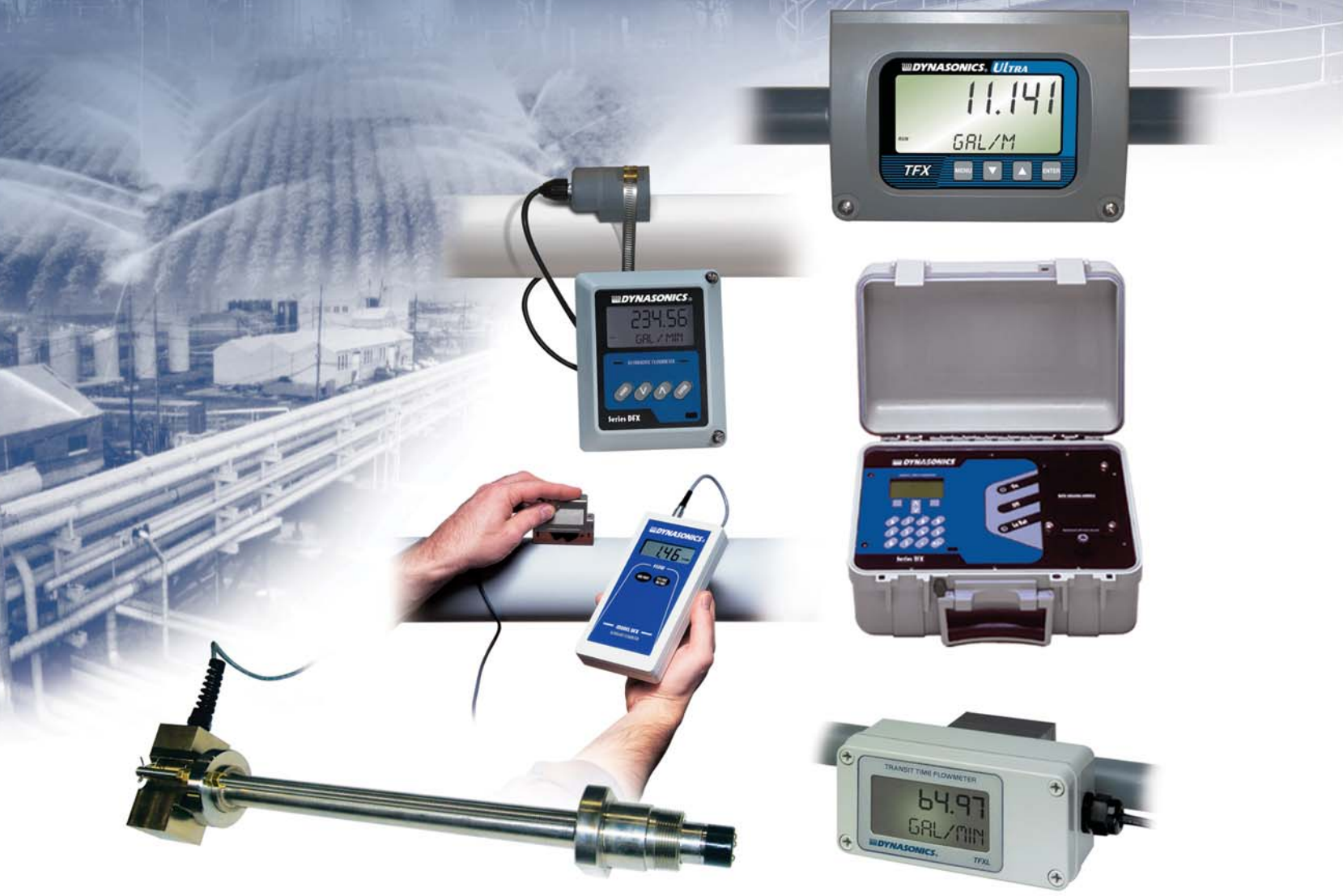
DYNASONICS®

Product Summary Guide



An overview of Dynasonics products
and intended applications

RACINE FEDERATED INC.
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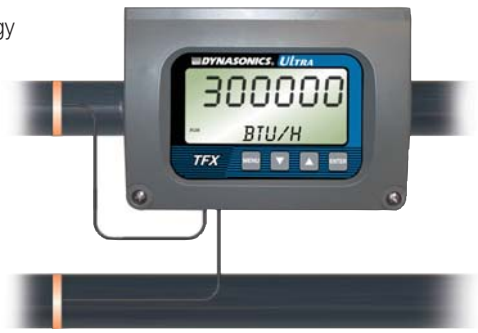
800.535.3569 **www.dynasonics.com**

DYNASONICS® Product Choices

Ultra Energy Ultrasonic Transit Time Energy Flow Meter



Ultrasonic clamp-on Energy flow meter used in conjunction with dual RTD's measures energy usage in BTU, tons, KJ, KW and MW and is ideal for retrofit, chilled water, hydronic radiant heating and other HVAC applications. With the clamp-on sensor design there is no need to depressurize, freeze, or drain the liquid system for installation or maintenance. Includes Modbus RTU via RS485 communications and optional 10/100 Base-T Ethernet communications which contains Modbus TCP/IP, EtherNet™/IP and BACnet®/IP compatibility. Large measurement range ensures reliable readings and reduces billing errors. Remote and integral mount systems available.

Applications: For fixed location installations on liquids with small amounts of suspended solids or aeration in closed full pipes size ½" (12 mm) to 2" (50 mm) for integral mount and ½" (12 mm) and larger for remote mount systems.

TFX Ultra Ultrasonic Transit Time Flow Meter

Ultrasonic clamp-on flow meter provides reliable readings with low installation costs, no pressure head loss, no moving parts, and no fluid compatibility issues. Measures in a variety of user-configured engineering units via the keypad or optional *UltraLink*™ software utility. The software utility allows simple in-field programming, calibration and software upgrades. Industrial communications via RS485 Modbus RTU protocol and 10/100 Base-T (Modbus TCP/IP, EtherNet™/IP and BACnet®/IP). Rugged, compact, aluminum enclosure ensures a long service life in harsh environments. Remote and integral mount systems available.

Applications: For fixed location installations on liquids with small amounts of suspended solids or aeration in closed full pipes size ½" (12 mm) to 2" (50 mm) for integral mount and ½" (12 mm) and larger for remote mount systems.

TFXL Economical Ultrasonic Transit Time Flow Meter

Designed to replace mechanical flow meters in applications where liquid conditions tend to damage or impede mechanical flow meter operation. A low cost non-invasive system that clamps on the outside of the pipe. Installation is cost effective and requires no maintenance. All meters provide two flow rate outputs: 4-20mA analog and 0-1,000 Hz Rate Pulse, permitting it to interface with a variety of monitoring equipment. UltraLink™, a Windows®-based software utility, allows users to configure, calibrate and troubleshoot. Remote systems also available.

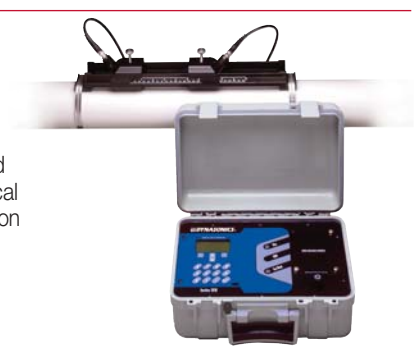
Applications: For fixed location installations on virtually all non-aerated liquids in closed full pipes size ½" (12 mm) to 2" (50 mm) for integral mount and ½" (12 mm) and larger for remote mount systems.

TFXD Ultrasonic Transit Time Flow Meter

Non-invasive flow measurement system with superior accuracy, versatility, and low-cost installation. Display unit has a large LCD and an integral keypad that allows field configuration without the use of a computer. Includes an optical interface to be used with the *UltraLink*™ software utility. The software utility allows simple in-field programming, calibration and software upgrades. Several optional input/output modules are available.

Applications: For fixed location installations on virtually all non-aerated liquids in closed full pipes size ½" (12 mm) and above.

TFXP Portable Ultrasonic Transit Time Flow Meter

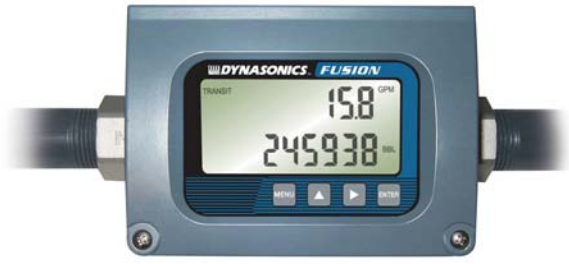


Ideal for conducting flow measurement surveys on full-pipe liquid systems and for verifying calibration of permanently mounted flow meters. Non-invasive clamp-on transducers are simple and cost effecient to install. Features a tactile keypad, 24-hour battery (rechargeable), 4-20 mA output, removable 200,000-point data logger (optional), dual-RTD energy (optional) and a 64x128 pixel, back-lit graphics display integrated into a watertight enclosure. Provides an optical interface utilized with *UltraLink*™,a software utility that allows simple in-field programming, calibration and software upgrades.

Applications: For portable flow measurements on virtually all non-aerated liquids in closed full pipes size ½" (12 mm) and larger.

Fixed and Portable Flow Meters

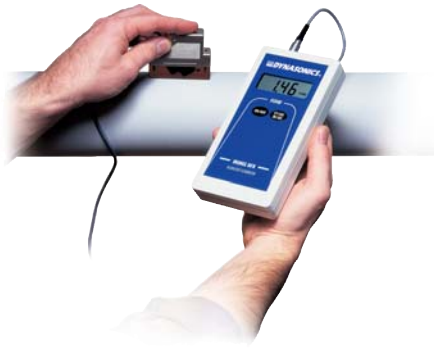
Fusion Hybrid Ultrasonic Flow Meter



Utilizes both Doppler and transit time ultrasonic measurement technologies. Automatically switches and selects the best technology to calculate accurate flow rate and total flow. Rugged, all metal construction ensures a long service life in harsh outdoor environments. Flow-through stainless steel sensor design withstands adverse flow conditions without clogging, damaging, or influencing accuracy. Fusion meters are completely calibrated and sensors are pre-installed on a stainless steel spool piece for easy and quick installation.

Applications: For fixed location installations on clean, solids-bearing, or gaseous liquids in closed full pipes with ½", 1", and 2" NPT port sizes.

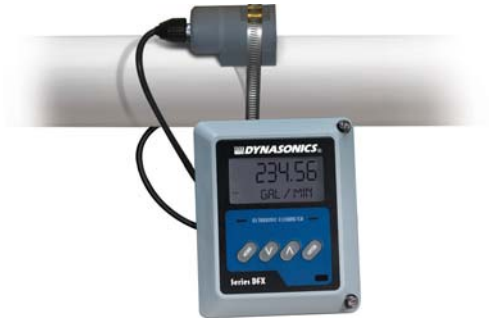
UFX Hand Held Ultrasonic Doppler Flow Meter



Small, lightweight, battery-powered flow verification instrument. Utilizes a non-invasive, hand-held transducer, which is placed on the outside of metal or plastic pipes. Large LCD provides a velocity reading in either FPS (feet per second) or MPS (meters per second). UFX comes with a flow calculator/slide chart for conversion of velocity measurements to volumetric measurements. Also included are four AA batteries and a tube of Dow® 111 silicone couplant (for temporary mounting); all in an organized hard plastic carrying case.

Applications: For portable flow measurements on liquids containing a minimum of 100 PPM of 100 micron size suspended solids or aeration in closed full pipes size ¼" (6 mm) and larger.

DFX Doppler Ultrasonic Flow Meter



Utilizes non-intrusive, clamp-on design for easy installation and low maintenance, with no process shutdown. Relatively insensitive to VFDs and other electronic or ultrasonic noise. User-friendly, field programmable display with 8-digit resettable rate/total display. Accurate and reliable with a wide measuring range of 0.15 to 30 FPS. Hot-tappable insertion Doppler probe available for pipe systems that do not permit ultrasound penetration.

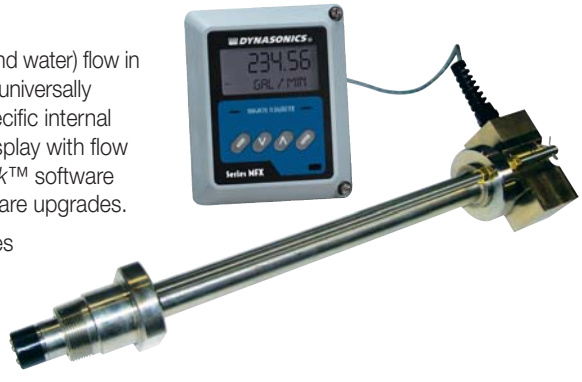
Applications: For fixed location installations on liquids that contain useful suspended sonic reflectors in closed full pipes size ¼" (6 mm) and larger.

902 Portable Ultrasonic Enhanced Doppler Flow Meter

Features non-invasive, clamp-on dual transducers for reliable and cost effective flow measurement. Includes a 2-line LCD display of flow rate and totalizer with simple on-site programming via keypad. Internal, rechargeable battery and AC power adapter included, as well as a standard 4-20mA output. Available in metric or US engineering units. Virtually maintenance free, non-fouling transducers are immune to build-up of grease and other coating materials.

Applications: For portable flow measurements on liquids containing a minimum of 25 PPM of 30 micron size suspended solids or aeration in closed full pipes size ¼" (6 mm) and larger.

MFX MagProbe™ Insertion Magnetic Flow Meter



Cost-effective solution for accurate measurement of conductive liquid (i.e. tap or ground water) flow in closed conduit, pressurized-pipe applications. Hot-tappable insertion-style sensor is universally applied to a large range of pipe sizes without hardware changes, compared to specific internal pipe dimension design of conventional magnetic meters. Programmable digital display with flow rate/totalizer values. Provides an optical interface which is utilized with the *UltraLink*™ software utility. The software utility allows simple in-field programming, calibration and software upgrades.

Applications: For fixed location installation on conductive fluids in closed full pipes with internal diameters of 4 to 120 inches (102 to 3048 mm) and adequate lengths of straight pipe.

Technology Selection Guide

Liquid Type (in order of increasing % of suspended solids)

Ultrapure Liquids
Deionized Water
Water Filter-Bed Effluent

Chiller Water
Hydraulic Oil

Refined Hydrocarbons
Beverages
Well Water
Reclaimed Water

Cooling Tower
Ground Water

Raw Sewage
Gray Water

Beverages - Carbonated

Waste Activated Sludge
Return Activated Sludge

Mining Slurries

Filter Backwash

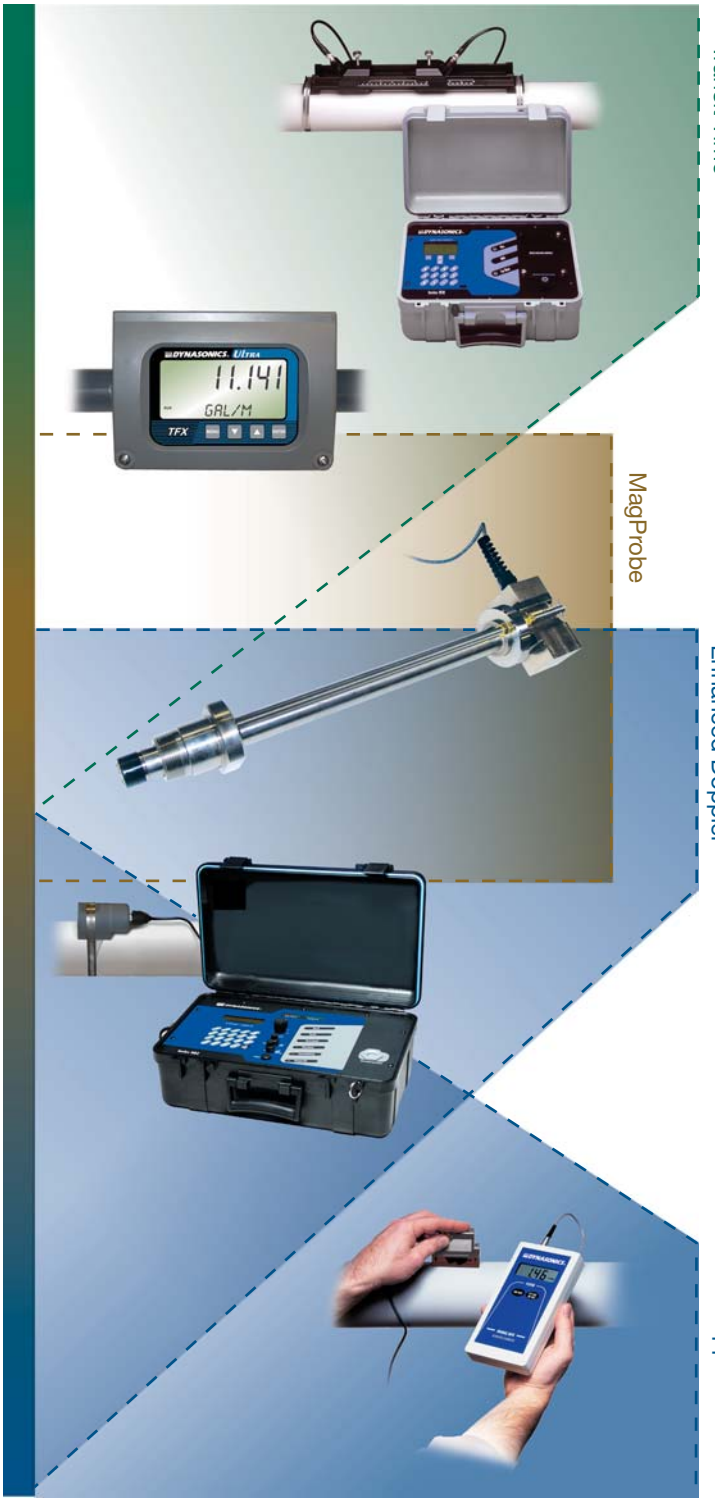
Paper Pulp Stock

Preprocessed Crude Oil

Primary Sludge
Lime Sludge
Digested Sludge

Dredging Applications

Concrete



This guide provides general rules for the selection of an appropriate Dynasonics ultrasonic technology – it is neither exhaustive nor absolute. System factors such as temperature, pipe materials, suspended solid composition and liquid velocity can influence product selection. It is best to present application information to a Dynasonics Sales Representative or to the Dynasonics factory for evaluation.

Dynasonics offers the most comprehensive line of ultrasonic transit time and Doppler flow meters in the world. These meters include clamp-on, non-invasive flow meters that require a good acoustical path between the outside of the pipe and the liquid inside. In some instances, such as non-saturated concrete pressure pipe, ultrasonic energy will not readily pass. For these installations, Dynasonics offers the Series MFX MagProbe™ as well as an insertion Doppler probe.

Please consult a Dynasonics Sales Representative or the Dynasonics factory to discuss Dynasonics products in your flow measurement application.

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