Mitsubishi Brake System
Key to Safe Rail Transport

History of Mitsubishi Brake System

◆ 1924  Concluded a technical partnership with Westinghouse Air Brake
◆ 1930  First shipment of air brake product (SM-3 type brake control unit) to Transportation Bureau, City of Nagoya
◆ 1933  Shipment of AMU type brake control unit for Osaka Municipal Transportation Bureau
◆ 1945  Started production of brake cylinder
◆ 1954  Shipment of HSC type electro-magnetic straight brake control unit
◆ 1957  Shipment of MBS type electric command brake control unit
◆ 1960  Shipment of SEA type brake control unit for Tokaido Shinkansen
◆ 1968  Shipment of MBS type electric command brake control unit
◆ 1974  Development of electronic controlled brake control unit
◆ 1979  Shipment of electric command brake control unit for Tohoku Shinkansen
◆ 1979  Development of electric power brake control unit
◆ 1980  Shipment of BRAH type brake control unit
◆ 1982  Development of wheel slide protection system
◆ 1984  Shipment of rotary compressor for Shinkansen
◆ 1985  Development of MBSA-TIMS brake control unit
◆ 1992  Shipment of compact type brake control unit
◆ 1994  Development of vacuumtype brake control unit
◆ 1998  Development of MBSA-TIMS brake control unit
◆ 2000  Shipment of compact type brake control unit
◆ 2003  Shipment of pneumatic brake control unit
◆ 2005  Development of compact type brake control unit
◆ 2010  Development of compact type brake control unit

First shipment of air brake product (SM-3 type brake control unit for Transportation Bureau, City of Nagoya)
Mitsubishi Electric has been supplying brake system for rolling stock over 90 years. Under the cooperation with Mitsubishi Heavy Industries, Ltd., we provided 90,000 brake equipment all over the world. With our experience and ability in supplying extreme safety and high quality products, we are able to provide total solution for brake system. We can propose brake system that fits any type of rolling stock such as high-speed, commuter, metro, and locomotive. Since Mitsubishi Electric can supply propulsion system, we are able to optimize rolling stock running and stopping performance. Electric and pneumatic brake are closely blended by this system, and rolling stock’s power consumption and wear in friction material are reduced. Mitsubishi Electric also supplies Train Control and Management System (TCMS) that controls rolling stock equipment as total system. As a rolling stock system integrator, Mitsubishi Electric manages rolling stock as total system to implement optimized train operation.

**Mitsubishi Brake System**

- **Master Controller**
  - High reliability and a high economy, small and lightweight by modularized elements

- **Air Supply**
  - Wide range of product to fit any type of system
  - Line-up of brake type

- **Bogie Brake Equipment**
  - Line-up of Caliper or Tread type
  - Automatic slack adjuster, parking brake
  - Flexible mounting

- **Brake Control Unit**
  - Per bogie or car control
  - Various optional functions such as wheel slide protection or train brake control

**Quality**

“Quality First” is one of the most important concepts in all processes of Mitsubishi’s manufacturing. To make our product highly qualified, we constantly work on research and development. We are proactively acquiring international certifications. We have certification of ISO9001, ISO14001, CMMI Lv.2 which issued by external inspection organizations. We also have an ability of acquiring SIL4 certification if required.

**Testing**

Every time Mitsubishi ships product, its safety and quality are carefully tested by quality control engineer. We have innovative test facility that tests our product’s safety and quality from every aspect.