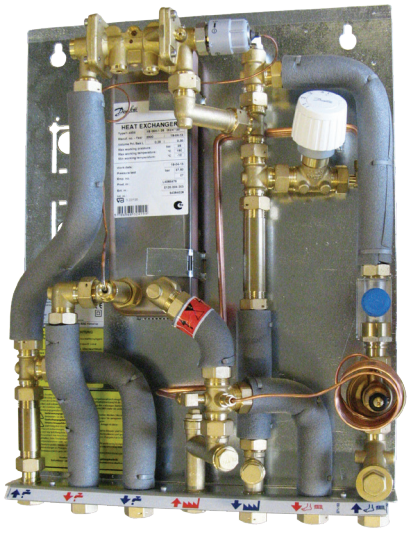
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Fact sheet

Akva Lux II TDP-F with pipe insulation

Flat station for single-family, semi-detached and terraced houses as well as flats



FEATURES AND BENEFITS

- Flat station for district and central heating
- Direct heating, DHW heating based on flow principle
- Capacity: 15 kW HE, 55 kW DHW
- Flow-compensated temperature controller with built-in Δp controller
- Variable and flexible connections possibilities
- Minimum space required for installation
- Service-friendly
- Pipes and plate heat exchanger made of stainless steel
- Minimized risk of lime scale and bacteria formation

Application

The Akva Lux II TDP-F is a compact and simple to operate flat station. The Akva Lux II TDP-F is especially suitable for two-pipe systems in residential buildings, which are supplied from a secondary connected district heating system, a block heating system or a centrally located boiler system. The Akva Lux II TDP-F is available as built-in variant with a recess box or as mount-on-wall variant and is prepared for implementation with the Danfoss Redan distribution systems for floor heating or radiator heating.

District heating (DH)

The flat station is prefabricated with interconnecting components such as differe-ential pressure controller, strainer, thermostatic bypass FJVR, sensor pockets and fitting piece for insertion of a heat meter.

Heating (HE)

The differential pressure controller sets the optimum operating conditions for radiator thermostatic valves, enabling individual temperature control in each room. To enable a time depending temperature control program a zone valve with actuator and a room thermostat can be included as an option. A return temperature limiter, type FJVR, for automatic regulation of the return temperature from the radiators or the floor heating system can be mounted (not part of the delivery).

Domestic hot water (DHW)

The domestic hot water is prepared in the heat exchanger based on the flow principle and the temperature is regulated by the self-acting controller with integrated differential pressure controller - the PTC2+P with energy saving function. Supreme ease of operation is obtained via the combined hydraulic and thermostatic regulation of the PTC2+P controller.
The pressure-controlled part allows primary and secondary side flow through the heat exchanger, only when hot water is tapped and blocks the flow immediately after completion of the tapping process. The thermostatic part controls the domestic hot water temperature. Thanks to the quick-acting hydraulic control of the heat exchanger, it is largely protected from the formation of lime scale and growth of bacteria.

The PTC2 +P controller with integrated differential pressure controller compensates for variations in supply temperature and varying differential pressure and thereby ensures a constant domestic hot water temperature at all times.
A thermostatic bypass enables tapping of hot water without any delay, – ensuring the best possible efficiency and econo-my. For registration of the cold water consumption the Akva Lux II TDP-F is equipped with a fitting piece for mounting of a cold water meter in the DCW inlet.

Domestic hot water circulation

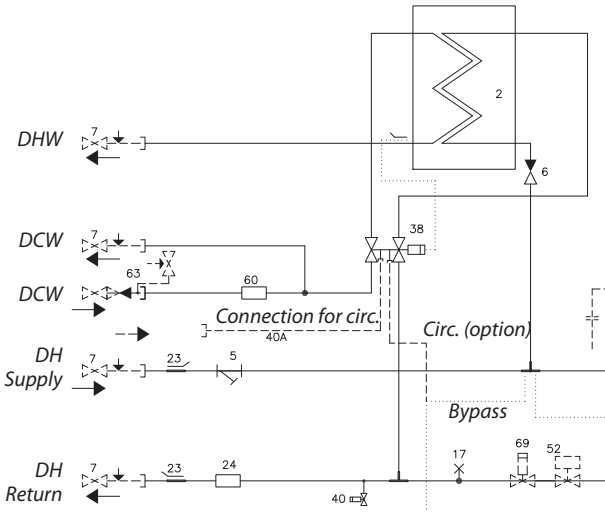
The Akva Lux II TDP-F is equipped with bypass function as a standard, but it is prepared for DHW circulation. Equipment for DHW circulation is optional and must be ordered separately.

Construction

The Akva Lux II TDP-F is supplied with pipe insulation, which greatly reduces the heat loss. All pipes are made of stainless steel. The connections are made by nuts and gaskets. The station can be supplied with a white-lacquered steel sheet cover for recess or wall mounting.

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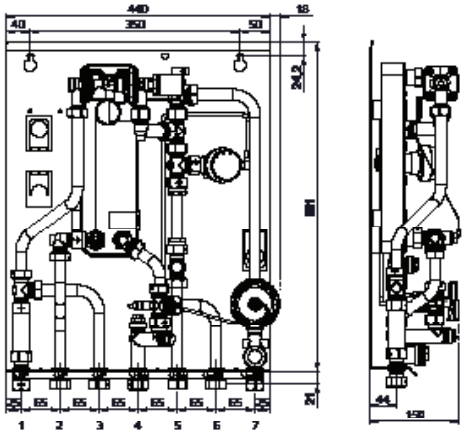
CIRCUIT DIAGRAM - EXAMPLE



2	Plate heat exchanger DHW
4	Differential pressure controller
5	Strainer
6	Non-return valve
17	Air vent
23	Sensor pocket for heat meter
24	Fitting piece for heat meter 3/4" x 110 mm
38	PTC2+P controller
40	Danfoss FJVR Thermostat for bypass/circulation
60	Fitting piece for cold water meter 3/4" x 80 mm
7	Ball valve
40A	Connection for circulation
52	Zone valve
52A	Thermostat Danfoss TWA-A
53	Room thermostat Danfoss TD7000
63	Safety valve set
69	Return temperature limiter FJVR

Design specifications:

Nominal pressure (prim/sec.):	PN 10 / PN 10
Max. supply temperature:	90 °C
DCW static pressure:	pmin = 2.0 bar
Brazing material (HEX):	Copper
Weight excl. cover:	25 kg
Cover:	White-lacquered steel
Electrical supply:	230 V AC
Dimensions (mm):	
Without cover:	H 572 × W 458 × D 150*
	* Depth incl. mounting plate
Connections sizes:	
DH, HE, DHW, DCW:	G¾" ET (ext. thread)
Circulation:	R½" ET (ext. thread)



Connections:

1. Domestic cold water (DCW) inlet
2. Domestic hot water (DHW)
3. Domestic cold water (DCW) outlet
4. District heating (DH) supply
5. District heating (DH) return
6. Heating (HE) supply
7. Heating (HE) return

Options:

- Room thermostat
- Zone valve
- Return temperature limiter Danfoss FJVR
- Actuator for zone valve
- Ball valves
- Mounting rail for wall mounted variant
- White cover for wall-mounted variants, closed or open at the bottom, or recess box for built-in variant incl. mounting rail
- Circulation sets

DHW: Capacity examples

DHW capacity kW	Plate heat exchanger	Temperature primary °C	Temperature secondary °C	Flow rate primary l/h	Flow rate secondary l/h	Pressure loss primary *kpa
37	XB 06H-1 26	65/18.2	10/45	650	909	21
45	XB 06H-1 26	65/19.2	10/45	845	1106	33
37	XB 06H-1 40	65/17.9	10/45	676	909	18
45	XB 06H-1 40	65/18.0	10/45	823	1106	26
55	XB 06H-1 40	65/18.1	10/45	1009	1351	39
37	XB 06H-1 26	65/21.5	10/50	731	796	25
45	XB 06H-1 26	65/22.6	10/50	913	968	38
37	XB 06H-1 40	65/20.8	10/50	720	796	20
45	XB 06H-1 40	65/20.9	10/50	878	968	29
55	XB 06H-1 40	65/21.2	10/50	1080	1183	44

Heating: Capacity examples

Heating capacity	Heating circuit Δt °C	Total pressure loss primary *kpa	Flow rate primary l/h
10.0	20	20	430
10.0	30	9	287
10.0	40	6	215
15.0	20	43	645
15.0	30	20	430
15.0	40	12	323

* Heat meter not incl.

Danfoss Redan A/S · District Heating · Omega 7, Søften · DK-8382 Hinnerup · Denmark
Tel.: +45 87 43 89 43 · Fax: +45 87 43 89 44 · redan@danfoss.com · www.redan.danfoss.dk

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