

6. Brake dynamometer manual mode

In the manual mode to realize a single braking application the Brake dynamometer should allow at least:

- the possibility to set necessary parameters to execute a single braking application;
- manual start of the braking application;
- manual stop of the braking.

7. Permissible interference generated to the electricity network

In terms of interference generated to the electricity grid position must meet the requirements of PN-EN 61800-3 Category C2.

8. Health and Safety Requirements

In terms of health and safety the test stand should:

- ensure full safety of employees while: tooling assembly, test piece assembly, handling during operation, programming, monitoring, manual handling, servicing;
- have an emergency brake operating in manual and automatic mode;
- have a E-stop buttons both at the machine and on the control panel.

9. Other requirements

Additionally the Brake dynamometer:

- has to be designed, manufactured and installed for the purpose of continuous operation (24/7) and its design lifetime must be at least 10 years;
- should be equipped with an environment resistant video camera, with at least 640x480 resolution, to observe the drum/disc brake in the test chamber and to record automatically brake applications, triggered automatically by test program. Video data must be stored and played back synchronous to all other measurement channels.;
- should be equipped with the interfaces to connect microphone and thermo imaging camera and synchronous recording of their signals;
- should permit calibration and adjustment of measuring chains embedded, has to include calibration lever or equivalent for calibration of the torque sensing device, calibration weights are not required;
- should be equipped with dynamic rotor thickness variation measurement system (DTV), verification test in Appendix 5 – Transient Deformation;
- should be equipped with brake fluid displacement measurement system.

II) BRAKE DYNAMOMETER PARAMETERS

1. maximum driving unit power: minimum 180 kW;
2. maximum operating braking torque: minimum 5500 Nm;
3. maximum driving unit dragging torque: minimum 1500 Nm from 0 rpm to 1000 rpm;
4. maximum operating speed: minimum 2500 rpm;
5. maximum driving unit dragging speed: minimum 1800 rpm;
6. total inertia: maximum 5 ÷ minimum 240 kgm² – including flywheels and electrical inertia simulation;
7. mechanical inertia: minimum 120 kgm²
8. maximum breaking pressure: minimum 200 bar;
9. maximum pressure ramp rate: minimum 1000 bar/s;