KD1100

CANTILEVER GATES

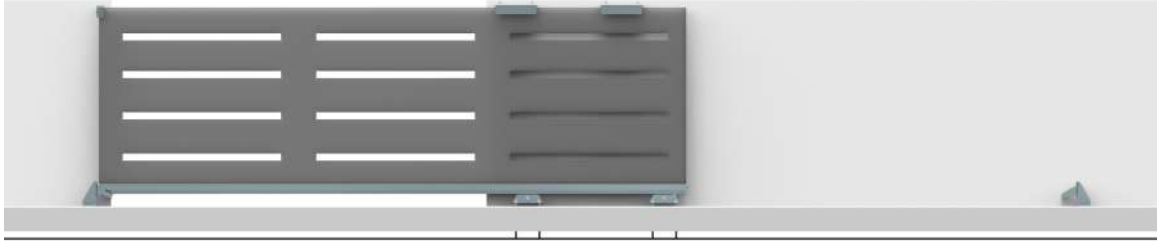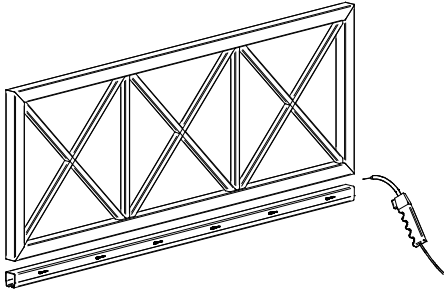Technical chart for cantilever gates

OUR SERIES:

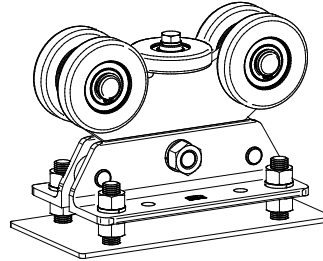| SERIES	OPENING	CAPACITY
800	2-4 m	300 kg
900	3-6 m	450 kg
1000	5-9 m	800 kg
2000	6-12 m	1200 kg
2500 (NEW)	6-12 m	1200 kg
3000 (NEW)	10-16 m	1800 kg
3500 (NEW)	16-20 m	2400 kg

Assembly sequence

1

1. Prepare a guide with lenght S and weld it under the gate.

2

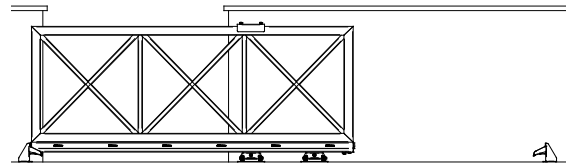2) Fix the trolleys to the ground using the fixing rods, the weight of the cement block under the trolley must be greater than the given Zmin value.

3
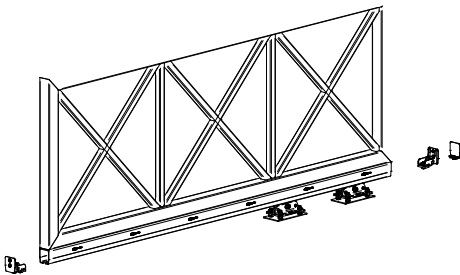
3) Slide the gate guide over the trolleys and fix the Guide Roller on one end and a Guide Roller and/or the Front Cover on the other end.
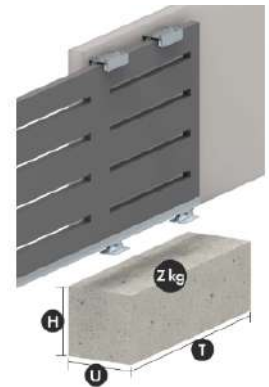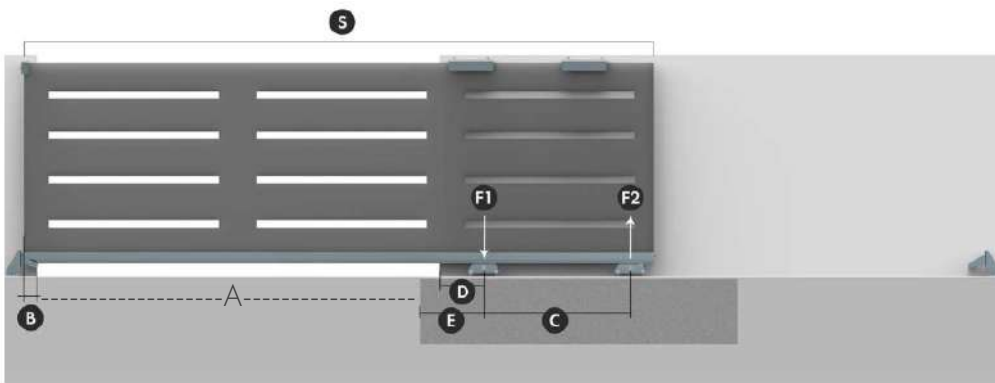
4

4) Adjust the height and the pitch of the gate by acting on the nuts and bolts and lock the upper guide plates and the limit stop.

DIMENTIONING EXAMPLES PER SERIES

800 Series — opening up to 4 m - capacity: 300kg

A [m]	C [m]	S [m]	P max [kg]	Zmin kg]	P Telaio [kg×ML]	T [m]	U [m]	H [m]
2	0,8	3,1	300	560	85	1,3	0,4	0,5
2,5	1	3,8	300	560	70	1,5	0,4	0,5
3	1,2	4,5	300	560	60	1,7	0,4	0,5
3,5	1,4	5,2	300	560	50	1,9	0,4	0,5
4	1,6	5,9	300	560	45	2,1	0,4	0,5

Constant data:
F1 max(kg):500
D (m):0,115
B (m):0,07
G min (m):0,05
E min (m):0,25
A/C=2,5

900 Series — opening up to 6 m - capacity: 450kg

A [m]	C [m]	S [m]	P max [kg]	Zmin CUn[kg]	P Telaio [kg×ML]	T [m]	U [m]	H [m]
3	1,2	4,7	450	900	85	1,8	0,5	0,5
3,5	1,4	5,4	450	900	74	2	0,5	0,5
4	1,6	6,1	450	900	65	2,2	0,5	0,5
5	2	7,5	450	900	50	2,6	0,5	0,5
6	2,4	8,9	450	900	42	3,0	0,5	0,5

Constant data:
F1 max(kg):800
D (m):0,195
B (m):0,110
G min (m):0,06
E min (m):0,30
A/C=2,5

1000 Series — opening up to 9 m - capacity: 800kg

A [m]	C [m]	S [m]	P max CUn[kg]	Zmin CUn[kg]	P Telaio [kg×ML]	T [m]	U [m]	H [m]
5	2	7,6	800	1500	95	2,7	0,6	0,6
6	2,4	9	800	1500	80	3,1	0,6	0,6
7	2,8	10,5	800	1500	64	3,5	0,6	0,6
8	3,2	11,9	800	1500	55	3,9	0,6	0,6
9	3,6	13,3	800	1500	48	4,3	0,6	0,6

Constant data:
F1 max(kg):1350
D (m):0,260
B (m):0,115
G min (m):0,08
E min (m):0,35
A/C=2,5

2000 Series — opening up to 12m - capacity: 1200kg

A [m]	C [m]	S [m]	P max [kg]	Zmin CUn[kg]	P Telaio [kg×ML]	T [m]	U [m]	H [m]
6	2,4	9,1	1200	2300	115	3,3	0,8	0,6
7	2,8	10,5	1200	2300	95	3,7	0,8	0,6
8	3,2	11,9	1200	2300	85	4.1	0,8	0,6
10	4	14,7	1200	2300	65	4.9	0,8	0,6
12	4,8	17,5	1200	2300	50	5,7	0,8	0,6

Constant data:
F1 max(kg):2000
D (m):0,290
B (m):0,115
G min (m):0,08
E min (m):0,45
A/C=2,5

2500 Series — opening up to 12m - capacity: 1200kg

A [m]	C [m]	S [m]	P max [kg]	Zmin [kg]	P Telaio [kg×ML]	T [m]	U [m]	H [m]
6	2,4	9,1	1200	2300	118	3,3	0,8	0,6
7	2,8	10,5	1200	2300	100	3,7	0,8	0,6
8	3,2	11,9	1200	2300	87	4.1	0,8	0,6
10	4	14,7	1200	2300	67	4.9	0,8	0,6
12	4,8	17,5	1200	2300	54	5,7	0,8	0,6

Constant data:
F1 max(kg):2000
D (m):0,26
B (m):0,15
G min (m):0,08
E min (m):0,45
A/C=2,5

3000 Series — opening up to 16m - capacity: 1800kg

A [m]	C [m]	S [m]	P max [kg]	Zmin [kg]	P Telaio [kg×ML]	T [m]	U [m]	H [m]
10	4	15	1800	3700	90	5,2	1	0,8
12	4,8	17,8	1800	3700	72	6	1	0,8
14	5,6	20,6	1800	3700	58	6,8	1	0,8
16	6,4	23,5	1800	3700	48	7,6	1	0,8

Constant data

F1 max(kg):3200
D (m):0,460
B (m):0,18
G min (m):0,10
E min (m):0,60
A/C=2,5

3500 Series — opening up to 20m - capacity: 2400kg

A [m]	C [m]	S [m]	P max [kg]	Zmin kg]	P Telaio [kg×ML]	T [m]	U [m]	H [m]
16	6,4	15	2400	4600	69	7,6	1	0,8
18	7,2	17,8	2400	4600	58	8,4	1	0,8
20	8	20,6	2400	4600	49	9,2	1	0,8

Constant data

F1 max(kg):4200
D (m):0,40
B (m):0,18
G min (m):0,10
E min (m):0,40
A/C=2,5

Symbol	Description
A	Opening light
B	Door leaf space
C	Trolley centre distance
D	Space required for end wheel
F1 max	Maximum load the carriage can bear for optimal working conditions Minimum light under the
G min	rail
P max CUn	Door weight with FAC accessories and uniform load
	Average weight per running metre without FAC accessories
P Telaio	Total length of door
S	Minimum mass of trolley anchorage base for uniform load Minimum mass of trolley anchorage
Z1min CUn	base for non-uniform load Base dimensions
Z2min NUn	
TxUxH	

Formulas

$$F2 = \frac{P \times (A/2 + D)}{C}$$

$$F1 = F2+P$$

$$C_{min} = \frac{F1max}{P} - P$$

$$S_{min} = A+C+B+2 \times D$$

$$P_{max} = \frac{C \times F1max}{C + D + A/2}$$

$$Z_{min} = 2,5 \times F_2$$

$$Z = 2000 \times T \times U \times H \text{ (Qtà cemento in } m^3)$$

MAINTENANCE

1. Perform all functioning inspections manually at the end of the installation; periodically check that the system is functioning, that it is well lubricated and does not have any loosening (we suggest a full examination every 3 months or after 8000 cycles).
2. In case of malfunctions due to wear or accidental impacts make sure that all components apt to support the gate and its maintenance are intact. If necessary, proceed with substitution.
3. AC ensures the system correct functioning only using original spare parts.

Attention: The kit included accessories and the proposed installation make reference to a standard example. An installation not in accordance with the illustrated procedure and the omission of the correct maintenance might compromise nearby things and people's security. Make sure that all accessories suit the specific work and make sure to use the necessary safety devices provided by current regulations.
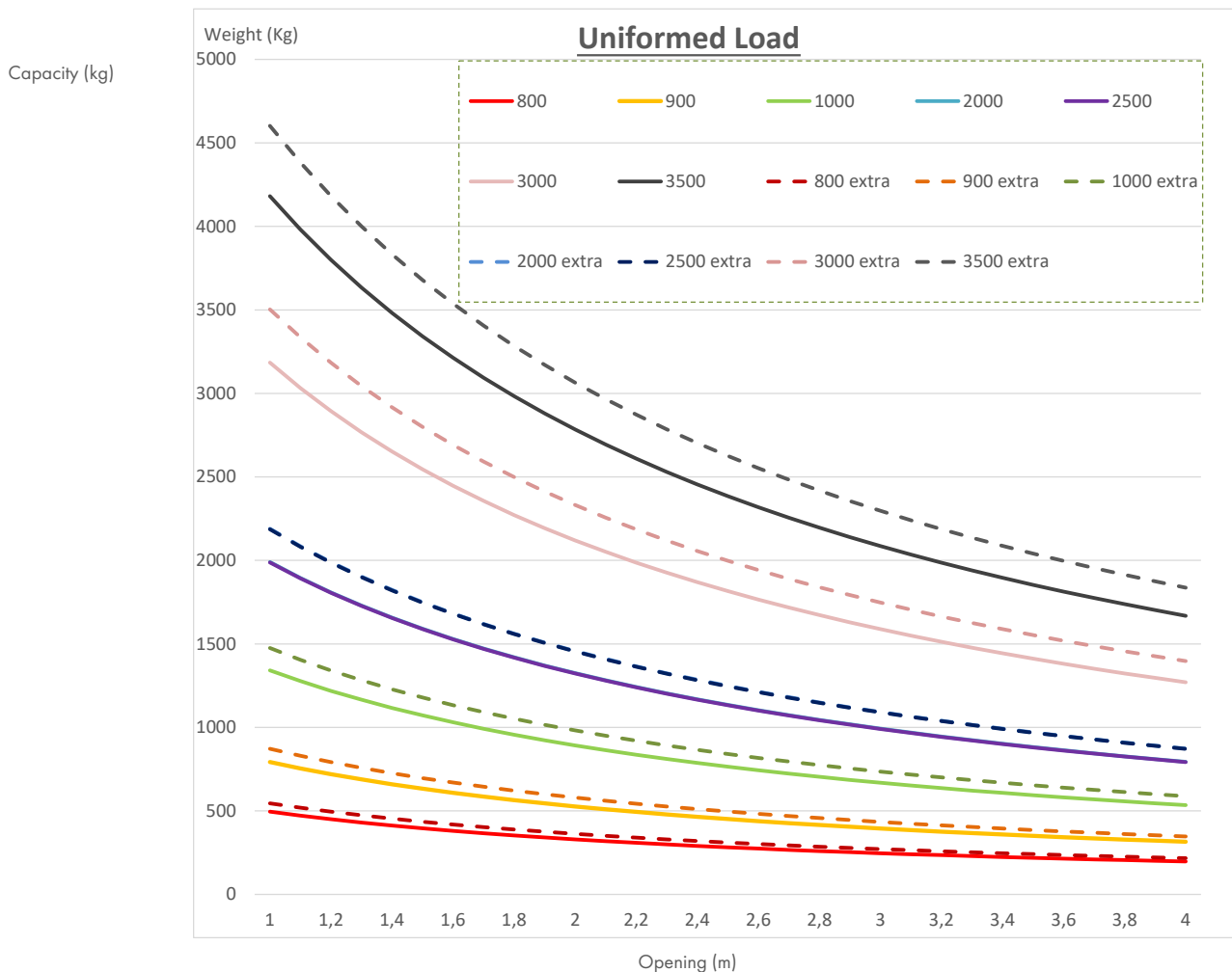**For more information: info@facsrl.com**

How to select the right series for you

Once calculated the A/C ratio of the gate, find the point on the graph (see here below) that corresponds to the gate weight. The parts to be used are those whose curve is above this point. If the gate does not have the weight distributed evenly use the second graph. The dotted lines refer to load conditions acceptable in terms of safety, but are not ideal in terms of durability and functionality. For heavy duty applications it is best to refer to the solid lines found within the given graph. Always keep in mind the following information:

- For P you have to consider the total weight of the gate, including the weight of all accessories.
- A low A/C ratio translates into a better gate performance. A low ratio reduces the forces involved, flection, rocking and wobbling effects.
- It is recommended to have an A/C ratio bellow 3, in any case the value should always be between 1 and 4 and never exceeding the 4 value.
- Should you choose the 3000 Series, we recommended to keep the higher wheels towards the outside.
- To calculate the size and the loads acting on the gate, FAC provides a spreadsheet in Excel that does all the calculations for each specific condition. For more information contact FAC or visit www.facsrl.com

Capacity (kg)

Uniformed Load

Weight (Kg)

Legend: 800, 900, 1000, 2000, 2500, 3000, 3500, 800 extra, 900 extra, 1000 extra, 2000 extra, 2500 extra, 3000 extra, 3500 extra

Opening (m)

## Recommended installation instructions for Cantilever Systems

1. Set the dimension C as the maximum possible with the available spaces, not as the minimum for the load in question, and try not to exceed the value 3 of the A/C. The ideal C = A/3. This will assure the best gate working condition during gate movement.

C>A/3,2   A

2. Comply with the D value between the carriages, this value will optimize the spaces and loads.

YES

D
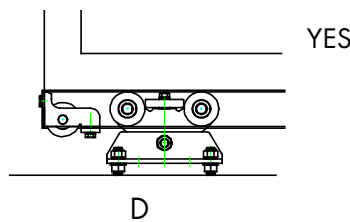
3. Fix the trolleys on the ground so that they are firmly supported in correspondence of the fixing rods, the trolleys must be aligned along the sliding axis of the gate and make sure the bases are perfectly horizontal, this will ensure that all wheels will work simultaneously and turn without dragging on the rail.

NO   NO   NO
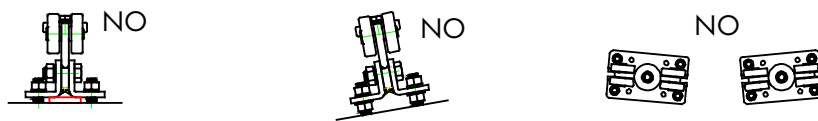
4. Make sure the rocker arm is not locked and can move freely on its pivot point, this will allow the wheels to adapt to any irregularities of the rail during gate movement.
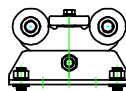
5. The gate must be positioned vertically above the carriages and the rail must be firmly fixed and the sliding surfaces of the wheels must be perfectly horizontal, this will ensure the maximum weight and radial force distribution on all wheels.

YES   NO
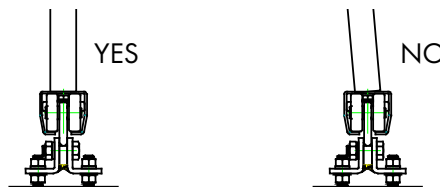
6. Always use an end stop and a guide roller, if not possible make sure the gate comes to rest in some way. This will prevent gate wobbling and will help relief some of its load when the gate if fully opened or fully closed;

YES   NO

7. Fix the upper guide directly in contact with the gate frame this will eliminate all possible slack and wobbling of the gate during movement.

YES   NO   YES   NO
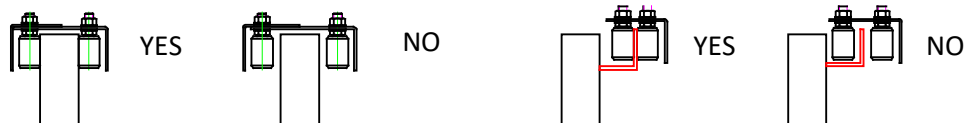
8. Once installed, slide the gate by hand and make sure that there are no rubbing of any kind or fluctuations, if needed perform all required adjustments.

9. Ensure that the gate structure is structurally adequate and keep the gate in a horizontal position, avoiding bending.