

Single and double-leaf garage doors



General

The single and double-leaf garage doors are intended for use in private buildings and utility rooms. The frame and the leaf are made of closed galvanized steel shapes without thermal break and with steel sheet filling. The doors without internal insulation show the leaf structure, while the doors with internal insulation have the leaf filled with a PVC panel. The opening frame components are joined with bolts. The doors in standard version feature a lock with the standard cylinder (three keys included), handle and an assembly kit. The doors are available in special dimensions.

Door leaf

The door leaf is filled with T10 galvanized trapezoid steel sheet in vertical, horizontal or slanted design, polyester coated. The door is opened to the outside. **Double-leaf door** has the left leaf as the passive (as seen from the outside) and bolted to the lintel and the sill. The active right leaf features a lock with cylinder and a PVC-1 handle with a plate in black (bolted to the lintel and the sill); the leaves are symmetrical. **Single-leaf door** features one active leaf opened to the right and outside (as seen from the outside). The leaf features a lock with cylinder and a PVC-1 handle with a plate in black (bolted to the lintel and the sill).

Note ! The doors are available as outswing only. The doors cannot be installed behind the opening (inside of the room). The doors with H > 3650 [mm] have the vertical filling joined in height 3650 [mm].

Standard colours

RAL 6005 (moss green),	RAL 8017 (chocolate brown),	nut brown.
RAL 7016 (anthracite grey),	RAL 9006 (white aluminium),	
RAL 7035 (light grey),	RAL 9016 (traffic white),	
RAL 8014 (sepia brown),	golden oak,	

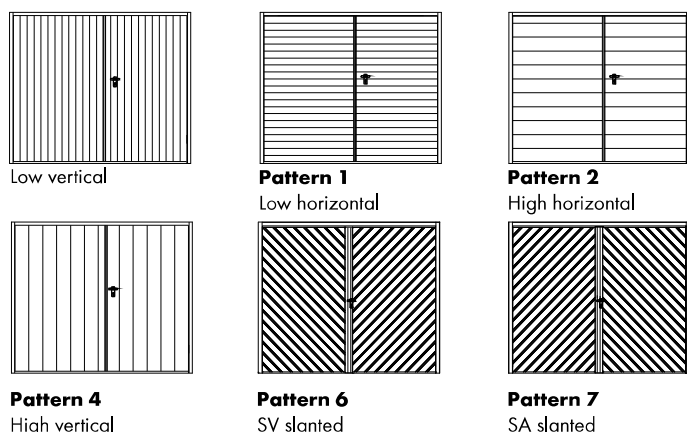
Tab. 1. Single and double-leaf door shell colours.
Filling in RAL colour – smooth glossy texture. See NOTE on p. 1 item 2.

Protection features

- Protective film - the door leaf is coated with protective film (the film prevents soiling).
- Leaf restrictor - limits the opening motion of the leaf.
- Foot - prevents accidental closing motion of the leaf.
- Hinge stop - protects the leaf from falling.

Note! Remove the protective film immediately after installation. The same door colours specified in various orders (delivery lots) may vary slightly in shade, whereas internal door side may have different hues.

Infill design



Rys. 1. The filling design in single and double-leaf doors.

The Connect double-leaf door

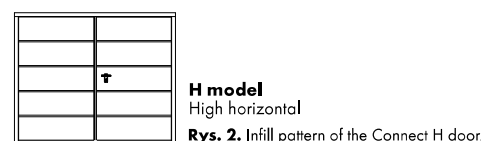
The leaf lining is made of galvanized steel sheet with a polyester coating. It consists of same width panels with a horizontal rib pattern.

Connect H – horizontal ribs

The panel height depends on the door height. The total number of panels constituting the door (active leaf + passive leaf) and the panel height depend on the door height:

No.	H [mm]	No. of panels	Panel height in [mm]
1.	do 1899	8	do 440
2.	1900 - 2300	10	346 - 426
3.	2301 - 2700	12	351 - 418
4.	2701 - 3100	14	354 - 411
5.	3101 - 3500	16	357 - 407

Tab. 4. Wymiary paneli.



Shipping limits

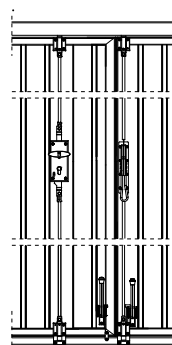
If the width and height of the double-leaf doors exceed 2700 [mm], the doors are delivered unassembled due to the transportation reasons.

Note! The double-leaf doors above 150 kg of weight are delivered unassembled.

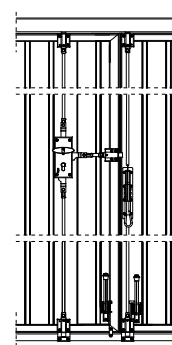
Lock

Active leaf – a black plastic PVC-1 handle and a single-sided patented lock cylinder accessible from the outside (three keys) are installed on the outside, whereas a black plastic handle is installed on the inside. From the inside, the lock is operated with a latch, the leaf is locked in two points (for doors H > 2 700 [mm], the leaf is always locked in three points), plastic or steel latching locks are used for locking, depending on the door dimensions (for the Connect doors, the steel latching lock is always standard).

The passive leaf – locked in two points with a single lever, plastic or steel latching locks are used for locking, depending on the door dimensions (for the Connect doors, the steel latching lock is always standard).



Rys. 3. Working leaf with two point bolting inside view.



Rys. 4. The working leaf with three point bolting at H > 2700 [mm], inside view.

Air grille

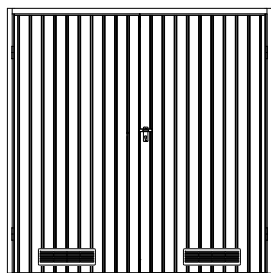
K-1 - air grille: 426 x 89 [mm] (inside frame dimensions). The grille is available in brown, white or black, see table 2. Effective ventilation surface area: approx. 0.02 [m²].

K-3 - air grille: 308 x 103 [mm] (inside frame dimensions). The grille is available in white or black. The air grille features double mosquito net and adjustable air flow. The doors without thermal insulation feature the mosquito net adjustment on the external side, the doors with thermal insulation have the adjustment on the internal side. Effective ventilation surface area: approx. 0.015 [m²].

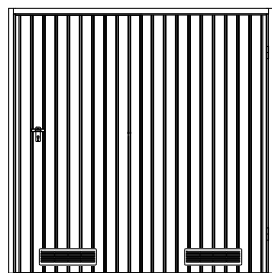
Door colour	Grille colour K-1 ⁽¹⁾	Grille colour K-3 ⁽¹⁾
Standard colours or other RAL colours	RAL 8014, RAL 8017, RAL 9005, RAL 9016	RAL 9005, RAL 9016

Tab. 2. The grille colours in single and double-leaf doors.

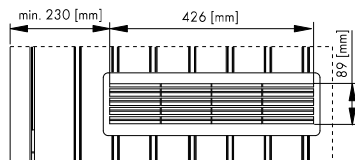
⁽¹⁾ - Specified by the customer; if the grille and/or glazing colour is unspecified, the standard colour used is RAL 9005.



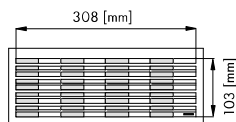
Rys. 5. Example of use of the K-1 air grille in a double-leaf door.



Rys. 6. Example of use of the K-1 air grille in a single-leaf door.



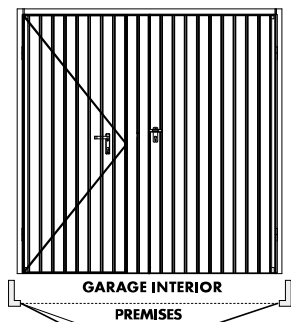
Rys. 7. K-1 air grille.



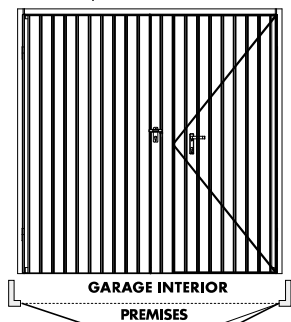
Rys. 8. K-3 air grille.

Wicket door

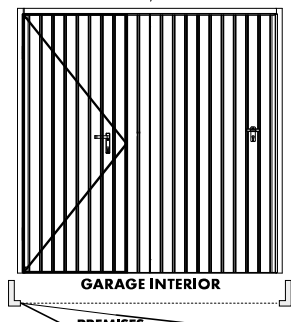
- The wicket door in garage doors with the height of up to 2400 [mm] run along the entire door height.
- The wicket door in garage doors with the height of over 2400 [mm] have the passage height of 1940 [mm].
- Clear width is 860 [mm].
- Figures 8 to 11 show the wicket door opening directions and locations of the hinges (it is not possible to change the opening direction or location of the wicket door).
- The wicket doors are available in door leaf dimensions at the minimum leaf width of 1250 [mm].
- The wicket door features a double-sided handle with a plate in black, complete with a lock with the cylinder (three keys included).
- The wicket door can be installed in the active leaf or passive leaf.



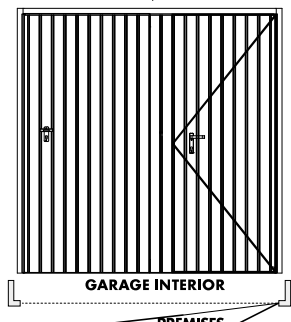
Rys. 9. Wicket door, left-hand version in a double-leaf door, external view.



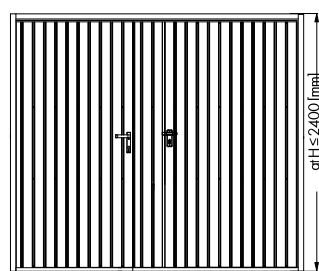
Rys. 10. Wicket door, right-hand version in a double-leaf door, external view.



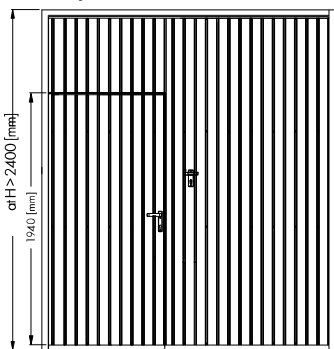
Rys. 11. Wicket door, left-hand version in a single-leaf door, external view.



Rys. 12. Wicket door, right-hand version in a single-leaf door, external view.



Rys. 13. Wicket door in a door with the maximum height of 2400 [mm].



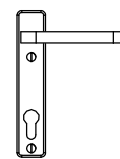
Rys. 14. Wicket door in a door with the maximum height of over 2400 [mm].

Change of handles

The standard black PVC-1 handle can be replaced with a wicket door handle in black (only in the right active leaf).



Rys. 15. PVC-1 handle.



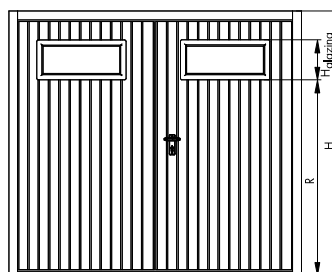
Rys. 16. The handle used for the wicket door.

Anti-burglary lock cylinder

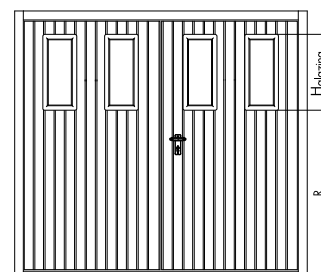
Replacement of the standard cylinder in the door and/or wicket door with an anti-burglary lock cylinder in the burglar resistance class C. The cylinder is complete with 4 keys.

Glazings

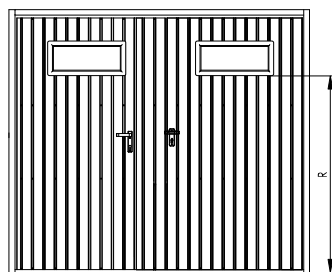
The door can feature A-1 glazings, see p. 73, Glazings, fig. 10, table 8. When ordering, define the value R [mm], see p. 145 table 3 & 4. A/H horizontal or A/V vertical glazing arrangement can be used (or in multiple rows with the minimum glazing spacing of 100 [mm] – please contact the Sales Department). The glazing can also be installed over the wicket door, which requires selection of the number of glazings, see p. 123 table 3 & 4 (for doors without the wicket door). If a glazing is at an impress, it will be moved by ± 30 [mm]. Depending on the glazings is normal and it is not covered by the warranty.



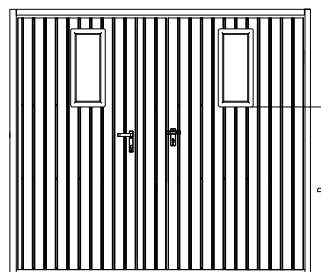
Rys. 17. A/H horizontal glazing.



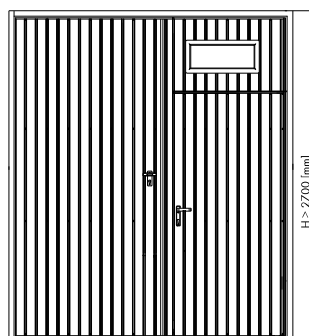
Rys. 18. A/V vertical glazing.



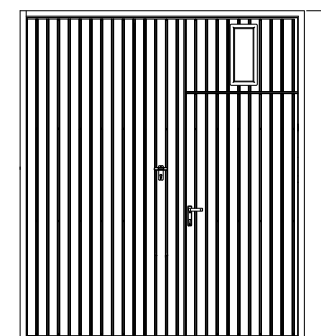
Rys. 19. A/H horizontal glazing in a double-leaf door with a wicket door.



Rys. 20. A/V vertical glazing in a double-leaf door with a wicket door.



Rys. 21. A/H horizontal glazing over the wicket door in a double-leaf door.



Rys. 22. A/V vertical glazing over the wicket door in a double-leaf door.

Double-leaf door

door without wicket door and thermal insulation $300 \text{ [mm]} \leq R \leq H - H_{\text{glazing}} - 150 \text{ [mm]}$		
glazing arrangement	A/H	A/V
door width		
1500 ÷ 1700 [mm]	–	2
1710 ÷ 2500 [mm]	2	4
2510 ÷ 3400 [mm]	2	6
3410 ÷ 4000 [mm]	4	8
4100 ÷ 5000 [mm]	4	10
door with wicket door or thermal insulation $300 \text{ [mm]} \leq R \leq H - H_{\text{glazing}} - 300 \text{ [mm]}$		
glazing arrangement	A/H	A/V
door width		
2500 ÷ 3200 [mm]	2	5
3210 ÷ 4000 [mm]	3	7
4010 ÷ 5000 [mm]	4	9

Tab. 3. Glazing selection table (type A-1) for double-leaf doors.

Single-leaf door

door without wicket door and thermal insulation $300 \text{ [mm]} \leq R \leq H - H_{\text{glazing}} - 150 \text{ [mm]}$		
glazing arrangement	A/H	A/V
door width		
1200 ÷ 1800 [mm]	1	2
1810 ÷ 2000 [mm]	2	4
2010 ÷ 2500 [mm]	2	5
door with wicket door or thermal insulation $300 \text{ [mm]} \leq R \leq H - H_{\text{glazing}} - 300 \text{ [mm]}$		
glazing arrangement	A/H	A/V
door width		
1250 ÷ 1800 [mm]	1	2
1910 ÷ 2000 [mm]	2	4
2010 ÷ 2500 [mm]	2	5

Tab. 4. Glazing selection table (type A-1) for single-leaf doors.

Asymmetrical leaves

The maximum clear width of the larger leaf is 2400 [mm] (for the Connect doors, it is 2,230 [mm]). When ordering doors with asymmetrical leaves, specify the active leaf clear width.

Left active leaf

Working left leaf, the right leaf is bolted to the threshold and the frame. The door is opened by turning the handle clockwise.

Additional lock

The wicket door and/or the active leaf may feature an additional mortise lock with a cylinder and a set of three keys or a Gerda lock with four keys (the lock is installed above the handle of the wicket door and/or the active leaf).

Three point door leaf bolting

The single and double-leaf doors with $H \leq 3100 \text{ [mm]}$ can feature additional bolting of the active leaf. Available as standard in doors with $H > 3100 \text{ [mm]}$. See p. 121, fig. 4.

One-key system

The single and double-leaf doors are available with the one-key system. 3 keys are included. The lock in the wicket door and the garage door main lock are equipped with identical standard cylinders. This does not apply to the doors with the following extra options:

- Anti-burglary lock cylinder,
- Additional lock in the wicket door.

Thermal insulation

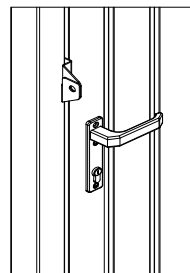
The door is insulated with EPS 20 to 40 [mm] thick (depending on the door type and design), and on the inside, the thermal insulation is covered with white PVC panels.

Door swing angle: 140 degrees

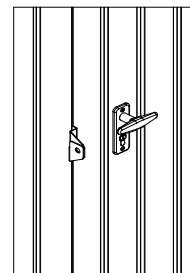
The standard door leaf swing angle is 98 degrees. The doors are available with the leaf swing angle of approximately 140 degrees.

Padlocks

The single and double-leaf doors and the wicket door can feature special lugs for padlocks.



Rys. 23. The wicket door with padlock lug, external view.



Rys. 24. A double-leaf door with lugs for padlocks, external view.

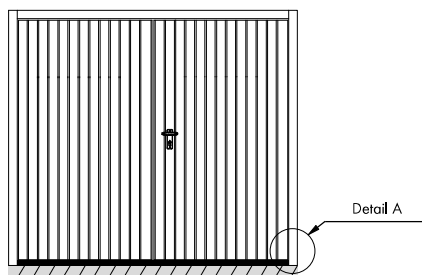
Alignment of ribs levels and/or glazings

Two doors of different dimensions may have their glazings installed at different heights (i.e. the glazings of the two doors may not be aligned), and/or two doors of different dimensions may not feature horizontal ribs on the same level. Contact the Sales Department for available finishes.

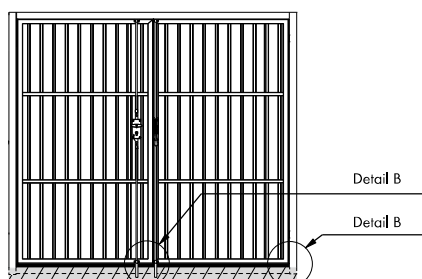
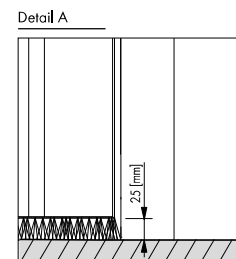
Brush seal

Installed at the bottom of the active and passive leaves. The brush seal partially protects from outdoor dirt. The brush height is approx. 25 [mm]. The garage doors with the dimensions:

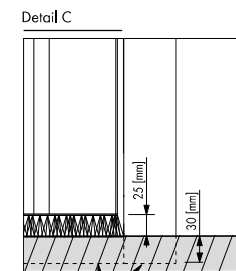
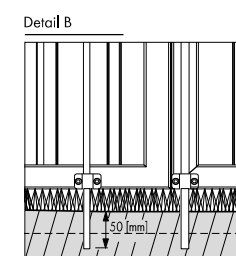
- $S \leq 2600 \text{ [mm]}$ and $H \leq 2600 \text{ [mm]}$ are installed directly on the ground (fig. 25 - detail A); the garage door has no threshold.
- $S > 2600 \text{ [mm]}$ or $H > 2600 \text{ [mm]}$ are installed directly in the ground at depth of 30 [mm] with the door threshold and the frames installed in the ground (fig. 26 - detail C). With the brush seal the active and passive leaves of the door is locked at the lintel and to the ground with steel rods with the diameter of 12 [mm] (fig. 26 - detail B).



Rys. 25. The double-leaf door installed on the ground, external view.



Rys. 26. The double-leaf door installed in the ground, internal view.



The frame and the threshold installed in the ground.

Steel self-locking latch

The single and double-leaf doors can be equipped with steel self-locking latches which replace the plastic ones (depending on the door type, see p. 121, „Lock”).

Metal sheets on the inner door side

The PVC panels on the inner side of insulated doors can be replaced with T-10 trapezoid sheets in the door curtain colour and with the infill design shown in table 5. Doors in other RAL colours – contact the Sales Department for available finishes.

	Infill design		
Outer side	vertical	horizontal	slanted
Inner side	vertical	horizontal	horizontal

Tab. 5. The curtain design in single and double-leaf doors.

Other external RAL colours

The external door curtain can be painted in colours (other than standard) from the RAL palette (except for pearl, reflective and metallic finish).

Note: When painted on one side only, the internal side of the element may show traces of spraying as well.

Contact the Sales Department for available finishes.

Frames in door colour

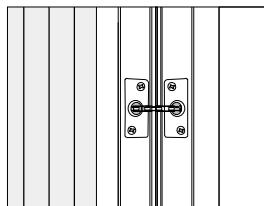
The door frame (as seen from the outside) is faced with a metal sheet in the colour of the door curtain, see p. 74, fig. 24. The doors (pattern 6 and 7) feature the frames in the door colour in standard.

Door closer with guide rail

The closer may be used in wicket doors in manually-operated and automatic garage doors. It is installed on the inner side of the door at the wicket top cover.

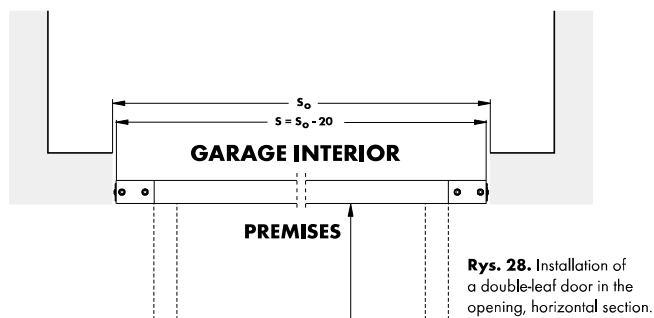
Chain door closer

The closer may be used in wicket doors of manually-operated garage doors. It is installed between the wicket leaf and the door frame.

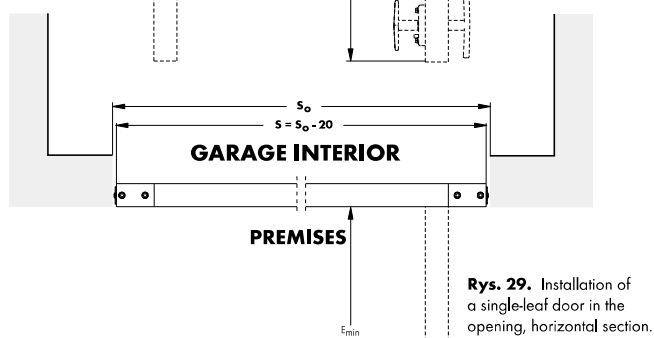


Rys. 27. Chain door closer for the wicket door.

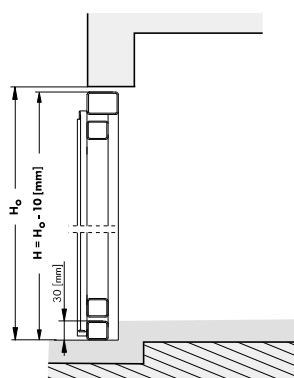
Installation in the opening



Rys. 28. Installation of a double-leaf door in the opening, horizontal section.



Rys. 29. Installation of a single-leaf door in the opening, horizontal section.



Rys. 30. Installation of a single or double-leaf door in the opening, vertical section.

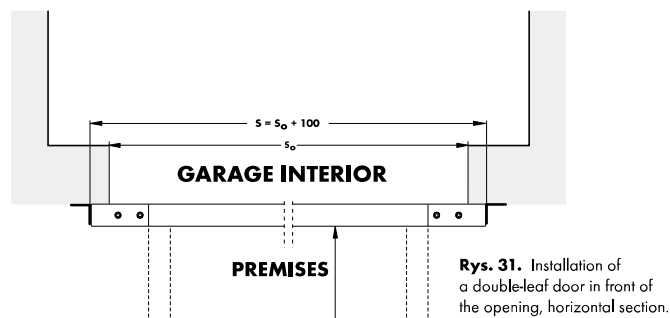
Installation in the opening

	Double-leaf door		
	Symmetrical	Asymmetrical	
E_{min}	1/2 S [mm]	If S _{jc} > S/2	If S _{jc} < S/2
		S _{jc} + 40 [mm]	S - S _{jc} + 40 [mm]
S	S _o - 20 [mm]		
H	H _o - 10 [mm]		
S_j	S - 180 [mm]		
H_j	H - 90 [mm]		
	Single-leaf door		
E_{min}	S - 60 [mm]		
S	S _o - 20 [mm]		
H	H _o - 10 [mm]		
S_j	S - 180 [mm]		
H_j	H - 90 [mm]		

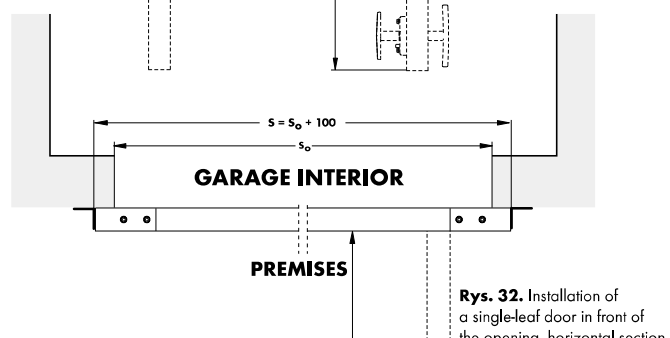
Tab. 6. Assembly dimensions of single and double-leaf doors, installation in the opening.

- S_o - opening width,
- S_j - clear opening width with the door installed,
- S_{jc} - clear opening width of the active leaf,
- S** - door width, ordering dimension,
- H_o - opening height,
- H_j - clear opening height with the door installed,

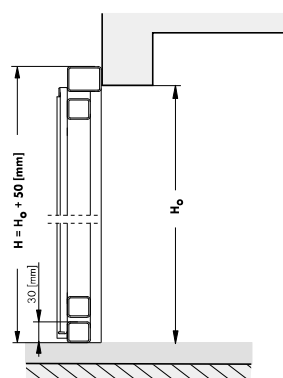
Installation in front of the opening



Rys. 31. Installation of a double-leaf door in front of the opening, horizontal section.



Rys. 32. Installation of a single-leaf door in front of the opening, horizontal section.



Rys. 33. Installation of a single or double-leaf door in front of the opening, vertical section.

Installation in front of the opening

	Double-leaf door		
	Symmetrical	Asymmetrical	
N_{min}	100 [mm]		
E_{min}	1/2 S [mm]	If S _{jc} > S/2	If S _{jc} < S/2
		S _{jc} + 40 [mm]	S - S _{jc} + 40 [mm]
S	S _o + 100 [mm]		
H	H _o + 50 [mm]		
S_j	S - 180 [mm]		
H_j	H - 90 [mm]		
	Single-leaf door		
N_{min}	100 [mm]		
E_{min}	S - 60 [mm]		
S	S _o + 100 [mm]		
H	H _o + 50 [mm]		
S_j	S - 180 [mm]		
H_j	H - 90 [mm]		

Tab. 7. Assembly dimensions of single and double-leaf doors, installation in front of the opening.

- H** - door height, ordering dimension,
- N_{min} - the required headroom outside of the room,
- E_{min} - the required space outside of the room for opening the leaf.