Condensing gas boiler (wall-mounted)

TopGas®

Hoval

Responsibility for energy and environment

Gas condensing boiler technology for up to 15% increased in heat energy recovery. Space-saving, low emissions, quick to install.

Front page:
Close-up of the ribs on the heat exchanger in the TopGas® classic, combi and comfort models. The special construction of the heat exchanger with forced-flow copper tubing prevent blockages, is easy to clean and achieves maximum heat transmission.

Condensing gas boiler (wall-mounted). TopGas®.

Efficient and thus economical gas condensing boiler technology in a small space – this is the big advantage of the Hoval TopGas® wall-mounted boiler. Hoval gas condensing boiler technology uses heat energy 15 % more efficiently than the latest generation of low-temperature boilers.

With an output spectrum spanning 10 to 116 kilowatts, the TopGas® range of models covers all performance requirements. The units are suitable for individual apartments, single family homes and blocks of flats, as well as for commercial buildings, whether newly built or being renovated. They can be used as individual units or combined with a solar energy system.

Strong Systems

A particularly strong system is the TopGas®, together with other components from Hoval, and centrally controlled by the TopTronic®E.

Hoval system controller TopTronic®E

Hoval solar energy systems

Hoval comfort ventilation

Hoval calorifiers

Hoval buffer storage tanks

Hoval air/water heat pumps

TopGas®. One range for all requirements.

TopGas® wall-mounted boilers offer compact and advanced gas heating technology built to the high quality standards of Hoval. With its condensation technology, TopGas® makes 15 % more efficient use of the energy source than modern low temperature boilers.

Durable and compact – for flats and properties housing one or two families

TopGas® classic (12-30)
Durable, economical and compact.
For properties housing one or two families.

TopGas® combi (21/18-32/28)
With integrated calorifier.
For flats and single family homes.

TopGas® comfort (10-22)
Comprehensively equipped.
For properties housing one or two families.

Space-saving with optimum price-performance ratio – for blocks of flats and commercial buildings

TopGas® classic (35-120)
For blocks of flats
and commercial buildings.

Starting in September 2015 is the new classified ErP labelling for Space heaters, Combi heaters, Boilers and Energy Buffers in order to aid in Energy Efficiency and Resource Conservation.

Hoval

TopGas®.
Advantages at a glance.

Economical

Save energy costs

- **15% improved efficiency and energy recovery** due to advanced condensation design
- **Excellent fuel utilisation and electricity savings** due to needs-oriented, modulating burner operation and high-efficiency pumps
- **Outstanding price-performance ratio** owing to Hoval quality workmanship
- **Energy Consumption Indicator**** for permanent cost control

Ecological

Low emissions and economical consumption

- **First rate emissions values** due to grid burner system
- **Around 15% lower energy consumption** due to condensing boiler technology with efficient heat exchangers
- **Easily combined with solar installations** to further improve the carbon footprint
- **Simple adjustment of operating times**** facilitates energy-conscious heating

Easy to use

High thermal comfort

- **High thermal comfort** due to its predicting the future outside temperature and sunlight (using an online weather forecast)**
- **Simple maintenance** due to convenient access to all important components
- **Maintenance indicator**** which automatically reminds you when a service is required
- **Long service life** due to forced-flow, easy to clean heat exchanger*

Sophisticated

Compact, complete system

- **Easy installation and low space requirements** due to compact design
- **Rapid installation** due to ingenious ready-to-connect complete system
- **Smartphone-App**** for easy adjustability whilst you're on the road, and receiving system messages in real time
- **The latest interface standards**** for connection to building automation or expected smart grids

*TopGas® classic, combi and comfort **with system controller TopTronic® E

System controller TopTronic® E.
The new generation.

Smart – cosy climate even when the weather is changing.

Ecological

Take responsibility for Energy and Environment and live comfortably at the same time. This is now easier than ever before.

With the new generation boilers and heat pumps from Hoval you will use less energy, reduce your environmental footprint and preserve the planet.

Economical

The new generation Hoval boilers and heat pumps have best in class efficiency helping you to cut your energy bill.

They give you real time and historical information about their performance and efficiency so you always have an overview on your energy costs. With a click of a mouse.

Reliable

You can fully rely on us.

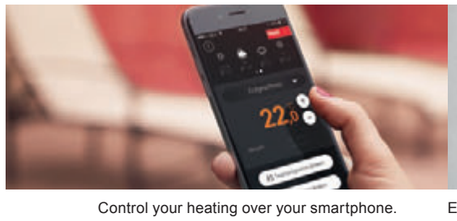
The new generation Hoval boilers and heat pumps will automatically inform you and our service when they need maintenance or repair.

A Hoval service partner is always near you. More than 500 000 satisfied customers worldwide can confirm this. Our references speak for themselves.

Smart

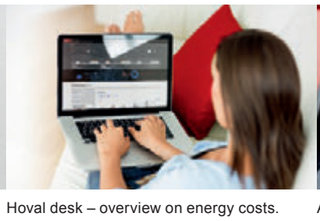
Automatically use the weather forecast in real time to heat up your house in cold mornings but reduce the power in a warm afternoon.

Let you control your heating over your smartphone to adjust it to your daily or weekly routine - so you save energy during a working day but enjoy a cosy warmth in the evening.

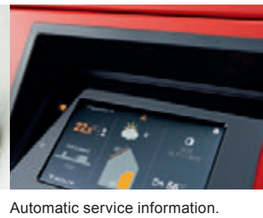


Control your heating over your smartphone.

Easy control in the living room.

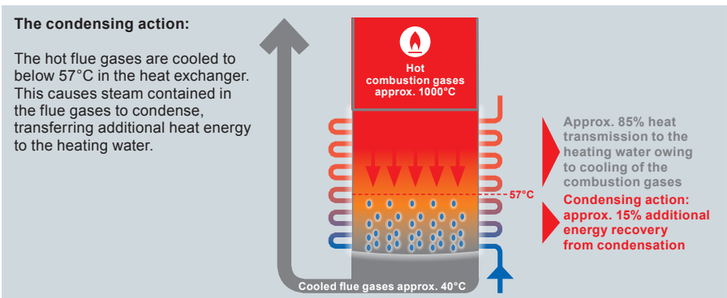


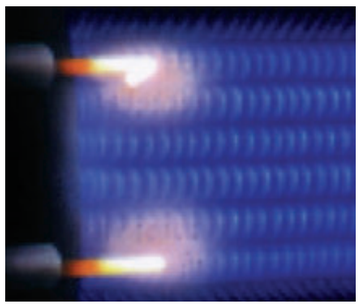
Hoval desk – overview on energy costs.



Automatic service information.

TopGas®.
The Advantages in detail.





Flat flame pattern with optimum combustion temperature for ultra-low emissions.

Condensing boiler technology for maximum efficiency

As a general rule: the more heat energy is transferred from the combustion gases to the heating water, the more efficiently a boiler works.

Using condensing boiler technology, the gas is cooled from 1000°C down to 40°C and transfers all of its directly usable heat energy to the heating water. In contrast, low-temperature boilers have considerably higher flue gas temperatures of around 200°C. This means that a lot of the heat energy escapes unused via the chimney.

Condensing boiler technology also makes use of a second crucial element, condensation:
the combustion gases contain steam, which stores large quantities of “latent” energy. When the steam cools to below 57 degrees, it becomes liquid (= condenses). In the process, this “latent” energy is released and transferred to the heating water.

In this way, TopGas® condensing boilers recover around a further 15% of the energy, with efficiency rising to over 107%!

Durable heat exchanger with excellent energy yield

It is crucial for condensation that the hot combustion gases transfer their heat energy as quickly as possible, cooling as they do so.

The heat exchangers in the TopGas® classic, combi and comfort are made from a high quality aluminium-silicon alloy on the flue-gas side and copper on the water side. The thermal conductivity of aluminium is ten times that of stainless steel. Together with the special surface structure, this optimises heat transmission, resulting in maximum energy efficiency. At the same time, these materials provide reliable protection against corrosion.

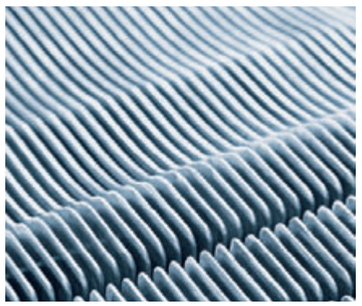
The use of a design with a forced-flow copper meander prevents deposits and blockages in the heat exchanger, so ensuring a long service life.

Modulating premix burner with ultra-low emissions

Another factor contributing to the high efficiency of the TopGas® range is the combustion system. This comprises a fan-premix unit, which also controls the output, and the grid burner.

In the **fan-premix unit**, a finely-tuned, homogeneous gas/air mixture is produced, which is optimised for the subsequent combustion. The output is matched (modulated) to the heat demand using the rotational speed of the fan. This means the burner can run continually in partial load operation and avoid energy-intensive start-stop operation and the associated increase in emissions. Moreover, reducing the speed of the fan reduces energy consumption.

In the **grid burner**, the gas/air mixture is ignited on the surface of a metal fabric and burns gently, virtually without flame. The majority of the heat is given off as infrared radiation. Here, the combustion temperature is consistent and lies within an optimum range, resulting in ultra-low pollutant emissions.



The heat exchanger in the TopGas® classic, combi and comfort can be thoroughly cleaned.

Space-saving, unobtrusive installation of the TopGas® comfort in the living space.

TopGas® condensing boilers are fully assembled and can be installed quickly.

Simple cleaning and maintenance for high efficiency and long service life

TopGas® condensing boilers are particularly easy to maintain. All components that require servicing are readily accessible and simple to exchange when necessary.

The heat exchanger in the TopGas® classic, combi and comfort can be opened and thoroughly cleaned in just a few steps. This enables ongoing high efficiency and a long service life.

Compact dimensions and room-sealed operation for flexible positioning

Their compact dimensions and small size mean that TopGas® condensing boilers need very little space. They are suitable for room-sealed operation and therefore do not require a special boiler room.

Whether it’s in the basement, in the attic, in utility rooms or – owing to the extremely quiet operation – even in living areas: the TopGas® can easily be mounted on the wall anywhere, increasing valuable floor space.

Easy to fit and quick to install

Due to their low weight and compact design, TopGas® condensing boilers are no hassle to move around. They will fit through any doorway and staircase, making them especially practical for renovations.

Installation is easy too: TopGas® condensing boilers are delivered fully assembled and can be mounted quickly and easily thanks to the colour-coded connector system.

Gas condensing boiler technology and solar energy systems

All TopGas® condensing boilers can be combined with a solar energy system. The combination of highly efficient condensing boiler technology with the use of free solar energy results in a further benefit: the buffer storage tank in the solar energy system reduces the number of energy-intensive start-stop procedures of the gas boiler, enabling it to work even more efficiently.

The TopTronic® E controller ensures that the TopGas® interacts seamlessly with the Hoval solar energy system.

TopGas® classic ▪ TopGas® combi ▪ TopGas® comfort. Durable and compact ...

Concentric flue gas and supply air connection
enables room-sealed operation and hence installation in living areas.

Gas control system
ensures efficient and reliable operation.

Forced-flow heat exchanger with copper meander on the water side
blockage-proof, easy to clean and ensures maximum energy yield.

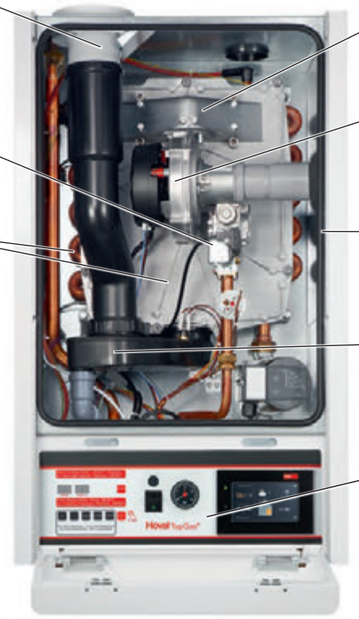


Fig.: TopGas® comfort with controller TopTronic®E

Grid burner
provides for clean and low emission combustion.

Modulating fan-premix unit
ensures homogeneous mixing of gas and air and adapts the burner output to the heat demand.

Sealed casing
for room-sealed operation.

Condensate drip tray
ensures safe collection and removal of condensate

Control panel with electronic heating circuit control
integrated into the casing in a practical and compact manner.

Distinctive feature for long service life:
The heat exchanger is readily accessible and can be easily cleaned. This enables ongoing high efficiency and a long service life.

Comfort heating controller RS-OT (optional)
It can be positioned in a living area or boiler room as a room station or mounted in the Top-Gas® casing* (TopGas® comfort).

Forced-flow heat exchanger in the TopGas® classic, combi and comfort

Durable condensation heat exchanger

The heat exchanger in the TopGas® classic, combi and comfort comprises an aluminium ribbed body with just a single meander-type copper water channel. This ingenious design offers 3 key advantages:

- **No blocking of the water channel**
  The heating water flows through the aluminium ribbed body in a single water channel. This results in a permanently high flow speed, preventing deposits. Blockages of the sort that can occur in the case of parallel channels are thus eliminated.
- **Ease of access for thorough cleaning**
  The ribs of the heat exchanger can be cleaned quickly and easily. This enables long-term high efficiency and a long service life.
- **Maximum heat transmission and long service life**
  owing to a combination of high-quality materials: aluminium with high conductivity (flue-gas side) and corrosion-resistant copper (water side).

In the TopGas® combi, the heat exchanger has an additional copper meander for the hot water supply.

... for flats and properties housing one or two families.

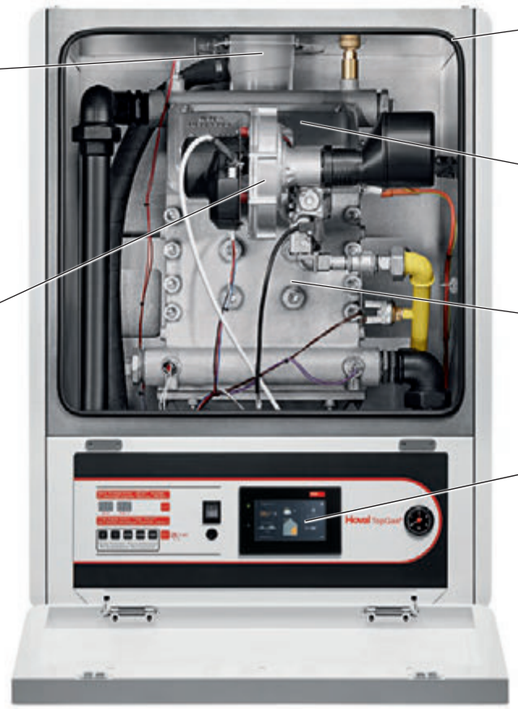
New!
TopGas comfort (10,16) now as standard ready for underfloor heating
No additional pump and no hydraulic switch required.

Technical data		TopGas® classic (12)	(18)	(24)	(30)	TopGas® combi (21/18)	(26/23)	(32/28)	TopGas® comfort (10)	(16)	(22)
Energy efficiency class (with controller)		A				A/A [5]			A [6]	A	
Nominal heat output at 80/60°C (natural gas)	kW	3.4–11.5	5.2–17.3	7.0–22.9	8.7–28.5	5.4–17.8	6.9–22.8	7.1–26.3	1.8–9.1	2.8–14.6	4.1–20.1
Nominal heat output at 40/30°C (natural gas)	kW	3.8–12.0	5.7–18.0	7.7–24.0	9.2–30.0	5.9–18.6	7.6–23.4	7.8–27.1	2.0–10.0	3.1–16.0	4.5–22.0
Part-load efficiency 30% [3] (to EN 303)	%	104.0 / 93.7				101.0 / 91.0			105.9/95.4	106.0/95.5	106.1/95.6
Standard utilisation rate at 40/30°C [3] (to DIN 4702 Part 8)	%	108.5 / 97.7				108.0 / 97.3			109.0 / 98.2		
Modulation range [1]		1:3.5				1:3.5			1:5		
Hot water production		Via optional external deflector valve				Integrated			Via integrated deflector valve		
Hot water output [4] 45°C (TopGas® combi only)	l/10min	–				60	80	124	–		
Matching Hoval side- and floor-mounted calorifiers available		Yes				–			Yes		
Circulating pump		RPM-regulated, energy-saving high-efficiency pump									
Can be installed and operated in living area		Yes				Yes			Yes		
Both non-room-sealed and room-sealed operation possible		Yes				Yes			Yes		
Basic boiler control with burner monitoring function		Yes				Yes			Yes		
Hoval RS-OT digital comfort heating controller (room station for remote control) for 1 direct heating circuit and hot water		optional (extern)							optional (can be installed in boiler)		
System controller TopTronic®E basic module (1 direct heating circuit, 1 mixer circuit, hot water)		optional (in external wall casing)							optional (can be installed in boiler)		
TopTronic®E controller modules and module expansions (e.g. solar control, storage tank)		optional (in external wall casing)									
Can be combined with solar energy system		Yes				–			Yes		
Boiler weight (without water)	kg	32	36	40	40	34	38	42	44	48	52
Dimensions [2]	W	450	450	450	450	450	450	450	490	490	490
	H mm	590	650	710	710	590	650	710	820	880	940
	D	240	240	240	240	240	240	240	410	410	410
Equipment		Heating pump Manual vent Flue gas temperature limiter				Heating pump Manual vent Flue gas temperature limiter 2nd copper meander for hot water supply			Heating pump Automatic quick vent valve Pressure gauge Flue gas temperature limiter Safety valve 3 bar Deflector valve Overflow valve Filling/drain valve Connection for hot water flow and return		

1) Modulation range 1:5 means that the burner can reduce its output to 20% of full power.
2) Local minimum clearances must be taken into account as well.
3) Related to the net/gross calorific value
4) Value can only be achieved by mixing in cold water downstream of the boiler.
5) Energy efficiency class space heating / water heating
6) With room air sensor / room control module

Subject to changes

TopGas® (35-120).
Space-saving with optimum price-performance ratio ...



Concentric flue gas and supply air connection
enables room-sealed operation and hence installation in living areas.

Modulating fan-premix unit
ensures homogeneous mixing of gas and air and adapts the burner output to the heat demand.

Sealed casing
for room-sealed operation.

Grid burner
provides for clean and low emission combustion.

Aluminium heat exchanger
with excellent thermal conductivity for high energy yield.

Control panel with electronic heating circuit control
integrated into the casing in a practical and compact manner.

Comfort heating controller RS-OT (optional)
It can be positioned in a living area or boiler room as a room station or mounted in the TopGas® casing* (TopGas® comfort).

Fig.: TopGas® classic (80) with optional controller TopTronic® E

Large output in a small space

The large TopGas® wall-mounted condensing gas boilers offer efficient condensation design with heat outputs from 35–120 kilowatts. As a result they are suitable for a wide range of applications in residential and commercial buildings. The compact dimensions and wall mounting make them an interesting and low-cost solution for new buildings and renovations:

- Low space requirements
- Easy to manoeuvre inside small buildings e.g. during renovations.
- Room-sealed operation means they can be located in a communal or utility room: there is no need for a boiler room.

... for blocks of flats and commercial buildings.

Technical data TopGas®		(35)	(45)	(60)	(80)	(100)	(120)
Energy efficiency class		A	A	A	–		
Nominal heat output at 80/60°C (natural gas)	kW	6.7–32.5	7.7–41.5	11.1–56.6	13.3–73.7	19.1–90.4	20.4–107.6
Nominal heat output at 40/30°C (natural gas)	kW	7.4–35.5	8.5–45.3	12.3–62.0	14.7–81.0	21.3–100.0	22.7–120.0
Part-load efficiency 30% [3] (to EN 303)	%	110.5 / 99.6	110.5 / 99.6	110.4 / 99.5	110.8 / 99.9	110.9 / 99.9	109.0 / 98.2
Standard utilisation rate at 40/30°C [3] (to DIN 4702 Part 8)	%	109.1 / 98.3	109.0 / 98.2	109.1 / 98.3	109.0 / 98.2	109.4 / 98.6	109.4 / 98.6
Modulation range [1]		1:5	1:5	1:5	1:6	1:5	1:5
Hot water production		Via external deflector valve					
Matching Hoval side- and floor-mounted calorifiers available		Yes					
Circulating pump		Standard pump (connection set with RPM-regulated, energy-saving high-efficiency pump optionally available)					
Both non-room-sealed and room-sealed operation possible		Yes					
Basic boiler control with burner monitoring function		Yes					
Hoval RS-OT digital comfort heating controller (room station for remote control) for 1 direct heating circuit and hot water		Optional (can be installed in boiler)					
System controller TopTronic®E basic module (1 direct heating circuit, 1 mixer circuit, hot water)		Optional (can be installed in boiler)					
TopTronic®E controller modules and module expansions (e.g. solar control, storage tank)		optional (in external wall casing)					
Can be combined with solar energy system		Yes					
Boiler weight (without water)	kg	89	89	99	99	116	
Dimensions [2] W/H/D	mm	656 / 880 / 690				750 / 880 / 690	
Equipment		Water pressure switch Pressure gauge Flue gas temperature sensor with flue gas temperature limiting function Automatic quick vent valve					

1) Modulation range 1:5 means that the burner can reduce its output to 20% of full power.
2) Local minimum clearances must be taken into account as well.
3) Related to the net/gross calorific value

Subject to changes

Solutions you can rely on.

Hoval

Responsibility for energy and environment.

The Hoval brand is internationally recognised as one of the leading suppliers of indoor climate control solutions. Around 70 years of experience have given us the necessary capabilities and motivation to continuously develop exceptional solutions and technically superior equipment.
Maximising energy efficiency and thus protecting the environment are both our conviction and our incentive. Hoval has established itself as an expert provider of intelligent heating and climate control systems that are exported to over 50 countries worldwide.

Hoval indoor climate systems

Indoor climate systems ensure top air quality and economical usability. Hoval has been installing decentralised systems for many years. The key to its work is using combinations of multiple air conditioning units (even those of different types) that can be controlled individually, but also together as a single system. This enables Hoval to respond flexibly to a wide range of requirements for heating, cooling and ventilation.

Design support from experts.

Take advantage of the expertise of our experienced specialists. We will be happy to support you throughout all project phases when designing your system.
Working in close cooperation with you and taking into account all the specifications of the energy supplier, we develop the most efficient and cost-effective solution for you.

Hoval service expertise.

Hoval systems are professionally commissioned by specially trained and experienced Hoval service technicians, ensuring that the systems will operate perfectly from day one. Maintenance and troubleshooting are performed on-site by an expert customer service team.

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