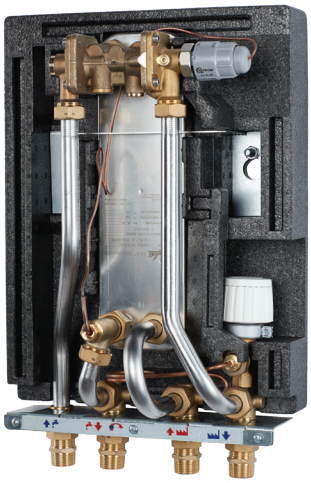
ENGINEERING
TOMORROW

Fact sheet

Akva Lux II

Fully insulated instantaneous water heater for low-temperature district heating



Application
Akva Lux II is a fully insulated instantaneous water heater featuring high performance. It meets the future energy demands for low energy consumption and very low standby heat losses. It is especially suitable for large villas with for instance several bathrooms or jacuzzi and for the large family, for which an exceptionally large amount of water is required. The Akva Lux II is also very suitable for small apartment houses with 2-4 apartments.

Construction
The Akva Lux II water heater is prefabricated with a brazed, highly efficient Danfoss plate heat exchanger for domestic hot water production, a domestic hot water controller Danfoss PTC2+P, as well as a Danfoss FJVR thermostat for control of the bypass/circulation temperature. A circulation set and a safety set is available as optional equipment.

Design
The Akva Lux II is designed for wall-mounting and much importance has been assigned to a user-friendly and easily accessible placement of all system components, including the controllers. The Akva Lux II is fully insulated in an EPP insulation box and can be supplied with a white-lacquered cover in modern design.

Bypass (thermostatic circulation)
The water heater is supplied with a thermostatically controlled bypass, which ensures that hot water is produced immediately, when tapping starts. The bypass temperature is set with due consideration of the best possible DHW comfort and economy.

Domestic hot water recirculation
The water heater is prepared for domestic hot water circulation. If the household piping includes hot water recirculation the water heater must be connected to the hot water recirculation system and a circulation pump and a non-return valve must be mounted on the circulation pipe and a safety valve must be mounted in the DCW inlet. The pump must be installed so that it pumps towards the water heater. Domestic hot water recirculation ensures that hot water is available at the tapping point without waiting time and waste of water. The circulation temperature is set independently of the set DHW temperature. This ensures the best possible DHW comfort, very low standby losses and thus a very good district heating economy.

Heat exchanger for DHW heating
The water heater is based on a brazed, highly efficient plate heat exchanger type XB 06H-1 26, XB 06H-1 40 or XB 06H+ 60, which is controlled by a thermostatic and pressure controlled DHW controller, Danfoss PTC2+P with integrated differential pressure controller and energy saving function, which ensures that the heat exchanger is cold during standby. After completion of the tapping process, the controller immediately blocks the district heating flow, to avoid standby, so the losses and to protect the heat exchanger from the formation of lime scale and growth of bacteria. The heat exchanger is cold during standby, so the heat loss is very low.

The integrated differential pressure controller compensates for variations in supply temperature and varying differential pressure and thereby ensures a constant hot water temperature at all times.

Service and maintenance
The water heater is very service-friendly and easy to install. It is mounted on the wall and as all pipes are placed in pipe bracket distance, it is possible to establish a nice piping.

FEATURES AND BENEFITS

- Thermostatic and pressure controlled water heater
- Prepared for low-temperature district heating
- Fully insulated and very low heat losses
- Cold heat exchanger during standby, - no standby losses
- Innovative, energy-saving controller PTC2+P in combination with high performance heat exchanger for on-demand water heating without no-load losses function
- Pipes and heat exchanger made of stainless steel, connections with EPDM gaskets.
- Minimized risk of lime scale and bacteria formation
- Leistung: Up to 64 kW DHW

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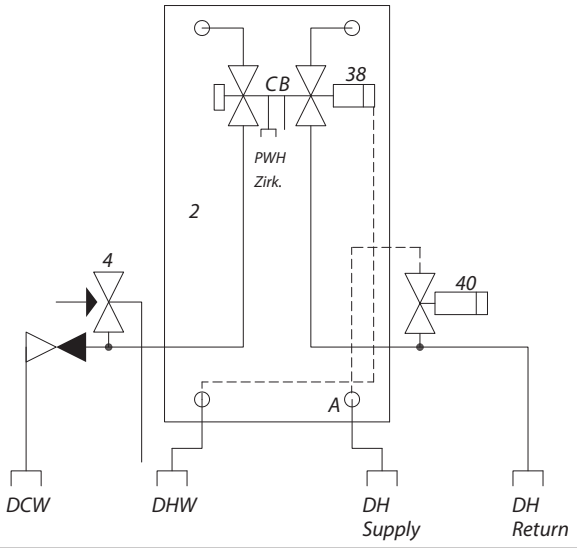
CIRCUIT DIAGRAM - EXAMPLE



2. Danfoss, copper brazed plate heat exchanger in stainless steel AISI 316, type XB 06H-1 26 or XB 06H-1 40.
38. Domestic hot water controller Danfoss PTC2+P with energy saving function (= cold heat exchanger during standby).
40. By-pass/circulation thermostat Danfoss FJVR.

Options (not part of dly)
4. Safety valve set

DHW circulation:
A. Connection of capillary tube from Danfoss FJVR acting as by-pass (standard function).
B. Connection of capillary tube from Danfoss FJVR acting as circulation thermostat.
C. Connection of circulation hose. Circulation set for control change from bypass to DHW recirculation is not part of the delivery and must be ordered seperately.

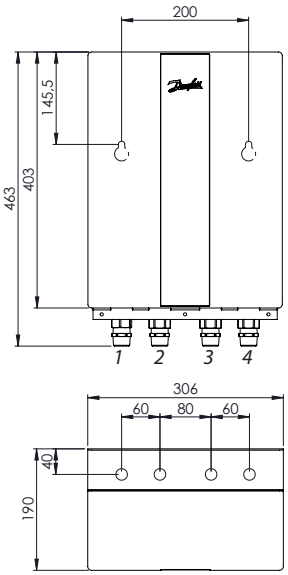
For systems with DHW recirculation the water heater must be supplied with circulation pump, non-return valve and safety valve mounted in the cold water supply.

Design specifications:

Nominal pressure (prim/sec.):	PN 16 / PN 10
Max. supply temperature:	120 °C
DCW static pressure:	pmin = 1.5 bar
Min. ΔP:	See capacity examples
Brazing material (HEX):	Copper
Weight excl. cover:	XB06H-1 26 = max. 9 kg XB06H-1 40 = max. 10 kg XB06H+ 60 = max. 11 kg
Insulation:	Polypropylene EPP λ 0,039
Cover:	White-lacquered steel
Dimensions (mm):	
Inslated:	H 463 x W 306 x D 190
Insulated with cover:	H 463 x W 310 x D 210
Connections sizes:	
DH, DHW, DCW:	G ¾" (ET) (ext. thread)
Cirkulation:	R ½" (ET) (ext. thread)

Recirculation:
Remember to order circulation set for systems that feature DHW recirculation.

Measurements:



Connections:
1. Domestic cold water (DCW) 2. Domestic hot water (DHW)
3. District heating (DH) supply 4. District heating (DH) return
5. Circulation

Akva Lux II	Code No.
Type 1, EPP insulation	145G0091
Type 2, EPP insulation	145G0092
Type 1, EPP insulation + white cover	145G0103
Type 2, EPP insulation + white cover	145G0104
Type 1 StS**, EPP insulation	145G0273
Type 2, StS**, EPP insulation	145G0264
Type 3, EPP insulation*	145G0341
Type 3, EPP-insulation + white cover*	145G0342

**Suitable for low temperature district heating at supply temperatures in the range 50-70°C.*
*** StS = Stainless steel*

Options:	
Cover, white-lacquered stainless steel H 410 x B 310 x T 210 mm	004U8663
Circulation set incl. pipe for mounting on site	004U8442
Ball valve 3/4" ext.-int. thread incl. gasket, L= 60 mm	004U8442
Safety valve set 10 bar, incl. pipes for extension	004U8554

DHW: CAPACITY EXAMPLES 10 °C/50 °C

Substation Type	DHW Capacity [kW]	Supply temperature Primary [°C]	Return temperature Primary [°C]	Pressure loss Primary [*kPa]	Flow rate Primary [l/h]	DHW tap load [l/min]
XB06H-1 26 Type 1	50	65	22	35	1000	18 [1]
	57	70	21	35	1000	20 [1]
XB06H-1 40 Type 2	56	65	21	36	1000	20 [2]
	64	70	20	36	1000	23 [2]
XB06H+ 60 Type 3	43	55	21	35	1100	15
	53	60	18	35	1100	19
	62	65	16	35	1100	22

* w/o heat meter *, - [1] Min. DHW tap load 2 l/min., - [2] Min. DHW tap load 4 l/min.

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