

= NSB Class 64 =

NSB Class 64 ( Norwegian : NSB type 64 ) is a class of three electric multiple units built by Strømmens Værksted for the Norwegian State Railways . Delivered in 1935 , they were built for the opening of the Hardanger Line and served there until 1985 , when the line closed and the trains were retired . They also periodically served on the Flåm Line . The delivery consisted of three motor cars and four carriages , with each train consisting of up to three units . The motor cars were 16 @. @ 3 meters ( 53 ft ) long , had a power output of 464 kilowatts ( 622 hp ) and were capable of 50 km / h ( 31 mph ) . The motor units were given road numbers 505 through 507 . Two of the units have been preserved by the Norwegian Railway Club and are at Garnes Station .

= = History = =

The Hardanger Line opened in 1935 as a steep and curvy branch of the Bergen Line to connect Bergen to the Hardangerfjord . The line was 27 @. @ 45 kilometers ( 17 @. @ 06 mi ) long , had a maximum gradient of 4 @. @ 5 percent , a minimum curve radius of 180 meters ( 591 ft ) , a maximum speed of 40 km / h ( 25 mph ) , a maximum permitted axle load of 12 tonnes ( 12 long tons ; 13 short tons ) , standard gauge and a 15 kV 16 2 ? 3 Hz AC electrification system . In 1931 , NSB had taken delivery of its first electric multiple unit , the Class 62 , for use on commuter trains on the Drammen Line . For the Hardanger Line , NSB ordered similar units , but these were modified to have a higher power output . Three motor cars and four carriages were delivered in 1934 . The mechanical components and assembly were done by Strømmens Værksted , while the electrical equipment was made by Norsk Elektrisk & Brown Boveri ( NEBB ) . The class was similar to the future Class 65 , and was regarded as a prototype . Class 64 were the shortest multiple units ever used by NSB .

From 21 November 1944 , when the Flåm Line received electric traction , Class 64 trains were also used there . The Flåm Line is even steeper and more curved than the Hardanger Line , so the trains received track brakes . In 1947 , EI 9 locomotives were delivered for the Flåm Line . Class 64 trains continued to be used periodically on the Flåm Line when there was insufficient availability of EI 9s , as well as in periods with very little or very much traffic .

Unit 64 @. @ 07 was retired on 20 December 1982 after rust damage had been found on it . By 1984 , the carriages were in such bad shape that they needed to be replaced . Trailers from Class 65 and Class 67 were taken into use , and for a short period a Class 91 trailer . On 28 August 1985 , passenger traffic on the line was terminated and the two remaining trains were retired . Reasons for the termination included a lack of sufficient political support for financing new trains , and also that Class 64 was no longer suitable for use . The last two trains have been preserved by the Norwegian Railway Club and are stored at Garnes Station , part of the Old Voss Line .

= = Specifications = =

The units each had four NEBB EDTM384 motors , giving a combined power output of 464 kilowatts ( 622 hp ) . They had an overall length of 16 @. @ 3 meters ( 53 ft ) , weighed 35 @. @ 5 tonnes ( 34 @. @ 9 long tons ; 39 @. @ 1 short tons ) and had a Bo @- @ Bo wheel arrangement . The motor cars had a capacity for 38 passengers and a maximum speed of 50 km / h ( 31 mph ) . Because of the steep gradients , the units had a low weight combined with high power output , and had both track brakes and dynamic braking . They were originally given road numbers 18505 through 18507 , but this was later changed to 64 @. @ 05 through 64 @. @ 07 .