



SERVICE MANUAL

SlimJim A1

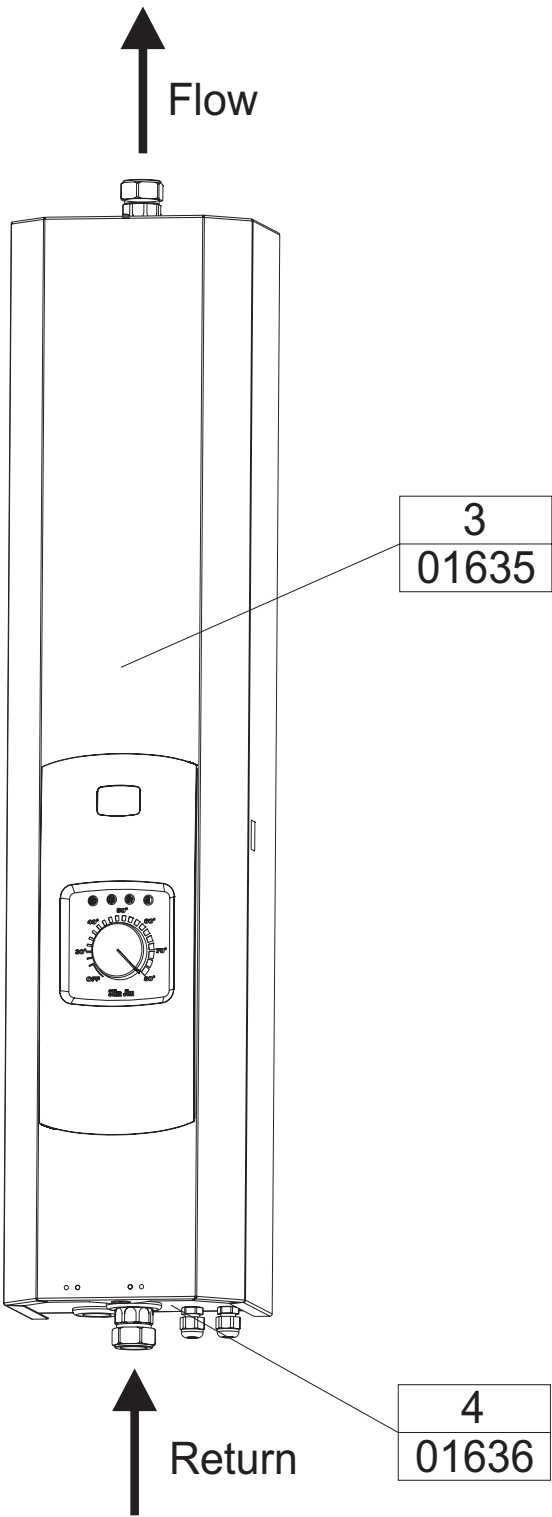
01.07.2015

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1. Exterior view of boiler.

Pic.1. Exterior view.



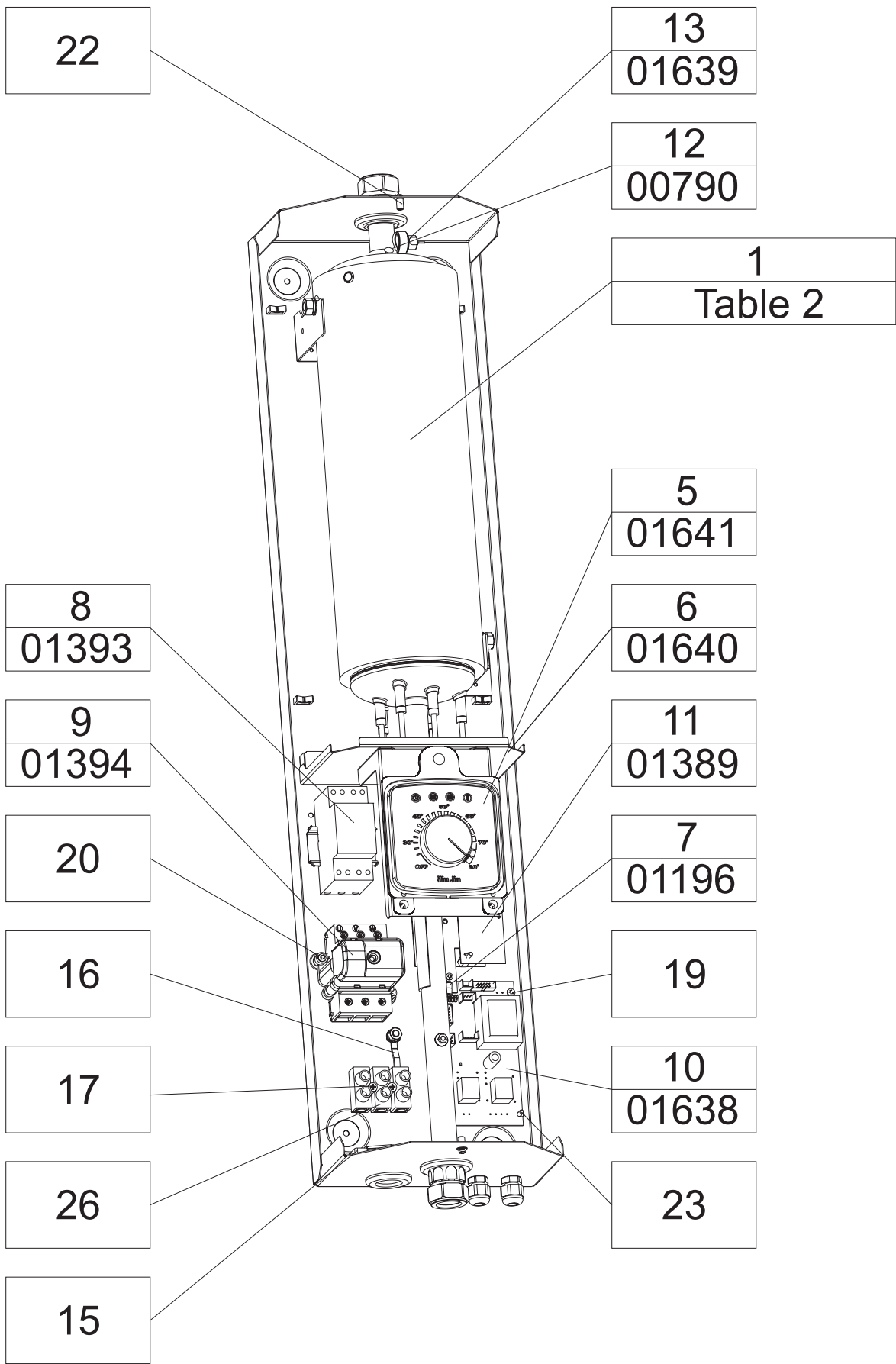
Part number in table of parts list

14
01168

Service code

2. Interior view of boilers.

Pic.2. Interior view.



3. Heating box.

Pic.3. Heating box.

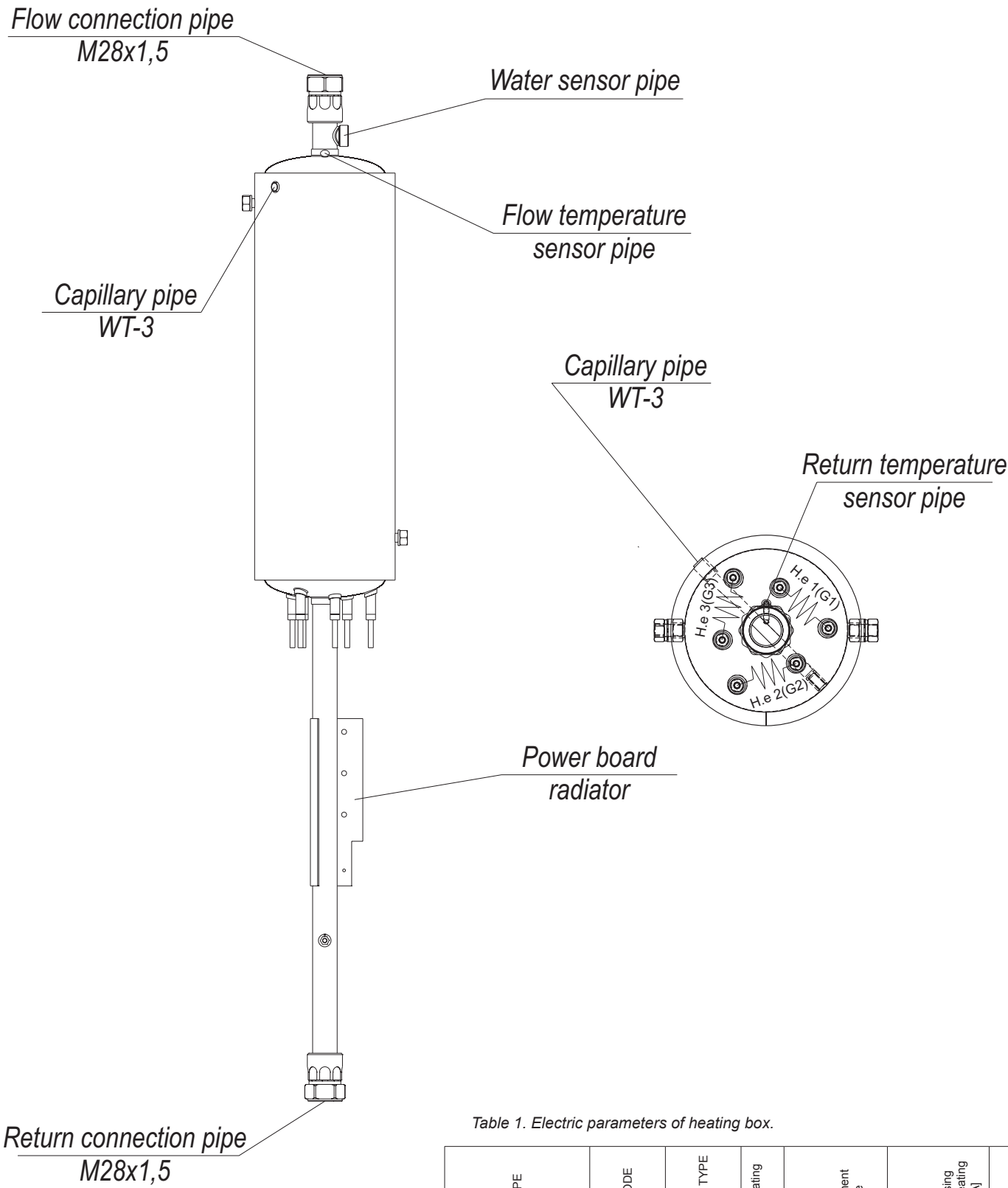
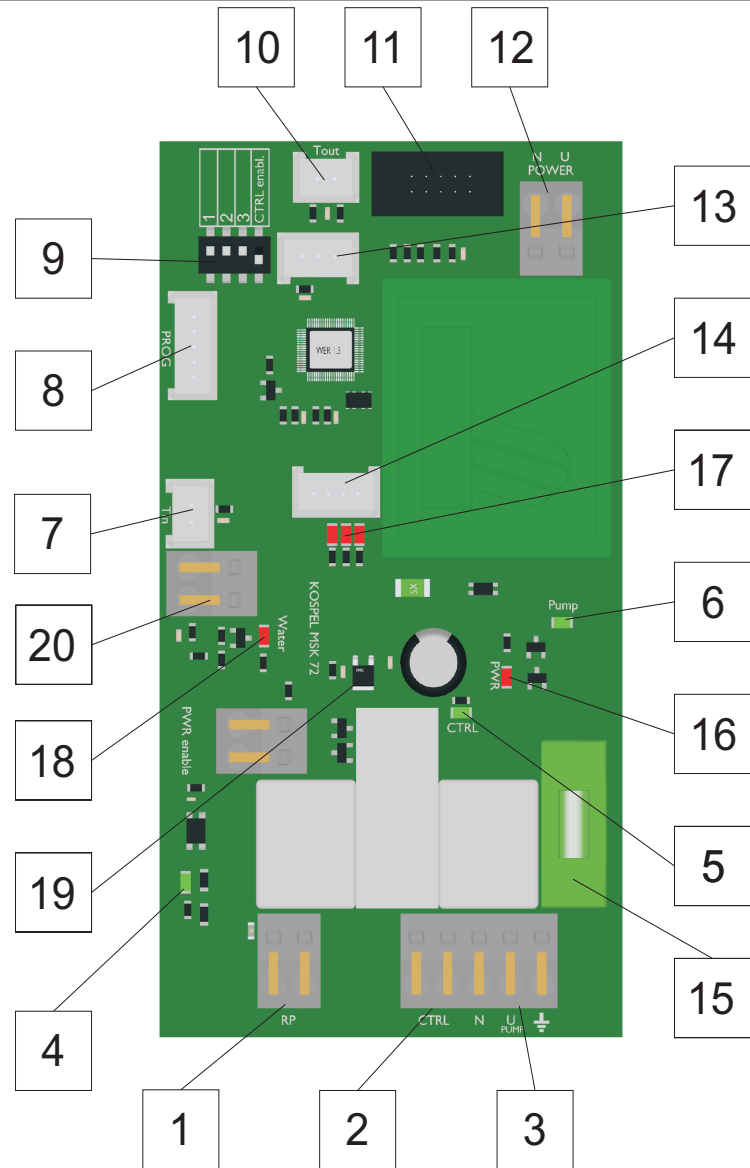


Table 1. Electric parameters of heating box.

BOILER TYPE	SERVICE CODE	HEATING BOX TYPE	Amount of heating elements	R_{el} Heating element resistance [Ohm]	I_f Current passing through the heating element [A]	U Working voltage of the heating element
EKCO.A1-4	01629	ver.01	3	37,1 + 40,9	5,6 ÷ 6,2	230
EKCO.A1-7	01630	ver.02	3	24,8 + 28,6	8,0 + 9,3	
EKCO.A1-10	01631	ver.03	3	37,1 + 40,9	5,6 ÷ 6,2	
EKCO.A1-12	01632	ver.04	3	24,8 + 28,6	8,0 + 9,3	
EKCO.A1-14,4	01633	ver.05	3	18,6 + 20,4	11,3 + 12,4	
EKCO.A1-8	01634	ver.06	3			

4. MSK-72 Board.

Pic4. MSK-72 Board.



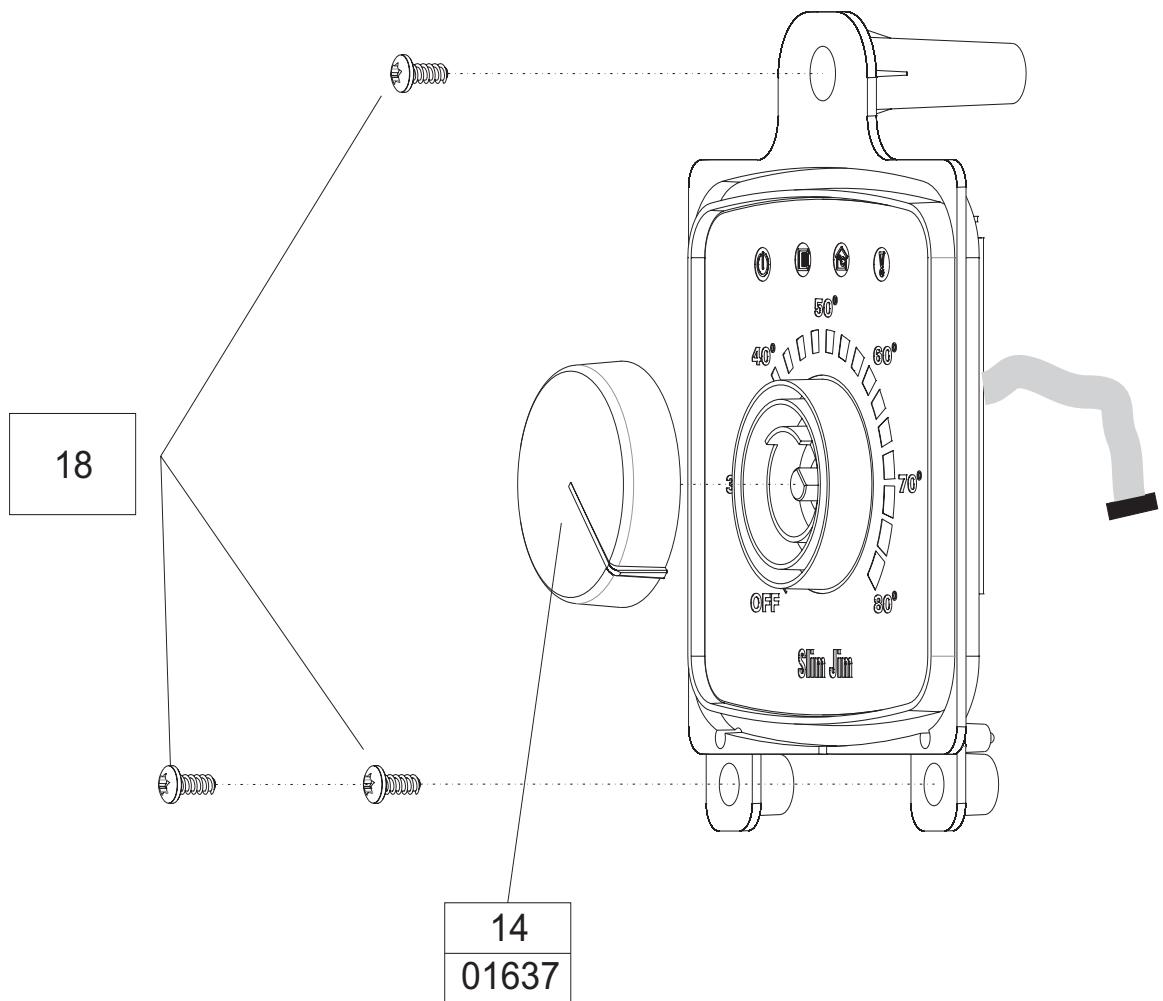
- 1. RP - Volt Free Control connectors
- 2. CTRL - external driving voltage connector (230-240V) (factory disabled)
- 3. Pump - circulating pump connector
- 4. LED - RP status indicator
- 5. LED CTRL - external driving voltage status indicator
- 6. LED Pump - pump mode status indicator
- 7. Tin - return temperature sensor socket
- 8. Prog - programming socket
- 9. Group of configuration switches
 - 1,2,3 - Power Stage Selector
 - CTRL enab. - exterior control voltage mode (230-240V):
 - on - enabled
 - off - disabled
- 10. Tout - flow temperature sensor socket
- 11. PW-12 control panel connector
- 12. MSK-72 power input connector
- 13. Tester socket

- 14. Control tape socket
- 15. Circulating pump fuse (1A 240V)
- 16. LED PWR - power indicator 5V DC
- 17. LED heating element indicator
 - on - power on active
- 18. LED Water - detector indicator
 - on - water detected
- 19. Voltage regulator 5V
- 20. Water sensor sensor connector. The wire must be connected to one of two slots (both are the same).

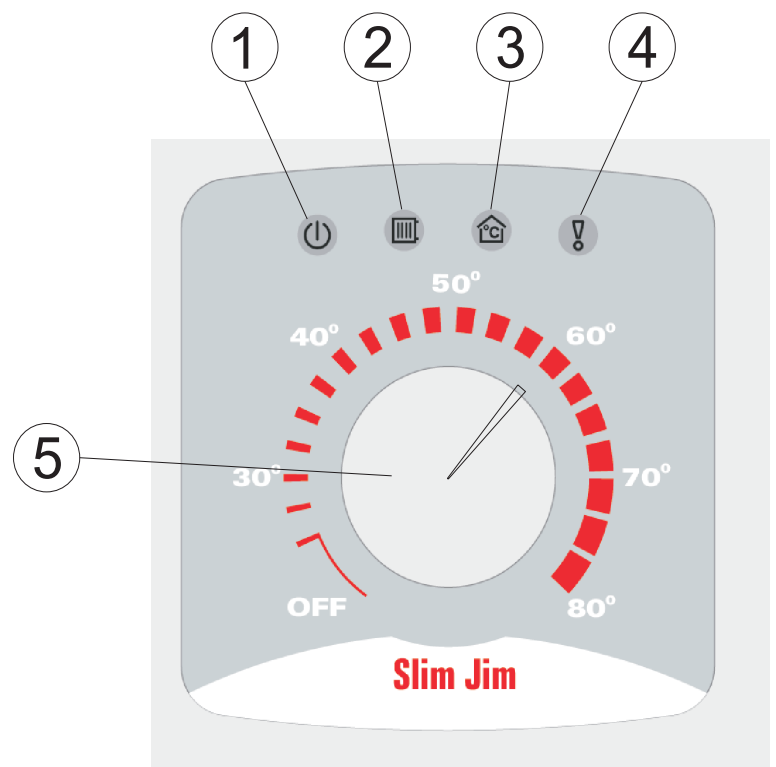
	1 POWER STAGE VOLT FREE				2 POWER STAGE VOLT FREE				3 POWER STAGE VOLT FREE			
	1 POWER STAGE 240 VOLT				2 POWER STAGE 240 VOLT				3 POWER STAGE 240 VOLT			

5. Control panel.

Pic.5. Control panel - PW-12 board.



- 1 - Power Indicator**
- 2 - Heating Status Indicator**
- 3 - Heat Call Indicator**
- 4 - Faults Indicator**
- 5 - On/Off & Temperature Knob**



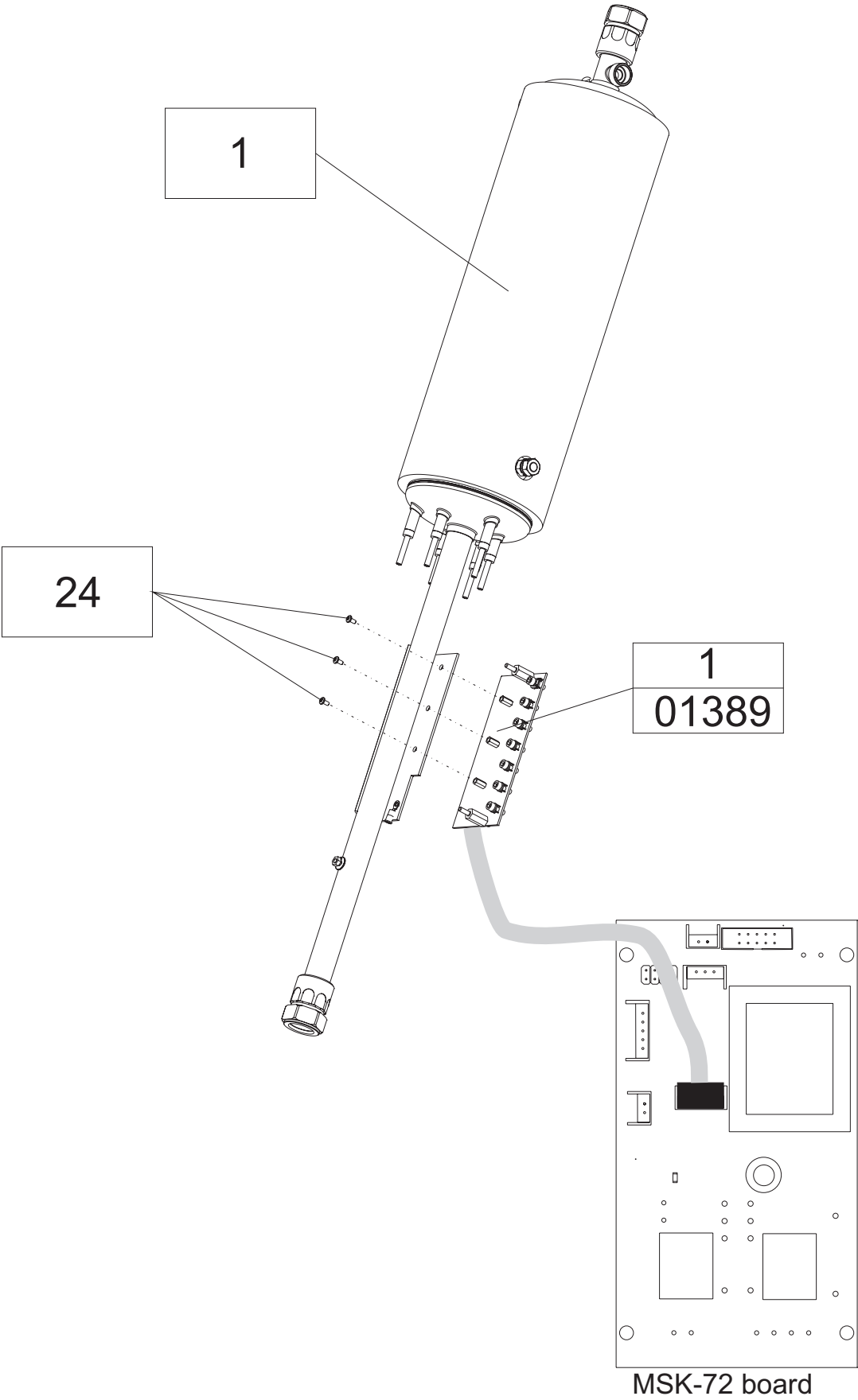
6. Description of control panel.

Pic6. LED functions and fault finding

LED Functions and Fault Finding				
FUNCTIONS	ON-OFF STAND-BY	BOILER HEATING	CALL FOR HEAT	WARNING INDICATOR
All LED's Off Check that Main Power is ON? Check – WT3 Over Heat Stat? If WT3 requires re-setting investigate the cause!	 off	 off	 off	 off
Boiler is ON Waiting for Call from external controls.	 on	 off	 off	 off
Boiler is ON and running. External Controls are Calling for heat	 on	 on	 on	 off
Low Water Level Top up Heating System Water Level.	 off	 off	 off	 on
Temperature Sensor Failure. The boiler will still heat if the inlet sensor has failed but not the outlet sensor! Replace Both Sensors. Overheating can be possible ("Max Inlet temperature reached"- condition). Controller decrease a power in this situation.	 off	 flashing	 off	 on
Max Inlet Temperature reached. No demand from system.	 on	 off	 flashing	 off
Boiler Off LED will flash for 90 seconds until the pump stops.	 flashing	 off	 off	 off

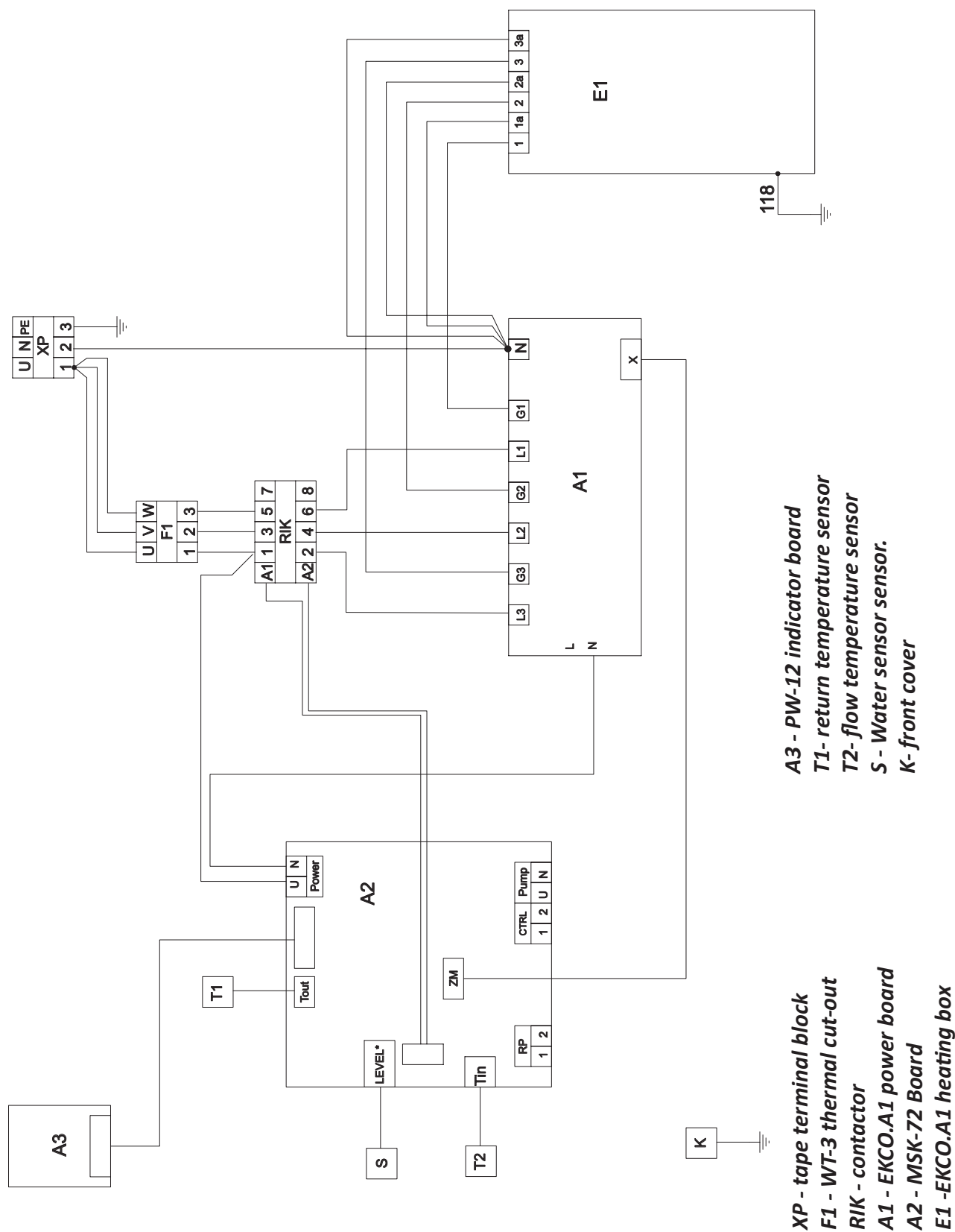
7. Power board dismantling.

Pic.7. Power board dismantling.



8. Electrical diagram.

Pic.8. Electrical diagram.



9. Boiler parts list.

Table 2. Parts list.

Pos.	Service code	Picture number	Part name	Amount (pcs)	Notice
1	01629	EKCO.A1-01.00.00/01	Heating box EKCO.A1 4kW/230V	1	E1
	01630	EKCO.A1-01.00.00/02	Heating box EKCO.A1 7kW/230V		
	01631	EKCO.A1-01.00.00/03	Heating box EKCO.A1 10kW/230V		
	01632	EKCO.A1-01.00.00/04	Heating box EKCO.A1 12kW/230V		
	01633	EKCO.A1-01.00.00/05	Heating box EKCO.A1 14,4kW/230V		
	01634	EKCO.A1-01.00.00/0	Heating box EKCO.A1 8kW/230V		
2					
3	01635	EKCO.A1-03.02.00	Front cover EKCO.A1	1	
4	01636	EKCO.A1-03.01.00	Base housing EKCO.A1	1	
5	01641	EKCO.A1-02.00.00	Control panel EKCO.A1	1	A3
6	01640	EKCO.A1-00.01.00	Interior bracket EKCO.A1	1	
7	01196	WE-020/01	Return temperature sensor	1	Tin, T1
8	01393	01.151.0009.0	Contacteur RIK25-40/230V EKCO.A	1	RIK
9	01394	WT3a-00.00.00/06	WT-3 safety cut-out EKCO.A	1	F1
10	01638	PCA-MSK.72	Board MSK-72 EKCO.A1	1	A2
11	01389	EKCO.A-10.00.00	Power board EKCO.A	1	A1
12	00790	WE-005/02	Flow temperature sensor	1	Tout, T2
13	01639	WE-030	Water sensor	1	SPW
14	01637	WP-146	Knob WP-146	1	
15			Wire clamping	1	
16		WM-172	Earth connector	1	
17		MARCOPOLE	Screw TW 4.1x20 PZ	2	
18		MARCOPOLE	Screw TW 3.6x9 TX	3	
19		MARCOPOLE	Screw TW 3,6x16 TX	2	
20			Screw TW 3,6x13 TX	2	
21		MARCOPOLE	Self-forming screw FWW M3x6 TX	2	
22		PN-86/M-82202	Screw M4x8	2	Front cover mount
23		01.232.0007.0	Element LCBS-7-01	2	MSK-71 mount
24		ADSYS	Element R912-7	2	
25			Screw M4x6	3	Power board mount
26			Terminal strip 4E 25 PA/GVVO	1	XP
27					

10. Technical parameters.

Table 3. Technical parameters.

Central heating boiler EKCO.A1		4	7	10	12	14,4
Max. pressure	MPa	0,3				
Min. pressure	MPa	0,05				
Out flow water temperature	°C	30 ÷ 80				
Max. water temperature	°C	100				
Overall dimensions (height x width x depth)	mm	912 x 203 x 172				
Weight	kg	~11				
Water connection	mm	22				
Safety class		IP22				
Boiler range	kW	4	7	10	12	14,4
Electric supply		240V lph 50Hz				
Load current	A	16,7	29,2	41,7	50,0	60,0
Protection	A	20	40	50	63	80
Recommended diameter of mains cable	mm ²	6	10	16	16	16
Max. diameter of mains cable	mm ²	3x16				
Heat output	Btu/h	13648	23885	34121	40946	49135