



High Speed Grinding Train HSG-2

Technical Datasheet

Technical Datasheet HSG-2

HSG-2 - the solution for preventive maintenance of mainline lines. With its revolutionary working speed of up to 80 km/h, the HSG-2 eliminates slight to medium rail defects, reduces noise emissions by up to 10 decibels and can be flexibly integrated into the timetable, without any track closures.

General Data

Dimensions	
Length	total over buffers 44.28 m
Grinding car length	24.64 m
Support car length	19.64 m
Maximum width	2,982 mm
Maximum height	4,248 mm
Track gauge	1,435 mm
Wheelbase	2,600 mm

Speed

Grinding speed	60-80 km/h
Transfer speed	up to 120 km/h

Weight

<i>Grinding car</i>	
Tare weight	75 t
Overall weight	80 t
<i>Support car</i>	
Tare weight	45 t
Overall weight	72 t
Total weight	120 - 152 t
Axle load	20 t
Weight per meter	3.43 t/m

Grinding Process

Necessary traction power	≥ 1,500 kW (no slopes)
Longitudinal profile	according to Deutsche Bahn standard Ril 824.8310
Cross profile	according to Deutsche Bahn standard 824.8310
Roughness after grinding	< 10 µm
Nonstop grinding	up to 45 km
No interference with level crossings or signalling equipment	
No switch grinding	

Crew

Maintenance and loading	2 workers
Grinding operation	4 workers

Power and pressure (per grinding unit)

Grinding unit contact pressure	4 cylinders with 10 kN each
Grinding beam contact pressure	2 cylinders with 5 kN each (up to 99 bar)
Wheel load	10 kN per wheel without contact pressure 20 kN per wheel with contact pressure
Maximum grinding resistance	11 kN

Infrastructure Data

Minimum unconstrained curve radius	150 m
Crest and basin radii	≥ 500 m
Traversing of shunting slopes not permitted	
Suitable for use in tunnels	

Climatic Conditions

Ambient temperature grinding mode	-5 °C to +35 °C
Ambient temperature on sidings	-25 °C to +40 °C

Grinding Units

Number	4 units per train
Weight (per unit)	4 t empty 4.3 t with grinding stones
Number of grinding stones per unit	96
Thereof in operation	24
Grinding stones in operation at any one time	50° (at gauge corner) to 10° (field side)
Track guidance	4 wheels 360 mm, spreadable with track guidance bars for switch passages

Quick release system for grinding stones