

Fact sheet

# FLS-80/145

Instantaneous domestic hot water from various heating applications for multi-family houses and commercial buildings



## Application

The FLS-80/145 is a water heater specifically designed to fulfil the needs for domestic hot water. The buffer vessel can be supplied by many different energy sources e.g. solar, boilers, district heating or heat pumps. The FLS-80/145 will work with 3-5 °C temperature difference between primary and secondary side. The use of instantaneous preparation of the hot water will minimize the risk of legionella. The FLS-80/145 will keep the water temperature at a constant level, regardless of variations in demand and buffer vessel temperature.

## Construction

The FLS-80/145 only uses pipes made of stainless steel for DHW, to ensure a high quality and water safety. For the largest stations black pipes are used on the primary side. All pipes and components are fixed to the mounting frame, which ensures stability and strength. The FLS-80/145 must be mounted vertically on the buffer vessel or on a wall as close as possible to the buffer vessel.

## Primary side

The primary side of the FLS-80/145 is connected to the buffer vessel and consists of a circulation pump, a non-return valve to prevent circulation, when the FLS-80/145 is not in operation. Furthermore a temperature sensor needs to be placed in the buffer vessel close to the outlet to the FLS-80/145 to ensure the best possible performance.

## Secondary side

The secondary side of the FLS-80/145 is connected to the domestic water and the recirculation. This side consists of a combined vortex flow and temperature sensor on the hot water outlet, a temperature sensor on the domestic cold water inlet and on the recirculation inlet.

## Control

The electronic controller retrieves signals from sensors both in the FLS-80/145 and the buffer vessel. The FLS-80/145 measures both flow and temperature, which makes the controller able to maintain and keep the hot water temperature stable regardless

of variation in demands by varying the speed of the primary circulation pump.

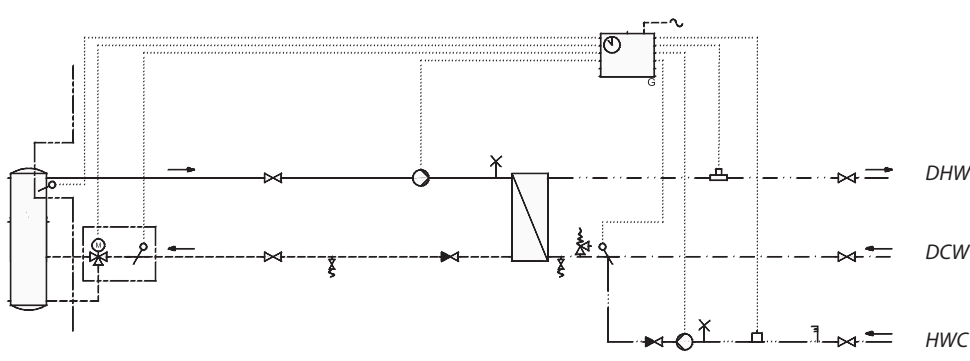
## Options

Primary 3-way switch-over valve and sensor for optimisation of the stratification. Pipe insulation can also be offered.

## FEATURES AND BENEFITS

- Keeps a constant DHW temperature
- Minimum space requirement
- Easy to use electronic controller
- Energy efficient
- No legionella risk
- Wall mounted
- Perfect for low temperature applications
- Possibility for cascading with another FLS-80/145

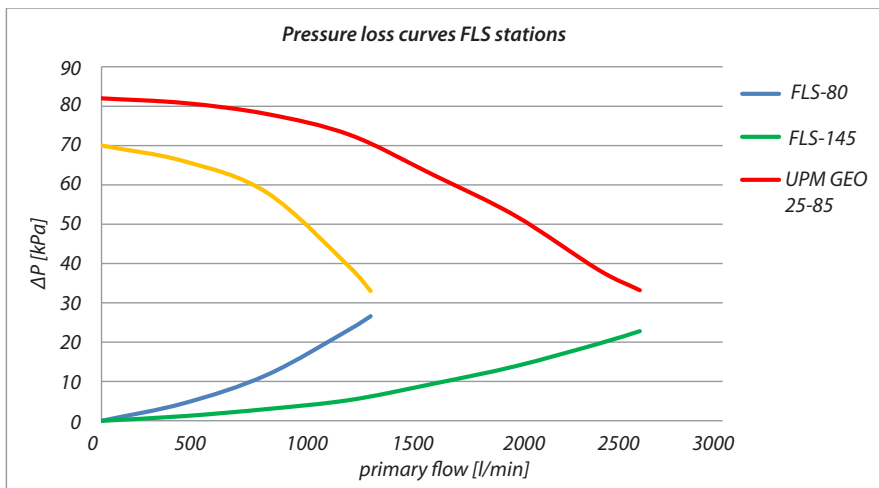
CIRCUIT DIAGRAM - EXAMPLE



- B Water heater
- D Hot water tank
- G Electronic controller DHW
- 1 Ball valve
- 1A Ball valve, DVGW
- 2 Single check valve
- 4 Safety valve
- 11 Domestic hot water pump
- 13 Charging pump
- 18 Thermometer
- 19 Surface sensor
- 20 Filling/drain valve
- 20A Drain valve
- 21 To be ordered separately
- 28A 3-way motorized valve
- 40 Immersion sensor
- 45A Flow switch
- 48A Air vent. manual

Technical parameters:

- Nominal pressure: 10 bar
- Flow DHW: 10 - 78 [l/min]
- Power connection: 230 [V]
- Max. operating temperature: 95 [°C]
- DCW static pressure: p<sub>min</sub> = 2.0 bar
- Brazing material (HEX): Copper
- Cover (optional): White-lacquered steel



DHW: CAPACITY EXAMPLES, 10°C/45°C

Substation type	DHW temperature [°C]	Primary temperature [°C]	DHW [l/min]	Load [kW]	Primary flow rate [l/min]
FLS-80	10/45	50/18	22	54	24
FLS-80	10/55	60/20	21	65	24
FLS-80	10/60	70/18	24	84	24
FLS-80	10/45	75/11	37	90	21
FLS-80	10/55	75/14	36	100	24
FLS-145	10/45	50/18	35	85	38
FLS-145	10/55	60/20	33	105	39
FLS-145	10/60	70/19	42	145	41
FLS-145	10/45	75/11	78	190	45
FLS-145	10/55	75/14	65	180	43

Gemina Termix A/S · Member of the Danfoss Group · Navervej 15-17 · DK-7451 Sunds · Denmark  
Tel.: +45 9714 1444 · Fax: +45 9714 1159 · mail@termix.dk · www.heating.danfoss.com

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequent changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.