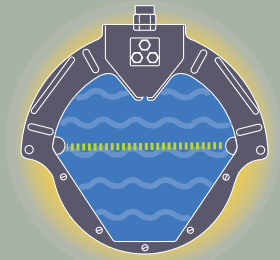


### Full Open Pipe Cartridge Meters

The Accuron 7500 Cartridge Meter is designed to accurately measure flow in fully-filled open ended conduits. Available in both single and dual path configurations, the Series 7500 provides accuracy readings of  $\pm 1-2\%$  (actual rate), depending upon flow profile conditions. Dual Path chordal sensor configurations are recommended for applications not having the necessary straight upstream runs to produce a well developed velocity profile. Since the average velocity component for each acoustic path is utilized to establish flow, flowmeter accuracy is relatively independent of the hydraulic profile.

#### SINGLE PATH CARTRIDGE METERS ( $\pm 1-2\%$ of actual rate)

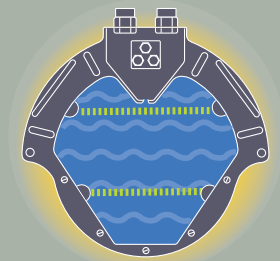
The chordal measurement method, utilized in each transit-time Cartridge Meter, is the most viable technology for ascertaining average velocity. Velocity is detected along an entire cross-sectional path of the fluid being measured. Since most applications involve turbulent flow with Reynolds values above 3000, the flow breaks up into eddies that travel through the pipe with equal average velocities. Therefore, the resultant flow profile is very uniform in shape. In this case, only a single path (A75) Cartridge Meter is required. The chordal measurement velocity sensors are located in the pipe at 50% of the pipe diameter. This placement permits overall accuracies to within  $\pm 1-2\%$  of actual rate.



SINGLE PATH  
Accuracy:  $\pm 1-2\%$

#### DUAL PATH CARTRIDGE METERS ( $\pm 1-2\%$ of actual rate)

Dual Path technology greatly shortens the straight run requirements for chordal transit-time measurement of flow. By positioning each chordal path at a defined distance from the centerline of the pipe ( 0.5 times the pipe radius ), complete independence from the Reynolds number is assured while considerably reducing the effects of an asymmetrically distorted flow profile. Dual Path chordal technology has proven itself to be an effective solution when facing the inaccuracies introduced by less than fully developed flow profiles. This includes not only insufficient straight run requirements, but also piping installations having a close proximity to pumps and elbows.

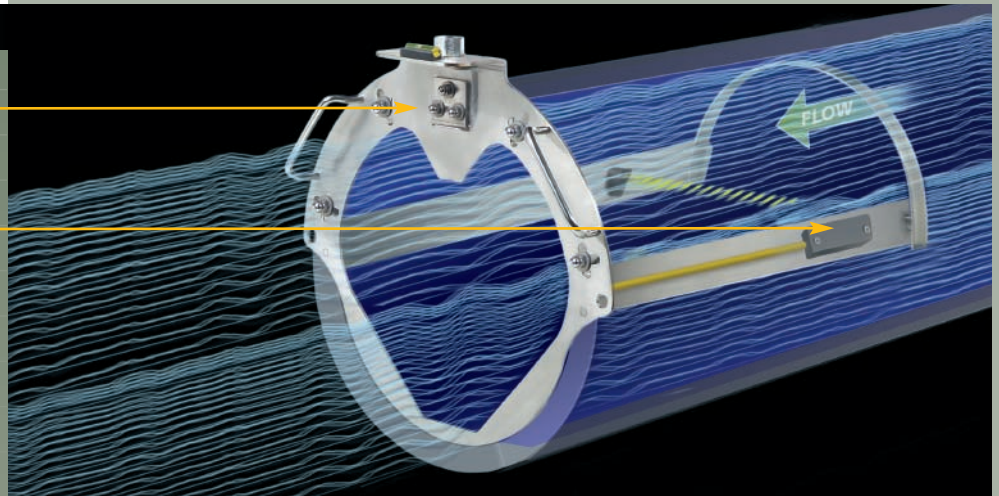


DUAL PATH  
Accuracy:  $\pm 1-2\%$

#### SINGLE PATH

STAINLESS STEEL CARTRIDGE

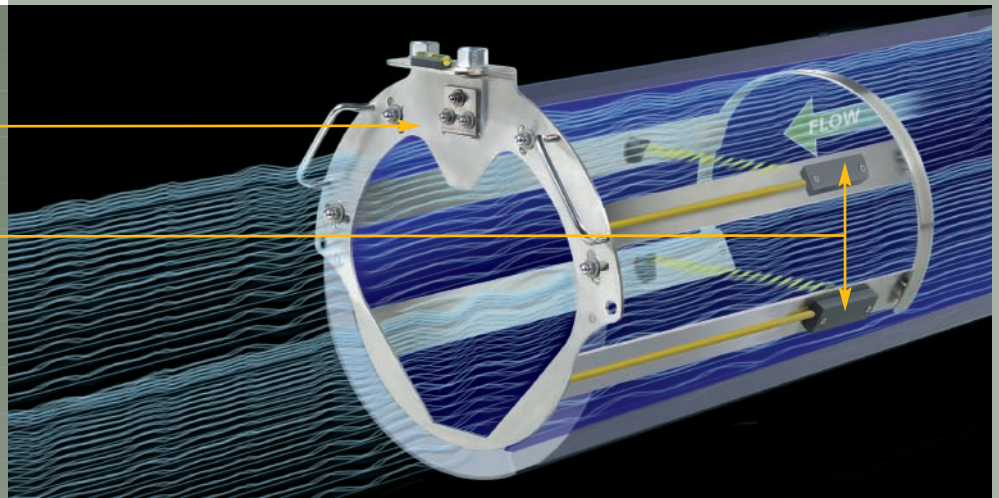
SINGLE PATH TRANSIT-TIME VELOCITY SENSORS



#### DUAL PATH

STAINLESS STEEL CARTRIDGE

DUAL PATH TRANSIT-TIME VELOCITY SENSORS



## METER SPECIFICATIONS (Bi-directional)

### FACTORY PROGRAMMED FLOWMETERS



Pre-programmed at the factory for specific customer applications, the Accuron flowmeter is a highly advanced microprocessor-based ultrasonic flow transmitter for extremely precise measurement of flow in open channels.

#### DATA LOGGING

The Accuron has a built-in datalogger with eight distinct channels for logging flow and totals. The storage capacity for a single channel at 5 minute intervals is 113 days. Logger data may be visually accessed on the display of the meter in pre-programmed time intervals or retrieved through a laptop or optional modem installed within the enclosure of the meter.

**Daily Averages:** Daily summary allows viewing of the previous eight days. This includes times, dates, averages, minimums, maximums and totals.

**Logger Graph:** In addition, a bar graph may be visually displayed on the Accuron. The graph will display the stored logger data in pre-programmed time intervals.

**Data Retrieval:** Logger data can be collected by using a laptop computer or an optional modem installed within the Accuron enclosure.

#### ENCLOSURE

|             |   |
|-------------|---|
| Standard    | IP66 / Nema 4, 4X polycarbonate enclosure   |
| Optional    | Explosionproof, Aluminum Enclosure<br>Class I, Grps. C & D, Class II, Grps. E, F, G, Div. 1 & 2 |
| Accessories | Heater and thermostat, Door Lock  |

#### TEMPERATURE

|             |                             |
|-------------|-----------------------------|
| Standard    | -4° to 158°F (-20 to 70°C)  |
| With Heater | -40° to 158°F (-40 to 70°C) |

#### OUTPUTS

|                    |   |
|--------------------|---|
| 1) 4-20 mA         | Analog isolated into 800 ohms max, monitored to detect open circuits. RFI and gas discharge surge protection and two fuses. |
| Relay Alarms       | 3 SPDT (plug-in) 2.5 Amps   |
| RS-232 Serial Port | 1200-38400 Baud, Modbus RTU   |
| RS-485 Serial Port | Optically isolated, Modbus RTU  |
| Network Protocols  | Modbus, Profibus or DeviceNet   |
| DC Power Out       | 12 VDC, 100mA maximum   |

#### DISPLAY

|             |               |
|-------------|---------------|
| Backlit LCD | Graphical LED |
|-------------|---------------|

#### POWER





|         |   |
|---------|---|
| Wattage | 12 (Single Path) 30 (Dual Path)           |
| Voltage | 80/240 VAC, 50/60 Hz / 12-28VDC @ 150 mA. |

#### DATA LOGGING

|  |
|--|
| Non-volatile flash memory, storage of up to 32768 records. |
|--|

**SUGGESTED SPECIFICATIONS:** An ultrasonic microprocessor-based (Single or Dual) Path Cartridge Meter shall be installed at the location on the plans in accordance with the manufactures recommendation. A field-ready \_\_\_\_\_ (pipe size) stainless steel cartridge, containing a stainless steel trapezoidal flume/ultrasonic level sensor/transit-time velocity sensor combination shall be provided with each flowmeter. The IP66/Nema 4,4X flowmeter (or Chartmeter) shall be factory programmed for the specific application and be provided with a datalogger integral to the electronics. The Cartridge Meter must be capable of field validation prior to installation of permanent power. The unit shall be Model Accuron 7500 as manufactured by Eastech Flow Controls, Tulsa, OK or equal.

### ORDERING GUIDE

| CARTRIDGE   | METER   | NOMINAL PIPE SIZE | PIPE MATERIAL             | PIPE SCHED.    | PIPE CONST.          | SENSOR CABLE                  | OPTIONS   | PROGRAM                         | DATA RETRIEVAL                    |
|---|---|-------------------|---------------------------|----------------|----------------------|-------------------------------|---|---------------------------------|-----------------------------------|
| <b>CARTRIDGE A75</b><br> | <b>METER 10</b><br><br>Nema 4,4X • IP66<br>1-4-20mA • RS232/485<br>1 Relay • Datalogger<br>Bi-directional  | 8"                | Concrete<br><b>K</b>      | 10<br><b>R</b> | Lined<br><b>LN</b>   | 30 ft<br><b>W</b>             | Integrated Chart Recorder<br>Circular Chart<br>1 Day<br>7 Day<br>31 Day<br>(please specify)<br><b>G</b> | Gal./Min.<br><b>A</b>           | Modem<br>(phone line)<br><b>M</b> |
|   |   | 10"               | Ductile<br><b>L</b>       |                |                      | 50 ft.<br><b>X</b>            |   | Heater & Thermostat<br><b>B</b> | Cu. Ft./Sec.<br><b>H</b>          |
|   |   | 12"               | Cast Iron<br><b>M</b>     | 40<br><b>S</b> | Unlined<br><b>UL</b> | 100 ft.<br><b>Y</b>           | Keylock<br><b>C</b>   |                                 | Mil. Gal./Day<br><b>J</b>         |
|   |   | 15"               | Carbon Steel<br><b>N</b>  |                |                      | 200 ft.<br><b>Z</b>           |   | Splice Kit<br><b>D</b>          | Lit./Sec.<br><b>K</b>             |
| <b>CARTRIDGE B75</b><br> | <b>METER 20</b><br><br>Nema 4,4X • IP66<br>1-4-20mA • RS232/485<br>3 Relays • Datalogger<br>Bi-directional | *18"              | PVC<br><b>P</b>           | 80<br><b>T</b> |                      | (Over 200 ft. please specify) |   |                                 | Gal./Hr.<br><b>L</b>              |
|   |   | *21"              | Clay<br><b>Q</b>          |                |                      |                               |   | Other<br>(please specify)       |                                   |
|   |   | *24"              | Other<br>(please specify) |                |                      |                               |   |                                 |                                   |
|   |   |                   |                           |                |                      |                               |   |                                 |                                   |

\*For Cartridges larger than 15 inches please specify manhole entry size.

For Cartridge Meters larger than 24" or custom sizes, please contact factory.

Ordering Example: Accuron Cartridge Meter, Single Path, 12" pipe size, PVC, Sched. 40, 30' cable, 3 relays, programming GPM: A7510-12" - P-S-W-A

