



# New Standard for Field Calibration

## CA700 Pressure Calibrator



Precision Making

Bulletin CA700-01EN



# New Stand

With a growing awareness of the need for safety and stability in plant operations, increased attention is being paid to the maintenance and inspection of field devices. Thus, there is a strong need for calibrators that operate efficiently and perform to a high standard.

The calibration of high-precision field devices requires calibrators that deliver greater accuracy and higher performance. Yokogawa has developed the CA700 pressure calibrator to meet these needs.

The CA700 is a highly accurate and highly functional pressure calibrator specifically designed for the calibration of differential pressure and pressure transmitters, which are widely used in plant processes these days and are improving in terms of accuracy and functionality. The CA700 has achieved the highest accuracy and widest range in the portable class, enabling field calibration with greater accuracy than ever before.

## High-Precision, Long-term Stability

– The CA700 has the highest accuracy for a portable-type calibrator and excellent long-term stability to allow for precise calibration in the field.

## Rangeability and High Resolution

– Combining high resolution with a wide range, a single CA700 can cover a wide pressure range. This reduces the number of calibrators needed to be carried to the field.

**Usability** – Guide display of calibration procedures will contribute to improved quality and productivity of calibration work in the field.

## High Accuracy and Long Stability

**Achieves the highest accuracy in the portable class**

Basic accuracy:

- Pressure (measurement): 0.01% reading
- Current/voltage (source/measurement): 0.015% reading

## Rangeability

**Achieves the highest resolution and widest range in the portable class**

- 0.001 kPa resolution (200 kPa range)
- 0.01 kPa resolution (1000 kPa range)
- 0.01 kPa resolution (3500 kPa range)

# ard for Field Calibration



## User Support

**Strong support for field calibration and maintenance work**

- Calibration procedures of pressure transmitters and pressure switches are embedded.
- “As Found”, “As Left” data and error rate (%) can be recorded.

## Field Use

**IP54 dustproof and waterproof robust case enables use in harsh environments.**

## Accessories

**Multi-range (3 built-in pressure ranges) external pressure sensor PM100 is added to the lineup**



PM100

CA700

**Two high-performance hand pump models for different pressure ranges are available.**



Low Pressure Hand Pump

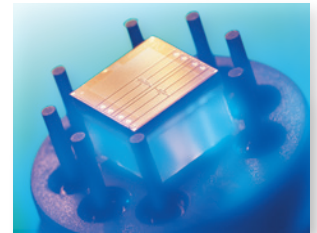
Pneumatic Hand Pump

# High-Performance and Functionality in a Compact Body

## High Accuracy and Long Stability

### The highest accuracy in the portable class achieved with a silicon resonant sensor

The CA700 employs a silicon resonant pressure sensor with which Yokogawa has achieved the highest accuracy in the portable class of a 0.01% of reading for pressure measurement and 0.015% of reading for current and voltage measurement. This calibrator is ideal for input and output testing of differential pressure and pressure transmitters as it accurately measures the input and output and calculates the error rate.



Silicon Resonant Sensor

## Rangeability

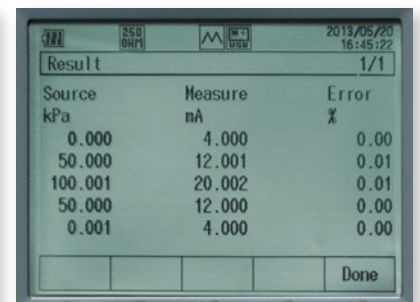
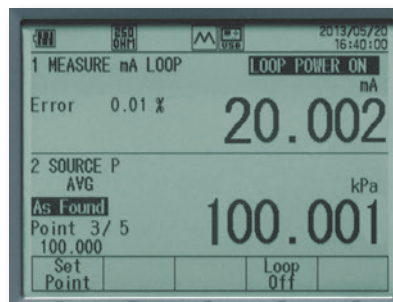
### Has the highest resolution and the widest range in its class

The CA700 has achieved a resolution of 0.001 kPa (200.000 kPa range) which is 10-fold higher than that of general field calibrators. The excellent sensing characteristics of a silicon resonant sensor make it possible to achieve a very wide range and enable one CA700 calibrator to replace multiple field calibrators.

## User Support

### Strong support for field calibration and maintenance work

Calibration procedures for differential pressure and pressure transmitters are embedded, so routinely used as 50-percent step, up-and-down, 5-point calibration and 25-percent step, up-and-down, as well as 9-point calibration can be performed right out of the box. Calibration operation can be sped up by following the navigation instructions, resulting in increased efficiency of field work. Measurement data is automatically recorded to the calibrator so it can be saved to a USB memory stick or transferred to a PC as text data using a USB cable. Input and output values, error rate, date and time, and pass or fail can be displayed on a PC monitor.



## Field Use

### IP54 waterproof and dustproof robust case enables use of this calibrator in harsh environments

Calibration of pressure transmitters is usually carried out in harsh environments where there are many pipes and handrails or in wet areas. The CA700 has a robust case designed according to the IP54 waterproof and dustproof standards. A shoulder strap can be attached to the calibrator to make it easy to carry around in the field. In addition, an easy-to-read LCD and tilt stand suitable for outdoor work exposed to direct sunlight extend the range of use of this calibrator from indoor bench use to outdoor field use.





# Accessories

## External pressure sensor PM100

### Pressure measurement up to 70 MPa with the CA700

The PM100, like the CA700, is equipped with a proprietary silicon resonant sensor, achieving a high accuracy of 0.01% of reading in pressure measurement. Additionally, with its multi-range capability (incorporating three pressure ranges), it extends the high-pressure range beyond that of the CA700, allowing for the implementation of four ranges.



### The highest measurement accuracy in field type

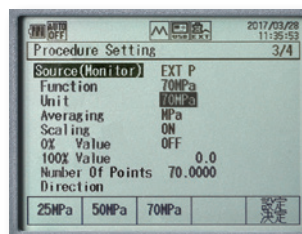
Basic accuracy: 0.01% of reading

### The highest resolution in class

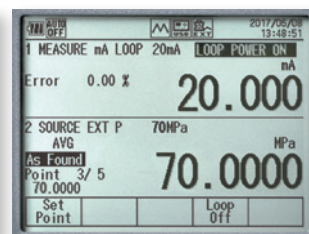
0.0001 MPa is achieved in each range

### Multi range (Three pressure ranges in one unit)

PM100-06: 25 MPa/50 MPa/70 MPa



Range selection screen



Measurement screen

## Hand pump 910 series

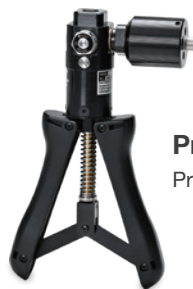
### Comfortably supports field calibration with two types of high-performance hand pumps

The 910 series is a high-performance hand pump specialized for field calibration of differential pressure and pressure transmitters. The two types of hand pumps can generate pressures ranging from -83 kPa of vacuum to 700 kPa and 4000 kPa. Despite their compact size, they contribute to improved field work efficiency with excellent pressurization performance and a structure that minimizes internal leakage.



#### Low Pressure Hand Pump

Pressure generation range: -83 to 700 kPa

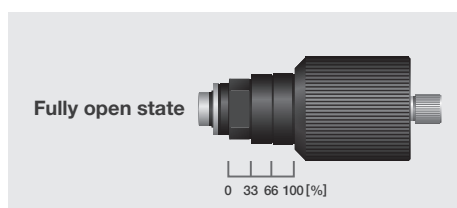


#### Pneumatic Hand Pump

Pressure generation range: -83 to 4000 kPa

### Equipped with a convenient mechanism that improves operational efficiency.

The Vernier adjuster scale allows you to understand the valve's open state.



# Main Functions and Interface



1 Pressure input port

2 USB type-A/type-B port

3 External pressure sensor input terminal

4 Input/Output terminals

5 Backlight key

6 ESC key

7 Cursor keys and ENTER key

8 Power ON/OFF key

9 ZERO key

10 HOLD key

11 MIN/MAX key

12 RELATIVE key

13 SOURCE/MEASURE key

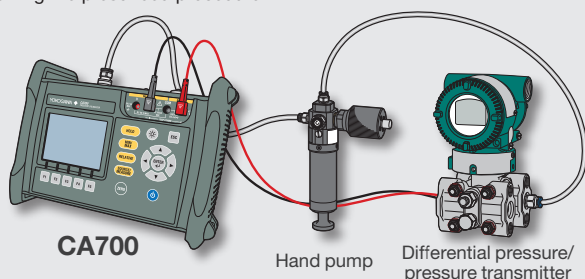
14 FUNCTION key

# Applications

## Supports Various Applications

### Field Calibration of Differential Pressure/Pressure Transmitters

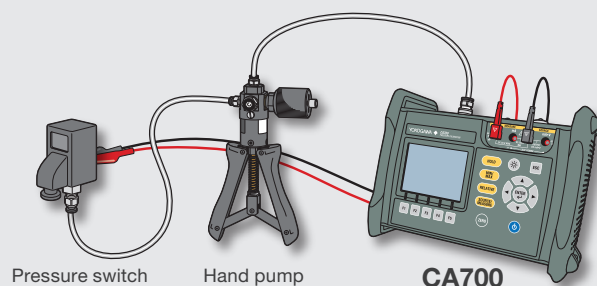
Calibration of pressure transmitters is required to accurately measure the input and output values and to calculate the error rate. The CA700 ensures reliable calibration with its function to accurately measure the input and output values of pressure and current. Additionally its embedded calibration procedures enable users to perform certain calibration following the prescribed procedure.



### Pressure Switch Test

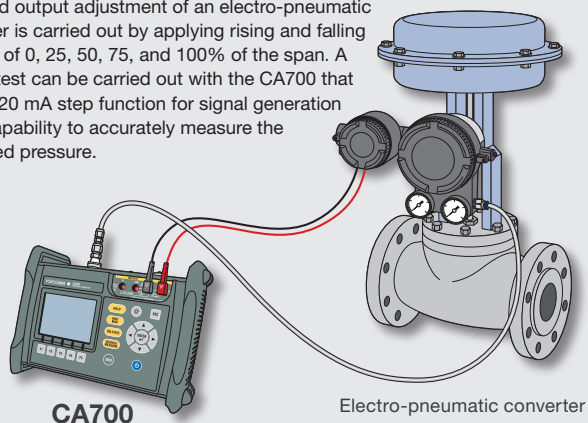
A pressure switch test measures the pressure at the time when the contact opens and closes and the resistance at the time when the dead band contact closes.

A test procedure is embedded to enable users to carry out a test following the prescribed procedure.



### Check and I/O Adjustment of an Electro-pneumatic Converter

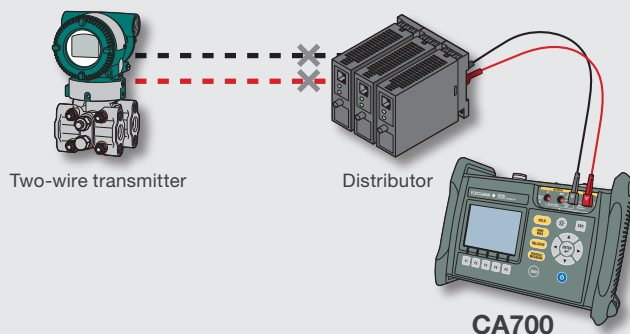
Input and output adjustment of an electro-pneumatic converter is carried out by applying rising and falling currents of 0, 25, 50, 75, and 100% of the span. A reliable test can be carried out with the CA700 that has a 4-20 mA step function for signal generation and a capability to accurately measure the generated pressure.



### 20 mA SIMULATE (Two-wire Transmitter Simulator)

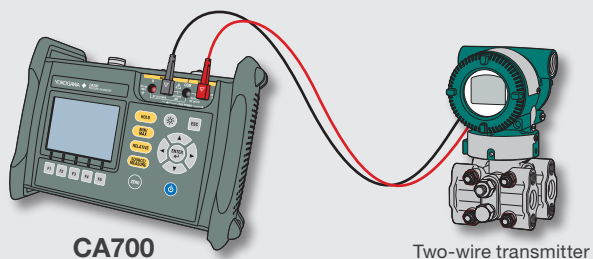
The CA700 can also be used as a transmitter simulator to carry out a loop test. It can absorb (SINK) the set current from an external voltage generating device (e.g., a distributor system or PLC) of instrumentation equipment.

4-20 mA current can be sourced with an accuracy of 0.015% of the reading.



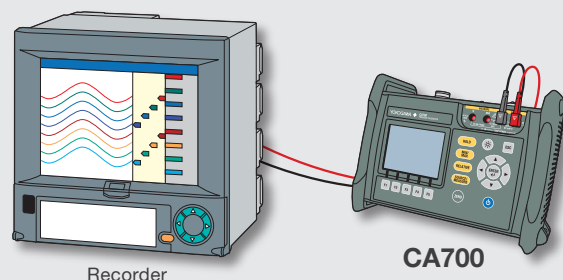
### Two-wire Transmitter Loop Check

DC mA signals can be measured by supplying power to the transmitter from a 24 V DC power supply. DC mA signal measurement and zero-point check can be performed with an accuracy of 0.015% of the reading. A 250-ohm resistor for HART and BRAIN communication is included in this calibrator so there is no need to attach an external resistor when connecting to a handy terminal.



### Check and Adjustment of Recorders and Controllers

Instrumentation loop test and operation check can be performed by sourcing DC 1-5 V/4-20 mA instrumentation signals with an accuracy of 0.015% of the reading. Furthermore, two patterns of linear sweep and step sweep can be selected (the sweep time can be specified from 15, 30, 45, and 60 s).



# Specifications

## CA700

### Basic Specifications

#### Measurement Features (23°C±3°C)\*2

##### Pressure Measurement [Pressure type: Gauge]

Items	Model	CA700-E-01	CA700-E-02	CA700-E-03
Measurement range	Positive pressure	0 to 200 kPa	0 to 1000 kPa	0 to 3500 kPa
	Negative pressure	−80 to 0 kPa	−80 to 0 kPa	−80 to 0 kPa
Measurement display range		Up to 240.000 kPa	Up to 1200.00 kPa	Up to 4200.00 kPa
Resolution		0.001 kPa	0.01 kPa	0.01 kPa
Measurement accuracy*1, *2 (6 months after calibration) (Tested after zero calibration)	Positive pressure	20 to 200 kPa: ±(0.01% of reading + 0.003 kPa) 0 to 20 kPa: ±0.005 kPa	±(0.01% of reading + 0.04 kPa)	±(0.01% of reading + 0.15 kPa)
	Negative pressure	±(0.2% of reading + 0.080 kPa)	±(0.2% of reading + 0.08 kPa)	±(0.2% of reading + 0.08 kPa)
Measurement accuracy*1, *2 (1 year after calibration) (Tested after zero calibration)	Positive pressure	20 to 200 kPa: ±(0.01% of reading + 0.010 kPa) 0 to 20 kPa: ±0.012 kPa	±(0.01% of reading + 0.08 kPa)	±(0.01% of reading + 0.30 kPa)
	Negative pressure	±(0.2% of reading + 0.090 kPa)	±(0.2% of reading + 0.09 kPa)	±(0.2% of reading + 0.09 kPa)
Response time*3		2.5 s or less		
Allowable input		2.7 kPa abs to 500 kPa gauge	2.7 kPa abs to 3000 kPa gauge	2.7 kPa abs to 4500 kPa gauge
Internal volume		Approx. 6 cm <sup>3</sup>		
Temperature effect*4		±(0.001% of reading + 0.001% of full scale)/°C or less		
Orientation effect		Zero-point drift ±0.3 kPa or less		
Measurement fluid		Gas and liquid (nonflammable, nonexplosive, nontoxic, noncorrosive fluid) only (Measuring the pressure of Group 1 substances and mixtures (dangerous fluids) as listed in Directive 2014/68/EU Article 13 (1) a is not allowed).		
Measurement fluid temperature		−10 to 50°C, but 5 to 50°C for liquid		
Pressure sensor		Silicon resonant sensor		
Pressure display units		kPa and other units (Pa, hPa, MPa, mbar, bar, atm, mmHg, inHg, gf/cm <sup>2</sup> , kgf/cm <sup>2</sup> , mmH <sub>2</sub> O@4°C, mmH <sub>2</sub> O@20°C, ftH <sub>2</sub> O@4°C, ftH <sub>2</sub> O@20°C, inH <sub>2</sub> O@4°C, inH <sub>2</sub> O@20°C, Torr, psi)		
Input port		1/4 NPT female thread		
Measurement unit material		Diaphragm: Hastelloy C-276 and input port: SUS316		

##### DC Current Measurement

Range	Resolution	Measurement range	Measurement accuracy (1 year)	Notes
20 mA	1 µA	0 to ±20.000 mA	0.015% of reading + 3 µA	The maximum display value is range × 1.2. Internal impedance < 10 Ω
100 mA	10 µA	0 to ±100.00 mA	0.015% of reading + 30 µA	

##### DC Voltage Measurement

Range	Resolution	Measurement range	Measurement accuracy (1 year)	Notes
5 V	0.1 mV	0 to ±5.0000 V	0.015% of reading + 0.5 mV	The maximum display value is range × 1.1. Internal impedance Approx. 1 MΩ
50 V	1 mV	0 to ±50.000 V	0.015% of reading + 5 mV	

##### 24 V Loop Power Supply

Supply voltage	Remark
24 V ±1 V	Load current 24 mA when communication resistance OFF
24 V ±6 V	Load current 20 mA when communication resistance ON

##### Common Specifications

CMRR	Approx. 120 dB (50/60 Hz)
NMRR	Approx. 60 dB (50/60 Hz)
Measurement terminal maximum input	Voltage terminal 50 V DC, Current terminal 120 mA
Current terminal protective input	PTC protection
Measurement unit voltage to ground	50 V peak

\*1: Zero-point calibration condition: Under atmospheric pressure

\*2: The error of the pressure standard is excluded.

\*3: Conditions of response time measurement:  
The response time is defined as the time for the readout to settle within ±1% of the full scale from the time when the positive pressure is released to atmosphere when it is at its full-scale value (where the input unit is under no load).

\*4: Full scale of each model

Model	Positive pressure	Negative pressure
CA700-E-01	200 kPa	80 kPa
CA700-E-02	1000 kPa	
CA700-E-03	3500 kPa	



## Source Features (23°C±3°C)\*2

### DC Current Source

Range	Resolution	Source range	Accuracy (1 year)	Notes (when communication resistance is OFF)
20 mA	1 µA	0 to 20.000 mA	0.015% of setting + 3 µA	Compliance voltage 24 V, The maximum setting is range × 1.2.
20 mA SIMULATE				External power supply 5 to 28 V, The maximum setting is range × 1.2.

### DC Voltage Source

Range	Resolution	Source range	Accuracy (1 year)	Notes
5 V	0.1 mV	0 to 5.0000 V	0.015% of setting + 0.5 mV	The maximum setting is range × 1.1. Load current 1 mA max. (load resistance ≥ 5 kΩ)

### Common Specifications

Generation load condition	C ≤ 0.1 µF, L ≤ 10 mH
Generation unit voltage limiter	Approx. 36 V
Generation unit current limiter	Approx. 36 mA
Generation unit voltage to ground	42 V peak
Sweep function	Step/Linear

## General Specifications

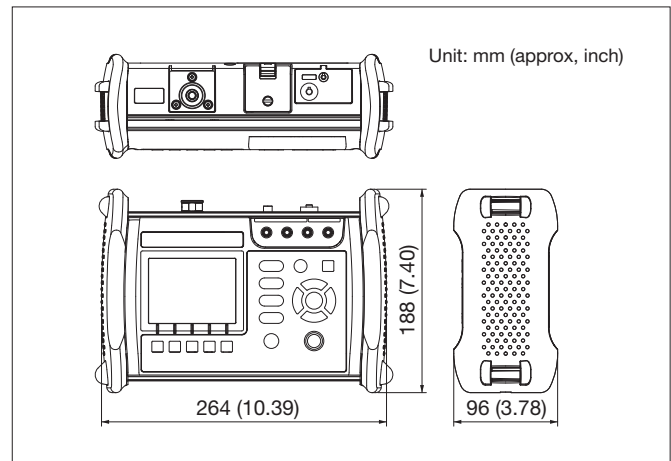
Display	Dot matrix LCD (320 × 240 dots)
Backlight	LED
Display update rate	Approx. 300 ms (3 times/s)
Warm-up time	Approx. 5 minutes
Power supply	Six AA alkaline dry cells
Battery life	Approx. 28 hours when measuring current with the 24 V loop power supply OFF and approx. 10 hours with the 24 V loop power supply ON
Auto power-off	Approx. 60 minutes (the function can be disabled)
Insulation resistance	Between input terminal and case, between input port and case: 100 MΩ or more (500 VDC)
Withstand voltage	Between input terminal and case, between input port and case: 500 VAC for 1 minute
Protection level	IP54
Dimensions	Approx. 264 (W) × 188 (H) × 96 (D) mm, excluding protrusions
Weight	Approx. 2 kg (including batteries)
Compliance standards	Safety: EN61010-1, EN61010-2-030, contamination class 2 EMC: EN61326-1 Class A, EN55011 Class A Group 1
Operating temperature and humidity	–10 to 50°C and 20 to 80%RH (no condensation)
Storage temperature and humidity	–20 to 60°C and 20 to 80%RH (no condensation)
Interfaces	Select and switch between USB A mass-storage device, USB mini-B communication device class, and mass storage class
External sensor	The dedicated external sensor PM100 (optional) can be connected to the CA700 via a connector

## Number of Saved Data Points

Instrument Operating Condition		Number of data points that can be saved*	Number of files that can be saved
Measurement/Source	Save	2000	45
	Logging	2000	45
Leakage test		2000	45
Transmitter calibration (Number of calibration points: 5)	As Found	9	250
	As Left	9	250
Pressure switch calibration	As Found	1	250
	As Left	1	250

\*Total number of files: Up to 250  
Total data size: Up to approx. 3.5 MB

## External Dimensions



## PM100

### Basic Specifications

#### 16 MPa Model (-05) [Pressure type: Shield gauge]

Measurement Range	0 to 7 MPa sg	0 to 10 MPa sg	0 to 16 MPa sg
Measurement display range	Up to 8.4000 MPa	Up to 12.0000 MPa	Up to 19.2000 MPa
Measurement accuracy <sup>*1, *2</sup>			
6 <sup>3</sup> months after calibration (Test after zero calibration) <sup>*5</sup>	±(0.01% of reading + 2 kPa)	±(0.01% of reading + 3 kPa)	±(0.01% of reading + 5 kPa)
1 <sup>4</sup> year after calibration (Test after zero calibration) <sup>*5</sup>	±(0.01% of reading + 2.8 kPa)	±(0.01% of reading + 3.8 kPa)	±(0.01% of reading + 5.8 kPa)
Allowable input	2.7 kPa abs to 23 MPa sg		
Temperature effect	±(0.001% of reading + 0.16 kPa)/°C or less		

#### 70 MPa Model (-06) [Pressure type: Shield gauge]

Measurement Range	0 to 25 MPa sg	0 to 50 MPa sg	0 to 70 MPa sg
Measurement display range	Up to 30.0000 MPa	Up to 60.0000 MPa	Up to 77.0000 MPa
Measurement accuracy <sup>*1, *2</sup>			
6 <sup>3</sup> months after calibration (Test after zero calibration) <sup>*5</sup>	±(0.01% of reading + 6 kPa)	±(0.01% of reading + 10 kPa)	±(0.01% of reading + 16 kPa)
1 <sup>4</sup> year after calibration (Test after zero calibration) <sup>*5</sup>	±(0.01% of reading + 9.5 kPa)	±(0.01% of reading + 13.5 kPa)	±(0.01% of reading + 19.5 kPa)
Allowable input	2.7 kPa abs to 98 MPa sg		
Temperature effect	±(0.001% of reading + 0.7 kPa)/°C or less		

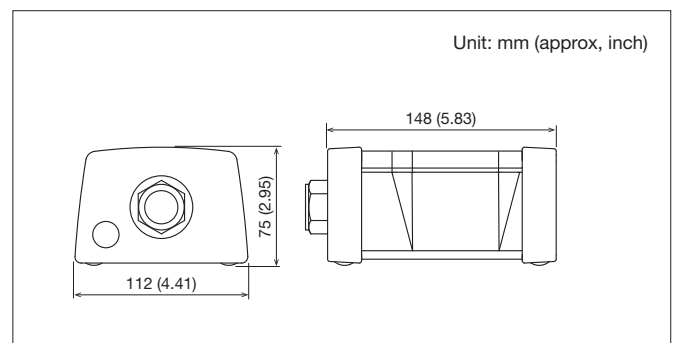
### Common Specifications

Resolution	0.0001 MPa (0.1 kPa)
Response time <sup>*6</sup>	2.5 s or less
Internal volume	Approx. 6 cm <sup>3</sup>
Orientation effect	Zero point drift ±1 kPa or less
Measurement fluid	Gas and liquid (nonflammable, nonexplosive, nontoxic, noncorrosive fluid) only (Measuring the pressure of Group 1 substances and mixtures (dangerous fluids) as listed in Directive 2014/68/EU Article 13 (1) a is not allowed).
Measurement fluid temperature <sup>*5</sup>	−10 to 50°C, but 5 to 50°C for liquid
Pressure sensor	Silicon resonant sensor
Input connection	1/2 NPT female thread
Measurement unit material	Diaphragm: Hastelloy C-276 and input port: SUS316

### General Specifications

Warm-up time	Approx. 5 minutes
Protection level	IP54
Dimensions	Approx. 112 (W) × 75 (H) × 148 (D) mm
Weight	Approx. 1.2 kg
Compliance Standards	Safety: EN61010-1 (contamination class 2) EMC: EN61326-1 Class A, EN55011 Class A Group1
Operating temperature/humidity range	−10 to 50°C 20 to 80% (no condensation)
Storage temperature/humidity range	−20 to 60°C 20 to 80% (no condensation)

### External Dimensions



\*1: The error of the pressure standard is excluded.

\*2: The value measured with the PM100 is in digital communication with the CA700, and there is no error between these instruments.

\*3: 23°C±3°C, 6 months after calibration, Test after zero calibration

\*4: 23°C±3°C, 1 year after calibration, Test after zero calibration

\*5: Zero-point calibration condition: Under atmospheric pressure

\*6: Time from 3.5 MPa to atmospheric release and from 0 MPa to ±3.5 kPa

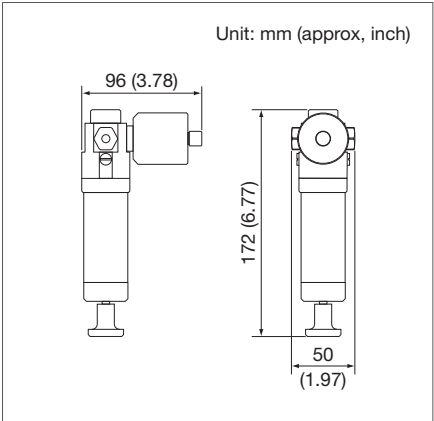
Hand Pump

Basic Specifications

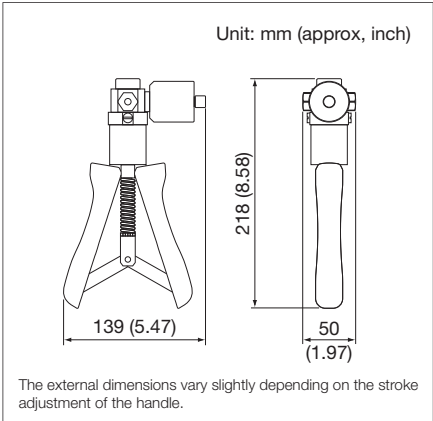
Hand pump type	Pressure generation range	Maximum working pressure	Connection port	Pressurized media
Low Pressure Hand Pump	-83 to 700 kPa	1000 kPa	Rc1/8" female thread, Rc1/4" female thread	Air
Pneumatic Hand Pump	-83 to 4000 kPa	5100 kPa		

External Dimensions

Low Pressure Hand Pump



Pneumatic Hand Pump



# Model and Suffix Code

## CA700

Model	Suffix Code	Specifications
CA700		Pressure calibrator
	-E	For countries other than Japan
	-01	200 kPa gauge model
	-02	1000 kPa gauge model
	-03	3500 kPa gauge model
	-U2	SI units and non-SI units
	-P2	1/4NPT female-threaded

## Optional Accessories (Sold separately)

Model	Item	Description
93050	Carrying case	CA700, accessory case
98026	Grabber clip	Red/Black pair, separate type (2.0 m)
91041	Cleaning unit	Pressure input port 1/8NPT female thread

## Standard Accessories (Included with the CA700)

Model/Part No.	Item	Specifications
98064	Signal cable	Red/Black pair
91082	Connector	1/4NPT male to 1/8NPT female
B9108XA	Accessory Bag	—

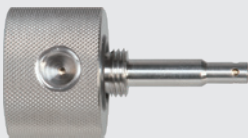
Carrying case 93050



Grabber clip 98026



Cleaning unit 91041



Connector 91082



Signal cable 98064



Accessory case B9108XA



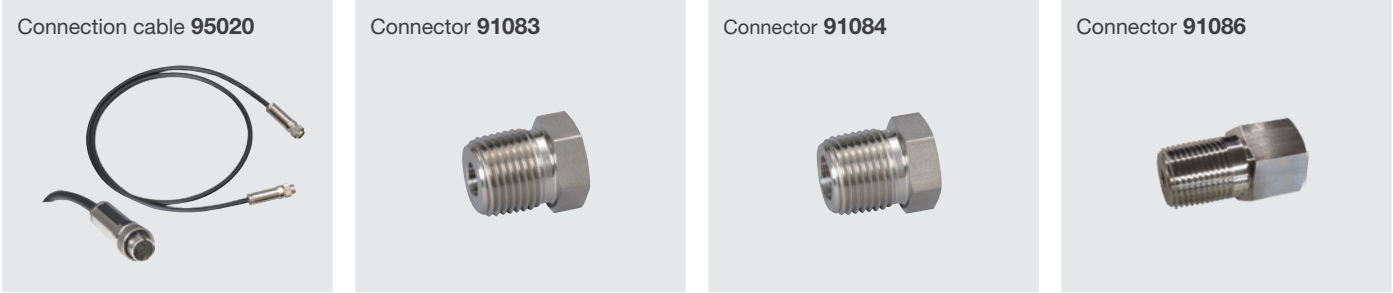


PM100

Model	Suffix Code	Specifications
PM100		External Pressure Sensor
	-E	For countries other than Japan
	-05	Shield gauge pressure: 16 MPa (7/10/16 MPa range)
	-06	Shield gauge pressure: 70 MPa (25/50/70 MPa range)
	-P3	1/2NPT female-threaded

Standard Accessories (Included with the PM100)

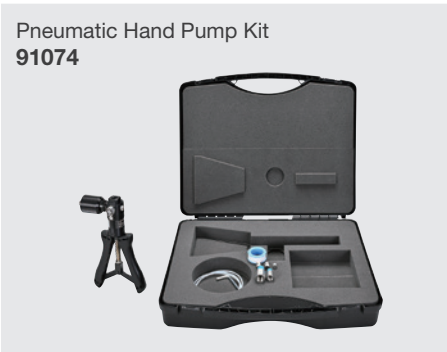
Model	Item	Notes
95020	Connection cable	PM100 connection cable
91083	Conversion connector	Converts to 1/8NPT female thread, Maximum usable pressure is 84 MPa.
91084	Conversion connector	Converts to 1/4NPT female thread (only for 16 MPa model), Maximum usable pressure is 57.1 MPa.
91086	Conversion connector	Converts to 1/4NPT female thread (only for 70 MPa model), Maximum usable pressure is 98 MPa.



Hand Pump Kits (A set of a hand pump and accessories)

Model	Product Name	Contents
91070	Low Pressure Hand Pump Kit	Low Pressure Hand Pump*, Connector set (91053), Hand pump case (93054)
91074	Pneumatic Hand Pump Kit	Pneumatic Hand Pump*, Connector set (91053), Hand pump case (93054)

\*Operating temperature range: 0 to 50°C



Hand Pump Kit Accessories\*1

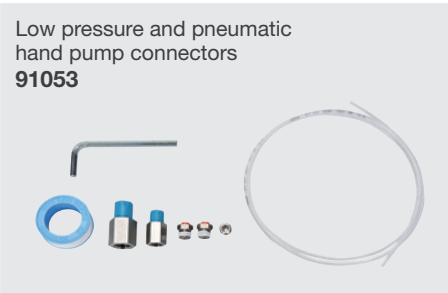
Model	Product Name	Contents
91053	Connector set	Connector set for the Low Pressure Hand Pump, Pneumatic Hand Pump (seal tape, flexible hose, quick adapter, Rc1/8 sealing cap, hexagonal wrench, NPT adapter [R1/8 male thread-1/8NPT female thread], NPT adapter [R1/4 male thread-1/4NPT female thread])
93054	Hand pump case	Case for storing Low Pressure Hand Pump or Pneumatic Hand Pump and Connector set (91053)

\*1: These accessories are included in the hand pump kit (91070, 91074) at the time of purchase. They can also be purchased separately.  
\*2: The maximum working pressure of the quick adapter is 1.0 MPa, and the maximum working pressure of the flexible hose is 2.0 MPa. If high airtightness and pressure resistance are required, use a connector with a ferrule or sleeve. Also, use a hose that is strong enough to withstand the pressure generated.

Spare parts

Model	Product Name	Contents
91045	Replacement Valve Set*	Valve set (Valve, O-ring, spring, cap each 2 pcs)

\*Valves are already mounted on the low-pressure and pneumatic hand pump product body. 91045 is a replacement part.



# Related Products

## FieldMate Versatile Device Management Wizard *FieldMate*

FieldMate is a PC based configuration tool that performs numerous tasks, including initial setup, daily maintenance, troubleshooting, and configuration backup for device replacement.

### Main Features

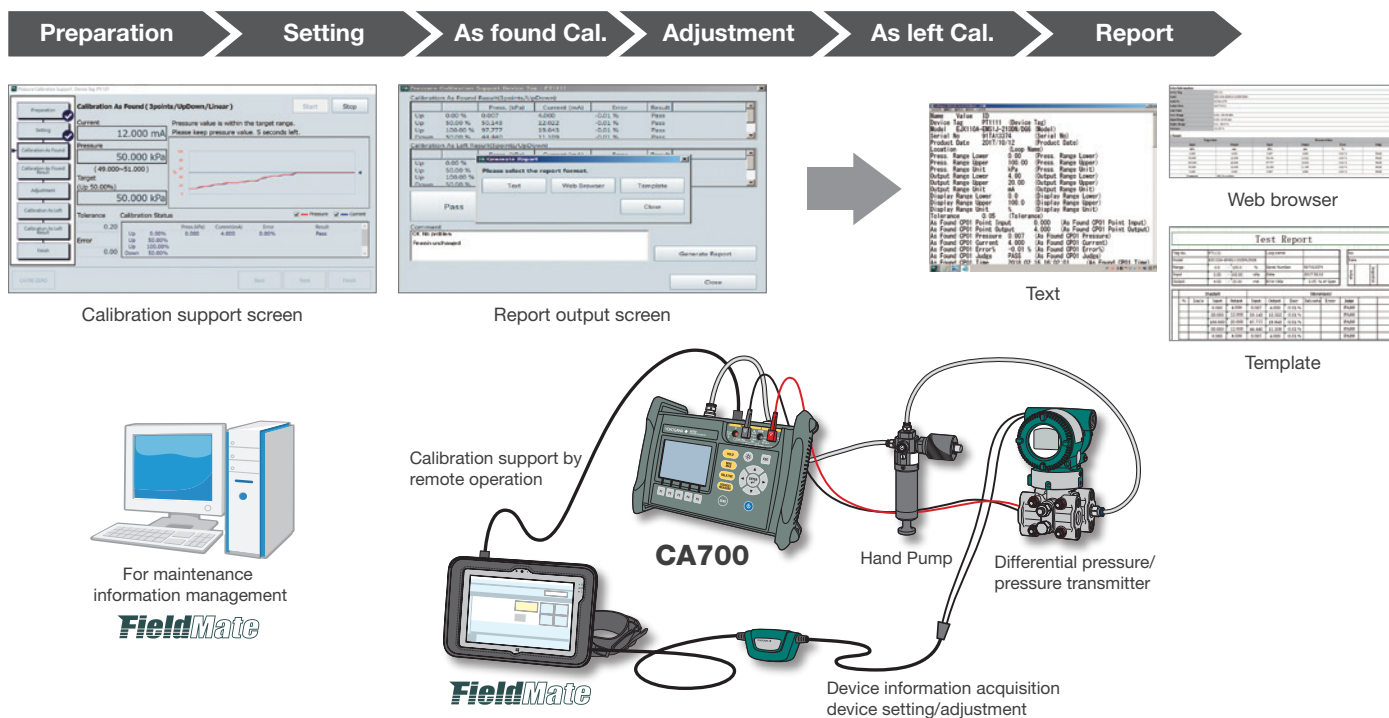
- Support Universal Communication Protocol & Other Vendors' Devices (BRAIN, FOUNDATION™ Fieldbus H1, HART®, ISA100.11a)
- Control the Pressure Calibrator CA700 remotely
- Include the calibration procedure of pressure transmitters
- Provide automatic recording of calibration data, calculation of relative error and pass/fail determination
- Improve work efficiency by the automatic generation function of the test report

For further details, please refer to <http://www.yokogawa.com/fieldmate/>

### Smart Calibration of CA700 and FieldMate Differential Pressure/Pressure Transmitter

FieldMate systematizes a series of work from field calibration of a pressure/differential pressure transmitter to report generation in combination with the CA700. They achieve speedy, highly efficient field calibration by offering calculation of relative error, pass/fail determination and report generation as well as automatic recording of device information and calibration data. Recorded calibration data can be registered in FieldMate's database (device maintenance information) along with other maintenance information.

Analysis of accumulated device maintenance information and calibration data is useful for estimation/decision of deterioration diagnosis and device replacement of pressure/differential pressure transmitters.



## Related Products

### Multi-function Process Calibrator **CA500/CA550**

#### Highly Accurate All-In-One Calibrator

- Two models (CA500 and CA550)
- Multiple sources and measurements of DCV, DCmA,  $\Omega$ , TC, RTD, Hz and PULSE
- Corresponds to 17 types of TC standard (JIS/IEC/DIN/ASTM/GOST R)
- Corresponds to 14 types of RTD standard (JIS/IEC/GOST R)
- 24 V loop power supply and output signal measurement at the same time
- A variety of sweep functions selectable



### Handy Calibrator **CA71**

#### Best-Selling Field Calibrator Model with High Performance and Low Price

- Small, light, and high performance at a low price
- Source and measurement of DCV, DCmA,  $\Omega$ , TC, RTD, Hz, and PULSE
- DMM-like operation with a rotary switch
- Source and measurement (counting) of dry contact pulses



### Process Calibrator **CA310/CA320/CA330**

#### Single-function Calibrator Excellent in Portability

##### Volt mA model **CA310**

- Basic accuracy: 0.015%
- 20 mA SIMULATE (SINK) function

##### TC model **CA320**

- Basic accuracy: 0.5°C (Typical of type K)
- Corresponds to the TC mini plug

##### RTD model **CA330**

- Basic accuracy: 0.3°C (Typical of Pt100)
- Corresponds to 2, 3, 4 wire



### Process Multimeter **CA450**

#### Safety DMM Equipped with a Loop Power Supply and 4-20 mA Output

- 24 V loop power supply and measures output signal at the same time
- Resistor (250  $\Omega$ ) for HART and BRAIN communication embedded and selectable.
- Transmitter simulation (current sink) function
- Step, Auto-step, and Linear sweep functions are selectable
- 6000-count DMM function
- EN61010-1 CATIV 600 V and CATIII 1000 V safety design



### Clamp-on Process Meter **CL420**

#### Clamp-on Measurement of 4-20 mA Instrumentation Signals

- Process signal measurement with no need to disconnect a loop
- Accuracy  $\pm(0.2\%$  of reading + 5 digits) and resolution 0.01 mA
- Simultaneous display of percentage (%) of the measured value and span
- LED backlight ideal for measuring in dark places
- Thick signal wire with a diameter of up to 6 mm can be clamped easily



#### NOTICE

- Before operating the product, read the user's manual thoroughly for proper and safe operation.

#### Reference

- Hastelloy: Registered trademark of Haynes International Inc.
- HART®: Registered trademark of the FieldComm Group.

Other company names and product names used in this material are registered trademarks or trademarks of their respective owners.

#### Yokogawa's approach to preserving the global environment

- Yokogawa's electrical products are developed and produced in facilities that have received ISO14001 approval.
- In order to protect the global environment, Yokogawa's electrical products are designed in accordance with Yokogawa's Environmentally Friendly Product Design Guidelines and Product Design Assessment Criteria.

This is a Class A instrument based on Emission standards EN61326-1 and EN55011, and is designed for an industrial environment. Operation of this equipment in a residential area may cause radio interference, in which case users will be responsible for any interference which they cause.

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