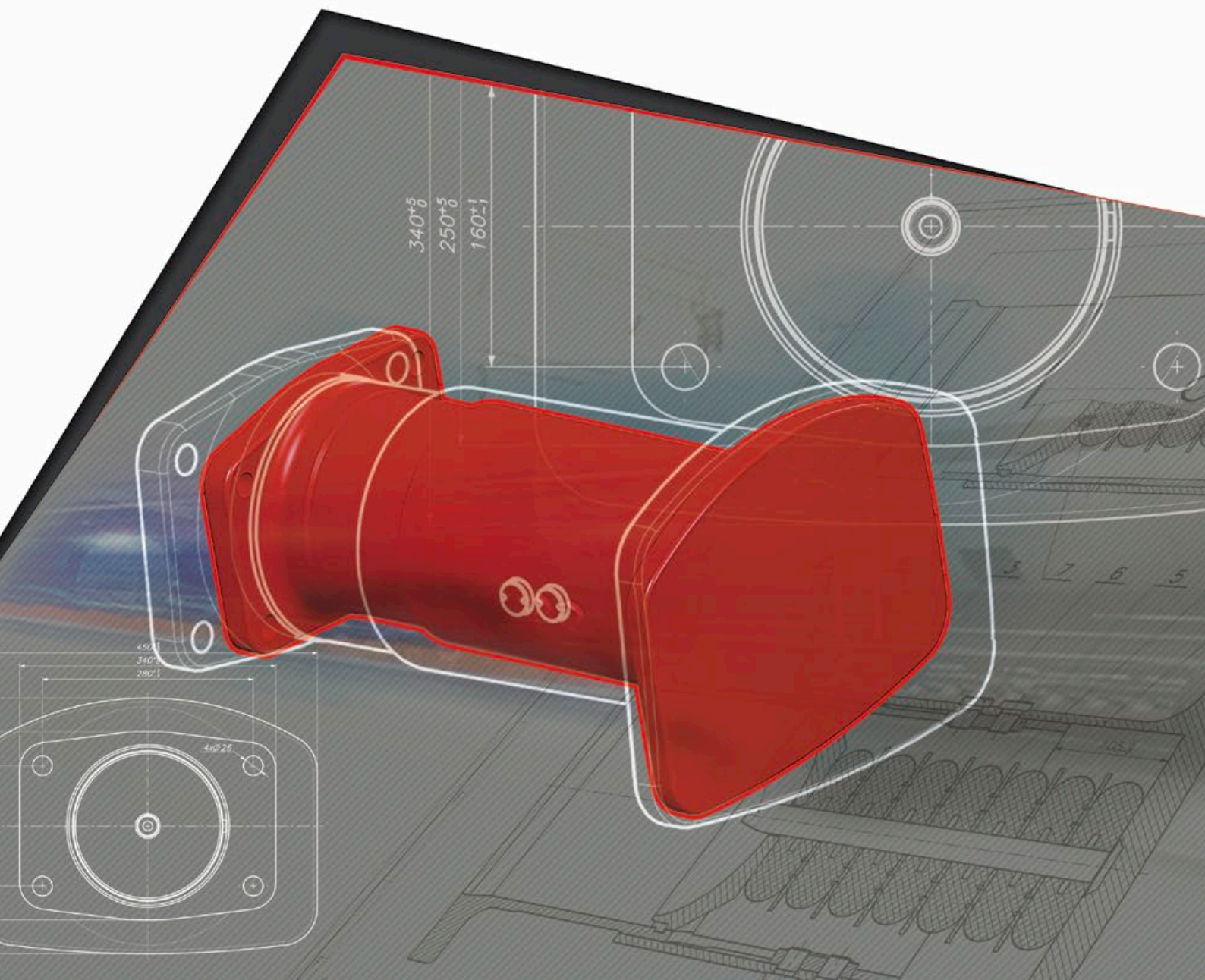




AXXTONE

RAILWAY COMPONENTS



AXTONE IN SHORT

The AXTONE Group, with more than 90 years of tradition, is an expert in impact energy absorption technology for all types of rail vehicles. Thanks to the international character of the AXTONE Group, our solutions fulfil the requirements of the European, UIC, Russian GOST and Chinese TB/T standards. Our ability to innovate and technical competences, together with our experience and willingness to follow the ever increasing requirements of our customers, improves the quality of our products and solutions. Our customers include companies from all over the world, representing both the passenger and freight sector.

With the acquisition of the companies Langen & Sondermann in 2012 and HSW – Zakład Sprężynownia Sp. z o.o. in 2014 – both leading manufacturers of springs for all kinds of rail vehicles – AXTONE has added a new dimension to the group. Combining the products and knowledge of both companies, we are convinced that we have become an even more complete partner for our customers.

MARKET PRESENCE

Strong local position of AXTONE on the world market.

The AXTONE Group has seven manufacturing plants, located in China, the Czech Republic, Germany, Poland and Russia :

AXTONE sp. z o.o.

ul. Zielona 2
37-220 Kańczuga, Poland
Tel.: +48 16 649 24 00
Fax: +48 16 649 24 01
e-mail: info@axtone.eu

AXTONE GmbH

Rheinstrasse 15
D-57638 Neitersen, Germany
Tel.: +49 2681 808 0
Fax: +49 2681 808 21
e-mail: info.de@axtone.eu

Plant Lünen

Bergkampstrasse 57,
D-44534 Lünen, Germany
Tel.: +49 2306 75057 0
Fax: +49 2306 57672
e-mail: info.ls@axtone.eu

AXTONE s.r.o.

Dolni 100
797 11 Prostejov, Czech Republic
Tel.: +420 582 312 684
Fax: +420 582 312 685
e-mail: info.cz@axtone.eu

OOO "LLMZ KAMAX"

ul. Yuzhnoportovaya 21 str.11
115088 Moscow, Russia
Tel.: +7 495 540 69 79
Fax: +7 495 540 69 70
e-mail: info@llmzkamax.ru
e-mail: llmzkamax@yandex.ru

AXTONE HSW sp z o.o.

ul. Kwiatkowskiego 1,
37-450 Stalowa Wola, Poland
Tel.: +48 15 813 54 82
Fax: +48 15 813 53 83
e-mail: info.hsw@axtone.eu

Qingdao Kamax Buffer Equipment Co. Ltd.

No 1-11 Shibe High
and New Technic Industry Zone
ShangMa area, AoDong Road,
Chengyang district
266000 Qingdao, China
Tel.: +86 53 266965008
Fax: +86 53 266 965 067
e-mail: info.cn@axtone.eu



TECHNOLOGY

The AXTONE R&D department cooperates closely with our customers in order to design quality solutions that guarantee the highest passive safety levels and vehicle stability with unprecedented reliability.

As the expert in the field of impact energy absorption and metal springs, we offer our clients products using various technologies.

- The buffers and CRASH elements from AXTONE effectively protect all rail vehicles as well as its passengers and cargo. The principle of operation of the Peeling CRASH modules is based on the plastic deformation of a metal stream sheared by external knives attached to the surface of the buffer body. The main advantages of this technology are the low collision forces, their stable dissipation and the possibility to be able to very precisely define the CRASH module activation and force level, depending on the requirements of a particular application.

- For our fluid elastomer (or so called visco-elastic) dampers which are used in couplers, draw gears or side buffers, we use our unique patented fluid elastomer KAMAXIL®. This material is characterised by its great ability to transfer and dissipate energy, as well as to suppress vibrations, impacts and other mechanical loads.

- An alternative spring and damping system for buffers and draw gears can be proposed using our EUROPAD® solid elastomer inserts. Depending on the performance specifications, our products can also be equipped with RING SPRINGS or OIL SHOCK ABSORBERS.

- AXTONE Group is the only manufacturer to use hot extruded buffer housings manufactured in one piece. The absence of any welded connections guarantees the highest quality and exceptional durability of our products. During this forging process, the raw material is heated to a temperature of only 1250°C. Herewith it is guaranteed that no air or dust will enter and degrade the material properties.

- Weight reduction is an ever increasing requirement which we encounter as we engage in cooperation with our customers. As a result, AXTONE is in a position to be able to offer the lightest buffers and CRASH elements currently available on the market.

- Once we know the intended purpose, the load factors and the space available, our R&D department adapts the construction of the RING SPRINGS, TRAPEZOIDAL LEAF SPRINGS, modern PARABOLIC SPRINGS and COIL SPRINGS with linear or progressive characteristics, with the greatest precision and exactly to the customer's requirements.





AXTONE - ENGINEERED SOLUTIONS

Product lines

The AXTONE Group offers a wide range of components for both freight cars as well as passenger railway vehicles. In addition, we also provide solutions for the railway infrastructure.

Passenger sector

The AXTONE Group offers its Customers both springs and buffers as well as pulling devices for classic passenger stock. In addition, AXTONE Group has developed into the leading supplier of customer specific designed CRASH components for modern passenger rolling stock.

Following extensive cooperation with our customers, our products are now integrated in the most modern and innovative passenger vehicles worldwide.

Freight sector

For the freight market we offer the broadest range of products – springs, pulling devices and buffers with almost any absorption system – specifically designed for all types of freight carriages.

The AXTONE Group also offers CRASH buffers designed for tank wagons transporting hazardous goods, possessing the TIS certificate of approval. The parameters of these products reflecting the level of energy absorption can be modified in accordance with the individual requirements of our customers.

Locomotives

In this sector, we offer our Customers buffers with or without CRASH technology and pulling devices. Our portfolio is completed with our primary and secondary coil springs.

Railway infrastructure

The SARPO system (System for Automatic Regulation of Car Speeds) is designed for the regulation of car speeds, rolled from marshalling yards, as well as to freely rolling cars in other manoeuvre areas of railway stations or railway sidings.

Products adapted for individual requirements of markets:

Our solutions fulfil the requirements of the UIC, Russian, Chinese and other markets. While our sales team supported by agents world-wide, allows us to be close to our customers and to consistently deliver the highest standard of services to them.

After- market services

The After Market services we provide include a wide range of activities, such as: revision, modernization, delivery of spare parts as well as the repair of buffers and pulling devices. As a result of our many years of experience, AXTONE can offer these services while assuming full responsibility for the delivered devices and provided services.

All inspected and repaired parts are returned with a certificate of conformity.





QUALITY POLICY

The goal of the AXONE Group is to supply our clients with the highest quality products, in the agreed time and for the agreed price. We will make every effort to achieve this goal.

Our operation is based on constant monitoring and improvement of the management system complying with the requirements of ISO9001 and IRIS rev. 02, with occupational safety, environmental protection and development of our staff being among our top priorities.

The effectiveness and innovation of the solutions which we use is confirmed by the numerous certificates issued by institutions from various countries, i.e.:

IRIS Certificate rev.02, No. POL-IR-000 192

ISO 9001:2008 Certificate, Certificate No. PL002009, issued by Bureau Veritas

ISO 9001:2008 Certificate, Certificate No. 92092-2011-AQ-GER-DAkkS, issued by Det Norske Veritas

ISO 9001:2008 Certificate, Certificate No. 148813-2014-AQ-CZS-RvA, issued by Det Norske Veritas

ISO 9001:2008 Certificate, Certificate No. CCФЖТ PL.0004. И.00183, issued by CCФЖТ

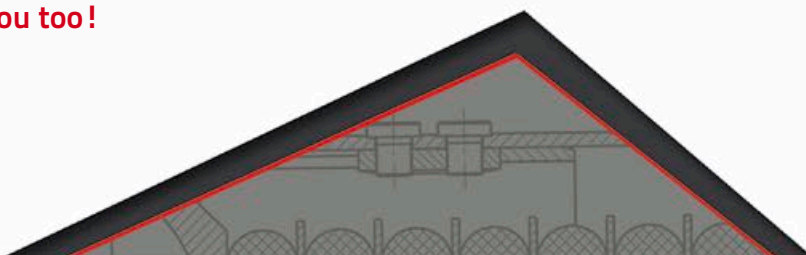
Certificate No. TÜVRh/15085/CL1/020/0/14, in accordance with the EN 15085-2 standard, issued by TÜV Rheinland

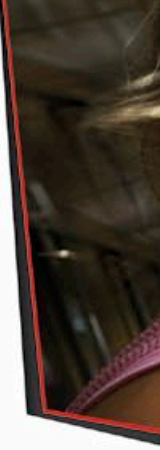
AXTONE SOLUTIONS

- Safety of people, goods and vehicles on rail;
- Flexibility;
- Reliability through a professional service;
- Guaranteed durable operation of our products;
- A qualified and experienced engineering team, ready to fulfil the individual requirements of our customers.

The biggest operators and manufacturers of railway vehicles in the world trust us.

We look forward to working with you too!





AXTONE

RAILWAY COMPONENTS

www.axtone.eu

