Regulus

Hydronic
Fireplace Inserts and Stoves

KV 025 W
KKV 2S

Energy-saving solutions

Regulus spol. s r.o., Czech Republic
Do Koutů 1897/3, 143 00 Praha 4
Tel.: +420 241 765 191, Fax: +420 241 763 976
E-mail: obchod@regulus.eu
Web: **www.regulus.eu**

KV 025 W Hydronic Fireplace Insert

Wide, straight fireplace insert with balanced flue and a hot-water heat exchanger, available in 4 versions.

KV 025 W 01 with double glazing can satisfy the needs of the vast majority of customers for a reasonable price. KV 025 W 02 with triple glazing transfers the most of its output to a heating medium, and the least to the ambient environment. It is definitely the right choice for low-energy houses. Both the inserts are available also as a rear loading variant, KV 025 W 01 BD and KV 025 W 02 BD.

All the KV 025 W inserts feature a hot-water heat exchanger with TRIPLE PASS system, opening for cleaning a heat exchanger tube plate, an integrated cooling loop and both thermal relief and air vent valves.

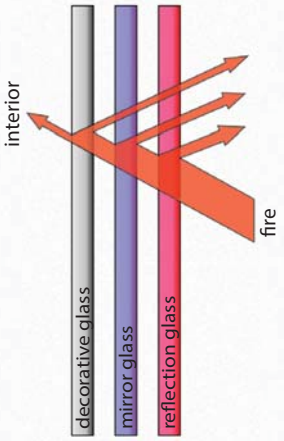
Advantages of KV 025 W Fireplace Insert

- High ratio of heat output going into water, low to the ambient environs
- Large glazing
- High efficiency and cleanliness of combustion
- Airtight product with balanced flue (CPV)
- Comfort handling and maintenance

Glazing

KV 025 W 01 features **double glazing as standard**, consisting of outer decorative printed glass and inner reflection glass. This combination of glass reflects efficiently radiant heat back to the combustion chamber which improves burning. The reflected heat can be then utilized in the hot-water heat exchanger.

KV 025 W 02 model is above that fitted with a special **reflection glass with a mirror effect** which reduces the radiant heat passing through the glazing to extreme minimum. Combination of **three** fireproof panes offers the highest number of reflection surfaces capable of reflecting back thermal radiation sent from the fireplace insert. And last but not least, the mirror glass can make invisible eventual untidiness inside the combustion chamber.



Rear door

Moreover, fireplace inserts in the versions KV 025 W 01 and 02 BD are fitted with a rear door that permits e.g. cleaning or loading to be done from a utility room.

Technical Data for KV 025 W

Parameter	KV 025 W 01	KV 025 W 02
Regulated heat output	5 - 18 kW	5 - 19 kW
Heat exchanger output	3.5 - 12 kW	3.5 - 14 kW
Efficiency	87 %	90 %
Glazing	2	3
Insulation	Standard	Upgraded
Air Tightness Certificate	No	Yes
Standards met	EN 13 229, DIN plus, Bimsch 1/2, 15a B-VG, 15a B-VG (2015)	
Height	1256 mm	1256 mm
Width	773 mm	820 mm
Depth	495 mm	503 mm
Weight	300 kg	310 kg
Flue duct diameter	180 mm	180 mm
Balanced flue diameter	150 mm	150 mm

Technical Data for KV 025 W BD

Parameter	KV 025 W 01 BD	KV 025 W 02 BD
Regulated heat output	6 - 18 kW	6 - 18 kW
Heat exchanger output	7 kW	8 kW
Efficiency	90 %	90 %
Glazing	2	3
Insulation	Standard	Upgraded
Air Tightness Certificate	No	Yes
Standards met	EN 13 229, DIN plus, Bimsch 1/2, 15a B-VG, 15a B-VG (2015)	
Height	1272 mm	1272 mm
Width	826 mm	826 mm
Depth	595 mm	595 mm
Weight	300 kg	307 kg
Flue duct diameter	180 mm	180 mm
Balanced flue diameter	150 mm	150 mm

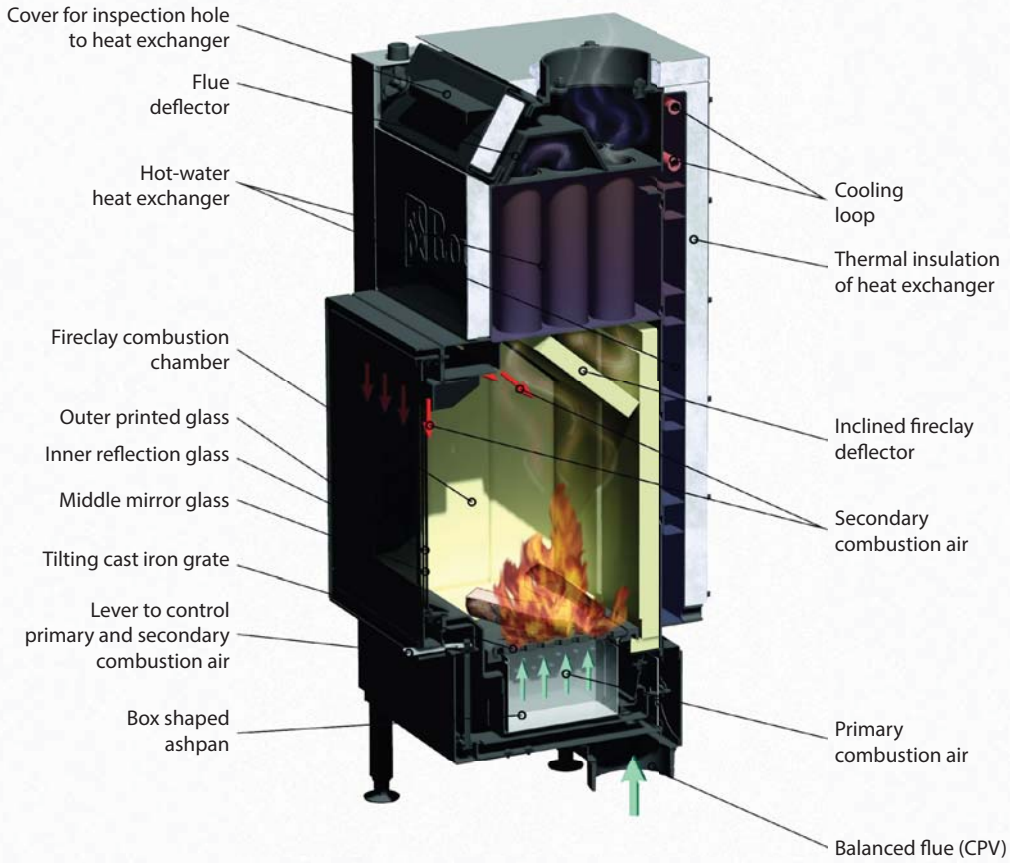
Flue passage system - triple pass

Triple pass system increases principally the efficiency of fireplace insert heat exchanger. A simplified explanation says that the same amount of flue gas released from the fireplace insert combustion chamber will pass three times through the flue part of the heat exchanger. During the three times longer way the heat exchanger can recover much more heat from the flue gas than a standard heat exchanger. The difference lies in the up to 10% higher efficiency of the insert.

Triple pass utilizes much more efficiently the inner heat transfer surfaces of the heat exchanger pipes. This permits the pipes to have 60 mm inner diameter which is very important for comfortable cleaning as products of combustion always form sediments on the inner walls.

The principal advantages of Triple pass system against a standard solution:

- Higher total **efficiency** (by up to 10%)
- Higher **output** of the hot-water heat exchanger
- Higher **share of the output** is transferred **to water** = better control and distribution of heat in a house = higher comfort
- Lower **production of harmful emissions**
- **Comfortable maintenance** and lower demands on regular heat exchanger cleaning



Balanced flue

Both the primary and secondary combustion air inlets can be controlled by one control element. For a future inspection, the air control mechanism remains accessible from both inside and outside after the insert is set to masonry.

An actuated air damper can be fitted into the flue duct and controlled by impulses from a smart controller.

Secondary combustion air intake

These fireplace inserts feature a sophisticated intake of secondary combustion air into the combustion chamber. Based on many measurements, the amount of secondary combustion air has been divided in a precise ratio to one flow running alongside the inner glass and the other flowing obliquely from above into the combustion chamber. The air flowing obliquely into the combustion chamber proved to be a very effective solution ensuring high efficiency and quality of combustion esp. when running at high output. In such a situation, a big mass of burning volatile fuel flows from the combustion chamber into the heat exchanger's tubes, whilst the air flowing against the direction of blazing flames ensures that the volatile fuel gets well mixed with oxygen and burns out properly.

Cleaning

Cleaning the tube plate of the heat exchanger and its routine check is possible from inside the combustion chamber. For a proper, seasonal inspection and maintenance the inserts are equipped with an inspection opening that can be closed tightly with a cover. Having removed the cover, you will see two steel deflectors (marked red in the fig.) directing flue gas from the first row of tubes into the next one. The steel deflectors can be then slid into one another and completely removed from the smoke chamber, enabling thorough cleaning of the upper part of the heat exchanger.

Installation frames

Frames in two sizes of thickness are available for the fireplace insert installation - 2.5 and 6 cm.

Inspection door

When setting the fireplace insert into masonry, access to the cleaning opening of the heat exchanger can be made either using a suitable ventilation grille or with the original inspection door. The inspection door offers comfortable access not only for the maintenance of the insert itself but also for the obligatory check and maintenance of connection points / peripheries and if present, also of a temperature sensor for automatic operation control. If the fireplace insert is connected to the chimney with an elbow with an inspection hole, the inspection door can be used also for cleaning flue pipes. The dimensions of the inspection door corresponds to the size of a shallow build-in frame for a fireplace insert, and it can be fitted with any picture. The original inspection door can be easily detached from its frame without any tools.

KKV 2S Hydronic Stoves

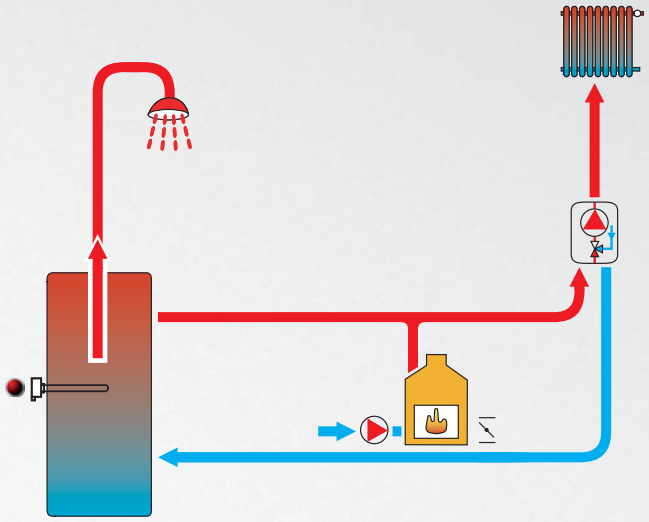
Stoves with a contemporary design and a wide firebox permitting to burn logs as long as 50 cm.

The stoves feature double glazing that increases heat transfer to heating water. A hydronic heat exchanger with a patented TRIPLE PASS system and a firebox with fireclay lining guarantee a high combustion efficiency of 83%. Cleaning door makes heat exchanger maintenance and cleaning easy. The stove also includes a cooling coil and a Regulus BVTS thermostatic safety valve.

Technical Data	
Total output	6 - 18 kW
Heat exchanger output	4.5 -12 kW
Efficiency	83 %
Glazing	2
Standards met	EN 13 229, DIN plus, Bimsch 1/2
Height	1046 mm
Width	810 mm
Depth	459 mm
Weight	256 kg
Balanced flue diameter	150 mm

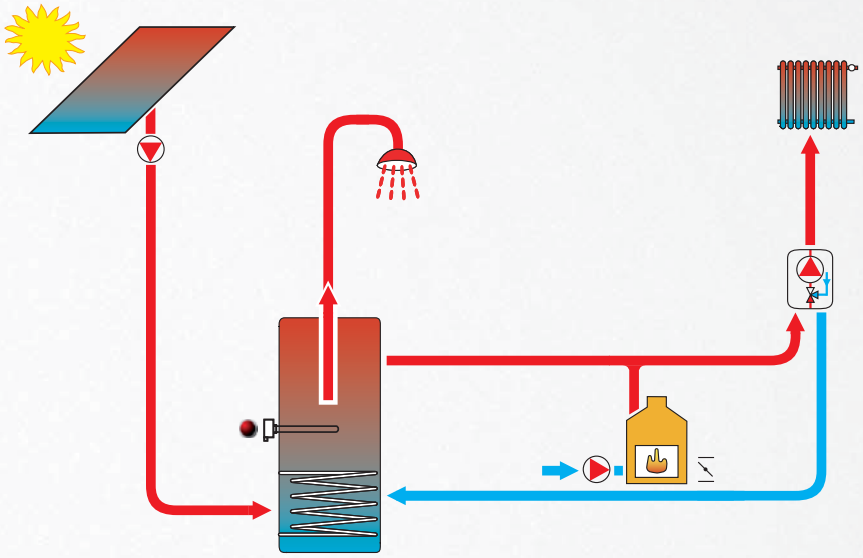
Connection example - Fireplace Insert with Thermal Store

Schematic layout diagram of a fireplace insert connected to a thermal store with DHW heating in an immersed tank. As an auxiliary heat source, an electric heating element is installed in the thermal store.



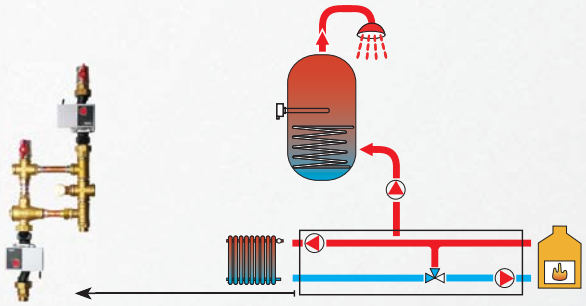
Connection example - Fireplace Insert with Thermal Store together with solar thermal system

Schematic layout diagram of a fireplace insert and solar thermal system connected to a thermal store with a heat exchanger and DHW heating in an immersed tank. As an auxiliary heat source, an electric heating element is installed in the thermal store.



Connection example - Fireplace Insert with heating system and Hot Water Storage Tank

CS TSV Load Unit for solid-fuel boilers with no thermal store, permitting DHW heating. Flow water is mixed to a temperature corresponding to the boiler output. The return water temperature is kept at 55°C or 65°C depending on the version of the Load Unit. Heating output is regulated directly on the boiler, for example through RT thermostatic draft regulators.



If a fireplace is connected directly to a heating system without a thermal store, heating radiators should by secured against closing, otherwise the fireplace heat exchanger may get overheated.

v1.9-10/2016

Regulus spol. s r.o., Czech Republic
Do Koutů 1897/3, 143 00 Praha 4
Tel.: +420 241 765 191, Fax: +420 241 763 976
E-mail: obchod@regulus.eu
Web: **www.regulus.eu**

Energy-saving solutions