Automatic Platform Screen Doors for public transportation

PSD full-height
Platform **S**creen **D**oors full-height

New product !

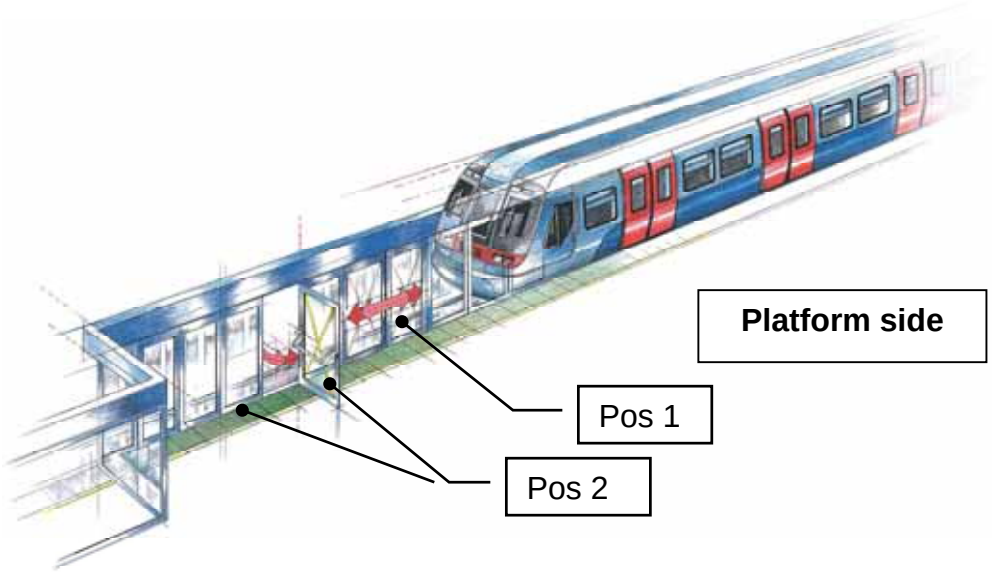
PSD half-height
Platform **S**creen **D**oors half-height

Full-height and half-height Platform Screen Doors (PSD) allow achieving a reliable separation of the passenger area from the dangerous track area and provides the following advantages:

- **Enhanced safety:** Thanks to the reliable separation between the platform and the track areas, the passengers waiting on the platforms enjoy maximum protection against the dangers resulting from arriving and/or passing trains.
- **Additional convenience:** The passengers are not exposed to pressure waves. Moreover, air conditioning systems can be operated more efficiently. As an extra bonus for the operating companies of the metro, PSD offer additional information and advertising surfaces allowing direct communication with the passengers.
- **Improved reliability and punctuality:** The pedestrian flow on the platforms can be regulated and controlled with utmost efficiency. This enables the operator to reduce the train dispatch times, thus enhancing the punctuality and reliability of the transport system.
- **Increased train frequency:** Shorter intervals between the arriving trains increase the capacity of the transport system.
- **Higher degree of economic efficiency and profitableness:** The energy costs related to a station's air conditioning system can be lowered. In addition, PSD are an efficient preventive measure to avoid consequential costs caused by accidents and other incidents.
- **More space on the platforms:** The passengers instinctively feel that the PSD protects them from the dangers of the track area, which encourages them to use the entire width of the platform.
- **Heightened attractiveness of the station:** PSD systems alter the passenger's perception of the surrounding space, thus having a direct influence on his personal well-being. A wide range of options with regard to coloring and material choice, indoor lighting, communication media, etc., offers the architects virtually unlimited possibilities regarding to the station's interior design.

System configuration

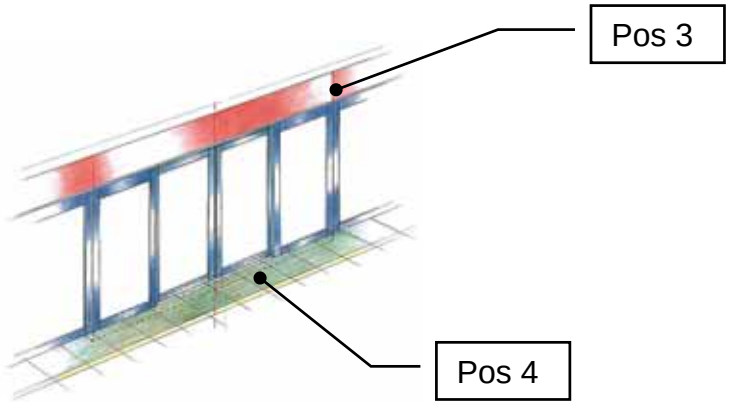
PSD full-height system



Position 1: Automatic PSD
Automatic sliding door module, individually designed for every particular project

Position 2: **E**mergency **E**scape **D**oors (EED) or
Fixed **S**creen **P**anel (FSP)

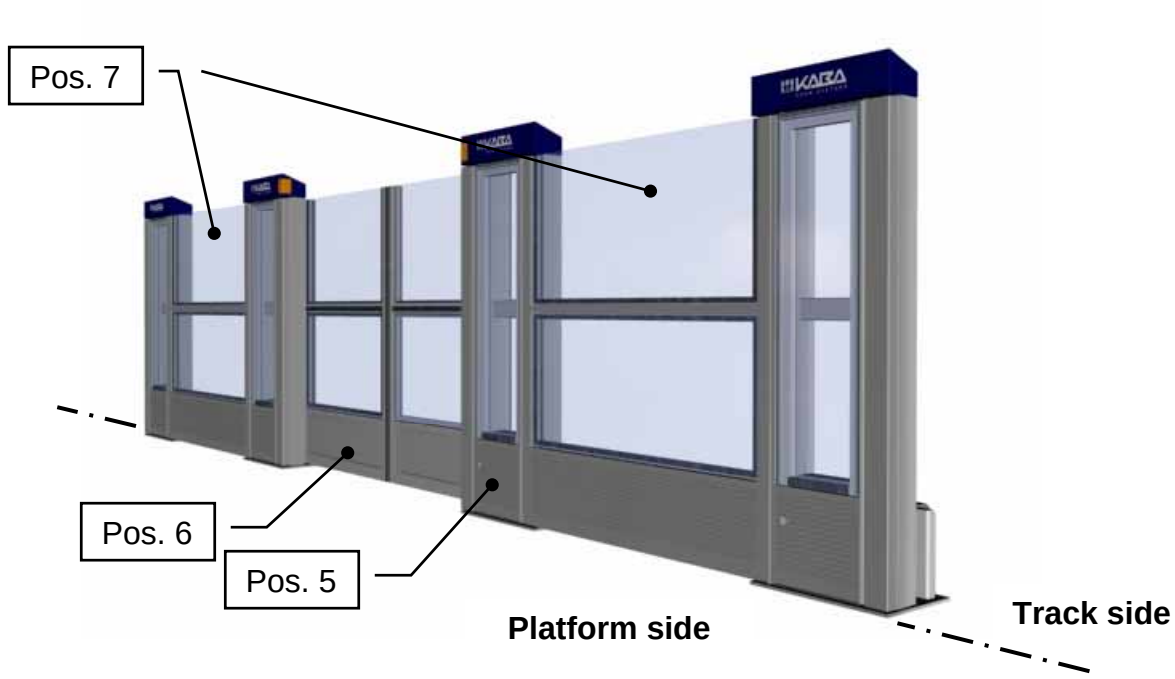
Depending on the customer's requirements and needs, the spaces between two PSD modules can be filled either with fixed screen panels or with emergency escape doors to be operated from the track side.



Position 3: Header box
The header-box is the core element of a PSD module. It houses the drive and control systems as well as all the necessary guide, locking and fastening elements for the individual façade sections.

Position 4: Platform threshold
Bottom threshold supporting and guiding the façade elements. This bottom element also carries the load of the PSD system.

PSD half-height system



Position 5: Structural PSD element firmly anchored in the platform nosing (**F**ixed **D**riving **P**anel FDP)

The FDP is the core element containing the drive and control systems for a single-winged PSD installation. Such a module is also equipped with all the necessary guide, locking and fastening elements. All the forces affecting the platform screen system are transmitted to the platform nosing via these structural PSD elements.

Position 6: PSD doorway
Automatic bi-parting sliding door set (consisting of 2 partial modules)

Position 7: **E**mergency **E**xit **D**oors EED or
Stationary platform front element (**F**ixed **S**creen **P**anel FSP)

Depending on the customer's requirements and needs, the spaces between two PSD modules can be filled either with fixed screen panels or with emergency escape doors to be operated from the track side.

Table 1: Technical data for PSD systems

Technical data	**PSD** full-height	**PSD** half-height
Clearance height	1800 – 2200 mm	open system
Clearance width	1600 – 2400 mm	1500 – 2150 mm
Building interface	above and below	below
Safety-relevant functions	integrated	integrated
Platform sealing	complete	partially
Electric interface	according to the customer's requirements	according to the customer's requirements

Technical data	**PSD** full-height	**PSD** half-height
Options	• Glass type • Display and control elements • Surface treatment • Integration of the station structure • Integration of advertising and communication surfaces („MetroMEDIA“)	• Glass type • Display and control elements • Surface treatment • Integration of advertising and communication surfaces („MétroMEDIA“) • Indirect lighting of the ceiling (“MétroLIGHT”)

Safety-relevant system functions

Monitoring of the door status: All the doors within a platform screen door system are monitored by means of redundant and fail-safe switching circuits. Whenever a door has not been safely closed and locked, these monitoring circuits prevent the train from entering respectively leaving the station.

Obstacle detection system: Every obstacle impeding the opening respectively the closing motion of the door wings is safely detected as such.

Display and control elements: Special display units supply the required information regarding the operational status of the door system. The provided control elements enable the operating staff to individually actuate any particular door, either for maintenance or testing purposes, in the event of a down-graded operation or a temporary contamination.

Installation

The PSD systems developed by Kaba Gilgen AG are perfectly suited not only for new installations, but they are also the ideal choice for retrofitting already existing metropolitan train stations. Thanks to their modular concept, they can be easily installed and taken into operation in standardized steps, with maximum safety and precision and within a surprisingly short time.
The individual PSD assembly modules have been developed, manufactured and tested at Kaba Gilgen's production site, in compliance with the extremely stringent ISO 9001 quality directives adopted by Kaba Gilgen AG. Thanks to these sub-assembled components, the work to be carried out on the building site is limited to the installation of the main PSD elements as well as their correct setting and commissioning.

Operation and maintenance

The PSD systems developed by Kaba Gilgen AG meet all the high-level requirements with regard to ease of operation and maintenance of the system. Therefore, their engineers have made sure that all the maintenance work can be carried out from the platform side. The modular system construction is based on exchangeable sub-assemblies and an integrated failure detection system, which allows limiting the maintenance costs as well as system down-times to an absolute minimum. As a result of these construction principles, the customer's expectations with regard to the reliability of the system are usually not only fulfilled but outperformed.

Platform screen systems – product survey

Platform Screen Doors “PSD full-height”
Façade de Quai “FQ haute”
Hohe Bahnsteigtüren
for train stations without air conditioning

Platform Screen Doors “PSD full-height”
Façade de Quai “FQ haute”
Hohe Bahnsteigtüren
for train stations with air conditioning

Platform Screen Doors PSD half-height
Façade de Quai FQ mi-hauteur
Halbhohe Bahnsteigtüren
model « standard »

Platform Screen Doors PSD half-height
Façade de Quai FQ mi-hauteur “bijou”
Halbhohe Bahnsteigtüren
model « bijou »

Reference projects

Hong Kong:
Kwun Tong line, Tsuen Wan line, Island line

Project type: PSD Retrofit (retrofitting)

Customer: MTR Corporation
Hong Kong
www.mtr.com.hk

Scope of performances:

- 30 underground stations
- 74 platforms
- 2960 automatic bi-parting PSD door systems
- 962 emergency escape doors
- 2294 fixed screen panels
- 13’500 m of façade
- maintenance of the entire PSD system

Project start: 2000
Project completion: 2007

Passenger operation: since October 2001; upon being installed in a one-night shift, every completed PSD module is immediately taken into operation.

New York: JFK AirTrain

Project type: New PSD installation

Customer:
Bombardier Transportation
Kingston, Ontario, Canada
www.transportation.bombardier.com

Operator:
The Port Authority of NY&NJ
www.panynj.com

Scope of performances:

- 10 above-ground outdoor stations
- 20 platforms
- 160 automatic bi-parting PSD door systems
- 640 emergency escape doors
- 60 fixed screen panels
- 1400 m of façade

Project start: 1998
Project completion: 2004

Passenger operation: since December 2003

Toulouse: Line A with extension

Project type: new PSD installation

Customer: Siemens Transportation Systems, France
www.siemens-ts.fr

Operator: Tisséo-SMAT, Toulouse, France www.tisseo.fr

Scope of performances, Phase 1 (1991–94):

- 13 underground stations
- 2 above-ground outdoor stations
- 30 platforms
- 180 automatic bi-parting PSDs
- 68 manual bi-parting PSDs
- 660 emergency escape doors
- 120 fixed façade elements
- 1070 m of façade

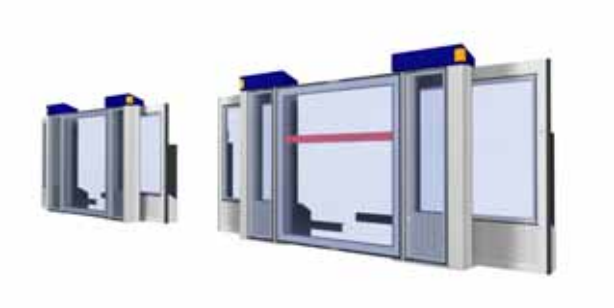
Scope of performances, Phase 2 (2002–04):

- 3 underground stations
- 6 platforms
- 36 automatic bi-parting PSDs
- 36 manual bi-parting PSDs
- 192 emergency escape doors
- 24 fixed façade elements
- 312 m of façade

Passenger operation:
Phase 1 since June 1993
Phase 2 since December 2003

Paris: Metro Line 13 – Station INVALIDES

Project type: PSD retrofitting – Pilot installation



Simulation images of the PSD system with a façade height of 1.5 m

PSD half-height – platform 1 Station Invalides installed and in test operation since March 2006

Customer: RATP Paris, France
www.ratp.fr

Operator: RATP Paris, France
www.ratp.fr

Scope of performances, Phase 1 (2005–06):

- 1 platform
- 15 automatic bi-parting PSD systems
- 5 emergency escape doors
- 14 fixed screen panels
- 1 access door for train operator
- 78 m of façade

Project start: 2005
Project end: 2006

Test operation with passenger service:
From March till October 2006

Shanghai: Metro Line 9 (Shensong Line) Project type: new PSD installation 	Customer: Shanghai Shentong Metro Corporation, Shanghai, P.R. China www.shtmetro.com/ Operator: Shanghai Shensong Rail Traffic Development Ltd Co., Shanghai, P.R. China Scope of performances, Phase 1 (2005–08): • 9 underground stations • 20 platforms • 600 automatic bi-parting PSD systems • 120 emergency escape doors • 460 fixed screen panels • 2800 m of façade Project start: 2005 Project end: 2008 Test operation with passenger service: Starting early 2008
Beijing: Olympic Sub Branch Line Projekttyp: PSD Neu-Installation  Beijing 2008	Customer: Beijing MTRC Construction Administration Corp. Operator: Beijing MTRC Construction Administration Corp. Scope of Performances: • 4 underground stations • 8 platforms • 192 automatic bi-parting PSD systems • 96 emergency escape doors • 176 fixed screen panels • 904 m of façade Project start: 2006 Project end: 2008 Test operation with passenger service: Starting early 2008

Information about Kaba Gilgen AG

Founded in 1961, Kaba Gilgen AG has meanwhile turned into a subsidiary of Kaba Holding AG. With their staff of more than 500 highly qualified and experienced members, they are in a position to offer the customers a complete range of service performances, ranging from product development up to the long-term maintenance contract. Since the early nineties, the company has extended its range of activities, focusing now also on automatic doors for public transport systems. On an international level, Kaba Gilgen AG is today one of the top ranked manufacturers and suppliers of PSD systems, these products representing an integral part of Kaba's Total Access Strategy. Kaba Gilgen AG has the necessary know-how and experienced staff members, which guarantee that large-scale projects in the field of PSD systems can be successfully implemented at the customers' complete satisfaction.
Kaba Gilgen's particular strength is based on the following performances:

- **Consulting:** Extensive advice is provided to the customers from the earliest stages of the project in order to make sure that optimal solutions can be found and developed.
- **Project management:** A purpose-oriented implementation and realisation of projects within the agreed time is guaranteed thanks to Kaba Gilgen's experience of many years in handling international projects.
- **Engineering:** Based on our experience gained during more than 40 years in the field of drive and control technology for automatic door systems, we are in a position to meet the customer's requirements in the shortest possible time and with utmost precision and reliability.
- **Logistics and installation:** Specific know-how in the sector of retrofit installations, based on the worldwide first and unique PSD retrofit project ever being realized up to this day.
- **Testing and commissioning:** Planning, implementation and documentation of the module and system tests as well as commissioning of overall systems.
- **Maintenance:** Preventive and corrective maintenance of overall and partial PSD systems.

Additional detailed information on Kaba Gilgen's PSD systems as well as the complete range of products and services offered can be found on the company's homepage under www.kaba.com or www.kaba-gilgen.ch

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