

**MiURA**

Alarm System  
for Water Hardness Leakage



# **Colormetry**

CMU – 224HE

***New Technology that Detects  
Trace Water Hardness***



# CMU – 224HE

Automatic monitoring system to detect the slightest water hardness leakage

## What is Colormetry (for hardness)?

Water hardness is considered to be the most common factor in damaging a boiler. Typically the level of hardness in the water is checked manually by using chemical reagents. Such measurements are time consuming and can result in errors in reading.

Colormetry solves all these problems by offering reagent injection, mixing and evaluation.



## SPECIAL FEATURES

### Automatic monitoring system for hardness leakage

- Totally automatic control. Simple and time saving procedure.
- No routine calibration necessary.
- Set standard time period monitor. (For example, every day between 9:00-17:00.)
- Monitors hardness leakage at each set time (for example, every hour) which enables early detection of hardness leakage.

### Detect the slightest hardness leakage

- Detects hardness leakage to 1 mg/L by optically and electronically monitoring sample water.

### Alarm and Alert Data Display

- Alarm sounds when any hardness leakage is detected. The alarm can be sent to a remote location with the external alarm contact.
- Equipped with self check/confirm function. In case the Colormetry faults, the main cause of the failure is displayed on the digital screen.

### Easy to read digital screen

- Hardness level is displayed digitally (for example 0 mg/L) indicating softener efficiency. Digital display provides instant operation stage recognition.

### Memory function

- Records the date and time of the five most recent alarms.

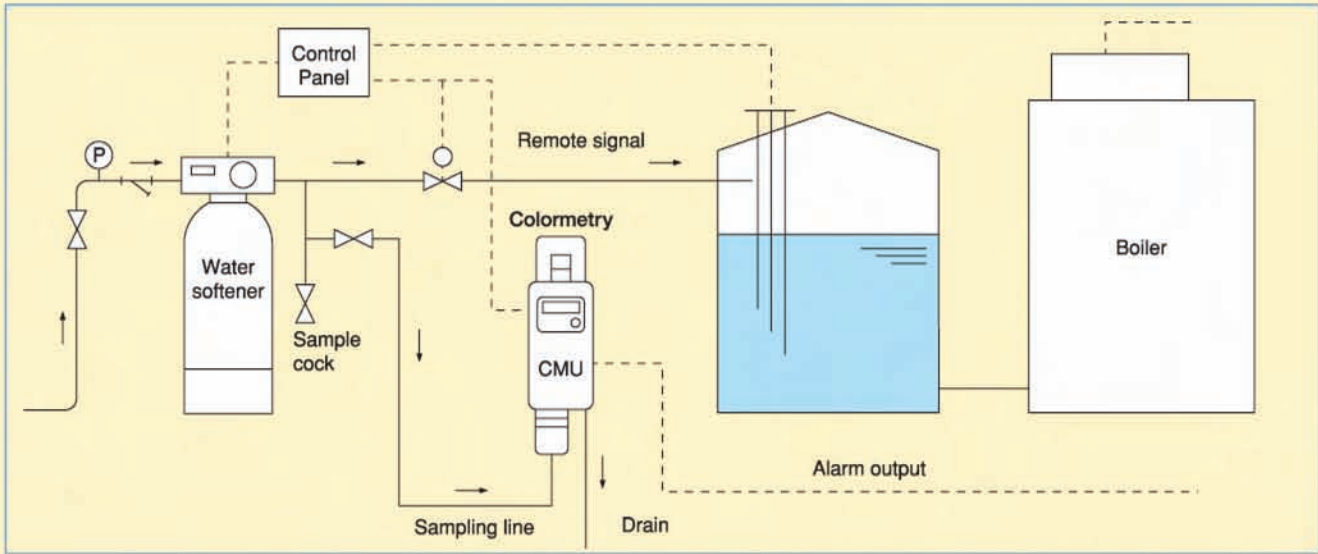
### One-touch cartridge replacement

- The cartridge contains all the necessary chemical reagents and can be replaced with a one-touch, simple motion. In normal operation the cartridge does not have to be replaced for approximately 4 months.

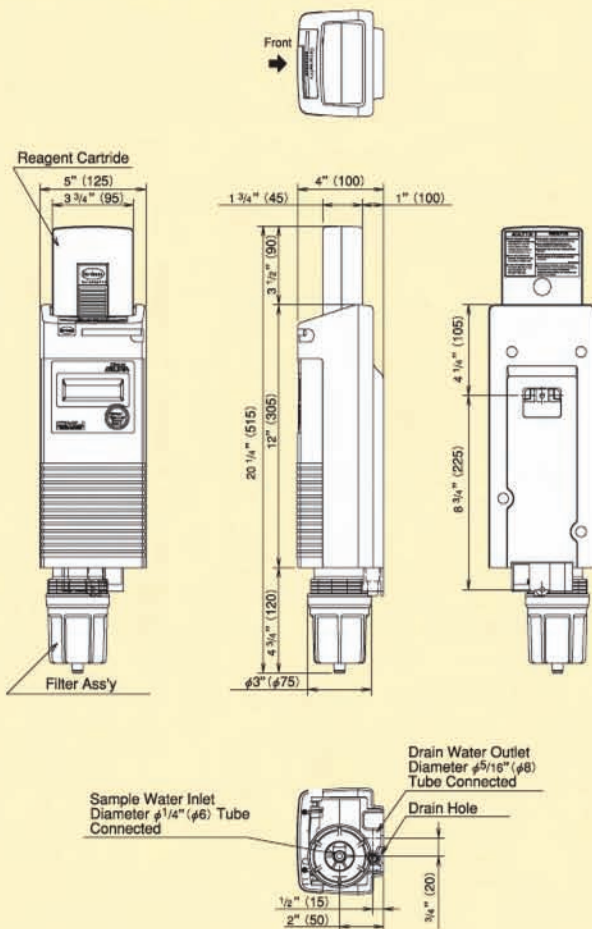
### Compact design

- Unique and compactly designed automatic colorimeter device.
- Easy installation on the wall with mounting brackets attached to the device.
- One-touch connection of collection and drain lines to the device.

## INSTALLATION FLOW EXAMPLE



## MEASUREMENT



## SPECIFICATION

| Item                      | Colormetry CMU-224HE  |
|---------------------------|---|
| Usage                     | Hardness monitor  |
| Method                    | Colorimetric analysis   |
| Monitor                   | 5 leakage level indications (as CaCO <sub>3</sub> )<br>0mg/ℓ, 1mg/ℓ, 2mg/ℓ, 3mg/ℓ, >5mg/ℓ   |
| Alarm Set Points          | Select one from below 4 points<br>$\geq 1\text{mg}/\ell$ , $\geq 2\text{mg}/\ell$ , $\geq 3\text{mg}/\ell$ , $\geq 5\text{mg}/\ell$ |
| Remote Signal Input       | No voltage contact input<br>(Contact a or contact b)  |
| Alarm Type                | Buzzer  |
| External Alarm Output     | Open collector output   |
| Operation Output          | Maximum capacity : DC24V 70mA   |
| Cartridge Exchange Output |   |
| Raw Water Pressure        | 0.05~0.49MPa (7.2~71 psi)   |
| Water Temperature         | 41~104°F (5~40°C)   |
| Operation Temperature     | 41~122°F (5~50°C)   |
| Humidity                  | 20~90%RH (No condensation, No freezing)   |
| Power                     | AC24V 50/60Hz   |
| Power Consumption         | 15W (※1)  |
| Cartridge Replacement     | Every 4 months(※2)  |
| Connector Diameter(※3)    | Inlet Diameter 1/4" ( $\phi 6$ ) tube connected<br>Outlet Diameter 5/16" ( $\phi 8$ ) tube connected                                |
| Drainage                  | Approx. 1,000 mℓ /monitor (※4)  |
| Installation              | Indoor, wall mounted (※5)   |
| Weight                    | 4.9lb (2.2kg)   |
| Dimensions                | 5" (W) x 4" (L) x 20 1/2" (H)<br>(125(W) x 100(L) x 515(H) mm)  |

(※ 1) Power consumption during operation.

(※ 2) The warranty period of a reagent cartridge is 1 year for unopened product or 4 months after opening the pack. The reagent will last approximately 4 months on the basis of an hourly monitor. If monitors are taken every 30 minutes or repeated frequently, the reagent may not last for 4 months.

(※ 3) The inlet and outlet tubes are attached to the device.

(※ 4) The drainage volume with a fixed flux valve is installed. The drainage volume may vary depending on the water temperature or degradation of a fixed flux valve.

(※ 5) The mounting bracket is attached to the device.

### ● Caution

※ The instructions in the operation manual must be followed exactly.

※ Even though Colormetry is a device for hardness leakage detection, excessive contamination other than the composition of hardness in sample water may affect the result. Therefore the sample water for the device has to be collected directly from outflow of the softener (at gauge cock).

※ The shelf life for the cartridge is about one year from the date manufactured.

※ Water quality affects the filter. Hard water shortens the filter life.

# NETWORK

**We will make global proposals for energy and environmental problems.**

We will offer greater satisfaction to customers by providing high-quality technologies and services. As heat and water experts, we would like to make proposals for energy and environmental problems. Miura's network of bases has spread globally, and will continue to expand.



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# MIURA

Miura Steam is Engineered for Greater Efficiency,  
Lower Costs, and Reduced Environmental Impact.