

Operation Manual

HCP-810 CO₂ Gas Unit

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- Thank you for purchasing this product.
- Before using this product, read through this manual and also refer to the DS-8100 operation manual.
- After reading, keep this manual near the unit for future reference.

CE 0086

This device bears the CE label in accordance with the provisions of Medical Device Directive 93/42/EEC.
This device bears the CE label in accordance with the provisions of RoHS Directive 2011/65/EU.



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The HCP-810 CO₂ Gas Unit incorporates the Microstream™ technology of Oridion Medical 1987 Ltd. for CO₂ concentration measurement. For details on how to connect the sampling tube and to set the monitoring condition, refer to the operation manual of the DS-8100 or other equipment which the HCP-810 is connected to.

Safety Precautions

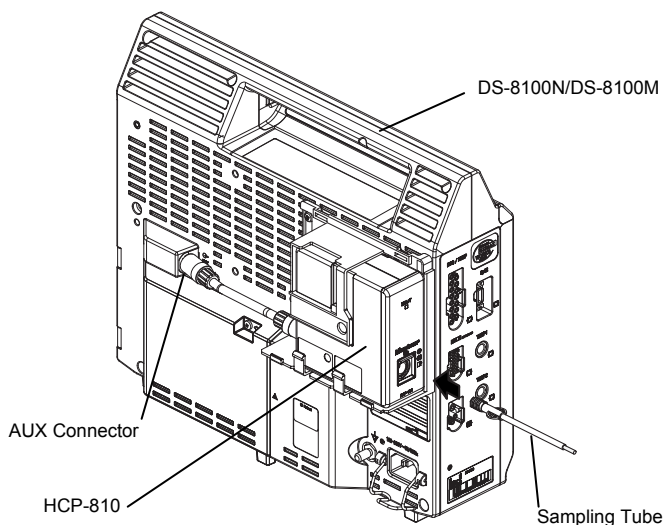
Make sure to follow the precautions indicated below, as these are important messages related to safety. The followings are descriptions and graphic symbols of the safety and precaution messages used in this manual.

	WARNING	Failure to follow this message may result in death or serious injury.
	CAUTION	Failure to follow this message may cause injury or failure to the equipment.
	NOTE	A note is not related to product safety, but provides information about the correct use and operating procedures to prevent incorrect operation and malfunction of the equipment.

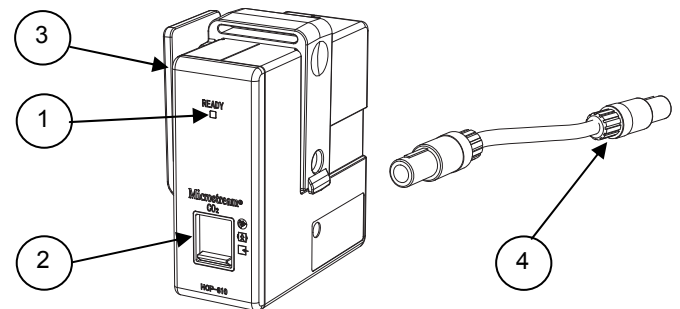
General Description

The HCP-810 is a CO₂ gas unit which performs CO₂ measurement by connecting it to the AUX connector of the DS-8100N/DS-8100M. Also, end-tidal CO₂ concentration (EtCO₂) and inspiratory CO₂ concentration (InspCO₂) measurement can be calculated based on the CO₂ concentration.

<DS-8100N/DS-8100M and HCP-810>



Name of Parts and Their Functions



	Item	Function
1	Power Supply Indicator	Indicates the power ON/OFF status.
2	Sampling Tube Connector	Connects the sampling tube manufactured by Oridion®.
3	Clip	Attaches to the bedside rail or headboard for bedside use.
4	AUX cable	Connects to the AUX connector of the DS-8100N/DS-8100M.

WARNING

If the indicator does not light when connected to the patient monitor, disconnect it and cease using the equipment. Contact your nearest service representative.

CO₂ Calibration

A periodic calibration is required for the following case. For calibration procedure, refer to the operation manual of the DS-8100 or other equipment which the HCP-810 is connected to.

- When 1 year has elapsed or when the operation hour (accumulated EtCO₂ measurement time) has exceeded 1200 hours from the first use.
- When 1 year has elapsed or when the operation hour (accumulated EtCO₂ measurement time) has exceeded 4000 hours from the last calibration.

(When the above duration has elapsed, a CO₂ calibration message will be displayed when the power of the patient monitor is turned ON.)

- When EtCO₂ measurement is not stable or accuracy is degraded compared with other measuring device.
- When the patient monitor was not used for a while, or when EtCO₂ was not measured for a while.

⚠ CAUTION

- Perform the calibration 5 minutes after turning ON the power on the DS-8100N/DS-8100M and HCP-810.
- Do not disconnect the sampling tube during calibration. If disconnected, calibration will cease.

Maintenance

Cleaning the Housing

Clean the housing using a tightly squeezed gauze or an absorbent cotton cloth dampened with alcohol or a neutral cleanser.

⚠ CAUTION

- Clean the equipment frequently so stains can be removed easily.
- To prevent injury, it is recommended to wear gloves when cleaning the equipment.
- When sterilizing the entire room using a spray solution, pay close attention not to have liquids get into the equipment or connectors.
- Do not use organic solvents, thinner, toluene or benzene to avoid damaging the resin case.
- Do not polish the housing with abrasive, chemical cleaner, alkaline or acidic detergent. Otherwise, the surface resin or paint coating may be damaged, resulting in discoloration, scratches, and other problems.

Handling the Optional Accessories

⚠ WARNING

- Use only the specified sampling tube and nasal prong manufactured by Oridion Medical 1987 Ltd.
- Sampling tube is for single-patient-use only. Do not reuse it.
- Always consider the circumference of the intubation tube when using the airway adapter. If an inappropriate airway adapter is used for a patient with low ventilation, CO₂ may mix in to the inspired air resulting in incorrect measurement, or apnea detection may become difficult.

Daily Check

Conduct the following daily check.

- Check record for the last calibration, and conduct CO₂ calibration if one year has elapsed or it has been used for 4000 hours since the last calibration.
- If CO₂ calibration message is displayed when the power of the patient monitor is turned ON, conduct CO₂ calibration.

Periodic Check

The safety check conformed to IEC 60601-1 must be performed at least once a year for this equipment.

Periodic check of medical electronic equipment is mandatory to prevent failures and accidents and to ensure safety and reliability.

Periodic inspection may be performed by the medical institution or by a third party by concluding a "Maintenance Contract". For more details, contact your nearest service representative.

NOTE

If any damage is found, contact your nearest representative.

Troubleshooting

For troubleshooting, refer to the operation manual of the DS-8100 or other equipment which the HCP-810 is connected to.

Accessories

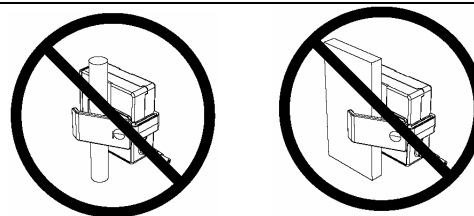
Accessories

In order to satisfy product performance requirements, always use the accessories specified by Fukuda Denshi.

No.	Item	Q'ty
1	Operation Manual (this manual)	1
2	Clip	1

⚠ CAUTION

- Handling the clip
Do not attach the clip to a pole or board arranged vertically.
The unit may fall off when excessive force is applied.



Optional Accessories

The following products are available as optional accessories. Purchase them as required. For more details, refer to our product catalogue or contact your nearest service representative.

No.	Item	Parts Number
1	Smart CapnoLine Plus	009818
2	Smart CapnoLine Plus O ₂	009822
3	Smart CapnoLine H Plus O ₂	010433
4	Smart CapnoLine H	010581
5	Smart CapnoLine H/O ₂	010582
6	CapnoLine H/O ₂	008180
7	CapnoLine H/O ₂	008181
8	CapnoLine H	008177
9	CapnoLine H	008178
10	CapnoLine H	008179
11	Microstream VitaLine H set	010787
12	Microstream VitaLine H set	010807
13	FilterLine H Set (for intubated patient)	XS04624
14	FilterLine H Set (for intubated patient)	006324
15	FilterLine XL	006325
16	Calibration Gas Kit	03046530RFB
17	AUX Connection Cable (for DS-8100)	CJO-15RR0.17
18	AUX Connection Cable (for DS-8200/DS-8500)	CJO-15RR0.65
19	AUX Connection Cable (General)	CJO-15RR1.5
20	AUX Connection Cable (General)	CJO-15RR3

Specification

The following is the specification for this equipment.

For the performance of each parameter, refer to the operation manual of the DS-8100 or other equipment which the HCP-810 is connected to.

Size/Weight

Size : 36(W) × 87(D) × 91(H) mm

Weight : 0.24kg

* not including the connector part and protrusion.

Environmental Conditions

Operation Temperature : 10 to 40°C

Operation Humidity : 30 to 85% (non-condensing)

Transport/Storage Temperature : -10 to 60°C

Transport/Storage Humidity : 10 to 95%

(within absolute humidity of

0°C/90%RH) (non-condensing)

Safety

Type of protection against electric shock:

Class I Equipment

Internally Powered Equipment

(Depends on the connected equipment)

Degree of protection against electric shock:

Respiration Gas Concentration Measurement:

Type BF Applied Part

Power Supply

Voltage : 12V (Supplied from the connected equipment)