Dill-Tech

Distributor of Subsurface Detection System and Utility Instruments

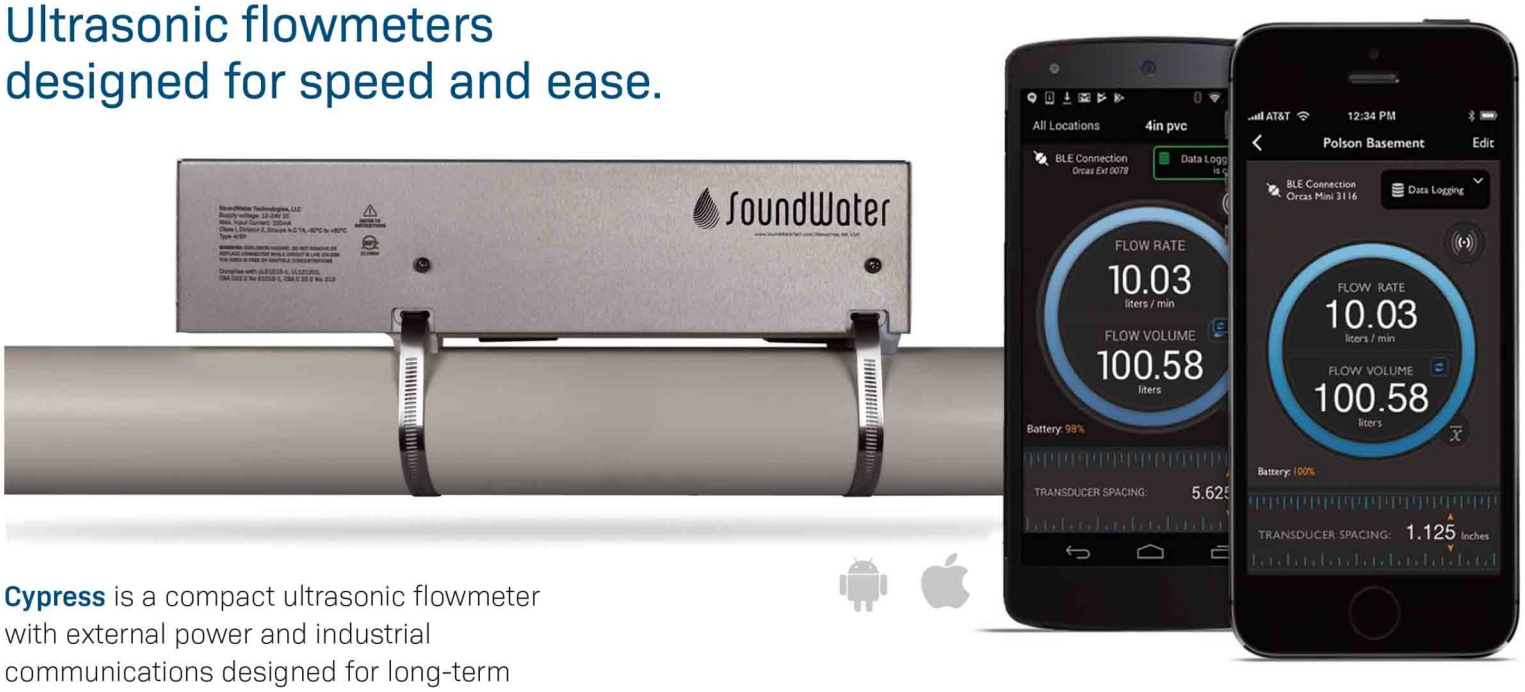
SPECIFICATION SHEET

Cypress™ Flowmeter

Hazardous Areas C1D2

Cypress™ Ultrasonic Flowmeter

Ultrasonic flowmeters designed for speed and ease.



Cypress is a compact ultrasonic flowmeter with external power and industrial communications designed for long-term flow monitoring and certified for use in C1D2 hazardous areas. It installs on the outside of your pipe—and senses flow through the pipe wall. The Cypress Flowmeter connects with your mobile device or to the SoundWater Flow Computer for displaying measurements.

Whether you're using your mobile device or the Flow Computer, the setup is easy to follow. Quick, simple installation—5 minutes from start to finish.

Industries

- Water & Wastewater
- Agriculture
- Building Water Management
- Oil & Gas
- Chemical & Pharmaceutical

Fast to install, easy to use.

Advantages

MEASUREMENTS YOU CAN TRUST
Our proprietary SoundWater Reciprocity Architecture™ prevents zero-flow drift and eliminates the need for calibration, resulting in long-term measurement stability and accuracy.

INCREASES PRODUCTIVITY
Featuring compact lightweight construction and intuitive apps—our products streamline installation, training, and setup—saving you time and money.

MADE IN USA
Locally owned and operated out of Wenatchee, Washington, our products are built with American quality and ingenuity.

WORKS IN TOUGH APPLICATIONS
Our transducers auto-adjust ultrasonic power output depending upon pipe and fluid conditions—giving you more frequent measurements when things get tough (e.g., corroded pipe or murky fluid).

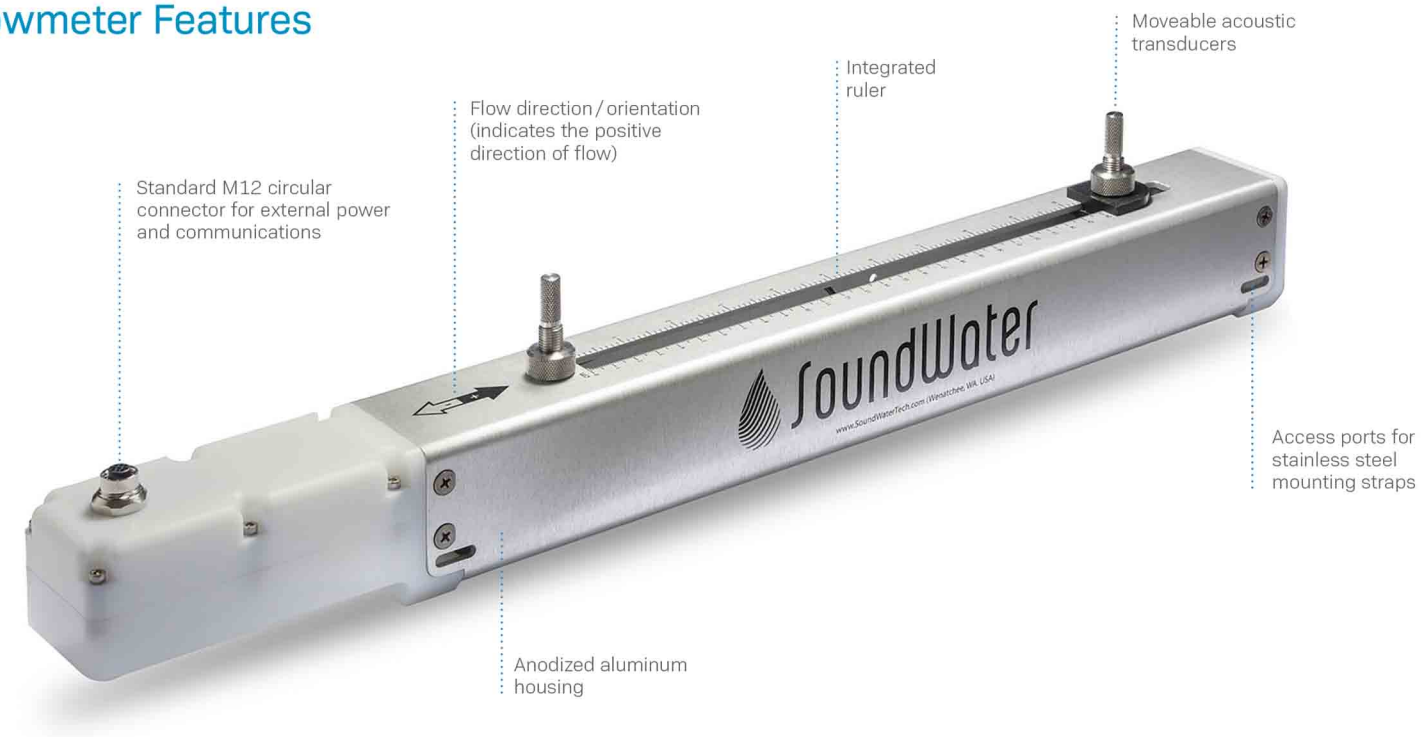
LONG LIFE / LOW MAINTENANCE
SoundWater products are built to last using the highest quality materials, gasketed & double O-ring seals, and silicone gel to protect electronics.

SERVICE & ACCOUNTABILITY
We establish long-term customer relationships based on trust and service. We will respond to your needs and requests within 24 hours.

Advantages & Features

- Long-term flow monitoring
- Connects with your SCADA/PLC
- SoundWater Reciprocity Architecture
- Auto-Adjusting Ultrasonic Power
- Compatible with Mobile Orcas App or SoundWater Flow Computer; intuitive setup and use
- One-piece construction; no assembly
- Gel-free transducers (optional)
- Wireless design

Flowmeter Features



Orcas App Features

Interactive smartphone/tablet control app—iOS or Android.

- **Save location information**
- **Handy built-in pipe specifications—or add your own**
- **Drag and drop output selection**
- **English or metric units**
- **Languages: English, Spanish, Portuguese**
- **Easy-to-use data logging**
- **Select liner and liquid types —or define your own**

Flow Computer Features

Interactive mounted screen for long-term flow monitoring.

- **Connects with one or two flowmeters**
- **No contact with fluid**
- **Calculate analytics from two flowmeters**
- **Standard industrial outputs**
- **Touchscreen and intuitive app**
- **Install indoors our outdoors**
- **May be installed long distances from flow sensor**

DILL-TECH (+61) 0407 425 315 sales@dill-tech.com.au

Dimensions

Cypress Txxx-C5

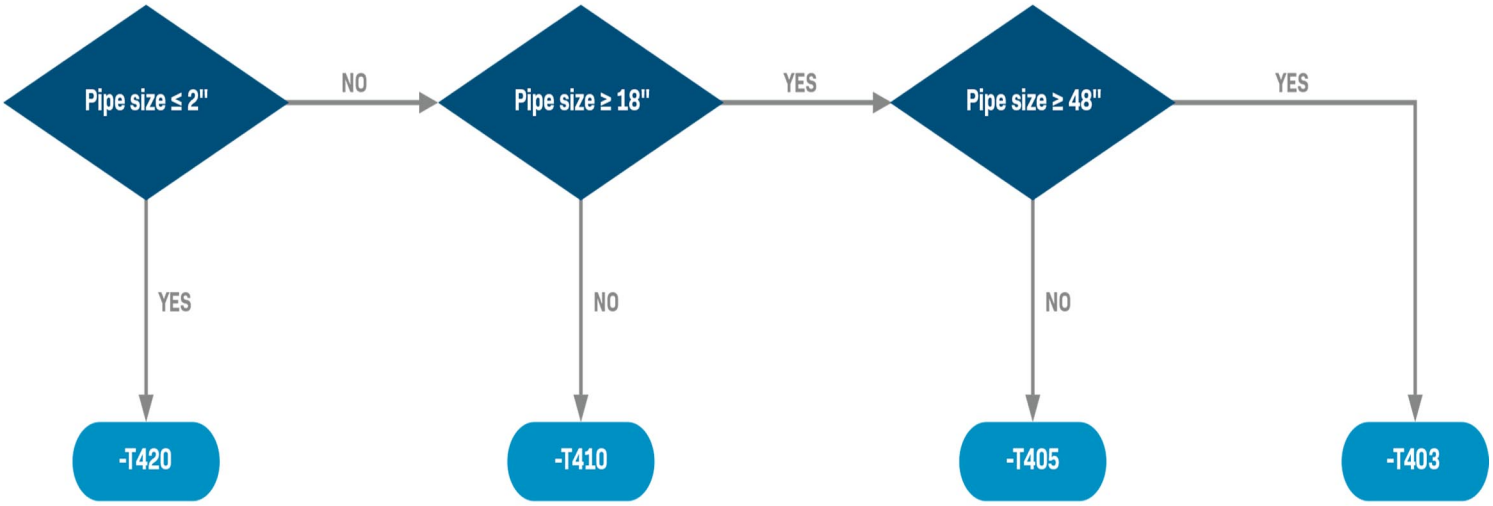
Cypress Txxx-C11

Cypress Txxx-CM5

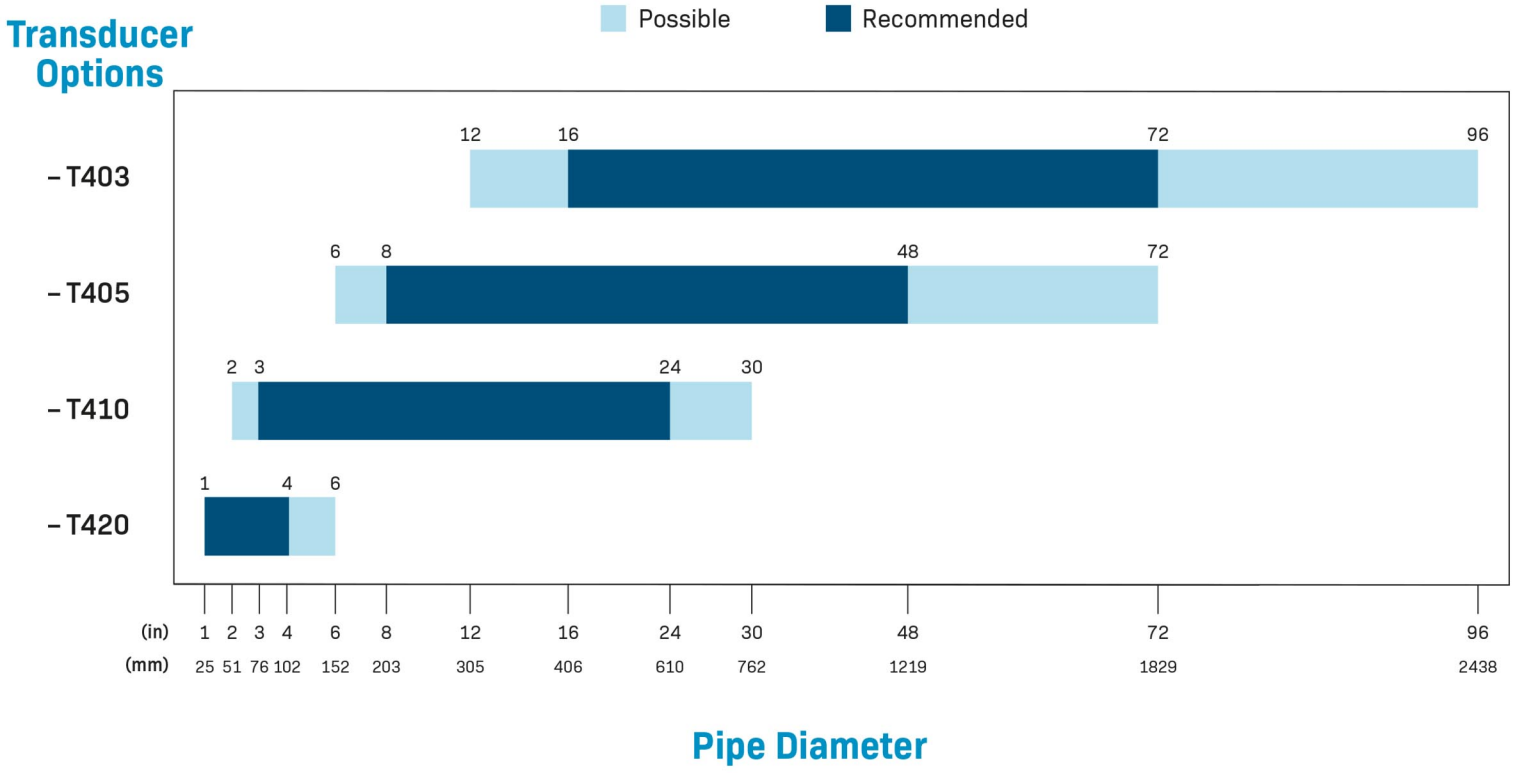
Cypress Txxx-CM11

Cypress –CM Single Traverse

Transducer Selection



Transducer Selection Table



Cypress Specifications*

* Specifications subject to change

Pipe Materials
Metal: Steel, Stainless Steel, Copper, Brass, Aluminum, Ductile Iron
Plastic: PVC, CPVC, HDPE, LDPE, PE, PIP, FRP, PEX

Installation
Installs on pipe from 1" to 96" nominal diameter depending on hardware selection
15 pipe diameters upstream, 5 diameters downstream for optimal performance (typical)

Flow Detection Range
Bi-directional; 0 ft/s to 64 ft/s (0 m/s to 20 m/s)

Min. Wall Thickness
-T420: 0.05" **-T410:** 0.10" **-T405:** 0.20" **-T403:** 0.4"

Performance

PIPE SIZE RANGE	ACCURACY (% OF READING)	REPEATABILITY
3" to 96"	±1.0% to 2.0% typical	0.5%
1" to 2"	±2.0% to 3.0% typical	0.5%

*Under standard conditions, assuming fully developed and symmetrical flow profile (typically taken on a straight run of 15 diameters upstream and 5 diameters downstream; flow rate above 3 ft/s or 1m/s; non-aerated liquids).

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Outputs (OPTIONAL)
CURRENT (4-20 mA) Current proportional to flow; user programmable.
PULSE NFET (NPN type) open drain output; frequency proportional to flow; user-programmable; Max 39,000 (Hz)
MODBUS RTU RS485, user programmable port settings.

Display
SoundWater Flow Computer (optional; wall mount display)
SoundWater Orcas™ App (iOS or Android) connected wirelessly to Cypress with Bluetooth 4.0 (BT LE)
Metric and English units; Rate, Total, Velocity, Sound Speed

Data Logger
Store up to 365 days, 10,000 measurements, 50,000 datapoints

Security
Six digit password protection restricts unauthorized users from accessing or changing flowmeter setup, data logger, and totalizer

Languages
English, Spanish, Portuguese (app only)

Flowmeter Kit
Flowmeter, silicone based coupling gel, mounting straps, power-communication cable

Hardware

	MODEL	PIPE SIZE RANGE	LENGTH	FREQUENCY (MHz)
DOUBLE TRAVERSE	Cypress T420-C2	1" to 3"	12.0"	2
	Cypress T420-CM5	2" to 6"	16.6"	2
	Cypress T410-C5	2" to 6"	16.6"	1
	Cypress T410-C11	2" to 14"	22.6"	1
SINGLE TRAVERSE	Cypress T410-CM5	4" to 14"	16.6"	1
	Cypress T410-CM11	4" to 24"	26.6"	1
	Cypress T405-CM5	6" to 14"	16.6"	0.5
	Cypress T405-CM11	6" to 48"	23-39"	0.5
	Cypress T403-CM14	12" to 96"	30"	0.3

Power
12-24 VDC external power for continuous use; 0.6 W Typical (100 mAmp max current)
REQUIRED: The cover must be installed on the equipment before use.
REQUIRED: UL/CSA 62368-1 Listed Class 2 supply

Turndown
200:1

Environmental
Liquid/pipe temperature -40˚ to 140 F (-40˚ to 60˚ C); Ambient temperature -40˚ to 140˚ F (-40˚ to 60˚ C)
NEMA 4/6P indoors or outdoors, wash-down environment, corrosion resistance, and occasional submersion

Materials
BODY: Anodized aluminum channel, PVC electronics housing and footings
MOUNTING STRAPS: Stainless Steel **FASTENERS:** Stainless steel
HARDWARE: Stainlesss steel, acetal, ultem **CONNECTOR:** M12, nickel plated brass

(Specifications continue, next page)

Cypress Specifications*

* Specifications subject to change

Distributor	DILL-TECH, Bullcreek, Western Australia
Zero Stability	Reciprocity based hardware for measurement stability and low flow performance.
Auto-Ranging	Auto-adjusting ultrasonic transducer power, and auto-adjusting transducer receiver gain. Maximizes usable signal and measurement quality.
Technology	Transit Time Ultrasonic
Regulatory Certification	Class I, Division 2, Groups A-D T4, -40°C to +60°C Complies with UL61010-1, UL121201, CSA C22.2 No 61010-1, CSA C 22.2 No. 213 E115800 REFER TO INSTRUCTIONS **WARNING: EXPLOSION HAZARD. DO NOT REMOVE OR REPLACE CONNECTOR WHILE CIRCUIT IS LIVE UNLESS THE AREA IS FREE OF IGNITIBLE CONCENTRATIONS** **AVERTISSEMENT: RISQUE D'EXPLOSION. NE PAS RETIRER NI REMPLACER LE CONNECTEUR PENDANT QUE LE CIRCUIT EST SOUS TENSION, À MOINS LA ZONE EST EXEMPT DE CONCENTRATIONS INFLAMMABLES** This device complies with Part 15 of FCC Rules and Industry Canada license- exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Contains FCC ID: XDULE40-S2, Contains IC: 8456A-LE4S2. CAN ICES-1/NMB-1; CAN ICES-3 (B)/NMB-3(B) MODEL: SWT ORCAS-01 0008-160188

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www.dill-tech.com.au
Email: sales@dill-tech.com.au
Phone: (+61) 0407 425 315