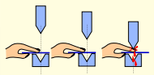
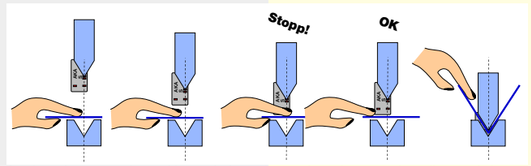
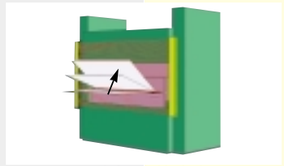
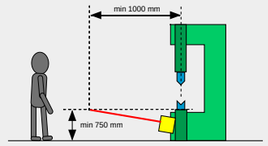
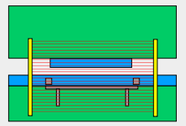
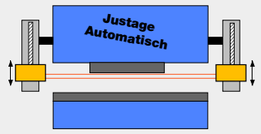
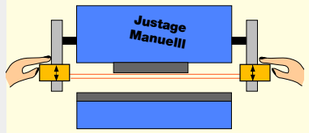
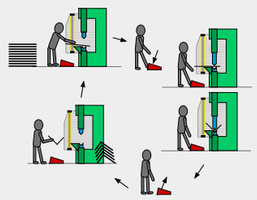
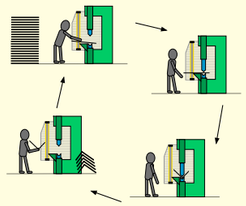
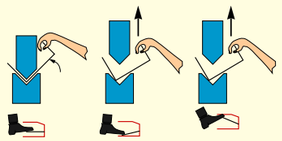
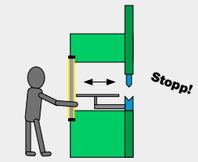
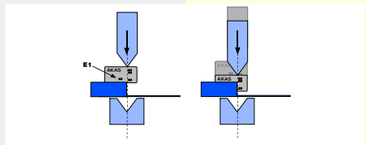
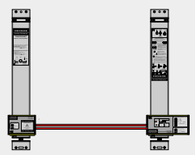
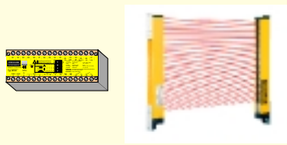
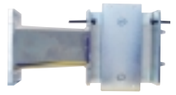
	AKAS®	AKAS® LC	Light Curtain & Foot Pedal	Light curtain + Cycle control	Area Laser Scanner	Safety Foot Pedal	Light Curtain Class 2
Task:	**Bending of sheet metal of small or medium handling geometry**	**Bending of sheet metal of small or medium handling geometry**	**Bending of sheet metal of small or medium handling geometry**	**Bending of workpieces of small or medium handling geometry**	**Bending of large Workpieces**	**Prevention and/or reduction of possible accidents when sheet metal moves upwards towards the ram during the bending process**	**Safeguarding of the interior of the press brake from the rear end of the press**
		flat-iron sections box-shaped parts using tools of different tool hights	flat-iron sections box-shaped parts using tools of equal tool hights	flat-iron sectios no box-shaped parts medium-sized lots	flat-iron sections no box-shaped parts large lots	large flat-iron sections large box-shaped parts medium-sized lots	
Solution:	**tool change over**						
	The following optical safety light grid **AKAS ®** is located right at the bending level and prevents the trapping of a part of the body between the moving and the fixed tools. Transmitter and receiver are fixed to the ram of the machine and form a LASER-optical safety light grid that follows the ram. Therefore, the hands remain free for handling the slug during operation under continuous protection of the extremities during the whole bending process. **This will not interfere with the operating rhythm.**		The **BLVT** light curtain prevents the trapping of a part of the body between the tool and the inserted sheet metal and/or the matrix. The transmitter and the receiver fo the safety light curtain BLVT generate a protecting field that is located at least 10mm in front of the bending level. 11 different easy-to-program blanking functions allow the use of flat sheet metal workpieces moving within the protective field without causing any unwanted machine stop.		During the bending of large parts, a safety area laser scanner provides a sufficient safety standard. Distance between operator and bending level must be a least 1000 mm.	If hands or fingers are trapped between the upwards moving sheet metal edge and the ram, the machine operator is able to react accordingly by releasing or pressing down the pedal.	The transmitter and receiver of the safety light curtain TLVT generate a protective field that safeguards the rear opening of a pressbrake.
Function:							
	The safety laser beams are located beneath the tool. Box-shaped parts and smallest workpieces can be hand-held during the bending process.		Workpiece is blanked		Protection by distance regulation	The pedal has a hard point (**Pos. 1**). By pressing down the pedal until this hard point, the dangerous movement of the press is started. If the pedal is pressed down beyond this hard point, (**Pos.2** or **Pos 3**), the contact block for the dangerous moment is released, and a safety contact block (1 positively driven NC contact + 1 NO) is opened.	Safeguarding of a press brake at its rear opening
							
	tool change-over The motor-driven transmitter and receiver are each mounted on supports. Their current position is detected by an optical synchronization, therefore providing a quickautomated adjustment after each	System for using tools of equal tool heights.	**BLVT with foot pedal.** Machine operator starts the bending process by activating a foot pedal.	**BLVT with cycle mode.** Automated operation combined with the programable miniature safety controller LSUW NSR3-1K. During 2-cycle mode, this guarantees a high productivity level when bending flat workpieces.		The return into its original position is carried out automatically by releasing the pedal. Two separate safety contac blocks (mechanical and electronical) working independently from each other, the redundance of the system is provided. Apart from its safety features, the twin safety foot pedal provides a standard pedal for several non-safety related features.	If the operator reaches through the protective field into the opening, the rear drive shafts will come to an immediate stop.
			This solution does not provide the possibility to hold small workpieces by hand during the closing movement of the press. Box-shaped parts that reach into the bending area during the closing movement of the machine, will stop the closing movement of the press brake.				
	The case-bending function provides bending of box-shaped items without stopping the bending procedure.						
Picture:							
Bestellbezeichnung:	**Ak/160/SE AKAS®**, consisting of transmitter, receiver ans supports. Positioning range of supports: 160 mm (Supports with larger positioning ranges are available on request) **N1 Muting K -** switching unit	**Ak/SE AKAS®-LC**, consisting of transmitter and receiver. **N1 Muting K -** switching unit	**B800/104,** Safety light curtain BLVT class 4 with Blanking features. Min. resolution 14mm.	**B800/104,** Safety-light curtain class 4 with Blanking features. Minimum resolution 14mm. **NSR3-1K,** programmable Safety controller module LSUW NSR3-1 K	**FLSC** Safety Area Laser Scanner	**FL1-528/ZSD4** Single safety foot pedal **FL1-528/ZSD4-U** Twin safety foot pedal	**T1200/84** Safety light curtain TLVT safety class 2, Min. resolution 14mm.

Additional Equipment for AKAS® and AKAS®II

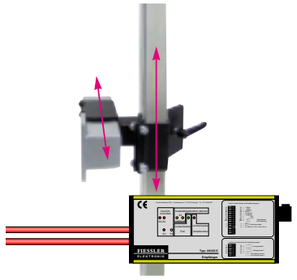
adaptor for swivable holder



U-Holder for lateral mounting

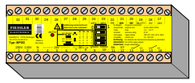
Adjustment screws provide easy adjusting

Additional equipment for AKAS®LC



Clamping holders provide easy adjustment of height of the AKAS®LC components

Additional equipment for BLVT



BPSG Blanking light curtain programmer with power supply and forcible guided normally-open contacts, with potential-free outputs

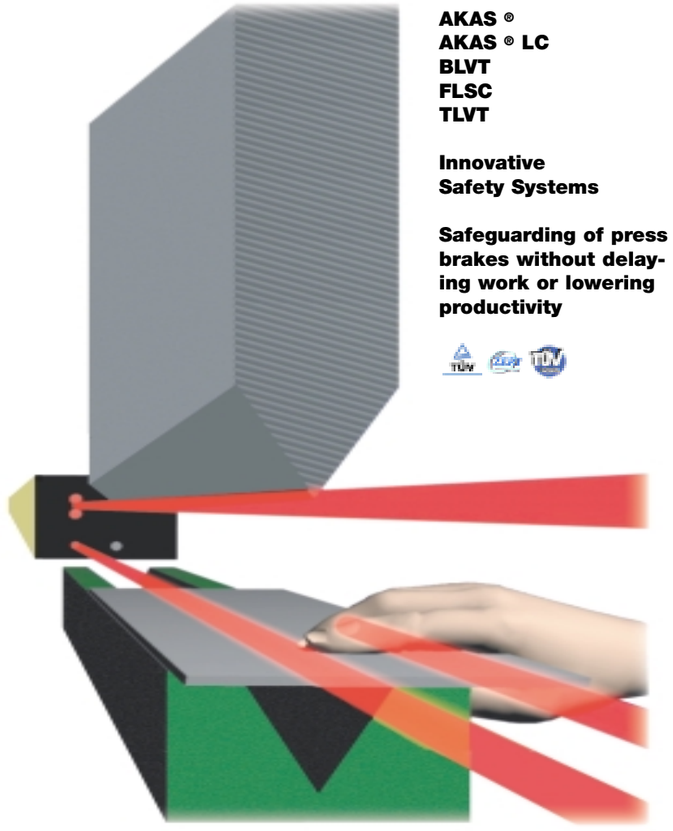
BPLG programmer with power supply

UMLW Muting lamp as indication of the muted state of the safety light curtain.

Service: Either Fiessler Elektrok or their authorized integrator-distributor partners abroad will be pleased to offer you the installation of the safety equipment for press brakes.

FIESSLER ELEKTRONIK

press brakes protection



AKAS ®
AKAS ® LC
BLVT
FLSC
TLVT

Innovative Safety Systems

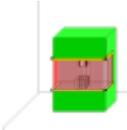
Safeguarding of press brakes without delaying work or lowering productivity

Product Program

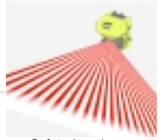
Safety Light Curtains

Blanking

Pressure Sensitive Safety Footmats



Cascadable Light Curtains



Safety Area Laser Scanner

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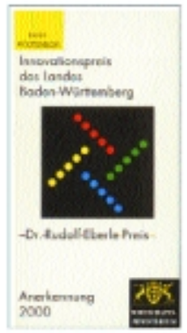
Representations abroad:

Fiessler Elektronik has representations in all major industrial nations. Please inquire with us for your country.

Our homepage **www.fiessler.de** provides you with the most recent company news, data sheets and operating instructions of our products.



Award of Appreciation bestowed on our company for having developed the AKAS® -system

In the year 1957, Dipl.-Ing. H.W. Fiessler founded the company Fiessler Elekjtronik in esslingen, Germany, with the aim to produce optical-electronic appliances.
In the management policy, the solution of the very specific problems of their customers was given priority right from the start of the business.

More than 40 years ago, the development and the construction of accident-preventing safety light curtains was started. Since this day, the Fiessler infra-red accident-preventing safety light barriers are being used most successfully in industrial operation.

The company Fiessler Elektronik is managed now by the second generation. A team of 40 highly qualified emplyees as well as a rather broad scale of products are the basis for innovative outputs in the field of safety technology and customer-specific optosensorics.

A quality control system according to ISO 9001 guarantees a constant high level quality of both products and services.

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