

PLUMBING AND MECHANICAL
INTERPRETATION MANUAL



CODE: 2003 IRC, IPC, IFGC

DATE:

CODE REF: P2903.1 (IRC) 604.3 (IPC)

4/12/2004

SUBJECT: Parallel or Series Piping to Multiple Water Heaters

Question: Does the code prohibit the installation of multiple water heaters in series?

Answer: The plumbing provisions of the 2003 IRC, IPC, IFGC do not address this issue. However, one of the manufactures of water heaters provides the following guideline information on this issue.

TECHNICAL BULLETIN 64
Parallel VS. Series Piping

Definition:

Parallel: Equally manifolding the inlet water pipe and outlet water pipe in multiple heater installations. Having equal number of fittings; as well as, lengths of pipe.

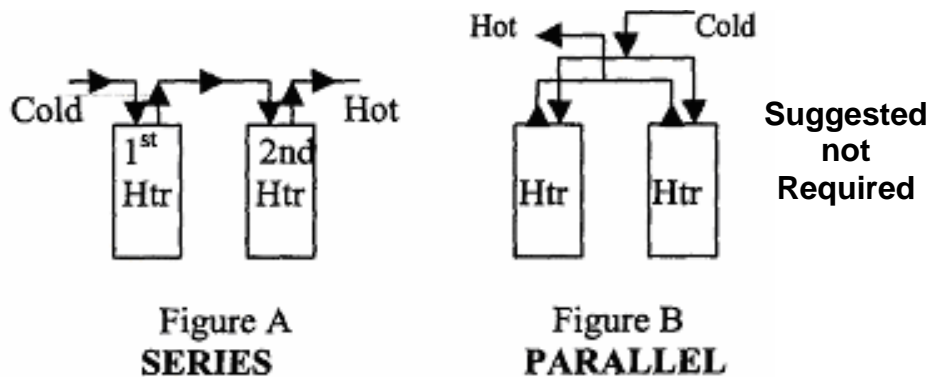
Series: Piping in the outlet of one heater into the inlet of the next.

Why shouldn't I pipe in series?

Piping in series can cause the first heater to fail sooner than the second. The reason this happens is you are using the full capacity of the first heater and only upon an increased demand, is the second heater cycled on. This causes the first heater to be used more than the second, and used to its fullest capacity. This can cause the first heater to condensate and corrode.

Why should I pipe in parallel?

Piping in parallel allows you to use both heaters equally. It allows the system to act as one heater rather than independent. By drawing hot water out of both heaters equally, you are able to equalize the life of your heaters.



Conclusion:

Although this is not a good practice there is not any code provision that prohibits this practice.

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