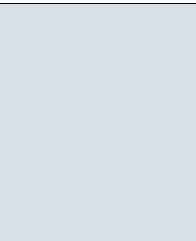





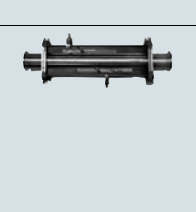



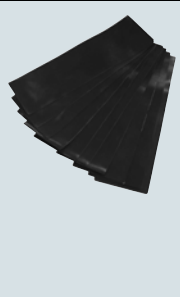


## Flow Measurement





### SITRANS F S Clamp-on


#### Ultrasonic flowmeter SITRANS FS220 - Accessories/Spare parts

##### Accessories/Spare parts for clamp-on ultrasonic flowmeters

Description	Article No.		Description	Article No.	
<b>FSS200 Universal Sensors</b> Selected for general purpose measurement. Since they are selected based on diameter only, a wide range of pipe sizes and materials can be covered with a minimum number of sensors. These can also be selected for cost savings on applications where standard accuracy is sufficient.	7ME3950-...		<b>Magnetic mounting frames</b> Magnetic mounting frames are designed to simplify clamp-on sensor installation on pipelines 8 inches (DN 200) and larger by eliminating the need for straps to secure them. They feature powerful magnets to ensure quick and accurate setup. Compatible with all C, D and E universal and high-precision sensors belonging to the SITRANS FSS200 clamp-on family. Magnetic mounting frames are constructed in aluminum for a high level of durability. Ideal use on temporary installations.	7ME3960-0MD02	
<b>FSS200 High Precision Sensors</b> Selected for increased performance on steel pipes. They provide the highest accuracy achievable by the meters and therefore should be selected whenever higher accuracy / repeatability is required primarily based on pipe wall thickness.	7ME3950-...		<b>Test Block</b> Used for checking operation of a meter and sensors prior to a field installation, or as a troubleshooting tool. Selected by sensor size, each block accommodates 2 sensor sizes. Available only for universal sensors.	7ME3960-...	
<b>FSS200 High Temperature Sensors</b> Selected whenever pipe temperature will exceed 250 °F (120 °C) up to a maximum of 450 °F (232 °C). They are universal type and can therefore be used on any pipe material and are selected by pipe diameter. Constructed in stainless steel. Connection junction box included.	7ME3950-...		<b>Straps</b> Used to fasten sensors or mounting frames to pipe for dedicated meter installations. Stainless steel construction for corrosion resistance.	7ME3960-...	
<b>Mounting tracks</b> Typically used on smaller pipes for easier and more stable mounting of dedicated universal style sensor size A or B; also available for dedicated high precision sensor size A or B.	7ME3960-...		<b>Cable Gland Kit</b> Cable gland kit for use with SITRANS FST020 transmitters housed in IP65 NEMA 4X wall mount enclosures. Kit contains two single port glands for power and one dual port gland for sensor cables.	A5E41693895	
<b>Mounting Frames</b> These items are useful in simplifying sensor installation. They are strapped to the pipe first and then the sensors are installed, making the installation less cumbersome and more precise. They also enable easy repeated mounting of the sensors assuring alignment to the original sensor positioning. They may be left in place at each measurement location where periodic flow surveys are conducted to simplify subsequent installations and ensure repeatable results.	7ME3960-...		<b>Ultrasonic Couplant</b> Fills any voids between sensor emitting surface and pipe wall to allow maximum energy transfer between sensor and pipe. Several different types of couplants are employed as determined by the application conditions and type of installation (Temporary or permanent).	7ME3960-...	
			<b>Dry Couplant</b> The dry coupling pad is intended for use in any liquid, clamp-on transit time or Doppler applications that require a more durable coupling material. Installation is easy by simply placing one strip of material between sensor and pipe. Not intended for clamp-on gas where damping material is used. The temperature range is -34 to +200 °C (-30 to +392 °F).	7ME3960-...	

### Ultrasonic flowmeter SITRANS FS220 - Ordering data

Description	Article No.	
<b>Termination Kit (Flow Sensors)</b> Termination kit for one pair of sensor cables. These can be provided in cases where users will be purchasing bulk cable directly and cutting to length at site, or when existing cable length is to be altered. Selected by cable type.	7ME3960-...	
<b>FST020 Transmitter module</b> Main transmitter module for FST020 including SD-card and firmware load	A5E41693884	
<b>FST020 Transmitter module cover AC</b> Cover for FST020 Main transmitter module for AC powered units; includes label and screws	A5E41693888	
<b>FST020 Transmitter module cover DC</b> Cover for FST020 Main transmitter module for DC powered units; includes label and screws	A5E41693889	
<b>FST020 Enclosure cover</b> Enclosure lid for FST020; includes display module, connection label and screws	A5E38846901	
<b>FST020 Power Supply AC</b> Power supply module for FST020, AC power	7ML1830-1MD	
<b>FST020 Power Supply DC</b> Power supply module for FST020, DC power	7ML1830-1ME	
<b>SensorFlash SD-card</b> 4 GB micro SD card -40 °C ... +85 °C for FST020 or FST030 for data storage, firmware and back-up	A5E38288507	
<b>Hardware kit</b> Various nuts, screws, and grounding strap for FST020 transmitter	A5E41944763	
<b>Sensor cable pair, 5 m</b> Sensor cable for connection between FSS200 sensors and FST020 transmitter, 5 meters in length	A5E39669934 031	
<b>Sensor cable pair, 10 m</b> Sensor cable for connection between FSS200 sensors and FST020 transmitter, 10 meters in length	A5E39669934 032	

Description	Article No.	
<b>Sensor cable pair, 20 m</b> Sensor cable for connection between FSS200 sensors and FST020 transmitter, 20 meters in length	A5E39669934 033	
<b>Enclosure mounting kit</b> Mounting kit to fix enclosure on a 2" stanchion pipe	QCB: 1012NMB-1	

## Flow Measurement

### SITRANS F S Clamp-on

#### Ultrasonic flowmeter SITRANS FS220 - Ordering data

Selection and Ordering data	Article No.
<i>Spare parts (FSS200 sensors)</i>	
<b>SITRANS F US clamp-on</b>	<b>7ME3950-5</b>
<b>Temperature range for all sensors is unless otherwise noted</b> <b>-40 °C ... +120 °C (-40 °F ... +248 °F)</b>	
Ideal operating temperatures as follows:	
T1: -40 ... +80 °C (-40 ... +176 °F)	0
T2: 80 ... 121 °C (176 ... 250 °F)	2
<b>Spare sensor code</b> (Stainless steel construction)	
<u>Liquid flow sensors for use with mounting frames or tracks</u>	
FSS200 A2 universal	LB 0 1
FSS200 B3 universal	LC 0 1
FSS200 C3 universal	LD 0 0
FSS200 D3 universal	LE 0 0
FSS200 E2 universal	LF 0 0
FSS200 A1H (high precision)	LG 0 1
FSS200 A2H (high precision)	LH 0 1
FSS200 A3H (high precision)	LJ 0 1
FSS200 B1H (high precision)	GK 1
FSS200 B2H (high precision)	GL 1
FSS200 B3H (high precision)	GT 1
FSS200 C1H (high precision)	GM 0
FSS200 C2H (high precision)	GN 0
FSS200 D1H (high precision)	GP 0
FSS200 D2H (high precision)	GQ 0
FSS200 D3H (high precision)	GU 0
FSS200 D4H (high precision)	GR 0
<u>High temperature universal liquid sensors up to 230 °C (446 °F)</u>	
FSS200 High temp. sensor size 1 for 12.7 to 100 mm diam.	LA 1 3
FSS200 High temp. sensor size 2 for 30 to 200 mm diam.	LA 2 3
FSS200 High temp. sensor size 3 for 150 to 600 mm diam.	LA 4 3
FSS200 High temp. sensor size 4 for 400 to 1200 mm diam.	LA 7 3

Selection and Ordering data	Article No.
<i>Spare parts (Miscellaneous)</i>	
<b>SITRANS F US clamp-on</b>	<b>7ME3960-</b>
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
<b>Dedicated sensor mounting hardware</b>	
Sensor mounting tracks (dual part aluminum with mounting straps) for pipes < 125 mm (5 inch)	
• Tracks for Universal sensor pair size A or B	0MA 0 0
• Tracks for High precision sensor pair size A or B	0MB 0 0
Sensor mounting frames pair with mounting straps	
• Frames for Universal sensor size B (for pipes > 125 mm (5 inch))	<b>CQO:1012FN-PB</b>
• Frames for Universal sensor size C	0MC 0 0
• Frames for Universal sensor size D	0MC 0 1
• Frames for Universal sensor size E	0MC 0 2
• Frames for High precision sensor size B (for pipes > 125 mm (5 inch))	<b>CQO:1012FNH-PB</b>
• Frames for High precision sensor size C	0MD 0 0
• Frames for High precision sensor size D	0MD 0 1
Mounting straps for mounting frames (slotted stainless steel)	
• Straps for pipes from DN 50 to DN 150	0SM 0 0
• Straps for pipes from DN 50 to DN 300	0SM 1 0
• Straps for pipes from DN 300 to DN 600	0SM 2 0
• Straps for pipes from DN 600 to DN 1200	0SM 3 0
• Straps for pipes from DN 1200 to DN 1500	0SM 4 0
• Straps for pipes from DN 1500 to DN 2100	0SM 5 0
• Straps for pipes from DN 2100 to DN 3000	0SM 6 0
Spacer bars (for indexing sensors on pipe)	
• Spacer bar for pipes to 200 mm/8 inch (liquid), 600 mm/24 inch (gas)	0MS 1 0
• Spacer bar for pipes to 500 mm/20 inch (liquid), DN 1200/48 inch (gas)	0MS 2 0
• Spacer bar for pipes to 800 mm/32 inch (liquid)	0MS 3 0
• Spacer bar-extension for pipes to 1200 mm/ 48 inch (liquid) Only use in conjunction with 7ME3960-0MS30	0MS 4 0
High precision mounting enclosures. Spacer bar is included; straps should be ordered separately	
• Stainless steel mounts for high precision size "C" sensor pair, single enclosure (each)	0WS 5 0
• Stainless steel mounts for high precision size "D/E" sensor pair, single enclosure (each)	0WS 6 0
• Stainless steel mounts for high precision size "C" sensor pair, dual enclosure (pair)	0WD 5 0
• Stainless steel mounts for high precision size "D/E" sensor pair, dual enclosure (pair)	0WD 6 0

Selection and Ordering data	Article No.
<i>Spare parts (Miscellaneous)</i>	
<b>SITRANS F US clamp-on</b>	<b>7ME3960 -</b>
<b>Stainless steel straps for weld seal enclosure mounting (2 x required for dual enclosures)</b>	
Mounting strap for pipe diameter to 300 mm (13 inch)	<b>0 SM 0 1</b>
Mounting strap for pipe diameter to 600 mm (24 inch)	<b>0 SM 1 1</b>
Mounting strap for pipe diameter to 1200 mm (48 inch)	<b>0 SM 2 1</b>
Mounting strap for pipe diameter to 1500 mm (60 inch)	<b>0 SM 3 1</b>
Mounting strap for pipe diameter to 2130 mm (84 inch)	<b>0 SM 4 1</b>
Mounting strap for pipe diameter to 3050 mm (120 inch)	<b>0 SM 5 1</b>
<b>Stainless mounting tracks for High temp. 991 sensors, with straps, dual part for direct and reflect mount, incl. straps</b>	
Size 1 high temp sensor pair	<b>CQO:992MTNHMSH-1</b>
Size 2 high temp sensor pair	<b>CQO:992MTNHMSH-2</b>
Size 3 high temp sensor pair	<b>CQO:992MTNHMSH-3</b>
Size 4 high temp sensor pair	<b>CQO:992MTNHMSH-4</b>
<b>Sensor cables FSS220 (IP65 NEMA 4X) wall mount</b>	
Sensor cable pair, terminated, 5 m	<b>A5E39669934031</b>
Sensor cable pair, terminated, 10 m	<b>A5E39669934032</b>
Sensor cable pair, terminated, 20 m	<b>A5E39669934033</b>
<b>Dedicated cable termination kits</b>	
For externally supplied sensor cables, standard and plenum	<b>0 CT 0 1</b>
<b>Cable gland kit (normally supplied with transmitter) for IP65 NEMA 4X enclosures</b>	
	<b>A5E41693895</b>
<b>Ultrasonic couplant</b>	
Temporary water based for portable systems: 350 ml (12 oz): -34 ... +38 °C (-30 ... +100 °F)	<b>0 UC 1 0</b>
Permanent synthetic polymer based: 90 ml (3 oz) -40 ... +190 °C (-40 ... +375 °F)	<b>0 UC 2 0</b>
Permanent high temp fluoroether: -40 ... +230 °C (-40 ... +450 °F)	<b>0 UC 3 0</b>
Permanent vulcanizing silicone rubber couplant: 90 ml (3 oz): -40 ... +120 °C (-40 ... +250 °F)	<b>CQO:CC112</b>
Permanent high temp silicone grease: 12 ml (0.4 oz): -40 ... +230 °C (-40 ... +450 °F)	<b>CQO:CC117</b>
Permanent high temp silicone grease: 150 ml (5 oz): -40 ... +230 °C (-40 ... +450 °F)	<b>CQO:CC117A</b>
Couplant for submersible sensor applications	<b>CQO:CC120</b>
Dry coupling pads (qty of 10): -34 to +200 °C (-30 to +392 °F)	<b>0 UC 4 0</b>
<b>Universal Sensor Test Blocks</b>	
Test block for size A and B universal sensors	<b>0 TB 1 0</b>
Test block for size C and D universal sensors	<b>0 TB 2 0</b>