



WINDOWS | TERRACE DOORS | EXTERIOR DOORS |  
FIRE SOLUTIONS

ALUMINIUM

# CONTINUOUS INNOVATION since 1994

- ✓ Quality
- ✓ Innovations
- ✓ Cutting-edge technologies
- ✓ Professional network of business partners
- ✓ Experience
- ✓ International presence

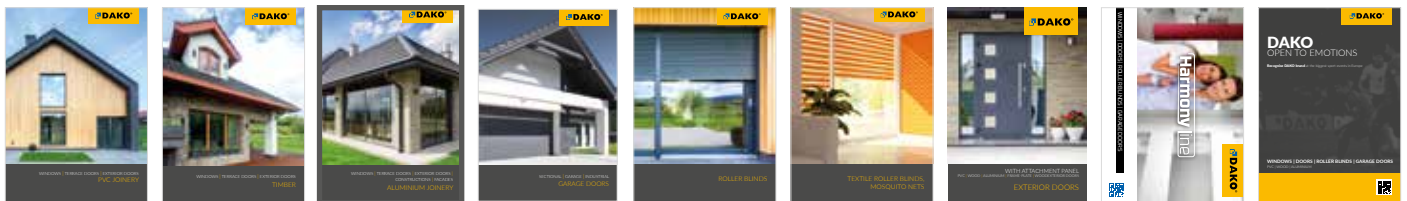
Since 1994 DAKO has developed an unrivalled reputation for innovation, quality and workmanship as a manufacturer of a wide range of high-performance PVC, timber, aluminium and steel products that meet global Clients' needs.

The company's growing success can be attributed to its continually modernized production process, cutting-edge technologies and continuous adaptation to changing Client requirements. DAKO improves its employee competencies, continuously invests in company development and successfully expands into new markets. The company has sold millions of windows worldwide and boasts a record of strong Client satisfaction.

## We currently serve the following countries:

Germany, Italy, Norway, Sweden, France, Belgium, Czech Republic, Slovakia, Poland, Luxembourg, Spain, Israel, Tunisia, Mexico, Japan and many others.

## Comprehensive range of products - Find out more



Design your own door - check available solutions on our **ONLINE CONFIGURATOR**



# TABLE OF CONTENTS

<b>WAY TO QUALITY</b>	<b>4</b>
<b>WINDOWS</b>	<b>6</b>
DA-90 Thermo series	7
DA-90 Thermo 90° series	9
DA-77 series	10
DA-75, DA-70, DA-65 series	12
DA-65 EF series	14
DA-65 EFUS series	15
DA-45 series	16
DA-70 Casement - Top hung series	19
DA-70 Casement - Side hung series	21
Quick comparison of series	22
Fittings	24
Glasses	26
Handles	27
<b>TERRACE DOORS</b>	<b>28</b>
HST Lift-sliding	30
ST Sliding	32
HKS Tilt-sliding	36
DA-75 FD Folding doors	38
Handles and opening schemes	40
Quick comparison of series	42
<b>EXTERIOR DOORS WITH ATTACHMENT PANEL</b>	<b>44</b>
Models	45
Door configurator	49
Construction	50
Standard equipment	51
Optional equipment	52
<b>PROFILED DOORS</b>	<b>56</b>
DA-90 Thermo series	57
DA-77 series	58
DA-75, DA-70, DA-65 series	59
DA-45 series	60
Standard equipment of profiled doors	61
Quick comparison of door series	62
<b>FIRE DOORS</b>	<b>64</b>
DA-78EI Fire doors	65
DA-60E EI Fire doors	66
Standard equipment of fire doors	66
Optional equipment (profiled, fire doors)	68
<b>COLOUR OF THE JOINERY</b>	<b>72</b>
<b>HARMONYLINE - OUR IDEA, YOUR PLACE IN THE WORLD</b>	<b>74</b>

# WAY TO QUALITY

Explore the way to DAKO quality. Learn how proceeds the process which aims at meeting the individual expectations of every single customer.

## Analysis of technological opportunities

The technological progress gives the joinery producers an increasing number of possibilities. To meet growing expectations of customers the manufacturers must constantly follow technological innovations and modify the range of products by introducing the solutions that best meet the users' needs. DAKO company has a team of qualified and experienced engineers forming the Product Development Department, which is responsible for products development.

## Selection of the best components

All products are made of components supplied by producers recognised by the worldwide markets. The highest quality PVC profiles, timber of optimum physical and mechanical properties and aluminium systems used in the most prestigious projects guarantee reliability and durability of DAKO products. Glasses and fittings from renowned suppliers ensure maximum energy saving, security and functionality of our products.

## Innovative technological park

Combining components in the efficiently operating system requires cutting-edge machines. DAKO joinery is produced in the technological park which is one of the most innovative object of this type. The precise, numerically-controlled woodworking, milling, welding machines and saws operate in three production halls with total surface of 23 400 m<sup>2</sup>. The park also has a testing laboratory, powder paint shop and profile edge banding shop, ensuring full control over product finish quality.

## Experienced and qualified staff

The production process is carried out and controlled by qualified specialists and engineers having long job seniority. Regular trainings and tests ensure a high level of competencies, required to construct complex windows, modern terrace doors with large glazing and other advanced solutions.

## Adherence to stringent standards

In order to ensure the highest production standards, DAKO undergoes assessment, control and certification procedures. They result in authorisations, certificates and rights to use the marks confirming products quality. DAKO has, among others, Q-Zert certificate issued on the base of the audit carried by the IFT Rosenheim, the most important research centre in Europe. Additionally, DAKO products are compliant with the European Standard CE, and the authorisations from the suppliers of components confirm that they meet rigorous safety requirements.

## Quality control

DAKO has a department responsible for quality control, that is an important link in the production process. Both received components and ready-made products undergo detailed controls. Each production line has its own controllers who supervise specialists' work. The additional control is carried out randomly by the patrols that inspect the production process on all lines.

## Transport fleet

Windows, as the exceptionally sensitive products need to be appropriately treated during transport. The own vehicle fleet allows for complete control over the loading, transport and unloading of our products. Due to DAKO own vehicles we are certain our products reach the customers preserved intact. Additional benefit resulting from our own transport fleet are fixed, regular delivery times that influence the date of order completion.

## Competent sales advisors in the showrooms

The final step in the way to DAKO quality is the showroom. Only professional guidance and correct assesment of the building situation can make the joinery fulfil its function and meet the customers' expectations. DAKO Commercial Partners are the experts with the extensive knowledge and experiance that allow to meet the requirements of contemporary architecture.





# WINDOWS



ENERGY EFFICIENCY



MODERN AESTHETICS



LARGE GLAZING SURFACES



INNOVATIONS



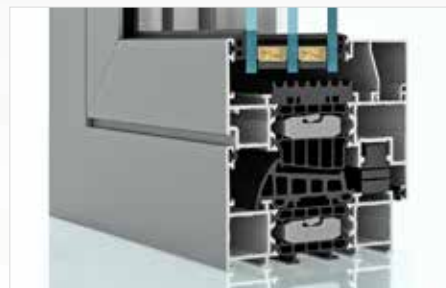
SECURITY

# DA-90 Thermo

## Energy efficiency, aesthetics and security

- ✓ Complete energy efficiency
- ✓ Exceptional aesthetics
- ✓ Very good acoustic insulation
- ✓ Increased maximal dimensions
- ✓ Additional anti-burglary protection

Reference series of windows for the houses of excellent performance parameters and the highest aesthetic qualities. Invisible fittings in standard, give the windows the exceptionally modern and elegant appearance, and the set of 4 anti-burglary catches improves the construction security. High durability allows to construct large-size glazing.



### DA-90 Thermo

- Profile depth: 90 mm
- Thermal break width: 45mm
- Max. dimensions of RU sash: 1700 mm x 2800 mm
- Min. dimensions of sash: 520 mm x 420 mm
- Max. surface of sash: 3m<sup>2</sup>
- Max. weight of sash: 150 kg



$U_w = 0,8^*$

TGI warm-edge spacer  
(black colour)

3-chamber profile with thermal insert

3 seals that reduce noise level

4 anti-burglary catches

DA-90 Thermo | Anthracite

U<sub>w</sub> values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631

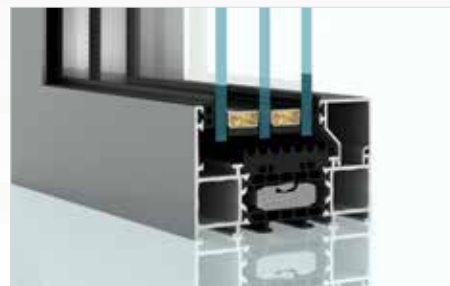
U<sub>w</sub> value has been calculated for the reference window with the dimensions 1230 x 1480 mm.

# DA-90 Thermo 90°

## Corner window

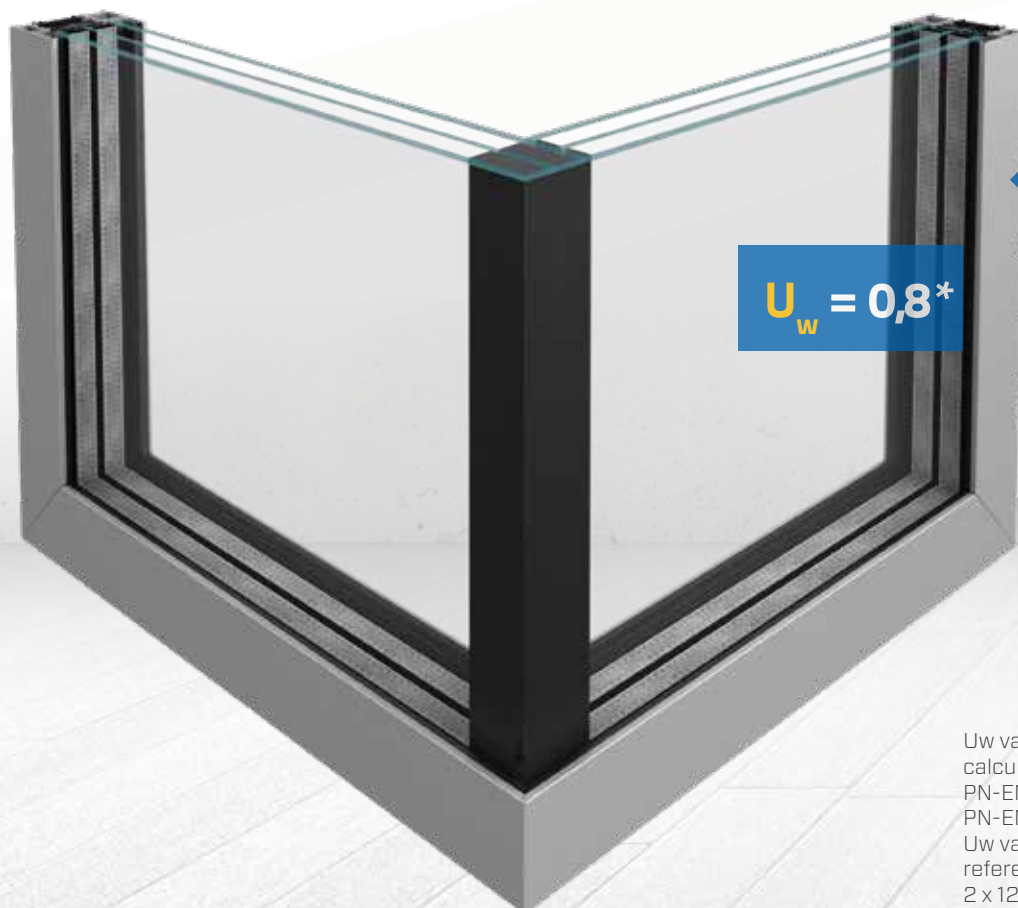
- ✓ Innovative solution
- ✓ Exceptionally modern appearance
- ✓ Better lighting of the interior

Corner windows constructed in this system are intended to be used in modern buildings where visual effect meets the expectations of current architectural designs. Due to these windows, the shape of the building gains lightness and exceptionally modern appearance. Apart from visual aesthetics, the windows provide better natural lightening of the interior. Due to the larger glass surface, up to 20% more sunlight reaches the interior (depending on the window dimensions).



### DA-90 Thermo 90°

- Profile depth: 90 mm
- Thermal break width: 45mm
- Available glazing thickness: from 32 to 72 mm
- Thermal insert in the middle chamber
- Connection of two glasses in the quoin by use of black glue allows to obtain the effect of single plane.



$$U_w = 0,8^*$$

Lack of construction profiles in the quoin

U<sub>w</sub> values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631.

U<sub>w</sub> value has been calculated for the reference window with the dimensions 2 x 1230 mm x 1480 mm





# DA-77

## Excellent insulation, increased durability

- ✓ Very good thermal insulation
- ✓ Increased maximal dimensions

Warm aluminium windows allowing to construct large-size glazing.  
Designed for modern investments of high heat-insulating requirements.



### DA-77

- Profile depth: 77 mm
- Thermal break width: 43 mm
- Max. dimensions of RU sash: 1700 mm x 2800 mm
- Min. dimensions of sash: 420 mm x 420 mm
- Max. surface of sash: 3m<sup>2</sup>
- Max. weight of sash: 100 kg (optionally 150 kg)



$U_w = 1,0^*$

Warm,  
4-chamber  
profile

DA-77 | Ruby

U<sub>w</sub> values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631.

U<sub>w</sub> value has been calculated for the reference window with the dimensions 1230 x 1480 mm.



### Limitless finishing possibilities

- ✓ Structural and smooth surfaces
- ✓ Bicolour varnish
- ✓ Special effects - not included in RAL palette

INSPIRATIONS

# DA-75/DA-70/DA-65

- ✓ Three levels of thermal insulation
- ✓ Rounded sash in DA-75 and DA-45 series
- ✓ Perfect for investments

1

2

$U_w = 1,1^*$

$U_w = 1,2^*$

DA-75 | Fir green

DA-75 | Steel blue

\*U<sub>w</sub> values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631. U<sub>w</sub> value has been calculated for the reference window with the dimensions 1230 x 1480 mm.

# 1. DA-75



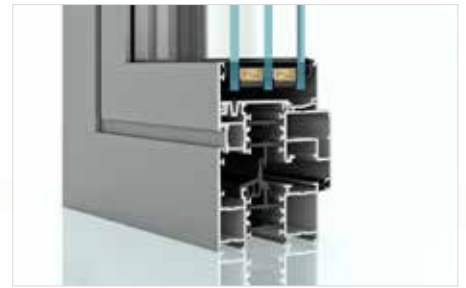
- Profile depth: 75 mm
- Thermal break width: 34 mm
- Max. dimensions of RU sash: 1600 mm x 2400 mm
- Min. dimensions of sash: 420 mm x 420 mm
- Max. surface of sash: 3 m<sup>2</sup>
- Max. weight of sash: 100 kg (optionally 150 kg)

# 2. DA-70



- Profile depth: 70 mm
- Thermal break width: 34 mm
- Max. dimensions of RU sash: 1600 mm x 2400 mm
- Min. dimensions of sash: 420 mm x 420 mm
- Max. surface of sash: 3 m<sup>2</sup>
- Max. weight of sash: 100 kg (optionally 150 kg)

# 3. DA-65



- Profile depth: 65 mm
- Thermal break width: 24 mm
- Max. dimensions of RU sash: 1600 mm x 2400 mm
- Min. dimensions of sash: 420 mm x 420 mm
- Max. surface of sash: 3 m<sup>2</sup>
- Max. weight of sash: 100 kg (optionally 150 kg)



# DA-65 EF

Approved solution for greater comfort

- ✓ Modern and elegant appearance
- ✓ High thermal insulation

DA-65 FE system is designed for modern detached houses and investments. Due to the thermal break and high parameters, the window is the ideal solution for demanding constructions. What is more, high thermal insulation of DA-65 series guarantees savings of energy costs.



## DA-65 EF

- Profile depth: 65 mm
- Thermal breaks made of fiber glass reinforced by polyamide of width: 30 mm
- Max. dimensions of sash: 1600 mm x 2400 mm
- Min. dimensions of sash: 420 mm x 420 mm
- Max. surface of sash: 3 m<sup>2</sup>
- Max. weight of sash: 100 kg (optionally 150 kg)



DA-65 EF | Steel blue

\*U<sub>w</sub> values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631. U<sub>w</sub> value has been calculated for the reference window with the dimensions 1230 x 1480 mm.

# DA-65-EFUS

## Concealed sash

- ✓ Optimal parameters
- ✓ Modern design
- ✓ More light

DA-65 EFUS system due to the concealed sash and high parameters of thermal insulation perfectly meets the expectations of the most demanding clients. Modern aesthetics and slim construction have been achieved by application of the concealed sash and the elegant, invisible hinges. Due to the greater surface of glass, more daylight is transmitted to the interior.



### DA-65-EFUS

- Profile depth: 65 mm
- Thermal breaks made of fiber glass reinforced by polyamide of width: 30 mm
- Max. dimensions of sash: 1250 mm x 2200 mm
- Min. dimensions of sash: 420 mm x 420 mm
- Max. surface of sash: 3 m<sup>2</sup>
- Max. weight of sash: 100 kg

**U<sub>w</sub> = 1,4 W/m<sup>2</sup>K\***

**NOVELTY!!!**  
**DA-65 EFUS**  
**CONCEALED SASH**

- more light due to the narrower movable post

# DA-45

## Internal system

- ✓ Ideal to create internal partitions
- ✓ Allows to obtain very good acoustic isolation
- ✓ Provides modern character of the interior

Functional system for constructing internal glazing, partitions and windows. Ideal solution for creating internal divisions of space in public and commercial buildings.



### DA-45

- Profile depth: 45 mm
- Max. dimensions of RU sash: 1600 mm x 2400 mm
- Min. dimensions of sash: 420 mm x 420 mm
- Max. surface of sash: 3 m<sup>2</sup>
- Max. weight of sash: 100 kg



$U_w = 5,8$

DA-45 | Brown

\*U<sub>w</sub> values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631.

U<sub>w</sub> value has been calculated for the reference window with the dimensions 1230 x 1480 mm





**Compare the series**

Check series comparison on  
pages 22-23.

**INSPIRATIONS**



Unlimited  
finishing possibilities

# DA-70Casement-Top hung

## Modern design, classic functionality

- ✓ High durability
- ✓ Smooth operation
- ✓ Energy efficiency

DA-70Casement-Top hung aluminium windows opened outwards are characterised by high durability and, due to the usage of modern warm, aluminium profiles with thermal break are ideal not only for industrial buildings. Also, they are suitable for residential constructions and the modernization of already existing objects.



### DA-70Casement-Top hung

- Opened outwards
- Maximum dimensions of turn-tilt sash (Top hung): 2000 x 2500 mm
- Glazing range: from 23 to 60 mm
- Scissor hinges
- Maximum weight of sash: 180 kg



Popular solution with modern character that allows to choose two ways of opening the sashes outwards.

\*U<sub>w</sub> values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631. U<sub>w</sub> value has been calculated for the reference window with the dimensions 1230 x 1480 mm.

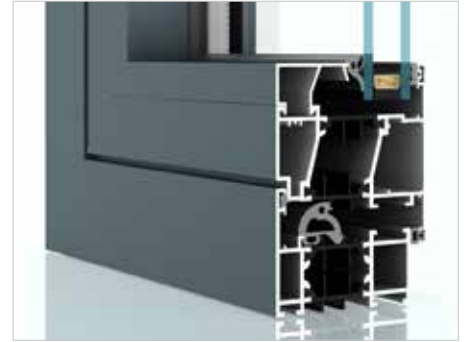


# DA-70Casement-Side hung

## Security | Tightness | Tradition

- ✓ High durability
- ✓ Smooth operation
- ✓ Energy efficiency

DA-70Casement-Side hung aluminium windows opened outwards are characterised by high durability and, due to the usage of modern warm, aluminium profiles with thermal break are ideal not only for industrial buildings. Also, they are suitable for residential constructions and the modernization of already existing objects.



### DA-70Casement-Side hung

- Opened outwards
- Maximum dimensions of turn sash (Side hung): 838 x 2800 mm
- Glazing range: from 23 to 60 mm
- Scissor hinges
- Maximum weight of sash: 55 kg



Popular solution with modern character that allows to choose two ways of opening the sashes outwards

\* $U_w$  values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631  
 $U_w$  value has been calculated for the reference window with the dimensions 1230 x 1480 mm.

STANDARD




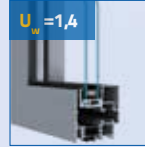
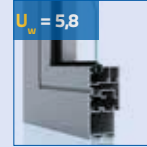

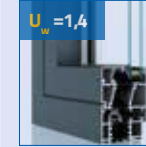
FEATURE	SYSTEM		 U <sub>w</sub> = 0,8	 U <sub>w</sub> = 1,0	 U <sub>w</sub> = 1,1
			DA-90 Thermo	DA-77	DA-75
<b>PROFILES</b>					
<b>NUMBER OF CHAMBERS IN FRAME</b> The optimal number of chambers provides better thermal insulation		3 + Thermo	4	3	
<b>AVAILABLE GLAZING</b> Allows special glasses to be installed		23 - 82 mm	21-67 mm	14-61 mm	
<b>PROFILE THICKNESS</b> Sash thickness / frame thickness of required dimensions influences thermal and acoustic insulation of the window		99/90 mm	86/77 mm	84/75 mm	
<b>PERIMETER-SEALS</b> Greater amount of seals improves window tightness		3	2	2	
<b>WIDTH OF THERMAL SEPARATOR</b> Wider separator provides better thermal insulation of profile		45 mm	43 mm	34 mm	
<b>PROFILE SHAPE</b> Type of applied sash influences window appearance		Straight	Straight	Rounded	
<b>HANDLE</b>					
<b>HANDLE TYPE</b> Handle influences the aesthetics of windows and may increase the security of householders		made of aluminium: white, brown, silver (F1)	made of aluminium: white, brown, silver (F1)	made of aluminium: white, brown, silver (F1)	
<b>STANDARD GLASS PACKET</b>					
<b>TYPE OF GLASS PACKET</b> Greater amount of chambers in glass packet provides better thermal insulation		3-glass packet 4x18x4x18x4 with warm-edge spacer TGI	3-glass packet 4x18x4x18x4	3-glass packet 4x18x4x18x4	
<b>U GLASS VALUE</b> Lower U glass value provides better thermal insulation		0,5 W/m <sup>2</sup> K	0,5 W/m <sup>2</sup> K	0,5 W/m <sup>2</sup> K	
<b>FILLING WITH ARGON</b> Argon gas in inter-pane voids improves thermal insulation		✓	✓	✓	
<b>STANDARD FITTING</b>					
<b>FITTING TYPE</b> Modern fittings are infallible and give the windows exceptionally elegant appearance		Invisible hinges	Standard	Standard	

OPTION

<b>CHOSEN SPECIAL FITTINGS</b>					
<b>INVISIBLE HINGES</b>		✓	●	●	
<b>CHOSEN ENERGY EFFICIENT SPECIAL GLASSES</b>					
<b>3-GLASS PACKET 4/18/4/18/4</b> Warmth and extra lighting (U <sub>g</sub> = 0,5 W/m <sup>2</sup> K)		✓	✓	✓	
<b>3-GLASS PACKET 44.4/14/4/14/4</b> Security and protection (U <sub>g</sub> = 0,6 W/m <sup>2</sup> K)		●	●	●	
<b>3-GLASS PACKET 4/14/4/14/33.1</b> Warmth and security (U <sub>g</sub> = 0,6 W/m <sup>2</sup> K)		●	●	●	
<b>3-GLASS PACKET 44.2/12/6/12/6</b> Silence and security (U <sub>g</sub> = 0,7 W/m <sup>2</sup> K)		●	●	●	
<b>4-GLASS PACKET 4/12/4/12/4/12/4</b> Maximum energy saving (U <sub>g</sub> = 0,3 W/m <sup>2</sup> K)		●	●	●	

# QUICK COMPARISON OF SERIES

Key:   
 ✓ - standard element   
 ● - optionally available element   
 ✗ - unavailable element

	 $U_w = 1,2$	 $U_w = 1,3$	 $U_w = 1,3$	 $U_w = 1,4$	 $U_w = 5,8$	 $U_w = 1,4$	 $U_w = 1,4$
	DA-70	DA-65	DA-65EF	DA-65EFUS	DA-45	DA-70 Top hung	DA-70 Side hung
	3	3	3	3	1	3	3
	23-60 mm	4-51 mm	4-51 mm	21-26 mm	4-34 mm	23-60 mm	23-60 mm
	79/70 mm	74/65 mm	74/65 mm	74/65 mm	54/45 mm	79/70 mm	79/70 mm
	2	2	2	2	2	3	3
	34 mm	24 mm	30 mm	30 mm	-	34 mm	34 mm
	Straight	Rounded	Straight	Straight	Straight	Straight	Straight
	made of aluminium: white, brown, silver (F1)	made of aluminium: white, brown, silver (F1)	made of aluminium: white, brown, silver (F1)	made of aluminium: white, brown, silver (F1)	made of aluminium: white, brown, silver (F1)	made of aluminium: white, chrom, silver matt, black (optional)	made of aluminium: white, chrom, silver matt, black (optional)
	3-glass packet 4x18x4x18x4	3-glass packet 4x18x4x18x4	3-glass packet 4x18x4x18x4	2-glass packet 4x16x4	single glass packet	2-glass packet 4x16x4 with warm-edge spacer TGI	2-glass packet 4x16x4 with warm-edge spacer TGI
	0,5 W/m <sup>2</sup> K	0,5 W/m <sup>2</sup> K	0,5 W/m <sup>2</sup> K	1,0 W/m <sup>2</sup> K	6,1 W/m <sup>2</sup> K	1,0 W/m <sup>2</sup> K	1,0 W/m <sup>2</sup> K
	✓	✓	✓	✓	✓	✓	✓
	Standard	Standard	Standard	Invisible hinges	Standard	Scissor hinges	Scissor hinges
	●	●	●	✓	●	✗	✗
	✓	✓	✓	✗	✗	●	●
	●	●	●	✗	✗	●	●
	●	●	●	✗	✗	●	●
	●	●	●	✗	✗	●	●
	●	●	●	✗	✗	●	●

# FITTING COMPONENTS

CHECK AND COMPARE FITTINGS FUNCTIONS		Standard	Invisible hinges
<b>MICROVENTILATION</b> Allows to release the window and provides better air circulation		✓	✓
<b>ANTI-BURGLARY "MUSHROOM" BOLTS ALONG THE ENTIRE SASH PERIMETER</b> Prevent the window from being pried open		✓	✓
<b>UNIQUE ANTI-BURGLARY CATCH IN RU SASH</b> Catch with double locking prevents the window from being pried open		✗	✗
<b>ANTI-BURGLARY CATCHES IN RU SASH</b> Prevent the window from being pried open		2	4
<b>ANTI-BURGLARY CATCHES IN R OR U SASH</b> Prevent the window from being pried open		✗	✗
<b>ADDITIONAL ANTI-BURGLARY CATCHES</b> Greater amount of the catches makes the window more secure		●	●
<b>FITTING REINFORCEMENT FOR THE SASH UP TO 130 KG</b> Provides better and more secure operation of big sashes		●	✗
<b>HANDLE ROTATION BLOCKADE WITH SLIDING</b> Prevents the tilt sash from being opened		✓	✓
<b>BK BALCONY LATCH</b> Maintains closed sash without using the handle		●	●
<b>BALCONY LATCH AND HANDLE ROTATION BLOCKADE WITH SLIDING</b> Combines the functions of balcony latch and handle rotation blockade		●	●
<b>WINDOW LOCK</b> Makes the window opening impossible without key use (tilt only)		●	●
<b>TURN-RESTRICTOR</b> Prevents the sash from hitting the frame		●	✗
<b>WINDOW BRAKE</b> Allows for stabilising the position of sash at any arrangement		✗	✗

Sashes indication:

R - turn | U - tilt | RU - tilt&turn

✓ - standard element

● - optionally available element

✗ - unavailable element





## FITTINGS FUNCTION



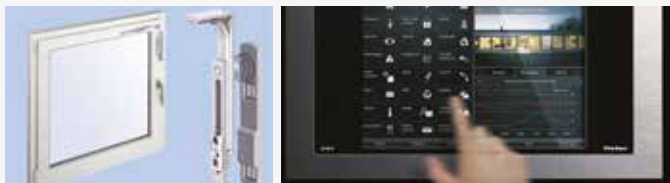
### INVISIBLE HINGES

When the sash is closed the hinges are invisible what gives the windows exceptionally elegant appearance and facilitates keeping them clean. A great advantage of the fittings is an easy regulation without using the tools.

### STANDARD

The fitting is equipped with surface hinges. In each tilt-turn sash anti-burglary catch is installed. Additionally, in this fitting handle rotation blockade has been used what facilitates window operation.

## MOVEMENT SENSORS



The sensors integrated with the fitting transmit the information of window closing or opening to the selected systems activating them accordingly to the user's expectations.

### USAGE

**Air-conditioning** – window opening causes automatic deactivation of the air-conditioners and gives savings resulting from limiting inefficient air-conditioning operation.

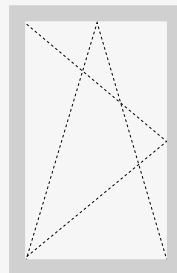
**Heating** –sash opening causes deactivation of the heater under the window, therefore, the costs of inefficient heating can be avoided.

**Alarm system** - information of the window status is transmitted to the alarm system, activating the alarm, if needed.

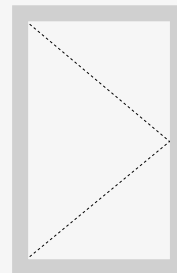
- Three-function sensors distinguish the closed, tilted and opened window so the alarm system can be protected during ventilation.
- Sensors do not react to movement what allows them to be active when residents and animals are at home.
- Sensors are invisible from the outside and, therefore, the burglars cannot prepare themselves for attempting to disarm them.

## OPENING SCHEMES

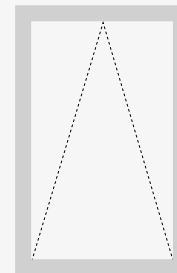
### SINGLE-SASH



RU sash

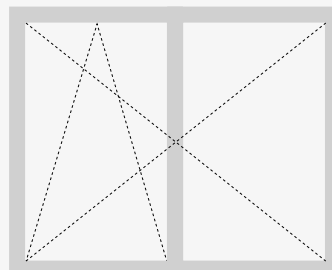


R sash



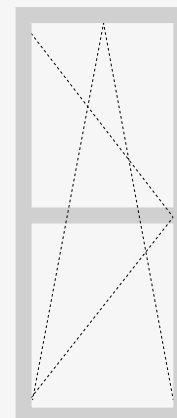
U sash

### DOUBLE-SASH



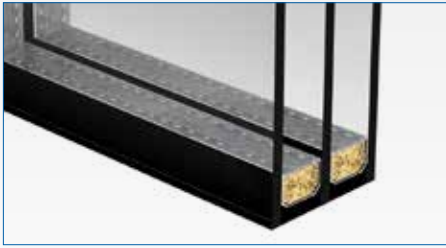
- window with movable post Tilt-turn + movable post
- window with still post Tilt-Turn + Tilt

### BALCONY



- Tilt-turn window
- Tilt-turn window with low threshold

## Glasses



**3-GLASS PACKET 4/14/4/14/4**  
EXTRA THERMAL INSULATION

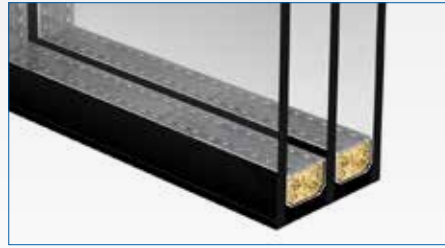
Improves thermal insulation of windows. Total thickness of glass packet allows for its installation in all windows, regardless of the profile thickness.

### TECHNICAL PARAMETERS

Total solar energy transmittance: **g=51%**

Light transmittance: **Lt=72%**

Thermal permeability: **U<sub>g</sub> = 0,6 W/m<sup>2</sup>K**



**3-GLASS PACKET 4/18/4/18/4**  
WARMTH AND EXTRA LIGHTING

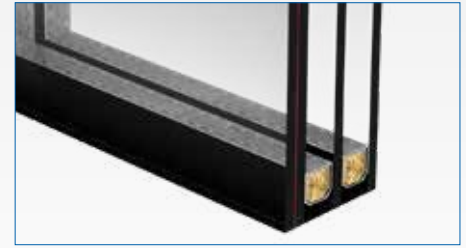
Provides greater permeability of solar energy and light as well as improves heating and lighting of the interior.

### TECHNICAL PARAMETERS

Total solar energy transmittance: **g=50%**

Light transmittance: **Lt=70%**

Thermal permeability: **U<sub>g</sub> = 0,5 W/m<sup>2</sup>K**



**3-GLASS PACKET 44.4/14/4/14/4**  
SECURITY AND PROTECTION

Characterised by high impact resistance and additionally equipped with a filter protecting against high-energy fractions of sunlight and UV radiation.

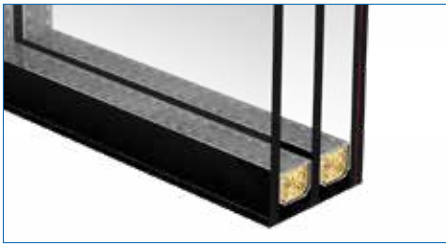
### TECHNICAL PARAMETERS

Safety class: **P4**

Total solar energy transmittance: **g=45%**

Light transmittance: **Lt=69%**

Thermal permeability: **U<sub>g</sub> = 0,6 W/m<sup>2</sup>K**



**3-GLASS PACKET 4/14/4/14/33.1**  
WARMTH AND SECURITY

Internal glass is covered by foil, therefore, broken glass does not disintegrate what excludes the risk of injury.

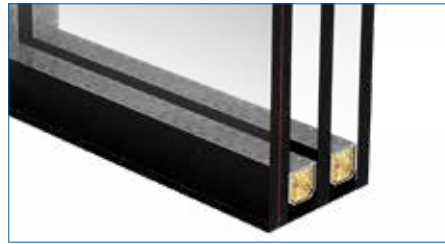
### TECHNICAL PARAMETERS

Safety class: **B2B**

Total solar energy transmittance: **g=47%**

Light transmittance: **Lt=70%**

Thermal permeability: **U<sub>g</sub> = 0,6 W/m<sup>2</sup>K**



**3-GLASS PACKET 44.2/12/6/12/6**  
SILENCE AND SECURITY

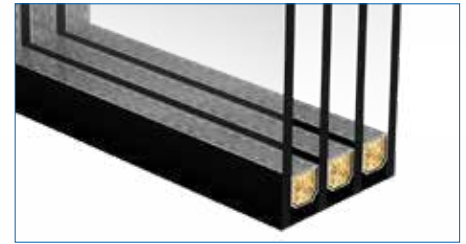
Glass construction ensures high level of protection against burglary and increased acoustic insulation.

### TECHNICAL PARAMETERS

Safety class: **P2**

Acoustic insulation coefficient **R<sub>w</sub> = 39dB**

Thermal permeability: **U<sub>g</sub> = 0,7 W/m<sup>2</sup>K**



**4-GLASS PACKET 4/12/4/12/4/12/4**  
MAXIMUM ENERGY SAVING

Three chambers of 4-glass packet guarantee maximum thermal insulation making this packet an ideal product for passive houses.

### TECHNICAL PARAMETERS

Thermal permeability: **U<sub>g</sub> = 0,3 W/m<sup>2</sup>K**

Total solar energy transmittance: **g=33%**

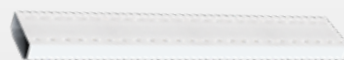
Light transmittance: **Lt= 48%**

## WARM-EGDE SPACERS

Warm-egde spacer increases thermal performance of the window



Chromatech (standard for DPQ-82 Thermo, DPB-73 Thermo, DPB73+ Thermo series)



White



Light grey



Dark grey



Light brown



Dark brown



Black

# Handles

**NOVELTY**  
available only in DAKO



**HANDLE 1006**  
(standard)



**HANDLE 1007**



**HANDLE 1009**



**HANDLE 1012**



**HANDLE 1030**



**HANDLE 1033**



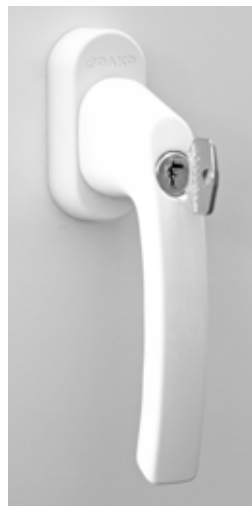
**SECUSTIK®  
LUKSEMBURG HANDLE**

Protected by the mechanism preventing the window from being opened from the outside.



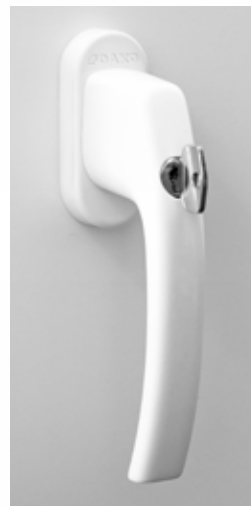
**SECUSTIK®  
NEW YORK HANDLE**

Protected by the mechanism preventing the window from being opened from the outside.



**SECUSTIK®  
LUKSEMBURG HANDLE  
WITH KEY**

Opening Secustik® handle with key requires the key to be used what reduces the risk of accident and prevents the window from being opened from the outside.



**1006 HANDLE WITH KEY**

Window opening requires the key to be used what reduces the risk of an accident and prevents the window from being opened from the outside.



**1006 HANDLE WITH  
BUTTON**

Window opening requires the lock release with the button what reduces the risk of an accident and prevents the window from being opened from the outside.

## COLOURS



White



F9-Titanium



F1 - Silver matt



Brown - RAL 8707  
(available only for  
secustik handles)



Brown - RAL 8019  
(does not apply to  
secustik handles)



F4 - Old gold



F2 - Champagne  
(available only for  
secustik luksemburg  
and new york handles)



RAL colour (available  
for 1006 handles)

**LARGE GLAZING** is one of the hallmarks of modern architecture. It gives the elevation modern appearance, provides more light to the interior as well as makes it visually more spacious.

# TERRACE DOORS



SPACE



ELEGANCE



COMFORT



The usage of sliding and folding terrace doors allows the line between indoor space and natural daylight to disappear completely, what gives an impression of the interior permeated the external surrounding.

# DA-77 HST/DA-67 HST

## Space, prestige, comfort

- ✓ Maximum prestige and elegance
- ✓ Easy opening and closing
- ✓ Threshold flush aligned



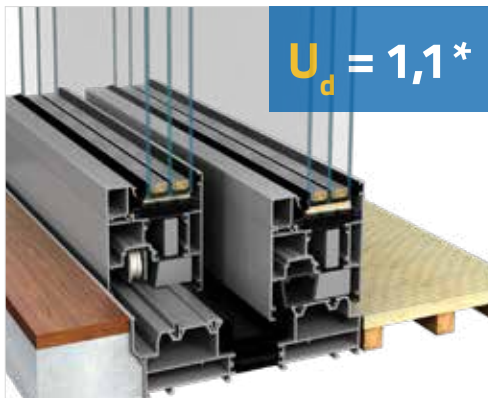
Innovative solution designed for detached houses that operates in accordance with lift-sliding system, which gently lifts the sash moving on special rollers.

The door threshold can be flush aligned with the floor surface from inside. The system enables exceptionally large glazing to be constructed what provides more daylight to the interior, making it spacious and prestigious.

- Very high tightness and insulation
- Possibility to construct large dimensions (3300 x 3200 mm)
- Possibility to transport disassembled components

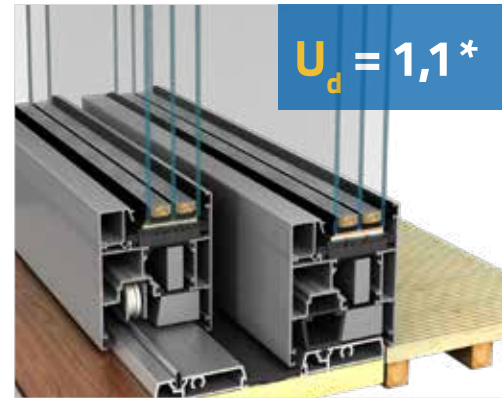
### Threshold solutions:

Threshold flush aligned from the inside:

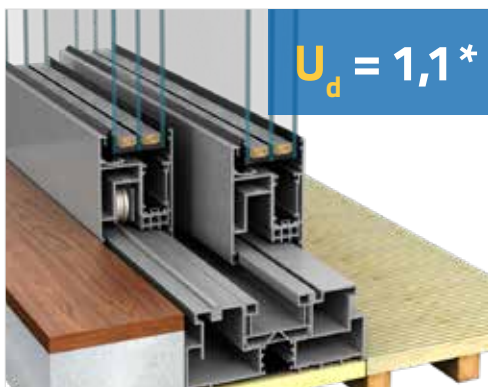


**DA-77 HST**

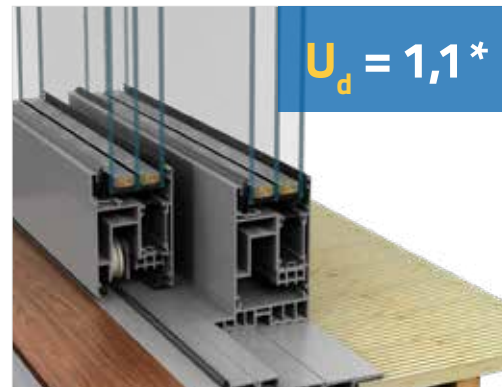
Flat threshold:



**DA-77 HST**



**DA-67 HST**




**DA-67 HST**



## Opening types:




### Threshold flush aligned

 The alignment of the threshold with the inner floor level eliminates an obstacle in circulation area.




### Automatic door (option)

 Remote-controlled door opening and closing.



### Sliding in horizontal plane

 It allows the movable sash to be fully opened.

\*Ud values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631. Ud value has been calculated for the reference door with the dimensions 2460 x 2180 mm.

# DA-51 ST

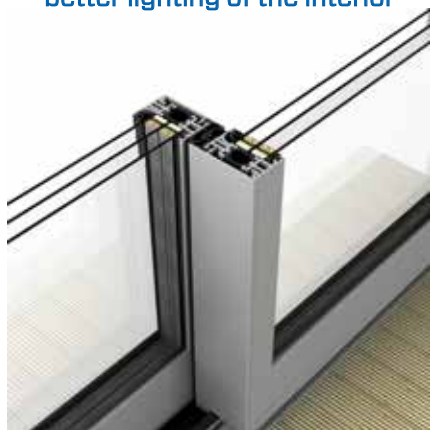
Perception of unrestricted space, various construction possibilities

- ✓ Optimal solution for the development of terrace or porch
- ✓ Possibility to realise glazing of large dimensions and lightweight constructions
- ✓ Good parameters of thermal insulation
- ✓ Easy door operation
- ✓ Max. \*sash dimensions: 2600 mm x 2800 mm

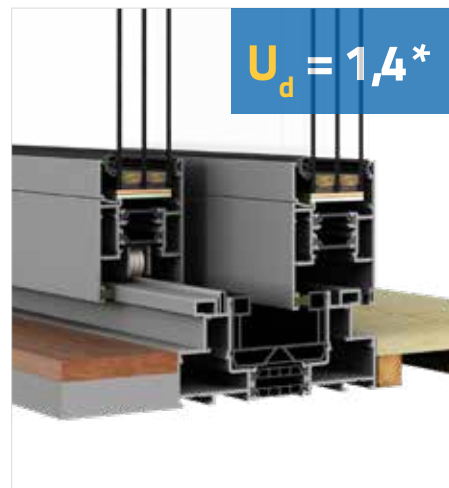
Sliding door system of high functionality. Construction possibilities allow to create glazing of large dimensions and threshold flush aligned eliminates an obstacle on the route. This product is a good solution for unheated interiors, glazed terraces, porches, restaurants or in case of restricted height of constructions.

Large constructions are created on the basis of frames with 1, 2 or 3 tracks with usage of even 6 sashes. Possibility to use monorail construction solutions which do not require the windowpanes to be put in the sashes of fixed surface (windowpanes are placed in frame). Narrow 34 mm compounds of sash and frame provide the interior with more natural daylight.

**Narrow compounds of sash and frame provide better lighting of the interior**



## Threshold solutions:



**DA-51 ST high threshold**



**DA-51 ST threshold flush aligned from the inside**





## Opening types:



### Sliding in horizontal plane

It allows the movable sash to be fully opened.



### Threshold flush aligned

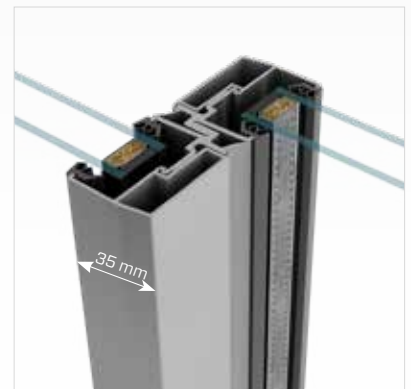
The threshold flush aligned with the interior floor level eliminates an obstacle on the route, providing the residents maximum comfort.

# DA-40 ST

## More space, more daylight

DA-40 ST sliding door is a solution providing more daylight to the interior.

Due to modern solutions and carefully selected slim profiles, the glass surface is larger and transmits more light. Lightweight construction, available in wide range of colours, gives the interior a modern character.



■ Narrow post 35 mm

### Threshold solutions:



■ DA-40 ST Threshold flush aligned from the inside



■ DA-40 ST High threshold

\*U<sub>d</sub> values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631. U<sub>d</sub> value has been calculated for the reference door with the dimensions 2460 x 2180 mm.

# DA-40 GLD

## Aesthetics and functionality

Galandage sliding door system is a functional and aesthetic solution allowing for hiding the door in a wall and, as a result, gaining more space in the house.

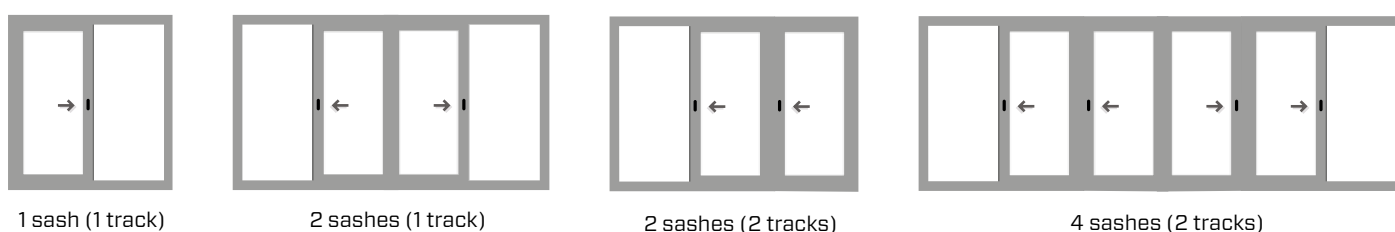
DA-40 GLD system is easy to use and its installation does not require excessive remodeling of the interior. Wide range of colours allows for adjusting the product to the interior design, and aluminium, as a material, gives the room an elegant and unique character. The alignment of the threshold with the inner floor level eliminates an obstacle in circulation area.



### Threshold flush aligned

- Maximum daylight transmission
- Greater comfort
- Max. dimensions for sash 2000 x 2300 mm
- $U_w = 1,7 \text{ W/m}^2 \text{ K}$  \*for referential window (2460 mm x 2180 mm)

### OPENING SCHEMES:



\* For the reference window (2460 mm x 2180 mm),  $U_g=1,0$ .  $U_w$  value has been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631.  
 \*\*Option

## DA-HKS

### Comfort and elegance at a reasonable price

- ✓ Possibility of sliding and tilting the moving sash
- ✓ Possibility to obtain an excellent thermal insulation
- ✓ Very attractive price

Classical terrace solution allowing the maximum energy efficient profiles and glasses to be used what provides high thermal insulation. Full functionality and usage comfort of the door resulting from the possibility to slide and tilt the movable sash easily. The simplicity of system operation allows to obtain very advantageous price and, therefore, the elegant and trendy large glazing may be available in every home.

#### Opening types:



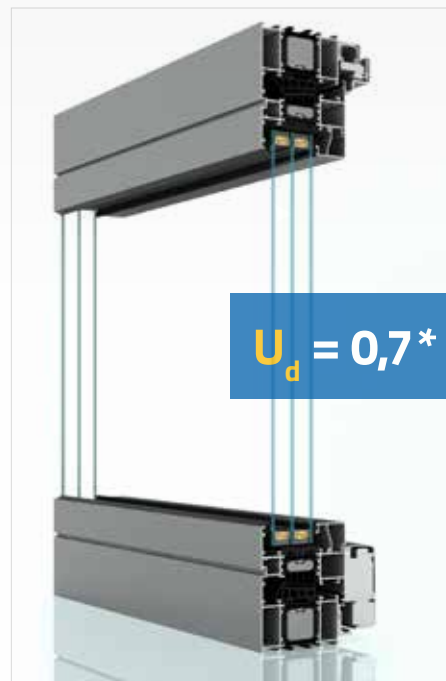
#### Sliding in horizontal plane

It allows the movable sash to be fully opened.



#### Tilting

It allows the movable sash to be tilted along the upper edge. It enables proper ventilation of rooms and air circulation.



#### DA-90 Thermo HKS

- HKS system is available in: DA-90 Thermo, DA-77, DA-75, DA-70, DA-65 window series

\* For the reference construction in DA-90 Thermo series.

\*  $U_d$  values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631

$U_d$  value has been calculated for the reference door with the dimensions 2460 x 2180 mm.





# DA-75 FD

## Maximum light transmission

- ✓ Classic functionality
- ✓ Light and comfortable door operation
- ✓ Maximum prestige and elegance

Bi-folding system is a proven solution allowing full light transmission through the opened door. Additionally, regular vertical divisions give the interior and facade a stylish character.

### Opening types:



### TECHNICAL INFORMATION

- After folding all sashes almost the whole door surface is opened
- The sashes fold up to the side edges
- Two ways of opening: outwards, inwards
- Maximum dimension of sash (width) 1000 mm
- Different realization schemes

\*U<sub>d</sub> values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631  
U<sub>d</sub> value has been calculated for the reference door with the dimensions 4000 x 2100 mm.

## HANDLES



### HANDLES FOR HST DOORS

The handle is available in the following versions: unilateral, unilateral with grip from the outside, unilateral with insert with key and grip from the outside, bilateral and bilateral with insert with key.

**Available colours:** white, brown, silver, old gold, titanium, colour of joinery.



### HANDLES FOR ST DOORS

The handle is available in unilateral version from the inside.

**Available colours:** white, brown, silver, old gold, titanium, colour of joinery.



### HANDLES FOR HKS DOORS

The handle is available in unilateral version from the inside.

**Available colours:** white, brown, silver.



### HANDLES FOR DA-70 FD DOORS

The handle is available in bilateral version.

**Standard colours:** black, white



### HANDLES FOR DA-40 ST and DA-40 GLD DOORS

The handle is available in bilateral version with the switch.

**Standard colours:** black



### HANDLES FOR DA-40 ST and DA-40 GLD DOORS

The handle is available in unilateral version from the inside with the switch.

**Standard colours:** black, white

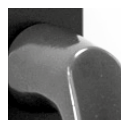
## COLOURS:



White



Brown



Black



F1 - Silver mat



F4 - Old gold



F9 - Titanium

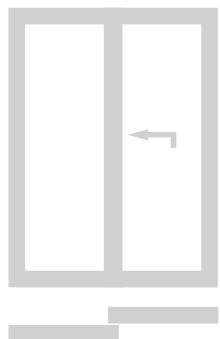


Colour of joinery

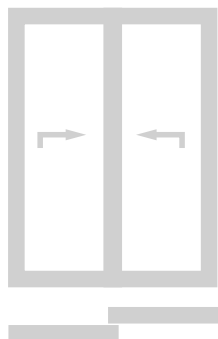


# OPENING SCHEMES

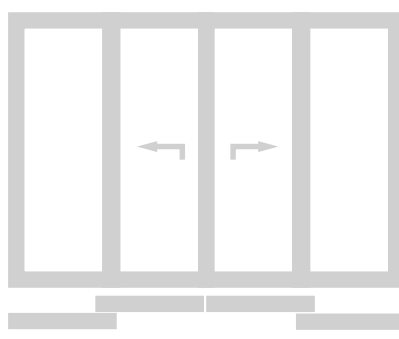
## HST, HKS, ST



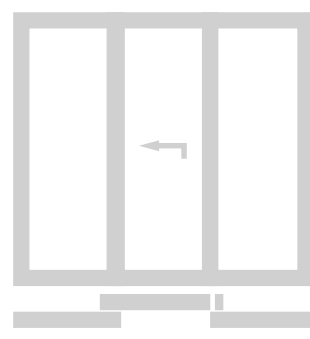
Scheme A



Scheme D\*



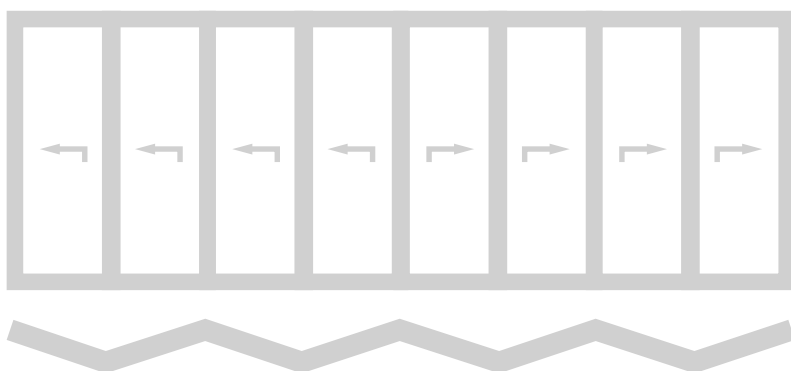
Scheme C



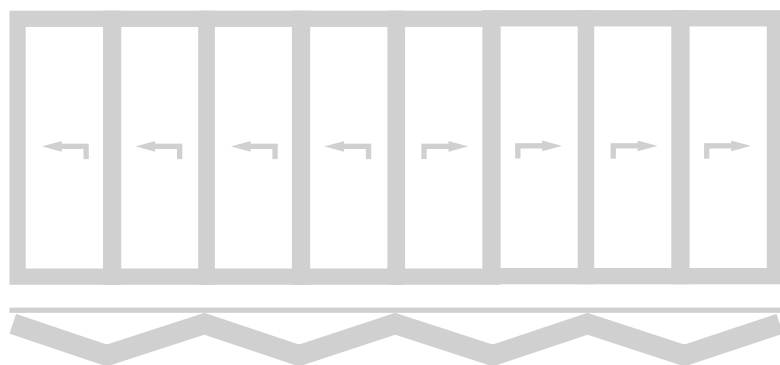
Scheme G2

\* Option not available in HKS doors

## FOLDING DOORS



Outwards opening



Inwards opening

Check the opening schemes on [dako.eu](https://www.dako.eu)



# QUICK COMPARISON OF DOOR

STANDARD

FEATURE	SYSTEM			
		DA-77 HST	DA-67 HST	DA-51 ST
<b>PROFIL</b>				
<b>NUMBER OF CHAMBERS IN FRAME</b> The optimal number of chambers provides better thermal insulation		3	3	3
<b>AVAILABLE GLAZING</b> Allows special glasses installation		13-58 mm	5-50 mm	8-36 mm
<b>PROFILE THICKNESS</b> Sash thickness / frame thickness of required dimensions influences thermal and acoustic insulation of the door		77 /174mm	67/153 mm	51/118 mm
<b>PERIMETER-SEALS</b> Higher amount of seals improves door tightness		2	2	2
<b>WIDTH OF THERMAL SEPARATOR</b> Wider separator provides better thermal insulation of profile		35 mm	22 mm	34 mm
<b>HANDLE</b>				
<b>HANDLE TYPE</b> Handle influences the aesthetics of doors and may increase the security of householders		HST	HST	ST
<b>STANDARD GLASS PACKET</b>				
<b>TYPE OF GLASS PACKET</b> Higher amount of chambers in glass packet provides better thermal insulation		3-glass packet 4x18x4x18x4 with warm-edge spacer TGI	3-glass packet, 4x18x4x18x4	3-glass packet, 4ESG/12/4ESG /12/4ESG
<b>U GLASS VALUE</b> Lower U glass value provides better thermal insulation		0,5 W/m²K	0,5 W/m²K	0,7 W/m²K
<b>FILLING WITH ARGON</b> Argon gas in inter-pane voids improves thermal insulation		✓	✓	✓
<b>STANDARD FITTING</b>				
<b>FITTING TYPE</b> Modern fittings are infallible and give the doors exceptionally elegant appearance		HST	HST	ST
<b>DIMENSIONS AND WEIGHT</b>				
<b>Minimum dimensions of sash</b>		900 - 1900 mm	900 - 1900 mm	600 - 520 mm
<b>Maximum dimensions of sash</b>		3300 - 3200 mm	3300 - 3200 mm	2600 - 2800 mm
<b>Maximum weight of sash</b>		300 kg	300 kg	250 kg

Key: ✓ - available option ✗ - unavailable option

# SERIES

	 $u_w = 1,7$	 $u_w = 1,7$	 $U_w = 0,7$	 $U_w = 0,9$	 $U_w = 1,1$	 $U_w = 1,0$	 $U_w = 1,1$	 $u_w = 1,7$
	DA-40 ST	DA-40 GLD	DA-90 Thermo	DA-77	DA-75	DA-70	DA-65	DA-75 FD
	HKS							
	3	3	3 + Thermo	4	3	3	3	3
	25-32 mm	25-32 mm	23 - 82 mm	21-67 mm	14-61 mm	23-60 mm	4-51 mm	16-50 mm
	40/65 mm	40/160 mm	99/90 mm	86/77 mm	84/75 mm	79/70 mm	74/65 mm	75/75 mm
	2	2	3	2	2	2	2	2
	22 mm	22 mm	45 mm	43 mm	34 mm	34 mm	24 mm	30 mm
	ST	ST	HKS	HKS	HKS	HKS	HKS	Bi-folding
	2-glass packet 4x18x4	2-glass packet 4x18x4	3-glass packet 4x18x4x18x4 with warm-edge spacer TGI	3-glass packet 4x18x4x18x4	3-glass packet 4x18x4x18x4	3-glass packet 4x18x4x18x4	3-glass packet 4x18x4x18x4	2-glass packet 4x16x4
	1,1 W/m <sup>2</sup> K	1,1 W/m <sup>2</sup> K	0,5 W/m <sup>2</sup> K	0,5 W/m <sup>2</sup> K	0,5 W/m <sup>2</sup> K	0,5 W/m <sup>2</sup> K	0,5 W/m <sup>2</sup> K	1,1 W/m <sup>2</sup> K
	✓	✓	✓	✓	✓	✓	✓	✓
	ST	ST	HKS	HKS	HKS	HKS	HKS	Bi-folding
	500 - 360 mm	500 - 360 mm	630 - 930 mm	630 - 930 mm	630 - 930 mm	630 - 930 mm	630 - 930 mm	-
	2000 - 2550 mm	2000 - 2550 mm	1480 - 2330 mm	1480 - 2330 mm	1480 - 2330 mm	1480 - 2330 mm	1480 - 2330 mm	1000 - 2500 mm
	160 kg	160 kg	150 kg	150 kg	150 kg	150 kg	150 kg	100 kg



# EXTERIOR DOORS WITH ATTACHMENT PANEL



MODERNITY



SECURITY



WARMTH

GROUP 1



01.01 TIRANO



01.02 MEVA



01.03 SCALA



01.04 NOEL



01.05 GALLA



01.06 ELIGIA



01.07 TALA



01.08 BONA



01.09 AUREA



01.10 ANDREA



01.11 SAFIR



01.12 CANIS

GROUP 2



02.01 MAURA



02.02 OLIMPIA



02.03 MELA



02.04 MELISA



02.05 KASJOPEA



02.06 ZOLA



02.07 FABIA



02.08 SOURIS



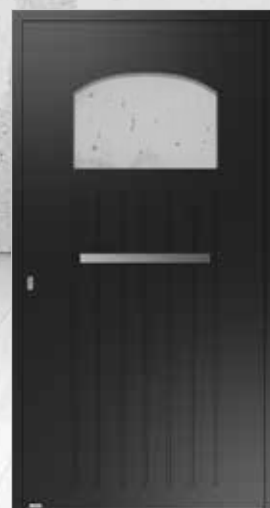
02.09 SOTERA



02.10 KORA



02.11 FELIX



02.12 LUX

GROUP 3



03.01 PERLA



03.02 IDALIA



03.03 OMBRA



03.04 ARGEA



03.05 DALIA



03.06 ALMA

GROUP 4



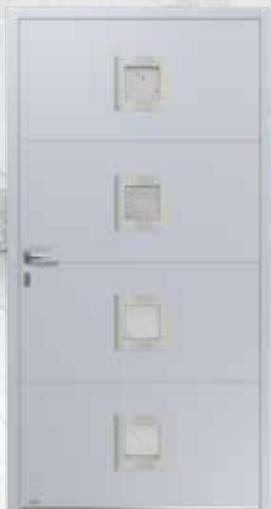
04.01 TAIDA



04.02 SABANA



04.03 RESTINGA



04.04 KEIRA



04.05 FEBA



04.06 THELON

GROUP 4



04.07 DORA



04.08 NICETA



04.09 BONITA



04.10 PECOS



04.11 ALBA



04.12 TULIA

GROUP 5



05.01 EUNIKA



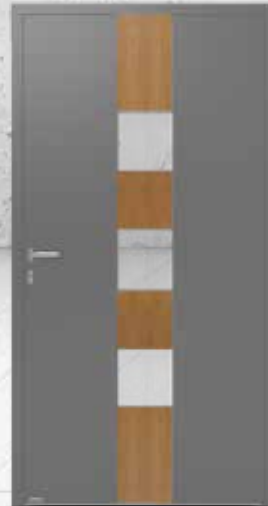
05.02 NILA



05.03 CAURA



05.04 ZOE



05.05 FOTYNA



05.06 ALLA



GROUP 6



06.01 LILA



06.02 STELLA



06.03 LIGIA



06.04 GLORIA



06.05 NIMFA



06.06 OFELIA

GROUP 7



07.01 SALWIA



07.02 PETRA



07.03 ARIAN



07.04 PIA



07.05 WERA



07.06 MERUL

# Construction

Due to bilateral construction with attachment panel the door has a unitary surface both - from the inside and from the outside.



✓ **PRESTIGIOUS APPEARANCE**

- Aluminium panel bilaterally attached

✓ **FULL THERMAL COMFORT**

- Thermo-insulation polyurethane foam of 72/85 mm thickness
- Aluminium profile 77 or 90 mm

✓ **OPENING TYPES**

- inward opening
- outward opening

✓ **STANDARD DIMENSIONS**

- 1120x2100 for DA-77N system
- 1120x2100 for DA-90N system

✓ **INSTALLATION DEPTH**

- 77 or 90 mm

✓ **CONSTRUCTION TYPES:**

- one-sash doors
- one-sash doors in display installation

# Standard equipment

A solid basis for unique aesthetics of DAKO doors is the advanced equipment that provides the householders with warmth, security and the reliable operation of doors for a long time.



## ✓ 3-POINT LOCK SYSTEM

- Two closing elements with double pin.

Massive hook pin provides high level of security.

Additional pin guarantees the optimal adjustment of the sash to the frame.

- Automatic closing

Security without the need to close the door with key.

- Installation of the lock system along the entire height of sash

Invisible fitting notch guarantees the elegant appearance of opened door.



## ✓ ROLLER HINGE

**Standard colours:** silver (F1)

**Optional colours:** white, brown, colour of joinery, stainless steel



## ✓ HANDLE ON DIVIDED HANDLE PLATE WITH ROSETTE

**Standard colours:** silver (F1)

**Optional colours:** white, brown, old gold (F4), colour of joinery, stainless steel



## ✓ INSERT

Anti-burglary of B security class with butterfly and keyring



## ✓ MOUNTING ANCHORS

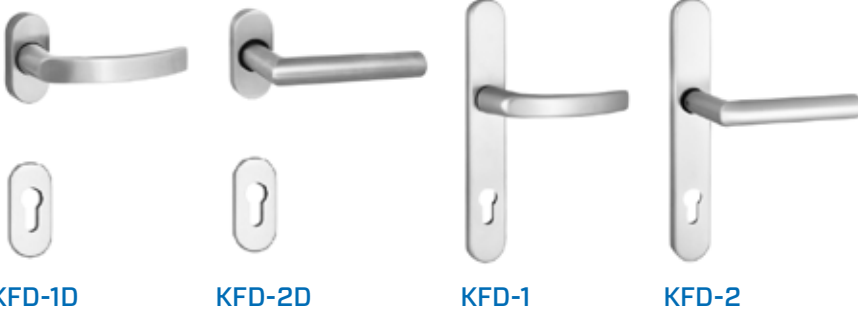
Provide proper installation

## ✓ BROADENING FOR LOW THRESHOLD

Protection during transport and the guarantee of stable installation of low threshold

# Optional

✓ HANDLE WITH COMPLETE AND DIVIDED SIGN WITH ROSETTE



Colours:

- white, brown, silver (F1), old gold (F4), in products colour, stainless steel 1 p.



✓ GRIPS



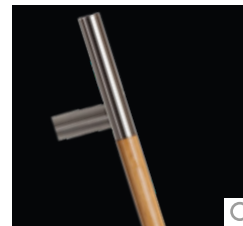
P-10



Q-10



Q-10D



P-10D



W-10



PS



PS-W



LED lights



1. button for electrolock opening
2. bell

# equipment



## ✓ EXTERNAL ROSETTES



R1



R2



R3

Colours: stainless steel

Colours: white, brown, silver (F1), old gold (F4) stainless steel

## ✓ INSERTS

C type insert of increased protection against burglary (basic or with butterfly)



■ Electric EAV 3-point with fingerprint reader in grip

■ Electric EAV 3-point with fingerprint reader

## ✓ FINGERPRINT READER



The doors opened with a fingertip provide exceptional convenience. They are completely safe, warm and reliable. High security of the lock is confirmed by A class certificate of German VdS organization.

**Convenience** – opening with fingertip.

**Comfort** – keys, codes and opening cards are unnecessary

**Savings** – duplicating of keys and changing of locks are unnecessary

**Security** – resistance to shorting wires of scanner and other manipulations

**Reliability** – correct operation from -40°C to 85°C

**Warranty** – 24-month manufacturer's warranty

## ✓ INVISIBLE HINGES

When the door sash is closed, hidden hinges are completely invisible what gives the door the exceptionally elegant appearance and facilitates keeping it clean.

Easy regulation is a great advantage of the fittings.



■ Roller hinge

## Optional



### ✓ 'DAY AND NIGHT' FUNCTION FOR LOCK SYSTEM

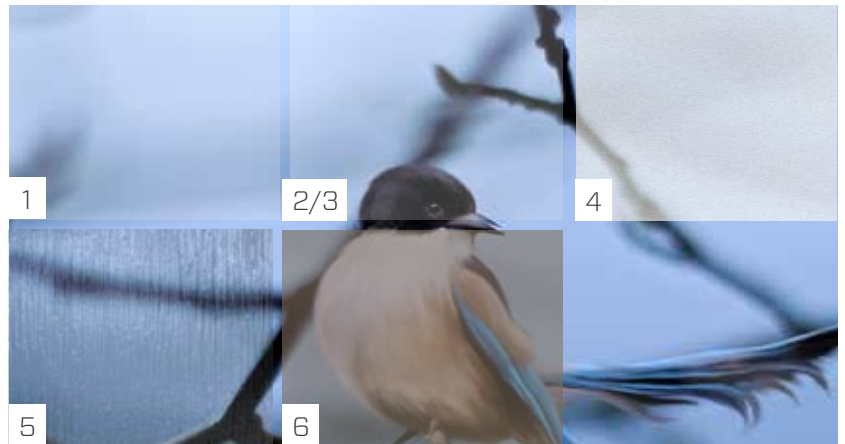
'Day' function activates the automatic door locking.

### ✓ GLASS

1. 2/B/2 - safe glass with foil
2. P2 of increased protection against breaking
3. P4 anti-burglary glass
4. Sandblasted
5. Ornamental
6. Reflective
7. With warm-edge spacer

**\*Do you need different glass?**

Contact us via [dako.eu](mailto:dako.eu).



### ✓ LOCKS

1. Manual 3 and 5-point
2. Automatic AV3 and 5-point
3. 3-point lock with stiff chain
4. EAV Electric 3-point with lock driver and Tahoma switchboard (smart home)
5. Electric EAV 3-point with set of 3 transponders in a form of keychain
6. EAV Electric 3-point with 3 remote controls
7. Electric EAV-3-point with code keyboard and bluetooth



hidden self-closer

rail self-closer

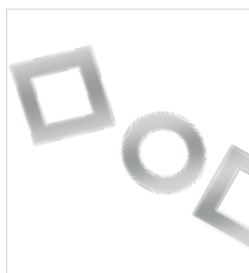
### ✓ SELF-CLOSER

- Causes automatic and controlled sash back of door to the closed position.

# equipment

## ✓ TRESHOLDS

1. Protective element on the lower part of door's sash made of stainless steel (installed on the exterior side - mortise broad of 100 mm height)
2. Automatic treshold (falling list)
3. Aluminium broadening to low treshold made of expanded polystyrene (EPS).



## ✓ DECORATIVE ELEMENTS

1. Stainless steel decors in given shape (price for 4 pieces of chosen element)
2. Hobbing inside in accordance with pattern outside
3. Stainless steel ornaments installed from outside

## ✓ OTHER ELEMENTS



- ANTI-BURGLARY hooks (3 pcs.possible to apply only with roller hinges)



- peep hole



- blockade



- electronic peep hole



- contract (enables door and alarm installation)



# PROFILED DOORS



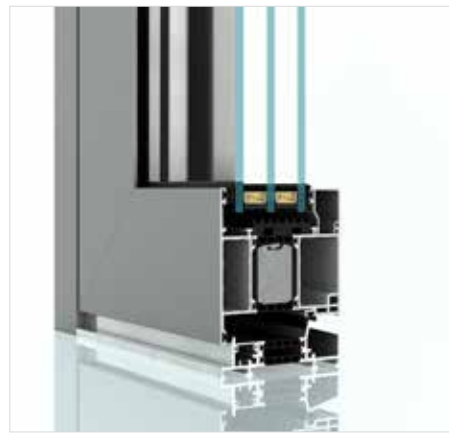
# DA-90 Thermo

## Energy efficiency, aesthetics and security

- ✓ Energy-saving, 3-glass packet
- ✓ Aesthetics roller hinges
- ✓ Anti-theft pins

Reference doors designed for modern places of standard equipment providing exceptional aesthetics and increased security.

Standard includes, among others, energy-saving, triple glazing and stable, durable roller hinges of elegant look. 3-chamber profile with thermal insert guarantees thermal insulation on the highest level.



### DA-90 Thermo

- Profile depth: 90 mm
- Width of thermal separator: 34 mm
- Max. dimensions\* of one-sash doors: 1300 mm x 3000 mm
- Min. dimensions of sash: 900 mm x 2050 mm
- Max. weight of sash: 180 kg



3-chamber profile with thermal insert

$U_d = 0,9^*$

DA-90 Thermo | Anthracite

\*Ud values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631  
Ud value has been calculated for the reference door with the dimensions 1230 x 2180 mm.

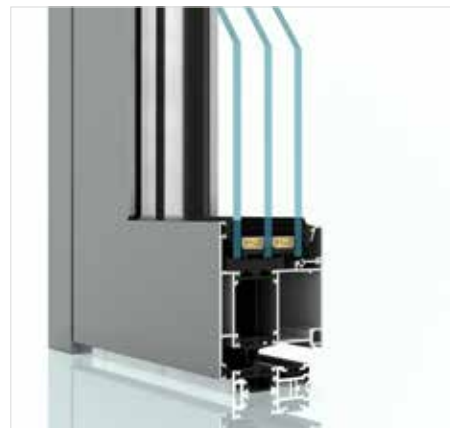
## DA-77

### Excellent insulation, increased durability

- ✓ Energy efficiency, 3-glass packet
- ✓ Stable and durable surface hinges

Aluminium doors of excellent thermal insulation, allowing to construct glazing of large dimensions.

Standard includes, among others, energy-saving, triple glazing.



#### DA-77

- Profile depth: 77 mm
- Width of thermal separator: 31 mm
- Max. dimensions\* of one-sash doors: 1400 mm x 3000 mm
- Min. dimensions of sash: 900 mm x 2050 mm
- Max. weight of sash: 180 kg



$U_d = 1,2^*$

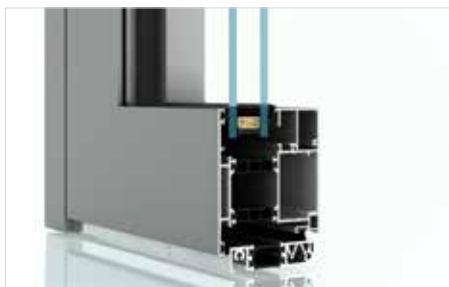
DA-77 | Ruby

\*U<sub>d</sub> values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631

U<sub>d</sub> value has been calculated for the reference door with the dimensions 1230 x 2180 mm.

# DA-75/DA-70/DA-65

- ✓ Three levels of thermal insulation
- ✓ Wide range of standard equipment



- **Profile depth:** 75 mm
- **Width of thermal separator:** 34 mm
- **Max. dimensions of one-sash doors:** 1300 mm x 2400 mm
- **Min. dimensions of sash:** 900 mm x 2050 mm
- **Max. weight of sash:** 180 kg



- **Profile depth:** 70 mm
- **Width of thermal separator:** 25 mm
- **Max. dimensions of one-sash doors:** 1350 mm x 3200 mm
- **Min. dimensions of sash:** 900 mm x 2050 mm
- **Max. weight of sash:** 180 kg



- **Profile depth:** 65 mm
- **Width of thermal separator:** 24 mm
- **Max. dimensions of one-sash doors:** 1300 mm x 2400 mm
- **Min. dimensions of sash:** 900 mm x 2050 mm
- **Max. weight of sash:** 180 kg



$U_d = 1,5$



$U_d = 1,7$



$U_d = 1,7$

\* $U_d$  values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631  
 $U_d$  value has been calculated for the reference door with the dimensions 1230 x 2180 mm.

## DA-45

### System for internal usage

- ✓ Ideal to create internal compartments
- ✓ Allows to obtain very good acoustic insulation
- ✓ Provides modern character of internal space

A functional system for constructing internal doors.

The ideal solution for creating internal compartments in public and commercial buildings.



#### DA-45

- **Profile depth:** 45 mm
- **Max. dimensions of one-sash doors:**  
1250 mm x 2400 mm
- **Min. dimensions of sash:**  
900 mm x 2050 mm
- **Max. weight of sash:** 180 kg



$U_d = 5,7^*$

DA-45 | RAL 8019

\*U<sub>d</sub> values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631

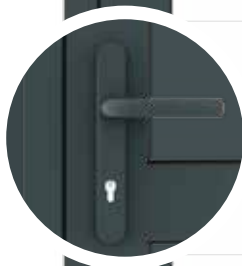
U<sub>d</sub> value has been calculated for the reference door with the dimensions 1230 x 2180 mm.

# Standard equipment of profiled doors



✓ **MANUAL 3-POINT LOCK SYSTEM**

for DA-90 Thermo system



✓ **HANDLE ON LONG HANDLE PLATE**

Made of high-class aluminium.

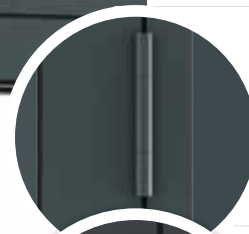
✓ **INSERT**

Simple



✓ **1-POINT LOCK**

for other systems



✓ **ROLLER HINGE**

**Standard in DA-90 Thermo**

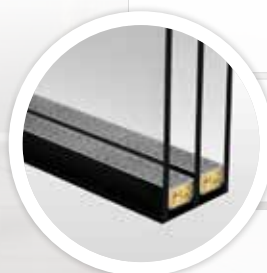
Stable and durable roller hinges of elegant look. Adjustable in three dimensions, they ensure easy door operation and increase security level.



✓ **SURFACE HINGE**

Stable and durable roller hinges, adjustable in three dimensions. Ensure easy door operation and increase security level.

**Standard in DA-77, DA-75, DA-70, DA-65, DA-45**



✓ **3-GLASS PACKET 33,1/18/4/18/33,1**

for DA-90Thermo system

✓ **2-GLASS PACKET 33,1/16/33,1**

for DA-77, DA-75, DA-70, DA-65 systems

✓ **33,1 SINGLE GLASS**

for DA-45 system



✓ **ALUMINIUM THRESHOLD**

DA-90 Thermo | Anthracite

## QUICK COMPARISON OF DOOR

THERMAL INSERT



DA-90 Thermo



DA-77

STANDARD

FEATURE	SYSTEM	DA-90 Thermo	DA-77
<b>PROFIL</b>			
<b>NUMBER OF CHAMBERS IN FRAME</b> The optimal number of chambers provides better thermal insulation		3 + Thermo	4
<b>PROFILE THICKNESS</b> Sash thickness / frame thickness of required dimensions influences thermal and acoustic insulation of the door		90/90 mm	77/77 mm
<b>PERIMETER-SEALS</b> Greater amount of seals improves door tightness		2	2
<b>WIDTH OF THERMAL SEPARATOR</b> Wider separator provides better thermal insulation of profile		34 mm	31 mm
<b>HANDLE</b>			
<b>HANDLE TYPE</b> Handle influences the aesthetics of doors		made of aluminium: white, brown, silver (F1)	made of aluminium: white, brown, silver (F1)
<b>STANDARD GLASS PACKET</b>			
<b>TYPE OF GLASS PACKET</b> Greater amount of chambers in glass packet provides better thermal insulation		33,1/18/4/18/33,1 with warm-edge spacer TGI	3-glass packet 33,1/18/4/18/33,1
<b>U GLASS VALUE</b> Lower U glass value provides better thermal insulation		0,5 W/m <sup>2</sup> K	0,5 W/m <sup>2</sup> K
<b>FILLING WITH ARGON</b> Argon gas in inter-pane voids improves thermal insulation		✓	✓
<b>STANDARD FITTING</b>			
<b>HINGES, LOCK</b>		roller hinges, manual 3-point lock	surface hinges, 1-point lock

Key: ✓ standard element ● optionally available element ✗ unavailable element

# SERIES



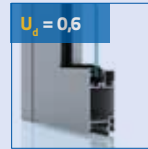
DA-75



DA-70



DA-65



DA-45

3	3	3	1
75/75 mm	70/70 mm	65/65 mm	45/45 mm
2	2	2	2
34 mm	25 mm	24 mm	×
made of aluminium: white, brown, silver (F1)	made of aluminium: white, brown, silver (F1)	made of aluminium: white, brown, silver (F1)	made of aluminium: white, brown, silver (F1)
2-glass packet 33,1/16/33,1	2-glass packet 33,1/16,33,1	2-glass packet 33,1/16/33,1	33,1 single glass
1,0 W/m <sup>2</sup> K	1,0 W/m <sup>2</sup> K	1,0 W/m <sup>2</sup> K	5,7 W/m <sup>2</sup> K
✓	✓	✓	✓
surface hinges, 1-point lock	surface hinges, 1-point lock	surface hinges, 1-point lock	surface hinges, 1-point lock



**FIRE DOORS**



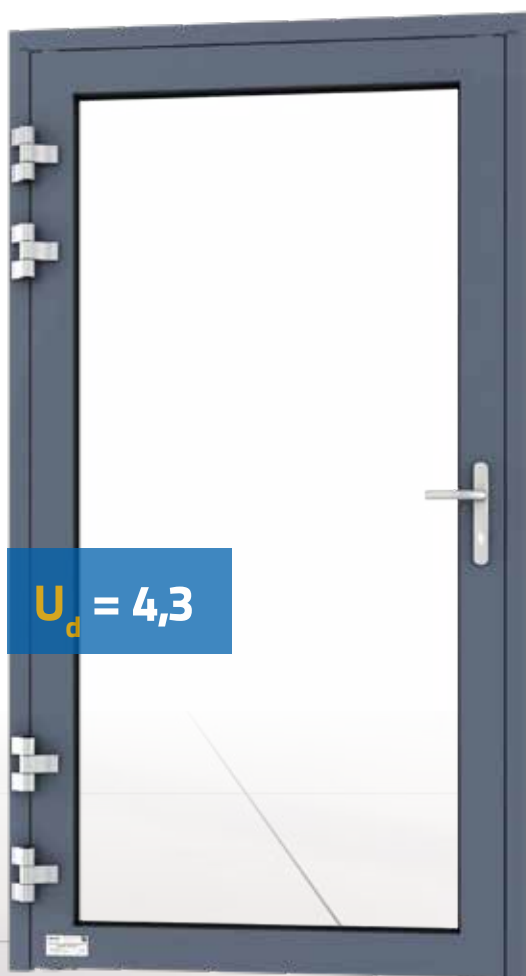
# DA-78EI DOOR

## For your security

Specialised fire door manufactured in technology that guarantees fire resistance in EI15, EI30, EI45 and EI60 classes (acc. to PN-EN 13501-2+A1:2010).

Fire resistance in EI class means that door prevents the spread of flames and restricts thermal energy flow for 15, 30, 45 and 60 minutes accordingly. Due to the self operating threshold or slat, Sa, Sm smoke control (acc. to PN-EN 13501-2+A1:2010) can be obtained.

The range of fire solutions is supplemented with fixed glazing in EI15, EI30, EI45, EI60 and EI120 classes and technical windows without the external handle and insert, equipped with frame instead of threshold.



## Construction

- Installation depth 78 mm
- DA-78EI profile is dedicated to fire solution of fire resistance in EI15, EI30, EI45, EI60 classes according to PN-EN 13501-2+A1:2010.



### 1. FILLING

- External glazing - Polflam EI.  $U=1,1$
- Internal glazing - Polflam EI glass
- Non-transparent elements - in EI class panel varnished in joinery colour

### 2. THRESHOLD

- For exterior doors: isolated, aluminium of 20 mm height
- For exterior doors: no threshold + brush
- For exterior, smoke control doors: self operating slat
- For exterior, smoke control doors: isolated, aluminium of 20 mm height with self operating seal

\* $U_d$  values have been obtained by calculation methods according to the norm PN-EN ISO 10077-1, PN-EN ISO 10077-2 and PN-EN ISO 12631  $U_d$  value has been calculated for the reference door with the dimensions 1230 x 2180 mm.

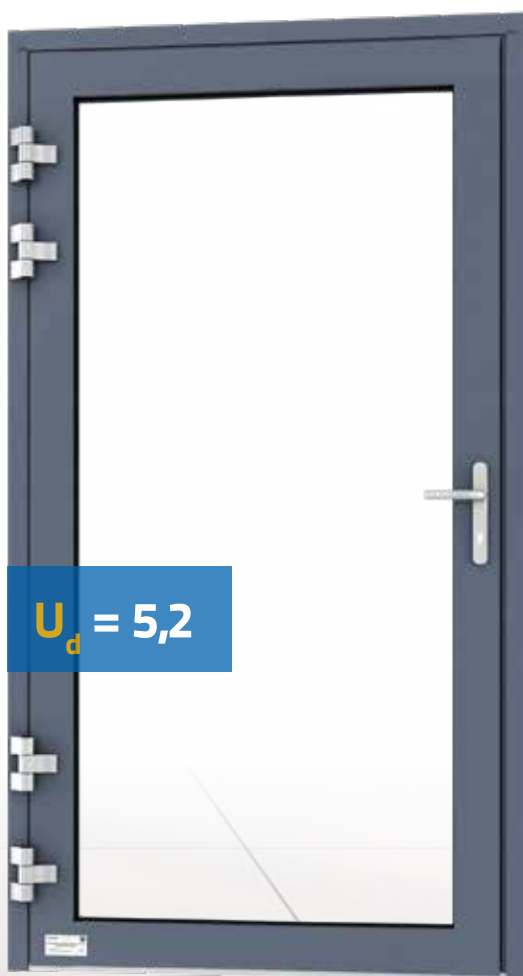
## Door DA-60E EI

### For your security

Specialised fire door manufactured in technology that guarantees fire resistance in EI15, EI30 classes (acc. to PN-EN 13501-2+A1:2010).

Fire resistance in EI class means that door prevents the spread of flames and restricts thermal energy flow for 15 and 30 minutes accordingly. Due to the self operating threshold or slat, Sa, Sm smoke control (acc. to PN-EN 13501-2+A1:2010) can be obtained.

The range of fire solutions is supplemented with fixed glazing in EI15, EI30, EI45, EI60 and EI120 classes and technical windows without the external handle and insert, equipped with frame instead of threshold.



### Construction

- Installation depth 60 mm
- DA-78EI profile is dedicated to fire solution of fire resistance in EI15, EI30 classes according to PN-EN 13501-2+A1:2010.



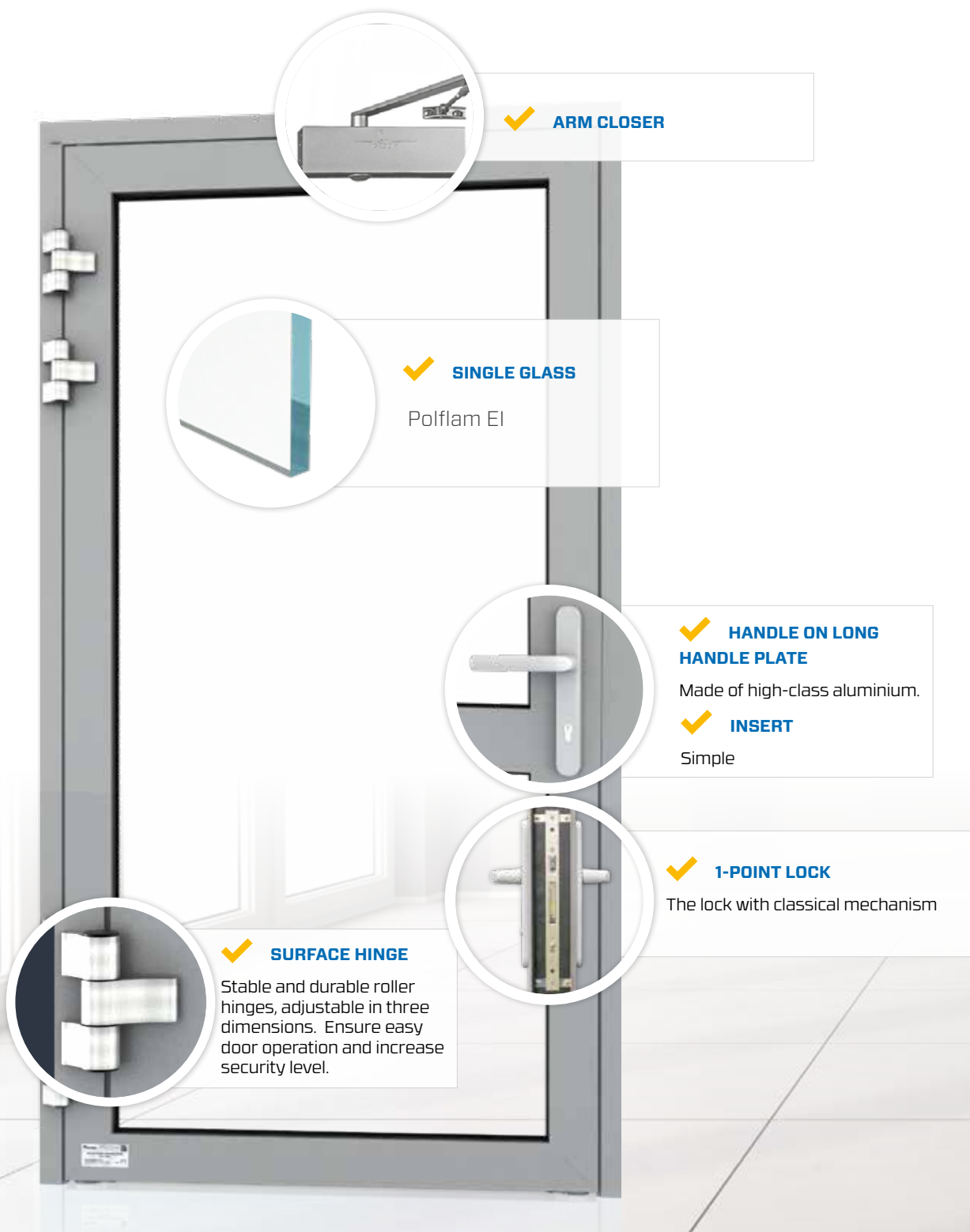
#### 1. FILLING

- External glazing - glass Polflam EI. U=1,1
- Internal glazing - Polflam EI glass
- Non-transparent elements - in EI class panel varnished in joinery colour

#### 2. THRESHOLD

- For exterior doors: isolated, aluminium of 20 mm height
- For exterior doors: no threshold + brush
- For exterior, smoke control doors: self operating slat
- For exterior, smoke control doors: isolated, aluminium of 20 mm height with self operating seal

# Standard equipment of fire doors



✓ **ARM CLOSER**

✓ **SINGLE GLASS**

Polflam EI

✓ **HANDLE ON LONG HANDLE PLATE**

Made of high-class aluminium.

✓ **INSERT**

Simple

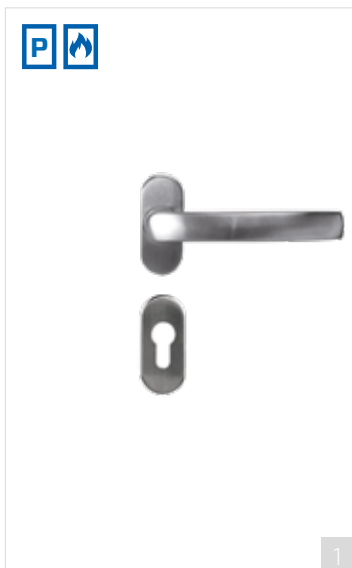
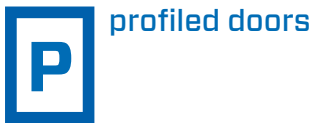
✓ **1-POINT LOCK**

The lock with classical mechanism

✓ **SURFACE HINGE**

Stable and durable roller hinges, adjustable in three dimensions. Ensure easy door operation and increase security level.

# Optional equipment of profiled and fire doors



✓ **Handles and knob-handles**

1. Handle on divided plate
2. Knob-handle on divided plate
3. Knob-handle on long handle plate

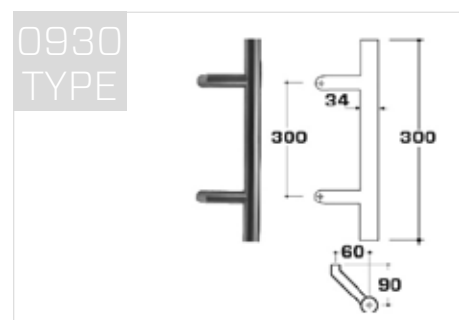
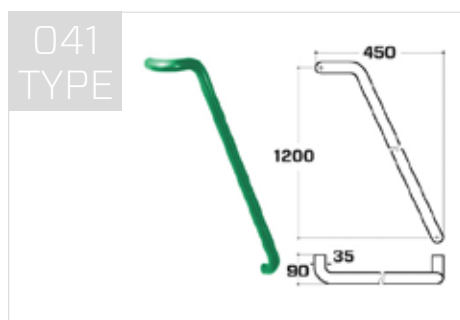
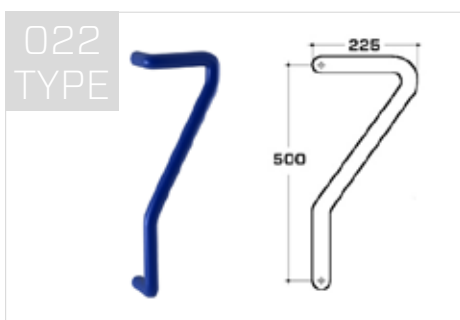
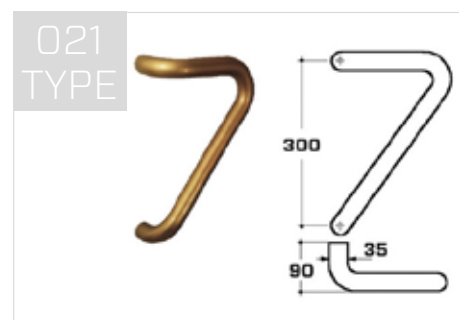
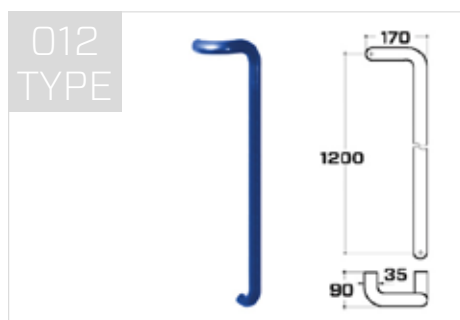
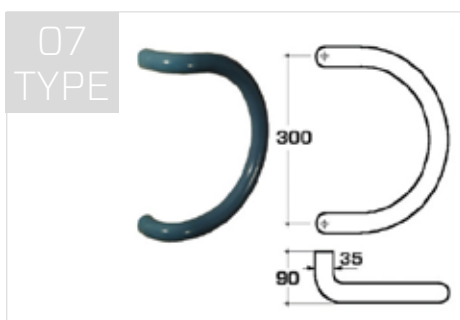
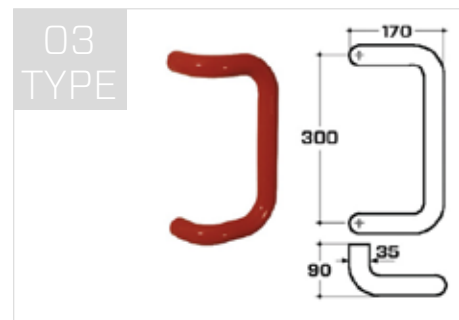
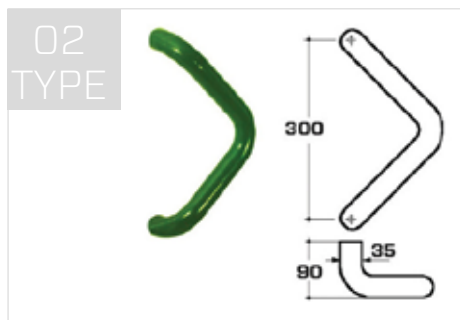
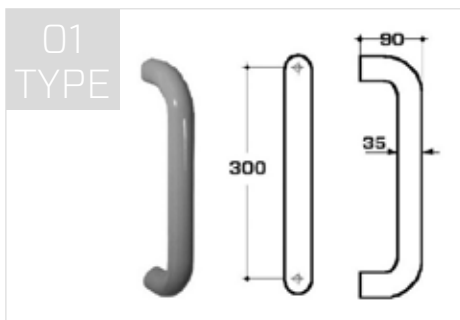
Colours:

-  white
-  brown
-  silver (F1)
-  old gold (F4)
-  stainless steel
-  RAL colour

✓ **THRESHOLD**

- P1
- P2





✓ ALUMINIUM GRIPS MADE OF STAINLESS STEEL



We have aluminum grips with a powder coating of any RAL colour.

## Optional equipment

### ✓ ROLLER HINGE

Stable and durable roller hinges of elegant look. Adjustable in three dimensions, they ensure easy door operation and increase security level.

Colours:

- white, brown, colour of joinery



### ✓ ANTI-BURGLARY C CLASS INSERT

- Anti-drilling security
- Protection against pulling the lock
- Protection against tamperability
- High durability of inserts
- Identification card with a key code that makes key copying difficult
- About 600 000 of key combinations (anti-burglary class 6)



### ✓ LOCKS

- 3-point lock
- Electric strike
- Additional bolt lock (steel doors)



1



2



3 | DS-50

### ✓ MANUAL LOCK

- two (M2) or four (M4) massive locking bolts
- bolt and lock made of nickel-plated steel
- lock of 3 class security, acc. to DIN 18251-3 norm
- finishing with chrome matt „MC”
- locking by roller lock
- unlocking by roller lock
- frame set with a possibility of pressure adjustment
- „pocket” catches – all



### ✓ LOCKING BOLTS



### ✓ CENTRAL LOCK



### ✓ LOCKING BOLT



# Optional equipment

## ✓ SELF-CLOSERS

Door self-closers are manually operated closing mechanisms, allowing closing energy to be generated by the user during opening. After releasing, the mechanisms cause automatic and controlled sash back of door to the closed position.



RKZ



ITS 96



TS 93



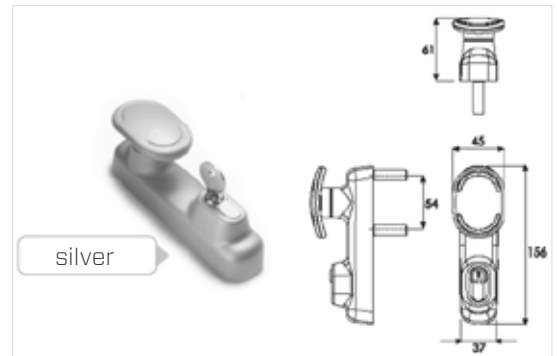
GR 200

## ✓ ANTI-PANIC SOLUTIONS

Anti-panic doors facilitate effective evacuation in case of emergency, by opening themselves under pressure from the inside.

Due to the construction design and horizontal lever located no higher than 100 cm above the floor, the door opens very easily. This enables quick and efficient evacuation of children, elderly and disabled people.

The emergency lever is located on the internal side of the door. From the outside, it is possible to use the handle or knob with the lock from one side only. 1-point or 3-point locking are available in anti-panic fittings.



## ✓ AUTOMATIC LOCK

- two automatic bolts
- bolt and lock made of nickel-plated steel
- lock of 3 class security, acc. to DIN 18251-3 norm
- finishing with chrome matt „MC”
- automatic locking
- unlocking by handle and roller lock
- option to add electrical engine EAV
- frame set with a possibility of pressure adjustment
- „pocket” catches – all



### ✓ LOCKING BOLTS



### ✓ CENTRAL LOCK



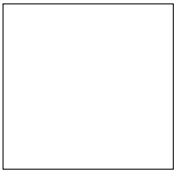
### ✓ LOCKING BOLT

# COLOURS OF ALUMINIUM JOINERY

 Durability and aesthetics

## COLOURS OF ALUMINIUM WINDOWS AND DOORS

### Standard colours



White



Brown



Ral 9006

### RAL palette



Any RAL colour

### Wood-like varnish



Golden oak



Nut



Mahogany



Sapeli mahogany



Vein nut



Pine



Fir



Beech



Cherry

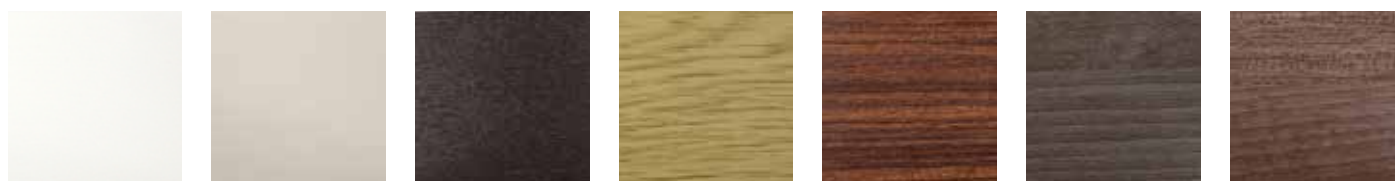


# COLOURS OF ALUMINIUM WINDOWS AND DOORS

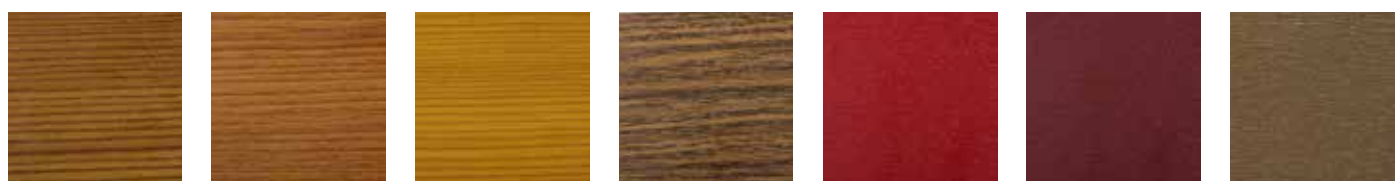
Veneers (does not apply to HST, ST and fire doors)



Golden oak - N    Nut - N    Winchester - N    Mahogany - N    Marsh oak - N    Tabasco - N    Anthracite



White    Creamy white - N    Brown - N    Light oak - N    Macore - N    Siena noce - N    Siena rosso



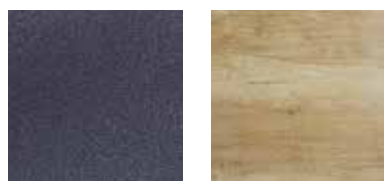
Nuanced daglesia - N    Mountain pine - N    Oregon III    Rustical oak    Ruby    Reddish-brown - N    Platinum crown



Green - N    Dark green    Cobalt blue    Navy blue    Brush aluminium - N    Light grey    Agate grey - N



Silver grey - N    Smooth silver grey - N    Basalt grey    Smooth basalt grey    Quartz grey    Dark grey silk    Sheffield oak - N



Dark-grey Alux DB703 - N    Desert-oak - N

N - Veneers available for doors with attachment panel

# DREAMS NEED AN IDEA...

That is why we created HarmonyLine - the idea whereby your dream of a beautiful home becomes a reality.

Visit our website  
and download  
HarmonyLine folder  
[www.dako.eu](http://www.dako.eu)



**HarmonyLine** is a unique idea of a common design of windows, doors, garage doors and roller blinds. This idea allows our clients to find a solution matching the individual character of the building.



# THE EXEMPLARY COMPOSITIONS OF HarmonyLine

1<sup>A</sup>



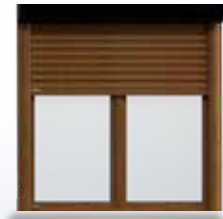
EUNIKA COMPOSITION

4<sup>A</sup>



NILA COMPOSITION

7<sup>A</sup>



LILLA COMPOSITION

10<sup>A</sup>



TAIDA COMPOSITION

## ...DEFINITE STEPS MAKE IDEAS ALIVE

Therefore, we designed **12 COMPLETE CARPENTRY SETS** of HarmonyLine,  
in popular configurations and dimensions.

- ◆ **12** ready-made compositions prepared by DAKO designers
- ◆ **5** colour variations of each set
- ◆ **3** materials: **PVC, ALUMINIUM, TIMBER**

WINDOWS | ROLLER BLINDS | DOORS | GARAGE DOORS  
PVC | TIMBER | ALUMINIUM



Harmony line

Every single day  
around the  
world...

thousands of people test DAKO products in the most demanding testing ground – the laboratory of the real life. DAKO products are used, among others, by people of modern and exotic Japan or living in historical capitals of Europe as well as cold, far north and hot regions of Southern America.



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Find out more:

All information about DAKO policy, quality as well as the pictures of DAKO products and informative articles can be found on the website [www.dako.eu](http://www.dako.eu)