inova® Industry

INOVA® Industrial sliding gates

Security through innovation

INOVA quality: One step ahead in security

Protecting your investment, your assets and your security, permanently and reliably: that is the task to which INOVA sliding gates are ideally suited. What makes them so outstanding is the unique, patented design: the drive unit on INOVA sliding gates is housed invisibly inside the lower beam, instead of being mounted on the inside edge of the gate leaf itself, as is the case with conventional gates.
This cantilevered design, brilliant in its simplicity, has already won several prizes, and justifiably so, given the numerous advantages it offers:

- Particularly reliable, because far fewer components are needed compared with conventional sliding gates
- Drive unit is totally protected against the elements, dirt and debris
- Highly reliable in use
- Stylish appearance, because the drive unit is concealed invisibly within the lower beam.
- Minimal foundation work is required
- Gate runs perfectly smoothly even in snow and harsh working environments

An innovation that pays for itself!
Since the innovative design of INOVA sliding gates means that many of the components of conventional gates (some of them prone to breakdown) such as stud chains, toothed racks or drive unit covers, are simply no longer necessary, the manufacturing, installation and maintenance costs are all dramatically reduced.
For you, that means maximum security combined with excellent value for money!

It's no wonder that in just a few years INOVA sliding gates have become one of the market leading products throughout Europe: countless customers in industry, public services and the private sector have complete confidence in INOVA sliding gates.

INOVA
You can rely on us!

Prizes:
- Seifriz Prize 1996
- Münsterland Innovation Prize 1997
- Bavarian State Prize

Depending on the width of your entrance, you can choose between different gate types and designs.

INOVA 160 MI, 160 ETI, 160 ESI

Lower beam height	160 mm
Lower beam depth	165 mm
Opening width	up to 6000 mm
Drive power	0.18 kW

INOVA 200 MI, 200 ETI, 200 ESI

Lower beam height	200 mm
Lower beam depth	165 mm
Opening width	up to 8000 mm
Drive power	0.37 kW

INOVA 280 MI, 280 ETI, 280 ESI

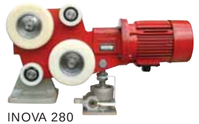
Lower beam height	280 mm
Lower beam depth	205 mm
Opening width	up to 12000 mm
Drive power	0.75 kW

INOVA 380 ETI, 380 ESI, 400 ETI, 400 ESI

Lower beam height	380 or 400 mm
Lower beam depth	205 mm
Opening width	up to 16000 mm
Drive power	0.75 kW

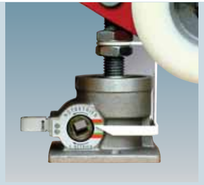
INOVA 160

INOVA 200



INOVA 280

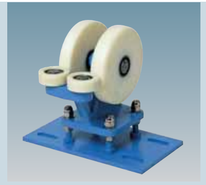
Extremely quiet in operation
Reducing noise levels is a way of protecting the environment, so that's why INOVA gates run particularly quietly. This is achieved by the extensive use of roller bearings in polymer guide rollers. The results are obvious: the gate opening and closing cycles are practically silent.



Emergency operation even in a power cut
To ensure that the gates can continue to be operated smoothly even in a power cut, the gear unit on INOVA sliding gates can easily be set to manual operation, so that the gate can simply be opened and closed by hand.

Inovamatic microprocessor control
Protected from the elements, the electronic controls are cleverly enclosed within a purpose made section of the guide column. This lockable section of the column can be easily opened and closed when maintenance or adjustments are necessary.

Electrical drive fitted in lower beam
The electrical drive unit on INOVA gates is fitted in the lower beam, invisible from the outside and protected from tampering and the weather, yet easily accessible for maintenance. An AC-powered worm gear unit provides direct power transmission to the gate.



Height-adjustable roller support
Where conventional gates require two rolling wheel supports, INOVA needs only one – the drive unit acts as the second support. This results in significant material and cost savings.

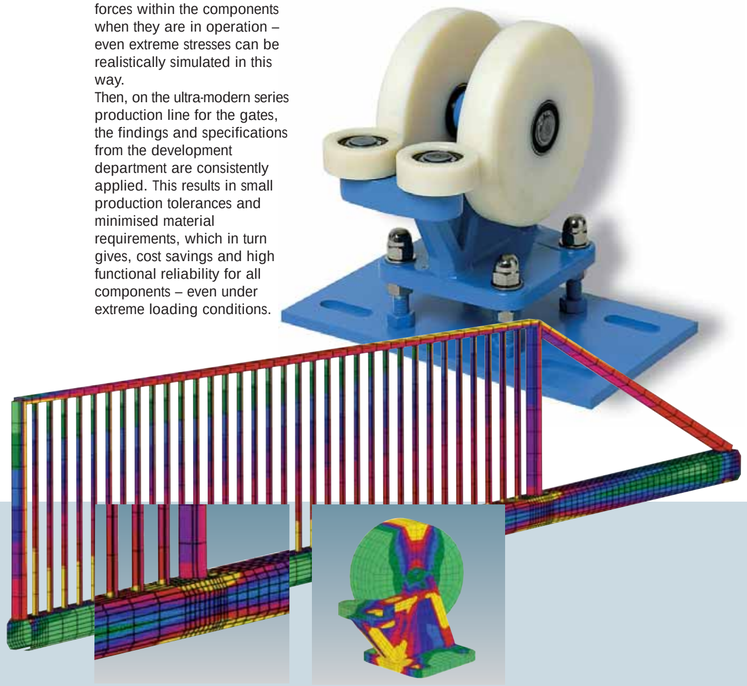
Intelligent control system for accident prevention
To minimise the risk of accidents or damage to property, INOVA gates stop automatically whenever they come across obstructions or are subjected to resistance.

To do this, there are five contact strips fitted on the gate itself and on the guide column.

With a maximum opening width of 16 m per gate, when 2 are installed opposite each other, opening widths of up to 32 m are possible.
INOVA sliding gates can be installed quickly, easily and cheaply, because the gates are supplied fully pre-assembled. The drive unit and safety devices are ready for use when they are delivered, and all only the foundation work and pre-cabling is necessary. There is a tensioning element in the design of the gate to provide the necessary tensioning and allow for later adjustments.

More intelligent than the rest

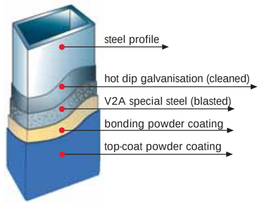
Every INOVA sliding gate embodies the expertise that comes from years of intensive research.
Even as the design was still being developed, sophisticated computer simulations were used to analyse the distribution of forces within the components when they are in operation – even extreme stresses can be realistically simulated in this way.
Then, on the ultra-modern series production line for the gates, the findings and specifications from the development department are consistently applied. This results in small production tolerances and minimised material requirements, which in turn gives, cost savings and high functional reliability for all components – even under extreme loading conditions.

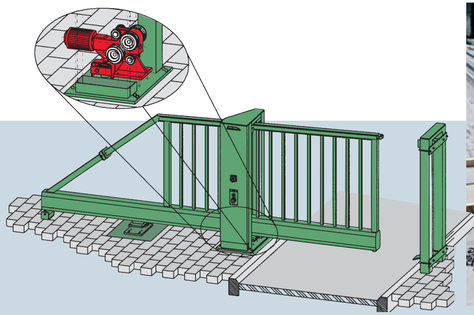


Computer-aided, ultra-accurate roller design
The latest computer technology means that a degree of manufacturing precision can be achieved that was inconceivable until quite recently. The computer-designed roller support on INOVA gates is cast in one piece, in a single process, with the bearing shafts for the roller wheels being cast at the same time as the support. The result: quiet operation and a long service life, while the cost of materials is reduced.

Durable corrosion protection

Top-quality, environmentally-friendly double powder coating for long-lasting, resistant surfaces.





All the main production processes in the manufacture of INOVA sliding gates have been entirely automated – this means relatively low production costs and high production accuracy with small error tolerances.

The latest manufacturing techniques for maximum longevity

All sliding gates are delivered fully assembled – all that is needed on site is some small-scale foundation work, and then the gate can be put into operation immediately.
Cost-effective design and maximum functional reliability: these are the tangible benefits on which the international market success of INOVA sliding gates is based.

The most important parts are invisible

Whether you require individually coded hand-held transmitters for the vehicles in your fleet, or your sliding gates have to open and close automatically on certain days of the week or at certain times, or if you need high-security access control – INOVA sliding gates offer the perfect combination, including all the latest control functions:

- remote control
- automatic timed opening / closing
- induction loops
- card reading systems
- safety light barriers
- contact strip monitoring

So that best use can be made of all control functions, the modular electronic control system on INOVA sliding gates can be extended to suit your needs. The high-performance power output unit ensures fault-free long-term service.
The control system for INOVA cantilevered gates is housed within the guide column. Due to its height, above ground, this assures maximum protection against water ingress.
Freely programmable signal outputs keep you reliably informed about the current status of the gate (OPEN, CLOSED, GATE moving).

INOVA gates always do their job reliably, regardless of whether they are operated by means of a complex control system or by the key-operated switch in the control column.

Placing the electric drive unit inside the lower beam makes the system secure, avoiding unwanted tampering. However, if any maintenance work is needed on the drive unit, it can be easily accessed.

To guarantee trouble-free long-term use, all INOVA gates are subject to strict end controls at the factory. That includes a realistic load test on a specially constructed test installation which the sliding gates must pass before delivery.

Security and elegance combined

inova® Industry

First impressions are vital – so that's why it's important that your business partners, visitors and employees get the "right" impression as soon as they enter your site!

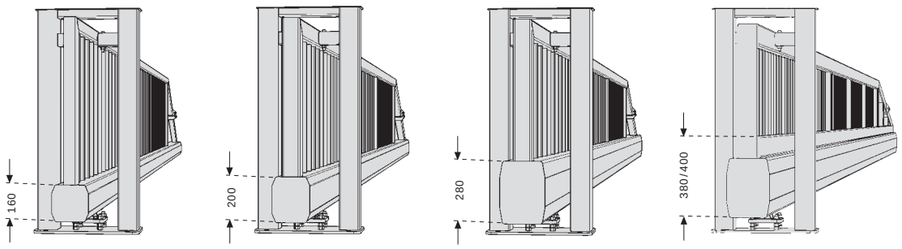
INOVA sliding gates offer you far more than total protection – they are a calling card for your company.

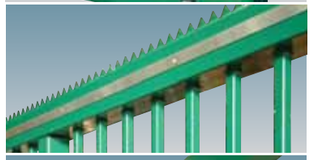
That is why there is such a wide range of design options available to you: surface finish in all RAL colours, all kinds of infill materials (e.g. perforated panels, mesh, bars), customized security devices such as spike protection, and pedestrian gates and fencing designed to match the sliding gates.

As you would expect from INOVA products, everything is well thought out, down to the last detail:

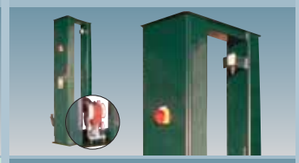
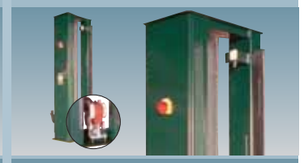
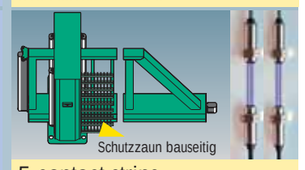
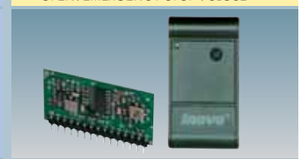
on the top beam of the gate (industrial) is a narrow aluminium strip which stops the high-quality surface coating from being rubbed off by the guide rollers at the side.

Basic specification



INOVA® Industry	inova® 160	inova® 200	inova® 280	inova® 380/400
Opening width	**2.0** to **6.0** m	**4.0** to **8.0** m	**6.0** to **12.0** m	**12.0** to **16.0** m
Total gate heights available (incl. 100 mm ground clearance)	1200 to 2400 mm	1200 to 2400 mm	1200 to 2400 mm	1200 to 2400 mm
Direction of opening (seen from outside)	Left or right	Left or right	Left or right	Left or right
	Gate leaf Bar infill ☐ 25	Gate leaf Bar infill ☐ 25	Gate leaf Bar infill ☐ 25	Gate leaf Bar infill ☐ 25
	Anti-wear strip	Anti-wear strip	Anti-wear strip	Anti-wear strip
	Tensioning device	Tensioning device	Tensioning device	Tensioning device
	Double receiver post, (can also be supplied for cementing in)	Double receiver post, (can also be supplied for cementing in)	Double receiver post, (can also be supplied for cementing in)	Double receiver post, (can also be supplied for cementing in)
	Assembly kit 8 concrete dowels	Assembly kit 8 concrete dowels	Assembly kit 8 concrete dowels	Assembly kit 8 concrete dowels
	Colour: double powder-coating, RAL 6005, 7030, 7035, 9010, 9005 or 7016	Colour: double powder-coating, RAL 6005, 7030, 7035 9010, 9005 or 7016	Colour: double powder-coating, RAL 6005, 7030, 7035 9010, 9005 or 7016	Colour: double powder-coating, RAL 6005, 7030, 7035 9010, 9005 or 7016
	Acceptance: TÜV (Technical Inspection Authority) Type approval Initial type testing for compliance with EN 13241-1			
	Documentation: assembly instructions, operating instructions / inspection certificate			
	Foundation plan: INOVA standard plan			

Series production specification

INOVA® Industry	TYP MI Manual	TYP ETI Electric drive (dead man's handle control)	TYP ESI Electric drive (impulse control)
Guide column (Type MI also available for cementing in)			
Integrated electric drive INOVA 160 (0.18 kW) INOVA 200 (0.37 kW) INOVA 280/380 and 400 (0.75 kW)	No		
Control	No	 Dead man's handle control	 Inovamatic 400
Safety device EN 12453	No	No	 5 contact strips 2 light barriers
Operating panel inserted on both sides of the guide column	Manual	 Key has to be turned in the direction of movement and held; the gate only moves in the required direction while the key is held. 2 key-operated buttons OPEN / CLOSE	 1 key-operated button OPEN / STOP / CLOSE 1 key-operated button OPEN / EMERGENCY STOP / CLOSE
1 channel remote control 434 MHz	No	Not permitted	
External operation	No	Not permitted	See optional extras

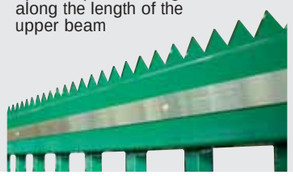
Tailor-made solutions for special requirements

Special sheet metal infill

Fence connector both sides

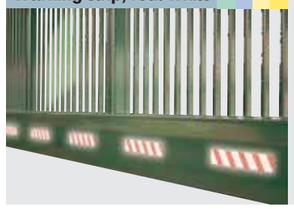
Anti-climb protection

Spike strip 40 mm high along the length of the upper beam



Special RAL colours

Warning strip, red/white



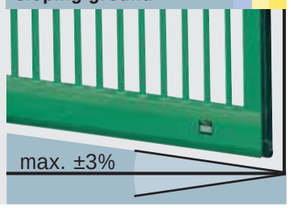
Pedestrian access gate

Swing gate at the side
with profile cylinder lock to match the sliding gate

Intercom system

Visitors announce their arrival to the porter or in the main office

Sloping ground



Flashing light

Revolving light

Shows when gate is in motion (accident prevention)

Protective cage for lights

Code reader

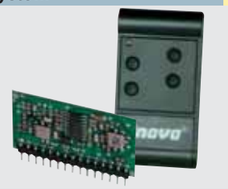
Enter a numerical code to operate the gate's control system

Safety contact strips

1 channel hand-held transmitter

To open and close the gate by radio signal

4 channel remote control system



4 channel hand-held transmitter

Specific control OPEN/STOP/CLOSE or separate control of up to 4 INOVA gates by touch control

Key-operated switch

Open/Stop/Close
The desired travel direction is initiated by the user. The stop button immediately stops the movement of the gate in either direction.

Key-operated switch

Open/Emergency stop/Close
(legally required) Key operated control device with Emergency Stop button to immediately stop the gate travel in either direction.

Key-operated switch

Key-operated switch with 2 profile cylinder locks

1 Open/close for employees
2 Open/close for fire brigade, suppliers

Push-button

Open/Stop/Close
Push button control with additional key operated enable switch.

Soft-start device

For average 150 openings per day

Weekly timer

Opens and closes the gate at set times on a recurring weekly cycle

Annual timer

Like the weekly timer but also takes account of public holidays

Non-contact card reader

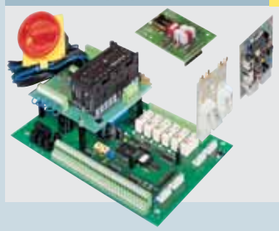
The gate opens on recognition of a code. Closing is automatic.

MI	ETI	ESI Inovamatic	ESI Inoflex	Optional extras
				Intermediate heights
				Intermediate widths
				Intermediate height and width
				Foundation plan to comply with local circumstances, architect's plan
				Special gate infill materials
				Fence connectors, both sides
				Anti-climb protection (serrated metal strip) at heights over 1.8 m
				Special colours from the RAL/DB card
				Reflective warning strip, red/white, on both sides of the lower beam
				Drilling template (assembly aid)
				Receiver post with base plate to be secured with dowels (dowels incl.)
				Side gate for pedestrians, 1.0 m wide with profile cylinder lock at right height for gate frame
				Mortise lock installed for 2nd profile cylinder (fire brigade)
				Electric gate opener
				Hydraulic mounted gate closer TS 400
				Hydraulic built-in gate closer tube
				Intercom system, supplied separately
				Key safe F3100 (125x75x75) fitted in the guide column
				Sliding gates up to 2 m high adjusted to the terrain, max. 3% incline, including brake for emergency stop, special foundation plan
				Flashing light (guide column)
				Revolving light on pedestal (guide column)
				Protective cage for revolving light
				Code reader
				Safety contact strips, additional
				Additional 1 channel manual transmitter, touch control
				4 channel remote control incl. 1 hand-held transmitter – targeted OPEN/STOP/CLOSE control or separate control of up to 4 INOVA gates/barriers by touch control
				Additional 4 channel manual transmitter – targeted control
				Key-operated switch OPEN/STOP/CLOSE*, additional
				Key-operated switch OPEN/EMEGENCY STOP/CLOSE*, additional
				Key-operated switch preset for 2nd profile cylinder (fire brigade)*
				Push-button switch OPEN/STOP/CLOSE, surface-mounted, additional
				Soft-start device (recommended for frequent load changes)
				Weekly timer switch (switches automatic mode OFF/ON)
				Annual timer switch (as above, but takes account of public holidays)
				Card reader
				Special INOFLEX SPS microprocessor control
				2 channel induction loop detector
				Induction loop for laying under paving
				Light barrier, separate transmitter/receiver, additional
				Gate control using your own mobile phone

GATE TYPE

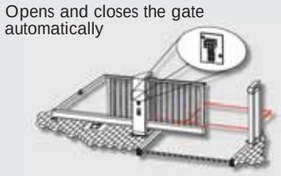
*Built into the receiver post, inside or outside

Inoflex SPS control



Induction loop

Opens and closes the gate automatically



Additional light barrier

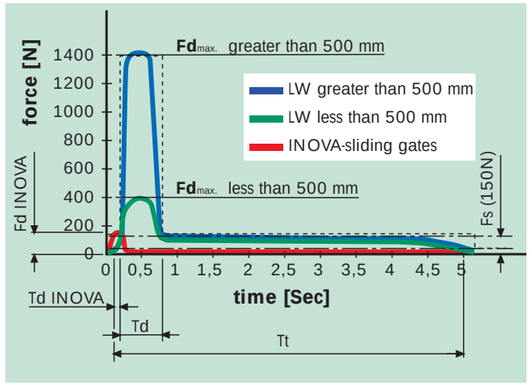
OPEN/CLOSE by mobile phone

Control the gate with your mobile phone

Legal requirements, dimensions

Controlled force
In order to avoid injuries caused by sliding gates, the maximum permitted force that can occur in connection with gates is restricted by legislation under EN 12453. INOVA is leading the way in complying with this regulation and is well within the permitted values. All INOVA products have to pass a comprehensive safety and function test on our test bench before delivery. This means we can guarantee

Technical Inspection Authority-standard safety … for your safety!



gate					leaf of gate									foundation				
Drive-through width	Total weight of gate, 2 m high	Total gate heights available	Gate frame	Gate column height	Post spacing	Average distance between posts	Gate travel distance	Length of lower beam	Average spacing of main gate columns	Average spacing of roller	Average spacing of stopper	Required total length	Height of lower beam	Centre of receiver post (from reference edge)	Length of main foundation	Centre of roller (from reference edge)	Centre of stopper (from reference edge)	Volume of concrete
A	Fg	B	GB	C	D	E	F	G	H	L	M	K	X	a	b	l	m	b25
[m]	[kg]																	[m³]
					INOVA 160/200													
2	370				2150	1150	3660	3700	2350	2600	3580	6510	160	2100	1650	2850	3830	1,5
2,5	390				2650	1250	4260	4300	2850	2800	4180	7610	160	2600	1750	3050	4430	1,6
3	410				3150	1350	4860	4900	3350	3000	4780	8710	200	3100	1850	3250	5030	1,6
3,5	430				3650	1350	5360	5400	3850	3300	5280	9710	200	3600	1850	3550	5530	1,6
4	460				4150	1450	5960	6000	4350	3500	5880	10810	200	4100	1950	3750	6130	1,7
4,5	480				4650	1550	6560	6600	4850	3800	6480	11910	200	4600	2050	4050	6730	1,7
5	520				5150	1850	7360	7400	5350	4600	7280	13210	200	5100	2350	4850	7530	1,8
5,5	540				5650	1850	7860	7900	5850	4800	7780	14210	200	5600	2350	5050	8030	1,8
6	600				6150	1850	8360	8400	6350	5300	8280	15210	200	6100	2350	5550	8530	1,8
6,5	640				6650	2250	9260	9300	6850	5900	9180	16610	200	6600	2750	6150	9430	2,0
7	660				7150	2250	9760	9800	7350	6200	9680	17610	200	7100	2750	6450	9930	2,0
7,5	690				7650	2450	10460	10500	7850	6600	10380	18810	200	7600	2950	6850	10630	2,1
[m]	[kg]				**INOVA 200/280**													[m³]
8	730				8150	2650	11160	11200	8350	7100	11080	20010	200	8100	3150	7350	11330	2,2
8,5	970				8650	3050	12060	12100	8850	7600	11980	21410	280	8600	3550	7850	12230	2,9
9	980				9150	3050	12560	12600	9350	8300	12480	22410	280	9100	3550	8550	12730	2,9
9,5	1020				9650	3450	13460	13500	9850	8800	13380	23810	280	9600	3950	9050	13630	3,1
10	1060				10150	3450	13960	14000	10350	9300	13880	24810	280	10100	3950	9550	14130	3,1
10,5	1110				10650	3850	14860	14900	10850	10300	14780	26210	280	10600	4350	10550	15030	3,3
11	1140				11150	3850	15360	15400	11350	10800	15280	27210	280	11100	4350	11050	15530	3,3
11,5	1180				11650	4250	16260	16300	11850	11300	16180	28610	280	11600	4750	11550	16430	3,5
12	1210				12150	4250	16760	16800	12350	11700	16680	29610	280	12100	4750	11950	16930	3,5
[m]	[kg]				**INOVA 380**													[m³]
12,5	1510				12650	4450	17660	17700	12850	12150	17580	31010	380	12600	5100	12400	17830	3,8
13	1560				13150	4450	18160	18200	13350	12650	18080	32010	380	13100	5100	12900	18330	3,8
13,5	1610				13650	4550	18760	18800	13850	13100	18680	33110	380	13600	5200	13350	18930	3,9
[m]	[kg]				**INOVA 400**													[m³]
14	1650				14100	4850	19560	19600	14350	13300	19480	34410	400	14100	5500	13550	19730	4,1
14,5	1720				14600	5350	20560	20600	14850	13800	20480	35910	400	14600	6000	14050	20730	4,4
15	1790				15100	5850	21560	21600	15350	14200	21480	37410	400	15100	6500	14450	21730	4,7
15,5	1860				15600	5850	22060	22100	15850	14500	21980	38410	400	15600	6500	14750	22230	4,7
16	1930				16100	6050	22760	22800	16350	15000	22680	39610	400	16100	6700	15250	22930	4,9

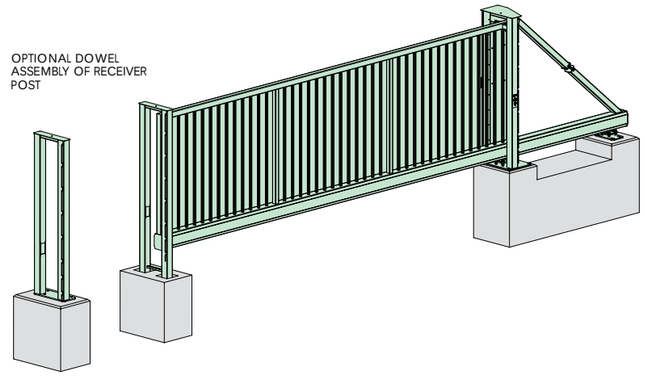
preferred dimensions:
1000/1200/1400/1600/1800/2000/2200 mm

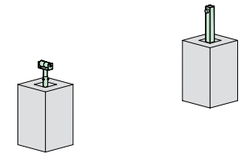
B - 100 mm from upper edge of foundation (± 0)

B + ca. 105 mm from upper edge of foundation

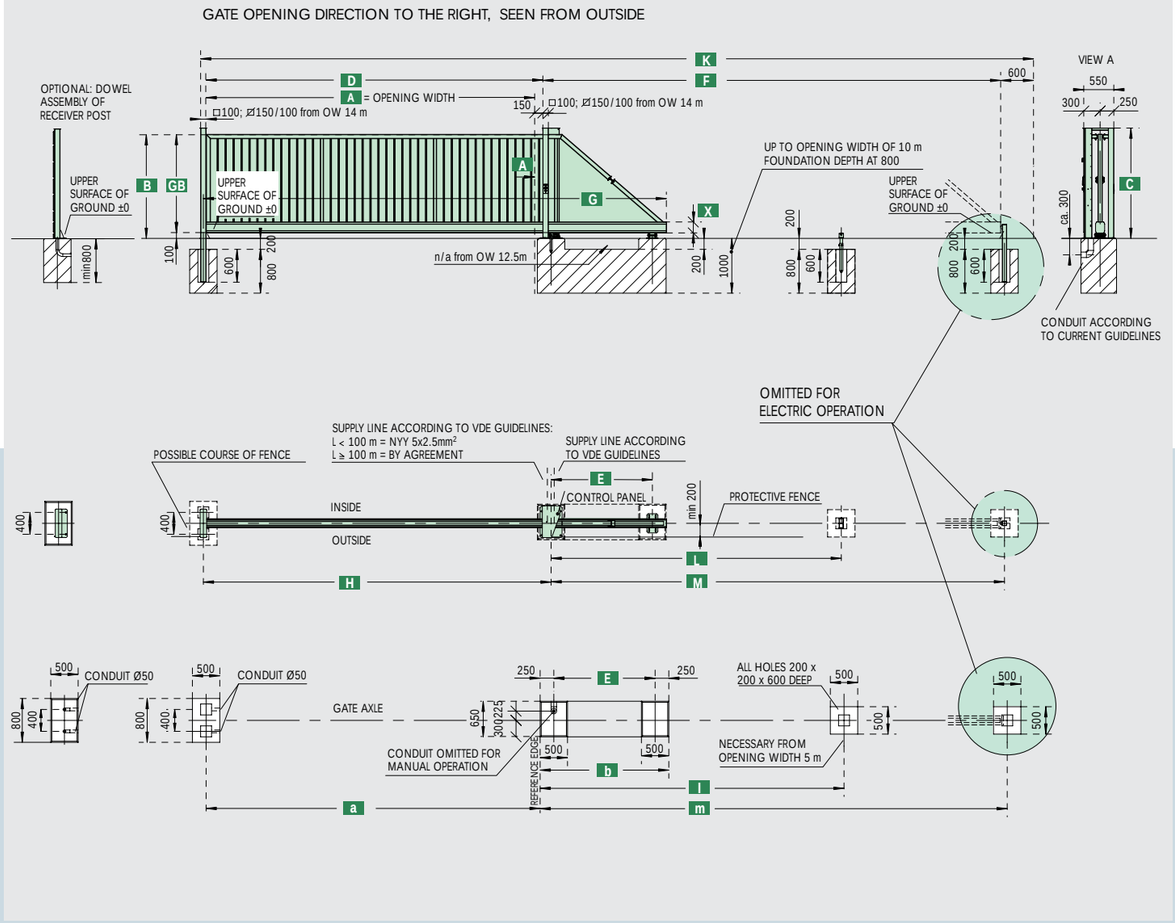
Subject to changes of dimensions

Foundation plan





FOUNDATION DIMENSIONS FOR GROUND CLASSES 3-4. FOR GROUND CLASSES BELOW 3, THE FOUNDATION MUST BE ENLARGED ACCORDINGLY.



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