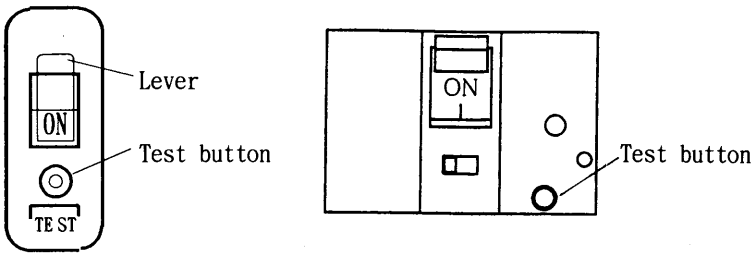
6 Daily maintenance and inspection

This chapter explains daily maintenance and inspection. Pay careful attention to the information herein, so as to keep the equipment in prime working conditon.

6.1 Leakage breaker trip test

This chamber uses a leakage breaker as the main power switch. This test confirms whether the breaker is functioning correctly or not.
Perform this test monthly and before starting endurance tests or other long run operation.

- With both the primary power and main power switch ON, gently press the test button. The lever of the main power switch will trip if the working properly. If it fails to trip, there is something wrong with the switch. Contact the place of purchase or ESPEC CORP.



For PH(H)-101, PH(H)-201 For PH(H)-301, PH(H)-401

Fig. 6.1 Leakage breaker trip test

6.2 Overheat protector trip test

Before starting operation, test the overheat protector for proper tripping.

① Set the overheat protector temperature below the actual chamber temperature.

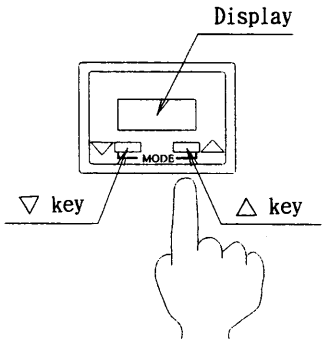


Fig. 6.2 Overheat protector trip test

② If the overheat protector is functioning properly, an alarm will be generated: a fault indication lamp will light up and the buzzer will sound. If an alarm is not generated, there is something wrong with the overheat protector. Contact the place of purchase or ESPEC CORP.

- If the overheat protector trips, all of the digits of the setting device display flash.

③ To clear the alarm, press the (POWER) key to shut OFF power to the chamber, and then reset the overheat protector.

6.3 Cleaning inside the chamber

After operation has ended, wipe away dirt from inside the chamber with a soft cloth.

6.4 Cleaning inside the electrical compartment

Because the electrical compartment is ventilated, dust easily accumulates inside. Dust accumulation may cause leakage and faulty contacts. Clean inside the electrical compartment once every 2 or 3 months with a vacuum cleaner.

6.5 Cleaning inside the exhaust duct

⚠ CAUTION

- Be sure to clean inside the exhaust duct, whether of our manufacture or installed by you, once every 2 or 3 months.

  The vapor from specimens or airborne substances may settle inside the exhaust duct as sludge. Accumulated sludge may be ignited by the hot air of the exhaust.

How to Disassemble the Exhaust Duct for PH(H)-401 Chambers

⚠ CAUTION

- Stop chamber operation and check temperature inside has dropped to a safe level BEFORE disassembling the exhaust duct.
- Wear protective (rubber or leather) gloves when disassembling the exhaust duct.

  Handling glass wool with bare hands can cause irritation and itching. Also, bare hands can be cut on metal plates.

〔Disassembly Procedure〕

1) Detach the outer exhaust pipe ①.
2) Remove the screws ② that lock the cover to the exhaust duct inspection hatch.
   (Cross-recessed head truss screws. Requires a screwdriver.)
3) Detach the hatch ③ to the exhaust duct inspection hole.
4) Detach the exhaust duct pipe ④.
5) Remove the insulation ⑤ from the exhaust duct inspection hole.
   (Keep insulation in a plastic bag until ready to reinstall it.)
6) Remove the screws ⑥ (×2) that lock down the exhaust duct cover.
7) Detach the exhaust duct cover ⑦.

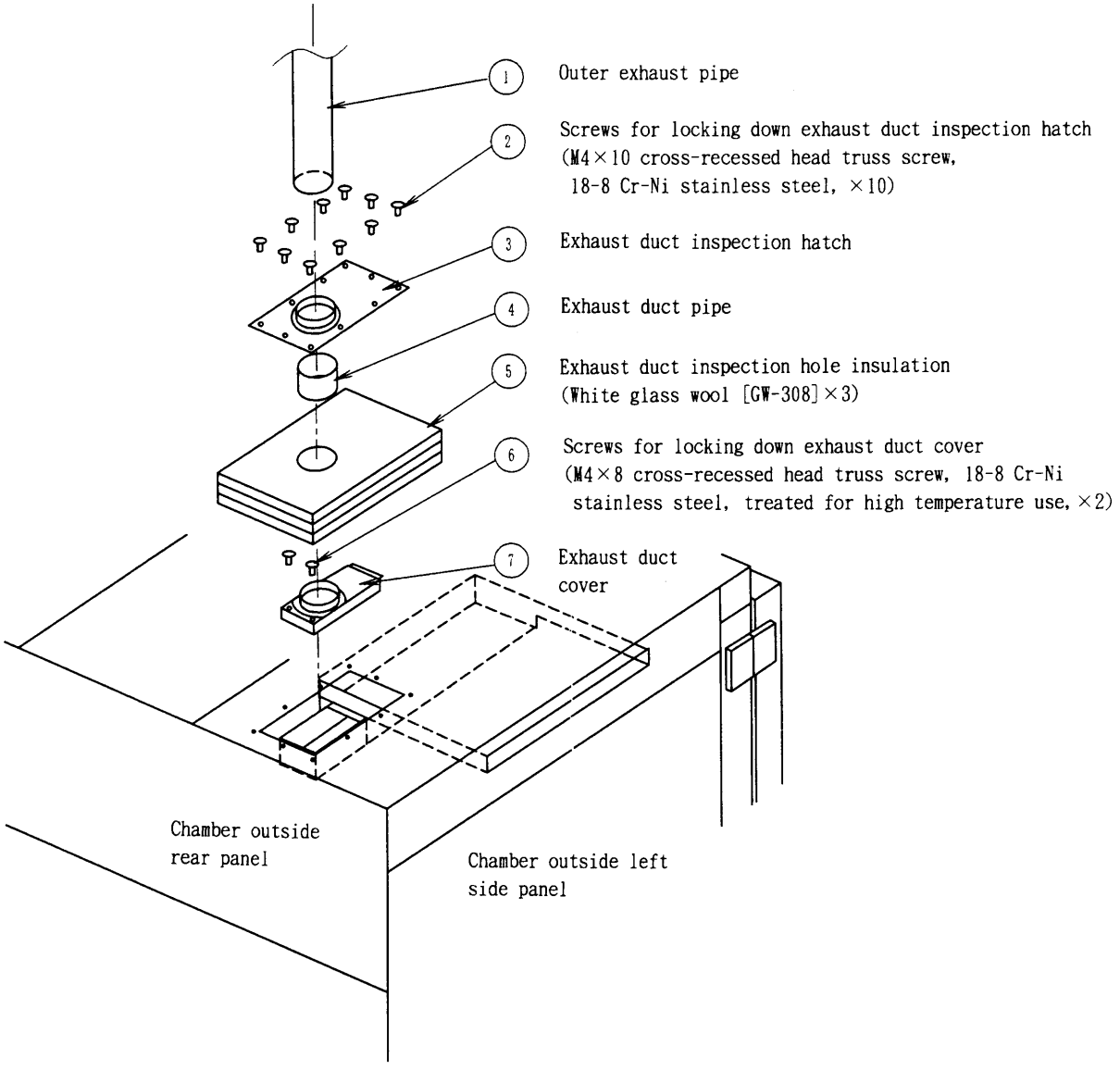


Fig. 6.3 Exhaust duct parts

〔Inspection and Cleaning〕

1) Once detaching the exhaust duct cover ⑦, visually check for adhering matter inside the duct.
   The only places to inspect and clean are those that were covered by the exhaust duct cover ⑦. Do not clean other areas.
2) Scrape off any adhering matter with a scraper.
   Do not use inflammable solvents to clean the duct.

How to Reassemble the Exhaust Duct for PH(H)-401 Chambers

〔Reassembly Procedure〕

The exhaust duct is basically reassembled in the opposite order in which it was disassembled.

1) Reassemble the exhaust duct cover ⑦ as shown in Fig. 6.4.
2) Lock the exhaust duct cover down with screws ⑥.
   (Use M4 cross-recessed head truss screws that have been treated for use in high temperature.)

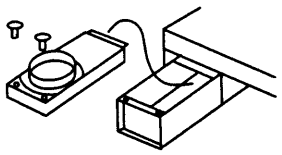


Fig. 6.4 Exhaust duct cover

3) Fit the exhaust duct pipe ④ into the flange.
4) Insert the insulation ⑤ into the exhaust duct inspection hole.
   (Insert insulation one sheet at a time, making sure there is no gapping at the edges.)
5) Lock down the hatch ③ to the exhaust duct inspection hole.
6) Fit the outer exhaust pipe ① into the flange on the exhaust duct inspection hatch.