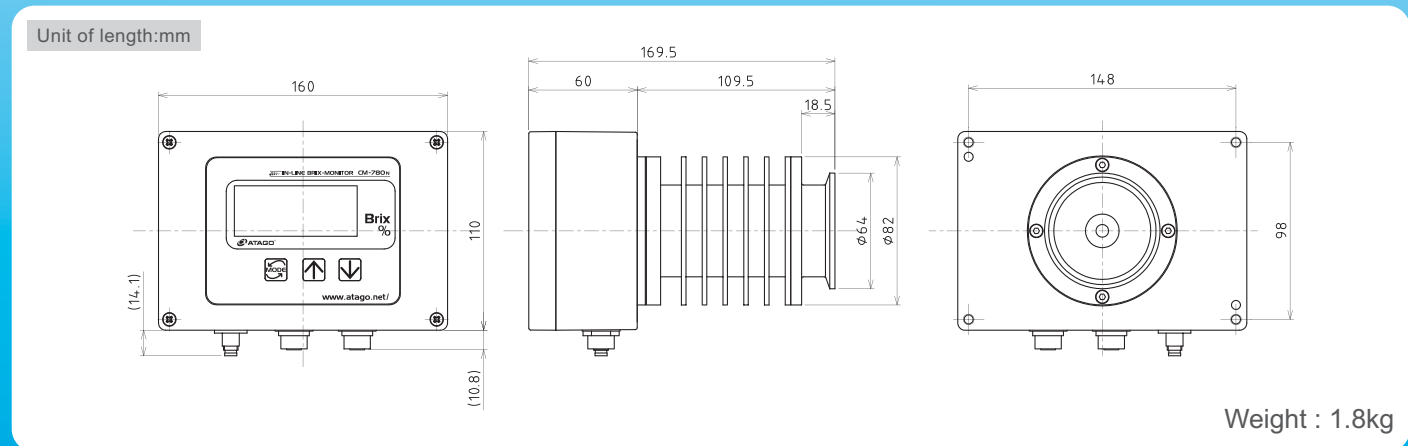


# Specifications

	In-line Brix Monitor CM-780N Cat.No.3561	In-line Ethylene Glycol Monitor CM-780N-EG Cat.No.3544	In-line Salinity Monitor CM-780N-SW Cat.No.3543
Measurement scale	Brix (ATC according to the sample liquid), Temperature	E.G. (ATC), Freezing point, Temperature	Salinity (ATC), Temperature
Measurement range	Brix 0.0 to 78.0%, Temperature 5 to 100°C	E.G. 0.0 to 90.0%, Freezing point 0 to -50°C, Temperature 5 to 100°C	Salinity 0.0 to 28.0%, Temperature 5 to 100°C
Resolution	Brix 0.1%, Temperature 1°C	E.G. 0.1%, Freezing point 1°C, Temperature 1°C	Salinity 0.1%, Temperature 1°C
Measurement accuracy	Brix ±0.2%, Temperature ±1°C	E.G. ±0.4%, Freezing point ±1°C, Temperature ±1°C	Salinity ±0.2%, Temperature ±1°C
Measurement temperature	5 to 100°C (Automatic Temperature Compensation)		
Ambient temperature	5 to 40°C		
Output method	Recorder output : DC 4 to 20mA RS-232C output		
Wetted parts materials	Prism : Artificial sapphire Prism stage : SUS316		
Power supply	DC24V (Power consumption 3VA)		
Accessory	Power input cable (1m)		
Maximum pressure	0.98MPa		
International Protection Class	IP64 dust-tight and splash resistant		
Dimensions and weight	16×17×11cm, 1.8kg (Main unit only)		

# Dimensions



# Q&A

## Q What is VARIVENT® ?

**A** The VARIVENT® valves contribute to hygienic and fully cleanable process systems. The wetted parts of the CM-780N In-line Refractometers may be customized to work with VARIVENT® components.

\*VARIVENT® is a registered trademark of GEA Tuchenhausen.

## Q What is PROFIBUS?

**A** PROFIBUS is a communication protocol for fieldbus, industrial computer network between the field device and its controller in factory automation applications. PROFIBUS is standardized under such standards as IEC 61158/61784 and EN50170. The PRM and CM In-line Refractometers may become PROFIBUS-compatible by the use of an adapter connected to the RS-232C port.



Devices tested and confirmed compatible

HMS Industrial Networks  
Anybus Communicator



All ATAGO refractometers are designed and manufactured in Japan.

**ATAGO CO.,LTD.**

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**HACCP GMP GLP**

ATAGO products comply with HACCP,GMP, and GLP system standards.

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\* Specifications and appearance are subject to change without notice.

[ENV.06] 14050000PP Printed in Japan

# In-Line Brix-Monitor

# CM-780N

SUS316L  
customizable

PROFIBUS  
compatible

VARIVENT  
compatible

VARIVENT® is a registered trademark of GEA Tuchenhausen.

# Process Refractometers for In-line Liquid Measurements



Cat.No.3561

## In-line Salinity Monitor CM-780N-SW



Cat.No.3543

**NEW**

Up to  
100°C

Compact

**ATAGO®**

# Simple-to-Use Compact In-Line Model

IN-LINE BRIX-MONITOR CM-780N

## Features

**auto control** The recorder output (4 to 20mA) and the RS-232C output are incorporated to enable automatic control by interlinking with external equipment.

**ATC** Automatic Temperature Compensation (ATC) allows the correct concentration (Brix) to be displayed and output, even if the temperature of the sample changes.

**°C** The sample temperature can be displayed by pressing  $\downarrow$  key while measuring Brix (%).

**CIP** Safe for Clean-In-Place (CIP) processes (power source must be turned off). (Up to 130°C)

**100 °C** Automatic Temperature Compensation (ATC) range of 5 to 100°C, allowing for high temperature in-line samples to be measured accurately.

**R eset** "Default" function restores factory settings.

## Applications

### Mixing, diluting and concentrating processes at food manufacturing plants

fruit juice, soft drinks, coffee, cocoa, alcoholic drinks, tomato paste, sauce, ketchup, vinegar, pickled liquid, wort, condensed milk, etc.

### Fermenting processes

soy sauce, alcohol, etc.

### Concentration shifts between different products

### Concentration of waste liquids

waste liquid of sugar, alcohol, chemical, etc.

### Concentration of impurities mixed in hydrocarbon detergents or petrochemical detergents

### Industrial fluid

cutting oil, lubricating oil, quenching oil, water-soluble detergent, starch, sodium hydroxide, alkaline solution, surfactant, amino acid, ammonia, ethanol, cesium chloride, sodium carbonate, cupric sulfate, citric acid, acetic acid, sodium glutamate, formalin, ethylene glycol, propylene glycol, coating solution, sizing agent, fire retardant, rust preventative, etc.

### Concentration control of various solutions

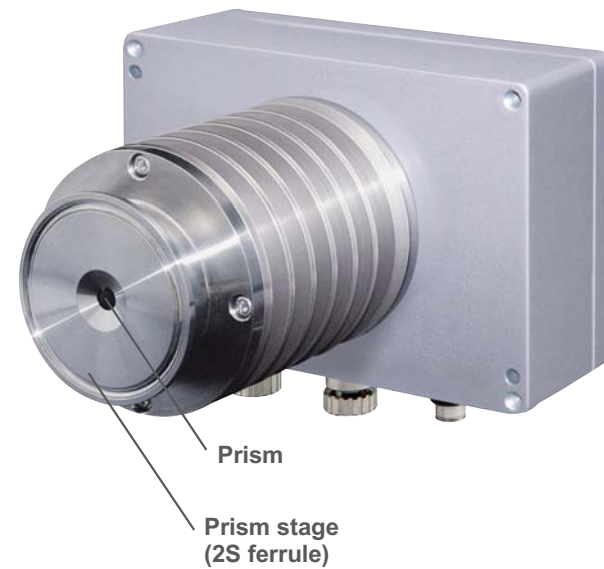
liquid sugar, fructose, glucose, syrup, albumen, edible oil, vegetable oil, sugarcane/sugar beet, isopropyl alcohol, dimethylformamide, polyvinyl alcohol, hydrogen peroxide, methylene chloride, coolant and brine solutions, undiluted solution of Chinese medicine, citrus oil glycerin, polymer, gelatin, protein, lotion, etc.



Recorder output terminal (DC4 to 20mA)

RS-232C output terminal  
Power (DC24V) input terminal

display side <Front>



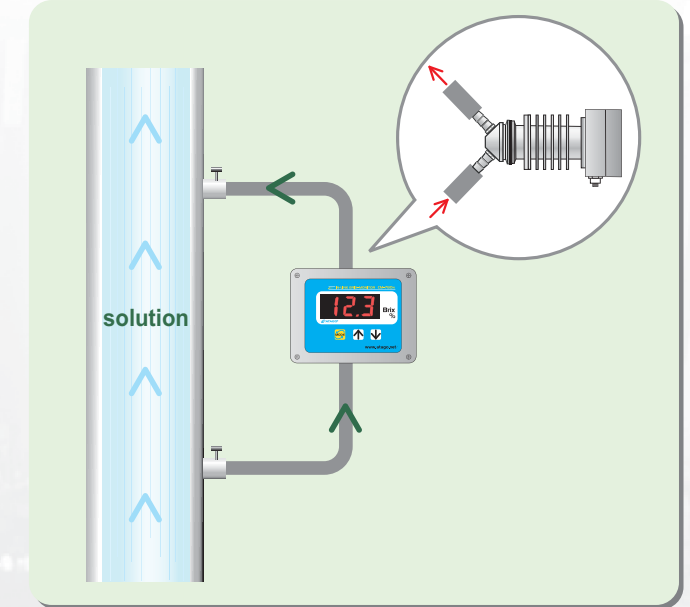
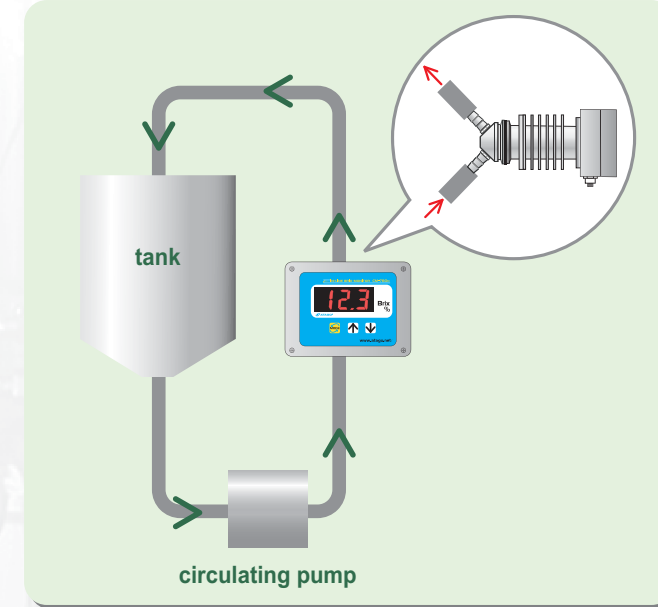
Prism

Prism stage (2S ferrule)

detection side <Back>

## Example for use

Installing the CM-780N directly into main piping may result in a clogged flow. Regardless of installation method, the flow of the sample solution should be in direct contact with the prism surface.



## Options

[Optional installation accessories are recommended for optimal performance.]

### Sample inlet unit



Hose Connector  
12mmφ

Compression Fitting  
10mmφ

### AC adapter



AD-32 (AC100V)  
AD-33 (AC110-120V)  
AD-34 (AC220-240V)

The AC adapter is used to convert AC100 - 240V to DC24V and to supply power to the CM-780N.

### Stand



Stand for mounting the CM-780N and the AC adapter.

- Sample inlet unit · outside diameter of hose connectors 12mmφ [RE-6645]
- Sample inlet unit · Double Bite Joint (DBJ) 10mmφ [RE-6651]
- Recorder output cable (5m) [RE-5635]
- Recorder output cable (10m) [RE-5636]
- Recorder output cable (15m) [RE-5638]
- Recorder output cable (20m) [RE-5639]

- RS-232C output cable with connector (15m) [RE-5677]
- RS-232C cable (15m) [RE-5647]
- AC adapter · AD-32 [Cat.No.3527], AD-33 [Cat.No.3528], AD-34 [Cat.No.3529]
- Stand [RE-8607]  
(Stand for mounting the CM-780N and the AC adapter)

\*These accessories are common for all CM-780N models.

## Special Scales

\*Contact ATAGO if you are interested in measuring other types of solution.



### In-line Ethylene Glycol Monitor CM-780N-EG

The CM-780N-EG is specially designed for in-line concentration measurements of ethylene glycol solutions used as coolants, brine, anti-freeze, and de-icing fluids. It also has a secondary scale for the freezing point.



### In-line Salinity Monitor CM-780N-SW

This is an in-line refractometer for concentrations of sodium chloride in water (0.0-28.0%). It is built to the same specifications as the original CM-780N with the Brix scale.