



High Speed Grinding Machine HSG-city

Technical Datasheet

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HSG-city – the solution for preventive rail maintenance in urban transit systems.

With its revolutionary working speed of 5 to 37 mph, the HSG-city resolves easy to medium rail defects, reduces noise emissions by up to 10 decibels and leaves adapt flexibly to the timetable, without any track closures.

General Data

Dimensions	
Length without coupling	225.2 in.
Maximum width	83.2 in.
Maximum height	83.1 in.
Track gauge	56.5 in. (standard gauge) or 60 in. (wide gauge)
Wheelbase	102.4 in.
Wheel diameter	ø ~ 17 in.

Speed

Grinding speed	5–37 mph
Driving speed	max. 37 mph

Weight

Intrinsic weight	11 short tons
Overall weight	13 short tons
Axle load	≥ 5.5 short tons
Weight per yard	1.7 short tons/yd.

On-board systems

Diesel generator	24 kW
Diesel tank	47.5 gal.
Quality monitoring systems	4 kW (0.66 in ³ /u)
Hydraulic fluid	biodegradable

Grinding Process

Required traction power	min. 170 kW
Brake system	railway or truck operating brake manual parking brake
Roughness after grinding	< 10 μm
Nonstop grinding	up to 18.6 mi.
Grinding stone renewal	15 minutes (48 pieces), from within the vehicle. Total on-board 186 pieces
Crew	1 grinding operator (plus 1 driver)

Infrastructure Data

Machinable rail type	flat bottom rail, grooved rail, all track categories, tunnel suitable for all track categories
Smallest traversable curve radius - grinding beam up	transport mode ≥ 19.7 yd.
Smallest traversable curve radius - grinding beam down	operating mode ≥ 32.8 yd.
Traversable uphill/downhill gradient	≤ 90 ‰
Convex vertical curvature	≥ 547 yd.
Concave vertical curvature	≥ 328 yd.
Structure gauge	narrow tram, e.g. Berlin tight metro, e.g. London Tube
Shunting slopes	traversing not permitted
Homologations	BOStrab & EBO

Climatic Conditions

Ambient temperature grinding mode	14 °F to 104 °F
Ambient temperature on sidings	-13 °F to 104 °F

Grinding Units

Length over grinding beams	66.4 in.
Number of grinding beams	2
Number of racks per grinding beam	2
Number of grinding stones per rack	12
Number of grinding stones per grinding beam	24
Grinding area flat-bottom rail	85 ° (at gauge corner) to 40 ° (field side)
Grinding area grooved rail	35 ° (at gauge corner) to 6 ° (field side)