



Window and Door System





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The Roto Group

Superior technology — for improved comfort in every building

People around the world put their trust in us because we are the industry leader. They know that we will provide them with **individual, efficient and safe system solutions** and **comprehensive services**.

Our future has an origin

Since 1935, the name Roto represents innovation and technological progress in system components for the construction industry. Today, with our broad corporate portfolio, two divisions, and 6000 employees in more than 30 countries, Roto Frank offers the best German window and door technology throughout the world.

Our roots are in Germany, with headquarter near Stuttgart and 6 production bases in Germany for different products.

Specialists in the markets

Roto Group consistently focuses on expertise and to provide diversified service portfolios from specialised business divisions to meet the challenges of our day.

Our comprehensive product range has been present on enormous buildings, through windows, doors, curtainwall and other elements, and providing excellent functionality, flexibility and reliability to millions of families and end - users with satisfaction and improved living quality.

Especially valuable - Authenticity

The values shared by both Roto divisions create an authentic corporate identity which has enabled our Group to become the industry leader.

No matter which Roto division you deal with as a customer, you will always benefit from added value. It is this added value that forms the ideal foundation for the success of your cooperation with Roto.

Your needs are our incentive

Based on our principle of market leadership, we strive to consolidate and extend the success of Roto continuously in every market with endless effort from our professional and dynamic team worldwide.

The customers' needs and expectations inspire us at all times.



As an established traditional corporation with a broad portfolio of services, Roto consistently adjusts all of its business activities to meet the changing needs of our customers.



Top:
The Roto FTT headquarters in Leinfelden-Echterdingen, Germany

Bottom:
The Roto DST headquarters in Bad Mergentheim, Germany

German Made

German Quality Standards

Our service portfolio offers extraordinary business opportunities to our **business partners**.
The solutions we strive for are based on **German quality standards**.

German quality standards that you can count on

We are the technological leader for our industry. Our on-going success is often attributed to our down-to-earth approach, realism, continuity, consistency and reliability. We believe that this is an encouraging and compelling endorsement of our commitment.

We guarantee that in the services and products associated with the Roto name, you will find German quality standards, regardless of where you are in the world when you deal with Roto.



Close to the customer creates added value

Each country is unique. Professional expertise and an extensive intercultural understanding of the history and customs of people in different countries are vital to understanding the needs of our customers around the world.

However, we do not merely seek to understand, we strive to become valued partners. Roto teams in every country always work closely with the customer and are engaged with, understand and are interested in the specific challenges of a given market.

Numerous national Roto competence and development centres ensure that practical solutions can be found within short turnaround times. This means that you can benefit from our broad range of services and intelligent solutions.

Understand more - Achieve more

We believe that the key to shared success is based on working together with trust.

That is why we pay close attention to what our customers and employees have to say. We are proactive and plan ahead. We always discuss matters with our partners openly and as equals.

After all, one of our primary objectives is to be the best possible partner for everyone who wants to work with or for Roto.

Roto services are rated as
"german made"
German standards, which are
based on shared core values,
define the entire value-added
chain.



Roto ITC

International Technology Center



The Roto International Technology Centre, an in - house test center, is located on the grounds of the headquarters of Roto in Leinfelden, Germany. It is certified by DAKKS according to DIN EN ISO / IEC 17025 and it authorised to perform accredited testing of windows & doors and its accessories.

The test centre, equipped with the most advanced testing equipment, although located at the Roto site, is an autonomous facility to enable objective testing.

The Rotoi system profits from the full access to the test center together with the support of the R & D team. Different combinations of profile,

glass, accessories and hardware have been tested and analysed over to accumulate a large amount of data which enables us to identify the optimal combinations for the system.

Spot tests of finished Rotoi products are a standard of the strict Roto testing procedure to assure constant quality.





Certified Lab Roto ITC

ISO14001

10 Years Functional Warranty



PSB Test Report for Rotoi System

ift certificate for hardware system

PIV certificate for hardware system

Roto

Close to the customer -- Worldwide



Roto Frank Latina SA
Buenos Aires (AR)



Roto Frank Belarus
Minsk (BY)



Roto Frank Ferrures
Saint Avoird (FR)



Roto Frank S.A.
Nivelles (BE)



Roto Frank Georgian
Tbilisi (GE)



Roto Frank Latvija
Jurmala (LV)



Roto Frank Brasil Ltd.
Santa Catarina (BR)



Roto Frank Roof Windows and Hardware Ltd
Rugby (GB)



Roto Frank Litauen
Vilnius (LT)



Roto Pasco-Canada Inc.
Mississauga, Ontario (CA)



Roto Frank Asia - Pacific Liaison Office India
Mumbai (IN)



Roto Frank Asia-Pacific Pte. Ltd.
Singapore (SG)
Regional headquarter



Roto Frank Constructional Hardware Co. Ltd.
Peking (CN)



Roto Frank Asia - Pacific Representative Office Indonesia
Jakarta (ID)



Roto Frank Mexico S de RL de CV
Queretaro (MX)



Roto Frank AG
Leinfelden / Weilert (DE)



Roto Frank Italia
Meolo (IT)



Roto Frank Austria GmbH
Kalsdorf (AT)



Roto Frank Ehitusautised OÜ
Tallinn (EE)



Roto Frank Kazakhstan
Almaty (KZ)



Roto Frank
Warschau (PL)



Roto Romania S.R.L.
Bukarest (RO)



ООО Рото Франк
Москва (RU)



Roto Frank Ltd. Sti.
İstanbul (TR)



Roto Frank GmbH
Dietikon (CH)



Roto Elzett Cerám Kft.
Lövő / Sopron (HU)



Roto Frank of America Inc.
Chester (US)



Roto Elzett Kft.
Brezová (SK)



Roto Frank Asia-Pacific Representative Office Vietnam
Hanoi (VN)



Roto Frank S.A.
Madrid (ES)



Roto Frank Okucis Budowlane Sp. z
Ooow (UA)

■ Subsidiary

■ Authorized Distributor in Asia-Pacific

Roto in South East Asia

Pioneer and Market Leader in the Asian fenestration industry with more than 20 years of market presence.

Roto entered the Asian market in the 1990s and brought the German window and door technology to **China, Japan, South Korea and Southeast Asia.**

After over 20 years of market presence, Roto Frank has not only created an excellent marketing team in Asia, but also built up a professional technical team to provide extensive support, one of the main reasons why so many companies choose Roto as their partner.

In 2008 Roto Frank Asia-Pacific Pte. Ltd. in Singapore was established to be able to meet the growing demand in the Asia-Pacific region. Customers from Mongolia to New Zealand, South Korea to Sri Lanka and everywhere in-between are looked after by the Sales and Technical Team in Singapore.

Roto hardware for windows & doors provides perfect product solutions adaptable to many different profiles and opening types. Based on the high-quality manufacturing process and the premium materials used Roto provides a 10 years functional warranty on its hardware.

Roto is a highly regarded solution provider within the industry of European technology for Aluminum, PVC, Timber and Alu - Timber windows, doors and curtain walls in Asia.

Based on its decades of knowledge in the window and door industry Roto launched the innovative Rotoi window & door system in 2011. The design of the system is based on the market demand in Asia-Pacific. It is engineered according to highest German manufacturing principles while keeping the regional climatic challenges and local application preferences in mind.

Rotoi has been the preferred choice of numerous projects and has become a successful and reliable high level window & door system.



System Training Center



In order to provide our customers with the best possible service and to extend in-depth technical training in a fabrication environment, Rotoi has established training centers in Shanghai (2012) and Singapore (2016).

The centers show the complete production process of aluminium windows and doors such as: profile cutting, punching, end - milling, crimping, gluing and the installation of hardware accessory, in order to build a standard platform for high quality German window & door systems.

The main functions of the training centers are:

1. To provide technical training on the Rotoi system for business partners to enable them to understand the concept of the system design, system software and system technical drawings.
2. To implement training for workers of business partners, to ensure that they can master the system processing and to teach the key points of each production step.
3. To support our R & D department.
4. To act as a show platform for the system.



Rotoi System Overview

Based on its decades of knowledge in the window and door industry Roto developed the Rotoi window & door system. The design of the system is based on the market demand in Asia - Pacific and engineered according to the highest German manufacturing principles while keeping the regional climatic challenges and local application preferences in mind.

Rotoi not only brings a new level of safety, function, comfort and design to a building but also is another step to "Green Building". With this Singapore Green Mark approved system, a broad range of applications can be realised, from Tilt & Turn to casement windows, sliding and folding doors and much more.

The Rotoi Solution Centre in Singapore and Roto Object Business Centre Germany are your reliable partner for Roto Product in efficient implementation of your projects. They are ready to realise your version.





The Rotoi System includes thousands of profiles and accessories. It contains non - thermal break and thermal break series. The profiles are manufactured according to European Standard EN573 and EN12020.

Opening Type	Non-Thermal break	Thermal break
Outward opening window	FN52C	
Inward opening window	FN52T	
Inward & outward opening window & door	FN52D	
Sliding window & door	P130SW P130IW P130LS	
Outward opening window with Operator		OP60
Window wall system		WW150

FN52C – Outward Opening Window System

The FN52C is designed to fulfill the design requirement of outward opening window by showcasing a particularly *slim* frame while achieving a high performance.

It offers the possibility to glaze from the inside to keep the appearance of the sash very slim.



■ FN52C standard frame



■ FN52C frame w. conversion profile

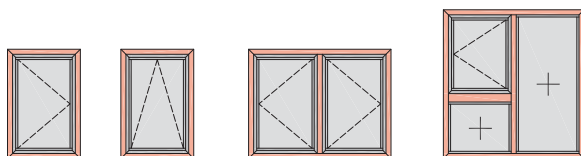


■ Main Characteristics:

- Multi-chamber structure of main profiles for added strength
- Dual corner joint on both sash and frame ensure stability
- European groove to ensure perfect fit of hardware
- 2 outer frame options for design choice
- Flexible glass option with thickness from 5 to 34mm



■ Typical Application:



	Performance	Test Method & Classification	Result	Ref. Pressure (Pa)
	Air Tightness	BS EN 1026 BS EN12207	Class 4	600
	Water Tightness	BS EN 1027 BS EN12208	E900	900
	Wind Load	BS EN 12211 BS EN 12210	BE3500	2000
	Acoustic	ASTM E 90	STC 36	
Performance could be variable depending on window size and configuration.				

FN52T – Inward Opening Window System

The FN52T window system is designed to build typical European inward opening window for excellent security and tightening.

Equipped with the most reliable hardware from Roto, the inventor of Tilt & Turn, it showcase the best of German window technology and bring the comfort to the end-users.



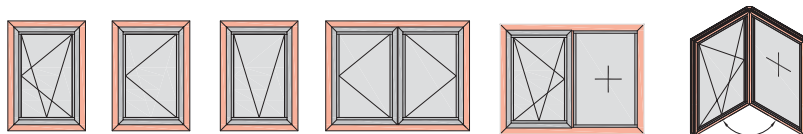
■ FN52T







■ Main Characteristics:

- Great aesthetic
- Optimal ventilation
- Multi-chamber structure of main profiles for added strength
- Dual corner joint on both sash and frame ensure stability
- European standard hardware groove
- Flexible glass option with thickness from 5 to 40mm

■ Typical Application:



	Performance	Test Method & Classification	Result	Ref. Pressure (Pa)
	Air Tightness	BS EN 1026 BS EN12207	Class 4	600
	Water Tightness	BS EN 1027 BS EN12208	E900	900
	Wind Load	BS EN 12211 BS EN 12210	BE3500	3500
	Acoustic	ASTM E 90	STC 39	

Performance could be variable depending on window size and configuration.

FN52D – Door System

The FN52D door system is designed to meet the needs of residential and commercial buildings.

It can be integrated with FN52C and FN52T and the solid profile structure supports large size applications.

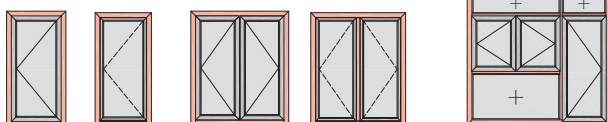






■ Main Characteristics:

- Solid designed profile structure with 2mm wall thickness
- Multi-chamber design improves strength and insulation and allows special hardware solution to improve the performance
- Dual corner joint on both sash and frame ensure stability
- Satisfies many opening types with a small number of profile sections
- Optional threshold with high tightness or barriers free option
- Flexible glass thickness from 5 to 34mm
- Max sash weight 160kg
- Max sash height 2800mm

■ Typical Application:

■ FN52 DOOR



	Performance	Test Method & Classification	Result	Ref. Pressure (Pa)
	Air Tightness	BS EN 1026 BS EN12207	Class 4	600
	Water Tightness	BS EN 1027 BS EN12208	8A	450
	Wind Load	BS EN 12211 BS EN 12210	BE3500	3500
	Acoustic	ASTM E 90	STC 36	
Performance could be variable depending on window size and configuration.				

FN52D – Door System

Tilt & Slide, Parallel & Slide and Fold & Slide door can be realized with the same profile range and different hardware solutions.



■ Tilt&slide door



■ Fold & slide door



■ Inward&outward opening door



P130SW – Sliding Window & Door System

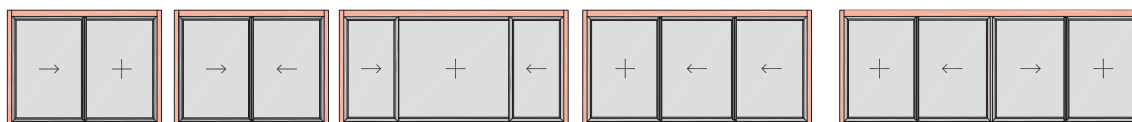
The P130SW, an upgrading sliding window, and door system from the previous PN100. The P130SW is developed for the Asian market and consider strength, tightness, reliability and cost-efficiency at the same time.







■ Main Characteristics:

- Crimped sash join improves the sash stability, while the frame can be assembled on-site for easy transportation
- Compatible with most fly screen solutions
- Stainless steel track for smooth sliding function
- Flexible glass thickness from 5 to 32mm

■ Typical Application:



	Performance	Test Method & Classification	Ref. Pressure (Pa)
	Air Tightness	ASTM E283-04 (2012)	600
	Water Tightness	ASTM E331-00 (2016) ASTM E547-00 (2016)	450
	Wind Load	ASTM E300/330M (2014)	2000
	Acoustic	ASTM E 90	STC34
Performance could be variable depending on window size and configuration.			



P130IW – INOWA Smart Sliding Systems

Rotoi P130IW, Inowa smart sliding system set a new standard for window and door tightness and is therefore ideal for use in high-rise buildings where high wind loads occur. It is designed to remain tightly sealed even in thunderstorms where gusts of wind and torrential rain are hitting the glass and window frame directly. There is no trace of draughts or rattling sashes – thanks to this unique technology.

The soft functions of P130IW, Inowa smart sliding system allows gentle opening and closing, and create a new level of comfort. The high-quality material ensures a smooth running movement and minimises the noise level.

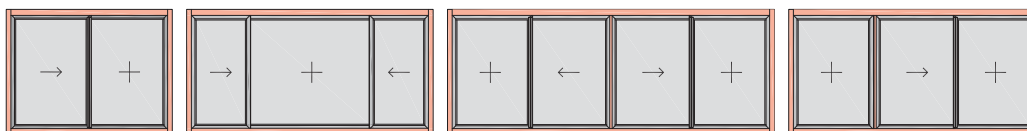
P130-IW, Inowa smart sliding system, therefore, offers all the requirements for sliding windows and doors that have to meet high sound reduction demands. Ideal for building projects close to roads or airports.







■ Main Characteristics:

- Solid 2.5mm structural wall thickness with functional multi-chamber
- Slimmer design with 80mm sight surface width enhance the great aesthetic looks
- Locking points around the sash ensure safe and secure closing with excellent tightness
- Stainless Steel Track for better sash loading
- Flexible glass thickness from 5 to 36mm
- Sash Weight up to 250kg

■ Typical Application:



	Performance	Test Method & Classification	Ref. Pressure (Pa)
	Air Tightness	ASTM E283-04 (2012)	600
	Water Tightness	ASTM E331-00 (2016) ASTM E547-00 (2016)	1300
	Wind Load	ASTM E300/330M (2014)	4050
	Acoustic	ASTM E 90	STC42
Performance could be variable depending on window size and configuration.			

P130LS – Lift & Slide System

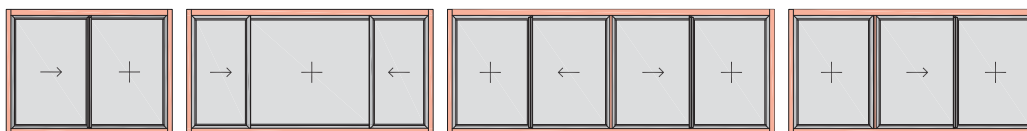
P130LS, Lift & Slide System, creates a seamless transition from inside to outside with a generous opening and simple operation. It provides well-lit spaces and exclusive panoramic views. The new P130LS, Lift & Slide system meets a high standard of comfort, design, and quality while being efficient to process.







■ Main Characteristics:

- Solid structure with functional multi-chamber
- Slimmer design with great aesthetic looks
- Damper integrated espagnolette option
- Stainless steel roller unit for additional corrosion protection
- Flexible glass thickness from 5 to 36mm
- High-quality roller for better sash loading of up to 400kg

■ Typical Application:



	Performance	Test Method & Classification	Ref. Pressure (Pa)
	Air Tightness	ASTM E283-04 (2012)	600
	Water Tightness	ASTM E331-00 (2016) ASTM E547-00 (2016)	1000
	Wind Load	ASTM E300/330M (2014)	2250
	Acoustic	ASTM E 90	STC37
Performance could be variable depending on window size and configuration.			

What is Thermal Break System?

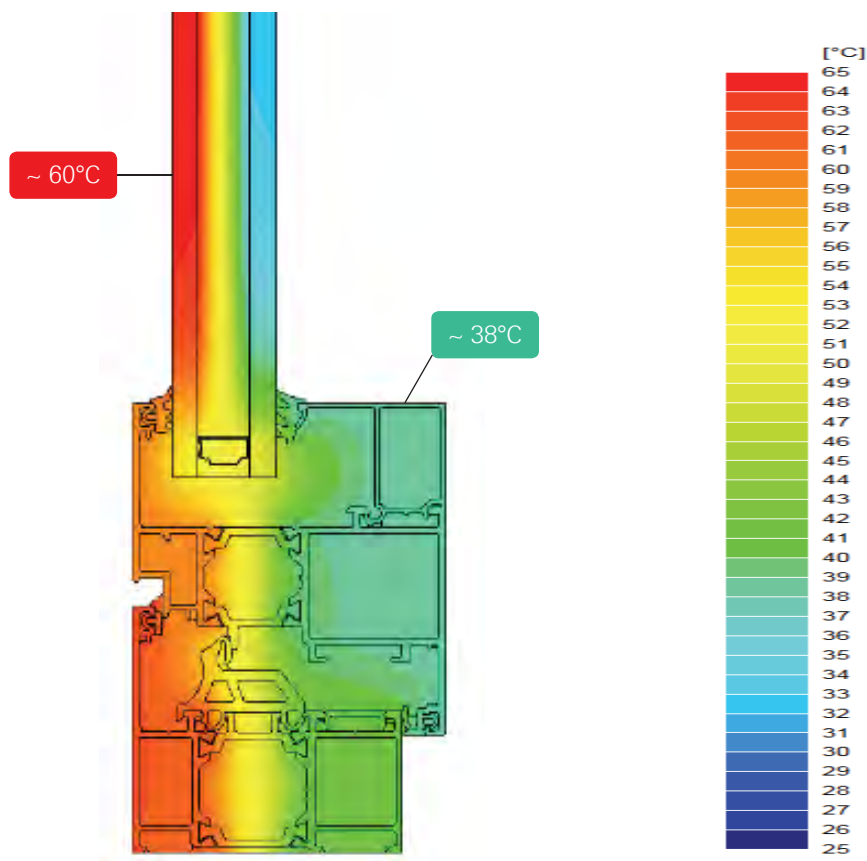
A thermal break is an element of low thermal conductivity placed in an assembly to reduce or prevent the flow of thermal energy between conductive materials.

Without insulation, aluminum windows, doors and facades transfer heat, leading to a huge loss of

energy. In order to reduce heat gain through aluminum frames, thermal break is used to separate the interior from the exterior aluminum profiles.

It has been proven use of thermal break leads to an improvement in the fenestration frame U value and SHGC. This also leads to

an improvement in the overall fenestration U-value and SHGC, and finally an improvement in the building envelope. As a result, the heat load of the building is reduced, lowering the electrical consumption needed to cool down the building.



OP60 – Outward Opening Window with Operator

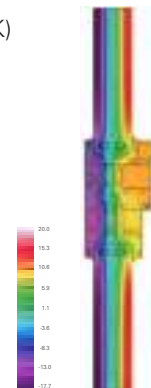
Outward opening window with operator system also known as American casement and awing window system. The OP60 is a thermal break outward opening window with operator which brings the American style to our region. It can integrate with Air Quality Improving insect screen to fit our local requirement which also improve living comfort and energy saving at the same.



■ Main Characteristics:





- Aesthetic
- American standard window system
- Insect screen width up to 1400mm
- Safer way to operate the outward opening window
- Flexible glass option with thickness from 5 to 34mm

■ $U_f=2.5(W/m^2K)$



■ Typical Application:



	Performance	Test Method & Classification	Result	Ref. Pressure (Pa)
	Air Tightness	BS EN 1026 BS EN12207	Class 4	600
	Water Tightness	BS EN 1027 BS EN12208	E900	600
	Wind Load	BS EN 12211 BS EN 12210	BE3500	2000
	Acoustic	ASTM E 90	STC 36	
Performance could be variable depending on window size and configuration.				

WW150 – Window Wall System

The WW150 Thermal Break Window wall system is an innovative and high quality architectural systems that add to the strength, energy efficiency and longevity of the building envelope. It has a frame depth of 150mm and features a 15mm Technoform thermal break bar to enhance thermal insulation performance with U-values of 1.98W/m²K

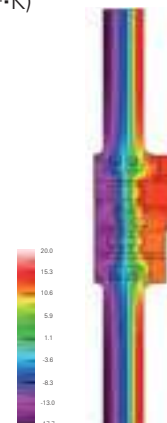
Its like a miniture of curtain wall system. It allows CN52, FN52D, PN100 and PN145 to be couple together within a system.



■ Main Characteristics:





- aesthetic
- Multi-chamber of main profiles
- Significantly cost reduction compare to curtain wall
- Safer way of installation
- Flexible glass option with thicknes from 24 to 34mm

■ $U_f = 1.98 \text{ (W/m}^2\cdot\text{K)}$



■ Typical Application:



	Performance	Test Method & Classification	Result	Ref. Pressure (Pa)
	Air Tightness	BS EN 1026 BS EN12207	Class 4	600
	Water Tightness	BS EN 1027 BS EN12208	9A	600
	Wind Load	BS EN 12211 BS EN 12210	B5	3000
	Acoustic	ASTM E 90	STC 37	
Performance could be variable depending on window size and configuration.				





East China



East China



Australia



East China



Mexico



Australia



South China



South China



East China



East China



South China



East China



South China



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