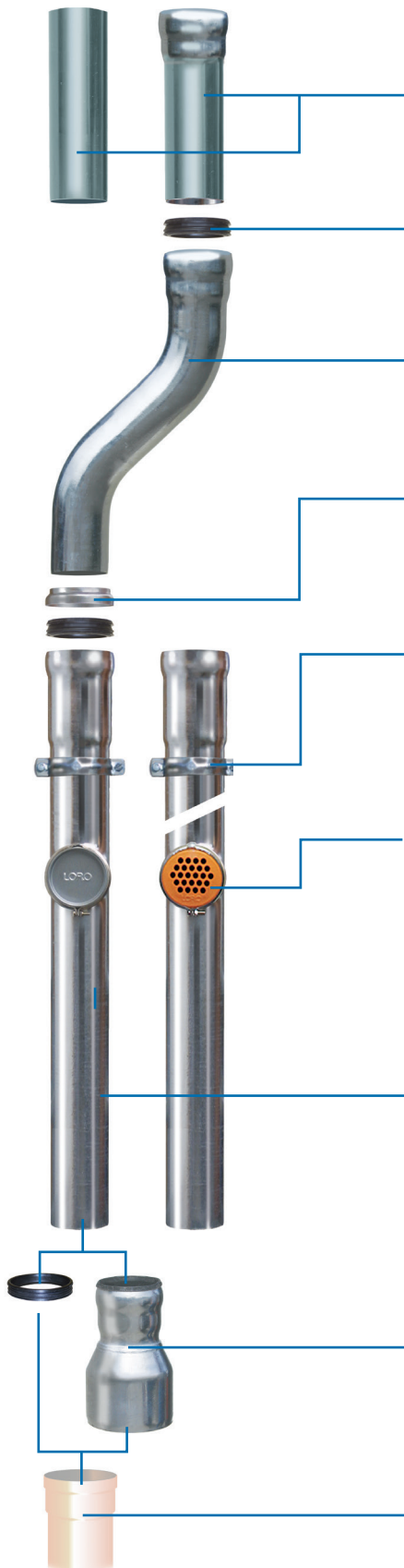


## LORO-Standpipes



### LORO-X Downpipes

(Art.-No. and dimensions see pages 22 - 39)

### LORO-X Sealing elements

(Art.-No. and dimensions see page 27)

### LORO-X Offset pipes

mit Sprung  $e = 200\text{mm}$ ,  $130\text{mm}$  oder  $75\text{mm}$   
(Art.-No. and dimensions see page 25)

### LORO-X Standpipe caps

accurately fitting for customized Zinc- or copper downpipe  
(Art.-No. and dimensions see pages 15 und 20)

### LORO-X Pipe clips

with knockin pin, or connection thread, made of steel, galvanized  
(see page 32), copper (see page 36) or stainless steel (see page 17)

### LORO-X Stand pipe with High performance safety over flow

made of galvanized steel  
(Art.-No. and dimensions see page 17)

### LORO-X Stanpipes

made of galvanized steel with and without cleaning opening  
(Art.-No. and dimensions see pages 14 - 18)

made of copper, with and without cleaning opening  
(Art.-No. and dimensions see pages 19 - 20)

made of stainless steel, with and without cleaning opening  
(Art.-No. and dimensions see pages 21)

### LORO-X Connectors/Sealing elements

for the connection from KG-/HT-Muffe to LORO-Stand pipe,  
Art.-No. and dimensions see pages 44 - 45

### Sewer KG-/HT-Pipe

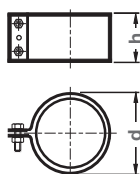
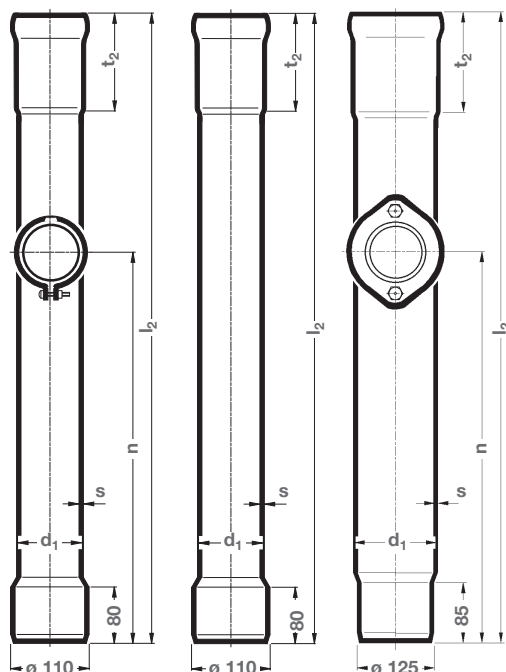
### LORO-X Rain standpipes for the refurbishment of rainwater downpipes

with discharge end for transition to SML/KG discharge pipes

- 1) Rainwater downpipe to be repaired with underground pipe made of cast iron or plastic
- 2) Shorten the underground pipe with a saw or angle grinder
- 3) Deburr the cut underground pipe
- 4) Place the CV/CE seal on the sawn-off end of the pipe and insert the LORO rain standpipe into the CV/CE seal
- 5) Attach the CV/CE connector
- 6) Repaired rainwater downpipe



**No negative effects on the underground pipe!**



#### Standpipes as Renovation-standpipes with cleaning opening made of steel, round

Art.-No.	DN	Auslauf	l <sub>2</sub>	d <sub>1</sub>	t <sub>2</sub>	n	s	kg
05559.100X	100	110	500	102	150	250	1,8	2,8
05554.100X	100	110	1000	102	150	620	1,8	5,3
05557.100X	100	110	2000	102	150	620	1,8	10,4
05554.125X	125	125	1000	133	160	620	2,5	8,5

#### Standpipes as Renovation-standpipes without cleaning opening made of steel, round

Art.-No.	DN	Auslauf	l <sub>2</sub>	d <sub>1</sub>	t <sub>2</sub>	s	kg
05553.100X	100	110	1000	102	150	5,1	2,8

Delivery length 500 mm und 2000 mm on request.

#### CV-connector for renovation standpipes DN 100

Art.-No.	DN	d	h	kg
09070.100X	100	121	54	0,21

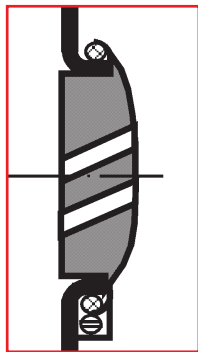
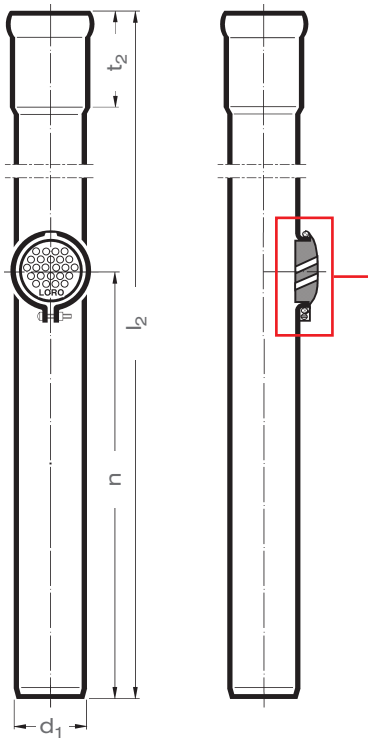
Please order sealing elements for each socket connection additionally, see page 27

### LORO-X Standpipe with High performance safety overflow

LORO-X rain standpipes with high-performance safety overflow offer increased protection against backflow from the underground pipe in the downpipe of the main drainage.

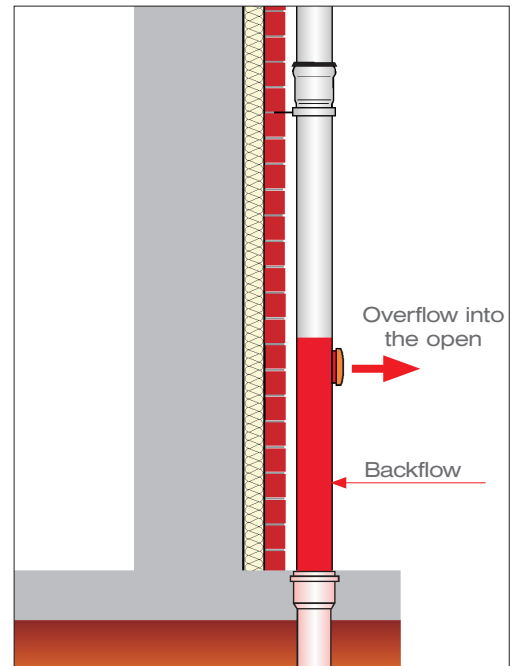
Drainage takes place via the patented safety overflow in the clean-out opening onto surfaces that can be flooded without causing damage.

- **High-performance backflow protection**
- **Suitable for all exterior downpipes**
- **Suitable for new buildings and for refurbishment**
- **Discharge rate of up to 9 l/sec (DN 100)**



with pipe-like drain openings

Art.-No.	DN	l <sub>2</sub>	d <sub>1</sub>	t <sub>2</sub>	n	kg
55154.100X	100	1500	102	150	620	6,6
55204.100X	100	2000	102	150	620	7,5
55204.125X	125	2000	133	160	620	18,5



Please order sealing elements for each socket connection additionally, see page 27

# Installation instructions

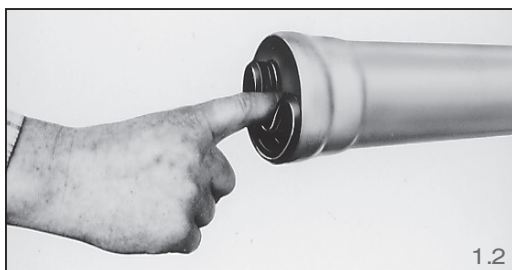
## LORO-X steel discharge pipes DN 70 - DN 200

LORO-X steel discharge pipes are planned and installed in accordance with the technical rules and regulations of DIN EN 12056 (Gravity Drainage Systems inside Buildings) and DIN 1986 Parts 3, 4 and 100 (Drainage Systems for

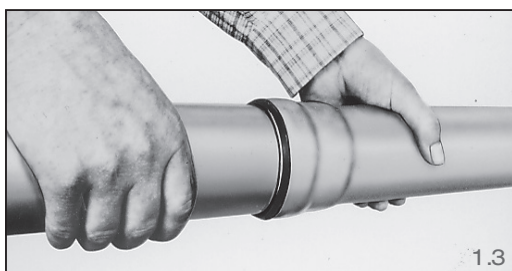
Land and Buildings); DIN 4102 (Fire Prevention in Buildings) and DIN 4109 (Noise Control in Buildings) are to be observed amongst others.



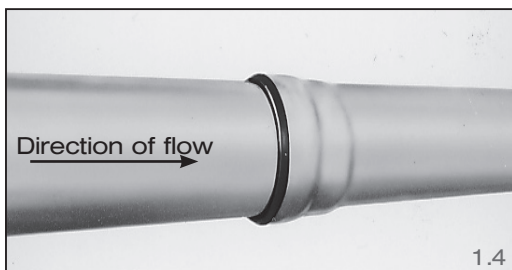
1.1



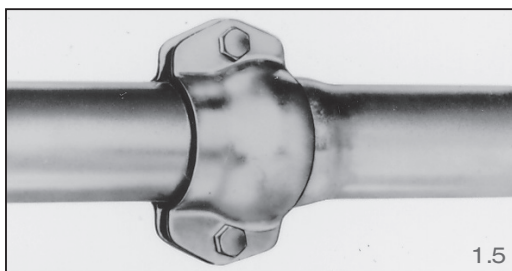
1.2



1.3



1.4



1.5

### 1. Manufacture of the push-fit socket connection

1.1 Place sealing element in inclined position on the edge of the sealing chamber.

Use only original LORO-X sealing elements. Store LORO-X sealing elements at room temperature for easier assembly.

1.2 Push in top sealing element with your finger and let it engage in the sealing chamber until the collar of the sealing element lies level on the socket edge.

**Smear only original LORO-X lubricant no. 986X or 9861X over the entire surface** on the inside of the sealing element and the outside of the insert pipe. The use of other lubricants can lead to impairments.

1.3 Line up the socket and insert pipe and push together. Twist gently to secure. Push the insert pipe in as far as the socket base. Surplus lubricant is to be removed.

When installing pipes of a larger nominal size (DN 100 – DN 200), an assembly aid can be borrowed from the factory.

1.4 Finished LORO-X socket joint complies with DIN 1986 (durable tightness for internal and external gauge pressure of 0 – 0.5 bar).

1.5 If higher pressures are expected, the socket joint can be secured by the LORO-X anchor clip, no. 806X (DN 40 – DN 125) or by the LORO-X anchor hoop, no. 808X (DN 150 – DN 200). Use the LORO-XCL anchor clip, no. 4.806C with stainless steel pipes. Tighten the screws of the LORO-X or LORO-XCL anchor clip evenly to 30 Nm. In the case of the LORO-X anchor hoop, tighten the screws all round evenly to 50 Nm.

## 2. Cutting to length

LORO-X pipes can be best cut to length with a **pipe cutter** with 3 or 4 sharp cutting wheels and without guide rollers.

The pipe can also be cut to length at a right angle to the pipe axis with an angle grinder or saw (in the case of the LORO-XCL stainless steel pipes, use HSS fine-toothed saw blades and a cutting speed of 7 - 10 m/min).

### Deburr the insert ends inside and out.

At the cut surfaces the surrounding zinc layer provides for cathodic protection and prevents under-rusting.

When cutting to length using an angle grinder with subsequent chamfering of the cut surface, it is recommended to provide the chamfered area with zinc plating.

LORO-X pipes can be supplied with two sockets up to DN 100. This prevents waste pieces without sockets being produced when cutting to length. The cut-to-length pipe ends with sockets can be used as adaptors. Waste is reduced as a result.

If a pipe section has no socket, add a LORO-X double socket no. 560X, to turn it into a socket pipe. Glue the double socket onto the remaining pipe with the LORO-X sealing element, no. 911X, and LORO-X adhesive no. 985X.

**Sockets in frost-exposed areas (including double sockets) must not be facing the opposite way to the flow direction.**

## 3. Fastenings

The following weights must be taken into account for the fastening of LORO rain standpipes and rainwater downpipes. Weight of 1 m pipe completely filled with water:

DN 70 approx. 6.8 kg	DN 125 approx. 20.8 kg
DN 80 approx. 9.3 kg	DN 150 approx. 28.2 kg
DN 100 approx. 12.4 kg	DN 200 approx. 51.4 kg

## 4. Releasing the socket joint

Heat the insert pipe well with a soft soldering flame close to the socket rim until the pipe can be pulled out of the socket. The tip of the flame should be about 10 cm away from the pipe to be heated. After that, **replace the sealing element** in all cases.

## 5. Connection to rainwater downpipes

The sockets of LORO rain standpipes are formed as LORO-X long sockets in the sizes DN 70, 80, 100, 125 and 150. For connection to rainwater downpipes made from zinc, copper, PVC or LORO-X steel discharge pipes, see overview "Connection of rainwater downpipes to LORO rain standpipe socket".

The spigot end of the rainwater downpipe is to be cleanly deburred and if necessary chamfered in order to avoid damage to the sealing element.

In the case of plastic downpipes, the greater elongation compared to steel in the case of temperature fluctuations must be taken into account. Therefore the spigot end must not be inserted right to the base of the socket.

## 6. Connection to underground pipe/ underground installation

In order to enable a standard-compliant connection of the LORO rain standpipes and rainwater downpipes to the underground pipe, appropriate connectors must be used. LOROWERK offers LORO-X connectors for the various pipe materials and nominal diameters (see overview below: "Connectors for transition from LORO rain standpipes to underground pipes").

If connectors and/or standpipes are located in the soil, the customer must provide the exterior surfaces of the pipe surrounded by soil with anti-corrosion protection according to DIN 30672.

## 7. Painting

Use paints specially designed for hot-dip galvanized substrates.

## 8. Other fitting instructions

1. Pipes exposed to corrosion by electrical current, corrosive liquids, gases or fumes, must be protected in a suitable manner.
2. Pipes with corrosion protection (hot-dip galvanising with added inside coating) cannot be welded.
3. Sockets in frost-exposed areas (including double sockets) must not be facing the opposite way to the flow direction.

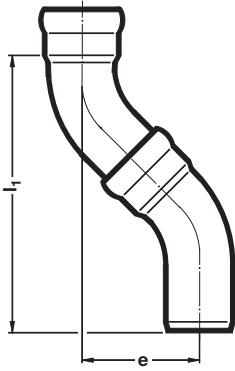
## 9. Auxiliary tools

Available to hire on request for assistance with the assembly:

- Assembly tool for making socket joint
- Pipe cutter

## 10. Possibilities to connect rainwater downpipes to LORO rain standpipe sockets

	Exterior Ø	to LORO rain standpipe socket
<b>Zinc sheet/copper sheet</b>		
8-piece	76 mm	DN 70: direct, without sealing element
7-piece	80 mm	DN 80: Sealing element 00911.080X
6-piece	100 mm	DN 100: Sealing element 00911.100X
5-piece	120 mm	DN 125: Sealing element 00944.125X
<b>PVC</b>		
DN 70	75 mm	DN 70: direct, without sealing element
DN 80	85 mm	DN 80: Sealing element 00911.080X
DN 100	110 mm	DN 100: Connector 00750.100X Sealing element 00911.100X
DN 125	125 mm	DN 125: Sealing element 00944.125X
<b>LORO-X pipe/LORO-N pipe</b>		
DN 70	73 mm	DN 70: Sealing element 00911.070X
DN 80	89 mm	DN 80: Sealing element 00911.080X
DN 100	102 mm	DN 100: Sealing element 00911.100X
DN 125	133 mm	DN 125: Sealing element 00911.125X
DN 150	159 mm	DN 150: Sealing element 00911.150X
<b>Zinc sheet □</b>		
DN 70	70 mm	direct, without sealing element
DN 100	100 mm	direct, without sealing element
<b>Copper sheet □</b>		
DN 100	100 mm	direct, without sealing element


**1 1. Dimensions of offset pipes made of steel by using two bends**

$\alpha$	15°		30°		45°		70°		87°	
DN	e (mm)	$l_1$	e (mm)	$l_1$	e (mm)	$l_1$	e (mm)	$l_1$	e (mm)	$l_1$
70	36	273	86	319	145	350	258	369	331	348
80	43	326	101	376	169	407	297	425	383	404
100	36	271	79	294	126	304	205	293	252	265
125	39	293	82	305	134	323	218	311	276	291
150	41	315	105	392	170	411	284	403	353	372
200	54	413	105	391	308	744	577	824	764	806


**Dimensions of offset pipes made of copper by using two bends**

$\alpha$	15°		30°		45°		70°		87°	
DN	e (mm)	$l_1$	e (mm)	$l_1$	e (mm)	$l_1$	e (mm)	$l_1$	e (mm)	$l_1$
70	-	-	-	-	85	205	-	-	171	181
80	-	-	-	-	92	222	-	-	194	204
100	-	-	-	-	117	282	-	-	233	246


**Dimensions of offset pipes made of stainless steel by using two bends**

$\alpha$	15°		30°		45°		70°		87°	
DN	e (mm)	$l_1$	e (mm)	$l_1$	e (mm)	$l_1$	e (mm)	$l_1$	e (mm)	$l_1$
70	36	273	86	319	145	350	258	369	331	348
80	36	275	76	283	130	314	234	335	320	337
100	41	315	91	340	160	385	293	419	403	425
125	42	316	113	420	194	469	354	506	484	510
150	44	334	125	467	219	529	407	582	561	591

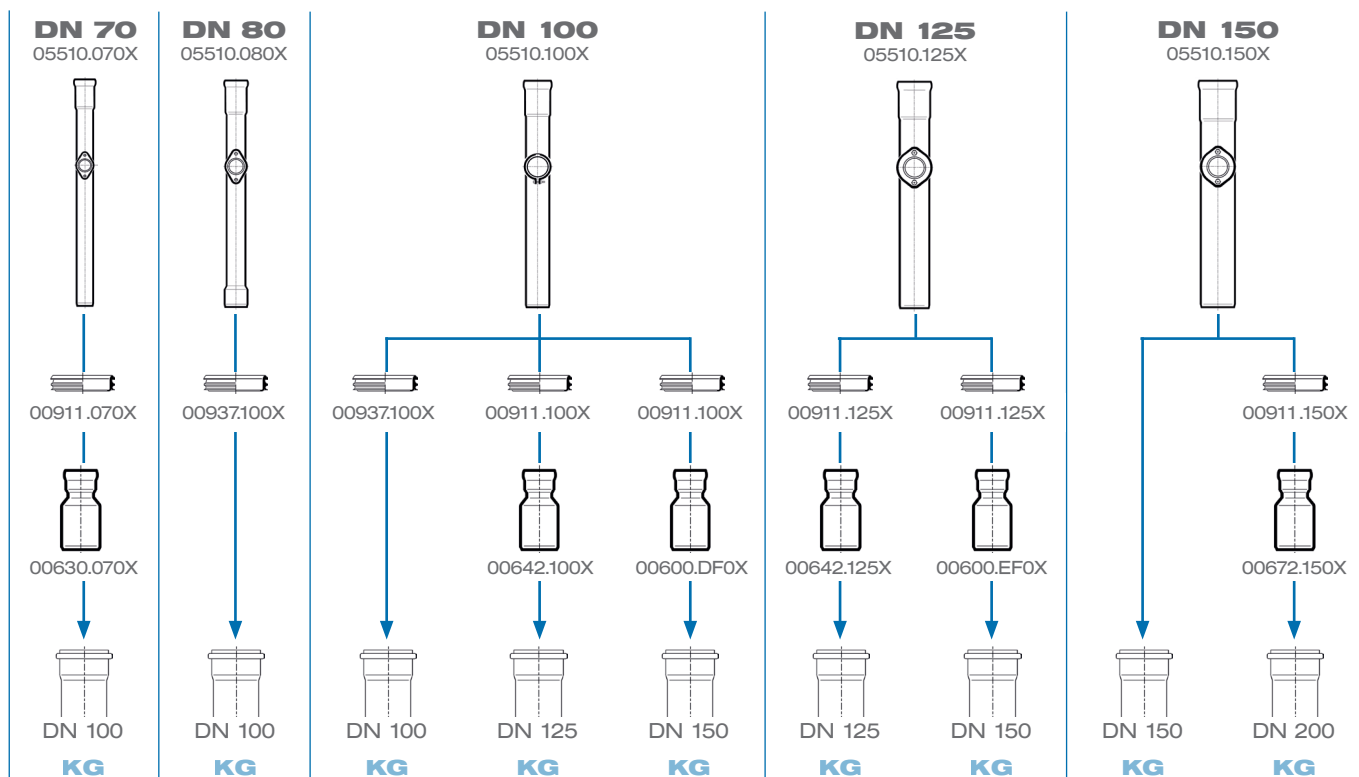


Double bend see page 27

#### 12. Transition

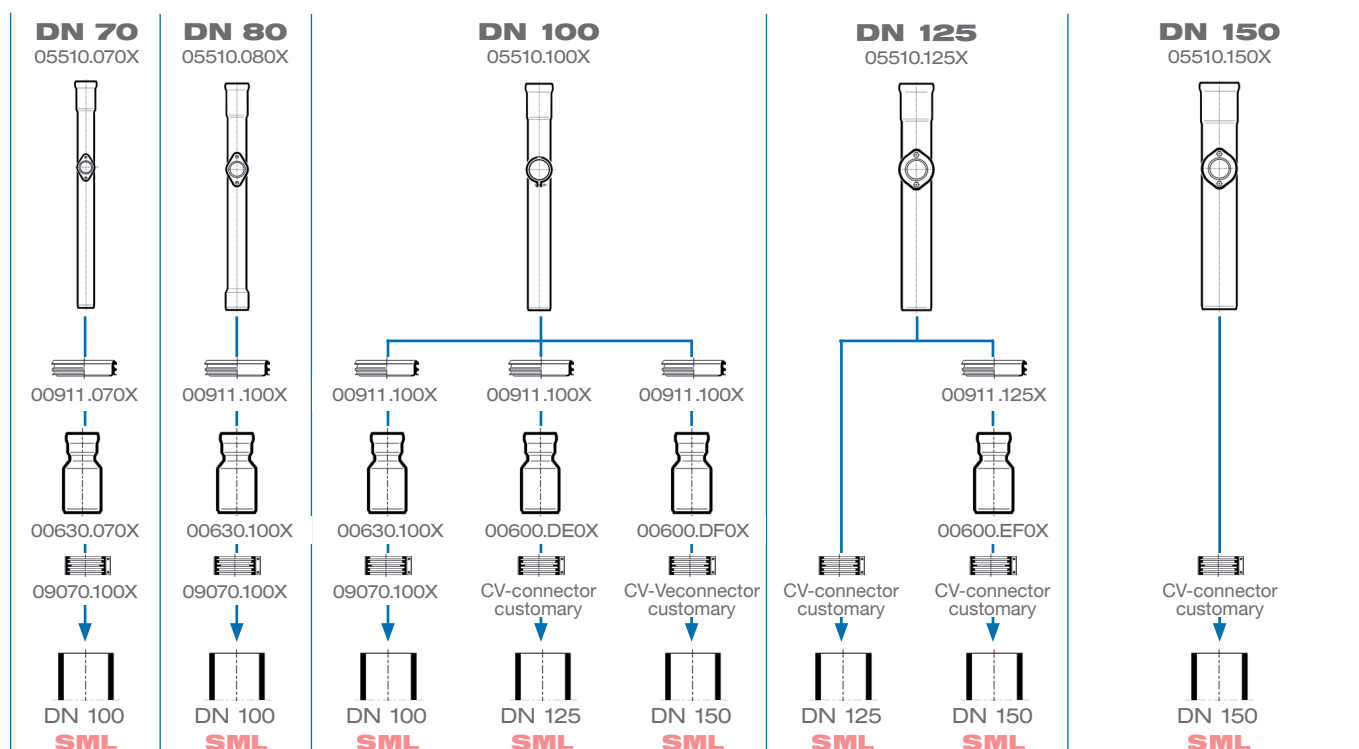
to sewer made of plastic "KG-Pipe"

#### Standpipe round, 1000 mm



to sewer made of **Cast iron pipes (SML)**

#### Standpipe round, 1000 mm



#### Renovation length 1000 mm

**DN 100**  
05554.100X



**KG**

**DN 125**  
05554.125X



**KG**

#### quadratic to round, 102 mm

**70 x 70**  
05505.070X



**KG**

**80 x 80**  
05505.080X



**KG**

**100 x 100**  
05505.100X



**KG**

#### Renovation, length 1000 mm

**DN 100**  
05554.100X



**SML**

#### quadratic to round, 102 mm

**70 x 70**  
05505.070X



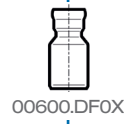
**SML**

**80 x 80**  
05505.080X



**SML**

**100 x 100**  
05505.100X



**SML**