

## HEATING INSTALLATIONS

### ELECTICAL BOILER **DYNAMIC** **DYNAMIC EK**

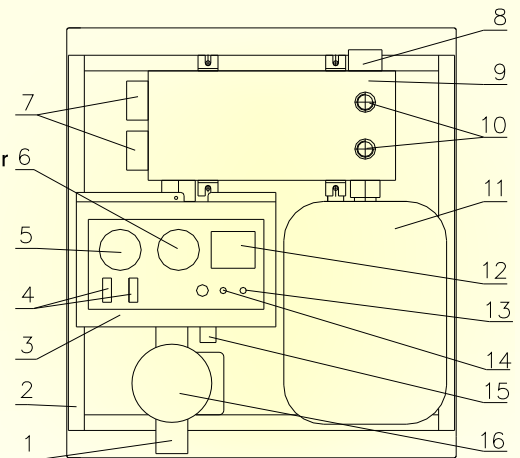


Minimum maintenance -  
maximum effect!

The "DYNAMIC EK" electrical boilers play the role of a separate thermal source and go together with:

- a built-in circulation-pump;
- a membrane expansion tank;
- a water filter;
- a safety valve 1/2" - 3 bar;
- a room thermostat/bracketsat;
- brackets

1. Inlet of the cold water - muff
2. Supporting frame
3. Control panel
4. Working stages /degrees
5. Boiler thermostat 0-90°C
6. Thermometer - manometer 120°C-4 bar
7. Electrical heaters
8. Outlet of the hot water - muff
9. Water container of the boiler, insulated 10mm
10. Thermal sensors
11. Expansion vessel
12. Automatic safety fuse
13. Emergency lamp
14. Voltage lamp
15. Emergency thermostat up to 110°C

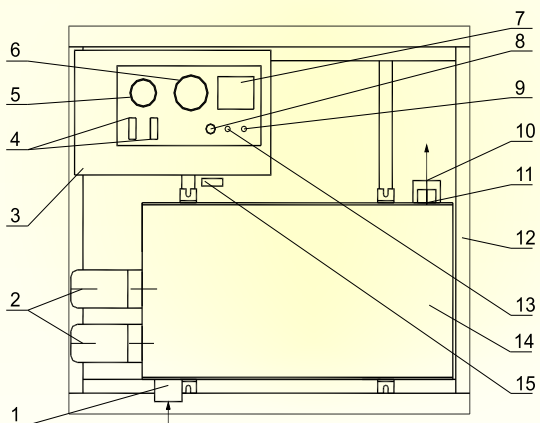


The "DYNAMIC EK" electrical boilers are designed for domestic heating installations of apartments, floors, houses, offices, workshops, etc. They can operate as separate systems as well as with existing heating installations with solid fuel or oil boilers. They are the perfect technical decision for premises, buildings and apartments devoid of enough space for the chimney or a boiler room. Do not place the room thermostat next to heat resources and do not expose it onto direct sun light. Said heating installations with an electrical boiler have a number of advantages: less initial investments, no exhausted fumes, no chimney, the operation of the system is quiet, no need of special maintenance. They are compact and easy to work with, the operation is automatic and safe.

### ELECTRICAL MODULE **DYNAMIC** **DYNAMIC EM**

Advantages of the electric heating:

- a small initial investment;
- possibility of stages of operation;
- noiseless operation;
- minimum installation space;
- safe automatic mode of operation;
- easy installation, operation and maintenance;
- ecologically friendly



1. Inlet of the cold water- muff
2. Electrical heaters
3. Control panel
4. Working stages/degrees
5. Boiler thermostat 0-90° C
6. Thermometer - manometer 120° C - 4 bar
7. Automatic safety fuse
8. Electrical circuit fuse - 2A
9. Emergency lamp
10. Outlet of the hot water - muff
11. Thermal sensors
12. Basic frame
13. Voltage lamp
14. Water container of the boiler - insulated 10mm
15. Emergency thermostat up to 110° C



## TECHNICAL DATA OF **DYNAMIC EK** AND **DYNAMIC EM**

The "DYNAMIC EK" and "DYNAMIC EM" appliances are supplied with all the respective temperature, pressure and electrical current defenses inclusive thermal current defense of the heaters.

### **DYNAMIC EK**

TYPE	6	8	9	10	12	16	18	20	24	30	32
thermal power kW	6	8	9	10	12	16	18	20	24	30	32
electric supply V/Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz
fuse A	35	50	50	50	3x35	3x35	3x35	3x40	3x50	3x63	3x63
section of the supply cable mm <sup>2</sup>	4	6	10	10	4 2,5	4 2,5	4 4	4 4	4 4	4 6	4 6
stages	2	2	3	3	2	2	3	3	3	3	3
volume of the expansion vessel	1"	1"	1"	1"	1"	1"	1"	1"	1"	1 1/4"	1 1/4"
water inlet/outlet °	80	80	80	80	80	80	80	80	80	80	80
max working temperature bar	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5
max working pressure	400	400	400	400	550	613	613	613	613	613	613
width	430	430	430	430	430	530	530	530	530	530	530
height	200	200	200	200	200	200	200	200	200	200	200

The company of "LAKAL" manufactures electrical modules with thermal power up to 32kW. The circulation pump and the expansion tank are built in the box. The expansion tank, the circulation pump and the water filter of the boilers which thermal power is from 45 to 80kW are outside the box. The electrical boilers are complete with a circulation pump, an expansion vessel, a water filter 1", a security valve 1/2" - 3 bar, a room thermostat and supporters. All these appliances are placed inside a white steel box and is supported by a steel frame. They are installed on to the wall by means of brackets.

### **DYNAMIC EM**

TYPE	6	8	9	10	12	16	18	20	24	30	32
thermal power kW	6	8	9	10	12	16	18	20	24	30	32
electric supply V/Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz
fuses A	35	50	50	50	3x35	3x35	3x35	3x40	3x50	3x63	3x63
section of the supply cable mm <sup>2</sup>	4	6	10	10	4 2,5	4 2,5	4 4	4 4	4 4	4 6	4 6
stages	2	2	3	3	2	2	3	3	3	3	3
volume of the expansion vessel	1"	1"	1"	1"	1"	1"	1"	1"	1"	1 1/4"	1 1/4"
max working temperature °	80	80	80	80	80	80	80	80	80	80	80
max working pressure bar	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5
width	400	400	400	400	550	613	613	613	613	613	613
height	430	430	430	430	430	530	530	530	530	530	530
depth	200	200	200	200	200	200	200	200	200	200	200

The electrical modules are manufactured in series with thermal power up to 32kW. Upon placing a preliminary order they can be produced with thermal power from 45 to 80kW. The electrical modules are designed to be connected to existing heating installations with oil or solid fuel boilers. They use the circulation pump, the expansion vessel and all the regular and safety appliances of the present heating installations.

All electrical boilers and modules were duly tested and certified in 2000 at a test laboratory in Bulgaria in keeping with the Bulgarian State Standards EN 45001. All boilers have a Certificate of Industrial Design 2002 issued by the Patent Office of the Republic of Bulgaria.

"LAKAL" Ltd. is the successor of "LATS" Sole Proprietor. The company has been at the market for more than twenty years as an engineering company engaged also in production, import and installation of heating and solar installations. The company has 4 assembly teams all modernly equipped and working throughout Bulgaria.

Since 1999 "LAKAL" has its design and construction team developing and manufacturing solid fuel steel boilers which thermal power varies from 15, 25, 35, 50 kW, water-jacketed fireplaces from 10 to 65 kW as well as electrical boilers and electrical modules varying from 6 to 100 kW.

The company is an importer of pellet, wood-gasifying, oil and gas boilers, oil and gas burners, radiators, armature and press fittings, pipe insulation, radiant strips, gas generators, wall gas and condensing boilers.

**Trust the experience and professionalism of our experts and "LAKAL" will take care of your comfort!**

#### **Stores:**

**PLOVDIV 4004; 136, N.Vaptsarov Blvd., +359 32 673 020**  
**VARNA 9000; 60A, Gen. Kolev Str., +359 52 607 176**  
**V. TARNOVO 5000; 41, Bulgaria Str., +359 62 638 995**  
**GABROVO, +359 888 956 022**  
**SLIVEN, +359 885 840 387**  
**TROYAN 5600; 39, Hristo Botev Str., +359 67 062 116**

#### **Head office:**

**BULGARIA, PLOVDIV 4004**  
**136, N. Vaptsarov Blvd.**  
**+359 32 673 010 tel.**  
**+359 32 676 006 tel.**  
**+359 32 672 900 fax**  
**e-mail: office@lakal-bg.com**  
**www.lakal-bg.com**