



## Platform Safety Doors

**FAAC**



# Platform Safety Doors

Platform Safety Doors (PSD) for metro systems are essential devices which play a central role in controlling passengers flow, enhancing passenger comfort and safety and finally enhancing service capacity.

PSD physically separate the metro platform, where passengers wait next train to embark on, from the tracks, where driver-less trains arrive, stop and leave again:

- > full height devices, which separate floor to ceiling the platform area from the train area, thus blocking heat and dust from moving and creating a cleaner and pleasant waiting area for passengers
- > half height devices, which regulate the passengers flow without separating the two areas floor to ceiling

As a consequence of this PSD play a key role in preventing fatal accidents potentially caused by passengers falling onto the tracks at the time of train arrival.

In addition to this PSD help the metro company in regulating the passenger flow getting onto the train and in shortening the train overall stop's length; consequently they enable higher trains' arrival and departure frequency ultimately leading to service capacity increase and cost reduction.

## **FAAC role in Platform Safety Doors market.**

Thanks to the experience gathered in last 45 years, FAAC offers advice, project management, construction, installation and maintenance of Platform Safety Doors to global contractors.

Solutions offered vary from pure automation technology to complete turn-key doors supply.

Through his international direct network and its headquarter design and manufacturing competence centres, FAAC can ultimately contribute to international projects in all five continents with a role which is agreed in line with contractors' needs and requirements.

# Main installations

Location	<b>Shanghai (China)</b>
End User/what	Shanghai Metro Company / Lines 1 and 9
Construction Year	2006/2007
Type of safety door	Half height PSD
Number of automation sets	1040 (corresponding to 520 gates)
Door weight	65 ÷ 80 kg
Opening/closing time	2.5 seconds
Max door closing force	≤ 150 N
Closing maximum energy	≤ 10 J
Running Time hours/day	20 hours/day – 365 days/year
MCBF (Mean Cycle Before Failure)	1.000.000
Certification requirements	CE and local standard

Door Automation - DC motor with reducer and optical encoder

Automation Control - Customized Control Unit Motherboard in aluminium support, interfaced with a local PLC for each safety door

FAAC Role – PSD Technology provider to Main Contractor

Location	<b>Bogotá, Bucaramanga, Medellin (Colombia)</b>
End User/what	Transmilenio
Construction Year	2001/2009
Type of safety door	Full height PSD
Number of automation sets	3.500 doors
Door weight	65 ÷ 90 kg
Opening/closing time	5 ÷ 70 cm/seg
Running Time hours/day	24 hours/day – 365 days/year
MCBF (Mean Cycle Before Failure)	2.000.000
Certification requirements	CE

Door Automation - DC motor with reducer and optical encoder

FAAC Role – provider of automation unit

Location	<b>Quito, Guayaquil (Ecuador)</b>
End User/what	Trolleybus, Metrobus
Construction Year	1995/2007
Type of safety door	Full height PSD
Number of automation sets	420 doors
Door weight	65 ÷ 90 kg
Opening/closing time	5 ÷ 70 cm/seg
Running Time hours/day	24 hours/day – 365 days/year
MCBF (Mean Cycle Before Failure)	2.000.000
Certification requirements	CE

Door Automation - DC motor with reducer and optical encoder

FAAC Role – provider of automation unit



# Shanghai Railway

Since end of 90s and start of year 2000 Shanghai Metro lines underwent major development projects aimed at increasing transportation capacity in a 17-million-inhabitant city where daily commuting becomes an issue.

As part of this effort, around mid of 2006 FAAC Shanghai got in business relation with a local chinese company involved in the design and manufacturing of the Platform Safety Doors for the Shanghai Railway Transportation Line 1 and Line 9.

For both projects, the local Chinese main contractor had to develop the Platform Safety Doors capable to manage the future flow of hundred thousands passengers while complying to the strict technical and security standards previously set.

Because of the overall stations design, one of the main features of the system requested was to have half height safety doors in place rather than full height ones.

Every safety door in Shanghai Railway Transportation Line 1 and Line 9, is a half height door, with an approximate weight of 65 kg and strict requirements on:

- > opening/closing time;
- > speed curves available for the platform set-up;
- > max door closing force;
- > max closing maximum energy.

At the beginning of February 2007 FAAC Shanghai ultimately signed a contract for 480 automation sets for the Half Height Safety Doors for Line 9.

Based on a positive response and experience got with the detail design of the Line 9 automation, two months later FAAC Shanghai signed an additional contract for over 560 automation sets for the Half Height Safety Doors for Line 1, always to be installed in 2007.

In order to satisfy the inspection and test plan fixed by the Shanghai Metro Company, the full half height doors were successfully tested according to both CE and local standards.

Service, quality and the immediate communication with the customer thanks to the direct presence and supervision of FAAC Shanghai bring FAAC to be a key player for PSD market, which is estimated to be the chinese most growing one in next 4-5 years.



# Transmilenio

Transmilenio is a public road transport system unveiled in Bogotá in December 2002.

It was created with the idea of offering the citizens of Bogotá and its suburbs the possibility of travelling on comfortable, safe and efficient public vehicles and also limiting the constant increase in the city's pollution.

Safety of the service is guaranteed for all users through the good design and highly accurate structure of the stations.

Passengers access the stop via pedestrian bridges or preferential road accesses. Entry to the station is regulated by platform safety doors and turnstiles through insertion of a prepaid card.

On one hand, the platform safety doors at the station entry and exit points, for boarding the buses directly, enable passengers to access the service comfortably; on the other hand, the turnstiles prevent any intrusion by those without a ticket.

The "Transmilenio", in addition to being an over-ground public transport system, is also a radical urban recovery and restructuring activity.

These infrastructures were built with government contributions, whereas the management of the service was contracted to private companies which receive part of the revenues.

FAAC contributed to the project by supplying 3.000 automated systems based on automatic door models 930 and telescopic 940, in all the stations currently active.

FAAC automations for sliding doors are certified for over 2.000.000 opening and closing cycles with no major maintenance and have no limits in the frequency of use.

These characteristics make FAAC doors the perfect solution for this type of application. All the FAAC Platform Safety Doors have been installed in collaboration with a specialised local partner active throughout Colombia.

FAAC Platform Safety Doors are also present in Transmilenio stations of other large cities such as Bucaramanga, Cali and Medellín.





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