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03082010f-GB

HAAS+SOHN

# TECHNICAL DOCUMENTATION

## Grand Max plus 11

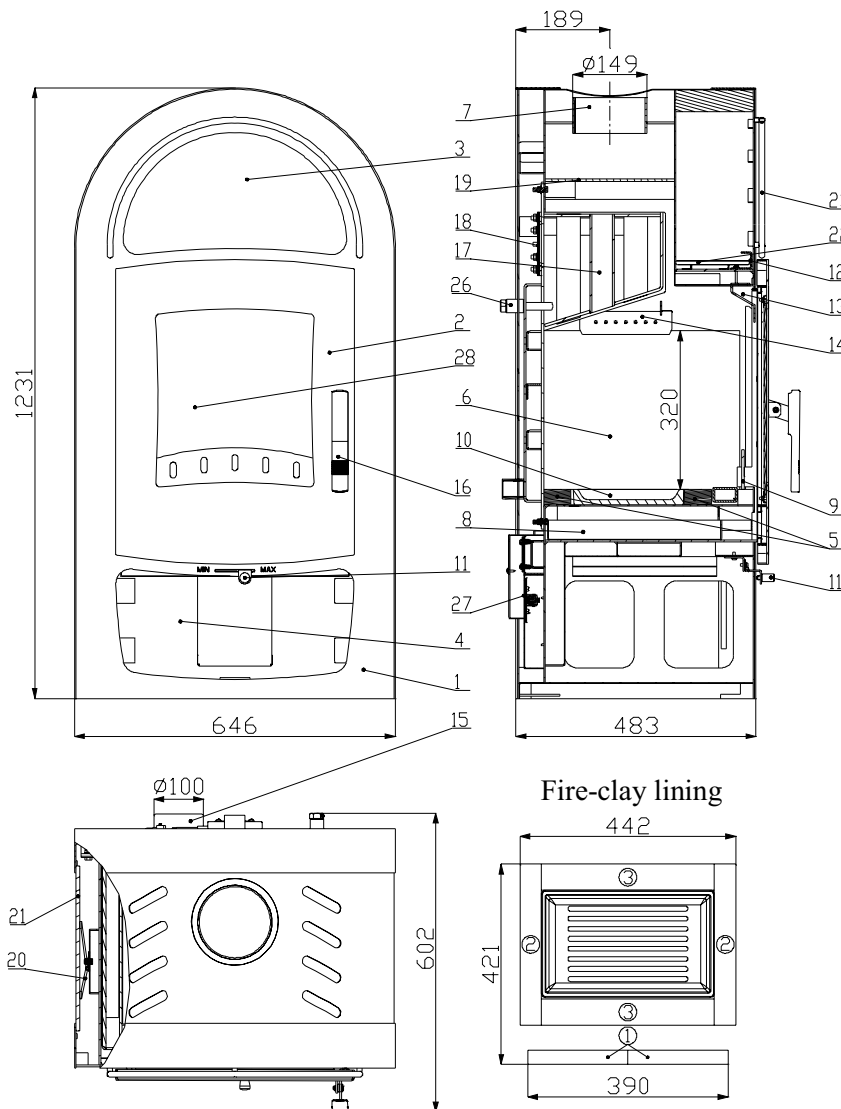
### with exchanger





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## TECHNICAL SHEET of the fireplace stove **Grand Max plus 11** with exchanger



### **Suitable fuel:**

As concerns suitable fuel to be employed, see the chapter **2.2 Fuel** in the General Manual of Operation.

### **Proper operation:**

As concerns the proper and safe operation of the fireplace stove, see the chapters **2. Description of the combustion process** and **5. Operating instructions** in the General Manual of Operation.

**The heat exchanger can be removed and substituted with a blind flange.**

**The loop cover on the heat exchange unit is removable and you can replace it with a cooling loop unit.**

| Fire-clay No. | Dimension | Goods No.     |
|---------------|-----------|---------------|
| 1             | 30x30x195 | 0431317005501 |
| 2             | 30x40x338 | 0431317005502 |
| 3             | 30x55x362 | 0431317005503 |
|               |           |               |

### TECHNICAL DESCRIPTION:

| Position | Name                              | Goods No.     | Position | Name  | Goods No.     |
|----------|-----------------------------------|---------------|----------|---|---------------|
| 1        | Stove body                        | -             | 22       | Lining of the oven  | -             |
| 2        | Fire-box door                     | 0431317015300 | 23       | Decorative arch   | 0084010040005 |
| 3        | Oven                              | -             | 24       | Outlet of heating water G1"   | -             |
| 4        | Fuel bunker                       | -             | 25       | Intake of return water G1"  | -             |
| 5        | Fire-clay lining                  | -             | 26       | Thermowell for exchange unit thermostatic sensor G1/2"                | 0431317006050 |
| 6        | Heat exchanger side               | -             | 27       | Automatic air control (flap)  | 0431317006601 |
| 7        | Smoke flue neck                   | -             | 28       | Refractory glass  | 0473017105301 |
| 8        | Ash pan                           | 0464017116600 | 29       | Oven panelling - left/beige   | 0431317006111 |
| 9        | Protection                        | 0431317015008 | 30       | Oven panelling - right/beige  | 0431317006112 |
| 10       | Cast-iron grate                   | 0020100100006 | 31       | Panelling/beige   | 0061001000205 |
| 11       | Controller of primary air         | 0082010010005 | 32       | Panelling - lower/beige   | 0431317006113 |
| 12       | Controller of secondary air       | 0431317005009 | 33       | Thermowell for cooling loop G 1/2" thermostatic sensor                | -             |
| 13       | Intake of secondary air           | -             | 34       | Intake of cooling liquid G3/8"  | -             |
| 14       | Intake of tertiary air            | -             | 35       | Outlet of cooling liquid G3/8"  | -             |
| 15       | External intake of air (dia. 100) | -             | 36       | Coolant loop  | 0431317006064 |
| 16       | Lever lock of the fire-box door   | 0431317015318 |          |   |               |
| 17       | Heat exchanger                    | 0431317006000 |          |   |               |
| 18       | Loop cover                        | 0431317006061 |          |   |               |
| 19       | Lip - fixed                       | -             |          | Sealing cord of the door 14 mm (2220 mm)                              | 0040014140005 |
| 20       | Spring holder of the lining       | 0088400010005 |          | Glass holder sealing rope 8x2 mm (96 mm)                              | 0040208020006 |
| 21       | Lining of the shell               | -             |          | Sealing cord of the glass and of the exchanger 10x4 mm (1380/2650 mm) | 0040210040005 |



## TECHNICAL INFORMATION

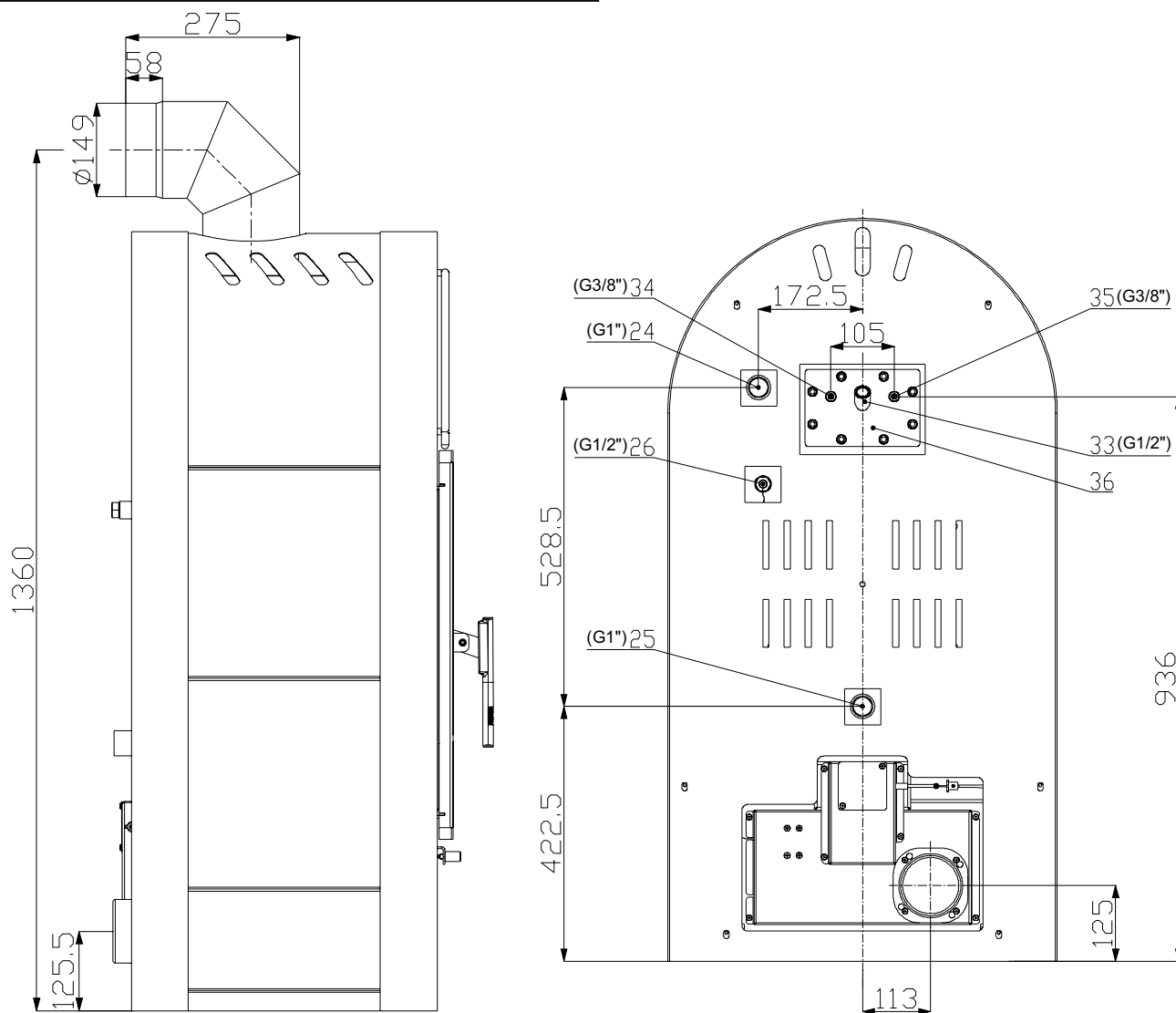
### INSTRUCTIONS FOR THE CONTROL OF COMBUSTION PROCESS:

| Fuel                         | Output of the heating device |          |             |          |               |          |                  |     |
|------------------------------|------------------------------|----------|-------------|----------|---------------|----------|------------------|-----|
|                              | 100%                         | 33%      | 100%        | 33%      | 100%          | 33%      | 100%             | 33% |
|                              | Amount of fuel               |          | Primary air |          | Secondary air |          | Tertiary air     |     |
| <b>Blockwood</b>             | 4 kg/h                       | 1,3 kg/h | open 10%    | open 10% | open 100%     | open 50% | non-controllable |     |
| <b>Ecological briquettes</b> | 4,1 kg/h                     | 1,4 kg/h | open 10%    | open 10% | open 100%     | open 50% | non-controllable |     |
| <b>Coal briquettes</b>       | 2,2 kg/h                     | 0,7 kg/h | open 100%   | open 50% | open 100%     | open 50% | non-controllable |     |

| TECHNICAL DATA:   | Blockwood              | Ecological briquettes | Coal briquettes         |   |                                     |       |
|---|------------------------|-----------------------|-------------------------|---|-------------------------------------|-------|
| Achieved heat output (100%)   | 15 kW                  | 15 kW                 | 10,5 kW                 | Height  | 1231 mm                             |       |
| Reduced heat output (33%)   | 4,9 kW                 | 4,9 kW                | 3,5 kW                  | Width   | 646 mm                              |       |
| Output delivered by the stove body only                               | 3,8 kW                 | 3,7 kW                | 2,2 kW                  | Depth   | 483 mm                              |       |
| Output available for heating of water                                 | 11,2 kW                | 11,3 kW               | 8,3 kW                  | Weight  | 225 kg                              |       |
| Maximum stoking amount of the fuel                                    | 4 kg/h                 | 4,1 kg/h              | 2,2 kg/h                | Diameter of the smoke flue                        | 150 mm                              |       |
| Average temperature of combustion products behind the smoke flue neck | 273 °C                 | 270 °C                | 225 °C                  | Maximum operating over-pressure of the exchanger  | 0,3 MPa                             |       |
| Maximum mass flow of dry combustion products                          | 11,8 g/s               | 12,8 g/s              | 17,4 g/s                | Water contents of the exchanger                   | 29,5 l                              |       |
| Energy efficiency   | 82,3 %                 | 83,5 %                | 73 %                    | Recommended heat gradient (t output – t input)    | 75 - 60 °C                          |       |
| Average concentration of CO <sub>2</sub>                              | 9,6                    | 9,4                   | 4,8                     | Min. chimney stack draught in the smoke flue neck | 12 Pa                               |       |
| Concentration of CO in combustion products at 13 % O <sub>2</sub>     | 0,50                   | 0,25                  | 0,24                    | Heating capacity (middle heat losses ) at 15 kW   | cca. 270 m <sup>3</sup>             |       |
| The amount of combustion air at nominal output                        | 8,6 m <sup>3</sup> /kg | 9 m <sup>3</sup> /kg  | 25,5 m <sup>3</sup> /kg | Controllable output                               | 3,5 – 15 kW                         |       |
| Tested in compliance with EN 13 240:2001/A2:2004 a ČSN 06 1008:1997   |                        |                       |                         | CE  | Maximum temperature of output water | 80 °C |

**DIMENSIONED DIAGRAM OF THE FIREPLACE STOVE WITH INSTALLATION OF KNEE-PIECE FOR EXHAUST OF COMBUSTION PRODUCTS, DELIVERED AS OPTIONAL ACCESSORY**

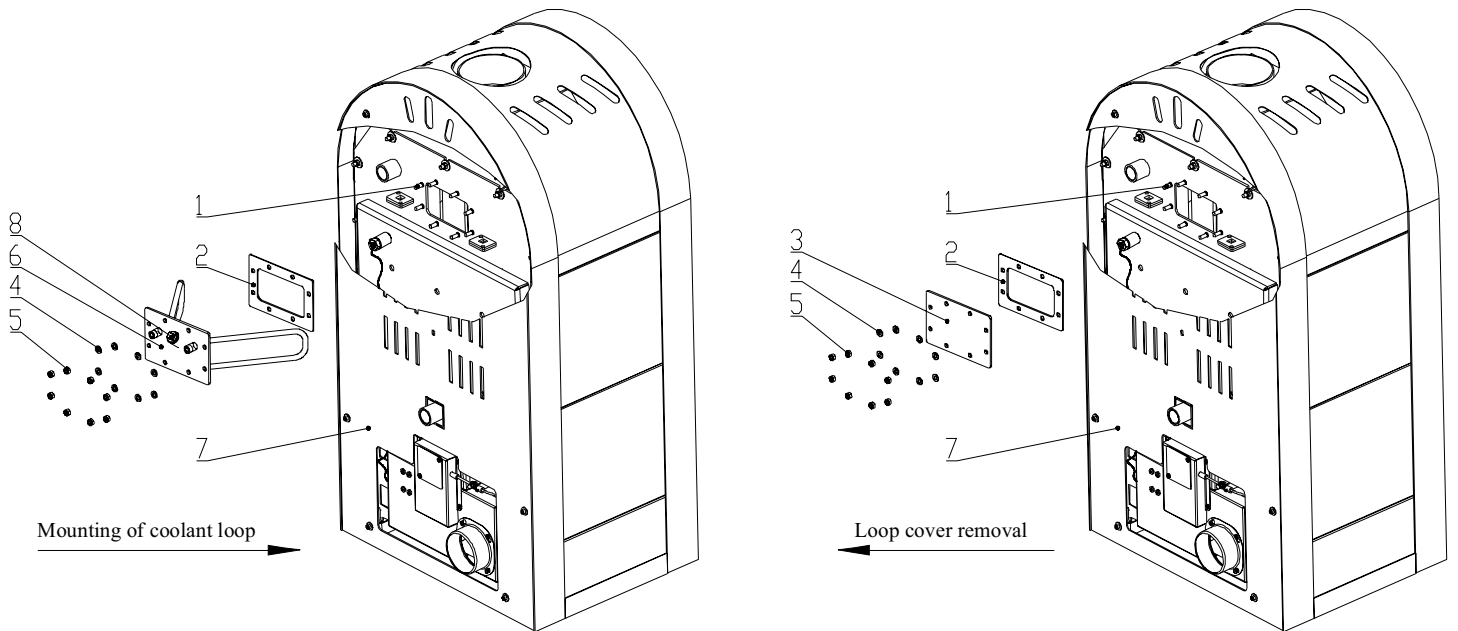
**REAR VIEW OF THE EXCHANGER AND COOLANT LOOP**





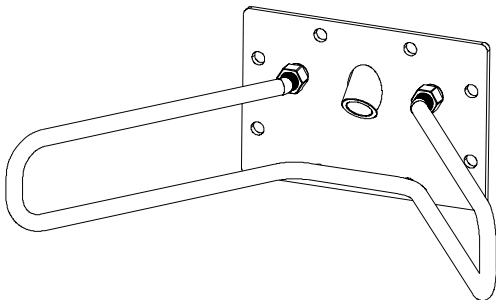
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## INSTALLATION OF THE COOLANT LOOP

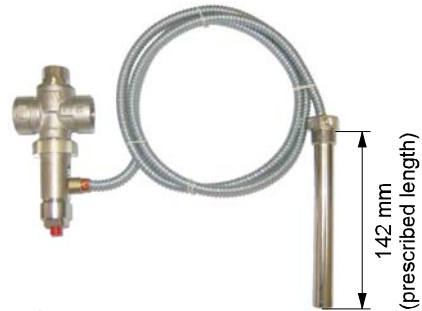


| Legend:       |       |  |       |
|---------------|-------|--|-------|
| 1. Screw M8   |       | 5. Nut M8  | 8 pcs |
| 2. Sealing    | 1 pcs | 6. Coolant loop  | 1 pcs |
| 3. Loop cover | 1 pcs | 7. Rear cover (remove it for installation of the cooling unit) | 1 pcs |
| 4. Washer M8  | 8 pcs | 8. Thermowell for temperature safety valve                     |       |

**COOLANT LOOP**  
(not included in the scope of the delivery)



**SAFETY THERMO VALVE (example: STS20)**  
(not included in the scope of the delivery)



## HOW TO HANDLE THE COOLING LOOP IN THE HEAT EXCHANGE UNIT

