

## FEATURES

- Small pressure loss, high precision, good stability, two-way measurement
- Measurements are not affected by fluid density, viscosity, temperature, pressure and conductivity
- The LCD backlight converter can be easily read in the sun or in a dark room
- Bidirectional measurement option
- Self-diagnosis alarm output, no-load detection alarm output, flow upper and lower limit alarm, batch control (need to be customized) and other alarm output functions

## APPLICATIONS

- Water, acid, alkali, seawater and other strong corrosive or conductive liquids containing impurities
- Widely used in petrochemical, iron and steel metallurgy, water supply and drainage, irrigation, water treatment, environmental protection sewage measurement and control, paper making, medicine, food and other industrial and agricultural production process flow measurement and control



## TECHNICAL SPECIFICATION

|                      |  |
|----------------------|--|
| Nominal diameter     | : DN6-250mm (Larger sizes on request)  |
| Power supply         | : 24VDC, 220VAC, 3.6V battery powered (Please specify when ordering)                           |
| Electrode            | : SS316L, HB, HC, Ti, Ta, Pt, WC   |
| Liner                | : CR (<60°C), PU (<80°C), PTFE (<120°C), F46 (<180°C), FPM (<180°C)                            |
| Rated pressure       | : 0.6-4.0Mpa (high pressure customizable)  |
| Connection type      | : Thread connection (DN6-50mm)<br>Tri-clamp connection (DN4-100mm)<br>Flange type (DN10-250mm) |
| Structure            | : Integrated type, Remote type, Insertion type   |
| Protection level     | : IP65/IP68  |
| Remote type cable    | : 10m (standard configuration)   |
| Output communication | : Pulse, 4-20mA, RS485 MODBUS (Standard configuration)<br>HART, GPRS, Profibus (Optional)      |
| Explosion proof      | : Exd ia [ia Ga] qII CT6 Gb (Optional)   |

## FLOW RANGE SHEET

| Flow Range (m³/h) |          |
|-------------------|----------|
| DN6               | 0.05-0.5 |
| DN10              | 0.14-1.4 |
| DN15              | 0.3-3    |
| DN20              | 0.57-5.7 |
| DN25              | 0.88-8.8 |
| DN32              | 1.4-14   |
| DN40              | 2.2-22   |
| DN50              | 3.5-35   |
| DN65              | 6-60     |
| DN80              | 9-90     |
| DN100             | 14-140   |
| DN125             | 22-220   |
| DN150             | 32-320   |
| DN200             | 57-570   |
| DN250             | 88-880   |

#### ELECTRODE MATERIALS AND APPLICATION

| Electrode Material | Application   |
|--------------------|---|
| SS316L             | Industrial/ municipal water, wastewater and low corrosive mediums.  |
| Tungsten carbide   | Non-corrosive, strong wear mediums. Such as: mud, pulp and so on.   |
| Hastelloy B        | Strong resistance to hydrochloric acids below the boiling point. Resist against oxidizable acids, alkali and non-oxidizable salts. For instance, vitriol, phosphate, hydrofluoric acids, and organic acids. |
| Hastelloy C        | Exceptional resistance to strong solutions of oxidizing salts and acids. For example, Fe <sup>3+</sup> , Cu <sup>2+</sup> , Nitric acids, mixed acids.  |
| Titanium           | Titanium can withstand corrosive mediums such as seawater, chloride salt solution, hypochlorite salts, oxidizable acids (including fuming nitric acids), organic acids, and alkali.                         |
| Tantalum           | Highly resistant to corrosive mediums. Applicable to all chemical mediums except hydrofluoric acids, oleum and alkali.  |
| Platinum-iridium   | Applicable to all chemical mediums except for ammonium salts.   |

#### LINER MATERIALS AND APPLICATION

| Lining Material | Main conditional  |
|-----------------|---|
| CR              | <ul style="list-style-type: none"> <li>1. Good abrasion resistance</li> <li>2. Resistant to the corrosion of general low-concentration acid alkali, and salt media</li> </ul> <ul style="list-style-type: none"> <li>1. ≤60°C</li> <li>2. Water, sewage</li> </ul>  |
| PU              | <ul style="list-style-type: none"> <li>1. Excellent wear resistance</li> <li>2. Poor acid and alkali resistance</li> </ul> <ul style="list-style-type: none"> <li>1. ≤80°C</li> <li>2. Slurry</li> </ul>  |
| PTFE            | <ul style="list-style-type: none"> <li>1. Hydrochloric acid, sulfuric acid, nitric acid.</li> <li>2. Alkali and organic solvents</li> </ul> <ul style="list-style-type: none"> <li>1. ≤120°C</li> <li>2. Corrosive medium. concentrated acid and base</li> <li>3. Sanitary media</li> </ul>                       |
| F46             | <ul style="list-style-type: none"> <li>1. Same abrasion resistance as PTFE</li> <li>2. Having strong resistance to load pressure</li> </ul> <ul style="list-style-type: none"> <li>1. ≤180°C</li> <li>2. Corrosive acid, alkali and salt</li> <li>3. Resistance to high pressure and negative pressure</li> </ul> |
| FPM             | <ul style="list-style-type: none"> <li>1. Excellent elasticity, high breaking force, good abrasion resistance</li> <li>2. High-temperature non-corrosive medium</li> </ul> <ul style="list-style-type: none"> <li>1. ≤180°C</li> <li>hot water</li> </ul>   |
| PFA             | <ul style="list-style-type: none"> <li>1. Chemically equal to PTFE</li> <li>2. Compressive tensile strength is better than F46</li> </ul> <ul style="list-style-type: none"> <li>1. ≤180°C</li> <li>2. Corrosive acid-base salt</li> </ul>  |

#### ORDERING CODES

##### 1. NOMINAL DIAMETER (mm)

|     |  |     |
|-----|--|-----|
| XXX | Three digits, refer to Nominal Diameter Coding Table | XXX |
|-----|--|-----|

##### 2. NOMINAL PRESSURE

|   |        |   |
|---|--------|---|
| 1 | 0.6MPa | 1 |
| 2 | 1.0MPa |   |
| 3 | 1.6MPa |   |
| 4 | 2.5MPa |   |
| 5 | 4.0MPa |   |
| 6 | other  |   |

##### 3. CONNECTION

|   |           |   |
|---|-----------|---|
| 1 | Flange    | 1 |
| 2 | Tri-clamp |   |
| 3 | Hygienic  |   |
| 4 | Threaded  |   |

##### 4. LINING MATERIAL

|   |                                |   |
|---|--------------------------------|---|
| A | PTFE (Polytetrafluoroethylene) | A |
| B | CR (Neoprene)                  |   |
| C | PU (Polyurethane)              |   |
| D | F46 (PFEP)                     |   |
| E | PFA (Perfluoroalkoxy)          |   |
| F | FPM                            |   |

##### 5. ELECTRODE MATERIAL

|   |                        |   |
|---|------------------------|---|
| 1 | 316L                   | 1 |
| 2 | Hastelloy B            |   |
| 3 | Hastelloy C            |   |
| 4 | Titanium               |   |
| 5 | Platinum-iridium alloy |   |
| 6 | Tantalum               |   |
| 7 | Tungsten Carbide       |   |

##### 6. STRUCTURE TYPE

|   |                            |   |
|---|----------------------------|---|
| 1 | Integrated                 |   |
| 2 | Split (Remote) type        | 2 |
| 3 | Integrated explosion-proof |   |
| 4 | Split type explosion-proof |   |

##### 7. POWER SUPPLY

|   |         |   |
|---|---------|---|
| A | 220 VAC |   |
| B | 24 VDC  |   |
| C | 12 VDC  | C |
| D | 3.6 VDC |   |

##### 8. OUTPUT

|   |                                |   |
|---|--------------------------------|---|
| 1 | 4-20mA DC/pulse                |   |
| 2 | 4-20mA DC/RS485 communication  |   |
| 3 | 4-20mA DC/RS232C communication | 3 |
| 4 | HART                           |   |

##### 9. CONVERTER FORM

|   |                             |   |
|---|-----------------------------|---|
| A | Round (for integrated type) | A |
| B | Square (for remote type)    |   |

##### 10. OTHER OPTION

|   |                             |   |
|---|-----------------------------|---|
| 1 | Ground electrode            |   |
| 2 | Companion flange            | 2 |
| 3 | Electrode scraper structure |   |
| 4 | Other (Please specify)      |   |

**Ordering Example : FL90-XXX-1-1-A-1-2-C-3-A-2**

#### NOMINAL DIAMETER CODING TABLE

| NOMINAL DIAMETER | CODE | NOMINAL DIAMETER | CODE |
|------------------|------|------------------|------|
| 6                | 006  | 80               | 080  |
| 10               | 010  | 100              | 110  |
| 15               | 015  | 125              | 112  |
| 20               | 020  | 150              | 115  |
| 25               | 025  | 200              | 120  |
| 32               | 032  | 250              | 125  |
| 40               | 040  | -                | -    |
| 50               | 050  | -                | -    |
| 65               | 065  | -                | -    |