TopGas®
Wall Hung Condensing Gas Boiler

Technical Data
Output range 35 to 120 kW

Subject to modifications
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**TopGas condensing boiler with Hoval UltraClean® combustion system for high efficiency/low NOx operation:**
The Hoval TopGas® condensing boiler meets both environmental and economical demands by coupling high efficiency with low emissions. It features the Hoval UltraClean® combustion system with pre-mix down firing burner. This advanced burner is fundamental to the boiler achieving efficiencies of up to 109.4% net, NOx levels as low as 26 mg/kWh and CO as low as 9 mg/kWh.

**Premix modulating burner operation:**
With a turndown ratio of up to 5:1:1 the modulating burner ensures optimum load matching and peak seasonal performance. The pre-mix burner automatically adjusts the air/gas mixture for optimal proportions for the variable output range. The pre-mix burner is suitable for either natural gas or propane operation.

**Applications:**
TopGas® condensing boilers are suitable for closed central heating and domestic hot water primary supply systems. The condensing operation also makes them suitable for underfloor heating installations which require lower flow/return temperatures. A range of matched calorifiers and Hoval pressurisation units are available. Hoval approved concentric flue kits are available ex-stock to assist with site installation.

**Low acoustic power and pressure levels:**
The TopGas® is surprisingly quiet. A variable speed fan and a sophisticated noise containment system ensure up to 50% lower noise emissions.

**Easy maintenance guaranteed:**
Numerous, well thought out details ensure low operating costs and high convenience of maintenance in the TopGas®. All the components are easily accessible, simple to clean and can be rapidly and cheaply replaced in the event of a fault.

**Controls:**
The control panel is ergonomically designed for ease of operation and is housed within the front of the boiler casing. An electronic control module controls all the safety aspects of the burner together with modulation control, temperature display, fault diagnostics, integrated frost protection and pump overrun. Space is also included for an optional TopTronic® E controller. Another available option is the TopTronic® Room Station type RS-OT, this allows room and outdoor temperature monitoring and control for one direct heating circuit.

**TopTronic® E touchscreen control:**
A TopTronic® E controller (optional) can control a boiler circuit, mixed circuit and calorifier primary pump simultaneously. Up to eight boilers can be linked together to provide sequence control. Additional features such as an extra mixed circuit, solar and buffer vessel control can be added with optional expansion modules.

**Greater efficiency through modulation:**
The controls of the TopGas® adapt the output of the burner on a smooth curve to match the required heat demand. Through modulating operation, the downtimes of the burner are significantly reduced. This means that loss of cooling is reduced, thus saving energy, and the working life of the boiler is increased because the burner is not constantly firing at full rate. Due to the less frequent starting of the burner, the peak emissions which occur in the starting and shutdown phase of the burner are substantially reduced so lowering the environmental impact.

**BMS control:**
The operation of each boiler can be controlled via a 0-10V input signal (by the addition of an optional interface module). This allows control of either the burner firing rate or the boiler operating temperature set point.

**Low impact on the environment:**
Through the revolutionary UltraClean® combustion system, emissions from the TopGas® meet the strictest target and limit values for emissions anywhere in the world.

**Assembly and delivery:**
TopGas® (35-80) boilers are supplied fully assembled and cased.

**Concentric flue parts:**
A range of concentric flue parts are available to suit all needs ranging from wall terminals to straights and bends (see the accessories section). All items finished in white RAL 9016.

**Safety valve setting:**
Where the optional TopGas® (35-80) and TopGas® (100-120) boiler flow and return connection sets are fitted, the maximum boiler working pressure is 2.5 bar due to the 3.0 bar preset lift pressure of the safety valve included in each connection set.

**TopGas® Cascade kits:**
A range of TopGas® Cascade kits are available for a combined output up to 720kW. Please see separate technical information for full details.

**IMPORTANT NOTE:**
Where the Hoval UK 150/100 concentric flue system is to be used with a TopGas boiler then the flue spigot transition piece (Part No 2069694) must be fitted to the boiler and clamped into position. The remaining flue parts to the terminal piece are then push fit. Ideally the vertical adapter piece (Part No 2042406), which includes the sampling points, must be fitted to the transition piece to ensure that flue gas sampling can be carried out close to the boiler. If the headroom immediately above the boiler is limited then it would be acceptable to fit this part in the horizontal directly after the bend provided that it is positioned in such a way that condensate is not able to leak from the sample points in the flue. Care should therefore be exercised when fitting this flue part.

ErP labelling classification for boilers to 70kW.
### Technical data

#### TopGas® (35-60)

<table>
<thead>
<tr>
<th>Type</th>
<th>kW</th>
<th>35</th>
<th>45</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal output 80/60 °C with natural gas</td>
<td>6.7-32.5</td>
<td>7.66-41.5</td>
<td>11.06-56.6</td>
<td></td>
</tr>
<tr>
<td>Nominal output 40/30 °C with natural gas</td>
<td>7.42-35.47</td>
<td>8.5-45.25</td>
<td>12.25-62.0</td>
<td></td>
</tr>
<tr>
<td>Nominal output 80/60 °C with propane</td>
<td>9.5-32.5</td>
<td>10.4-41.5</td>
<td>14.06-56.6</td>
<td></td>
</tr>
<tr>
<td>Nominal output 40/30 °C with propane</td>
<td>10.5-36.3</td>
<td>11.45-45.8</td>
<td>15.5-61.1</td>
<td></td>
</tr>
<tr>
<td>Nominal load with natural gas</td>
<td>6.9-33.0</td>
<td>7.9-42.1</td>
<td>11.4-57.7</td>
<td></td>
</tr>
<tr>
<td>Nominal load with propane</td>
<td>9.8-33.0</td>
<td>10.7-42.1</td>
<td>14.5-57.7</td>
<td></td>
</tr>
</tbody>
</table>

- Working pressure heating max./min.: bar 4 / 1 4 / 1 4 / 1
- Working temperature max.: °C 85 85 85
- Boiler water content: l 4.0 4.0 5.4
- Min. water flow rate: l/h 300 350 470
- Boiler weight (without water, incl. casing): kg 89 89 99

- Boiler efficiency at full load 80/60 °C (related to net calorific value NCV/ gross calorific value GCV): % 99.8/89.9 99.0/89.2 99.4/89.6
- Boiler efficiency at partial load 30% (according to EN 303) (related to net calorific value NCV/ gross calorific value GCV): % 110.5/99.6 110.5/99.6 110.4/99.5
- Part L UK Seasonal efficiency: % 97.8 97.6 97.6
- Heat loss rate at 70°C: Watt 95 95 105
- Standard emission rate: Nitrogen oxides mg/kWh 27 28 27
- Content of CO₂ in the exhaust gas max./min. output: % 8.8 / 8.8 8.8 / 8.8 8.8 / 8.8

#### Dimensions

- See table of dimensions

#### Connections

- Flow/return Inches Rp 1 ¼" Rp 1 ¼" Rp 1 ¼"
- Gas Inches R ¾" R ¾" R ¾"
- Flue gas/combustion air Ø C100/150 C100/150 C100/150

#### Gas flow pressure min./max.

- Natural gas mbar 17.4-50 17.4-50 17.4-50
- Liquid gas mbar 37-50 37-50 37-50

#### Gas connection value at 0 °C / 1013 mbar:

- Natural gas E - (Wo = 15.0 kWh/m³) Hₑ = 9.97 kWh/m³ m³/h 3.3 4.2 5.8
- Propane (Hₑ = 25.9 kWh/m³) m³/h 1.31 1.65 2.20

#### Operating voltage

- V/Hz 230/50 230/50 230/50

#### Control voltage

- V/Hz 24/50 24/50 24/50

#### Min./max. electrical power consumption

- Watt 21/65 21/78 25/102

#### Stand-by electrical consumption

- Watt 7 7 7

#### IP rating (integral protection)

- 20 20 20

#### Acoustic power level

- Heating noise (EN 15036 part 1) (room air dependent) dB(A) 61 61 63
- Acoustic pressure level (depending on installation conditions) dB(A) 40-50 40-50 40-50

#### Condensate quantity (natural gas) at 40/30 °C l/h 3.1 4.0 5.4

#### pH value of the condensate

- 4.6-4.6 4.6-4.6

#### Values for flue calculation

- Temperature class T120 T120 T120
- Flue gas mass flow kg/h 54.8 70.6 95.1
- Flue gas temperature with operating conditions 80/60 °C °C 61.5 65.3 65.6
- Flue gas temperature with operating conditions 40/30 °C °C 40.3 45.5 44.8
- Volume flow rate combustion air Nm³/h 41.3 53.1 71.6
- Excess pressure for combustion air/ flue gas system Pa 120 120 140
- Maximum draught / depression at flue gas outlet Pa -50 -50 -50

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1 TopGas® can also be operated with propane/butane (liquid gas) mixtures.

TopGas® condensing boilers are suitable for closed central heating and domestic hot water primary supply systems.

### Ventilation

For installations not exceeding 70 kW total nominal input (net) refer to BS5440-2:current edition.

For installations over 70 kW total nominal input (net) both high and low level ventilation is required, this should be calculated to BS6644:current edition.
### Technical data

**TopGas® (80-120)**

<table>
<thead>
<tr>
<th>Type</th>
<th>(80)</th>
<th>(100)</th>
<th>(120)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal output 80/60 °C with natural gas kW</td>
<td>13.3-73.7</td>
<td>19.1-90.4</td>
<td>20.4-107.6</td>
</tr>
<tr>
<td>Nominal output 40/30 °C with natural gas kW</td>
<td>47.7-81.0</td>
<td>21.3-100.0</td>
<td>22.7-120</td>
</tr>
<tr>
<td>Nominal output 80/60 °C with propane kW</td>
<td>18.4-73.7</td>
<td>22.9-90.4</td>
<td>23.7-107.6</td>
</tr>
<tr>
<td>Nominal output 40/30 °C with propane kW</td>
<td>20.3-79.9</td>
<td>25.3-100.0</td>
<td>26.1-120</td>
</tr>
<tr>
<td>Nominal load with natural gas kW</td>
<td>13.7-75.4</td>
<td>19.8-93</td>
<td>21.1-111.5</td>
</tr>
<tr>
<td>Nominal load with propane kW</td>
<td>19.0-74.4</td>
<td>23.7-93</td>
<td>24.6-111.5</td>
</tr>
<tr>
<td>Working pressure heating max./min. bar</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Working temperature max. °C</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>Boiler water content l</td>
<td>5.4</td>
<td>7.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Min. water flow rate l/h</td>
<td>550</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>Boiler weight (without water, incl. casing) kg</td>
<td>99</td>
<td>116</td>
<td>116</td>
</tr>
<tr>
<td>Boiler efficiency at full load 80/60 °C %</td>
<td>98.8/89.0</td>
<td>98.3/88.6</td>
<td>97.7/88.0</td>
</tr>
<tr>
<td>Boiler efficiency at partial load 30% (according to EN 303) %</td>
<td>110.8/99.5</td>
<td>110.9/99.9</td>
<td>109.0/98.2</td>
</tr>
<tr>
<td>Part L UK Seasonal efficiency %</td>
<td>97.5</td>
<td>97.8</td>
<td>96.3</td>
</tr>
<tr>
<td>Boiler efficiency at 70°C Watt</td>
<td>105</td>
<td>115</td>
<td>115</td>
</tr>
<tr>
<td>Standard emission rate Nitrogen oxides mg/kWh</td>
<td>28</td>
<td>28</td>
<td>27</td>
</tr>
<tr>
<td>Content of CO₂ in the exhaust gas max./min. output %</td>
<td>8.8 / 8.8</td>
<td>8.8 / 8.8</td>
<td>9.2/8.8</td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Connections | Flow/return Gas | Inches | Rp 1 ¼" | Rp 1 ½" | Rp 1 ½"
| | Flue gas/combustion air Ø mm | C100/150 | C100/150 | C100/150 |
| Gas flow pressure min./max. | Natural gas mbar | 17.4-50 | 17.4-50 | 17.4-50 |
| | Liquid gas mbar | 37-50 | 37-50 | 37-50 |
| Gas connection value at 0 °C / 1013 mbar: | Natural gas (E - (Wo = 15.0 kWh/m³)) H₂ = 9.97 kWh/m³ m³/h | 1.37-7.5 | 1.98-9.32 | 2.04-10.7 |
| | Propane (H₂ = 25.9 kWh/m³) m³/h | 0.73-2.88 | 0.91-3.59 | 0.95-4.17 |
| Operating voltage V/Hz | 230/50 | 230/50 | 230/50 |
| Control voltage V/Hz | 24/50 | 24/50 | 24/50 |
| Min./max. electrical power consumption Watt | 26/138 | 24/168 | 24/202 |
| Min./max. electrical power consumption Watt | 2 | 7 | 7 |
| IP rating (integral protection) | 20 | 20 | 20 |
| Acoustic power level | Heating noise (EN 15036 part 1) (room air dependent) dB(A) | 63 | 63 | 63 |
| | Acoustic pressure level (depending on installation conditions) dB(A) | 45-55 | 45-55 | 45-55 |
| Condensate quantity (natural gas) at 40/30 °C l/h | 7.1 | 8.9 | 10.3 |
| pH value of the condensate | 4-6 | 4-6 | 4-6 |
| Values for flue calculation | Temperature class | T120 | T120 | T120 |
| Flue gas mass flow kg/h | 124.5 | 155 | 186 |
| Flue gas temperature with operating conditions °C | 74.4 | 69 | 74.9 |
| Flue gas temperature with operating conditions °C | 52 | 48 | 52.7 |
| Volume flow rate combustion air Nm³/h | 92.8 | 115.2 | 132.3 |
| Excess pressure for combustion air/ flue gas system Pa | 140 | 140 | 140 |
| Maximum draught / depression at flue gas outlet Pa | -50 | -50 | -50 |

1. TopGas® can also be operated with propane/butane (liquid gas) mixtures.

TopGas® condensing boilers are suitable for closed central heating and domestic hot water primary supply systems.

**Ventilation**

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For installations over 70 kW total nominal input (net) both high and low level ventilation is required, this should be calculated to BS6644:current edition.
TopGas® 35 - 120 kW

Technical data

Flow resistance on the heating water side
Hoval TopGas® (35,45)

Maximum residual overpressure
with connection set AS32-TG/SPS 6 PM1
Hoval TopGas® (35,45)

Maximum residual overpressure
with connection set AS32-TG/UPM GEO 32-85
Hoval TopGas® (35,45)

Flow resistance on the heating water side
Hoval TopGas® (100,120)

Flow resistance on the heating water side
Hoval TopGas® (60,80)
Dimensions

**TopGas® (35 - 80)**
(All Measurements in mm)

Clearances
- Right/Left 50mm
- Space to ceiling dependent on the flue gas system (300mm with Hoval horizontal wall terminal kit)
- Front 500mm

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TopGas® (35-80) boilers are supplied fully assembled and cased

1. Gas connection R ¾”
2. Flow G 1¼”
3. Return G 1¼”
4. Condensate drain DN 32
5. Concentric flue connection DN 100/150
6. Automatic air vent
7. Hinged control panel cover
8. Safety valve (optional, see connection set)
9. Drain valve (optional, see connection set)
Dimensions

**TopGas® (100,120)**
(Measurements in mm)

Clearances
- Right/Left: 50mm
- Space to ceiling dependent on the flue gas system (300mm with Hoval horizontal wall terminal kit)
- Front: 500mm

TopGas® (100,120) boilers are supplied fully assembled and cased.

An optional connection set and pump are available - see accessories for details.

1. Gas connection R ¾”
2. Flow R 1½”
3. Return R 1½”
4. Condensate drain DN 40
5. Concentric flue connection DN 100/150mm
6. Hinged control panel cover
7. Automatic air vent
Accessories

**Boiler controller with heating controller set RS-OT**

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating controller set RS-OT</td>
<td>6020 566</td>
</tr>
<tr>
<td>(Not for mixing operation!)</td>
<td></td>
</tr>
<tr>
<td>For 1 heating circuit without mixing operation</td>
<td></td>
</tr>
<tr>
<td>Flow temperature control controlled by atmospheric conditions with outer</td>
<td></td>
</tr>
<tr>
<td>temperature sensor AF 120</td>
<td></td>
</tr>
<tr>
<td>water heater sensor TF 25/ 12K</td>
<td></td>
</tr>
<tr>
<td>and overridable room temperature sensor.</td>
<td></td>
</tr>
<tr>
<td>Can be implemented as a room temperature control without outdoor sensor.</td>
<td></td>
</tr>
<tr>
<td><strong>TopGas® (35-120)</strong></td>
<td></td>
</tr>
<tr>
<td>For integration into boiler control panel:</td>
<td></td>
</tr>
<tr>
<td>Mounting set RS-OT must be ordered.</td>
<td></td>
</tr>
</tbody>
</table>

**Mounting set RS-OT**

Assembly set for mounting of heating controller set RS-OT into boiler

**BMS module 0-10 V/OT - OpenTherm**

*(building management system)*

No control unit TopTronic® E or RS-OT necessary

Power supply via OT bus

Temp. control external with 0-10 V

0-1.0 V no demand

1.0-9.5 V ......0-100°C

TopGas® (35-120), Can be installed in boiler control panel
Accessories

**Boiler controller with heating controller set TopTronic® E ZE1**

*Heating controller set TopTronic® E ZE1*

*(Can be built in) as supplement for basic boiler control panel G04.*

- Installation of the TopTronic® E control module in the front of the control panel
- Installation of the TopTronic® E basic module heat generator in the controller

**Notice**

No additional module expansions or controller modules can be installed in the boiler control panel! This means an additional mixer circuit must be implemented using the TopTronic® E heating circuit/hot water module in an external wall casing.

- Can be optionally networked with a total of up to 16 controller modules (incl. solar module)

Consisting of:
- TopTronic® E control module
- TopTronic® E basic module heat generator
- Rast-5 basic plug set
- fitting accessories
- 1 pce. outdoor sensor AF/2P/K
- 1 pce. immersion sensor TF/2P/5/6T/S1, L = 5.0 m with plug
- 1 pce. contact sensor ALF/2P/4/T/S1, L = 4.0 m with plug
- cable set ZE1

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**For RS-OT and TopTronic® E ZE1**

**Flow temperature guard**

for underfloor heating (per heating circuit 1 guard)

- 15-95 °C, differential gap 6 K, capillary tube max. 700 mm, setting (visible from the outside) inside the housing cover

**Clamp-on thermostat**  
RAK-TW1000.S

Thermostat with strap, without cable and plug
Accessories

**TopTronic® E module expansions**  
for TopTronic® E basic module heat generator

**TopTronic® E module expansion heating circuit TTE-FE HK**  
Expansion to the inputs and outputs of the basic module heat generator or the heating circuit/domestic hot water module for implementing the following functions:  
- 1 heating circuit without mixer or  
- 1 heating circuit with mixer

incl. fitting accessories  
1x contact sensor ALF/2P/4/T L = 4.0 m

Can be installed in:  
Wall housing, control panel

**Note**  
The supplementary plug set may have to be ordered to implement functions differing from the standard! Consult Hoval Technical for site specific requirements.

**TopTronic® E module expansion heat accounting TTE-FE WMZ/EBZ**  
Expansion to the inputs and outputs for the basic module heat generator for implementing the following functions:  
- Calculating total energy consumption  
- Calculating the heat generator energy for heating  
- Calculating the heat generator energy for hot water

incl. fitting accessories  
3x contact sensor ALF/2P/4/T L = 4.0 m

Can be installed in:  
Wall housing, control panel

**Note**  
The flow rate sensor set must be ordered as well.

**Flow rate sensor sets**

| Size  | G | Flow rate l/min | DN 8 | G ¾" | 0.9-15 | 6038 526  
|-------|---|----------------|------|-------|--------|  
| DN 10 | G ½" | 1.8-32 | 6038 507  
| DN 15 | G 1" | 3.5-50 | 6038 508  
| DN 20 | G 1¼" | 5-85 | 6038 509  
| DN 25 | G 1½" | 9-150 | 6038 510  

**TopTronic® E module expansion Universal TTE-FE UNI**

Expansion to the inputs and outputs of a controller module (basic module heat generator, heating circuit/domestic hot water module, solar module, buffer module) for implementing various functions

incl. fitting accessories

Can be installed in:  
Wall housing, control panel
Accessories

**Supplementary plug set**
for basic module heat generator (TTE-WEZ) 6034 499
for controller modules and module expansion TTE-FE HK 6034 503

**TopTronic® E controller modules**
TTE-HK/WW TopTronic® E heating circuit/ hot water module 6034 571
TTE-SOL TopTronic® E solar module 6037 058
TTE-PS TopTronic® E buffer module 6037 057
TTE-MWA TopTronic® E measuring module 6034 574

**TopTronic® E room control modules**
TTE-RBM TopTronic® E room control modules easy white 6037 071
comfort white 6037 069
comfort black 6037 070

**Enhanced language package TopTronic® E**
one SD card required per control module
Consisting of the following languages: HU, CS, SK, RO, PL, TR, ES, HR, SR, PT, NL, DA 6039 253

**TopTronic® E remote Gateway connection**
TTE-GW TopTronic® E online LAN 6037 079
TTE-GW TopTronic® E online WLAN 6037 078
SMS remote control unit 6018 867
System component SMS remote control unit 6022 797

**TopTronic® E interface modules**
GLT module 0-10 V 6034 578
Gateway module ModBus TCP/RS485 6034 579
Gateway module KNX 6034 581

**TopTronic® E wall casing**
WG-190 Wall casing small 6035 563
WG-360 Wall casing medium 6035 564
WG-360 BM Wall casing medium with control module cut-out 6035 565
WG-510 Wall casing large 6035 566
WG-510 BM Wall casing large with control module cut-out 6038 533

**TopTronic® E sensors**
AF/2P/K Outdoor sensor 2055 889
TF/2P/5/6T Immersion sensor, L = 5.0 m 2055 888
ALF/2P/4/T Contact sensor, L = 4.0 m 2056 775
TF/1.1P/2.5S/6T Collector sensor, L = 2.5 m 2056 776

**System housing**
System housing 182 mm 6038 551
System housing 254 mm 6038 552

Bivalent switch 2061 826
## Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flue spigot transition piece complete with clamp band</td>
<td>2069 894</td>
</tr>
<tr>
<td>This part must be fitted to all TopGas boilers requiring concentric flue parts.</td>
<td></td>
</tr>
<tr>
<td>Please see important note on page 3</td>
<td></td>
</tr>
<tr>
<td><strong>Connection C100/150 to 2xE100PP</strong></td>
<td>2015 244</td>
</tr>
<tr>
<td>For separate routing of flue gases and combustion air.</td>
<td></td>
</tr>
<tr>
<td>Recommendation:</td>
<td></td>
</tr>
<tr>
<td>If the air inlet is near a noise sensitive place (window of bedroom, terrace etc.) we recommend the use of a sound absorber on the air inlet.</td>
<td></td>
</tr>
<tr>
<td>1000mm extension (including support bracket)</td>
<td>2042 409</td>
</tr>
<tr>
<td>500mm extension (including support bracket)</td>
<td>2042 408</td>
</tr>
<tr>
<td>250mm extension</td>
<td>2042 407</td>
</tr>
<tr>
<td>Vertical terminal (black) with cap</td>
<td>2042 404</td>
</tr>
<tr>
<td>Vertical terminal (black) with cap (including support bracket)</td>
<td></td>
</tr>
<tr>
<td><strong>Vertical adapter</strong></td>
<td>2042406</td>
</tr>
<tr>
<td>Complete with 2 sample points.</td>
<td></td>
</tr>
<tr>
<td>Please see important note on page 3</td>
<td></td>
</tr>
<tr>
<td><strong>Vertical adapter</strong></td>
<td>2042 415</td>
</tr>
<tr>
<td>Complete with condensing drain connection, siphon kit and 2 sample points.</td>
<td></td>
</tr>
<tr>
<td><strong>45° elbow</strong></td>
<td>2042 411</td>
</tr>
<tr>
<td><strong>90° elbow</strong></td>
<td>2042 410</td>
</tr>
<tr>
<td><strong>Support bracket</strong></td>
<td>2042 414</td>
</tr>
</tbody>
</table>
Accessories

Lead pitched roof flashing 2042 412

(to suit roof angle 25-45 degrees)

Aluminium flat roof flashing 2042 413

100/150 Wall terminal kit (for horizontal discharge) 2042 405

Comprises of vertical adaptor, 93 degree elbow, 2 wall plates and a horizontal wall terminal. Max dimension can be extended by use of extension pieces.

All items finished white RAL 9016

Air inlet non-return damper for TopGas® (60-120) only 6036 265

Fitted inside the boiler casing to prevent back flow of flue gases through an off-line cascade boiler. Cannot be used with models 35 and 45.

Where the boiler cascade takes its air supply directly from the plant room, it is possible to combine one or more TopGas boilers into a common flue duct, where each boiler within the cascade is connected to a common duct or ducts via an individual flue connection piece complete with a non-return flap or damper. In this case all boilers should be provided with an optional air inlet non-return flap (available as an accessory for the TopGas 60-120 as above) or with an external non-return flap for the TopGas 35 and 45 (Not Hoval supply).

Flue design (TopGas® 35-120)

- An adapter with sample points must be used (fitted to the boiler flue outlet connection).
- The flue gas is very cool and saturated with moisture so there will be very little or no buoyancy to pull the gases up the chimney.
- The burner fan assists with the evacuation of the flue gases so there may be slight pressurisation of the flue.
- It is permissible for the condensate from the flue system to drain back through the boiler.
- Horizontal flue sections must be inclined back to the boiler (3° minimum) to prevent condensate remaining in the flue.
- Flues must be designed to meet all current regulations / standards.
- See Technical data section for flue gas mass flow rates, temperatures, usable fan overpressure and ventilation requirements.
- The tables below are for guidance only.

Maximum flue lengths (TopGas® 35-60)

The above figures include for one 93 degree bend. Additional 93 degree bends will have the effect of reducing the length by 2.5 metres and 45 degree bends will reduce the length by 1.5 metres. The flue lengths stated will have no effect on the boiler output.
Accessories

Motorised mixing valves

Type H3F/NR 230-20 B, PN 6, 110°C
Three-way valve made of cast iron
Without counter flanges.
- motorised 230 V
- 3 wire control

<table>
<thead>
<tr>
<th>DN</th>
<th>kvs¹</th>
</tr>
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<tbody>
<tr>
<td>50</td>
<td>66</td>
</tr>
<tr>
<td>65</td>
<td>100</td>
</tr>
<tr>
<td>80</td>
<td>150</td>
</tr>
</tbody>
</table>

6003 905
6003 906
6003 907

NR230-20 B actuator to suit the above  245 209

¹ Flow quantity in m³/h on a pressure loss of 1 bar.

Larger sizes of motorised valves are available on request.

Low loss headers

**TopGas 35-60 single boiler low loss header**

Single TopGas 35-60 boiler low loss header complete with 1” BSP connections on the inlet and 1½” BSP on the outlet.

2057 320

**TopGas 80 single and two boiler low loss header**

Single TopGas 80 boiler or two boiler low loss header complete with 2½” BSP connections on both the inlet and on the outlet.

2057 322

**TopGas 100 & 120 single boiler low loss header**

Single TopGas 100 or 120 boiler low loss header complete with DN100 PN6 flanged connections on both the inlet and on the outlet.

6043 445
Accessories

Connection set AS32-TG for TopGas® (35-80)

For circulation pump mounted on the return connection.

consisting of:

_Return:
Isolating valve R 1 ¼" with gland nut 2". Side outlet branch with drain cock and G ¾" connection for expansion vessel.

_Flow:
Extension G 2" x L=180mm with integrated non-return valve. Isolating valve R 1 ¼" with gland nut 2". Side outlet branch with safety valve (3 bar) and drain cock.

Connection set for TopGas® (100,120)

For circulation pump mounted on the return connection

consisting of:

_Return:
1½" x 1½" DN40 combined isolating ball valve, non-return valve, safety valve (3bar) and drain cock.

_Flow:
1½" x 1½" isolating ball valve.

Includes a pair of 1½" Female unions.

Connection set AS32-TG for TopGas® (35-80)

consisting of:
_Return:
- Isolating valve with gland nut 2" and side outflow with boiler filling/draining valve and fitting G ¾" (outside) for connection of an expansion vessel.
- Speed-controlled high-efficiency pump, various versions as below

_Flow:
- Extension piece (180 mm) G2" with integrated non-return valve
- Isolating valve with gland nut 2" and side outlet branch with safety valve DN 20 3 bar up to 100 kW incl. boiler filling/draining valve

Connection set type | Pump type              | 6040 828 | 6033 475
---|----------------------|---------|---------
AS32-TG/SPS 6 PM1  | SPS 6 PM1               |         |         
AS32-TG/UPM GEO 32-85 | UPM GEO 32-85         |         |         

Connection set type
Pump type
6040 828
6033 475
Accessories

**Boiler Circulating pump for TopGas® (35-80)**

Separate individual boiler A-rated circulating pump.

Grundfos UPML 32-95 180 AUTO single phase pump with G2” connections. A 2m long electrical lead (with Molex connector) is available to connect the pump to the boiler.

UPML 32-95 180 AUTO pump 2056 729

Electrical connection lead 2056 730

**Pump insulation cover for TopGas® (35-80)**

Two piece insulation cover for Grundfos UPML 32-95 180 AUTO pump above. 2056 817

**Boiler circulating pump for TopGas® (100,120)**

Separate individual boiler A-rated circulating pump.

Grundfos Magna 1 25-60 180 single phase pump with G1½” connections. Includes a two piece insulation cover. 2064 823

Electrical connection lead not provided with this pump.
Accessories

Liquid gas conversion

Liquid gas conversion kit suitable for TopGas® (35-120)
TopGas® 35-120 619 568

Gas filter

Fine gas filter with pressure test point before and after the filter (diameter 9mm)
Pore width of the filter element <50 μm
Max. pressure difference 2.5 mbar
Max. inlet pressure 100 mbar

<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>70612/6B</td>
<td>Rp ¾&quot;</td>
<td>2007 995</td>
</tr>
<tr>
<td>70602/6B</td>
<td>Rp 1&quot;</td>
<td>2007 996</td>
</tr>
</tbody>
</table>
Typical Hydraulic Schematics

TopGas® (35 - 120) with
- Free standing calorifier
- Direct heating circuit

Notes:
- This hydraulic schematic just shows the basic principle. The installation must be in accordance with local regulations.
- With underfloor heating an over temperature thermostat has to be installed.
- Anti thermal siphon dip has to be installed (ATS).
- Safety valve (SV) position on return with optional connection set for TopGas® (100,120).

RS-OT Room station
RBM Control module
AF Outdoor sensor
VF1 Flow sensor 1
VF2 Flow sensor 2
SF Calorifier sensor
B1 Flow temperature thermostat (series connection with pump)
MK1 Pump mixed circuit 1
MK2 Pump mixed circuit 2
DKP Pump for heating circuit without mixing operation
SLP Calorifier loading pump
B1 Flow temperature thermostat (series connection with pump)
MK1 Pump mixed circuit 1
MK2 Pump mixed circuit 2
DKP Pump for heating circuit without mixing operation
SLP Calorifier loading pump
B1 Flow temperature thermostat (series connection with pump)
MK1 Pump mixed circuit 1
MK2 Pump mixed circuit 2
DKP Pump for heating circuit without mixing operation
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B1 Flow temperature thermostat (series connection with pump)
MK1 Pump mixed circuit 1
MK2 Pump mixed circuit 2
DKP Pump for heating circuit without mixing operation
SLP Calorifier loading pump
B1 Flow temperature thermostat (series connection with pump)
MK1 Pump mixed circuit 1
All TopGas® boilers can be commissioned by our dedicated service team.

For annual servicing of TopGas® boilers and other equipment please contact our Hoval Service department.

TopGas® spares kits are available from our spares department.

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Spares: 01636 593412 or spares@hoval.co.uk
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Hoval follows a policy of continued improvement and reserves the right to change specifications without notice.