

# Service manual Pellet Boiler Eco-PK 130-220

**HARGASSNER**  
HEIZTECHNIK DER ZUKUNFT



**Follow and store this manual**

**HARGASSNER Ges mbH**

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# Contents

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<b>1 Parameter list - Customer</b> .....	<b>4</b>
<b>2 Parameter list - Installer</b> .....	<b>6</b>
<b>3 Parameter list - Service</b> .....	<b>15</b>
<b>4 Analogue inputs and outputs</b> .....	<b>24</b>
4.1 Specified output or temperature. ....	24
4.2 Operation modes .....	24
<b>5 Errors</b> .....	<b>25</b>
5.1 Retrieving the error list. ....	25
5.2 Acknowledging and rectifying faults. ....	25
5.3 List of errors. ....	26
5.4 Temporary emergency operation (Restart without HW-test) .....	36

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**Dear customer!**

Thank you for choosing an innovative wood biomass boiler from our company. The boiler from Hargassner Ges mbH is a state of the art product and manufactured to the latest production standards. We are very pleased about your decision and guarantee that you've chosen a reliable quality product.

**Keep this service manual at hand.**

This service manual is for trained and qualified personnel only.

**Only Hargassner trained and authorised personnel are allowed to access the boiler control.**

# 1 Parameter list - Customer

Menu	Description	Factory:	ModBus address
No.1	HWT 1 Day clock	ON 17:00 OFF 20:00	2001
to parametrise "Week clock" (menu no. D9 in installer settings)			
No.1a-g	HWT 1 Week clock	Mo Tu We Th Fr Sa So ON 17:00 00:00 OFF 20:00 00:00	2005 - 2035 (intervals of 5)
No.2	HWT 1 Set temperature	60°	2040
No. 2a	Circulation pump HWS 1	ON 06:00 11:00 OFF 08:00 13:00	2045
No.3	Heat circuit 1 Day clock	ON 06:00 15:00 OFF 09:00 22:00	2049
No.3a-g	Heat circuit 1 Week clock	Mo Tu We Th Fr Sa ... ON 06:00 15:00 OFF 09:00 22:00	2053 - 2083 (intervals of 5)
No.4	Heat circuit 1 Day-room temp.	20°	2088
No.5	Heat circuit 1 Reduction-room temp.	16°	2090
No.6	Heat circuit 2 Day clock	ON 06:00 15:00 OFF 09:00 22:00	2092
No.6a-g	Heat circuit 2 Week clock	Mo Tu We Th Fr Sa ON 06:00 15:00 OFF 09:00 22:00	2096 - 2126 (intervals of 5)
No.7	Heat circuit 2 Day-room temp.	20°	2131
No.8	Heat circuit 2 Reduction-room temp.	16°	2133
<b>Extension module 0</b>			
HP 1	HWT A day clock	ON 17:00 00:00 OFF 20:00 00:00	2140
HP 1a-g	HWT A Week clock	MoTuWeThFrSaSo ON 17:00 00:00 OFF 20:00 00:00	2145 - 2175 (intervals of 5)
HP 2	HWT A Set temperature	60°	2180
HP 2a	Circulation pump HWS 1	ON 06:00 11:00 OFF 08:00 13:00	2181
HP 3	HWT A Day clock	ON 06:00 15:00 OFF 09:00 22:00	2190
HP 3a-g	HWT A Week clock	Mo Tu We Th Fr Sa So ON 06:00 15:00 OFF 09:00 22:00	2195 - 2225 (intervals of 5)
HP 4	Heat circuit A Day-room temp.	20°	2230
HP 5	Heat circuit A Reduction-room temp.	16°	2232
<b>Heat circuit board A</b>			
H 1	HWT 2 Day clock	ON 17:00 00:00 OFF 20:00 00:00	2234
H 1a-g	HWT 2 Week clock	Mo Tu We Th Fr Sa So ON 17:00 00:00 OFF 20:00 00:00	2240 - 2270 (intervals of 5)
H 2	HWT 2 Set temperature	60°	2275
H 2a	Circulation pump HWS 2	ON 06:00 11:00 OFF 08:00 13:00	2276
H 3	Heat circuit 3 Day clock	ON 06:00 15:00 OFF 09:00 22:00	2280
H 3a-g	Heat circuit 3 Week clock	Mo Tu We Th Fr Sa So ON 17:00 00:00 OFF 20:00 00:00	2285 - 2315 (intervals of 5)
H 4	Heat circuit 3 Day-room temp.	20°	2320
H 5	Heat circuit 3 Reduction-room temp.	16°	2322
H 6	Heat circuit 4 Day clock	ON 06:00 15:00 OFF 09:00 22:00	2325
H 6a-g	Heat circuit 4 Week clock	Mo Tu We Th Fr Sa So ON 17:00 00:00 OFF 20:00 00:00	2330 - 2360
H 7	Heat circuit 4 Day-room temp.	20°	2365
H 8	Heat circuit 4 Reduction-room temp.	16°	2367
<b>Extension module 1</b>			

Menu	Description	Factory:	ModBus address	
Extension module 2	H 11	HWT 3 Day clock	ON 17:00 00:00 OFF 20:00 00:00 2369	
	H 11a-g	HWT 3 Week clock	Mo Tu We Th Fr Sa So ON 17:00 00:00 OFF 20:00 00:00 2375 -2405	
	H 12	HWT 3 Set temperature	60° 2410	
	H 12a	Circulation pump HWS 3	ON 06:00 11:00 OFF 08:00 13:00 2411	
	H 13	Heat circuit 5 Day clock	ON 06:00 15:00 OFF 09:00 22:00 2416	
	H 13a-g	Heat circuit 5 Week clock	Mo Tu We Th Fr Sa So ON 17:00 00:00 OFF 20:00 00:00 2421 - 2451	
	H 14	Heat circuit 5 Day-room temp.	20° 2456	
	H 15	Heat circuit 5 Reduction-room temp.	16° 2458	
	H 16	Heat circuit 6 Day clock	ON 06:00 15:00 OFF 09:00 22:00 2460	
	H 16a-g	Heat circuit 6 Week clock	Mo Tu We Th Fr Sa So ON 17:00 00:00 OFF 20:00 00:00 2465 - 2495	
	H 17	Heat circuit 6 Day-room temp.	20° 2500	
	H 18	Heat circuit 6 Reduction-room temp.	16° 2502	
	No. 9	Automatically fill and suction times		
	If "Outside temperature shut down - separated" is chosen (Installer level No. D12), different temperatures per heat circuit may be set.			
No. 11	Heating off at outside temperature over	16° 2504		
No. 11a-h	Heat circuit 1 - A and ext. HC off at outside temperature	16° 2505 - 2512 (intervals of 1)		
No. 12	All heat circuits off at day reduction temp. over	8° 2513		
No. 12a-g	Heat circuit 1 - A off at day reduction	8° 2514 - 2520 (intervals of 1)		
No. 13	All heat circuits off at night reduction outs. temp. over	-5° 2521		
No. 13a-g	Heat circuit 1 - A off at night reduction	-5° 2522 - 2528 (intervals of 1)		
No. 15	Holiday mode	not active 2530		
No. 15a-g	Holiday mode heat circuit 1 - A	not active 2540 - 2600 (intervals of 10)		
No. 16	Holiday time	from... - to... ---		
No. 16a-g	Holiday time heat circuit 1 - A	from... - to... ---		
No. 18	Ash suction	not active 2610		
No. 18a	Start deashing	No		
No. 19	Fuel	Wood chips 2611		
No. 19a	Agitator model	equal emptying 2612		
No. 20	Date / Time		---	
No. 21	Release rem. maintenance	not released 2613		
No. 21a	autom. deactivation of release	10 Min. 2614		
No. 22	Heater OFF			
No. 30	Pellet storage volume, warning when following storage volume is reached	1000kg		
No. 40	Day Timer HWT Production FWS			
No. 40a-g	Weekly Timer HWT Production FWS			

## 2 Parameter list - Installer

Menu	Description	Factory:	ModBus (Offset 40000)
<b>Heating circuit 1</b>			
A1	Heating circuit 1	Mixer	2615
A2	Heat circuit 1 steepness	1.6	2616
A2a	Heat circuit 1 floor heating steepness	0.6	
A3	Heat circuit 1 Flow temp. Minimum	30°C	2618
A3a	Heat circuit 1 Flow temperature Min. floor heating	22°C	
A4	Heat circuit 1 Flow temp. Maximum	70°C	2619
A4a	Heat circuit 1 Flow temperature Max. floor heating	45°C	
A5	Heat circuit 1 mixer run time	90Sec	2620
A6	Heating circuit 1 remote control	non-existent	2621
A6a	Heating circuit 1 remote control	with room sensor	2622
A6b	Display room unit HC 1	HWT 1	2623
A6c	Heat circuit 1 room device display FR40 display	no selection	
A6e	Heat Circuit 1 Pump Switch off when Room Temp. exceeded Room controller	not activated	3038
A7	Heat circuit 1 distr. line pump	no district heating	2626
A8	Heat circuit 1 summer-bath heating	Off	2627
A8a	Heat circuit 1 Summer bath heating accumulator minimum temp.	20°C	2628
A8b	Heat circuit 1 Summer bath heating day clock Mo-Su	ON 06:00 18:00 OFF 09:00 21:00	2629
A8c	Heat circuit 1 Summer bath heating flow-set	30°C	2634
A9	Heating circuit 1 floor	Off	2635
A9a	Heat circuit 1 Screed Flow Min	20°C	2636
A9b	Heat circuit 1 Screed Flow increase	5°C	2637
A9c	Heat circuit 1 Screed increase after	1 day	2638
A9d	Heat circuit 1 Screed Flow Max	45°C	2639
A9e	Heat Circuit 1 Screed Hold time	4 days	2640
A9f	Heat circuit 1 Screed Flow-Set reduction	10°C	2641
A10	Heat circuit 1 Loxone connection error - emergency operation set temperature	30°C	
<b>Heating circuit 2</b>			
A11	Heating circuit 2	Mixer	2642
A12	Heat circuit 2 steepness	1.6	2643
A12a	Heat circuit 2 FBH steepness	0.6	
A13	Heat circuit 2 Flow temp. Minimum	30°C	2645
A13a	Heat circuit 2 Flow temperature Min. floor heating	22°C	
A14	Heat circuit 2 flow temp. maximum	70°C	2646
A14a	Heat circuit 2 FBH flow temp. maximum	45°C	
A15	Heat circuit 2 mixer run time	90Sec	2647
A16	Heating circuit 2 remote control	non-existent	2648
A16a	Heating circuit 2 remote control	with room sensor	2649
A16b	Display room unit HC 2	HWT 1	2650
A16c	Heat circuit 2 room device display FR40 display	no selection	
A16e	Heat circuit 2 pump switch-off room temperature exceeded Room controller	not activated	3039
A17	Heat circuit 2 distr. line pump	no district heating	2653
A18	Heat circuit 2 summer-bath heating	Off	2654

A18a	Heat circuit 2 Summer bath heating accumulator minimum temp.	20°C	2655
A18b	Heat circuit 2 Summer bath heating day clock Mo-Su	ON 06:00 18:00 OFF 09:00 21:00	2656
A18c	Heat circuit 2 Summer bath heating flow-set	30°C	2661
A19	Heating circuit 2 floor	Off	2662
A19a	Heat circuit 2 Screed Flow Min	20°C	2663
A19b	Heat circuit 2 Screed Flow increase	5°C	2664
A19c	Heat circuit 2 Screed increase after	1 day	2665
A19d	Heat circuit 2 Screed Flow Max	45°C	2666
A19e	Heat Circuit 2 Screed Hold time	4 days	2667
A19f	Heat circuit 2 Screed Flow-Set reduction	10°C	2668
A20	Heat circuit 2 Loxone connection error - emergency operation preset temperature Setpoint temp.	30°C	
<b>Heating circuit 3</b>			
A21	Heating circuit 3	Mixer	2669
A22	Heat circuit 3 steepness	1.6	2670
A22a	Heat circuit 3 FBH steepness	0.6	
A23	Heat circuit 3 Flow temp. Minimum	30°C	2672
A23a	Heat circuit 3 Flow temperature Min. floor heating	22°C	
A24	Heat circuit 3 flow temp. maximum	70°C	2673
A24a	Heat circuit 3 FBH flow temp. maximum	45°C	
A25	Heat circuit 3 mixer run time	90Sec	2674
A26	Heating circuit 3 remote control	non-existent	2675
A26a	Heating circuit 3 remote control	with room sensor	2676
A26b	Display room unit HC 3	HWT 1	2677
A26c	Heat circuit 3 room device display FR40 display	no selection	
A26e	Heat circuit 3 pump switch-off when room temperature exceeded Room controller	not activated	3040
A27	Heat circuit 3 distr. line pump	no district heating	2680
A28	Heat circuit 3 summer-bath heating	Off	2681
A28a	Heat circuit 3 Summer bath heating accumulator minimum temp.	20°C	2682
A28b	Heat circuit 3 Summer bath heating day clock Mo-Su	ON 06:00 18:00 OFF 09:00 21:00	2685
A28c	Heat circuit 3 Summer bath heating flow-set	30°C	2690
A29	Heating circuit 3 floor	Off	2691
A29a	Heat circuit 3 Screed Flow Min	20°C	2692
A29b	Heat circuit 3 Screed Flow increase	5°C	2693
A29c	Heat circuit 3 Screed increase after	1 day	2694
A29d	Heat circuit 3 Screed Flow Max	45°C	2695
A29e	Heat Circuit 3 Screed Hold time	4 days	2696
A29f	Heat circuit 3 Screed Flow-Set reduction	10°C	2697
A30	Heat circuit 3 Loxone connection error - emergency operation Setpoint temp.	30°C	
<b>Heating circuit 4</b>			
A31	Heating circuit 4	Mixer	2698
A32	Heat circuit 4 steepness	1.6	2699
A32a	Heat circuit 4 FBH steepness	0.6	

A33	Heat circuit 4 Flow temp. Minimum	30°C	2701
A33a	Heat circuit 4 Flow temperature Min. floor heating	22°C	
A34	Heat circuit 4 flow temp. maximum	70°C	2702
A34a	Heat circuit 4 FBH flow temp. maximum	45°C	
A35	Heat circuit 4 mixer run time	90Sec	2703
A36	Heating circuit 4 remote control	non-existent	2704
A36a	Heating circuit 4 remote control	with room sensor	2705
A36b	Display room unit HC 4	HWT 1	2706
A36c	Heat circuit 4 room device display FR40 display	no selection	
A36e	Heat circuit 4 pump switch-off room temperature exceeded Room controller	not activated	3041
A37	Heat circuit 4 distr. line pump	no district heating	2709
A38	Heat circuit 4 summer-bath heating	Off	2710
A38a	Heat circuit 4 Summer bath heating accumulator minimum temp.	20°C	2711
A38b	Heat circuit 4 Summer bath heating day clock Mo-Su	ON 06:00 18:00 OFF 09:00 21:00	2712
A38c	Heat circuit 4 Summer bath heating flow-set	30°C	2720
A39	Heating circuit 4 floor	Off	2721
A39a	Heat circuit 4 Screed Flow Min	20°C	2722
A39b	Heat circuit 4 Screed Flow increase	5°C	2723
A39c	Heat circuit 4 Screed increase after	1 day	2724
A39d	Heat circuit 4 Screed Flow Max	45°C	2725
A39e	Heat Circuit 4 Screed Hold time	4 days	2726
A39f	Heat circuit 4 Screed Flow-Set reduction	10°C	2727
A40	Heat circuit 4 Loxone connection error - emergency operation Setpoint temp.	30°C	
<b>Heating circuit 5</b>			
A41	Heating circuit 5	Mixer	2730
A42	Heat circuit 5 steepness	1.6	2731
A42a	Heat circuit 5 Floor heating steepness	0.6	
A43	Heat circuit 5 Flow temp. Minimum	30°C	2733
A43a	Heat circuit 5 Floor heating flow temp. minimum	22°C	
A44	Heat circuit 5 flow temp. maximum	70°C	2734
A44a	Heat circuit 5 Floor heating flow temp. maximum	45°C	
A45	Heat circuit 5 mixer run time	90Sec	2735
A46	Heating circuit 5 remote control	non-existent	2736
A46a	Heating circuit 5 remote control	with room sensor	2737
A46b	Display room unit HC 5	HWT 1	2738
A46c	Heat circuit 5 Room device display FR40 display	no selection	
A46e	Heat circuit 5 Pump switch-off when room temperature exceeded Room controller	not activated	3042
A47	Heat circuit 5 distr. line pump	no district heating	2742
A48	Heat circuit 5 summer-bath heating	Off	2743
A48a	Heat circuit 5 Summer bath heating accumulator minimum temp.	20°C	2744
A48b	Heat circuit 5 Summer bath heating day clock Mo-Su	ON 06:00 18:00 OFF 09:00 21:00	2745
A48c	Heat circuit 5 Summer bath heating flow-set	30°C	2750
A49	Heating circuit 5 floor	Off	2751

A49a	Heat circuit 5 Screed Flow Min	20°C	2752
A49b	Heat circuit 5 Screed Flow increase	5°C	2753
A49c	Heat circuit 5 Screed increase after	1 day	2754
A49d	Heat circuit 5 Screed Flow Max	45°C	2755
A49e	Heat Circuit 5 Screed Hold time	4 days	2756
A49f	Heat circuit 5 Screed Flow-Set reduction	10°C	2757
A50	Heat circuit 5 Loxone connection error - emergency operation Setpoint temp.	30°C	
<b>Heating circuit 6</b>			
A51	Heating circuit 6	Mixer	2758
A52	Heat circuit 6 steepness	1.6	2759
A52a	Heat circuit 6 FBH steepness	0.6	
A53	Heat circuit 6 Flow temp. Minimum	30°C	2761
A53a	Heat circuit 6 Flow temperature Min. floor heating	22°C	
A54	Heat circuit 6 flow temp. maximum	70°C	2762
A54a	Heat circuit 6 FBH flow temp. maximum	45°C	
A55	Heat circuit 6 mixer run time	90Sec	2763
A56	Heating circuit 6 remote control	non-existent	2764
A56a	Heating circuit 6 remote control	with room sensor	2765
A56b	Display room unit HC 6	HWT 1	2766
A56c	Heat circuit 6 room device display FR40 display	no selection	
A56e	Heat circuit 6 pump switch-off room temperature exceeded Room controller	not activated	3043
A57	Heat circuit 6 distr. line pump	no district heating	2770
A58	Heat circuit 6 summer-bath heating	Off	2771
A58a	Heat circuit 6 Summer bath heating accumulator minimum temp.	60°C	2772
A58b	Heat circuit 6 Summer bath heating day clock Mo-Su	ON 06:00 18:00 OFF 09:00 21:00	2773
A58c	Heat circuit 6 Summer bath heating flow-set	30°C	2778
A59	Heating circuit 6 floor	Off	2779
A59a	Heat circuit 6 Screed Flow Min	20°C	2780
A59b	Heat circuit 6 Screed Flow increase	5°C	2781
A59c	Heat circuit 6 Screed increase after	1 day	2782
A59d	Heat circuit 6 Screed Flow Max	45°C	2783
A59e	Heat Circuit 6 Screed Hold time	4 days	2784
A59f	Heat circuit 6 Screed Flow-Set reduction	10°C	2785
A60	Heat circuit 6 Loxone connection error - emergency operation Setpoint temp.	30°C	
<b>Heating circuit A</b>			
A61	Heating circuit A	Mixer	2786
A62	Heat circuit A steepness	1.6	2787
A62a	Heat circuit A Floor heating steepness	0.6	
A63	Heat circuit A Flow temp. Minimum	30°C	2789
A63a	Heat circuit A FBH flow temp. minimum	22°C	
A64	Heat circuit A Flow temp. Maximum	70°C	2790
A64a	Heat circuit A Floor heating flow temp. maximum	45°C	
A65	Heat circuit A mixer run time	90Sec	2791
A66	Heating circuit A remote control	non-existent	2792

A66a	Heating circuit A remote control	with room sensor	2793
A66b	Heat circuit A Display room device	HWT 1	2794
A66c	Heat circuit A Display room device FR40 display	no selection	
A66e	Heat circuit A Pump switch-off when room temperature exceeded Room controller	not activated	3044
A67	Heat circuit A distr. line pump	no district heating	2798
A68	Heat circuit A summer bath heating	Off	2799
A68a	Heat circuit A Summer bath heating accumulator minimum temp.	20°C	2800
A68b	Heat circuit A Summer bath heating day clock Mo-Su	ON 06:00 18:00 OFF 09:00 21:00	2801
A68c	Heat circuit A Summer bath heating preset flow	30°C	2806
A69	Heating circuit A floor	Off	2807
A69a	Heat circuit A Screed Flow Min	20°C	2811
A69b	Heat circuit A Screed Flow increase	5°C	2808
A69c	Heat circuit A Screed increase after	1 day	2810
A69d	Heat circuit A Screed Flow Max	45°C	2812
A69e	Heat Circuit A Screed Hold time	4 days	2813
A69f	Heat circuit A Screed Flow-Set reduction	10°C	2809
A70	Heat circuit A Loxone connection error - emergency operation Setpoint temp.	30°C	
<b>HWT 1</b>			
B1	HWT 1	not available	2814
B2	HWT 1 temperature switch difference	6°C	2815
B3	HWT 1 temperature minimum	40°C	2816
B4	HWT 1 Legionella protection	Off	2817
B5	HWT 1 Legionella prot. Set temp.	70°C	2818
B6	HWT 1 Legionella protection week program	ON 17:00 00:00 OFF 00:00 00:00	2819
B7	HWT 1 district line pump	no district heating	2825
B8	Circulation pump HWS 1	non-existent	2826
B8a	HWT 1 circulation pump runtime	180Sec	2827
B8b	HWT 1 circulation pump holdtime	15Min	2828
B9	Energy saving mode	activated	
B9a	Energy-saving mode after	30 min.	
B9b	Max. pump runtime during HWT loading (0 = deactivated)	0h	
<b>HWT 2</b>			
B11	HWT 2	not available	2829
B12	HWT 2 temperature switch difference	6°C	2830
B13	HWT 2 temperature minimum	40°C	2831
B14	HWT 2 Legionella protection	Off	2832
B15	HWT 2 Legionella prot. Set temp.	70°C	2833
B16	HWT 2 Legionella protection week program	ON 18:00 00:00 OFF 00:00 00:00	2834
B17	HWT 2 district line pump	no district heating	2839
B18	Circulation pump HWS 2	non-existent	2840
B18a	HWT 2 circulation pump runtime	180Sec	2841
B18b	HWT 2 circulation pump holdtime	15Min	2842
B19	Energy saving mode	activated	

B19a	Energy-saving mode after	30 min.	
B19b	Max. pump runtime during HWT loading (0 = deactivated)	0h	
<b>HWT 3</b>			
B21	HWT 3	not available	2843
B22	HWT 3 temperature switch difference	6°C	2844
B23	HWT 3 temperature minimum	40°C	2845
B24	HWT 3 Legionella protection	Off	2846
B25	HWT 3 Legionella prot. Set temp.	70°C	2847
B26	HWT 3 Legionella protection week program	ON 19:00 00:00 OFF 00:00 00:00	2848
B27	HWT 3 district line pump	no district heating	2853
B28	Circulation pump HWS 3	non-existent	2854
B28a	HWT 3 circulation pump runtime	180Sec	2855
B28b	HWT 3 circulation pump holdtime	15Min	2856
B29	Energy saving mode	activated	
B29a	Energy-saving mode after	30 min.	
B29b	Max. pump runtime during HWT loading (0 = deactivated)	0h	
<b>HWT A</b>			
B31	HWT A	available	2857
B32	HWT A temperature switch difference	6°C	2858
B33	HWT A temperature minimum	40°C	2859
B34	HWT A Legionella protection	Off	2860
B35	HWT A Legionella prot. Set temp.	70°C	2861
B36	HWT A Legionella protection week program	ON 17:00 00:00 OFF 00:00 00:00	2862
B37	HWT A distr. line pump	no district heating	2867
B38	Circulation pump HWT A	non-existent	2868
B38a	HWT A circulation pump runtime	180Sec	2869
B38b	HWT A circulation pump holdtime	15Min	2870
B39	Energy saving mode	activated	
B39a	Energy-saving mode after	30 min.	
B39b	Max. pump runtime during HWT loading (0 = deactivated)	0h	
B60	HWT priority automatic	ON	2871
B90	Release all HWT temp. Minimum	ON 06:00 00:00 OFF 22:00 00:00	2872
<b>AT</b>			
C1a	Back end protection	RL Mixer + buffer P	2880
C1b	Return mixer run time	140Sec	2881
C2	Acc. loading accumulator	not available	2882
C2a	ACC Loading Automatic	Yes	
C2b	Accumulator volume	0L	
C3	Acc. loading accumulator	Acc./HWT external	2883
C3a	AT charge	AT sensor-boiler	2884
C3b	Accumulator/HWT integrated	HWT sensor A	2885
C4	Switch off temperature acc. sensor BOTTOM	60°C	2886
C4a	Acc. loading - Boiler set temp. at loading	78°C	2887

C4a_H T	Acc. loading - Boiler set temp. at loading	78°C	3035
C4b	Accumulator loading end accumulator loading (due to domestic hot water production)	AT bottom	2888
C4c	Accumulator min. temp.	0°C	3029
C4d	Power reduction at fill level over	85%	3037
C4e	Error recognition acc. sensor bottom after (0 = deactivated)	30 min.	3047
C5	Forced acc. loading Week clock	ON 00:00 00:00 OFF 00:00 00:00	
C5a	No forced accumulator loading at outside temperature over	0°C	
C6	Ext. heat circuit with analog control	Deactivated	2895
C6a	External heating setpoint temp.	69°C	2896
C6a_H T	External heating setpoint temp.	69°C	3036
C7	Function exit pump	Distr. heat pump 2	2897
C8	External Heating circuit to FLP	no district heating	2898
C9	External heating	non-existent	2899
<b>General</b>			
D1a	HKM 0 Display HKM-Display	no selection	
D1b	HKM 1 Display HKM-Display	no selection	
D1c	HKM 2 Display HKM-Display	no selection	
D1f	Pellet consumption display	not available	2909
D2	Frost prot. pump on if outs. temp. below	1°C	2910
D3	Frost prot. flow-set temperature	7°C	2911
D4	Day reduced mode from	ON 06:00 00:00 OFF 22:00 00:00	2912
D5a	De-ash - Ash suction	not available	2917
D5b	Release ash suction	ON 06:00 00:00 OFF 22:30 00:00	2918
D5s	Release cleaning device Release de-ash pellets	ON 00:00 00:00 OFF 24:00 00:00	2930
D7	All heat circuits - summer switch off - blocking time	120 min.	2975
D8	Daylight saving time	automatic switch	2976
D9	Daily / Weekly clock	Day clock	2977
D10	Number of blocks for week clock	2	2978
D11	Holiday mode released	No	2979
D11a	Holiday mode	all HC together	2980
D12	Outside temperature - Shut down	all HC together	2981
D13	Outside sensor	Available	2982
D20	STM (Stoker temp. Mon.)	not available	2984
D21	TMFR	not available	2985
D23	Info / Trend	do not show	2988
D24	Modbus activated	No	2989
D25	KNX activated	No	
D31	Operating mode	Suction + auger	2990
D31a	Changeover unit	non-existent	2991
D31b	Switch over to other position after:	10 days	2992
D31c	Changeover unit	Step motor (AUP)	
D32	Controlled district line superelevation	5°C	2993

D33	Cont. distr. line minimum mixer run time	140Sec	2994
D41	Text1 ext. error		
D42	Text2 ext. error		
D42a	Input - external error; input - external error	a''' contact	
D43	Text1 ext. warning		
D44	Text2 ext. warning		
D44a	Input - external warning; input - external warning	a''' contact	
D45	Boiler System pressure monitoring	not activated	
D45a	Boiler Warning if water pressure is below	0.8 bar	
D45b	Boiler Error if water pressure is below	0.5 bar	
D50	Manual pellet de-ash customer	non-existent	
D65	Error output	Error & Warning	
<b>Differential controller</b>			
G1	Differential controller function	not available	
G2	Differential controller active at heat source	30°C	
G4	Differential controller Circuit 1 (priority circuit) Sensor selection	Diff-sensor S2	
G4a	Differential controller Superelevation of heat source (circuit 1)	10°C	
G4b	Differential controller Switch difference (circuit 1)	5°C	
G4c	Differential controller Switch-off Differential controller (circuit 1)	65°C	
G5	Differential controller Circuit 2 (non-priority circuit) Sensor selection	Acc. sensor bottom	
G5a	Differential controller Superelevation of heat source (circuit 2)	10°C	
G5b	Differential controller Switch difference (circuit 2)	5°C	
G5c	Differential controller Switch-off Differential controller (circuit 2)	65°C	
G5d	Differential controller Parallel operation Circuits 1 + 2	No (without valve)	
G5e	Differential controller Switch-over to circuit 2 if difference with circuit 1 is less than	4°C	
G5f	Differential controller Switch-over to circuit 2 if circuit 1 is over	60°C	
G5g	Differential controller Time delay for switch-over to circuit 2	1 min.	
G6	Differential controller External heat boiler	with return mixer	
G6a	Differential controller Mixer run time	120 sec.	
G6b	Differential controller Return temperature set value	60°C	
G6c	Differential controller Warning if return temperature is not reached	50°C	
G6d	Differential controller Time for warning	60 min.	
G6e	Differential controller External heat boiler Sensor selection	Acc. sensor bottom	
G6f	Differential controller Superelevation of heat source (external heat boiler)	10°C	
G6g	Differential controller Switch difference (external heat boiler)	5°C	
G7	Differential controller Safety circuit at heat source (sensor S1)	95°C	
G11	External heat controller	External heat boiler	

G12b	External heat controller 2 active from heat source	55°	
G16	Differential controller External heat boiler	with return mixer	
G16a	Differential controller Mixer run time	120 sec.	
G16b	Differential controller Return temperature set value	60°C	
G16c	Differential controller Warning if return temperature is not reached	50°C	
G16d	Differential controller Time for warning	60 min.	
G16e	Differential controller External heat boiler Sensor selection		
G16f	Differential controller Superelevation of heat source (external heat boiler)	10°C	
G16g	Differential controller switch difference (external heat boiler 2)	5°C	
G17	Differential controller safety circuit from heat source	95°C	

### 3 Parameter list - Service

Values in (...) are for Eco-PK 200/220

Menu	Description	Factory:
<b>GSM</b>		
J1	Waiting time SMS alert	5Min
J2	GSM-Module Alarm Reset	No
J3	Time to clear	10Min
J4	Auto Reset GSM	Auto Reset YES
J5	Warning via SMS	Yes
<b>K - Boiler</b>		
K1	Boiler combustion - min. heat output	30%
K2	Controller combustion max. output	100%
K3s	Boiler exhaust fan speed 100% output pellets	60 (85)%
K10	Boiler min. temperature with bypass	75°C
K10a	Boiler minimum temperature	78°C
K10a_HT	Boiler minimum temperature	78°C
K11	Boiler maximum temperature	85°C
K11_HT	Boiler maximum temperature	95°C
K12	Boiler temperature switch difference	15°C
K12_HT	Boiler temperature switch difference	5°C
K13	Boiler set temperature superelevation	4°C
K13_HT	Boiler set temperature superelevation	1°C
K14	Boiler flue gas temp. error under	70°C
K15	Boiler time flue gas temp. error	15Min
K20	Boiler TMFR - max. temperature in fuel storage room	60°C
K21	Boiler STM temperature note stoker channel	65°C
K21a	Boiler STM temperature error stoker channel	70°C
K21b	Boiler STM temperature OK after note/error	55°C
K29	Boiler max. control board temperature exceeded	60°C
K30	Boiler chimney sweep set temperature	78°C
K31	Boiler chimney sweep run time	120 min.
K32	Boiler chimney sweep max. heat output - full load	100%
K32a	Boiler chimney sweep max. heat output - partial load	50%
K40	Boiler output limit at error	60%
K51	Boiler PACC flap set at slumber mode	10%
K51a	Boiler exhaust fan set in slumber mode	10%
K51b	Boiler primary air flap off while lambda	10%
K51c	Boiler exhaust fan off while lambda heating is active	10%
K52	Boiler locked at 2x slumber mode within	60Min
K52a	Boiler length of time boiler is locked after slumber mode has occurred twice	60Min
K54	Water pressure signal at 0 bar	0.0V
K55	Water pressure signal at 10 bar	10.0V
K56	Boiler Maximum demand HKR	75°
K57	Number of boiler starts within 24 hrs below min. runtime until warning	10x
<b>L - Pumps</b>		
L1	Pumps district line pump 1 release temperature	58°C
L2	Pumps district line pump 2 release temperature	59°C
L2a	Pumps controlled district line pump release temperature	59°C
L3	Pumps heat circuit pump 1 release temperature	60°C
L4	Pumps heat circuit pump 2 release temperature	61°C
L4a	Pumps heat circuit pump 3 release temperature	62°C

<b>Menu</b>	<b>Description</b>	<b>Factory:</b>
L4b	Pumps heat circuit pump 4 release temperature	63°C
L4c	Pumps heat circuit pump 5 release temperature	62°C
L4d	Pumps heat circuit pump 6 release temperature	63°C
L4e	Pumps heat circuit pump A release temperature	62°C
L4i	Pumps heat circuit pump 1 release temperature	30°C
L4j	Pumps heat circuit pump 2 release temperature	31°C
L4k	Pumps heat circuit pump 3 release temperature	32°C
L4l	Pumps heat circuit pump 4 release temperature	33°C
L4m	Pumps heat circuit pump 5 release temperature	32°C
L4n	Pumps heat circuit pump 6 release temperature	33°C
L4o	Pumps heat circuit pump A release temperature	32°C
L5	Pumps external heat circuit release temperature	64°C
L6	Pumps HWT pump 1 release temp.	62°C
L7	Pumps HWT pump 2 release temp.	63°C
L7a	Pumps HWT pump 3 release temp.	62°C
L7b	Pumps HWT pump A release temp.	63°C
L10	Return minimum	58°C
L10a	Return differential	15 (20)
L10b	Return differential - auto adjust. range	5
L10c	Return Return pump release temp.	47°C
L10d	Return Minimum spreading	3°C
L11	Pumps Back end protection error under	50°C
L11e	Open return mixer at first start up	40%
L12	Return time for error back end protection	60 min.
L12a	Return return mixer interval	10Sec
L12b	Return Return mixer Kp	1.0Sec
L12c	Return Return mixer Tn	20Sec
L12d	Return mixer run time	0.5Sec
L12e	Return Max. mixer run time per interval	50%
L13	Return Return pump type	HE-Pump
L30	Return Return mixer for KTH Kp	3 sec.
L31	Return Return mixer for KTH Tn	45 sec.
L40	Return Output limit for return increase over	0.07 °C/s
L41	Return Output limit Controller KP	2.5
L42	Return Output limit Controller TN	10Sec
L43	Return Controller off for TK diff. higher than	10°C
L51	Return control Acc. 3F/5F Kp	0.7
L52	Return control Acc. 3F/5F Tn	300Sec
L53	Return control Acc. 3F/5F Tv	125Sec
L54	Return control Acc. 3F/5F T1	125
L55	Return Controller Power Min.	30%
<b>M - Heat circuits</b>		
M1	all heat circuits - pumps on if boiler temperature over	92°C
M1_HT	all heat circuits - pumps on if boiler temperature over	98°C
M1A	All heat circuits - outside temperature for safety circuit	-10°C
M2	all heat circuits - residual heat use until boiler below	40°C
M2A	All heat circuits	Residual heat several times
M3	all heat circuits - boiler superelevation after flow temp.	10°C
M4	Heat circuit 1 influence factor remote control	1

Menu	Description	Factory:
M5	Heat circuit 2 influence factor remote control	1
M5A	Heat circuit 3 influence factor remote control	1
M5b	Heat circuit 4 influence factor remote control	1
M5c	Heat circuit 5 influence factor remote control	1
M5d	Heat circuit 6 influence factor remote control	1
M5e	Heat circuit A influence factor remote control	1
M6	All heat circuits - superelevation room temp. Room controller	1.0°C
M6A	All heat circuits - hysteresis room temp. Room controller	0.0°C
M7	All heat circuits - reduction delay	15Min
M8	Heat circuit 1 min. mixer run time	0.3Sec
M9	Heat circuit 2 min. mixer run time	0.3Sec
M9A	Heat circuit 3 min. mixer run time	0.3Sec
M9b	Heat circuit 4 min. mixer run time	0.3Sec
M9c	Heat circuit 5 min. mixer run time	0.3Sec
M9d	Heat circuit 6 min. mixer run time	0.3Sec
M9e	Heat circuit A min. mixer run time	0.3Sec
M10	External HC	without outs. temp.
M11	All heat circuits - proportional coefficient	100%
M12	All heat circuits - differential temperature for mixers	1.0°C
M14	Contr. distr. line difference temp. for mixer	1.0°C
M15	Cont. distr. line minimum mixer run time	0.3Sec
M16	Sensor recognition Mixer/Pump	not activated
<b>N - HWT</b>		
N1	all HWT - hot water storage pump on at outs. temp. over	90°C
N1_HT	all HWT - hot water storage pump on at outs. temp. over	98°C
N2	All HWT - difference temp. for HWT pump	1°C
N3	all HWT - hot water storage priority circuit factor	1
N4	All HWT - HWT pump after run time res. heat	5°C
N5	All HWT - boiler superelevation legionella protection	5°C
N6	All hot water tanks	Residual heat several times
N7	All HWT - boiler superelevation at HWT loading	10°C
<b>O - Accumulator / External heat</b>		
O1	Accumulator superelevation heat circuit set temp.	5°C
O2	Accumulator superelevation heat circuit set temp.	5°C
O3	Acc. Superelevation HWT-Set temp.	5°C
O4	Acc. switch difference HWT temp.	1°C
O5	Acc. boiler-acc. base temperature	58°C
O6	AT differential temperature	5°C
O6_HT	AT differential temperature	1°C
O9	HWT difference control	ON
O10	External heat switch on temp.	60°C
O11	External heat differential	2°C
O12	External heat blockage time	15Min
O13	Acc. Residual heat use until boiler temp. under	65°C
O14_HT	Accumulator loading until TPO	90°C
O30	Outlet Temp Superelevation Shut Down Pump	12°C
O31	Outlet Temp Switching Temp	6°C
O32	Control PWM Pump Min	18%
O33	Control PWM Pump Max	95%

Menu	Description	Factory:
O33a	Control PWM Pump Max	90%
O33b	Pump Time - MIN Power	5Sec
O34	Acc. Loading Superelev. Demand FWS	5°C
O35	Acc. Loading Hysteresis FWS	5°C
O43	I_AntiWindUp	2.5
O43a	I_AntiWindUp	2.5
O44	D_MaxFilterFrame	8
O46-49	FWS Primary Circulation	No
O46a-49a	Primary Circulation Runtime	10Sec
O46b-49b	Primary Circulation Break Time	30 min.
O46c-49c	FWS Primary Circulation	
<b>P - Ignition</b>		
P1	Ignition Ignition time overrun	25Min
P2s	Ignition Firebed-Set at ignition Pellets	40°
P3	Ignition Exhaust fan max. during ignition ON	75%
P4	Ignition Negative pressure set during ignition	105Pa
P5	Ignition Hysteresis firebed level	1°
P6	Ignition Exhaust fan during kindling	75 (85)%
P7	Ignition Ignition heat-up time	0 sec.
P10	Ignition Second ignition attempt after	6Min
P11	Ignition Firebed superelevation	5°
P12	Ignition Negative pressure superelevation	10Pa
P14	Ignition Number of ignition attempts	4
P15	Ignition Stoker backwards before reinsertion	2Sec
P16	Minimum delivery rate from second ignition process	40%
P30	Ignition Ignition on at O2 >	20%
P31	Ignition Delta O2 ignition off	1%
P40	Ignition FGT changeover to combustion	100°C
P41	Ignition Flue gas temperature rise	20°C
P42	Ignition O2 Max during changeover to combustion	16%
P43	Ignition Time O2 Max during changeover to combustion	10Sec
P44	Ignition Primary air during changeover to combustion	100%
P45	Ignition Ramp changeover to combustion	120 sec.
P46	Ignition Comb. chamber changeover to combustion	150°C
P50	Ignition Delivery rate for ignition at def. firebed	40%
P51	Ignition Input time for ignition at def. firebed	180Sec
P60	Ignition Max. O2 drop for primary air flap closed	-0.22%
P61	Ignition Primary air flap CLOSED for	10Sec
P62	Ignition Interval for max. O2 drop	10Sec
P63	Ignition ignition stoker delay	7Sec
P64	Ignition exhaust fan and PACCC delay of	0Sec
<b>Q - Ash extraction</b>		
Q1	De-ash Minimum run time combustion	60 min.
Q2s	De-ash Max. run time combustion Pellets	300Min
Q3s	De-ashing minimum burnout time for pellets	16Min
Q3as	De-ashing maximum burnout time for pellets	48Min
Q3b	De-ashing O2 burnout average completed	20%
Q3c	De-ashing number of burnouts with maximum time until warning	0
Q4s	De-ash Exhaust fan maximum at burnout pellets	65 (80)%
Q5	De-ash Firebed reduction before burnout	10°

<b>Menu</b>	<b>Description</b>	<b>Factory:</b>
Q6	De-ash grate motor type	SPG
Q7	De-ashing ash initiator impulses	6
Q7a	De-ashing ash initiator impulses	2
Q8	De-ash Ash initiator impulses return drive	2
Q8a	De-ashing ash auger pause time during suction (V3)	2.5Sec
Q9s	De-ash Number of FWD/RET runs of the ash auger Pellets	6
Q10s	De-ash Ash initiator impulses Pellets	14
Q11	De-ash max. motor current de-ash	2.5A
Q11a	De-ash max. motor current de-ash single phase	3.2A
Q12	De-ash Nominal motor current de-ash	1.2A
Q12a	De-ash Nominal motor current de-ash single phase	2.0A
Q13a	De-ash Max. motor current ash auger system	2.5A
Q13b	De-ash Nominal motor current ash auger system	1.2A
Q13c	De-ash Switch-on delay ash auger system	5Sec
Q13d	De-ash Switch-off delay ash auger system	8Sec
Q13e	De-ash Number of ash auger system return drives	3x
Q19	De-ash Tolerance firebed set Major de-ash	10°
Q20s	De-ash Delay grate turn Pellets	20Sec
Q21s	De-ash Grate rounds Pellets	1
Q22	De-ash Downtime for major de-ash	60 min.
Q23s	De-ash Number of forced major de-ash cycles Pellets	1
Q24c	De-ashing grate motor runtime for 1 revolution	23Sec
Q25	De-ash Maximum motor current Rotating grate	160mA
Q26	De-ash Grate motor return time	10Sec
Q28	De-ashing poke during burnout every	0Sec
Q29	De-ashing poke opening angle	0°
Q30	De-ash Grate opening	0°
Q31	De-ashing primary air de-ashing	0%
Q32	De-ashing controller tertiary air burnout	0%
Q33	De-ashing controller tertiary air de-ashing	0%
Q35	De-ashing repeated grate blockage removal attempts	1x
Q35a	De-ashing interval between repeated grate blockage removal attempts	5Min
Q50	De-ash Ash suction Number of de-ash cycles	1x
Q51s	De-ash Time ash suction Pellets	90Sec
Q52s	De-ash Exhaust fan at de-ash	40%
Q52a	De-ash Pre-/ Post runtime ash suction turbine	10Sec
Q53	De-ash Number of ash suction cycles per de-ash	2
Q54	De-ash Ash suction version	Version 3
Q55	Ash-Auger active after failure	No
Q56	Sequential turn of Crates	No
Q56a	De-ashing stoker opening during minor de-ashing	10°
Q56b	De-ashing stoker opening during major de-ashing	120°
Q69	De-ash Torque rotating grates	55Nm
Q70	De-ash Torque rotating grates blockage removal	56Nm
Q70a	De-ash Holding torque rotating grates	20Nm
<b>R - Stoker unit / Agitator</b>		
R0	Stoker motor	ABM
R1s	Stoker firebed set value pellets	60°
R2	Stoker time warning delivery rate	45Min
R9	Insertion rate [kg / h]	76.6

Menu	Description	Factory:
R9a	Consumption display - Warning at reached amount of	1000kg
R10	Stoker max. motor current stoker	0.8A
R10a	Stoker max. motor current stoker	0.8A
R11	Stoker nominal motor current stoker	0.5A
R11a	Stoker nominal motor current stoker	0.5A
R13	Stoker max. return time stoker	15Sec
R15	Stoker rotary valve motor	0.37 kW
R16	Stoker max. motor current for rotary valve (0.18kW)	1.1A
R16a	Stoker max. motor current for rotary valve (0.25kW)	1.6A
R16b	Stoker max. motor current for rotary valve (0.37kW)	1.7A
R16c	Stoker max. motor current for rotary valve (0.55kW)	2.5A
R16d	Stoker max. motor current for rotary valve (0.75kW)	3.0A
R16e	Stoker max. motor current for rotary valve (special motor)	1.1A
R17	Stoker nominal motor current for rotary valve (0.18kW)	0.7A
R17a	Stoker nominal motor current for rotary valve (0.25kW)	1.2A
R17b	Stoker nominal motor current for rotary valve (0.37kW)	1.4A
R17c	Stoker nominal motor current for rotary valve (0.55kW)	1.7A
R17d	Stoker nominal motor current for rotary valve (0.75kW)	2.0A
R17e	Stoker nominal motor current for rotary valve (special motor)	0.7A
R20s	Stoker - pulse pellets	30Sec
R21	RAS filling min. stoker auger runtime for suction	30 min.
R22	Fill RAS - max. fill time	45Min
R22a	Fill RAD - max. fill time	10Min
R22b	RAS filling Schellinger maximum filling time	55Min
R23	Extraction auger delay at suction	5Sec
R24	Fill RAS - follow up time vacuum turbine	10Sec
R24a	RAS filling backward running after suction	0.0Sec
R24b	RAS filling Schellinger Classic suction turbine follow-up time	10Sec
R24c	RAS filling Schellinger E3 suction turbine follow-up time	20Sec
R25	Fill RAS - delay indication limiter	5Sec
R25a	Fill RAD - follow up time extraction auger	20Sec
R26	Auto change unit - max. suction time	25Min
R26a	AUP Threshold stall detection	60%
R27	Auto change unit - min. speed	0.3mm/sec
R27a-h	Switch-over unit (AUP) pos. 1-8 set	2.5/67.5/132.5/197.5/262.5/ 327.5/392.5/457.5mm
R28a-d	Changeover unit (AUE) pos. 1-4 set	6/71/136/198
R29a-e	Switch-over unit length of AUP	135/135/200/330/460mm
R30s	Room extraction factor FE-delivery rate pellets	100%
R31	Auto adapt FE delivery rate Auto adapt FE delivery rate	Available
R32	Room extraction factor FE delivery rate auto-adjustment range	30%
R33	Room extraction current factor FE delivery rate	70%
R35	Room extraction connection monitoring FE	Yes
R40h	Extrac. auger RAS max. motor current Ra (RAS)	3.2A
R40i	Extrac. Auger RAD max. motor current Ra (RAD)	1.6A
R40j	Extraction auger RAS maximum motor current Ra (RAS 3~)	2.5A
R41h	Extrac. Auger RAS nominal motor current Ra (RAS)	2.0A
R41i	Extrac. Auger RAD nominal motor current Ra (RAD)	0.75A
R41j	Extraction auger RAS nominal motor current Ra (RAS 3~)	1.2A
R42	Room extraction return time room extraction Ra	1Sec

Menu	Description	Factory:
R60	Stoker reduction if firebed sensor over set	15°
R60a	Stoker empty run when burnout is off if firebed sensor is smaller	10°
R60b	Stoker delivery rate in case of slumber mode stoker empty run	10%
R61	Stoker time overflow	30Sec
R62	Stoker delivery rate at overflow	70%
R63	Stoker overflow-stop off if below firebed set	0°
R64	Stoker delivery rate reduction after overflow	90%
R65	Stoker delivery rate at STM	10%
R79	Mole Schellinger Classic trigger time	120 sec.
R79a	Mole Schellinger Classic pause time	5Sec
R79b	Mole Schellinger E3 trigger time	60
R79c	Mole Schellinger E3 pause time	15
<b>S - lambda sensor</b>		
S1s	Lambda O2-Set value pellets	7.5%
S2	Lambda chimney sweep O2-Set value full load	7%
S3	Lambda CO2-Stop-difference	3%
S4	Lambda O2-Increase Part load	0.70%
S5	Lambda Comb. chamber max.	650°C
S6	Lambda Comb. chamber overrun O2 increase Kp	3
S7	Lambda Comb. chamber overrun O2 increase Tn	600Sec
S9	Lambda - exhaust fan at lambda calibration	60%
S10	Lambda exhaust fan post run until O2 over	18%
S20	Lambda sensor	0.0mV
S30	O2 warning if set O2 level has not been reached	60Min
<b>T - Control</b>		
T1	Control - flue gas temperature minimum	100°C
T2	Control - flue gas temperature maximum	200°C
T3	Controller flue gas temp. limiter KP	1
T4	Controller flue gas temp. limiter Tn	250Sec
T5	Controller correction flue gas temperature at 150 °C	-10°C
T10	Control - Boiler temp. controller Kp	3.5
T10_HT	Control - Boiler temp. controller Kp	7
T11	Control - Boiler temp. controller Tn	800Sec
T12	Control - Boiler temp. controller Tv	0 sec.
T13	Control - Boiler temp. controller T1	10
T14	Controller Boiler temperature Controller xw_exp	1.5
T20	Control - delivery rate firebed Kp	3
T21	Control - delivery rate firebed Tn	140Sec
T22	Control - delivery rate firebed z	0
T23	Control - delivery rate firebed min	0
T24	Control - delivery rate firebed max	150
T25	Controller delivery rate at def. firebed Kp	4
T26	Controller delivery rate at def. firebed Tn	120 sec.
T27	Controller delivery rate at def. firebed min.	0
T28	Controller delivery rate at def. firebed max.	105
T30	Control - primary air (O2) Kp	4
T31	Control - primary air (O2) Tn	120
T32	Control - primary air (O2) Tv	0
T33	Control - Primary air factor D-filter	2
T34	Control - Primary air neg. boost	1.2

Menu	Description	Factory:
T35	Control - Boiler primary air maximum	100%
T36	Controller primary air defective lambda sensor	25%
T36a	Controller primary air flap max. Kp	1.5
T36b	Controller primary air flap max. Tn	80Sec
T36c	Controller primary air flap max. firebed set reduction	5°
T36d	Controller primary air flap max. controller activated after	20Min
T40	Control - neg. press. controller Kp	0.1
T41	Control - neg. press. controller Tn	4Sec
T42	Control - neg. press. controller Tv	0 sec.
T50	IDF Kp	30
T51	IDF Tn	30Sec
T60	Service sensor stoker grate offset (L)	-45
T60a	Service sensor stoker grate offset (R)	45
T61	Service sensor ash grate offset (L)	45
T61a	Service sensor ash grate offset (R)	-45
T62	Service sensor firebed offset (L)	190
T62a	Service sensor firebed offset (R)	190
T63	Service sensor 0% TLK set at PACC	100%
T64	Service sensor 100% TLK set at PACC	40%
T65	Service sensor 0% TLK max. at output	15%
T66	Service sensor 100% TLK max. at output	100%
T67	Service sensor TLK max. closing speed	3%
T67a	Tertiary air flap max. closing speed in	1.5%
T70	Service sensor error air flap	activated
<b>U - negative pressure / exhaust fan</b>		
U1	Negative pressure NP set at 30% exhaust fan	30Pa
U2	Negative pressure NP set at 80% exhaust fan	180Pa
U3	Negative pressure Kp	0.5
U4	Negative pressure Tn	20
U9	Negative pressure filter factor UD-sensor	95%
U10	Negative pressure UD limit warning/error	50%
U11	Negative pressure time until error	30Sec
U20	IDF control	EC-Motor
U21	IDF max. UPM	3500
U22	Induced draft fan speed tolerance	30%
<b>W maintenance</b>		
W1	Warning for maintenance	No
W2	Reset maintenance	No
W3	Warning for full-load hours	2000h
W4	Warning for heating hours	4000h
W5	Warning from	
W7	Period warning (dd.mm)	
W9	Maintenance warning for boiler starts	3000x
<b>Z - Special functions</b>		
Z1a	Boiler type	Type left - Boiler on left side from stoker
Z1b	Add. function	non-existent
Z1d	FE Motor	0.18 kW
Z1e	FE-2 Motor	0.18 kW
Z1f	Ash auger motor	3-phase

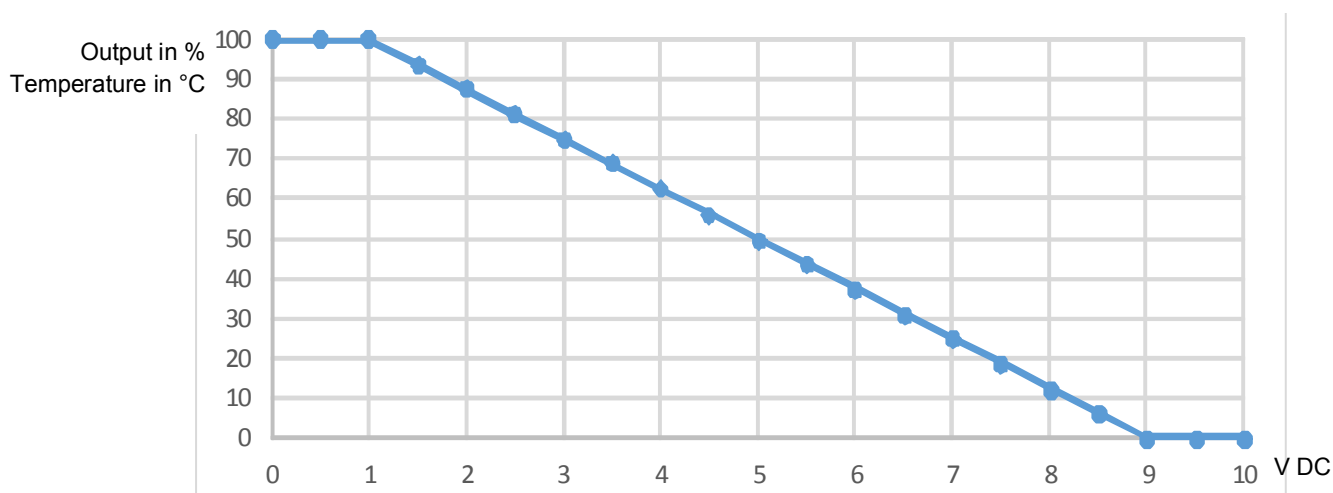
<b>Menu</b>	<b>Description</b>	<b>Factory:</b>
Z1g	Extraction auger motor	1-phase
Z1h	Emerg. operation with logs possible	No
Z1j	Ash-Transport System	non-existent
Z1k	Power Converter	non-existent
Z1l	Timeout Loxone	30Sec
Z1m	Sensor board 1	non-existent
Z1na	DAQ output sensor board	
Z1n	IO-X10-104 Extension control board 2	non-existent
Z1o	Distribution box / agitator	non-existent
Z1p	Mbus addressing	Secondary address
Z1q	Mbus baud rate	2400
Z1s	bypass pump	non-existent
Z2	Load parameter set	No
Z3	Save parameter set	No
Z4	Load factory parameters	All
Z4a	Release load parameter file	All
Z5	Hours reset	No
Z7	Total Reset	No
Z7a	Create backup at boiler ID card	No
Z8	Commission-No.	1
Z10	Error display grate sensor	No

## 4 Analogue inputs and outputs

### 4.1 Specified output or temperature

Installer parameter C6 can be used to activate the analogue 0-10V DC input (terminal 80/81) for the specified analogue output or temperature of the external heat circuit (connected to the system).

Generally, the specified output or temperature only takes effect when the external heat circuit is connected and there is an external demand.



<1V DC = a specified heat output of 100% or a specified temperature of 100 °C

>9V DC = a specified heat output of 0% or a specified temperature of 0 °C (system **Off**)

### 4.2 Operation modes

The system's operating statuses are displayed at the analogue 0-10V DC output (terminal 78/79) as follows:


☞ The tolerance range of the output voltage is +/- 0.5% of the final value.

Status number	Boiler status	Output (in V DC) Terminal 78/79
1	BOILER_OFF	1
2	-----	-----
3	BOILER_IGNITIONTEST	2
4	BOILER_IGNITION	2.5
5	BOILER_COMBUSTION	3
6	BOILER_SLUMBER MODE	3.5
7	BOILER_BURNOUT	4
8	-----	-----
9	BOILER_DEASH	5
10	BOILER_STB	5.5
11	BOILER_MANUAL	6
12	BOILER_WOODLOG_OPERATION	6.5

☞ From 0 to 0.5V DC => Cable break / not connected

☞ From 9.5 to 10V DC => Error

## 5 Errors

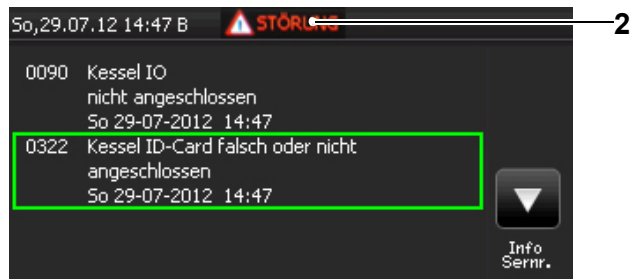
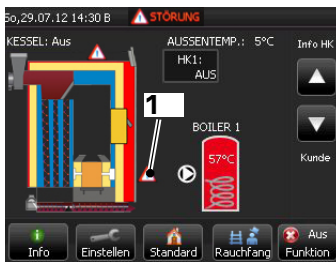
	<b>A T T E N T I O N</b>
	<p><b>Changes compared to regular operation</b></p> <p><b>Injuries, damage to the boiler</b></p> <ul style="list-style-type: none"> <li>• In case of a higher heating output, higher temperatures, more vigorous motor vibrations, unusual noises or smells, the release of safety devices, etc.</li> <li>• Immediately call the installer / Hargassner</li> <li>• Perform mandatory maintenance and inspection tasks regularly</li> </ul>

Error messages to be read on the touch display.

☞ A warning triangle appears on the standard display at the position where the error has occurred (1).

The following instructions to rectify errors **are aimed for the direct user of this boiler.**

If it is not possible to rectify the error through the operator, the installer / Hargassner must be informed.

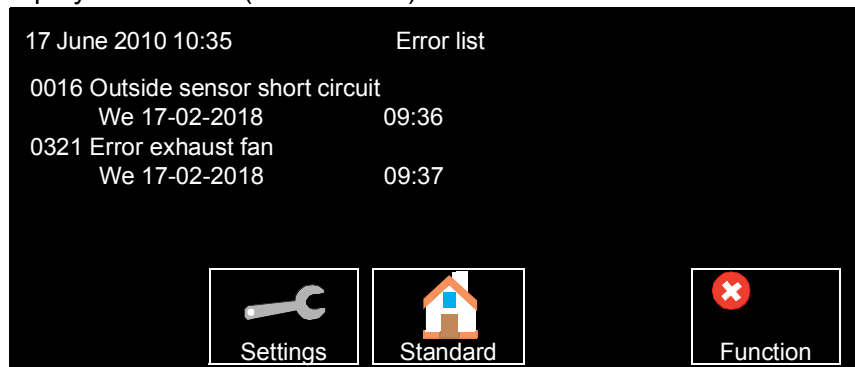


### 5.1 Retrieving the error list


If error messages occur:

☐ Press the **Error (2)** button

☞ Display of error list (latest errors)



### 5.2 Acknowledging and rectifying faults

After rectification of the error press  button

## 5.3 List of errors

No.	Origin	Reason / Problem	Solution (when done solving - push the Enter button)
No display	Green lights H7 board do not light	Fuse F13 defective, or L1 missing, or connection from control board to the operating unit defective or missing	Replace fuse F13 (see control board sticker); Check power supply L1, or cable from control board to operating unit;
1	Attention: Overtemperatur STB triggered	Over temperature on the boiler or STB-supply defective or overheated at manual heating, air in the heating system or pump(s) defective	Allow boiler to cool down below 70°C, remove protective cap (on boiler top) from STB, and press the button in; have an electrician check the STB power supply; check the pumps; contact service department and replace control board;
2	Overcurrent stoker auger	Gagger in auger channel or rotary valve, knife of rotary valve defective or blockage in the auger	Remove debris, use parameter No. 4 in "Manual" mode and drive auger forward or backward, (Check motor current on display); replace eventually worn out auger parts; check electronic motor protection; call service department
3	Overcurrent extraction auger	Gagger in the extraction channel or auger blockage	Remove debris, use parameter No.3 , No. 3a for FR-2 in "Manual" mode and drive auger forward or backward, (Check motor current on display); replace eventually worn out auger parts; check electronic motor protection; call service department
6	Thermoschutz Einschub-Schnecke	Overload of motor through debris or electronic motor protection set incorrectly	Remove debris, use "Manual" mode and drive auger forward or backward, (Check motor current on display); replace eventually worn out auger parts; check electronic motor protection; check rotary valve for stiffness; call electrician or service department and change control board;
7	Thermo-protec. extraction auger	Overload of motor through debris or electronic motor protection set incorrectly	Remove debris, use parameter No. 3 in "Manual" mode and drive auger forward or backward, (Check motor current on display); replace eventually worn out auger parts; check electronic motor protection; call electrician or service department and change control board;
8	Thermo-protec. ash auger	Overload of motor through debris or electronic motor protection set incorrectly	Remove debris, use parameter No. 2 in "Manual" mode and drive auger forward or backward, (Check motor current on display); replace eventually worn out auger parts; check electronic motor protection; this error may also be a result of a stiff heat exchanger cleaning system or a sluggish fly ash extraction; call electrician or service department and change control board;
10	Flue gas temp. sensor connected incorrectly	Sensor connected incorrectly (only at commissioning) or control board defective	Have the sensor's connection polarity checked by an electrician; replace the sensor or the board;
11	Interruption flue gas sensor	Sensor not connected or connection interrupted	Connect sensor; check cable and contacts; replace sensor or board;
12	Boiler sensor short circuit	Short circuit in the sensor or in supply line	Let cables or sensors be checked by an electrician.
13	Interruption boiler sensor	Sensor not connected or connection interrupted	Connect sensor; check cable and contacts; replace the defective sensor with another sensor, if there's a different error, replace the sensor. If the same error is shown, replace the control board.
14	Short circuit HWT 1 sensor	Short circuit in the sensor or in supply line	Connect sensor; check terminal points and plugs and check parametrisation in the installer level; have cable and contacts checked by an electrician;
15	Interruption HWT 1 sensor	Sensor not connected or connection interrupted	Hint: Exchange the alleged sensor plug with another plug, if another error occurs the sensor is defective and must be changed; if the same error occurs the extension module HKMO has to be changed; call service department;
16	Outside sensor short circuit	Short circuit in the sensor or in supply line	
17	Interruption outside temperature sensor	Sensor not connected or connection interrupted	
18	Short circuit flow temp. sensor HC1	Short circuit in the sensor or in supply line	
19	Sensor flow temperature HC1 interruption	Sensor not connected or connection interrupted	
20	Short circuit flow temp. sensor HC2	Short circuit in the sensor or in supply line	

No.	Origin	Reason / Problem	Solution (when done solving - push the Enter button)
21	Sensor flow temperature HC2 interruption	Sensor not connected or connection interrupted	Connect sensor; check terminal points and plugs and check parametrisation in the installer level; have cable and contacts checked by an electrician;  Hint: Replace the sensor displayed as defective with another sensor; if another error occurs the sensor is defective and must be changed; if the same error occurs the heat circuit module HKM0 has to be changed; call service department;
22	Short circuit remote control sensor HC1	Short circuit in the sensor or in supply line of FR25	In the event of a short circuit: check the terminal points; the resistance value of the remote control must be in the "Auto" position between 3340 Ohm and 3626 Ohm (room temperature between 5°C and 25°C);
23	Interruption remote control sensor HC1	FR25 sensor not connected or connection interrupted	
24	Short circuit remote control sensor HC2	Short circuit in the sensor or in supply line of FR25	in the event of an interruption: connect the remote control; check the supply line and terminal points or parametrisation No. A6 (or A16, A26, A36, A46, A56 or A66) in the installer settings; otherwise, replace the remote control or the HKM0 extension module; contact service department;
25	Interruption remote control sensor HC2	FR25 sensor not connected or connection interrupted	
26	Ignition time exceeded	the flue gas temp. did not rise for the set value (P41) within the ignition attempt time (P1), or the O2 did not drop within the time (P1) and the duration (P43) under the value (P42); no or too wet material; too much ash/clinker in the combustion chamber; flue gas sensor not in the flue pipe; ignition defective	Check installation of the flue gas sensor and clamp points; check fuel; if the negative pressure value is not reached, check all sealings at all maintenance openings, also check correct function of the exhaust fan; Check ignition in manual mode (No. 11); clean ignition tube; Check ash extraction in manual mode (No.2); check fuel level sensor (at cold boiler condition, manually lift for 90°C and compare with "Info Boiler"; let cables, clamps and plug check by an electrician;
27	Flue gas temperature under-run	During combustion the flue gas temperature drops under the set value (K14) for the set duration of (K15)	Check installation of flue gas sensor; too wet fuel; too much ash or clinker in the combustion chamber; check proper function of the agitator, stoker auger and de-ash in manual mode (No.3, No.4, No.2), clean combustion chamber;
28	Allowed O2-stop time over-run	Contact error of the lambda sensor or lambda sensor defective	Lambda sensor very intensely dirtied (clean), then perform a function check in manual mode No.13; let check terminal points and plugs by an electrician; replace the lambda sensor; the boiler system can run without lambda sensor with reduced heating output until replacement; disconnect lambda sensor and confirm;
30	Low battery. Please exchange!	Batteries powering date/time memory are close to being empty	Exchange battery of the control unit;
34	Accumulator sensor top - short circuit	Short circuit in the sensor or in supply line	see No. 0014 to No. 0021;  Position and parametrisation of sensors on the boiler or at HKM 0-2 possible;
35	Interruption accumulator sensor top position	Interruption in the sensor or in supply line	
36	Accumulator sensor bottom - short circuit	Short circuit in the sensor or in supply line	
37	Interruption accumulator sensor bottom position	Interruption in the sensor or in supply line	
38	Accumulator sensor mid - short circuit	Short circuit in the sensor or in supply line	
39	Interruption accumulator sensor mid position	Interruption in the sensor or in supply line	see No. 0014 to No. 0021;  Position and parametrisation of sensors on the additional board AS (5 accumulator sensors)
40	Short circuit accumulator sensor - top mid position	Short circuit in the sensor or in supply line	
41	Interruption accumulator sensor - top mid position	Interruption in the sensor or in supply line	
42	Short circuit accumulator sensor - bottom mid position	Short circuit in the sensor or in supply line	
43	Interruption accumulator sensor - bottom mid position	Interruption in the sensor or in supply line	
44	max. fill time exceeded	Pellet delivery not working properly	Check pellet transport from the storage room; check the pellet level in the storage room, otherwise remove the extraction auger's maintenance lid (in the case of RAS) and check if the auger and motor shaft are turning and delivering pellets; check if bridging has occurred inside the storage room;

No.	Origin	Reason / Problem	Solution (when done solving - push the Enter button)
45	Back end protection temperature not reached	Back end protection pump set incorrectly or mixer defective. The first two times a warning occurs, the third time the boiler switches off. Error must be rectified	Check correct return sensor position; set pump correctly; Exchange pump or use bigger pump; check return mixer function (when available); call installer; ATTENTION: affects boiler life time!
46	Return sensor - short circuit	Short circuit in the sensor or in supply line	see No. 0014 to No. 0021;
47	Interruption return sensor	Interruption sensor or in cable or sensor not available	
49	Overcurrent at power converter	Power converter overloaded; power consumption of drive motors too high	Check all motors are running smoothly; ensure stoker unit, ash extraction system, fuel extraction system, etc. are running smoothly
52	Short circuit external sensor	Short circuit in the sensor or in supply line	see No. 0014 to No. 0021;
53	Interruption external sensor	Interruption in the sensor or in supply line	
62	GSM module not connected	No connection between GSM module and control unit	Check data cable; check LED on the GSM module; check on/off switch on GSM module (must not be set to OFF); replace GSM module;
65	GSM module sending error	GSM-module was not able to send SMS due to insufficient credit on the SIM-card or no connection to the net provider.	Check credit amount on SIM-card and charge if necessary or activate SIM-card; Check GSM-signal with mobile phone from the same provider and eventually re-position or extend antenna; (Cable available)
67	Parameter error. Factory settings have been loaded.	Internal error in the parameter memory	Check parameters and make adjustments where necessary; change the boiler control unit if the error persists despite the changes;
70	Pellet storage volume low (only when consumption display is activated)	Warning threshold not reached (customer setting No. 30)	Check the storage level, top up the pellets and, after topping them up, enter the new storage volume on the No. 30 consumption display;
80	Changeover unit (AUE) interrupted	Changeover unit board defective or not available, or connecting cable defective or not connected	Check the connecting cable's connections (to the control unit and the I/O board); the selection switch's setting corresponds to the software setting;
81 - 84	Changeover unit (AUE) does not reach positions 1-4	Shown position not reached; minimum speed for positioning not reached; changeover unit tries to return to starting position; if the changeover unit's preset and actual positions are identical, the error message can be cleared;	Check wiring, clean changeover unit (sliding area between base plate and sliding plate);
90	Boiler IO not connected	Bus-cable-connection or board defective	Change bus-cable-connections, control unit, boiler control board; call service department;
91	Max. control board temp. exceeded.	too high temperature at control board location, control board is dirty or does not cool down	Temporary, slightly open control box covers, to cool down the board; blow the dust from the board, call service department;
94	Attention, boiler is set to "OFF". No frost control	Operation mode "OFF" is being activated and the outside temperature is dropping below the temperature set.	Change the operation mode to "AUTO".
100	Extension module CAN 1 not connected	no connection (CAN1 - blue bus) to extension module 1	Set the extension module's address switch to "1"; check HKM's connection and bus wiring; replace extension module 1;
103	Short circuit HWT 2 sensor	Short circuit in the sensor or in supply line	see No. 0014 to No. 0021; on extension module HKM 1
104	Interruption HWT 2 sensor	Interruption in the sensor or in supply line	
107	Short circuit flow sensor HC3	Short circuit in the sensor or in supply line	
108	Sensor flow temperature HC3 interruption	Interruption in the sensor or in supply line	
109	Short circuit flow temp. sensor HC4	Short circuit in the sensor or in supply line	
110	Sensor flow temperature HC4 interruption	Interruption in the sensor or in supply line	

No.	Origin	Reason / Problem	Solution (when done solving - push the Enter button)
111	Short circuit remote control sensor HC3	Short circuit in the remote control FR25 or in supply line	see No.0022 - No.0025 on extension module HKM 1
112	Interruption remote control sensor HC3	Interruption in the remote control FR25 or in supply line	
113	Short circuit remote control sensor HC4	Short circuit in the remote control FR25 or in supply line	
114	Interruption remote control sensor HC4	Interruption in the remote control FR25 or in supply line	
120	Extension module CAN 2 not connected	no connection (CAN1 - blue bus) to extension module 2	Set the extension module's address switch to "2"; check HKM 2 connection and bus wiring; replace extension module 2;
125	Short circuit HWT 3 sensor	Short circuit in the sensor or in supply line	see No. 0014 to No. 0021; on extension module HKM 2
126	Interruption HWT 3 sensor	Interruption in the sensor or in supply line	
127	Short circuit flow temp. sensor HC5	Short circuit in the sensor or in supply line	
128	Sensor flow temperature HC5 interruption	Interruption in the sensor or in supply line	
129	Short circuit flow temp. sensor HC6	Short circuit in the sensor or in supply line	
130	Sensor flow temperature HC6 interruption	Interruption in the sensor or in supply line	
131	Short circuit remote control sensor HC5	Short circuit in the remote control FR25 or in supply line	see No.0022 - No.0025 on extension module HKM 2
132	Interruption remote control sensor HC5	Interruption in the remote control FR25 or in supply line	
133	Short circuit remote control sensor HC6	Short circuit in the remote control FR25 or in supply line	
134	Interruption remote control sensor HC6	Interruption in the remote control FR25 or in supply line	
135	Distr. line board CAN "A" not connected	No connection (CAN1 - blue bus) to I/O 36 board "A" (installed on boiler or HKM 0-2)	Set the control board address switch to "A"; check connection and bus wiring; replace control board;
136	Short circuit flow temp. sensor HCA	Short circuit in the sensor or in supply line	see No. 0014 to No. 0021; Heat circuit board A
137	Sensor flow temperature HCA interruption	Interruption in the sensor or in supply line	
138	Short circuit HWT A sensor	Short circuit in the sensor or in supply line	
139	Interruption HWT A sensor	Interruption in the sensor or in supply line	
140	Extension module CAN 0 not connected	no connection (CAN1 - blue bus) to extension module 0	Set the extension module's address switch to "0"; check HKM's connection and bus wiring; replace extension module 0;
141	Sensor flow temperature controlled distr. line short circuit	Short circuit in the sensor or in supply line	see No. 0014 to No. 0021;
142	Sensor flow temperature controlled distr. line interruption	Interruption in the sensor or in supply line	on heat circuit board F
143	Distr. line board CAN "F" not connected	No connection to I/O 36 board "F" (installed on boiler or HKM 0-2)	Set the control board address switch to "F"; check connection and bus wiring; replace control board;
144	Comb. cha. sensor defective or not connected	Short circuit in the sensor or in supply line	see No.0014 - No.0021
145	Acc. control board CAN C not connected	No connection to I/O 36 board "C" (installed on boiler or HKM 0-2)	Set the control board address switch to "C"; check connection and bus wiring; replace control board;
146	Combustion chamber sensor check - implausible signal	Combustion chamber sensor is defective or not connected	Have cables, terminal points and plugs checked by an electrician; replace combustion chamber sensor;
149	No connection to Loxone server	Time-out time Parameter (Z11) exceeded; no network connection to the Loxone control;	Check network; check configuration of network-settings; check Loxone configuration;

No.	Origin	Reason / Problem	Solution (when done solving - push the Enter button)
150	No connection to HKR 0	CAN2 bus communication (red bus) to heat circuit controller interrupted; bus cable defective; heat circuit controller defective; power supply missing at heat circuit controller; boiler control board or control panel defective; internal BUS cable defective; terminating resistors set incorrectly	Check the display on the HKR (fuses); the LED is flashing for bus communication; check the terminating resistors; check the voltage and poles on CAN bus plug (approx. 2 V between L and minus (-), or H and minus (-)) -> the bus cable has been short-circuited/interrupted; check the internal bus cable; and the boiler board; replace the control panel or HKR; check the HKR address (only during commissioning - see the HKR manual); see user manual HKR;
151	No connection to HKR 1		
152	No connection to HKR 2		
153	No connection to HKR 3		
154	No connection to HKR 4		
155	No connection to HKR 5		
156	No connection to HKR 6		
157	No connection to HKR 7		
158	No connection to HKR 8		
159	No connection to HKR 9	Bus-Communication CAN2 (red Bus) to HKR interrupted, Bus cable defective; HKR defective; power supply missing at HKR; boiler control board or control defective; internal BUS-cable defective; terminating resistors set incorrectly	Check the display on the HKR (fuses); the LED is flashing for bus communication; check the terminating resistors; check the voltage and poles on CAN bus plug (approx. 2 V between L and minus (-), or H and minus (-)) -> the bus cable has been short-circuited/interrupted; check the internal bus cable; and the boiler board; replace the control panel or HKR; check the HKR address (only during commissioning - see the HKR manual); see user manual HKR;
160	No connection to HKR 10		
161	No connection to HKR 11		
162	No connection to HKR 12		
163	No connection to HKR 13		
164	No connection to HKR 14		
165	No connection to HKR 15		
169	Screed dry-out programme has been deactivated!	Power failure over longer period	After a longer power failure, the dry-out programme will be deactivated automatically (warning on the display); if needed, restart the programme (installer settings No.A9)
180	Check the position of the acc. bottom sensor	Sensor not installed correctly (too low or below the return to the boiler); hydraulic problem;	Check sensor's position against hydraulic diagram and install it correctly; call installer; call service department;
181 - 188	Pellet refill via positions 1 - 8 not possible (AUP)	Shown position not reached; changeover unit tries to return to starting position; if the changeover unit's preset and actual positions match, the error message can be cleared;	Check wiring, clean changeover unit (sliding area between base plate and sliding plate);
190	Check combustion - set O2 level not reached	Set O2 level was not reached after the preset time (parameter S30); not enough fuel; grate clogged by clinker; too much ash in the combustion chamber	Calibrate firebed sensor; reduce number of minor de-ashes until major de-ash in parameter Q23; check grate; contact service department
195	Check system configuration urgently	Incorrect parameters; incorrect pump settings; mixer defective; pump defective	Check system configuration urgently (parameters, pump settings, frequent boiler starts with short runtimes, etc.) check hydraulic components behind the boiler;
196	Burnout was not completed several times, O2 level not reached!	Number of burnouts (parameter Q3c) required for the set burnout time (Q3a) (O2 content is lower than the level set in parameter Q3b) has not been reached Fuel is still burning in the combustion chamber; grate clogged by clinker, etc.	Check grate
200	Ignition Time Exceeded! Check Fuel Storage	The firebed height was not reached after 15 minutes + the number of minutes set in parameter P1.	Check stoker and the amount of fuel available
210 - 216	Remote FR35 not connected (HC A - HC6)	no connection to digital remote control FR35	Check parameter A6 (or A16, A26, A36, A46, A56, A66); check bus wiring; replace digital remote control; see user manual FR35;
220 - 226	Remote FR40 not connected (HK A - HC6)	no connection to digital remote control FR40	Check parameter A6 (or A16, A26, A36, A46, A56, A66); check bus wiring; replace digital remote control; see user manual FR40;
229	Please clean/check pellet level indicator	Level indicator is heavily polluted;	Remove and clean pellet level indicator;
230	Communication error to leading boiler (only at cascade control)	no connection to the leading boiler (Boiler A)	Check parameter F1: must be set to "Cascade available" at each other boiler; Check parameter F2: each boiler has to have a unique IP-address (no duplicated addresses); Check BUS-wiring; check internal BUS cable between control unit and control board;

No.	Origin	Reason / Problem	Solution (when done solving - push the Enter button)
231	Lag boiler failed (only at cascade control)	no connection to one of the slave boilers (Boiler B-F)	Check parameter F6: correct number of slave boilers set; see No. 0230
232	Error lag boiler (only at cascade control)	An error has occurred on the following slave boiler	This message will only be shown on the leading boiler (Boiler A). The master boiler and the other slave boilers continue as normal. Confirm message on the leading boiler and rectify the error on the slave boiler.
240 - 246	Connected remote control does not match with parametrisation (HC A - HC6)	Remote control parametrisation does not match with parametrisation heat circuit remote control	Check parametrisation of the remote control and the heat circuits; see user manual of the according remote control;
248	Control Wiring External Demand	The external demand signal is changing very frequently; external circuitry (switches, thermostat) faulty	Have an electrician check that the external circuitry is working properly. Terminals 80 and 81
250	Motor board changeover unit AUP not connected	Control board of the changeover unit defective / not available, bus cable (from BCE-, I/O- board) interrupted / not connected	Check cables; check software settings; call service department
251	Motor board changeover unit AUP not connected	AUP motor not connected; Interruption; motor or motor board defective;	Connect motor correctly and check for tight fit; check wiring; Exchange motor or board; Call electrician or service department;
252	Changeover unit (AUP) does NOT reach position	The shown position can not be reached. The changeover unit tries to return to the start position. If the changeover unit's target and actual positions are identical, the error message can be cleared.	Check wiring; measure voltages on control board and connection terminals of plugs; check wiring of plugs; clean changeover unit (sliding surface between base plate and sliding plate); after assembly, check changeover unit's positions.
253	Motor AUP short circuit	Short circuit AUP - motor	Clear short circuit; check wiring and connection plugs; exchange motor board; call service department
254	Motor contr. board AUP over temperature	Max. control board temperature exceeded	Reduce ambient temperature
255	Motor board AUP under voltage 24 V	underrun of min. supply voltage	Check the plugs and wiring; if multiple clients are connected to the "blue CAN", provide a different connection to the AUP. Pellets 6-60 kW: plug No. 42 Pellets 70-200 kW: plug no. 94/95
256	Switch over unit (AUP) not in position	AUP does not reach new position; unit returns to starting position. If the Set - Is position of the changeover unit is identically, the error message can be cleared.	check cable clamps; clean change-over unit; check the position of the change-over unit after cleaning
280	Diff. Contr. CAN D not connected	No connection to I/O 36 board "D"	Set the control board address switch to "D"; check board's connection and bus wiring; replace board;
281	Sensor Heat source (S1) short circuit	Short circuit in the sensor or in supply line	see No. 0014 to No. 0021; on differential controller board
282	Sensor Heat source (S1) not connected	Interruption in the sensor or in supply line	
283	Difference sensor (S2) short circuit	Short circuit in the sensor or in supply line	
284	Difference sensor (S2) not connected	Interruption in the sensor or in supply line	
285	Return sensor external heat short circuit	Short circuit in the sensor or in supply line	
286	Return sensor external heat not connected	Interruption in the sensor or in supply line	
287	Return temperature external heat not reached	Error on external heat boiler; sensor positioned incorrectly	Check external heat boiler; check sensor's position against hydraulic diagram and install it correctly;
290	Difference Control 2 CAN 9 not connected	No connection to I/O 36 board 9	Set the control board's selector switch to 9; check the board's bus wiring and mains connection; replace control board;
291	Sensor Heatsource (S3) Short Circuit	Boiler sensor short-circuited	Check boiler sensor and replace it if necessary
292	Sensor Heatsource (S3) not connected	Interruption in the boiler sensor or in the supply line	Connect boiler sensor

No.	Origin	Reason / Problem	Solution (when done solving - push the Enter button)
293	Differential Sensor (S4) Short Circuit	Differential sensor short-circuited	Check differential sensor and replace it if necessary
294	Differential Sensor (S4) not connected	Interruption in the differential sensor or in the supply line	Connect differential sensor
295	Return Flow Sensor Ext. Boiler 2 Short Circuit	Return sensor short-circuited	Check return sensor and replace it if necessary
296	Return Flow Sensor Ext. Boiler 2 not connected	Interruption in the return sensor or in the supply line	Connect return sensor
297	Return Flow Temperature Ext. Boiler 2 not reached	Error on external heat boiler 2; sensor positioned incorrectly	Check external heat boiler 2; check sensor's position against hydraulic diagram and install it correctly;
305	Boiler-ID-card wrong	Wrong boiler ID-Card	Replace boiler ID card; system will run for 30 days with incorrect boiler ID card;
306	Boiler ID-card missing	Boiler ID card or connection defective	Check boiler ID card and connection and replace one or both if necessary; system will run for 30 days with incorrect boiler ID card;
307	Boiler ID-Card does not match to Software	Incorrect software installed on the system; incorrect microSD card inserted	Check software and microSD card and replace one or both if necessary
309	Ash box full! (Warning)	Ash box full or stiffness of the ash auger	Empty ash box; Heating to be continued; Control tries to drive the ash auger every 10 minutes; if this does not work => Error 314
310	Initiator Cleaning and deash Endposition not reached	Cleaning rod and ash extraction do not return to original position after cleaning	Check thermal discharge safety device; check cleaning device and fly ash damper are running smoothly (in manual mode no. 2b, the initiator function is shown), check rubber pads and rod; check the initiator (behind the cover next to the control board) is working; (heating can be continued temporarily);
311	Initiator cleaning device and deash stroke not reached	Cleaning rod and ash extractor do not reach the necessary stroke length during cleaning	
312	IDF Error	The required exhaust fan speed is not being reached.	Test exhaust fan in manual mode (No.1); check if green and black plug are connected correctly on the fan; Clean casing and fan impeller, the motor must be smooth running; let check plugs and clamp ports through an electrician; replace motor;
313	Ash box not positioned	The ash box or the cover is not placed correctly and close enough to the safety switch.	Fix ash box tight on boiler; ash box cover must be closed; let safety switch, cables, clamp points and plugs be checked by an electrician; (heating operation to be continued, de-ash and ash suction is blocked)
314	Ash box full! (Error)	Ash box full or stiffness of the ash auger	Empty ash box, check ash auger for smooth operation (Manual mode No.2); disassemble ash ejector flange, pull blockage rod (behind the cover, below the stoker) and pull out ash auger in front; overfill in the ash room below the grates or fly ash overfill or debris in the ash auger; remove blockages; call service department;
321	Stoker grate(s) position not reached	The stoker grate(s) cannot reach the set position (0° position).	Release stoker grate in manual mode (No.6/6a); remove debris from the grate ash space; check grate motor and drive; check position sensor and magnetic transmitter; (heating operation can be continued temporarily with a defective grate; to do this unplug grate motor, set grate manually into horizontal position and confirm error);
322	Ash grate - Position not reached	The ash grate can not reach the set position (0° position)	Empty ash grate in manual position (No.7); remove debris from the grate ash room; check grate motor; check position sensor and magnetic transmitter; (Heating operation to be temporary continued at defective grate, unplug grate motor, set grate manually into horizontal position and confirm error)
323	Stoker grate sensor - invalid signal	Signal outside the preset voltage range (0.8-4.5V)	have cables, terminal points and plugs checked by an electrician; replace sensor;
324	Ash grate sensor - invalid signal	Signal outside the preset voltage range (0.8-4.5V)	have cables, terminal points and plugs checked by an electrician; replace sensor;

No.	Origin	Reason / Problem	Solution (when done solving - push the Enter button)
325	Position switch RA-cover open	The primary air flap can not reach the set position or does not move	Test primary air flap in manual mode (No.12); Through pressing the release, the primary air flap can be moved manually and may be checked to smooth operation. (behind the covers, below the stoker); (Heating operation may be temporary continued at defective primary flap with less power output, therefore set manually to 30%); cables, clamp points and plugs to be checked by an electrician; replace flap motor
326	Primary air flap defective or not connected	Primary air flap is not connected or defective	(Heating operation may be temporary continued at defective primary flap, therefore set manually to 30%); cables, clamp points and plugs to be checked by an electrician; replace flap motor;
327	Firebed sensor wrong signal	Position sensor ash grate is not connected or defective	(Heating operation may be continued temporarily at a reduced level; to enable this, unplug the sensor and clear the error); have the cables checked by an electrician; replace sensor;
328	Emergency-Stop triggered	Emergency stop operated or plug with bridge removed	Unlock emergency stop or re-insert plug with bridge Clamp (76 / 77);
329	Negative pressure sensor defective	Negative pressure box is not connected or defective	(Heating operation may be continued temporarily at a reduced level; to enable this, unplug the sensor and clear the error); have the cables checked by an electrician; replace sensor;
330	Safety-Bridge-Relais defective	Board defective	Replace board and call service department.
331	Safety switch storage room open	Emergency stop operated or plug with bridge removed	Unlock emergency lock or re-insert plug with bridge;
344	Neg. press. to low	The speed-controlled exhaust fan does not reach the desired negative pressure in the boiler	All boiler openings must be closed (maintenance openings, combustion door); check negative pressure sensor, exhaust fan and flue pipe; blow through negative pressure tube and boiler tube; check terminal points, cables and plugs;
349	Lambda sensor not connected or defective	Contact error of the lambda sensor or lambda sensor defective	Lambda sensor very intensely dirtied (clean), then perform a function check in manual mode No. 13; let check terminal points and plugs by an electrician; replace the lambda sensor; the boiler system can run without lambda sensor with reduced heating output until replacement; disconnect lambda sensor and confirm;
350	Ash bin full (AAS.2) Temporary de-ash into ash box	The sensor in the ash bin reports "Full" or not connected	Empty ash box; clean sensor; if no sensor is available set parameter <b>D5a</b> to "without ash bin"; have cables, terminal points and plugs checked by an electrician;
351	Switch off ash suction	Manual switch-off during ash suction	Message disappears after ash suction process has finished;
352	Delivery rate too low! Check amount of fuel	The fuel delivery rate is too low	Fuel storage low, refill; Check spring blades on agitator; bridging of fuel; wrong fuel set (parameter 19)
353	Refill fuel!	Fuel storage is empty or firebed sensor no longer moves	Fuel storage is empty, refill; Check extraction system and stoker auger in manual mode (No.3 and No.4); check fuel level sensor's ease of movement; remove debris; check correct installation of sensor, magnet and connection shaft of tongue;
354	Calibrate combustion sensor	Wrong boiler type (L/R) set or sensor defective;	Check parameter Z1a; recalibrate firebed sensor with parameter MANUAL No. 9; replace sensor;
355	Tertiary air flap doesn't work	The tertiary air flap cannot reach the set position or does not move.	Test tertiary air flap in manual mode (No. 12a); the flap can be moved manually by pressing the release and can be checked to see if it is operating smoothly; (heating operation can be continued temporarily at a reduced level with a defective flap; to do this, manually set the flap to approx. 100%), have the cables, terminal points and plug connections checked by an electrician; replace flap motor;
356	Tertiary air flap not connected or defective	Tertiary air flap is not connected or defective	
357	Ash bin full (AFS) Temporary de-ash into ash box	The sensor in the ash bin reports "Full" or not connected	Empty ash bin; clean sensor; cables, clamp points and plugs to be checked by an electrician;
380	Maintenance due! According factory specifications!	Number of full-load hours, heating hours and boiler starts reached for the maintenance required according to factory specifications	Perform maintenance; reset maintenance counter once maintenance is complete;
401	Ensure that the safety bridge has been removed	Manual bridge of safety devices for service reasons has not been removed.	Please remove bridge (Clamp 64/65) after service. ATTENTION: If not, safety functions are NOT ACTIVATED

No.	Origin	Reason / Problem	Solution (when done solving - push the Enter button)
422	Grate reference drives failed	Foreign body or blocked grate;	Remove foreign body; carry out reference drive with parameter MANUAL No. 6 and No. 7 again; call service department;
423	Flap reference drives failed	Position not reached;	Carry out reference drive with parameter MANUAL No. 12 (12a) again; call service department
480	Acc. Temp for Domestic Water 1 below limit	Boiler not in operation or not ready for operation	Check boiler is working properly
481	Acc. Temp for Domestic Water 2 below limit	Boiler not in operation or not ready for operation	Check boiler is working properly
482	Acc. Temp for Domestic Water 3 below limit	Boiler not in operation or not ready for operation	Check boiler is working properly
483	Acc. Temp for Domestic Water 4 below limit	Boiler not in operation or not ready for operation	Check boiler is working properly
488	Sensor Flow FWS Short Circuit	Fresh-water station flow sensor short-circuited	Check FWS flow sensor and replace it if necessary
489	Sensor Flow FWS Interruption	Cable break in line to fresh-water station flow sensor; fresh-water station sensor not connected	Check FWS flow sensor and replace it if necessary
490	FWS 1 Temperature Sensor Interruption	Cable break in line to fresh-water station temperature sensor 1; fresh-water station sensor not connected	Check FWS temperature sensor and replace it if necessary
492	FWS 1 Temperature Sensor Short Circuit	FWS 1 temperature sensor short-circuited	Check temperature sensor and replace it if necessary
493	FWS 2 Temperature Sensor Interruption	Cable break in line to fresh-water station temperature sensor 2; fresh-water station sensor not connected	Check FWS temperature sensor and replace it if necessary
494	FWS 2 Temperature Sensor Short Circuit	FWS 2 temperature sensor short-circuited	Check temperature sensor and replace it if necessary
495	FWS 3 Temperature Sensor Interruption	Cable break in line to fresh-water station temperature sensor 1; fresh-water station sensor not connected	Check FWS temperature sensor and replace it if necessary
496	FWS 3 Temperature Sensor Short Circuit	FWS 3 temperature sensor short-circuited	Check temperature sensor and replace it if necessary
497	FWS 4 Temperature Sensor Interruption	Cable break in line to fresh-water station temperature sensor 1; fresh-water station sensor not connected	Check FWS temperature sensor and replace it if necessary
498	FWS 4 Temperature Sensor Short Circuit	FWS 4 temperature sensor short-circuited	Check temperature sensor and replace it if necessary
500	Stoker auger locked, empty rotary valve / stoker channel	Gagger in the auger channel or auger blockage (Error No. 2 - Occurred 3-times within a time limit)	Control blocks the boiler for 15 Min.; Remove debris, drive auger empty in manual mode (No.4); If the error (No. 2) occurs again - within 2 minutes - the boiler is blocked permanently (Error No. 501)
501	Stoker auger locked, empty rotary valve / stoker channel; call service department	Gagger in the auger channel or auger blockage (Error No. 500 occurred, rectified and again error No. 2 - within 2 minutes)	Permanent blockage of boiler; remove debris and call service department
502	Overcurrent ash auger system (AFS)	Gagger in the extraction channel or auger blockage	Remove debris, use parameter No. 2a in "Manual" mode and drive auger forward or backward, (Check motor current on display); call electrician or service department and change control board;
503	Ash auger system (AFS) thermal protection	Overload of motor through debris or electronic motor protection set incorrectly	
504	Ash auger system motor not connected or fuse three-phase AC module defective	Motor cable supply or fuse F1 ,F2 or F3 on three-phase module defective	Check fuses and replace if necessary; check motor cable; connect the motor shown as defective to another socket on the main board; if the same error occurs, replace the DRM board; if another error occurs, the motor or the supply line needs to be changed (depending on the slot on the I/O board); call service department;
535	Interruption water pressure sensor	Sensor not connected or connection interrupted	Connect sensor; check cable and contacts; replace sensor or board;
536	Short circuit water pressure sensor	Short circuit in the sensor or in supply line	Let cables or sensors be checked by an electrician.

No.	Origin	Reason / Problem	Solution (when done solving - push the Enter button)
537	Water-Pressure under level	Water pressure is below the set minimum; heating system is leaking; heating system not bled correctly	Check heating system for leaks; bleed heating system correctly and top it up; call installer;
538	Water-Pressure above level	Water pressure has exceeded max. pressure level; pressure too high during filling; water filling level exceeded; expansion vessel defective	Check filling device; drain water; check expansion vessel;
540	Sensor board 1 not connected	No connection to IO-X10-104 extension control board 1	Set the control board address switch to "0"; check connection and bus wiring; replace control board;
541	IO-X10-104 Control Board 2 not connected	No connection to IO-X10-104 extension control board 2	Set the control board address switch to "1"; check connection and bus wiring; replace control board;
542 - 547	IO-X10-104 extension board 3 - 7 not connected	No connection to IO-X10-104 extension control board 3 - 7	Set the control board address switch to "1"; check connection and bus wiring; replace control board;
550	Sensor Air Temp Short Circuit	Short circuit in the sensor or in supply line	Let cables or sensors be checked by an electrician.
551	Sensor Air Temp Interruption	Sensor not connected or connection interrupted	Connect sensor; check cable and terminal points, check sensor and replace it if necessary
552	Sensor Exhaust Short Circuit	Short circuit in the sensor or in supply line	Let cables or sensors be checked by an electrician.
553	Sensor Exhaust Air Interruption	Sensor not connected or connection interrupted	Connect sensor; check cable and terminal points, check sensor and replace it if necessary
902	Fault memory initialised	no problem, only for protocol	no further actions; if this message occurs frequently please call the electrician (many power blackouts, poor clamp points in the power supply; check connections between control and control boards; check all cables as well);
903	Restart (Power ON)		
5210	Stoker auger - Hardware-check failed	Stoker auger Neutral line not connected	Connect neutral line to motor star point or at the control board (implicitly use 5-pole cable!); change the plug of the as defective shown motor (on the control board) with another motor plug, if another error occurs, replace the motor or the supply, if the same error occurs - call service department (temporary emergency operation possible, see "no hardware test" at the end of troubleshooting)
5220	Extraction system - Hardware-check failed	Fuel extraction FE-1 Neutral line not connected	
5230	Ash auger - Hardware-check failed	Ash auger Neutral line not connected	
5310	Motor stoker auger not connected or fuse F4,F5,F6 defective	Motor cable supply or fuse F4,F5 or F6 defective	Check fuses and replace if needed (see stickers) or check motor cable;
5340	Motor ash auger not connected or fuse F10, F11 or F12 defective.	Motor cable supply or fuse F10,F11 or F12 defective	replace the alleged motor plug with another plug, if another error occurs, the motor or the supply must be replaced; if the same error occurs, the control board must be replaced; contact service department;
5410	Exhaust fan not connected (only on pulse package control)	Cables, plugs or exhaust fan defective	Connect exhaust fan correctly (113/PE/N); Check plug for proper fit; call service department (temporary emergency operation possible, see "no hardware test" at the end of troubleshooting);
5420	Ignition heaters not connected	Cables, plugs or ignition defective	Connect ignitions correctly (Main board 118/PE/N/119); Check plug for proper fit; call service department;
5430	Inlet grate not connected	Cables, plugs or grate motor defective	Connect grate motor correctly; check plugs for proper fit; check cables and terminal points; call service department;
5440	Ash grate not connected	Cables, plugs or grate motor defective	
5630 - 5634	Fuses F14 - F 18 defective	Fuse defective	check fuses and replace if needed (see stickers)
6100	Supply phase sequence incorrectly	phases L1/L2/L3 are interchanged	Call electrician and connect phase sequence correctly; then check correct rotation of stoker, extraction and ash auger(s) in manual mode!
6200	Supply phase sequence incorrectly	Low voltage or failure L2/L3 Fuse in meter box defective.	Supply and fuses to be checked by professional electrician; call service department, change control board.
6301	STB triggered or not connected	After restart of the control, hardware test was not performed; sensor or switch not connected;	Restart required; see No.001
6313	Ash box not positioned		Restart required; see No.313
6328	Emergency-Stop triggered		Restart required; see No.328
6329	External fault triggered	external device error - (Clamp No. 72/73);	check external device;
6330	External warning triggered	external device warning - (Clamp No. 66/67);	

No.	Origin	Reason / Problem	Solution (when done solving - push the Enter button)
6331	Safety switch storage room open	Not able to perform hardware test; Restart required	Restart required; see No. 331;
7003	Step motor board 1 not connected or defective	no connection to extension control board or board defective	Check BUS-wiring and power supply; replace board; call service department
7004	Stoker grate or ash grate not connected	Line interruption, motor or board defective	Connect motor correctly; Let plugs and wiring check be checked by an electrician; Exchange control board; Call service department
7005	Rotary grate shaft sensor - stoker grate 1 not available	Line interruption, sensor not connected or defective	Connect sensor correctly; Let plugs and wiring be checked by an electrician; Exchange control board or sensor; Call service department
7006	Turnable Crate Sensor Ash-Crate not available	Line interruption, sensor not connected or defective	Connect sensor correctly; Let plugs and wiring be checked by an electrician; Exchange control board or sensor; Call service department
7007	Rotary grate motor plug or sensor 1 and 2 interchanged	Grate motor or sensor interchanged	Connect motor and sensor correctly; Let plugs and wiring be checked by an electrician; Call service department
7020	DRM ash auger system (AFS) not connected	no connection to DRM-board	Set the board address switch to "2"; check mains connection and bus wiring; replace board;
7021	Supply phase sequence for DRM ash auger system (AFS) incorrect	Phases L1, L2 and L3 are in the wrong order;	Call an electrician; put phase sequence in the right order, then make sure you check the motor's direction of rotation in manual mode;
7030 - 7036	Check HC A - 6 mixers and pumps are working correctly, or heat circuit blocked off	The heat circuit's preset temperature has not been reached for more than 60 min;	Check mixers and pumps are working correctly in manual mode; "open" manually blocked off heat circuits; call installer or service department;
7040 - 7046	Check HC A-6 mixers are working correctly, or heat circuit blocked off	HC set temperature is constantly exceeded over a period of 60 min;	Check mixers are working correctly in manual mode; "open" manually blocked off heat circuits; call installer or service department;
7050 - 7056	HC A-6 over temperature - check mixers and sensors	Maximum HC flow temperature exceeded;	Switch off HC pump until flow temp. drops below MAX; check mixers and sensors are working correctly; call installer or service department;
9000/ 9001	Firmware IO-Board	After software update the control identified an obsolete firmware of IO-board	Update of firmware through service department;
9005	Wrong sensor signal at rotary grate	Check grate position	
9999	Check boiler type	Preset boiler type does not correspond with ID card;	Check boiler type setting; call service department

## 5.4 Temporary emergency operation (Restart without HW-test)

If the error is clearly a result of a defective control board, and the connected component works correctly; the control may be run in **temporary emergency operation** (until the service department arrives) without Hardware-Test.

- Ignore the hardware test as soon as the error message appears or
- Switch to **Manual** operating mode on the control panel
- Switch to the respective manual parameter
- Confirm **Without HW test**
- ☞ Boiler operates with max. 60% heating output

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