ELECTRIC WATER BOILER
EKW – AsD, AsD-W
HEATING, FLOOR AND WEATHER CONTROLLED VERSION

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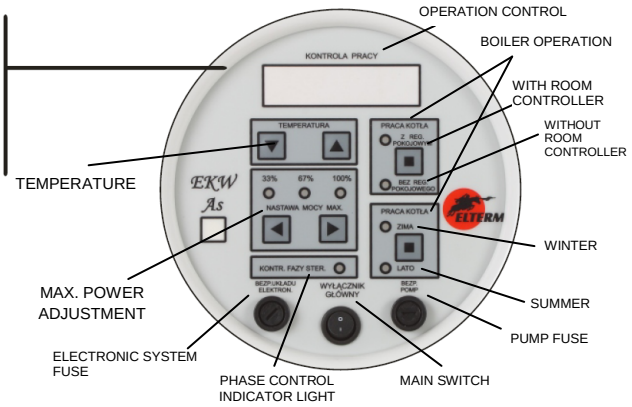
Microprocessor control system ensures optimization of the boiler's operational algorithm for providing maximum energy saving, functional comfort and increasing the appliance's reliability and durability. Outdoor weather sensor + control cord incl. in the AsD-W boiler price.



- for any type of room temperature control unit
- overheating protection
- microprocessor control system – central heating and hot utility water
- heater load with suitable margin of safety < 13 W/cm²
- stainless steel heating unit (extra protection against boiler scale)
- thermally insulated, zinc coated tank
- quiet operation, no contactors
- boiler power distribution: 16 ÷100% 3-part 6-part
- laser-cut boiler elements
- small overall dimensions, easily walled off
- circulating pumps
- manometer, safety valve, vent
- built-in membrane vessel

Technical Data:

1. Hanging boiler.
2. Air temperature adjustment range – depending on the type of room temperature control unit.
3. Electronic system fuse – 250 mAF and pump fuse – 500 mAT.
4. Central heating water temperature adjustment:
   - 20 – 70 °C – standard
   - 20 – 40 °C – floor heating
   - 20 – 90 °C – individual order
5. Hot utility water temperature adjustment – 20 – 60 °C
6. Factory test pressure – 12 at.; design pressure – 6 at.
7. Weight ~28 kg (depending on power rating).
8. Water volume inside the boiler – 3 l.
9. Double protection – 70 °C (40 °C, 70 °C) 100°C.
10. Efficiency 99.5% (tested at the Warsaw University of Technology *[Politechnika Warszawska]*)
11. Boiler body wall thickness – 3.6 – 4 mm, zinc coated body, thermally insulated, stainless steel heaters.
12. Protection IPX 2, class I.

Electronic system functions:

1. Control system: room, floor, weather-controlled
2. Multifunctional 16-digit LCD display
3. Automatic power selection:
   a) 3-level version for 4 – 12 kW power rating
   b) 6-level version for 15 – 24 kW power rating
4. Manual power reduction option (33-67-100% each version)
5. Control voltage stabilization.
6. Water temperature measurement – smooth adjustment.
7. Adjustable sequence of turning the heaters on – heater wear optimization (microprocessor controlled meter measuring the heaters' working time orders the heater with the least working hours to switch on).
8. Pump operation time-lag.
9. Option for operating without a room temperature control unit (fixed-temperature automation only).
10. Smooth on/off section switching.
11. Adjustable temperature range, hysteresis value, pump rundown time (per individual order).
12. „Watch Dog" Function – processor control system.
13. Winter/summer switch.

In accordance with the following directives:
LVD – low voltage – electrical safety
RoHS – restriction of use of certain hazardous substances

EMC – electromagnetic compatibility
WEEE – regarding the waste electrical and electronic equipment, GIOŚ reg. no.: E0001767W

Type of the AsP boiler	Boiler's max. power	Manual power distribution (kW) (on the boiler)	Automatic power distribution (kW) (microp. control)	Power supply 230 / 400 V	Fuse safety devices (A)	Power cord in mm² (*)	Heated area m² height 2.7 m, U = 0.3	Alternative heating boiler m²
EKW 4 AsD	4 kW	1.3 ÷ 2.7 ÷ 4	1.3 ÷ 2.7 ÷ 4	1 phase	1 x 20	3 x 25	~ 50	~ 70
EKW 6 AsD	6 kW	2 ÷ 4 ÷ 6	2 ÷ 4 ÷ 6	1 phase	1 x 32	3 x 4	~ 70	~ 100
EKW 6 AsD	6 kW	2 ÷ 4 ÷ 6	2 ÷ 4 ÷ 6	3 phases	3 x 10	5 x 2.5	~ 70	~ 100
EKW 9 AsD	9 kW	3 ÷ 6 ÷ 9	3 ÷ 6 ÷ 9	3 phases	3 x 16	5 x 2.5	~ 100	~ 150
EKW 12 AsD	12 kW	4 ÷ 8 ÷ 12	4 ÷ 8 ÷ 12	3 phases	3 x 20	5 x 4	~ 150	~ 210
EKW 15 AsD	15 kW	5 ÷ 10 ÷ 15	3 ÷ 5 ÷ 8 ÷ 10 ÷ 13 ÷ 15	3 phases	3 x 25	5 x 4	~ 180	~ 250
EKW 18 AsD	18 kW	6 ÷12 ÷18	3 ÷ 6 ÷ 9 ÷ 12 ÷ 15 ÷ 18	3 phases	3 x 32	5 x 6	~ 220	~ 310
EKW 21 AsD	21 kW	7 ÷14 ÷21	4 ÷ 7 ÷ 11 ÷ 14 ÷ 18 ÷ 21	3 phases	3 x 40	5 x 6	~ 260	~ 360
EKW 24 AsD	24 kW	8 ÷16 ÷24	4 ÷ 8 ÷ 12 ÷ 16 ÷ 20 ÷ 24	3 phases	3 x 40	5 x 10	~ 300	~ 400

(*) Please bear in mind the length of the power cord and the heat removal properties when selecting the actual diameter of the power cord.

EKW AsP 4 ÷ 24 kW
EKW AsBN 4 ÷ 24 kW
EKW AsZN 4 ÷ 24 kW
EKW AsD 4 ÷ 24 kW
EKW AsZN-W 4 ÷ 24 kW
EKW AsB/90°C 30 ÷ 144 kW
ECO Driers 70 ÷ 110 W
ECOTERM Heaters 320 ÷ 800 W
Hydraulic fittings and connections Central heating and hot utility water
Room controllers
Pump controllers

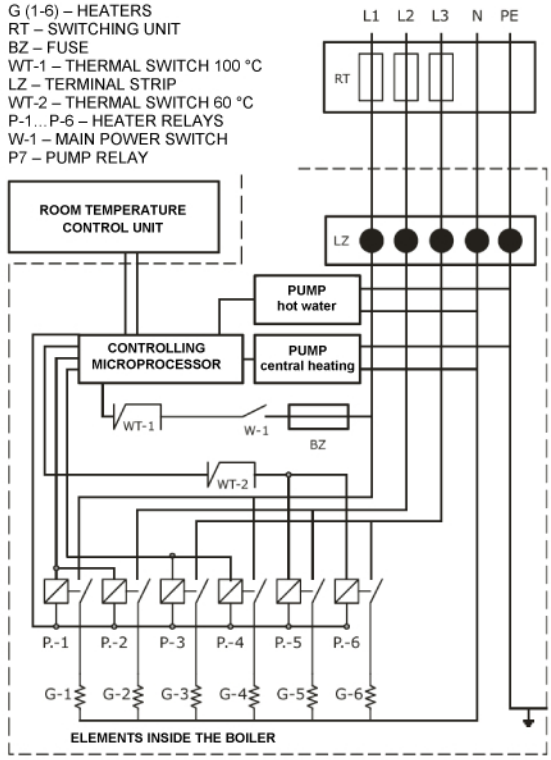
EKW boilers are adapted for use with various room and weather compensator units.

Manufacturer reserves the right to introduce structural modifications to the boiler.

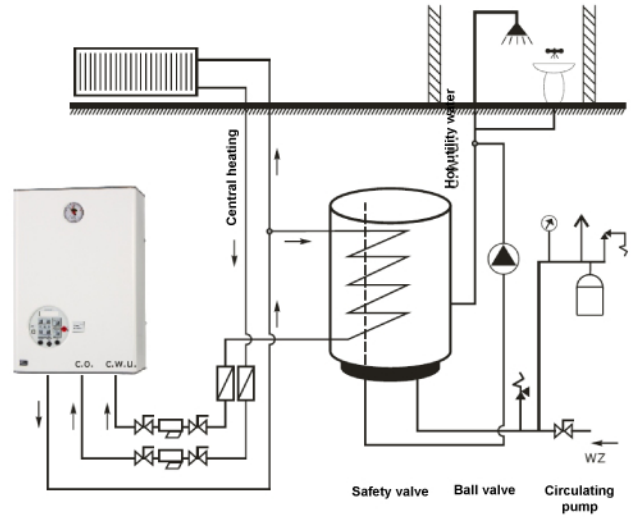
ELECTRIC WATER BOILER EKW - AsD

EKW–AsD boiler circuit diagram

G (1-6) – HEATERS
RT – SWITCHING UNIT
BZ – FUSE
WT-1 – THERMAL SWITCH 100 °C
LZ – TERMINAL STRIP
WT-2 – THERMAL SWITCH 60 °C
P-1…P-6 – HEATER RELAYS
W-1 – MAIN POWER SWITCH
P7 – PUMP RELAY



EKW-AsZN boiler with a hot utility water storage tank – heating large quantities of hot utility water in a short period of time

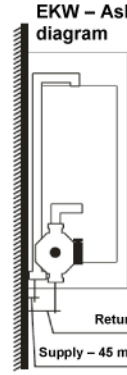


Safety valve | Ball valve | Circulating pump

Manometer | Vent

Membrane vessel | Filter

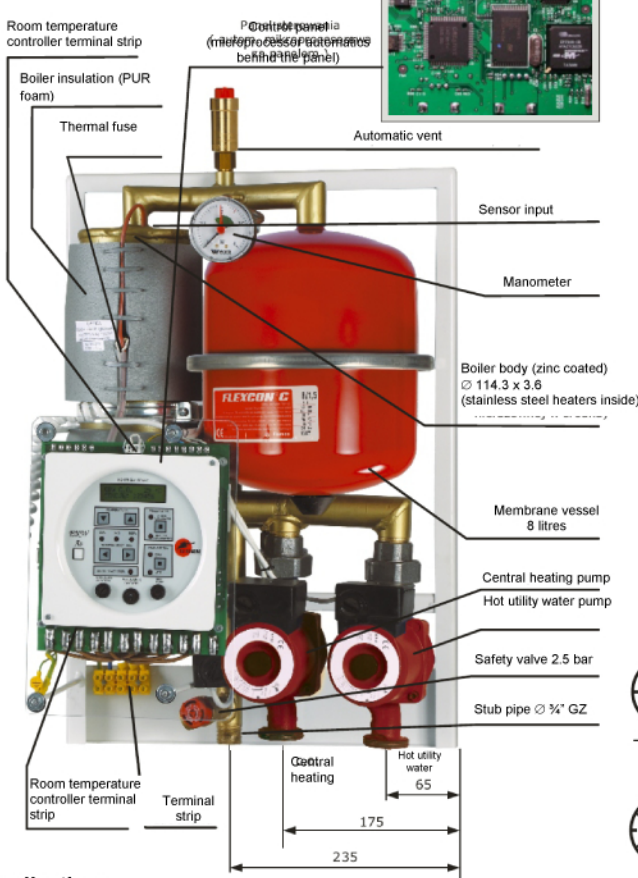
EKW – AsD boiler side view diagram



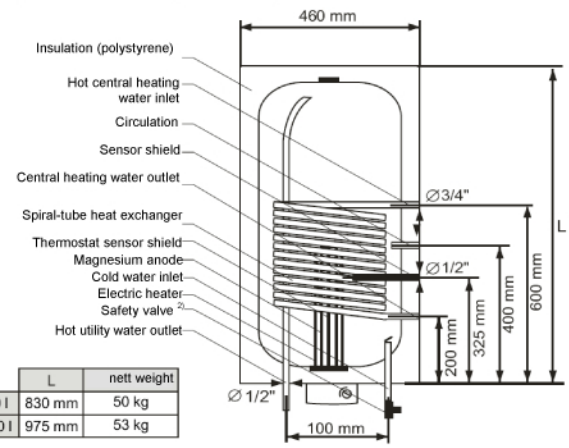
Returns: central heating 60 mm, hot utility water 70 mm

Supply – 45 mm

Inside view – EKW – AsD boiler



Neptun Kombi storage tank diagram



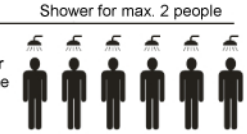
	L	nett weight
80 l	830 mm	50 kg
100 l	975 mm	53 kg

100 l storage tank
whole tank heating time
3-4 hrs.
Δt=40°C

Shower for max. 2 people

EKW-AsD 12 kW boiler
much shorter heating time

Δt=40°C



A number of people can take shower in a short period of time

Application:

detached houses, holiday cottages

old buildings, block of flat apartments

industrial process water

… and as a support for other heat sources

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