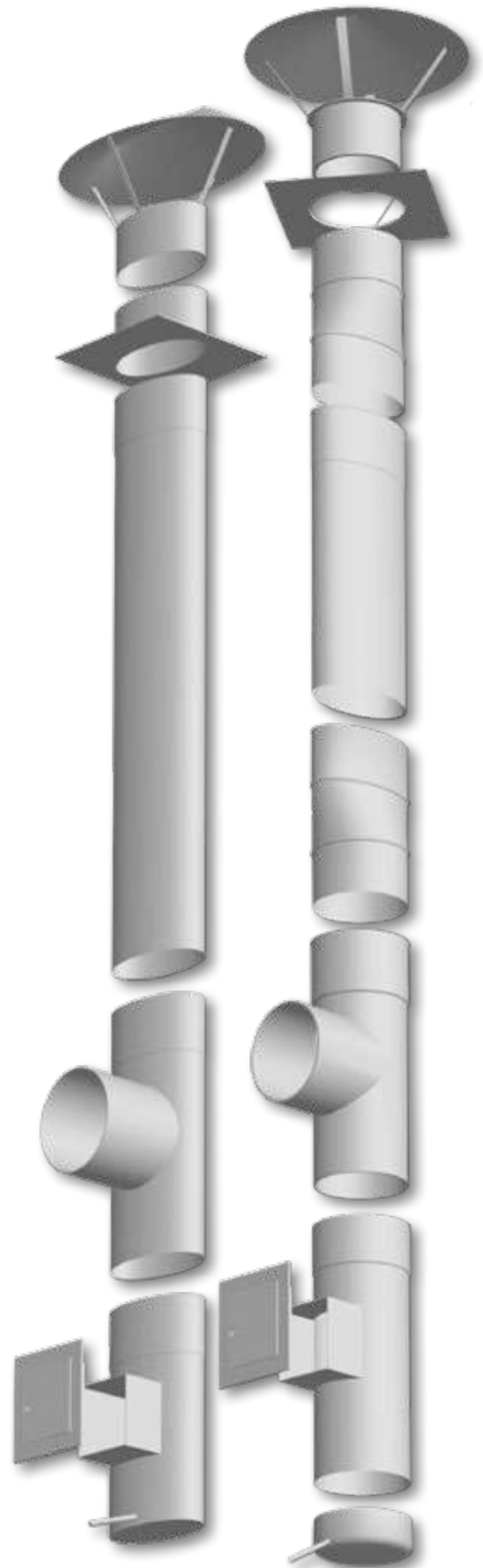


CHIMNEY LINERS

TYPE OVAL NEGATIVE PRESSURE

Example of marking elements manufactured according to the standard EN 1856-2

	EN 1856-2	T450	N1	W	V _m	L50080	G500
Standard number	↓						
Maximum working temperature		↓					
Pressure class (N: negative pressure, P: Positive pressure)			↓				
Resistance to condensate (W: wet; D: dry)				↓			
Resistance to corrosion according to type and thickness of material					↓		
Material specification (50 steel 1.4404, 20 steel 1 4301)						↓	
Thickness of material (0.XX mm)							↓
Resistance to soot fire (G: yes, O: no), distance from flammable materials (500 mm)							↓



CHIMNEY LINERS

TYPE OVAL NEGATIVE PRESSURE

Oval chimney liners are used to carry off exhaust emissions from heating units, including: fireplaces, boilers and furnaces for clean solid fuels.

Oval liners are primarily intended for repairs of brick chimneys which were damaged during operation as a result of the action of combustion products or to change the intended use of previously built ceramic rectangular ducts due to the use of more up-to-date heating units. They are applied to use the section of the existing ceramic chimney to the maximum extent, smoke duct section usually 14 x 27 cm where mounting typical liners with a circular section would excessive narrow the exhaust duct thus reducing the chimney's efficiency.

Due to the special nature of solid fuel combustion, namely periodical high temperatures, the accumulation of soot and the possibility of its ignition, elements of the chimney liner should be made from metal sheets guaranteeing substantial thermal resistance. Acid-proof austenitic steel, thickness 0.8 mm, is used for this purpose. When using a steel liner, wet and aggressive compounds from combustion do not come into contact with the ceramic chimney which ensures the chimney's long lifetime.

Oval chimney liners are manufactured in the following dimensions:

110 x 185 mm; 110 x 200 mm; **110 x 215 mm****;
120 x 180 mm**; 120 x 195 mm; **120 x 210 mm****;
120 x 225 mm**; **120 x 245 mm****; 130 x 200 mm;
130 x 220 mm; 130 x 240 mm; 130 x 255 mm; 140 x 250 mm.

The base for their execution are circular pipes, diameters, respectively: 150 mm, 160 mm, 170 mm, 180 mm, 190 mm, 200 mm.

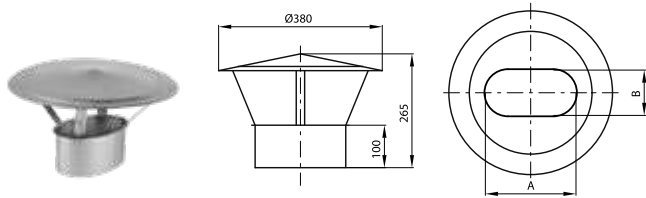
Like other chimney systems by Komin-Flex, the elements of oval liners are joined together with the use of a coupler, length 100 mm, which makes the systems easy to mount, guarantees high tightness of the structure as well as the compensation of linear expansions resulting from working temperatures.

Oval chimney liners may be made in full from elements with an oval section or partly from oval elements combined with the reduction in change in shape with other elements with a typical circular section. The basic offer is supplemented with additional elements manufactured for the Client's special order.

Oval chimney liners comply with the following European standards: EN 1443 and EN 1856-2. The production of oval chimney liners is covered by a system of factory production control, certificate No 1020-CPD-070038635 (TZUS Praga). KOMIN-FLEX has implemented and maintains a quality management system compliant with the requirements of the standard EN ISO 9001:2015 certified by TZUS Praga.

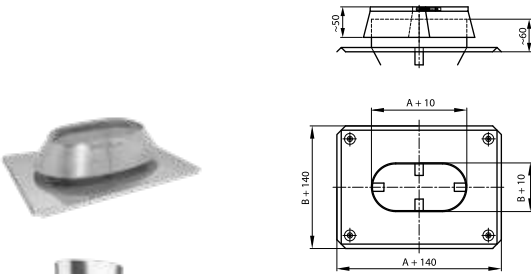
Chimneys by KOMIN-FLEX have received a positive opinion and are recommended by the professional association of Polish chimney sweeps.

***) standard diameters offered in continuous sale, other diameters may be ordered.*



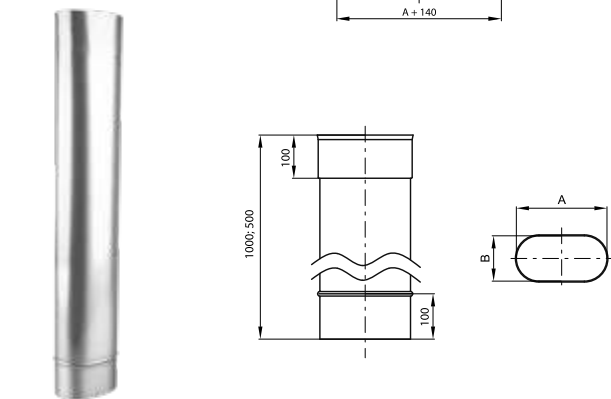
CHIMNEY CAP

B	110				120				130				140
A	185	200	215	180	195	210	225	245	200	220	240	255	250



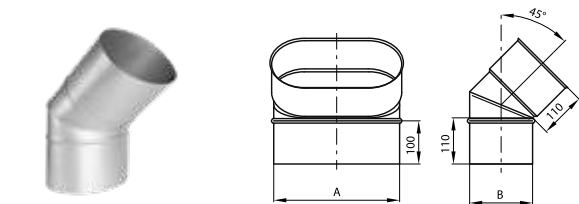
ROOF PASSAGE + OPD

B	110				120				130				140
A	185	200	215	180	195	210	225	245	200	220	240	255	250



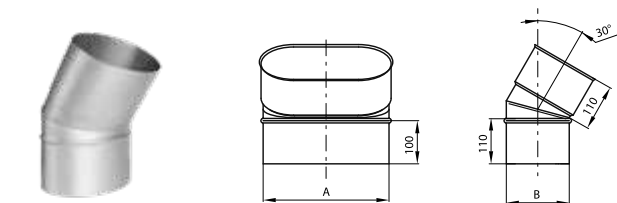
PIPE

B	110				120				130				140
A	185	200	215	180	195	210	225	245	200	220	240	255	250



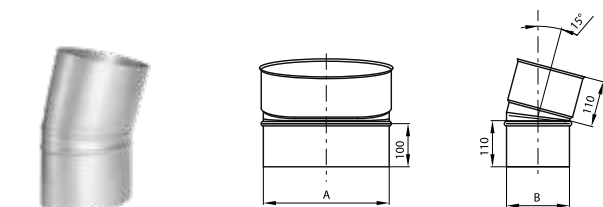
ELBOW 45°

B	110				120				130				140
A	185	200	215	180	195	210	225	245	200	220	240	255	250



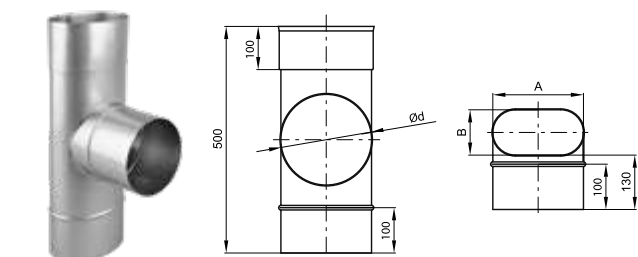
ELBOW 30°

B	110				120				130				140
A	185	200	215	180	195	210	225	245	200	220	240	255	250



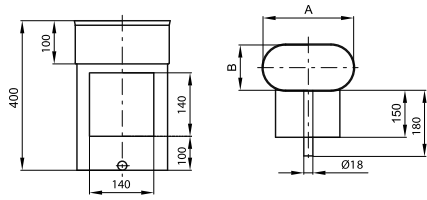
ELBOW 15°

B	110				120				130				140
A	185	200	215	180	195	210	225	245	200	220	240	255	250

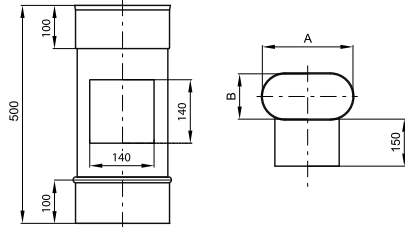


CONNECTION TEE 87°

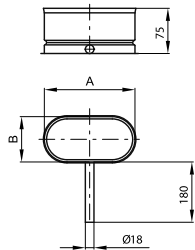
B	110				120				130				140
A	185	200	215	180	195	210	225	245	200	220	240	255	250
d	diameter from range of circular chimney liners (d ≤ A)												


CLEANING HOLE

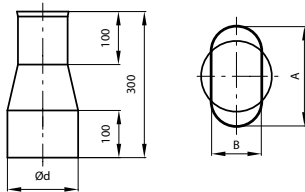
B	110	120					130					140	
A	185	200	215	180	195	210	225	245	200	220	240	255	250


PASS-THROUGH CLEANING HOLE

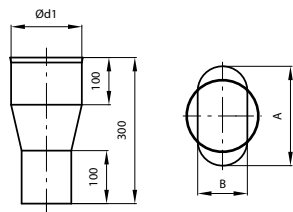
B	110	120					130					140	
A	185	200	215	180	195	210	225	245	200	220	240	255	250


BOTTOM

B	110	120					130					140	
A	185	200	215	180	195	210	225	245	200	220	240	255	250


OVAL REDUCTION PIECE (BOTTOM)

B	110	120					130					140	
A	185	200	215	180	195	210	225	245	200	220	240	255	250
d	diameter from range of circular chimney liners ($d \leq A$)												


OVAL REDUCTION PIECE (UPPER)

B	110	120					130					140	
A	185	200	215	180	195	210	225	245	200	220	240	255	250
d1	diameter from range of circular chimney liners ($d \leq A$)												

ELEMENTS OUTSIDE TYPICAL OFFER



STRAIGHT RECTANGULAR PIPE
1,0; 0,5; 0,25 m



TEE WITH SQUARE/RECTANGULAR/CIRCULAR CONNECTION



REDUCTION PIECE CIRCLE/RECTANGLE

ASSEMBLY MANUAL

**BEFORE MOUNTING, CONSULT
A CHIMNEY SWEEP**

**Before mounting, consult a chimney sweep. If an oval liner is mounted in a previously operating ceramic chimney, clean it from soot and check its technical condition*

1. Forge an opening in the chimney for a washout hole and a tee (figure no. 1) or for the washout hole alone. The chimney liner is designed to rest on a condenser bottom fixed on the washout hole element. Therefore, prepare a relevant support for the condenser bottom so that it remains stable and safe on its entire surface. The minimum height of the washout hole door is 30cm from the floor.
2. Measure the chimney wall thickness and adjust the box of the washout hole (dimension A) so that the washout hole door fits tight to the wall after the installation. **Note: The box inclines approx. 2° towards the chimney which prevents the condensate from dripping out of the washout hole. When fitting the washout hole door, adjust the inclination of the frontal box surface of the washout hole. If the box is too long, cut it appropriately with metal sheet shears.**

3. Drill at least 4 openings, diameter from 4.0 to 4.2 mm, in the washout hole box and in the door frame. Mount the door by riveting it to the washout hole box (use rivets from acid-proof steel 4 mm).

4. Fit a tee or a pipe, and then a tee, in the washout hole.

5. Join the chimney components by inserting one component into the next muff. **All components need to be fitted with the belled muff up. Incorrect mounting will result in the dripping of condensate.** It is recommended to apply a small quantity of a special silicon mass, e.g. SELICONE 1001 (or similar, with working temperature above 150°C), on the internal surface of the muff and spread it evenly before placing the components. **The connection of the condenser bottom with the washout hole should be sealed with a silicone mass.**

6. Transport the pipe elements, the roof passage and the chimney termination to the installation site (the installation is usually conducted from the roof level). Preassemble sections containing several pipes (according to the comments in items 4 and 5) and lower them down with the help of a rope (figure 2). Continue until the entire chimney is assembled and the first pipe is connected to the tee. To keep the entire structure tight, draw all connections (except for the last one) over the entire muff length. Insert the last element 85 mm deep into the muff.

7. Put the roof passage on the last pipe (before assembling it with other pipes).

8. After assembling the last pipe (with the roof passage) with the others, permanently fix the roof passage to the chimney with the use of screws and dowels, keeping a distance of at least 1 cm (e.g. by putting rubber blocks underneath) to ensure the ventilation of the ceramic chimney.

9. Install the chimney roof* and permanently connect it with the pipe by riveting.
***Note: do not use with coal fuels.**

10. When the boiler needs to be connected to the chimney with the use of additional elements such as pipes, knees, connections, use silicone on the connection as in item 5.

11. Brickwork the washout hole and the tee. To avoid stresses, isolate the liner from the masonry mortar with an insulation material (e.g. mineral wool) or special rings.
When brickworking the washout hole, pay particular attention to keeping an appropriate condensate draining from the condenser bottom. The draining tap of the condenser bottom must never be choked (closing the tap is forbidden. Due to condensate contamination, it is recommended to use condensate neutralizers offered by the manufacturer.

12. Where the ceramic chimney height over the roof exceeds 0.3 m (dimension L1 on figure 3), insulate the pipes of the chimney liner with the use of mineral wool or special insulation sleeves over the section of the chimney end to the level below the roof surface. Ensure such insulation also when the chimney passes through „cold”, unheated rooms (e.g. an attic).

13. Follow the regulations contained in the „Technical conditions for the execution and selection of boiler stations” with regard to exhaust flue gas discharge when assembling the chimney.

