





CONTENTS

01.	RAIKO® PLATINUM system	04
02.	Raw materials	04
03.	Superioe corrosion resistance. Salt spray test	05
04.	Self-repairing protection on cut edges. An alternative to post-galvanising	
05.	Environmentally responsible	06
06.	System components	07
07.	Dimensions and colouring	09
08.	Manufacturing process	
09.	Relations with customers	09
10.	Assembly instructions	10
11.	System components - gutter	12
12.	System components - downpipe	13
13.	System components - connector 500 mm	14
14.	System components - connector 1000 mm	
15.	System components - gutter joint	16
16.	System components - bottom	17
17.	System components - hook longer	18
18.	System components - hook long	19
19.	System components - hook medium	20
20.	System components - hook combi	
21.	System components - external corner 90°	22
22.	System components - external corner 135°	23
23.	System components - internal corner 90°	
24.	System components - internal corner 135°	25
25.	System components - hopper head	
26.	System components - elbow	27
27.	System components - screwed clamping ring	28
28.	System components - clamping ring	29
29.	System components - pipe tee	30
30.	System components - rainwater catcher	31
31.	System components - flow out component	
32.	System components - downpipe with flange	
33.	Ouantity and weight of the RAIKO® system components	



ABOUT THE RAIKO® PLATINUM SYSTEM



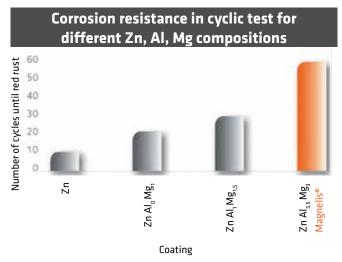
RAIKO PLATINUM is a complete gutter system designated for a proper roof drainage, perfect for installation on any roof. All the modern components of the system have been developed on the basis of our vast experience and close collaboration, both with the clients and contractors. Technical solutions for each, even the smallest component of the RAIKO PLATINUM gutter system are the result of a long term development and selection of optimal patent protected concepts. RAIKO is an exceptional and easy to install gutter system matched to every climate conditions and every building style, with the visual features that enhance the beauty of each building in the most subtle way.

High involvement in a quality manufacturing and customer care make RAIKO PLATINUM gutter system exceptionally attractive and easy to install since it is matched to every climate conditions and every building style. It is the system with the visual features that enhance the beauty of each building in the most subtle way.



RAW MATERIAL - Magnelis® The best suited protection to withstand harsh environments

System components RAIKO PLATINUM are produced on the basis of the shell technology Magnelis of produced by ArcelorMittal. Magnelis is an exceptional, new metallic steel, coating providing surface protection in a variety of applications against long-term wear and tear. The chemical composition of Magnelis hes been optimised to provide the best corrosion-resistance results. Magnelis is produced on a classic industrial hot dip galvanising line, but dipped in a molten bath with a unique metallic chemical composition of zinc with 3,5% aluminium and 3% magnesium. The 3% magnesium is crucial as it creates a stable and durable layer across the entire surface and gives a far more effective corrosion protection than coatings with a lower magnesium content. As such, ArcelorMittal's Magnelis offers significantly superior performance than alternative European products.



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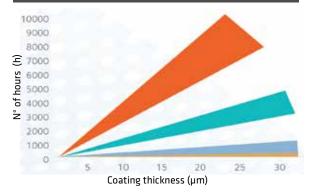
SUPERIOR CORROSION RESISTANCE Magnelis®

Nothing offers better protection than Magnelic® in chloride or ammonia environments. Due to its unique chemical composition, Magnelis® provides superior corrosion resistance than standard hot dip galvanised steel.

The destruction of coating that occurs in an ammonia environment is seven times less with Magnelis® than with a standard zinc coating. In addition, Magnelis® guarantees a longer-lasting, active coating protection over time.

Over an eight-month period, a range of matellic coated products were submitted to salt spray tests. The results clearly highlightteg the superior corrosion resistance performance of Magnelis® over other metallic coatings. No red rust was observed on the Magnelis® sample.

N° of hours before appearance od 5% red rust



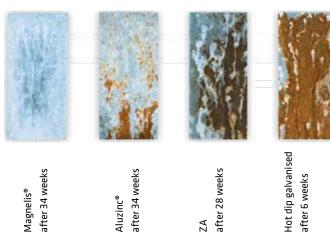
Corrosion resistance by salt spray test (average):

Magnelis®: > 200h/µm
Aluzinc®: ±100h/µm
ZA: ±25h/µm
Hot din galyanised (HD)

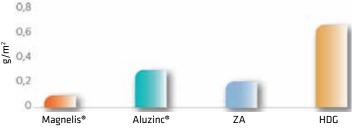
Hot dip galvanised (HDG): ±8-10h/μm



SALT SPRAY TEST - 20 µM COATING PER SIDE



highly alkeline environments (pH between and 13), Magnelis® demonstrates superior corrosion compared metallic resistance to other coatings. Due to its chemical composition, the product has better quality characteristics in terma of barrier protection against corrosion in ammonia environment. an



Measurement of mass loss pH: 11,7 - Solituin with %5 NH $_{\rm q}$ - Temp.: 20°C - Test duration 24h



SELF-REPAIRING PROTECTION ON CUT EDGES

In addiction to being fortifide by a cathodic protection equivalent to zinc coating, Magnelis® protects exposed cut edges with a thin zinc-based protective film with magnesium, witch prevents corrosive reactions.

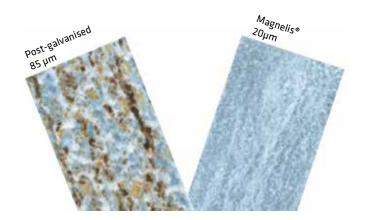
The nature of this film varies depending on the environment and the properties according to the aluminium and magnesium content.



AN ALTERNATIVE TO POST-GALVANISING AND OTHER METALS

Magnelis® offers a real adventage over post-galvanised products (with a ZM coating weight greater than 250g/m²) and even over high value products such as stainless and aluminium.

Depending on the environment to witch it is exposed, Magnelis® delivers a significant coating weight reduction of 2 to 4 times less than post-galvanised products, while still performing significantly better in terms of corrosion resistance and cost-effectivensee.

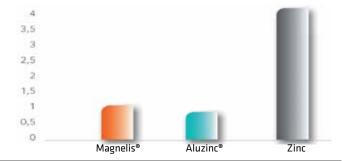


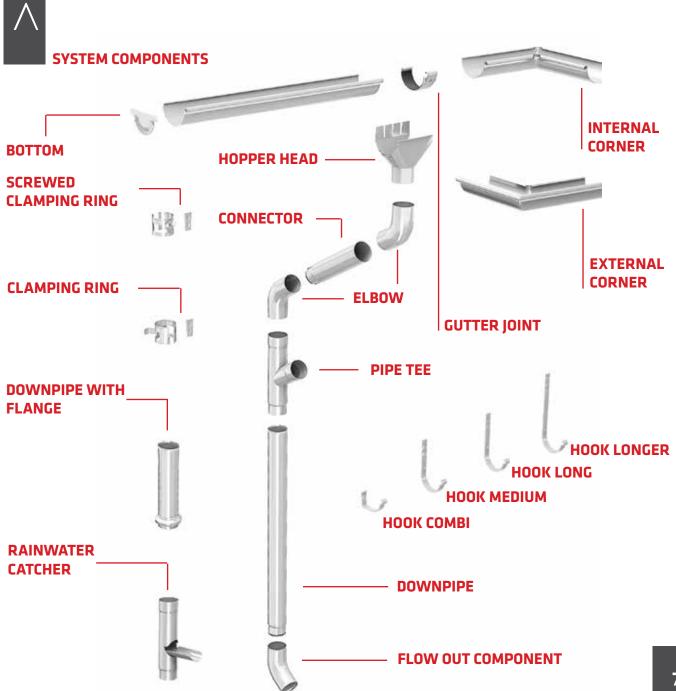


ENVIRONMENTALLY RESPONSIBLE

The appolication of Magnelis® ensures the preservation of natural resources it uses less zinc than pure zinc coatings. Moreover, like Aluzinc®, Magnelis® reduces considerably then zinc runoff* in soils.

*Runoff rate: the rate of dissolution of a material from its surface into the external environment (in g/m²/year). In our case: the quantity of zinc washed from the surface by folling rain water.







DIMENSIONS AND COLOURING

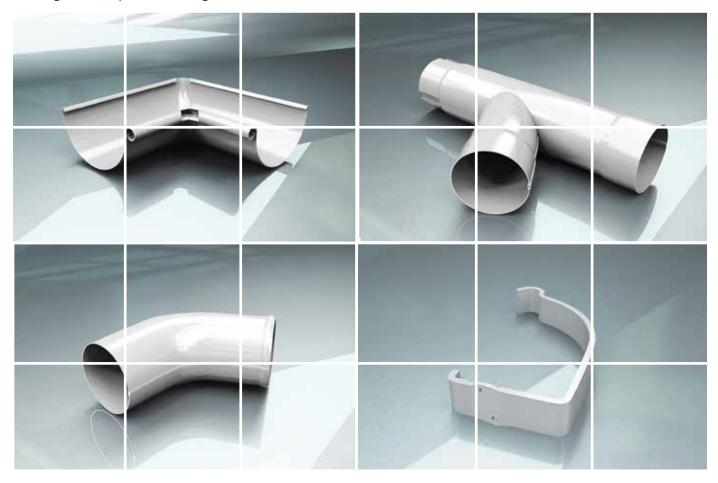
The RAIKO® PLATINUM gutter system is available in two sizes and one colour option.

A 125MM / 90MM B 150MM / 100MM

AVAILABLE COLOUR



The offered system size and colour selection allow for the individual matching of the system to the surface and colouring of roof slopes and building facades and industrial structures.





MANUFACTURING PROCESS

The RAIKO® PLATINUM gutter system is made based on a state-of-the-art technology using sheet metal cold press forming operation. The production is carried out with a broad and continuously modernized machine stock operated by experienced staff. Highest care to perfectly match each detail and maintaining permanent high quality of production result in the system marketing success.



RELATIONS WITH CUSTOMERS

Your comments pertaining to application of the RAIKO® PLATINUM gutter system are of great importance to us. This is why we would like you to use the company info line in order to obtain comprehensive answers to any of your concerns. We analyze all your observations very thoroughly, which allows us to determine new product development trends.



ASSEMBLY INSTRUCTIONS

Proper system assembly guarantees quick and complete water drainage from the whole roof slopes during the entire system service life and reduces maintenance operations to simply removing leaves from gutters. Therefore, in order to guarantee that you are fully satisfied with our product, below we attached assembly guidelines and hints. Please read them before you start assembling the RAIKO® PLATINUM gutter system.

EFFICIENCY TABLE OF RAIKO® GUTTER SYSTEM								
GUTTER SYSTEM	ROOF	F AREA						
	1 DOWNPIPE	2 DOWNPIPS						
125/90	50 m2 - 100 m²	100 m² - 150 m²						
150/100	100 m2 - 150 m²	150 m² - 200 m²						



ASSEMBLY INFROMATION:

Make sure you have a sufficient quantity of all the necessary system components on hand.

Remember that the gutter should stick out beyond the roof slope edge at least by half of its diameter.

Bear in mind that the gutter should be fitted slightly below the roof slope extension line so that it does not support snow sliding down from the roof.

Keep the gutter drop toward the downpipe by approximately 3-5mm per running meter.

Remember that the gutter's inside edge should be 6-10mm higher than its outside edge.



1 INSTALLATION OF HOOKS:

- Medium hooks (HKS), long hooks (HKD), and longer hooks (HKL) which are to be mounted onto rafters, laths, or boards should be bent in order to obtain the required gutter drop (3-5mm per running meter)
- Combi hooks (HKC) are used for direct mounting on fascia board, maintaining a suitable gutter drop (3-5mm per running metre)
- Hooks should be fitted every 60cm, end hooks should be mounted approximately 10 cm from the gutter ends.
- Remember to fit the hook on each side near the corner.
- Start mounting the hooks by fixing the end hooks, then pull a cord between them in order to show the fitting line for the other hooks.
- In case two downpipes are being used, start fixing the hooks from the middle point between them, providing a drop toward each of the downpipes.



2 HOPPER HEAD INSTALLATION

- Mark location on the gutter where the downpipe will be fitted, then cut a hole using a hack-saw (Note: do not use an angle grinder for this purpose).
- Turn up cut edges outwards to facilitate water flow into the hopper head.
- Mount the hopper head (SZT) into the gutter, placing its bent edge into the gutter hole. Then press the component to the gutter and fix it by bending the box holders to the inside gutter edge.



GUTTERS, ELBOWS AND BOTTOMS INSTALLATION:

- Mount gutters (RYN) and corners (NAW,NAZ) starting from the gutter with the mounted hopper head, and connect the gutter inside part to the holder onto a hook, and then press the outside edge into the lock. Then mount all other gutters and corners.
- Using a gutter joint (ZLR), seal all the joints between gutters and corners. Make sure that the joints are at even distances between the hooks.
- Place a gutter joint onto the back part of both components, making sure that the seal is in the middle of the joint.
- Then place a clamp on the front part of both components, closing the joint and securing it by bending the plate.
- Gutters and corners should be fitted with 2-3mm spacing between them in order to compensate for thermal elongation.
- Before fitting the bottoms (DEN) at the gutter ends, apply a small amount of roofing sealant in their vaulted pits. Then put the bottom in place and press down the front lug at the gutter overlap, and bend the back lug behind the gutter.

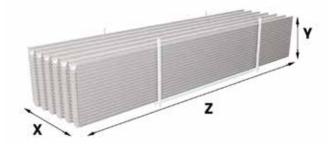


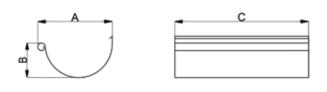
4 DOWNPIPES INSTALLATION:

- Mark a line on the wall, along which the downpipe will run. Next, mark the location of the gutter clamping ring (OBP) by placing it in there and prepare the fastening holes. Fix the clamping ring using strut pins. In the case of mounting onto a wall insulated with foamed polystyrene, use suitably long anchors (KTO) or pins (BDO).
- Mount the first clamping ring directly under the elbow and the last before the flow out component.
 - Maximum distance between the clamping rings should not exceed 2mm.
- As soon as the pipes are fixed, put connectors onto the clamping rings using a wooden distance piece.
- Fix the flow out component (WYL) at the end of the downpipe. If the water is being discharged into the sewage system, use a flanged downpipe(RSK).

NOTE: Remember to remove all the cut out pieces of sheet and fillings from the inside of the gutter. These leftover pieces will corrode and discolour the sheet metal surface





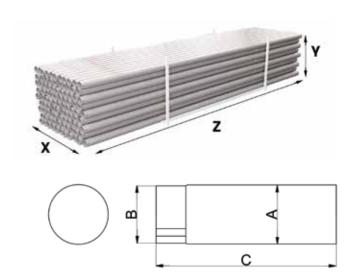




	COMPONE	ENT SIZE (mm)		STAND	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
Α	125	150	X	790	790	5/200 5/150
В	66	74	Υ	790	790	WEIGHT (KG)
С	4000	4000	Z	4000	4000	4,26 4,88

*Our offer includes also 2000mm long gutter sections. The gutters can be cut to section lengths according to customer specification.

ACCURATE PACKING



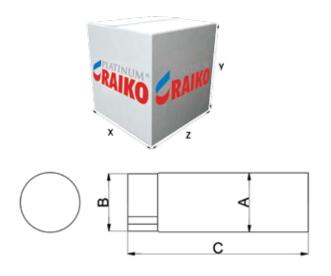


	COMPONE	ENT SIZE (mm	n)	STAND	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
А	87	99	X	790	790	2/44 2/34
В	85	96	Υ	790	790	WEIGHT (KG)
С	3000	3000	Z	3000	3000	3,9 4,41

*Our offer includes also 1000 mm, 2000 mm and 4000 mm long gutter sections. The gutters can be cut to section lengths according to customer specification.

AVAILABLE COLOURS

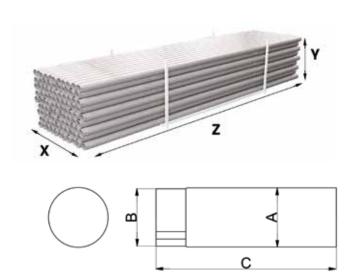






	COMPONE	ENT SIZE (mm)		BOX S	IZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
A	87	99	X	390	390	16 13
В	85	96	Υ	550	550	WEIGHT (KG)
C	500	500	Z	390	390	0,65 0,73

PERFECT FOR EACH ROOF



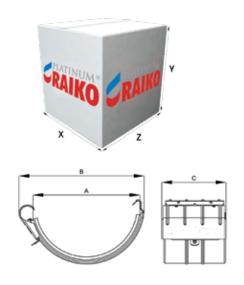


	COMPONENT SIZE (mm)				SIZE (mm)	AUÒ	QUANTITY		
	125/90	150/100		125/90	150/100	125/90	150/100		
Α	87	99	X	790	790	150	120		
В	85	96	Υ	1000	1000	WEIGH	HT (KG)		
С	1000	1000	Z	2000	2000	1,30	1,47		

AVAILABLE COLOURS



SYSTEM COMPONENTS





	COMPONENT SIZE (mm)			BOX S	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
Α	125	150	X	390	390	50 50
В	145	175	Υ	140	140	WEIGHT (KG)
С	52	53	Z	390	390	0,12 0,185

AVAILABLE COLOURS

INVOLVEMENT INTO PRODUCTION

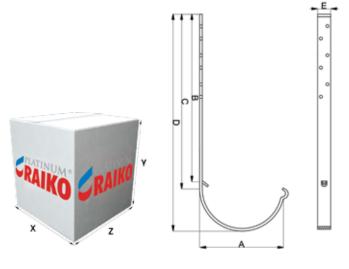




	COMPONENT SIZE (mm)			BOX S	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
Α	125	150	X	390	390	100 100
В	69	79	Υ	140	140	WEIGHT (KG)
С	165	192	Z	390	390	0,054 0,070

AVAILABLE COLOURS







	COMPONE	ENT SIZE (mm	1)	BOX S	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
Α	125	150	X	390	390	50 50
В	305	305	Υ	140	140	WEIGHT (KG)
С	325	325	Z	600	600	0,56 0,58
D	395	400				
Е	25	25				

AVAILABLE COLOURS

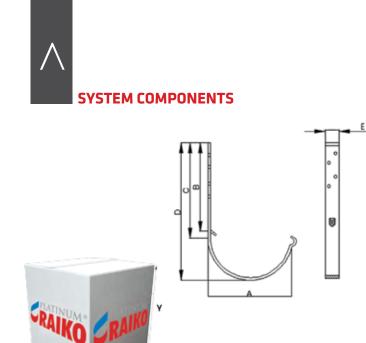
CLOSE COOPERATION WITH THE CLIENTS





	COMPONI	ENT SIZE (mı	n)	BOX S	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
Α	125	150	X	390	390	50 50
В	190	190	Υ	140	140	WEIGHT (KG)
С	210	210	Z	390	390	0,430 0,467
D	285	285				
Е	25	25				

AVAILABLE COLOURS



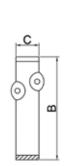


	COMPONE	ENT SIZE (mm	n)	BOX S	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
Α	125	150	X	390	390	50 50
В	145	145	Υ	140	140	WEIGHT (KG)
С	175	175	Z	390	390	0,382 0,434
D	240	240				
Е	25	25				

AVAILABLE COLOURS

MATCH ANY CLIMATE



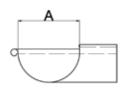


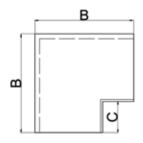


	COMPONI	ENT SIZE (mn	1)	BOX S	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
А	125	150	X	390	390	50 50
В	81	91	Y	140	140	WEIGHT (KG)
С	25	25	Z	390	390	0,274 0,315

AVAILABLE COLOURS

SYSTEM COMPONENTS





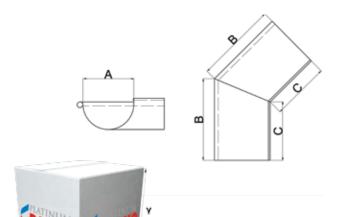




	COMPONENT SIZE (mm)			BOX S	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
Α	125	150	X	390	390	30 15
В	245	270	Υ	410	410	WEIGHT (KG)
С	111	100	Z	390	390	0,366 0,47

*We can fabricate welded gutter mitres in accordance with the customer specified angular dimensions, other than typical 90 and 135 degree gutter mitres.

EASY TO ASSEMBLE



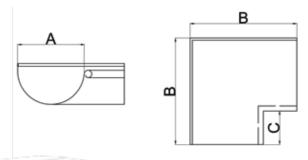


	COMPONENT SIZE (mm)			BOX S	IZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
Α	125	150	X	390	390	15 5
В	245	300	Υ	410	140	W aga I szhilu(ikic) kg)
С	180	230	Z	390	600	0,478 0,90

*We can fabricate welded gutter mitres in accordance with the customer specified angular dimensions, other than typical 90 and 135 degree gutter mitres.

AVAILABLE COLOURS

SYSTEM COMPONENTS

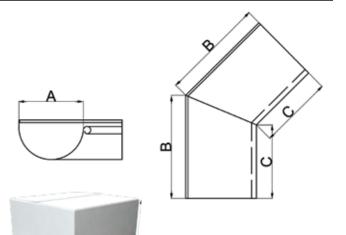




	COMPONENT SIZE (mm)			BOX S	SIZE (mm)	QUANTITY	
	125/90	150/100		125/90	150/100	125/90 150/100	
Α	125	150	X	390	390	30 15	
В	230	325	Υ	410	410	WEIGHT (KG)	
С	100	165	Z	390	390	0,314 0,409	

We can fabricate welded gutter mitres in accordance with the customer specified angular dimensions, other than typical 90 and 135 degree gutter mitres.

HIGHEST QUALITY STEEL



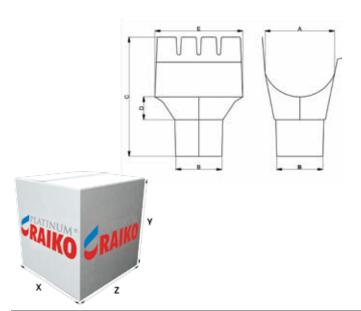


	COMPONI	ENT SIZE (m	QUANTITY			
	125/90	150/100		125/90	150/100	125/90 150/100
Α	125	150	X	390	390	15 5
В	240	305	Υ	410	140	WEIGHT (KG)
С	185	245	Z	390	600	0,314 0,85

*We can fabricate welded gutter mitres in accordance with the customer specified angular dimensions, other than typical 90 and 135 degree gutter mitres.

AVAILABLE COLOURS



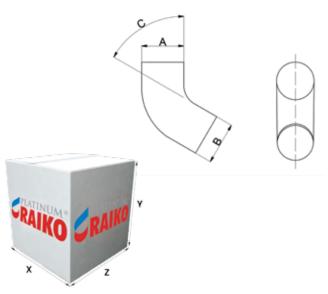




	COMPONE	ENT SIZE (mı	n)	BOX S	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
Α	125	150	X	390	390	30 16
В	86	97	Υ	410	410	WEIGHT (KG)
С	220	250	Z	390	390	0,29 0,4
D	60	60				
Е	150	180				

AVAILABLE COLOURS

LONG-TERM DURABILITY

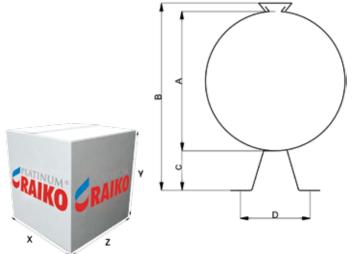




	COMPONENT SIZE (mm)			BOX S	SIZE (mm)	QUANTITY	
	125/90	150/100		125/90	150/100	125/90 150/100	
Α	125	150	X	390	390	20 16	
В	240	305	Υ	410	410	WEIGHT (KG)	
С	60°	60°	Z	390	390	0,285 0,33	

AVAILABLE COLOURS

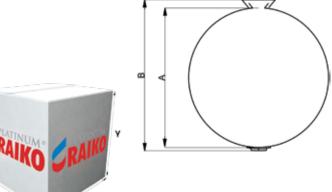


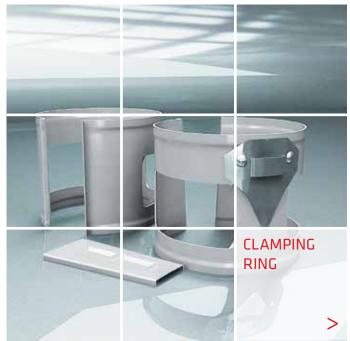




	COMPONE	ENT SIZE (mm)		BOX S	SIZE (mm)	QUANTITY	
	125/90	150/100		125/90	150/100	125/90 150/100	
Α	88	99	X	390	390	100 100	
В	125	140	Υ	140	140	WEIGHT (KG)	
С	35	35	Z	390	390	0,095 0,108	
D	87,6	87,6					

PERFECT FOR EACH ROOF

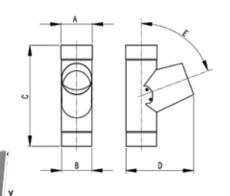


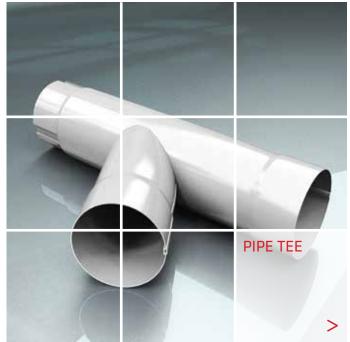


	COMPONI	ENT SIZE (mn	n)	BOX S	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
Α	125	150	X	390	390	100 100
В	240	305	Υ	140	140	WEIGHT (KG)
			Z	390	390	0,097 0,111

AVAILABLE COLOURS



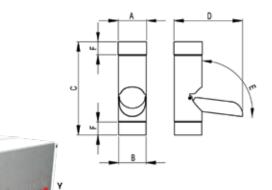


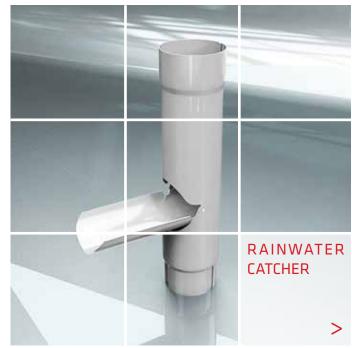


	COMPONE	ENT SIZE (mm)	BOX S	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
Α	89	100	X	390	390	10 8
В	85	96	Υ	410	410	WEIGHT (KG)
С	370	380	Z	390	390	0,65 0,768
D	220	230				
Е	65°	65°				

AVAILABLE COLOURS

COMPLETE DRAINAGE SYSTEM

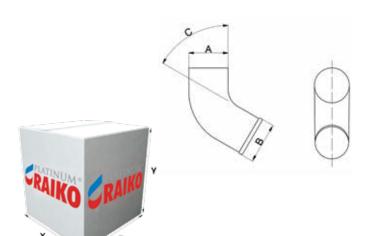


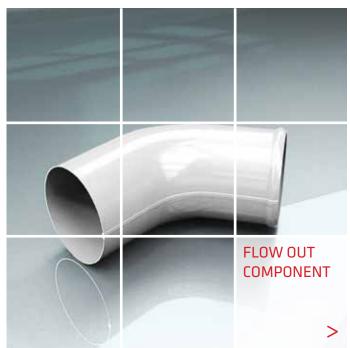


	COMPONE	ENT SIZE (mı	n)	BOX S	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
Α	89	101	X	390	390	10 8
В	86	97	Υ	410	410	WEIGHT (KG)
С	330	330	Z	390	390	0,64 0,56
D	120	121				
Е	100°	100°				

AVAILABLE COLOURS

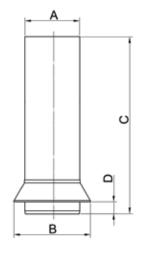






	COMPONE	NT SIZE (mm)		BOX S	SIZE (mm)	QUANTITY
	125/90	150/100		125/90	150/100	125/90 150/100
А	87	101	X	390	390	20 16
В	88,5	99,5	Υ	410	410	WEIGHT (KG)
С	60°	60°	Z	390	390	0,285 0,33

VARIETY OF COLOURS





		NT SIZE (mm)		BOX S	SIZE (mm)	QUANTITY
•	125/90	150/100		125/90	150/100	125/90 150/100
А	87	99	X	390	390	12 9
В	115	125	Υ	410	410	WEIGHT (KG)
C	400	400	Z	390	390	0,64 0,635
D	30	30				

AVAILABLE COLOURS



QUANTITY AND WEIGHT OF THE RAIKO® SYSTEM COMPONENTS

PRODUCT NAME		SIZE	125/90		150,	150/100	
			Q-TY IN PCS.	WEIGHT IN KG.	Q-TY IN PCS.	WEIGHT IN KG.	
А	GUTTER	L = 2 m L = 4 m	5 ¹ /200 ² 5 ¹ /200 ²	5,65/426 11,3/852	5 ^{1/} 150 ² 5 ^{1/} 150 ²	12,2/366 24,4/732	
В	CORNER	external internal	30³/900⁵ 30³/900⁵	9,42/283 11/330	15³/450⁵ 15³/360⁵	6,2/184 7,05/211,5	
С	воттом	uniwersal	50 ⁴ /6000 ⁶	5,4/324	50 ⁴ /6000 ⁶	7,0/420	
D	GUTTER JOINT		504/30006	6/360	50 ⁴ /3000 ⁶	9,25/555	
E	ноок	combi medium Iong Ionger	50 ⁴ /1800 ⁶ 50 ⁴ /1800 ⁶ 50 ⁴ /1800 ⁶ 50 ⁴ /1200 ⁶	13,7/493 19,1/687,5 21,5/774 28/672	50 ⁴ /1800 ⁶ 50 ⁴ /1800 ⁶ 50 ⁴ /1800 ⁶ 50 ⁴ /1200 ⁶	15,8/567 21,7/781 23,4/840 29/696	
F	HOPPER HEAD		30³/900⁵	8,7/261	16 ^{3/} 480 ⁵	6,4/192	

¹ fail sleeve

² metal stand 80 cm/ element length/ 80 cm ³ carton 40 cm / 40 cm / 40 cm

 $^{^{4}}$ carton 40 cm / 40 cm / 16 cm

⁵ EURO pallet 80 cm / 120 cm / 200 cm

⁶ EURO pallet 80 cm / 120 cm / 84 cm



QUANTITY AND WEIGHT OF THE RAIKO® SYSTEM COMPONENTS

PRODUCK NAME		SIZE	125/90		150	150/100	
			Q-TY IN PCS.	WEIGHT IN KG.	Q-TY IN PCS.	WEIGHT IN KG.	
Α	ELBOW	ANGLE = 60°	20³/600⁵	5,7/171	16³/480⁵	5,28/158,4	
В	CONNECTOR	0,5 m 1,0 m	16³/384⁵ 2³/150⁵	10,4/249,6 2,6/195	13³/312⁵ 2³/120⁵	9,5/228 2,94/176,5	
С	DOWNPIPE	L = 1 m L = 3 m L = 4 m	2 ^{3/} 150 ⁵ 2 ¹ /44 ² 2 ¹ /44 ²	2,6/195 7,8/171,6 10,4/228,8	2 ^{3/} 120 ⁵ 2 ¹ /34 ² 2 ¹ /34 ²	2,94/176,5 8,82/150 11,76/200	
D	PIPE TEE		10³/300⁵	6,5/195	8 ^{3/} 240 ⁵	6,15/184,3	
Е	SCREWED / CLAMPING RING		100 ⁴ /6000 ⁶	9,7/582	100 ⁴ /6000 ⁶	11,1/666	
F	ANCHOR (2-PIECE SET)					-	
G	COTTER PIN				50	8	
Н	FLOW OUT ELEMENT	ANGLE = 60°	20³/600⁵	7/168	16³/384⁵	7/168	
1	DOWNPIPE WITH FLANGE		12³/360⁵	7,68/230,5	16³/480⁵	5,28/158,4	
J	RAINWATER CATCHER		10³/300⁵	5,7/171	16³/480⁵	5,28/158,4	

¹ fail sleeve

² metal stand 80 cm/ element length/ 80 cm

³ carton 40 cm / 40 cm / 40 cm

⁴ carton 40 cm / 40 cm / 16 cm

⁵ EURO pallet 80 cm / 120 cm / 200 cm

⁶ EURO pallet 80 cm / 120 cm / 84 cm







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