The installation of Accusonic Model 7510 Plus flow meter at the West Stanislaus Irrigation District's diversion off the San Joaquin River was installed in strict conformance with manufacture's standards and the flow meter was properly commissioned with as-built data. Attached is flow meter as-built data, manufactures standards, parameter settings, installation pictures and manufacture's data sheet.

Robert Pierce, PE

West Stanislaus Irrigation District

San Joaquin River Diversion

Measurement Type: Accoustic Meter
Sensor Model: 7510 Plus NEMA 4X Flowmeter
Installation Type: Full Pipe Configuration
Pipe Diameter: 96 Inch
Pipe Area: 50.2655 sq. Ft.
Pipe Material: Reinforced Concrete
Sensor Installation Date: Mar-13
Sensor Comission Date: Aug-13
Installation Vendor: Accusonic Technologies

Path	Path Angle	Path Length, Ft.	Path Weight
1	45.965	6.167	0.1382
2	44.784	10.552	0.3618
3	44.644	10.615	0.3618
4	44.864	6.349	0.1382

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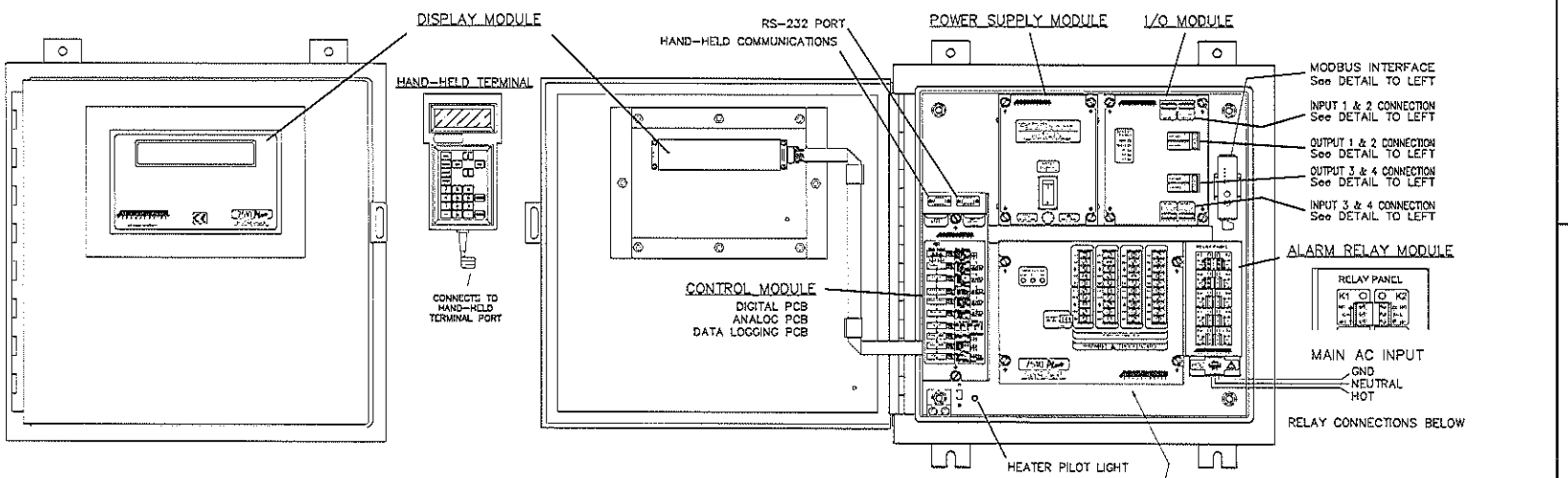
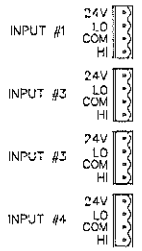
REVISIONS			
ZONE	LTR	DESCRIPTION	DATE	APPROVED

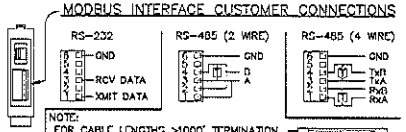


ISOLATED ANALOG INPUT CONNECTION DETAIL



NOTE:
REFER TO CHAPTER 4 OF THE 7510 TECHNICAL REFERENCE MANUAL 'CONNECTING THE ANALOG SENSORS' FOR CONNECTION DETAILS

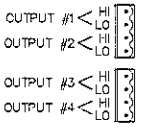
MODBUS INTERFACE CUSTOMER CONNECTIONS



NOTE:
FOR CABLE LENGTHS >1000' TERMINATION APPROXIMATELY EQUAL TO THE CABLE IMPEDANCE (TYPICALLY 100-200Ω) SHOULD BE USED.

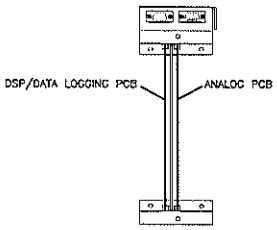
SWITCH 1 MUST BE IN THE ON POSITION FOR 2 WIRE SYSTEMS

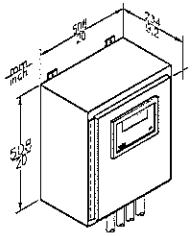
ANALOG OUTPUT CONNECTION DETAIL



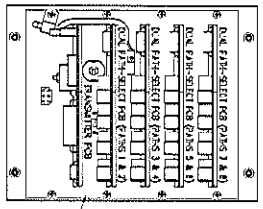
NOTE:
REFER TO CHAPTER 7 OF THE 7510 TECHNICAL REFERENCE MANUAL 'RELAY PARAMETERS' FOR CONFIGURATION DETAILS

CONTROL MODULE DETAIL

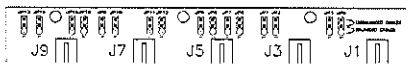




PATH-SELECT/TRANSMITTER MODULE PATH-SELECT BACKPLANE DETAIL



UNBALANCED CABLE JUMPER DETAIL



RELAY PANEL CONNECTIONS

K1	NO, C, NC	USER DEFINED
K2	NO, C, NC	USER DEFINED
K3	NO, C, NC	USER DEFINED

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	CONTRACT NO.	ACCUSONIC TECHNOLOGIES	
TOLERANCES ON: DECIMALS .X ±.1 .XX ±.01 .XXX ±.005; ANGLES ±1°; FRACTIONS ±1/64; SURFACE ROUGHNESS √	DRAWN Apollo 10/29/05; CHECKED; ENGINEER; APPROVED	TITLE: MODEL 7510Plus NEMA 4X FLOWMETER	
MATERIAL	FILENAME 7510Plus.DWG	SCALE NONE; CUST. ITEM NO.; DWG. NO. C 25993 7510Plus; REV. 00	

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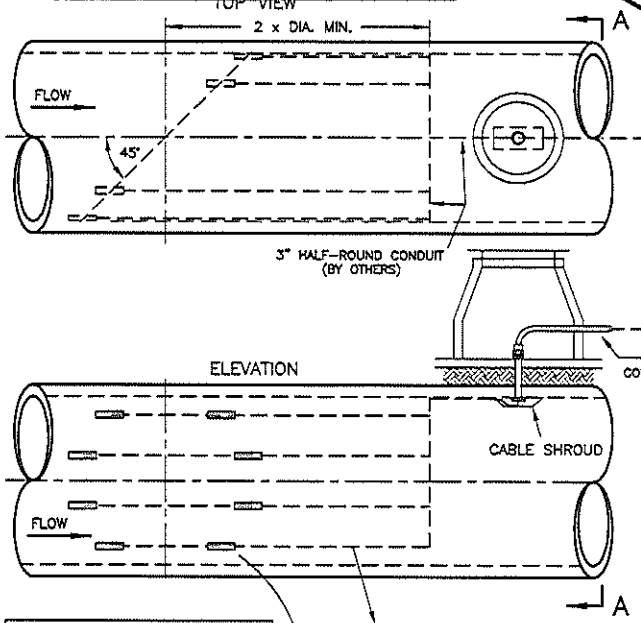
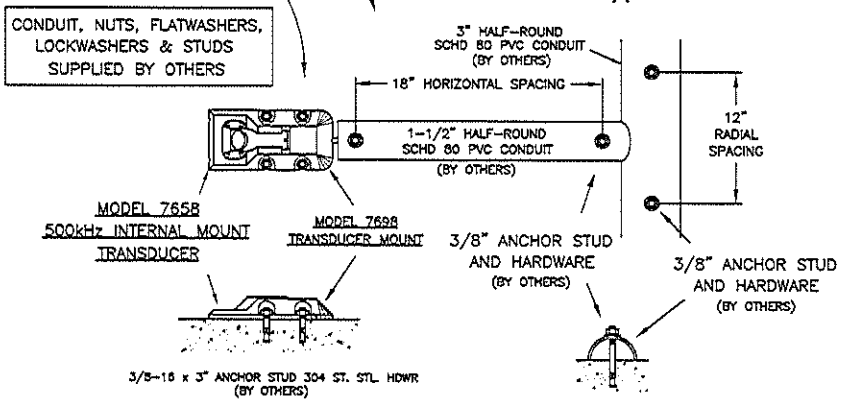
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

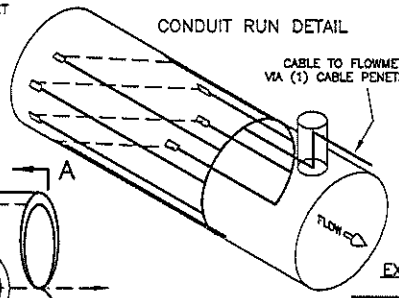
SINGLE PLANE 4-PATH CONDUIT CONFIGURATION

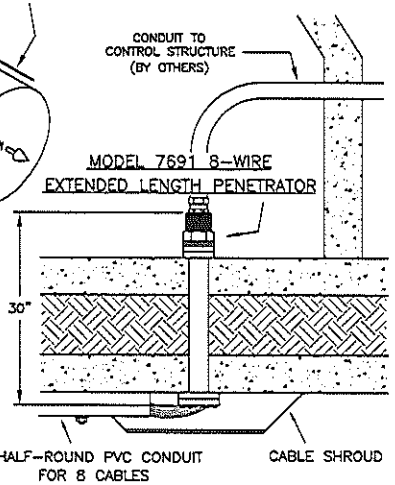


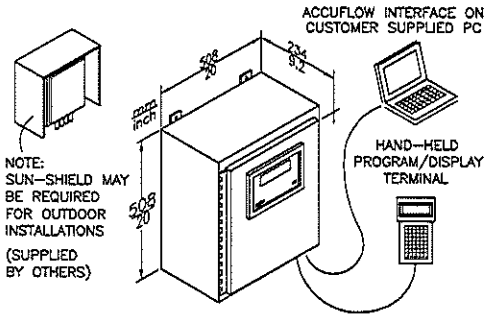
CONDUIT, NUTS, FLATWASHERS, LOCKWASHERS & STUDS SUPPLIED BY OTHERS



CONDUIT RUN DETAIL







MODEL 7510+C FLOWMETER OPERATIONAL LIMITS & SPECIFICATIONS

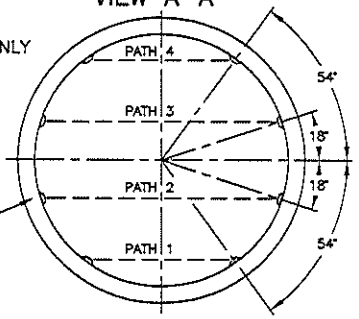
(-4-HO-MO-AC-6R)

- NO ENCLOSURE: NEMA 4 WALL MOUNT, DIMENSIONS AS SHOWN
- WEIGHT: 9Kg/20lbs
- POWER REQUIREMENTS: 90 – 250V AC SINGLE PHASE 47 – 65 Hz 70VA
- DISPLAY: 2-LINE, 20 CHARACTER FRONT PANEL LCD
- PARAMETER ENTRY: VIA HAND-HELD TERMINAL OR ACCUFLOW SOFTWARE ON CUSTOMER SUPPLIED PC
- OPERATING TEMPERATURE: MAX 60°C/140°F MIN -10°C/15°F
- HUMIDITY: 0-95% (NON-CONDENSING)
- 2MB INTERNAL DATALOGGER WITH ACCUFLOW WINDOWS© INTERFACE
- OUTPUTS: (4) CHAN. ISOLATED 4-20mA OUTPUTS (1) RS-232 SERIAL DIGITAL COMMUNICATIONS PORT (1) HAND-HELD TERMINAL PORT
- RELAYS: (6) CONTACT CLOSURE RELAY OUTPUTS
- PATH CAPABILITY: 4 ACOUSTIC PATHS

VIEW A-A

ANGLES SHOWN FOR REF. ONLY -NOT DRILL ANGLES-

MODEL 7658/98 (500kHz) TRANSDUCER & MOUNT



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	CONTRACT NO. 9A-F1526	ACCUSONIC TECHNOLOGIES	28 Patterson Brook Rd, Unit 1 W. Wareham, MA 02576 TEL: (508) 273-9600 FAX: (508) 273-9699
TOLERANCES ON DECIMALS .XX .XXX ±___ ±___ ANGLES ±___ FRAC ±___ SURF ROUGHNESS ✓ MATERIAL	DRAWN Apollo DATE 7/24/12	TITLE: MODEL 7510+C FLOWMETER 96" ID PIPE GENERAL ARRANGEMENT	
	CHECKED		
	ENGINEER		
	APPROVED		
FILENAME 9-F1526-001.DWG	SIZE B CODE IDENT NO. 25993 DWG. NO. 7510BT0481-361 REV. A1		
	SCALE NONE WT.LBS NA SHEET 1 OF 1		

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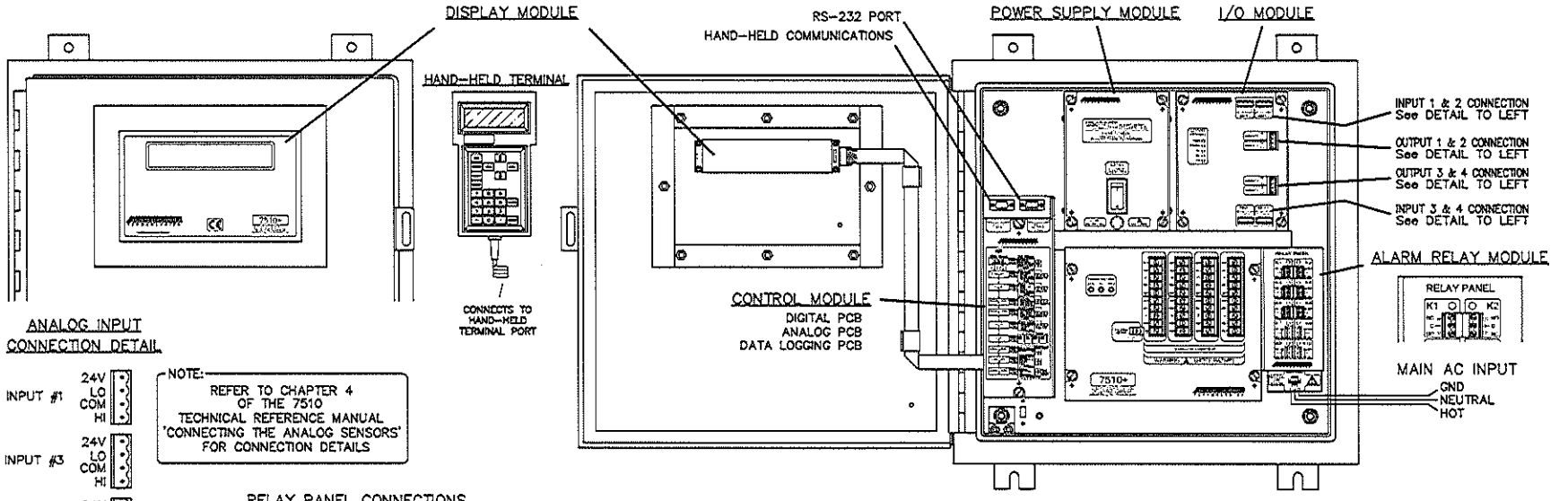
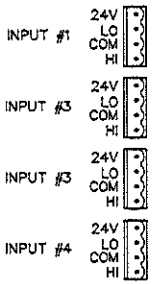
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

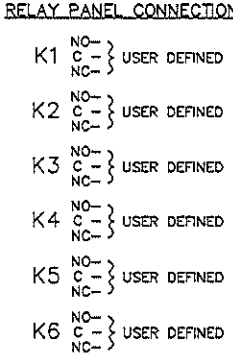


ANALOG INPUT CONNECTION DETAIL

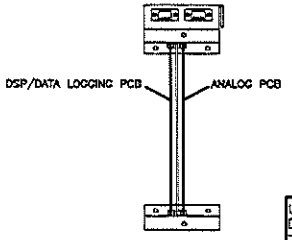


NOTE: REFER TO CHAPTER 4 OF THE 7510 TECHNICAL REFERENCE MANUAL 'CONNECTING THE ANALOG SENSORS' FOR CONNECTION DETAILS

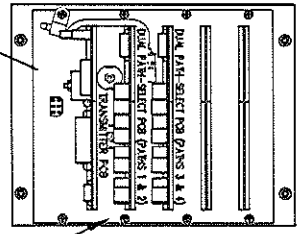
RELAY PANEL CONNECTIONS



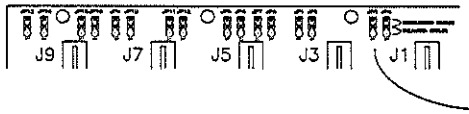
CONTROL MODULE DETAIL



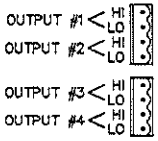
PATH-SELECT/TRANSMITTER MODULE
PATH-SELECT BACKPLANE DETAIL



UNBALANCED CABLE JUMPER DETAIL



ISOLATED ANALOG OUTPUT CONNECTION DETAIL



NOTE: REFER TO CHAPTER 7 OF THE 7510 TECHNICAL REFERENCE MANUAL 'RELAY PARAMETERS' FOR CONFIGURATION DETAILS

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	CONTRACT NO.	9A-F1526	ACCUSONIC TECHNOLOGIES
TOLERANCES ON	DRAWN	Apollo DATE 7/24/12	28 Patterson Brook Rd, Unit 1 W. Wareham, MA 02576 TEL: (508) 273-9600 FAX: (508) 273-9609
DECIMALS .XX .XXX ± ±	CHECKED		TITLE: MODEL 7510+C FLOWMETER NEMA 4 ENCLOSURE LAYOUT
ANGLES ±	ENGINEER		
FRAC ±	APPROVED		
SURF ROUGHNESS ✓			SIZE B | CODE IDENT NO. 25993 | DWG. NO. 7510BT0482-278 | REV. A1
MATERIAL	FILENAME 9-F1526-002.DWG		SCALE NONE | WT.LBS NA | SHEET 1 OF 1

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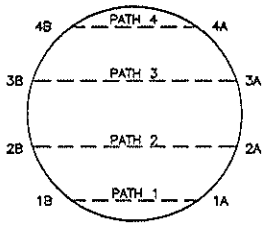
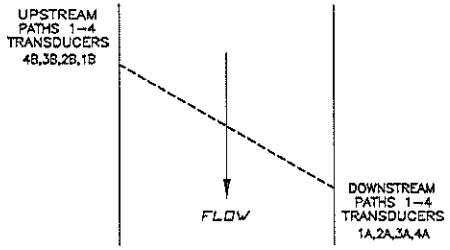
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

SINGLE PLANE SINGLE PIPE HOOK-UP CONFIGURATION

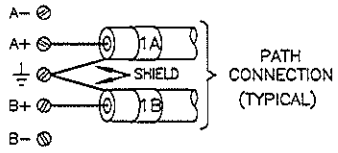


ELEVATION



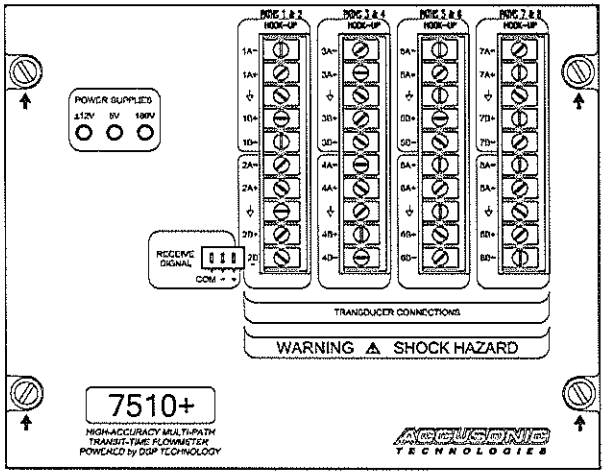
PLAN

SINGLE LINE CONNECTION DETAIL



TERMINATION CAN BE DONE USING NUMBER SIX FORKED LUG.

CABLE IS RG-59, GR-62 OR EQUIVALENT.



TRANSDUCER HOOK-UP PANEL DETAIL

PATH NO.	PATH-SELECT PANEL NO.	CABLE NO.
1	1A+ & 1A-	1A
	GND	
	1B+ & 1B-	1B
2	2A+ & 2A-	2A
	GND	
	2B+ & 2B-	2B
3	3A+ & 3A-	3A
	GND	
	3B+ & 3B-	3B
4	4A+ & 4A-	4A
	GND	
	4B+ & 4B-	4B

PATH NO.	PATH-SELECT PANEL NO.	CABLE NO.
5	5A+ & 5A-	
	GND	
	5B+ & 5B-	
6	6A+ & 6A-	
	GND	
	6B+ & 6B-	
7	7A+ & 7A-	
	GND	
	7B+ & 7B-	
8	8A+ & 8A-	
	GND	
	8B+ & 8B-	

TERMINAL CONNECTION DETAIL ON SHEET 2

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	CONTRACT NO. 9A-F1526	ACCUSONIC TECHNOLOGIES	28 Patterson Brook Rd. Unit 1 W. Wareham, MA 02576 TEL: (508) 273-9600 FAX: (508) 273-9669
TOLERANCES ON DECIMALS .XX .XXX ±___ ±___ ANGLES ±___.___' FRAC ±___ SURF ROUGHNESS ✓ MATERIAL	DRAWN Apollo DATE 7/24/12	TITLE: MODEL 7510+C FLOWMETER TRANSDUCER HOOK-UP DETAIL	
	CHECKED		
	ENGINEER		
	APPROVED		
	FILENAME 9-F1526-003 S1.DWG	SIZE B / CODE IDENT NO. 25993 / DWG. NO. 7510BE0483-278 / REV. A1	
		SCALE NONE / WT.LBS NA / SHEET 1 OF 2	

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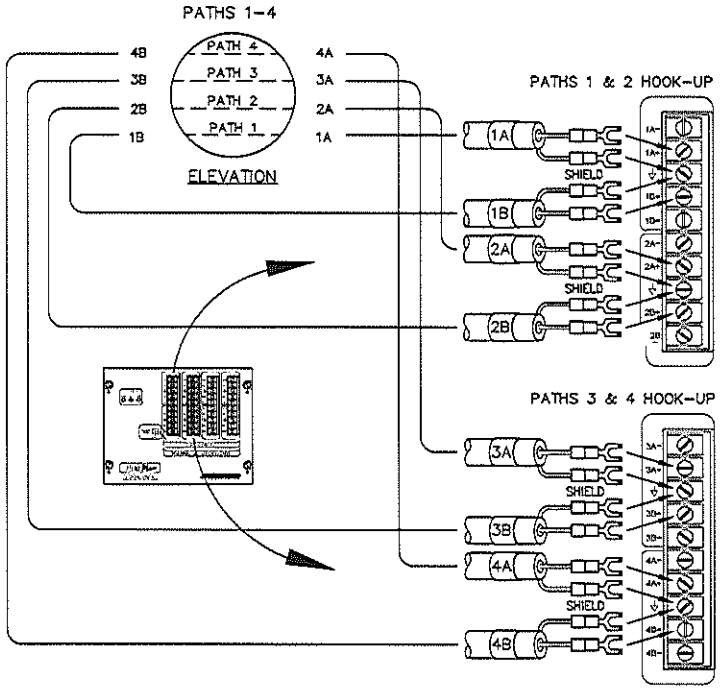
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

CABLES FROM TRANSDUCER TO TERMINAL STRIP ON FLOWMETER PANEL CONNECTION DETAIL



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	CONTRACT NO. 9A–F1526	ACCUSONIC TECHNOLOGIES	28 Patterson Brook Rd, Unit 1 W. Wareham, MA 02576 TEL: (508) 273-9600 FAX: (508) 273-9699
TOLERANCES ON: DECIMALS .XX ± .XXX ± ANGLES ± FRAC ± SURF ROUGHNESS MATERIAL	DRAWN Apollo DATE 7/24/12	TITLE: *MODEL 7510+C FLOWMETER TRANSDUCER HOOK-UP DETAIL*	
	CHECKED		
	ENGINEER		
	APPROVED		
	FILENAME 9–F1526–003 S2.DWG	SIZE B / CODE IDENT NO. 25993 / DWG. NO. 7510BE0483-278 / REV. A1	
		SCALE NONE / WT. LBS NA / SHEET 2 OF 2	

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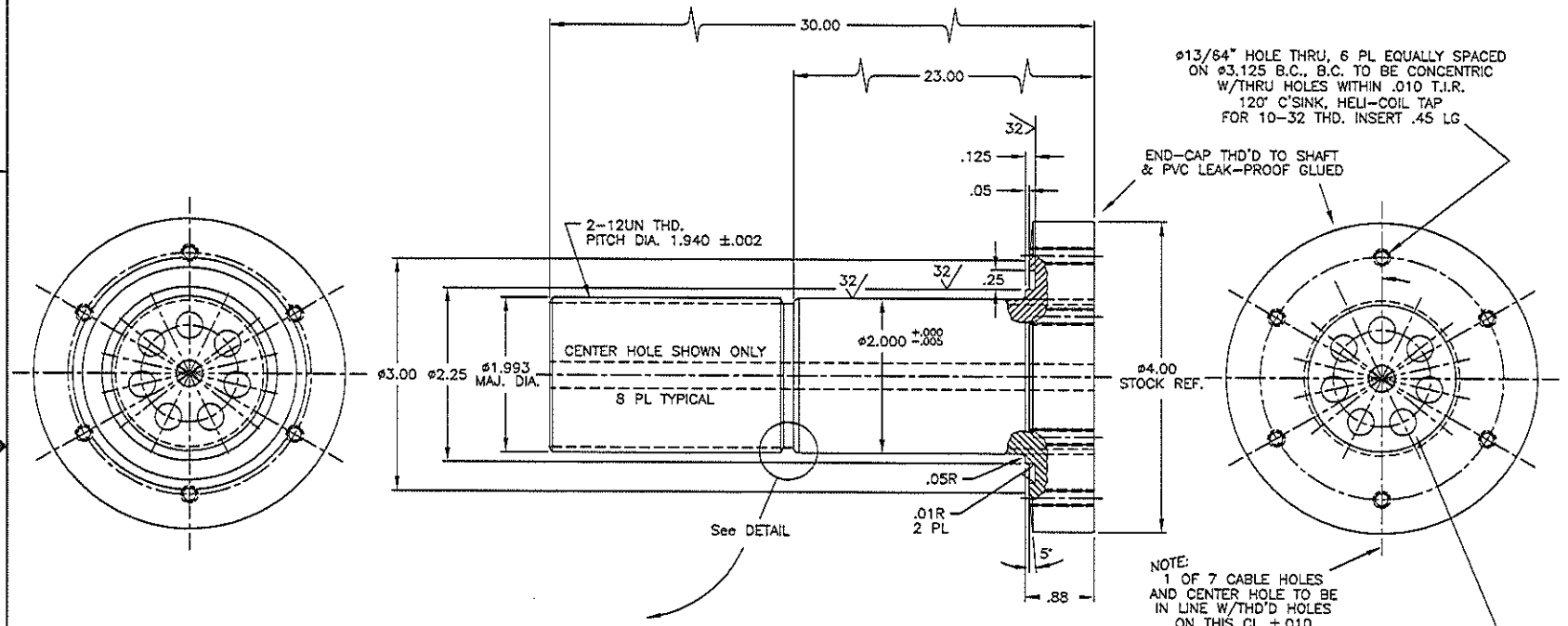
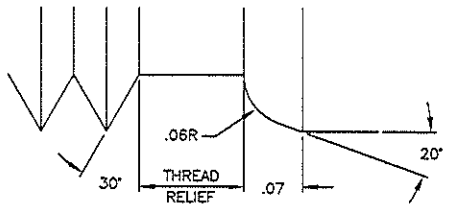
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A2	REVISED TO 2 PART ITEM PER MACHINE SHOP METHODS	4/8/08	—





CORNER RADIUS DETAIL
AT THREAD RELIEF
10X SCALE

'O'-RING REF. #2-331

Part No: 7691-0012-02

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: DECIMALS .X ±.1 .XX ±.02 .XXX ±.005 ANGLES ±1° FRACTIONS ±1/64 SURFACE ROUGHNESS 125 MATERIAL 4" DIA. HI IMPACT PVC (GREY)	CONTRACT NO. DRAWN Apollo 5/28/08 CHECKED ENGINEER APPROVED FILENAME 7691M012-2.DWG	ACCUSONIC TECHNOLOGIES	TITLE: 7691, BODY, 8W, PVC, EXTENDED SHAFT, 24" SIZE C; CODE IDENT. NO. 25993; DWG. NO. 7691CM0012-02; REV. A2 SCALE NONE; WT. LBS. NA; SHEET 1 OF 1

NOT A CONTROLLED DOCUMENT UNLESS MARKED CONTROLLED

ACCUSONIC
TECHNOLOGIES
Model: 7510+C4H0M0AC6 S/N:1736
Enclosure: NEMA
Job No.: 9A-F1526
Fuse: 5A, 250V
Electronics: 90 - 132 / 180 - 250Va.c.
47 - 63Hz 200VA
Manufacture / Date Code: 13CT13
28 Patterson Brook Road, W. Wareham, MA 02576
Phone: 508-273-9600 / Fax: 508-273-9699

PP1A Flow Meter Parameters Fri Aug 09 10:39:02 2013

Flow	211.877	Volume	1846	Section Status	Good
Section Level	0.000	Temperature	74.492	Integration	Pipe
Section Full	No	Learn Mode	Off	Path Substitution	Off

	Path-1	Path-2	Path-3	Path-4	Path-5	Path-6	Path-7	Path-8	Path-9	Path-10
Velocity	4.650	4.561	3.990	3.479						
Gain dB	-4.9	-3.8	-2.9	-4.4						
Gain %	98.1	98.4	103.0	101.0						
S/N	26.0	27.2	26.3	32.6						
Travel Time uS										
Forward	1259.0	2154.0	2166.6	1296.2						
Reverse	1260.7	2156.8	2168.8	1297.3						
Delta Time nS	1663.8	2850.6	2513.2	1306.2						
VSound	4895.0	4895.6	4896.8	4896.2						
Envelope Time uS										
Forward	1259.7	2154.8	2167.5	1296.9						
Reverse	1261.5	2157.7	2169.7	1298.0						
Path Out of Water										
Path Fail										
Path Velocity Error										
Detection Method	ZC	ZC	ZC	ZC						
	Level 1	Level 2	Level 3	Level 4						
Level										
Status										

Currently Viewing

(•) Section 1 ( ) Section 2 ( ) Section 3 ( ) Section 4

Close | Resume | Print | Save | ?

Data is not being logged

WSID (Block Bldg)
Flow Meter (STA 48+55)
Parameter Listing

[System1]
FlowScaling = 1.000000
VolScaling = 43560.000000
RepRate = 1
SysClock = 10.000000
AnalogOutScale = 0.250000
NumAccum = 1
EnglishMetric = 0
DataLogEn = 0
AutoStore = 1
PipeOC = 0
FlowAvgPeriod = 1
DisplayUnits = 5
DetectionMethod = 0
Firmware = 17.4

[Section1]
PipeArea = 50.200100
BottomFrict = 0.500000
MinSubmersion = 0.000000
TopWeight = 0.000000
LowFlowCutoff = 0.500000
TempCorrection = 0.000000
Manning_n = 0.010000
ManningSlope = 0.010000
ManningMax = 10.000000
LevelManualVal = 0.000000
SurchargeLevel = 0.000000
LevelLow = 0.000000
SectionVolume = 0.000000
LayerWidth1 = 10.000000
LayerWidth2 = 10.000000
LayerWidth3 = 10.000000
LayerWidth4 = 10.000000
LayerWidth5 = 10.000000
LayerWidth6 = 10.000000
LayerWidth7 = 10.000000
LayerWidth8 = 10.000000
LayerElevation1 = 10.000000
LayerElevation2 = 10.000000
LayerElevation3 = 10.000000
LayerElevation4 = 10.000000
LayerElevation5 = 10.000000
LayerElevation6 = 10.000000
LayerElevation7 = 10.000000
LayerElevation8 = 10.000000
PathEnable = 15
LevelEnable = 1
MinGoodPaths = 3
TrapPipeIntegration = 0
LearnPathChk = 0
LevelManual = 0
Layers = 2
MaxVelocityChange = 10.000000
MaxVelocity = 30.000000
MaxBadMeasures = 10

[Section2]
PipeArea = -50.200100
BottomFrict = 0.500000
MinSubmersion = 0.200000
TopWeight = 0.000000
LowFlowCutoff = 0.500000
TempCorrection = 0.000000
Manning_n = 0.010000
ManningSlope = 0.010000
ManningMax = 10.000000
LevelManualVal = 0.000000
SurchargeLevel = 0.000000
LevelLow = 0.000000
SectionVolume = 0.000000
LayerWidth1 = 10.000000
LayerWidth2 = 10.000000
LayerWidth3 = 10.000000
LayerWidth4 = 10.000000
LayerWidth5 = 10.000000
LayerWidth6 = 10.000000
LayerWidth7 = 10.000000
LayerWidth8 = 10.000000
LayerElevation1 = 10.000000
LayerElevation2 = 10.000000
LayerElevation3 = 10.000000
LayerElevation4 = 10.000000
LayerElevation5 = 10.000000
LayerElevation6 = 10.000000
LayerElevation7 = 10.000000
LayerElevation8 = 10.000000
PathEnable = 15
LevelEnable = 2
MinGoodPaths = 3
TrapPipeIntegration = 0
LearnPathChk = 0
LevelManual = 0
Layers = 2
MaxVelocityChange = 15.000000
MaxVelocity = 30.000000
MaxBadMeasures = 10

[Path1]
Angle = 44.084000
Length = 6.453000
Weight = 0.138200
Elevation = 1.000000
SigDelay = 6.000000
Freq = 500000.000000
MaxVelocity = 30.000000
MaxVelocityChange = 10.000000
MaxBadMeasures = 10

[Path2]
Angle = 45.466000

Length = 10.568000
Weight = 0.361800
Elevation = 1.000000
SigDelay = 6.000000
Freq = 500000.000000
MaxVelocity = 30.000000
MaxVelocityChange = 10.000000
MaxBadMeasures = 10

[Path3]
Angle = 45.528999
Length = 10.401000
Weight = 0.361800
Elevation = 1.000000
SigDelay = 6.000000
Freq = 500000.000000
MaxVelocity = 30.000000
MaxVelocityChange = 10.000000
MaxBadMeasures = 10

[Path4]
Angle = 45.799000
Length = 6.089000
Weight = 0.138200
Elevation = 1.000000
SigDelay = 6.000000
Freq = 500000.000000
MaxVelocity = 30.000000
MaxVelocityChange = 10.000000
MaxBadMeasures = 10

[Output1]
MA4 = 8.000000
MA20 = 300.000000
ManualOutputValue = 0.000000
Variable = 0
ManualOutputEnable = 0
OutErr = 0
Section = 1
HoldOnError = 0

[Output2]
MA4 = 8.000000
MA20 = 100.000000
ManualOutputValue = 0.000000
Variable = 0
ManualOutputEnable = 0
OutErr = 0
Section = 2
HoldOnError = 0

[Level1]
MA4 = 0.000000
MA20 = 5.000000
Resistor = 100.000000
Min_mA = 0.000000
Level Filter = 0

[Level2]
MA4 = 0.000000
MA20 = 5.000000
Resistor = 100.000000
Min_mA = 0.000000
Level Filter = 0

[Relay1]
Threshold = 0.000000
Type = 0
Section = 1
Delay = 1
Polarity = 0

[Relay2]
Threshold = 0.000000
Type = 0
Section = 1
Delay = 1
Polarity = 0

[Relay3]
Threshold = 0.000000
Type = 0
Section = 1
Delay = 1
Polarity = 0

3B
3B

HARDWARE

Model 7510+ Multiple-Path Transit-Time Flowmeter

About Accusonic

Accusonic® Technologies, a division of ADS® LLC, designs and manufactures ultrasonic transit-time flow measurement systems that are renowned for their precise accuracy and reliability in difficult operating environments. Accusonic flowmeter systems can be found in hydroelectric plants, thermal power plants, water and wastewater treatment facilities, sewage collection systems, and other types of water flow conveyance pipelines and channels. With over 35 years of experience and over 3000 systems installed worldwide, Accusonic offers a full range of services including installation, system integration, turbine performance testing services, and field training.

SYSTEM DESCRIPTION

The Accusonic Model 7510+ provides accurate, reliable flow measurement for applications ranging from full pipes to partially full or surcharged pipes, open channels, streams, and rivers. The 7510+ has the ability to measure up to 8 paths in the same measurement section, assuring superior performance even in the presence of severely distorted flow profiles. Additionally, the 7510+ can measure flow in up to 4 separate pipes and/or channels simultaneously.

The Model 7510+ can be fully integrated into a complete flowmeter network system via the Accusonic Model 7700 Master Control Unit. Further information on the Model 7700 may be obtained in the Model 7700 Network Flowmeter System data sheet.

The complete offering of Accusonic transducers is available for use with the 7510+, including designs for hazardous area installations, exposed pipes of all materials, buried or encased pipes, and pipes and channels that cannot be dewatered.

UNIQUE FEATURES

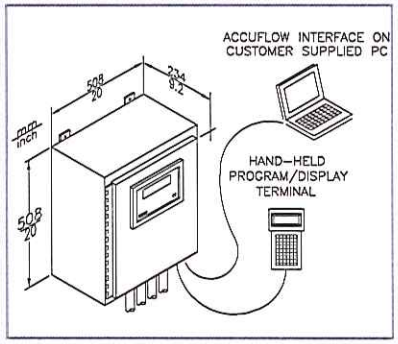
Flexibility: Measurable pipe and channel sizes can range from 8 inches (200 mm) to 600 feet (180 m). This versatility allows customers to utilize one meter technology for a wide variety of applications, thus providing a common platform for maintenance, inventory, and training.

Accuracy: Utilizing multiple chordal path transit-time technology, the 7510+ provides accurate flow measurement (± 0.5% for full pipes and ± 2.0% for partially full pipes and open channels) even in the presence of flow profile distortions and cross flow. No other flow measurement technology can offer this level of performance over the range of pipe/channel sizes and under such challenging operating conditions.

Economy: The 7510+ is configurable to measure up to 4 separate pipes and/or channels simultaneously, thus significantly reducing the cost per measurement. This feature, combined with the meter's high performance and minimal maintenance requirements, provides the 7510+ with a lower cost of ownership and greater value than comparable flow measurement technologies.

HARDWARE

SYSTEM SPECIFICATIONS



Measurement Options:

- Open Channel
- Pipe Flowing Full
- Pipe Flowing Partially Full to Surcharged

Number of Acoustic Paths:

1 – 8

Number of Pipes or Channels:

1 – 4

(The total number of acoustic paths in all pipes and channels cannot exceed 8 for a single console)

Accuracy:

- ±0.5% Full Pipe Applications
- ±2.0% Partially Full Pipe/Open Channel Applications (typical)

Repeatability:

- ±0.2% Full Pipe Applications
- ±0.5% Partially Full Pipe/Open Channel Applications (typical)

Outputs:

- (4) Isolated 4 – 20 mA with 750 ohm max impedance load
- Optional 3, 6, or 9 Relay Outputs 7.0 A @ 110 VAC or 5.0 A @ 24 VDC
- (2) RS-232 Ports
- Optional Modbus Slave RS-485 or RS-232 RTU Mode only
- Optional Ethernet

Inputs:

- (4) 4 – 20 mA 100 ohm input impedance for water level inputs. 24 VDC loop power available

Software Interface:

AccuFlow™ Windows-based software allows for easy flowmeter setup and configuration via notebook PC

Datalogger:

2 MB internal storage of measured and calculated variables

Display Options:

- 2 line X 20 character LCD display
- Hand-held Program / Display Terminal

Diagnostics:

- Signal Travel Times
- Sonic Velocity
- Signal Gains
- Signal to Noise Ratio
- Error Messages

Power Requirement:

- 90 - 250 VAC, 47-65 HZ
- 100 - 300 VDC, 12, 24 VDC
- 26 to 35 watts power consumption (200 watts with optional heater)

Enclosure:

NEMA 4 (IP65) wall or post mounted

Environmental Conditions:

- Storage: 0 to 150 deg. F (-18 to 65 deg. C) 0 to 95% RH
- Operation: 15 to 140 deg. F (-10 to 60 deg. C) 0 to 95% RH
- Operational range can be increased with optional heater to: -15 to 140 deg. F (-26 to 60 deg. C)

Enclosure Dimensions:

- 20" h x 20" w x 9.2" d (508 x 508 x 234 mm)
- 60 lb. (27 kg)

Hazardous Area Locations:

Optional Class 1, Divisions 1 & 2, Groups C & D
ATEX Zone 0 & 1

ACCUSONIC
A Division of ADS LLC

www.accusonic.com

An IDEX Water & Wastewater Business. IDEX

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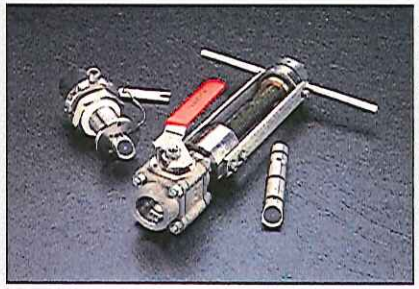
Specifications subject to change without notice.

HARDWARE

Model 7601/7641 Feedthrough Transducer Assembly

About Accusonic

Accusonic® Technologies, a division of ADS® LLC, designs and manufactures ultrasonic transit-time flow measurement systems that are renowned for their precise accuracy and reliability in difficult operating environments. Accusonic flowmeter systems can be found in hydroelectric plants, thermal power plants, water and wastewater treatment facilities, sewage collection systems, and other types of water flow conveyance pipelines and channels. With over 35 years of experience and over 3000 systems installed worldwide, Accusonic offers a full range of services including installation, system integration, turbine performance testing services, and field training.

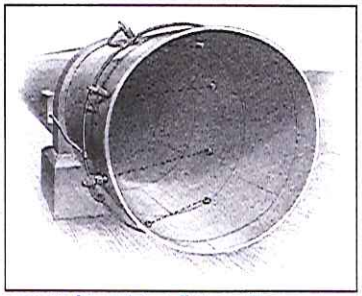


The Model 7601/7641 is a 316 stainless steel transducer and feedthrough assembly designed for low to medium pressure, indoor or outdoor applications. The assembly allows for the removal of the entire transducer for repair, replacement, or cleaning, without dewatering the pipe.

The Model 7601/7641 assembly is installed in a dewatered pipe from the inside out. Installation is performed by accurately determining transducer locations, drilling holes in the pipe for penetration of the feedthroughs, and measuring the as-built transducer locations.

The feedthrough assembly is sealed on the pipe using an O-ring inner seal and an outer packing. No welding is required.

A Model 7642 Jacking Mechanism is used for removal or insertion of the 7601 transducer under pressurized conditions.



Typical 4-path installation of Accusonic Model 7601/7641 Transducer Assembly

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HARDWARE

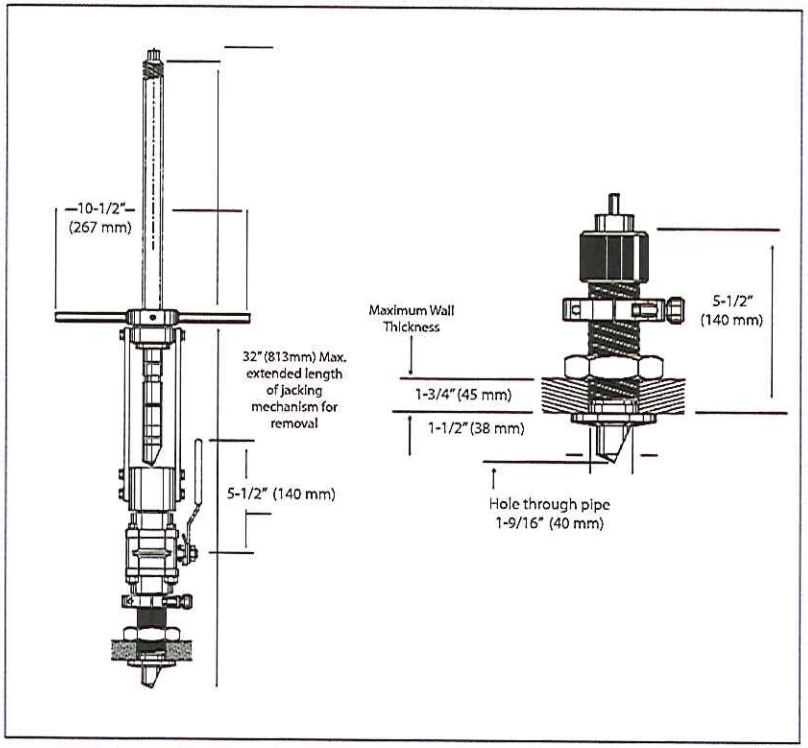
DESIGN SPECIFICATIONS

Operational Frequency:	1 MHz
Pipe Diameter:	2.5 - 24 ft. (0.75 m - 7.50 m)
Maximum Service Pressure:	450 psi (31 bar)
Temperature Limits:	32 to 122 F (0 to 50 C) Operating
	14 to 122 F (-10 to 50 C) Storage
Construction Material:	316 SS

DIMENSIONAL DATA

Feedthrough Diameter:	1.50 in. (38 mm)
Maximum Pipe Wall Thickness:	1.75 in. (45 mm)
Clearance Required for Transducer Removal/Replacement:	36 in. (915 mm) radial clearance from outer pipe wall

Contact Accusonic Technologies for information on transducers recommended for specialized applications.



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