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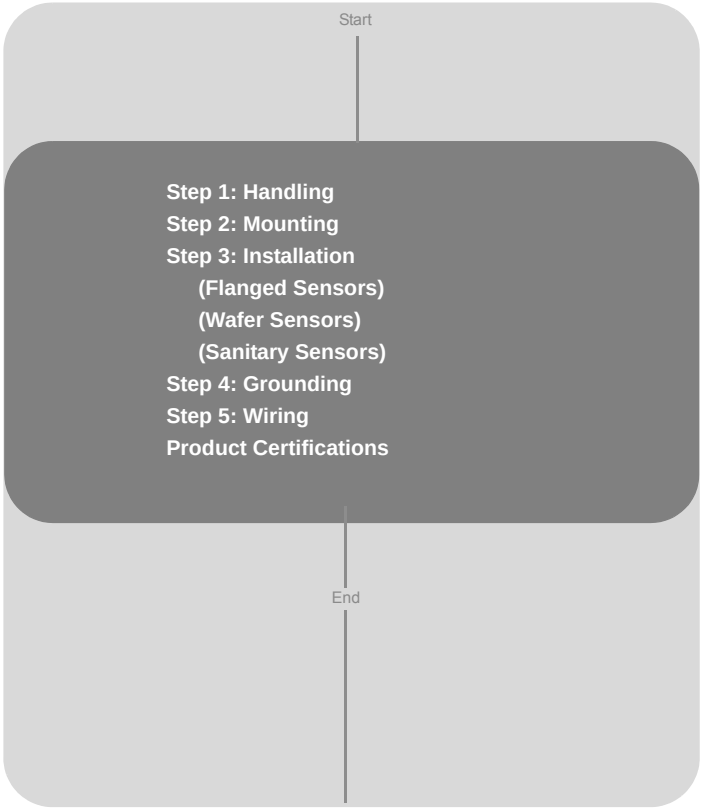
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Find the *Emerson / Rosemount Analytical 8705* at our website: ***Click HERE***

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Quick Installation Guide
00825-0100-4727, Rev CC
January 2013

Rosemount 8700 Series
Magnetic Flowmeter Sensors



CE

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EMERSON
Process Management

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Emerson Process Management Rosemount Flow
7070 Winchester Circle
Boulder, CO 80301
Tel (USA) 800 522 6277
Tel (International) +1 (303) 527 5200
F +1 (303) 530 8459

Emerson Process Management Flow
Neonstraat 1
6718 WX Ede
The Netherlands
T +31 (0) 318 495555
F +31 (0) 318 495556

Emerson FZE
P.O. Box 17033
Jebel Ali Free Zone
Dubai UAE
Tel +971 4 811 8100
Fax +971 4 886 5465

Emerson Process Management Asia Pacific Private Limited
1 Pandan Crescent
Singapore 128461
T (65) 6777 8211
F (65) 6777 0947/65 6777 0743

⚠ IMPORTANT NOTICE

This document provides basic installation guidelines for the Rosemount® 8700 Series Sensors. It does not provide instructions for detailed configuration, diagnostics, maintenance, service, troubleshooting, explosion-proof, flameproof, or intrinsically safe (I.S.) installations. Refer to the Rosemount 8700 reference manual (document number 00809-0100-4727) for more instructions. The manual and this QIG are also available electronically on www.rosemount.com.

⚠ WARNING

Failure to follow these installation guidelines could result in death or serious injury:

Installation and servicing instructions are for use by qualified personnel only. Do not perform any servicing other than that contained in the operating instructions, unless qualified. Verify that the operating environment of the sensor and transmitter is consistent with the appropriate FM, CSA, ATEX, or IECEx approval.

⚠ WARNING

The sensor liner is vulnerable to handling damage. Never place anything through the sensor for the purpose of lifting or gaining leverage. Liner damage can render the sensor useless.

To avoid possible damage to the sensor liner ends, do not use metallic or spiral-wound gaskets. If frequent removal is anticipated, take precautions to protect the liner ends. Short spool pieces attached to the sensor ends are often used for protection.

Correct flange bolt tightening is crucial for proper sensor operation and life. All bolts must be tightened in the proper sequence to the specified torque limits. Failure to observe these instructions could result in severe damage to the sensor lining and possible sensor replacement.

⚠ WARNING

Rosemount 8705 Magnetic Flowtube units ordered with non-standard paint options may be subject to electrostatic discharge.

To avoid electrostatic charge build-up, do not rub the meter body with a dry cloth or clean with solvents.

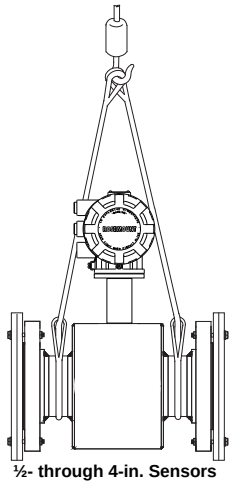
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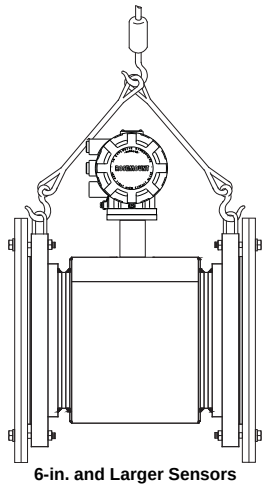
STEP 1: HANDLING

Handle all parts carefully to prevent damage. Whenever possible, transport the system to the installation site in the original shipping containers. PTFE-lined sensors are shipped with end covers that protect it from both mechanical damage and normal unrestrained distortion. Remove the end covers just before installation.

Figure 1. Rosemount 8705 Sensor Support for Handling



½- through 4-in. Sensors



6-in. and Larger Sensors

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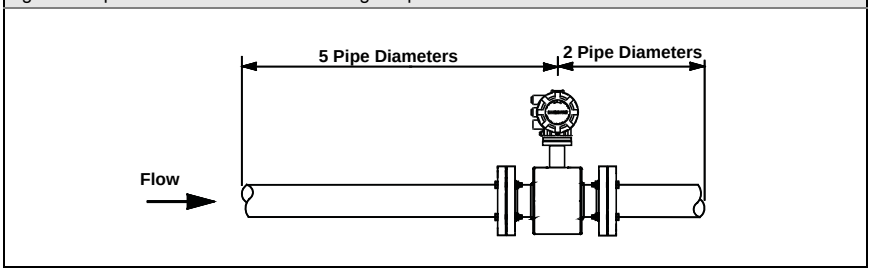
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STEP 2: MOUNTING

Upstream/Downstream Piping

To ensure specification accuracy over widely varying process conditions, install the sensor a minimum of five straight pipe diameters upstream and two pipe diameters downstream from the electrode plane (see Figure 2).

Figure 2. Upstream and Downstream Straight Pipe Diameters



Installations with reduced straight runs from 0 to five pipe diameters are possible. In reduced straight pipe run installations, performance will shift to as much as 0.5% of rate. Reported flow rates will still be highly repeatable.

Flow Direction

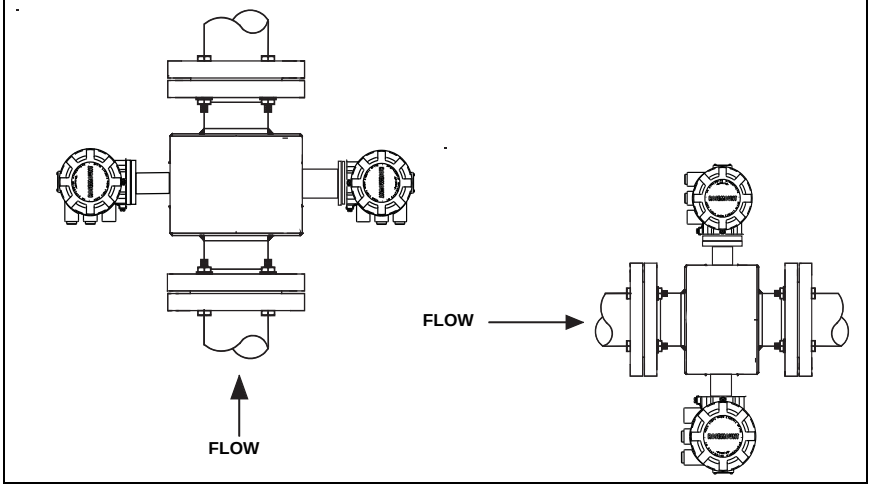
The sensor should be mounted so the FORWARD end of the flow arrow, shown on the sensor identification tag, points in the direction of flow through the sensor.

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Sensor Location

The sensor should be installed in a location that ensures the sensor remains full during operation. Vertical installation allows upward process fluid flow and keeps the cross-sectional area full, regardless of flow rate. Horizontal installation should be restricted to low piping sections that are normally full.

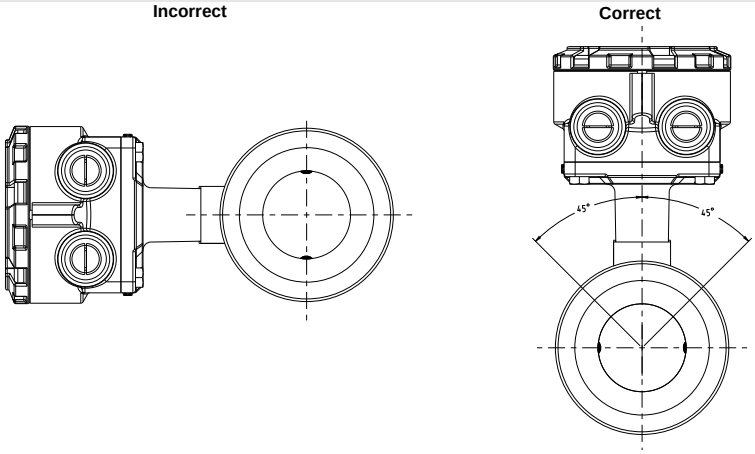
Figure 3. Sensor Orientation



Sensor Orientation

The electrodes in the sensor are properly orientated when the two measurement electrodes are in the 3 and 9 o'clock positions or within 45° from the vertical, as shown on the right of Figure 4. Avoid any mounting orientation that positions the top of the sensor at 90° from the vertical position as shown on the left of Figure 4.

Figure 4. Mounting Position



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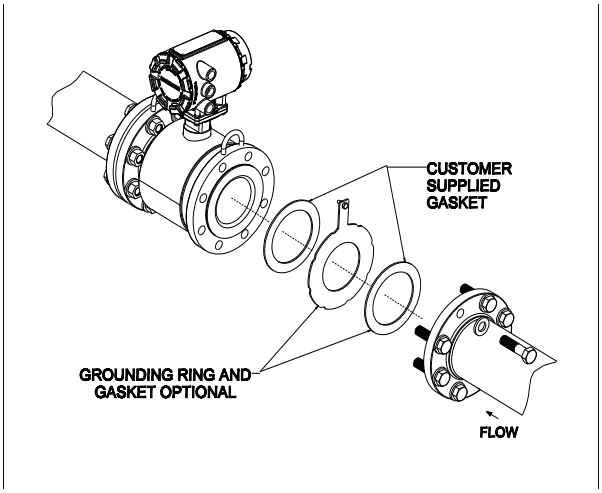
STEP 3: INSTALLATION

Flanged Sensors

Gaskets

The sensor requires a gasket at each of its connections to adjacent devices or piping. The gasket material selected must be compatible with the process fluid and operating conditions. Metallic or spiral-wound gaskets can damage the liner. Gaskets are required on each side of a grounding ring. All other applications (including sensors with lining protectors or a grounding electrode) require only one gasket on each end connection.

Figure 5. Flanged gasket placement



Flange Bolts

NOTE

Do not bolt one side at a time. Tighten each side simultaneously. Example:

1. Snug left
2. Snug right
3. Tighten left
4. Tighten right

Do not snug and tighten the upstream side and then snug and tighten the downstream side. Failure to alternate between the upstream and downstream flanges when tightening bolts may result in liner damage.

Suggested torque values by sensor line size and liner type are listed in Table 1 for ASME B16.5 and Table 2 for EN flanges. Consult the factory if the flange rating of the sensor is not listed. Tighten flange bolts on the upstream side of the sensor in the incremental sequence shown in Figure 6 to 20 percent of the suggested torque values. Repeat the process on the downstream side of the sensor. For sensors with more or less flange bolts, tighten the bolts in a similar crosswise sequence. Repeat this entire tightening sequence at 40, 60, 80, and 100 percent of the suggested torque values or until the leak between the process and sensor flanges stop.

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If leakage has not stopped at the suggested torque values, the bolts can be tightened in additional 10 percent increments until the joint stops leaking, or until the measured torque value reaches the maximum torque value of the bolts. Practical consideration for the integrity of the liner often leads the user to distinct torque values to stop leakage due to the unique combinations of flanges, bolts, gaskets, and sensor liner material.

Check for leaks at the flanges after tightening the bolts. Failure to use the correct tightening methods can result in severe damage. Sensors require a second tightening 24 hours after the initial installation. Over time, sensor liner materials may deform under pressure.

Figure 6. Flange Bolt Torquing Sequence

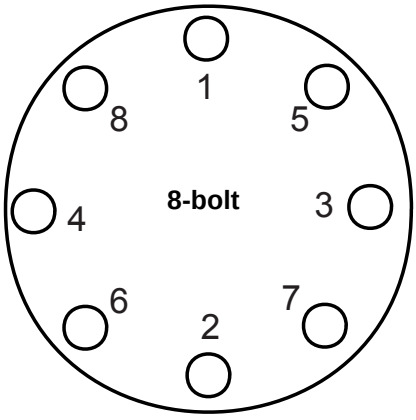


Table 1. Suggested Flange Bolt Torque Values for Rosemount 8705 and 8707 High-Signal Sensors

Size Code	Line Size	PTFE/ETFE/PFA liners		Polyurethane/Neoprene/Adiprene liner	
		Class 150 (pound-feet)	Class 300 (pound-feet)	Class 150 (pound-feet)	Class 300 (pound-feet)
005	0.5 in. (15 mm)	8	8	-	-
010	1 in. (25 mm)	8	12	-	-
015	1.5 in. (40 mm)	13	25	7	18
020	2 in. (50 mm)	19	17	14	11
025	2.5 in. (65mm)	22	24	17	16
030	3 in. (80 mm)	34	35	23	23
040	4 in. (100 mm)	26	50	17	32
050	5 in. (125mm)	36	60	25	35
060	6 in. (150mm)	45	50	30	37
080	8 in. (200 mm)	60	82	42	55
100	10 in. (250 mm)	55	80	40	70
120	12 in. (300 mm)	65	125	55	105
140	14 in. (350 mm)	85	110	70	95
160	16 in. (400 mm)	85	160	65	140
180	18 in. (450 mm)	120	170	95	150
200	20 in. (500 mm)	110	175	90	150
240	24 in. (600 mm)	165	280	140	250
300	30 in. (750 mm)	195	415	165	375
360	36 in. (900 mm)	280	575	245	525

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Table 2. Flange Bolt Torque and Bolt Load Specifications for 8705 (EN 1092-1)

		Polyurethane, Linatex, Adiprene and Neoprene Liners			
		PN10	PN 16	PN 25	PN 40
Size Code	Line Size	(Newton-meter)	(Newton-meter)	(Newton-meter)	(Newton-meter)
005	0.5-inch (15 mm)				10
010	1 inch (25 mm)				20
015	1.5 inch (40 mm)				50
020	2 inch (50 mm)				60
025	2.5 inch (65 mm)				50
030	3 inch (80 mm)				50
040	4 inch (100 mm)		50		70
050	5.0 inch (125 mm)		70		100
060	6 inch (150mm)		90		130
080	8 inch (200 mm)	130	90	130	170
100	10 inch (250 mm)	100	130	190	250
120	12 inch (300 mm)	120	170	190	270
140	14 inch (350 mm)	160	220	320	410
160	16 inch (400 mm)	220	280	410	610
180	18 inch (450 mm)	190	340	330	420
200	20 inch (500 mm)	230	380	440	520
240	24 inch (600 mm)	290	570	590	850

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Table 2. (continued) Flange Bolt Torque and Bolt Load Specifications for 8705 (EN 1092-1)

		Polyurethane, Linatex, Adiprene and Neoprene Liners			
		PN 10	PN 16	PN 25	PN 40
Size Code	Line Size	(Newton-meter)	(Newton-meter)	(Newton-meter)	(Newton-meter)
010	1 inch (25 mm)				20
015	1.5 inch (40 mm)				30
020	2 inch (50 mm)				40
025	2.5 inch (65 mm)				35
030	3 inch (80 mm)				30
040	4 inch (100 mm)		40		50
050	5.0 inch (125 mm)		50		70
060	6 inch (150 mm)		60		90
080	8 inch (200 mm)	90	60	90	110
100	10 inch (250 mm)	70	80	130	170
120	12 inch (300 mm)	80	110	130	180
140	14 inch (350 mm)	110	150	210	280
160	16 inch (400 mm)	150	190	280	410
180	18 inch (450 mm)	130	230	220	280
200	20 inch (500 mm)	150	260	300	350
240	24 inch (600 mm)	200	380	390	560

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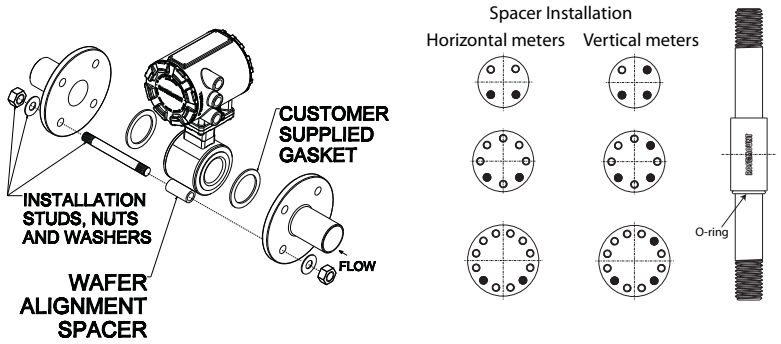
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Wafer Sensors

Gaskets

The sensor requires a gasket at each of its connections to adjacent devices or piping. The gasket material selected must be compatible with the process fluid and operating conditions. Metallic or spiral-wound gaskets can damage the liner. Gaskets are required on each side of a grounding ring. See Figure 7 below.

Figure 7. Wafer gasket placement



Alignment

1. On 1.5 through 8-inch (40 through 200 mm) line sizes. Rosemount strongly recommends installing the alignment spacers provided to insure proper centering of the wafer sensor between the process flanges. Sensor sizes of 0.15, 0.30, 0.5 and 1 in. (4 through 25 mm), do not require alignment spacers.
2. Insert studs for the bottom side of the sensor between the pipe flanges and center the alignment spacer in the middle of the stud. See Figure 7 for the bolt hole locations recommended for the spacers provided. Stud specifications are listed in Table 3.
3. Place the sensor between the flanges. Make sure that the alignment spacers are properly centered on the studs. For vertical flow installations slide the o-ring over the stud to keep the spacer in place. See Figure 7. To ensure the spacers match the flange size and class rating for the process flanges see Table 4 on page 11.
4. Insert the remaining studs, washers, and nuts.
5. Tighten to the torque specifications shown in Table 5 on page 12. Do not overtighten the bolts or the liner may be damaged.

Table 3. Stud Specifications

Nominal Sensor Size	Stud Specifications
0.15 – 1 in. (4 – 25 mm)	316 SST ASTM A193, Grade B8M Class 1 threaded mounted studs
1.5 – 8 in. (40 – 200 mm)	CS, ASTM A193, Grade B7, threaded mounting studs

NOTE

Sensor sizes of 0.15, 0.30, and 0.5 in. mount between AMSE 1/2-inch flanges. Using carbon steel bolts on sensor sizes of 0.15, 0.30, 0.15- through 1-in. (4 through 25 mm), rather than the required stainless steel bolts, will degrade the flow sensor measurement.

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Table 4. Rosemount Alignment Spacer Table

Rosemount Alignment Spacer Table			
Dash No.	Line Size		Flange Rating
	(in)	(mm)	
0A15	1.5	40	JIS 10K-20K
0A20	2	50	JIS 10K-20K
0A30	3	80	JIS 10K
0B15	1.5	40	JIS 40K
AA15	1.5	40	ANSI - 150#
AA20	2	50	ANSI - 150#
AA30	3	80	ANSI - 150#
AA40	4	100	ANSI - 150#
AA60	6	150	ANSI - 150#
AA80	8	200	ANSI - 150#
AB15	1.5	40	ANSI - 300#
AB20	2	50	ANSI - 300#
AB30	3	80	ANSI - 300#
AB40	4	100	ANSI - 300#
AB60	6	150	ANSI - 300#
AB80	8	200	ANSI - 300#
AB15	1.5	40	ANSI - 300#
AB20	2	50	ANSI - 300#
AB30	3	80	ANSI - 300#
AB40	4	100	ANSI - 300#
AB60	6	150	ANSI - 300#
AB80	8	200	ANSI - 300#
DB40	4	100	DIN - PN10/16
DB60	6	150	DIN - PN10/16
DB80	8	200	DIN - PN10/16
DC80	8	100	DIN - PN25
DD15	1.5	150	DIN - PN10/16/25/40
DD20	2	50	DIN - PN10/16/25/40
DD30	3	80	DIN - PN10/16/25/40
DD40	4	100	DIN - PN25/40
DD60	6	150	DIN - PN25/40
DD80	8	200	DIN - PN40
RA80	8	200	AS40871-PN16
RC20	2	50	AS40871-PN21/35
RC30	3	80	AS40871-PN21/35
RC40	4	100	AS40871-PN21/35
RC60	6	150	AS40871-PN21/35
RC80	8	200	AS40871-PN21/35

To order an Alignment Spacer Kit (qty 3 spacers) use p/n 08711-3211-xxxx along with the Dash No. above.

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Flange Bolts

Wafer sensors require threaded studs. See Figure 6 on page 7 for torque sequence. Always check for leaks at the flanges after tightening the flange bolts. All sensors require a second torquing 24 hours after initial flange bolt tightening.

Table 5. Rosemount 8711 Torque Specifications

Size Code	Line Size	Pound-feet	Newton-meter
15F	0.15 inch (4 mm)	5	7
30F	0.30 inch (8 mm)	5	7
005	0.5 inch (15 mm)	5	7
010	1 inch (25 mm)	10	14
015	1.5 inch (40 mm)	15	20
020	2 inch (50 mm)	25	34
030	3 inch (80 mm)	40	54
040	4 inch (100 mm)	30	41
060	6 inch (150 mm)	50	68
080	8 inch (200 mm)	70	95

Sanitary Sensors

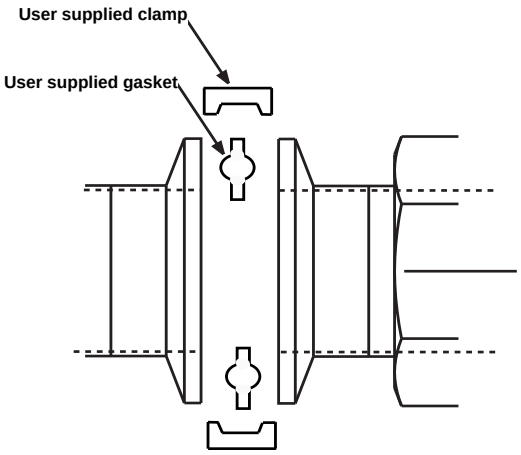
Gaskets

The sensor requires a gasket at each of its connections to adjacent devices or piping. The gasket material selected must be compatible with the process fluid and operating conditions. Gaskets are supplied between the IDF fitting and the process connection fitting, such as a Tri-Clamp fitting, on all Rosemount 8721 Sanitary sensors except when the process connection fittings are not supplied and the only connection type is an IDF fitting.

Alignment and Bolting

Standard plant practices should be followed when installing a magmeter with sanitary fittings. Unique torque values and bolting techniques are not required.

Figure 8. Rosemount 8721 Sanitary Installation



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STEP 4: GROUNDING

Use Table 6 to determine which process grounding option to follow for proper installation. The sensor case should be earth grounded in accordance with national and local electrical codes. Failure to do so may impair the protection provided by the equipment.

Table 6. Process Grounding Installation

Process Grounding Options				
Type of Pipe	**Grounding Straps**	**Grounding Rings**	**Grounding Electrode**	**Lining Protectors**
Conductive Unlined Pipe	See Figure 9	Not Required	Not Required	See Figure 10
Conductive Lined Pipe	Insufficient Grounding	See Figure 10	See Figure 9	See Figure 10
Non-Conductive Pipe	Insufficient Grounding	See Figure 11 on page 14	See Figure 12 on page 14	See Figure 11 on page 14

Figure 9. Grounding Straps or Grounding Electrode in Lined Pipe

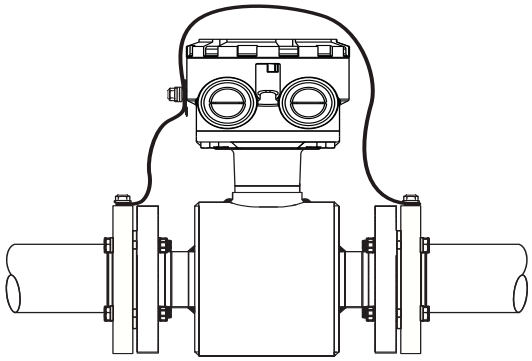
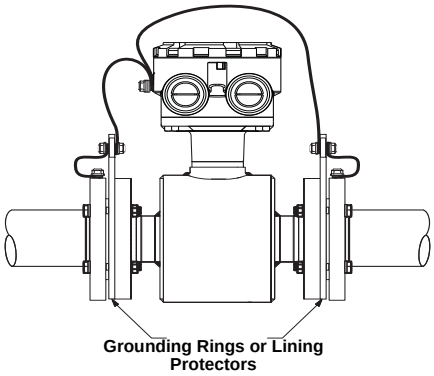


Figure 10. Grounding with Grounding Rings or Lining Protectors



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Figure 11. Grounding with Grounding Rings or Lining Protectors

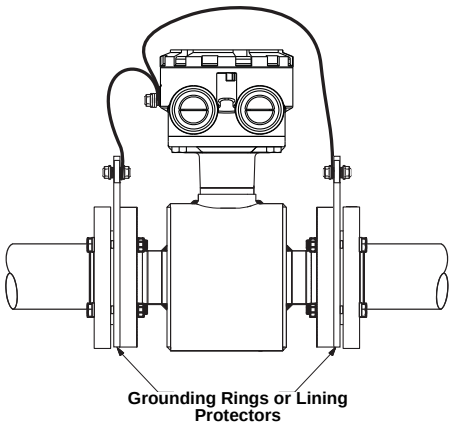
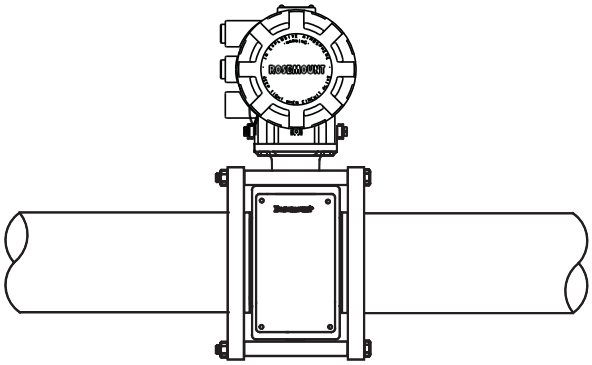


Figure 12. Grounding with Grounding Electrode



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STEP 5: WIRING

This wiring section covers the connection between the transmitter and sensor, the 4-20 mA loop, and supplying power to the transmitter. Follow the conduit information, cable requirements, and disconnect requirements in the sections below.

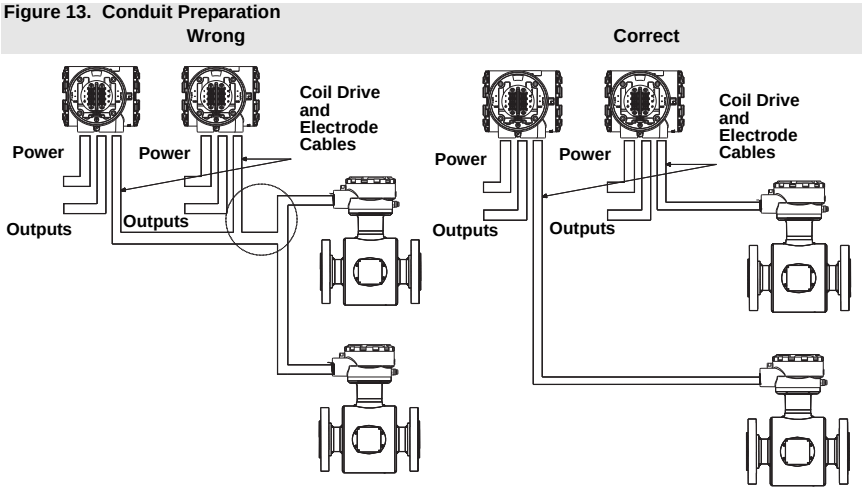
Conduit Ports and Connections

Both the sensor and transmitter junction boxes have ports for $^{1}/_{2}$-inch NPT conduit connections with optional CM20 or PG 13.5 connections available. These connections should be made in accordance with national, local, and plant electrical codes. Unused ports should be sealed with metal plugs. Proper electrical installation is necessary to prevent errors due to electrical noise and interference. Separate conduits are not necessary for the coil drive and signal cables, but a dedicated conduit line between each transmitter and sensor is required. Shielded cable must be used for best results in electrically noisy environments. When preparing all wire connections, remove only the insulation required to fit the wire completely under the terminal connection. Removal of excessive insulation may result in an unwanted electrical short to the transmitter housing or other wire connections. For flanged sensors installed into an application requiring IP68 protection, sealed cable glands, conduit, and conduit plugs that meet IP68 ratings are required. Option codes are available to provide a pre-wired potted and sealed junction box to prevent the ingress of water. These options still require the use of sealed conduits to meet IP68 protection requirements.

Conduit Requirements

A single dedicated conduit run for the coil drive and signal cable is needed between the sensor and the remote transmitter. See Figure 13. Bundled cables in a single conduit are likely to create interference and noise problems in the system. Use one set of cables per conduit run.

Figure 13. Conduit Preparation



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STEP 5 CONTINUED...

Run the appropriate size cable through the conduit connections in your magnetic flowmeter system. Run the power cable from the power source to the transmitter. Run the coil drive and signal cables between the flowmeter sensor and transmitter.

- Installed signal wiring should not be run together and should not be in the same cable tray as AC or DC power wiring.
- Device must be properly grounded or earthed according to local electric codes.
- Rosemount combination cable part number 08732-0753-1003 (ft) or 08732-0753-2004 (m) is required to be used to meet EMC requirements.

Transmitter to Sensor Wiring

The transmitter can be integral to the sensor or remotely mounted following the wiring instructions.

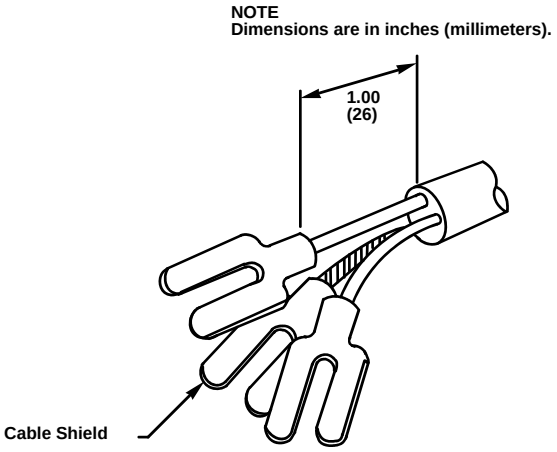
Remote Mount Cable Requirements and Preparation

For installations using the individual coil drive and signal cable, lengths should be limited to less than 1,000 feet (300 meters). Equal length cable is required for each. See Table 7 on page 17.

For installations using the combination coil drive and signal cable, lengths should be limited to less than 330 feet (100 meters). See Table 7 on page 17.

Prepare the ends of the coil drive and signal cables as shown in Figure 14. Limit the unshielded wire length to 1-inch on both the coil drive and signal cables. Any unsheathed wire should be wrapped with proper insulation. Excessive lead length or failure to connect cable shields can create electrical noise resulting in unstable meter readings.

Figure 14. Cable Preparation Detail



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STEP 5 CONTINUED...

To order cable specify length as quantity desired.
25 feet = Qty (25) 08732-0753-1003

Table 7. Cable Requirements

Description	Length	Part Number
Coil Drive Cable (14 AWG) Belden 8720, Alpha 2442 or equivalent	ft m	08712-0060-0001 08712-0060-2013
Signal Cable (20 AWG) Belden 8762, Alpha 2411 or equivalent	ft m	08712-0061-0001 08712-0061-2003
Combination Cable Coil Drive Cable (18 AWG) and Signal Cable (20 AWG)	ft m	08732-0753-1003 08732-0753-2004

⚠ WARNING

Potential Shock Hazard Across Terminals 1 & 2 (40Vac).

Wiring the Transmitter to the Sensor

When using individual cables for coil drive and signal refer to Table 8. If using the combination coil drive and signal cable refer to Table 9. See Figure 15 on page 18 for transmitter specific wiring diagrams.

1. Connect the coil drive cable using terminals **1**, **2,** and **3** (ground).
2. Connect the signal cable using terminals **17**, **18**, and **19**

Table 8. Individual Coil and Signal Cables

Transmitter Terminal	Sensor Terminal	Wire Gauge	Wire Color
1	1	14	Clear
2	2	14	Black
3 or Ground	3 or Ground	14	Shield
17	17	20	Shield
18	18	20	Black
19	19	20	Clear

Table 9. Combination Coil and Signal Cable

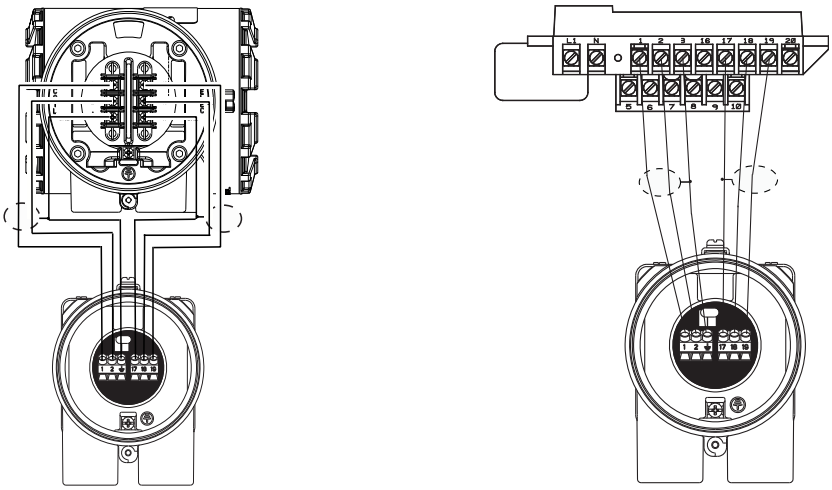
Transmitter Terminal	Sensor Terminal	Wire Gauge	Wire Color
1	1	18	Red
2	2	18	Green
3 or Ground	3 or Ground	18	Shield
17	17	20	Shield
18	18	20	Black
19	19	20	White

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STEP 5 CONTINUED...

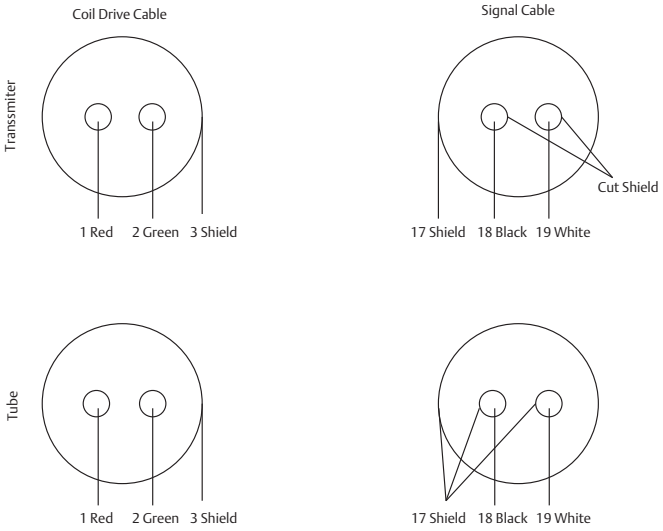
Figure 15. Remote Mount Wiring Diagrams



NOTE

When using the Rosemount supplied combination cable, the signal wires for terminals 18 and 19 contain an addition shield wire. These two shield wires should be tied with the main shield wire at terminal 17 at the sensor terminal block and cut back to the insulation in the transmitter junction box. See Figure 16.

Figure 16. Combination Coil and Signal Cable Wiring Diagram



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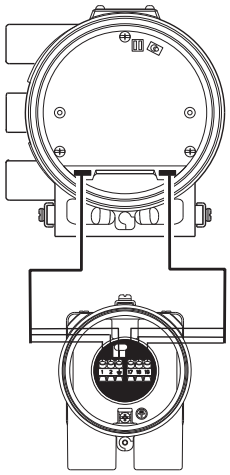
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STEP 5 CONTINUED...

Integral Mount Transmitters

The interconnecting wire harness for an integral mount transmitter is installed at the factory. See Figure 17. Do not use cable other than that supplied by Emerson Process Management, Rosemount, Inc.

Figure 17. 8732E Integral Mount Wiring Diagram



Connecting the 4–20 mA Analog Signal

Cabling considerations

If possible, use individually shielded twisted pair cable, either in single pair or multi-pair varieties. Unshielded cables may be used for short distances, provided ambient noise and cross-talk will not adversely impact communication. The minimum conductor size is 0.51mm diameter (#24 AWG) for cable runs less than 1,500 meters (@ 5,000 ft.) and 0.81mm diameter (#20 AWG) for longer distances. Resistance in the loop must be 1000 ohms or less.

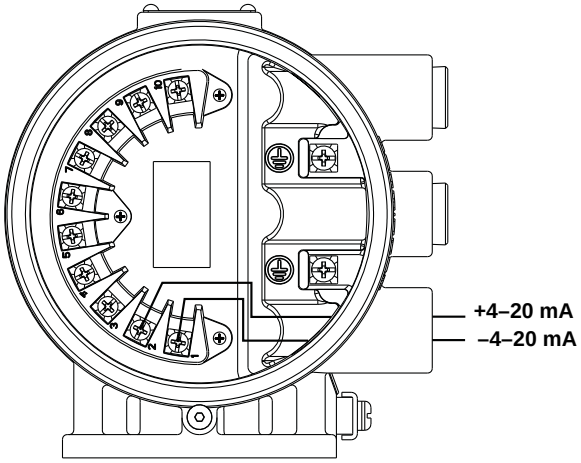
The 4–20 mA analog output loop signal may be powered internally or externally. The default position of the internal/external analog power switch is in the internal position. The user-selectable power supply switch is located on the electronics board.

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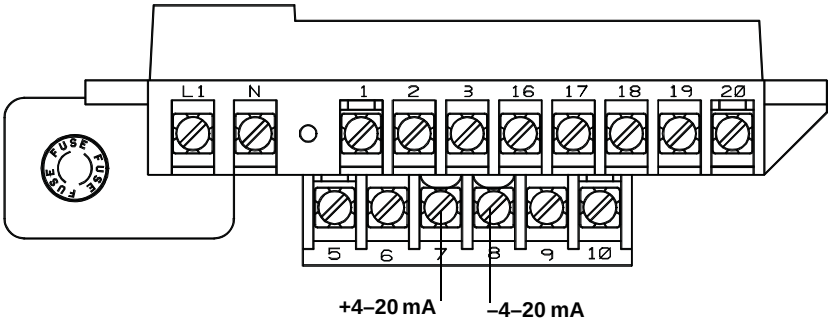
8732E - connect negative (-)DC to Terminal 1 and positive (+)DC to Terminal 2. See Figure 18.

Figure 18. 8732E Analog Signal Wiring Diagram



8712E - connect negative (-)DC to Terminal 8 and positive (+)DC to Terminal 7. See Figure 19.

Figure 19. 8712E Analog Signal Wiring Diagram



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STEP 5 CONTINUED...

Internal Power Source

The 4–20 mA analog signal loop is powered from the transmitter itself.

External Power Source

The 4–20 mA analog signal loop is powered from an external power source. HART multidrop installations require a 10–30 V DC external analog power source.

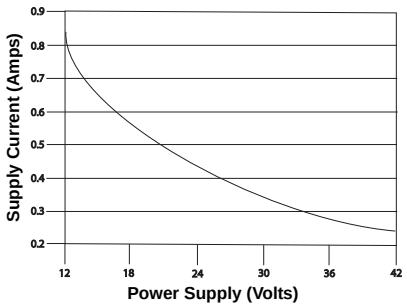
NOTE:
If a HART Field Communicator or control system will be used, it must be connected across a minimum of 250 ohms resistance in the loop.

To connect any of the other output options (pulse output and/or digital input/output), consult the comprehensive product manual.

Powering the Transmitter

The 8712E / 8732E transmitter is designed to be powered by 90-250 Vac, 50–60 Hz or 12–42 Vdc. Before connecting power to the Rosemount 8712E / 8732E, consider the following standards and be sure to have the proper power supply, conduit, and other accessories. Wire the transmitter according to national, local, and plant electrical requirements for the supply voltage. See Figure 20.

Figure 20. DC Power Supply Current Requirements



I = Supply current requirement (Amps)
V = Power supply voltage (Volts)

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STEP 5 CONTINUED...

Supply Wire Requirements

Use 12 to 18 AWG wire rated for the proper temperature of the application. For connections in ambient temperatures above 140 °F (60 °C), use a wire rated for 176 °F (80 °C). For ambient temperatures greater than 176 °F (80 °C), use a wire rated for 230 °F (110 °C). For DC powered transmitters with extended cable lengths, verify that there is a minimum of 12 V DC at the terminals of the transmitter.

Disconnects

Connect the device through an external disconnect or circuit breaker. Clearly label the disconnect or circuit breaker and locate it near the transmitter and per local electrical control.

Installation Category

The installation category for the 8712E / 8732E is (Overvoltage) Category II.

Overcurrent Protection

The Rosemount 8712E / 8732E flowmeter transmitter requires overcurrent protection of the supply lines. Maximum ratings of overcurrent devices are shown in Table 10.

Table 10. Overcurrent Limits

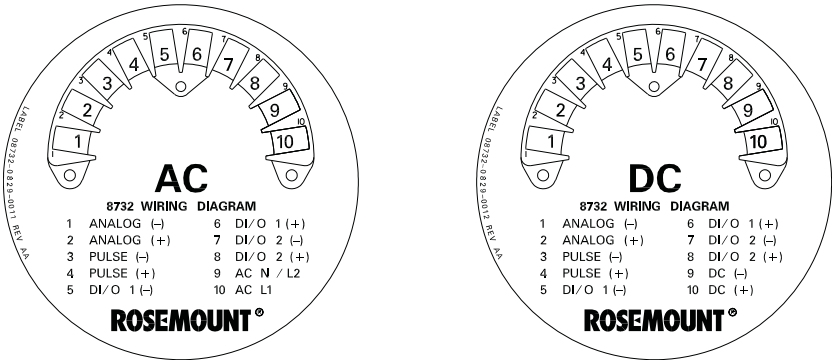
Power System	Fuse Rating	Manufacturer
95-250 V AC	2 Amp, Quick Acting	Bussman AGC2 or Equivalent
12-42 V DC	3 Amp, Quick Acting	Bussman AGC3 or Equivalent

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8732E Power Supply

For AC power applications (90-250 VAC, 50-60 Hz) connect AC Neutral to terminal 9 (AC N/L2) and connect AC Line to terminal 10 (AC/L1). For DC power applications connect negative to terminal 9 (DC -) and positive to terminal 10 (DC +). Units powered by 12-42 V DC power supply may draw up to 1 amp of current. See Figure 21 for terminal block connections.

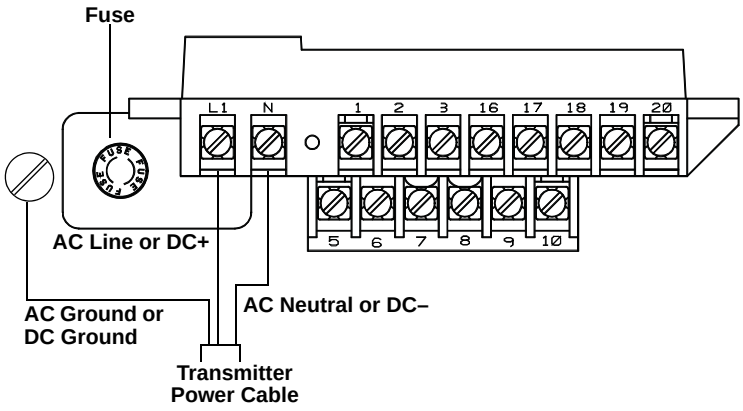
Figure 21. 8732E Transmitter Power Connections



8712E Power Supply

For AC power applications (90-250 VAC, 50-60 Hz) connect AC Neutral to terminal N and connect AC Line to terminal L1. For DC power applications, connect negative to terminal N (DC -) and positive to terminal L1 (DC +). Ground the transmitter cage via the grounding stud located on the bottom of the transmitter housing. Units powered by 12-42 V DC powersupply may draw up to 1 amp of current. See Figure 21 for terminal block connections.

Figure 22. 8712E Transmitter Power Connections



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Cover Jam Screw (8732E Only)

For transmitter housings shipped with a cover jam screw, the screw should be properly installed once the transmitter has been wired and powered up. Follow these steps to install the cover jam screw:

1. Verify that the cover jam screw is completely threaded into the housing.
2. Install the transmitter housing cover and verify that the cover is tight against the housing.
3. Using an M4 hex wrench, loosen the jam screw until it contacts the transmitter cover.
4. Turn the jam screw an additional $^{1}/_{2}$ turn counterclockwise to secure the cover.
   (Note: Application of excessive torque may strip the threads.)
5. Verify that the cover cannot be removed.

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Product Certifications

Approved Manufacturing Locations

Rosemount Inc. — Eden Prairie, Minnesota, USA

Fisher-Rosemount Technologias de Flujo, S.A. de C.V. — Chihuahua Mexico

Emerson Process Management Flow — Ede, The Netherlands

Asia Flow Technology Center — Nanjing, China

European Directive Information

The EC Declaration of Conformity can be found on page 34. The most recent revision can be found at www.rosemount.com.

Type n protection type in accordance with EN50021

- Closing of entries in the device must be carried out using the appropriate EEx e or EEx n metal cable gland and metal blanking plug or any appropriate ATEX approved cable gland and blanking plug with IP66 rating certified by an EU approved certification body.

Complies with Essential Health and Safety Requirements:

EN 61241-0: 2006
EN 61241-1: 2004

European Pressure Equipment Directive (PED) (97/23/EC)

Rosemount 8705 and 8707 Magnetic Flowmeter sensors in line size and flange combinations:

Line Size: $1^1/_2$ in. - 24 in. with all DIN flanges and ANSI 150 and ANSI 300 flanges. Also available with ANSI 600 flanges in limited line sizes.

Line Size: 30 in. - 36 in. with AWWA 125 flanges

QS Certificate of Assessment - EC No. 59552-2009-CE-HOU-DNV
Module H Conformity Assessment

Rosemount 8711 Magnetic Flowmeter Sensors
Line Sizes: 1.5, 2, 3, 4, 6, and 8 in.

QS Certificate of Assessment - EC No. 59552-2009-CE-HOU-DNV
Module H Conformity Assessment

Rosemount 8721 Sanitary Magmeter Sensors in line sizes of $1^1/_2$ in. and larger:

Module H Conformity Assessment

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All other Rosemount 8705/8707/8711/8721

Sensors —
in line sizes of 1 in. and less:
Sound Engineering Practice

Sensors that are SEP are outside the scope of PED and cannot be marked for compliance with PED.

Mandatory CE-marking for sensors in accordance with Article 15 of the PED can be found on the sensor body (CE0575).

Sensor category I is assessed for conformity per module A procedures.

Sensor categories II – III, use module H for conformity assessment procedures.

Other important guidelines

Only use new, original parts.

To prevent the process medium escaping, do not unscrew or remove process flange bolts, adapter bolts or bleed screws during operation.

Maintenance shall only be done by qualified personnel.

CE Marking

Compliance with all applicable European Union Directives.
(Note: CE Marking is not available on Rosemount 8712H).

Sensor Approval Information

Approval Codes	Rosemount 8705 Sensor		Rosemount 8707 Sensor		Rosemount 8711 Sensor		Rosemount 8721 Sensors
	For Non Flammable Fluids	For Flammable Fluids	For Non Flammable Fluids	For Flammable Fluids	For Non Flammable Fluids	For Flammable Fluids	For Non Flammable Fluids
NA	•						•
N0	•		•		•		
ND	•		•	•	•	•	•
N1	•	•			•	•	
N5	•	•	•	•	•	•	
N7	•	•			•	•	
NF	•				•	•	
E1	•	•			•	•	
E2	•	•			•	•	
E3	•	•			•	•	
E5(1)	•	•			•	•	
E8	•	•			•	•	
E9	•	•			•	•	
EB	•	•			•	•	
EK	•	•			•	•	
EM	•	•			•	•	
EP	•	•			•	•	
KD	•	•			•	•	

(1) Available in line sizes up to 8 in. (200 mm) only.

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North American Certifications

Factory Mutual (FM)

N0 Non-incendive for Class I, Division 2, Groups A, B, C, and D non-flammable fluids (8705/8711 T5 at 60 °C; 8707 T3C at 60 °C), and Dust-ignition proof Class II/III, Division 1, Groups E, F, and G (8705/8711 T6 at 60 °C; 8707 T3C at 60 °C) Hazardous locations; Enclosure Type 4X

N0 8721 Hygienic Sensor
Factory Mutual (FM) Ordinary Location;
CE Marking; 3-A Symbol Authorization #1222;
EHEDG Type EL

N5 Non-incendive for Class I, Division 2, Groups A, B, C, and D; with intrinsically safe electrodes for use on flammable fluids (8705/8711 T5 at 60 °C; 8707 T3C at 60 °C), and Dust-ignition proof Class II/III, Division 1, Groups E, F, and G (8705/8711 T6 at 60 °C; 8707 T3C at 60 °C) Hazardous locations; Enclosure Type 4X

E5 Explosion proof for Class I, Division 1, Groups C and D (8705/8711 T6 at 60 °C), and Dust-ignition proof Class II/III, Division 1, Groups E, F, and G (8705/8711 T6 at 60 °C), and non-incendive for Class I, Division 2, Groups A, B, C, and D flammable fluids (8705/8711 T5 at 60 °C) Hazardous locations; Enclosure Type 4X

Canadian Standards Association (CSA)

N0 Non-incendive for Class I, Division 2, Groups A, B, C, and D non-flammable fluids (8705/8711 T5 at 60 °C; 8707 T3C at 60 °C), and Dust-ignition proof Class II/III, Division 1, Groups E, F, and G (8705/8711 T6 at 60 °C; 8707 T3C at 60 °C) Hazardous locations; Enclosure Type 4X

N0 8721 Hygienic Sensor
Canadian Standards Association (CSA) Ordinary Location;
CE Marking; 3-A Symbol Authorization #1222;
EHEDG Type EL

European Certifications

ND ATEX Dust Certificate No.: KEMA 06ATEX0006
⟨Ex⟩ II 1D Ex tD A20 IP6x T105°C (-50 ≤ T_a ≤ 65 °C)
CE 0575

Installation Instructions

The cable and conduit entry devices and blanking elements shall be of a certified IP6x type, suitable for the conditions of use and correctly installed. At maximum ambient temperatures or at process temperatures above 60 °C heat resistant cables with a temperature rating of at least 90 °C shall be used.

The surface temperature of 105 °C is based on a maximum ambient temperature of 65 °C. When the process temperature is higher than the maximum ambient temperature (up to a maximum of 180 °C), the surface temperature will be the process temperature plus 40 °K.

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N1 ATEX Non-Sparking/Non-incendive
Certificate No: KEMA02ATEX1302X
⟨Ex⟩ II 3G EEx nA [L] IIC T3... T6
(-20 °C ≤ T_a ≤ +65 °C)

Special condition for safe use (x):

The relation between ambient temperature, process temperature, and temperature class is to be taken from Table 13 on page 31. The electrical data is to be taken from Table 14 on page 33.

KD, E1

ATEX Zone 1 Increased Safety with IS Electrodes
Certificate No. KEMA 03ATEX2052X
⟨Ex⟩ II 1/2G EEx e ia IIC T3...T6
(-20 °C ≤ T_a ≤ +65 °C) (See Table 12 on page 30)
CE 0575
V_{max} = 40 V

Special condition for safe use (x):

The relation between ambient temperature, process temperature and temperature class is to be taken from Table 13 on page 31. The electrical data is to be taken from Table 14 on page 33.

Installation Instructions

At ambient temperatures above 50 °C, heat resistant cables with a temperature rating of at least 90 °C shall be used.
A fuse with a rating of maximum 0.7 A according to IEC 60127-1 shall be included in the coil excitation circuit if the sensors are used with other flow transmitters.

International Certifications

N7 IECEx Type 'n'

Certificate Number: IECEx DEK 11.0094X
Ex nA nL IIC T3...T5 Gc IP66
(-50 °C ≤ T_a ≤ +60 °C) (see Table 14 on page 33 for relationship between process temperature and temperature code.)

Special Condition for safe use (x):

The relation between ambient temperature, process temperature, temperature class, orientation of the junction box and flowtube mounting is to be taken from Table 14 on page 33. The equipment shall only be used with a flow transmitter that uses a current-control coil excitation circuit that complies with the Electrical Data in Table 15 on page 33. When used with an integrally mounted transmitter, exceeding of the temperature limits of the transmitter by the influence of ambient and process temperature shall be prevented.

Units marked with "Warning: Electrostatic Charging Hazard" may use non-conductive paint thicker than 0.2 mm. Precautions shall be taken to avoid ignition due to electrostatic charge on the enclosure.

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Installation Instructions

At an ambient temperature greater than 140 °F/60 °C, and a process temperature above or equal to 140 °F/60 °C, the flowmeter must be used with heat-resistant cables with a temperature rating of at least 194 °F/90 °C. At a process temperature greater than 100 °C, the flowmeter shall be used with heat-resistant cables with a temperature rating of at least 212 °F/100 °C. Cable entry devices and blanking elements shall be of an Ex e or Ex n certified type, with a minimum rating of IP54.

NF IECEx Dust

Certificate Number: IECEx KEM 09.0078

Ex tD A20 IP6x T105 °C (-50 ≤ T_a ≤ 65 °C)

Installation Instructions:

The cable and conduit entry devices and blanking elements shall be of a certified IP6x type, suitable for the conditions of use and correctly installed. At maximum ambient temperatures or at process temperatures above 60 °C heat resistant cables with a temperature rating of at least 90 °C shall be used.

The surface temperature of 105 °C is based on a maximum ambient temperature of 65 °C. When the process temperature is higher than the maximum ambient temperature (up to a maximum of 180 °C), the surface temperature will be the process temperature plus 40 °K.

NEPSI - China

E3, EP

NEPSI Increased Safety with IS Electrodes
Certificate No. GYJ071360X
Ex e ia IIC T3...T6 (-20 °C ≤ Ta ≤ +65 °C) (see Table 12 on page 30)

InMetro - Brazil

E2, EB

NCC Increased Safety with IS Electrodes
Certificate No. NCC 12.1177 X
Ex e ia IIC T3...T6 (-20 °C ≤ Ta ≤ +65 °C) (see Table 12 on page 30)

KOSHA - Korea

E9, EK

KOSHA Increased Safety with IS Electrodes
Certificate No. 2005-2232-QIX
Ex e ia IIC T3 T6 (-20 °C ≤ Ta ≤ +65 °C) (see Table 12 on page 30)

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Table 11. Electrical Data

Rosemount 8705 and 8711 Sensors	
Coil excitation circuit:	40 V, 0,5 A, 20 W maximum
Electrode circuit:	in type of explosion protection intrinsic safety EEx ia IIC, U_i = 5 V, I_i = 0.2 mA, P_i = 1 mW, U_m = 250 V

Table 12. Relation between ambient temperature, process temperature, and temperature class(1)

Meter Size (Inches)	Maximum Ambient Temperature	Maximum Process Temperature	Temperature Class
1/2	149 °F (65 °C)	239 °F (115 °C)	T3
1	149 °F (65 °C)	248 °F (120 °C)	T3
1	95 °F (35 °C)	95 °F (35 °C)	T4
1 1/2	149°F (65 °C)	257 °F (125 °C)	T3
1 1/2	122 °F (50 °C)	140 °F (60 °C)	T4
2	149 °F (65 °C)	257 °F (125 °C)	T3
2	149 °F (65 °C)	167 °F (75 °C)	T4
2	104 °F (40 °C)	104 °F (40 °C)	T5
3 - 4	149 °F (65 °C)	266 °F (130 °C)	T3
3 - 4	149 °F (65 °C)	194 °F (90 °C)	T4
3 - 4	131 °F (55 °C)	131 °F (55 °C)	T5
3 - 4	104 °F (40 °C)	104 °F (40 °C)	T6
6	149 °F (65 °C)	275 °F(135 °C)	T3
6	149 °F (65 °C)	230 °F (110 °C)	T4
6	149 °F (65 °C)	167 °F (75 °C)	T5
6	140 °F (60 °C)	140 °F (60 °C)	T6
8-60	149 °F (65 °C)	284 °F (140 °C)	T3
8-60	149 °F (65 °C)	239 °F (115 °C)	T4
8-60	149 °F (65 °C)	176 °F (80 °C)	T5
8-60	149 °F (65 °C)	149 °F (65 °C)	T6

(1) This table is applicable for E1 and KD approval codes only.

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Table 13. Relation between the maximum ambient temperature, the maximum process temperature, and the temperature class(1)

Maximum Ambient Temperature	Maximum process temperature °F (°C) per temperature class			
	T3	T4	T5	T6
0.5 in. sensor size				
149 °F (65 °C)	296 °F (147 °C)	138 °F (59 °C)	53 °F (12 °C)	17 °F (-8 °C)
140 °F (60 °C)	309 °F (154 °C)	150 °F (66 °C)	66 °F (19 °C)	28 °F (-2 °C)
131 °F (55 °C)	321 °F (161 °C)	163 °F (73 °C)	78 °F (26°C)	41 °F (5 °C)
122 °F (50 °C)	334 °F (168 °C)	176 °F (80 °C)	89 °F (32 °C)	53 °F (12 °C)
113 °F (45 °C)	347 °F (175 °C)	189 °F (87 °C)	102 °F (39 °C)	66 °F (19 °C)
104 °F (40 °C)	350 °F (177 °C)	199 °F (93 °C)	114 °F (46 °C)	78 °F (26 °C)
95 °F (35 °C)	350 °F (177 °C)	212 °F (100 °C)	127 °F (53 °C)	89 °F (32 °C)
86 °F (30 °C)	350 °F (177 °C)	224 °F (107 °C)	138 °F (59 °C)	102 °F (39 °C)
77 °F (25 °C)	350 °F (177 °C)	237 °F (114 °C)	150 °F (66 °C)	114 °F (46 °C)
68 °F (20 °C)	350 °F (177 °C)	248 °F (120 °C)	163 °F (73 °C)	127 °F (53 °C)
1.0 in. sensor size				
149 °F (65°C)	318 °F (159 °C)	158 °F (70 °C)	71 °F (22 °C)	34 °F (1 °C)
140 °F (60°C)	330 °F (166 °C)	170 °F (77 °C)	84 °F (29 °C)	46 °F (8 °C)
131°F (55 °C)	343 °F (173 °C)	183 °F (84 °C)	96 °F (36 °C)	59 °F (15 °C)
122 °F (50 °C)	350 °F (177 °C)	196 °F (91 °C)	109 °F (43 °C)	72 °F (22 °C)
113 °F (45 °C)	350 °F (177 °C)	206 °F (97 °C)	122 °F (50 °C)	84 °F (29 °C)
104 °F (40 °C)	350 °F (177 °C)	219 °F (104 °C)	134 °F (57 °C)	96 °F (36 °C)
95 °F (35 °C)	350 °F (177 °C)	231 °F (111 °C)	145 °F (63 °C)	109 °F (43 °C)
86 °F (30 °C)	350 °F (177 °C)	244 °F (118 °C)	158 °F (70 °C)	122 °F (50 °C)
77 °F (25 °C)	350 °F (177 °C)	257 °F (125 °C)	170 °F (77°C)	134 °F (57 °C)
68 °F (20 °C)	350 °F (177 °C)	269 °F (132 °C)	183 °F (84 °C)	145 °F (63 °C)
1.5 in. sensor size				
149 °F (65 °C)	296 °F (147 °C)	159 °F (71°C)	87 °F (31 °C)	55 °F (13 °C)
140 °F (60 °C)	307 °F (153 °C)	170 °F (77°C)	96 °F (36 °C)	66 °F (19 °C)
131 °F (55 °C)	318 °F (159 °C)	181 °F (83°C)	107 °F (42 °C)	77 °F (25 °C)
122 °F (50 °C)	329 °F (165 °C)	192 °F (89 °C)	118 °F (48 °C)	87 °F (31 °C)
113 °F (45 °C)	339 °F (171 °C)	203 °F (95 °C)	129 °F (54 °C)	96 °F (36 °C)
104 °F (40 °C)	350 °F (177 °C)	213 °F (101 °C)	140 °F (60 °C)	107 °F (42 °C)
95 °F (35 °C)	350 °F (177 °C)	222 °F (106 °C)	150 °F (66 °C)	118 °F (48 °C)
86 °F (30 °C)	350 °F (177 °C)	233 °F (112 °C)	159 °F (71 °C)	129 °F (54 °C)
77 °F (25 °C)	350 °F (177 °C)	244 °F (118 °C)	170 °F (77 °C)	140 °F (60 °C)
68 °F (20 °C)	350 °F (177 °C)	255 °F (124 °C)	181 °F (83 °C)	150 °F (66 °C)

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Table 13. Relation between the maximum ambient temperature, the maximum process temperature, and the temperature class(1)

Maximum Ambient Temperature	Maximum process temperature °F (°C) per temperature class			
	T3	T4	T5	T6
2.0 in. sensor size				
149 °F (65 °C)	289 °F (143 °C)	163 °F (73 °C)	95 °F (35 °C)	66 °F (19 °C)
140 °F (60 °C)	300 °F (149 °C)	172 °F (78 °C)	104 °F (40 °C)	75 °F (24 °C)
131 °F (55 °C)	309 °F (154 °C)	183 °F (84 °C)	114 °F (46 °C)	84 °F (29 °C)
122 °F (50 °C)	318 °F (159 °C)	192 °F (89 °C)	123 °F (51 °C)	95 °F (35 °C)
113 °F (45 °C)	329 °F (165 °C)	201 °F (94 °C)	134 °F (57 °C)	104 °F (40 °C)
104 °F (40 °C)	338 °F (170 °C)	212 °F (100 °C)	143 °F (62 °C)	114 °F (46 °C)
95 °F (35 °C)	348 °F (176 °C)	221 °F (105 °C)	152 °F (67 °C)	123 °F (51 °C)
86 °F (30 °C)	350 °F (177 °C)	231 °F (111 °C)	163 °F (73 °C)	134 °F (57 °C)
77 °F (25 °C)	350 °F (177 °C)	240 °F (116 °C)	172 °F (78 °C)	143 °F (62 °C)
68 °F (20 °C)	350 °F (177 °C)	251 °F (122 °C)	183 °F (84 °C)	152 °F (67 °C)
3 to 60 in. sensor size				
149 °F (65 °C)	350 °F (177 °C)	210 °F (99 °C)	116 °F (47 °C)	75 °F (24 °C)
140 °F (60 °C)	350 °F (177 °C)	222 °F (106 °C)	129 °F (54 °C)	89 °F (32 °C)
131 °F (55 °C)	350 °F (177 °C)	237 °F (114 °C)	143 °F (62 °C)	102 °F (39 °C)
122 °F (50 °C)	350 °F (177 °C)	249 °F (121 °C)	156 °F (69 °C)	116 °F (47 °C)
113 °F (45 °C)	350 °F (177 °C)	264 °F (129 °C)	170 °F (77 °C)	129 °F (54 °C)
104 °F (40 °C)	350 °F (177 °C)	266 °F (130 °C)	183 °F (84 °C)	143 °F (62 °C)
95 °F (35 °C)	350 °F (177 °C)	266 °F (130 °C)	197 °F (92 °C)	156 °F (69 °C)
86 °F (30 °C)	350 °F (177 °C)	266 °F (130 °C)	203 °F (95 °C)	170 °F (77 °C)
77 °F (25 °C)	350 °F (177 °C)	266 °F (130 °C)	203 °F (95 °C)	176 °F (80 °C)
68 °F (20 °C)	350 °F (177 °C)	266 °F (130 °C)	203 °F (95 °C)	176 °F (80 °C)

(1) This table is applicable for N1 option codes only.

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Table 14. The relation between ambient temperature, process temperature, temperature class, orientation of the junction box and flowtube mounting(1)

Line Size Inch (mm)	Maximum Ambient Temperature °F (°C)	Maximum Process Temperature °F (°C)	Temperature Code (T-Code)	Junction Box Orientation	Transmitter Mounting(2)
2 (50)	140 °F (60 °C)	140 °F (60 °C)	T5	Any	Integral or Remote
2 (50)	140 °F (60 °C)	212 °F (100 °C)	T4	Any	Remote Only
2 (50)	140 °F (60 °C)	300 °F (150 °C)	T3	Side or Down	Remote Only
3 (80)	140 °F (60 °C)	140 °F (60 °C)	T5	Any	Integral or Remote
3 (80)	140 °F (60 °C)	212 °F (100 °C)	T4	Any	Remote Only
3 (80)	140 °F (60 °C)	300 °F (150 °C)	T3	Side or Down	Remote Only
4 (100)	140 °F (60 °C)	140 °F (60 °C)	T5	Any	Integral or Remote
4 (100)	140 °F (60 °C)	230 °F (110 °C)	T4	Any	Remote Only
4 (100)	140 °F (60 °C)	320 °F (160 °C)	T3	Side or Down	Remote Only
6 (150)	140 °F (60 °C)	140 °F (60 °C)	T5	Any	Integral or Remote
6 (150)	140 °F (60 °C)	240 °F (115 °C)	T4	Any	Remote Only
6 (150)	140 °F (60 °C)	330 °F (165 °C)	T3	Side or Down	Remote Only
8 (200) -36 (900)	140 °F (60 °C)	140 °F (60 °C)	T5	Any	Integral or Remote
8 (200) -36 (900)	140 °F (60 °C)	250 °F (120 °C)	T4	Any	Remote Only
8 (200) -36 (900)	140 °F (60 °C)	340 °F (170 °C)	T3	Side or Down	Remote Only

(1) This table is applicable for N7 option code only.
(2) Other combinations of process temperature and ambient temperature can be used with integral mounting, but it must be assured that the temperature of the mounting flange and other components comprising the electronics housing of the transmitter do not go outside the ambient temperature limits of the transmitter.

Table 15. Electrical Data(1)

Coil Circuit Parameters:	Um = 40V max, Imax = 500 mA,Pmax = 20 W
Electrode Circuit Parameters:	Ui = 5 V, Uo= 5 V, Io= 200 µA, Po= 1 mW

(1) This table is applicable for N7 option code only.

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Figure 23. Rosemount 8705 Declaration of Conformity



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ROSEMOUNT

CE

EC Declaration of Conformity

No: RFD 1006 Rev. I

We,

Rosemount Inc.
12001 Technology Drive
Eden Prairie, MN 55344-3695
USA

declare under our sole responsibility that the product(s),

Model 8705 Magnetic Flowmeters

manufactured by,

Rosemount Inc. **12001 Technology Drive** **Eden Prairie, MN 55344-3695** **USA**	*and*	**Fisher-Rosemount Flow Technologies** **Ave. Miguel de Cervantes 111** **Chihuahua, CHIH 31109** **Mexico**

to which this declaration relates, is in conformity with the provisions of the European Community Directives, including the latest amendments, as shown in the attached schedule.

Assumption of conformity is based on the application of harmonized or applicable technical standards and, when applicable or required, a European Community notified body certification, as shown in the attached schedule.

(signature)

December 7, 2011
(date of issue)

Mark Fleigle
(name - printed)

Vice President Technology and New Products
(function name - printed)

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EMERSON. Process Management

ROSEMOUNT

CE

Schedule

EC Declaration of Conformity RFD 1006 Rev. I

EMC Directive (2004/108/EC)

All Models
EN 61326-1: 2006

PED Directive (97/23/EC)

Model 8705 Magnetic Flowmeter with Option "PD", in Line Sizes 1.5"- 36"

Equipment without the 'PD' option is NOT PED compliant and cannot be used in the EEA without further assessment

QS Certificate of Assessment - EC No. 59552-2009-CE-HOU-DNV
Module H Conformity Assessment
ASME B31.3: 2008

Model 8705 with Option "PD", in Line Sizes .5" – 1.0"

Sound Engineering Practice
ASME B31.3: 2008

ATEX Directive (94/9/EC)

Model 8705 Magnetic Flowmeter

KEMA 02ATEX1302 X – Type n Certificate
Equipment Group II, Category 3 G (EEx nA [L] IIC T3… T6)
EN 50021: 1999

KEMA 03ATEX2052 X – Increased Safety with Intrinsically Safe Electrodes
Equipment Group II, Category 1/2 G (EEx e ia IIC T3… T6)
EN 50019: 2000
EN 50020: 2002

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ROSEMOUNT

CE

Schedule

EC Declaration of Conformity RFD 1006 Rev. I

ATEX Directive (94/9/EC) cont'd

KEMA 06ATEX0006 – Dust Certificate
Equipment Group II, Category 1 D (Ex tD A20 IP6x T105°C)
EN 61241-0: 2006
EN 61241-1: 2004

PED Notified Body

Det Norske Veritas (DNV) [Notified Body Number: 0575]
Veritasveien 1, N-1322
Hovik, Norway

ATEX Notified Bodies for EC Type Examination Certificate

KEMA [Notified Body Number: 0344]
Utrechtseweg 310, 6812 AR Arnhem
P.O. Box 5185, 6802 ED Arnhem
The Netherlands
Postbank 6794687

ATEX Notified Body for Quality Assurance

Det Norske Veritas (DNV) [Notified Body Number: 0575]
Veritasveien 1, N-1322
Hovik, Norway

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Figure 24. Rosemount 8711 Declaration of Conformity

EMERSON. Process Management

ROSEMOUNT

CE

EC Declaration of Conformity

No: RFD 1007 Rev. H

We,

Rosemount Inc.
12001 Technology Drive
Eden Prairie, MN 55344-3695
USA

declare under our sole responsibility that the product(s),

Model 8711 Magnetic Flowmeters

manufactured by,

Rosemount Inc. **12001 Technology Drive** **Eden Prairie, MN 55344-3695** **USA**	*and*	**Fisher-Rosemount Flow Technologies** **Ave. Miguel de Cervantes 111** **Chihuahua, CHIH 31109** **Mexico**

to which this declaration relates, is in conformity with the provisions of the European Community Directives, including the latest amendments, as shown in the attached schedule.

Assumption of conformity is based on the application of harmonized or applicable technical standards and, when applicable or required, a European Community notified body certification, as shown in the attached schedule.

(signature)

December 7, 2011
(date of issue)

Mark Fleigle
(name - printed)

Vice President Technology and New Products
(function name - printed)

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EMERSON. Process Management

ROSEMOUNT

CE

Schedule

EC Declaration of Conformity RFD 1007 Rev. H

EMC Directive (2004/108/EC)

All Models
EN 61326-1: 2006

PED Directive (97/23/EC)

Model 8711 Magnetic Flowmeter with Option "PD", in Line Sizes 1.5"- 8"

Equipment without the 'PD' option is NOT PED compliant and cannot be used in the EEA without further assessment

QS Certificate of Assessment - EC No. 59552-2009-CE-HOU-DNV
Module H Conformity Assessment
ASME B31.3: 2008

Model 8711 with Option "PD", in Line Sizes .15" – 1.0"

Sound Engineering Practice
ASME B31.3: 2008

ATEX Directive (94/9/EC)

Model 8711 Magnetic Flowmeter

KEMA 02ATEX1302 X – Type n Certificate
Equipment Group II, Category 3 G (EEx nA [L] IIC T3… T6)
EN 50021: 1999

KEMA 03ATEX2052 X – Increased Safety with Intrinsically Safe Electrodes
Equipment Group II, Category 1/2 G (EEx e ia IIC T3… T6)
EN 50019: 2000
EN 50020: 2002

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EMERSON. Process Management

ROSEMOUNT

CE

Schedule

EC Declaration of Conformity RFD 1007 Rev. H

ATEX Directive (94/9/EC) cont'd

KEMA 06ATEX0006 – Dust Certificate
Equipment Group II, Category 1 D (Ex tD A20 IP6x T105°C)
EN 61241-0: 2006
EN 61241-1: 2004

PED Notified Body

Det Norske Veritas (DNV) [Notified Body Number: 0575]
Veritasveien 1, N-1322
Hovik, Norway

ATEX Notified Bodies for EC Type Examination Certificate

KEMA [Notified Body Number: 0344]
Utrechtseweg 310, 6812 AR Arnhem
P.O. Box 5185, 6802 ED Arnhem
The Netherlands
Postbank 6794687

ATEX Notified Body for Quality Assurance

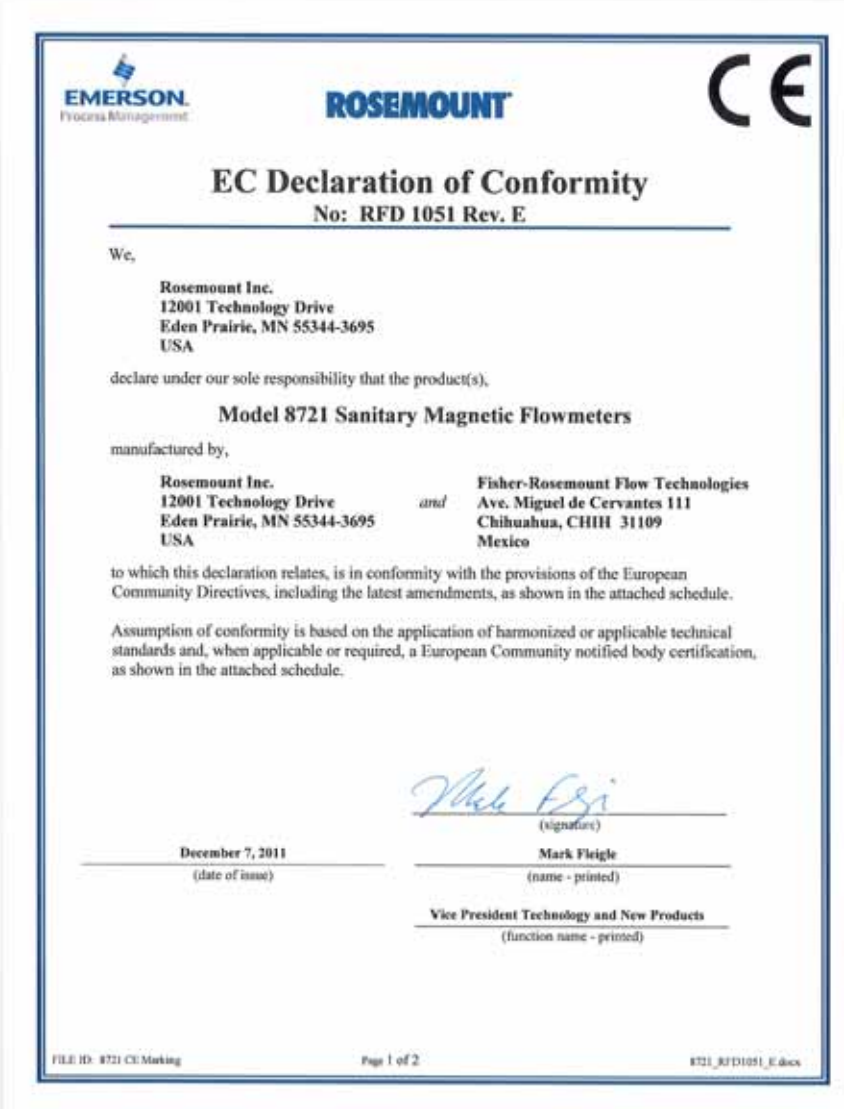
Det Norske Veritas (DNV) [Notified Body Number: 0575]
Veritasveien 1, N-1322
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Figure 25. Rosemount 8721 Declaration of Conformity



EMERSON. Process Management

ROSEMOUNT

CE

EC Declaration of Conformity

No: RFD 1051 Rev. E

We,

Rosemount Inc.
12001 Technology Drive
Eden Prairie, MN 55344-3695
USA

declare under our sole responsibility that the product(s),

Model 8721 Sanitary Magnetic Flowmeters

manufactured by,

Rosemount Inc. **12001 Technology Drive** **Eden Prairie, MN 55344-3695** **USA**	*and*	**Fisher-Rosemount Flow Technologies** **Ave. Miguel de Cervantes 111** **Chihuahua, CHIH 31109** **Mexico**

to which this declaration relates, is in conformity with the provisions of the European Community Directives, including the latest amendments, as shown in the attached schedule.

Assumption of conformity is based on the application of harmonized or applicable technical standards and, when applicable or required, a European Community notified body certification, as shown in the attached schedule.

(signature)

December 7, 2011
(date of issue)

Mark Fleigle
(name - printed)

Vice President Technology and New Products
(function name - printed)

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EMERSON. Process Management

ROSEMOUNT

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Schedule

EC Declaration of Conformity RFD 1051 Rev. E

EMC Directive (2004/108/EC)

All Models
EN 61326-1: 2006

PED Directive (97/23/EC)

Model 8721 Magnetic Flowmeter, line sizes greater than 1"(25mm):

Equipment without the 'PD' option is NOT PED compliant and cannot be used in the EEA without further assessment

QS Certificate of Assessment - EC No. 59552-2009-CE-HOU-DNV
Module A Conformity Assessment
Category I Equipment
ASME B31.3: 2008

Model 8721 Magnetic Flowmeter, in line sizes less than 1" (25mm):

Sound Engineering Practice
ASME B31.3: 2008

PED Notified Body

Det Norske Veritas (DNV) [Notified Body Number: 0575]
Veritasveien 1, N-1322
Hovik, Norway

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