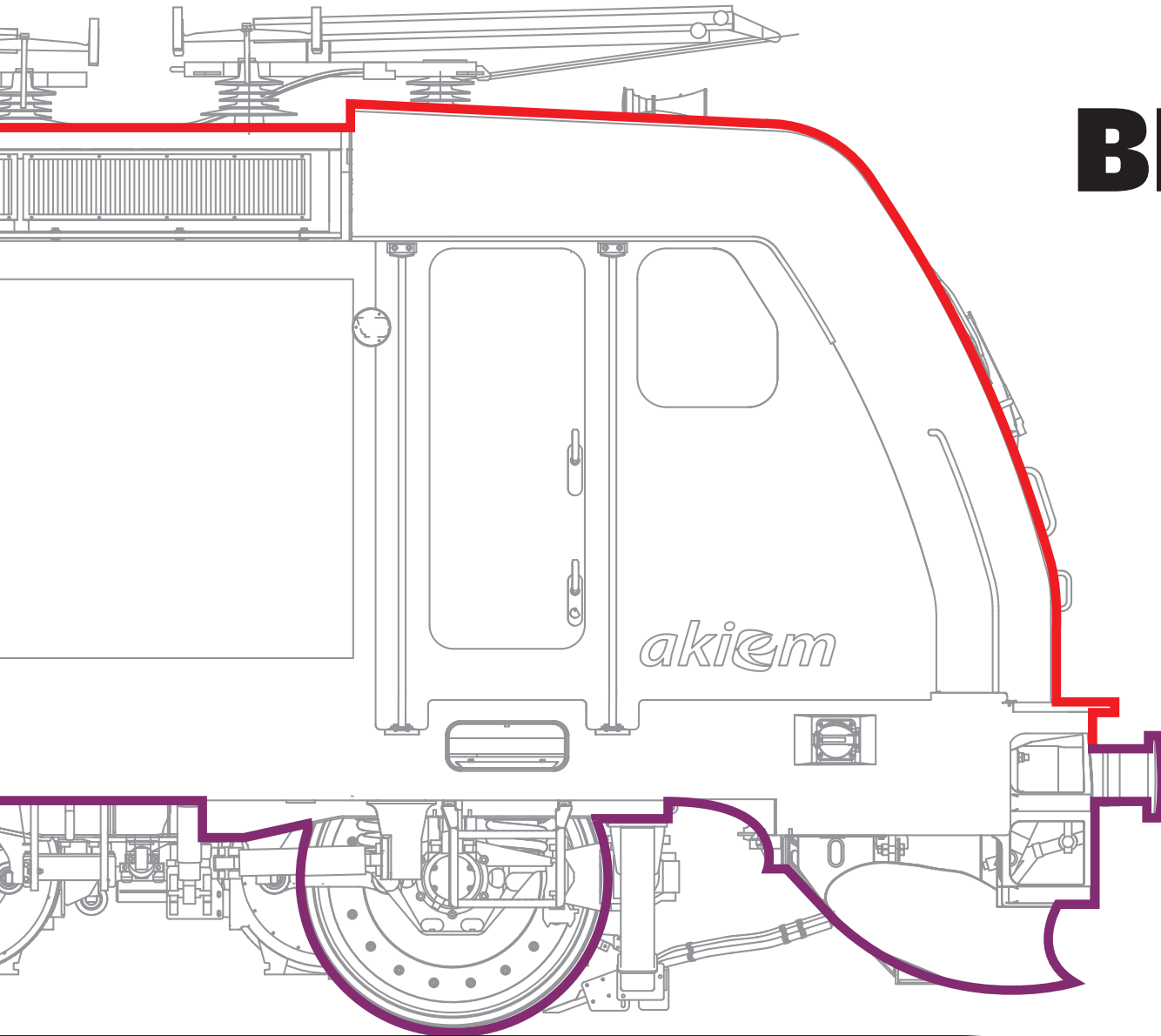
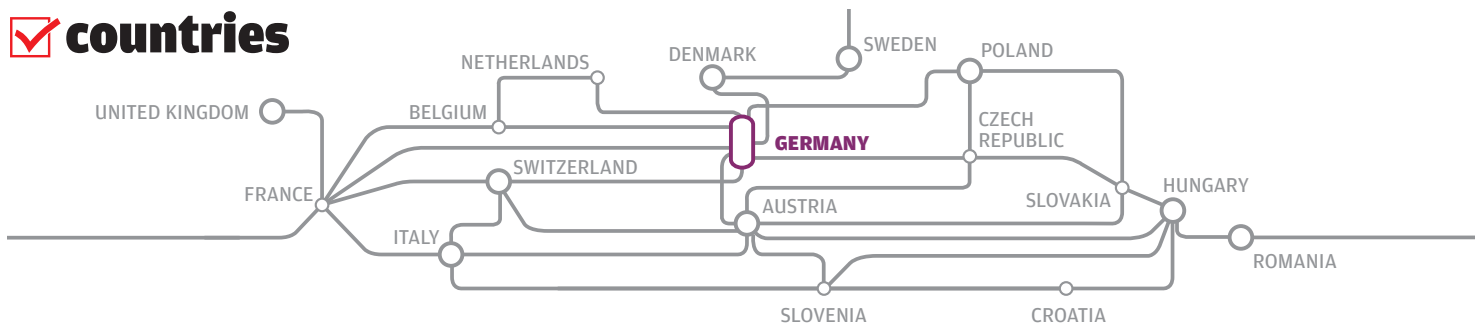


**BR 146**



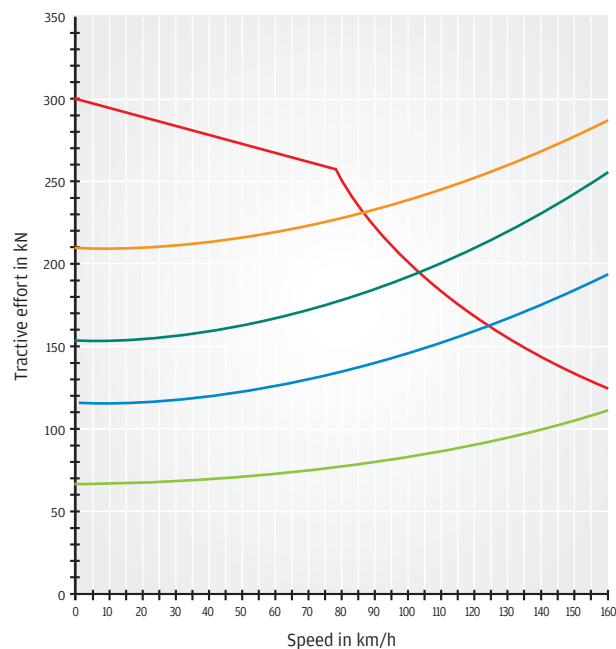
## ✓ countries



## ✓ main technical data

|                                   |                       |
|-----------------------------------|-----------------------|
| <b>Manufacturer</b>               | Bombardier            |
| <b>Continuous rated power</b>     | 5,600 kW              |
| <b>Maximum speed</b>              | 160 km/h              |
| <b>Starting tractive effort</b>   | 300 kN                |
| <b>Continuous tractive effort</b> | 252 kN at 80 km/h     |
| <b>Weight in working order</b>    | 84 t                  |
| <b>Wheel arrangement</b>          | Bo'Bo'                |
| <b>Clearance gauge</b>            | UIC 505-1             |
| <b>Length</b>                     | 18.900 m              |
| <b>Tractin motors</b>             | 4 asynchronous motors |
| <b>Electric braking</b>           | Regenerative 5,600 kW |
| <b>Multiple unit operation</b>    | Yes                   |
| <b>Homologations</b>              | Germany               |
| <b>Year of construction</b>       | 2005                  |
| <b>Electric power supply</b>      | 15 kV 16.7 Hz         |
| <b>Safety systems</b>             | GSM-R radio, PZB, LZB |
| <b>Other equipment</b>            | Energy meter, EBUla   |

## ✓ tractive effort-speed curve



- BR 146
- MA100 - 1 000 t - 5 ‰
- MA100 - 1 800 t - 5 ‰
- MA100 - 1 800 t - 10 ‰
- MA100 - 2 400 t - 5 ‰