

ST-01 Speed gate



- +50**
+1
temperature range
- 24V**
operating voltage
- 160W**
power consumption
- 2**
passage direction
- motor drive
- 60**
persons/min

Application

ST-01 Speed gate with swing panels is designed for indoor operation. It is an ideal solution for sites with high aesthetic and comfort requirements.

Speed gate top covers can be made of tempered glass or stainless steel. The swing panels of ST-01 can be of different width: 650 mm, 900 mm, and 1000 mm. 900 mm and 1000 mm swing panels are designed for people in wheelchairs, and can be used as an additional emergency exit. The swing panels are moving away when a passage takes place.



ST-01 Speed gate with stainless steel top covers



If an increased number of passage lanes is needed, STD-01 double-sided sections can be installed. Each double-sided section allows arranging one extra passage lane. Various versions of ST-01 are available to install optional equipment: a built-in card reader (the turnstile includes the FP-01C front panel), a built-in barcode scanner (with the FP-01Q front panel), as well as a bracket for installing other optional equipment (with the FP-01A front panel).



Bracket for mounting optional equipment

ST-01 Speed gate



ST-01 Speed gate with a post for embedding a barcode scanner



ST-01 Speed gate with a built-in card capture reader



Operating modes

The tracking system is equipped with two levels of infrared sensors: 14 pairs are located on the upper level and 28 – on the lower one, which guarantees the safety of passage at high throughput and provides avoiding simultaneous passage of two or more people.

The delivery set includes an RC-panel; the orientation of the RC-panel buttons relative to the directions of passage is set when connecting to the turnstile.

The powered speed gate operates in normally closed mode. It is possible to switch the turnstile to the additional "Automatic opening in the selected direction" mode, as well as to adjust the home position of the swing panels in the "training" mode.

The product provides independent control of the passage in two directions. Control commands:

- passage denial
- authorized single passage in the set direction
- authorized free passage in the set direction
- authorized free passage in both directions

When the power is off, the turnstile panels are unlocked and can be moved manually in any direction.

ST-01 Speed gate

Main features

- operation of the speed gate from RC-panel, WRC, ACS
- built-in electronic boards
- safe voltage – 24 V
- power consumption – max. 160 W per passage
- two levels of infrared sensors control the passage zone, 14 pairs are located on the upper level and 28 – on the lower one
- possibility for several users to perform authorized single passages in a row in the same direction without the panels being closed
- 4 versions of panels, both for different passageway widths (600, 900 and 1000 mm) and with increased height (1300 mm for a passageway width of 600 mm)
- several different versions of the turnstile front panels that allow integrating optional equipment: a card reader, a barcode scanner, a face recognition terminal, etc.
- if necessary, the number of passage lanes through the turnstile can be increased by installing STD-01 double-sided sections
- possibility to install proximity card readers inside sections under the glass top cover (overall reader dimensions – max. 155x68x28 mm, reading range – min. 40 mm)
- central sections feature indication blocks of passage grant / denial
- section top covers feature passage indication
- reader interrogation zones are indicated with backlit pictograms
- backlit lateral indication of passage direction
- possibility to adjust the panels position when in the closed position (training mode)
- Fire Alarm input for connecting the emergency passage opening device; when the command is sent from it, the panels are automatically opened in one direction and it is possible to walk through the turnstile in both directions
- outputs for connecting remote indication blocks of passage grant / denial, as well as a sounder (sirens)
- two control modes: pulse and potential; it can operate both as a standalone unit controlled by the operator using an RC-panel and as a part of ACS



Turnstile mode indication



Turnstile mode indication



Passage direction indication

Design

Housing – stainless steel; section filling – 8 mm tempered glass; top cover – glass and / or stainless steel; panels – 10 mm tempered glass.

The speed gate can be equipped with 5 types of swing panels.

Swing panels type	Passageway width	Passageway height
ATG-300	650 mm	915 mm
ATG-300H	650 mm	1300 mm
ATG-425	900 mm	915 mm
ATG-475	1000 mm	915 mm
ATG-575	1200 mm	915 mm

ST-01 Speed gate

Size1 and **Size2** switches positioning on the St-01.771 control board, depending on the type of swing panels:

Swing panels type	Switches position	
	Size 1	Size 2
ATG-300	ON	OFF
ATG-300H	ON	ON
ATG-425, ATG-475	OFF	OFF
ATG-575	OFF	ON

Operating conditions

The product with regard to resistance to environmental exposure complies with GOST15150-69 category NF4 (operation in premises with climate control).

The operation of the turnstile is allowed at ambient temperature from +1°C to +50°C and relative air humidity up to 80% at +25°C.

It is a serially produced product certified for compliance with applicable Russian and European CE standards.

ST-01 Speed gate

Delivery set

ST-01	
ST-01 /M (Master) section	1
ST-01 /S (Slave) section	1
Section top cover	2
Glass swing panel	2
RC-panel with cable	1
Documentation set: Certificate and Operation manual	1
STD-01	
Section with top cover and mounting kit	1
Glass swing panel	2
RC-panel with cable	1
Certificate	1

Technical specifications

Operating voltage	24 V	
Consumption current	6.5 A	
Power consumption	160 W	
Throughput in single passage mode	up to 60 persons / min	
Passageway width	with ATG-300, ATG-300H swing panels	650 mm
	with ATG-425 \ ATG-475 swing panels	900 mm \ 1000 mm
Mean time to failure	8,000,000 passages	
Mean lifetime	8 years	
ST-01 weight with swing panels	188 kg	
STD-01 weight with swing panels	max. 118 kg	
Overall ST-01 dimensions (without including FP-01C, FP-01Q, FP-01A front panels):*	with ATG-300 swing panels	1820x1050x1010 mm
	with ATG-300H swing panels	1820x1050x1300 mm
	with ATG-425 swing panels	1820x1300x1010 mm
	with ATG-475 swing panels	1820x1400x1010 mm
	with ATG-575 swing panels	1820x1600x1010 mm

* Overall dimensions when organizing multiple passage lanes using several STD-01

Ltotal = 920**n** + 1170**m** + 1270**k** + 130 (mm), being:

n – the number of installed pairs of ATG-300 and ATG-300H swing panels;

m – the number of installed pairs of ATG-425 swing panels;

k – the number of installed pairs of ATG-475 swing panels.

Connection

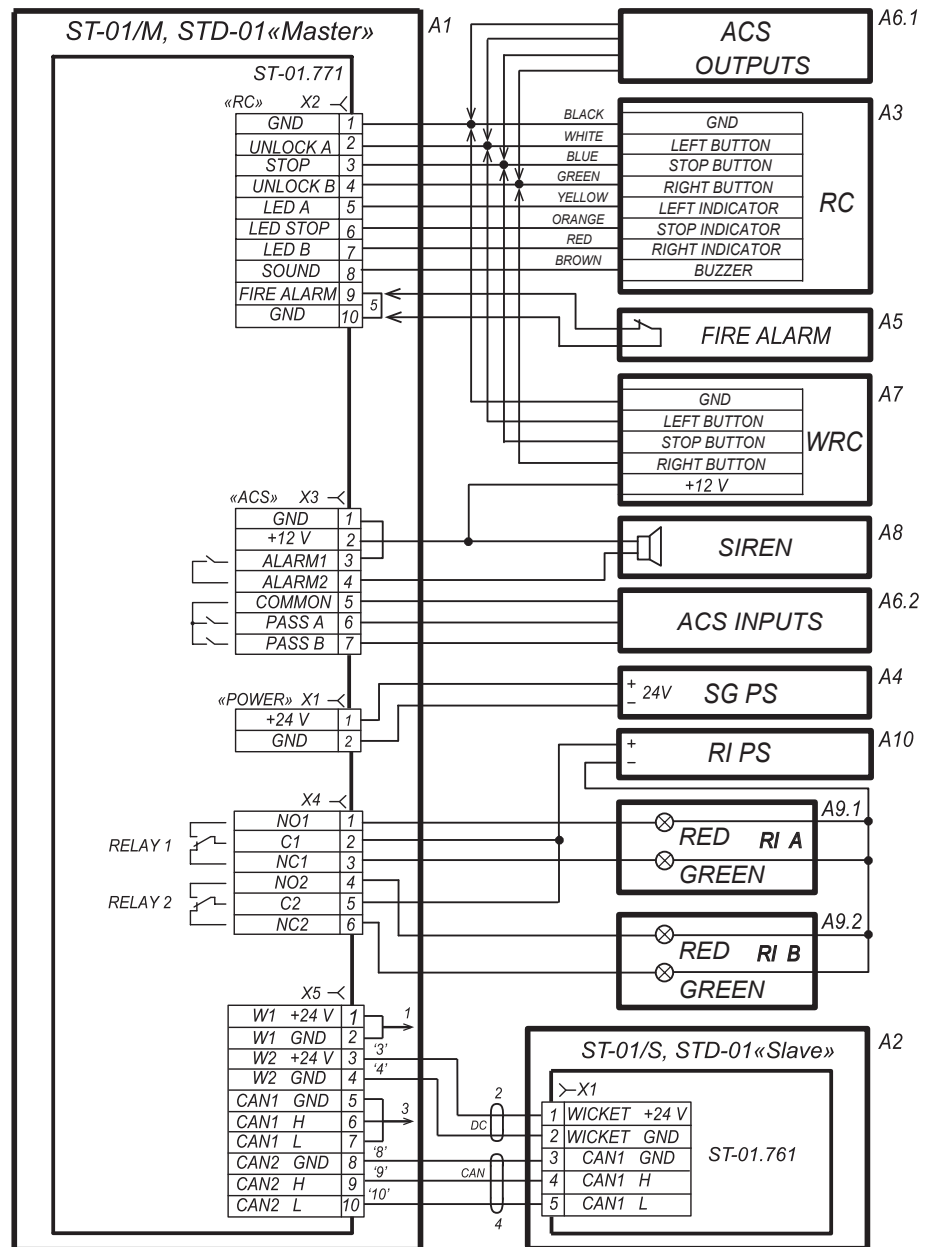
The slave section (side of the bidirectional section) is connected by its standard cables to the Master section (side of the bidirectional section) of one passage lane. The master section (side of the bidirectional section) is equipped with the ST-01.771 control board (located at the bottom of the central section post behind the cover plate). All external connections are made to the board contacts. Microcontrollers installed on the boards control the drives of the swing panels, process signals from IR sensors, process external commands, and generate signals about passages through the turnstile.

ST-01.770 control board contacts description by connectors

Connector	Contact	Electrical circuit	Designation
X1 (POWER)	1	24V	External power supply connection
	2	GND	
X2 (RC)	1	GND	Common
	2	Unlock A	Direction A control input
	3	Stop	Control input – passage denial
	4	Unlock B	Direction B control input
	5	Led A	Indication output of direction A on the RC-panel
	6	Led Stop	Indication output of passage denial on the RC-panel
	7	Led B	Indication output of direction B on the RC-panel
	8	Sound	RC-panel sound signal output
	9	Fire Alarm	Emergency passage opening control input
	10	GND	

ST-01 Speed gate

X3 (ACS)	1	+12 V, GND	+12V output for powering additional devices
	2	GND	Common
	3	Alarm1	Siren connection output
	4	Alarm2	
	5	Common	Common for PASS A, PASS B outputs
	6	PASS A	PASS A relay contact (passage in the direction A)
	7	PASS B	PASS B relay contact (passage in the direction B)
X4	1	NO1	Normally open Light A output contact
	2	C1	Common Light A output contact
	3	NC	Common Light A output contact
	4	NO2	Normally open Light B output contact
	5	C2	Common Light B output contact
	6	NC2	Normally closed Light B output contact

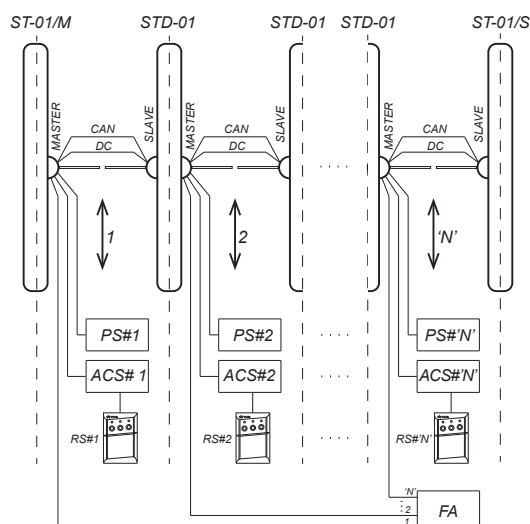


* ST-01 Speed gate wiring diagram

ST-01 Speed gate

Layout description	
Item	Description
A1	Master section (side of the section)
A2	Slave section (side of the section)
A3	RC-panel
A4*	Turnstile power supply
A5*	Device for sending FireAlarm command
A6*, A6.2*	ACS controller
A7*	WRC
A8*	12V DC siren
A9.1*, A9.2*	Remote indication block
A10*	Remote indicators PS
1, 2	DC connection cable
3, 4	CAN connection cable
5	Jumper wire in case there is no Fire Alarm device (A5). Installed by default.

* The equipment is not included in the standard delivery set



Connection of the ST-01 turnstile and STD-01 bidirectional sections to arrange a passage zone with several passage lanes

Operation algorithm

The speed gate can operate from an RC-panel (included in the delivery set), WRC and ACS controller.

Operation is performed by applying a low-level signal to Unlock A, Stop and Unlock B contacts relative to the GND contact. The response to these signals depends on the control mode selected by the Pulse switch.

Pulse control mode (Pulse switch in the ON position) is when a pulse is applied to the Unlock A (B) input, the speed gate panels will automatically open for a single passage in the A (B) direction. The waiting time for the passage being completed does not depend on the duration of the control pulse and lasts 8 seconds. Sending impulse to the Stop input closes the panels from any position, thus blocking the passage. Simultaneous sending of pulses to the Unlock A (B) and Stop inputs places the turnstile in the "Free passage" mode in the selected direction.

It is recommended to use pulse mode when operating from an RC-panel or WRC. The orientation of the RC-panel buttons can be changed by swapping the wires from the RC-panel that are connected to the unlock A and Unlock B contacts, as well as Led A and Led B, respectively.

Potential control mode (Pulse switch in the OFF position) is when the control signal is applied to the Unlock A (B) input, the glass panels slide away in the selected direction during the entire holding signal time. Sending the control signal to the Stop input closes the sliding panels, thereby blocking the passage, regardless of the signals at the Unlock A (B) inputs.

ST-01 Speed gate

Potential mode is recommended when operating from the ACS controller.

Regardless of the selected control mode, PASS A or PASS B signals are generated when passing in one direction or the other. These signals can inform the ACS controller of the fact of passage.

Emergency opening of the passage lane is performed by removing a low-level signal from the Fire Alarm contact relative to the GND contact.

The product also features an additional "Automatic opening in the selected direction" mode (R1 switch in the ON position). This is a mode of free passage through the turnstile in one pre-selected direction (selected by the R2 switch) with automatic opening and closing of the panels during passage.

Training mode (R1 switch in the OFF position, and R2 switch on the ST-01.771 control board in the ON position) allows manually adjusting the home (closed) position of the turnstile swing panels.

Note

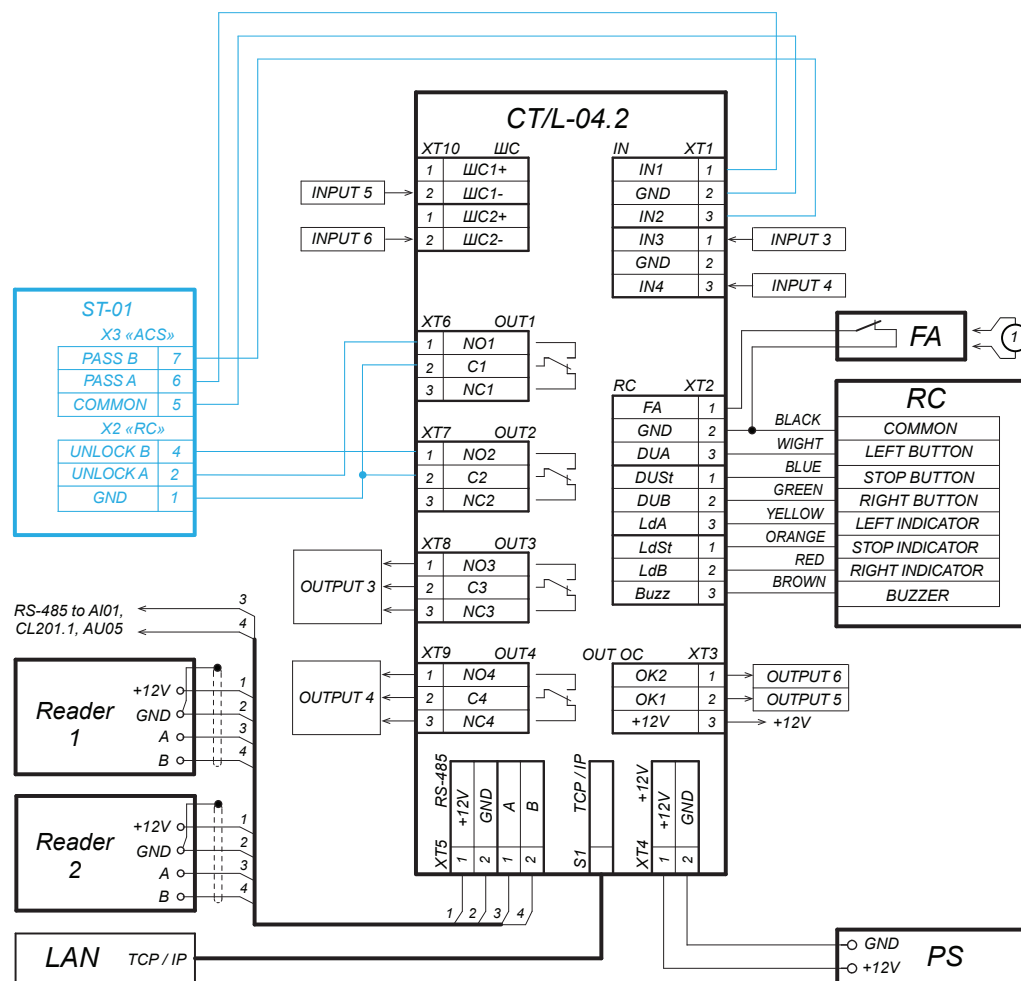
When operating the speed gate from the ACS controller, it is recommended to connect the RC-panel to the ACS controller.

The maximum allowed cable length from the RC-panel (ACS controller) is 40 meters.

The maximum allowed cable length from the power supply depends on its cross section and must be:

- for 1.5 mm² cable – 10 meters
- for 2.5 mm² cable – 20 meters

Example of connection to the ACS

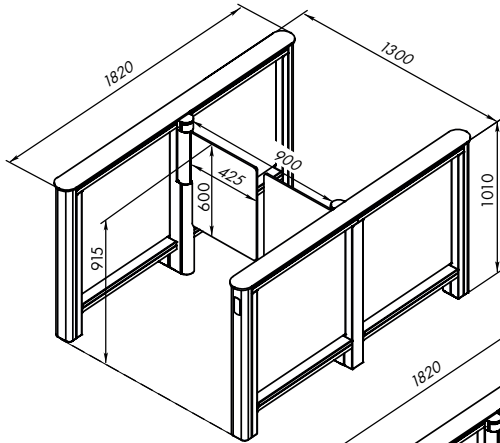


1 - jumper wire, installed when there is no FA device

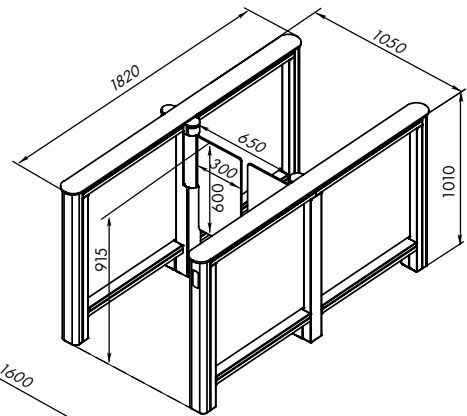
A layout example of the speed gate connection to the ACS controller

ST-01 Speed gate

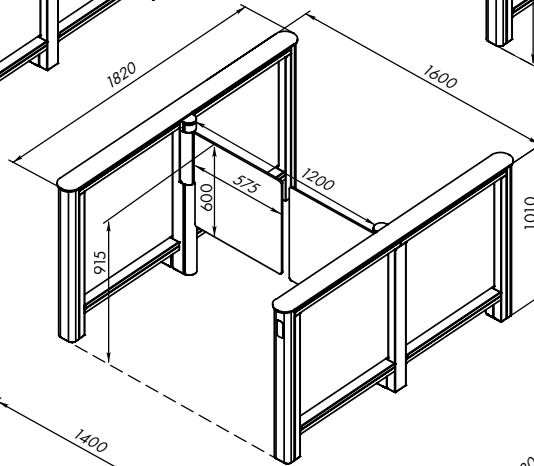
Overall dimensions



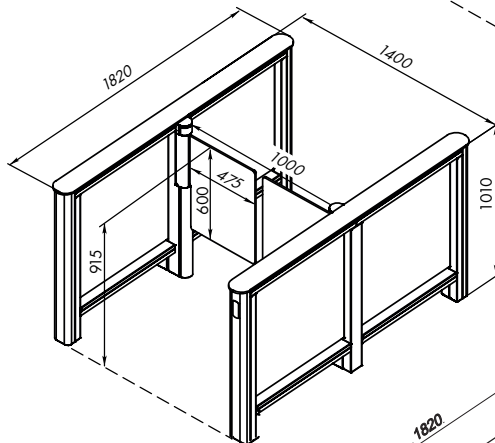
ATG-450 swing panels



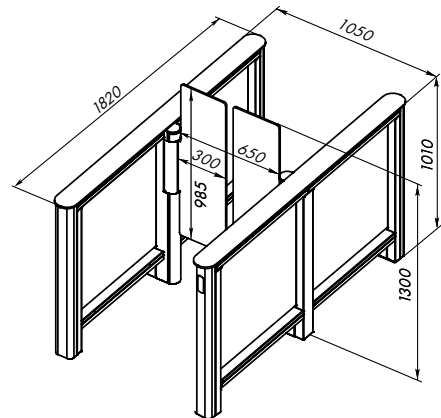
ATG-425 swing panels



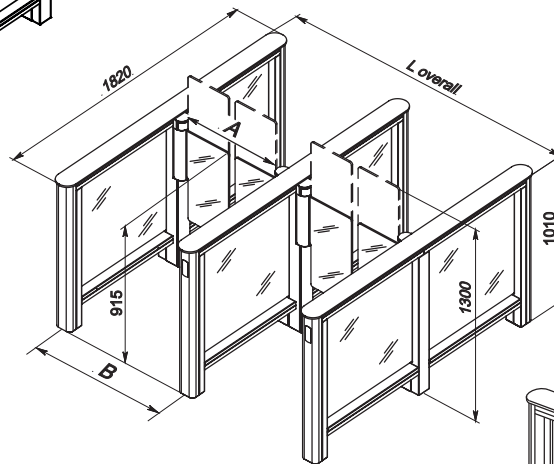
ATG-575 swing panels



ATG-475 swing panels



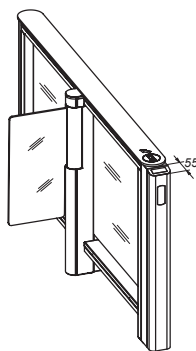
ATG-425H swing panels



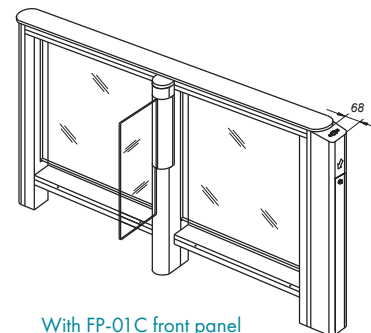
With STD-01 central section

for ATG-300 -A=650, 8=920;
for ATG-300H -A=650, 8=920;
for ATG-425 -A=900, 8=1170;
for ATG-475 -A=1000, 8=1270;
for ATG-575 -A=1200, 8=1470

$L_{overall} = 920n + 1170m + 1270k + 130$ (mm),
n - number of ATG-300 (ATG-300H),
m - number of ATG-425,
k - number of ATG-475,
p - number of ATG-575



With FP-01Q, FP-01A front panel

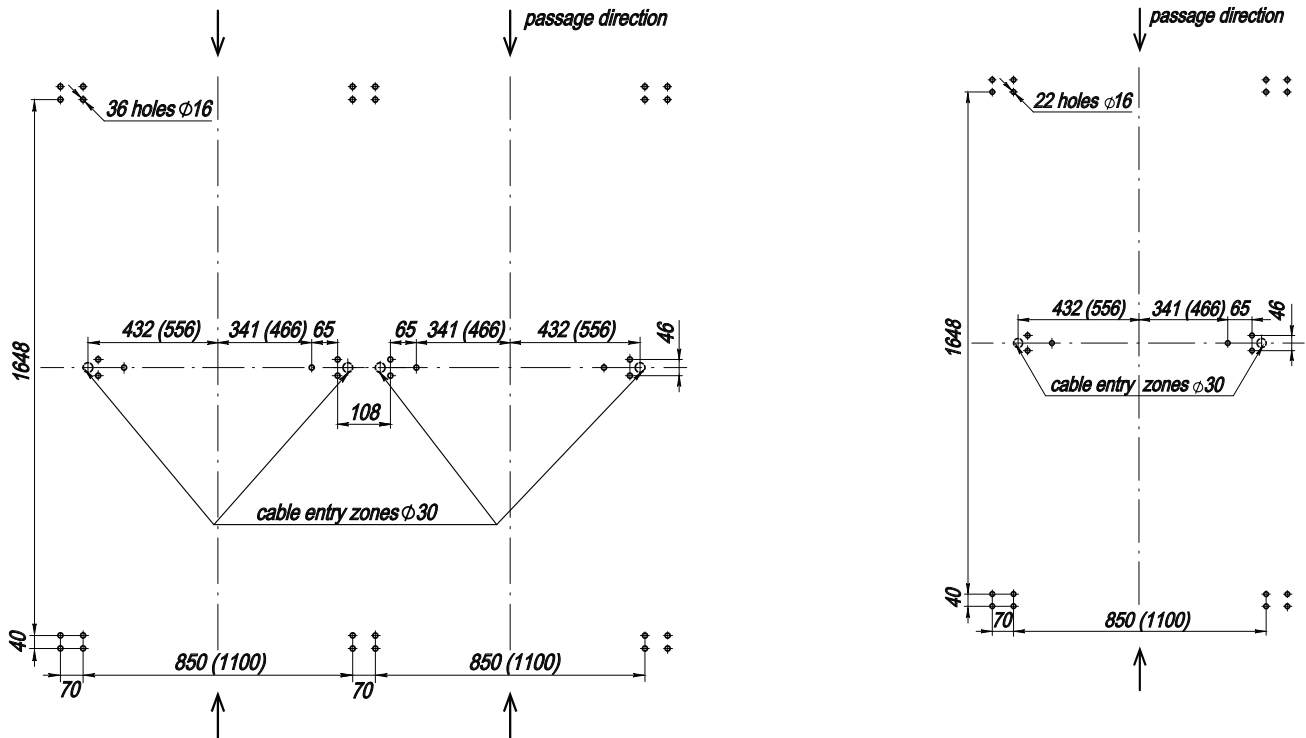


With FP-01C front panel

Overall dimensions

ST-01 Speed gate

Mounting



Hole marking for sections mounting and cable entry zone

Foundation requirements: concrete (grade 400 or higher), stone, etc. foundation of at least 150 mm thick, use reinforcing elements (450x450x200 mm) when installing sections on a less steady foundation.

Warranty

The warranty period is 5 (five) years commencing from the date of sale, unless otherwise determined in the delivery contract of the Product. In case of sale and installation of the equipment by authorized PERCo dealers and service centers, the warranty starts from the date of commissioning.

Should there be no date of sale on the warranty card, the warranty period shall commence from the date of manufacture specified in the Certificate and on the Product label.