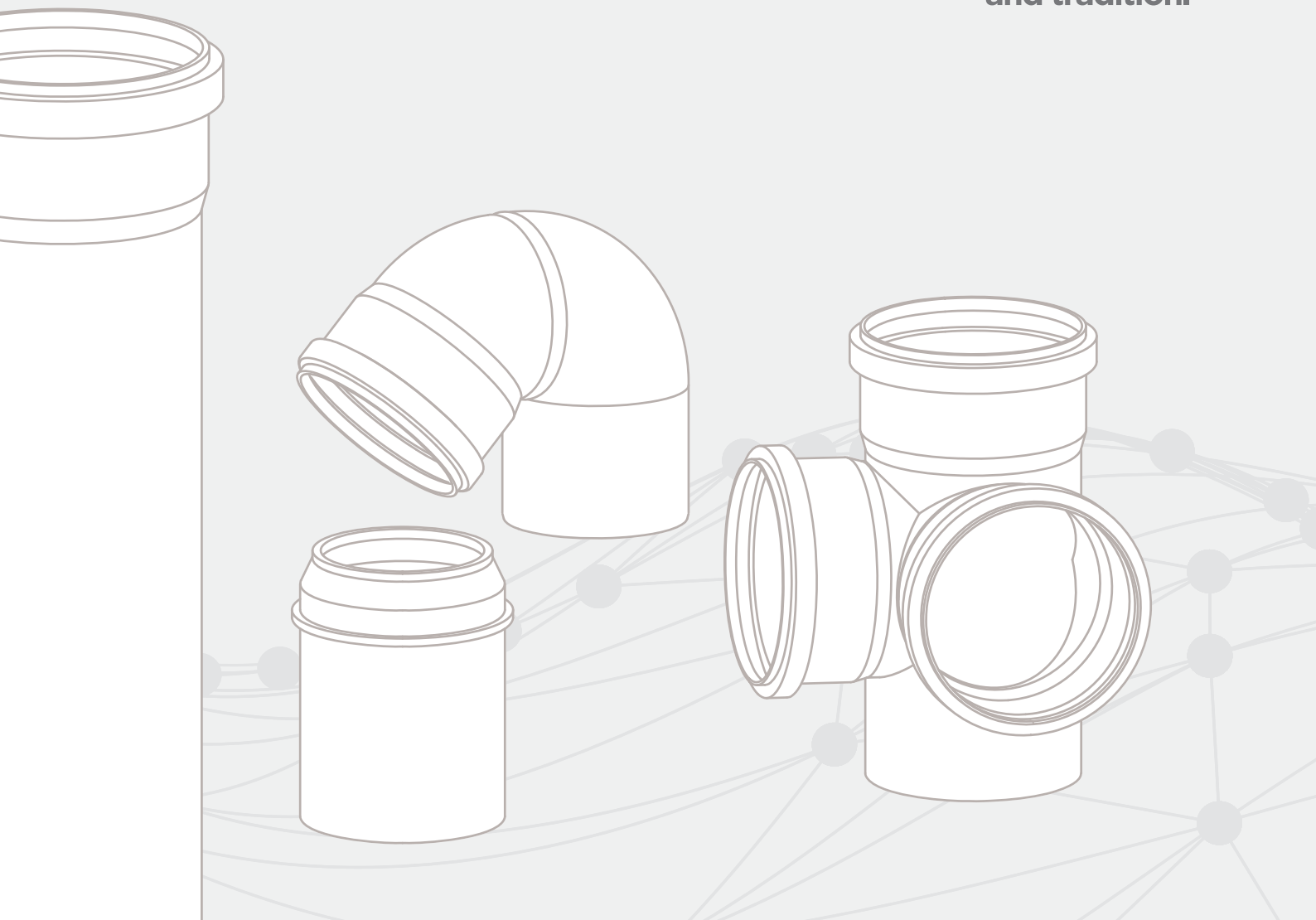


INSTALLATION SYSTEM
vargokal ULTRA

HOUSE SEWAGE SYSTEM - SILENT

SEWAGE **PP/MF** PIPES AND FITTINGS FOR INTERNAL INSTALLATIONS

Technology
and tradition.



CATALOGUE 08/2022

Complete solutions for
**sewage, water / gas supply,
drainage and cable protection**

 **VARGON**
INSTALLATION SYSTEMS



INSTALLATION SYSTEM
vargokal ULTRA

SEWAGE

PP/MF PIPES *ULTRA*

PP/MF FITTINGS *ULTRA*

SEALS *ULTRA*

Description and purpose of system



vargokal ULTRA pipes and fittings are made out of polypropylene polymer (PP) with the addition of mineral filler (MF) in wide range of types and dimensions which are used for house sewage and water drainage. **vargokal ULTRA** installation system guarantees high mechanical resistance, excellent acoustic performance and high resistance to agents. They are installed inside building structures (area of application B) intended for residential and industrial use, and are especially used for the drainage of waste and rainwater at high and low temperatures, as well as for ventilation of the entire drainage system.

They are delivered with integrated socket and built-in seals and are produced in accordance with standard EN 1451-1

vargokal ULTRA pipes and fittings are made of a mixture based on polypropylene (PP) and mineral fillers (MF) which ensures high mechanical characteristics both at low (impact resistance at -20 °C) and high temperatures (at continuous working temperature up to 95 °C).

vargokal ULTRA waste system can transport waste liquids with PH values between 2 and 12, has a high resistance to the most common chemical agents and is characterized by an extremely smooth surface, which prevents the accumulation of deposits inside the waste pipelines.

Installation system **vargokal** consists of following programs:

vargokal - Single layer pipes and fittings

vargokal 3S - Three-layer pipes

vargokal PLUS - Low noise three-layer pipes and single layer fittings

vargokal ULTRA - Silent single layer pipes and fittings

System assembly

vargokal ULTRA pipes and fittings are assembled by integrated socket with factory-fitted seals. Seals are inserted in a special fillister which ensures waterproof junction, safety and simple assembly.

Dimensions of seals, standards of production, technology and regular control of quality meet European standard HRN EN 681 „Materials requirements for pipe joint seals used in water and drainage applications“.

System advantages



Easy manipulation and storage

Characteristic of products allows easy manipulation and storage.



Easy and quick installation

Installation is very quick with „push-fit“ type of installation. Wide range of connecting parts provides the ability of assembly in various situations.



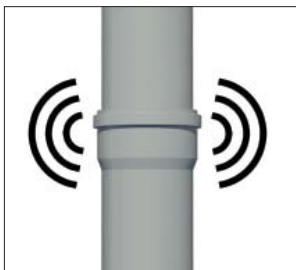
No bonding

Because of integrated seal there is no need to use glue in assembly process.



No need to use tools

vargokal ULTRA pipes and fittings are connected manually without tools.



Excellent acoustic properties

Noise level of *vargokal ULTRA* pipes is 6 dB(A) with a flow rate of 2 l/s.



Watertightness

Integrated seal ensure safe and waterproof junction.



Resistance to high temperatures

vargokal ULTRA pipes are resistant to intermittent discharges at temperatures up to 95 °C.



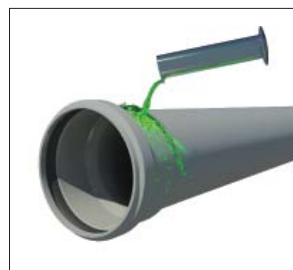
The inability of fouling

The smooth inner surface does not retain microorganisms or a deposition.



Resistance on mechanical damages

High impact resistance at extremely low temperatures down to -20°C.



High resistance to aggressive chemicals

High chemical resistance to substances dissolved in civil and industrial waste systems.

New solutions for drainage in residential buildings

We are able to offer you the ventilation branch (sovent) **vargokal ULTRA** which offers an ideal solution in tall buildings where the factor of simultaneous use of sanitary devices is high.

The sewage system using the ventilation branch **vargokal ULTRA** guarantees excellent ventilation of the drainage pipes and forks on each floor, limiting pressure fluctuations in the system.

vargokal ULTRA ventilation branch system offers significant advantages and money savings thanks to the possibility of building individual drainage pipes (without the need for parallel ventilation) with a diameter of 110 mm with a drainage capacity that is more than double that of a system with primary ventilation.

An ideal solution for high-rise construction

- One drain pipe - no additional ventilation pipes required
- Increased drainage load compared to conventional systems
- Reducing the flow rate of waste water
- Excellent ventilation of drainage pipes and branches of each floor
- Up to 6 connections on one ventilation fork
- Up to 45 apartments can be connected to the same drainage pipe

The drainage system with ventilation branch **vargokal ULTRA** enables the drainage of larger quantities of liquids than any other waste water drainage system (primary ventilation system, direct or indirect parallel ventilation system, secondary ventilation system).



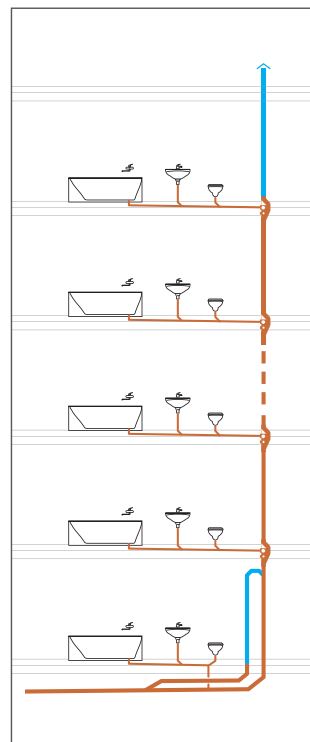
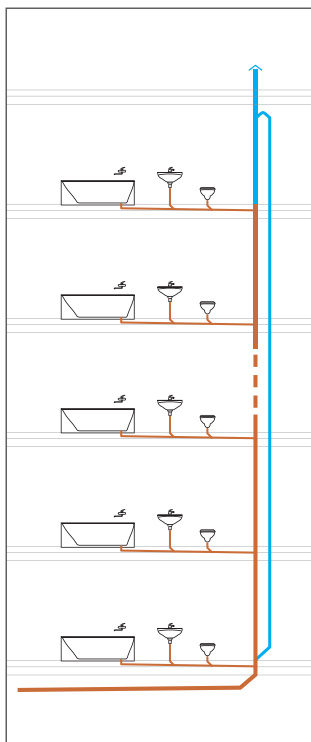
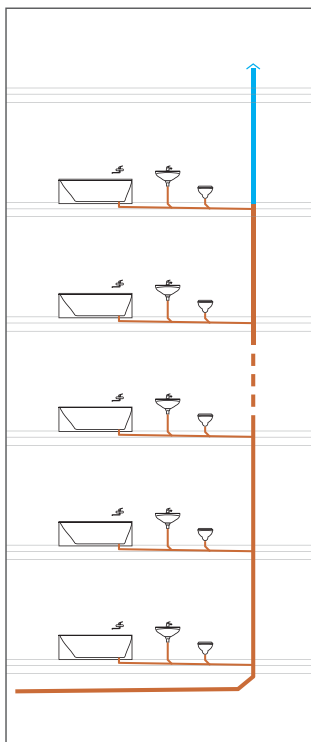
Primary ventilation system

Parallel ventilation system

System with ventilation branch

Drainage capacity 40% higher than waste systems with primary ventilation

Drainage capacity is 120% higher than waste systems with primary ventilation



Product packaging

Until installation **vargokal ULTRA** pipes are exposed to manipulation at loading and unloading, transport and temporary storage therefore it is necessary to pay attention to the correct way in their handling.

Immediately after the production pipes are placed and packed in original factory packaging (bundle), and pallets of standardized quantity and size. For this purpose, floor bars are used to lay pipes on, in order to prevent pipe contact with inadequate surface. Depending on the diameter and length of pipe two or three bars are used to ensure the stability of the bundle and the ability to manipulate with forklift. Pipes inside the bundles are reinforced with pipe dividers and entire bundle is secured with plastic strip that gives additional strength to the package.

vargokal ULTRA pipes of smaller dimensions and fittings are packed in boxes.



Legend:

w= width of bundle h= height of bundle L= length of bundle a= number of pipes by width b= number of pipes by height

PACKAGING OF PIPE BUNDLES (PALLET)			
PIPE DIAMETER DN	PIPE LENGTH (mm) without socket		
	1000	2000	3000
	NUMBER OF PIPES IN BUNDLE (pcs) (a x b)		
	DIMENSION OF BUNDLE (mm) (w x h x L)		
50 (58)	16 (4 x 4)	16 (4 x 4)	16 (4 x 4)
	295 x 270 x 1200	295 x 270 x 2150	295 x 270 x 3150
70 (78)	16 (4 x 4)	16 (4 x 4)	16 (4 x 4)
	380 x 360 x 1200	380 x 360 x 2150	380 x 360 x 3160
100 (110)	15 (3 x 5)	15 (3 x 5)	15 (3 x 5)
	390 x 650 x 1200	390 x 650 x 2180	390 x 650 x 3200
125 (135)	8 (4 x 2)	8 (4 x 2)	8 (4 x 2)
	580 x 340 x 1200	580 x 340 x 2200	580 x 340 x 3200
150 (160)	8 (4 x 2)	8 (4 x 2)	8 (4 x 2)
	735 x 375 x 1200	735 x 375 x 2200	735 x 375 x 3230

Transportation of products

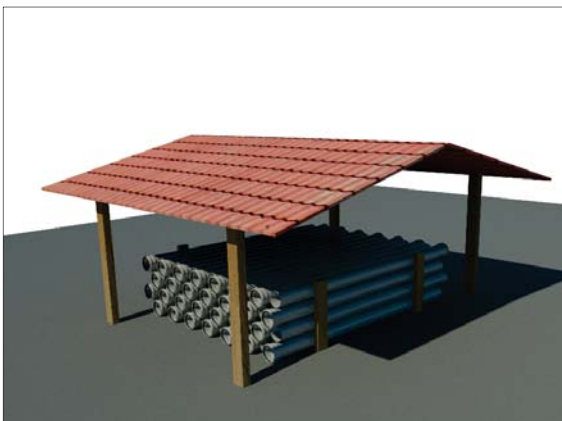
When loading and unloading of bundles it is necessary to pay attention to the pipe ends in order to avoid the deformation / breakage of the pipe sleeve, damage of the seal or flat end of the pipe. Placing heavy objects over the pipes can cause ovality of pipes which will disappear on its own when the load is decreased. For better utilization of transport bundles can be stacked in height to full height of loading space (max. 3m) without risk of damage. During transport it is recommended to stack pipes up to four bundles in height, for diameters from Ø50 to Ø70 or up to two bundles in height for diameters from Ø100 to Ø150.



Storage of products

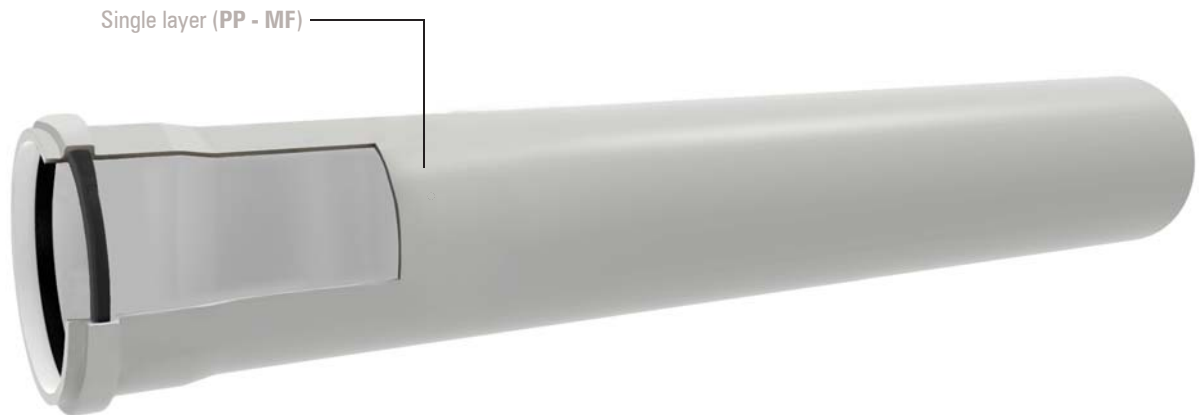
It is recommended to use indoor warehouse or covered space in order to protect pipes from the effects of weathering. It is not recommended to expose pipes (and seals) to sunlight for more than 6 months in order to avoid change of the material properties. In conditions of low ambient temperature (0 °C or lower) all polymeric materials become brittle and less elastic so it is necessary to pay attention to protect pipes from dropping from a height.

If the pipes are on stock, they can be stacked up to four bundles in height, for diameters from Ø50 to Ø70 or up to two bundles in height for diameters from Ø100 to Ø150.



Pipe ULTRA

Silent single layer pipe PP / MF



vargokal ULTRA pipes are produced from polypropylene (PP) polymers with the addition of the mineral filler (MF). The primary application of the pipe is drainage of waste water for residential and industrial use.

The pipe is manufactured with integrated connection socket, features a compact single-layer wall, and is supplied with a suitable connection seal. The pipe wall is made of one layer of pure PP with the addition of mineral filler. The pipe is light gray RAL 7035.

Wall thickness of **vargokal ULTRA** pipes is higher than the thickness of **vargokal PLUS 3S** pipes.

While discharging media through pipes **vargokal ULTRA** emits much less noise than **vargokal PLUS 3S** pipes, which means that the noise level of **vargokal ULTRA** pipes is lower than on **vargokal PLUS 3S** pipes. This is because the thicker middle layer is produced with mineral filler that has the property of good sound absorption, and also provides larger circumferential rigidity of **vargokal PLUS 3S** pipes.

vargokal ULTRA pipes comply with norm HRN EN 1451-1 which specifies the required mechanical and physical properties of pipes and fittings manufactured from PP in the field of drainage and waste water within the building structure.

Pipes are supplied with associated fittings in the appropriate dimensions..

Outer diameter DN	Wall thickness s mm	Inner diameter mm	Pipe weight kg/m
50 (58)	4,0	49,6	1,32
70 (78)	4,5	68,8	2,03
100 (110)	5,4	99,2	3,42
125 (135)	5,6	123,8	4,34
150 (160)	5,6	148,8	5,24

The noise level in the pipeline

Noise in nature

Noise in the nature is unwished or harmful sound to human health and the environment in outer space caused by human activity including noise emitted by means of transport, road transport, railway transport, air transport, maritime and inland waterway transport as well as the plant and projects for which the special regulations in the field of environmental protection shall obtain a decision on integrated environmental protection requirements or decision on environmental impact on the environment.

Noise protection

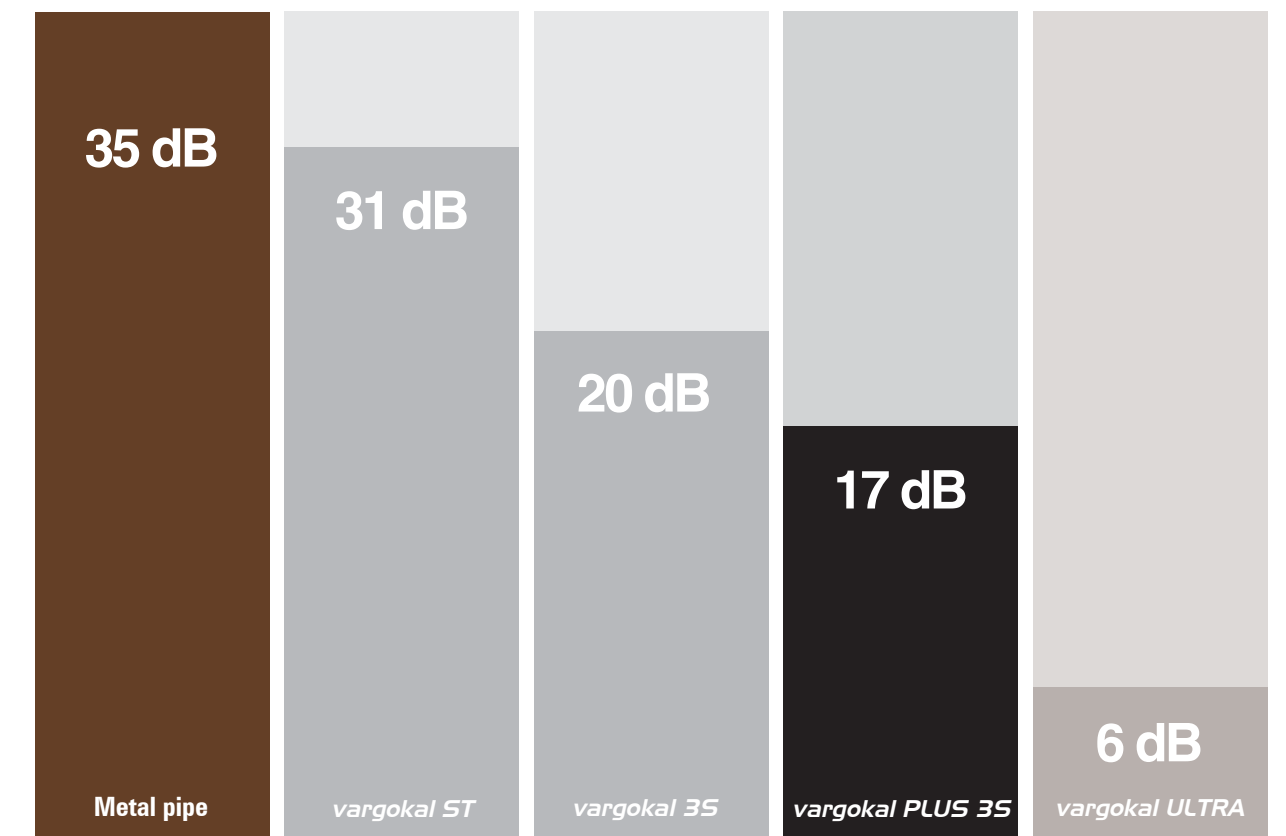
Noise protection in buildings is a very demanding task for architects and builders while planning and constructing. The flow of wastewater through the sewage systems is one of the possible sources of noise in buildings.

Soundproofing of house drainage installation systems has gained in importance due to the high demands of comfort living. The total noise can be significantly reduced by selecting the appropriate piping system. The types and the vibration of pipes depend on various factors such as the weight of pipes, the material and its internal insulation. Pipes produce air noise caused by vibration and vibration noise caused by fixation on installation wall.

Noise reduction is achieved by using:

1. special materials in the manufacture process
2. special clamps with rubber inserts.


Sound levels for different types of drainage pipes:

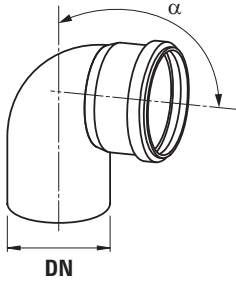


The table shows the noise level at a flow rate of 2 liters of water per second.

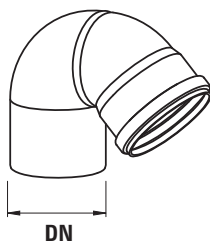
Art. 103 / 1 - PKEM SILENT SINGLE LAYER PIPE SINGLE SOCKET <i>with seal</i>	DN	L mm	s mm	L1 mm	Code	○○ ○○ ○○
	50	150	4,0	205	- 14880 -	4
	50	250	4,0	305	- 14881 -	4
	50	500	4,0	555	- 14882 -	4
	50	1000	4,0	1055	- 14883 -	16
	50	2000	4,0	2055	- 14884 -	16
	50	3000	4,0	3055	- 14885 -	16
	70	150	4,5	210	- 14886 -	4
	70	250	4,5	310	- 14887 -	4
	70	500	4,5	560	- 14888 -	4
	70	1000	4,5	1060	- 14889 -	16
	70	2000	4,5	2060	- 14890 -	16
	70	3000	4,5	3060	- 14891 -	16
	100	150	5,4	215	- 14892 -	4
	100	250	5,4	315	- 14893 -	4
	100	500	5,4	565	- 14894 -	4
	100	1000	5,4	1065	- 14895 -	15
	100	2000	5,4	2065	- 14896 -	15
	100	3000	5,4	3065	- 14897 -	15
	125	150	5,6	220	- 14898 -	4
	125	250	5,6	320	- 14899 -	4
125	500	5,6	570	- 14900 -	4	
125	1000	5,6	1070	- 14901 -	8	
125	2000	5,6	2070	- 14902 -	8	
125	3000	5,6	3070	- 14903 -	8	
150	150	5,6	220	- 14904 -	4	
150	250	5,6	320	- 14905 -	4	
150	500	5,6	570	- 14906 -	4	
150	1000	5,6	1070	- 14907 -	8	
150	2000	5,6	2070	- 14908 -	8	
150	3000	5,6	3070	- 14909 -	8	


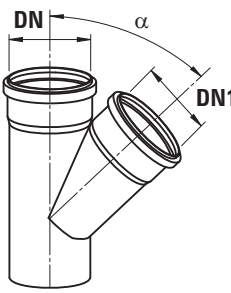
Art. 103 / 2 SILENT SINGLE LAYER PIPE WITHOUT SOCKET	DN	L mm	s mm	Code	○○ ○○ ○○
	50	5000	4,0	- 23965 -	180
	70	5000	4,5	- 23966 -	180
	100	5000	5,4	- 23967 -	150
	125	5000	5,6	- 23968 -	120
	150	5000	5,6	- 23969 -	70


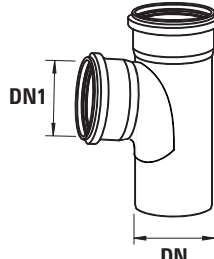
Art. 105 / 2 - PKB BEND <i>with seal</i>	DN	α	Code	
	50	15°	– 24377 –	4
	50	30°	– 24381 –	4
	50	45°	– 14910 –	4
	50	67°	– 24389 –	4
	50	87°	– 14911 –	4
	70	15°	– 24378 –	4
	70	30°	– 24382 –	4
	70	45°	– 24390 –	4
	70	67°	– 24391 –	4
	70	87°	– 24392 –	4
	100	15°	– 14912 –	4
	100	30°	– 14913 –	4
	100	45°	– 14914 –	4
	100	67°	– 14915 –	4
	100	87°	– 14916 –	4
	125	15°	– 24379 –	4
	125	30°	– 24383 –	4
	125	45°	– 24388 –	4
	125	87°	– 24387 –	4
	150	15°	– 24380 –	4
	150	30°	– 24384 –	4
	150	45°	– 24385 –	4
	150	87°	– 24386 –	4


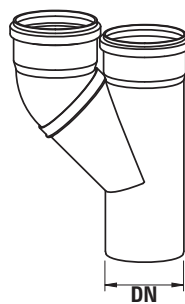



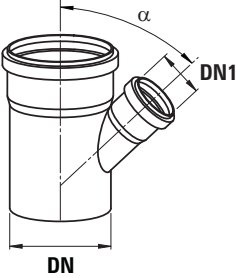
Art. 105 / 3 - PKB VENTING BEND <i>with seal</i>	DN	Code	
	100	– 24428 –	2


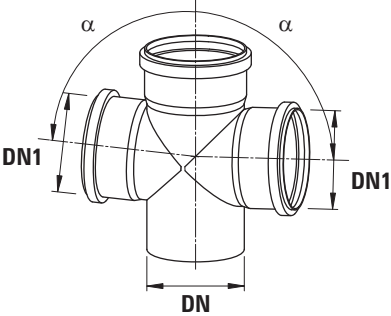



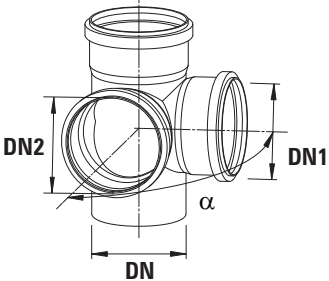
Art. 107 / 2 - PKEA BRANCH <i>with seals</i>	DN	DN1	α	Code	
	50	50	45°	– 14917 –	4
	50	50	67°	– 24393 –	4
	50	50	87°	– 14918 –	4
	70	70	45°	– 24394 –	4
	70	70	67°	– 24395 –	4
	70	70	87°	– 24396 –	4
	100	100	45°	– 14919 –	4
	100	100	67°	– 24397 –	4
	100	100	87°	– 14920 –	4
	125	152	45°	– 24398 –	2
	125	125	87°	– 24399 –	2
	150	150	45°	– 24400 –	2


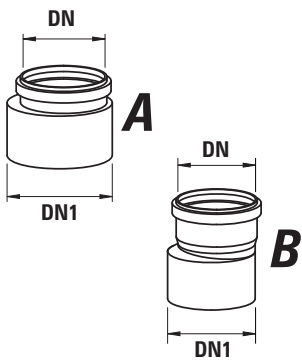
Art. 107 / 3 - PKEA SWEEP BRANCH <i>with seals</i>	DN	DN1	Code	
	100	100	– 24508 –	4



Art. 107 / 4 - PKEA PARALLEL BRANCH <i>with seals</i>	DN	Code	
	100	– 24429 –	2



Art. 109 / 2 - PKEA REDUCED BRANCH <i>with seals</i>		DN	DN1	α	Code	
	70	50	45°	- 24401 -	4	
	70	50	67°	- 24402 -	4	
	70	50	87°	- 24403 -	4	
	100	50	45°	- 14921 -	4	
	100	50	67°	- 24404 -	4	
	100	50	87°	- 24405 -	4	
	100	70	45°	- 14922 -	4	
	100	70	67°	- 24406 -	4	
	100	70	87°	- 24407 -	4	
	125	100	45°	- 14923 -	2	
	125	100	87°	- 24408 -	2	
	150	100	45°	- 24409 -	2	



Art. 112 / 2 - PKDA DOUBLE BRANCH <i>with seals</i>		DN	DN1	α	Code	
	100	100	87°	- 14924 -	2	
	125	100	87°	- 14925 -	2	



Art. 112 / 3 - PKDA CORNER BRANCH <i>with seals</i>		DN	DN1	DN2	α	Code	
	100	100	100	87°	- 24414 -	5	



Art. 115 / 2 - PKR REDUCER <i>with seal</i>	DN	DN1	Type	Code	
	50	70	A	- 24410 -	4
	50	100	A	- 14926 -	4
	70	100	A	- 14927 -	4
	100	125	B	- 24411 -	4
	100	150	B	- 24412 -	4
	125	150	B	- 24413 -	4



Art. 118 / 2 - PKRE ACCESS PIPE WITH SCREW CAP <i>with seal</i>	DN	Code	
	50	- 24415 -	4
	70	- 24416 -	4
	100	- 14928 -	4
	125	- 14929 -	4
	150	- 24417 -	2


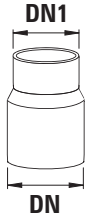
Art. 121 / 2 - PKU SLIP COUPLER <i>with seals</i>	DN	Code	
	50	- 23962 -	4
	75	- 23963 -	4
	100	- 14930 -	4
	125	- 14931 -	4
	150	- 23964 -	4


Art. 122 / 2 - PKJ BI-JOINT <i>with seals</i>	DN	Code	
	50	- 24509 -	4
	75	- 24510 -	4
	100	- 24511 -	4
	125	- 24512 -	4
	150	- 24513 -	4

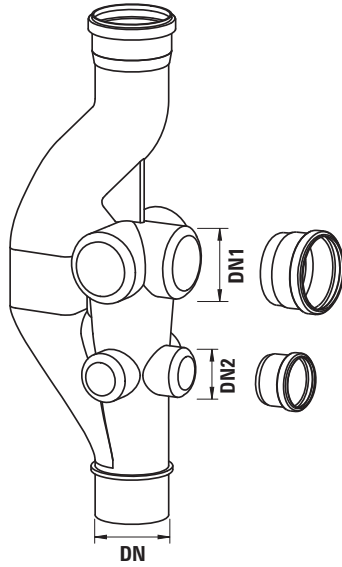
Art. 125 / 2 CAP	DN	Code	
	50	– 24421 –	4
	75	– 24422 –	4
	100	– 24423 –	4
	125	– 24424 –	4
	150	– 24425 –	4


Art. 155 / 2 TRANSITION PIECE PP/ULTRA <i>with seal</i>	DN	DN1	Code	
	50	40	– 24418 –	4
	50	50	– 14932 –	4
	70	50	– 24419 –	4
	70	70	– 14933 –	4
	125	125	– 14934 –	2

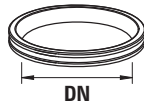
Art. 155 / 3 TRANSITION PIECE ULTRA/PP <i>with seal</i>	DN	DN1	Code	
	50	50	– 24515 –	4
	70	70	– 24516 –	4
	125	125	– 24517 –	2

Art. 155 / 4 TRANSITION PIECE HDPE/ULTRA	DN	DN1	Code	
	50	50	– 24518 –	4
	70	60	– 24519 –	4

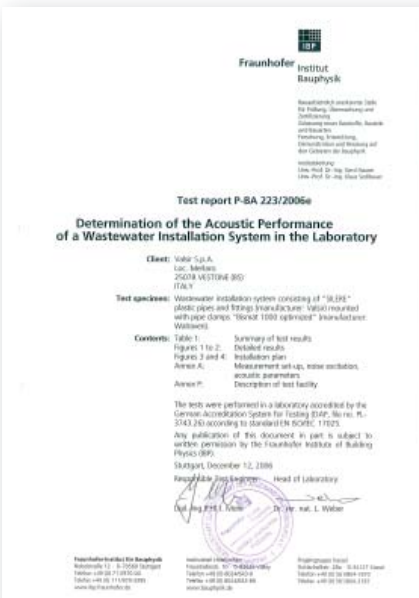
Art. 185 / 1 VENTILATION BRANCH - SOVENT WITH CONNECTIONS <i>with seal</i>	DN	DN1	DN2	Code	
	110	110	75	- 24527 -	1



Art. 180 / 2 RING SEAL <i>for pipes and fittings</i>	DN	Code	
	50	- 24521 -	20
	70	- 24522 -	20
	100	- 24523 -	20
	125	- 24524 -	20
	150	- 24525 -	20



CERTIFICATES



vargokal

HOUSE SEWAGE SYSTEM

vargokal PLUS

HOUSE SEWAGE SYSTEM - LOW NOISE

vargokal ULTRA

HOUSE SEWAGE SYSTEM - SILENT

vargokal SIF

HOUSE SEWAGE SYSTEM - SYPHONS

vargoterm

HOUSE WATER SUPPLY

vargoplen

WATER

vargoplen

IRRIGATION AND SEWAGE

vargoplen

GAS

vargokor

SEWAGE PIPES

vargokor

SEWAGE CHAMBERS AND CATCHPITS

vargodren

DRAINAGE PIPES

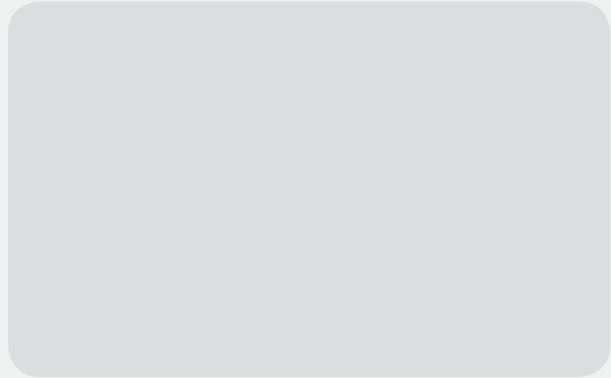
vargotect

CABLE PROTECTION PIPES

vargoheat

FLOOR HEATING PIPES

Local distributor:



Find us on:



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