MONTECH®

Safety Devices

OPERATING INSTRUCTIONS

Barrier: SW

Edition: BA-100026

03/2008

EC Declaration of Conformity (to MRL Appendix II A)

Rules and standards complied with:
• Guidelines for machinery 89/932/EEC, 91/368/EEC

Manufacturer
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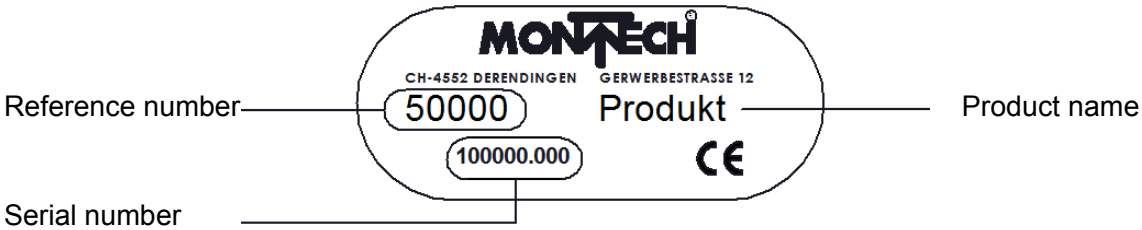
Description of the product and its use
The barrier SW is a MOVABLE, SEPARATING PROTECTIVE DEVICE as specified in EN 292-2, para. 4.2.2.3 and is used to safeguard an action space which could give rise to a hazard.

Hazards
Under all circumstances, attention must be paid to the load limits given under the heading “Technical data and hints for use”.

Additional information
The aim of the present User Manual is to enable users to employ barrier SW correctly and safely. Should further information be required in relation to your particular application, please contact the manufacturer.
When reordering User Manuals, it is essential to quote the reference number, the product name and serial number.
This document can be obtained from our homepage www.montech.com.

Fig. 1-1: Description of type plate



Montech AG
Management

U. D. Wagner C. Wullschleger

Validity of the User Manual
Our products are continually updated to reflect the latest state of the art and practical experience. In line with product developments, our User Manuals are continually updated.
Every User Manual has an order number (e.g. BA-100026) and an edition number (e.g. 03/2008). The order number and the addition number are shown on the title page.

Technical data and instructions for operation

Nominal travel	(mm)	*
Weight per column	(kg)	*
Weight attached per column	(kg)	*
Ambient temperature	(°C)	10…50

* These data vary with the order and are shown on the nameplate (Fig.1) mounted on the column (10, Fig. 6).

The attached weight additional to the weight of the column may not exceed 9 kg.

The pane must be opened and closed in such a manner that no audible bump can be heard.

Forced approach to the end-stops shortens the useful life and can lead to failure of mechanical parts.

Maintennce

The barriers require no maintenance.

Transport guard

When delivered every supporting post of the barrier is secured in the closed state by transport guard elements to prevent the supporting post profile (30, Fig.6) from shifting.

Every time a barrier is transported the transport guard must be fitted to fix moving parts.

Fitting the transport guards

The supporting post profile (30, Fig.6) is moved down as far as the lower travel limit (100u, 110u). Then the upper travel limit (100o, 110o, Fig.6) is pushed down on to the stop block (20, Fig. 6) and fixed in position (tighten the screw with a torque of 6 Nm). The stop block (20) is thus jammed between the two travel limits, and thereby secures the supporting post profile.

On each supporting post the counter-weight is fixed with the rod (180, Flg.6) which has to be pushed through the hole in the bearing block (40, Fig.6) until it makes contact with the counter-weight. The rod is then fixed in position by tightening the screw (190, Fig.6).

Before removing the transport guard, the pane must be fully mounted so as to balance the weight.

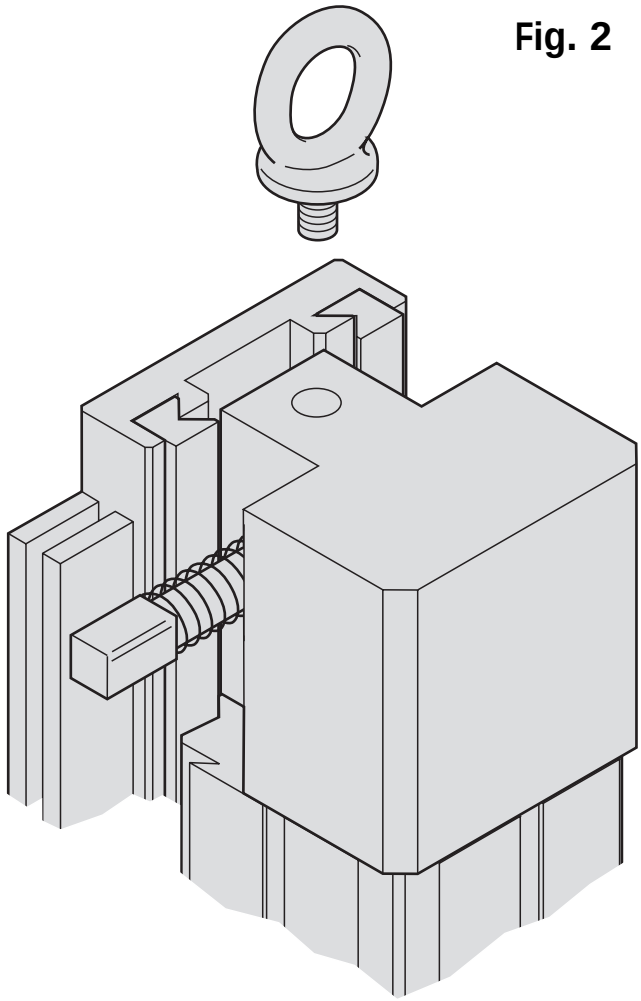
Removing the transport guards

To remove a transport guard, the screw (190, Fig.6) has to be unscrewed, so that the rod (180, Fig.6) can be pulled out upwards. Then the upper travel limiter (100o, 110o, Fig.6) is released, shifted to the desired position to suit the travel and fixed there (tighten the screw with a torque of 6 Nm). When doing so make sure the stop clamp (110, Fig.6) does not project beyond the underside of the clamping element (100).

Handling the supporting post

In order that the supporting post with means of picking up loads may be transported, a ring bolt (M8, DIN 580) as shown in Fig.2 must be screwed into the tapped hole provided for the purpose in the bearing block (40, Fig.6). The weight of the post is shown on the nameplate (240, Fig.6).

Fig. 2



Setting up the barrier

Since the barrier is only supported at two points it must be prevented from toppling over by suitable measures.

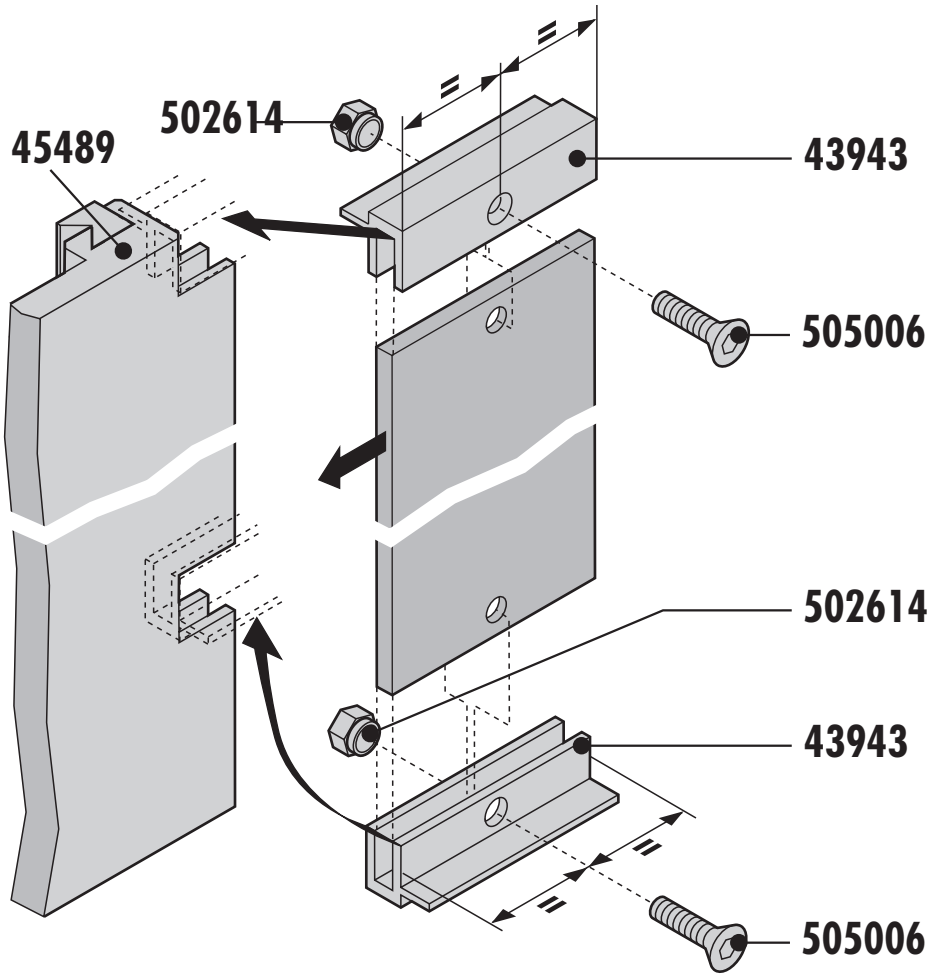
Optimal stability is afforded by a structure in which the columns of the barrier are integral parts of the machine sub-structure, e.g. as assembled with Quick-Set elements.

Free-standing barriers can be suitably secured and fixed with the aid of Quick-Set fixing elements.

To synchronize the supporting post profiles the an extruded aluminium profile (47951, Fig.6) is used, which interconnects the two shafts (30, Fig.8) of the bearing blocks.

Mounting the pane

Fig. 3



Important: Only one adjusting nut (502614) and bolt (505006) are mounted in the centre of the profile per end profile (43943).

Mounting the synchronous shaft

The synchronous shaft 47951 must be cut to the width of the protective pane. The length of the synchronous shaft is: distance between the two column centres minus 100 mm.

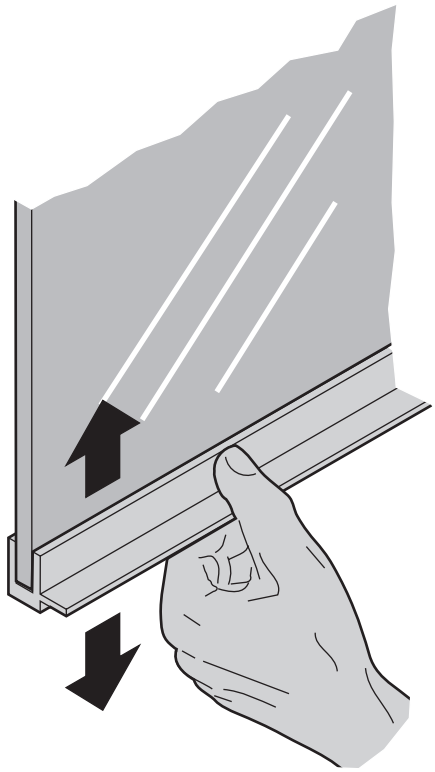
Important: The square socket end of the synchronous shaft must be cleanly deburred.

The synchronous shaft is mounted by first pushing it at one end over the square part of the shaft (item 30, Fig. 8). The synchronous shaft must now be pressed against the spring (item 90, Fig. 8) until it can be pushed over the square part of the shaft of the opposite supporting spar. The synchronous shaft is centred between the supporting spars by the spring force.

Actuating the protective pane

To actuate the protective pane the frame profile can be used.

Fig. 4



Equalizing weights

The equalizing weights (45461, Fig.6) are used to obtain a state of equilibrium between the mass of the pane and the counter-weight.

When the state of equilibrium has been reached, the pane remains stationary in any position to which it is pushed and can **only** be moved by the application of external force.

If the pane descends of its own accord, the counter-weight is too light, i.e. equalizing weights have to be inserted.

The equalizing weights (45461, Fig.6) are inserted or removed through the openings in the sides of the columns (10, Fig.6). But first the covers (100, Fig.6) fixed by two raised fillister-head screws (250, Fig.6) have to be screwed out.

On removing the cover (90, Fig.6) there is an acute risk of fingers being squeezed or cut by the openings in the column (10, Fig.6).

THEREFORE KEEP YOUR HANDS AWAY WHEN MOVING FROM THE OPENINGS

The pane has now to be pushed until the upper edge of the group of weights is roughly level with the middle of the opening. The equalizing weights can now be removed singly by hand or inserted with the recess forwards. It is important to make sure that the counter-weights are equal in both supporting posts.

Following each insertion or removal of weights check whether the pane remains stationary in any position to which it is pushed. If it does, the pane and the counter-weights are in equilibrium.

Finally the cover (90, Fig.6) must be put back in position.

Altering the equalizing weight

If equilibrium cannot be reached by adding or removing equalizing weights, the additional weight (46142, 45462, 45463, 45464, 45465, Fig.9) must be exchanged.

This operation may only be performed by the manufacturer.

Changing the belts

Material: Chlorbutadiene elastomer CR (polychloroprene) with glass-fibre strands.

The belts are highly resistant to weathering and ozone, also to acids and alkalis, as well as most oils; but they are not resistant to aromatic substances. For closer details see ISO 1817.

The belt is also resistant to abrasion and flameproof. It may not be inscribed or marked in any way.

If a belt is damaged or if damage is observed, it must be replaced for safety's sake.

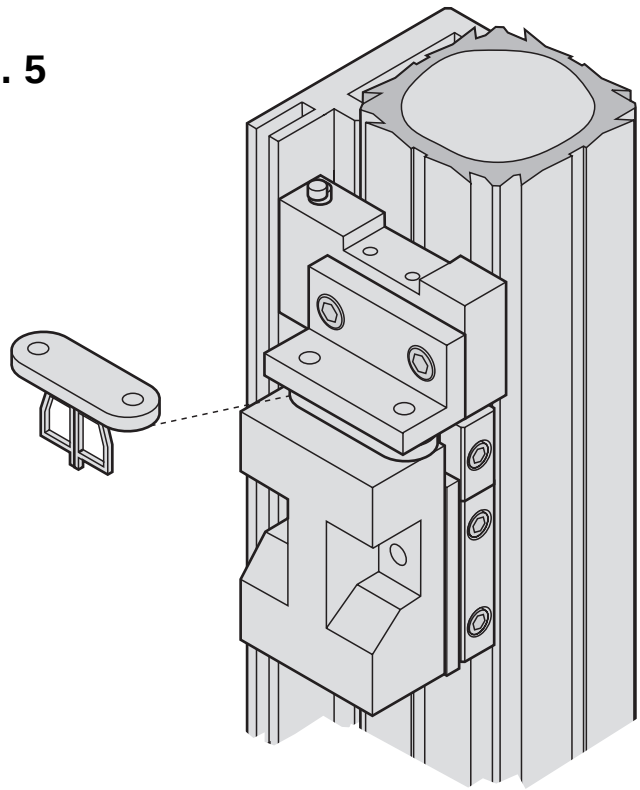
Belts may only be replaced by the manufacturer.

Mounting the safety switch

On the left-hand supporting post of the barrier a safety switch can be fitted as shown in Fig.5.

The safety switch (10, Fig.7) is fixed to a baseplate (20, Fig.7) with two screws. The baseplate with the switch is fixed to the dovetail of the column by means of the clamping element (40, Fig.7). Tighten the screws of the element with a torque of 6 Nm.

Fig. 5

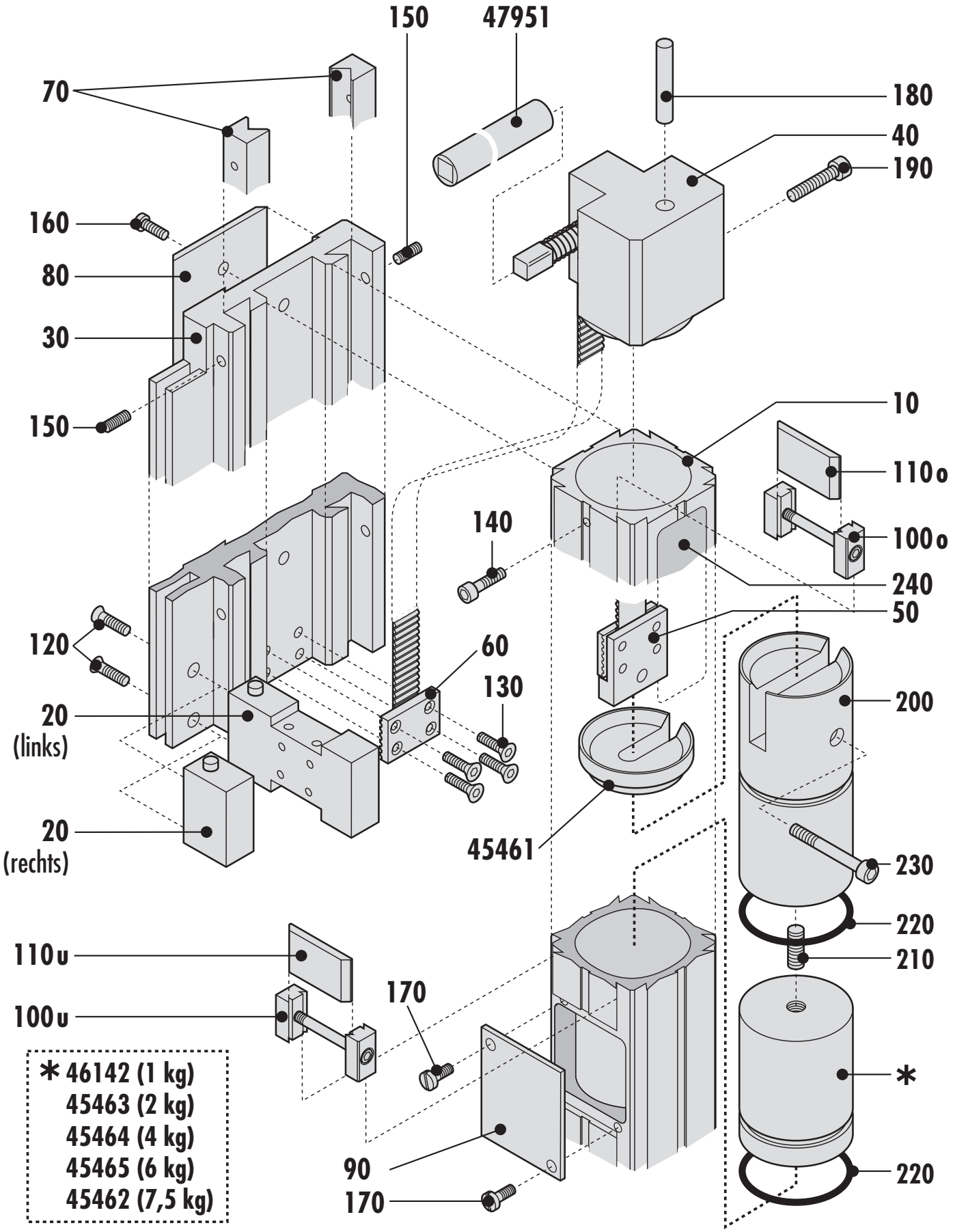


When a "Guardmaster" safety switch is used, the actuating bracket is fastened to the stop (20, Fig. 7) using the bracket (80, Fig. 7). When a "Schmersal" safety switch is used, the actuating bracket is fastened directly to the stop (20, Fig. 7).

The safety switch must be positioned in such a way that when the pane is closed (stop at the bottom limit) the actuating bracket is pushed into the slot in the switch casing, thereby actuating the switch.

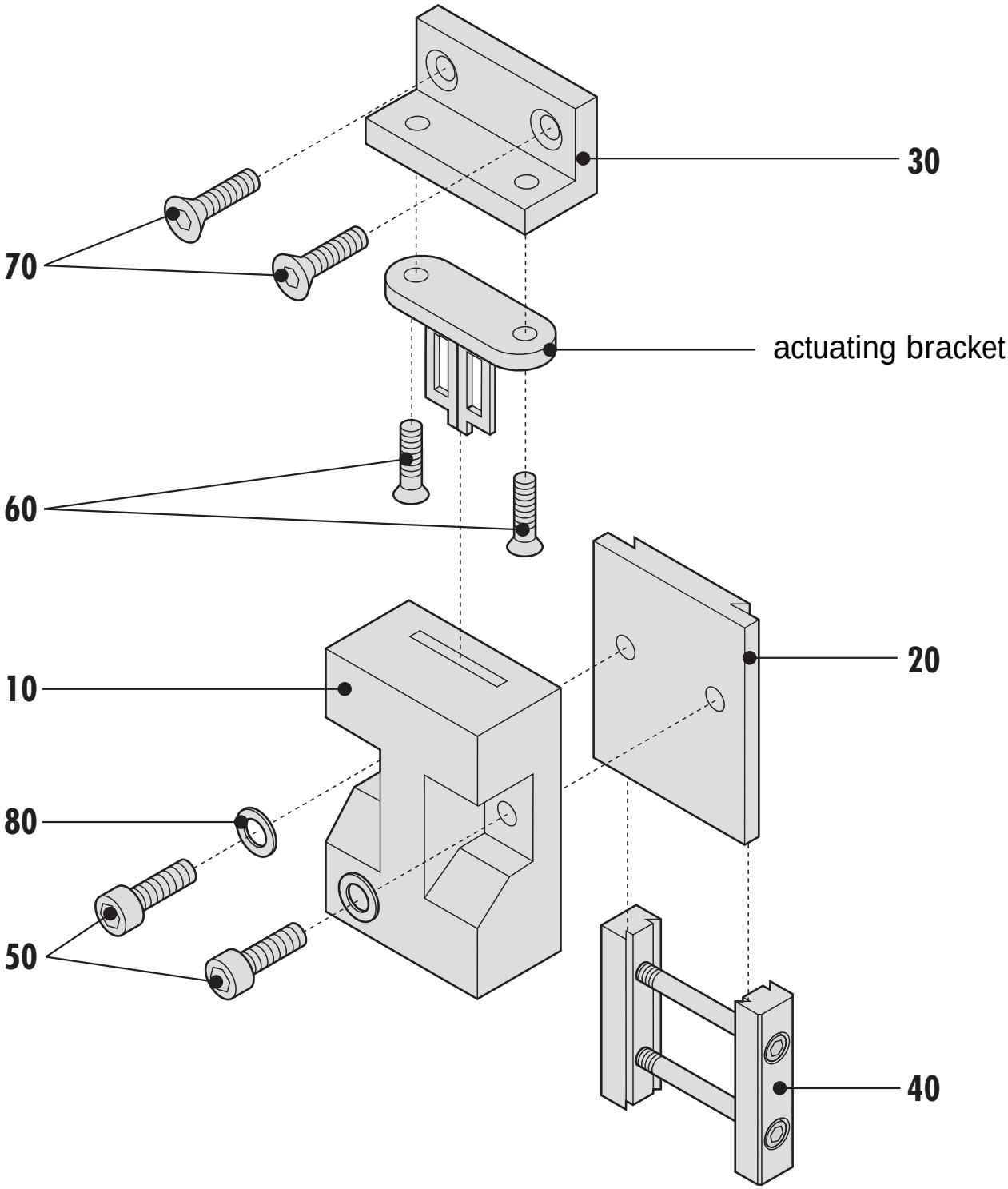
The safety switch must be electrically connected so that the dangerous parts of the installation are immediately switched off when the pane is opened and the installation can only be switched on when the pane is closed.

Supporting posts left/right (Fig.6)



No.	Part	left Art.No.	right Art.No.	Supplier	Material
10	Säule	45501	45501	Montech AG	Aluminium
20	Stop with buffer	46361	46362	Montech AG	Steel/PVC
30	Supporting spar profile	45489	45490	Montech AG	Aluminium
40	Bearing block	48182	48183	Montech AG	Miscell.
50	Belt with holder	45492	45492	Montech AG	Miscell.
60	Clamping plate	45467	45467	Montech AG	Aluminium
70	Guide profile	45472	45472	Montech AG	PE
80	Cover strip	43677	43677	Montech AG	PS
90	Cover	45511	45511	Montech AG	ABS
100	Clamping element SLL-12	44568N	44568N	Montech AG	Alu/Steel
110	Stop clamp	48362	48362	Montech AG	Aluminium
120	Csk screw	504372	504372	M6x12	Steel
130	Csk screw	504392	504392	M4x12	Steel
140	Chhd screw	503785	503785	M5x16	Steel
150	Set-screw	501890	501890	M3x12	Steel
160	Raised fillister-head screw	505335	505335	M4x6	Steel
170	Raised fillister-head screw	504376	504376	M4x8	Steel
180	Transport guard	43928	43928	Montech AG	Steel
190	Chhd screw	501682	501682	M8x30	Steel
200	Base weight	45460	45460	Montech AG	Steel
210	Set-screw	501938	501938	M8x30	Steel
220	O-ring	505334	505334	Busak+Shamban	NBR
230	Chhd screw	501683	501683	M8x35	Steel
240	Nameplate	45527	45527	Montech AG	Polyester metall.

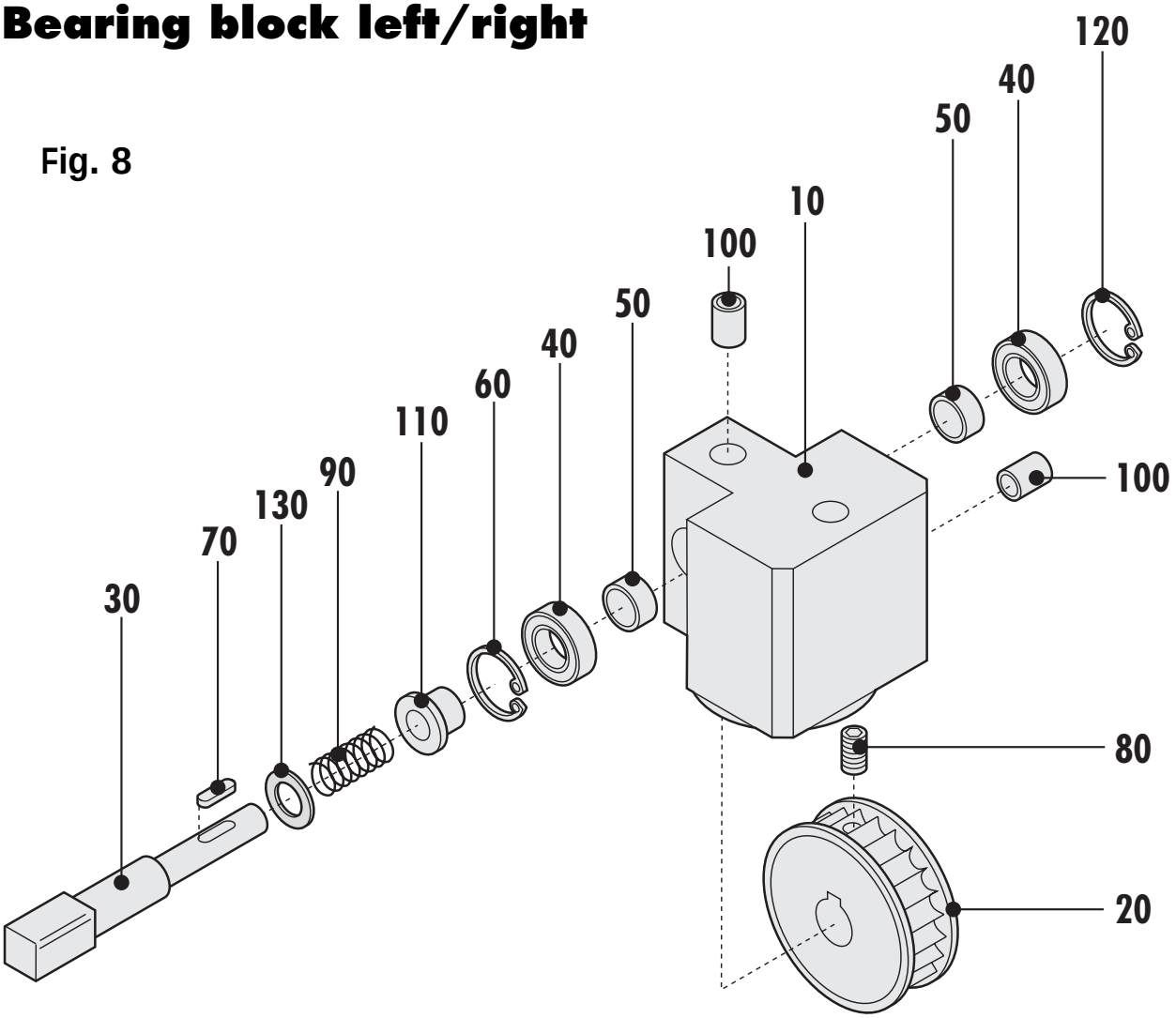
Safety switch (Fig. 7)



No.	Part	Guardmaster Ref.No.	Schmersal Ref.No.	Supplier	Material
10	Safety switch, locking	505365	506399	Miscell.	Miscell.
	Ditto currentless locked	505405	506400	Miscell.	Miscell.
	Ditto currentless released	505406	506401	Miscell.	Miscell.
20	Baseplate	47048	48361	Montech AG	Aluminium
30	Bracket	47049	—	Montech AG	Aluminium
40	Clamping element SLL-55	40201N	40201N	Montech AG	Alu/Steel
50	Chhd screw	503785	505900	Bossard AG	Steel
60	Chhd screw	—	504549	Montech AG	Steel
	Csk screw	504340	—	Montech AG	Steel
70	Csk screw	504373	—	Montech AG	Steel
80	Washer	504343	—	Montech AG	Steel

Bearing block left/right

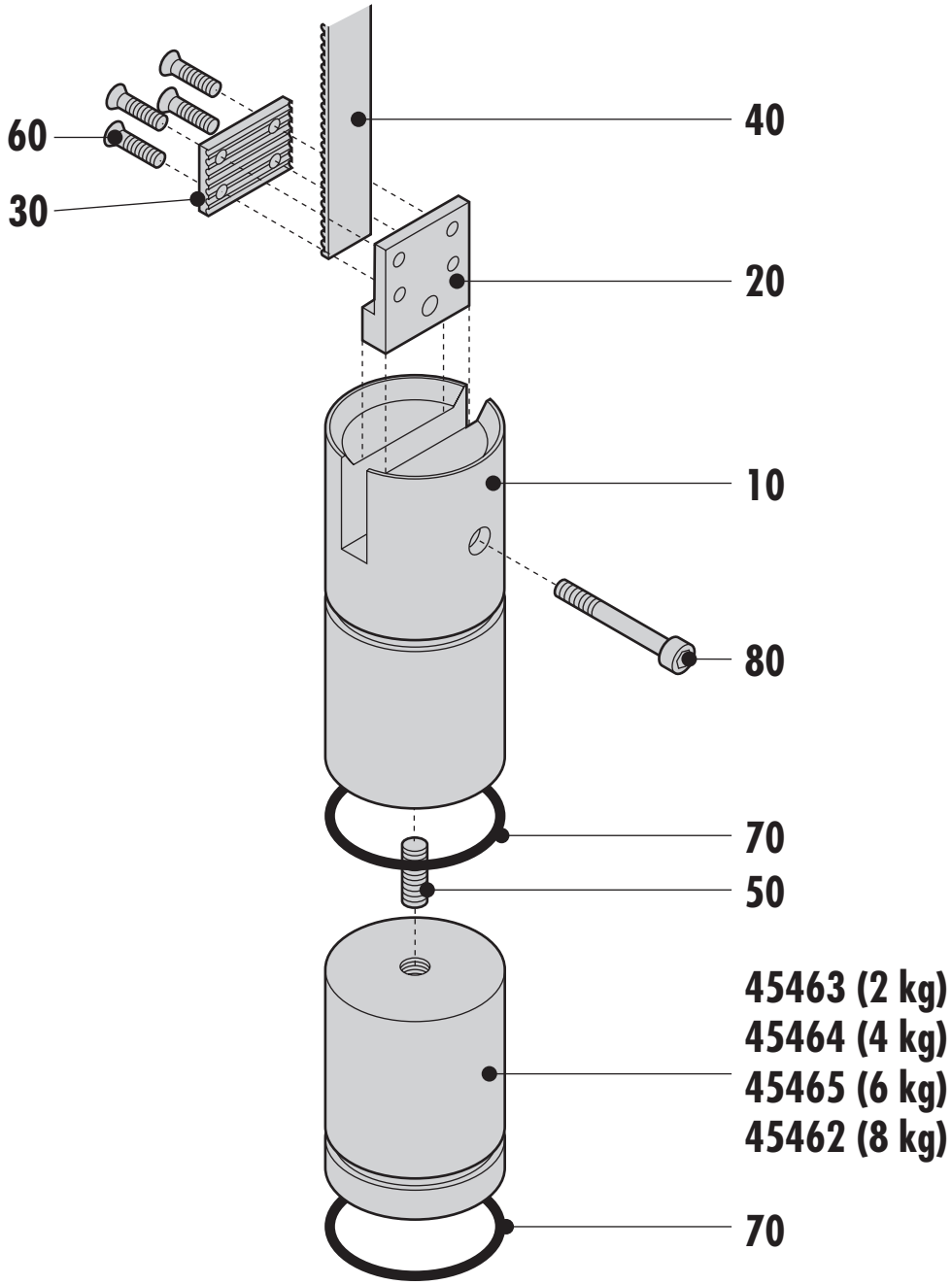
Fig. 8



No.	Part	Ref.No.	Supplier	Material
10	Bearing block	48181	Montech AG	PE
20	Toothed wheel	45477	Montech AG	Aluminium
30	Shaft	48069	Montech AG	Steel
40	Ball bearing	505219	607 ZZ	Steel
50	Spacing ring	48178	Montech AG	Steel
60	Circlip	502489	Bossard AG	Steel
70	Key	505346	Bossard AG	Steel
80	Set-screw	501910	M5 x 10	Steel
90	Compression spring	506318	Kubo-Tech AG	Steel
100	Tapped insert	504763	Bossard AG	Steel
110	Bush	45925	Montech AG	Steel
120	Circlip	504997	Bossard AG	Steel
130	Pass-Scheibe	505550	Bossard AG	Steel

Equalizer

Fig. 9



No.	Part	Ref.No.	Supplier	Material
10	Clamping bracket	45466	Montech AG	Aluminium
20	Clamping plate	45467	Montech AG	Aluminium
30	Toothed belt	45484	Montech AG	CR
40	Countersunk screw	501801	M4 x 14	Steel

Accessories for the pane

Part	Ref.No.	Supplier	Material	Remarks
Synchronous weight	47951	Montech AG	Aluminium	Fig. 6
Equalizing weight (1 kg)	46142	Montech AG	Steel	Fig. 6
Equalizing weight (2 kg)	45463	Montech AG	Steel	Fig. 6
Equalizing weight (4 kg)	45464	Montech AG	Steel	Fig. 6
Equalizing weight (6 kg)	45465	Montech AG	Steel	Fig. 6
Equalizing weight (7,5 kg)	45462	Montech AG	Steel	Fig. 6
Balancing weight (0.25 kg)	45461	Montech AG	Steel	Fig. 6
Frame profile	43943	Montech AG	Aluminium	Fig. 3
Rod	43928	Montech AG	Steel	Fig. 6
Adjustable foot	44018	Montech AG	Steel/POM	
Cheesehead screw	501682	M8 x 30	Steel	Fig. 6
Countersunk screw	505006	Bossard AG	Steel	Fig. 3
Blind nut	502614	Bossard AG	Steel	Fig. 3
Instruction manual	506419	Montech AG	Paper	

Environmental compatiibility and disposal

Materials used

- Aluminium
- Steel
- ABS acryl-nitrile butadiene styrene
- CR polychloroprene
- NBR acryl-nitrile butadiene rubber
- PE polyethylene
- PMMA polymethyl metacrylate (Altulex)
- PE-UHMW polyethylene (Polydur)
- POM polyoxymethylene (Polyacetal)
- PS polystyrene
- PUR polyurethane
- PVC Polyvinyl chloride

Surface treatment

- Anodizing of aluminium
- Blackening of steel
- Chemically nickel-plated

Shaping processes

- Profile pressing of alulminium
- Machining of aluminium, steel, ABS, PE, PMMA, PE-UHMW, POM, PS, PUR
- Moulding NBR gaskets
- Extruding CR

Emissions when operating

- None

Disposal

Barriers that can no longer be used should not be disposed of as complete units but dismantled into their components which can be disposed of according to their material. The material of each part is listed in the spare parts lists. Material that cannot be recycled should be disposed appropriately.

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