

Operating Manual

HSC®

Pressure-sensitive edges
(Translation of original operating manual)

HSC 35-20-01 T	HSC 40-20-01 T	HSC 65-35-01 T	HSC 95-35-01 T
HSC 35-20-02 T	HSC 40-20-02 T	HSC 65-35-02 T	HSC 95-35-02 T
HSC 35-20-03 T	HSC 40-20-03 T	HSC 65-35-03 T	HSC 95-35-03 T

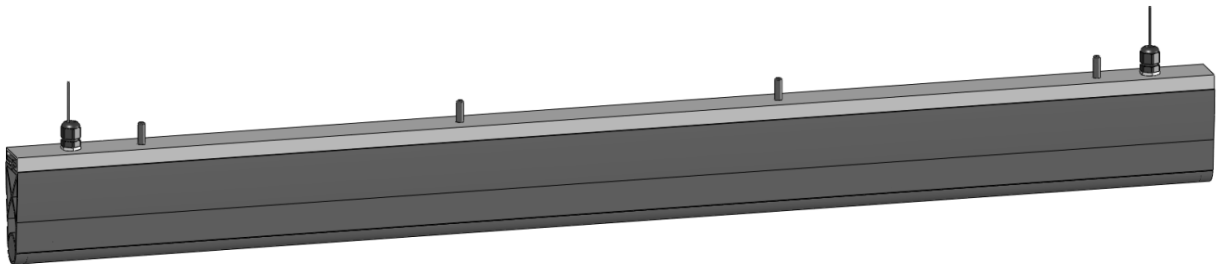


Illustration shows HSC 95-35-01 T
The illustration may deviate from the actual product.

Read the entire operating manual including the section "Maintenance" before beginning any work!

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Article-No. 32808
04-2019

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Contents

1	Scope.....	3
2	Intended use.....	3
3	Symbol explanation.....	3
4	Disposal.....	3
5	Foreseeable misuse.....	3
6	Identification.....	4
7	Safety relevant function.....	4
8	Fault exclusions.....	4
9	Scope of delivery.....	5
10	Structure and function.....	5
10.1	Description.....	5
10.2	Example.....	5
11	Safety measures.....	6
11.1	Organisational measures.....	6
11.2	Safety of persons.....	6
11.3	Avoiding property damage.....	6
11.4	Operating conditions and limitations of use.....	6
11.5	Assembly.....	6
11.6	Repairs / alterations.....	6
11.7	Electrical equipment.....	6
12	Installation.....	7
12.1	Preparation.....	7
12.2	General approach.....	7
12.3	Installation instructions.....	7
12.4	Electrical connection.....	8
13	Regular performance check.....	9
14	Commissioning, operation.....	10
15	Maintenance / repair.....	10
16	Cleaning.....	10
17	De-installation.....	10
18	Troubleshooting.....	11
19	Transport, handling, unpacking, storage.....	11
19.1	Transportation and handling.....	11
19.2	Unpacking.....	11
19.3	Storage.....	11
20	Technical data.....	12
21	Dimensions.....	13
22	Actuating forces and response times:.....	14
23	Selection procedure.....	16
24	Application example.....	16
25	Acceptance report.....	18
26	EC Declaration of Conformity.....	19

1 Scope

This operating manual is intended for persons who have been authorised to carry out tasks involving the pressure-sensitive edge of the HSC-series. International, national and, where appropriate, regional regulations are to be observed when handling pressure-sensitive edges.

If you have any questions which are not answered in this manual, please get in touch with your regional customer service centre or else make direct contact with

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2 Intended use

HSC pressure-sensitive edges are used to safeguard pull-in points as well as crushing and shearing edges on machines and plants, in accordance with the conditions described in sections 20, 21 and 23. They find application in the protection of hands, arms, legs, heads and people, for example on machine hoods, movable safety devices, lifting tables, hoisting and tilting equipment, packaging machines, automated guided vehicles (AGVs).

Other applications are prohibited.

3 Symbol explanation

Warnings are indicated by symbols. The notices are introduced by signal words to indicate the extent of the hazard.



Attention!

... indicates a potentially hazardous situation, which may lead to personal injury and damage to property if it is not avoided.



NOTE!

... highlights useful tips and recommendations as well as information for efficient and fault-free operation.

4 Disposal



The device must be properly disposed of in accordance with national laws and regulations.

5 Foreseeable misuse

Examples for reasonably foreseeable misuse:

- Pressure-sensitive edges may not be used as climbing aids.
- Pressure-sensitive edges may not be used as end stops for movable safety devices.
- Pressure-sensitive edges may not be connected to voltage ≥ 50 V AC, 75 V DC.
- Pressure-sensitive edges may not be stressed by voltages greater than 0.5 A.
- Pressure-sensitive edges may not be used on fire doors.
- Connection lines may not be installed without protection.

6 Identification

For an accurate identification, you will find the type designation, serial number and year of construction on the type labels of the pressure-sensitive edges.

Note these details (prior to installation, if necessary), so that they can be provided in case of questions or for ordering spare parts.

7 Safety relevant function

The pressure-sensitive edges implement the following safety functions:

1. Interruption of the closed circuit through force application on the sensor surface
2. The interruption of the closed circuit is maintained as long as the force is applied to the sensor surface.

8 Fault exclusions

Due to the design, materials, and components used for the pressure-sensitive edges, the faults listed in the table can be excluded:

Potential fault	Exclusion of fault	Limitations of use	Reason
Deformation by overload	Admissible in accordance with table A.4. of DIN E ISO 13849-2.	See: Intended use in section 2 and technical data in section 20.	Use of carefully selected materials and manufacturing procedures; use of special types of fastening.
Modifications of the geometry or breakage of the contact elements	Admissible in accordance with table A.4. of DIN E ISO 13849-2.	See: Intended use in section 2 and technical data in section 20.	Use of carefully selected materials and manufacturing procedures; use of special fastening types; over-dimensioning.
Short circuit in the lines and line connections	Admissible in accordance with table D.4. of DIN E ISO 13849-2.	See: Installation in section 12	Use of doubly insulated sheathed cables and protected cable installation
Fusing of the contacts	Admissible in accordance with table D.8 of DIN E ISO 13849-2.	See: Installation in section 12 and technical data in section 20.	Use of a fuse (0.5 A) in the supply circuit of the pressure-sensitive edges.

9 Scope of delivery

1 x pressure-sensitive edge



NOTE!

Means of attachment and fuse (0.5 A) are **not** included in the scope of the delivery.

10 Structure and function

10.1 Description

The pressure-sensitive edges are basically of the same design, independent of their dimensions and shape.

They consist of the components:

- Haake safety contact chain HSC® (normally closed type)
- TPE hollow chamber profile and sealing plug
- Aluminium profile for fastening the sensor to the machine body
- A variety of line connection arrangements depending on the application
- Double insulated connection lines to the machine control

When the pressure-sensitive edge sensor is actuated, the current flow is interrupted by the special geometry of the chain links in the interior of the sensor. This interruption represents the OFF state of the output signal switching device and thus transmits the safety output signal to the downstream machine control.

The pressure-sensitive edges meet the requirements for automatic resetting because they switch to the ON state when the actuating force is removed.



Attention!

If applicable, a reset function may be required.

Should work with a manual reset be required, this should be implemented by means of the machine control in accordance with DIN EN ISO 13856-2:2013-08, section 4.11.

The pressure-sensitive edges can be joined together as often as required up to a length of 50 m.

Due to the closed circuit principle (forced interruption of the contact chain) no separate evaluation unit is necessary for provision of the output signal.

The pressure-sensitive edges and downstream machine control must together meet the performance level that was determined by the risk assessment.

10.2 Example

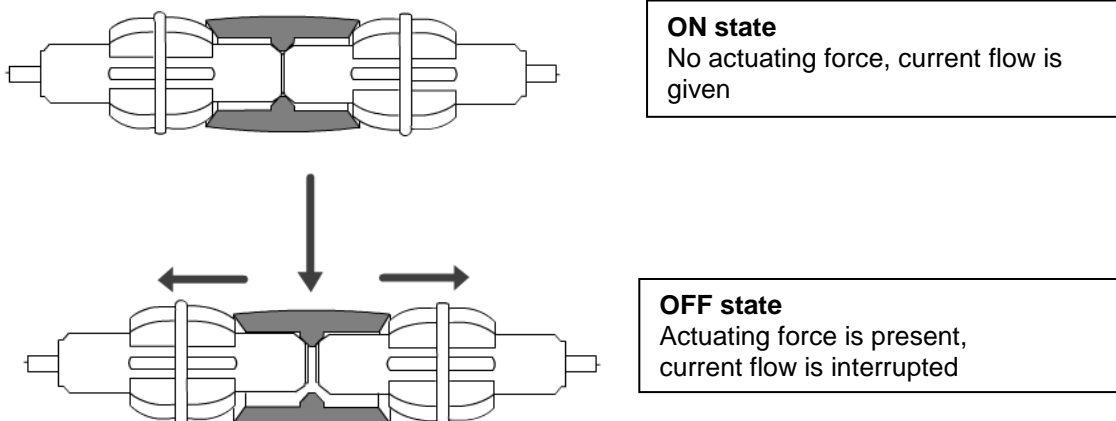


Figure shows HSC as functional principle (sensor profile is not shown)

11 Safety measures

11.1 Organisational measures

Persons who have been authorised to carry out tasks involving the installation or de-installation of the pressure-sensitive edge must have read and understood this manual prior to commencing such tasks. The operator of the plant or machine has an obligation to ensure the installation and de-installation is carried out safely and with no hazards by implementing appropriate safety measures.

11.2 Safety of persons

Personnel responsible for installation or de-installation tasks have to be suitably skilled or else have to be instructed by suitably skilled persons. On account of their technical training and experience, such skilled persons have sufficient knowledge of the installation or machine. These persons are sufficiently familiar with the applicable country-specific occupational safety and health provisions and accident prevention regulations applicable on site so that they are able to assess the operational safety of the installation or machine.

It is necessary to implement accident- and fall-prevention measures whenever tasks are performed or areas are traversed at height.

11.3 Avoiding property damage

Please note the **intended use** (cf. section 2) and the **installation** (cf. section 12) described in this manual.

11.4 Operating conditions and limitations of use

Please note the **intended use** (cf. section 2), **foreseeable misuse** (cf. section 5) and **technical information** (cf. section 20) described in this operating manual. The pressure-sensitive edges and downstream machine control must in their entirety comply with the performance level to be determined by means of a risk assessment. The overall system must be validated according to DIN EN ISO 13849-1. This must be guaranteed by the machine manufacturer producing the overall application.



Attention!

The machine must not be restarted in case of existing danger.

11.5 Assembly

Assembly work may only be carried out by skilled workers or personnel qualified by the manufacturer. Perform the assembly as described in section 12 and always carry out a function test afterwards. Do not make any alterations to the installation after the function test has been successfully carried out.

11.6 Repairs / alterations

Do not carry out any repairs to the pressure-sensitive edge. Do not replace or exchange any parts. Send damaged or faulty components to Haake Technik GmbH to be repaired.

Do not make any alterations to the pressure-sensitive edge. Otherwise, this could lead to malfunctions, which can cause serious personal injury and irreparable damage to property.

In the event of non-compliance, the guarantee is invalidated and Haake Technik GmbH does not accept any liability.

11.7 Electrical equipment

Electrical connections may only be executed by qualified electricians who are familiar with all international, national and, where appropriate, regional electrical engineering regulations.

Work must only be carried out when the power supply has been shut off.

Always ensure external protection of the pressure-sensitive edge with an overcurrent fuse of 0.5 A (rated value).

12 Installation



Attention!

Always select a fastening means for installation that is sufficiently secured against loosening. The overall safety of the machine depends on the proper execution of the installation.

12.1 Preparation

Before starting the installation, make sure that the type designation specified in this instruction manual matches the type name on the pressure-sensitive edge.

When installing the pressure-sensitive edge, you will need the following hardware that is **not** included in the scope of delivery:

- Mounting material: Screws, threaded nuts (M6 / M8) depending on the pressure-sensitive edge type
- Screw locking (e.g. gear wheels, disc springs, wave washers or screw glue)

The following tools (tools) are needed to install the pressure-sensitive edge:

- Drilling machine, and drill bit 6.6 mm; 9.0 mm
- Countersink 90°
- Key ring / open-end spanner or socket spanner AF 7mm, AF 8 mm, AF 10 mm, AF 13 mm, depending on the pressure-sensitive edge type
- Crosstip screwdriver
- Voltage tester

Clean the work environment by removing dirt, grease and oil.

12.2 General approach

Use suitable tools when installing the pressure-sensitive edge. Otherwise, bolts and nuts may become damaged and unusable.

Do not exceed the max. torque when tightening the nuts.

Always use one of the screw locks specified in section 12.1.

12.3 Installation instructions

Make the mounting holes according to the design of the pressure-sensitive edge. The location of the mounting holes is specified by and can be gathered from the customer's order or read off the pressure-sensitive edge.

The installation procedure depends on local circumstances.

Observe the following basic instructions:



Attention!

The pressure-sensitive edge may only be installed on a completely even surface. Cavities underneath the pressure-sensitive edge may lead to permanent deformations and influence the safety functions of the system. During installation, pay attention that any ineffective areas of the pressure-sensitive edge are arranged in a concealed manner.

It is important to ensure that no objects are able to penetrate the deformation chamber of the sensor profile.

The profiles HSC 95-35-03 T, HSC 65-35-03 T, HSC 40-20-03 T and HSC 35-20-03 T must be arranged so that the flange profile always points to the machine side and the sensor profile to the approach side.

In case of vertical installation (mounting orientation D according to DIN EN ISO 13856-2, fig. 6, with $\gamma = 0^\circ$), the sensor profile must be secured against slipping out of the aluminium profile by clamping plates at the ends.



Attention!

It is not permitted to shorten pressure-sensitive edges!

If a pressure-sensitive edge must be shortened for operational reasons, this must be done exclusively by the manufacturer.

No liability is accepted in the event of improper installation!

12.4 Electrical connection

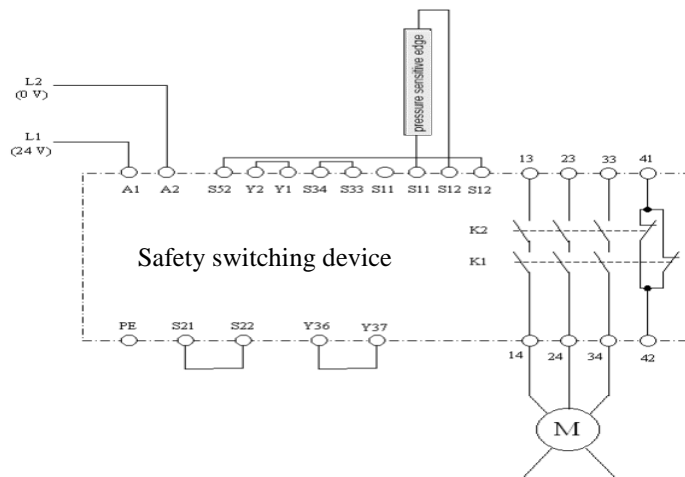
The integration of the pressure-sensitive edge in the control circuits of the machine control is performed according to EN 60204-1 "Electrical equipment of machines". Core component of the control unit is e.g. a logical unit for safety functions which realises the required performance level in conjunction with the pressure-sensitive edge.

Because the pressure-sensitive edge is operating according to the normally closed contact principle, it can be directly connected to a logical unit for safety functions (e.g. safety switchgear), which processes the output switching signal of the pressure-sensitive edge in the machine control.

The electrical connection of the pressure-sensitive edge must be carried out according to the following specifications:

Rated voltage: < 50 V AC, 75 V DC (with safe disconnection to the grid).
 A voltage source for SELV or PELV systems according to DIN VDE 0100-410 must be used.

Rated current: < 0.5 A
 The power supply of the pressure-sensitive edge must be protected externally!
 Overcurrent protection of 0.5A (rated value)



Connection example (symbolic representation).

For information on the respective safety switchgear, please refer to the operating instructions of the respective product.

Additional installation instructions for cable connections:

- After cutting to the required length, all cable ends must be provided with crimp contacts.
- The surface on which the safety edge is mounted must be flat and clean.
- The cable connections of joined pressure-sensitive edges must be arranged in an offset manner, properly connected and separately insulated from each other.
- The sensor profile and the connection cables must not be damaged.
- All lines must be laid with protection against external mechanical influences.
- Depending on the type of cable connection, protection rating IP 65 must be ensured also at connection points, e.g. by appropriate sheaths or enclosures (control cabinet installation).
- Connection lines and connections must be laid and fastened across their entire length such that external mechanical damage is avoided (e.g. internal space of profile, cable ducts, protective tubes, etc.), see also DIN EN ISO 13849-2:2013-02, tab. D4, D6, D7.



Attention!

The overall safety of the machine significantly depends on carefully executed line installation and line connections.

No liability is accepted in the event of improper installation!

13 Regular performance check



Attention!

The protective effect of the pressure-sensitive edge must be checked regularly
- at least once a year
or
- at intervals according to national operating instructions

Once installed, do not loosen any bolts or nuts or remove any pins; otherwise, the effectiveness of the safety-related functions is no longer guaranteed.

Run the following tests after installation and at regular intervals and document the results in the acceptance report (section 22):

- Check all wire connections on the machine control system for terminal assignment and tight connection.
- Check the installation position and pressure-sensitive edge attachments
- Check the surface of the sensor thoroughly for external damage (visual inspection).
- Check the safety function of the overall system by repeated actuation of the pressure-sensitive edges at different points of the effective actuation area, preferably by a test body of Ø 80 mm with a maximum force of 150 N.
- Check the reset function, if available.

With a high degree of pollution or at temperatures below freezing point, short test intervals (at least once before each shift) are advisable.

14 Commissioning, operation

After the pressure-sensitive edge has been properly installed, connected and tested, the technical equipment on which the pressure-sensitive edge was installed can be turned on and operated in accordance with its intended use.

No further work on the pressure-sensitive edges is required.

15 Maintenance / repair



Attention!

Adapt the maintenance intervals to the environmental conditions at the application site.

No maintenance of the internal parts of the pressure-sensitive edge is required.

Damaged or defective pressure-sensitive edges must be replaced.

After reassembly, all dismantled / removed parts (e.g. covers, clamps, profiles, fastenings) must be re-installed.

16 Cleaning

As a rule, no cleaning is required. Soiled pressure-sensitive edges can be cleaned by wiping with a cloth and neutral soap suds.



Attention!

Only use other cleaning methods after prior consultation with the manufacturer.

17 De-installation



Attention!

Only dismantle the pressure-sensitive edge when the electrical system is de-energised.

- Disconnect the electrical connection (section 12.4).
- Loosen the attachment of the pressure-sensitive edge, depending on the design version (section 12.3).

18 Troubleshooting

Fault	Possible cause	Remedy
No interruption of the signal	Connection cable is damaged, short-circuit	Contact Haake Technik GmbH.
	There are objects in the deformation chamber	Remove objects.
No ON signal.	Defective connecting terminals	Check terminals and tighten if necessary
	Cable break	Contact Haake Technik GmbH.
	Damaged contact chain	Contact Haake Technik GmbH.
Pressure-sensitive edges cannot be mounted.	Wrong aluminium profile	Contact Haake Technik GmbH.
	Aluminium profile is damaged.	Contact Haake Technik GmbH.

19 Transport, handling, unpacking, storage



Attention!

Note the total weight of a packaging unit and always use a suitable transport means.

Dimensions and mass of the packing arise from the scope of the order. The products are placed in an overpack. Depending on the number of parts to be shipped, cardboard boxes, crates, pallets or containers are used for packaging. Wooden boxes are provided with a lid.

19.1 Transportation and handling

If weight is unevenly distributed, the centre of gravity is indicated on the wooden box. Depending on their length, pressure-sensitive edges must be handled by one or two people.

In each transport container, goods are provided with filling material to line any clearances. This ensures that goods are protected during transport.

Returned goods must be similarly packed to avoid transport damages.

Goods damaged due to improperly packed returns will be invoiced.

19.2 Unpacking

Special care is needed when opening the packaging.

Open **products in cartons** with a knife at the points where adhesive tape was used. When opening, make sure you cut with the knife away from your body.

Cardboard rolls have plastic covers on the end faces attached with clamps to the rolls. Pull out the clamps on one side of the roll with a pair of pliers and remove the plastic cover.

The lid of **wooden boxes** is attached by nails or screws to the box. Therefore use a claw or screwdriver when opening. Always pull nails or screws entirely out of the wood to avoid injuries.

Remove goods from the filling material and place on a clean surface.

19.3 Storage

Never bend or roll up sensors, always store them flat; pressure-sensitive edge must fully rest on the surface.

If pressure-sensitive edges are to be stored for an extended period of time, they should be placed in the original packaging. A dry environment with temperatures ranging between +5 and +55 °C must be chosen for storage. This prevents damage caused by external interferences or environmental influences.

20 Technical data

Environment:	indoors / outdoors
Ambient atmosphere:	industrial environments
Temperature range:	-20° C to +55° C
Humidity:	up to 100% (standard climate)
Material:	
Sensor profile:	TPE SEBS
Mounting profile:	Aluminium
Connecting line:	PVC, double insulated, highly flexible single core cables, d=3.5 mm Max. line length 50 m Other lines are possible after consultation with the manufacturer.
Ambient atmosphere:	industrial environments
Resistance of the sensor surface:	
Ozone resistance:	good
UV resistance:	good
Acids	good
Alkaline solutions	good
Water	good
Coolant	good
Drilling emulsion	good
Oil resistance:	medium
Resistance to detergents:	good
Ammonia, liquid:	good
Methanol (<40%):	good
Mounting position:	all positions (according to DIN EN ISO 13856-2; Fig. 6)
Service life:	10 years
Values according to DIN EN ISO 13849-1:2008-12:	
B10d value:	
HSC 35-20-xx T:	364456
HSC 40-20-xx T:	210860
HSC 65-35-xx T:	129262
HSC 95-35-xx T:	131776
Category:	3
Performance level:	up to d is feasible
Mean Time To Failure (MTTF _d):	Application-dependant
Protection class:	IP 65
Weight:	approx. 1.7 kg/m (depending on model)
Overall length of individual pressure-sensitive edges:	max. 6 m
Overall length with assembled sensors:	max. 50 m
Rated voltage:	<50 V AC, 75 V DC (with safe disconnection to the grid) A voltage source for SELV or PELV systems according to DIN VDE 0100-410 must be used.
Rated current:	≤ 0.5 A
Load	max. 500 N within the effective operating angle

Deformation > 24 h: suitable

Effective actuation angle: $\alpha = 90^\circ$

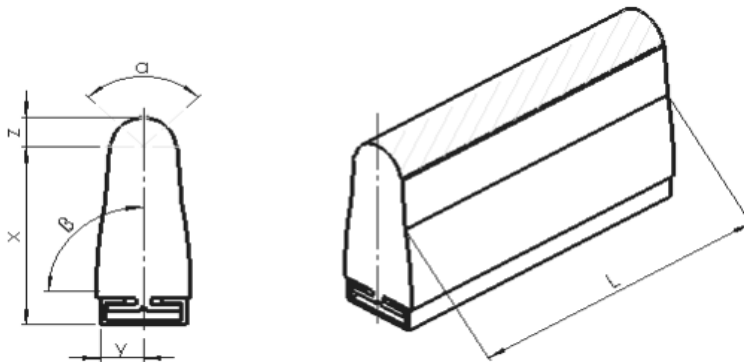
Design information: $\beta = 90^\circ$

21 Dimensions

Dimensional specifications in mm.

Pressure-sensitive edge	X	Y	Z	α	β
HSC 35-20-xx T	24	10	11	90°	90°
HSC 40-20-xx T	29	10	11	90°	90°
HSC 65-20-xx T	47	17,5	13	90°	90°
HSC 95-20-xx T	75	17,5	13	90°	90°

Symmetric without ineffective area at the ends



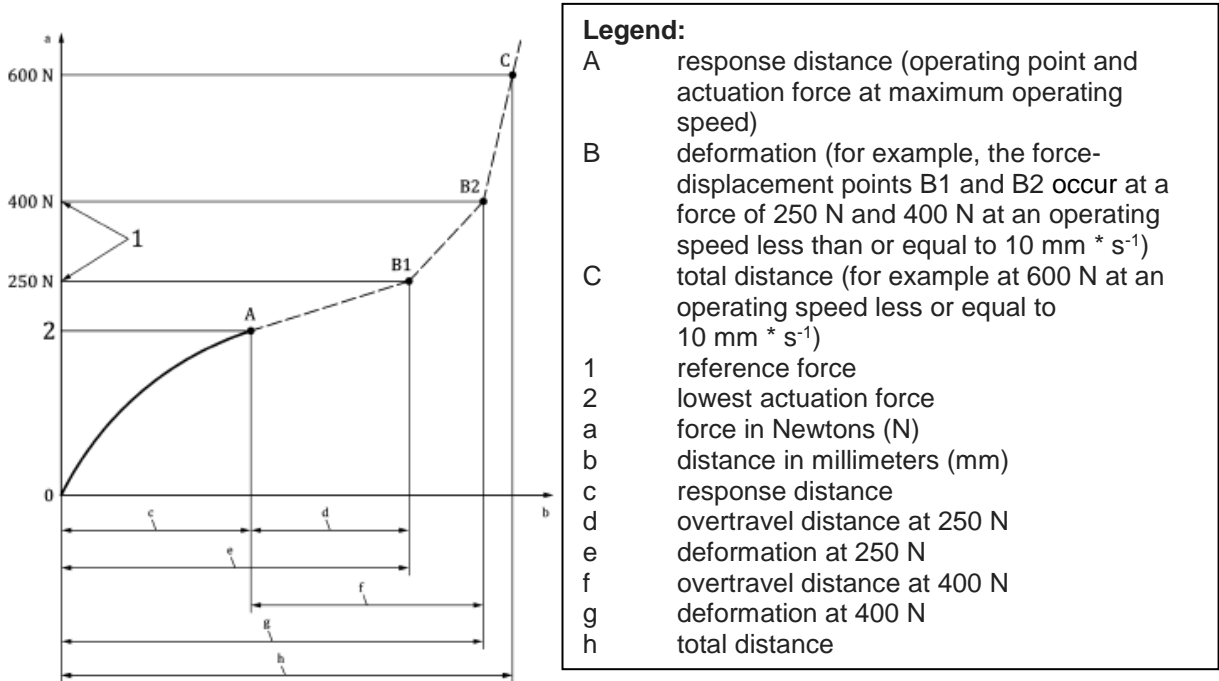
α : Effective actuation angle
 β : Design angle
X: Design dimension
Z: Design dimension;
 α and L: Effective actuation area
[Explanation of the geometrical dimensions on the basis of
DIN EN ISO 13856-2 for determination of the effective actuation area]

22 Actuating forces and response times:

Pressure-sensitive edge	Operating speed 10 mm/s	Operating speed 100 mm/s	Actuating force (at 100 mm/s)	weight per meter
HSC 35-20-01 T	Response time 494 ms	Response time 52 ms	82 N	0.7 kg
HSC 35-20-02 T	Response time 494 ms	Response time 52 ms	82 N	0.75 kg
HSC 35-20-03 T	Response time 494 ms	Response time 52 ms	82 N	0.75 kg
HSC 40-20-01 T	Response time 851 ms	Response time 88 ms	65 N	0.75 kg
HSC 40-20-02 T	Response time 851 ms	Response time 88 ms	65 N	0.8 kg
HSC 40-20-03 T	Response time 851 ms	Response time 88 ms	65 N	0.8 kg
HSC 65-20-01 T	Response time 712 ms	Response time 129 ms	84 N	1.5 kg
HSC 65-20-02 T	Response time 712 ms	Response time 129 ms	84 N	1.6 kg
HSC 65-20-03 T	Response time 712 ms	Response time 129 ms	84 N	1.6 kg
HSC 95-20-01 T	Response time 1183 ms	Response time 161 ms	104 N	1.8 kg
HSC 95-20-02 T	Response time 1183 ms	Response time 161 ms	104 N	2.0 kg
HSC 95-20-03 T	Response time 1183 ms	Response time 161 ms	104 N	2.0 kg

Force-displacement diagrams:

Force-displacement diagrams in accordance with DIN EN ISO 13856-2 for individual operating speeds can also be obtained from the manufacturer.



Test parameters:

T=20°C, mounting orientation B and measurement location C3 (cf. DIN EN ISO 13856-2; Fig. 6 and 7).

Operating speed of 100 mm / sec

The following diagrams are to be used for the selection process (cf. section 21).

Pressure-sensitive edge	Force (N)	c response distance (mm)	d at 250 N overtravel distance (mm)	f at 400 N overtravel distance (mm)	e at 250 N deformation (mm)	g at 400 N deformation (mm)	h total distance (mm)
HSC 35-20-xx T	82	5.2	6.6	7.9	11.8	13.1	13.5
HSC 40-20-xx T	65	8.8	7.7	9.7	16.5	18.5	18.7
HSC 65-35-xx T	84	12.9	15.1	16.8	28.0	29.7	30.1
HSC 95-35-xx T	104	16.1	29.6	32.3	45.7	48.4	49.1

23 Selection procedure

The three most important parameters for selecting the appropriate pressure-sensitive edges are:

- Determination of the required performance level
- Speed of the dangerous movement
- Stopping distance of the dangerous elements

- Legend:
 - V_B = Operating speed [m/s]
 - V_G = Dangerous movement [m/s]
 - S_N = Overtravel distance [m]
 - S_A = Stopping distance [m]
 - F = Safety factor, min. 1.2

For the selection, proceed as follows:

Step	Action	Remark
1	Determination of the required PL according to DIN ISO 13849-1	a) Results from the information in the C standard b) Results from the risk assessment to be carried out, based on the particular application
2	Determining the required operating speed (V_B)	a) Measurement or calculation of the maximum speed of the hazardous movement (v_G) b) Selection: $V_B > V_G$
3	Determining the required overtravel (S_N)	a) Measurement of the stopping distance (S_A) of the hazardous elements b) Determining the safety factor (F); at least 1.2 c) Formula: $S_N[m] = S_A[m] \times F$ d) Calculation
4	Determining the max. permissible force	a) Determining what kind of people (e.g. elderly, people, children, etc.) and what body parts are to be protected b) Selection: maximum permissible force as low as possible
5	Selecting the system	a) Select a system using the determined values and respective force-displacement diagram. In doing so, ensure the overtravel force is smaller than the maximum permissible force in step 4.



NOTE!

Category and performance level of the pressure-sensitive edge must correspond to the information obtained from the risk assessment of the machine.

The user has to determine the performance level for his particular application.

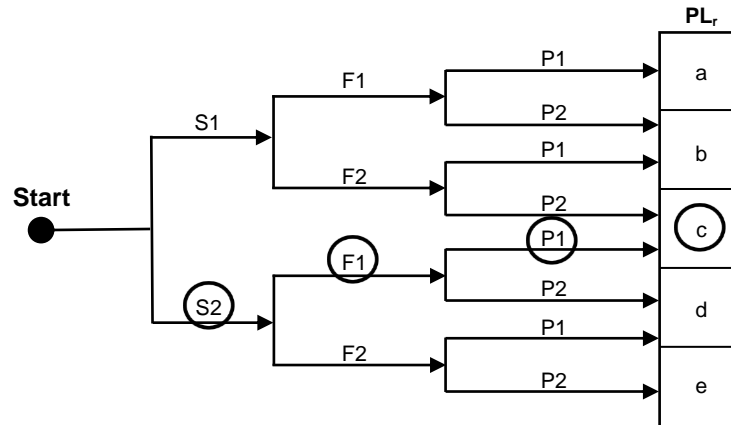
24 Application example

Pressure-sensitive edges are needed to secure the pinch point on a power-operated safety door of an assembly machine. The protective door closes automatically with a speed of 50 mm/s.

The assembly machine is operated 24 hours a day, 6 days a week and on 220 days per year.

The protective door is opened every 20 minutes for control purposes, then closed.

Determining the PL_r according to DIN EN ISO 13849-1:



Risk parameters:

S	Severity of injury	F	Frequency of and/or duration of exposure to hazard	P	Possibility of avoiding the hazard
S1	slight (normally reversible injury)	F1	seldom-to-less-often and/or exposure to hazard time is short	P1	Is possible under specific conditions
S2	serious (normally irreversible injury or death)	F2	frequent-to-continuous and/or exposure to hazard time is long	P2	Is scarcely possible

Calculating the Mean Time Between Failures (MTTF_d) within the application according to DIN EN ISO 13849-1:

Mean operating time in days per year (d _{op}):	220 $\frac{\text{days}}{\text{year}}$
Mean operating time in hours per day (h _{op}):	24 $\frac{\text{h}}{\text{day}}$
Mean time between the start of two consecutive cycles of the safety mat (t _{cycle}):	1200 $\frac{\text{s}}{\text{cycle}}$
Mean number of annual actuations (n _{op}):	$n_{op} = \frac{d_{op} \times h_{op} \times 3600 \frac{\text{s}}{\text{h}}}{t_{cycle}} = 15840 \frac{\text{cycles}}{\text{year}}$
B10 _d – Value of sample safety mat HSM 3817-00-S:	129,262 cycles
MTTF _d :	$MTTF_d = \frac{B_{10d}}{0.1 \times n_{op}} = 81 \text{ years}$


Determining the PL according to DIN EN ISO 13849-1:2008-12:

Category:	3
MTTF _d :	81 years = high (limited according to DIN EN ISO 13849-1)
Performance Level:	d

The use of the safety mat in PLd applications depends on a high MTTF_d (min. 30 years). The availability depends on the actuation cycles. For applications with short cycle times, we recommend visual control measures at short intervals to keep up availability. Short cycle times have no influence on the safety function.

25 Acceptance report

The acceptance report must be completed by the operator:

Haake Technik GmbH Vreden		Acceptance report Pressure-sensitive edges – type:				
Operator:		Object:		Company:		
		Pressure-sensitive edges:		Name:		
		Logic unit:		Date:		
Order number:		Serial No.:		Signature:		
No.	Activity	Measurement		Free of defects		Remark
		Target	Actual	Yes	No	
1.0	Visual inspection, if appropriate also of the deformation chamber, with regard to penetrated objects					
1.1	Attachment of pressure-sensitive edge					
1.2	Damage to the pressure-sensitive edge					
1.3	Damage to the connection lines					
1.4	Damage to the line connection points (if several safety mats are linked)					
1.5	Connection of connection line					
1.6	Reset button / function					
1.7	Protective effect overall system					

26 EC Declaration of Conformity

EC Declaration of Conformity
in accordance with EC Directive 2006/42/EC Annex II 1. A
(Translation of the original declaration)

The company: **Haake Technik GmbH**
Master Esch 72
48691 Vreden

hereby declares
that the safety component: **Safety edge**

Series: **HSC**

Serial number: **See identification plate**

in the delivered version is in accordance with the following relevant regulations:

EC Directives: **Directive on machinery 2006/42/EC**

Harmonised standard: **DIN EN ISO 13856-2**

HSC safety edges are used to provide protection at pinching and shearing points, e.g. at machine guards, elevating platforms, lifting and tilting equipment, packaging machinery, palletisers and depalletisers, etc.

Our quality assurance system ensures that all safety components are manufactured with the same quality.

Therefore the Declaration of Conformity issued applies for all safety components of the above types produced from serial number 1552544.

Authorized representative to compile the technical documentation is:

HAAKE Technik GmbH
Mr. Heinrich Chrusch
Master Esch 72
48691 Vreden

Vreden, den 07.09.2015


Andre Haake
(Geschäftsführer)



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