Hydraulic clutch master cylinders

1. Scope

This standard specifies hydraulic clutch master cylinders (hereinafter referred to as "master cylinders") used for automobiles.

Remark:

The applicable standards of this standard are shown in **Attached table 1**.

2. Classification

The classification of the master cylinders is as shown in **Table 1**.

3. Maximum working pressure

The maximum working pressure of the master cylinders shall be, in general, 10 MPa.

4. Performance

4.1 Performance of components

The performances of the major components of the master cylinders shall be as follows.

(1) When an air pressure of 100 kPa is applied to the cylinder body and reservoir, an air leakage must not occur.

(2) When an air pressure of 100 kPa is applied to the piston or push rod inserting hole in the plunger, an air leakage must not occur.

(3) The primary and secondary cups shall meet the performance requirements of Types 1, 2, and 3 specified in **JIS D 2605**.

(4) The return spring shall meet the requirements specified in **JIS B 2707**.

4.2 Performance of assemblies

The performance of assemblies shall be as follows.

The testing fluid shall be that meeting the requirements specified in **JIS K 2233** or that determined by the agreement made between two parties concerned.

(1) Interconnection

When air is fed from the hydraulic fluid delivery port, it must flow out from the relief port or supply port.

(2) Ineffective stroke

While air with an air pressure of 50 to 150 kPa is fed from the hydraulic fluid delivery port to flow it out from the relief port or supply port into the reservoir, the piston or plunger is pushed in gently for the primary cup to close the relief port or for the inlet valve to close the supply port, stopping the air flow into the reservoir. Then the stroke of the piston or plunger must be within the range of 0.5 to 2.3 mm.

(3) Delivery function

When the piston or plunger is reciprocated continuously with the cylinder body and reservoir filled with the testing fluid, the fluid must flow out continuously from the hydraulic fluid delivery port.

(4) Air tightness of secondary cup and operational smoothness of piston and plunger

When the push rod is reciprocated gently several times through the effective stroke with the cylinder body and reservoir filled with the testing fluid, the piston or plunger must operate smoothly and also a fluid leakage must not occur from the secondary cup.

Table 1 Classification

Classification	Performance
Class 1	Master cylinders that can be used under normal temperature operating conditions.
Class 2	Master cylinders that can be used under high temperature operating conditions.
Class 3	Master cylinders that can be used under special high temperature operating conditions.