



a xylem brand

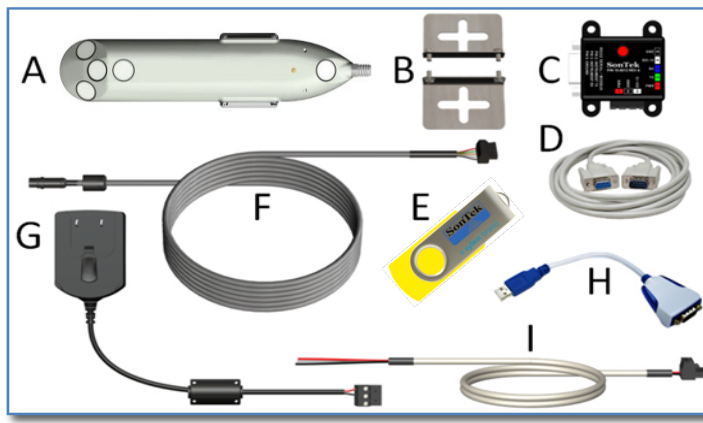
SonTek-IQ™ Pipe

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What's in the Case

A	SonTek-IQ Pipe
B	Mounting Brackets with Screws
C	Cable Adaptor
D	RS232 Cable
E	USB Thumb Drive (IQ Software)
F	IQ Power/Communications Cable
G	AC Power Supply
H	USB to Serial Adaptor
I	Battery Hook-up Cable
J	Tool kit (not shown)
K	Pipe ring mount (optional, not shown)
L	Flow display (optional, not shown)



1) Install IQ Software

- Plug the USB thumb drive into your PC
- Run **Setup.exe** and follow the instructions
- Run IQ Software on your PC
- Click Software Settings (upper left corner)
 - Specify a location to store data (**IQ data folder**)
 - Select software **Units** (this affects the software display, but not real time output data)



Additional Help: IQ User's Manual



IQ User's Manual.PDF – on the USB drive



Click the Help icon in the IQ Software

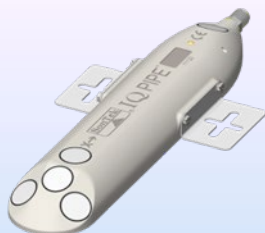
3) IQ Pipe Mounting Brackets

Standard Mounting Brackets

- Assembled at the factory
- Attach directly to the pipe

Optional Pipe Ring Mount

- Avoids screwing into pipe
- See Section 1.1 of the IQ User's Manual for details



2) Connect and Power the IQ

USB to Serial Adaptor

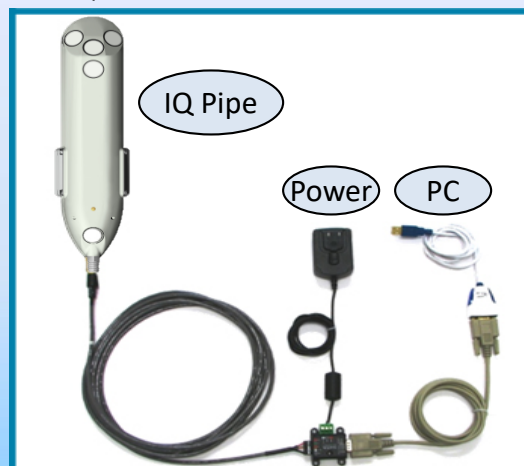
- Plug the adaptor into a USB port on your PC
- A driver is included on the USB thumb drive or as a Setup Executable here:
<http://www.ftdichip.com/Drivers/D2XX.htm>

10-15 VDC Power Supply

- Connect either the AC adaptor (G) or the battery cable (I) to the cable adaptor (C)

Connect the IQ to your PC

- 1) Connect IQ cable (F) to the IQ and cable adaptor (C)
- 2) Connect the power cable (G or I) to the cable adaptor (C) and the power source (outlet or battery)
- 3) Connect RS232 cable (D) to cable adaptor (C) and the USB to serial adaptor (H).
- 4) Run the IQ software and click **Connect**



4) IQ Software Operation

Connect to the IQ

- Connect all cables and the power supply
- Click the **Connect** icon; all parameters are displayed

SmartPage Icons

- ✓ All settings in this section are valid
- ? Settings are at default values and should be reviewed
- ! Invalid settings may prevent calculation of flow data

Changing Parameters

- Click a **Change** button
- Click any **Blue** text for help

Starting data collection

- Verify all parameters are set
- Click the **Start** button at the bottom of the page

Downloading data

- Click the **Download** button
- Data can be downloaded **during** data collection, without stopping the IQ – even the current file!

View IQ Data

- Click the **View Data** button
- Data can be organized by file name, site name, and operator
- Select file(s) and choose variables for display / review

The screenshot displays the IQ software interface with the following sections:

- System information:** Name: IQ Plus, Serial number: IQ1615013, Firmware version: 2.220, Data files: 4 new files / 0.7 MB, Status: Idle (not collecting data), Available recorder space: 3.953MB (99.88%), Flow Display: Not present.
- Site details:** File name, Site name, Operator name, Comments, Water salinity (ppt): 0.00.
- Data collection schedule:** Sample duration (sec): 120, Sample interval (sec): 900, Align sample to hour: Sample starts at the top of an hour, Recorder life: 6,783 days, Battery life (12.0 V, 12.0 A-h): 38 days, Maximum file size (MB): 10.
- Velocity configuration:** IQ Velocity Cells: Smart Pulse, Use Reverse Flow: Disabled, Use Velocity Filter: Disabled.
- Flow configuration:** Mean velocity equation type: Index, $V_{mean} = 0.000 + Velocity * 1.00 + Stage * 0.00$, Remember total volume (acre ft): Continuous, Velocity threshold (ft/s): 0.098, Flow threshold (ft/s): Disabled, Stage threshold (ft): Disabled.

5) Field Installation Guidelines

Location, Location, Location: It matters!

- Look for a long, straight section away from any bends or turns upstream and downstream
- Avoid:
 - Flow obstructions and excessive turbulence
 - Abrupt changes in pipe diameter
 - Significant aeration/bubbles in water
 - Large amounts of sedimentation and debris

Mounting

- Align IQ with direction of flow in center of pipe
- Secure IQ so it cannot move/vibrate during data collection
- Route cable through conduit for protection

Pipe Dimensions

- Accurate pipe dimensions are essential for good flow data

Note: The IQ is not IS or ATEX certified. Do not use in areas with explosion risk.



6) Real Time Data

IQ Software: Real Time Data Settings

- Select and configure the output type
- Specify output units

SDI-12

- Connect SDI-12 data line to IQ cable adaptor
- Disconnect SDI-12 when programming the IQ

Modbus

- Uses same RS232 serial port as the IQ Software

Flow Display (Optional)

- Replaces IQ cable adaptor
- Continuous LCD readout of all key values
- Can be used in conjunction with other real time data

Analog Outputs (4-20 mA)

- Optional feature on Flow Display
- 4 output channels, each proportional to 1 variable

