



*p*Flow

ULTRASONIC

Gentos Measurement & Control Co., Ltd

**FLOWMETER**

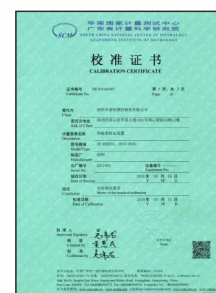
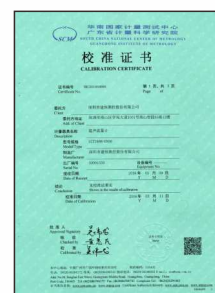
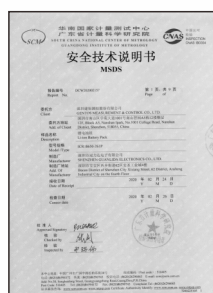
**PRODUCT CATALOG**



Pflow is the national branch of Gentos Measurement & Control Co. Ltd. Gentos focus on ultrasonic flow meter since 1993. Now we have formed our production system, the ultrasonic flow meter as the leader.

- 1993** Established in shenzhen , the city of science and technology . the birthplace of many high-tech companies such as HUAWEI, TENCENT and GENTOS.
- 1999** Obtained the Building Automation qualification certificate.
- 2004** Completed the fuel test standard “Rockets Attitude Control” of China Aerospace.
- 2009** Innovated Picofly technology , applied Picofly technology into ultrasonic flowmeter.
- 2011** Cooperation with HongKong polytechnic university and Harbin institute of technology university to prove Picofly in very fine time resolution.
- 2016** Participated in HANNOVER MESSE with the new products , Compound Multipath ultrasonic flowmeter D348DS plus and Smart Crystal F200.
- 2017** Gentos has achieved application of The Ultrasonic Mass Flow Measurement on China Air Force.
- 2018** Develop smart air conditioning, smart water strategy, and product + IOT
- 2019** Invited to participate in the 23rd National Invention Exhibitionone--B&R and the BRICs Technology Development and Technology Innovation Competition, and won the silver award.

# CERTIFICATE



# R&D CENTER

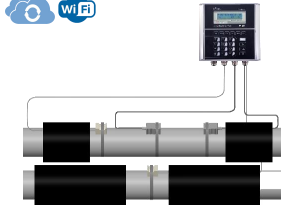


# ENGINEERING TEAM

# PRODUCTS

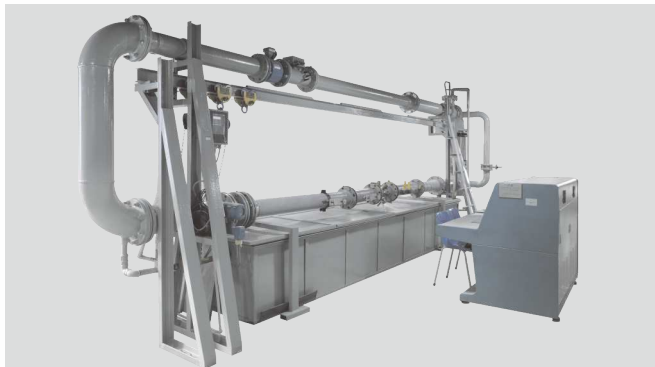
| Model            | D116                                                                                                           | D118                                                                                                                                                                          | D118i                                                                                                                                                      | P117                                                                                                           | P118i                                                                                                          | E3                                                                                    |
|------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Flow Velocity    | 0.03 ~ ±16ft/s (0.01 ~ ±5m/s)                                                                                  | 0.03 ~ ±40ft/s (0.01 ~ ±12m/s)                                                                                                                                                | 0.03 ~ ±40ft/s (0.01 ~ ±12m/s)                                                                                                                             | ±0.03 ~ ±20 ft/s (±0.01 ~ ±6 m/s)                                                                              | 0.03~40ft/s (0.01~12m/s)                                                                                       | 0.098 ~ ±16ft/s (0.03m/s ~ ±5m/s)                                                     |
| Pipe size        | 1"~48" (25mm ~ 1200mm)                                                                                         | 1"~200"(25mm ~ 5000mm)                                                                                                                                                        | 1"~200"(25mm ~ 5000mm)                                                                                                                                     | 1"~48" (25mm ~ 1200mm)                                                                                         | 1"~240" (25 ~ 6000mm)                                                                                          | DN20 ~ DN80(optional)                                                                 |
| Accuracy         | +/-1.0%                                                                                                        | +/-0.5%                                                                                                                                                                       | +/-0.5%                                                                                                                                                    | +/-1.0%                                                                                                        | +/-0.5%                                                                                                        | +/-2.0%                                                                               |
| Repeatability    | 0.30%                                                                                                          | 0.15%                                                                                                                                                                         | 0.10%                                                                                                                                                      | 0.30%                                                                                                          | 0.15%                                                                                                          | 0.40%                                                                                 |
| Application      | water, sound-conducting liquid                                                                                 | water, fuel, oil and chemicals                                                                                                                                                | water, fuel, oil and chemicals                                                                                                                             | water, fuel, oil and chemicals                                                                                 | water, fuel, oil and chemicals                                                                                 | water, sound-conducting liquid                                                        |
| Pipe Material    | 1. Carbon Steel 2. PVC<br>3. Stainless Steel 4. Aluminum<br>5. Copper 6. Ductile Iron<br>7. Cast Iron 8. Other | 1. Carbon Steel 2. PVC<br>3. Stainless Steel 4. Aluminum<br>5. Copper 6. Ductile Iron<br>7. Cast Iron 8. Other                                                                | 1. Carbon Steel 2. PVC<br>3. Stainless Steel 4. Aluminum<br>5. Copper 6. Ductile Iron<br>7. Cast Iron 8. Other                                             | 1. Carbon Steel 2. PVC<br>3. Stainless Steel 4. Aluminum<br>5. Copper 6. Ductile Iron<br>7. Cast Iron 8. Other | 1. Carbon Steel 2. PVC<br>3. Stainless Steel 4. Aluminum<br>5. Copper 6. Ductile Iron<br>7. Cast Iron 8. Other | Carbon steel, Stainless steel, PVC,<br>Copper (optional)                              |
| I/O              | 1. OCT Pulse output:0~5000Hz.<br>2. Analog output:4~20mA,max load 750Ω.<br>3.Relay<br>4.RS485 Modbus           | 1. Analog output: 4~20mA, max load 750Ω.<br>2. Pulse output: 0~9999Hz, OCT<br>3. Realy output: max. frequency 1Hz(1A@125VAC or 2A@30VDC)<br>4.RS485 & RS232<br>5.Analog input | 1. Analog output: 4~20mA, max load 750Ω.<br>2. Pulse output: 0~9999Hz, OCT<br>3. Realy output<br>4. RS485A/RS485B/RS232<br>5. Analog input<br>6. RTD input | 1. Analog output: 4-20mA<br>2. RS485                                                                           | 1. Analog output: 4-20mA<br>2. RS485<br>3. Pulse output: OCT<br>4. Relay                                       | Standard:<br>WiFi/TTL<br>Optional:<br>4-20mA/TTL, RS485/TTL,<br>OCT/Relay             |
| Power supply     | 10 ~ 36VDC/1A                                                                                                  | 90 ~ 245 VAC (48 ~ 63 Hz) Or 10 ~ 36 VDC.                                                                                                                                     | 90 ~ 245 VAC (48 ~ 63 Hz) Or 10 ~ 36 VDC.                                                                                                                  | Rechargeable Lithium Battery Power                                                                             | Rechargeable Lithium Battery Power                                                                             | 10~36VDC/500mA                                                                        |
| Temperature      | Ambient: 14°F~122°F(-10°C~50°C)<br>Fluid: 32°F~176°F(0°C~80°C)                                                 | Ambient: 14°F~122°F(-10°C~50°C)<br>Fluid: -40°F~176°F(-40°C~80°C)                                                                                                             | Ambient: 14°F~122°F(-10°C~50°C)<br>Fluid:-40°F~176°F(-40°C~80°C)                                                                                           | Ambient: 14°F~122°F(-10°C~50°C)<br>Fluid: -40°F~176°F(-40°C~80°C)                                              | Ambient: 14°F~122°F(-10°C~50°C)<br>Fluid: -40°F~176°F(-40°C~80°C)                                              | Ambient: 14°F~122°F(-10°C~50°C)<br>Fluid: 32°F~140°F(0°C~60°C)                        |
| Transmitter      | PC/ABS, IP65                                                                                                   | Die-cast aluminum, IP65                                                                                                                                                       | Die-cast aluminum, IP65                                                                                                                                    | NEMA13(IP54)                                                                                                   | NEMA13(IP54)                                                                                                   | IP54                                                                                  |
| Transducer       | Encapsulated design, IP68                                                                                      | Encapsulated design, IP68                                                                                                                                                     | Encapsulated design, IP68                                                                                                                                  | Encapsulated design, IP68                                                                                      | Encapsulated design, IP68                                                                                      | IP54                                                                                  |
| Transducer cable | Standard cable length: 30ft(9m)                                                                                | Standard / Maximum cable length: 30ft / 1000ft ( 9m/305 m ).                                                                                                                  | Standard cable length: 30ft(9m)                                                                                                                            | Standard cable length: 10ft                                                                                    | Standard cable length: 10ft                                                                                    | φ5 6 core electric cable, standard length: 2m                                         |
| Features         | Clamp-on Transducers;<br>Fixed-mounted meter;<br>Temp. sensors available                                       | Clamp-on Transducers;<br>Fixed-mounted meter;<br>High temp. version available                                                                                                 | Clamp-on Transducers;<br>Insertion Transducers;<br>Fixed-mounted meter;<br>High temp. version available                                                    | Clamp-on Transducers;<br>Portable & Easy to carry;                                                             | Clamp-on Transducers;<br>Portable & Easy to carry;<br>High temp. version available<br>Temp. sensors available  | Cloud Data Storage System<br>Heat Consumption Measurement                             |
| Product View     |                             |                                                                                            |                                                                        |                           |                           |  |

# PRODUCTS

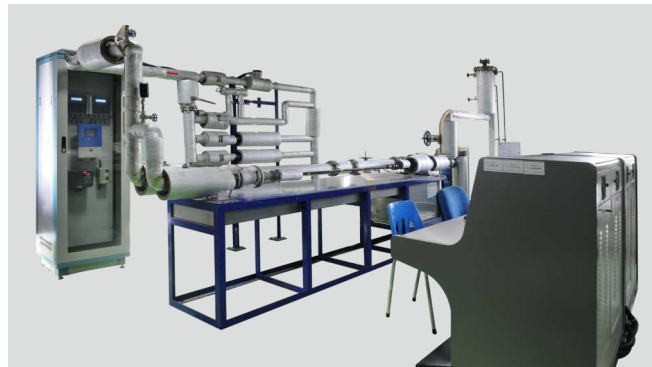
| Model            | E5                                                                                                                                  | E8                                                                                                                                      | F2                                                                                   | F3                                                                                    | F5                                                                                                                    | F8                                                                                                                       |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Flow Velocity    | 0.03 ~ ±16ft/s (0.01 ~ ±5m/s)                                                                                                       | 0.03 ~ ±40ft/s (0.01~ ±12m/s)                                                                                                           | 0.098 ~ ±16ft/s (0.03m/s ~ ±5m/s)                                                    | 0.098 ~ ±16ft/s (0.3m/s ~ ±5m/s)                                                      | 0.03 ~ ±16ft/s (0.01 ~ ±5m/s)                                                                                         | 0.03 ~ ±40ft/s (0.01~ ±12m/s)                                                                                            |
| Pipe size        | 1"~48" (25mm ~ 1200mm)                                                                                                              | 1"~200"(25mm ~ 5000mm)                                                                                                                  | DN20 ~ DN80(optional)                                                                | DN20 ~ DN80(optional)                                                                 | 1"~48" (25mm ~ 1200mm)                                                                                                | 1"~200"(25mm ~ 5000mm)                                                                                                   |
| Accuracy         | +/-1.0%                                                                                                                             | +/-0.5%                                                                                                                                 | +/-2.0%                                                                              | +/-2.0%                                                                               | +/-1.0%                                                                                                               | +/-0.5%                                                                                                                  |
| Repeatability    | 0.30%                                                                                                                               | 0.15%                                                                                                                                   | 0.40%                                                                                | 0.40%                                                                                 | 0.30%                                                                                                                 | 0.15%                                                                                                                    |
| Application      | water, sound-conducting liquid                                                                                                      | water, fuel, oil and chemicals                                                                                                          | water, sound-conducting liquid                                                       | water, sound-conducting liquid                                                        | water, sound-conducting liquid                                                                                        | water, fuel, oil and chemicals                                                                                           |
| Pipe Material    | 1. Carbon Steel 2. PVC<br>3. Stainless Steel 4. Aluminum<br>5. Copper 6. Ductile Iron<br>7. Cast Iron 8. Other                      | 1. Carbon Steel 2. PVC<br>3. Stainless Steel 4. Aluminum<br>5. Copper 6. Ductile Iron<br>7. Cast Iron 8. Other                          | Carbon steel, Stainless steel, PVC,<br>Copper (optional)                             | Carbon steel, Stainless steel, PVC,<br>Copper (optional)                              | 1. Carbon Steel 2. PVC<br>3. Stainless Steel 4. Aluminum<br>5. Copper 6. Ductile Iron<br>7. Cast Iron 8. Other        | 1. Carbon Steel 2. PVC<br>3. Stainless Steel 4. Aluminum<br>5. Copper 6. Ductile Iron<br>7. Cast Iron 8. Other           |
| I/O              | 1. OCT Pulse output:0~5000Hz.<br>2. Analog output:4~20mA,max load 750Ω.<br>3.Relay output<br>4.RS485/RS232<br>5.RTD input<br>6.WiFi | 1. Analog output: 4~20mA, max load 750Ω.<br>2. Pulse output: 0~9999Hz, OCT<br>3. Realy output<br>4.RS485/RS232<br>5.RTD input<br>6.WiFi | Standard:<br>WiFi/TTL<br>Optional:<br>4-20mA/TTL, RS485/TTL,<br>OCT/Relay            | Standard:<br>WiFi/TTL<br>Optional:<br>4-20mA/TTL, RS485/TTL,<br>OCT/Relay             | 1. OCT Pulse output:0~5000Hz.<br>2. Analog output: 4~20mA,max load 750Ω.<br>3.Relay output<br>4.RS485/RS232<br>5.WiFi | 1. Analog output: 4~20mA, max load 750Ω.<br>2. Pulse output: 0~9999Hz, OCT<br>3. Realy output<br>4.RS485/RS232<br>5.WiFi |
| Power supply     | 10~36VDC/1A                                                                                                                         | 90 to 245 VAC, 48 to 63 Hz. Or 10 to 36VDC                                                                                              | 10~36VDC/500mA                                                                       | 10~36VDC/500mA                                                                        | 10~36VDC/1A                                                                                                           | 90 to 245 VAC, 48 to 63 Hz. Or 10 to 36VDC                                                                               |
| Temperature      | Ambient: 14°F~122°F (-10°C~50°C)<br>Fluid: 32°F~176°F (0°C~80°C)                                                                    | Ambient: 14°F~122°F (-10°C~50°C)<br>Fluid: 32°F~176°F (0°C~80°C)                                                                        | Ambient: 14°F~122°F (-10°C~50°C)<br>Fluid: 32°F~140°F (0°C~60°C)                     | Ambient: 14°F~122°F (-10°C~50°C)<br>Fluid: 32°F~140°F (0°C~60°C)                      | Ambient: 14°F~122°F (-10°C~50°C)<br>Fluid: 32°F~176°F (0°C~80°C)                                                      | Ambient: 14°F~122°F (-10°C~50°C)<br>Fluid: 32°F~176°F (0°C~80°C)                                                         |
| Transmitter      | PC/ABS,IP65.                                                                                                                        | NEMA 4X (IP65), Die-cast                                                                                                                | IP54                                                                                 | IP54                                                                                  | PC/ABS,IP65.                                                                                                          | NEMA 4X (IP65), Die-cast                                                                                                 |
| Transducer       | Encapsulated design,IP68                                                                                                            | Encapsulated design,IP68                                                                                                                | Clamp on                                                                             | Clamp on                                                                              | Encapsulated design,IP68.                                                                                             | Encapsulated design                                                                                                      |
| Transducer cable | Standard cable length:30ft(9m).                                                                                                     | Standard/maximum cable length:30ft/1000ft(9m/305m)                                                                                      | φ5 six core cable, standard length: 2m                                               | φ5 six core cable, standard length: 2m                                                | Standard cable length:30ft(9m).                                                                                       | Standard/maximum cable length:30ft/1000ft(9m/305m)                                                                       |
| Features         | Clamp-on Transducers;<br>Fixed-mounted meter;<br>Cloud service;<br>Heat measurement<br>High temp. version available                 | Clamp-on Transducers;<br>Fixed-mounted meter;<br>Cloud service;<br>Heat measurement;<br>High temp. version available                    | Cloud Data Storage System                                                            | Cloud Data Storage System                                                             | Clamp-on Transducers;<br>Fixed-mounted meter;<br>Cloud service;                                                       | Clamp-on Transducers;<br>Fixed-mounted meter;<br>Cloud service;<br>High temp. version available                          |
| Product View     |                                                  |                                                      |  |  |                                  |                                     |

# QUALITY CONTROL

## CALIBRATION



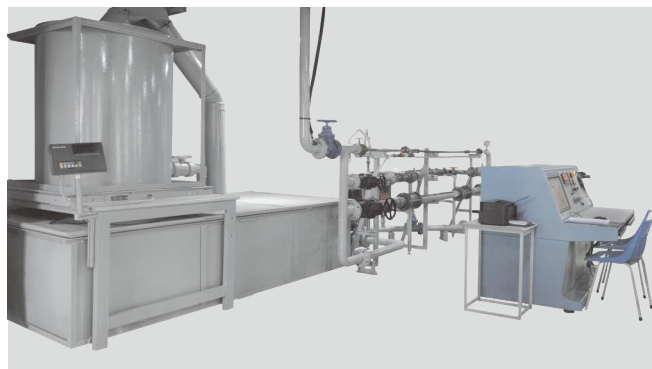
Axial double-loop flow calibration device adopts 3488D multipath ultrasonic flow meter as a master meter. The master meter takes our PICOFLY technology, the resolution has reached 0.01 nanoseconds, realize single point repeatability of 0.04%.



Heat meter flow calibration system can be used to calibrate the hot (cold) flowmeter DN15~DN50, the measuring medium temperature which can be maintained at  $50^{\circ}\text{C} \pm 5^{\circ}\text{C}$ .



DN100 axial flow calibration device is mainly used in volume production product calibration, the calibration device can be inspection 6 sets flowmeter at the same time.



Liquid Flow calibration device adopts weighing method to calibrate, suitable for flowmeter in DN8 ~ DN80.

## HIGH-TEMP AGING WORK

In 55 centigrade high temperature environment at least 72 hours to make the high-temp aging work .



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