



INNOVATIVE SEATING SYSTEMS

Train Driver Seats with
Leading Comfort and Functionality



GRAMMER

GRAMMER Rail & Bus is the leading provider of seating systems for rail and buses. As a full-line supplier of passenger and driver seats for public transport services, we offer a full range of seats for high-distance, intercity, regional and city traffic. We supply individual solutions addressing all customer requirements and, with our products, set standards in comfort, ergonomics, design, modularity, safety and economic efficiency. Backed by ongoing research and a steady flow of new innovations, we provide seating comfort that feels good – both on the rail track and on the road.



LGA Certificate



EN 45545



TSI Loc&Pas



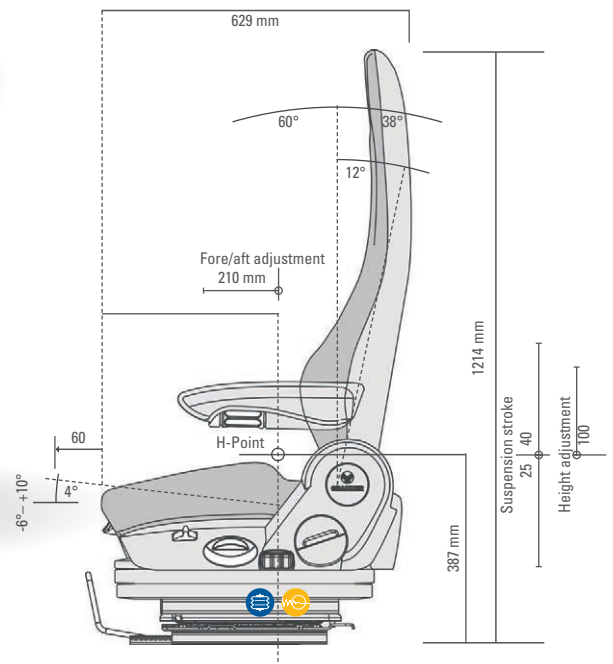
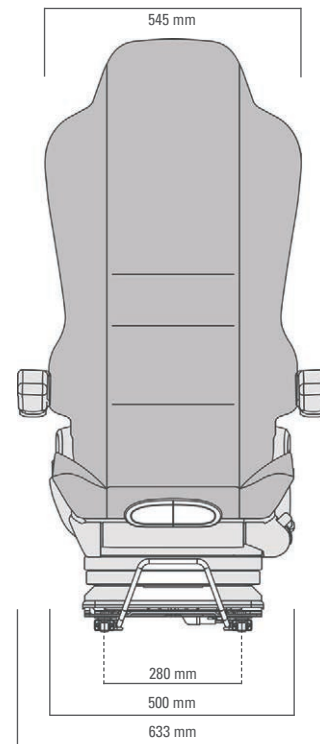
MSG 90.6 LONG

High-Performance Seat with Pneumatic Suspension

Optimal seat ergonomics crucially improves working conditions and helps preserve the user's health. An example of such an ergonomically mature product is the MSG 90.6 Comfort seat, which has been certified by an independent institute, Landesgewerbeanstalt (LGA) in Nuremberg, Germany, in cooperation with the Ergonomie Institut München (EIM). The seat was examined to determine whether its dimensions and adjustment features are able to accommodate the anthropometric attributes of different users (tall, short, slender, corpulent, etc.). Its ease of use and ability to attenuate vibrations were also thoroughly tested. Based on the results, the seat was awarded the „tested ergonomics“ label.



Measurements (installation dimensions)



Pneumatic Suspension



Vertical Suspension



Automatic Weight Adjustment



Pneumatic Lumbar Support



Adjustable Shock Absorber

All dimensions in mm. Subject to technical changes.

The product shown may differ from the standard configuration.



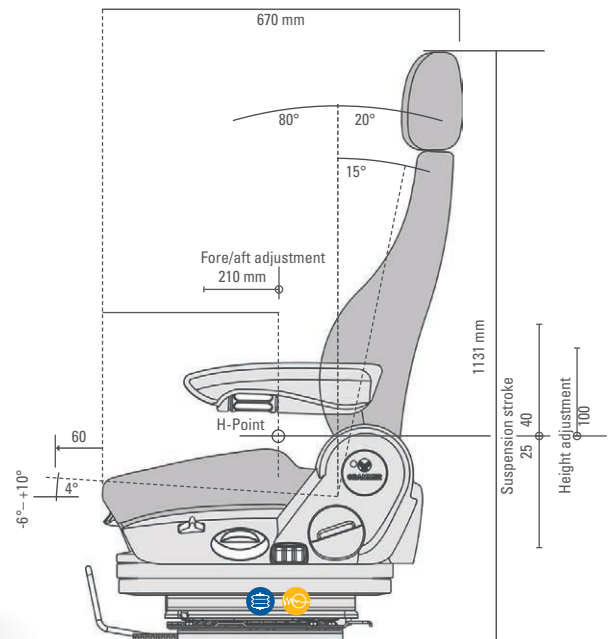
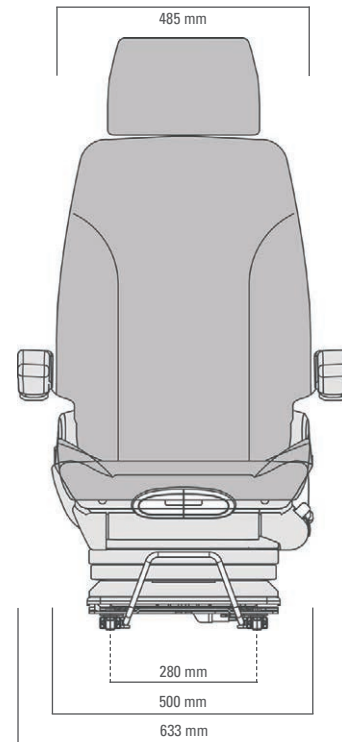
MSG 90.6 SHORT

High-Performance Seat for Small Driver Cabins

The MSG 90.6 SHORT delivers the same comfort and features as the MSG 90.6 but in a smaller size. Including an inserted headrest, the MSG 90.6 SHORT is excellently suited for low driver's compartments.



Measurements (installation dimensions)



Pneumatic Suspension



Vertical Suspension



Automatic Weight Adjustment



Pneumatic Lumbar Support



Adjustable Shock Absorber



MSG 90.3

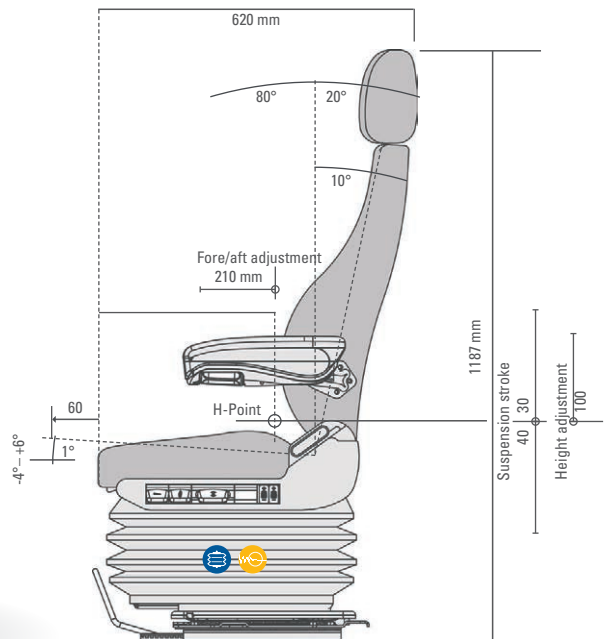
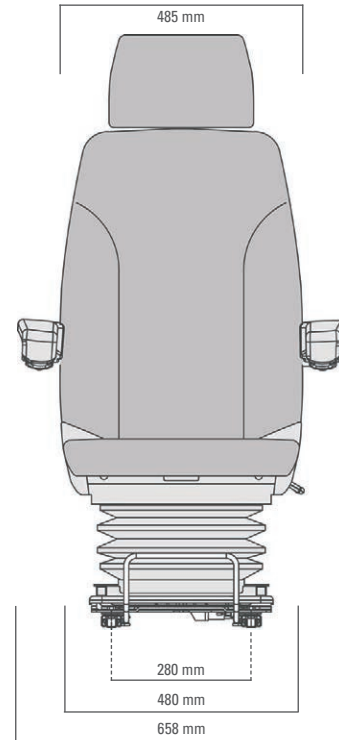
Comfort Seat with Pneumatic Suspension

The MSG 90.3 locomotive driver's seat with pneumatic suspension is equipped with an anti-sinking mechanism. A swiveling mount lets the driver quickly turn the seat for easy operation of the controls.

The pneumatic lumbar support with two independent chambers is infinitely height- and depth-adjustable. The seat cushion length is adjustable to ease strain on the thighs.



Measurements (installation dimensions)



Pneumatic Suspension



Vertical Suspension



Automatic Weight Adjustment



Pneumatic Lumbar Support



Adjustable Shock Absorber



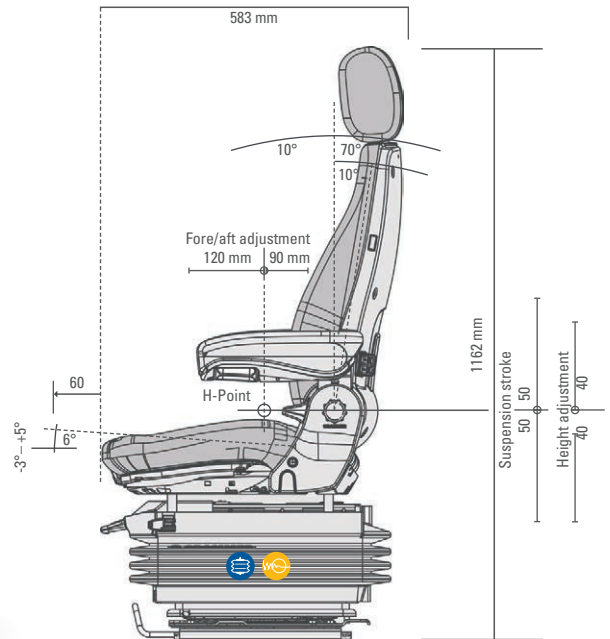
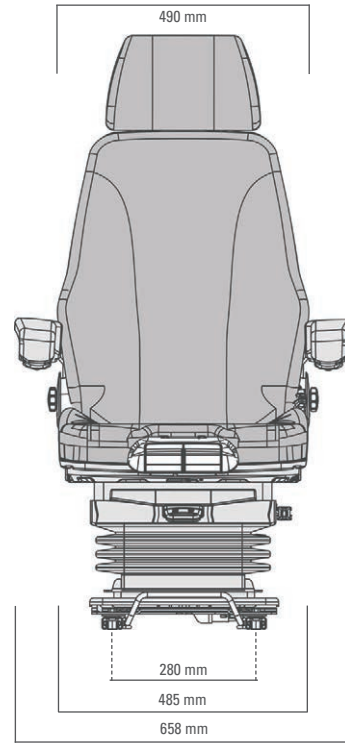
MSG 95/722

Comfort Seat with Integrated Compressor

To get to your destination without stress, you need safety that won't cost you anything in terms of ergonomics or suspension comfort. For locomotives and self-propelled railway vehicles without an on-board compressed air supply, the MSG 95/722 driver seat with integrated 24V compressor is ideal. The compressor provides excellent operating convenience and suspension comfort at the press of a button, allowing the seat to reliably absorb vibrations and jolts. This safeguards the spine and enhances sitting comfort.



Measurements (installation dimensions)



Pneumatic Suspension



Vertical Suspension



Automatic Weight Adjustment



Pneumatic Lumbar Support



Fore/Aft Isolator



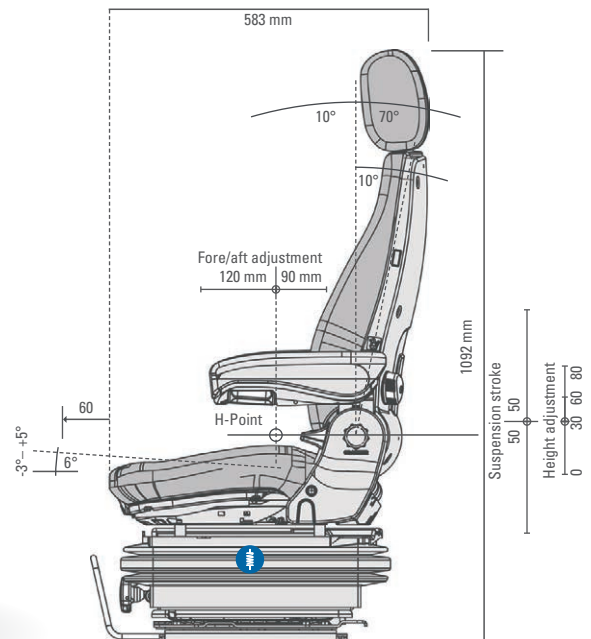
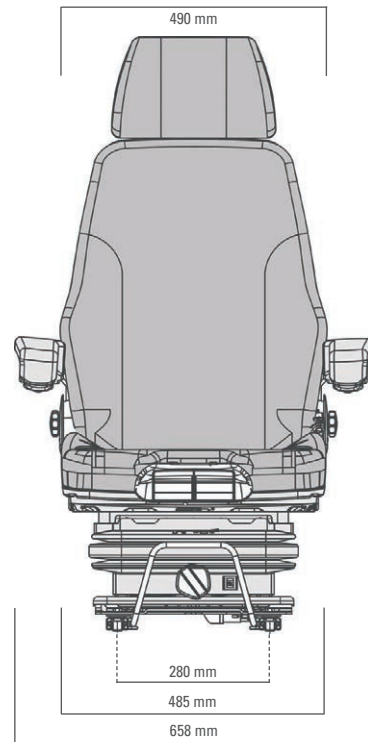
MSG 85/722

Comfort Seat with Mechanical Suspension

Each user has different requirements for comfortable sitting. The MSG 85/722 with mechanical suspension makes it easy for you to adjust the seat's stiffness by turning a crank. It's also straightforward to adjust the seat height, lumbar support, and seat cushion depth: everything, in other words, that's important for a relaxed working posture.



Measurements (installation dimensions)



Mechanical
Suspension



Mechanical
Weight
Adjustment



Mechanical
Lumbar
Support

The product shown may differ from the standard configuration.



PRODUCT OVERVIEW

All Features of Driver Seats

FEATURES	MSG 90.6 long	MSG 90.6 short	MSG 90.3 P	MSG 95/722	MSG 85/722
Adjustable seat cushion depth (mm)	60	60	60	60	60
Adjustable backrest	-14.5° to +50°	-14.5° to +50°	10° to 70°	10° to 70°	10° to 70°
Seat rotation with roller catch release	-120° to +120°	-120° to +120°	-120° to +120°	-120° to +120°	-120° to +120°
Tilt adjustment	-6° to +10°	-6° to +10°	-4° to +6°	-3° to +5°	-3° to +5°
APS (Automatic Positioning System)	●	●	●	●	
Adjustable shock absorber	●	●	●		
Fire protection in compliance with EN 45545	●	●	●	●	●
Fore/aft adjustment (mm)	210	210	210	210	210
Fore/aft isolator				●	
Headrest					
Integrated	●				
Attachable		●	●	●	●
Height adjustment					
100 mm, 8 steps (air-assisted)	●	●			
100 mm, infinite (air-assisted)			●		
80 mm, infinite (air-assisted)				●	
80 mm, 3 steps (mechanical)					●
High-comfort armrest(s) foldable					
60 x 320 mm, adjustable angle	○	○		○	○
60 x 380 mm, adjustable angle	○	○		○	○
80 x 320 mm, adjustable angle			●	○	○
80 x 380 mm, adjustable angle				○	○
Infinitely adjustable pneumatic side support	●	●			
Lumbar support					
Pneumatic	●	●	●		
Mechanical				●	●
Suspension travel (mm)	70	70	70	100	100
Suspension					
Pneumatic	●	●	●	●	
Mechanical					●
Vertical suspension	●	●	●	●	
Integrated 24 V compressor				●	
Weight adjustment 50 to 130 kg					
Automatic	●	●	●	●	
Mechanical					●
OPTIONAL FEATURES					
Seat base, console	○	○	○	○	○
Document box				○	○
Integrated 3-point safety belt system	○	○			
Joystick holder				○	○
Lateral suspension	○	○		○	○
Neck cushion with replaceable cover	○				
Pantograph	○	○	○	○	○
Storage net				○	○

THE FEATURES IN DETAIL

Suspension Comfort



Vertical Suspension

The vertical suspension dampens vertical vibrations and jolts, thus preventing the seat from bouncing in critical situations as a result of resonant buildup.



Pneumatic Suspension

In the models with pneumatic suspension, all you have to do is press a button to automatically set the seat to the correct height and your weight. It couldn't get more convenient than that!



Mechanical Suspension

The height of the seat can be securely set to any of three different positions, thanks to positive stops. It is precisely adjusted to the driver's weight using a lever.

Ease of Use and Driving Comfort



Automatic/Electronic/Mechanical Weight Adjustment

Adjusting the seat to the driver's weight ensures relaxed, healthy sitting while working. In the seats of the MSG series, this is accomplished either mechanically using a hand-operated lever, electronically, or fully automatically in response to input from sensors.



Pneumatic/Mechanical Lumbar Support

For optimal results, the pneumatic lumbar support quickly and precisely adjusts to the user's back at the press of a button. The mechanical version can be set as needed using a lever.



Fore/Aft Isolator

The fore/aft isolator minimizes vibrations when driving fast, while using rear attachments, when pulling a trailer, or while traveling on difficult terrain.



Adjustable Shock Absorber

The shock absorber can be adjusted as appropriate for different operating conditions.