

**ISM 5.0 Insertion Electromagnetic Meter**

Approximate shipping weight: 6 lbs / 2.7 kg

Model	ISM 5.0	-	-	-	-
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**STANDARD FEATURES:**

- dual-electrode sensor
- watertight, airtight, dust-proof cast aluminum electronics enclosure
- analog output – selectable 4-20mA, 0-5V or 0-10V
- frequency output – 0-500Hz
- pulse output – scalable
- power input – 20-28VDC or 20-28VAC
- signal cable length – 25 ft (7.6 m) multi-conductor, submersible
- NIST traceable calibration certificate
- 1 Manual - Installation and Operation

**FLOW DIRECTION**

Standard single direction		A
Bi-directional with 2 pulse outputs and flow direction relay		B

**POWER INPUT**

Standard 20-28VDC / 20-28VAC		1
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**METER LENGTH (bottom of enclosure to bottom of sensing head)**

20" (508 mm) for 3-16" nominal pipe size (DN 80-400 mm)		A
24" (610 mm) for 18-72" nominal pipe size (DN 450-1800 mm)		B
Custom		C

**OPTIONS AND ACCESSORIES**

**SEPARATE ADDITIONAL LENGTH SIGNAL CABLE, submersible PVC jacketed, multi-conductor**

QTY	CODE	DESCRIPTION
	25 MXC	25 ft (7.6 m) length
	50 MXC	50 ft (15 m) length
	100 MXC	100 ft (30 m) length

**GROUNDING RINGS AND PROBES**

HTGP2	1 Pair of Hot Tap Stainless Steel Grounding Probes (requires installation kit for each ground probe, ordered separately - see FM STD Kits tab)
HTGP1	1 (single) Hot Tap Stainless Steel Grounding Probe (requires installation kit for each ground probe, ordered separately - see FM STD Kits tab)
GR3	3" Pair of Grounding Rings, ANSI Class 150
GR4	4" Pair of Grounding Rings, ANSI Class 150
GR6	6" Pair of Grounding Rings, ANSI Class 150
GR8	8" Pair of Grounding Rings, ANSI Class 150
GR10	10" Pair of Grounding Rings, ANSI Class 150
GR12	12" Pair of Grounding Rings, ANSI Class 150
GR14	14" Pair of Grounding Rings, ANSI Class 150
GR16	16" Pair of Grounding Rings, ANSI Class 150
GR18	18" Pair of Grounding Rings, ANSI Class 150

**REMOTE DISPLAYS**

D-100-120	Microprocessor-based rate/total display with 2 auxiliary analog inputs, and bi-directional input. 120VAC input power.
D-100-024	Microprocessor-based rate/total display with 2 auxiliary analog inputs, and bi-directional input. 120VAC input power.
D-100-240	Microprocessor-based rate/total display with 2 auxiliary analog inputs, and bi-directional input. 120VAC input power.
D-100-MOD-120	Microprocessor-based rate/total display with 2 auxiliary analog inputs, plus MODBUS®-RTU RS485 or TCP/ IP serial interface. 120VAC input power
D-100-MOD-024	Microprocessor-based rate/total display with 2 auxiliary analog inputs, plus MODBUS®-RTU RS485 or TCP/ IP serial interface. 24VAC input power
D-100-MOD-240	Microprocessor-based rate/total display with 2 auxiliary analog inputs, plus MODBUS®-RTU RS485 or TCP/ IP serial interface. 240VAC input power
D-1201-01-120 <sup>1</sup>	Display Module: 1 LCD, flow rate and/or total. 120VAC input power
D-1201-01-024 <sup>1</sup>	Display Module: 1 LCD, flow rate and/or total. 24VAC input power
D-1201-01-240 <sup>1</sup>	Display Module: 1 LCD, flow rate and/or total. 240VAC input power

<sup>1</sup> FLOW DIRECTION = A only. Use the D-100 when FLOW DIRECTION = B

**OPTIONS AND ACCESSORIES**

**STANDARD HARDWARE INSTALLATION KITS**

*CARBON STEEL/BLACK IRON WELDED PIPE*

QTY	CODE	KIT DESCRIPTION	KIT INCLUDES
	F-STD-INSTL1DW	Installation kit for 3" and larger welded steel domestic water pipes (Valve & nipple comply with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" weld-on carbon steel branch outlet</li> <li>• 1" brass close nipple</li> </ul>
	F-STD-INSTL5	Stainless steel installation kit for 31" and larger welded steel pipe	<ul style="list-style-type: none"> <li>• 1" full port SS ball valve</li> <li>• 1" SS close nipple</li> <li>• 1" weld-on carbon steel branch outlet</li> </ul>

*COPPER TUBE*

	F-STD-INSTL4	Installation kit for 3" copper tube (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" copper street adapter with MNPT threads</li> <li>• Copper tee with 1" outlet</li> </ul>
	F-STD-INSTL9	Installation kit for 4" copper tube (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" copper street adapter with MNPT threads</li> <li>• Copper tee with 1" outlet</li> </ul>

*CEMENT-LINED DUCTILE IRON*

	F-STD-INSTL10	Installation kit for 3" to 6" cement-lined ductile iron (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" brass close nipple</li> <li>• Ductile iron saddle with 1" outlet*</li> </ul>
	F-STD-INSTL11	Installation kit for 8" to 24" cement-lined ductile iron (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" brass close nipple</li> <li>• Ductile iron saddle with 1" outlet*</li> </ul>
	F-STD-INSTL12	Stainless steel / ductile Iron installation kit for 3" to 6" cement-lined ductile iron Pipe	<ul style="list-style-type: none"> <li>• 1" full port SS ball valve</li> <li>• 1" SS close nipple</li> <li>• Ductile iron saddle with 1" outlet</li> </ul>
	F-STD-INSTL12A	Stainless steel / ductile iron installation kit for 8" to 16" cement-lined ductile iron pipe	<ul style="list-style-type: none"> <li>• 1" full port SS ball valve</li> <li>• 1" SS close nipple</li> <li>• Ductile iron saddle with 1" outlet</li> </ul>

*PVC or CARBON STEEL*

	F-STD-INSTL13	Installation kit for 3" to 6" PVC pipe (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" brass close nipple</li> <li>• Ductile iron saddles for Sch std./40/80 pipe with 1" NPT outlets</li> </ul>
	F-STD-INSTL14	Installation kit for 8" to 14" PVC pipe (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" brass close nipple</li> <li>• Ductile iron saddles for Sch std./40/80 pipe with 1" NPT outlets</li> </ul>

*HDPE*

	F-STD-INSTL13H	Installation kit for 4" to 12" HDPE pipe (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" brass close nipple</li> <li>• Stainless steel saddles for HDPE pipe with 1" NPT outlets</li> </ul>
	F-STD-INSTL14H	Installation kit for 14" to 20" HDE pipe (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" brass close nipple</li> <li>• Stainless steel saddles for HDPE pipe with 1" NPT outlets</li> </ul>

*PVC*

	F-STD-INSTL15	Stainless steel/PVC installation kit for 3" to 4" PVC pipe (for process applications)	<ul style="list-style-type: none"> <li>• 1" full port ball valve</li> <li>• 1" SS close nipple</li> <li>• Sch. 80 PVC saddle with 1" outlet</li> </ul>
	F-STD-INSTL16	Stainless steel/PVC installation kit for 5" & 6" PVC (for process applications)	<ul style="list-style-type: none"> <li>• 1" full port ball valve</li> <li>• 1" SS close nipple</li> <li>• Sch. 80 PVC saddle with 1" outlet</li> </ul>
	F-STD-INSTL17	Stainless steel installation kit for 8" to 12" PVC pipe (for process applications)	<ul style="list-style-type: none"> <li>• 1" full port SS ball valve</li> <li>• 1" SS close nipple</li> <li>• SS clamp-on saddle with 1" outlet</li> </ul>

*STAINLESS STEEL*

	F-STD-INSTL18	Stainless steel installation kit for 3" and larger welded stainless steel pipe	<ul style="list-style-type: none"> <li>• 1" full port SS ball valve</li> <li>• 1" SS close nipple</li> <li>• 1" SS weld-on branch outlet</li> </ul>
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**HOT TAP HARDWARE INSTALLATION KITS**

**CARBON STEEL/BLACK IRON (WELDED PIPE)**

QTY	CODE	KIT DESCRIPTION	KIT INCLUDES
	F-HTAP-INSTL2	Hot tap installation kit for 3" and larger welded steel pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• 1 1/4" weld-on carbon steel branch outlet</li> </ul>
	F-HTAP-INSTL2DW	Hot tap installation kit for 3" and larger welded steel domestic water pipes (Valve, nipple & bushing comply with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• 1 1/4" weld-on carbon steel branch outlet</li> </ul>
	F-HTAP-INSTL6	Stainless steel hot tap installation kit for 3" and larger welded steel pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• 1 1/4" weld-on carbon steel branch outlet</li> </ul>

**CARBON STEEL or PVC PIPE WITH SADDLES**

	F-HTAP-INSTL19A	Hot tap installation kit for Sch Std, Sch 40 or Sch 80 steel or PVC pipe (3" to 6") (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• Ductile iron saddle with 1 1/4" outlet</li> </ul>
	F-HTAP-INSTL19B	Hot tap installation kit for Sch Std, Sch 40 or Sch 80 steel or PVC pipe (8" to 14") (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• Ductile iron saddle with 1 1/4" outlet</li> </ul>
	F-HTAP-INSTL19C	Hot tap installation kit for Sch Std, Sch 40 or Sch 80 steel or PVC pipe (16" to 26") (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• Ductile iron saddle with 1 1/4" outlet</li> </ul>
	F-HTAP-INSTL20A	Stainless steel hot tap installation kit for Sch Std, Sch 40 or Sch 80 steel or PVC pipe (3" to 6")	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• Bronze/ductile iron saddle with 1 1/4" outlet</li> </ul>
	F-HTAP-INSTL20B	Stainless steel hot tap installation kit for Sch Std, Sch 40 or Sch 80 steel or PVC pipe (8" to 14")	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• Bronze/ductile iron saddle with 1 1/4" outlet</li> </ul>
	F-HTAP-INSTL20C	Stainless steel hot tap installation kit for Sch Std, Sch 40 or Sch 80 steel or PVC pipe (16" to 26")	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• Bronze/ductile iron saddle with 1 1/4" outlet</li> </ul>

**PVC PIPE WITH STAINLESS STEEL SADDLES**

	F-HTAP-INSTL29	Stainless steel hot tap installation kit for 3" to 6" PVC pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• SS saddle with 1 1/4" outlet</li> </ul>
	F-HTAP-INSTL30	Stainless steel hot tap installation kit for 8" to 12" PVC pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• SS saddle with 1 1/4" outlet</li> </ul>

**COPPER TUBE WITH SADDLES**

	F-HTAP-INSTL22	Hot tap installation kit for 3" to 6" copper tube. (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• SS saddle with 1 1/4" outlet</li> </ul>
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**HDPE PIPE WITH SADDLES**

	F-HTAP-INSTL27H	Hot tap installation kit for 4" to 12" HDPE pipe (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• Ductile iron or SS saddle with 1 1/4" outlet</li> </ul>
	F-HTAP-INSTL28H	Hot tap installation kit for 14" to 20" HDPE pipe (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• SS saddle with 1 1/4" outlet</li> </ul>

**HOT TAP HARDWARE INSTALLATION KITS cont'd**

**CEMENT-LINED DUCTILE IRON**

QTY	CODE	KIT DESCRIPTION	KIT INCLUDES	
	F-HTAP-INSTL23	Hot tap installation kit for 3" to 6" cement-lined ductile iron (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• Ductile iron saddle with 1 1/4" outlet</li> </ul>	
	F-HTAP-INSTL24	Hot tap installation kit for 8" to 16" cement-lined ductile iron (Complies with NSF/ANSI 61 & 372)	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• Ductile iron saddle with 1 1/4" outlet</li> </ul>	
	F-HTAP-INSTL25	Stainless steel hot tap installation kit for 3" to 6" cement-lined ductile iron	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• SS saddle with 1 1/4" outlet</li> </ul>	
	F-HTAP-INSTL26	Stainless steel hot tap installation kit for 8" to 16" cement-lined ductile iron	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• SS saddle with 1 1/4" outlet</li> </ul>	

**STAINLESS STEEL**

	F-HTAP-INSTL31	Hot tap installation kit for 1 1/4" and larger welded stainless steel pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port 316 SS ball valve</li> <li>• 1 1/4" 316 SS close nipple</li> <li>• 1 1/4" x 1" 316 SS reducing bushing</li> <li>• 1 1/4" weld-on 316 SS branch outlet</li> </ul>	
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