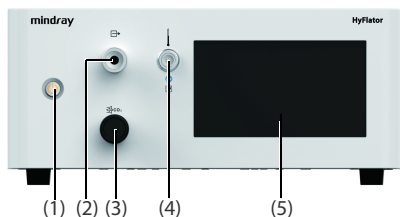
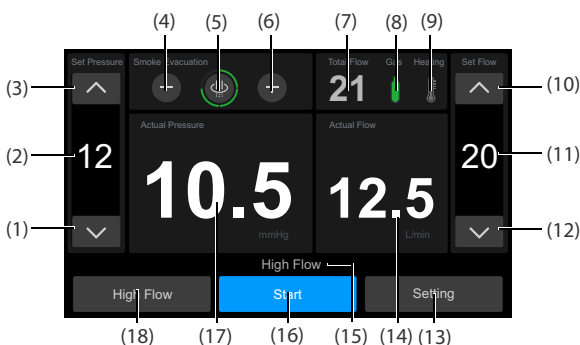


## HS Series Insufflator Quick Reference Guide













- (1) Power switch: turns on/off the insufflator
- (2) CO<sub>2</sub> insufflation interface: connects the insufflator tube/heating insufflator tube
- (3) Exhaust valve (optional, for HS-50F/HS-50V): controls smog exhausting rate
- (4) Insufflator tube heating joint (optional, for HS-50F/HS-50S): connects the heating socket for the heating insufflator tube
- (5) Control screen: displays and controls the status of the insufflator



- |  |  |
|--|--|
| (1) Decrease CO <sub>2</sub> pressure                        | (10) Increase CO <sub>2</sub> flow                     |
| (2) CO <sub>2</sub> pressure setting                         | (11) CO <sub>2</sub> flow setting                      |
| (3) Increase CO <sub>2</sub> pressure                        | (12) Decrease CO <sub>2</sub> flow                     |
| (4) Decrease smog exhausting rate                            | (13) Enters the <b>Setup</b> menu                      |
| (5) Smog exhausting indicator                                | (14) Actual CO <sub>2</sub> flow                       |
| (6) Increase smog exhausting rate                            | (15) Message area                                      |
| (7) Total CO <sub>2</sub> exhaust (press to clear the value) | (16) Start/stop insufflation                           |
| (8) Gas source indicator                                     | (17) Actual CO <sub>2</sub> pressure                   |
| (9) Heating indicator  | (18) Current work mode (press to select the work mode) |

## On screen Symbols

Symbol	Description	Symbol	Description
	Gas source indicator: central gas is used and the gas pressure is normal (green).		Gas source indicator: central gas is used and the gas pressure is low (red).
	Gas source indicator: gas cylinder is used and the CO <sub>2</sub> gas is sufficient (green).		Gas source indicator: gas cylinder is used and the CO <sub>2</sub> gas is insufficient (yellow). Backup CO <sub>2</sub> cylinder is required.
	Gas source indicator: gas cylinder is used and the CO <sub>2</sub> gas is low (red). Replace the CO <sub>2</sub> cylinder immediately.		Heating indicator (green): the gas is being heated.
	Heating indicator (red): the gas is overheated.		Heating indicator (gray): required gas temperature is reached or the heating function does not work.
	Smog exhausting indicator: no smog exhausting.		Smog exhausting indicator: the green part indicates the exhausting rate.

### WARNING



- Use only Mindray-approved cylinder regulators, gas inlet tubes, and other accessories. Connect the accessories as Mindray instructed.
- If the CO<sub>2</sub> cylinder is used, it is not recommended to directly connect the cylinder with the high-pressure tube.
- Connect the cylinder by using the cylinder regulator and the low-pressure tube is recommended.
- When using the cylinder regulator, follow the accompanying instructions for use.
- Before open the cylinder valve, completely release the pressure handle of the cylinder regulator. Never stand in front of the gas outlet of cylinder regulator.
- After stop using the insufflator, first close the cylinder value, and then completely release the pressure handle of the cylinder regulator.
- If CO<sub>2</sub> cylinder is used, verify that its pressure should be always no less than 1 MPa.
- Use a new or sterilized bacteria filter for each surgery to avoid cross-infection.

## Operation Procedure

### Before the surgery:

1. Verify that the insufflator and CO<sub>2</sub> cylinder/central gas supply is properly connected.
2. Verify that the smog exhaust foot panel (optional) is not damaged and is properly connected.
3. Verify that the mains supply is properly connected.
4. Connect the insufflator tube/insufflator heating tube.
5. Connect the suction tube (optional). Suction devices with pressure range between 0.04 MPa and 0.06 MPa are recommended.
6. Turn on the gas supply. If CO<sub>2</sub> cylinder and the regulator are used, CO<sub>2</sub> supply pressure greater than 0.5 MPa is recommended. For more information, refer to the instructions for use delivered with the cylinder regulator.
7. Turn on the Power switch.
8. Select the working mode.
9. Set CO<sub>2</sub> insufflation pressure and flow as needed.

### During the surgery:

1. Select **Start** to start insufflation.
2. Adjust the CO<sub>2</sub> pressure and flow as needed.
3. To unlock the touchscreen, press  and slide it to the  position on the right.
4. Select **Stop** to stop insufflation when the surgery is completed.

### After the surgery:

1. Disconnect the insufflator from the patient.
2. Turn off the gas supply.
3. Exhaust the residual gas inside the tube: Select **Start** to start the insufflation again. Wait till the residual gas has been removed. Select **Stop** to stop the insufflation.
4. If you are using the CO<sub>2</sub> cylinder and the regulator, completely release the pressure handle.
5. Turn off the power switch.

To obtain more maintenance information:



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