



Universally
deployable



Turnouts
and rails



Versatile
(track gauges)



Exact
reprofiling



High metal removal
rates per pass possible



Suitable for use
in tunnels

Milling switches

Technical Datasheet

Switch maintenance using corrective rail machining

Milling a switch is a challenge and up until now has received little consideration as a machining option. Now it's possible to machine up to 95 % of switches and crossings including the frog, wing rails and closed switch rails using a specially developed tool – and that's with Deutsche Bahn approval and on high-speed lines up to 280 km/h! Other cost-effective combinations are also possible in conjunction with our Flexis System.



Open switch rail



Closed switch rail



One side of a wing rail



Milled frog

Benefits

- / Complete reprofiling of the main line and the turnout including frog, wing rails and switch rails down to a width of 20 mm
- / Minimal machining time required
- / Switch is back to near-new condition after machining

Applications

- / All switches including switches with spring-action frogs can be machined
- / For cost-effectiveness reasons, not recommended for single-slip switches, double-slip switches or crossings



SF02 W-FS milling truck

Milling switches using the SF02 W-FS in combination with Flexis

Operational requirements

Although machining the switch's more heavily trafficked main line is straightforward, machining the turnout does require the adjacent track to be closed for a short time. Flexis is used to align the ramps in the frog as well as the wing rails and the switch rails in order to comply with regulations. Flexis can also be used while trains are running.

SF02 W-FS Technical Data

Main dimensions

Length over buffers (LoB)	18,320 mm
Height	3,408 mm
Width	2,490 mm
Number of bogies Number of axles	1–4
Wheelbase between bogie pins	not applicable as vehicle has only one bogie and 2 fixed axles
Vehicle gauge / structure gauge	UIC 505-1

Speed

Hauling speed when transported as part of train set	transport in train sets not permitted
Hauling speed	20 km/h
Max. speed (self-propelled)	rail speed: 45 km/h road speed: 80 km/h
Operating speed	0.4–0.8 km/h

Weight

Tare weight	45 t
Maximum axle load	12.4 t

Brake system

Brake system type	hydrostatically operated brake system – activated via traction lever + direct-acting brake system that works by means of an auxiliary shaft on the differential 4 disc brakes
Braked weight	40
Braked weight percentage (calculated using the braked weight and weight of the vehicle)	92
Transport setting (F/P)	not applicable – no F/P change-over

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 50 (transport) Ra 80 (operating)
Max. uphill and downhill gradients/cant (transport mode / operating mode)	40 ‰ uphill and downhill
Transport in train set / as end vehicle	transport in train sets or as end vehicle not permitted

Weather constraints

Ambient temperature (operating mode)	between -10°C and 40°C, modifications possible
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Equipment / features

Performance data	one milling unit on each side, integrated tangential grinding units and downstream flap-disc grinding units
Material removal	0.9 mm max. material removal per pass
Applicable standards	DB Ril 824, EU Standard 13231:2-2020
Personnel: machine operator, crew (number, qualifications)	4 personnel for operation + 2 personnel for maintenance shift
Equipment for train operation	ATC, ITC, digital train radio

Global expertise
in over 100 countries

