

CE & UL Version Error messages & Troubleshooting Electric and Gas Combi



Model	Serial-No. / date		
	from	thru	
Electric:			
ESC 615	07020584 / May 2007		
ESC 620	07020584 / May 2007		
ESC 115	07020584 / May 2007		
ESC 120	07020584 / May 2007		
ESC 215	07020584 / May 2007		
ESC 220	07020584 / May 2007		
Gas:			
GSC 615	07020584 / May 2007		
GSC 620	07020584 / May 2007		
GSC 115	07020584 / May 2007		
GSC 120	07020584 / May 2007		
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From software 3.00





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Error messages and troubleshooting



Overview of the emergency programs

In case of an error the electronic switches in a emergency mode automatically This function enabled restricted operating with the HansDampf.

"Emergency program" is shown on display permanently.

Every program arises from a previous temperature sensor error message. The message "emergency program" can be deleted by reset of electronic only.

Overview

Error message in the diagnosis	Consequence
Core temp. probe defect CT1-probe defect CT2-probe defect CT3-probe defect CT4-probe defect	The core temperature probe function is not available.
Temp. probe chamber 1 defect Temp. probe chamber 1 defect <i>(only 20.x)</i>	The core temp. probe is used as a chamber probe now. The core temperature probe function is not available. Due the position of the core temp. probe easy temperature differences of the chamber temperature measurement are possible.
Humidity sensor	The humidity control (Clima Monitor) ist deactivated.
Drain temp. probe defect	The drain cooling changes in an emergency program (Controlled by the pcb). An increased water consumption arises from it.



The diagnosis memory

The diagnosis memory offers a very easy possibility to demand current and former error messages. These are represented historically according to the date and time. Enter the diagnosis area as follows:

- ✤ Press the ON/OFF button.
- Press left select button menu



Date	Time
Menu	
Soft-key left	Soft-key right

Select 5 diagnosis with the combi pilot (knob). Enter diagnosis area by pressing the right select button confirm or the CombiPilot.

Menu		
5 Diagnosis	(flashs)
Menu		
Soft-key left		Soft-key right



Temperature probe chamber 1 defect Temperature probe chamber 2 defect

The error , temperature probe chamber 2 defect" concerns only unit size 20.x, because these unit has two chamber probes. Chamber probe 1 = upper chamber, chamber probe 2 = lower chamber.

Consequence:

The electronic changes in an emergency program automatically. The core temp. probe takes over the function of the chamber probe. The core temp. probe function is not available.

Position of the chamber probe(s):

6.x - 20.x: On the right chamber side

Designation of the component(s) in the wiring diagram:

B2 (Chamber 1) or rather B3 (Chamber 2, *only 20.x*)

Troubleshooting:



Functional test:

The measurements values can be demand with the service status mask.

Finally cancel (delete) the error message by a reseting the pcb!



Core temperature probe defect

CT1 probe defect CT2 probe defect CT3 probe defect CT4 probe defect

Consequence:

The electronic changes in an emergency program automatically. The function of the probe is deactivated.

Position of the core temp. probe:

In the front of the chamber.

Designation of the component in the wiring diagram: B1

Troubleshooting:



Functional test:

The measurements values can be demand with the service status mask.

Finally cancel (delete) the error message by a reseting the pcb!



Defect humidity sensor

Consequence:

The humidity function is deactivated.

Position of the humidity probe:

The probe is located at the fresh air pipe (behind the left side wall).

Designation of the component in the wiring diagram:

B5





Drain temperature probe defect

Consequence:

The electronic changes automatically in an emergency program. The drain cooling switches on and off controlled by the electronic (During operation).

Position of the drain temperature probe:

The probe is located at the trap.

Designation of the component in the wiring diagram: B4

Troubleshooting:



Functional test: Enter the service menu and select 11 Drain cooling test.

Finally cancel (delete) the error message by a reseting the pcb!



Over temperature cooking chamber

Consequence:

The unit is not ready for operating until the unit has cooled down.

Error description:

A temperature of $>310^{\circ}$ C (590°F) electric units or $> 270^{\circ}$ C (518°F) gas units were measured in the chamber by the Core temp. probe, chamber probe or the humidity probe. **Troubleshooting:**





Electronic to hot Electronic overheated

Consequence / description:

Error: "Electronic to hot:

The measured temperature of electronics amounts to at least 70°C (158°F). The cooked program is stopped.

Error "Electronic overheated":

The measured temperature of electronics amounts to at least 80°C (176°F). The oven switches off itself. After cooling down the device is operational again.

Position of the temperature probe:

The probe is located on the keyboard pcb on board. This cannot be exchanged one by one.





Reference temperature probe defect

Consequence:

The unit is out of order. The reference temp. probe on the keyboard pcb has broken.

Troubleshooting:

Change keyboard pcb.

Ice damage risk

Consequence:

The unit is out of order. A temperature of $< 0^{\circ}$ C (32°F) has measured on the keyboard pcb.

Position of the temperature probe:

The probe is located.

Troubleshooting:

Ensure that the temperature next to the unit is not less than $< 0^{\circ}$ C (32°F). Perhaps change oven location.

Caution! There is a high risk that water pressurized components were damaged.



Chamber high limit (only for electric version)

Consequence:

The unit is out of order.

Error description:

A temperature of $>315^{\circ}$ C (599°F) has appeared in the chamber. The safety limit switch has released and must be reset manually. The reason must be identified in addition.

Position of the safety limit switch(es):

The part is located at the left outer wall of the chamber.

Designation of the component in the wiring diagram:

F7 / F9(only 20.x)









Chamber high limit (only for gas version)

Consequence:

The unit is out of order.

Error description:

A temperature of $> 285^{\circ}$ C (545°F) has appeared in the chamber. The safety limit switch has released and must be reset manually. The reason must be identified in addition.

Position of the safety limit switch(es):

The part is located at the left outer wall of the chamber.

Designation of the component in the wiring diagram:

F7 / F9(only 20.x)





HENNY PENNY



No fan 1

Designation of the component(s) in the wiring diagram:

Fan M1, frequency controller V10 (upper chamber at the 20.x)

Description:

The electronic waits for a confirmation from the hall sensor (fan speed control) after the fan has been started. If this does not take place within 2 minutes, the error message "no fan 1" appears.







Finally all fan modes should be test with the "fan test"! Explanation:

K2 energizes D0
K3 energizes D1
K5 energizes D2
Fast speed mode:
rast speed mode.
x.1 approx. 1450 rpm
x.2 approx. 1600 rpm
Medium speed mode:
x.1 approx. 750 rpm
x.2 approx. 1000 rpm
Slow speed mode:
x.1 approx. 450 rpm
x.2 approx. 600 rpm

D2	D1	DO	
		100	
1	1	1	
1	1	0	
0	1	0	
1	0	0	
1	0	1	
0	0	1	
1 = 230V measured against N			
	1 0 1 1 0 ed ag	1 1 1 1 0 1 1 0 1 0 0 0 ed agains	



No fan 2 (Only unit size 20.x)

Designation of the component(s) in the wiring diagram:

Fan M2, frequency controller V20 (lower chamber)

Description:

The electronic waits for a confirmation from the hall sensor (fan speed control) after the fan has been started. If this does not take place within 2 minutes, the error message "no fan 2" appears.







Finally all fan modes should be test with the "fan test"! Explanation:

K2 energizes D0
K3 energizes D1
K5 energizes D2
Fast speed mode: x.1 approx. 1450 rpm x.2 approx. 1600 rpm Medium speed mode: x.1 approx. 750 rpm
x.2 approx. 1000 rpm
x 1 approx 450 rpm
x.2 approx. 600 rpm

		Input	;
Fan mode	D2	D1	D0
Right slow	1	1	1
Right medium	1	1	0
Right fast	0	1	0
Left slow	1	0	0
Left medium	1	0	1
Left fast	0	0	1
1 = 230V measured against N			
0 = no voltage			



Fan speed 1 wrong Fan speed 2 wrong

Error "Fan speed 1 wrong": Concerns 6.x / 10.x / 20.x Error "Fan speed 2 wrong": Concerns 20.x (lower fan)

Description:

The fan runs in the slow mode in a fast speed.

The fan runs in the fast mode in a slow speed.

In case of over temperature or over current at the frequency controller, the fan speed will be reduce automatically. After cool down, the controller works in normal mode again.

The error appears if the fan speed is lower than 1250 rpm (fast speed mode) or 300 rpm

(slow speed mode).

Troubleshooting:

Enter the service menu and select "8 fan test" and check <u>all</u> four fan modes. The fan speed and the direction of rotation appears on the display as a confirmation. The selected direction of rotation must agree with the displayed reply (L or R).

Attention! The front panel and the door must be closed. Otherwise the door contact switch is open.







K2	energizes D0)
K3	energizes D1	
K5	energizes D2	2

Fast speed mode: x.1 approx. 1450 rpm x.2 approx. 1600 rpm Medium speed mode: x.1 approx. 750 rpm x.2 approx. 1000 rpm Slow speed mode: x.1 approx. 450 rpm x.2 approx. 600 rpm

	Input		
Fan mode	D2	D1	D0
Right slow	1	1	1
Right medium	1	1	0
Right fast	0	1	0
Left slow	1	0	0
Left medium	1	0	1
Left fast	0	0	1

1 = 230V measured against N 0 =no voltage

Fan direction

Error description:

The fan turns at least in one mode in the wrong direction.

Troubleshooting:

Enter the service menu and select "8 fan test" and check <u>all</u> four fan modes. The fan speed and the direction of rotation appears on the display as a confirmation. The selected direction of rotation must agree with the displayed reply (L or R).

Attention! The front panel and the door must be closed. Otherwise the door contact switch is open.



Explanation:

K2	energizes	D0
K3	energizes	D1
K5	energizes	D2

Fast speed mode: x.1 approx. 1450 rpm x.2 approx. 1600 rpm Medium speed mode: x.1 approx. 750 rpm x.2 approx. 1000 rpm Slow speed mode: x.1 approx. 450 rpm x.2 approx. 600 rpm

	Input		
Fan mode	D2	D1	D0
Right slow	1	1	1
Right medium	1	1	0
Right fast	0	1	0
Left slow	1	0	0
Left medium	1	0	1
Left fast	0	0	1
1 = 230V measured against N			
0 = no voltage		-	



Fan runs

Error description:

The fan runs after the end from a program or during the unit is on (standby). After 20 seconds the error message appears on the display.

Troubleshooting:



Finally all fan modes should be tested with the "fan test"!



No water

Description:

The error message appears only during steaming and WaveClean mode. The error only appears if the pressure switch realised a water pressure less than 1bar (14.5 psi). The contact opens and the error message appears on the display.

Consequence:

"Steaming" mode: After confirmation of the error message the program can be continued. "WaveClean" mode: Cleaning process is stopped and "WaveClean interrupted" is displayed.. An cancellation program starts automatically.





HW-Fail Temp UREF0 to high

Error description:

The error signalled, that the supply line is disturbed on the circuit board and/or from sensors. A sensor has a very low resistor or direct chassis ground contact with the frame.

The first possibility is likely if the fault occurs during WaveClean or in steaming mode. Explanation: The water gets into the probe and builds up an electric connection between the probe itself and the chassis. Through this connection a voltage potential from the chassis reaches the temperature inputs of the keyboard pcb and causes the malfunction.

Troubleshooting:

Disconnect the following components one by one to identify the faulty component:

- Pressure switch B10 at the steaming unit
- Core temperature probe B1
- Drain probe B4
- Chamber probe B2
- Chamber probe B3 (only at floor unit 20.x)

If the fault appears only at the automatic cleaning WaveClean, the drain probe B4 is probably the cause.



Error Power board

Description:

There is a communication error between keyboard and relay pcb.

Troubleshooting:



Waterfilter maintenance

The water quantity maintenance was activated in the user level (password 111). The adjusted water quantity has flown by the soft water assembly.

Change water softener and enter the capacity in the corresponding level (password 111, water limit maintenance).



Battery empty

Consequence / description:

The battery on the display card is empty. The battery is located on the display side of the electronic. The oven can be operated but the following functions are not available:

- If the device is not connected at the power supply (power failure) the date and time get lost.
- Furthermore the adjustments of the autostart function get lost.

WaveClean interrupted

Consequence / description:

The cleaning program was stopped by the user manually.

If another error message turns up in the diagnosis loft at the same time, this is the cause of the interruption (such as error "no water").



Controller-configuration (Fan elec. configuration)

Consequence:

The unit is out of order. There is no fault at the frequency controller!



No gas

all gas units

Description:

The flame control (ionisation electrode) detect no flame. The ignition box (N10 / N20 (N20 only 20.x)) detected no flame during the safety time.

Remedy		1 o.k. ?
	Yes	No
Guaranteeing gas supply. If the burner is in operation, on the gage connection "IN" of the gas valve must be a operating pressure of at least 10 mbar (0.15 psi) or at least 100 mm of water column. If the gas blast blower on start speed and the gas valve is still closed, a negative pressure of approx. 3 mbar (0.04 psi) must adapt on the gas valve "OUT" at the gauge connection. This means that the gas blower promotes air and a negative pressure adapts at the Venturi. This negative pressure breaks in, if the gas valve is opened in the further course and a little negative pressure of < 0.5 mbar (0.007 psi) lasts A little negative pressure of < 0.5 mbar (0.007 psi) lasts if the		
 asts. A fittle flegative pressure of < 0.5 fiber (0.007 psr) fasts if the gas valve is opened in the further course. If the negative pressure at gas valve orifice goes not back, no gas flows. The gas supply is switch off by safety valves in the gas supply in the practice, if the exhaust hood/ incoming air is not switched on for example or if supervision technology (flow controller) is faulty. Furthermore the gas pressure can fall too strongly in the supply if several gas equipment is installed at a gas pipe. Pipe cross section on-site is to small Check/ adjust pressure reducer on-site Electrical check of the gas blower. Check gas valve. Ignition box is faulty. 		



Remedy		Function o.k.?	
	Yes	No	
 Check glow electrode R10 (at HD20.x also R20). Check contact n.o. at ignition box X2.1 – X2.2 and check fuse F3. The coming on of the glowing electrode can be watched by the control window. With the help of the service menu "5 Relay test" K14 and K15 (only HD20.x) can be switch on manually and the corresponding glowing electrode must come on yellow colour. The current consumption of the glowing electrode is between 1,4A and 1.8A. In cold condition this has a resistance of 5 ohms. The opencircuit voltage of the glowing transformer T2 (at HD20.x in addition T3) is between 26V - 29V during the unit is on. Check transformer. Check current of the glowing electrode. Check relay contact at the ignition box. 			
 short-time after the glowing electrode glowed (the flame lapse again) and the error "no gas" appears on the display. This means that the ignition box has not detected the flame during the safety time. The gas valve is then closed and a reset of the ignition box is necessary (automatic reset process). Check ionisation electrode (flame control). The current consumption must be 5µA. Check distance between electrode and gas burner. Maybe there is a shortcut against ground between electrode and burner gauze. In this case "longer" metal hair has to be removed. Ignition box is faulty. 			



Remedy		1 o.k. ?
	Yes	No
Further possible causes:		
• Gas-tap is closed or air is in the gas pipe. Remedy: Open gas-		
tap and restart unit until gas is present at the gas valve.		
• Check fuses (F1 und fuses on transformer T1)		
• If the lower LED (chamber 1) or the upper LED (chamber 2)		
at X4 (relay card) is off, there is an error from the ignition		
box.		
• Under voltage. The supply voltage is lower than 15% of the		
nominal voltage (name plate declaration). If there is a		
permanently under voltage, a lower input voltage can be		
switch over at glowing transformer T2/T3 and control		
transformer T1.		
• The gas pressure is less than 10 mbar.		
• Burner is dirty. The burner gauze can block by the promoted		
air in the course of the operating time. At first the equipment		
power only declines. At a higher blockage the igniting		
process is no longer possible. Replace or clean the burner.		



gas fan all gas units

Description:

The speed of the gas fan is faster than 7000 rpm. or lower than 500 rpm.

Troubleshooting:

Remedy		Function o.k.?	
	Yes	No	
Enter the service menu and select 9 gas calibration to check			
the fan speed of the gas fan. See also service menu of the electronic.			
The gas fan does not start. The speed of the gas fan does not appear			
on the display.			
– Check power supply.			
– Check fuse F3.			
– Check main contactor K1.			
- Check PWM output at the electronic.			
– Change gas blower			
Enter the service menu and select 9 gas calibration to			
check the fan speed of the gas fan. See also service menu of the			
electronic.			
The gas fan does not start. The speed of the gas fan does not appear			
on the display.			
– Checking speed output of the gas blower.			
 Check plugs and wires 			
– Change gas blower			

A speed fluctuation of 50 rpm is in the normal range



generic gas fault

all gas units

Description:

This error message appears if F1 has changed to F0 (flame detection from the electronic) 5 times during a cooked process, without demand from the software temperature controller (i.e. during the heat demand). In this case the igniting box has independently ignited a lapsed flame again. This is not normal and the possibility passes that the gas burner or other gas/air components are blocked. A high CO eduction is possible. If the "flame OK signal (F0)" would never recognized, this error is suppressed. There can be an electrical problem if there is no blockage of the gas pipe. This means that the" flame OK" signal conducted reliably to the control. The reason could be the ignition box, the flame-signal board into the harness or wrong wiring at the ignition box

Troubleshooting:

Remedy	Function o.k.?	
	Yes	No
Check ignition box N10 / N20 (N20 only at HD20.x).		
Check ionisation electrode		
Change flame-signal board located at the harness (N11 / N22 (N22		
only at HD20.x)		

The unit does not heating (no error message)

Description:

There is no demand on the ignition box.

Remedy	Function o.k. ?	
	Yes	No
Check fuse F4 at the relay card A1.		



Generally troubleshooting

(no error message appears)



Troubleshooting for WaveClean 6.x - 20.x

First of all ensure that no mistakes has been done from the operators side.

Furthermore make sure that there has paid attention on the right storage of the cartridges and the wax layer in the cartridge has not been damaged before. Storage notes:

- Protect cartridges against direct sunlight or heat sources.
- Do not place cartridges on hot surfaces.
- Do not store cartridges in a car for longer time (especially during summer).

If you can not ensure that the cartridges has been stored correct use new ones from your own stock.

Situation: The cartridge gets melted

- Ensure that the cartridge placed in the holder after the displays shows "insert cartridge". If the chamber temp. is to hot the unit cools down itself.
- Check if both water connections are connected and that water is available
- Check if the water inlet filters in the water assemblies are free of dirt.
- The cartridge has not removed after the cleaning cycle.

Situation: Residues of cleaner/rinser remain in the cartridge or cartridge is not properly emptied, the chamber did not clean the chamber and/or has white deposits. No error message came up during WaveClean (Check diagnosis memory).

- Ensure that the oven is in level and that both water assemblies are connected.
- The cartridge holder could be bent. Bend the cartridge holder into position (Only 6.x, 10.x):



- Carry out the WaveClean Test in the configuration menu for a functional test and ensure that the door gasket area is tighten, both pumps as well as the solenoid valve which fills the trap quenching box) with water are working. Use the relay test to check the components separate, if necessary.
- Check if the water inlet filters in the water assemblies are free of dirt.
- During WaveClean the water flow pressure dropped down less than 1,5bar.
- Heating element or solid state relay defect.
- During operating too much lime quantities has been built up which could not be dismantled by WaveClean.

Further cause at the 20.x (especially if the lower delflector area is more polluted than the upper one): The reduction in the supply hose for the lower chamber can be blocked. Descale the chamber manually and increase the quality of the connected water. Open the deflector and carry out the relay test (K16) to check if water runs out of both water supply pipes. If no or just a little water comes out through the lower supply pipe remove the reduction clamp at the hose and bend it a few times to break the blockage. Afterwards mount the clamp again.

Situation: During WaveClean the unit changed to the cancellation program.

The are three possibilities why the unit has started the cancellation procedure:

- The operator interrupted the WaveClean by pushing the "Cancel" button. The error message "WaveClean interrupted" will written down in the diagnosis memory.
- Loss of power. After the power fail the unit starts automatically with the cancellation program. The error message "WaveClean interrupted" will written down in the diagnosis memory.
- An error message appeared during WaveClean. The unit switches automatically to the cancellation program. The error messages and "WaveClean interrupted" will be written down in the diagnosis memory. Date and time of error are the same. *Find out the error in the diagnosis and continue with the troubleshooting list of error messages*.

Situation: Confirmation of "remove cartridge" after WaveClean is not possible, because "confirm" does not appear on the display.

To confirm "remove cartridge" the operator has to open the door to remove the empty cartridge. If door has opened, the door magnet switch opens his contact. If this contact hangs (shortcut), "confirm" can not appear on the display. This means that the operator can not confirm "remove cartridge". To help the customer very quickly please advise them to knock against the right side front panel at the lower area. In most of the cases the contact gets loose. Please note that you should change the door magnet switch because the part has pre-damaged.

Situation: WaveClean does not start.

- The start/stop LED is permanently on. Functional check of the door magnet switch with a magnet. If the electronic detected the door contact switch, the start/stop LED must flash. If the door switch works, the gap between door magnet and door switch shall too much. Make new door adjustment. If this does not solve the problem, replace door contact switch.
- The start/stop LED is flashing. Check power supply and internal fuses. Ensure that the unit is not in the demonstration mode (If the unit is in demonstration mode, "demo mode" appears on the display after switching on the oven).
- The fan motor does not start. After approx. two minutes error "no fan" appears on the display. *Continue with the troubleshooting list of error messages.*

Further facts:

- The first blue way layer melt between $70^{\circ}C 72^{\circ}C$ (After approx. 15 minutes)
- The second yellow way melts between 92°C 95°C (Time depends on the selected cleaning program).



Troubleshooting of the CombiPilot

If the temperature / time runs up / down itself, there is a problem with the connection between the plug of the CombiPilot and keyboard pcb. To ensure the best possible connection please carry out the following steps:

- Open the front panel as mentioned in the service documentation.
- Disconnect the plug X6 from keyboard pcb.



Pull plug X6

- For best electrical connection spray the contacts with contact spray. Use little amount!
- Fix the plug by using double-sided adhesive tape or silicon to stabilize the plug against vibration.



- Mount the plug and then push it against the tape to front panel.
- Close and lock the front panel.

The unit does not start (no error message appears)

First of all ensure that all phases / neutral are available from the supply side.

Situation:

The unit can be switched on (Display on, On/Off LED is on). A program can be entered, but the fan motor does not start. No error message appears on the display. Making sure that the door and the front panel are closed.



Note: If the door magnet switch detected the door magnet, the Start/ Stop LED must flashing during operation!



Motor fan runs after opening door

(no error message appears)

Situation:

The motor fan runs continuously after opening the chamber door during operation.

Troubleshooting:



Notice:

Start / Stop LED flashes = Door contact switch closed.

Start / Stop LED always on = Door contact switch opened.

If the start/stop LED should flash and the unit does not operate, the unit presumably in the demo mode!









