



BELT CONVEYOR PROTECTION



CONTINUOUS LEVEL MEASUREMENT



# Matsushima

Matsushima Measure Tech

POSITION TRANSMITTER



POWDER MEASUREMENT



POINT LEVEL DETECTION



ACTUATOR



### Main Customers

- NIPPON STEEL CORPORATION
- TOKYO STEEL MANUFACTURING CO., LTD.
- TAIHEIYO CEMENT CORPORATION
- ASO CEMENT Co., Ltd.
- Sumitomo Metal Mining Co., Ltd.
- TODAKA MINING CO., LTD.
- Asahi Kasei Corp.
- Mitsubishi Chemical Corporation
- Denka Company Limited
- TOKAI CARBON CO., LTD.
- Bridgestone Corporation
- Sumitomo Rubber Industries, Ltd.
- ENEOS Corporation
- Resonac Corporation
- Daido Steel Co., Ltd.
- Tokyo Electric Power Company Holdings, Inc.
- Kyushu Electric Power Company Incorporated
- Shikoku Electric Power Company, Incorporated
- The Okinawa Electric Power Company, Incorporated
- TOKYO GAS Co., Ltd.
- JGC CORPORATION
- Mitsubishi Heavy Industries, Ltd.
- JP Steel Plantech Co.
- YONDEN ENGINEERING COMPANY, INCORPORATED
- Diamond Engineering Co., Ltd.
- Yaskawa Automation & Drives Corp.
- NISSHIN ENGINEERING INC.
- UBE MACHINERY CORPORATION, Ltd.
- Kubota Corporation
- MITSUI MIIKE MACHINERY CO., LTD.
- Nippon Conveyor Co., Ltd.
- TOSHIBA CORPORATION
- FUJI ELECTRIC CO., LTD.
- AMANO Corporation
- HOSOKAWA MICRON CORPORATION
- Murata Manufacturing Co., Ltd.
- Central Glass Co., Ltd.
- Oji Paper Co., Ltd.
- Chuetsu Pulp & Paper Co., Ltd.
- Kirin Brewery Company, Limited
- Nippon Flour Mills Co., Ltd.
- Otsuka Pharmaceutical Co., Ltd.
- TOYOTA MOTOR CORPORATION
- POSCO
- NATIONAL POWER CORPORATION
- THE TAIWAN POWER COMPANY
- LG Chem Ltd.
- JFE Steel Corporation
- Sumitomo Osaka Cement Co., Ltd.
- Tokuyama Corporation
- MITSUI MINING & SMELTING CO., LTD.
- NIPPON STEEL Chemical & Material Co., Ltd.
- Toray Industries, Inc.
- Tosoh Corporation
- The Yokohama Rubber Co., Ltd.
- Idemitsu Kosan Co., Ltd.
- Toho Zinc Co., Ltd.
- KYOEI STEEL LTD.
- The Kansai Electric Power Company, Incorporated
- Hokkaido Electric Power Co., Inc.
- Tohoku Electric Power Co., Inc.
- Electric Power Development Co., Ltd.
- Chiyoda Corporation
- IHI Corporation
- NIPPON STEEL ENGINEERING CO., LTD.
- Sumitomo Heavy Industries, Ltd.
- IHI Transport Machinery Co., Ltd.
- NIPPON ENGINEERING CO., LTD.
- Mitsui E&S Machinery Co., Ltd.
- Kurimoto, Ltd.
- SHINWA CORPORATION
- FURUKAWA INDUSTRIAL MACHINERY SYSTEM CO., LTD.
- Hitachi, Ltd.
- MEIDENSHA CORPORATION
- SINTOKOGIO, LTD.
- NGK INSULATORS, LTD.
- Nippon Sheet Glass Co., Ltd.
- Nippon Paper Industries Co., Ltd.
- ASAHI BREWERIES, LTD.
- Showa Sangyo Co., Ltd.
- Mazda Motor Corporation
- BAOSHAN IRON & STEEL CO., LTD.
- THE SIAM CEMENT PUBLIC CO., LTD.
- FORMOSA PLASTIC CORPORATION
- CHINA STEEL CORPORATION
- TAIWAN CEMENT CO., LTD.
- GNPowder Ltd.
- Kobe Steel, Ltd.
- Mitsubishi Materials Corporation
- Ube Industries, Ltd.
- Nittetsu Mining Co., Ltd.
- Mitsui Chemicals, Inc.
- Kuraray Co., Ltd.
- JFE Chemical Corporation
- Toyo Tire Corporation
- TOA OIL CO., LTD.
- Nippon Light Metal Company, Ltd.
- AISIN TAKAOKA LTD.
- Chubu Electric Power Co., Inc.
- The Chugoku Electric Power Co., Inc.
- Hokuriku Electric Power Company
- Osaka Gas Co., Ltd.
- Toyo Engineering Corporation
- Kawasaki Heavy Industries, Ltd.
- JFE Engineering Corporation
- Hitachi Zosen Corporation
- Kurita Water Industries Ltd.
- Ebara Fan & Blower Co., Ltd.
- METAWATER Co., Ltd.
- TAKUMA CO., LTD.
- Mitsubishi Electric Corporation
- YASKAWA Electric Corporation
- Nihon Spindle Manufacturing Co., Ltd.
- AGC Inc.
- Daio Paper Corporation
- Nisshin Flour Milling Inc.
- Ajinomoto Co., Inc.
- Suzuki Motor Corp.

### Company

Matsushima Measure Tech Co., Ltd.

**【Main products】** • Bulk solid and liquid level measurement • Powder measurement • Belt conveyor protective device • Electric Actuator • Control device

**【Establishment】** 1946

**【Capital】** JPY 3,500,000.-

**【Representative Director and chairman】** Toru Matsushima

**【C.E.O.】** Noritoshi Ikeda

**【Domestic sales】**

Head office 1-8-18 Norimatsu-Higashi, Yahatanishi-ku, Kitakyushu 807-0837 Japan Tel : +81-(0)93-691-3731 Fax : +81-(0)93-691-3735

Tokyo office Homest Funabashi Bldg., 3-36-28, Honchou, Funabashi City, Chiba 273-0005 Japan Tel : +81-(0)47-424-9901 Fax : +81-(0)47-424-9905

Nagoya office Tokiwasotodoi Bldg., 9-14 sotodoicho, Atsuta-ku, Nagoya 456-0013 Japan Tel : +81-(0)52-679-6301 Fax : +81-(0)52-679-6305

Osaka office Daihatsu Bldg., 2-2-40, Katamachi, Miyakojima, Osaka City, Osaka 534-0025 Japan Tel : +81-(0)6-6352-8011 Fax : +81-(0)6-6352-8012

**【Oversea sale】**

Seoul Branch 220, 2F Hyundai Knowledge Industry Center, 70, Dusan-ro, Geumcheon-gu, Seoul, Republic of Korea Tel : +82-(0)2-852-3731 Fax : +82-(0)2-852-3734

**【Affiliated company】**

Shanghai Dahong 70 Hengcang Road, Dahongcun, Maluzhen, Jiadingqu, Shanghai 201801, China Tel : +86-(0)21-5951-4138 Fax : +86-(0)21-5951-4139



**1 Pull Cord Switch**  
Emergency stop switch when any accident occurs at belt conveyor.

**2 Motor-operated Adjusting Carrier**  
Automatically detects the belt misalignment and aligns it.

**3 Speed Relay (No power required)**  
Actuates when the revolving speed of shaft becomes the setting value.

**4 Speed Switch**  
Non-contact type revolution sensor for detecting the revolving speed of mechanical shaft.

**5 Belt Sway Switch**  
Protective switch which detects the conveyor belt misalignment and outputs Alarm signal and Emergency stop signal.

**6 Belt Tear Detector**  
Detects when any unwanted material tears belt conveyor and stops belt conveyor.

**7 Chute Switch**  
Emergency switch which stops conveyor when chute is clogged.

**8 Tilt Switch**  
Detects by tilting of Detector when material increases. Not influenced by variation of material environment. Robust Detector suitable for bulk solid.

**9 Damper Actuator**  
Changes over chute of belt conveyor.

**10 Wire-rope type Emergency Stop Switch**  
Emergency Stop Switch complied with international standard.

**11 80GHz Radar Level Transmitter**  
It is FM-CW type 80GHz Radar Level Transmitter. Because it has narrower angle beam, it can be used for various applications including long narrow silo and short range tank. Also, it is less influenced by dust, steam, and high temperature due to the feature of the electromagnetic wave.

**12 Radar Level Transmitter**  
26GHz world top class non-contact type. Stable measurement in hard conditions of high temperature, high pressure and high dust.

**13 Sounding Level Transmitter**  
Detects the level by variation of load when the weight suspended with wire rope reaches the material surface and outputs the level based on the wire rope length discharged until then.

**14 Admittance Level Switch**  
Detects by capacitance variation due to material between probe and tank sidewall. Applicable for wide variety of materials

**15 Dust Monitor**  
When dust hits or passes near the probe, the triboelectric charge generates in proportion to the dust concentration level. Dust Monitor outputs it as dust concentration level. Detects the breakage of bag filter and continuously monitors the dust level of Dust collector.

**16 Air Dust Monitor**  
Dust Monitor is built into the suction device. By automatic suction, dust particles taken from atmosphere contact with the internal probe, which continuously monitors the electrical charge cause by passing particles. Since the amount of this transferred charges is correlated with the amount of dust, it is converted to dust concentration and displayed.

**17 Vibration Level Switch**  
Detects when the vibrating probe comes in contact with powder, then vibration frequency changes. Suitable for fine and lightweight powder.

**18 Limit Switch (Heavy-duty type)**  
Emergency stop switch when any accident occurs at belt conveyor.

**19 Belt Cleaner**  
Cleans the conveyor belt transporting material.

## Belt Conveyor Protection

Application



Motor-operated Adjusting Carrier for adjusting belt misalignment



Pull Cord Switch for emergency conveyor stop



Speed Relay for conveyor slip detection



Belt Sway Switch for belt misalignment detection



### 1 80GHz Radar Level Transmitter

It is FM-CW type 80GHz Radar Level Transmitter. Because it has narrower angle beam, it can be used for various applications including long narrow silo and short range tank. Also, it is less influenced by dust, steam, and high temperature due to the feature of the electromagnetic wave.



### 2 Radar Level Transmitter

26GHz world top class non-contact type. Stable measurement in hard conditions of high temperature, high pressure and high dust.



### 3 Sounding Level Meter

Detects the level by variation of load when the weight suspended with wire rope reaches the material surface and outputs the level based on the wire rope length discharged until then.



### 4 Vibration Level Switch

Detects when the vibrating fork-shaped probe comes in contact with powder, then vibration frequency changes. Applicable for low specific gravity powder. (toner etc.)



### 5 Admittance Level Switch

Detects by capacitance variation due to material between probe and tank sidewall. Applicable for wide variety of materials.



### 6 Tilt Switch

Detects by tilting of Detector when material increases. Not influenced by variation of material environment. Robust Detector suitable for bulk solid.



### 7 Signal Conditioner

Can be paired & used for 2 line transmitting devices or output devices. Outputs instrumentation signal 4-20mA or DC1-5V and contact signal for an input current signal. LCD digital display is included, so level indication can also be monitored at the local control panel.



### 8 Dust Monitor

When dust hits or passes near the probe, the triboelectric charge generates in proportion to the dust concentration level. Dust Monitor outputs it as dust concentration level. Detects the breakage of bag filter and continuously monitors the dust level of Dust collector.



### 9 Air Dust Monitor

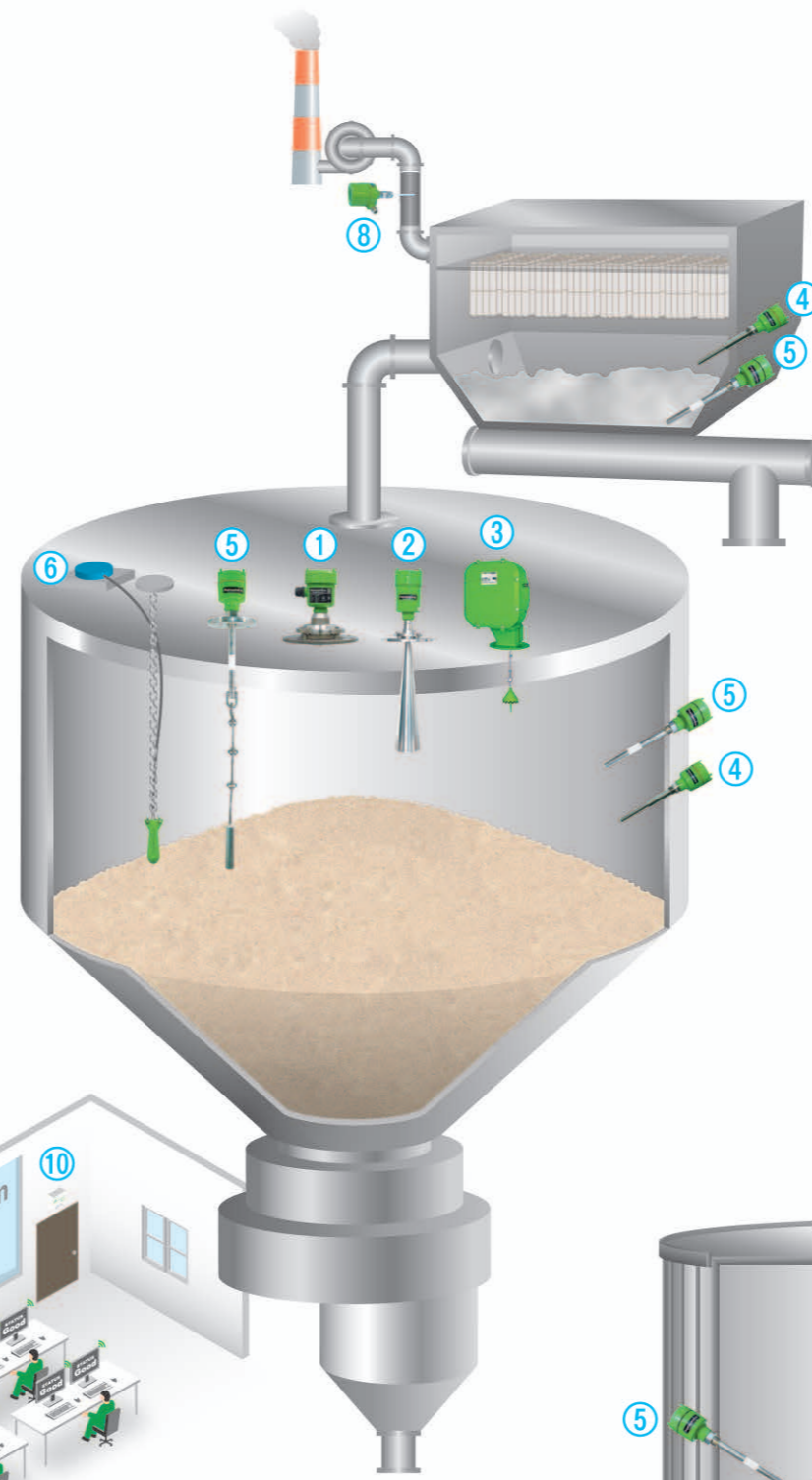
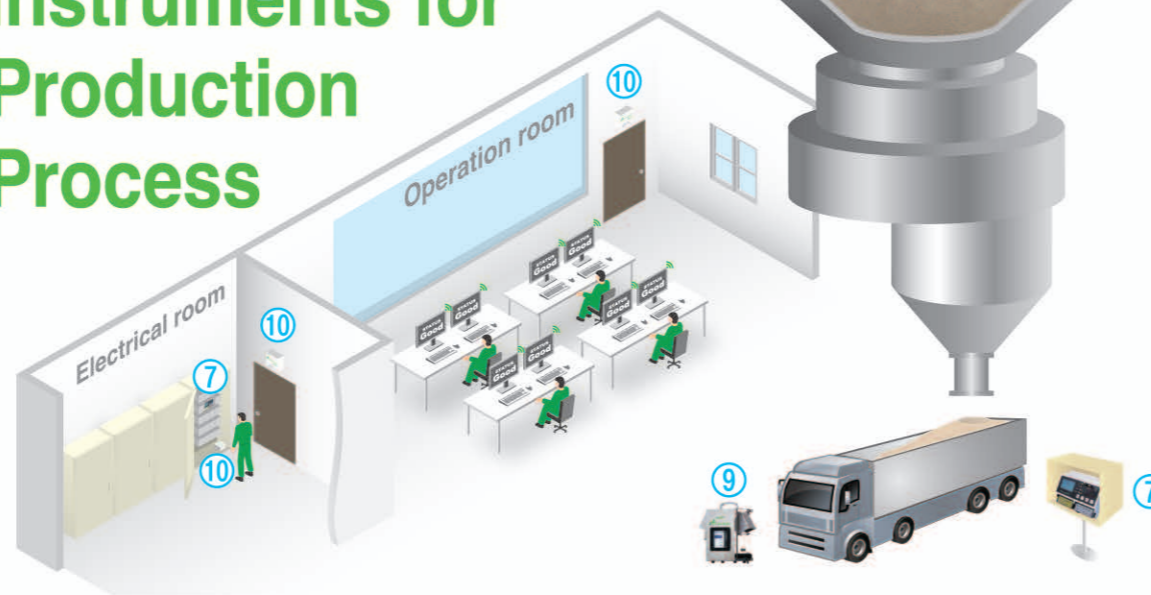
Dust Monitor is built into the suction device. By automatic suction, dust particles taken from atmosphere contact with the internal probe, which continuously monitors the electrical charge cause by passing particles. Since the amount of this transferred charges is correlated with the amount of dust, it is converted to dust concentration and displayed.



### 10 Air Particle Monitor

It monitors the mass concentration of dust and aerosol in the atmosphere. It can monitor the concentration of dust and PM2.5, which can be used for the improvement of working environment and safety. It also can detect the breakage of fan filters by monitoring the suspended particles inside the control panel.

## Measurement Instruments for Production Process



### 11 Float Type Level Switch

Detects the liquid level in a tank or container by the buoyancy of the liquid. Widely applied because of its simple structure & easy handling.



### 12 Displacer Type Float Switch

Detects the liquid level in a tank by using the buoyancy of the liquid. Float is suspended by a wire, and it can be applied for up to 9m range tank.



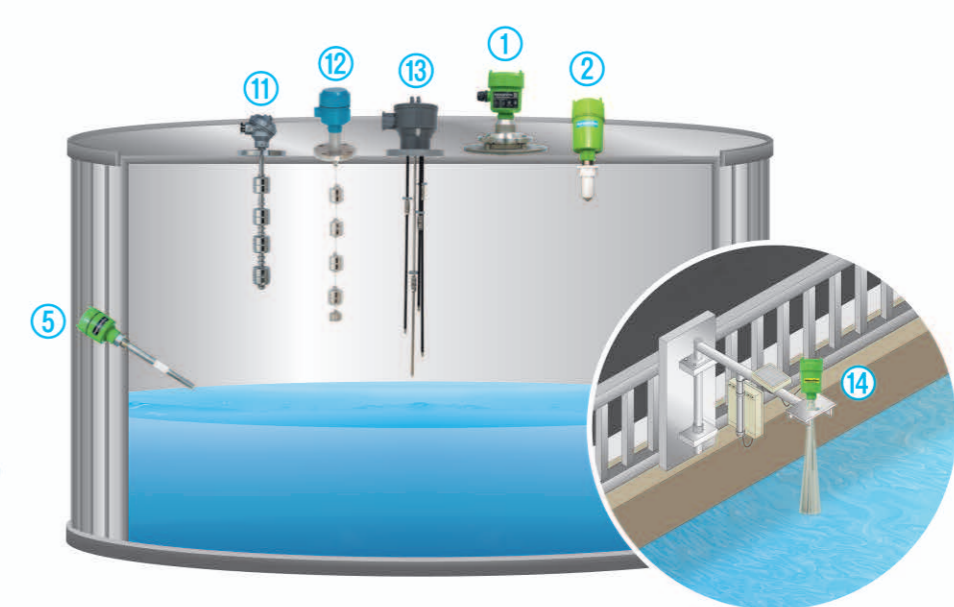
### 13 Electrode Type Level Switch

When a conductive liquid contacts with the electrode rod, the circuit is closed between the common and detection electrode, and detects the liquid level. Max. 6 contact outputs are available.



### 14 Radar type River Water Level Transmitter

This liquid level transmitter continuously measures the water levels of rivers, sluice gates, dams, sea levels, reservoirs, drainage pit at water treatment facilities, etc. This radar type liquid level transmitter is registered in NETIS (New Technology Information System) by Japanese government.



#### Application



Radar Level Transmitter for Cement silo



Admittance Level Switch for Upper Limit Detection for Coke hopper



Dust Monitor for Bag filter outlet



Sounding V Level Meter for Storage silo