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# Three-part

## chimney system

- » with a ceramic insert
- » heat insulation
- » specific rear ventilation system

### Main advantages of the system



- » provision of a comprehensive selection
- the modular height of the chimney building blocks is only 250 mm – lower weight than competition systems
- » the modular height of the ceramic building blocks is only 500 mm – fewer chimney flue connections, higher installation productivity, fewer critical connections than in competition chimneys
- installation option with independent rear ventilation air intake – low-energy use and passive buildings (using NDP)
- variable system of condensate drainage from the base of the chimney compatible with sewage conduit piping
- » perfect solution of the expansion joint between the chimney flue and the connected appliance
- » prefabricated elements of the above-roof chimney sleeve include a bottom and top lock for easy installation and maximum resistance against adverse weather conditions
- cover plate constructed from light and durable material – vibration-pressed fibreglass concrete provides maximum durability and easy handling. Unified attachment system enables easy disassembling, should it be necessary.

### Designed for homeowner builders and construction companies. Installation does not require special tools. Does not require special storage and transportation.

The chimney is designed for manual installation and is supplied by individual components, which are described in detail in the installation manual supplied with each chimney purchased.

### MAIN DESIGN PRINCIPLES

### Use

- » dry chimneys (without permanent flue gas condensation)
- chimneys with natural draft

### Interior chimneys (built-in)

- on structures with a gable roof the chimney **>>** should be located as close to the ridge of the roof as possible
- appliance connection should provide ample » supply of combustion air. Fireplaces should have an independent source of combustion air.
- the chimney must not be a part of the bearing » structure of the building
- » the chimney must be separated from the rest of the building structure **using expansion joints**
- the chimney must be installed on a **foundation** » of sufficient bearing capacity
- the chimney location must fulfil the requirement » for distance separation from inflammable building materials
- suspended appliances must not be hung on the » chimney
- no water, gas or electrical conduits can be installed » in the chimney casing

Locating the chimney as close to the ridge of the roof as possible minimises the length of the aboveroof part of the chimney, which is most affected by weather; the installation of this part of the chimney is also more technically demanding. When locating the chimney in the building the location of the heat appliance must be taken into consideration.

### Exterior chimneys (attached)

- along the exterior wall of the building (most » often at the gable)
- the chimney must be placed on a good quality » foundation and be separated by expansion joints - do not anchor the horizontal joints to the building
- anchoring the chimney with the L profile with » the optional expansion joint in the vertical direction.

It is not admissible to anchor the attached chimney along the attachment channel directly into the exterior walls of the building, chimney attachment must always include an expansion joint!

### CHIMNEY SYSTEM ELEMENTS



### Chimney casing building block

Manufactured from lightweight concrete (Liapor Lightweight Concrete). The building blocks are connected using a recommended building block compound. The corners of the building blocks have openings where reinforcement steel is inserted. After the reinforcement steel is inserted, the openings are filled with the ZH.ARM filler compound sold by EKO, the chimney system supplier.

Building block designation	Type of chimney	Chimney flue diameter (mm)	Building block dimensions (height=250 mm)
UN1	UN1-14	140	320x320
	UN1-16	160	395x395
	UN1-18	180	395x395
	UN1-20	200	395x395
	UN1-25	250	550x550
	UN1-30	300	550x550
UNV1*	UNV1-14	140	395x547
	UNV1-16	160	395x547
	UNV1-18	180	395x547
	UNV1-20	200	395x547
UN2	UN2-1414	140+140	395x727
	UN2-1416	140+160	395x727
	UN2-1418	140+180	395x727
	UN2-1420	140+200	395x727
	UN2-1616	160+160	395x727
	UN2-1618	160+180	395x727
	UN2-1620	160+200	395x727
	UN2-1818	180+180	395x727
	UN2-1820	180+200	395x727
	UN2-2020	200+200	395x727
UNV2*	UNV2-1414	140+140	395x879
	UNV2-1416	140+160	395x879
	UNV2-1418	140+180	395x879
	UNV2-1420	140+200	395x879
	UNV2-1616	160+160	395x879
	UNV2-1618	160+180	395x879
	UNV2-1620	160+200	395x879
	UNV2-1818	180+180	395x879
	UNV2-1820	180+200	395x879
	UNV2-2020	200+200	395x879

\*Ventilation conduit (125×296 mm)



### **Chimney conduit**

### The chimney flue is comprised of a ceramic insert that meets the ČSN EN 1457 standard suitable for all types of fuel. A comprehensive selection of ceramic parts is available. Sections 140-200 mm in diameter are available in 500 mm lengths; sections 250 – 300 mm in diameter are available in a modular length of 330 / 660 mm. The KVA chimney cleanout is available in a diameter of 160 mm only. Use the KR chimney reduction element to connect the chimney cleanout to the chimney flue. For the 140 mm chimney flue use the KR- reduction element; for a chimney flue diameter of 160 mm or more use the KR+ reduction element. The chimney flue must be insulated starting from the chimney reduction element. To connect the individual components use the TM.ECO ceramic caulking supplied by the chimney system manufacturer.

KVA chimney cleanou KV chimney insert KR+ chimney reduction

# The EKO chimney cover, the DEK panel (with the integral screen) – these are supplied complete with the sealing insert that comprises a double layer cover. The sealing insert is equipped with a fireproof surface that ensures fire safety and tightness of the checking and cleanout opening of the chimney. The DEM chimney opening cover is used where the DEK panel cannot be used and for sections 250 – 300 mm in diameter. If the DEM cover is used, the MRI ventilation screen must be installed in the building block. The use of the screen is important for the correct function of the rear ventilation. The same screen is also installed in the ventilation opening of the UNV1 and UNV2 chimney flues. The DVI

inspection cover is used for checking the ventilation ope-

Chimney cleanout opening cover

ning. Both the cover and the screen can be easily disassembled; they are available either with powder coat surface treatment or in stainless steel.

MRI ventilation screen DEM cover DEK combination cover

Cover plate

The WPR transition fitting serves as a connector between the ceramic chimney flue and the stainless steel flue gas conduit connected to the appliance. The KS chimney flue cover centres the chimney flue in the chimney casing. To prevent precipitation humidity from entering the chimney flue, use the MH Meidinger Head and the SVO ventilation opening roof.



KSD fibreglass concrete cover plate

### Accessories

The WPR transition fitting serves as a connector between the ceramic chimney flue and the stainless steel flue gas conduit connected to the appliance. The KS chimney flue cover centres the chimney flue in the chimney casing. To prevent precipitation humidity from entering the chimney flue, use the MH Meidinger Head and the SVO ventilation opening roof.



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KS chimney flue cover

PR transition reduction



### Heat insulation

Special certified insulation is available in tubes or, for diameters of 200, 250 and 300 mm, it is available in strip sections that can be assembled into tubular sections. The chimney flue must be insulated starting from the chimney reduction element. The spacer ring (hoop) is designed for centring the smaller diameter chimney flues in the chimney blocks; use one spacer ring for each one metre of chimney height. The chimney flue insulation used within the chimney casing is manufactured from the same material. The use

of any other heat insulation does not meet the certification conditions; the manufacturer assumes no responsibility for damage caused by the use of a different insulation.



## CHIMNEY FOUNDATION

### Chimney flue bearing plate

The NDP chimney flue bearing plate can be installed on any building block according to the desired height of the cleanout opening, in accordance with the ČSN 734201 standard. It is shaped for permanent installation of the condensate tank and the condensate drainage conduit. The shape of the NDP also enables the installation of a chimney with rear ventilation intake for



applications with an independent air intake in low-energy use and passive buildings.

### Foundation condensate tank

The KJZ DN 160 mm inner diameter condensate tank must be installed on a foundation of sufficient quality. The tank is fitted with DN 40 mm condensate piping. For

other diameters the KJK round shape condensate tank is supplied.

The correct configuration of KJZ foundation condensate tank

The KJK round shape condensate tank

### **CHIMNEY TERMINATION**

To ensure the safe exit of flue gas the last ceramic chimney flue insert must be connected to an expansion joint sleeve. The connection has to include a sufficient expansion joint between the ceramic material of the flue and the cover plate (approximately 3mm for each meter of chimney height). The DOM expansion joint provides not only the separation of the chimney flue but also its termination.



SELLER:

### ABOVE-ROOF SOLUTION CHIMNEY PARTS

### The UND aboveroof chimney building blocks

The UND above-roof element provides a system solution of imitation plaster of the above-roof part of the chimney. It is a concrete part (100 mm in height), which when installed replaces a single row of the chimney brick casing. The basic model imitates a red brick surface. Custom chimney casing colours are available. When



the above-roof part of the chimney exceeds two metres, sufficient anchoring of the UND element is recommended.

### **Chimney casing**

The chimney casing of the above-roof part of the chimney is installed on the KD shelf plate, which is located on the casing building block under the roofline. The chimney casing is always made of frost resistant brick. The above-roof part of the chimney is terminated with the KSDO fibreglass concrete plate attached using the attachment set.



### Plastering

The above-roof part of the chimney can be finished with façade plaster. Heat insulating system of the following composition is recommended:

- » heat insulation (mineral insulation)
- » fibreglass reinforcement screen
- » surface plaster
- » penetration treatment, surface design plaster.

The above-roof part of the chimney is terminated with the KSDZ fibreglass concrete plate attached using the attachment set.

### **Chimney sleeve**

A lightweight concrete sleeve can be used to decrease the overall installation time. We supply it in two types of surface treatment – smooth white or brick pattern design. The chimney sleeve is installed directly over the entire above-roof part of the chimney, after the sheet metal flashing is installed, so that the edge of the sleeve covers the flashing. The edge of the sleeve is trimmed according to the pitch of the roof. Attach using the attachment set.





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