Ravelli®

il fuoco intelligente

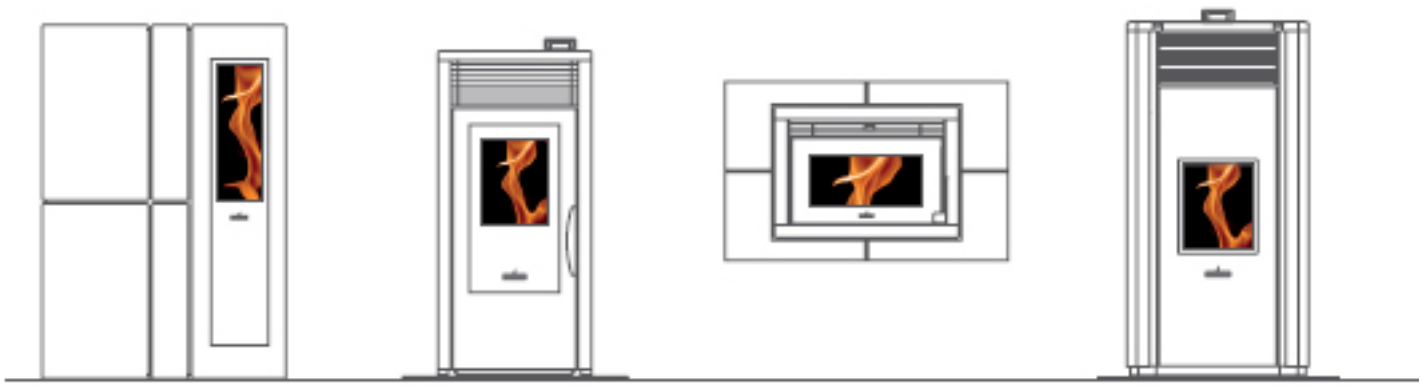
Hydro Flow Air Box

Technical Manual

"RAPID"

RDS System

Rev.2 of 05/06/2012



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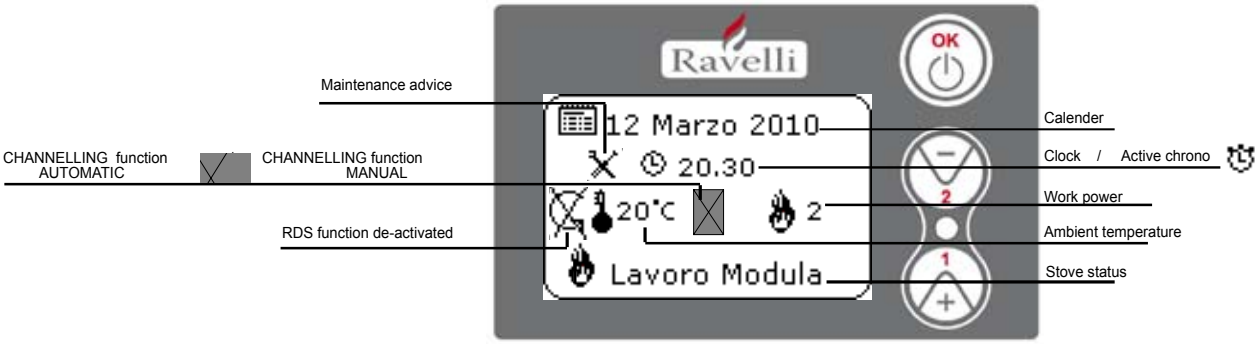
RAPID DISPLAY DESCRIPTION



RDS Display for stoves of the AIR - FLOW -BOX series in STAND-BY mode

BASIC mode

Button “1” : access to “Set environment“ and adjustment

Button “2” : access to “Set power“ and adjustment

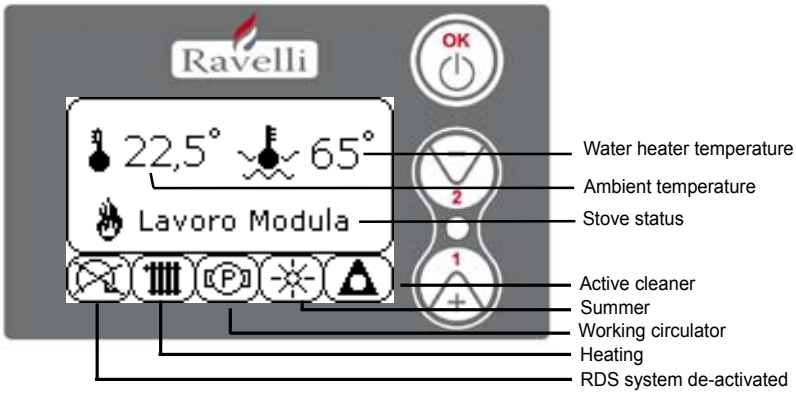
Button “OK”: brief pressure on the button for confirmation and return to the main screen; pressure on the button of 3 seconds duration for lighting and extinguishing stove.

ADVANCED mode

Press key "1" : pushbutton for scrolling and changing settings

Press key "2" : scroll button and change of settings

Press "OK" key : pushbutton to access the ENTER menu and confirm the selected settings.



RDS display for HYDRO series stoves in STAND-BY mode

BASIC mode

Button “1” : access to “Set environment temp. - Set water heater temp.” and adjustment with buttons 1 and 2.

Button “2” : access to “Set power“ and adjustment with buttons 1 and 2 (only Min and Max power can be set)

Button “OK”: brief pressure on the button to confirm and return to the main screen; pressure lasting 3 seconds on the button for switching stove on and off.

ADVANCED mode

Press key "1" : pushbutton for scrolling and changing settings

Press key "2" : scroll button and change of settings

Press "OK" key : pushbutton to access the ENTER menu and confirm the selected settings.

USER MENU FOR AIR SERIES

OK

STOVE STATUS — OK

SET AMBIENT — OK
- P1/P2 SET TEMPERATURE AMBIENT EXT - 6 - ... - 40 - MAN — OK
- P1/P2 CONSOLE SENSOR READING ON - OFF

SET POWER — OK
- P1/P2 SET POWER 1 - 2 - 3 - 4 - 5

STOPWATCH — OK
- P1/P2 DAY — OK
- P1/P2 MONTH — OK
- P1/P2 YEAR — OK
- P1/P2 DAY OF WEEK MON - SUN — OK
- P1/P2 HOUR — OK
- P1/P2 MINUTE — OK
- P1/P2 ACTIVE TIME TRIAL ON - OFF

TIME TRIAL — OK
- P1/P2 START PRG 1 — OK
- P1/P2 STOP PRG 1 — OK
- P1/P2 DAY OF WEEK MON - SUN ON - OFF — OK
- P1/P2 SET POWER 1 - 2 - 3 - 4 - 5 — OK
- P1/P2 SET TEMP AMBIENT EXT - 6 - ... - 40 - MAN

Repeat the procedure for adjusting the subsequent time trials

LANGUAGE — OK → IT - EN - DE - FR (P1/P2)

CLIMATE COMFORT — OK
- P1/P2 CLIMATE COMFORT OFF - 1 - ... - 20 — OK
- P1/P2 CLIMATE COMFORT DELAY 01 - 09

SILENCE → ACTIVATE SILENCE OK ON - OFF

S.C. SYSTEM → ACTIVATE SYSTEM AUTO CONTROL OK - OFF

see CALIBRATIONS — OK → VIEW FACTORY SETTINGS
- M/S FLOW
- G/M EXTRACTOR
- SMOKE T °C
- MACHINE STATUS — P1
- SET REAL FLOW
- AIR FLOW METER T °C
- BOARD T °C

see WORKING HOURS — OK
- TOTAL HOURS — P1
- COUNTER HOURS — P1
- PARTIAL HOURS — P1
- P1/P2 CLEAR WORKING HOURS PWD 35 OK

SET AIR / PELLETS — OK
- P1/P2 SET PELLET % -5 to +5 — OK
- P1/P2 SET FLOW % -5 to +5

USER MENU FOR FLOW SERIES

OK

STOVE STATUS — OK

SET AMBIENT — OK
- SET TEMPERATURE AMBIENT EXT - 6 - ... - 40 - MAN
- CONSOLE SENSOR READING ON - OFF
- SET DUCTED # OFF - EST - 6 - ... - 40 - MAN
- SET POWER 1 - 2 - 3 - 4 - 5

SET POWER — OK

STOPWATCH — OK
- M/S FLOW
- G/M EXTRACTOR
- SMOKE T °C
- MACHINE STATUS
- SET REAL FLOW
- AIR FLOW METER T °C
- BOARD T °C

TIME TRIAL — OK
- DAY
- MONTH
- YEAR
- DAY OF WEEK MON - SUN
- HOUR
- MINUTE
- ACTIVE TIME TRIAL ON - OFF
- START PRG 1
- STOP PRG 1
- DAY OF WEEK MON - SUN ON - OFF
- SET POWER 1 - 2 - 3 - 4 - 5
- SET TEMP. AMBIENT EXT - 6 - ... - 40 - MAN
- SET DUCTED OFF - EST - 6 - ... - 40 - MAN

Repeat the procedure for adjusting the subsequent time trials

LANGUAGE — OK — IT - EN - DE - FR

CLIMATE COMFORT — OK
- CLIMATE COMFORT OFF - 1 - ... - 20
- CLIMATE COMFORT DELAY 01 - 09

CHANNELLED

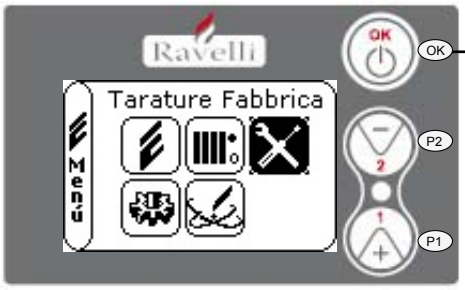
S.C. SYSTEM — ACTIVATE SYSTEM AUTO CONTROL OK - OFF

see CALIBRATIONS — OK — VIEW FACTORY SETTINGS

see WORKING HOURS — OK
- TOTAL HOURS
- COUNTER HOURS
- PARTIAL HOURS
- CLEAR WORKING HOURS PWD 35 OK

SET AIR / PELLETS — OK
- SET PELLET % -5 to +5
- SET FLOW % -5 to +5
- AIR FRONT/REAR
- CUBIC CAPACITY

USER MENU FOR HYDRO SERIES



OK

- STOVE STATUS — OK
- SET AMBIENT — OK
  - P1 P2 SET TEMPERATURE AMBIENT EXT - 6 - ... - 40 - MAN — OK
  - P1 P2 CONSOLE SENSOR READING ON - OFF — OK
  - P1 P2 WATER HEATER SET 10 - 70
- SET POWER — OK
  - P1 P2 SET POWER MIN - MAX
- STOPWATCH — OK
- TIME TRIAL — OK
  - P1 P2 DAY — OK
  - P1 P2 MONTH — OK
  - P1 P2 YEAR — OK
  - P1 P2 DAY OF WEEK MON - SUN — OK
  - P1 P2 HOUR — OK
  - P1 P2 MINUTE — OK
  - P1 P2 ACTIVE TIME TRIAL ON - OFF
  - P1 P2 START PRG 1 — OK
  - P1 P2 STOP PRG 1 — OK
  - P1 P2 DAY OF WEEK MON - SUN ON - OFF — OK
  - P1 P2 SET TEMPERATURE AMBIENT EXT - 6 - ... - 40 - MAN

  Repeat the procedure for adjusting the subsequent time trials
- CLIMATE COMFORT — OK
  - P1 P2 CLIMATE COMFORT OFF - 1 - ... - 20 — OK
  - P1 P2 CLIMATE COMFORT DELAY 01 - 09
- WINTER/SUMMER
  - SET WINTER/SUMMER OK ON - OFF
- VENTILATION — OK
  - SET POT. FAN P2 OFF - 1 - 2 - 3
- S.C. SYSTEM
  - ACTIVATE SYSTEM AUTO CONTROL OK - OFF
- see CALIBRATIONS — OK
  - VIEW FACTORY SETTINGS
- see WORKING HOURS — OK
  - TOTAL HOURS — P1
  - COUNTER HOURS — P1
  - PARTIAL HOURS — P1
  - CLEAR WORKING HOURS PWD 35 OK
  - IT - EN - DE - FR — P1 P2
- SET AIR / PELLETS
  - OK
    - P1 P2 SET PELLET % -5 to +5 — OK
    - P1 P2 SET FLOW % -5 to +5
- LANGUAGE — OK
- M/S FLOW
- G/M EXTRACTOR
- SMOKE T °C
- H2O PRESSURE
- MACHINE STATUS — P1
- SET REAL FLOW
- AIR FLOW METER T °C
- BOARD T °C

STATUS	Code	CONDITION	PARAMETER INVOLVED IN CONDITION	MESSAGE DISPLAYED	PARAMETERS INVOLVED IN OFF
STATUS	0	if T. SMOKE <TF15 after T. MIN. POWER	TF15/TF46	STATUS	NONE (NON-OPERATING STATUS)
ON / PRE-HEATING	1	if T. SMOKE <TF15	TF15	LIGHT	TF48/TF49/TF04/TF02/TF01
		if T. SMOKE> TF15 & T. SMOKE <TF07	TF07/TF15	LIGHT UP - RESET	TF48/TF32/TF04/TF02/TF01
DELAY FLAME	2	After PRE-HEATING	TF 04	DELAY FLAME	TF48/TF31/TF02/TF05/TF01
THIS FLAME	3	After DELTA FLAME	TF05	THIS FLAME	TF09/TF08/TF32
WORK	4	After MIN. START	TF09	WORK	TF16/19/22/25/28 TF17/20/23/26/29 TF18/21/24/27/30 TF06
AIR MODULATION	4	if Amb. T. > SET Amb. T.	NONE	AIR MODULE	TF16/TF17/TF18 *TF16/TF17*
WATER MODULATION	*4*	*if T.H2O > SET T.H2O*	*NONE*	*WATER MODULE*	*TF16/TF17*
WORK MODULE	*4*	*if H2O and T.AMB reached*	*NONE*	*WORK MODULE*	*TF16/TF17*
BRAZIER CLEANING	5	Each CADENCE CLEANING	TF13 TF12	CLEANING BRAZIER	TF12 /TF14/TF11 *TF13/TF14/TF18*
CLEANING with CLEANER	*4*	*each CLEANING FREQUENCY*	*TF12/TF11*	*ACTIVE CLEANER*	*TF14/TF18/TF27orTF21*
TURNING OFF	6	With Keystroke P3	NONE	FINAL CLEANING	TF15/TF06/TF46
ATTEMPT RESTART	7	if T. SMOKE < TF07 after RESTART BLOCKAGE	TF15/TF45	FAN – START DELAY	NONE (NON-OPERATING STATUS)
		if T. SMOKE> TF15 & T. SMOKE < TF07 After RESTART BLOCKAGE.	TF07/TF15/TF45	FAN RESTART DELAY	NONE (NON-OPERATING STATUS)
ECO AIR STOP	7	if Amb. T. > SET Amb. T. with CLIMATE COMFORT active	CLIMATE COMFORT DELAY SELECTED ON MENU	ECO STOP	NONE (NON-OPERATING STATUS)
AIR MODULATION with display of "AIR FLOW METER FAILURE 09."	4	Flow meter failure or disconnection	NONE	WORK MODULE	TF33-37
WORK With RDS disabled	4	After switching by OK	TF39	WORKING with a symbol on display indicating RDS off	TF16/19/22/25/28 TF18/21/24/27/30 TF06 TF33/34/35/36/37

Legend:
COLOUR BLUE (CURSIVE) --> Function phases with relation to the HYDRO range stoves and related involved parameters.

UTILITY PASSWORD FOR INSTALLER

CODE	FUNCTION	ACCESS TO MENU
A9	Functioning parameters	"FACTORY SETTINGS"
35	Reset WORKING HOURS	“SEE WORKING HOURS -> CANCEL HOURS”
O0	Restore parameters	“FACTORY SETTINGS ->RESTORE PARA-METERS”
11	Deactivation debimeter	"FACTORY SETTINGS"
F1	10% canalization increase (gamma FLOW)	"FACTORY SETTINGS"
F2	20% canalization increase (gamma FLOW)	"FACTORY SETTINGS"
C2	RDS adjustment system activation	“RDS ADJUSTMENT”
B9	*Setting hydraulic system type*	*“HYDRAULIC SYSTEM”*

INSTALLER MENU: Factory setting (TF) for AIR and FLOW gamma

From STAND-BY status, with a short press of the OK key you can access the selection menu icons; press key 2 to position cursor on the FACTORY SETTINGS icon and press the OK key for access. Enter the password **A9** by pressing key 2 and confirm with OK. The parameters are divided into groups by type; press keys 1 and 2 to change the data; press the OK key to confirm and you will automatically move to the next digit in each unit. To exit the screens by steps, press the OK key or press the keys 1 and 2 simultaneously to go directly to the status of STAND-BY.

Unit: LIGHTING

TF	NAME	DESCRIPTION	UNIT ’
TF01	SCREW PUMP: start flame	T on the screw pump motor phase "DELAY FLAME"	**sec**
TF02	SCREW PUMP MAX LOAD	Interval time limit to make the pre-feed pellets	**min**
TF04	Preheat SPARK PLUG	Time for preheating heating element	**sec**
TF05	FLAME DELTA	Increment value of the flame for passage to the next step	**°C**
TF06	FAN THRESHOLD	Smoke temperature threshold to start the exchanger	**°C**
TF07	RESTART THRESHOLD	Reference threshold for restarting	**°C**
TF31	LIGHTING PHASE SMOKE SPEED	Smoke aspiration speed during the "FLAME DELAY"	**t/min**

Unit: FLAME PRESENT

TF	NAME	DESCRIPTION	UNIT '
TF08	START SCREW PUMP	"ON" time of screw pump motor in the "FLAME PRESENT" phase	**sec**
TF09	START MINUTES	Stabilization time of the flame during "FLAME PRESENT"	**min**
TF32	SPEED GAS CHAMBERS	Smoke aspiration speed during the "FLAME PRESENT"	**t/min**

Unit: CLEANING OF BRAZIER

TF	NAME	DESCRIPTION	UNIT '
TF11	SCREW PUMP CLEANING	Cochlea motor ON times in the “CLEANING BRAZIER” phase	**sec**
TF12	CLEANING DURATION	Duration of brazier cleaning	**sec**
TF13	CLEANING SCHEDULE	Time interval between two cleanings of brazier	**min**
TF14	CLEANING OF SMOKE ASPIRATOR	Smoke aspiration speed in the "BRAZIER CLEANING" phase	**t/min**

Unit: TURNING OFF

TF	NAME	DESCRIPTION	UNIT '
TF15	TURN OFF THRESHOLD	Reference threshold for START (t smoke <= TF15) or RESTART (t smoke> TF15)	**°C**

Unit: POTENZE da 1 a 5

TF	NAME	DESCRIPTION	UNIT '
TF16	COCHLEA POWER 1	ON time of the cochlea motor in work phase at power 1	**sec**
TF17	FLOW POWER 1	Inlet flow to the brazier during work phase at power 1	**m / s**
TF18	AIR SPEED P1	Primary exchanger voltage in work phase at power 1	**v**
TF19	COCHLEA POWER 2	ON time of the cochlea motor in work phase at power 2	**sec**
TF20	FLOW POWER 2	Inlet flow to the brazier during work phase at power 2	**m / s**
TF21	AIR SPEED P2	Primary exchanger voltage in work phase at power 2	**v**
TF22	COCHLEA POWER 3	ON time of the cochlea motor in work phase at power 3	**sec**
TF23	FLOW POWER 3	Inlet flow to the brazier during work phase at power 3	**m / s**
TF24	AIR SPEED P3	Primary exchanger voltage in work phase at power 3	**v**
TF25	COCHLEA POWER 4	ON time of the cochlea motor in work phase at power 4	**sec**
TF26	FLOW POWER 4	Inlet flow to the brazier during work phase at power 4	**m / s**
TF27	AIR SPEED P4	Tensione scambiatore primario in work phase at power 4	**v**
TF28	COCHLEA POWER 5	ON time of the cochlea motor in work phase at power 5	**sec**
TF29	FLOW POWER 5	Inlet flow to the brazier during work phase at power 5	**m / s**
TF30	AIR SPEED P5	Primary exchanger voltage in work phase at power 5	**v**

NB: In the range of canalization which the RFS (Ravelli Flow System) uses, the ventillation value at the various power settings is not seen as it is not possible to carry out any modification to the ventillation. This is because the factory values have been set to guarantee the best output with the minimum of noise.

Unit: EXTRACTOR SPEED

TF	NAME	DESCRIPTION	UNIT '
TF33	SMOKE SPEED P 1	Smoke aspiration speed during work phase at power 1	**t/min**
TF34	SMOKE SPEED P 2	Smoke aspiration speed during work phase at power 2	**t/min**
TF35	SMOKE SPEED P 3	Smoke aspiration speed during work phase at power 3	**t/min**
TF36	SMOKE SPEED P 4	Smoke aspiration speed during work phase at power 4	**t/min**
TF37	SMOKE SPEED P 5	Smoke aspiration speed during work phase at power 5	**t/min**

Unit: ALTITUDE

TF	NAME	DESCRIPTION	UNIT '
TF38	ALTITUDE	Altitude above sea level	**t/min**

Unit: ON / OFF air flow meter

TF	NAME	DESCRIPTION	UNIT '
TF39	AIR FLOW METER ON / OFF	"OFF" disables the RDS. "Auto Status" RDS system active with start of extractor rpm	**val**

Unit: FORMULA

TF	NAME	DESCRIPTION	UNIT '
TF40	ACTIVE FORMULA	Formula OFF / Low / Low / Medium / High Draft	**str**

Unit: ALARMS

TF	NAME	DESCRIPTION	UNIT '
TF41	NO PELLETS THRESHOLD	Reference threshold for reporting "NO PELLETS"	**°C**
TF42	MAXIMUM THRESHOLD	Working limit temperature threshold	**°C**
TF43	ALARM DELAY	ALARM DELAY	**sec**
TF44	BLACK OUT	"BLACK OUT" activation limit seconds	**sec**
TF45	RE-LIGHTING BLOCK	Delay timer START or RESTART (FAN)	**min**
TF46	T. MIN. SIGNING	Timer for cleaning before "OFF" status	**min**
TF47	MINIMUM FLOW	Minimum flow under which the stove recognizes clogging of the brazier or load loss	**m / s**
TF48	MAXIMUM DURATION LIGHTING UP.	Maximum time for a turn ON cycle	**min**

Unit: EXTRA PARAMETERS

TF	NAME	DESCRIPTION	UNIT '
TF49	ENABLE LIGHTER	Enabling/disabling resitance	**on / off**
TF50	FREQUENCY xHZ	Frequency Network	**Hz**
TF51	DEGREES	A unit of temperature	**°C / ° F**
TF52	FLUE DRAFT	Option to activate to allow user to set draft rate	**on / off**
TF53	VOLT MAX	Voltage for domestic power supply (230V Italy)	**v**
TF54	SERVICE HOURS	Hours of operation of the stove before carrying out a special cleaning operation	**h**

INSTALLER MENU: Factory settings (TF) for HYDRO range

From STAND-BY status, with a short press of the OK key you can access the selection menu icons; press key 2 to position cursor on the FACTORY SETTINGS icon and press the OK key for access. Enter the password **A9** by pressing key 2 and confirm with OK. The parameters are divided into groups by type; press keys 1 and 2 to change the data; press the OK key to confirm and you will automatically move it to the next digit in each unit. To exit the screens by steps, press the OK key or press the keys 1 and 2 simultaneously to go directly to the status of STAND-BY. The following pages contain a decription of the Hydro parameters.

Unit: LIGHTING

TF	NAME	DESCRIPTION	UNIT '
TF01	SCREW PUMP: start flame	T on the screw pump motor phase "DELAY FLAME"	**sec**
TF02	SCREW PUMP MAX LOAD	Interval time limit to make the pre-feed pellets	**min**
TF31	LIGHTING PHASE SMOKE SPEED	Smoke aspiration speed during the "FLAME DELAY"	**t/min**
TF04	Preheat SPARK PLUG	Time for preheating heating element	**sec**
TF05	FLAME DELTA	Increment value of the flame for passage to the next step	**°C**
TF06	PUMP THRESHOLD	Smoke temperature threshold to start the exchanger	**°C**
TF07	RESTART THRESHOLD	Reference threshold for restarting	**°C**

Unit: FLAME PRESENT

TF	NAME	DESCRIPTION	UNIT '
TF08	START SCREW PUMP	"ON" time of screw pump motor in the "FLAME PRESENT" phase	**sec**
TF09	START MINUTES	Stabilization time of the flame during "FLAME PRESENT"	**min**
TF32	SPEED GAS CHAMBERS	Smoke aspiration speed during the "FLAME PRESENT"	**t/min**

Unit: CLEANING OF BRAZIER

TF	NAME	DESCRIPTION	UNIT '
TF11	ACTIVE CLEANER	Parameters aimed at activating the cleaner	**str**
TF12	CLEANING SCHEDULE	Time interval between two cleanings of brazier	**min**
TF13	CLEANING DURATION	Duration of brazier cleaning (with cleaner de-activated)	**sec**
TF14	CLEANING OF SMOKE ASPIRATOR	Smoke aspiration speed in the "BRAZIER CLEANING" phase	**g/min**
TF18	SCREW PUMP CLEANING	Cochlea motor ON time in the cleaning with cleaner phase	**sec**
TF21	CLEANER SECONDS	Seconds of cleaner functioning	**sec**
TF27	CLEANER HITS	Cleaner passes at every cleaning phase	**num**

Unit: TURNING OFF

TF	NAME	DESCRIPTION	UNIT '
TF15	TURN OFF THRESHOLD	Reference threshold for START (t smoke <= TF15) or RESTART (t smoke> TF15)	**°C**

Unit: SANITATION MODULE POWER

TF	NAME	DESCRIPTION	UNIT '
TF16	COCHLEA POWER MOD.	Cochlea motor ON time in the work phase at MOD power.	**sec**
TF17	FLOW POWER MOD.	Inlet flow to the brazier in the work phase at MOD power.	**m / s**
TF19	MIN COCHLEA POWER	Cochlea motor ON time in the work phase at MIN power.	**sec**
TF20	MIN FLOW POWER	Inlet flow to the brazier in the work phase at MIN power.	**m / s**
TF22	MAX COCHLEA POWER	Cochlea motor ON time in the work phase at MAX power.	**sec**
TF23	MAX FLOW POWER	Inlet flow to the brazier in the work phase at MAX power.	**m / s**
TF25	SANI COCHLEA POWER	Cochlea motor ON time in the work phase at SANI power	**sec**
TF26	SANI FLOW POWER	Inlet flow to the brazier in the work phase at SANI power	**m / s**

Unit: EXTRACTOR SPEED

TF	NAME	DESCRIPTION	UNIT '
TF33	MOD. SMOKE P SPEED.	Smoke suction speed in the work phase at MODULE power	**g/min**
TF34	MIN SMOKE P SPEED.	Smoke suction speed in the work phase at MINIMUM power	**g/min**
TF35	MAX SMOKE P SPEED.	Smoke suction speed in the work phase at MAXIMUM power	**g/min**
TF36	SANI SMOKE P SPEED	Smoke suction speed in the work phase at SANI power	**g/min**

Unit: ALTITUDE

TF	NAME	DESCRIPTION	UNIT '
TF38	ALTITUDE	Altitude above sea level	**meters**

Unit: ON / OFF air flow meter

TF	NAME	DESCRIPTION	UNIT '
TF39	AIR FLOW METER ON / OFF	"OFF" disables the RDS. "Auto Status" RDS system active with start of extractor rpm	**val**

Unit: RECIPES

TF	NAME	DESCRIPTION	UNIT '
TF40	ACTIVE FORMULA	Formula OFF / Low / Low / Medium / High Draft	**str**

Unit: DELTA ACCUMULATORS

TF	NAME	DESCRIPTION	UNIT '
TF54	DELTA BOILER	Hysteresis which determines the Boiler water heating	**°C**
TF55	DELTA PUFFER	Hysteresis which determines the water puffer heating	**°C**

Unit: ALARMS

TF	NAME	DESCRIPTION	UNIT '
TF41	NO PELLETS THRESHOLD	Reference threshold for reporting "NO PELLETS"	**°C**
TF42	MAXIMUM THRESHOLD	Working limit temperature threshold	**°C**
TF43	ALARM DELAY	ALARM DELAY	**sec**
TF44	BLACK OUT	"BLACK OUT" activation limit seconds	**sec**
TF45	RE-LIGHTING BLOCK	Delay timer START or RESTART (FAN)	**min**
TF46	T-MINIMUM EXTINGUISHING	Timer for cleaning before "OFF" status	**min**
TF47	MINIMUM FLOW	Minimum flow under which the stove recognizes clogging of the brazier or load loss	**m / s**
TF48	MAX RE-LIGHTING DURATION	Maximum time for a turn ON cycle	**min**
TF37	MAX H2O THRESHOLD	Working limit water heater temperature threshold	**°C**

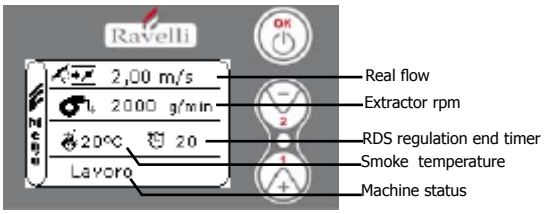
Unit: EXTRA PARAMETERS

TF	NAME	DESCRIPTION	UNIT '
TF49	EXCLUDE PRESSURE	Exclude reading of pressure transducer	**on / off**
TF50	FREQUENCY xHZ	Frequency Network	**Hz**
TF51	DEGREES	A unit of temperature	**°C / ° F**
TF52	FLUE DRAFT	Option to activate to allow user to set draft rate	**on / off**
TF53	SERVICE HOURS	Hours of operation of the stove before carrying out a special cleaning operation	**h**
TF30	ACTIVE FUNCTION. FAN	Parameter aimed at activation of the air exchanger function	**str**
TF28	MOD SPEED FAN	Modulation power exchanger voltage	**v**
TF29	MAX SPEED FAN	Maximum power exchanger voltage	**v**
TF56	VOLT MAX	Voltage for domestic power supply (230V Italy)	**v**

RDS SYSTEM ADJUSTMENT PROCEDURE

This particular RDS adjustment method allows for the calibration of the parameters related to the oxygen intake for combustion in a more or less automatic manner. A detail of the new firmware is the presence of the “Regular sist. RDS” warning on putting the stove into function and every time it is intended to light/extinguish it;
in any case, the message which is seen for a few seconds in no way prejudices its function.
This signal will only disappear when the installer has carried out the following operations.

- Start the RDS system adjustment process: the icon to be selected to start the RDS adjustment process is the following and is situated in the main menu (brief pressure on the OK button from the STAND-BY state). Click on the icon and insert the password “C2“ to start the process (illustration below).



Frame "RDS Regulation system setting"

_ Extractor revolutions adjustment in the various phases of turning the stove on: The “RDS system adjustment” illustration indicates the various progressive phases from lighting up to the working condition in the “machine status”.

These phases are: Lighting up/Awaiting flame, Flame present, Working. It is possible to adjust the rpm in the “extractor revolutions” choice in every phase, with buttons 1(-) e 2(+) in order to obtain the best functional conditions in the different states.

Awaiting flame: as soon as this phase is reached, the rpm number appears (second line of the screen), the variation in value that the installer sets with buttons 1 and 2 of the display has the aim of improving the lighting up process;

Flame present: as soon as it passes into this phase, the rpm number appears (second line of the screen), the variation in value that the installer sets with buttons 1 and 2 of the display has the aim of improving stabilization of the flame;

Work: the stove reaches maximum, and an acoustic signal accompanied by the appearance of the rpm (second line of the screen) indicates the possibility of varying the value with the aim of perfecting combustion in order to obtain the ideal flame. From this moment, the 20’ timer starts to wind down; this timing is useful to the debimeter for reading a correct value (hot RDS adjustment) and to work in optimum manner.

_ Modifications parameter block and flow sampling: two minutes before the timer ends, the system blocks the modification of the rpm (revolutions per minute) and starts to sample the debimeter reading.

_ End test and automatic saving of the various power settings: when the stove passes into the classical standby screen, the system has found the flow value at maximum power (specific value for that installation and for the type of pellet used) and, in automatic, all the lower values are calculated (0,05 m/s for the flow and 100 rpm for the extractor revolutions). Always in automatic, the RDS system is re-activated with the new parameters.

NB: In the event of an alarm during the process, the system exits the calibration phase; It will, therefore, be necessary to restart it to eliminate the “Adjust sist. RDS” signal. Each time the firmware is updated, the obligatory restoration of the parameters phase will make the “Adjust sist. RDS” signal re-appear; it will, therefore, be necessary to restart the calibration test.

Example: Medium flow sampled with extractor set to P5 2000g/m --> flow 2m/s.

Power	Extractor revolutions	Flow
5	2000	2.00
4	1900	1.95
3	1800	1.90
2	1700	1.85
1	1600	1.80

ALARMS

Code	DISPLAY	MOTIVATION	RESOLUTION
02	SMOKE PROBE	Smoke probe either disconnected or unserviceable.	- verify exact reading of the probe in STOVE STATUS; - check cabling; - change the smoke probe.
03	SMOKE TEMPERATURE	High smoke temperature (over 289°C) The words HOT SMOKE only indicates a pre-alarm.	- check for pellet over-load; - check that the smoke ducts are not obstructed; - Check for inactivity of the environmental exchanger.
05	FAILURE TO LIGHT	The stove has not gone beyond Delta of lighting up.	- Check for the correct pellet supply to the brazier; - check the status of the resistance and its correct centring; . Check that the brazier is correctly positioned in its housing; - Adjust the revolutions on rising.
06	PELLETS FINISHED	- The pellet container is empty; - The reduction motor does not load properly.	- Check for the presence of pellets in the container; - Check if foreign bodies (screws etc.) impede the normal function of the cochlea; - Verify the effective working of the reduction motor; - Check if the alarm has been sounded for lack of pellets or excess load.
01	BLACK-OUT	Power failure during the stove operating phase.	- Reset the alarm (long press on the OK button) and restart the stove; - Check whether electrical components (reduction motor, etc.) could be the cause of the alarm; - Check the dwelling’s electrical installation.
08	DEPRESSURIZATION	The smoke stack is obstructed.	- Check on the cleanlyness of the chimney; - Check the correct positioning of the tube in position “H” and of the clamps (C and N.C).
07	THERMAL	A temperature above 90°C has been identified at the position of the thermal safety bulb.	- Unscrew the black plug in the rear of the stove and re-set the thermal coupling (red button); - Verify the working of the environmental exchanger; *- For stoves of the HYDRO range, check for correct functioning of the circulator or of the hydraulic installation.*
04	EXTRACTOR FAULT	- smoke expulsion motor unserviceable; - The encoder does not identify the number of revolutions.	- Check for defects of the electrical component; - Check whether the encoder is connected correctly or if there is a fault in the cable.
12	EXTRACTOR RPM	The extractor works at a speed lower than 15% with respect to the reference value.	- Check that the smoke extractor turns freely
17	NO FLOW	- Rotating at maximum speed (2700r/m circa) it does not achieve half of the minimum lowest stable flow	- Check that the door, the cinder tray and various inspection hatches close properly. - Check that the brazier is not clogged and that the debimeter is clean; - Check the general state of clogging in the stove; - Check the correct calibration of the parameters (RDS ADJUSMENT CHAPTER).

Code	DISPLAY	MOTIVATION	RESOLUTION
09	AIR FLOW FAILURE	The air flow meter does not properly read the flow rate.	- Check cable connection of air flow meter; - Check for defects of the air flow meter (check STOVE STATUS if the delta of the flow meter temperatures are not greater than 30°C)
15	SCREW PUMP TRIAC	The electronic component that manages of the screw pump ON/ OFF is damaged.	- Check defectiveness electronics board
14	SCREW PUMP PHASE	Make sure the wiring of the screw pump is properly connected to the board there are no interruptions	Check the electrical connections to the gear motor and the conditions of the cables.
16 **rate-deter-mining step**	PRESSURE	The pressure read from the pressure transducer is less than 0.5 bar or greater than 2.5 bar.	- Verify that when cold, the pressure reading on the display is about 1 bar; - Verify the absence of air in the system; - Verify the need for an additional expansion chamber; - Check operation of circulator.
10	HOT WATER	The water temperature has exceeded the threshold of 90°C	- Check operation of circulator. - Check for proper water circulation in the hydraulic system.

Signaling by display without alarm code:

DISPLAY	MOTIVATION	RESOLUTION
EXCESSIVE LOAD	The gear motor is about to turn in continuous due to incorrect parameter setting.	- Check parameter-based setting to make sure the "screw pump power load" is not excessive; - Check that in the "Set air/pellet" the pellet is set to +5. Note: the load +5 is added to the setting of the parameter "power based screw pump load."
CLEAN BRAZIER	The RDS detects clogging in the brazier	Clean brazier

SUMMARY TABLE OF COMPATIBILITY BOARD /MOTHERBOARD- DISPLAY - FIRMWARE

Modello	Serie	tipo	scheda principale	firmware	display	firmware
Sofia	Air	Flash	55229	ECT2008AIR03	7 tasti	-
		Triac Coclea (da matr. B00230001)	55300	RAV2010_AIR_VX *	7 tasti	-
Rebecca	Air	Flash	55229	ECT2008BOX03	palmare	-
Matilde	Air	Flash	55229	ECT2008BOX03	palmare	-
Serena	Air	Flash	55229	ECT2008AIR03	7 tasti	-
		Triac Coclea (da matr. B00462001)	55300	RAV2010_AIR_VX *	7 tasti	-
Ilaria	Air	Flash	55229	ECT2008AIR03	7 tasti	-
		Triac Coclea (da matr. B00462001)	55300	RAV2010_AIR_VX *	7 tasti	-
Monica	Air	Flash	55229	ECT2008AIR03	7 tasti	-
		Triac Coclea (da matr. B00560295)	55300	RAV2010_AIR_VX *	7 tasti	-
		RDS (da matr. B10108001)	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
Milena	Air	RDS	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
Holly vent.	Air	RDS	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
RV 120	Air	RDS	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
Cora	Air	RDS	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
Lisa plus	Air	RDS	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
Mavi	Air	RDS	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
Olivia	Air	RDS	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
Arianna	Air	Flash	55229	ECT2008AIR03	7 tasti	-
		Triac Coclea (da matr. B00372001)	55300	RAV2010_AIR_VX *	7 tasti	-
R 120	Air	Flash	55229	ECT2008ECO04	6 tasti	-
		Triac Coclea (da matr. B00712101)	55300	RAV2010_ECO_VX *	6 tasti	-
		RDS (da matr. B10112001)	55300	RAV_2010_ECO_RDS_VX *	6 tasti	-
R 70	Air	Flash	55229	ECT2008ECO04	6 tasti	-
		Triac Coclea (da matr. B00907001)	55300	RAV2010_ECO_VX *	6 tasti	-
		RDS (da matr. B10107001)	55300	RAV_2010_ECO_RDS_VX *	6 tasti	-
Eva	Air	Flash	55229	ECT2008BOX03	palmare	-
Silvia	Air	Flash	55229	ECT2008AIR03	7 tasti	-
		Triac Coclea (da matr. B00234001)	55300	RAV2010_AIR_VX *	7 tasti	-
Ecovision	Air	Flash	55229	ECT2008AIR03	7 tasti	-
Camilla	Air	RDS	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
Veronique	Flow	Flash	55229	ECT2008AIR03	7 tasti	-
		Triac Coclea (da matr. B00558001)	55300	RAV2010_AIR_VX *	7 tasti	-
Laura	Flow	Flash	55229	ECT2008AIR03	7 tasti	-
		Triac Coclea (da matr. B00558001)	55300	RAV2010_AIR_VX *	7 tasti	-
Flavia	Flow	RDS	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
RC 120	Flow	RDS	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
Holly canal.	Flow	RDS	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
Snella	Flow	Flash	55229	ECT2008AIR03	7 tasti	-
		Triac Coclea (da matr. B00464001)	55300	RAV2010_AIR_VX *	7 tasti	-
		RDS (da matr. B1011D001)	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
500	Box	Flash	55229	ECT2008BOX03	palmare	-
		Triac Coclea (da matr. B00378001)	55300	RAV2010_BOX_VX *	palmare	-
550	Box	Flash	55229	ECT2008BOX03	palmare	-
		Triac Coclea (da matr. B00468001)	55300	RAV2010_BOX_VX *	palmare	-
650	Box	Flash	55229	ECT2008BOX03	palmare	-
		Triac Coclea (da matr. B10169001)	55300	RAV2010_BOX_VX *	palmare	-
700	Box	Flash	55229	ECT2008BOX03	palmare	-
		Triac Coclea (da matr. B00378001)	55300	RAV2010_BOX_VX *	palmare	-
900	Box	Flash	55229	ECT2008BOX03	palmare	-
		Triac Coclea (da matr. B10153001)	55300	RAV2010_BOX_VX *	palmare	-
901 canal.	Box	Flash	55229	ECT2008BOX03	palmare	-
		Triac Coclea (da matr. B10159001)	55300	RAV2010_BOX_VX *	palmare	-
R 1000	Box	RDS	55300	ECT2010RDS_MB_V.X.XX *	3 tasti	ECT2010_RDS_UI_V.X.XX *
HR 100	Hydro	RDS	55300	RAV2011IDRORDS_MB_V.X.XX *	3 tasti	RAV2011_IDRO_RDS_UI_X.XX *
HRV 120	Hydro	RDS	55300	RAV2011IDRORDS_MB_V.X.XX *	3 tasti	RAV2011_IDRO_RDS_UI_X.XX *
HRV 135	Hydro	Flash *(Riviera)*	55230	ECT_2010_Riv_03_V4	7 tasti	-
		RDS (da matr. B10217001)	55300	RAV2011IDRORDS_MB_V.X.XX *	3 tasti	RAV2011_IDRO_RDS_UI_X.XX *
HRV 160	Hydro	RDS	55300	RAV2011IDRORDS_MB_V.X.XX *	3 tasti	RAV2011_IDRO_RDS_UI_X.XX *
HR 200	Hydro	RDS	55300	RAV2011IDRORDS_MB_V.X.XX *	3 tasti	RAV2011_IDRO_RDS_UI_X.XX *
Venezia	Hydro	Flash	55230	ECT2008IDRO03	7 tasti	-
Amalfi	Hydro	Flash	55230	ECT2008IDRO03	7 tasti	-
Genova	Hydro	Flash	55231	ECT2008IDRO03	7 tasti	-
Pisa	Hydro	Flash	55231	ECT2008IDRO03	7 tasti	-

NB: Table updated as at 16-12-2011. Additional updates are available in the Download Area of website www.ravelligroup.it in the Firmware Area.

TROUBLESHOOTING

Code 05 DOES NOT TURN ON

PELLET DOES NOT DROP DOWN

- GEAR MOTOR FAILURE → Verify its operation by connecting it directly to the 220V. In this case replace the gear motor
- tank EMPTY → Fill the tank remembering to activate automatic loading of the screw pump
- FOREIGN BODIES IN THE TANK → Remove foreign bodies from inside the tank and screw pump
- THERMAL PRE-ALARM WITH RESET → Flip the reset switch; Check FASTON connections
- VACUUM SWITCH PRE-ALARM → Check possible obstruction in chimney flue; Check FASTON connections

PELLETS COME DOWN BUT STOVE DOES NOT TURN ON

- NON-CENTERED RESISTOR IN THE BRAZIER HOLE → Centering the resistor
- RESISTOR MALFUNCTION → Control TF49 = ON, and then check Check efficiency of RESISTOR by connecting it directly to the 220 V and if it is effective, replace resistor.
- RESISTOR distant brazier hole → Check compatibility of RESISTOR with the stove
- DAMP OR POOR QUALITY PELLETS → Change type of pellets
- INCORRECT DRAW IN FLUE → Increase TF31 smoke suction speed

STOVE TURNS ON BUT HAS NOT GONE BEYOND DELTA TEMPERATURE/ DELTA FOR SWITCHING ON (TF05)

- Strong draw in the smoke flue/ smoke chimney → Reduce the smoke extractor speed TF31
- INSUFFICIENT LOAD OF PELLETS → Increase the maximum load time TF02 pellets
- THE SMOKE SENSOR DOES NOT READ THE TEMPERATURE → - Check connection on motherboard
- Make sure the screw pump is inserted correctly until it is sealed
- Replace if interrupted

Cod.17 NO FLOW

THE HEATER HAS GONE OUT

- OPEN DOOR DROP or → Check for proper door closing, gasket seals and closure of ash collector

Code 07 RESET THERMAL SWITCH (in start phase)

PELLET DOES NOT DROP DOWN

THERMAL SWITCH FAILURE	Connect wiring terminals arriving at thermal switch
THERMAL SWITCH RESET	Reset thermal switch by pressing red key
INCORRECT WIRING	Check wiring connections

Code 07 RESET THERMAL SWITCH (in working phase)

PELLET DOES NOT DROP DOWN

THERMAL SWITCH FAILURE	Connect wiring terminals arriving at thermal switch
THERMAL SWITCH RESET	Reset thermal switch by pressing red key
INCORRECT WIRING	Check wiring connections
OVERHEATING OF STOVE BODY	Check ambient fan parameters in “Factory calibrations”
Ambient fan failure	Replace ambient fan

Code 08 DEPRESSURIZATION (in start phase)

PELLET DOES NOT DROP DOWN

PRESSURE SWITCH FAILURE	Connect terminals to pressure switch wiring
SMOKE DISCHARGE OBSTRUCTED	Check for obstructions in the flue
INCORRECT WIRING	Check wiring connections
HIGH EXTRACTOR SPEED	Reduce extractor speed to TF31
PRESSURE PIPE CLOGGED	Remove and clean pipe

Code 08 DEPRESSURIZATION (in working phase)

PELLET DOES NOT DROP DOWN

PRESSURE SWITCH FAILURE	Connect terminals to pressure switch wiring
SMOKE DISCHARGE OBSTRUCTED	Check for obstructions in the flue
INCORRECT WIRING	Check wiring connections
PRESSURE PIPE CLOGGED	Remove and clean pipe

Code 06 PELLETS USED UP

STOVE IS OFF

TANK IS EMPTY	Fill tank with pellets
STRONG DRAW IN SMOKESTACK FLUE (flame goes out)	Adjust the flow parameters to the various power levels
PELLET LOADER MALFUNCTIONING	Check functioning of a were, if jammed due to a mechanical or electrical defect (gear motor)
STOVE TRANSITIONS TO WORKING PHASE UNDER THRESHOLD NO PELLETS	Lower threshold value TF41

EXTRACTOR SPEED Code12

THE SMOKE EXTRACTOR DOES NOT FUNCTION PROPERLY

DIRT ON THE BLADES	Cleaning of fan blades
FOREIGN BODY IN EXTRACTOR	Removal of foreign body that hits against the fan blades
SUDDEN DROP IN PRESSURE IN THE ELECTRONICS BOARD	Check the electric cabinet and/or The power supply of the board

Code 04 AND EXTRACTOR MALFUNCTIONING

ELECTRONICS BOARD DOES NOT RECOGNIZE OPERATION

ENCODER NOT CONNECTED PROPERLY	CHECK CONNECTION OF WIRING HARNESS
CONDENSER FAILURE	Replace the condenser
ERRONEOUS INSERTION OF CONNECTOR INTO BOARD	Check connection between white connector and the board
SMOKE EXTRACTOR MALFUNCTIONING	Verify its operation by connecting it directly to the 220V. If it is, replace the smoke extractor
BOARD CANNOT READ EXTRACTOR RPM	Replace electronics board

Code 03 TEMPERATURE SMOKE

STOVE IS OFF

- Low extractor speed or pellet load excessive → Check specific parameters of screw pump and extractor speed
- Smoke Sensor too deeply inserted → Move smoke Sensor
- Smoke loop clogged → Clean this goes
- EXCHANGER MALFUNCTIONING or BROKEN → Directly connect to the 220v and in the event of replacing the exchanger
- Insufficient exchange of the machine body (e.g. gamma BOX) → Increase ventilation on the housing where the stove is located

Code 02 SMOKE SENSOR

STOVE IS OFF

- Smoke sensor not connected to the BOARD OR CONNECTOR → Connect Sensor in the connector and to the motherboard
- Damaged SMOKE SENSOR → Check the reading in STOVE STATUS; in case of out of range Reading (>300°C), replace the smoke Sensor

Code 01 BLACK OUT

STOVE IS OFF

- ELECTRICAL POWER OUTAGE → Check to see if the electrical components are short circuited or not
  - Check electrical system of plant premises
  - Reset by pressing the OK key and turn on again

Code 09 AIR FLOW METER MALFUNCTIONING

STOVE TRANSITIONS TO MANUAL MODE
Forced to power 1

- CONNECTION CABLE or EFFECTIVE AIR FLOW METER → Check for interruptions in the connection cables
  - CHECK CONNECTIONS TO THE AIR FLOW METER
  - Replace the air flow meter

Warning: CLEAN BRAZIER

THE HEATER IS OFF

OPEN DOOR DROP or	**Check the proper closing of the door, the seal of gaskets and closing the ash tray**
INCORRECT SETTING OF PARAMETERS	**Perform the RDS SYSTEM REGULATION procedure as described in this manual**
BRAZIER CLOGGED	**Check filling of holes in brazier and the proper position in its housing**
SMOKE PASSAGE CLOGGED	**Make sure smoke path inside the oven is not clogged with combustion residues from the pipe next to the discharge pipe**
AIR FLOW METER DIRTY	**Check differences in the reading of the flow meter before and after cleaning it, to make sure the stove is clean Final run with stable rpm and reading that value in STOVE STATUS**

Code 15 TRIAC SCREW PUMP

THE HEATER IS OFF

SCREW PUMP TRIAC COMPONENT MALFUNCTIONING	**Replace the electronic board**

Code 14 SCREW PUMP PHASE

THE HEATER IS OFF

IMPROPER SEAMING OF FASTON or SCREW PUMP WIRING HARNESS INTERRUPTED	**Check with a tester that the alternate voltage reaches both ends Of the screw pump gear motor**

Code 10 HOT WATER

WATER OVERHEATING INSIDE THE BOILER

NB: CIRCULATOR FAILURE Check the wiring, otherwise

CIRCULATION BLADES STOPPED	**Bleed the system using bleed screw at rear of circulator**
CIRCULATOR FAILURE	**Check the wiring, otherwise replace the component**

Code 16 PRESSURE

Lack of pressure or excessive pressure inside the hydraulic circuit

NB: Check in STOVE STATUS the pressure in the circuit, being especially careful about the proper dimensioning of the expansion vessel

- Pressure under 0.5 BAR → Fill the tank circuit up to 1.2 bar cold
- PRESSURE OVER 2.5 BAR → Vent the valve on the stove body and the vent valves of the circuit

The infrared remote control signals NO FIELD

- BATTERIES DEPLETED → Replace batteries
- FIELD INTERFERENCE → Associate the free channel by following the procedure indicated in the user manual or installer manual
- POWER OUTAGE → Check stove power supply (BOX model – SAFETY MICRON)

The heater has no power (display off and lack of power to the motors)

STOVE IS NOT FED

- INCORRECT CONNECTION IN BOARD → Check electrical wiring
- BURNT FUSE → Check interruption of fuses in the board and in the network filter

The writing on the display is not being read correctly

DISPLAY FAILURE

- CONNECTION BETWEEN CABLE AND DISPLAY INCORRECT → Ensure correct polarity of the electrical cables
- CABLE DAMAGED → Replace connection cable
- OVERHEATING STOVE BODY → Increase ambient ventilation and check the correct combustion (e.g. excessive pellet load)

DISPLAY WITH WRITING UPSIDE DOWN

- SURGE TO ELECTRONICS BOARD → Cut power to stove and hold down the OK key to restore power to the same. Do not release the OK key until the correct screen appears.

Notes:

Ravelli srl
Via Kupfer, 31 - 25036 Palazzolo sull'Oglio / BS - ITALY
Tel. +39 030-7402939
Fax +39 030-7301758
Internet: www.ravelligroup.it
E-mail : info@ravelligroup.it