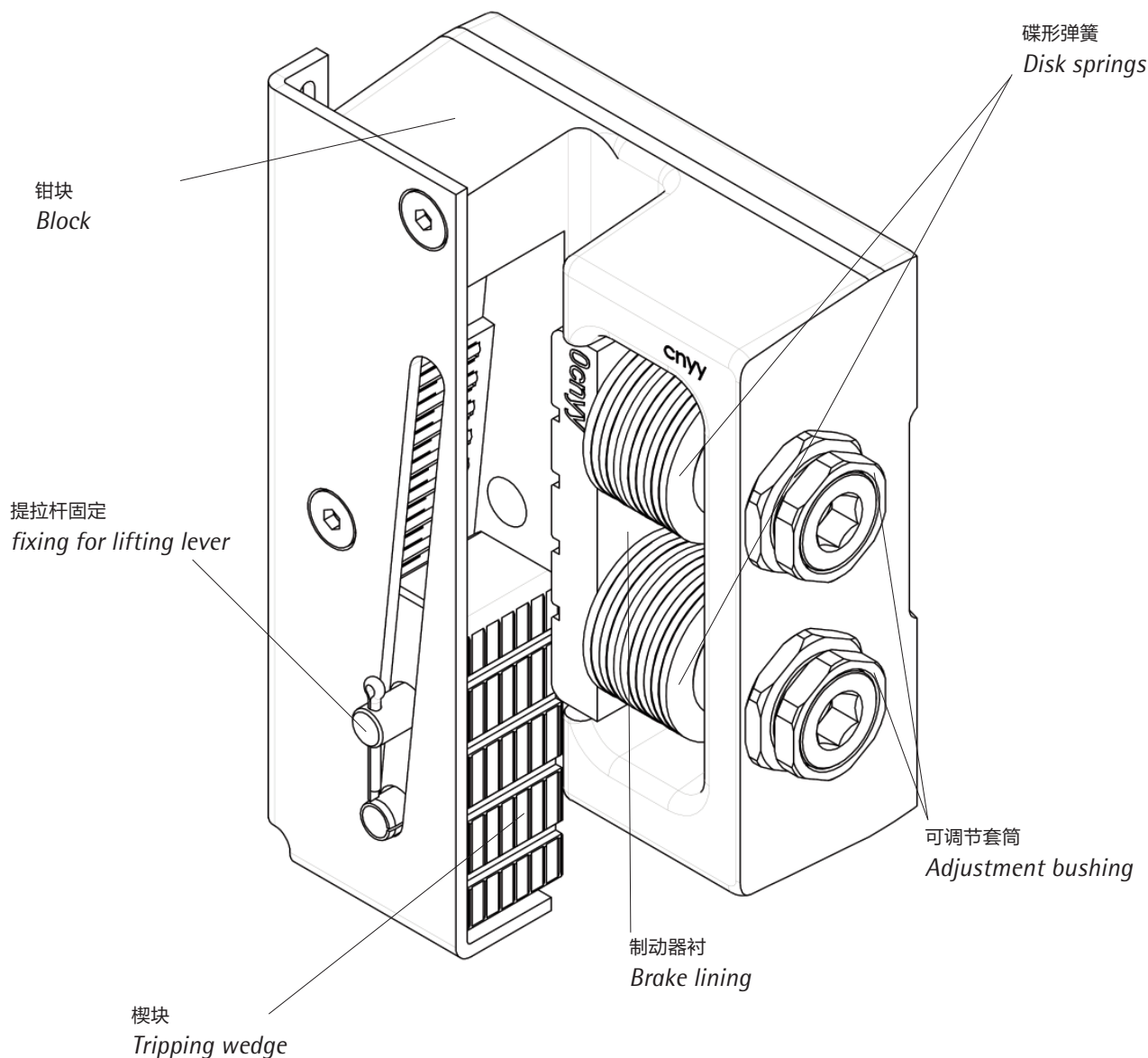


渐进式安全钳 PROGRESSIVE TYPE SAFETY GEAR

型号 CSGB-01C
TYPE CSGB-01C

页码 /sheet TC.7.003608.001
日期 /date 15.08.2015
版本 /version -
批准 /approved WAT/KKR

1 描述 Description



CSGB-01C 是一对由碟形弹簧和制动原件组成的渐进式安全钳，由可移动的楔块操纵，通过蝶形弹簧产生可调节的制动力。

出厂前已根据载重和导轨条件对安全钳进行了调整并加了封印。

CSGB-01C is a combination of disk springs and braking elements, which are activated by a movable tripping wedge. The braking force is adjustable by the disk spring assembly. There is always a pair of safety gears used.

The setting is carried out in the factory (according to the load and rail conditions) and sealed.

渐进式安全钳

PROGRESSIVE TYPE SAFETY GEAR

页码 /sheet TC.7.003608.002
日期 /date 15.08.2015
版本 /version -
批准 /approved WAT/KKR

型号 CSGB-01C
TYPE CSGB-01C

2 使用范围

Range of use

机制导轨 Machined guide type	总制动重量 (P+Q) mass to be gripped F _{max}	最大额定速度 max. nominal speed V	最大限速器动作速度 max. governor tripping speed V _{max}
润滑 **) oiled **)	575-2700	2,00	2,62
干燥 dry	575-2700	2,00	2,62

2.1 依据标准

Approval

CSGB-01C 渐进式安全钳通过了依据欧洲电梯指令 95/16/EC 及中国 TSG 型式试验规范的形式试验认证。适用于符合 EN81 及 GB7588 的电梯系统。

The progressive safety gear CSGB-01C has been approved in accordance with the European Lift Directive 95/16/EEC (lifts). it may be employed in systems according to En81.

2.2 工作数据

Operation data

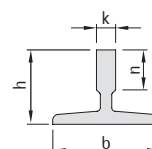
允许限速器动作的作用力 max. activating force of the governor	F _{GOV}	2100 N (见第四节 , see chapter 4)
导轨头宽度 widht of guid rail head	k [mm]	9 / 10 / 15,88 / 16 mm *)
最小导轨工作面宽度 min. width of guide rail running surface	n [mm]	25 mm *)
最小导轨型材高度 min. height of guide rail profile	h [mm]	62 mm *)
工作温度 temperature during operation		-5...+55°C
存放温度 temperature during storage		-40...+70°C
最大空气湿度 max. air humidity		95%/+25°C 93%/+40°C

*) 推荐导轨型号 (根据 ISO 7465)
Recommended type of guide rails (referring to ISO 7465)

T75-3/B, T82/B, T89/B, T90/B, T114/B, T125/B, T127-1/B, T127-2/B

**) 润滑油不含高压添加剂
Oil without high pressure additives

k 导轨头宽度 Width of rail head
n 导轨工作面宽度 Width of guide rail running surface



如有变更, 恕不另行通知!

Subject to change without notice!

渐进式安全钳 PROGRESSIVE TYPE SAFETY GEAR

型号 CSGB-01C
TYPE CSGB-01C

页码 /sheet TC.7.003608.003
日期 /date 15.08.2015
版本 /version -
批准 /approved WAT/KKR

2.3 总夹紧重量 质量 (F_{\max}) 的计算

Calculation of the total mass to be gripped

$$F_{\max} = K+Q+T+0,375 \times M = \text{___ kg (car)}$$

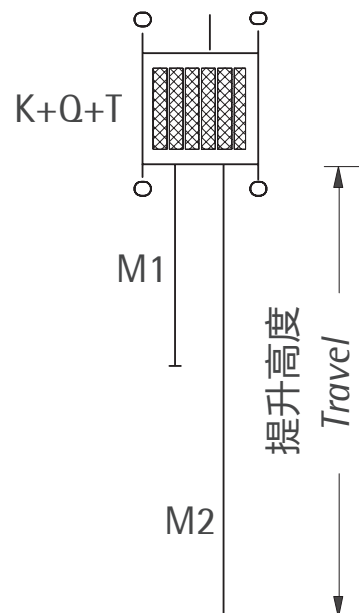
$$F_{\max} = m_{\text{cwt}} + 0,375 \times M2 = \text{___ kg (cwt)}$$

重要 / Important:

$$F_{\max} \leq 1,25 \times (K+Q+T)$$

和 / and

$$1,5 \times M < K+Q+T$$



K 轿厢重量
Q 额定载重
T 轿架重量
M1 随行电缆重量
M2 补偿链重量
M M1 + M2
 m_{cwt} ... 对重装置重量

mass of the car
rated load
mass of car frame
mass of travelling cable
mass of compensating ropes/chains
mass of counterweight



计算拉紧后安全钳的最大制动力:

Calculation of the maximum force to lift the roped elevator after gripping:

$$F = (1,3 \times F_{\max} - m_{\text{cwt}}) \times g$$

F [N] 提拉力
 F_{\max} [N] 最大夹紧质量
 m_{cwt} [kg] 对重装置质量
 $g = 9,81 \text{ [m/s}^2\text{]}$ 重力加速度

lifting force
ax. mass to be gripped
mass of counterweight
gravity

渐进式安全钳 PROGRESSIVE TYPE SAFETY GEAR

型号 CSGB-01C
TYPE CSGB-01C

页码 /sheet TC.7.003608.005
日期 /date 15.08.2015
版本 /version -
批准 /approved WAT/KKR

3.2 CSGB-01C 安装方法

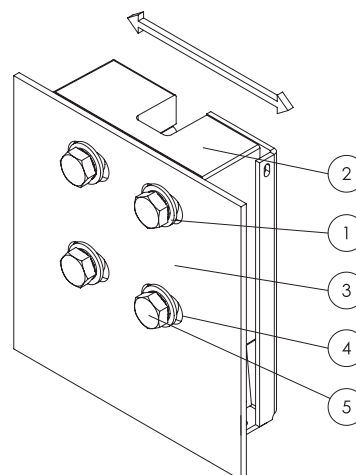
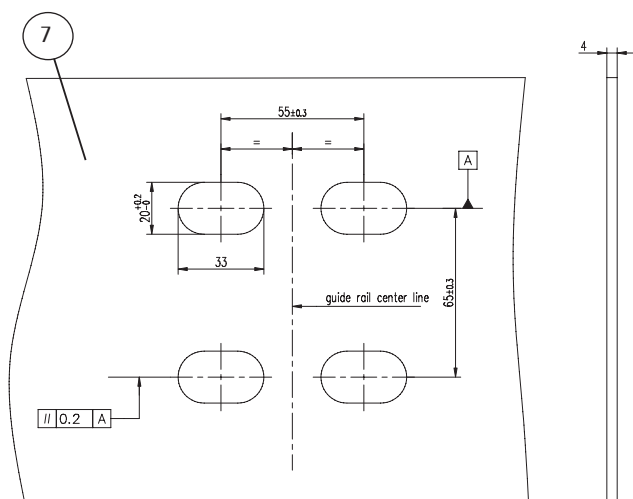
Fixing method CSGB-01C

为了使安全钳能够被螺栓 (等级 12.9) 和套筒固定, 壳体, 轿厢或对重装置上的孔位孔型必须按照下图所置 (7)。

安全钳钳体 (2) 由套筒 (1) 穿过长条孔 (4) 被安装在固定板上 (3)*, 钳体被螺栓夹紧, 但是 必须能水平移动。

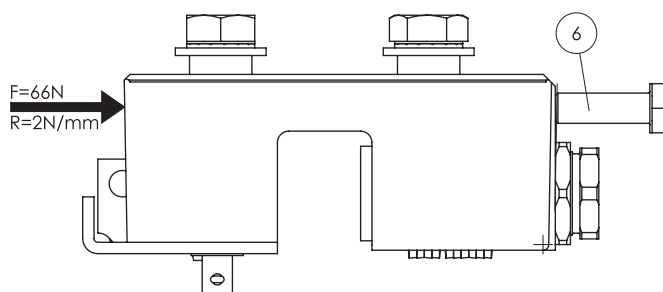
To fix the safety gear with the in the content of supply included screws (Quality 12.9) and bushings, following hole pattern (7) is in the housing or in the beam of car frame or counterweight needed.

By using the bushings (1) to fix the safety gear (2) on the fixing plate (3)* with slotted holes (4), the safety gear can be screwed with the fixing screws and the safety gear can still move horizontally.



另外, 安全钳必须通过一个弹簧*) (弹簧力在安装长度时为 66N, 弹簧刚度为 2N/mm) 和一个相对面的可调节限位环 (6)*, 固定在一个位置上。

Additional the safety gear must be held in position with a spring*) (force at installation length 66N, spring rate 2N/mm) and a variable adjustable stop collar (6)* must be in the opposite side.



*) 不包括在安全钳钳体物料内, 但包括在整套安全钳 (加外壳钳体) 物料内。

*) not in the standard content of supply (with optional husing included in delevetry)

渐进式安全钳

PROGRESSIVE TYPE SAFETY GEAR

型号 CSGB-01C
TYPE CSGB-01C

页码 /sheet TC.7.003608.006
日期 /date 15.08.2015
版本 /version -
批准 /approved WAT/KKR

3.3 壳体要求

Requirements to the housing

安全钳壳体的设计必须满足安全钳的水平运动要求，而且能容易地替换安全钳钳体。必须预装调节螺栓，用以调节安全钳的运行间隙 (2.5mm)。外壳必须和导轨对齐，因为安全钳的可调节性比较小。安全钳应该自动对中。

The safety gear housing must be designed that horizontal movement of the safety gear and an easy change of the safety gear is possible. An adjustment screw must be for seen so it is possible to adjust the running clearance of the safety gear (2.5mm). The housing has to be aligned with the guide rail, because the adjustment of the safety gear is limited. Centralisation of the safety gear should be automatic (see chapter 3.2).



安全钳绝对不能用作导靴!



The safety gear must not be used as guide shoes!

3.4 CSGB-01C 安全钳作用力

Forces working on the safety gear CSGB-01C

$$F_B [N] = F_{max} [kg] \times g [m/s^2]$$

$$F_w [N] = F_B [N] / 4$$

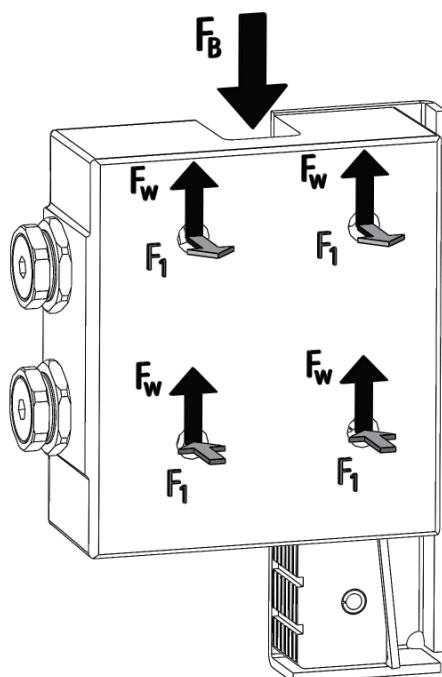
$$F_1 = (F_B \times 31,5) / 130$$

F_B 作用于单个安全钳上的最大制动力
max. brake force applied to the single safety gear

F_w 每个螺栓上的最大制动力
max. brake force per screw

F_1 支撑力
support force

g 重力加速度 $9,81 \text{ m/s}^2$
gravity $9,81 \text{ m/s}^2$



渐进式安全钳

PROGRESSIVE TYPE SAFETY GEAR

型号 CSGB-01C
TYPE CSGB-01C

页码 /sheet TC.7.003608.007
日期 /date 15.08.2015
版本 /version -
批准 /approved WAT/KKR

4 安全钳的作用 (根据 EN81/GB7588 标准)

Safety gear activation (according to EN81)

每个轿厢或对重安全钳都必须配置独立的限速器。在最大额定速度不超过 1m/s 的情况下, 可以通过提升装置的失效或 通过安全索启动对重安全钳。

Each car frame and counter weight safety gear must be activated by its own over speed governor. If the maximum nominal speed is not higher than 1m/s, it is possible to activate the counter weight safety gear by failure of the lifting device or by a safety rope.

不允许使用电器, 液压或气动装置启动安全钳。

It is not allowed to activate the safety gear with electrical, hydraulic or with pneumatic devices.

安全钳的作用力:

Activating force of the safety gear:

安全钳的同步作用力 F_1 由如下公式计算得出。如果计算结果小于 250N, 那么调节达到作用力应为 250N, 如果计算结果高于这个数值, 那么作用力则等于计算力。

The activating force of the safety gear synchronisation should be calculated with the formula for F_1 shown below. If the result is below 250N, then the adjusted activating force should be 250N, if the calculated value is higher, the activating force is the same as the calculated value.

$$F_1 = \text{限速绳重量} \times \text{下行加速度} \times \text{安全因数} (2)$$

$$F_1 = \text{mass of overspeed governor rope} \times \text{downwards acceleration} \times \text{safety factor} (2)$$

$$\text{例如: } F_{1\min} = 100 \text{ kg} \times 1,5 \text{ m/s}^2 \times 2 = 300 \text{ N}$$

$$\text{e.g: } F_{1\min} = 100 \text{ kg} \times 1,5 \text{ m/s}^2 \times 2 = 300 \text{ N}$$

F_1 是应该调节达到的轿架安全钳最小同步作用力, 以防止意外夹持。

F_1 is the minimum force which should be measured on the car frame safety gear synchronisation to prevent unintended gripping.



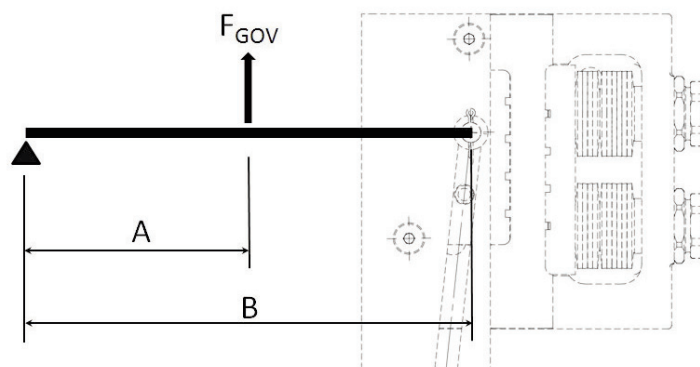
所需的限速器作用力必须是安全钳同步作用力的两倍。



The required tripping force of the overspeed governor must be twice as high as the tripping force on the safety gear synchronisation.

限速器的最大允许作用力 $F_{GOV\max}$ 是 2100N 如果 $A \leq B/2$ 。

The maximum activating force of the overspeed governor $F_{GOV\max}$ is 2100N if $A \leq B/2$.



渐进式安全钳 PROGRESSIVE TYPE SAFETY GEAR

型号 CSGB-01C
TYPE CSGB-01C

页码 /sheet TC.7.003608.008
日期 /date 15.08.2015
版本 /version -
批准 /approved WAT/KKR



如果限速器最大作用力 >2100N，或是 $A > B/2$ ，那么必须使用带有限力器的同步装置。



If governor force is > 2100N or $A > B/2$ a synchronisation with force limiter must be used

导轨和底坑地面的强度

导轨和底坑地面的最大承受力如下（根据 EN81/GB7588，考虑到震动系数 2）：

$$F = 2 \times F_{\max} \times 9,81 \text{ m/s}^2 [\text{N}]$$

Strength of the guide rails and pit floor

For the calculation of the guide rails and the pit floor, the maximum forces must be accepted as mentioned below (consider shock factor 2 acc. EN81):

$$F = 2 \times F_{\max} \times 9,81 \text{ m/s}^2 [\text{N}]$$

5 发运 Delivery

安全钳安装说明书随货一起发运。

发货物品包括：一对安全钳（左右侧各一个），固定螺栓（等级 12.9）和套筒。

安装工具不随货提供。

A comprehensive set of assembly instructions on mounting the safety gear is supplied together with the safety gear.

Included in the Delivery: One left-handed and one right-handed safety gear, fixing screws (Quality 12.9) and bushings.

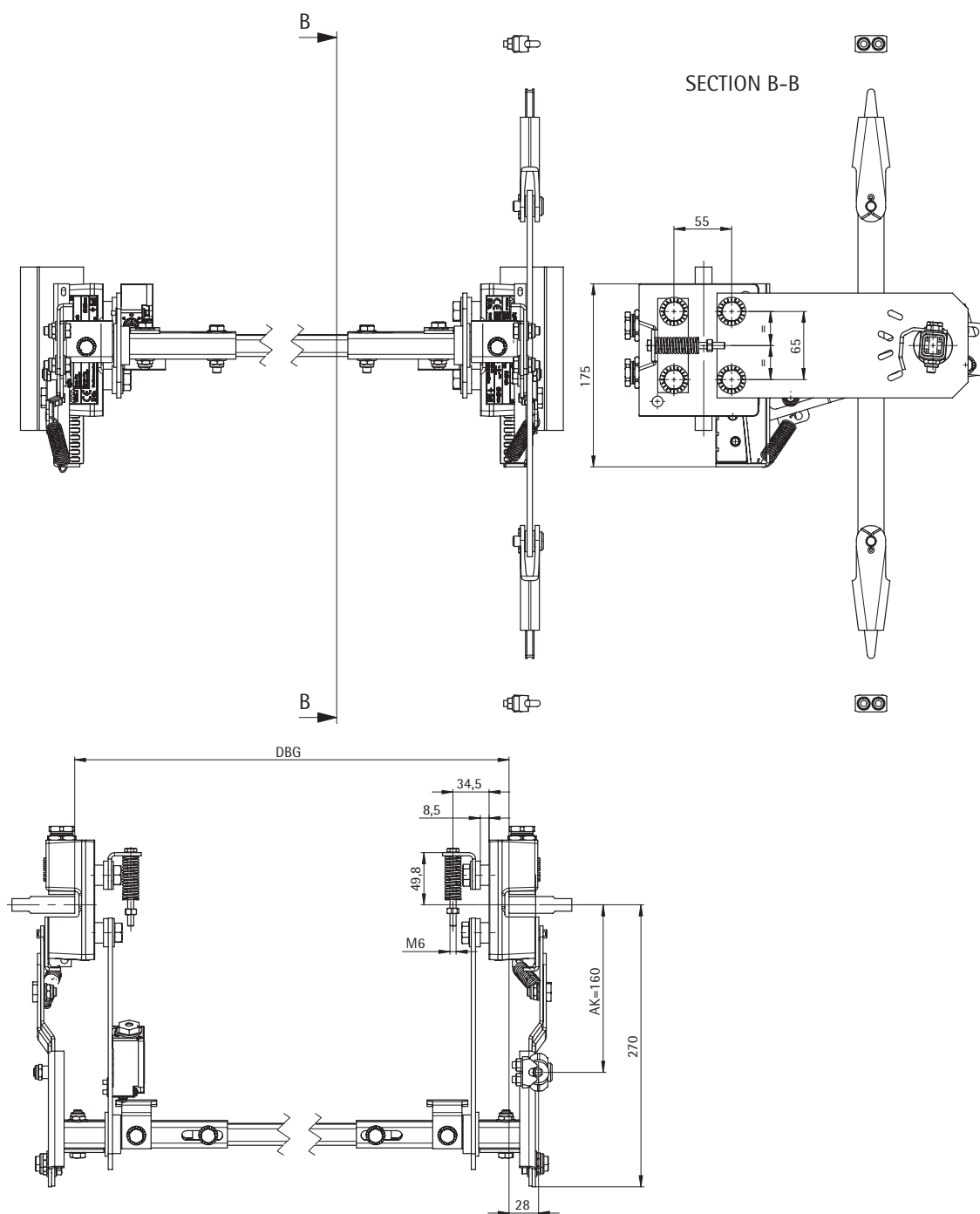
Fitting equipment is not included in the delivery.


渐进式安全钳 PROGRESSIVE TYPE SAFETY GEAR

型号 CSGB-01C
TYPE CSGB-01C

页码 /sheet TC.7.003608.009
日期 /date 15.08.2015
版本 /version -
批准 /approved WAT/KKR

5.1 CSGB-01C 同步装置 CSGB-01C with synchronisation



 CSGB-01C 安全装置安装方法以及孔的型位要求
请看 3.2 小节

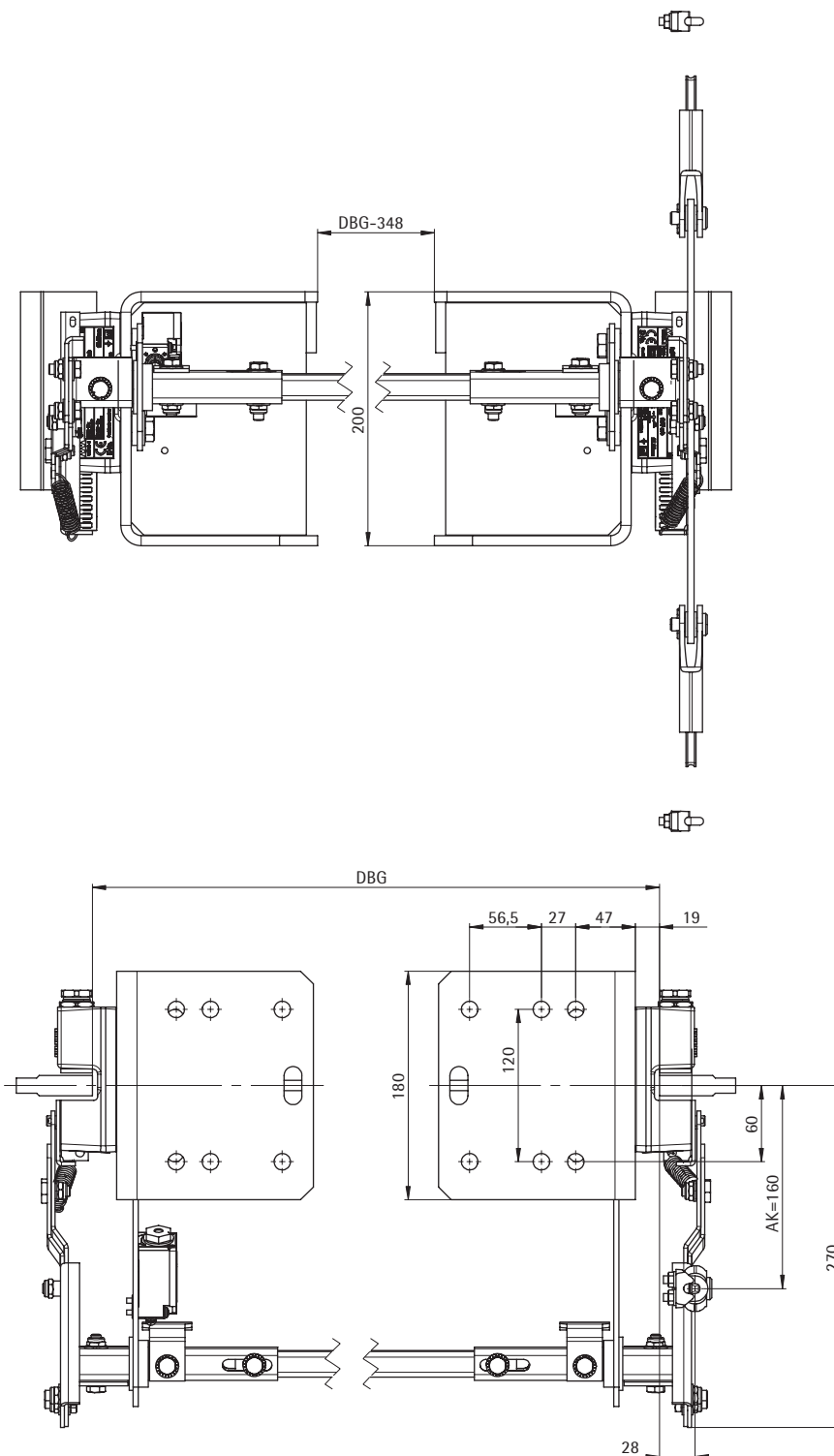
 Fixing method CSGB-01C with synchronization
acc. hole pattern from chapter 3.2.

渐进式安全钳 PROGRESSIVE TYPE SAFETY GEAR

型号 CSGB-01C
TYPE CSGB-01C

页码 /sheet TC.7.003608.010
日期 /date 15.08.2015
版本 /version -
批准 /approved WAT/KKR

5.2 CSGB-01C 同步装置和外壳 CSGB-01C with synchronisation and housing





渐进式安全钳

PROGRESSIVE TYPE SAFETY GEAR

页码 /sheet TC.7.003608.011
日期 /date 27.07.2012
版本 /version -
批准 /approved WAT/KKR

☐ 订购 /ORDER ☐ 询价 /INQUIRY 日期 /DATE _____
公司 /COMPANY _____
地址 /ADDRESS _____
经手人 /HANDLED BY _____
☎ _____ 传真 /FAX _____
电子邮箱 /E-MAIL _____
开票地址 /INVOICING ADDRESS _____
交货地址 /DELIVERY ADDRESS _____

Wittur Elevator Components (Suzhou) Co., Ltd.

18 Shexing Road, Fohu Economic Development Zone, Wujiang,
Jiangsu, China, 215214
Fax: +86-512-63220044

交货条件 /TERMS OF DELIVERY _____
交货时间 /DELIVERY TIME REQUESTED _____
订单号 /ORDER NUMBER _____
电梯数量 /ELEVATOR NUMBER _____

产品代码 /Product code CSGB-01C (上提拉式 /Top Activation) 数量 /Quantity: _____ (对 /pair)

总夹紧质量 /Total mass F_{max} _____ kg (根据 2.3 节的公式 /acc. formula chapter 2.3)

额定速度 /Rated speed v _____ m/s

动作速度 /Tripping speed v_{max} _____ m/s

导轨 /Guide rail k _____ mm (根据 2.2 节 /acc. chapter 2.2)

n _____ mm

制造方法 /Manufacturing method 机加工 /Machined

润滑 /Lubricated ☐ 润滑 /Lubricated ☐ 干燥 /Dry



技术标准 /Technical survey ☐ En81-1/2:1998+A3:2009 ☐ GB7588

选择 /Options

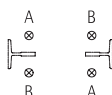
同步装置 + 壳体 /Synchronisation+Housing ☐ YES ☐ NO

限速器楔块锥套 /Rope connection ☐ YES ☐ NO

轨间距 /Distance between guides DBG _____ mm

限速绳位置 /Governor rope location ☐ A

☐ B



限速绳直径 /Diameter of overspeed governor rope DG ☐ 6-6,5 mm

☐ 7-8 mm

测试报告 /Test report ☐ YES ☐ NO

包装 /Packing ☐ 国内包装 (纸箱 + 板条箱) / Domestic Package (Cardboard+Crates)

☐ 出口包装 (纸箱 + 夹板箱) / Export Package (Cardboard+Plywood)

非标需求 /Non-standard requirements _____

单价 /UNIT PRICE

总价 /TOTAL