

CATALOG
ROLLER SHUTTERS
PORTOS



2024

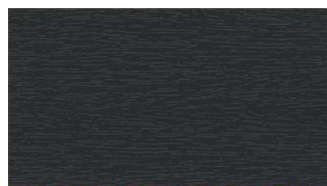
COLOURS OF VENEER



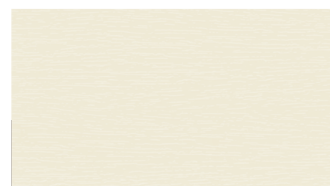
10 - Plain anthracite
(nr KDB74-F7)



11 - Palisander*
(nr H-426-5010)



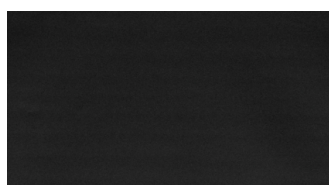
12 - Anthracite
(nr KDB74-Z8)



14 - Creamy white*
(nr H-456-5015)



17 - Chocolate*
(nr H-426-5011)



18 - Black Ulti-Matt
(nr 000002-504700)



22 - Mahogany
(nr UR601-U4)



30 - Walnut
(nr UK103-Z8)



34 - Bog oak
(nr H-436-2007)



38 Dark oak**
(nr H-426-2046)



42 - Woodec turner oak*
(nr HFZ-470-3001-SZ066CM)



48 - Golden oak
(nr UK101-Z8)



53 - Siena noce**
(nr 49237)



54 - Winchester
(nr 49240)



55 - sheffield oak*
(nr 456-3081)



61 - Grey quartz*
(nr KADF8-Z8)



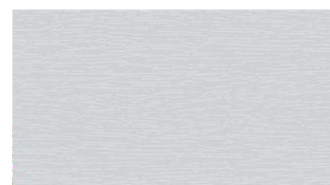
62 - Basalt grey*
(nr KADF9-Z8)



63 - Plain basalt grey*
(nr KADF9-F7)



66 - Green*
(nr H-426-5021)



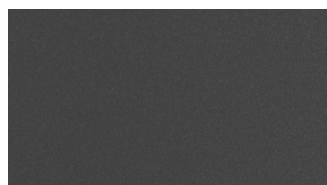
94 - Light grey
(nr KACH7-Z8)



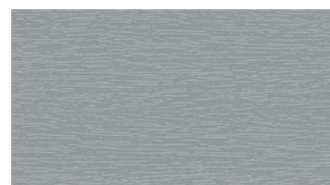
95 - Brushed aluminium*
(nr DJ606-42)



96 - Light silver**
(nr SS101-89)



97 - grafit metallic
(nr D2573-F7)



99 - Dark grey
(nr KACV8-Z8)

NOTE - the colour samples presented above can to some extent vary from the actual colours.

* - Completion date up to 15 business days.

** - Product available until in stock.

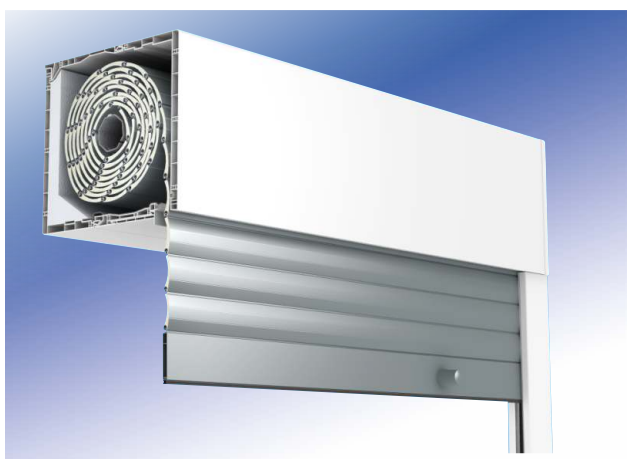
For the MX1200 system, the standard lead time includes the following veneers: 10, 12, 18, 48.

For the SN5000 system, the standard lead time includes the following veneers: 10, 12.

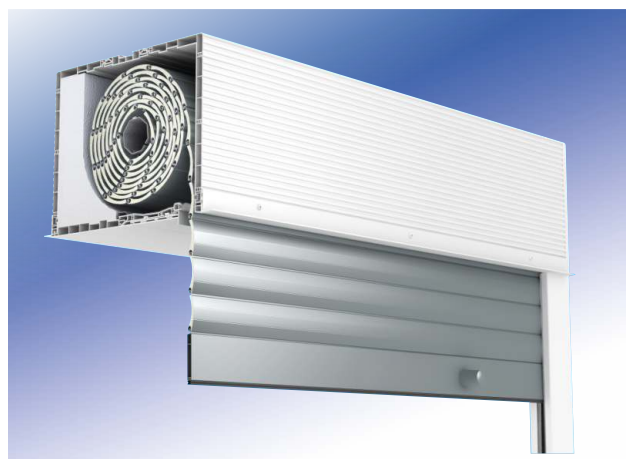


TOP MOUNTED ROLLER SHUTTERS

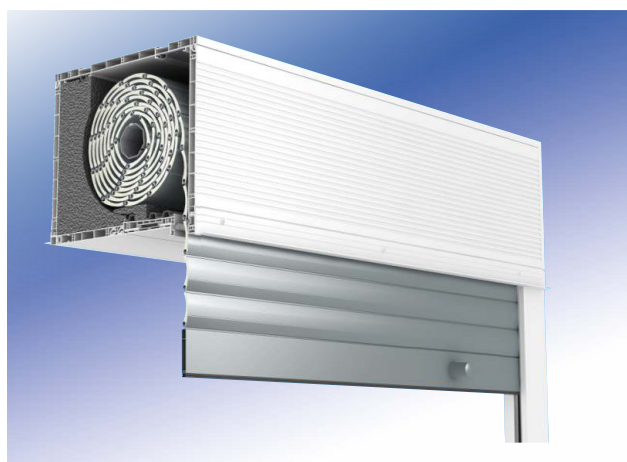
CC1000®



TL1000®



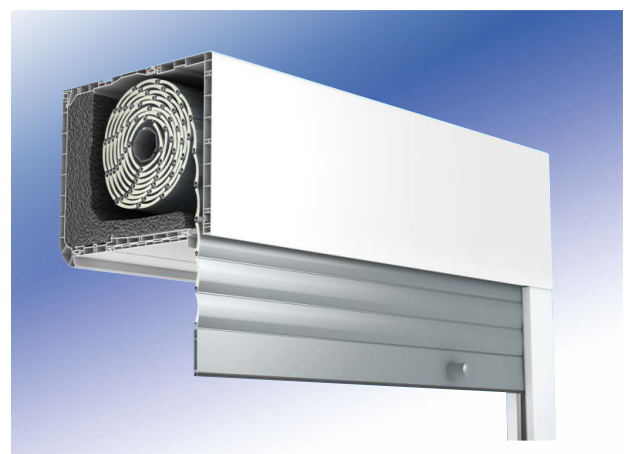
TP1000K®



TP1000K®
with mosquito net



MX1200®



SN5000®
BEZ/Z MOSKITIERĄ



CC1000[®]



CC1000 is a basic system of top mounted roller shutters. The inspection hatch is mounted on the front part of the shutter box. They can be installed on windows which frame's max. thickness does not exceed 95 mm. This system cannot have mosquito net. CC1000 roller shutters system is perfect solution for houses and industrial facilities.



The CC1000 shutter box with an open revision hatch.



The CC1000 shutter box has a revision hatch from the front, and therefore it can be build over only from the outside. The service access to the shutter box is possible form the apartment.

TL1000[®]



TL1000 is one of the best roller shutter system that can be used in new buildings and these modernized as well. The inspection hatch is installed on the bottom of the box- that gives the possibility of covering the shutter box from the inside of the apartment. They can be installed on windows which frame's max thickness does not exceed 95 mm. This system cannot have mosquito net.



The TL1000 shutter box with an open revision hatch.



The TL1000 shutter box mounted on the wall.

TP1000K®



TP1000K is a system that can be mounted on wide window frames, even up to 202 mm (with broadening to 264 mm). Using an expanding elements, we increase the depth of the box by 31 mm or 62 mm. This system gives a possibility to install revision hatch from the bottom (with a build-up shutter box from the inside) or from the front (during the installation on a wide window frame). The possible service is either manual- with the use of a tape/cord- or electric- with the use of switch or remote control.



The TP1000K roller shutter with an open bottom revision hatch.



The TP1000K roller shutter with an open front revision hatch.



The TP1000K roller shutter can be installed from the internal and external side. Front profiles additionally rifled and equipped with plaster slats facilitate the installation. The revision hatch in this type of system occurs from the bottom and the roller shutter is operated from the inside.



The TP1000K roller shutter installed from the outer side. The external front profile is grooved and equipped with a plaster slat. In order to have a more aesthetic look, the internal front profile is smooth. The type of installation depends on choice of the revision hatch. The revision hatch in such a build-up installation occurs from the bottom or from the front and the handling of the shutter takes place from the inside of the room. The TP1000K shutter with a revision hatch from the front may be installed only from the outside. On the other hand, with the cover from the bottom it may be installed from the outside and from the inside. Additionally, the front elements of the shutter may be grooved and equipped with plaster slats facilitating the building up of boxes.



The TP1000K roller shutter is installed from the internal side. The internal front profile is grooved and equipped with a plaster slat. In order to have a more aesthetic look, the external front profile is smooth. The revision hatch in this type of system occurs from the bottom and the roller shutter is operated from the inside.



The TP1000K roller shutter is non-built-up on both sides. For aesthetic reasons the front profiles on both sides are smooth. The revision cover in such an installation occurs from the bottom or from the front and the handling of the shutter takes place from the inside of the room.

TP1000K[®] with mosquito net



TP1000K is a system that can be mounted on broad window frames, even up to 188 mm (with a broadening up to 250 mm). Using an expanding element we increase the depth of the shutter box by 31 mm or 62 mm. Within this system revision hatch can be from the bottom (with an installation box from the inside), or from the front (during the installation on a wide window frame). The possible service is either manual - with the use of tape/cord- or electric - with the use of a switch or a remote control. The version with a mosquito net effectively protects the room against insects, as well as any kinds of pollen, leaves and dirt. At the same time it does not limit access to fresh air and daylight.



The TP1000K roller shutter with an open bottom revision hatch.



The TP1000K roller shutter with an open front revision hatch.



The TP1000K roller shutter is installed from the internal and external side. Front profiles additionally rifled and additionally equipped with plaster slats facilitate the installation. The revision hatch in this type of system occurs from the bottom and the roller shutter is operated from the inside.



The TP1000K roller shutter installed from the outer side. The external front profile is grooved and equipped with a plaster slat. In order to have a more aesthetic look, the external front profile is smooth.

The selection of a revision cover results in the way of installation of boxes. The revision hatch in such a build-up installation occurs from the bottom or from the front and the handling of the shutter takes place from the inside of the room.

The TP1000K roller shutter with a revision hatch from the front may be installed only from the outside. On the other hand, with the cover from the bottom it may be installed from the outside and from the inside.

Additionally, the front elements of the shutter may be grooved and additionally equipped with plaster slats facilitating the building up of boxes.



The TP1000K roller shutter is installed from the internal side. The internal front profile is grooved and equipped with a plaster slat. In order to have a more aesthetic look, the external front profile is smooth. The revision hatch in this type of system occurs from the bottom and the roller shutter is operated from the inside.



The TP1000K roller shutter is non-built-up on both sides. For aesthetic reasons the front profiles on both sides are smooth.

The revision hatch in such installation occurs from the bottom or from the front and the handling of the shutter takes place from the inside of the room.

MX1200[®]



MX1200 is a system of roller shutters dedicated for renovation and monoblock windows. The specific construction of the shutter box with an inspection hatch at the front allows for mounting a roller shutter on the window frames of 60 to 180mm. The rounded bottom edge of the inspection hatch and the ability to use end caps on the access cover and the box sides increase the aesthetics significantly. The operation is possible both manual using a tape and electric using a switch or a remote control.



The MX1200 shutter with an open revision cover.



Box of MX1200 roller shutter is adapted for mounting in the insulation layer which allows for mounting MX1200 roller shutters with windows in the monoblock system.



MX1200 roller shutter can be mounted with windows in the renovation system. This system is used to mount roller shutters with a window without removing old frames.



The MX1200 shutter on the wall.



FRONT MOUNTED ROLLER SHUTTERS

ST2000[®]

ST2000 with mosquito net



RL2000[®]

RL2000 with mosquito net



OS2000[®]

OS2000 with mosquito net



IT2000[®]

IT2000 with mosquito net



ST2000[®] with mosquito net



The shutter box cut at an angle of 45 degrees is installed on windows or facades. This system is the simplest solution in technical and economic terms. The size of the box depends on the whole height of the shutter and the type of profile. This often determines the method of installation. The lowered roller shutter is an additional thermal shield with insulation properties. The layer of air between the lowered curtain of the shutter and the window impedes exchange of the heat between the interior and exterior. It enables saving thermal energy necessary for heating of the rooms, while on hot days it protects against

their excessive heating. There is a version either with mosquito net or without it.



A TYPE OF INSTALATION

The whole shutter box is installed on the building facade.

The drive (belt or cord) are conducted through the rear of the box, then through an opening in the wall into the rooms. We perform this installation after the installation of windows.



B TYPE OF INSTALATION

The whole shutter box is screwed on a window frame.

The output of the drive (cord) is through the window frame. It should be remembered to insert the shutter box with guides into the window recess.



C TYPE OF INSTALATION

The shutter box is mounted conversely inside the window recess.

Remember that between the shutter and the window there would be a place for the opening of the revision hatch. Also take into consideration that the curtain is also reversed (from the outside we can see its back).

RL2000[®] with mosquito net



RL2000 is a roller shutter system similar to ST2000 but with an oval shutter box. Preserving an interesting style, it constitutes the simplest solution in technical and economic terms. The size of the box depends on the whole height of the shutter and the type of profile. There are two versions, with mosquito net or without it. The version with a mosquito net effectively protects the room against insects, as well as any kinds of pollen, leaves and dirt. At the same time it does not limit access to fresh air and daylight.



A TYPE OF OF INSTALLATION

The whole roller shutter is mounted on the building facade.

The drive (belt or cord) are conducted through the rear of the box, then through an opening in the wall into the rooms. We perform this installation after the installation of windows.



B TYPE OF INSTALLATION

The whole roller shutter is screwed on a window frame.

The output of the drive (cord) is through the window frame. It should be remembered to insert the shutter box with guides into the window recess.

OS2000[®] with mosquito net



The semi-circular shape of the OS2000 shutter box gives the window an elegant appearance. Moreover, the semi-circular caps for the guides are also available. The size of the box depends on the whole height of the shutter and the type of profile. The version with a mosquito net effectively protects the room against insects, as well as any kinds of pollen, leaves and dirt. At the same time it does not limit access to fresh air and daylight.



A TYPE OF INSTALLATION

The whole shutter is mounted on the building facade.

The drive (belt or cord) are conducted through the rear of the box, then through an opening in the wall into the rooms. We perform this installation after the installation of windows.



B TYPE OF INSTALLATION

The whole shutter is screwed on a window frame.

The output of the drive (cord) is through the window frame. It should be remembered to insert the shutter box with guides into the window recess.

IT2000[®] with mosquito net



This system is a connection of the front mounted shutter with a top mounted shutter. The basic advantage of this system is the fact that it can be installed without enlarging the window holes and at the same time build up the box, as a result of which we would not reach a visual effect, as in the case of top mounted shutters. With a shutter of this type the whole box remains outside the building and service access is ensured through a revision cover in the lower part. The version with a mosquito net effectively protects the room against insects, as well as any kinds of pollen, leaves and dirt. At the same time it does not limit access to air and daylight.



IT2000 with a mosquito net - installation without enlarging.



IT2000 with a mosquito net - installation with enlarging.



ORDER FOR TOP MOUNTED ROLLER SHUTTERS : installed to a window profile

TP1000K® Adjustable profile:

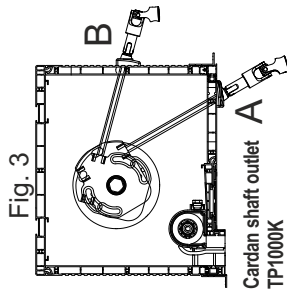
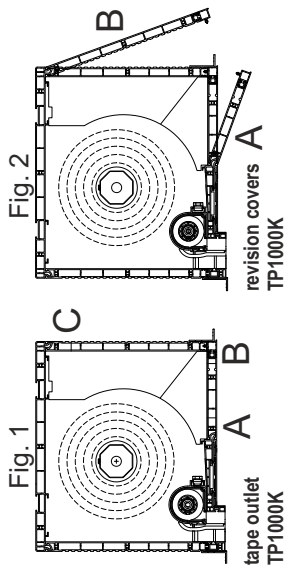
NPS-010 + NPL-020
 NPS-011

The order concerns CC1000® shutters. When ordering TL1000®, TP1000K®, TP1000K® shutters with a mosquito net, relevant fields in the order form should be marked with an "X" sign

no: _____ date: _____

delivery date: _____

address of delivery (if other than the address of the Ordering Party): _____



CC1000®
 TL1000®
 TP1000K®
 TP1000K® WITH A MOSQUITO NET
 TP1000K®-ZF
 TP1000K®-ZF WITH A MOSQUITO NET

NOTE! General terms and conditions of sales and deliveries (page 1) constitute an integral part of this order

No.	Shutter size (cm) (with the box and guide rails)		width of the mosquito net only for TP1000K (division)	box size [mm]	box elevation (only for TP1000K-ZF)	box lowering (only for TP1000K-ZF)	box depth increase (only for TP1000K)	tape outlet: A, B or C Cardan shaft outlet only for TP1000K (Fig. 1, 3)	types of guide rails (PVC/ALU) single (double) -ALU only for TP1000K	cutting angle of PVC guide rails from 0 to 45° does not apply to TP1000K-ZF	location of the revision (inspection) cover A or B only for TP1000K (Fig. 2)	Box colour		colour of the revision (inspection) cover (only for TL1000, TP1000K)	colour of the guide rails	type of the shutter profile / slats	colour of the shutter profile/slat as per the colour chart	colour of the bottom slat	colour of the bottom slat	MOSQUITO NET			DRIVE			OPERATION (looking from the inside)			Colour of the plastering strip (TL1000, TP1000K)		Notes: e.g. colour of the winder, tape, additional elements: bolts, switches, remote controls, end caps							
	width	height										internal	external							internal	external	manual	tape	crank winder	crank with a universal coupling (Cardan shaft)	spring + lock + handles	motor	L	R	L		R	external	internal				
1																																						
2																																						
3																																						
4																																						
5																																						
6																																						
7																																						
8																																						
9																																						
10																																						

NOTES, SKETCHES (view from the inside)

Before filling in the form, please read the instructions.
 NOTE: Changing printed contents of the form may result in errors in order fulfillment. Complaints resulting therefrom will be dismissed.
 I represent that I provide - to you - personal data of a natural person for the purpose of order fulfillment on the basis of my consent for processing of personal data disclosed in accordance with the Regulation of the EU Parliament and Council (EU) 2016/679 of 27 April 2016.
 By filing this order form, you accept the General terms and conditions of sales and deliveries of PORTOS TR7 included in the Roller Shutter/External Blinds Price list or on the website: https://portosrolety.pl/download/ogolnewarunki_pl.pdf

HOW TO FILL IN AN ORDER FOR PORTOS TOP MOUNTED ROLLER SHUTTERS - CC1000, TL1000, TP1000K WITH A MOSQUITO NET

- Please provide the type of a window profile to select proper adjustment options - if you fail to specify the window profile, we will deliver a UNIVERSAL adapter. In case of the TP1000K system, please mark a relevant adjustable profile with an "X" sign. If none of the options is marked, the NPS-010 adjustable profile is deemed to be ordered.
- Provide the number and date of order filing and the requested date of delivery.
- If the delivery address is different than the company address, fill in such other address.
- The order concerns the CC1000 shutters, when ordering the TL1000, TP1000K, TP1000K shutters with a MOSQUITO NET, please mark a relevant field in the order form with an "X" sign

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Shutter size (cm) (with the box and guide rails)	width of the mosquito net only for TP1000K (division)	box size (mm)	box elevation (only for TP1000K-ZF)	box lowering (only for TP1000K-ZF)	box depth increase (only for TP1000K)	tape outlet, A, B or C Cardan shaft outlet (only for TP1000K) (Fig. 1, 3)	types of guide rails (PVC/ALU single/double) - ALU only for TP1000K	cutting angle of PVC guide rails (from 0 to 45° does not apply to TP1000K-ZF) (Fig. 2)	location of the revision (inspection) cover, A or B only for TP1000K (Fig. 2)	Box colour internal/external	colour of the revision (inspection) cover, only for TL1000, TP1000K	colour of the guide rails	type of the shutter profile / slats	colour of the shutter profiles/slats as per the colour chart	MOSQUITO NET colour of the net / colour of the bottom slat	DRIVE						OPERATION (looking from the inside)	Colour of the plastering strip (TL1000, TP1000K)	Notes: e.g. colour of the winder, tape, additional elements: bolts, switches, remote controls, end caps		
																manual	crank winder	tape	crank with coupling Cardan shaft	spring + lock + handles	motor				L	R

- Width of the installed shutters (total width) with guide rails is specified in centimetres
- Height of the installed shutters (total height with the box) is specified in centimetres, in the TP1000K-ZF system, the height is specified with the box expansion (method of measuring the blinds - page 3.19).
- Specify the width and distribution of mosquito nets - applies to the TP1000K system with the shutter curtain profiles - one whole or divided mosquito nets. The dimensions shall be specified via measuring the distance from the external edge to the divider rail axis and/or between the axes of divider rails. Height of the mosquito net equals the height of the shutters.
- Height of the box in millimetres, selected as per the table with winders. The box can be expanded for a surcharge of 5% of the net price of the shutters, if the box size is not specified, standard size as per the table with winders will be assumed. If the TP1000K-ZF system is ordered with the 280 box (actual dimension 281 mm), then the box is in fact the 250 box with the 31 mm expansion.
- box elevation (expansion) (only the TP1000K-ZF shutters in boxes) - please mark with an 'X' sign. Box elevation increases the height of the box by 3 cm.
- box lowering (only the TP1000K-ZF shutters in boxes) - please mark with an 'X' sign. Box lowering does not increase the height of the box.
- specify the box depth increase - +31 mm or +62 mm (concerns only TP1000K).
- Tape outlet, enter A, B or C (concerns only TP1000K see Fig. 1, table of orders) and Cardan shaft outlet enter A, B (concerns only TP1000K see Fig. 3). In the TP1000K-ZF system, the only available Cardan shaft outlet option is B
- specify the shutter curtain profile guide rails type - enter SIN (single), DOU (double) or S/DB (single+double). In the TP1000K-ZF system, aluminium guide rails can be used. If you want aluminium guide rails, then fill in as follows ALU-SIN (aluminium, single) ALU-DOU (aluminium, double) or ALU-S/DB (aluminium single+double)
- enter the angle of the PVC guide rail cutting from 0 - 45°
- manner of the revision (inspection) cover opening, enter A or B (concerns only TP1000K see Fig. 2 order table)
- colours (boxes): int - internal, ext - external.

- Available colours: white - 02, lining (colours of lining - cover), CC1000 - if a white box 02 is ordered and lined guide rails, the external side of the shutters will be smooth and white. Assuming the colours as above, and additionally with the option of the plastering strip, the external side of the blinds will be grooved, and will be provided at the bottom with a 1.5 cm strip of the same colour as the guide rails (135 mm box will make an exception - the external side will be smooth and provided at the bottom with a 1.5 cm strip with lining).
- TL1000, TP1000K - if a white box 02 is ordered and lined guide rails or revision (inspection) cover, external or internal side of the blinds will be provided at the bottom with a 1.5 cm strip with lining of the same colour. This type of lining can be used in the TL1000 system only for grooved sides. TL1000K offers more options, here this type of lining can be used for smooth and grooved sides.
- Grooved sides for CC1000, TL1000, TP1000K systems are not available in full lining.
- colour of the revision (inspection) cover (concerns only TL1000). Available colours: white - 02, lining - please refer to the cover
- colours (guide rails): white - 02, lined (colours of lining - please refer to the cover)
- enter the selected profile: PA - 39 (aluminium profile), PA - 45 (aluminium profile), PA - 52 (aluminium profile) (PA - 52 and PVC - 52 are only available in the TP1000K system - see tables with winders)
- colour designation of PA - 39, PA - 45 profile (as per the colour chart on the last page, cover) (if the profile is to be free of any perforations, instead of the 'X' sign, enter 1, e.g. 02 - white perforated, 102 - white, with no perforations)

Note! - profile with no perforations is typically used in case of coil spring lifting mechanism

- colour of the bottom table:
 - 01 - silver; 02 - white, 03 - grey, 05 - beige, 07 - light grey, 08 - dark brown, 09 - brown, 16 - ivory, 20 - black, 23 - anthracite grey (standard, with no additional fees)
 - other varnish colours similar to the colour of the shutter curtain profile shall be specified using the profile colour symbol (apart from colours 22, 30, 48, 54) also non-standard colours as per RAL colour table,
 - bottom slat can also be lined (see the list of lining colours - cover),
- net colours (concerns the mosquito net) - 03 - grey and 20 - black,
- colour of the bottom slat (concerns the mosquito net) - 01 - silver, 02 - white, 03 - grey, 05 - beige, 07 - light grey, 08 - dark brown, 09 - brown, 16 - ivory, 20 - black, 23 - anthracite grey (standard, with no additional fees)
- selection of the motor drive (mark with an 'X' sign in the column of the motor drive selected):
 - tape winder mechanism (no extra fee) - available in white, brown, anthracite grey - if the winder colour is not specified, then white will be assumed as a standard, with a grey tape. In case of shutters with a box with double-sided lining, and in case of the TL1000 shutters with lined revision (inspection) cover, the tape and the winder are brown as a standard,
 - box with the tape crank gear - available in white and brown, if the box colour is not specified, then white will be assumed as a standard, with a grey tape. In case of shutters with a box with double-sided lining, and in case of the TL1000 shutters with lined revision (inspection) cover, the tape crank gear and the tape are brown as a standard,
- A Cardan gear mechanism 90 0 - crank extension - see Fig. 3.
- coil spring lifting mechanism and espagnolet lock in the bottom slat,
- electric drive (if the motor is not specified - cable PORTOS motor will be assumed as a standard, in the TP1000K-ZF system - ELERO SOFT motor),
- side of the tape winder location (box, crank and switch) looking from the inside,
- in the TL1000 and TP1000K systems, the side where the plastering strip is to be fixed shall be selected - ext. /int. Please, mark the colour: 02 - white, 08 - dark brown, 09 - brown, 23 - anthracite grey. In case of the TP1000K-ZF system, the following colours are available: DB 703 - metallic grey, 7016 - anthracite grey, 7021 - dark grey, 7035 - light grey, 9005 - black, 9006 - white aluminium, 9007 - grey aluminium, 9016 - white, VSR 240 - beige, VSR 780 - olive. In the CC1000 system, the plastering strip is installed only on the external side. If the client has selected the plastering strip, the box will come with frontal reinforcement. In the TP1000K system, frontal box reinforcement is installed only on the external side.
- Notes to respective items, e.g. bolts, etc. Drawings of sets and sketches (all from the inside). Notes can be also made under the table.



ORDER FORM - FRONT MOUNTED ROLLER SHUTTERS

This order form include ST2000. In case of ordering ST2000 with mosquito net, RL2000, RL2000 with mosquito net, OS2000, OS2000 with mosquito net, IT2000, IT2000 with mosquito net please fill in with "x" required box on the form.

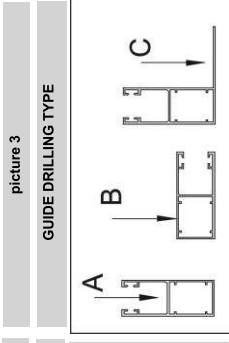
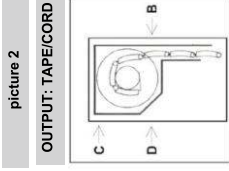
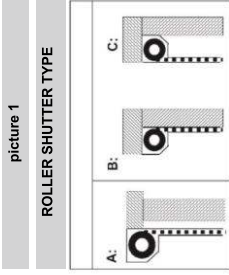
No.

Order Date:

Delivery Date:

Purchaser stamp:

Delivery address (if different from ordering address)



ST2000
ST2000 with mosquito net
RL2000
RL2000 with mosquito net
OS2000
OS2000 with mosquito net
IT2000
IT2000 with mosquito net

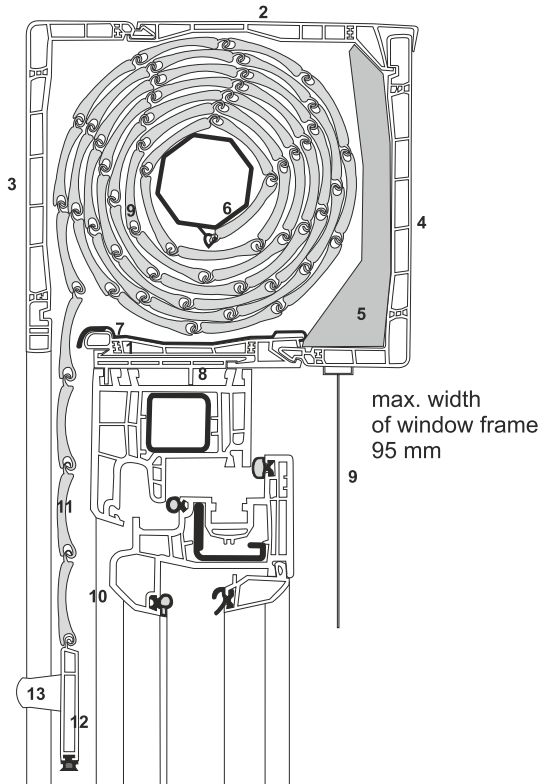
No.	Quantity	Size of roller shutter [cm] (include top box and guides)		Roller Shutter type (pic.1)	Top Box size [mm]	Output (tape, cord, cable) not include IT2000 (pic.2)	Guide Type (single, double, angular)	Guide drilling type (pic.3)	Top Box colour/ INTERMO Inspection hatch/concealed lath	Concealed Lath type - for IT2000 (LT ZERO or LT19 or LT20)	Top Box colour (for box in 22, 30, 48, 54 colour only)	Colour of Oval Guide Cover (NPPDO 53 or NPPDO 79)	Profile Type	Profile colour (available colours only)	Bottom lath colour	Mosquito-net			Manual	Drive		Cardan: Cranking mechanism	NHK output	Operation (looking from inside)	Remarks: e.g. roller tape/cord colour, tape/cord colour, Extra accessories: e.g. Bolt Set/Automatic Bolts in bottom lath, blocking hanger, swift button etc.			
		Roled mosquito-net	Pleated mosquito-net													Net colour	Bottom lath colour	Tape		Box with crank gear	Cord					spring + multipoint lock in lath + 2 keys set + handles	spring + multipoint lock in lath + 2 keys set + handles	Left
1																												
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												

Notes/sketchdrawing (view from inside only)
Please familiarize with explanation before filling out this form.
Notice: any changes in order form, text boxes may lead to mistaken order realization. Such type of complaint will not be taken for consideration.
Hiermit erkläre ich, dass ich an Sie die personenbezogenen Daten der Einwilligung zur Verarbeitung der personenbezogenen Daten gem. der Verordnung (EU) 2016/679 des Europäischen Parlaments und des Rates vom 27. April 2016 übermittle.



**RECOMMENDED BOX SIZE
FOR A GIVEN
ROLLER SHUTTER HEIGHT**

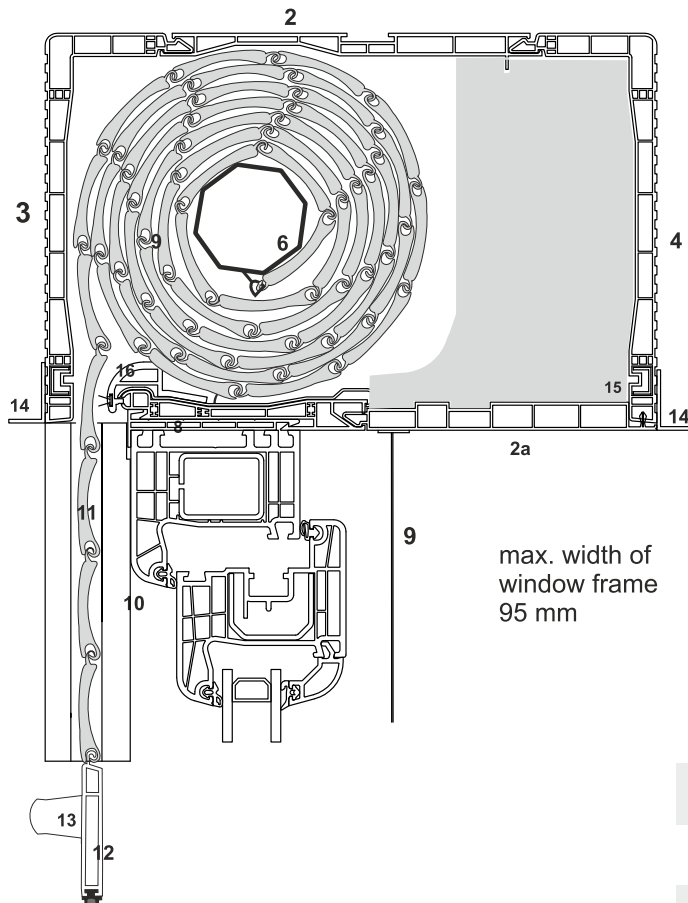
TOP MOUNTED ROLLER SHUTTER PORTOS CC1000 - CROSS-SECTION



1. Case mounting profile – Rk2
2. Case connecting profile – Rk3
3. External hatch – RK4,RK5,RK6
4. Internal (inspection) hatch – RK4,RK5,RK6
5. Thermo-insulating input
6. Octagonal pipe
7. Steel reinforcement of the case
8. Adapting profile
9. Tape
10. Shutter guide with brush seal
11. Shutter profile filled with polyurethane foam
12. Bottom lath with rubber seal
13. Bottom lath buffer

Case type	Case height	Case depth
RV 100	135 mm	162 mm
RV 200	160 mm	186 mm
RV 300	200 mm	225 mm

TOP MOUNTED ROLLER SHUTTER PORTOS TL1000 - CROSS-SECTION



1. Case mounting profile - RK2
2. Case connecting profile – PGL1, PGL2
- 2a. Inspection hatch – PKL1
3. External hatch - RK5,RK6
4. Internal (inspection) hatch – RKT5, RKT6
5. Thermo-insulating input
6. Octagonal pipe
7. Steel reinforcement of the case – RA10
8. Adapting profile
9. Tape
10. Shutter guide with brush seal
11. Shutter profile filled with polyurethane foam
12. Bottom lath with rubber seal
13. Bottom lath buffer
14. Concealed lath of the case
15. Steel reinforcement of the case – Ra2
16. Middle slider

CASE TYPE	CASE HEIGHT	CASE DEPTH
BPR-160	160 mm	253 mm
BPR-200	200 mm	253 mm

CC1000[®]

PA-39, PA-45 – aluminium profile 39mm and 45mm (including end caps)

BOX SIZE	width 0,35 - 2m, max. surface 6,5m ²			width 0,35 - 2,5m, max. surface 6,5m ²			width 0,35 - 3m, max. surface 6,5m ²		
	Maximum height of shutter(including the box size)/cm			Maximum height of shutter(including the box size)/cm			Maximum height of shutter(including the box size)/cm		
		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm
PVC	PA-39 ø 40+PZ50	PA-39 ø 40-rygiel	PA-39 ø 40-WB.	PA-39 ø 60+PZ70	PA-39 ø 60-rygiel	PA-39 ø 60-WB	PA-45 ø 60+PZ70	PA-45 ø 60-rygiel	PA-45 ø 60-WB
PSK-135 Size 135 mm	136	132	116	118*	X	X	X		X
PSK-160 Size 160 mm	202	198	202	194	190	163	138		129
PSK-200 Size 200 mm	319	319	311	311	307	272	241		219

* - There is no possibility of assembling a motor with NHK (emergency han crank) in case size 135 mm.

**Note! If the width of roller shutter exceeds 2m, pipe ø 60 is recommended.
PZ- expansion ring from ø 40 on ø 50 or from ø 60 on ø 70.**

STANDARD

Curtain	Available colours for PA 39 (except for the steel anthracite DB703 (24), woodec turner oak(42)), PA 45 – no additional charge
Bottom lath	silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
	Bottom lath buffer
	Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 woodec turner oak)
Tape roller	Possible length for white or brown colour -5mb (up to 240 cm height, up to 12kg)
SUB RKZ66	Steel side handles
End caps of the guides	1At a 5 degrees angle – charge free (according to the customer's wish)
Cutting guides under an angle	Charge free – according to the customer's wish

FOR ADDITIONAL CHARGE

Curtain	PA 39 steel anthracite DB703 (24), woodec turner oak only (42)	5%
Shutter box	Enlargement of the shutter box	5%
Bottom lath	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 woodec turner oak only) *	5%
Guide	Veneering of the guide - Veneer Colour Chart and turnaround times – see page 2	8%
	Guide extension	6,00€/rm
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	7,00€/pc.
WSP RA-10	Steel case reinforcement (exceeding 2m)	7,80€/rm
PURS	PURS 10 x 2mm x 12,5mb expansion tape	7,30€/pc.
External concealed lath	Colours: white (LT-02), light brown (LT-09), dark brown (LT-08), anthracite (LT-23)	3,20€/rm
Case widening < 5,5 cm	The service of the roller shutter case widening up to 5,5cm (side of the case made of white, 5mm-thick plexi)	27,80€/pc.
Case widening > 5,5 cm	The service of the roller shutter case widening from 5,5cm	27,80€/pc.

* - Completion date up to 15 business days.

TL1000®

PA-39 and PA-45 curtain (including profile plugs)

Type of the box	width 0.35 - 2 m, max. area 6.5 m ²			width 0.35 - 2.5 m, max. area 6.5 m ²			width 0.35 - 3 m, max. area 6,5 m ²		
	Max. height of the shutter with box			Max. height of the shutter with box			Max. height of the shutter with box		
		with the use of automatic bolt (cm)	with the use of the blocking bracket (cm)		with the use of automatic bolt (cm)	with the use of the blocking bracket (cm)		with the use of automatic bolt (cm)	with the use of the blocking bracket (cm)
PVC	PA-39 ø 40+PZ50	PA-39 ø 40-rygiel	PA-39 ø 40-WB.	PA-39 ø 60+PZ70	PA-39 ø 60-rygiel	PA-39 ø 60-WB	PA-45 ø 60+PZ70	PA-45 ø 60-rygiel	PA-45 ø 60-WB
160 mm	202	198	202	194	190	156	138		129
200 mm	319	319	311	311	307	272	241		219
200 mm+stabilizing console	300	300	311	311	307	272	241		219
200 mm+stabilizing console	210	210	214	195	195	199	167		153

Note! With the shutter width of more than 2 m, use ø 60. In addition, the box reinforcement - WSP is recommended for a width of more than 2 m. When using the reinforcement, values given in the tables should be reduced by 20 cm. For each shutter it is recommended to include SKM mounting anchors counting 40 cm from the side of the box, each subsequent anchor is installed every 50 cm. For shutters with a width of more than 1.80 m it is advisable to include stabilizing consoles. When using a stabilizing console, it is necessary to decrease the values given in the recommended box sizes: at the width of 0 - 2 m - by 30 cm, width of 2.01-2.5m - by 40 cm, width of 3m and max. area of 6.5 m² - by 30 cm (concerns box 160 mm, box 200 acc. table above). PZ - expansion ring from ø 40 to ø 50 or from ø 60 to ø 70.

STANDARD

Curtain	Available colours for PA 39 (except for the steel anthracite DB703 (24), woodec turner oak(42)), PA 45 – no additional charge
Bottom lath	silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
	Bottom lath buffer
	Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 woodec turner oak)
Tape roller	Possible length for white or brown colour -5mb (up to 240 cm height, up to 12kg)
SUB RKZ66	Steel side handles
End caps of the guides	At a 5 degrees angle – charge free (according to the customer's wish)
Cutting guides under an angle	Charge free – according to the customer's wish

FOR ADDITIONAL CHARGE

Curtain	PA 39 steel anthracite DB703 (24), woodec turner oak only (42)	5%
Shutter box	Enlargement of the shutter box	5%
Inspection hatch	Veneering of the inspection hatch– Veneer Colour Chart and turnaround times – see page 2	3%
Bottom lath	Powder coated: dark beige(04), green(13), cream white (15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 woodec turner oak only) *	5%
Guide	Veneering of the guides – Veneer Colour Chart and turnaround times – see page 2	8%
	Guide extension	6,00€/rm
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	7,00€/pc.
WSP RA-10	Steel case reinforcement (exceeding 2m)	7,80€/pc.
PURS	PURS 10 x 2mm x 12,5mb expansion tape	7,30€/pc.
KNS - 160	Stabilizing console for shutter box 160	16,70€/pc.
KNS - 200	Stabilizing console for shutter box 200	16,70€/pc.
KNS - WSP - 160	Stabilizing console for a shutter box 160, when WSP is used	16,70€/pc.
KNSK - 200 WSP	Stabilizing console for a shutter box 200, when WSP is used	16,70€/pc.
SKM	Steel assembly anchor	1,20€/pc.
External concealed lath	Colours: white (LT-02), light brown (LT-09), dark brown (LT-08), anthracite (LT-23)	3,20€/rm
Adapting profile RN-1 70	Universal adapting profile with aluminium infill-white	5,60€/rm
	Universal adapting profile with aluminium infill-veneered: smooth anthracite (10), anthracite (12), mahogany (22), walnut (30), swamp oak (34), golden oak (48), Winchester (54), grey (99)	6,70€/rm
Case widening < 5,5 cm	The service of the roller shutter case widening up to 5,5cm (side of the case made of white, 5mm-thick plexi)	27,80€/pc.
Case widening > 5,5 cm	The service of the roller shutter case widening from 5,5cm	27,80€/pc.

* - Completion date up to 15 business days.

TP1000K[®]

PA-39, PA-45, 52 - aluminium profile 39mm, 45mm and 52mm (including end caps)

Box size	width 0,35 - 2m, max. surface 6,5m ²			width 0,35 - 2,5m, max. surface 6,5m ²			width 0,35 - 3m, max. surface 6,5m ²			width 0,35 - 3,7m, max. surface 8m ²		
	Maximum height of shutte (including the box size)/cm			Maximum height of shutte (including the box size)/cm			Maximum height of shutte (including the box size)/cm			Maximum height of shutte (including the box size)/cm		
	with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm	
PVC	PA-39 ø 40+PZ50	PA-39 ø 40-rygiel	PA-39 ø 40-WB.	PA-39 ø 60+PZ70	PA-39 ø 60-rygiel	PA-39 ø 60-WB	PA-45 ø 60+PZ70	PA-45 ø 60-rygiel	PA-45 ø 60-WB	PA-52 ø 60+PZ70	PA-52 ø 60-rygiel	PA-52 ø 60-WB
180 mm	236	232	230	212	200	216	169	169	169	132	x	153
220 mm	349	340	349	328	298	298	255	255	255	212	x	212
250 mm	418	418	418	402	402	402	334	334	334	239	x	265
180 mm+konsola statyczna	169	165	177	158	154	142	129	129	120	101	x	111
220 mm+konsola statyczna	302	302	302	290	290	290	255	255	245	212	x	212
250 mm+konsola statyczna	418	418	418	402	402	402	334	334	334	239	x	265
180 mm+dodatkową wkładką styrop.	138	134	134	95	91	95	93	93	93	64	x	76
220 mm+dodatkową wkładką styrop.	250	250	250	212	204	204	173	173	173	170	x	180
250 mm+dodatkową wkładką styrop.	418	418	418	402	402	402	334	334	334	239	x	265

TP1000K[®]

STANDARD

Curtain	Available colours for PA 39 (except for the steel anthracite DB703 (24), woodec turner oak(42)), PA 45, PA 52 – no additional charge
Bottom lath	silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
	Bottom lath buffer
	Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 woodec turner oak)
Tape roller	Possible length for white or brown colour -5mb (up to 240 cm height, up to 12kg)
NPS-011, NPS-010 adapter	KLIK universal adapting profile (up to 180cm width) or slide profile (reinforced with aluminium input NPL-020)
SUB NPT 56 mm	Steel side handles (NPT-140, NPT-040, NPT-150)
NPW-065	Additional graphite insert for the box 180, 220, 250 without a mosquito net - free (upon the customer's request)
NPW-140 L/P	Styrofoam inserts for the box sides 180
NPW-090 L/P	Styrofoam inserts for the box sides 220
NPW-160 L/P	Styrofoam inserts for the box sides 250
End caps of the guides	At a 5 degrees angle – charge free (according to the customer's wish)
Cutting guides under the angle	Charge free – according to the customer's wish

FOR ADDITIONAL CHARGE

Curtain	PA 39 steel anthracite DB703 (24), woodec turner oak only (42)	5%
Inspection hatch	Veneering of the inspection hatch– Veneer Colour Chart and turnaround times – see page 2	3%
Bottom lath	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey(27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 woodec turner oak only) *	5%
PVC NPR-020 guide	Veneering of the guide – Veneer Colour Chart and turnaround times – see page 2	8%
Guide	Guide extension	7,90€/rm
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	7,00€/pc.
WSP GW / WSP GZ	Top steel reinforcement of the shutter box without a mosquito net, internal or external NPT-020	4,00€/rm
WSP D	Bottom steel reinforcement of the shutter box without a mosquito net NPT-010	7,10€/rm
PURS	PURS 10 x 2mm x 12,5mb expansion tape	7,30€/pc.
External/internal concealed lath	Colours: white (NPL-010-02), light brown (NPL-010-09), dark brown (NPL-010-08), anthracite (NPL- 010-23)	3,80€/rm
SUB NPT 30 mm L/P	Steel side handle (NPT-120, NPT-030, NPT-130)	12,30€/set
SKM NPT-050	Steel assembly anchor	0,60€/pc.
ALU NPR-040 guide**	Powder coated: silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)	13,40€/rm
	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	16,20€/rm
	Powder coated: according to RAL Colour Chart	18,90€/rm
	veneering of the guides – Veneer Colour Chart and turnaround times – see page 2	17,30€/rm
NPD-090	Cap for the curtain channel in the guide NPR-010 and NPR-020 white	1,40€/rm
	Veneering of the cap for the curtain channel in the guide NPR-010 and NPR-020 (Veneer Colour Chart- see page 2)	3,10€/rm
NPD-080	Cap for the insect screen channel in the guide NPR-010 and NPR-030 white	1,40€/rm
	Veneering of the cap for the insect screen channel in the guide NPR-010 and NPR-020 (Veneer Colour Chart- see page 2)	3,10€/rm
NPD-010 L/P	End caps for the box sides 180 (available only in boxes without enlargement)	1,40€/set
NPD-020 L/P	End caps for the box sides 220 (available only in boxes without enlargement)	2,10€/set
NPD-030 L/P	End caps for the box sides 250 (available only in boxes without enlargement)	1,40€/set
NPD-110	End cap covering the front connection of two boxes 180	1,20€/pc.
NPD-150	End cap covering the front connection of two boxes 220	1,20€/pc.
NPD-100	End cap covering the front connection of two boxes 250	1,20€/pc.
NPD-120	End cap covering the bottom connection of two boxes 180, 250	0,90€/pc.
NPD 160	End cap covering the bottom connection of two boxes 220	0,90€/pc.
NPTK - 010	Stabilizing console for shutter box 220mm without the bottom reinforcement	16,70€/pc.
NPTK - 020	Stabilizing console for shutter box 220mm with the bottom reinforcement	16,70€/pc.
NPTK-030	Stabilizing console for 180 mm box without bottom reinforcement	16,70€/pc.
NPTK-040	Stabilizing console for 180 mm box with bottom reinforcement	16,70€/pc.
NPTK-050	Stabilizing console for 250 mm box without bottom reinforcement	16,70€/pc.
NPTK-060	Stabilizing console for 250 mm box with bottom reinforcement	16,70€/pc.
Case widening < 5,5cm	The service of the roller shutter case widening up to 5,5cm (side of the case made of white, 5mm-thick plexi)	27,80€/pc.
Case widening > 5,5cm	The service of the roller shutter case widening from 5,5cm	27,80€/pc.
PGS-31 B	Box enlargement 220/250 by 31 mm white	6,90€/rm
PGS-31 B+D	Box enlargement 220/250 by 31 mm white + decor	8,20€/rm
PGS-31 D	Box enlargement 220/250 by 31 mm decor	9,50€/rm
PGS-62 B	Box enlargement 220/250 by 62 mm white	13,80€/rm
PGS-62 B+D	Box enlargement 220/250 by 62 mm white + decor	16,40€/rm
PGS-62 D	Box enlargement 220/250 by 62 mm decor	18,90€/rm

* - Completion date up to 15 business days.

** - In the colour of the slide other than 02, box edge (NPS-100) with lining (list of lining types - cover) is included in the shutter price. There is no indicated colour for NPS-100 means that colour 02 has been applied.

TP1000K[®]

WITH MOSQUITO NET

STANDARD

Curtain	Available colours for PA 39 (except for the steel anthracite DB703 (24), wooddec turner oak(42)), PA 45 -no additional charge silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Bottom lath	Bottom lath buffer Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 wooddec turner oak)
Tape roller	Possible length for white or brown colour -5mb (up to 240 cm height, up to 12kg)
NPS-011, NPS-010 adapter	KLIK universal adapting profile (up to 180cm width) or slide profile (reinforced with aluminium input NPL-020)
SUB NPT 56 mm	Steel side handles (NPT-140, NPT-040, NPT-150)
NPW-075	Additional graphite insert for the box 180, 220, 250 with a mosquito net - free (upon the customer's request)
NPW-150L/P	Styrofoam inserts for the box sides 180 with a mosquito net
NPW-100L/P	Styrofoam inserts for the box sides 220 with a mosquito net
NPW-170L/P	Styrofoam inserts for the box sides 250 with a mosquito net
End caps of the guides	At a 5 degrees angle – charge free (according to the customer's wish)
Cutting guides under the angle	Charge free – according to the customer's wish

FOR ADDITIONAL CHARGE

Curtain	PA 39 steel anthracite DB703 (24), wooddec turner oak only (42)	5%
Inspection hatch	Veneering of the inspection hatch– Veneer Colour Chart and turnaround times – see page 2	3%
Bottom lath	Powder coated: dark beige(04), green(13), cream white (15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 wooddec turner oak only) *	5%
PCV NPR-020 guide	Veneering of the guide – Veneer Colour Chart and turnaround times – see page 2	8%
Guide	Guide extension	7,90€/rm
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	7,00€/pc.
WSP GW / WSP GZ / WSP DM	Top steel reinforcement of the shutter box without a mosquito net, internal or external NPT-020	4,00€/rm
PURS	PURS 10 x 2mm x 12,5mb expansion tape	7,30€/pc.
External/internal concealed lath	Colours: white (NPL-010-02), light brown (NPL-010-09), dark brown (NPL-010-08), anthracite (NPL- 010-23)	3,80€/rm
SUB NPT 30 mm L/P	Steel side handle (NPT-120, NPT-030, NPT-130)	12,10€/set
SKM NPT-050	Steel assembly anchor	0,60€/pc.
ALU guide for a mosquito net NPR-050**	Powder coated: silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)	19,50€/rm
	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	22,30€/rm
	Powder coated: according to RAL Colour Chart	25,00€/rm
	Veneering of the guides – Veneer Colour Chart and turnaround times – see page 2	22,80€/rm
NPD-090	Cap for the curtain channel in the guide NPR-010 and NPR-020 white	1,40€/rm
	Veneering of the cap for the curtain channel in the guide NPR-010 and NPR-020 (Veneer Colour Chart- see page 2)	3,10€/rm
NPD-080	Cap for the insect screen channel in the guide NPR-010 and NPR-030 white	1,40€/rm
	Veneering of the cap for the insect screen channel in the guide NPR-010 and NPR-030 (Veneer Colour Chart- see page 2)	3,10€/rm
NPD-010 L/P	End caps for the box sides 180 (available only in boxes without enlargement)	1,40€/set
NPD-020 L/P	End caps for the box sides 220 (available only in boxes without enlargement)	2,10€/set
NPD-030 L/P	End caps for the box sides 250 (available only in boxes without enlargement)	1,40€/set
NPD-110	End cap covering the front connection of two boxes 180	1,20€/pc.
NPD-150	End cap covering the front connection of two boxes 220	1,20€/pc.
NPD-100	End cap covering the front connection of two boxes 250	1,20€/pc.
NPD 120	End cap covering the bottom connection of two boxes 180, 250	0,90€/pc.
NPD-160	End cap covering the bottom connection of two boxes 220	0,90€/pc.
NPTK - 010	Stabilizing console for shutter box 220mm without the bottom reinforcement	16,70€/pc.
NPTK - 020	Stabilizing console for shutter box 220mm with the bottom reinforcement	16,70€/pc.
NPTK-030	Stabilizing console for 180 mm box without bottom reinforcement	16,70€/pc.
NPTK-040	Stabilizing console for 180 mm box with bottom reinforcement	16,70€/pc.
NPTK-050	Stabilizing console for 250 mm box without bottom reinforcement	16,70€/pc.
NPTK-060	Stabilizing console for 250 mm box with bottom reinforcement	16,70€/pc.
Mosquito-net	Mesh colours: grey (03), black (20). Colours for bottom lath of mosquito-net: silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)	89€/pc.
Bottom lath of mosquito net	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey(27)	5%
	Powder coated: according to RAL Colour Chart	10%
Case widening < 5,5cm	The service of the roller shutter case widening up to 5,5cm (side of the case made of white, 5mm-thick plexi)	27,80€/pc.
Case widening ≥ 5,5cm	The service of the roller shutter case widening from 5,5cm	27,80€/pc.
PGS-31 B	Box enlargement 220/250 by 31 mm white	6,90€/rm
PGS-31 B+D	Box enlargement 220/250 by 31 mm white + decor	8,20€/rm
PGS-31 D	Box enlargement 220/250 by 31 mm decor	9,50€/rm
PGS-62 B	Box enlargement 220/250 by 62 mm white	13,80€/rm
PGS-62 B+D	Box enlargement 220/250 by 62 mm white + decor	16,40€/rm
PGS-62 D	Box enlargement 220/250 by 62 mm decor	18,90€/rm

* - Completion date up to 15 business days.

** - In the colour of the slide other than 02, box edge (NPS-100) with lining (list of lining types - cover) is included in the shutter price. There is no indicated colour for NPS-100 means that colour 02 has been applied.

MX1200[®]

PA-39, PA-45 – aluminium profile 39mm and 45mm (including end caps)

width 0,35 - 2m, max. surface 6,5m² | width 0,35 - 2,5m, max. surface 6,5m² | width 0,35 - 3m, max. surface 6,5m²

Box size	Maximum height of shutte (including the box size)/cm			Maximum height of shutte (including the box size)/cm			Maximum height of shutte (including the box size)/cm		
	with automatic bolt (including the case size)/cm	with blocking hanger (including the case size)/cm	with automatic bolt (including the case size)/cm	with blocking hanger (including the case size)/cm	with automatic bolt (including the case size)/cm	with blocking hanger (including the case size)/cm	with automatic bolt (including the case size)/cm	with blocking hanger (including the case size)/cm	
PVC	PA 39 ø 40+PZ50	PA 39 ø 40-rygiel	PA 39 ø 40-WB.	PA 39 ø 60+PZ70	PA 39 ø 60-rygiel	PA 39 ø 60-WB	PA 45 ø 60+PZ70	PA 45 ø 60-rygiel	PA 45 ø 60-WB
160 mm	202	198	202	194	190	187	163	163	158
160 mm z konsolą statyczną	198	198	195	187	175	187	136	136	140
160 mm z dodatkową wkładką styropianową	101	101	101	85	85	81	59	59	59
200 mm	343	335	347	344	344	339	279	279	270
200 mm z konsolą statyczną	300	300	339	331	331	316	226	226	226
200 mm z dodatkową wkładką styropianową	206	206	206	195	195	195	162	162	153

Note! If the width of roller shutter exceeds 2m, pipe ø 60 is recommended. Additionally, a case reinforcement (WSP) is recommended. If you decide to put a WSP reinforcement in case construction, the figures presented in the above table must be reduced by 20cm.

PZ- expansion ring from ø 40 on ø 50 or from ø 60 on ø 70.

STANDARD

Curtain	Available colours for PA 39 (except for the steel anthracite DB703 (24), woodec turner oak(42)), PA 45 – no additional charge
Bottom lath	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23) Bottom lath buffer Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 woodec turner oak)
Tape roller	Possible length for white or brown colour -5mb (up to 240 cm height, up to 12kg)
Adapter NRS-010, NRS-110	Adaptation profile universal
SUB	Steel side handles (NRT-020 L/R., NRT-030, NRT-040 L/R (depending on the box)
Guide bottom end caps	Guide bottom end caps inclined at an angle of 5° - free of charge (upon the customer's request)
Cutting guides under an angle	Charge free – according to the customer's wish
Side end caps	NRD-020 side end caps for the box 160mm / NRD-030 for the box 200mm

FOR ADDITIONAL CHARGE

Curtain	PA 39 steel anthracite DB703 (24), woodec turner oak only (42)	5%
hutter box	Enlargement of the shutter box	5%
Bottom lath	Powder coated: dark beige(04), green(13), cream white (15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 woodec turner oak only) *	5%
Guide	veneering of the guides – veneer color 10, 12, 18, 48. Other veneer colors - individual pricing.	8%
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	7,00€/pc.
SKM NPT-050	Steel assembly anchor	0,60€/pc.
NRW-040/080/050	Bottom styrofoam insert for the box 160, 200, 200 with a handle	4,50€/m
NRTK-010	Stabilizing console for a shutter box 160	13,90€/pc.
NRTK-030	Stabilizing console for a shutter box 200	13,90€/pc.
External concealed lath	External concealed lath - white (LT-02), light brown (LT-09), dark brown (LT-08), anthracite (LT-23)	3,20€/m
PURS	PURS 10 x 2mm x 12,5mb expansion tape	7,30€/pc.

* - Completion date up to 15 business days.

TOP MOUNTED ROLLER SHUTTERS - SN5000®

RECOMMENDED EPS BOX SIZES

Recommended box size for SN5000® roller shutter without mosquito net

PA-39, PA-45, PA-52 curtain (including lateral caps) / ZF3000
 0,35-3 m wide, max. area 6,5 m² - PA-39, PA-45
 0,35-3,7 m wide, max. area 8,0 m² - PA-52
 0,67-4,50 m wide, max. area 16,0 m² - ZF3000

Type of the box	Max. height of the roller shutter with box						
	with blocking bracket (cm)	with blocking bracket (cm)	with blocking bracket (cm)	with blocking bracket (cm)	with blocking bracket (cm)	with external blind ZF3000 (cm)	
EPS	PA-39 ø60+PZ70, ø60+rygiel	PA-39 ø 60-WB	PA-45 ø60+PZ70, ø60+rygiel	PA-45 ø 60-WB	PA-52 ø 60+PZ70	PA-52 ø 60-WB	C80 Z90
300 mm	411	399	352	338	239	260	187 307
365 mm	411	399	352	338	239	260	187 307

Type of the box	Height of the box	Depth of the box
PSK-300	309 mm	300 mm
PSK-365	309 mm	365 mm

Recommended box size for SN5000® roller shutter with mosquito net

PA-39, PA-45, PA-52 curtain (including lateral caps)
 0,67-1,8 m wide max. area 4.5 m²

Type of the box	Max. height of the roller shutter with box					
	with blocking bracket (cm)	with blocking bracket (cm)	with blocking bracket (cm)	with blocking bracket (cm)	with blocking bracket (cm)	with blocking bracket (cm)
EPS	PA-39 ø60+PZ70, ø60+rygiel	PA-39 ø 60-WB	PA-45 ø60+PZ70, ø60+rygiel	PA-45 ø 60-WB	PA-52 ø 60+PZ70	PA-52 ø 60-WB
300 mm	250	250	250	250	249	239
365 mm	250	250	250	250	249	239

Type of the box	max. window frame thickness		
	Internal cover	External cover	External blind
PSK-300	90 mm	195 mm	150 mm
PSK-365	90 mm	255 mm	210 mm

Note! The minimum width of the roller shutter with mosquito net and slowing system is 67 cm. For roller shutters with PA-39, PA-45, PA-52 curtain and a width of more than 1.8 m it is advisable to include a stabilizing console. For roller shutters with external blind, it is advisable to include a stabilizing console of over 1.5 m.

STANDARD

Curtain	All available colors PA 39 (except for the steel anthracite DB703 (24), woodec turner oak(42)), PA 45, PA 52 - no extra charge
Bottom lath*,**	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23) Stoppers Veneering the bottom lath - veneer color: 10, 12, 18, 30, 48, 97 (other veneers colors - completion time up to 15 working days)
Bottom lath***	Steel anthracite (DB 703), anthracite (7016), light gray (7035), black (9005), silver (9006), gray aluminium (9007), white (9016), beige (VSR 240), olive (VSR 780)
Tape coiler*	In white, brown or anthracite on request 5 m (up to a height of 240 cm, up to 12 kg)
SUB	Steel side handles (RST-020L/P, RST-030L/P, RST-040L/P, RST-050L/P - depending on the box)
External concealed lath*,**	White (02)
External concealed lath***	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
End caps of guides	Inclined at an angle of 5° - free (on the customer's request)
Cutting the guides at an angle	Free (on customer's request)
Packing	Packing into a rigid carton (box packed in carton, guides packed in bubble wrap)

FOR ADDITIONAL CHARGE

Curtain	PA 39 steel anthracite DB703 (24)	5%
Box	Box enlargement (box 309x365)	5%
POS SN5000 7CM*	Extension of the roller shutter box by 7 cm	50,30€/set
POS SN5000 10CM*	Extension of the roller shutter box by 10 cm	60,10€/set
RSS-080 L/P	Box side insulation	19,50€/set
Inspection cover**	Veneering the inspection cover - veneer color: 10, 12, (other veneers colors - completion time up to 15 working days)	3%
F-USG-A***	Automatic top rail handle	1,70€/pc
Bottom lath*,**	Varnished: dark beige (04), green (13), cream white (15), maroon (19), steel olive (26), basalt gray (27) Varnished: according to the RAL template	5% 10%
RST-010*	Steel reinforcement of the crossbar	12,90€/rm
Guide	Veneering the guides - veneer color: 10, 12, (other veneers colors - completion time up to 15 working days) Guide extension	3% 22,30€/rm
Tape coiler 11m *	Applies to roller shutters of over 240 cm (white or brown on request)	7,00€/pc
RSTK-010*	Stabilizing console for box 300, 365	73,40€/pc
RSTK-020, RSTK-030**,***	Stabilizing console for box 300, 365	82,30€/pc
External concealed lath*,**	Veneering the external concealed lath veneer color: 10, 12, (other veneers colors - completion time up to 15 working days)	3%
External concealed lath***	Varnished: dark beige (04), green (13), cream white (15), maroon (19), steel olive (26), basalt gray (27) Steel anthracite (DB 703), anthracite (7016), light gray (7035), black (9005), silver (9006), gray aluminium (9007), white (9016), beige (VSR 240), olive (VSR 780) Varnished: according to the RAL template	15% 30%
RSC-350*	Extension of the internal concealed lath by 15 cm	8,40€/rm
Mosquito net*,**	Net in: gray (03), black (20) Bottom lath in: silver (01), white (02), gray (03), beige (05), light gray (07), dark brown (08), brown (09), ivory (16), black (20), anthracite (23)	327,50€/pc
Mosquito net bottom lath	Varnished: dark beige (04), green (13), cream white (15), maroon (19), steel olive (26), basalt gray (27)	5%
(extra charge per 1 mosquito net)	Varnished: according to the RAL template	10%

Additional equipment - p. 6.18. Drives - p. 6.1. Colors 04, 07, 13, 15, 19, 20, 26, 27 and according to the RAL template - completion time up to 15 working days. In the case of less popular RAL colors - individual pricing.

* - Applies only to SN5000 MS RI
 ** - Applies only to SN5000 MS RA
 *** - Applies only to SN5000 MS RS

ST2000[®]

PA-39, PA-45, PA-52 – aluminium profile 39mm, 45mm and 52 mm (including end caps)

BOX SIZE	width 0,35 - 2m, max. surface 6,5m ²			width 0,35 - 2,5m, max. surface 6,5m ²			width 0,35 - 3m, max. surface 6,5m ²			width 0,35 - 3,7m ² max. surface 8m ²	
	Maximum height of shutter			Maximum height of shutter			Maximum height of shutter			Maximum height of shutter	
	with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm	with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm	with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm	with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm	with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm	with blocking hanger (including the box size)/cm
ALUMINIUM	PA-39 ø 40+PZ50	PA-39 ø 40-rygiel	PA-39 ø 40-WB	PA-39 ø 60+PZ70	PA-39 ø 60-rygiel	PA-39 ø 60-WB	PA-45 ø 60+PZ70	PA-45 ø 60-rygiel	PA-45 ø 60-WB	PA-52 ø 60+PZ70	PA-52 ø 60-WB
SK-137	152	152	142	126	126	X	X	X	X	X	X
SK-150	197	197	186	182	182	151	126	121	X	X	X
SK-165	250	250	242	236	236	199	163	168	138	120	
SK-180	306	306	310	294	294	282	214	214	196	190	
SK-205	394	394	402	398	398	359	294	294	270	260	

Note! If the width of roller shutter exceeds 2m, pipe ø 60 is recommended.

PZ- expansion ring from ø 40 on ø 50 or from ø 60 on ø 70

In case of using cord as a drive in D exit the box has to be enlarged by one size.

STANDARD

Shutter box	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Guide	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Curtain	Colours available for PA 39 (except for the steel anthracite DB703 (24), woodec turner oak(42)), PA 45, PA 52 – no additional charge
Bottom lath	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
	Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 woodec turner oak)
Tape roller	Possible length for white or brown colour -5mb (up to 240 cm height, up to 12kg)
Hole drilling in the guides	Charge free – according to the customer's wish

FOR ADDITIONAL CHARGE

Shutter box	Enlargement of the shutter box	5%
	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	15%
	Powder coated: according to RAL Colour Chart	30%
Guide	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	10%
	Powder coated: according to RAL Colour Chart	20%
	One-sided veneering of the guides – Veneer Colour Chart and turnaround times – see page 2	10%
	Guide extension	8,90€/m
Curtain	PA 39 steel anthracite DB703 (24), woodec turner oak only (42)	5%
Bottom lath	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 woodec turner oak only) *	5%
Roller shutter Decor- colours: 22-mahogany, 30-walnut, 48-golden oak, 54-winchester Available shutter box sizes: 137mm, 165mm, 205mm)	Powder coated shutter box + veneered guides + Powder coated box sides RAL: 8017 - mahogany, 8028 - walnut, 8003 - golden oak, 1011 - winchester	10%
	Powder coated shutter box + veneered guides + decor box sides 22 - mahogany, 30 - walnut, 48 - golden oak, 54 - winchester	17%
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	7,00€/pc.
Cord coiler up to 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	11,40€/pc.

* - Completion date up to 15 business days.

ST2000[®]

WITH MOSQUITO NET

PA-39, PA-45 – aluminium profile 39mm and 45mm (including end caps)

width 0,55 - 1,8m, max. surface 4,5m²

BOX SIZE	Maximum height of shutter			Maximum height of shutter			Maximum height of shutter		
		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm
ALUMINIUM	PA-39 ø 40+PZ50	PA-39 ø 40-rygiel	PA-39 ø 40-WB	PA-39 ø 60+PZ70	PA-39 ø 60-rygiel	PA-39 ø 60-WB	PA-45 ø 60+PZ70	PA-45 ø 60-rygiel	PA-45 ø 60-WB
SK-137	X	X	X	X	X	X	X	X	X
SK-165	176	179	144	156	156	121	X	X	X
SK-180	224	228	216	200	200	200	X	X	X
SK-205	250	250	250	250	250	250	250	250	250

If the width of roller shutter exceeds 2m (for rollers shutters with sections) pipe ø 60 is recommended.

PZ- expansion ring from ø 40 on ø 50 or from ø 60 on ø 70

In case of using cord as a drive in D exit the box has to be enlarged by one size.

STANDARD

Shutter box	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Guide	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Curtain	Colours available for PA 39 (except for the steel anthracite DB703 (24), woodec turner oak(42)), PA 45, PA 52 – no additional charge
Bottom lath	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23) Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 woodec turner oak)
Tape roller	Possible length for white and brown colour -5mb (up to 240 cm height, up to 12kg)
Hole drilling in the guides	Charge free – according to the customer's wish

FOR ADDITIONAL CHARGE

Shutter box	Enlargement of the shutter box	5%
	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	15%
	Powder coated: according to RAL Colour Chart	30%
Guide	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	10%
	Powder coated: according to RAL Colour Chart	20%
	One-sided veneering of the guides - Veneer Colour Chart and turnaround times - see page 2	10%
	Guide extension	8,90€/rm
Curtain	PA 39 steel anthracite DB703 (24), woodec turner oak only (42)	5%
Bottom lath	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 woodec turner oak only) *	5%
Roller shutter Decor- colours: 22-mahogany, 30-walnut, 48-golden oak, 54-winchester Available shutter box sizes: 137mm, 165mm, 205mm)	Powder coated shutter box + veneered guides + Powder coated box sides RAL: 8017 - mahogany, 8028 - walnut, 8003 - golden oak, 1011 - winchester	10%
	Powder coated shutter box + veneered guides + decor box sides 22 - mahogany, 30 - walnut, 48 - golden oak, 54 - winchester	17%
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish - white or brown)	7,00€/pc.
Cord coiler up to 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish - white or brown)	11,40€/pc.
Rolled mosquito-net	Mesh colours: grey (03), black (20). Colours for bottom lath of mosquito-net: silver (01), white (02), grey (03), light beige (05), light grey (07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)	89€/pc.
Pleated mosquito-net	Mesh colours: black (20). Colours for profiles of mosquito-net: silver (01), white (02), grey (03) light beige (05), light grey (07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)	page: 6.19
Bottom lath of rolled mosquito net, Profiles of pleated mosquito net	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
ZSKM	End cap for aluminium guide mosquito net channel	1,60€/rm

* - Completion date up to 15 business days.

RL2000®

PA-39, PA-45 – aluminium profile 39mm and 45mm (including end caps)

Box size	width 0,35 - 2m, max. surface 6,5m ²			width 0,35 - 2,5m, max. surface 6,5m ²			width 0,35 - 3m, max. surface 6,5m ²		
	Maximum height of shutter(including the box size)/cm			Maximum height of shutter(including the box size)/cm			Maximum height of shutter(including the box size)/cm		
		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm
ALUMINIUM	PA-39 ø 40+PZ50	PA-39 ø 40-rygiel	PA-39 ø 40-WB	PA-39 ø 60+ZP70	PA-39 ø 60-rygiel	PA-39 ø 60-WB	PA-45 ø 60+PZ70	PA-45 ø 60-rygiel	PA-45 ø 60-WB
SK-150	197	197	194	182	182	151	126	121	
SK-180	286	286	298	294	302	267	214	214	
SK-205	394	394	402	398	410	359	294	294	

If the width of roller shutter exceeds 2m, pipe ø 60 is recommended.
PZ- expansion ring from ø 40 on ø 50 or from ø 60 on ø 70.

STANDARD

Shutter box	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Guide	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Bottom lath	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23) Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 woodec turner oak)
Curtain	Colours available for PA 39 (except for the steel anthracite DB703 (24), woodec turner oak(42)), PA 45, PA 52 – no additional charge
Tape roller	Possible length for white or brown colour -5mb (up to 240 cm height, up to 12kg)
Hole drilling in the guides	Charge free – according to the customer's wish

FOR ADDITIONAL CHARGE

Shutter box	Enlargement of the shutter box	5%
	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	15%
	Powder coated: according to RAL Colour Chart	30%
Guide	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	10%
	Powder coated: according to RAL Colour Chart	20%
	One-sided veneering of the guides – Veneer Colour Chart and turnaround times – see page 2	10%
	Guide extension	8,90€/rm
Cap for aluminium guides	NPPDO-53 single, powder coated silver(01),white(02),grey(03),light beige(05), light grey(07),dark brown(08),light brown(09),ivory(16),black(20),anthracite(23)	4,20€/rm
	NPPDO-79 double, powder coated silver(01),white(02),grey(03),light beige(05), light grey(07),dark brown(08),light brown(09),ivory(16),black(20),anthracite(23)	5,90€/rm
	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	10%
	Powder coated: according to RAL Colour Chart	20%
PZO	Mounting plate for oval guide cap	0,35€/pc.
Bottom lath	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 woodec turner oak only) *	5%
Curtain	PA 39 steel anthracite DB703 (24), woodec turner oak only (42)	5%
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	7,00€/pc.
Cord coiler up to 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	11,40€/pc.

* - Completion date up to 15 business days.

RL2000[®]

WITH MOSQUITO NET

width 0,55 - 1,8m, max. surface 4,5m²

Box size	Maximum height of shutter (including the box size)/cm			Maximum height of shutter (including the box size)/cm			Maximum height of shutter (including the box size)/cm		
		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm
ALUMINIUM	PA-39 ø 40+PZ50	PA-39 ø 40-rygiel	PA-39 ø 40-WB	PA-39 ø 60+PZ70	PA-39 ø 60-rygiel	PA-39 ø 60-WB	PA-45 ø 60+PZ70	PA-45 ø 60-rygiel	PA-45 ø 60-WB
SK-150	108	108	108	X	X	X	X	X	X
SK-180	224	224	216	200	200	200	X	X	X
SK-205	250	250	250	250	250	250	250	250	250

If the width of roller shutter exceeds 2m, pipe ø 60 is recommended.
PZ- expansion ring from ø 40 on ø 50 or from ø 60 on ø 70.

STANDARD

Shutter box	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Guide	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Bottom lath	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
	Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 woodec turner oak)
Curtain	Colours available for PA 39 (except for the steel anthracite DB703 (24), woodec turner oak(42)), PA 45, PA 52 – no additional charge
Tape roller	Possible length for white and brown colour -5mb (up to 240 cm height, up to 12kg)
Hole drilling in the guides	Charge free – according to the customer's wish

FOR ADDITIONAL CHARGE

Shutter box	Enlargement of the shutter box	5%
	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	15%
	Powder coated: according to RAL Colour Chart	30%
Guide	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	10%
	Powder coated: according to RAL Colour Chart	20%
	One-sided veneering of the guides – Veneer Colour Chart and turnaround times – see page 2	10%
	Guide extension	8,90€/rm
Cap for aluminium guides	NPPDO-53 single, powder coated silver(01),white(02),grey(03),light beige(05), light grey(07),dark brown(08),light brown(09),ivory(16),black(20),anthracite(23)	4,20€/rm
	NPPDO-79 double, powder coated silver(01),white(02),grey(03),light beige(05), light grey(07),dark brown(08),light brown(09),ivory(16),black(20),anthracite(23)	5,90€/rm
	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	10%
	Powder coated: according to RAL Colour Chart	20%
PZO	Mounting plate for oval guide cap	0,35€/pc.
Bottom lath	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 woodec turner oak only) *	5%
Curtain	PA 39 steel anthracite DB703 (24), woodec turner oak only (42)	5%
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	7,00€/pc.
Cord coiler up to 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	11,40€/pc.
Rolled mosquito-net	Mesh colours: grey (03), black (20). Colours for bottom lath of mosquito-net: silver (01), white (02), grey (03), light beige (05), light grey (07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)	89€/pc.
Pleated mosquito-net	Mesh colours: black (20). Colours for profiles of mosquito-net: silver (01), white (02), grey (03) light beige (05), light grey (07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)	page: 6.19
Bottom lath of rolled mosquito net, Profiles of pleated mosquito net	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
ZSKM	End cap for aluminium guide mosquito net channel	1,60€/rm

* - Completion date up to 15 business days.

OS2000®

PA-39, PA-45, PA-52 – aluminium profile 39mm, 45mm, 52 mm (including end caps)

Box size	width 0,35 - 2m, max. surface 6,5m ²			width 0,35 - 2,5m, max. surface 6,5m ²			width 0,35 - 3m, max. surface 6,5m ²			width 0,35 - 3,7m, max. surface 8m ²	
	Maximum height of shutte (including the box size)/cm			Maximum height of shutte (including the box size)/cm			Maximum height of shutte (including the box size)/cm			Maximum height of shutte (including the box size)/cm	
	with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm
ALUMINIUM	PA-39 ø 40+PZ50	PA-39 ø 40-rygiel	PA-39 ø 40-WB	PA-39 ø 60+PZ70	PA-39 ø 60-rygiel	PA-39 ø 60-WB	PA-45 ø 60+PZ70	PA-45 ø 60-rygiel	PA-45 ø 60-WB	PA-52 ø 60+PZ70	PA-52 ø 60-WB
SK-137	152	152	142	126	126	X	X	X	X	X	X
SK-165	250	250	242	236	236	199	163	168	138	120	
SK-180	306	306	310	294	294	282	214	214	196	190	
SK-205	394	394	402	398	398	359	294	294	270	260	

If the width of roller shutter exceeds 2m, pipe ø 60 is recommended.
PZ- expansion ring from ø 40 on ø 50 or from ø 60 on ø 70.

STANDARD

Shutter box	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Guide	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Bottom lath	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23) Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 woodec turner oak)
Curtain	Colours available for PA 39 (except for the steel anthracite DB703 (24), woodec turner oak(42)), PA 45, PA 52 – no additional charge
Tape roller	Possible length for white or brown colour -5mb (up to 240 cm height, up to 12kg)
Hole drilling in the guides	Charge free – according to the customer's wish

FOR ADDITIONAL CHARGE

Shutter box	Enlargement of the shutter box	5%
	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	15%
	Powder coated: according to RAL Colour Chart	30%
Guide	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	10%
	Powder coated: according to RAL Colour Chart	20%
	One-sided veneering of the guides – Veneer Colour Chart and turnaround times – see page 2	10%
	Guide extension	8,90€/rm
Cap for aluminium guides	NPPDO-53 single, powder coated silver(01),white(02),grey(03),light beige(05), light grey(07),dark brown(08),light brown(09),ivory(16),black(20),anthracite(23)	4,20€/rm
	NPPDO-79 double, powder coated silver(01),white(02),grey(03),light beige(05), light grey(07),dark brown(08),light brown(09),ivory(16),black(20),anthracite(23)	5,90€/rm
	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	10%
	Powder coated: according to RAL Colour Chart	20%
PZO	Mounting plate for oval guide cap	0,35€/pc.
Bottom lath	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 woodec turner oak only) *	5%
Curtain	PA 39 steel anthracite DB703 (24), woodec turner oak only (42)	5%
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	7,00€/pc.
Cord coiler up to 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	11,40€/pc.

* - Completion date up to 15 business days.

OS2000[®]

WITH MOSQUITO NET

PA-39, PA-45 – aluminium profile 39mm and 45mm (including end caps)

width 0,55 - 1,8m, max. surface 4,5m²

Box size	Maximum height of shutter(including the box size)/cm			Maximum height of shutter(including the box size)/cm			Maximum height of shutter(including the box size)/cm		
		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm
ALUMINIUM	PA-39 ø 40+PZ50	PA-39 ø 40-rygiel	PA-39 ø 40-WB	PA-39 ø 60+PZ70	PA-39 ø 60-rygiel	PA-39 ø 60-WB	PA-45 ø 60+PZ70	PA-45 ø 60-rygiel	PA-45 ø 60-WB
SK-137	X	X	X	X	X	X	X	X	X
SK-165	176	152	144	156	156	121	X	X	X
SK-180	224	228	216	200	200	200	X	X	X
SK-205	250	250	250	250	250	250	250	250	250

**Note! If the width of roller shutter exceeds 2m (concerns the shutters with sections), pipe ø 60 is recommended.
PZ- expansion ring from ø 40 on ø 50 or from ø 60 on ø 70.**

STANDARD

Shutter box	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Guide	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Bottom lath	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23) Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 wooddec turner oak)
Curtain	Colours available for PA 39 (except for the steel anthracite DB703 (24), wooddec turner oak(42)), PA 45, PA 52 – no additional charge
Tape roller	Possible length for white and brown colour -5 mb (up to 240 cm height, up to 12kg)
Hole drilling in the guides	Charge free – according to the customer's wish

FOR ADDITIONAL CHARGE

Shutter box	Enlargement of the shutter box	5%
	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	15%
	Powder coated: according to RAL Colour Chart	30%
Guide	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	10%
	Powder coated: according to RAL Colour Chart	20%
	One-sided veneering of the guides – Veneer Colour Chart and turnaround times – see page 2	10%
	Guide extension	8,90€/rm
Cap for aluminium guides	NPPDO-53 single, powder coated silver(01),white(02),grey(03),light beige(05), light grey(07),dark brown(08),light brown(09),ivory(16),black(20),anthracite(23)	4,20€/rm
	NPPDO-79 double, powder coated silver(01),white(02),grey(03),light beige(05), light grey(07),dark brown(08),light brown(09),ivory(16),black(20),anthracite(23)	5,90€/rm
	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	10%
	Powder coated: according to RAL Colour Chart	20%
PZO	Mounting plate for oval guide cap	0,35€/pc.
Bottom lath	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 wooddec turner oak only) *	5%
Curtain	PA 39 steel anthracite DB703 (24), wooddec turner oak only (42)	5%
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	7,00€/pc.
Cord coiler up to 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	11,40€/pc.
Rolled mosquito-net	Mesh colours: grey (03), black (20). Colours for bottom lath of mosquito-net: silver (01), white (02), grey (03), light beige (05), light grey (07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)	89€/pc.
Pleated mosquito-net	Mesh colours: black (20). Colours for profiles of mosquito-net: silver (01), white (02), grey (03), light beige (05), light grey (07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)	page: 6.19
Bottom lath of rolled mosquito net, Profiles of pleated mosquito net	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
ZSKM	End cap for aluminium guide mosquito net channel	1,60€/rm

* - Completion date up to 15 business days.

IT2000®

PA-39, PA-45, PA-52 – aluminium profile 39mm, 45 mm and 52mm (including end caps)

Box size	width 0,35 - 2m, max. surface 6,5m ²			width 0,35 - 2,5m, max. surface 6,5m ²			width 0,35 - 3m, max. surface 6,5m ²			width 0,35 - 3,7m, max. surface 8m ²	
	Maximum height of shutter (including the box size)/cm			Maximum height of shutter (including the box size)/cm			Maximum height of shutter (including the box size)/cm			Maximum height of shutter (including the box size)/cm	
	with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with automatic bolt (including the box size)/cm	with blocking hanger (including the box size)/cm		with blocking hanger (including the box size)/cm	
ALUMINIUM	PA-39 ø 40+PZ50	PA-39 ø 40-rygiel	PA-39 ø 40-WB	PA-39 ø 60+PZ70	PA-39 ø 60-rygiel	PA-39 ø 60-WB	PA-45 ø 60+PZ70	PA-45 ø 60-rygiel	PA-45 ø 60-WB	PA-52 ø 60+PZ70	PA-52 ø 60-WB
SK-137	152	152	142	126	126	X	X	X	X	X	
SK-165	250	250	242	236	236	199	163	168	138	120	
SK-180	306	306	310	294	294	282	214	214	196	190	
SK-205	394	394	402	398	398	359	294	294	270	260	

If the width of roller shutter exceeds 2m, pipe ø 60 is recommended.
PZ- expansion ring from ø 40 on ø 50 or from ø 60 on ø 70.

STANDARD

Shutter box, box sides	Raw aluminium
Inspection hatch, concealed lath	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Guide	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Curtain	Colours available for PA39 (except for the steel anthracite DB703 (24), woodec turner oak(42)), PA45 – no additional charge
Bottom lath	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23) Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 woodec turner oak)
Tape roller	Possible length for white or brown colour -5mb (up to 240 cm height, up to 12kg)
Hole drilling in the guides	Charge free – according to the customer's wish

FOR ADDITIONAL CHARGE

Shutter box	Enlargement of the shutter box	5%
Inspection hatch, concealed lath	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey(27)	15%
	Powder coated: according to RAL Colour Chart	30%
	Veneering– Veneer Colour Chart and turnaround times – see page 2 (except for the quartz grey colour (61))	5%
Guide	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey(27)	10%
	Powder coated: according to RAL Colour Chart	20%
	One-sided veneering of the guides – Veneer Colour Chart and turnaround times – see page 2	5%
	Guide extension	8,90€/m
Curtain	PA 39 steel anthracite DB703 (24), woodec turner oak only (42)	5%
Bottom lath	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey(27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 woodec turner oak only) *	5%
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	7,00€/pc.
Cord coiler up to 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	11,40€/pc.
UMIT-137, UMIT-137-20	Mounting bracket for shutter box IT2000: 137, 137 with distance 20 mm	4,30€/pc.
UMIT-165, UMIT-165-20	Mounting bracket for shutter box IT2000: 165, 165 with distance 20 mm	4,70€/pc.
UMIT-180, UMIT-180-20	Mounting bracket for shutter box IT2000: 180, 180 with distance 20 mm	5,30€/pc.
UMIT-205, UMIT-205-20	Mounting bracket for shutter box IT2000: 205, 205 with distance 20 mm	5,40€/pc.

* - Completion date up to 15 business days.

IT2000[®]

WITH MOSQUITO NET

PA-39, PA-45 – aluminium profile 39mm and 45mm (including end caps)

width 0,55 - 1,8m, max. surface 4,5m²

Box size	Maximum height of shutter (including the box size)/cm			Maximum height of shutter (including the box size)/cm			Maximum height of shutter (including the box size)/cm		
		with automatic bolt (including the box size)/cm	anger (including the box size)/cm		with automatic bolt (including the box size)/cm	anger (including the box size)/cm		with automatic bolt (including the box size)/cm	anger (including the box size)/cm
ALUMINIUM	PA-39 ø 40+PZ50	PA-39 ø 40-rygiel	PA-39 ø 40-WB	PA-39 ø 60+PZ70	PA-39 ø 60-rygiel	PA-39 ø 60-WB	PA-45 ø 60+PZ70	PA-45 ø 60-rygiel	PA-45 ø 60-WB
SK-137	X	X	X	X	X	X	X	X	X
SK-165	176	179	144	156	156	121	X	X	X
SK-180	224	228	216	200	200	200	X	X	X
SK-205	250	250	250	250	250	250	250	250	250

NOTE! If the width of roller shutter exceeds 2m (for rollers shutters with sections) pipe ø 60 is recommended.
 In IT2000 roller shutter with mosquito net system, it is not possible to use motor with emergency crank.
 PZ- expansion ring from ø 40 on ø 50 or from ø 60

STANDARD

Shutter box, box sides	Raw aluminium
Inspection hatch, concealed lath	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Guide	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)
Curtain	Colours available for PA 39 (except for the steel anthracite DB703 (24), woodec turner oak(42)), PA 45 – no additional charge
Bottom lath	Silver (01), white (02), grey (03), light beige (05), light grey(07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23) Veneering of bottom lath - Veneer Colour Chart and turnaround times – see page 2 (except for color 42 woodec turner oak)
Tape roller	Possible length for white or brown colour -5mb (up to 240 cm height, up to 12kg)
Hole drilling in the guides	Charge free – according to the customer's wish

FOR ADDITIONAL CHARGE

Shutter box	Enlargement of the shutter box	5%
Inspection hatch, concealed lath	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey(27)	15%
	Powder coated: according to RAL Colour Chart	30%
	Veneering– Veneer Colour Chart and turnaround times – see page 2 (except for the quartz grey colour (61))	5%
Guide	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey(27)	10%
	Powder coated: according to RAL Colour Chart	20%
	One-sided veneering of the guides – Veneer Colour Chart and turnaround times – see page 2	5%
	Guide extension	8,90€/rm
Curtain	PA 39 steel anthracite DB703 (24), woodec turner oak only (42)	5%
Bottom lath	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey(27)	5%
	Powder coated: according to RAL Colour Chart	10%
	Veneering of the bottom lath (color 42 woodec turner oak only) *	5%
Tape roller 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	7,00€/pc.
Cord coiler up to 11m	Refers to roller shutters exceeding 240cm (according to the customer's wish – white or brown)	11,40€/pc.
Rolled mosquito-net	Mesh colours: grey (03), black (20). Colours for bottom lath of mosquito-net: silver (01), white (02), grey (03), light beige (05), light grey (07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)	89€/pc.
Pleated mosquito-net	Mesh colours: black (20). Colours for profiles of mosquito-net: silver (01), white (02), grey (03), light beige (05), light grey (07), dark brown (08), light brown (09), ivory (16), black(20), anthracite (23)	page: 6.19
Bottom lath of rolled mosquito net, Profiles of pleated mosquito net	Powder coated: dark beige(04), green(13), cream white(15), bordoux(19), steel olive(26), basalt grey (27)	5%
	Powder coated: according to RAL Colour Chart	10%
ZSKM	End cap for aluminium guide mosquito net channel	1,60€/rm
UMIT-137, UMIT-137-20	Mounting bracket for shutter box IT2000: 137, 137 with distance 20 mm	4,30€/pc.
UMIT-165, UMIT-165-20	Mounting bracket for shutter box IT2000: 165, 165 with distance 20 mm	4,70€/pc.
UMIT-180, UMIT-180-20	Mounting bracket for shutter box IT2000: 180, 180 with distance 20 mm	5,30€/pc.
UMIT-205, UMIT-205-20	Mounting bracket for shutter box IT2000: 205, 205 with distance 20 mm	5,40€/pc.

* - Completion date up to 15 business days.



**PRICELIST OF MOTORS
AND ACCESSORIES
FOR ROLLER SHUTTERS**

PRICE LIST OF MOTORS AND CONTROL UNITS

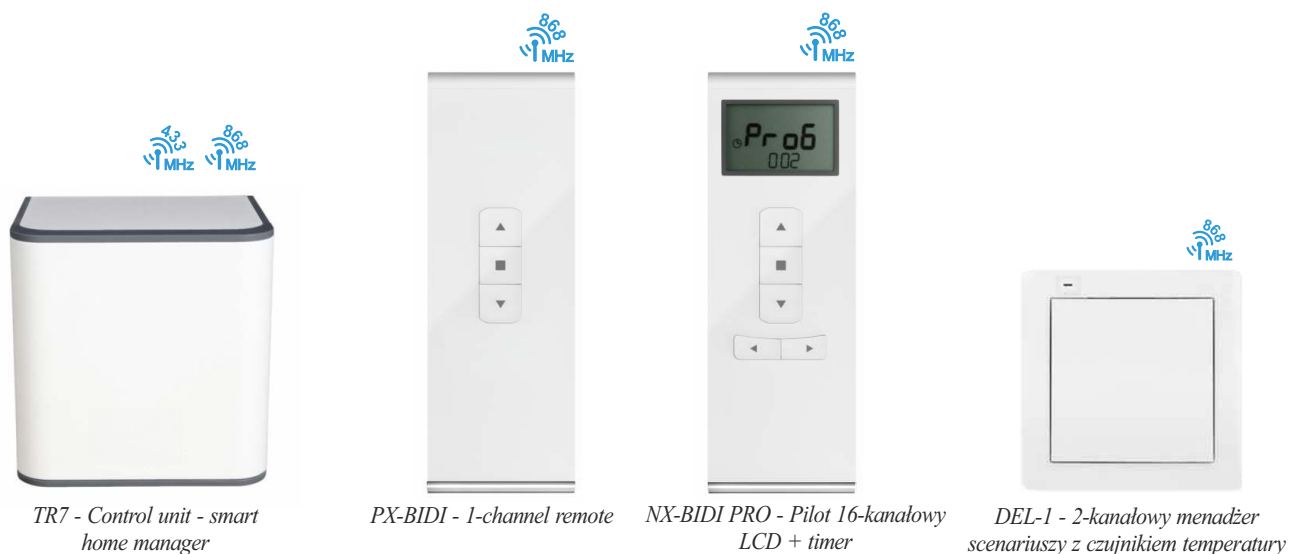
EXALUS HOME

SMART HOME SYSTEM

www.tr7.pl

INDEX	NAME	PRICE EUR
RADIO MOTORS		
- SSR-BIDI 40/10	- Radio motor EXALUS HOME P&P 40/10 *	121,20 €
- SSR-BIDI 60/10	- Radio motor EXALUS HOME P&P 60/10 *	123,80 €
- SSR-BIDI 60/20	- Radio motor EXALUS HOME P&P 60/20 *	126,30 €
CONTROL ELEMENTS		
- TR7	- Control unit - smart house manager	323,50 €
RADIO TRANSMITTERS		
- PX-BIDI	- 1-channel remote (1 W) *	45,70 €
- NX-BIDI	- 12-channel remote (1 W) *	47,80 €
- NX-BIDI PRO	- 16-channel remote LCD + timer *** NEW	100,80 €
- RNP-21	- Flush-mounted radio transmitter (230 V)	52,00 €
- RNP-22	- Flush-mounted radio transmitter (battery-powered)	47,80 €
- DEL-1	- 2-channel scenario manager with temperature sensor (white) **	64,90 €
- 12DEL-1	- 2-channel scenario manager with temperature sensor (black) **	64,90 €
- DEL-2	- 4-channel scenario manager with temperature sensor (white) **	71,20 €
- 12DEL-2	- 4-channel scenario manager with temperature sensor (black) **	71,20 €
FLUSH RECEIVERS/ CONTROLLERS		
- EX-BIDI	- Radio flush-mounted shutter controller	60,00 €
- ROP-21	- Radio 1-channel flush receiver	69,50 €
- ROP-22	- Radio 2-channel flush receiver	71,60 €
- RDP-21	- Radio dimmer	73,20 €
- REP-21	- Radio signal retransmitter	68,50 €
- ROB-21	- Radio rolling gates receiver NEW	90,20 €
MOTOR SETUP CABLE		
- 9020579	- Universal setup cable (five-wire) cable for - IO, RTS, WT, SSR-BIDI NEW	128,20 €

- * - Set (adapter, carrier, hangers, hook locks)
Hangers, hook locks, handle included with the motor only in the finished product
** - Product for special order
*** - Does not support time scenarios in VB-BIDI



TUBULAR MOTOR HOISTING CAPACITY - SSR-BIDI

	Moc silnika (Nm)	Roller shutter hoisting capacity:					Minimum rollershutter widths			Motor length
		ø40		ø60			External roller shutters	Top-mounted roller	Minimum length of RKS tube	
		up to 3 m	up to 4 m	up to 2 m	up to 3 m	up to 4 m				
SSR-BIDI 40/10	10 Nm	12 kg	10 kg	-	-	-	80 cm	85 cm	-	605 mm
SSR-BIDI 60/10	10 Nm	-	-	18 kg	16 kg	14 kg	85 cm	80 cm*	74 cm	635 mm
SSR-BIDI 60/20	20 Nm	-	-	36 kg	33 kg	30 kg	85 cm	80 cm *	74 cm	635 mm

* minimum width using RKS mounting

Items presented above are not a standard equipment. They have to be additionally listed in every order.

PRICE LIST OF MOTORS AND CONTROL UNITS

KARLIK

**EXALUS
HOME**

NEW

SMART HOME SYSTEM
www.tr7.pl

<i>INDEX</i>	<i>NAME</i>	<i>PRICE EUR</i>
WIRED CONTROL SYSTEM EXCLUSIVE		
- DWP-4.1	- Monostable bell push (white) NEW	13,50 €
- 12DWP-4.1	- Monostable bell push (black) NEW	13,50 €
- DWP-88	- Bistable flush-mounted shutter push button (white) NEW	20,10 €
- 12DWP-88	- Bistable flush-mounted shutter push button (black) NEW	20,10 €
- DWP-8	- Monostable flush-mounted shutter push button (white) NEW	19,10 €
- 12DWP-8	- Monostable flush-mounted shutter push button (black) NEW	19,10 €
- DR-1	- Single frame (white) NEW	4,70 €
- 12DR-1	- Single frame (black) NEW	4,70 €
- DR-2	- Double frame (white) NEW	6,40 €
- 12DR-2	- Double frame (black) NEW	6,40 €
- DR-3	- Triple frame (white) NEW	7,70 €
- 12DR-3	- Triple frame (black) NEW	7,70 €
- DR-4	- Quadruple frame (white) NEW	9,30 €
- 12DR-4	- Quadruple frame (black) NEW	9,30 €
- DR-5	- Quintuple frame (white) NEW	11,20 €
- 12DR-5	- Quintuple frame (black) NEW	11,20 €
- DPU-1	- Surface-mounted frame (white) NEW	8,00 €
- 12DPU-1	- Surface-mounted frame (black) NEW	8,00 €

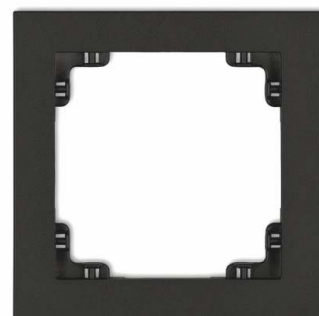
All aforementioned products make part of the KARLIK company system.



12DWP-4.1 - Monostable bell push



12DWP-88 - Bistable flush-mounted
shutter push button

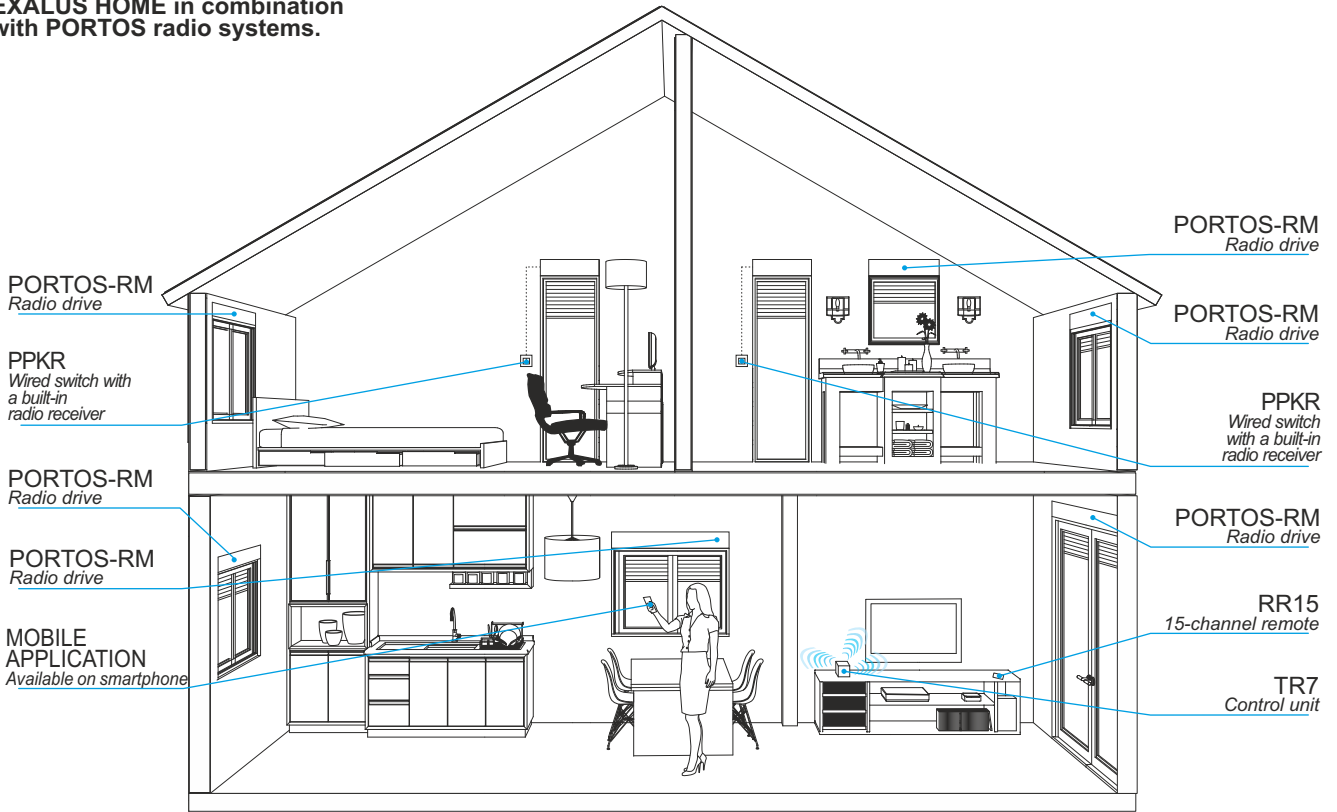


12DR-1 - Single frame

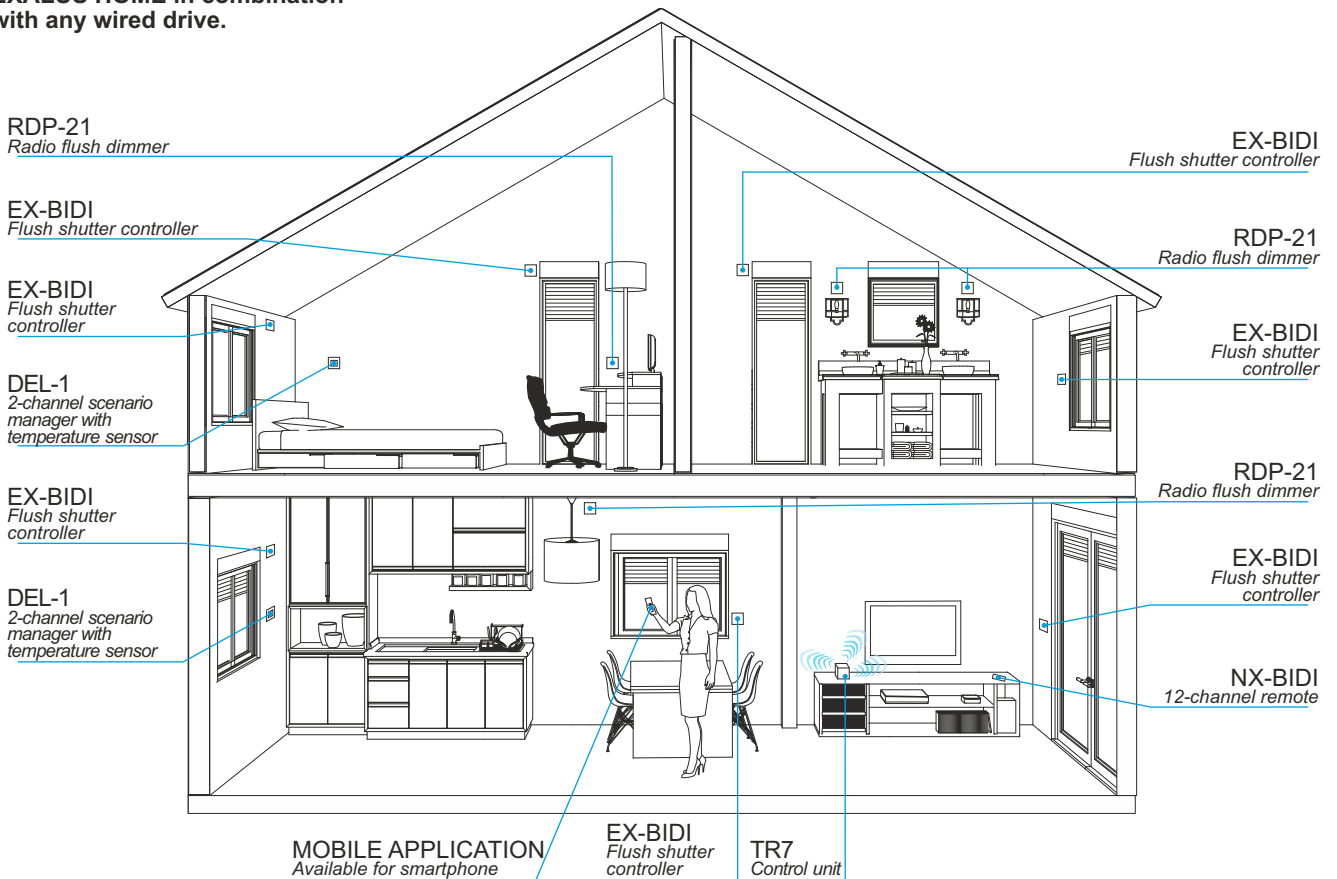
EXALUS HOME

SMART HOME SYSTEM
www.tr7.pl

EXALUS HOME in combination with PORTOS radio systems.



EXALUS HOME in combination with any wired drive.



TUBULAR MOTORS FOR ROLLER SHUTTERS

PORTOS MOTORS

INDEX	NAME	PRICE EUR
PORTOS MOTORS		
- S-40/10	- Motor 10 Nm for octagonal pipe 40 mm	51,90/Stück
- S-40/10 S	- Motor 10 Nm for octagonal pipe 40 mm – small, lenght - 37cm	55,50/Stück
- S-60/10	- Motor 10 Nm for octagonal pipe 60 mm	51,90/Stück
- S-60/20	- Motor 20 Nm for octagonal pipe 60 mm	56,80/Stück
- S-60/30	- Motor 30 Nm for octagonal pipe 60 mm	58,80/Stück
- S-60/40	- Motor 40 Nm for octagonal pipe 60 mm	61,90/Stück
- S-60/50	- Motor 50 Nm for octagonal pipe 60 mm	65,70/Stück
- S-60/10 S	- Motor 10 Nm for octagonal pipe 60 mm - small, lenght - 48 cm	64,60/Stück
RADIO PORTOS MOTORS		
- S-40/10 RM	- Radio motor 10 Nm for octagonal pipe 40 mm	78,90/Stück
- S-60/10 RM	- Radio motor 10 Nm for octagonal pipe 60 mm	81,70/Stück
- S-60/20 RM	- Radio motor 20 Nm for octagonal pipe 60 mm	83,70/Stück
- S-60/30 RM	- Radio motor 30 Nm for octagonal pipe 60 mm	86,50/Stück
PORTOS MOTORS NHK		
- S-60/20 NHK#427	- Motor 20 Nm NHK for octagonal pipe 60 mm*	90,20/Stück
- S-60/30 NHK#427	- Motor 30 Nm NHK for octagonal pipe 60 mm*	94,50/Stück
- TZU-S	- Eye kit for NHK motors	17,70/Stück
- KRH-150	- Crank with a Hook 150cm	22,30/Stück
- KRH-180	- Crank with a Hook 180cm	28,70/Stück
ACCESSORIES		
- PMX1	- Bell button (monostable)	15,60 €/Stück
- PKLX2N	- Surface-mounted key-turn switch	51,40 €/Stück
- PKLX2	- Flush-mounted key-turn switch	51,40 €/Stück
- PBX2N	- Surface-mounted shutter switch (bistable)	23,00 €/Stück
- PMX2N	- Surface-mounted shutter button (monostable)	23,00 €/Stück
- PBX2	- Flush-mounted shutter switch (bistable)	17,00 €/Stück
- PMX2	- Flush-mounted shutter button (monostable)	17,00 €/Stück
- RX1N	- Surface-mounted frame	6,00 €/Stück
- RX2	- Double frame	6,00 €/Stück
- RX3	- Triple frame	9,50 €/Stück
- RX4	- Quadruple frame	14,50 €/Stück
- PS-1	- 1-channel keychain remote control	42,10 €/Stück
- PS-1T	- 1-channel electronic switch with Timer	55,40 €/Stück
- PS-2	- 2-channel electronic switch	44,30 €/Stück
- PE-2	- 2-channel electronic switch ***	41,80 €/Stück
- SIR	- Flush-mounted relay **, ****	32,70 €/Stück
- ST4	- 4-roller shutters controller	38,30 €/Stück
RADIO RECEIVERS		
- PPKR 313	- Switch with integrated radio receiver only for non radio motors	50,10 €/Stück
- PPKR 313/2	- Double electronic switch with a built-in radio receiver	58,10 €/Stück
- XT-R	- Flush-mounted receiver **, ****	43,80 €/Stück

* - For the appropriate working of motor with emergency lifting mechanism, it is necessary to use crank with a hook KRH-150.

** - Possibility of connection only electronic switch with non-support mode and blockade to launch direction buttons simultaneously.

*** - Product available until in stock

**** - The controller can be used only with drives with torque up to 10Nm.

Caution! Do not use an emergency lifting mechanism if motor is electrified. Motors with emergency lifting mechanism are not available with IT2000 system.

Items presented above are not a standard equipment. They have to be additionally listed in every order.

TUBULAR MOTORS FOR ROLLER SHUTTERS

PORTOS MOTORS

<i>INDEX</i>	<i>NAME</i>	<i>PRICE EUR</i>
ACCESSORIES - BASIC		
- RR-1	- 1-channel remote control	24,90 €/Stück
- RR-5	- 5-channel remote control	28,30 €/Stück
- RR-5T	- 5-channel remote control with Timer	35,90 €/Stück
- RR-15	- 15-channel remote contro	32,60 €/Stück
- PRN1	- 1-channel radio switch	21,60 €/Stück
- PEN2	- 2-channel remote control *	23,30 €/Stück
- PRN2	- 2-channel remote control	23,30 €/Stück
- PRN-5T	- 5-channel radio switch with Timer	35,40 €/Stück
- PRN-15	- 15-channel radio switch	46,80 €/Stück
ACCESSORIES - EXCLUSIVE		
- DC-1	- 1-channel remote control	46,80 €/Stück
- DC-5T	- 5-channel remote control + timer	49,30 €/Stück
- DC-15	- 15-channel remote control	53,10 €/Stück
- PX-1	- 1-channel remote control *	37,20 €/Stück
SONNENSCHUTZAUTOMATIK		
- SXR	- Sun sensor	28,60 €/Stück

* - product available until in stock



DC-1 - channel remote control



DC-5T - 5-channel remote control with Timer



SXR - Sun sensor

TUBULAR MOTORS FOR ROLLER SHUTTERS PORTOS MOTORS

	Motor power (Nm)	Roller shutter hoisting capacity					Minimum roller shutter widths		
		ø40		ø60			External roller shutters	Top-mounted roller shutters	Minimum length of RKS tube
		up to 3 m	up to 4 m	up to 2 m	up to 3 m	up to 4 m			
S 40/10 S	10 Nm	10 kg	8 kg	-	-	-	52 cm	57 cm	-
S 40/10	10 Nm	12 kg	10 kg	-	-	-	62 cm	67 cm	-
S 40/10 RM	10 Nm	12 kg	10 kg	-	-	-	78 cm	83 cm	-
S 60/10 S	10 Nm	-	-	18 kg	16 kg	14 kg	44 cm** 58 cm	53 cm *	-
S 60/10	10 Nm	-	-	18 kg	16 kg	14 kg	68 cm	63 cm *	63 cm
S 60/10 RM	10 Nm	-	-	18 kg	16 kg	14 kg	83 cm	78 cm *	70 cm
S 60/20	20 Nm	-	-	36 kg	33 kg	30 kg	68 cm	63 cm *	63 cm
S 60/20 RM	20 Nm	-	-	36 kg	33 kg	30 kg	83 cm	78 cm *	70 cm
S 60/30	30 Nm	-	-	54 kg	49 kg	45 kg	75 cm	70 cm *	68 cm
S 60/30 RM	30 Nm	-	-	54 kg	49 kg	45 kg	85 cm	80 cm *	75 cm
S 60/20 NHK#427	20 Nm	-	-	36 kg	33 kg	30 kg	83 cm	78 cm *	-
S 60/30 NHK#427	30 Nm	-	-	54 kg	49 kg	45 kg	85 cm	80 cm *	-

* - if a short RKS cap is installed

** - if an OBS-60-S-ALU cap is installed

EXAMPLE:

A roller shutter with profile PA-39 mm has the dimensions of 1.5 × 2.0 m. It means that the surface of the profile is 3,00 m² (1.5 m × 2 m = 3 m²). This value should be multiplied by the weight of 1 square meter of profile PA39 mm, which is 2.8 kg (3 × 2.8 kg=8.4 kg). The height of roller shutter is above 2 m, the hoisting capacity is 8.4 kg, for pipe O 40, motor 40/10 should be chosen, whereas for pipe O 60, motor 60/10 should be chosen.



CAUTION: When choosing a motor you should remember about the weight of 1 m² of the profile, which is indicated below:

PA-39 mm*: 2,8 kg/m²
PA-45 mm: 2,9 kg/m²
PA-52 mm: 3,0 kg/m²
+ 20 % additional
* + 0 % additional

CAUTION! The manuals for connecting the motors to power supply are included in the assembly and 'operating instructions for the tubular motor' and section (only qualified and authorized electricians may carry out the connections).

When mounting the radio motors with electronic or mechanical limit system, in accordance with current standards the voltage 230V 50 Hz is required. In the case of deviations from these values, we recommend to use components for overvoltage protection B-C, and D.

PRICE LIST OF MOTORS AND CONTROL UNITS



INDEX	NAME	PRICE IN Euro
Elektromotoren LP&P Plug&Play - für Oktogonalwelle 60 mm:		
VOLTA 50 PP 6/17	Motor P&P 6 Nm *	105,00 €
VOLTA 50 PP 10/17	Motor P&P 10 Nm *	106,40 €
VOLTA 50 PP 20/17	Motor P&P 20 Nm *,**	111,10 €
Funkmotoren LP&S-R Plug&Play - für Oktogonalwelle 60 mm:		
MARCONI 50 PS 6/17	Funkmotoren P&P 6 Nm *	113,30 €
MARCONI 50 PS 10/17	Funkmotoren P&P 10 Nm *	117,80 €
MARCONI 50 PS 20/17	Funkmotoren P&P 20 Nm *,**	124,40 €
Wandsender:		
Go-p1 Elegance W	Wandsender / 1-Kanal weiß	37,40 €
Go-p1 Elegance B	Wandsender / 1-Kanal schwarz	37,40 €
Handsender:		
Go-4K	4-Kanal mini transmitter **** <i>NEW</i>	36,60 €
Go-1 Elegance W	1-Kanal Handsender weiß	36,40 €
Go-1 Elegance B	1-Kanal Handsender schwarz	36,40 €
Go-4 Elegance W	4-Kanal Handsender weiß	42,60 €
Go-4 Elegance B	4-Kanal Handsender schwarz	42,60 €
Go-16 Elegance W	16-Kanal Handsender weiß	103,30 €
Go-16 Elegance B	16-Kanal Handsender schwarz	103,30 €
Go-6T W	6-Kanal Handsender mit Zeitschaltuhr weiß	96,70 €
Go-6T B	6-Kanal Handsender mit Zeitschaltuhr schwarz	96,70 €
Funkempfänger:		
Go-er platine	Funk-Empfänger für bedrahtete Antriebe ***	80,80 €
Go-ER Mini	Micro receiver for wired motors <i>NEW</i>	77,00 €
Go-ER Mini Light	Radio micro light receiver <i>NEW</i>	77,60 €
Solar automatics:		
Sun-ER	Wireless sun and temperature sensor *****	133,30 €



Go-4K - Mini transmitter



Go-ER Mini - Micro receiver for wired motors



Go-ER Mini Light - Radio micro light receiver



Sun-ER - Wireless sun and temperature sensor



BECKER

Elektromotoren - für Oktogonalwelle 60 mm:		
R 4-17-M17	Motor (kurz)	149,60 €

- * - Satz (d.h. Motor; Halter; Adapter; Hochschiebesicherung).
- *** - Produkt auf Sonderbestellung.
- **** - Nicht in Verbindung mit den Motoren ILMO 50 S WT 6/17, Oximo S Auto RTS 6/17 verwenden. Keine Möglichkeit der Montage im Vorbaurollladen mit SK-137, SK-150 und Aufsatzrollladen CC1000 mit PSK-135.
- ***** - Dieser kann nicht als einziger Sender für Bedienung des Funkantriebs eingesetzt werden – zum Programmieren der Anlage muss ein anderer Sender aus dem Angebot verwendet werden.
- ***** - Solange der Vorrat reicht.

PRICE LIST OF MOTORS AND CONTROL UNITS



	Nenn Drehmoment (Nm)	Zugkraft des Antriebes bei der Höhe des Rolladens bis:						Motorlänge	Min. Breite des Rolladens:	
		ø60							External roller shutters	Top-mounted roller shutters
		bis 1,5 m	bis 1,5 m + WB	bis 2,5 m	bis 2,5 m + WB	bis 3,5 m	bis 3,5 m + WB			
VOLTA 50 PP 6/17	6 Nm	-	11 kg	-	10 kg	-	9 kg	608 mm	64 cm - 67,9 cm * 68 cm *** 78 cm	68 cm - 71,9 cm * 72 cm ** 82 cm
VOLTA 50 PP 10/17	10 Nm	-	19 kg	-	18 kg	-	16 kg	608 mm	64 cm - 67,9 cm * 68 cm *** 78 cm	68 cm - 71,9 cm * 72 cm ** 82 cm
VOLTA 50 PP 20/17	20 Nm	-	38 kg	-	37 kg	-	34 kg	641 mm	72 cm *** 84 cm	76 cm ** 87 cm
MARCONI 50 PS 6/17	6 Nm	-	14 kg	-	11 kg	-	9 kg	585 mm	62 cm - 65,9 cm * 66 cm *** 77 cm	66 cm - 69,9 cm * 70 cm ** 80 cm
MARCONI 50 PS 10/17	10 Nm	-	19 kg	-	18 kg	-	16 kg	585 mm	62 cm - 65,9 cm * 66 cm *** 77 cm	66 cm - 69,9 cm * 70 cm ** 80 cm
MARCONI 50 PS 15/17	15 Nm	-	30 kg	-	28 kg	-	24 kg	608 mm	68 cm *** 79 cm	72 cm ** 82 cm
MARCONI 50 PS 20/17	20 Nm	-	39 kg	-	36 kg	-	32 kg	608 mm	68 cm *** 79 cm	72 cm ** 82 cm
R 4-17-M17 BECKER	4 Nm	-	9 kg	-	8 kg	-	7 kg	365 mm	45 cm *** 60 cm	56 cm ** 61 cm

* - cap for SW60 + very short pipe crown (art. 9 014 685)

** - minimum width using RKS mounting

*** - minimum width using OBS-60-S-ALU mounting

EXAMPLE:

A roller shutter with profile PA-39 mm has the dimensions of 230 cm × 250 cm. It means that the surface of the profile is 5,75 m². This value should be multiplied by the weight of 1 square meter of profile PA39 mm, which is 2,8 kg (5,75 × 2,8 kg=16,1 kg). The height of roller shutter is above 2,3 m, for pipe ø 60, motor VOLTA 50 PP 10/17 should be chosen.

CAUTION: When choosing a motor you should remember about the weight of 1 m² of the profile, which is indicated below:

PA-39 mm*: 2,8 kg/m²

PA-45 mm: 2,9 kg/m²

PA-52 mm: 3,0 kg/m²

+ 20 % safety stock

* + 0 % safety stock

CAUTION! The manuals for connecting the motors to power supply are included in the assembly and 'operating instructions for the tubular motor' and section (only qualified and authorized electricians may carry out the connections).

When mounting the radio motors with electronic or mechanical limit system, in accordance with current standards the voltage 230V 50 Hz is required. In the case of deviations from these values, we recommend to use components for overvoltage protection B-C, and D.

PRICE LIST OF MOTORS AND CONTROL UNITS



<i>INDEX</i>	<i>NAME</i>	<i>PRICE IN Euro</i>
SERIES LS 40 - for octagonal pipe 40mm		
1021387	NL40 LS 4/16 *	145,50 €
1021376	NL40 LS 4/14 - short - 414 mm*	165,40 €
1023336	NL40 LS 9/16 *	159,70 €
1024186	NL40 LS 13/10 *	176,80 €
SERIES LT 50 - for octagonal pipe 60 mm		
1032049	LT 50 Ariane 6/17 *	159,20 €
1037061	LT 50 Jet 10/17 *	188,80 €
1039054	LT 50 Atlas 15/17 *	195,70 €
1041055	LT 50 Meteor 20/17 *	207,80 €
1043041	LT 50 Gemini 25/17 *	220,40 €
1049064	LT 50 Mariner 40/17 *	277,30 €
1051029	LT 50 Vectran 50/12*	356,70 €
SOLUS 40 - for octagonal pipe 40 mm		
1023321	Solus 40 4/16 *	118,60 €
SOLUS 2 - for octagonal pipe 60 mm		
1032574	Solus 2 PA 6/12*	97,50 €
1035183	Solus 2 PA 8/12*	99,20 €
1037592	Solus 2 PA 10/12*	103,60 €
1039504	Solus 2 PA 15/12*	111,10 €
1041535	Solus 2 PA 20/12*	120,30 €
1045455	Solus 2 PA 30/12*	186,30 €
1049547	Solus 2 PA 40/12*	216,10 €
SERIES LT 50 NHK with emergency lifting crank - for octagonal pipe 60 mm		
1037004	LT 50 Jet 10/17 NHK*	220,90 €
1041015	LT 50 Meteor 20/17 NHK*	255,60 €
1043005	LT 50 Gemini 25/17 NHK*	266,50 €
1049019	LT 50 Mariner 40/17 NHK*	308,30 €
SERIES ILMO2 50 NHK WT with emergency lifting crank - for octagonal pipe 60 mm		
1241387	Ilmo2 50 NHK WT 10/17*	323,60 €
1241388	Ilmo2 50 NHK WT 20/17*	369,60 €
ILMO WT - ELECTRONIC MOTOR WITH OVERLOAD SYSTEM "Plug & Play" - for octagonal pipe 40 mm		
For proper operation, it is required to use hangers latches and buffers in the bottom bar		
1130524	ILMO 2 40 WT 4/16 *	151,80 €
1130526	ILMO 2 40 WT 9/16 *	171,80 €
1130528	ILMO 2 40 WT 13/10 *	185,90 €
ILMO WT - ELECTRONIC MOTOR WITH OVERLOAD SYSTEM "Plug & Play" - for octagonal pipe 60 mm		
For proper operation, it is required to use blocking hangers and buffers in the bottom lath bumper in bottom lath.		
1130485	ILMO 2 50 WT 6/17 *	134,50 €
1130127	ILMO 50 S WT 6/17 - short - only 375mm *,**,***	200,40 €
1130492	ILMO 2 50 WT 10/17 *	149,00 €
1131261	ILMO 2 50 WT 15/17 *	180,90 €
1132191	ILMO 2 50 WT 20/17 *	197,40 €
1133001	ILMO 50 WT 30/17 *	214,30 €
9014685	Adapter of SW 60 + short crown	10,70 €
OXIMO WT - MOTOR WITH OVERLOAD SYSTEM- CABLE VERSION - to octagonal pipe 60 mm		
For proper operation, it is required to use blocking hangers		
1032578	Oximo WT 6/17 *	189,80 €
1037582	Oximo WT 10/17 *	206,00 €
1039493	Oximo WT 15/17 *	215,20 €
1041529	Oximo WT 20/17 *	227,10 €
1045446	Oximo WT 30/17 *	361,20 €
1049541	Oximo WT 40/17 *	405,60 €

* - the motor set does not include a holder, adapter and crown

PRICE LIST OF MOTORS AND CONTROL UNITS



<i>INDEX</i>	<i>NAME</i>	<i>PRICE IN Euro</i>
OXIMO RTS - RADIO MOTOR WITH OVERLOAD SYSTEM - for octagonal pipe 60 mm		
For proper operation, it is required to use blocking hangers		
1032392	Oximo RTS 6/17 *	199,30 €
1130128	Oximo S Auto RTS 6/17 - short - only 375 mm *,**	201,00 €
1037389	Oximo RTS 10/17 *	191,70 €
1039299	Oximo RTS 15/17 *	202,10 €
1041380	Oximo RTS 20/17 *	279,10 €
1045319	Oximo RTS 30/17*	391,50 €
9014685	Adapter of SW 60 + short crown	10,70 €
ALTUS 40 RTS - RADIO VERSION - for octagonal pipe 40 mm		
1021343	NL40 Altus 40 RTS 4/16 *	213,10 €
1023297	NL40 Altus 40 RTS 9/16 *	231,10 €
1024179	NL40 Altus 40 RTS 13/10 *	305,80 €
ALTUS 50 RTS - RADIO VERSION - for octagonal pipe 60 mm		
1032916	Altus 50 RTS 6/12 *	179,70 €
1037825	Altus 50 RTS 10/12 *	183,00 €
1041784	Altus 50 RTS 20/12 *	205,40 €
1045612	Altus 50 RTS 30/12 *	343,80 €
1049707	Altus 50 RTS 40/12 *	332,10 €
LT 50 NHK SERIES WITH BUILT-IN RTS 2 RECEIVER - for octagonal pipe 60 mm		
1037030	LT 50 Jet 10/17 NHK RTS 2 *	320,20 €
1041023	LT 50 Meteor 20/17 NHK RTS 2 *	348,40 €
1045307	LT 50 Apollo 30/17 NHK RTS 2 *	503,70 €
OXIMO 40 WireFree RTS - AUTONOME FUNKMOTOREN MIT SOLARVERSORGUNG		
1025165	Satz OXIMO 40 WF RTS II 10/12, Adaptersatz ø40, Akku ohne Gehäuse ****	533,10 €
9019791	Wandhalterungen für neuen Sonnenkollektor (Verkauf im Zweierset - Paar)	13,70 €
9019795	Ersatzakku für Oximo 40 Wirefree RTS ohne Gehäuse	146,40 €
9021207	Ersatzakku für Oximo 40 Wirefree im Alu-Gehäuse	258,90 €
ZUSÄTZLICHE ELEMENTE		
AD-LS40	Adapter of LS40 motor E-SW 40x0,6 - somfy	1,40 €
ZB-LS40	Crown of LS40 motor SW 40x0,6 - somfy	2,50 €
U-LS40	Universal bracket for LS40 - somfy	8,80 €
AD-LT50	Adapter of LT50 motor E-SW 60 - somfy	2,30 €
ZB-LT50	Crown of LT50 motor E-SW 60 - somfy	2,60 €
US-PADS60	Bracket for ASA, DELUX, SOMFY	2,20 €
S-BR-US-NHK	Bracket NHK somfy	17,90 €

* - the motor set does not include a holder, adapter and crown

** - their is no possibility of mounting the motor in roller shutters: SK-137, SK-150 as well as in roller shutter CC1000 - PSK-135

*** - product available until in stock

**** - solar panel, battery and curtain for self-assembly; extra charge for packing loose curtain not installed in the roller shutter
€ 12.50 net/pc., net amount after discount

PRICE LIST OF MOTORS AND CONTROL UNITS



INDEX	NAME	PRICE IN Euro
INTEO Series		
UNO switches		
1800508	Smoove UNO WT switch (support mode)	31,40 €
1800509	Smoove Uno WT (non-support mode)	23,00 €
1800506	Smoove Duo WT (support mode)	30,70 €
1800507	Smoove Duo WT (non-support mode)	44,80 €
1800012	Inis Uno T switch (non-support mode)*	17,50 €
1800192	Inis Duo switch (support mode)*	24,00 €
1800025	Inis Duo T switch (non-support mode)*	24,00 €
9001244	Obudowa natynkowa do Inis Uno oraz Inis Duo*	6,20 €
SWITCHES, IP 65 WATERPROOF		
1800008	Push-button switch with a support mode, waterproof, onplaster, grey	37,70 €
1800007	Push-button switch with a non-support mode, waterproof, onplaster, grey	37,70 €
1800244	Key switch with non-support mode, on plaster	77,20 €
1800245	Key switch with non-support mode, under plaster*	81,40 €
1800246	Kay swich with a support mode, on plaster	61,20 €
1800247	Kay switch with a support mode, under plaster	110,90 €
MOTOR SETUP CABLE		
9015971	Universal setup cable for io/RTS/WT/LT/LS/Solus/J4 - Somfigurator	145,70 €
9020579	Universal setup cable (five-wire) cable for - IO, RTS, WT, SSR-BIDI NEU	128,20 €

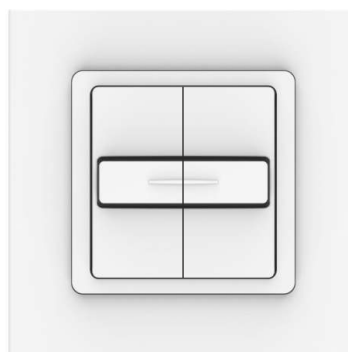
IB WIRED CONTROL UNIT

SWITCHES AND CONTROL UNITS		
1811203	Smoove UNO IB + Pure shine	92,40 €
1811204	Smoove UNO IB + Silver shine	176,80 €
1811205	Smoove UNO IB + Black shine	176,80 €
1811272	Central switch Smoove Origin IB+	88,40 €

* - Product available until in stock



Smoove UNO WT switch



Smoove DUO WT switch

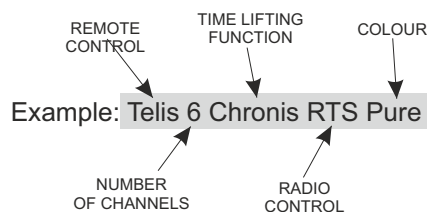
PRICE LIST OF MOTORS AND CONTROL UNITS



<i>INDEX</i>	<i>NAME</i>	<i>PRICE IN Euro</i>
RTS RADIO CONTROL		
WALL-MOUNTED RTS TRANSMITTERS		
1810881	Smoove 1 RTS Pure shine	62,50 €
1810882	Smoove 1 RTS Black shine	62,50 €
1810883	Smoove 1 RTS Silver shine	60,10 €
1811045	Smoove Origin RTS complete whit white frames	44,80 €
1811361	Shutter in-wall RTS sender	97,60 €
FRAMES FOR SMOOVE 1 RTS TRANSMITTERS		
9015022	Smoove Pure frame	4,30 €
9015023	Smoove Black frame	11,40 €
9015025	Smoove Silver mat frame	13,30 €
9015238	Smoove Pure frame - double	8,70 €
1-CHANNEL RTS REMOTES		
1870403	Situo 1 RTS Pure II	51,00 €
1810941	Telis 1 Silver RTS INTL	61,20 €
1810939	Telis 1 Lounge RTS INTL	78,70 €
5-CHANNEL RTS REMOTES		
1870419	Situo 5 RTS Pure II EE	79,20 €
1870423	Situo 5 RTS II Iron	102,40€
16-CHANNEL RTS REMOTES		
1811079	Telis 16 RTS Pure	186,80 €
1811080	Telis 16 RTS Silver	203,80 €
RTS REMOTE CONTROLS WITH BUILT-IN TIMER		
1805215	Telis 6 Chronis RTS Pure	234,30 €
1805216	Telis 6 Chronis RTS Silver	259,50 €
SOLAR AUTOMATICS		
9013075	Sunis WireFree RTS - autonomous solar sensor	342,90 €

The importance of symbols SOMFY

SYMBOL	DESCRIPTION
LS	automatic limit settings (adjusting screw)
LT	automatic limit settings (pushbutton)
NHK	emergency lifting mechanism
WT	wired control
RTS	radio control
UNO	1-motor control
DUO	2-motor control
CHRONIS	fixed-time roller shutter lifting function
SMART	basic version
COMFORT	advanced version
IB	low-voltage control
TELIS	remote control



PRICE LIST OF MOTORS AND CONTROL UNITS



INDEX

NAME

PRICE IN Euro

SWITCHES, CONTROL DEVICES, ACCESSORIES

RTS RECEIVERS

1810217	Centralis Uno RTS ***	116,40 €
1810315	Centralis Platine RTS (receiver RTS for a box) *,**	178,70 €
1811244	RTS mini-receiver for roller shutters	106,00 €
1810750	Dry Contact receiver ***	112,70 €

* - do not use with the Somfy's wire motors for ø 40 pipe, with SOLUS motors and LT NKH motors.

** - there is no possibility of mounting the motor in roller shutters: SK-137, SK-150 as well as in roller shutter CC1000 - PSK-135

*** - product available until in stock

Nominal speed RPM	Roller shutter hoisting capacity									
	Up to 1,5 m				Up to 2,5 m				Up to 3,5 m	
	ø 40	ø 40+WB	ø 60	ø 60+WB	ø 40	ø 40+WB	ø 60	ø 60+WB	ø 60	ø 60+WB
4/16	12 kg	9 kg	-	-	10 kg	8 kg	-	-	-	-
9/16	24 kg	20 kg	-	-	20 kg	19 kg	-	-	-	-
13/10	39 kg	28 kg	-	-	32 kg	28 kg	-	-	-	-
6/17	-	-	15 kg	11 kg	-	-	12 kg	10 kg	11 kg	9 kg
8/12	-	-	20 kg	15 kg	-	-	16 kg	13 kg	14 kg	12 kg
10/17	-	-	25 kg	19 kg	-	-	21 kg	18 kg	18 kg	16 kg
15/17	-	-	37 kg	28 kg	-	-	32 kg	28 kg	27 kg	24 kg
20/17	-	-	50 kg	38 kg	-	-	43 kg	37 kg	37 kg	34 kg
25/17	-	-	63 kg	47 kg	-	-	53 kg	45 kg	46 kg	42 kg
30/17	-	-	75 kg	57 kg	-	-	64 kg	55 kg	55 kg	51 kg
40/17	-	-	100 kg	75 kg	-	-	85 kg	75 kg	74 kg	68 kg
50/12	-	-	112 kg	85 kg	-	-	96 kg	83 kg	84 kg	76 kg

EXAMPLE: A roller shutter with profile PA-39 mm has the dimensions of 1.5 × 2.0 m. It means that the surface of the profile is 3,00 m² (1.5 m × 2 m = 3 m²). This value should be multiplied by the weight of 1 square meter of profile PA39 mm, which is 2.8 kg (3 × 2.8 kg=8.4 kg). The height of roller shutter is above 1,5 m, the hoisting capacity is 8.4 kg, for pipe O 40, motor 4/16 should be chosen, whereas for pipe O 60, motor 6/17 should be chosen.

PRICE LIST OF MOTORS AND CONTROL UNITS



INDEX	NAME	PRICE IN Euro
IO - HOMECONTROL		
IO-HOMECONTROL - TaHoma & Connexoon		
1870594	TaHoma® Switch – central control unit io&RTS	354,60 €
1811480	TaHoma® Premium Base – security base with alarm buzzer 85 dB	378,00 €
1811429	Connexoon box – one application to select from: Window, Terrace, Access	200,50 €
IO - HOMECONTROL - ø40 MOTORS FOR ROLLER SHUTTERS		
For proper operation, it is required to use blocking hangers		
1030116	Oximo 40 io 4/16	239,20 €
1038015	Oximo 40 io 9/16	256,80 €
1039948	Oximo 40 io 13/10	362,00 €
IO - HOMECONTROL - ø60 MOTORS FOR ROLLER SHUTTERS		
For proper operation, it is required to use blocking hangers		
1032700	Oximo 50 io 6/17	215,80 €
1130334	Oximo S Auto io 6/17 - short - 375 mm *	250,00 €
1037686	Oximo 50 io 10/17	238,60 €
1039589	Oximo 50 io 15/17	250,00 €
1041627	Oximo 50 io 20/17	284,40 €
1045513	Oximo 50 io 30/17	396,80 €
1049605	Oximo 50 io 40/17	353,40 €
9014685	Adapter of SW 60 + short crown	10,70 €
ILMO IO - Elektro-Funkmotoren MIT HINDERNISERKENNUNG "Plug & Play"- Antriebsystem - für Oktogonalwelle 60 mm		
Zum richtigen Funktionieren werden die Hochschiebesicherung und der Anschlagstopper benötigt		
1130558	Ilmo2 50 io 6/17 VVF 3m NEU	268,90 €
1130559	Ilmo2 50 io 10/17 VVF 3m NEU	294,20 €
1130560	Ilmo2 50 io 15/17 VVF 3m NEU	312,20 €
1130561	Ilmo2 50 io 20/17 VVF 3m NEU	342,30 €
RS100 IO - Elektro-Funkmotoren ø60 für Rollläden mit Hindernis- und Vereisungserkennung sowie mit der Motordrehzahländerung		
Zum richtigen Funktionieren werden die Hochschiebesicherung		
1033335	RS100 io 6/17 VVF 3m	250,20 €
1033336	RS100 io 10/17 VVF 3m	272,00 €
1033337	RS100 io 15/17 VVF 3m	285,70 €
1033338	RS100 io 20/17 VVF 3m	386,80 €
RS100 IO & WT - Elektro-Funkmotoren ø60 für Rollläden mit Hindernis-, Vereisungserkennung und der Motordrehzahländerung		
Steuerung per Funk und per leitungsgebundenen Wandschalter. Zum richtigen Funktionieren werden die Hochschiebesicherung		
1033339	RS100 ioWT 6/17 VVF 2,5m - hybrid	258,40 €
1033340	RS100 ioWT 10/17 VVF 2,5m - hybrid	277,50 €
1033341	RS100 ioWT 15/17 VVF 2,5m - hybrid	296,60 €
1033342	RS100 ioWT 20/17 VVF 2,5m - hybrid	397,10 €
OXIMO 40 WireFree IO - SOLAR-CELL POWERED AUTOMATIC RADIO DRIVES		
1241058	Oximo 40 Solar IO 6/18 Kit - battery in housing + solar panel **	1208,00 €
1241059	Oximo 40 Solar IO 10/12 Kit - battery in housing + solar panel **	1244,50 €
9019791	Wall mount brackets for a new solar panel (a set of 2 pieces)	13,70 €
9019795	An additional battery for Oximo 40 Wirefree IO without housing	146,40 €
9021207	Ersatzakku für Oximo 40 Wirefree im Alu-Gehäuse	258,90 €
IO-HOMECONTROL - ACCESORIES FOR TAHOMA BOX		
1870848	THERMIS V2 WIREFREE io - temperature sensor for TaHoma box	156,30 €
1824035	SCENARIO PLAYER - control point allowing the user to start scenarios programmed in Tahoma	117,70 €
1811481	Indoor motion sensor TaHoma	128,10 €
1811482	Connected opening sensor TaHoma	108,60 €
1875056	Öffnungssensor – weiß (Tür/Fenster)	205,00 €
1875057	Öffnungssensor – braun (Tür/Fenster)	213,80 €
1811483	Smoke sensor	276,30 €
1822492	USB-Schnittstelle für Z-WAVE	133,30 €

* - their is no possibility of mounting the motor in roller shutters: SK-137, SK-150 as well as in roller shutter CC1000 - PSK-135

** - solar panel, battery and curtain for self-assembly, extra charge for packing loose curtain not installed in the roller shutter
€ 12.50 net/pc., net amount after discount

PRICE LIST OF MOTORS AND CONTROL UNITS



INDEX	NAME	PRICE IN Euro
IO - HOMECONTROL		
COMPUTER PROGRAMMING DEVICE FOR IO-HOMECONTROL UNIT		
9017035	Set&Go io	273,80 €
IO - HOMECONTROL - NiNa group control remote controllers 2W		
1811407	Nina Timer io - bidirektionale Touch-Display Steuerung mit Zeitautomatik	271,80 €
1805251	NiNa Centralization – individual and group control	260,70 €
IO - HOMECONTROL - Group control remote controllers 1W		
1870312	Situo 1 io Pure II *	51,00 €
1870316	Situo 1 io Iron II *	104,70 €
1870320	Situo 1 io Natural II *	104,70 €
1870324	Situo 1 io Arctic II *	104,70 €
1870328	Situo 5 io Pure II **	78,70 €
1870336	Situo 5 io Natural II **	100,80 €
1870340	Situo 5 io Arctic II **	136,90 €
IO – HOMECONTROL - WETTERSENSOREN IO		
1818285	Sunis WireFree II io - TaHoma Sonnensensor	128,40 €
IO- HOMECONTROL - FUNKHANDSENDER IO 1W		
1805228	Chronis io Pure - Wochentimer	158,70 €
IO – HOMECONTROL - FUNKWANDESENDER FÜR DIE VOR-ORT-BEDIENUNG 1W		
1811066	Smooove Origin io, mit Rahmen Pure	54,30 €
1811003	Smooove 1 io Pure Shine	63,80 €
1811005	Smooove 1 io Black Shine	72,00 €
1811007	Smooove 1 io Silver Shine	103,10 €
1811013	Smooove 1 A/M Pure Shine	71,40 €
1811014	Smooove 1 A/M Silver Shine	103,10 €
1811015	Smooove 1 A/M Black Shine	103,10 €
IO-HOMECONTROL - FUNKWANDESENDER 1W SMOOOVE RS100 IO		
1811315	Smooove RS100 io Pure Shine /ohne Rahmen/	100,80 €
1811316	Smooove RS100 io Black Shine /ohne Rahmen/	73,80 €
1811317	Smooove RS100 io Silver Shine /ohne Rahmen/	100,80 €
IO – HOMECONTROL - RAHMEN FÜR FUNKWANDESENDER SMOOOVE 1 IO		
9015022	Smooove Rahmen Pure	3,80 €
9015023	Smooove Rahmen Black	11,40 €
9015025	Smooove Rahmen Silver mat	13,30 €
9015238	Smooove Rahmen Pure - doppel	8,70 €
IO – HOMECONTROL - WEITERE STEUERUNGEN		
1822611	Funkempfänger für Beleuchtung, WHITE LED Receiver io, mit Dimmer, 4 Kanäle zum Anschluss von LED-Dioden	247,00 €
1822612	Funkempfänger für Beleuchtung- RGB LED Receiver io, mit Dimmer, 3 Kanäle zum Anschluss von RGB-Dioden + ein Kanal zum Anschluss von White-Dioden	265,30 €
1822613	Funkempfänger für Beleuchtung, TUNABLE WHITE LED Receiver io, mit Dimmer, 2 Kanäle zum Anschluss von LED-Dioden	265,30 €
1822617	Funkempfänger Plug io ON/OFF Typ E	116,90 €
1811583	Funkempfänger Smooove Uno io Pure mit Rahmen	250,80 €
9014069	Repeater II io	1203,70 €
IO - HOMECONTROL - Funkempfänger, Funkhandsender IZYMO io <i>NEW</i>		
1822649	IZYMO ON-OFF receiver io	153,60 €
1822661	IZYMO shutter receiver io	188,60 €
1822609	IZYMO transmitter io	106,10 €

* - Device replaces previous Situo 1 io remotes

** - Device replaces previous Situo 5 io remotes

TUBULAR MOTORS FOR ROLLER SHUTTERS



	Motor power (Nm)	Roller shutter hoisting capacity			Minimum roller shutter widths	
		ø60			External roller shutters	Top-mounted roller shutters
		up to 1,5 m + WB	up to 2,5 m + WB	up to 3,5 m + WB		
Oximo io 6/17	6 Nm	11 kg	10 kg	9 kg	83 cm	78 cm **
Oximo S Auto io 6/17	6 Nm	11 kg	10 kg	9 kg	59 cm (41 - 47 cm)*	54 cm ** (44 - 50 cm)*
Oximo io 10/17	10 Nm	19 kg	18 kg	16 kg	88 cm	83 cm **
Oximo io 15/17	15 Nm	28 kg	28 kg	24 kg	88 cm	83 cm **
Oximo io 20/17	20 Nm	38 kg	37 kg	34 kg	88 cm	83 cm **
Oximo io 30/17	30 Nm	57 kg	55 kg	51 kg	90 cm	85 cm **
Oximo io 40/17	40 Nm	75 kg	75 kg	68 kg	97 cm	92 cm **

* - cap for SW60 + very short pipe crown (art. 9 014 685)

** - minimum width using RKS mounting

EXAMPLE:

A roller shutter with profile PA-39 mm has the dimensions of 230 cm × 250 cm. It means that the surface of the profile is 5,75 m². This value should be multiplied by the weight of 1 square meter of profile PA39 mm, which is 2.8 kg (5,75 × 2.8 kg=16,1 kg). The height of roller shutter is above 1,5 m, for pipe ø 60, motor Oximo io 10/17 should be chosen.

CAUTION! When choosing a motor you should remember about the weight of 1 m² of the profile, which is indicated below:

PA-39 mm*: 2,8 kg/m²
PA-45 mm: 2,9 kg/m²
PA-52 mm: 3,0 kg/m²

+ 10 % safety stock

* + 0 % safety stock

CAUTION! The manuals for connecting the motors to power supply are included in the assembly and 'operating instructions for the tubular motor' and section (only qualified and authorized electricians may carry out the connections).

When mounting the radio motors with electronic or mechanical limit system, in accordance with current standards the voltage 230V 50 Hz is required. In the case of deviations from these values, we recommend to use components for overvoltage protection B-C, and D.

Minimum width of the mosquito net	500 mm
Maximum width of the mosquito net	2400 mm
Maximum width of the double mosquito net	3600 mm
Minimum height of the mosquito net	1900 mm
Maximum height of the mosquito net	2600 mm

STANDARD EQUIPMENT

Colour of the mosquito net profile: silver(01), white(02), grey(03), beige(05), dark brown(08), brown(09), ivory(16), anthracite grey (23) *

Net colour black

EXTRA CHARGE

NAME	PRICE
Varnishing of mosquito net profiles	
- colours of the basic colour palette ZF3000	5%
- colour palette for roller shutters - dark beige (04), light grey (07), green (13), cream white (15), claret (19), black (20), steel olive (26), basalt grey (27)	5%
- other RAL colours **	10%

* - basic colour palette available for PORTOS catalogue roller shutters

** - order fulfilment up to 21 business days



**Pleated mosquito net
Single**



**Pleated mosquito net
Double**

Measurements are taken by measuring the width and height of the window recess at least in three points. If the measurements differ in several points, in the order - state the lowest value.

		SINGLE PLEATED MOSQUITO NET - INTEGRATED			
width height	width	500-1200	1201-1500	1501-1800	1801-2400
	1900-2200		449	476	493
2201-2600		480	511	532	610

		DOUBLE PLEATED MOSQUITO NET - INTEGRATED						
width height	width	500-1200	1201-1500	1501-1800	1801-2400	2401-2500	2501-3000	3001-3600
	1900-2200		691	695	699	737	739	800
2201-2600		709	712	717	755	756	817	861

		SINGLE PLEATED MOSQUITO NET - INDEPENDENT			
width height	width	500-1200	1201-1500	1501-1800	1801-2400
	1900-2200		501	529	549
2201-2600		537	569	593	675

		DOUBLE PLEATED MOSQUITO NET - INDEPENDENT						
width height	width	500-1200	1201-1500	1501-1800	1801-2400	2401-2500	2501-3000	3001-3600
	1900-2200		743	748	755	797	799	864
2201-2600		765	771	778	820	822	886	934

USE AND MAINTENANCE OF ROLLER SHUTTERS

Roller shutters and their components have been specially designed to prevent any permanent deformations, at the assumption that they are used in compliance with the intended purpose.

Respective manufacturer's recommendations must be observed at all times when the roller shutters are in use.

Roller shutters are suitable for use in temperatures ranging from -25°C to $+45^{\circ}\text{C}$.

Roller shutters shall not be used when the profile is ice-covered.

In case of strong wind, roller shutters should be either completely open or closed. Windows must be closed or otherwise the roller shutter profiles might be torn out of the guides.

Roller shutters must not be continuously driven with an electric motor for longer than 4 minutes.

When roller shutters are moving (opening or closing), no objects or persons shall be located directly underneath the slats or otherwise proper operation of the roller shutters might be impeded. After full opening of the roller shutter, the end slat with gasket should always be positioned in the side rails.

The following equipment is used to close and open the roller shutters: electromechanical drives equipped with an emergency lifting mechanism (crank with a hook that is provided together with the shutter, which should be used only for emergency opening of the shutters, it is not allowed to use the crank as the main drive), manual drives such as belts, cords, universal couplings with a crank, spring mechanism rolling up the roller shutter curtain.

To prevent any curtain blocking when it is closing (e.g. due to the condition left after the house construction), all dirt in the brush seals installed in the side rails of the front mounted roller shutters must be removed. Users should also e.g. fully open and close their roller shutters at least 8 times a month.

Inspection and maintenance works should be performed at least once in every 3 months in compliance with these instructions. Users may perform basic maintenance works, for which no special licences are required. Such maintenance works shall in particular include: removal of fine sand and other dirt from the curtain and rails as they may scratch the shutter elements or e.g. a visual inspection of the general condition of the roller shutter, inspection in view of any missing parts or efficient operation of all the structural elements.

In case of roller shutters with rolled mosquito nets, net slides in the side rails should be cleaned at least once a month. Failure to observe the guidelines may result in improper net closing and may slow down the full opening of the net.

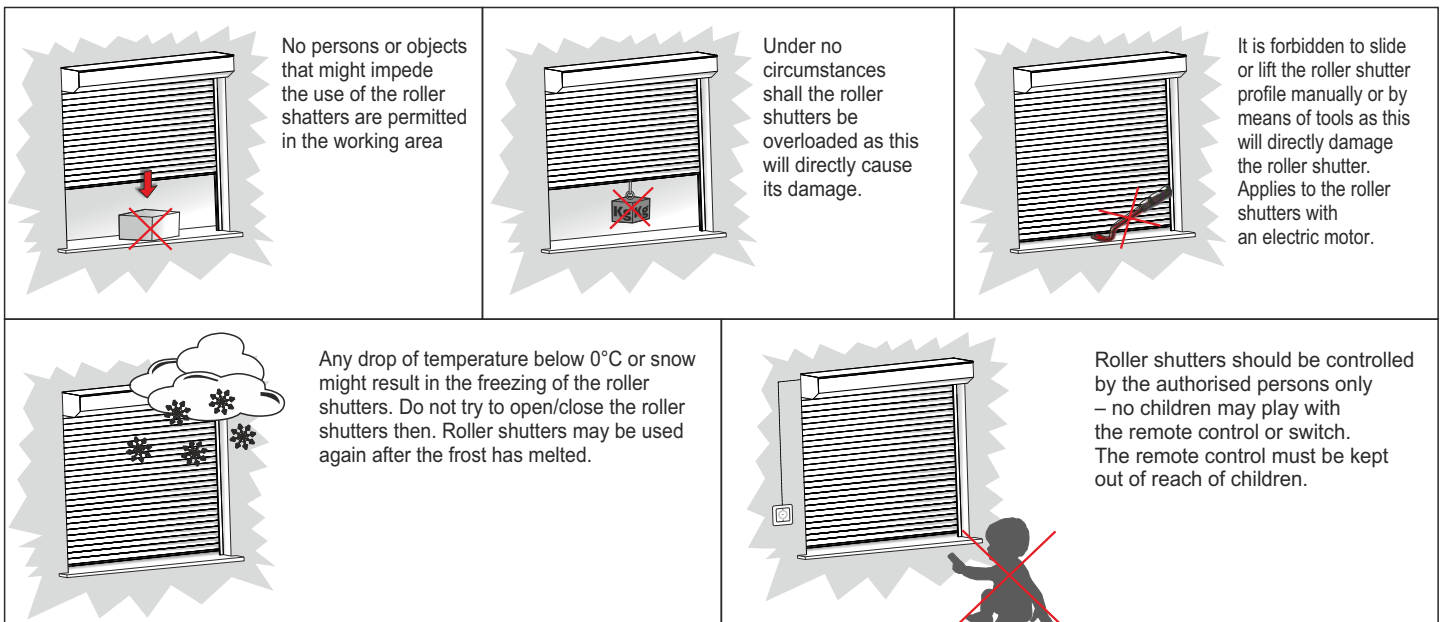
When performing maintenance works, the following must be observed:

1. Maintenance works must be carried out when the front mounted roller shutters are immobilised, it is best to disconnect them from power supply for the duration of maintenance works.
2. Sharp or abrasive cleaning tools shall be avoided.
3. Lukewarm water and mild neutral detergents, preferably at the temperatures no lower than $+10^{\circ}\text{C}$, shall be used for the cleaning of the roller shutter surface.

NOTE - detergents and corrosive substances may damage or discolour the coating.

Any damage caused as a result of weather conditions or normal wear and tear may not be complained about. Wear and tear of the curtain coating demonstrated via minor scratches appearing after approx. 300 cycles of regular use is classified as normal wear and tear.

In case of any individual re-design of the electrically driven roller shutters, it is necessary to adjust the limit switches. The number of slats in the profile might also require adjustment.



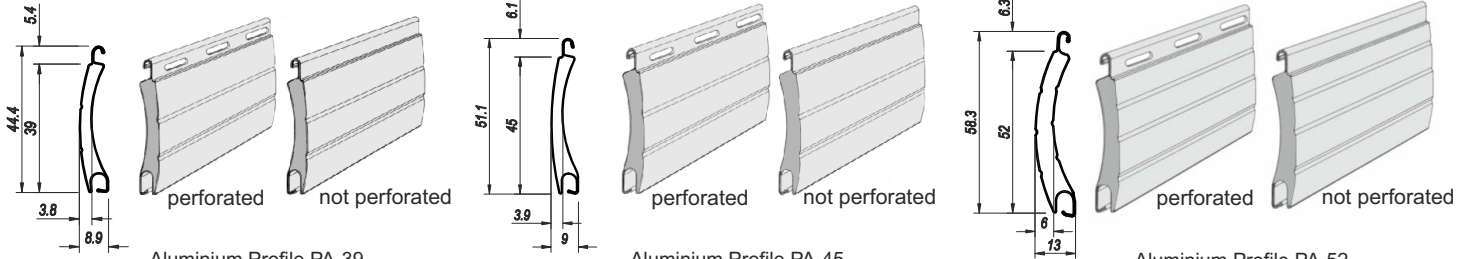
ALUMINIUM PROFILE PA-39

ALUMINIUM PROFILE PA-45

ALUMINIUM PROFILE PA-52

DESCRIPTION

Profile's height:	39 mm	45 mm	52 mm
Q-ty of slats per 1m height:	26 pcs.	23 pcs.	19 pcs.
Max. width:	2500 mm	3000 mm	3700 mm
Max. curtain surface:	6,5 m²	6,5 m²	8,0 m²
Weight per 1 m²:	2,8 kg	2,9 kg	3,0 kg



Aluminium Profile PA-39
Available colours – 23

Aluminium Profile PA-45
Available colours – 19

Aluminium Profile PA-52
Available colours – 13

PA - 39 X15 CREAM WHITE		PA - 39 X07 LIGHT GREY		PA - 45 X15 CREAM WHITE		PA - 52 X01 SILVER	
PA - 39 X23 ANTRACITE		PA - 39 X19 BORDOUX		PA - 45 X23 ANTRACITE		PA - 52 X02 WHITE	
PA - 39 X48 GOLDEN OAK		PA - 39 X30 WALNUT		PA - 45 X48 GOLDEN OAK		PA - 52 X03 GREY	
PA - 39 X13 GREEN		PA - 39 X01 SILVER		PA - 45 X30 WALNUT		PA - 52 X23 ANTRACITE	
PA - 39 X16 IVORY		PA - 39 X02 WHITE		PA - 45 X01 SILVER		PA - 52 X30 WALNUT	
PA - 39 X22 MAHOGANY		PA - 39 X03 GREY		PA - 45 X13 GREEN		PA - 52 X05 BEIGE	
PA - 39 X09 BROWN		PA - 39 X04 DARK BEIGE		PA - 45 X16 IVORY		PA - 52 X07 LIGHT GREY	
PA - 39 X08 DARK BROWN		PA - 39 X05 BEIGE		PA - 45 X22 MAHOGANY		PA - 52 X08 DARK BROWN	
PA - 39 X54 WINCHESTER		PA - 39 X26 STEEL OLIVE		PA - 45 X09 BROWN		PA - 52 X26 STEEL OLIVE	
PA - 39 X34 WENGE		PA - 39 X27 BASALT GRAY		PA - 45 X08 DARK BROWN			
PA - 39 X20 BLACK		PA - 39 X24 STEEL ANTHRACITE DB703		PA - 45 X04 DARK BEIGE			
		PA - 39 X25 WOODC TURNER-OAK		PA - 45 X03 GREY			
				PA - 45 X02 WHITE			
				PA - 45 X01 SILVER			
				PA - 45 X00 NEW			

Texture of Colours – golden oak, walnut, winchester, mahogany, wenge, wodec turner oak – may be different. The Portos Company will not consider a complaint from this reasons.
NOTE - the colour samples presented above can to some extent vary from the actual colours.