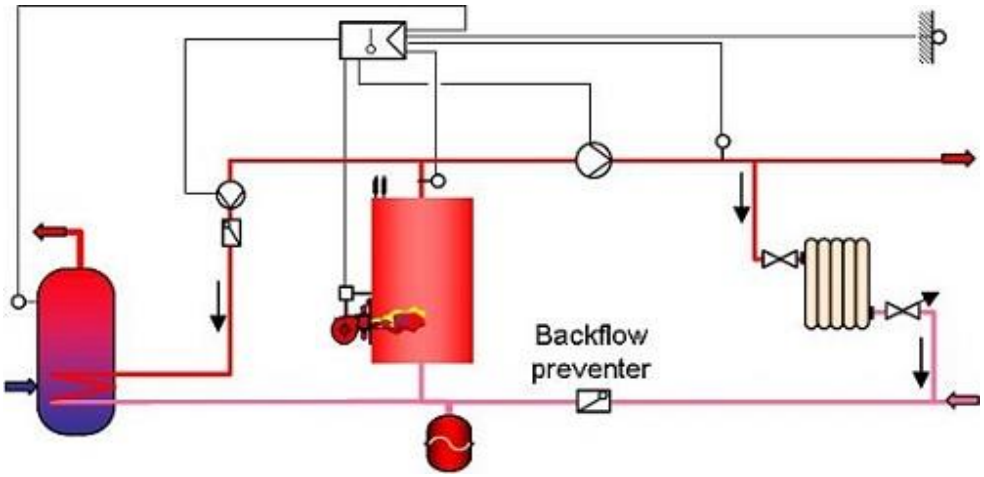
Question 1

Connect below to a **single controller** all sensors and electrical connections required for:
– boiler production temperature regulating subject to heating or DHW needs by action on the modulating burner on the boiler.
– DHW production temperature regulating by action on the primary pump.
– heating circuit outlet temperature regulating, subject to exterior temperature (sensor already drawn) by action on a 3WV.



N°3 – Domestic hot water priority training – HND level

Study the course on-line before treating the next exercise.



Question 1

Why have backflow preventers been fitted to the 2 circuits above?

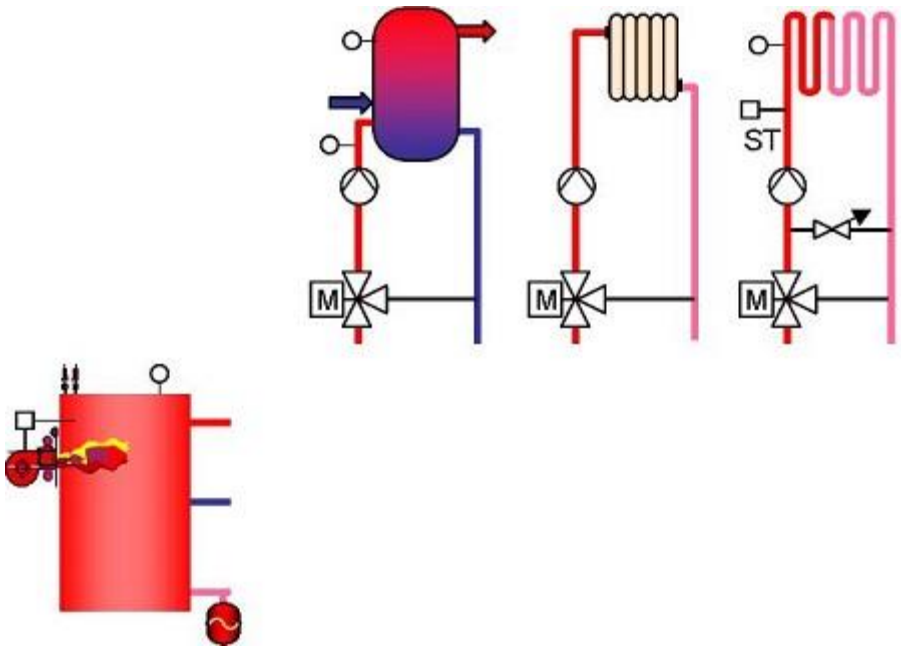
Study the course on-line before treating the next paragraphe.

N°4 – Heating systems with DHW production & 3 connection condensing boilers training – HND level

Study the course on-line before treating the next exercise.

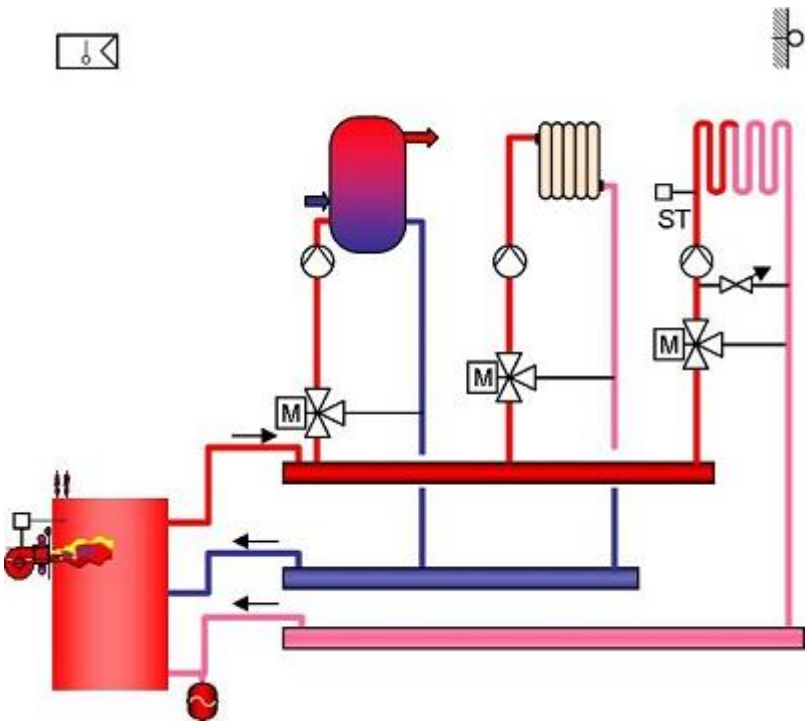
Question 1

Connect the circuit returns to the condensing boiler, below.



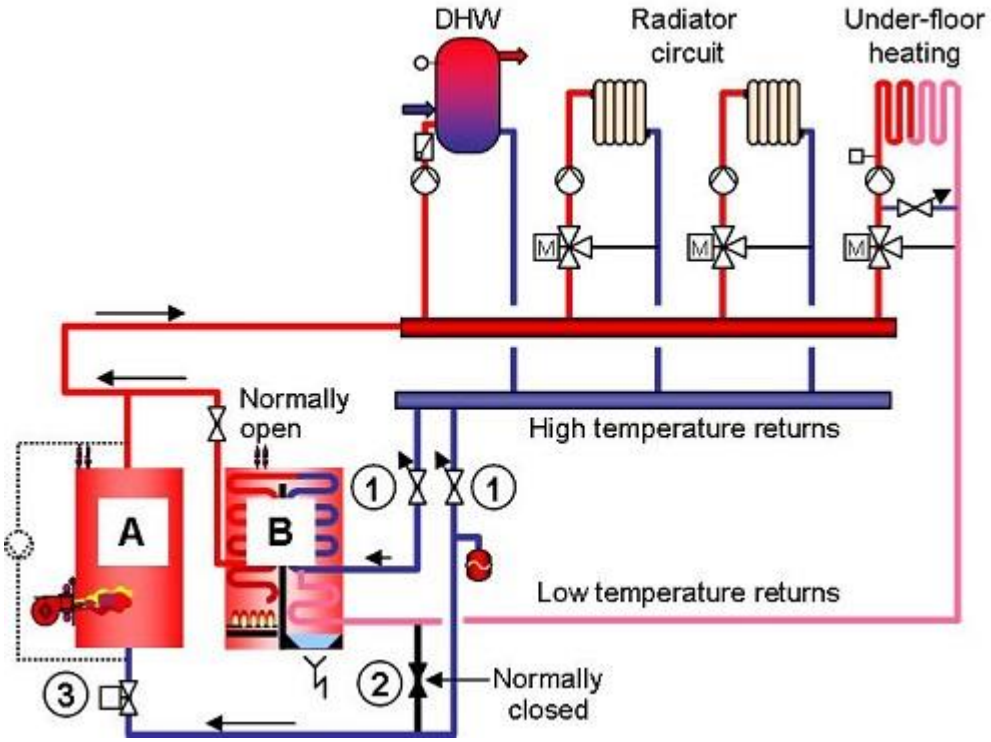
Question 2

Symbolise below all the regulating links from a single controller.



N°5 – Heating systems with DHW production & several boilers training – HND level

Study the course on-line before treating the next exercise.

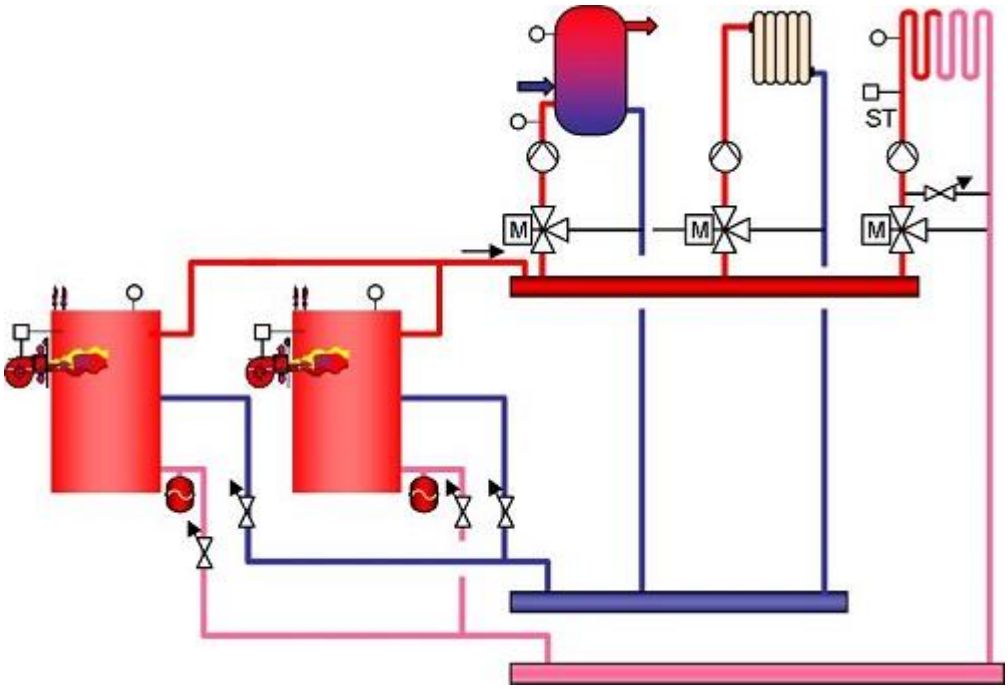


Question 1

What is the role, and regulating or operating principle, of valves 1, 2, & 3, above?

N°6 – Heating systems with several condensing boilers training – HND level

Study the course on-line.



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