



Rack-and-Pinion and Adhesion Diesel Locomotive HGm 2/2 76 for the Matterhorn Gotthard railway

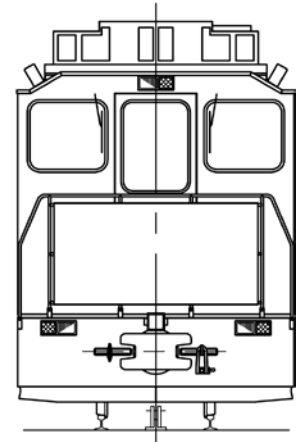
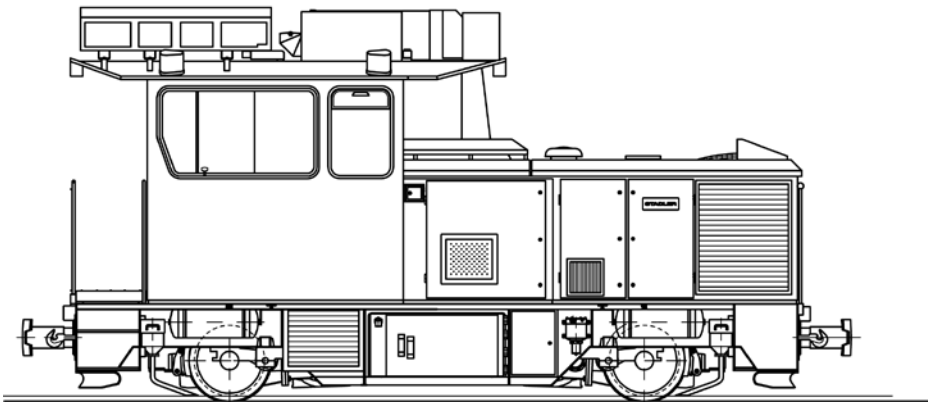
Matterhorn Gotthard Bahn MGB ordered a rack-and-pinion adhesion locomotive for their construction service vehicle fleet in 2009. It is used on the NGB network between Zermatt and Diesentis and on the steep routes in the Schöllenen (Andermatt-Göschenen) and Gornergrat (GGB) railway. It is equipped with radio remote control capabilities for vehicle use at construction sites and for snow plowing. The locomotive can also be used if there is a complete outage in the 11k VAC overhead catenary line, to maintain emergency passenger operation with passenger cars. It is equipped with state-of-the-art asynchronous three-phase current technology and is able to transport a maximum of 50 t load on a 120‰ incline. The brake equipment is in accordance with Swiss regulations for rack-and-pinion railways. Combined with the HGm 2/2 75 delivered in 2002, it is capable of transporting up to 100 t hauled load in the rack rail in double traction.

Stadler US Inc
231 North Ave W No. 112
Westfield, NJ 07090 USA
Phone 1 (908) 232-2778
Fax 1 (908) 654-0222
stadler.us@stadlerrail.com

A Company of Stadler Rail Group
Ernst-Stadler-Strasse 1
CH-9565 Bussnang, Switzerland
Phone +41 (0)71 626 21 20
Fax +41 (0)71 626 21 28
stadler.rail@stadlerrail.com

Seite II - Disentis

Seite I - Zermatt



Technical features

- Three-phase asynchronous drive technology with ABB-CC500-power converter
- Asynchronous generator & TSA traction motors
- On-board power supply 400 VAC for auxiliary equipment and machines
- Rack-and-pinion brake system pursuant to Swiss rack-and-pinion regulations AB-EBV
- Brake system 2 as spring-loaded safety brake for total 74 t hauling weight
- Radio remote control for operation as of freight car or snow thrower
- Double traction with the HGm 2/2 75 purchased in 2002
- Can also travel on 200‰ on GGB network (25 t hauled load)
- Variably adjustable traction equipment with excellent slow travel properties and maximum tractive effort even at lower diesel engine speeds

Vehicle data

Customer	MGB Matterhorn Gotthard Bahn
Gage	1,000 mm
Year delivered	2010
Wheel base	4,050 mm
Wheel diameter	790 / 770 mm
Traction rack-and-pinion diameter	688 mm
Length over buffers	8,090 mm
Max. width	2,700 mm
Max. height	3,830 mm
Operating mass, unladen weight	24 t
Performance data:	
Diesel engine	MTU 12V183TB32
Max. performance	at 2100 rpm approx.550 kW
Max. performance at wheel	450kW
Max. performance during braking operation	500kW
Max. starting tractive effort at wheel	110 kN
Speed limit	60 km/h
on rack-and-pinion 120‰	21.5 km/h (downhill)
Auxiliary equipment:	
Battery charge	28VDC / 280A
400VAC aux. eq. network	25 kVA