

IT'S WHAT'S BEHIND YOU THAT  
KEEPS YOU CONFIDENT IN FRONT



# MGX

## TRAILER ANTI-LOCK SYSTEM



000 700 269/06.01/Redditch

## MGX TRAILER ABS



“Truck in skid crash pile - up” it’s an all too familiar headline. Sudden braking on straight dry roads can be hazardous, while cornering in bad weather is downright dangerous even for the most experience driver. A fact confirmed by statistics. Wheel lock during emergency braking is own of the commonest causes of serious trailer and truck accidents. The instant the wheels lock-up, lateral tyre adhesion and hence directional stability are lost, causing the trailer to swing violently out of control.

MGX trailer ABS is the answer. Without doubt it’s proved a major contribution towards commercial vehicle road safety.

### PROVEN TECHNOLOGY

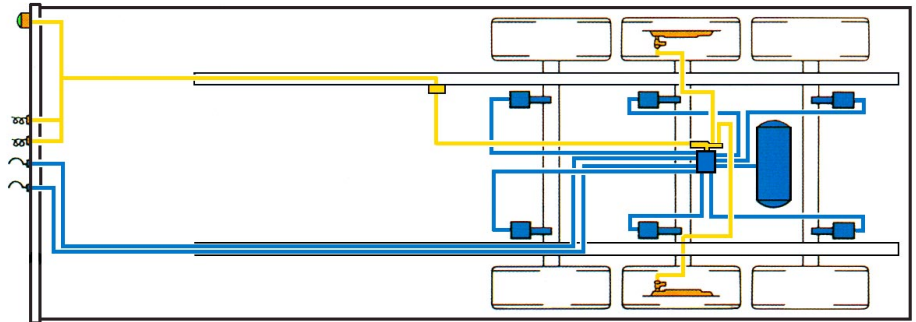
Since its introduction in 1982 MGX has become the most widely used trailer ABC. Today, it is fitted as standard equipment on over 75% of trailers manufactured for the British market and to a growing number of mainland European trailers. Testimony to the Max’s outstanding operational performance and rugged dependability.

### THE WAY IT WORKS

MGX is designed to control one, two or tri-axled bogies with the wheel speeds of a single axle being sensed on each side of the vehicle . A sensor and exciter generates a voltage, the frequency being directly proportional to road speed. The signal is fed to the controller which continuously monitors the rotation of each wheel. When the brakes are applied, the controller immediately detects the first sign of wheel lock and sends a signal to the Memory Controlled Emergency Relay value are combined giving reduced system and installation cost. As the wheel begins to accelerate the controller re – applies the brakes. This operation can take place many times a second, enduring smoothly applied maximum braking force.

### SAFETY AND ECONOMY

As well as the obvious safety benefits, fitting MGX makes sound financial sense. Not only will there be fewer repair bills and insurance claims, but also substantially reduced tyre wear.



### COMPLETE CONTROL

MGX prevents the danger of trailer swing caused through wheel-lock and will automatically apply the brakes in the event of a break-away. Equally important, lateral combination stability and smooth straight-line stopping is achieved. This results in reduced braking distances and greatly improved vehicle handling.

Even when the trailer is cornering or is carrying an uneven load, the driver knows he can stop quickly – confident he’s in full control.



## BRAKING CONFIDENCE FOR SAFELY HANDLING EVERY SITUATION

Weather conditions and road surfaces are never predictable, and a dangerous environment can be aggravated simply by cornering or by emergency braking. MGX is the undisputed market leader in trailer ABS.

In everyday use, the special MCER valve operates the brakes in the normal way. Only when the control module detects the first sign of wheel – lock does the ABS cycle cut in. System safety is maintained by the latest, highly sophisticated micro processor which reacts in milliseconds to protect against incorrect wheel speed signals and malfunctions. A warning lamp indicates to the drover the operational status of the ABS. But because ht electronic control until is sealed, coupled with the high system integrity of all components, failure is extremely unlikely, but should it happen, the brakes will continue to operate as normal with the warning lamp telling the driver that the ABS is not engaged. A unique electro – mechanical latching device remembers certain faults, even if electrical power is removed.

At Haldex safety is paramount so you can brake with confidence in every situation.

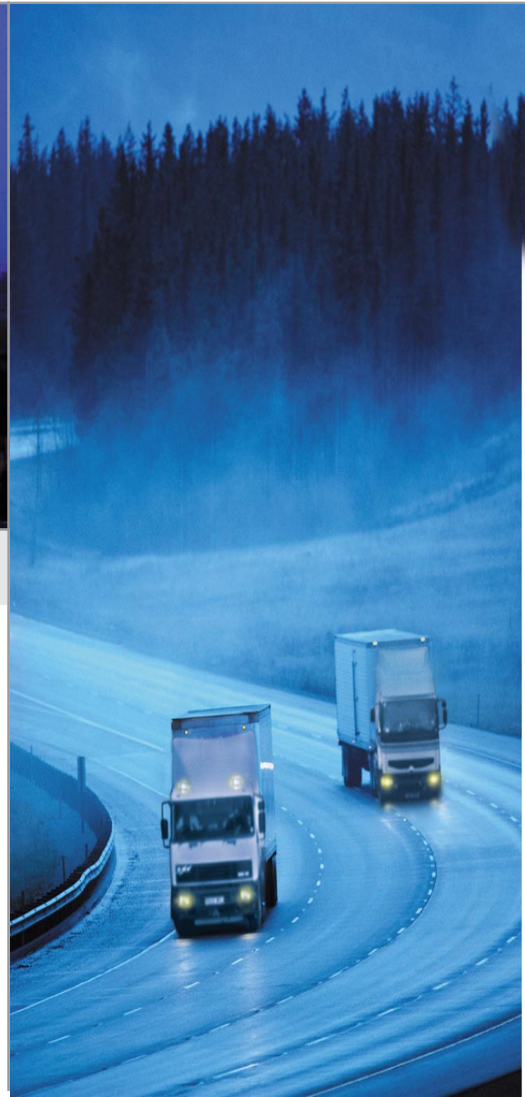
### MGX MEETS EEC ABS REQUIREMENTS NOW

The transport industry has to conform to EEC Regulations concerning mandatory fitment of ABS. MGX meets all current and proposed legislation requirements for Trailer ABS, assuring owners and drivers a safe and profitable passage into Europe.



### ADR APPROVED

MGX is fully insulated to meet ADR requirements for the carriage of dangerous cargoes.



## OUTSTANDING REPUTATION

During 1998 Haldex became a substantially larger and stronger company specializing in vehicle technology. The acquisition of Midland-Grau in April 1998 doubled the size of the group and transformed the Brake Systems division into a full system supplier of brake equipment for heavy vehicles.

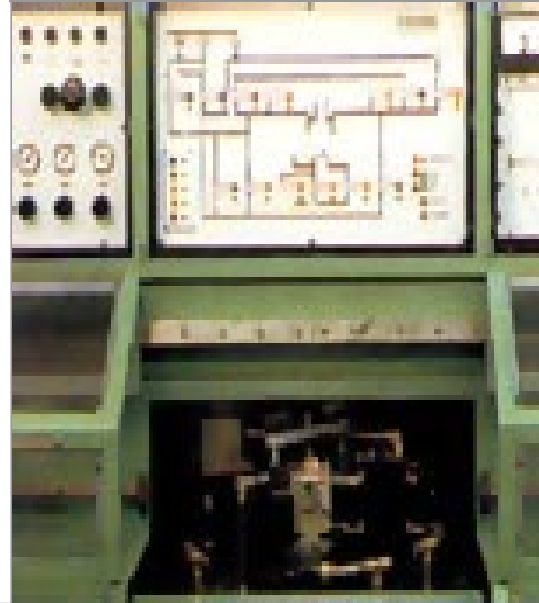
This tradition of engineering excellence and innovation plus Haldex considerable resources have produced ABS components specified by all major trailer manufactures and trailer rental companies in the UK.

## THE FOREFRONT OF DEVELOPMENT

The security of lives and livelihoods is not a matter Haldex take lightly. The Haldex range represents the leading edge of ABS technology, produced out of many years experience and research. A substantial proportion of company turnover is reinvested in product development. State of the art CAD/CAM equipment is used in the design of new ABS systems. Prototypes are then tested in Haldex mechanical and electronic research laboratories, before stringent field testing. Drivers can be confident of braking performance in all conditions, knowing that ABS has been tested in the worst possible conditions, such as on a frozen lake in Sweden in extreme weather, and at one of the best equipped multi – surface proving grounds in Europe.

## RIGOROUSLY TRIED AND TESTED

All MGX components are tested for performance and reliability, step – by – step throughout their assembly. For example, every MCER valve undergoes 19 different tests using highly advanced computer controlled test equipment which simulates normal braking and anti – lock functions under all conditions.



Completed control circuit boards are then submitted to stringent burn – in cycles which heat and cool the units under severe temperature conditions between +80°C and –40°C. For every control module, a detailed test record is built up as it progresses through production. This is kept on file at Haldex for 15 years, so accurate reference can always be made to each unit.

## PURPOSE BUILT ASSEMBLY PLANT

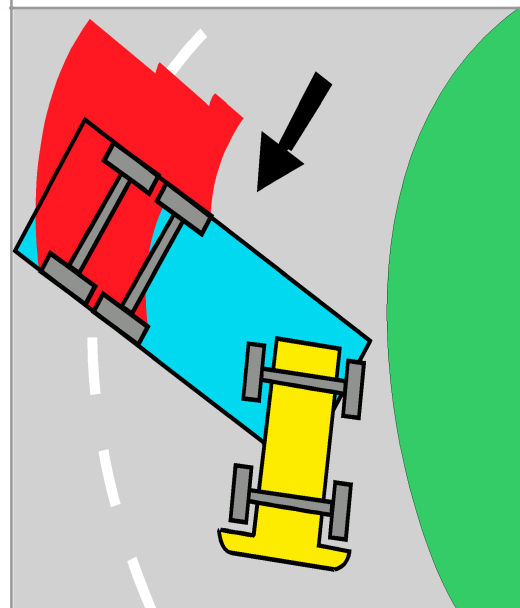
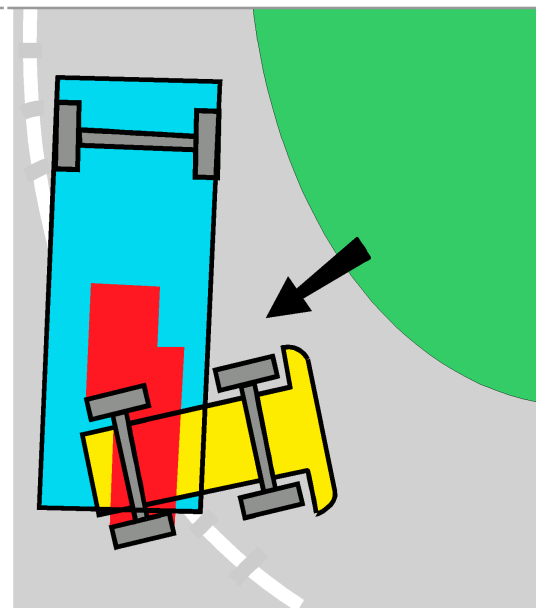
Because new technology and design quality must be faithfully reproduced in the manufacturing process, Haldex has dedicated an entire new factory to the production of ABS. A huge investment has been made in manufacturing facilities for mechanical and electrical components. New equipment and methods have been carefully introduced to increase quality and efficiency. Under environmentally controlled conditions, the electronic components are assembled in what is one of the most advanced electronic assembly centres in the industry.

## VESATILE AND COST EFFECTIVE

The MGX proven design is the most advanced yet simple to install system because of the combined ABS and ERV enabling fast and effective fitting, in a range of packages to suit on – line or retrofit.

What's more, unlike other makes of ABS system, the MGX does not have to be specially powered by the towing vehicle.

MGX is compatible with all types of Truck ABS either stop light powered or by ISO 7638 plug or other permanent power systems. MGX is also compatible with all European axle gear – making MGX the most versatile and cost effective system available today.

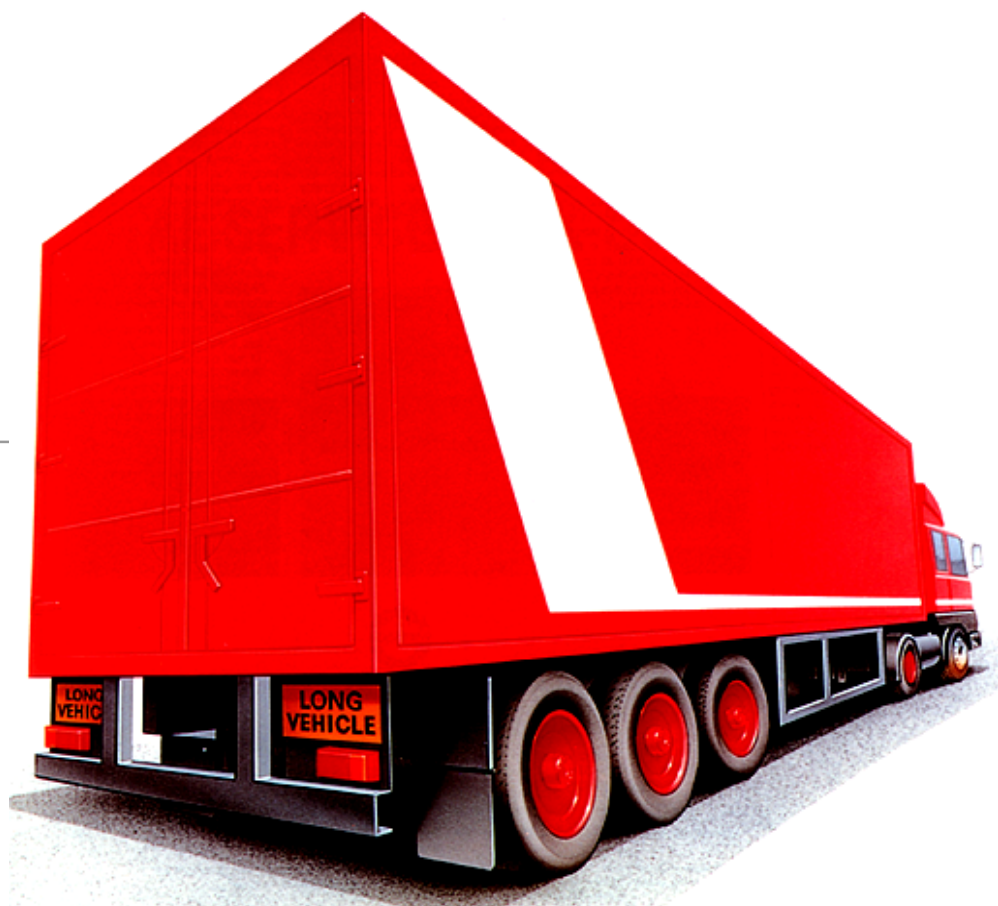


## TOTAL SERVICE BACK-UP

Haldex provide full service support for its range of quality products via a network of European service facilities. Special test equipment has been designed to make routine servicing of Haldex ABS quicker and less costly. These test sets can be bought for servicing a fleet, or can be used at any one of Haldex network of approved fitting and service stations.

The company's technical departments are always on call to answer any queries and to offer advice on fitting, servicing and maintenance.

For more information on MGX, or the complete range of ABS, contact Haldex the most trusted name in ABS Technology .



## For further information:

### AUSTRIA

**Haldex Wien Ges.m.b.H**  
Vienna  
Tel: + 43 1865 16 40  
Fax: + 43 1865 16 4027  
e-mail: office@baeder-haldex.at

### BELGIUM

**Haldex N.V./S.A.**  
Zaventem (Brussels)  
Tel: + 32 2725 3707  
Fax: + 32 2752 4099  
e-mail: info@hbe.haldex.com

### BRAZIL

**Haldex do Brazil**  
São Paulo  
Tel: + 55 11 531 4159  
+ 5511 531 4999  
Fax: + 55 11 531 9515  
e-mail: info@hbr.haldex.com

### CHINA

**Haldex International Trading Co. Ltd.**  
Shanghai  
Tel: + 86 21 6289 4469  
Fax: + 86 21 6279 0554  
e-mail: haldex@public.sta.et.cn

### FRANCE

**Haldex Europe S.A.**  
Weyersheim (Strasbourg)  
Tel: + 333 88 68 22 00  
Fax: + 333 88 68 22 09  
e-mail: info@hfr.haldex.com

### GERMANY

**Haldex Brake Products G.m.b.H**  
Denkendorf (Stuttgart)  
Tel: + 49 711 93 49 17 0  
Fax: + 49 711 93 49 17 40  
e-mail: info@hde.haldex.com

### Haldex Brake Products G.m.b.H

Heidelberg  
Tel: + 49 6221 70 30  
Fax: + 49 6221 70 34 00  
e-mail: info@hbpde.haldex.com

### GREAT BRITAIN

**Haldex Ltd.**  
Newton Aycliffe  
Tel: + 44 1 325 310 110  
Fax: + 44 1 325 311 834  
e-mail: info@huk.haldex.com

### Haldex Brake Products Ltd.

Redditch  
Tel: + 44 1527 499 499  
Fax: + 44 1527 499 500  
e-mail: info@hbpuk.haldex.com

### POLAND

**Haldex Sp z o.o.**  
Praszka  
Tel: + 48 34 350 11 00  
Fax: + 48 34 350 11 11  
e-mail: info@haldex.net.pl

### SOUTH KOREA

**Haldex Korea Ltd.**  
Seoul  
Tel: + 82 2 2636 7545  
Fax: + 82 2 2636 7548  
e-mail: haldexk@mail.hkr.haldex.com

### SPAIN

**Haldex España S.A.**  
Parets del Valles (Barcelona)  
Tel: + 34 93 573 1030  
Fax: + 34 93 573 0728  
e-mail: haldexsa\_esp@passwordsta.es

### SWEDEN

**Haldex Brake Products AB**  
Landskrona  
Tel: + 46 418 47 6000  
Fax: + 46 418 47 6001  
e-mail: info@hbpse.haldex.com

### USA

**Haldex Brake Products Corp.**  
Kansas City  
Tel: + 1 816 891 2470  
Fax: + 1 816 891 9447  
e-mail: info@hbpus.haldex.com

## Company Vision

We use our demonstrated competence to provide innovative components, systems and service for trucks, trailers and buses, that lower life cycle costs and improve vehicle safety. Haldex wants to become the first choice business partner of commercial vehicle manufacturers world wide in the areas of braking and suspension control systems with special emphasis on heavy commercial vehicles.

## Total Support

A uniquely wide range of services is available from Haldex. These include expert consultancy for braking and suspension development, brake calculations, type approvals and application engineering.

The aim is accurate specification for manufacturers and low cost of owner ship for the operator.

Full aftermarket support includes a Worldwide parts distribution and service network, on-line technical advice, field visits and installation/maintenance training held on-site or at Haldex facilities.

## Research and Development

Continual, heavy investment in Research and Development is carried out in response to ever increasing commercial, legislative, environmental, performance and technological demands.

## Quality and Production Standards

The very latest production technology ensures the very highest quality standards. All production sites are ISO 9001 approved.

**Haldex**

Group

The **Haldex Group** is a global supplier of proprietary products for trucks, cars and industrial vehicles, with special emphasis on performance and safety. The Group is organized in Divisions which focus on their respective product niche:

**Haldex Brake Systems** supplies ABS and brake components for heavy vehicle air brakes.

**Haldex Barnes Hydraulics** supplies gear pumps and hydraulic systems for power steering and lifting functions on industrial vehicles and trucks.

**Haldex Garphyttan Wire** supplies specially steel-alloyed wire products mainly for applications in combustion engines.

**Haldex Traction Systems** supplies 4WD systems for cars and trucks.

Sales companies are established in Europe, North and South America and Asia. Production takes place in 9 factories in USA, 9 factories in Europe and 1 joint venture in India.

The Haldex Group is listed on the Stockholm Stock Exchange.



**Innovative Vehicle Technology**