

# Installation- and Operating Instructions

## Swing gate operator TURN 10, TURN 20





## Important warning and safety notes for installation and operation

- These installation- and operating instructions form an integral part of the product "gate operator". They have been specifically written for professional installers trained and skilled in the trade and should be carefully read in their full length before carrying out the installation. They describe the proper installation and operation of the sliding gate operator only, not of the overall device "automatic gate". After the installation this manual has to be handed over to the user.
- **Installation, connection, adjustments, putting into operation, and servicing may only be carried out by trained professionals in full accordance with these installation- and operating instructions.**
- The EU Machine Directive, laws and rules concerning the prevention of accidents, and laws and standards which are in force in the EU and in the individual countries have to be strictly followed.
- The TOUSEK Ges.m.b.H. cannot be held liable for any claims resulting from disregards of the laws and standards in force during the installation and operation.
- The product may only be used in accordance with its original purpose, for which it has been exclusively designed, and which is described in these installation and operating instructions. The TOUSEK Ges.m.b.H. rejects any liability if the product is used in any way not fully conforming to its original purpose as stated herein.
- **The product is not suitable for installation in explosion-hazardous areas. The existence of inflammable gas and steam is of great danger !**
- The packaging materials (cardboard, plastic, EPS foam parts and filling material etc.) have to be properly disposed of in accordance with the applying recycling- and environmental protection laws. They may be hazardous to children and therefore have to be stored out of children's reach.
- Before beginning with the installation the installer has to make sure that all mechanical components of the gate facility, like carrier profile/rail, gate frame and panels, guiding elements etc. are sufficiently supportive and resistant for the purpose of gate automation. Check also whether the product has transport damages.
- All electrical installations have to be made in full conformity with the applying rules and laws (e.g. using a fault current circuit breaker, proper grounding etc.).
- An all-pole disconnecting main switch with a contact opening-gap of minimum 3 mm has to be foreseen.
- When installing the safety device (photocells, safety edges, emergency-stops etc.) please comply with the valid directives/standards, the criteria of practical rules of conduct, the installation environment, the operating logic of the system and the effected force of the motorised gate. .
- The safety devices must secure possible bruise, shear and general danger areas of the motorised gate.
- After installation the proper function of the gate facility and the safety devices has to be checked!
- Place warning signs and notes of the valid regulations to indicate danger areas .
- With each installation the identification data of the motorised gate has to be placed in a visible place.
- The label for the Handauslöser has to be placed next to its operating element.
- The electric motor heats up during operation. Therefore the device should only be touched after it has cooled off.
- Please make sure that no other persons are on site of the motorised gate area, especially in when operating the facility in hold to run mode (switch with OFF-pre adjustment) . The pre-adjusted OFF-button/switch has to be placed in sight of the actuated gate but away from moving parts. This switch/button (except key-switch) has to be mounted in min. 1,5m height and non-accessible to the public.
- **Children have to be instructed, that the gate facility as well as the belonging parts may not be used improperly, e.g. for playing. Furthermore handheld transmitters have to be kept in safe places and other impulse emitters as buttons and switches have to be installed out of children's reach.**
- Only original spare- and replacement parts may be used for repair of the product.
- The TOUSEK Ges.m.b.H. rejects any liability for claims resulting from usage of the product in combination with components or devices which do not fully conform to the applying safety laws and rules.
- The installer has to inform the user about all aspects of the automatic operation of the complete gate facility, as well as about emergency operation. The installer further has to supply to the user all instructions relating to the safe operation of the gate facility. The installation and operating instructions also have to be handed over to the user.
- The user has to be informed that he has to turn off the main power switch in case of malfunction of the product and that he can use the facility again after repair and adjustment works have been completed.
- **Please notice that the warranty will not be applicable if the label with the engine number has been removed or damaged.**



## Maintenance

- **Disconnect the power supply during mounting, maintenance and repair works.**
- **Maintenance works may only be carried out by qualified personnel.**
- **Check the proper force adjustment once a month.**
- **Check the proper function of the emergency release mechanism periodically.**
- **Check if all mounting screws are securely fastened periodically.**
- **Remove dirt from the operator periodically.**
- **Apply the grease HSW100 at the pivot points of the operator and on the push rod (twice a year or as needed).**
- **Maintenance and servicing of the complete gate facility has to be carried out according to the gate builder's/ installer's instructions.**

### EU - Manufacturer's Declaration according to Machine Directive 2006/42/EC:

The company TOUSEK Ges.m.b.H., based in Zetschegasse 1, A-1230 Vienna/Austria, hereby declares that the partial machine "Swing gate operator TURN" is made available only for the purpose of being built into a machine or of being joined with other machines or machine components, and that it may not be put into operation, until a declaration of conformity according to the EU Machine Directive, and to the resulting national implementing legislations in their valid version, has been issued for the whole machine.

The following directives and standards have been applied:

- Low Voltage Directive 2006/95/EC, Machine Directive 2006/42/EC
- EU-guideline concerning Electromagnetic Compatibility 2004/108/EC

January 2012

**Characteristics**

- electromechanical swing gate operator for 230Va.c.
- max. weight of gate wings 350 kg
- suitable for installation at already existing gates
- incl. mounting parts
- self-locking steel spindle
- for private use, approx. 20 cycles/day
- **CE**



**General features**

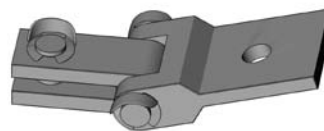
The swing gate operator TOUSEK TURN, can be easily installed at new and also already existing swing gate facilities. The drive unit works electromechanically and consists of a connecting rod made of stainless steel with an integrated, self-locking spindle and a high-performance single-phase motor. These components are situated in an aluminium housing.

Due to its self-locking spindle the operator guarantees the blocking of the gate and therefore usually no electric-lock is required.

But depending on the individual situation of assembly it may be necessary to install an additional locking (e.g. e-lock) for reaching a fix blocking of the gate in its travel limits – even at self-blocking gate operators.

A key for emergency release permits the manual opening of the gate in case of e.g. power failures.

**At rising gate entrances, additionally the optional hinge joint has to be mounted.**



**Technical data**

Swing gate operator	TURN 10	TURN 20		TURN 10	TURN 20
power supply	230Va.c. ± 10%, 50Hz		max. length of wing	2,5m	3,0m
current consumption	1,5A		max. weight of wing	350kg	
condenser	8µF		duty cycle (S3)	20 cycles/day	
max. thrust	3500N		article no. <i>black</i> :	left: 11260210	left: 11260230
hoisting speed	18,5mm/s			right: 11260220	right: 11260240
max. stroke	303mm	402mm	<i>silver</i> :	left: 11260400	/
				right: 11260410	

other blocking in closed position, TURN 10 also available in silver

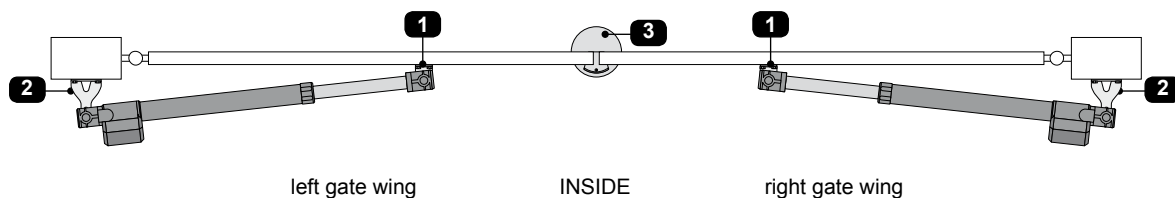
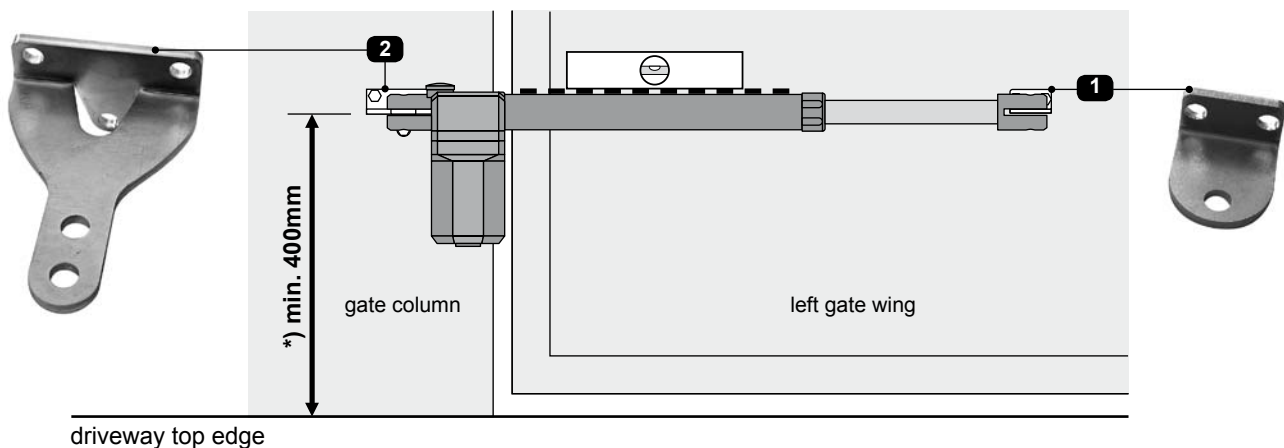


**Note: max. wing widths do neither apply to full-panel gates (but to stave or trellised gates) nor to non-horizontal gates !**



## General installation notes

- Before beginning the installation of the operators, please make sure that the gate wings are already limited in their travel by some sort of **stopping devices (3) both in the open and closed gate positions**. If this is not the case, such stopping devices have to be installed or the Tousek piston rod stroke limiting device has to be used. **The spindle may not be fully extended (approx. 5 mm residual way)!**
- With lean or wooden gates the front mounting part (1) should not be installed directly on the gate. Please use for that a flat steel bar.
- \*) **Attention:** to avoid contaminations and to ensure a long lasting and reliable operation please make sure to keep a minimum distance of **400mm** to the driveway top edge.
- The mounting points for the **front (1)** and for the **rear mounting part (2)** should be chosen in accordance of the below mentioned mounting measures. **The adjustment/alignment of the operator should be levelled out.**



## Attention

- **Note: left operator differs from the right!**



## 2a. Definition of mounting points and attachment of mounting parts

Installation

## Mounting points

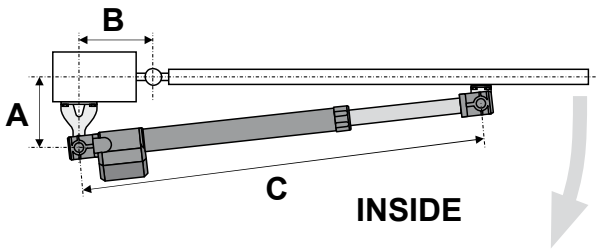


## Note

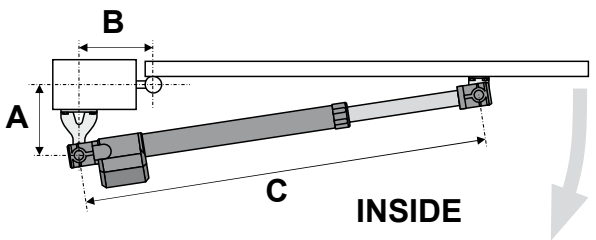
- The mounting points for the front (1) and for the rear mounting part (2) should be chosen in accordance of the mounting measures (see following table).
- Please note that the measures A and B must always be measured from the pivotal point of the gate.
- The adjustment/alignment of the operator should be levelled out.

## Mounting measures with different swing gate situations

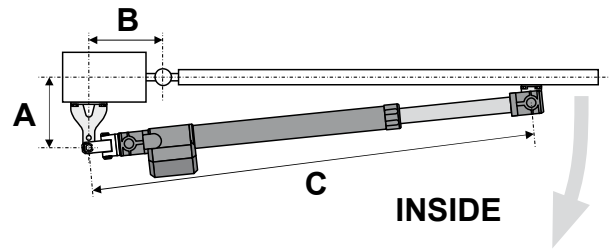
Opening to the **INSIDE**  
(pivotal point centered to gate leaf)



Opening to the **INSIDE**  
(pivotal point not centered (inside) to gate leaf)



Special case:  
using a hinge joint

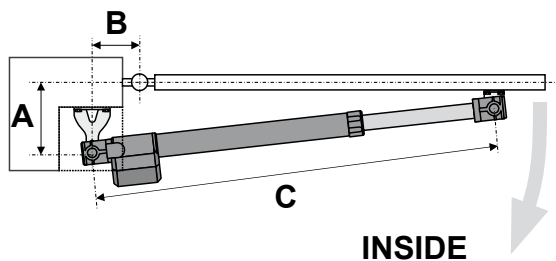


### Important

- In this special case (assembly with hinge joint), measurement C has to be 85 mm longer than usual.

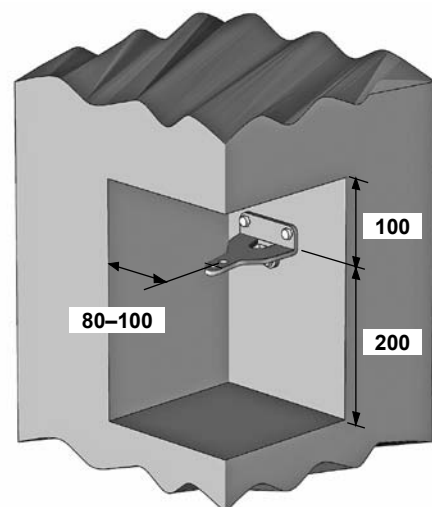
Mounting measures (opening to the INSIDE)	TURN 10	TURN 20		
		standard	for larger columns	for larger opening angle
Application				
A (mm)	140	190	250	140
B (mm)	140	190	140	195
C for mounting <u>without</u> hinge joint (mm)	935	1135	1135	1135
C for mounting <u>with</u> hinge joint (mm)	1020	1220	1220	1220
max. opening angle	95°	95°	90°	110°
max. wing width	2,5m	3m	2,5m	2,5m

## Mounting at larger columns



### Important

- For keeping the measurements A and B, at larger columns an alcove according to the beside picture has to be made.
- the niche on the motor side has to be big enough so that the connection cable is not bent!



## Installation of the mounting parts

### Installation of the rear mounting parts

- after having defined the pivotal point (taking into account the mounting measures) attach the rear welding part (2) in that position to the gate column (wall).

### Installation of the front mounting parts

- now attach the front welding part (1) in compliance with measure C to the gate wing.
- **Please make sure that the gate is fully closed and the adjustment/alignment of the operator is levelled out.**
- **With lean or wooden gates the front mounting part (1) should not be installed directly on the gate. Please use for that a flat steel bar.**

## 2b. Montage des Antriebes

## Installation

- After fixing the assembly parts, at first the operator is connected with the motor-sided (2) and afterwards with the spindle-sided (1) assembly part. **Before mounting please grease the mounting parts at their pivot points, as well as the push rod (in extended position)!**



### Greasing of the moving mounting parts and of the push rod

- **All the pivot points (the drills of the mounting parts and the corresponding bolts, which allow a defined mounting of the actuator) have to be lubricated with HSW100 before mounting the automation!**
- **Spray the push rod (in extended position) with HSW100 Spray!**
- **Let the automation run two or three times (open and close it).**
- **Grease the automation regularly ( according to the maintenance instructions).**

### Motor-sided mounting

- Put the operator on the assembly part (2). Then insert the cylinder bolt in the opening from the underside (insert it the way that the M4 internal thread faces downwards) and fix the bolt with the worm screw.

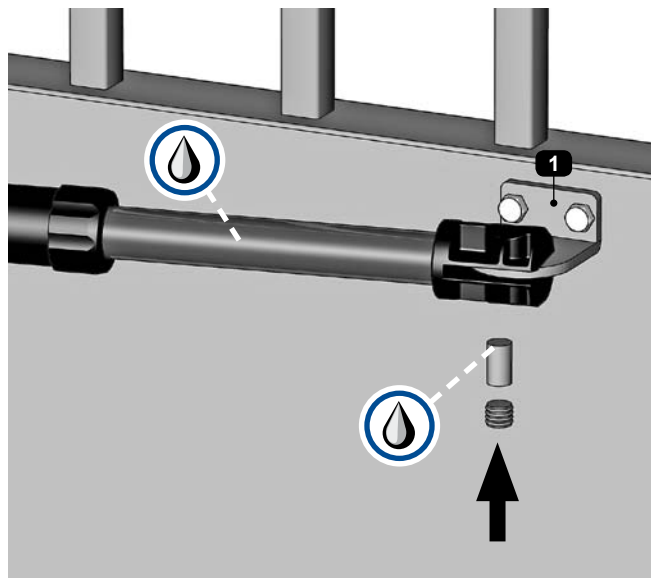
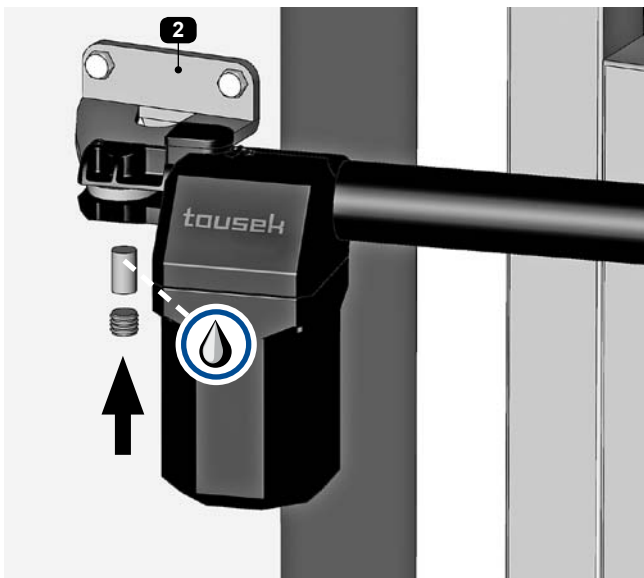
### Spindle-sided mounting

- analogue to motor-sided mounting  
(1) = spindle-sided mounting part



### Attention

- **The spindle may not be fully extended (approx. 5 mm residual way)! Therefore please always set floor stops.**





### Warning

- Before carrying out the electrical connections, the power supply of the gate facility must be turned off
- The safety regulations for electric shock prevention have to be complied.
- The device should only be connected by qualified personnel
- The device should not be used in an explosive environment !
- An all-pole disconnecting mains switch with a contact opening gap of min. 3 mm has to be foreseen. The gate facility has to be secured according to the valid safety regulations!
- **IMPORTANT:** The control lines (buttons, radio, photocells, etc.) have to be laid separately from the 230V lines (supply line, motors, signal lamp).
- The safety standards and regulations regarding the force adjustment have to be in compliance with the effective rules !



- The gate facility must be turned off from power supply when making the electrical connections.
- The operator has to be connected to the control unit as described in the manual of the control unit.
- For the connection of diverse safety devices, transmitters and other accessories please check the corresponding manuals (please note cable/wire plan).
- **force adjustment:** the force adjustment of the operator is made through the control unit (*please see manual for control unit*).
- **end switch:** the operator works without limit switches. The necessary run time is adjusted in the control unit.


## 2d. Dismounting

the dismounting of the motor is effected in the opposite order of installation.



Please note that before dismounting the operator the power supply has to be turned off !

## 3. Emergency release of the operator at power failure Swing gate operator TURN 10, TURN 20

- should it be necessary to release the operator (e.g. in case of power failure, please proceed as follows:
- **Turn off power supply of gate facility!** 
- Take off the protective cap
- Insert the key for emergency release and turn it a half rotation counter-clockwise.
- Now slowly move the gate (not faster than in usual motor operation).
- For returning to normal motor operation turn the key clockwise until you can feel a firm resistance. Afterwards move the gate till you can hear that the spindle has engaged.
- After that turn on the power supply.



### Attention

- **\*) It is absolutely necessary to put on the protective cap again, otherwise the operator may become defective.**

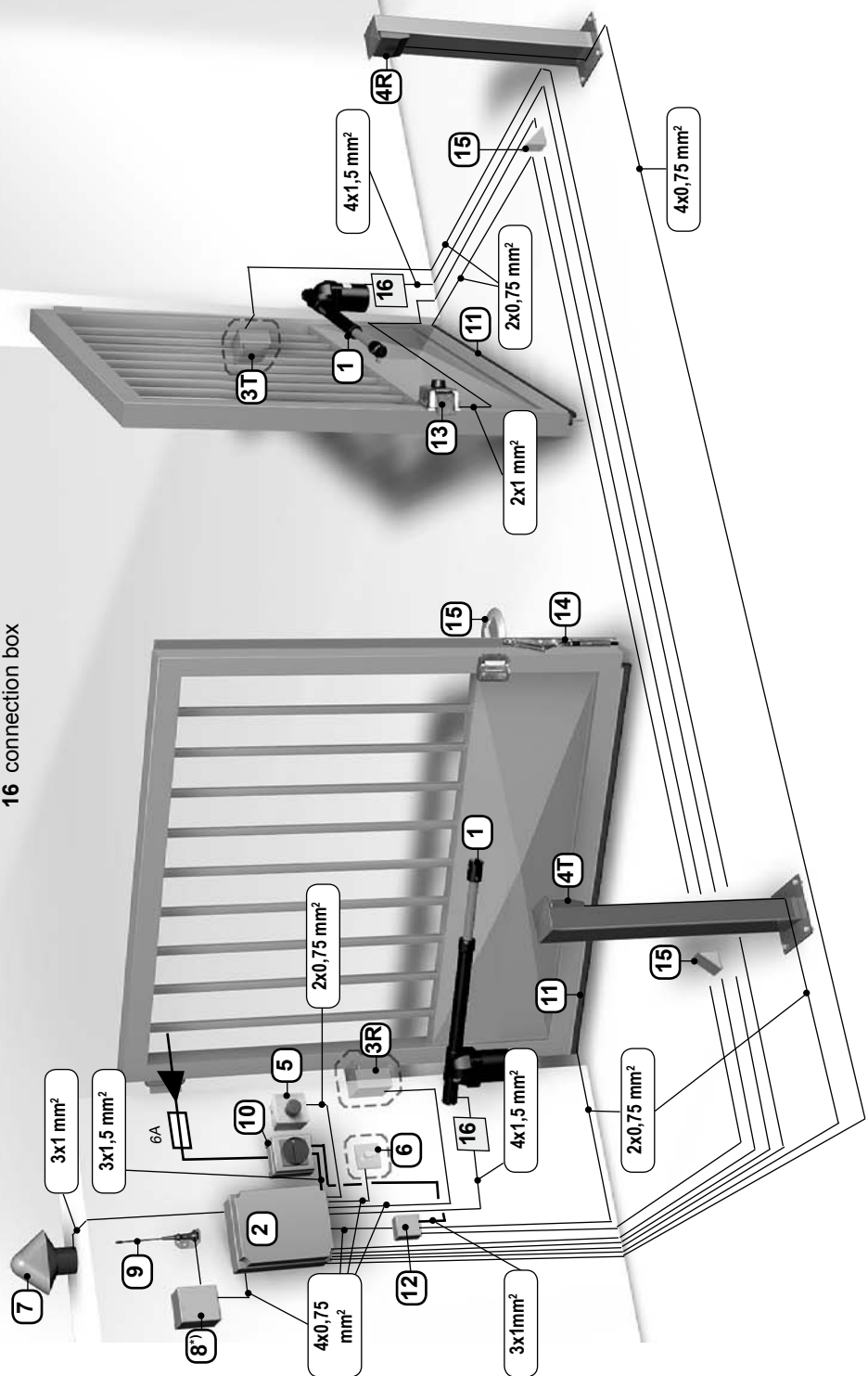


## 4. Cable plan

- 1 operator Tousek TURN
- 2 electronic logic control
- 3 external fotocell (T: transmitter, R: receiver)
- 4 internal fotocell (T: transmitter, R: receiver)
- 5 pushbutton momentary contact switch
- 6 key-operated momentary contact switch
- 7 signal light

- 8 radio remote receiver, \*) included into the logic control box on the „ST“-models)
- 9 antenna (connection to radio receiver with coaxial cable)
- 10 main power switch and fuse 6 A
- Note: An all-pole disconnecting main switch with a contact opening-gap of minimum 3 mm has to be foreseen.
- 11 safety sensing edges
- 12 switching device for safety sensing edges
- 13 electric lock
- 14 hinged locking bar
- 15 floor stops
- 16 connection box

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- 15 floor stops
- 16 connection box



### NOTE concerning cable laying

The electric cables have to be laid in insulating sleeves which are suitable for underground usage. The insulating sleeves have to be lead into the inner of the operator housing. 230 V cables and control lines have to be laid in separate sleeves.

Only double-insulated cables, which are suitable for underground usage (e.g. E-YY-J) may be used.

In case that special regulations require another type of cable, cables according to these regulations have to be used.

### SAFETY NOTE

Please be aware that the beside picture is only a symbolic sample illustration of a gate facility and may therefore not show all safety devices required for your specific application.

To achieve an optimum safety level at your gate facility, please make sure that all safety components and accessories which - according to the applying safety rules and laws - are required in your particular case (e.g. photocells, induction loops, sensing edges, signal lamps, traffic lights, mains- and emergency power off switches etc.) are properly installed, operated, and serviced.

All possible bruise, shear and general danger areas of the motorised gate have to be secured.

In this context please follow the EU Machine Directive, accident prevention rules and laws, as well as applying EU- and national standards in force at the time of installation and operation of the gate facility.

The Tousek Ges.m.b.H. cannot be held responsible for any consequences resulting from disregard of applying standards and laws during installation or operation of the gate facility.

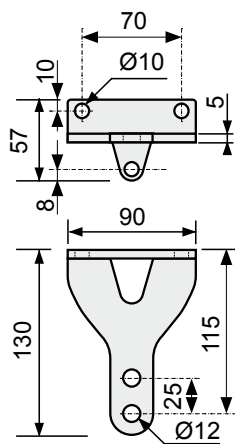
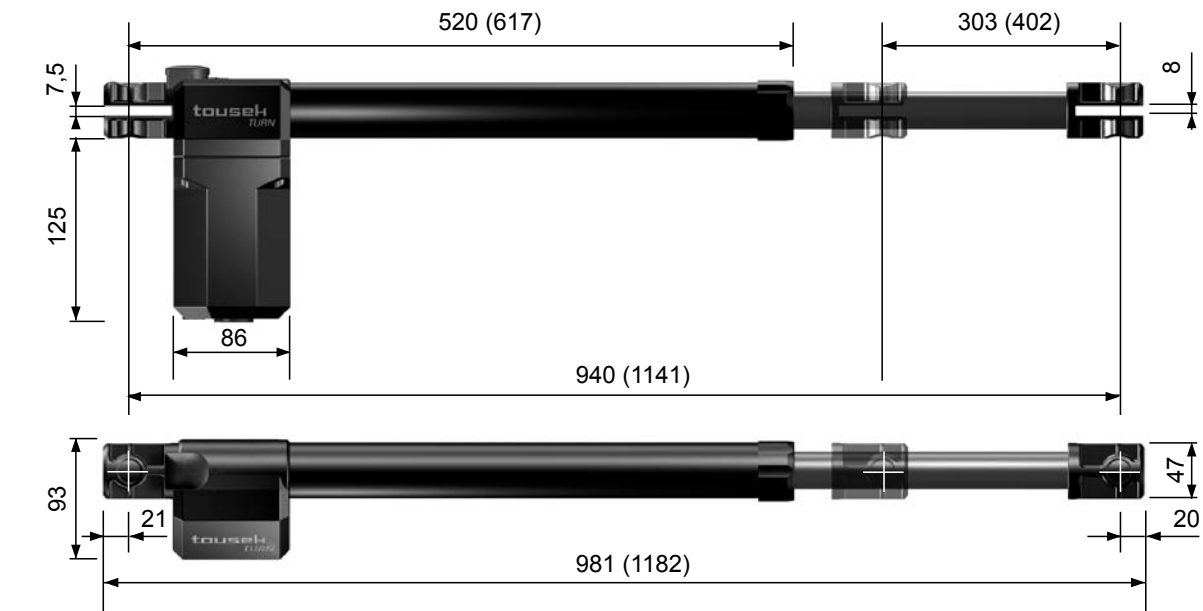
The 0,75mm<sup>2</sup> control lines are shown without ground lead. In order to facilitate connections we recommend using flexible wires and not using thicker wires for the control lines.



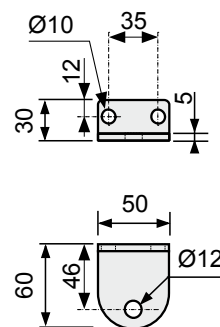
## 5. Dimensioned sketch

## Swing gate operator TURN 10, TURN 20

- Dimensions in mm (Dimensions for Tousek TURN 20 in brackets)



assembly part  
motor-sided



assembly part  
spindle-sided

measures and technical modifications  
subject to change !





## **tousek PRODUCTS**

- sliding gate operators
- cantilever systems
- swing gate operators
- garage door operators
- folding door operators
- traffic barriers
- carpark management system
- window operators
- domelight operators
- sliding door operators
- electronic controls
- radio remote controls
- key operated switches
- access control
- safety devices
- accessories

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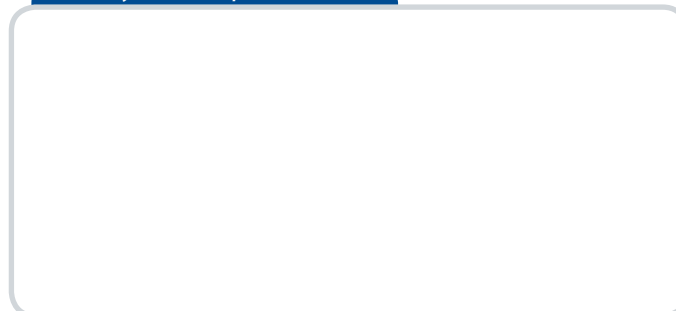
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