Standard gauge mainline

80 km/h

80 km/h operating speed

No track closures

Up to 60 km non-stop grinding

+100%

Rail life extended by up to 100 %

Reduces noise by 3 to 10 decibels

High-Speed Grinding Train HSG-2

vossloh

enabling green mobility

Technical Datasheet

Benefits

/ Fast and safe rail defect prevention
/ Operating speed: 60 to 80 km/h
/ Grinds up to 60 km non-stop (depending on grinding wheel configuration)
/ Operates within the normal train schedule
/ No track possessions or disassembly of switching equipment
/ Suitable for tunnels with no subsequent clean-up required
/ Rail service life extended by up to 100 %
/ Recommended for "specially monitored track" (BüG)

Applications

/ Preventive rail machining
/ Corrective rail machining (with limitions)
/ Mill-scale removal from newly-laid rails (with limitations)
/ Noise reduction
/ Removal of slippery residues

Video

HSG-2: High-speed grinding within the normal train schedule

The HSG-2 is the ideal solution for the preventive maintenance of mainline railways. It removes minor and medium-level rail defects and lowers noise emissions by up to 10 decibels all at speeds of up to 80 km/h.
And it slots right into the train schedule!

References

/ DB Netz AG
/ China Railway
/ Swiss Federal Railways
/ and others...

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HSG-2
Technical data

Main dimensions (machining vehicle / support vehicle)	
Length over buffers (LoB)	44.28 m (24.64 m / 19.64 m)
Height	4,248 mm
Width	2,982 mm
Number of bogies | Number of axles	4|8 4|16 (operating mode)
Wheelbase between bogie pins	18,500 mm / 14,600 mm
Distance between axles on bogie	1,800 mm
Loading gauge / Structure gauge	G 1 / UIC 505-1

Speed	
Self-propelled	no
Transport speed	120 km/h
Max. speed when hauled	120 km/h
Operating speed	60–80 km/h

Weight (machining vehicle / support vehicle)	
Tare weight Max. permitted overall weight	120 t (75 t / 45 t) 152 t (80 t / 72 t)
Maximum wheelset load	21 t

Brake system	
Brake system type	KE GP-A disc brakes
Braked weight	G 139 t / P 139 t
Braked weight percentage (calculated using the braked weight and weight of the railcar)	91

On-track operability	
Shunting maneuvers not permitted (e.g. hump-shunting or loose shunting)	not permitted
Smallest traversable curve radius (transport / operating mode)	transport mode – Ra 150 operating mode – Ra 180
Max. uphill and downhill gradients (transport / operating mode)	40 ‰ uphill and downhill – depending on traction type
Transport inside train set	end vehicle only
Max./min. Ambient temperature (operating mode)	not dependent on weather conditions

Equipment and features	
Automatic Train Control	none
Congestion detection	The external circumstances must permit the use of congestion detection

Operating parameters	
Applicable standards	DB Ril. 824.4015 A02 DIN EN 13231-5:2018-08 B6
Transverse profile grinding zone possible	Z-8 to Y+14
Personnel / machine operators / assistants (number and qualifications)	4 personnel for operating shift and 3 personnel for maintenance shift

Applications	
Preventive grinding for DB Netz AG	
Max. rail length	35 km
No. of passes	3
Grinding wheel configuration	course / course / medium-fine
Material removal	0.1 mm measuring points at Y-10 / Y-20
Other applications	
Customized operation available on request	

Traction requirements	
Up to 12.5 ‰	1,500 kw
Up to 20 ‰	2,200 kw
Up to 40 ‰	5,300 kw

Line-side watering system (optional)	
Length over buffers (LoB)	14,190 / 20,220 / 14,190 mm
Width	3,140 mm
Number of bogies | axles	2|4 2|4 2|4
Wheelbase between bogie pins	9,150 / 14,600 / 9,150 mm
Distance between axles on bogie	1,800 / 2,000 / 1,800 mm
Loading gauge / Structure gauge	G 1
Max. transport speed inside train set	100 km/h
Max. speed when hauled	100 km/h
Tare weight Max. permitted overall weight	21|90 / 23|80 / 21|90 t
Brake system type	KE-GP-A 12"/ KE-GP-16"/ KE-GP-A 12"
Braked weight	58 / 53 / 58 t
Shunting maneuvers (e.g. hump-shunting or loose shunting)	not permitted
Transport inside train set or as end vehicle	not permitted
Automatic Train Control	none
Tank capacity	96 m^3 of water
Pump output	800 liters/min on each side
Distance that can be watered down at a speed of 80 km/h	150 km (watering down one side)

Application
At the customer's request, watering down of lineside as required to reduce the risk of lineside fires

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