

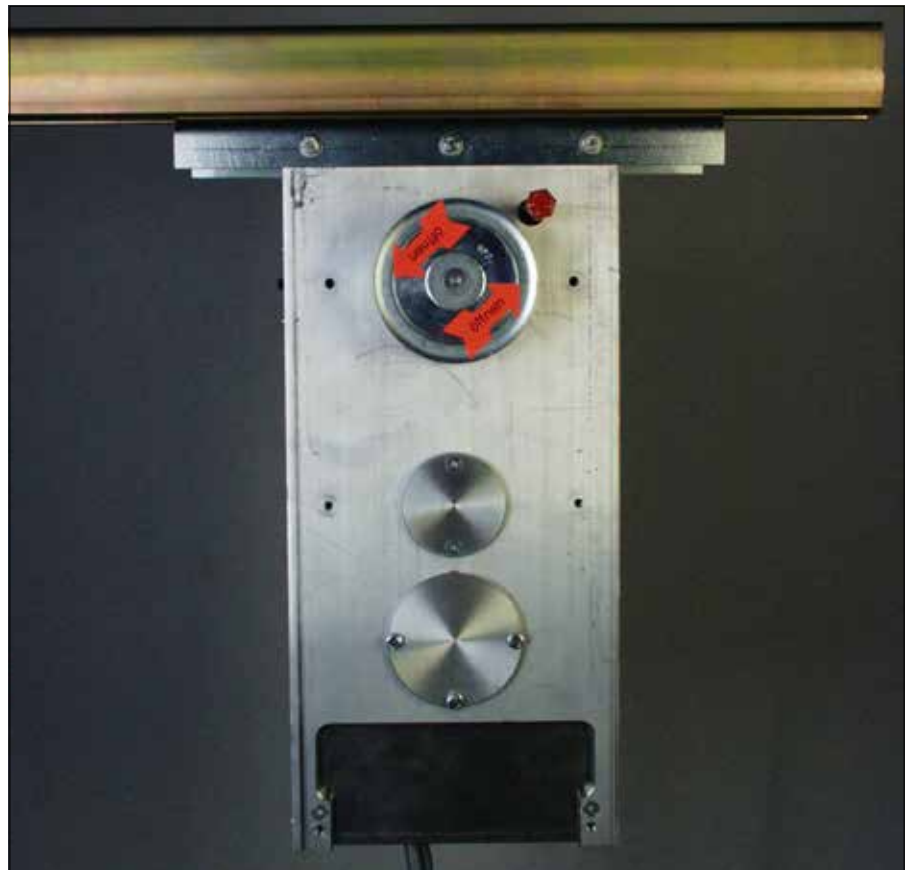
Sliding Door Drives DC-21 Series

DICTAMAT 5000-21 / 3400-21

The DC-21 series of door operators is made up of modular components with DC-motor. It has especially been designed for automatising sliding doors and gates in industrial and commercial buildings. It consists of the types DICTAMAT 5000-21 and 3400-21.

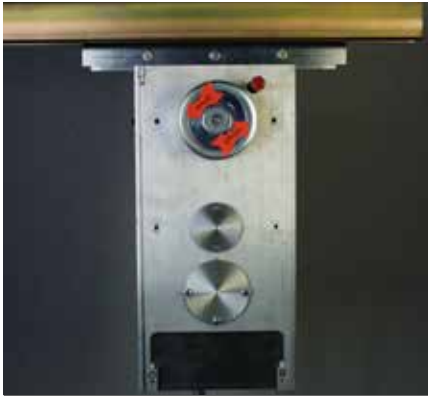
Your advantages:

- **High performance** combined with **small design**
- **Minimising the installation work:**
No separate limit switches are required when using the type with integrated encoder
- **Installation, handling and connection** of all DC-21 door operators is **similar**
- Modular system **facilitates maintenance** and **service**
- **Modular system** permits e.g. to **retrofit** an additional gear box in order to **increase the force** by the factor 1.7
- The E82 control system allows exact **adjustment to the requirements** of the door (smooth acceleration/ deceleration, breaking distance after response of a safety equipment). This **prolongs the life** of the door, the hangers and the door drive itself.



Selection Criteria

- For doors from 1 m to 7 m (with encoder); otherwise unlimited operating distance
- Motor force 300 N to 1000 N
- For doors up to max. 1500 kg (doors must run smoothly)
- For up to 200 cycles per day
- Position control: integrated encoder; for doors > 7 m: separate limit switches
- Without current motor can easily be moved in the closing direction
- Operating options with E82: Open, stop, close, automatic closing, relay contact
- Not appropriate for doors having to fulfill the EN 12453 standard



Summary

The DC-21 door operator family is a modular system. All components can be combined. We offer two series with different motors for the use in the industrial or commercial sector: DICTAMAT 3400-21 and DICTAMAT 5000-21.

The types listed below are those used most. But there are other versions possible.

Both series make use of the same control system, the E82.

Technical Data

Type of Door Operator	DICTAMAT 3400-21		DICTAMAT 5000-21	
	Normal	with add.gear box	Normal	with add.gear box
Motor power	40 W	40 W	157 W	157 W
Force of the motor	300 N	500 N	600 N	1000 N
Opening and closing speed	adjustable separately			
max. m/sec.	0.3	0.18	0.22	0.13
Voltage of the control system	24 VDC		48 VDC	
Nominal current of the control system	2 A	2 A	7 A	7 A
Drive torque (at the axle of the operator)	10 Nm	17 Nm	20 Nm	34 Nm
Duty cycle	40 % ED			
Protection	IP 44			
Weight (without accessories)	10 kg	10 kg	10 kg	10 kg
Gates up to (running smoothly)	700 kg	1000 kg	1300 kg	1500 kg
Drives with position control/limit switches	position control: 7 m / limit switch: unlimited			
Number of operations per day	100		200	

Options

- Position Control

The position of the door is controlled either by an integrated position control (**L**) or by separate limit switches (**E**). The integrated position control reduces installation work considerably. When using limit switches you need four pieces in total, one each for the positions Closed, crawling speed Closed, crawling speed Open and Open).

The door operators with integrated position control should only be used for operating distances up to seven meters. Beyond this the positioning becomes too imprecise.

- Force Transmission

Door operators with integrated position control always use a toothed belt (**Z**) for the power transmission, as only this permits exact positioning. For smaller doors and with separate limit switches you also can use a rope (**S**). The operator and the accessories have to be designed according to the chosen power transmission.

- Gear Box

With unchanged motor power the gear box increases the force of the door operator by the factor 1.7; the maximum opening and closing speed being reduced to the same extent.

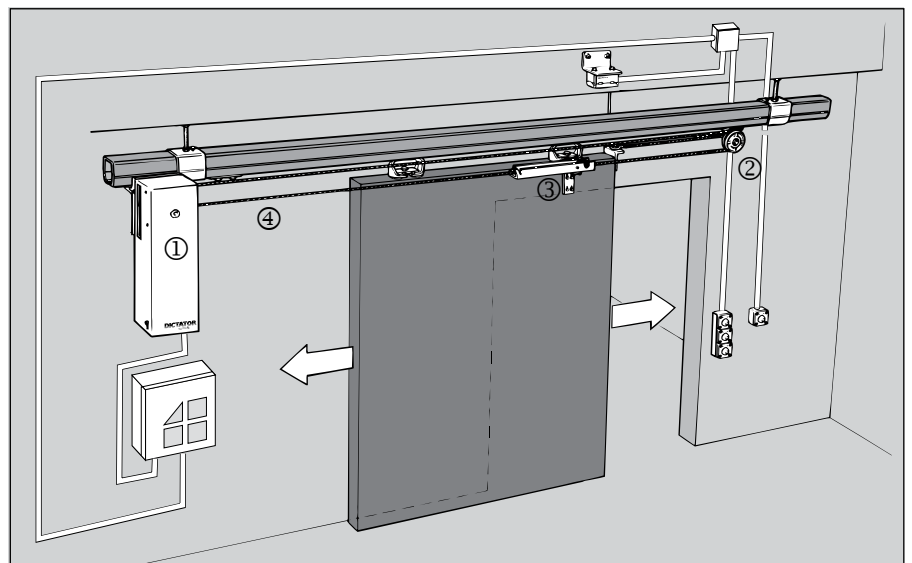


Components

The DC-21 door operators use a revolving toothed belt or sometimes a revolving rope for the power transmission to the sliding door. Usually the door operators are fixed to the rail. The illustrations below show the components of the DC-21 door operators with either integrated position control or separate limit switches.

The revolving toothed belt (rope) also makes it possible to operate two-leafed sliding doors with a single door operator and control system. For the second leaf you only need an additional belt fixing device (dimensioned drawing on page 04.029.00).

Gates up to 7 m Width

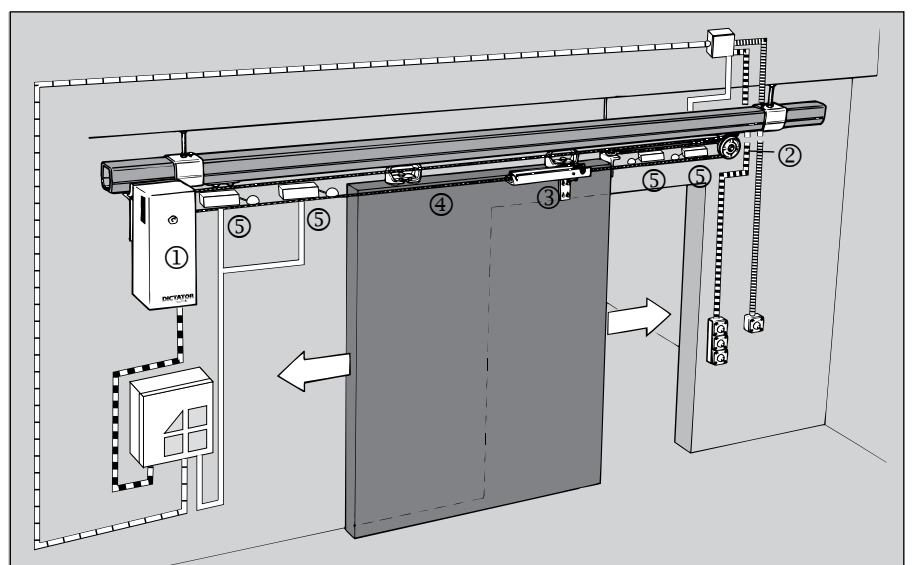


Sliding door with **DICTAMAT 5000-21 ZL** or **DICTAMAT 3400-21 ZL** with integrated position control

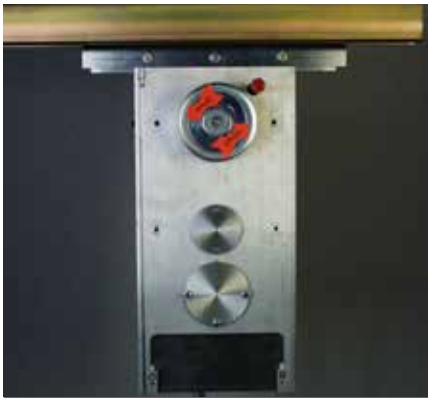
Gates Larger than 7 m

Legend

- ① Door drive with mounting plate
- ② Idler pulley with mounting bracket
- ③ Belt fixing device
- ④ Toothed belt / Rope
- ⑤ Limit switch



Sliding door with **DICTAMAT 5000-21 ZE** or **DICTAMAT 3400-21 ZE** or **SE** with separate limit switches for position control



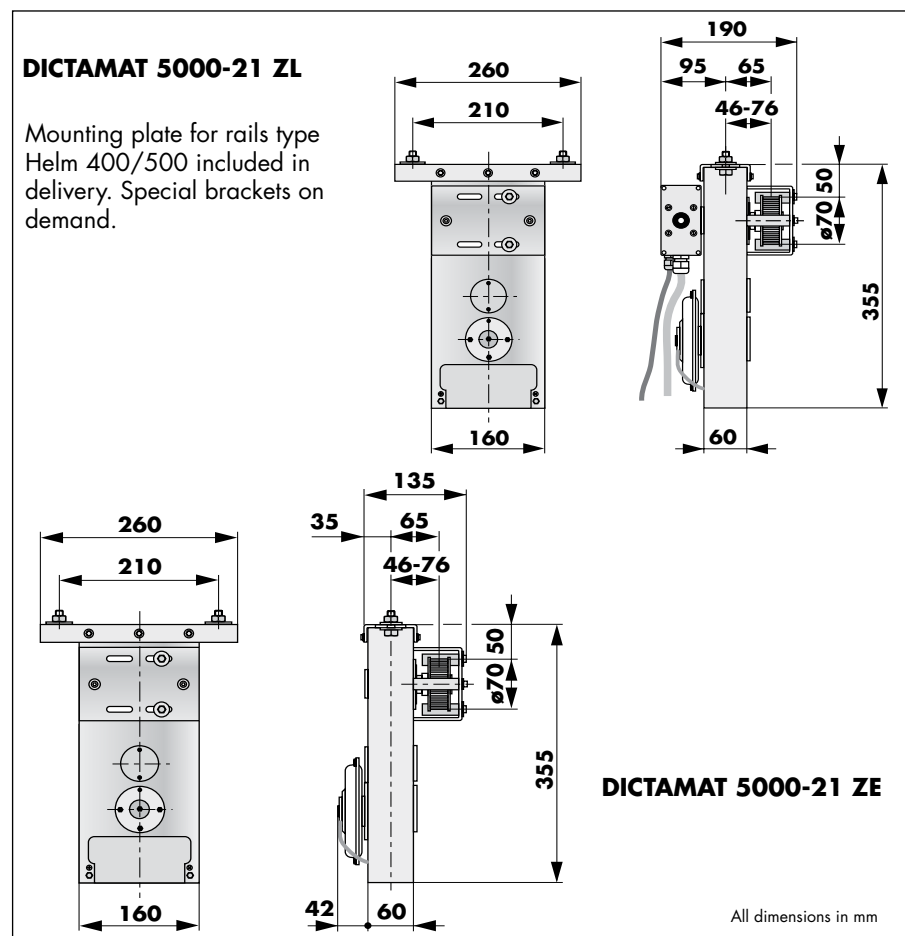
DICTAMAT 5000-21

The DICTAMAT 5000-21 requires **very little space in depth** due to its small and compact design. It is installed directly below the rail, so that **no space is necessary between the rear end of the door and the wall**.

The toothed belt for power transmission is not included in the delivery as the required length is nearly always different. Please order the toothed belt along with the door operator (rule of thumb: length of the toothed belt = 4 x width of the door).

Dimensions

DICTAMAT 5000-21



Components Included DICTAMAT 5000-21 ZL

- Door operator: gear module with 48 VDC disc-armature motor, driving wheel for toothed belt, encoder,
- 2.5 m connecting cable to the control system, mounting plate
- Idler pulley with bracket for mounting to the rail*
- Belt tensioner with angle bracket for fixing to the gate*

Components Included DICTAMAT 5000-21 ZE

- Door operator: gear module with 48 VDC disc-armature motor, driving wheel for toothed belt, 2.5 m connecting cable to the control system, mounting plate
- Idler pulley with bracket for mounting to the rail*
- Belt tensioner with angle bracket for fixing to the gate*

*See page 04.027.00 for drawings

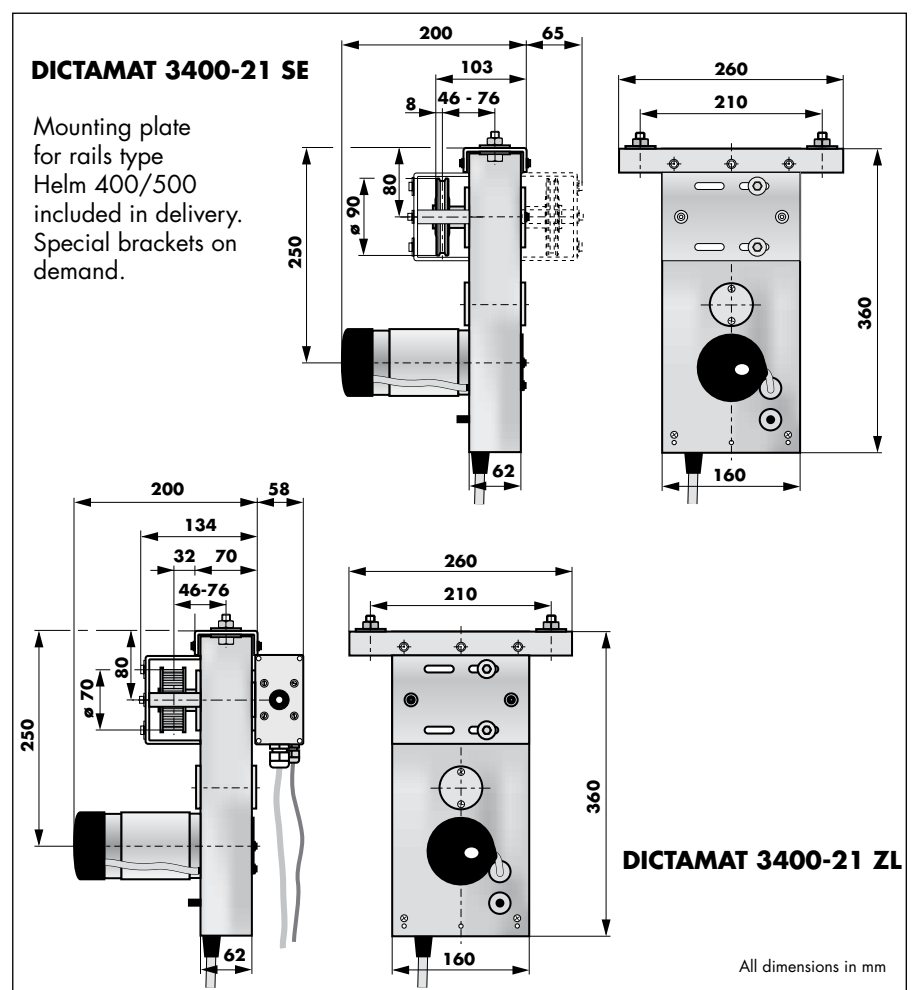


DICTAMAT 3400-21

The DICTAMAT 3400-21 requires due to its distant motor more space in the depth as for example the DICTAMAT 5000-21. But the DICTAMAT 3400-21 is much more economic. It can be installed directly below the rail, so that **no space is necessary between the rear end of the door and the wall**.

The **rope driving wheel** of the execution without encoder **can be changed from one side to the other one**. The rope for power transmission is included with this version. The toothed belt for the DICTAMAT 3400-21 ZL has to be ordered separately (rule of thumb: length of toothed belt = 4 x width of gate).

Dimensions DICTAMAT 3400-21



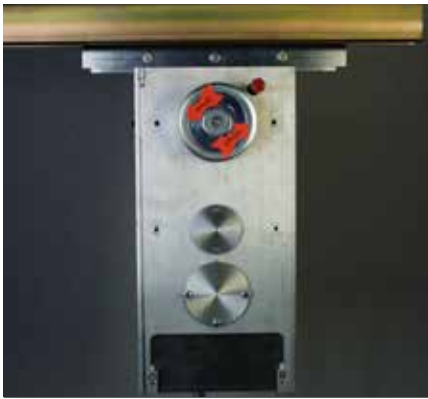
Components Included DICTAMAT 3400-21 SE

- Door operator: gear module with 24 VDC motor, driving wheel for rope, 2.5 m connecting cable to the control system, mounting plate, 25 m rope \varnothing 4 mm
- Idler pulley with bracket for mounting to the rail*
- Rope tensioner with angle bracket for fixing to the gate*

Components Included DICTAMAT 3400-21 ZL

- Door operator: gear module with 24 VDC motor, driving wheel for toothed belt, 2.5 m connecting cable to the control system, mounting plate
- Idler pulley with bracket for mounting to the rail*
- Belt tensioner with angle bracket for fixing to the gate*

*See page 04.027.00 for drawings

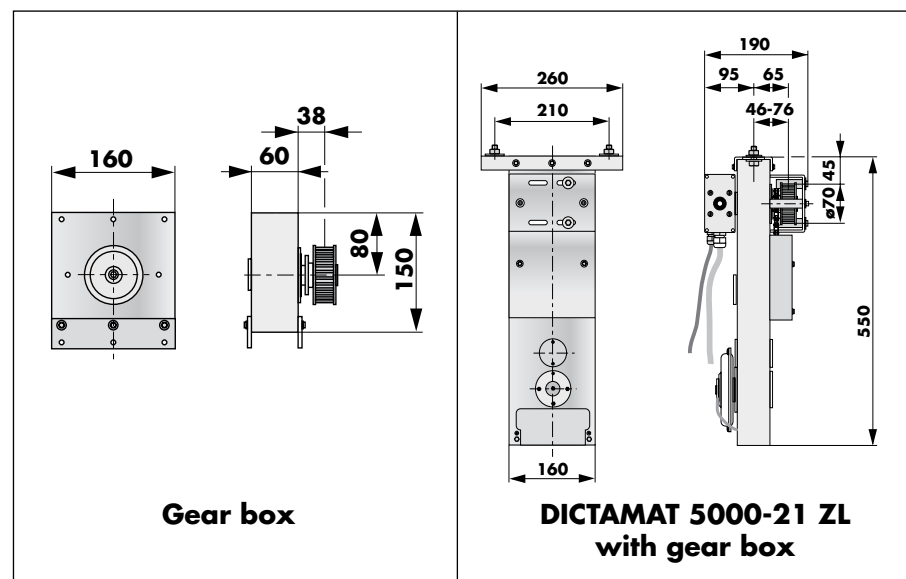


Gear Box for Door Operators DICTAMAT DC-21

DICTATOR has developed for the door operators system DC-21 an absolute novelty: the gear box, that permits to increase even on already installed drive units the force by the factor 1.7 - the opening and closing speed being reduced at the same rate. On demand the gear box can also be delivered with the reverse function: increasing the speed and at the same time reducing the force of the door operator.

- The gear box can be fitted on site to an already installed gate operator - by our service team or trained specialists. This way the gate stays in operation.
- It is not necessary to buy a new gate operator. The one already installed can be adapted.

Dimensions Gear Box



The DICTATOR gear box is fixed on top of the gear module with two lateral mounting plates. The driving wheel of the gate operator is removed and replaced by the small chain wheel. This chain wheel and the one on the gear box are connected by a chain. Finally the cover is put into place again.

The gear box is suitable for all gate operators of the system DC-21.

In order to make sure that after fitting the gear box the by 1.7 times higher force of the gate operator is fully used, the gear box has always to be used with toothed belt for power transmission. Only the toothed belt guarantees an absolutely friction-locked joining of gate and operator. Whenever the **existing gate operator** was **operating with steel rope**, the **gate operator has to be changed to** power transmission by **toothed belt**.

In case of very heavy gates the gate operator with gear box should be modified to power transmission by chain. Please contact us for this special execution.

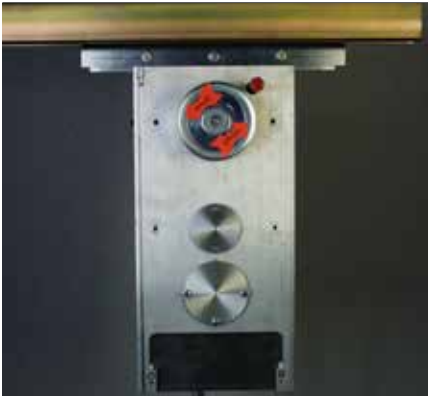
Components Included

- Gear box with lateral mounting plates
- Large chain wheel with driving wheel for toothed belt, small chain wheel
- Chain
- Cover made of aluminium

Order Information

Gear box for gate operators DICTAMAT series DC-21

part no. 785900

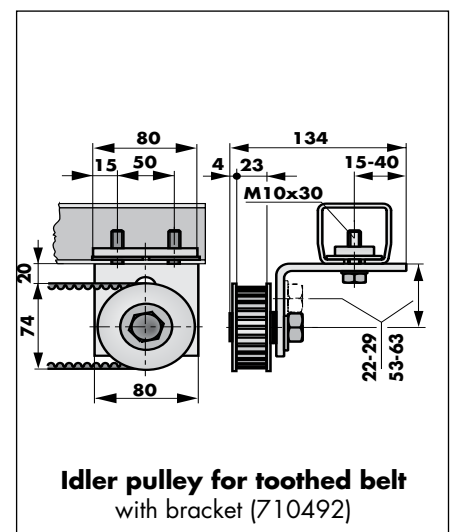
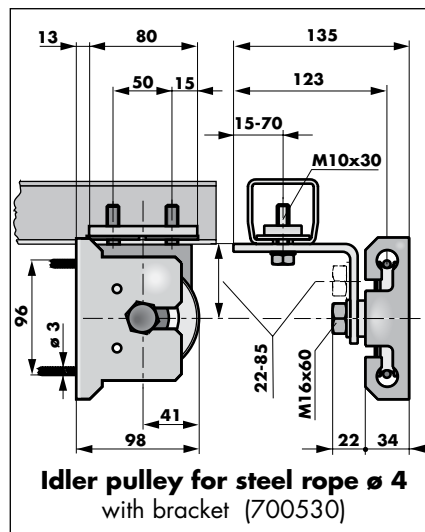


Accessories for DC-21 Gate Operators: Idler Pulleys, Rope/Belt Tensioner, Toothed Belt

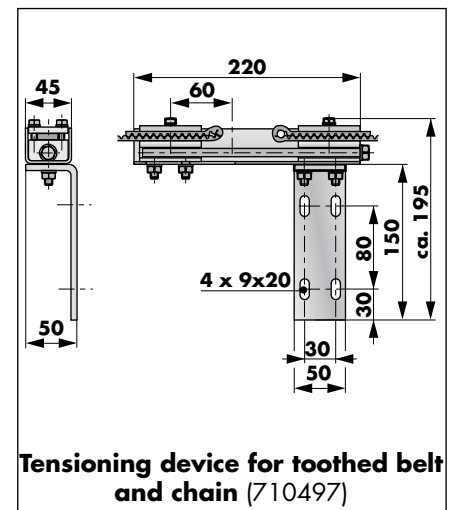
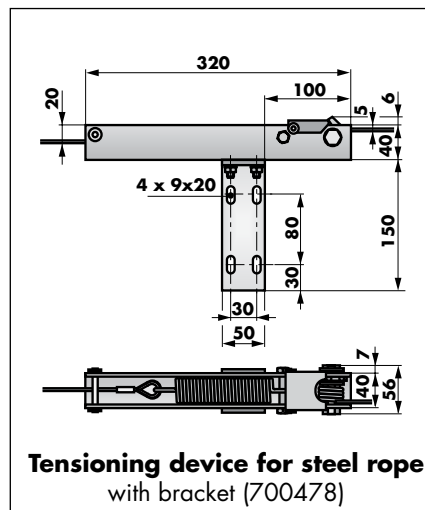
With the gate operators DICTAMAT DC-21 the power transmission is effected by a revolving steel rope, toothed belt or even chain. Therefore, on the opposite end of the rail an idler pulley has to be installed. The rope/toothed belt or chain tensioner are necessary for tensioning and fixing the rope/toothed belt or chain on the gate. The arrangement of these components is shown in the illustrations on page 04.023.00. In general they are included in the delivery.

The toothed belt has to be ordered separately. Rule of thumb for the length needed: length of the toothed belt = 4 x width of the door.

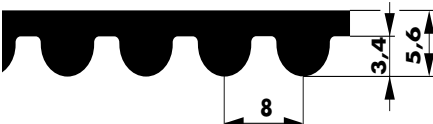
Idler Pulley



Tensioning Device for Rope/Toothed Belt/Chain with Bracket for Fixing to the Gate



Toothed Belt HTD



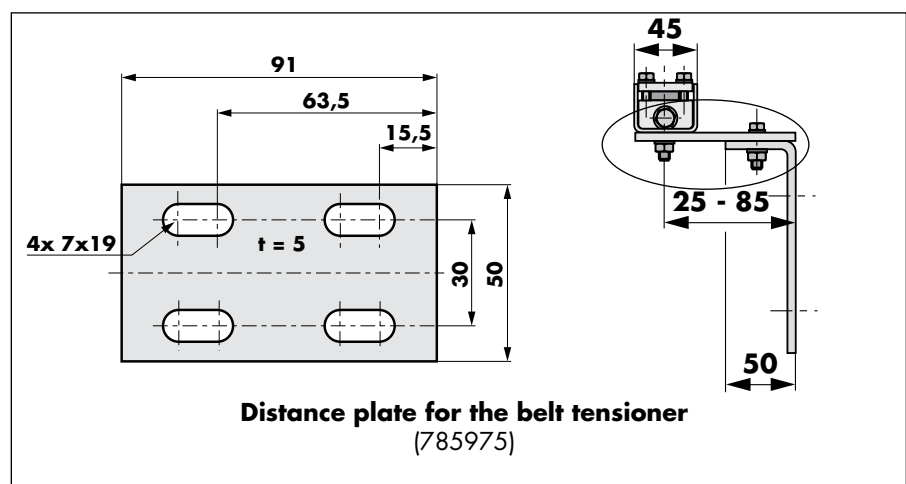
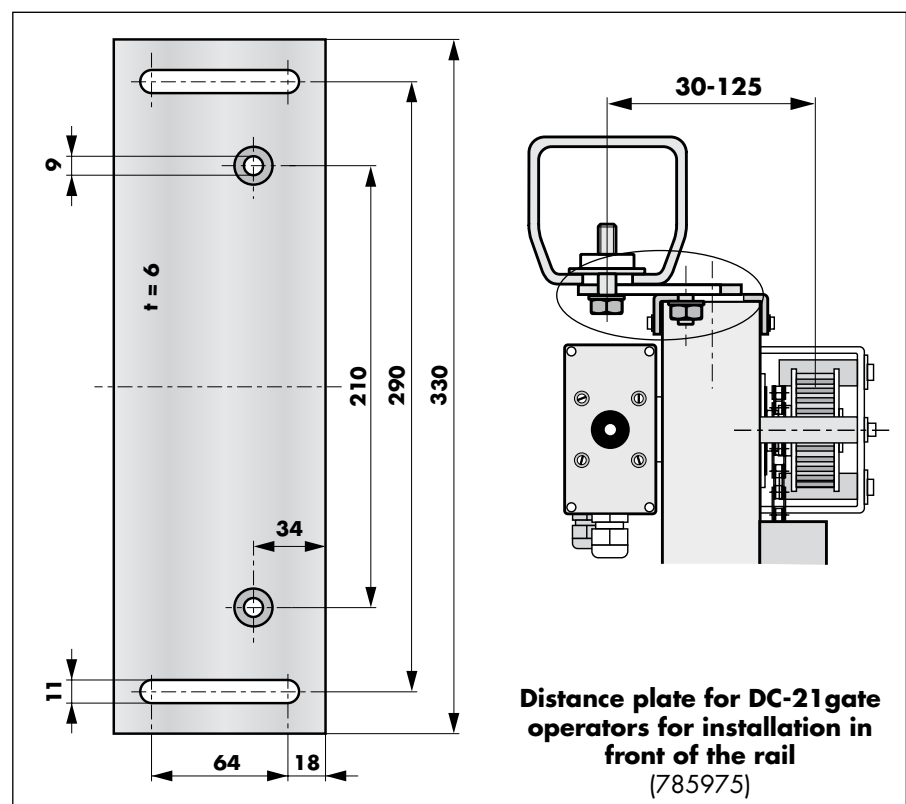
Material	PU (polyurethane)	
Tensile material	steel cord	
Operating temperature	-30° to +80 °C	
Resistant against	UV, ozone, oil and grease	
Tension load:	HTD 8M toothed belt, 20 mm wide	2680 N



Accessories for DC-21 Gate Operators: Mounting Plates

The DC-21 gate operators are in general mounted directly underneath the rail. In case the rail is very near to the wall, this distance may be too small for DC-21 operators with integrated position control. This problem is easily solved with the set of distance plates. These distance plates are simply inserted into the existing brackets. They permit to install both the gate operator and the belt tensioner up to 85 mm in front of the rail. The mounting bracket for the idler pulley for the toothed belt is already provided with such an adjustment possibility.

Set of Distance Plates for the Installation of DC-21 Gate Operators in Front of the Rail



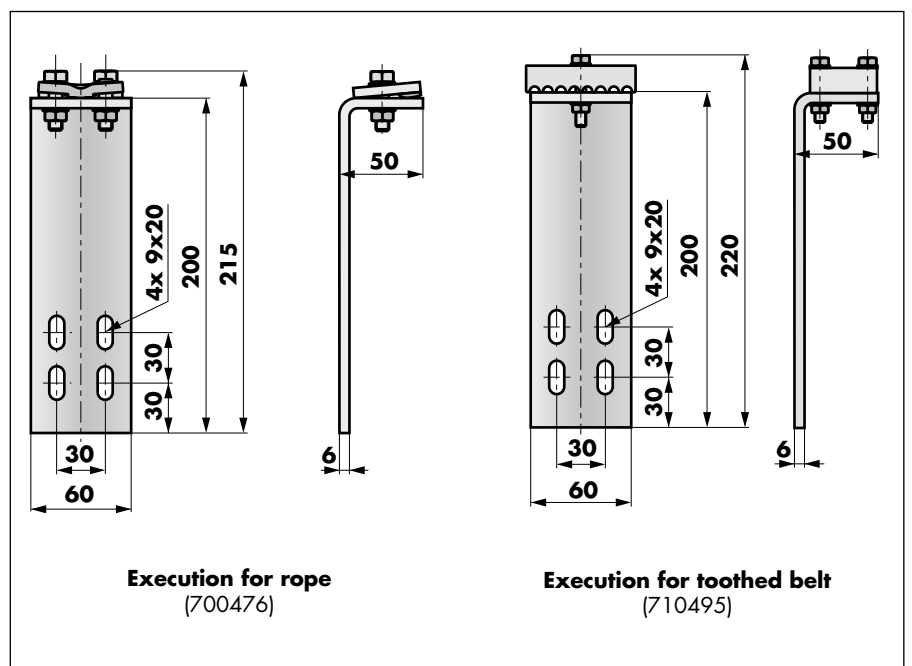


Accessories for DC-21 Gate Operators: Fixing Device for Two-Leafed Sliding Gates Supporting Roller

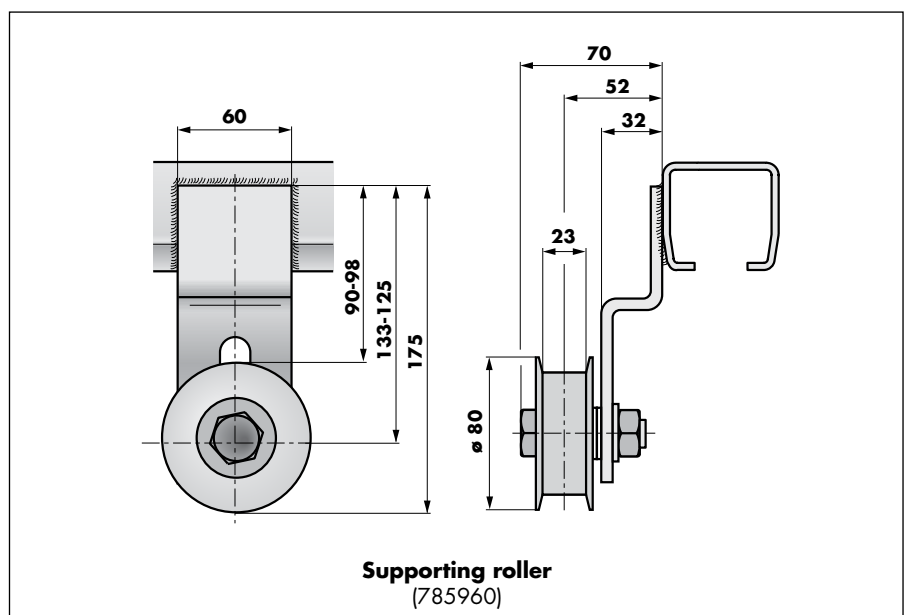
Also two-leafed sliding gates can be operated by a single gate operator and control system. For the second door leaf you just need an additional fixing device to connect it to the revolving rope/toothed belt.

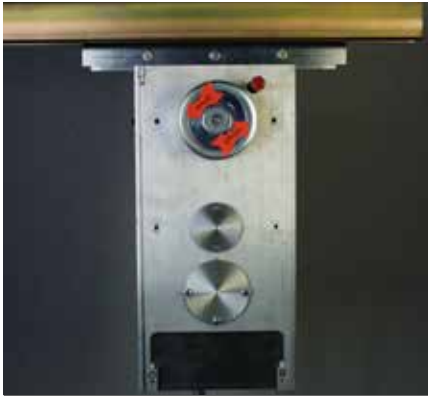
In case of sliding gates larger than six meters, an additional supporting roller for the rope/belt/chain should be provided every three to five meters. It prevents the sagging of the rope/belt/chain. A sagging chain suffers increased strain and wears faster. There is just one type of supporting roller for rope, belt and chain.

Additional Fixing Device for Two-Leafed Gates



Supporting Roller for Rope/Toothed Belt/Chain





Order Information

Below you will find the part numbers of the most common gate operators. Of course there are further combinations available.

On the pages 04.024.00 and 04.025.00 you will find which components are included. The meaning of the letters is explained below on this page.

We have listed separately the gate operators and the necessary accessories as the control system and the toothed belt, same as possibly necessary mounting accessories. Information regarding operating and safety elements you will find beginning on page 04.047.00.

Order Information Gate Operator

DICTAMAT 5000-21 ZL	part no. 785500
DICTAMAT 5000-21 ZL , with gear box	part no. 785500 A
DICTAMAT 5000-21 ZE	part no. 785502
DICTAMAT 5000-21 ZE , with gear box	part no. 785502 A
DICTAMAT 3400-21 ZL (toothed belt to be ordered separately)	part no. 785340
DICTAMAT 3400-21 ZL , with gear box	part no. 785340 A
DICTAMAT 3400-21 ZE (toothed belt to be ordered separately)	part no. 785342
DICTAMAT 3400-21 SE (incl. 25 m of rope ø 4 mm)	part no. 785343

Order Information Necessary Accessories

Control system E82	part no. 730115
Toothed belt HTD8, 20 mm wide (to indicate length needed)	part no. 710490

Order Information Additional Accessories

Final switch (opener)	part no. 700156
Fixing device for two-leafed sliding gates (rope)	part no. 700476
Fixing device for two-leafed sliding gates (toothed belt)	part no. 710495
Supporting roller for rope/toothed belt/chain	part no. 785960
Set of distance plates for DC-21 gate operators	part no. 785975
Operating and safety elements	beginning on page 04.053.00
Idler pulley for rope*	part no. 700530
Idler pulley for toothed belt*	part no. 710492
Idler pulley for chain*	part no. 785972
Tensioning device for rope*	part no. 700478
Tensioning device for toothed belt and chain*	part no. 710497

Legend:

Z	Power transmission by toothed belt
S	Power transmission by rope
E	Position control with separate final switches
L	Position control with integrated encoder
*	In general included in the delivery