



Standard  
gauge



Exact  
reprofiling



No dust and  
no sparks



2 km/h  
Operating speeds  
of up to 2 km/h



High removal rate  
possible per pass

# High Performance Milling Train (HPM)

Technical Datasheet

## HPM milling train: Exact. Clean. Efficient

Easy reprofiling of severely damaged rails on freight and passenger lines. High Performance Milling is the solution for repairing damaged rails and significantly extending their service life. The HPM milling train removes severe defects in the cross and longitudinal profiles as well as corrugations, deformations and damage caused by material fatigue. The rail receives an exact reprofiling and finish in just one pass and, thanks to the face-milling technology, there's no dust or sparks. Its extraction system makes the HPM milling train practically emission-free.



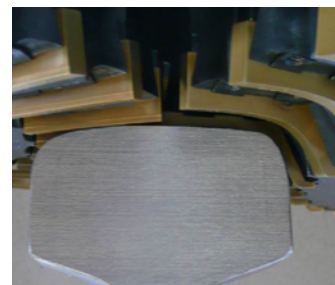
### Benefits

- / Maximum metal removal per pass: 2 mm on running surface, 2 x 2.5 mm gauge correction
- / Maximum operating speed: 2,000 meters per hour
- / Fire risk: none
- / Suitable for use in tunnels
- / Diameter of the main milling wheel: 1,400 mm, i.e. less residual ripple, highest quality finish, faster operating speeds and more metal removal
- / No removal of trackside switching equipment needed
- / Option of installing integrated measuring systems



### Applications

- / Adaptable to all common international rail profiles
- / Universally deployable: heavy haulage and high-speed lines
- / W6a loading gauge (English gauge)



## HPM Milling Train Technical Data

Main dimensions	
Length over buffers (LoB)	61,700 mm
Height	3,840 mm
Width	2,620 mm
Number of bogies Number of axles	6–12
Wheelbase between bogie pins	14,200 mm
Distance between bogie axles	1,800 mm
Vehicle gauge / structure gauge	GE/RT8073 W6A UIC 503

Speed	
Hauling speed when transported as part of train set	must not be placed inside train set; end vehicle only
Hauling speed	120 km/h
Max. speed (self-propelled)	12 km/h
Operating speed	0.4 – 2.0 km/h

Weight	
Tare weight	210 t
Max. permitted overall weight	240 t
Maximum weight per meter	4.0 t/m
Maximum axle load	225 kN

Brake system	
Brake system type	lead vehicle: KE-GP-A-mZ direct systems vehicle: KE-GP-A milling vehicle: KE-GP-mZD
Braked weight	72 t
Braked weight percentage (calculated using the braked weight and weight of the vehicle)	90

On-track operability	
Shunting maneuvers not permitted (e.g. hump-shunting or loose shunting)	not permitted
Smallest traversable curve radius (transport mode/operating mode)	Ra 150 (transport) Ra 200 (operating)
Max. uphill and downhill gradients/cant (transport mode/operating mode)	40 ‰ uphill and downhill
Transport in train set / end vehicle	end vehicle, max. trailing load 160 t

Weather constraints	
Ambient temperature (operating mode)	between -15° C and + 40°C

Equipment / features	
Specific features	integrated eddy current testing system, preparation for integrated longitudinal and transverse profile measuring system, power electronics with train power supply line, quality monitoring systems, intelligent power management system and an installed capacity of 1.077 kW
Performance data	one milling unit on each side, integrated face-milled finishing process
Material removal	max. removal per pass: 2.0 mm rated milling output : 1.5 mm removal at 1,200 m/h
Applicable standards	DB Ril 824, EU Standard 13231:3-2012
Personnel: machine operator, crew (number, qualifications)	3 personnel for operation + 2 personnel for maintenance shift
Equipment for train operation	MESA 23 digital train radio

Global expertise in  
over 100 countries

