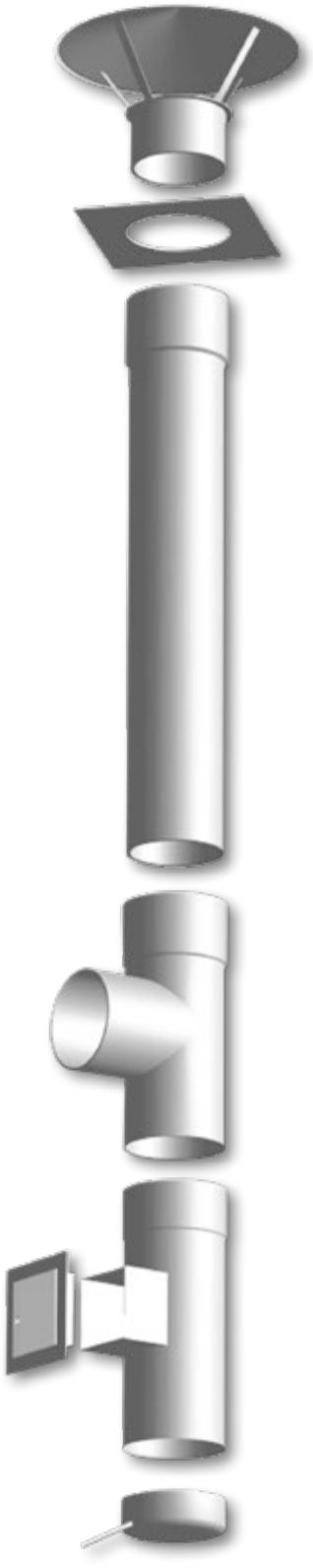
CHIMNEY LINERS

TYPE KF NEGATIVE PRESSURE

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

EN 1856-2 T450 N1 W V_m L50050 G500

- EN 1856-2 — *Standard number*
- T450 — *Maximum working temperature*
- N1 — *Pressure class* (N: Negative pressure, P: Positive pressure)
- W — *Resistance to condensate (W: wet; D: dry)*
- V_m — *Resistance to corrosion according to type and thickness of material*
- L50050 — *Material specification (50-1.4404, 20-1.4301, 30-1.4307)*
- L50050 — *Thickness of material (0.XX mm)*
- G500 — *Resistance to soot fire (G: yes; O: no), distance from flammable materials (500 mm)*



CHIMNEY LINERS

TYPE KF NEGATIVE PRESSURE

NEGATIVE PRESSURE CHIMNEYS

Today's heating technology formulates more and more demanding requirements for all accompanying and co-operating systems. The pursuit of the possibly highest effi ciency of heating units, the modernization of boiler structures resulted in a change in the parameters and composition of combustion products. From the point of view of the chimney's operating conditions, an increase in the efficiency of heating units may lead, first of all, to reducing the temperature of exhaust flue gases and thus to changing the characteristics of the chimney's operation and to the intensifi cation of the condensation of steam in exhaust flue gases.

Modern heating units work in automatic cycles and smoothly adapt their capacity to the needs of central heating and hot utility water systems.

Similar to the heating unit, the chimney also needs to adapt to variable working conditions and create one strictly connected energy complex.

One of the more important parameters typical of a modern chimney is high chemical resistance, low thermal inertia, resulting in the possibility of a quick heating of the chimney with the use of periodical activations of the boiler causing an increase in the generated chimney draught.

CHIMNEY LINERS TYPE KF

The conditions of a modern chimney are best met by negative pressure chimney liners by KOMIN-FLEX made from acid-proof steel. When these liners are put into traditional ceramic chimneys as a protective liner, they act as a classic chimney.

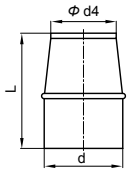
High thermal conductivity, resistance of special acid--proof steels to the action of exhaust flue gases result in the fact chimney liners, with their wide range of dimensions, diameters and diversity of typical components - are the best and the most convenient system for protecting ceramic chimneys used to carry off exhaust emissions from heating units, including boilers for solid, gas or oil fuels.

The system of negative pressure chimney liners offered by KOMIN-FLEX consists of pipe, connection, washout hole, fixing elements, knees and chimney ends. The basic elements of chimney liners are produced from steel, thickness 0.5; 0.8 mm within the range of typical diameters from 100 to 300 mm. Chimney liners above the diameter 300 mm are manufactured for the Client's individual order, and chimney liners above 500 mm in diameter - according to a separate technical documentation.

Precise elements (pipes welded using the plasma technology) and tight connections are a guarantee of safety. The special structure of connections - a connecting muff, length 100 mm, typical of KOMIN-FLEX guarantees easy installation and high rigidity of the structure.

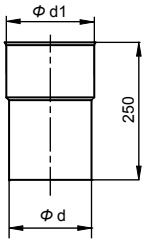
Negative pressure chimney liners KOMIN-FLEX comply with the following European standards: EN 1443, EN 1856-2 and the Polish standard PN-93/B-02870. The production of chimney liners is covered by a system of factory production control, certifi cate No 1020-CPD-070038635 (TZUS Praga). KOMIN-FLEX has implemented 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.



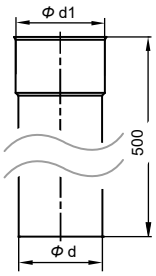
MOUTHPIECE

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	-	110	121	131	138	151	160	179	200	225	250	299	350	400	450	500
d4	-	100	110	115	125	135	145	160	180	200	225	270	315	360	405	450
L	-	195	195	195	195	195	195	195	195	245	245	245	295	295	295	295



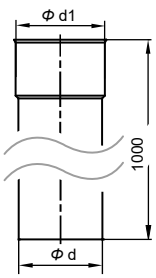
PIPE 0,25m

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	99	111	122	132	139	152	161	180	201	226	251	300	351	401	451	501
d1	101	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503



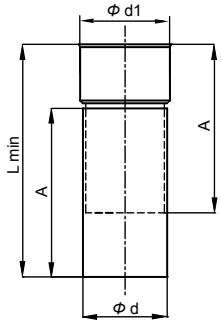
PIPE 0,5m

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	99	111	122	132	139	152	161	180	201	226	251	300	351	401	451	501
d1	101	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503



PIPE 1m

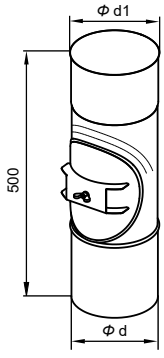
trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	99	111	122	132	139	152	161	180	201	226	251	300	351	401	451	501
d1	101	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503



ADJUSTABLE ELEMENT L=400/600/900

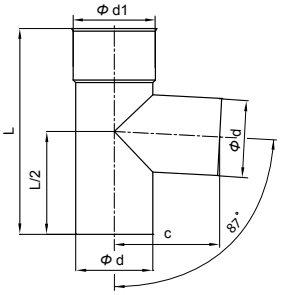
trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	-	111	122	132	139	152	161	180	201	226	251	300	351	401	451	501
d1	-	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503

Lmin	A	Lmax
400	300	500
600	500	900
900	800	1500



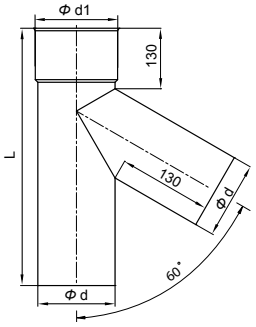
PIPE + CLEANOUT HOLE

trade diam.	100	110	120	130	140	150	160	180	200
d	-	111	122	132	139	152	161	180	201
d1	-	113	124	134	141	154	163	182	203



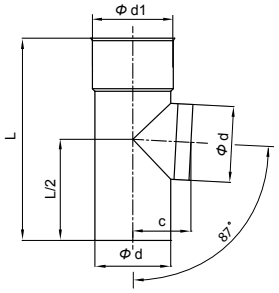
TEE 87°

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	99	111	122	132	139	152	161	180	201	226	251	300	351	401	451	501
d1	101	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503
C	150	155	160	165	170	175	200	210	220	232	255	280	305	330	355	380
L	333	333	333	333	333	400	400	500	500	500	550	600	650	700	750	800



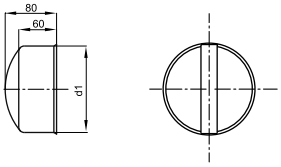
TEE 60°

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	-	111	122	132	139	152	161	180	201	226	251	300	351	401	451	501
d1	-	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503
L	-	400	400	400	400	500	500	500	500	600	600	600	700	800	850	850



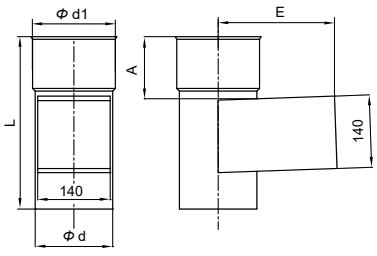
SHORT TEE 87°

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	-	111	122	132	139	152	-	-	-	-	-	-	-	-	-	-
d1	-	113	124	134	141	154	-	-	-	-	-	-	-	-	-	-
C	-	95	100	105	110	115	-	-	-	-	-	-	-	-	-	-
L	-	333	333	333	400	400	-	-	-	-	-	-	-	-	-	-



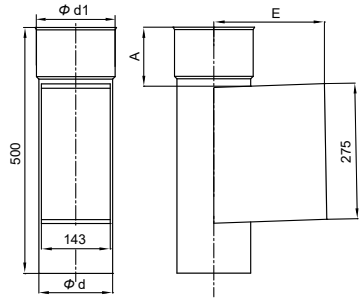
INSPECTION HATCH

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d1	-	113	124	134	141	154	-	-	-	-	-	-	-	-	-	-



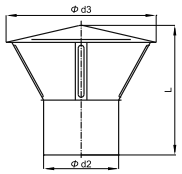
SHORT CLEANING HOLE

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300
d	99	111	122	132	139	152	161	180	201	226	251	300
d1	101	113	124	134	141	154	163	182	203	227	253	302
A	120	120	120	120	120	120	120	120	120	120	120	120
L	333	333	333	333	333	333	333	333	333	333	333	333
E	200	205	210	215	220	225	230	240	250	263	275	300



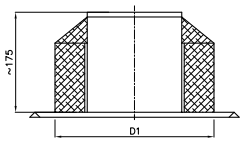
CLEANING HOLE

trade diam.	140	150	160	180	200	225	250	300	350	400	450	500
d	139	152	161	180	201	-	-	-	351	401	451	501
d1	141	154	163	182	203	-	-	-	353	403	453	503
A	120	120	120	120	120	-	-	-	120	120	120	120
E	220	225	230	240	250	-	-	-	325	350	375	400



CHIMNEY CAP

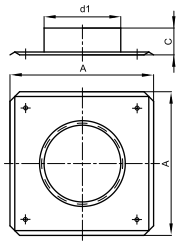
trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d2	-	110	121	131	138	151	160	179	200	225	250	299	-	-	-	-
d3	-	245	245	245	295	295	295	380	380	410	430	480	-	-	-	-
L	-	220	220	220	240	240	240	250	250	285	300	330	-	-	-	-



PRO INSULATED ENDING

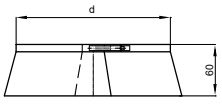
trade diam.	120	130	140	150	160	180	200
D1	220	230	230	250	250	280	300
plate dimension	333 x 333			360 x 360		400 x 400	

NEW!



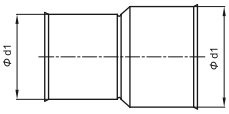
ROOF PASSAGE

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d1	101	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503
A	250	250	250	250	300	300	300	330	330	375	400	450	500	550	600	650
C	30	30	30	30	30	30	30	30	30	50	50	50	50	50	50	50



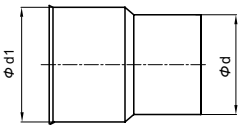
RAIN COWL (OPD)

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	99	111	122	132	139	152	161	180	201	226	251	300	351	401	451	501



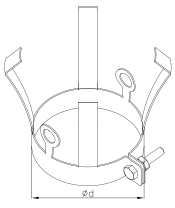
CONNECTING ADAPTER

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d1	101	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503



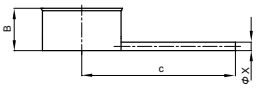
REDUCTION PIECE

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	-	111	122	132	139	152	161	180	201	226	251	300	351	401	451	501
d1	-	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503



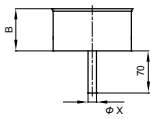
FIXING ELEMENT

trade diam.	100	110	120	130	140	150	160	180	200
d	99	111	122	132	139	152	161	180	201



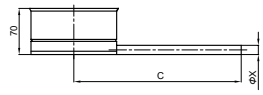
BOTTOM *gas, oil

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
B	60	60	60	60	60	60	70	70	70	70	70	70	70	70	70	70
C	230	235	240	245	250	255	260	270	280	293	305	330	355	380	405	430
øX	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14



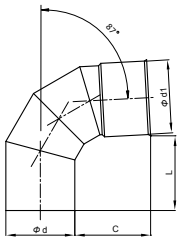
BOTTOM PIPE DOWN *gas, oil

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
B	60	60	60	60	60	60	70	70	70	70	70	70	70	70	70	70
øX	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14



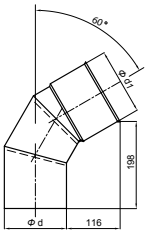
UNIVERSAL BOTTOM *solid fuel

trade diam.	120	130	140	150	160	180	200
C	240	245	250	255	260	270	280
øX	18	18	18	18	18	18	18



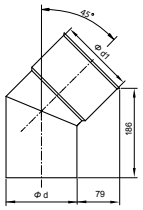
ELBOW 87°

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
execution	4 segments							3 segments								
d	99	111	122	132	139	152	161	180	201	226	251	300	351	401	451	501
d1	101	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503
C	165	165	165	165	165	165	165	138	138	138	138	138	172	172	172	172
L	169	169	169	169	169	169	169	169	142	142	142	142	177	177	177	177



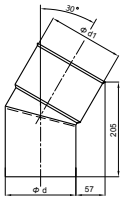
ELBOW 60°

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	99	111	122	132	139	152	161	180	201	226	251	300	351	401	451	501
d1	101	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503



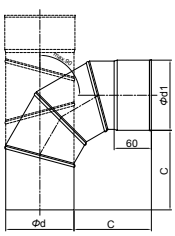
ELBOW 45°

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	99	111	122	132	139	152	161	180	201	226	251	300	351	401	451	501
d1	101	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503



ELBOW 30°

trade diam.	100	110	120	130	140	150	160	180	200	225	250	300	350	400	450	500
d	99	111	122	132	139	152	161	180	201	226	251	300	351	401	451	501
d1	101	113	124	134	141	154	163	182	203	227	253	302	353	403	453	503



ADJUSTABLE ELBOW

trade diam.	100	110	120	130	150
d	99	111	122	132	152
d1	101	113	124	134	154
C	130	130	120	120	115

ASSEMBLY MANUAL

BEFORE MOUNTING, CONSULT A CHIMNEY SWEEP

1. Forge an opening in the chimney for a washout hole and a tee (fi gure no. 1) or for the washout hole alone. The chimney liner is designed to rest on a condenser bottom fi xed 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 fi tting the washout hole door, adjust the inclination of the frontal box surface of the washout hole. When the box is too long, cut it appropriately with metal sheet shears.

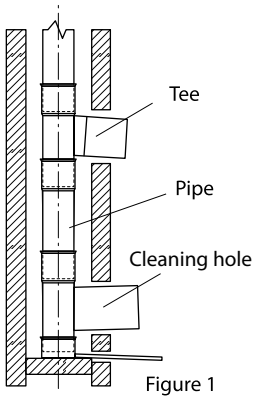


Figure 1

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 elements need to be mounted with the muff up. Incorrect mounting will result in the dripping of condensate.***

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 (fi gure 2). Continue until the entire chimney is assembled and the fi rst 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.

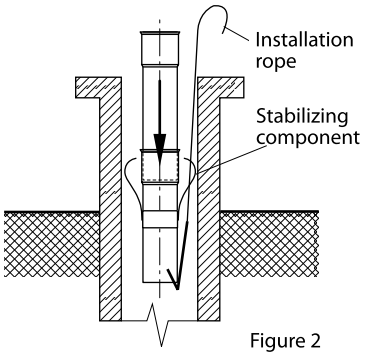


Figure 2

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.*

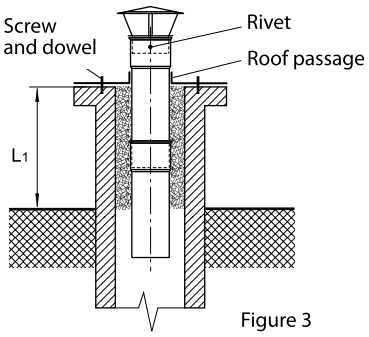


Figure 3

10. Brickwork the washout hole and the tee. To avoid stresses, isolate the chimney 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 off ered by the manufacturer.***

11. NOTE: Additionally protect segments of the adjustable knee used as an element of the flue connection after their initial adjustment with a sealant.

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. Provide such insulation also when the chimney passes through „cold", unheated rooms (e.g. an attic).

13. When assembling the chimney, follow the instructions contained in the „Technical conditions for the execution and selection of boiler stations" with regard to exhaust flue gas discharge systems.