

Solids Flowmeters



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## Solids Flowmeters

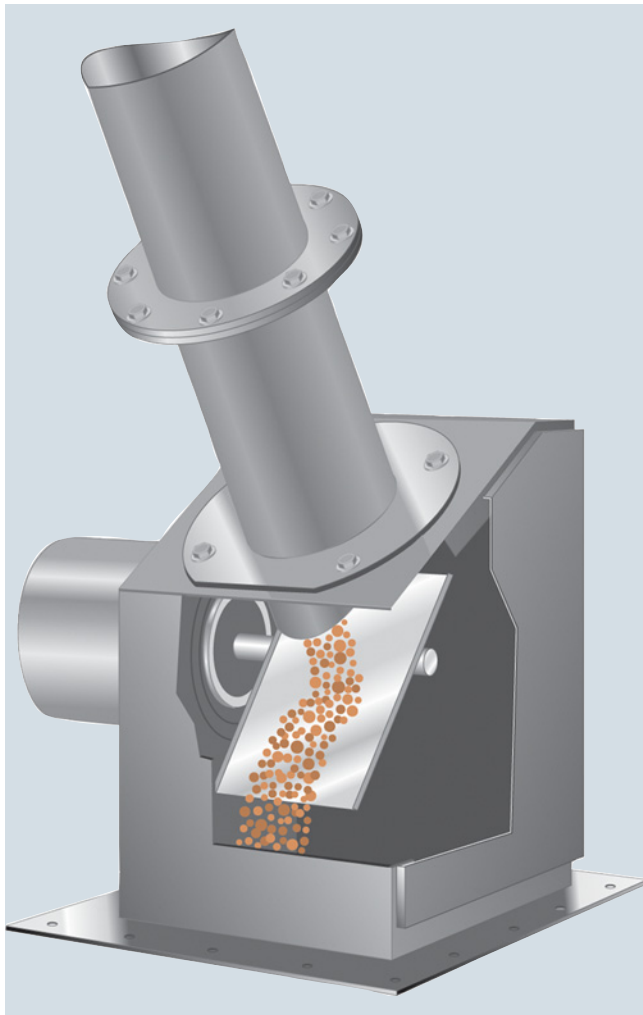
### Introduction

#### Overview

SITRANS WF solids flowmeters monitor the rate of bulk material flow in a process. They continuously measure the impact force of the material under gravity feed conditions, and convert this signal into a flow rate used to control the rate into a process or blending operation. Solids flowmeters can function in stand-alone measuring operations, or they can interface to a facility's process control system using industry standard protocols.

#### Applications

SITRANS WF flowmeters measure any dry material from powders to granulates. Material densities range from puffed wheat to iron ore, while fluidity covers the spectrum from fluidized powder, such as fly-ash, to sluggish flowing material such as lathe turnings. Typical materials monitored include cement, gravel, coke, coal, minerals, wood chips, cereals, seeds, grains, soybean and rice hulls, unshelled peanuts, starch, sugar, potato flakes, grain tailings and screenings, and plastic pellets.



Solids flowmeter with sensing plate detail

#### Mode of operation

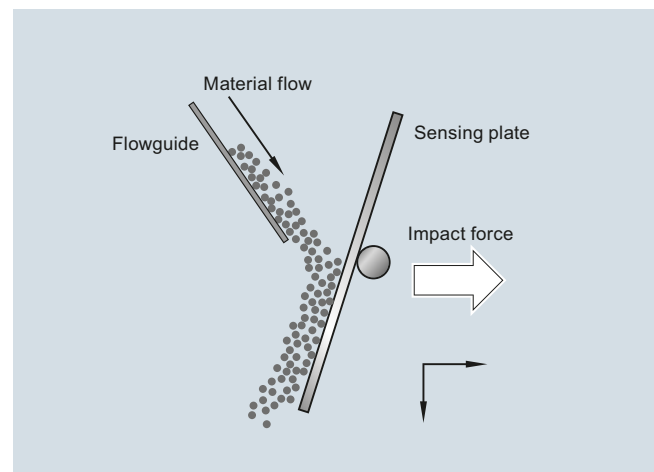
Flowmeters are installed in a gravity fed process. Entering the flowmeter through the flowguide, the material flow produces a mechanical deflection as it strikes the flowmeter's sensing plate. The SITRANS WF flowmeter converts the deflection into an electrical signal that feeds into an accompanying integrator, which instantaneously provides the flow rate and totalizes the weight.

SITRANS WF flowmeters measure only the horizontal force component of material flow striking the sensing plate. The horizontal force is dependent on particle mass and velocity, angle of particle impact against the plate, and the energy absorbing characteristics of the particle. The flowmeters respond to the mass or weight of the material striking the plate.

Because SITRANS WF flowmeter measures only the horizontal force, they are unaffected by vertical force changes caused by material buildup on the non-impact area of the sensing plate. Consequently, there is no zero drift, which in turn eliminates the need for frequent recalibration.

Siemens SITRANS WF product portfolio includes two basic types of impact flowmeters: the linear variable differential transformer (LVDT), and the strain gauge load cell. Each uses a different sensor to convert the horizontal force on the sensing plate to flow rate.

The totally enclosed design of SITRANS WF heavy-duty solids flowmeters eliminates product waste or contamination, and reduces plant maintenance. The dust-tight design creates a healthier work environment, especially when monitoring hazardous substances.



Mode of operation

**Application**
**SIEMENS**
**Solids Flowmeter Application Questionnaire**
**Customer information**

Contact: \_\_\_\_\_ Prepared By: \_\_\_\_\_  
 Company: \_\_\_\_\_ Date: \_\_\_\_\_  
 Address: \_\_\_\_\_ Notes on the Application: \_\_\_\_\_  
 City: \_\_\_\_\_ Country: \_\_\_\_\_  
 State/Province: \_\_\_\_\_ Zip/Postal Code: \_\_\_\_\_  
 Phone: ( ) \_\_\_\_\_ E-mail: \_\_\_\_\_ Fax: ( ) \_\_\_\_\_

**Material Information**

Material being measured: \_\_\_\_\_ Particle size: \_\_\_\_\_ mm/inch/mesh  
 Bulk density: \_\_\_\_\_ kg/m<sup>3</sup> or lb/ft<sup>3</sup> Moisture content: \_\_\_\_\_ %  
 Angle of repose: \_\_\_\_\_ degrees Is material aerated? \_\_\_\_\_ Yes \_\_\_\_\_ No  
 Material temperature: \_\_\_\_\_ °C/°F  
 Material properties: ☐ Hygroscopic ☐ Corrosive ☐ Easily aerated ☐ Abrasive ☐ Other \_\_\_\_\_  
 Material flow characteristics: ☐ Smooth ☐ Sluggish ☐ Sticky/Clumping ☐ Other \_\_\_\_\_

**Application Information**

(Supply sketch where possible showing pre-feed and out-feed device dimensions) Sketch attached ☐

Feed rate: \_\_\_\_\_ maximum t/hr or kg/hr or lb/hr or LTPH or STPH  
 \_\_\_\_\_ normal t/hr or kg/hr or lb/hr or LTPH or STPH  
 \_\_\_\_\_ minimum t/hr or kg/hr or lb/hr or LTPH or STPH  
 Accuracy required: +/- \_\_\_\_\_ %  
 Quantity required: \_\_\_\_\_  
 Pre-feed type: ☐ Rotary valve ☐ Belt ☐ Screw ☐ Vibratory pan ☐ Aerated gravity conveyor ☐ Bucket elevator ☐ Other (specify) \_\_\_\_\_  
 Flow rate: ☐ Constant ☐ Variable ☐ Pulsing Flowmeter will discharge into: \_\_\_\_\_  
 Headroom available: \_\_\_\_\_ ft/m Temperature at flowmeter: \_\_\_\_\_ Max. \_\_\_\_\_ Min. °C/°F  
 Sensing plate subjected to air flow: ☐ None ☐ Some Material test can be performed: ☐ Yes ☐ No  
 Estimated distance from pre-feed discharge to flowmeter: \_\_\_\_\_ mm/inch  
 Electrical classification in flowmeter environment: \_\_\_\_\_

**Integrator Requirements**

(indicate all that apply)

Power available: \_\_\_\_\_

**Inputs required:**

☐ 4 ... 20 mA (specify) \_\_\_\_\_  
☐ PID  
☐ LVDT  
☐ Load Cells (#): \_\_\_\_\_

**Outputs required:**

☐ 4 ... 20 mA  
☐ PID  
☐ Remote totalizer  
☐ Relays (#): \_\_\_\_\_

**Communications:**

☐ DeviceNet ☐ EtherNet/IP  
☐ PROFIBUS DP ☐ Modbus TCP/IP  
☐ RS 232/RS 485 Modbus ☐ ProfiNet  
☐ SIMATIC

**Products suggested:**

**Preferred Construction**  
 (flowguide and sensing plate enclosure): ☐ Painted mild steel ☐ 304 SS ☐ 316 SS ☐ Other (specify) \_\_\_\_\_

# Solids Flowmeters

## Introduction

### Technical specifications

#### Solids flowmeter selection guide

Criteria	SITRANS WF100	SITRANS WF200	SITRANS WF250	SITRANS WF330	SITRANS WF340	SITRANS WF350
<b>Typical industries</b>	Food, grain, milling, animal feed, plastics, glass	Aggregates, grain, cement	Cement, mineral processing	Food, grain, milling, animal feed, chemicals, plastics, glass, cement, mineral processing	Food, grain, milling, animal feed, chemicals, plastics, glass, cement, mineral processing	Cement, mineral processing, mining
<b>Typical applications</b>	Monitoring of food ingredients, pet food blending, plastic pellet production, silica sand in glass making	Grinding mill rejects in cement, load-out of grains and seeds	Cement in aerated gravity conveyor	Fly-ash, lime dosing, cement flow and control in mining, flour stream monitoring	Fly-ash load-out, lime dosing, gypsum flow	Powders and granulates conveyed by aerated gravity conveyors, fly-ash load-out, precipitator dust
<b>Typical capacity</b>	1 ... 200 t/h (4 ... 220 STPH)	200 ... 900 t/h (220 ... 990 STPH)	200 ... 900 t/h (220 ... 990 STPH)	Sensing element dependent, see 'Sensing element' chart below.	Sensing element dependent, see 'Sensing element' chart below.	Sensing element dependent, see 'Sensing element' chart below.
<b>Volumetric capacity</b>	90 m <sup>3</sup> /h (3 178 ft <sup>3</sup> /h)	500 m <sup>3</sup> /h (17 657 ft <sup>3</sup> /h)	600 m <sup>3</sup> /h (21 189 ft <sup>3</sup> /h)	40 t/h: 90 m <sup>3</sup> /h (3 178 ft <sup>3</sup> /h) 300 t/h: 290 m <sup>3</sup> /h (10 241 ft <sup>3</sup> /h)	40 t/h: 96 m <sup>3</sup> /h (3 390 ft <sup>3</sup> /h) 300 t/h: 230 m <sup>3</sup> /h (8 122 ft <sup>3</sup> /h)	40 t/h: 178 m <sup>3</sup> /h (6 286 ft <sup>3</sup> /h) 300 t/h: 545 m <sup>3</sup> /h (19 246 ft <sup>3</sup> /h)
<b>Maximum particle size</b>	13 mm (0.5 inch)	25 mm (1 inch)	25 mm (1 inch)	Sensing element dependent, see 'Sensing element' chart, page 6/5.	Sensing element dependent, see 'Sensing element' chart, page 6/5.	Sensing element dependent, see 'Sensing element' chart, page 6/5.
<b>Ambient temperature</b>	-20 ... +65 °C (-4 ... +150 °F)	-40 ... +65 °C (-40 ... +150 °F)	-40 ... +65 °C (-40 ... +150 °F)	-40 ... +60 °C (-40 ... +140 °F)	-40 ... +60 °C (-40 ... +140 °F)	-40 ... +60 °C (-40 ... +140 °F)
<b>Maximum process temperature</b>	65 °C (150 °F)	100 °C (212 °F)	100 °C (212 °F)	232 °C (450 °F)	232 °C (450 °F)	232 °C (450 °F)
<b>Inlet sizes</b>	100 ... 250 mm (4 ... 10 inch) in universal ANSI/DIN flanges	305 x 533 mm (12 x 21 inch) 305 x 635 mm (12 x 26 inch)	406 x 635 mm (16 x 25 inch) 508 x 940 mm (20 x 37 inch)	Sensing element dependent, see 'Sensing element' chart, page 6/5.	Sensing element dependent, see 'Sensing element' chart, page 6/5.	Sensing element dependent, see 'Sensing element' chart, page 6/5.
<b>Accuracy<sup>1)</sup></b>	± 1 % (33 ... 100 % of rate)	± 1 % (33 ... 100 % of rate)	± 1 % (33 ... 100 % of rate)	± 1 % (33 ... 100 % of rate)	± 1 % (33 ... 100 % of rate)	± 1 % (33 ... 100 % of rate)
<b>Repeatability</b>	± 0.2 %	± 0.2 %	± 0.2 %	± 0.2 %	± 0.2 %	± 0.2 %
<b>Options</b>	304 or 316 stainless steel, bead blast finish (1 ... 6 µin, 4 ... 240 µin) construction (meets FDA and USDA requirements for food processing)	304 or 316 stainless steel, bead blast finish (1 ... 6 µin, 4 ... 240 µin) construction (meets FDA and USDA requirements for food processing)	304 or 316 stainless steel, bead blast finish (1 ... 6 µin, 4 ... 240 µin) construction (meets FDA and USDA requirements for food processing)	• 304 or 316 stainless steel, bead blast finish (1 ... 6 µin, 4 ... 240 µin) construction (meets FDA and USDA requirements for food processing) • Food grade epoxy coating on Sensing head	• 304 or 316 stainless steel, bead blast finish (1 ... 6 µin, 4 ... 240 µin) construction (meets FDA and USDA requirements for food processing) • Food grade epoxy coating on Sensing head	• 304 or 316 stainless steel, bead blast finish (1 ... 6 µin, 4 ... 240 µin) construction (meets FDA and USDA requirements for food processing) • Food grade epoxy coating on Sensing head
<b>Sensing element</b>	One triple beam parallelogram style, stainless steel, strain gauge load cell	Two triple beam parallelogram style, stainless steel, strain gauge load cells	Two triple beam parallelogram style, stainless steel, strain gauge load cells	Deflection measurement using LVDT (linear variable differential transformer)	Deflection measurement using LVDT (linear variable differential transformer)	Deflection measurement using LVDT (linear variable differential transformer)
<b>Sensing plate</b>	• 304 stainless steel • Option: 316 stainless steel	• 304 stainless steel • Option: 316 stainless steel	• 304 stainless steel • Option: 316 stainless steel	• 304 stainless steel • Option: 316 stainless steel	• 304 stainless steel • Option: 316 stainless steel	• 304 stainless steel • Option: 316 stainless steel
<b>Liners</b>	• PTFE • Polyurethane	• Polyurethane • Alumina ceramic	• Polyurethane • Alumina ceramic	• Plasma A/R • PTFE • Polyurethane • Alumina ceramic	• Plasma A/R • PTFE • Polyurethane • Alumina ceramic	• Plasma A/R • PTFE • Polyurethane • Alumina ceramic
<b>Approvals</b>	CE, RCM, CSA, FM, ATEX, IEC Ex, GOST	CE, RCM, CSA, FM, ATEX, IEC Ex, GOST	CE, RCM, CSA, FM, ATEX, IEC Ex, GOST	CE, RCM, GOST	CE, RCM, GOST	CE, RCM, GOST

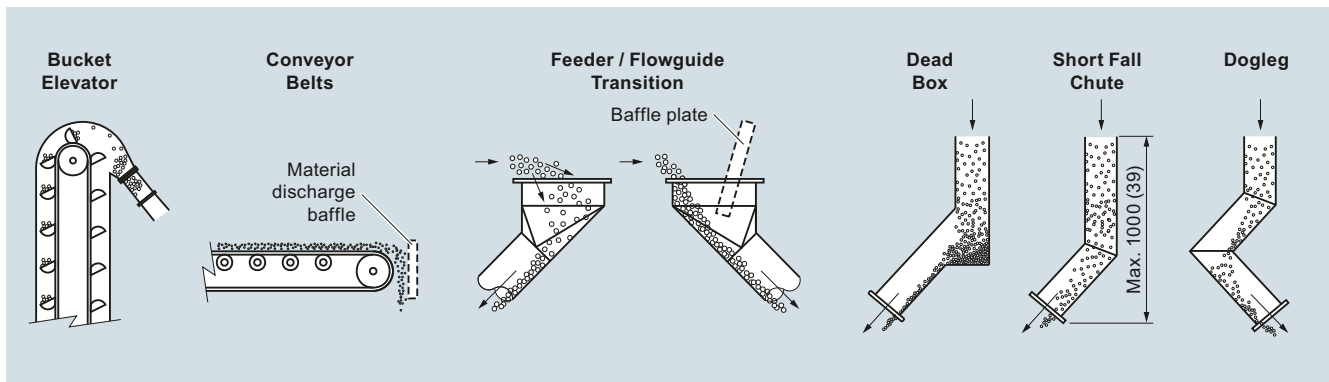
<sup>1)</sup> Accuracy subject to: On factory approved installations the flowmeter system's totalized weight will be within the specified accuracy when compared to a known weighed material test sample. The test rate must be within the specified range of the design capacity and held constant for the duration of the test. The minimum material test sample must be equivalent to a sample obtained at the test flow rate for at least ten minutes running time.

### Sensing element

	SITRANS WF330	SITRANS WF340	SITRANS WF350
<b>Capacity range</b>			
• SITRANS WFS300	0.2 ... 40 t/h (0.2 ... 44 STPH)	0.2 ... 40 t/h (0.2 ... 44 STPH)	0.2 ... 40 t/h (0.2 ... 44 STPH)
• SITRANS WFS320	20 ... 300 t/h (22 ... 330 STPH)	20 ... 300 t/h (22 ... 330 STPH)	20 ... 300 t/h (22 ... 330 STPH)
<b>Particle size (max.)</b>			
• SITRANS WFS300	12 mm (0.5 inch)	12 mm (0.5 inch)	3 mm (0.13 inch)
• SITRANS WFS320	25 mm (1 inch)	25 mm (1 inch)	3 mm (0.13 inch)
<b>Inlet sizes</b>			
• SITRANS WFS300	50 ... 250 mm (2 ... 10 inch) (ASME or DIN flanges)	<ul style="list-style-type: none"> <li>• 76 x 152 mm (3 x 6 inch)</li> <li>• 102 x 254 mm (4 x 10 inch)</li> <li>• 127 x 305 mm (5 x 12 inch)</li> </ul>	<ul style="list-style-type: none"> <li>• 203 x 203 mm (8 x 8 inch)</li> <li>• 203 x 305 mm (8 x 12 inch)</li> </ul>
• SITRANS WFS320	150 ... 400 mm (6 ... 16 inch) (ASME or DIN flanges)	<ul style="list-style-type: none"> <li>• 127 x 406 mm (5 x 16 inch)</li> <li>• 152 x 508 mm (6 x 20 inch)</li> </ul>	<ul style="list-style-type: none"> <li>• 305 x 254 mm (12 x 10 inch)</li> <li>• 305 x 356 mm (12 x 14 inch)</li> <li>• 305 x 508 mm (12 x 20 inch)</li> </ul>

### Common flowmeter infeed types

A solids flowmeter's performance will be as repeatable and consistent as the flow of material it is measuring. The following arrangements are typical of pre-feed chute configurations used to ensure consistent flow patterns. Arrangements will vary depending on the upstream equipment or chute work. Applications should be reviewed by a Siemens solids flowmeter specialist to achieve best results. During initial setup, use pre-weighing or post-weighing of material samples to calibrate the flowmeter and verify accuracy using the material sample weights.



Dimensions in mm (inch)

## Solids Flowmeters

### LVDT flowmeters

#### SITRANS WF100

##### Overview



SITRANS WF100 flowmeter is a low to medium capacity flowmeter for various product sizes, densities, and fluidities in restricted spaces.

##### Benefits

- Flowrates from 3 to 200 t/h (4 to 220 STPH)
- Continuous monitoring of the material flow without interrupting the process
- Dust-tight construction: suitable for use in hazardous areas and in washdown applications that require frequent cleaning
- Minimal maintenance or recalibration after the initial installation and material tests

##### Application

WF100 is unaffected by corrosive, abrasive, or hot materials. Handling various product sizes, densities, and fluidities including fine powders such as sugar, the WF100 helps to improve final product, increase operating efficiency, and realize significant cost savings.

Dry bulk solids enter the flow guide producing a mechanical deflection as they strike the flowmeter sensing plate before continuing through the process un-hindered. The WF100 converts the deflection into an electrical signal that feeds into an accompanying integrator, which instantaneously displays the flow rate and totalizes the weight.

##### Key applications

- Cement
- Wood chips
- Cereals
- Seeds
- Grains
- Soybean and rice hulls
- Unshelled peanuts
- Starch
- Sugar,
- Potato flakes
- Grain tailings and screenings
- Plastic pellets

**Selection and ordering data**
**SITRANS WF100**

Impact solids flowmeter for low to medium capacity applications. Low cost compact unit improves processing, increases efficiency and provides significant cost savings.

**Flowguide size (Universal flat-faced flange fits ASME/DIN flanges)**

4 inch (100 mm)  
Available with fabrication options A ... E and sensing plate options 10 ... 15 only

6 inch (150 mm)  
Available with fabrication options F ... K and sensing plate options 20 ... 25 only

8 inch (200 mm)  
Available with fabrication options L ... Q and sensing plate options 30 ... 35 only

10 inch (250 mm)  
Available with fabrication options R ... V and sensing plate options 40 ... 45 only

**Fabrication**

Mild steel, painted 4 inch (100 mm) flowguide

AISI 304 stainless steel 4 inch (100 mm) flowguide

AISI 304 stainless steel with PTFE coated infeed 4 inch (100 mm) flowguide

AISI 316 stainless steel 4 inch (100 mm) flowguide

AISI 316 stainless steel with PTFE coated infeed 4 inch (100 mm) flowguide

Mild steel, painted 6 inch (150 mm) flowguide

AISI 304 stainless steel 6 inch (150 mm) flowguide

AISI 304 stainless steel with PTFE coated infeed 6 inch (150 mm) flowguide

AISI 316 stainless steel 6 inch (150 mm) flowguide

AISI 316 stainless steel with PTFE coated infeed 6 inch (150 mm) flowguide

Mild steel, painted 8 inch (200 mm) flowguide

AISI 304 stainless steel 8 inch (200 mm) flowguide

AISI 304 stainless steel with PTFE coated infeed 8 inch (200 mm) flowguide

AISI 316 stainless steel 8 inch (200 mm) flowguide

AISI 316 stainless steel with PTFE coated infeed 8 inch (200 mm) flowguide

Mild steel, painted 10 inch (250 mm) flowguide

AISI 304 stainless steel 10 inch (250 mm) flowguide

AISI 304 stainless steel with PTFE coated infeed 10 inch (250 mm) flowguide

AISI 316 stainless steel 10 inch (250 mm) flowguide

AISI 316 stainless steel with PTFE coated infeed 10 inch (250 mm) flowguide

**Load cell, stainless steel [17-4 PH (1.4568) construction with 304 (1.4301) stainless steel cover]**

2 lb (0.9 kg)

5 lb (2.3 kg)

10 lb (4.5 kg)

20 lb (9.1 kg)

Not specified (Only for quotation purposes, not a valid ordering option)

Article No.

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**SITRANS WF100**

Impact solids flowmeter for low to medium capacity applications. Low cost compact unit improves processing, increases efficiency and provides significant cost savings.

**Sensing plate fabrication**

4 inch (100 mm) AISI 304 stainless steel

4 inch (100 mm) AISI 304 stainless steel with PTFE coating

4 inch (100 mm) AISI 304 stainless steel with polyurethane coating

4 inch (100 mm) AISI 316 stainless steel

4 inch (100 mm) AISI 316 stainless steel with PTFE coating

4 inch (100 mm) AISI 316 stainless steel with polyurethane coating

6 inch (150 mm) AISI 304 stainless steel

6 inch (150 mm) AISI 304 stainless steel with PTFE coating

6 inch (150 mm) AISI 304 stainless steel with polyurethane coating

6 inch (150 mm) AISI 316 stainless steel

6 inch (150 mm) AISI 316 stainless steel with PTFE coating

6 inch (150 mm) AISI 316 stainless steel with polyurethane coating

8 inch (200 mm) AISI 304 stainless steel

8 inch (200 mm) AISI 304 stainless steel with PTFE coating

8 inch (200 mm) AISI 304 stainless steel with polyurethane coating

8 inch (200 mm) AISI 316 stainless steel

8 inch (200 mm) AISI 316 stainless steel with PTFE coating

8 inch (200 mm) AISI 316 stainless steel with polyurethane coating

10 inch (250 mm) AISI 304 stainless steel

10 inch (250 mm) AISI 304 stainless steel with PTFE coating

10 inch (250 mm) AISI 304 stainless steel with polyurethane coating

10 inch (250 mm) AISI 316 stainless steel

10 inch (250 mm) AISI 316 stainless steel with PTFE coating

10 inch (250 mm) AISI 316 stainless steel with polyurethane coating

**Approvals**

Standard: CE, RCM

CSA/FM Class II, Div. 1, Groups E, F, G and Class III, ATEX II 2D, Ex tD A21 IP65 T70 °C, CE, RCM, IECEx, Ex tD A21 IP65 T70 °C

Article No.

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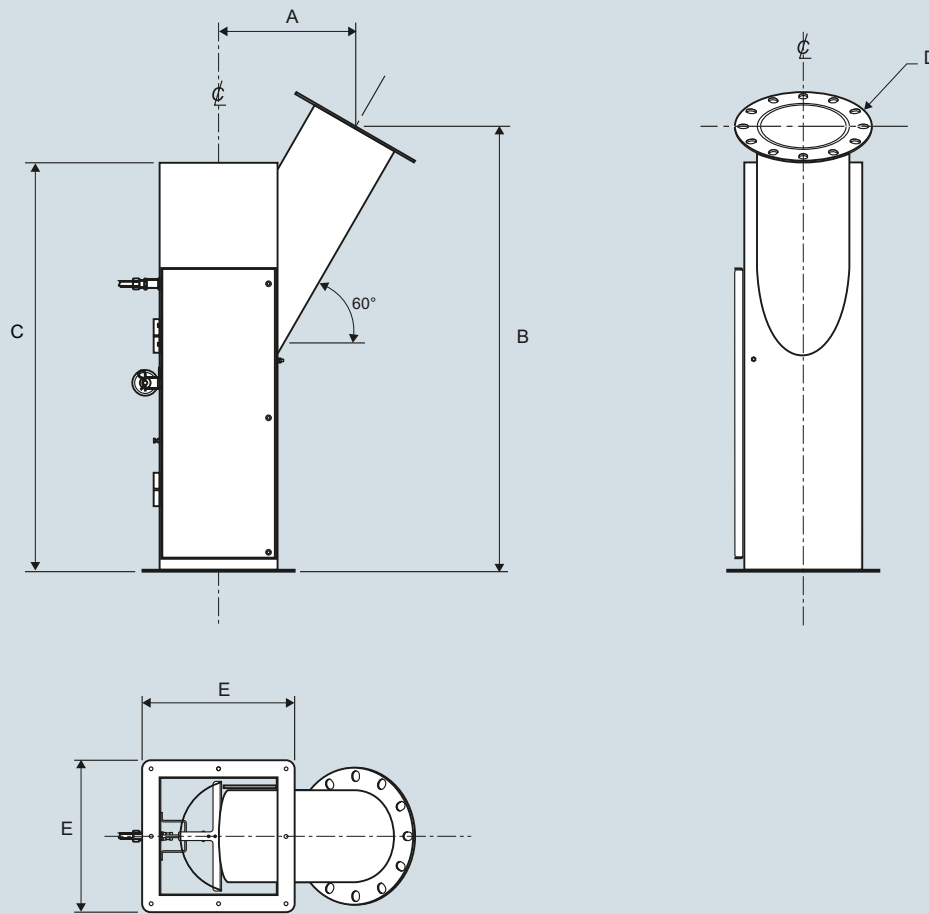
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## Solids Flowmeters

### LVDT flowmeters

#### SITRANS WF100

Selection and ordering data	Order Code	Article No.
<b>Further designs</b>		
Please add <b>"-Z"</b> to article no. and specify order code(s).		
Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number/identification (max 27 characters), specify in plain text.	<b>Y15</b>	WF100 10 inch (250 mm) sensing plate 304 PTFE lined <b>7MH7723-1LA</b> WF100 4 inch (100 mm) sensing plate 316 PTFE lined <b>7MH7723-1LB</b>
Manufacturer's test certificate: According to EN 10204-2.2	<b>C11</b>	WF100 6 inch (150 mm) sensing plate 316 PTFE lined <b>7MH7723-1LC</b> WF100 8 inch (200 mm) sensing plate 316 PTFE lined <b>7MH7723-1LD</b>
Inspection certificate type 3.1 per EN 10204 Not available with fabrication options A, F, L, R	<b>C12</b>	WF100 10 inch (250 mm) sensing plate 316 PTFE lined <b>7MH7723-1LE</b>
<b>Instruction manuals</b>	Article No.	
• English	<b>7ML1998-5NB01</b>	WF100 4 inch (100 mm) sensing plate 304 polyurethane lined <b>7MH7723-1LF</b>
• German	<b>7ML1998-5NB31</b>	WF100 6 inch (150 mm) sensing plate 304 polyurethane lined <b>7MH7723-1LG</b> WF100 8 inch (200 mm) sensing plate 304 polyurethane lined <b>7MH7723-1LH</b>
Note: The instruction manual should be ordered as a separate item on the order.		
<b>Additional instruction manuals</b>		
• Solids Flowmeter Application Guide, English	<b>7ML1998-5GK01</b>	WF100 10 inch (250 mm) sensing plate 304 polyurethane lined <b>7MH7723-1LJ</b>
• Solids Flowmeter Application Guide, German	<b>7ML1998-5GK31</b>	WF100 4 inch (100 mm) sensing plate 316 polyurethane lined <b>7MH7723-1LK</b> WF100 6 inch (150 mm) sensing plate 316 polyurethane lined <b>7MH7723-1LL</b> WF100 8 inch (200 mm) sensing plate 316 polyurethane lined <b>7MH7723-1LM</b>
This device is shipped with the Siemens Milltronics manual DVD containing the complete instruction manual library.		
<b>Calibration hanger weights</b>		
20 g (0.04 lb)	<b>7MH7724-1AC</b>	WF100 10 inch (250 mm) sensing plate 316 polyurethane lined <b>7MH7723-1LN</b>
50 g (0.1 lb)	<b>7MH7724-1AD</b>	WF100 load cell spare 2 lb <b>7MH7723-1LP</b>
100 g (0.2 lb)	<b>7MH7724-1AE</b>	WF100 load cell spare 5 lb <b>7MH7723-1LQ</b>
200 g (0.4 lb)	<b>7MH7724-1AF</b>	WF100 load cell spare 10 lb <b>7MH7723-1LR</b>
500 g (1.1 lb)	<b>7MH7724-1AG</b>	WF100 load cell spare 20 lb <b>7MH7723-1LS</b>
1 000 g (2.2 lb)	<b>7MH7724-1AH</b>	WF100 load cell spare 2 lb CSA, FM, ATEX, IEC Ex <b>7MH7725-1EU</b>
2 000 g (4.4 lb)	<b>7MH7724-1AJ</b>	WF100 load cell spare 5 lb CSA, FM, ATEX, IEC Ex <b>7MH7725-1EV</b>
5 000 g (11 lb)	<b>7MH7724-1AK</b>	WF100 load cell spare 10 lb CSA, FM, ATEX, IEC Ex <b>7MH7725-1EW</b>
Note: Calibration accessories should be ordered as a separate item on the order.		
<b>Spare parts</b>		
WF100 4 inch (100 mm) sensing plate 304 standard	<b>7MH7723-1KN</b>	WF100 load cell spare 20 lb CSA, FM, ATEX, IEC Ex <b>7MH7725-1EX</b>
WF100 6 inch (150 mm) sensing plate 304 standard	<b>7MH7723-1KP</b>	WF100 load cell spare 20 lb CSA, FM, ATEX, IEC Ex <b>7MH7725-1EX</b>
WF100 8 inch (200 mm) sensing plate 304 standard	<b>7MH7723-1KQ</b>	WF calibration pulley with hardware and cable spare <b>7MH7723-1LT</b>
WF100 10 inch (250 mm) sensing plate 304 standard	<b>7MH7723-1KR</b>	
WF100 4 inch (100 mm) sensing plate 316 standard	<b>7MH7723-1KS</b>	
WF100 6 inch (150 mm) sensing plate 316 standard	<b>7MH7723-1KT</b>	
WF100 8 inch (200 mm) sensing plate 316 standard	<b>7MH7723-1KU</b>	
WF100 10 inch (250 mm) sensing plate 316 standard	<b>7MH7723-1KV</b>	
WF100 4 inch (100 mm) sensing plate 304 PTFE lined	<b>7MH7723-1KW</b>	
WF100 6 inch (150 mm) sensing plate 304 PTFE lined	<b>7MH7723-1KX</b>	
WF100 8 inch (200 mm) sensing plate 304 PTFE lined	<b>7MH7723-1KY</b>	

**Dimensional drawings**

	A	B	C	D (flange)	E	F (x 8)
4 inch (100 mm)	8 inch (203.2 mm)	23.5 inch (596.9 mm)	21.87 inch (555.5 mm)	Ø ASME 4 inch DIN 100 mm	11.25 inch (285.8 mm)	Ø 0.43 inch (11 mm)
6 inch (150 mm)	10 inch (254 mm)	33 inch (838.2 mm)	31.12 inch (790.4 mm)	Ø ASME 6 inch DIN 150 mm	13.35 inch (339.1 mm)	Ø 0.43 inch (11 mm)
8 inch (200 mm)	14 inch (355.6 mm)	46 inch (1 168.4 mm)	42.62 inch (1 082.5 mm)	Ø ASME 8 inch DIN 200 mm	16.5 inch (419.1 mm)	Ø 0.43 inch (11 mm)
10 inch (250 mm)	16 inch (406.4 mm)	52 inch (1 320.8 mm)	48.74 inch (1 238.1 mm)	Ø ASME 10 inch DIN 250 mm	19 inch (482.6 mm)	Ø 0.43 inch (11 mm)

WF100 dimensions

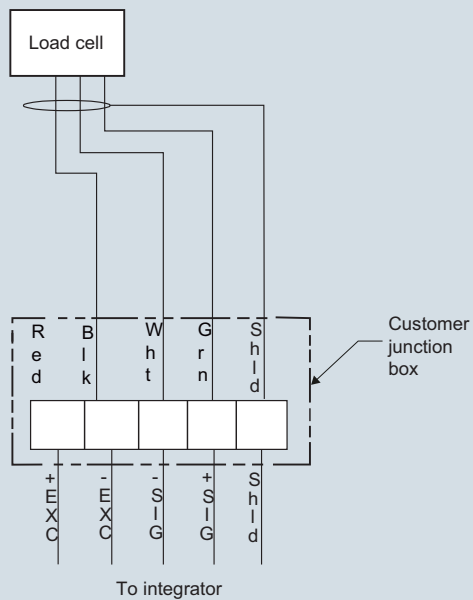
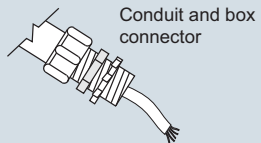
## Solids Flowmeters

### LVDT flowmeters

#### SITRANS WF100

#### Schematics

Note: Conduit and cable arrangement may differ from example shown. Conduit and connector not provided on hazardous option



WF100 connections

**Overview**

SITRANS WF200 and WF250 flowmeters are medium to high capacity flowmeters for various product sizes, densities, and fluidities.

**Benefits**

- For specialized pre-feed applications
- Sensing element mounted outside process
- Flowrates from 200 to 900 t/h (220 to 990 STPH)
- Continuously monitoring of the material flow without interrupting the process
- Dust-tight construction: suitable for use in hazardous areas and in washdown applications that require frequent cleaning
- Minimal maintenance or recalibration after the initial installation and material tests

**Application**

Operating with a microprocessor based integrator package, the WF200 series flowmeters display flow rate, totalized flow, and rate alarms. Outputs are 0/4 to 20 mA proportional to rate and contact closure for remote totalization. Dry bulk solids enter the flowmeter before continuing through the process unhindered. The load cells convert the horizontal force of the deflection into an electrical signal. The integrator processes this into flowrate and integrated total weight. The sensing process is immune to the effect of product build-up as only the horizontal force is measured.

With load cells located externally to the process, the WF200 series flowmeters measure high capacities with a maximum rate of 900 t/h (990 STPH). For high capacity aerated gravity conveyor pre-feed, the WF250 has a maximum rate of 900 t/h (990 STPH).

**Key applications**

- Aggregates
- Grain
- Cement
- Mineral processing

# Solids Flowmeters

## LVDT flowmeters

### SITRANS WF200 series

#### Selection and ordering data

##### SITRANS WF200 series flowmeters

SITRANS WF200 and WF250 flowmeters are medium to high capacity flowmeters for various product sizes, densities, and fluidities. WF250 features aerated style designed for air slide gravity conveyors.

##### Model

###### SITRANS WF200

500 t/h maximum design capacity

900 t/h maximum design capacity

###### SITRANS WF250, aerated style

500 t/h maximum design capacity

900 t/h maximum design capacity

##### Construction

###### Painted mild steel

304 stainless steel for model option 1

304 stainless steel for model option 2

304 stainless steel for model option 3

304 stainless steel for model option 4

316 stainless steel for model option 1

316 stainless steel for model option 2

316 stainless steel for model option 3

316 stainless steel for model option 4

##### Sensing plate liner

None (standard 304 stainless steel, 316 for construction options F to J)

###### Polyurethane

For model options 1 and 3

For model options 2 and 4

###### Alumina ceramic tiles

For model options 1 and 3

For model options 2 and 4

##### Load cell

50 lb

100 lb

Not specified (for quotation purposes only, not a valid ordering option)

##### Approvals

CE, RCM

CE, RCM, CSA/FM Class II, Div. 1, Groups E, F, G and Class III ATEX II 2D, Ex tD A21 IP65 T70 °C, CE, RCM, IECEx, Ex tD A21 IP65 T70 °C

##### Further designs

Please add "-Z" to article no. and specify order code(s).

Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number/identification (max 27 characters), specify in plain text.

Manufacturer's test certificate:  
According to EN 10204-2.2

Inspection certificate type 3.1 per EN 10204<sup>1)</sup>

##### Instruction manuals

• English

• German

Note: The instruction manual should be ordered as a separate item on the order.

Article No.

7MH7115-

0

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1

2

Order Code

Y15

C11

C12

Article No.

7ML1998-5NC01

7ML1998-5NC31

Article No.

##### Additional instruction manuals

• Solids Flowmeter Application Guide, English

• Solids Flowmeter Application Guide, German

This device is shipped with the Siemens Milltronics manual DVD containing the complete instruction manual library.

##### Calibration hanger weights

20 g (0.04 lb)

50 g (0.1 lb)

100 g (0.2 lb)

200 g (0.4 lb)

500 g (1.1 lb)

1 000 g (2.2 lb)

2 000 g (4.4 lb)

5 000 g (11 lb)

Note: Calibration accessories should be ordered as a separate item on the order.

##### Spare parts

Load cell, 50 lb, stainless steel

Load cell, 100 lb, stainless steel

Load cell, 50 lb, stainless steel, CSA/FM/ATEX/IEC EX

Load cell, 100 lb, stainless steel, CSA/FM/ATEX/IEC EX

WF calibration pulley with hardware and cable spare

WF200 series bearing with plate mount shaft, standard, spare

WF200 series bearing with plate mount shaft, stainless steel, spare

WF200 series sensing plate support cables, spare

WF250 series sensing plate support cables, spare

WF200 sensing plate 500 TPH 304, standard

WF200 sensing plate 900 TPH 304, standard

WF250 sensing plate 500 TPH 304, standard

WF250 sensing plate 900 TPH 304, standard

WF200 sensing plate 500 TPH 304, polyurethane lined

WF200 sensing plate 900 TPH 304, polyurethane lined

WF250 sensing plate 500 TPH 304, polyurethane lined

WF250 sensing plate 900 TPH 304, polyurethane lined

WF200 sensing plate 500 TPH 304, ceramic lined

WF200 sensing plate 900 TPH 304, ceramic lined

WF250 sensing plate 500 TPH 304, ceramic lined

WF250 sensing plate 900 TPH 304, ceramic lined

WF200 sensing plate 500 TPH 316, standard

WF200 sensing plate 900 TPH 316, standard

WF250 sensing plate 500 TPH 316, standard

WF250 sensing plate 900 TPH 316, standard

WF200 sensing plate 500 TPH 316, polyurethane lined

WF200 sensing plate 900 TPH 316, polyurethane lined

WF250 sensing plate 500 TPH 316, polyurethane lined

WF250 sensing plate 900 TPH 316, polyurethane lined

WF200 sensing plate 500 TPH 316, ceramic lined

WF200 sensing plate 900 TPH 316, ceramic lined

WF250 sensing plate 500 TPH 316, ceramic lined

WF250 sensing plate 900 TPH 316, ceramic lined

7ML1998-5GK01

7ML1998-5GK31

7MH7724-1AC

7MH7724-1AD

7MH7724-1AE

7MH7724-1AF

7MH7724-1AG

7MH7724-1AH

7MH7724-1AJ

7MH7724-1AK

7MH7725-1AC

7MH7725-1AD

7MH7725-1DT

7MH7725-1DU

7MH7723-1LT

7MH7723-1LU

7MH7723-1LV

7MH7723-1LW

7MH7723-1LX

7MH7723-1LY

7MH7723-1MA

7MH7723-1MB

7MH7723-1MC

7MH7723-1MD

7MH7723-1ME

7MH7723-1MF

7MH7723-1MG

7MH7723-1MH

7MH7723-1MJ

7MH7723-1MK

7MH7723-1ML

7MH7723-1MM

7MH7723-1MN

7MH7723-1MP

7MH7723-1MQ

7MH7723-1MR

7MH7723-1MS

7MH7723-1MT

7MH7723-1MU

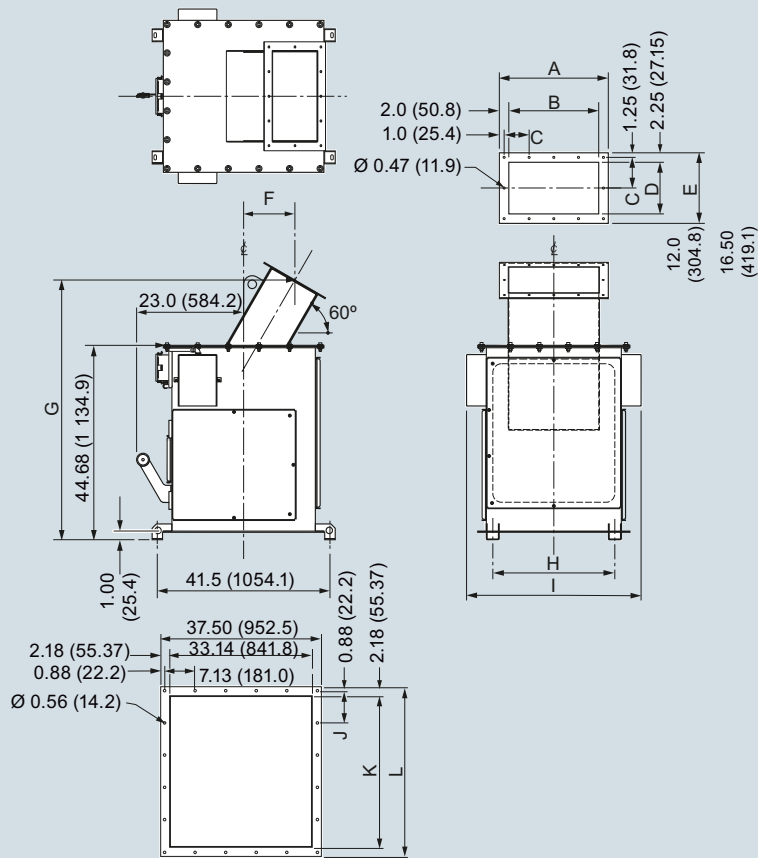
7MH7723-1MV

7MH7723-1MW

7MH7723-1MX

7MH7723-1MY

<sup>1)</sup> Not available with construction option A.

**Dimensional drawings**

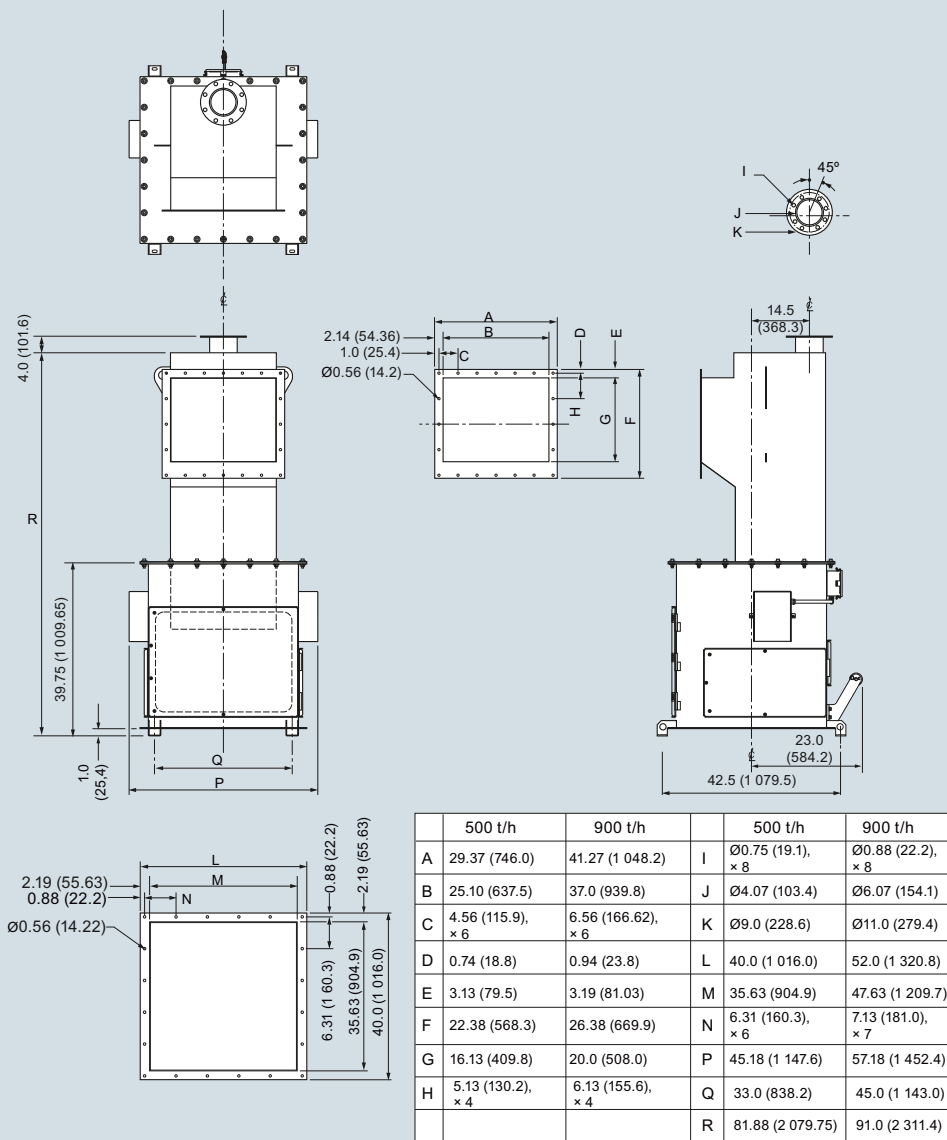
	500 t/h	900 t/h
A	25.0 (635.0)	30.0 (762.0)
B	21.0 (533.4)	26.0 (660.4)
C	5.75 (146.1), × 4	7.0 (177.8), × 4
D	12.0 (304.8)	12.0 (304.8)
E	16.5 (419.1)	16.5 (419.1)
F	11.97 (304.1)	14.86 (377.4)
G	59.0 (1498.6)	64.0 (1 625.6)
H	29.13 (739.8)	35.13 (892.2)
I	40.68 (1 033.3)	46.68 (1 185.7)
J	6.75 (171.5), × 5	6.63 (168.3), × 6
K	31.14 (791.0)	37.14 (943.4)
L	35.5 (901.7)	41.5 (1 054.1)

WF200 dimensions in inch (mm)

# Solids Flowmeters

## LVDT flowmeters

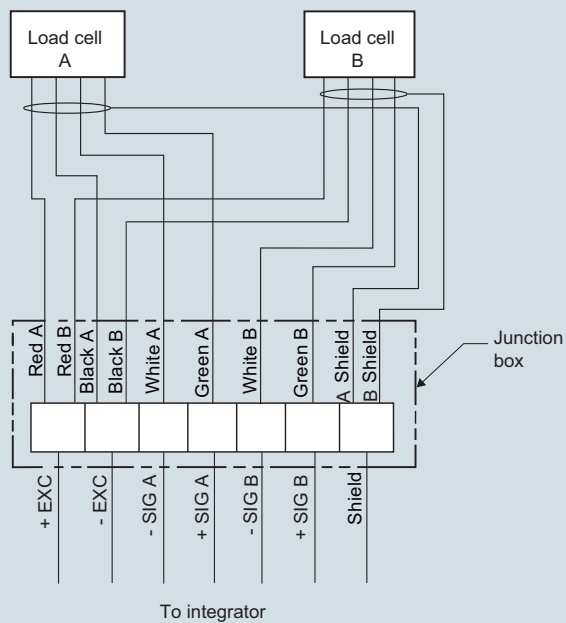
### SITRANS WF200 series



WF250 dimensions in inch (mm)

**Schematics**

Note: conduit and cable arrangement may differ from example shown.  
 Conduit and connector not provided on hazardous option



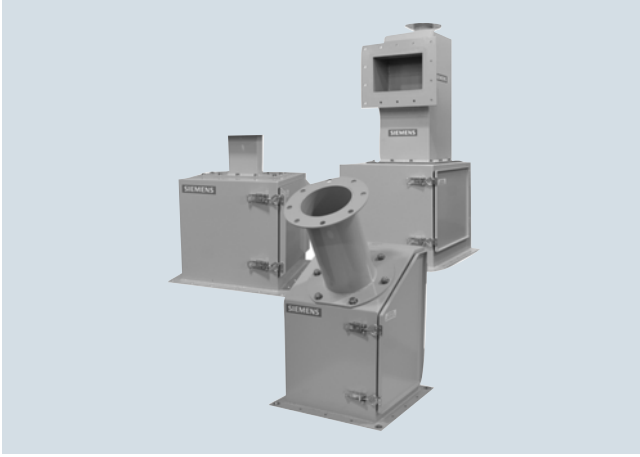
WF200 and WF250 connections

## Solids Flowmeters

### LVDT flowmeters

#### SITRANS WF300 series

##### Overview



SITRANS WF300 series are low to medium capacity flowmeters for various product sizes, densities, and fluidities.

##### Benefits

- For specialized pre-feed applications
- Sensing element mounted outside process
- Flowrates from 0.2 to 300 t/h (0.2 to 330 STPH)
- Continuously monitoring of the material flow without interrupting the process
- Dust-tight construction: suitable for use in hazardous areas and in washdown applications that require frequent cleaning
- Minimal maintenance or recalibration after the initial installation and material tests

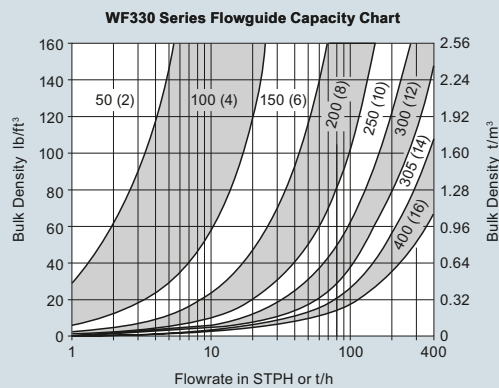
##### Application

With weighing mechanics located externally, the WF300 series solids flowmeters are unaffected by corrosive, abrasive, or hot materials. Handling a wide range of product sizes, densities, and fluidities including fine powders such as cement, they operate at process temperatures to 230 °C (450 °F). The flowmeters help to improve final product, increase operating efficiency, and realize significant cost savings.

Operating with the appropriate SITRANS WFS sensing head and a micro-processor-based integrator package, the WF300 series flowmeters provide a display of the flow rate, totalized flow, and alarms. Outputs are 0/4 to 20 mA proportional to rate, and open collector output for remote totalization.

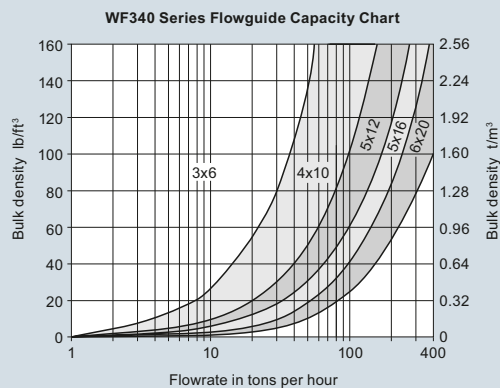
Dry bulk solids enter the flow guide producing a mechanical deflection as they strike the flowmeter sensing plate before continuing through the process unhindered. The LVDT in the sensing head converts the deflection of the horizontal force into an electrical signal. The integrator processes this signal into a display of flowrate and integrated total weight. The weighing process is immune to the effect of product build-up as only the horizontal force is measured.

SITRANS WF330 flowmeters are totally enclosed, with external weighing mechanics, operating with corrosive, abrasive or hot materials. SITRANS WF350 series operates with aerated gravity conveyors, and includes integral vents and baffles for air separation. For applications with little available headroom, the SITRANS WF340 series flowmeters provide the answer.

**Characteristic curves**
**SITRANS WF330 series**


Flowrate in STPH or t/h (use highest applicable flowrate for size selection)  
 Example: 25 t/h of material at 1.4 t/m<sup>3</sup>, the selection is a 150 mm flowguide.  
 Dimensions are provided as examples only.

SITRANS WF330 series flowguide capacity chart

**SITRANS WF340 series**


Should the material bulk density and flowrate be near a flowguide upper limit, choose the next larger flowguide.

SITRANS WF340 series flowguide capacity chart

# Solids Flowmeters

## LVDT flowmeters

### SITRANS WF300 series

#### Selection and ordering data

Article No.

Order Code

#### SITRANS WF330

Low to medium capacity solids flowmeters for various product sizes, densities, and fluidities, particularly fine powders. A sensing plate, sensing head and integrator are required to complete the system.

#### Model

Base mount, 40 t/h (44 STPH) maximum design capacity

Side mount, 40 t/h (44 STPH) maximum design capacity

Base mount, 300 t/h (330 STPH) maximum design capacity

#### Flowguide size

No flowguide

2 inch ASME flange pattern<sup>1)</sup>

4 inch ASME flange pattern<sup>1)</sup>

6 inch ASME flange pattern<sup>2)</sup>

8 inch ASME flange pattern<sup>2)</sup>

10 inch ASME flange pattern<sup>2)</sup>

12 inch ASME flange pattern<sup>3)</sup>

14 inch ASME flange pattern<sup>3)</sup>

16 inch ASME flange pattern<sup>3)</sup>

DN 50 flange pattern<sup>1)</sup>

DN 100 flange pattern<sup>1)</sup>

DN 150 flange pattern<sup>2)</sup>

DN 200 flange pattern<sup>2)</sup>

DN 250 flange pattern<sup>2)</sup>

DN 300 flange pattern<sup>3)</sup>

DN 350 flange pattern<sup>3)</sup>

DN 400 flange pattern<sup>3)</sup>

#### Flowguide construction

No flowguide

Mild steel, polyester painted

Mild steel, epoxy painted with zinc primer<sup>1)</sup>

Mild steel, epoxy painted with zinc primer<sup>3)</sup>

304 (1.4301) stainless steel<sup>1)</sup>

304 (1.4301) stainless steel<sup>3)</sup>

316 (1.4401) stainless steel<sup>1)</sup>

316 (1.4401) stainless steel<sup>3)</sup>

#### Cabinet construction

Mild steel, polyester painted

Mild steel, epoxy painted with zinc primer<sup>1)</sup>

Mild steel, epoxy painted with zinc primer<sup>3)</sup>

304 (1.4301) stainless steel<sup>1)</sup>

304 (1.4301) stainless steel<sup>3)</sup>

316 (1.4401) stainless steel<sup>1)</sup>

316 (1.4401) stainless steel<sup>3)</sup>

7MH7102-

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#### Further designs

Please add "-Z" to article no. and specify order code(s).

Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number/identification (max. 27 characters), specify in plain text.

Manufacturer's test certificate:  
According to EN 10204-2.2

Inspection certificate type 3.1 per EN 10204<sup>4)</sup>

Note: Not available with cabinet construction option 1

#### Instruction manuals

• English

• German

• French

Note: The instruction manual should be ordered as a separate item on the order.

#### Additional instruction manuals

• Solids Flowmeter Application Guide, English

• Solids Flowmeter Application Guide, German

This device is shipped with the Siemens Milltronics manual DVD containing the complete instruction manual library.

#### Spare parts

##### 40 TPH, mild steel flowguide

2 inch ASME

4 inch ASME

6 inch ASME

8 inch ASME

10 inch ASME

##### 40 TPH, mild steel-epoxy flowguide

2 inch ASME

4 inch ASME

6 inch ASME

8 inch ASME

10 inch ASME

##### 40 TPH, 304 (1.4301) stainless steel flowguide

2 inch ASME

4 inch ASME

6 inch ASME

8 inch ASME

10 inch ASME

##### 40 TPH, 316 (1.4401) stainless steel flowguide

2 inch ASME

4 inch ASME

6 inch ASME

8 inch ASME

10 inch ASME

##### 300 TPH, mild steel flowguide

6 inch ASME

8 inch ASME

10 inch ASME

12 inch ASME

14 inch ASME

16 inch ASME

Y15

C11

C12

Article No.

7ML1998-5CT02

7ML1998-5CT32

7ML1998-5CT12

7ML1998-5GK01

7ML1998-5GK31

PBD-20377-111

PBD-20377-211

PBD-20377-311

PBD-20377-411

PBD-20377-511

PBD-20377-112

PBD-20377-212

PBD-20377-312

PBD-20377-412

PBD-20377-512

PBD-20377-114

PBD-20377-214

PBD-20377-314

PBD-20377-414

PBD-20377-514

PBD-20377-115

PBD-20377-215

PBD-20377-315

PBD-20377-415

PBD-20377-515

PBD-20388-111

PBD-20388-211

PBD-20388-311

PBD-20388-411

PBD-20388-511

PBD-20388-611

Selection and ordering data		Article No.	Article No.
<u>300 TPH, mild steel-epoxy flowguide</u>			<u>300 TPH, mild steel flowguide</u>
6 inch ASME	<b>PBD-20388-112</b>	6 inch DIN	<b>PBD-20388-121</b>
8 inch ASME	<b>PBD-20388-212</b>	8 inch DIN	<b>PBD-20388-221</b>
10 inch ASME	<b>PBD-20388-312</b>	10 inch DIN	<b>PBD-20388-321</b>
12 inch ASME	<b>PBD-20388-412</b>	12 inch DIN	<b>PBD-20388-421</b>
14 inch ASME	<b>PBD-20388-512</b>	14 inch DIN	<b>PBD-20388-521</b>
16 inch ASME	<b>PBD-20388-612</b>	16 inch DIN	<b>PBD-20388-621</b>
<u>300 TPH, 304 (1.4301) stainless steel flowguide</u>			<u>300 TPH, mild steel-epoxy flowguide</u>
6 inch ASME	<b>PBD-20388-114</b>	6 inch DIN	<b>PBD-20388-122</b>
8 inch ASME	<b>PBD-20388-214</b>	8 inch DIN	<b>PBD-20388-222</b>
10 inch ASME	<b>PBD-20388-314</b>	10 inch DIN	<b>PBD-20388-322</b>
12 inch ASME	<b>PBD-20388-414</b>	12 inch DIN	<b>PBD-20388-422</b>
14 inch ASME	<b>PBD-20388-514</b>	14 inch DIN	<b>PBD-20388-522</b>
16 inch ASME	<b>PBD-20388-614</b>	16 inch DIN	<b>PBD-20388-622</b>
<u>300 TPH, 316 (1.4401) stainless steel flowguide</u>			<u>300 TPH, 304 (1.4301) stainless steel flowguide</u>
6 inch ASME	<b>PBD-20388-115</b>	6 inch DIN	<b>PBD-20388-124</b>
8 inch ASME	<b>PBD-20388-215</b>	8 inch DIN	<b>PBD-20388-224</b>
10 inch ASME	<b>PBD-20388-315</b>	10 inch DIN	<b>PBD-20388-324</b>
12 inch ASME	<b>PBD-20388-415</b>	12 inch DIN	<b>PBD-20388-424</b>
14 inch ASME	<b>PBD-20388-515</b>	14 inch DIN	<b>PBD-20388-524</b>
16 inch ASME	<b>PBD-20388-615</b>	16 inch DIN	<b>PBD-20388-624</b>
<u>40 TPH, mild steel flowguide</u>			<u>300 TPH, 316 (1.4401) stainless steel flowguide</u>
2 inch DIN	<b>PBD-20377-121</b>	6 inch DIN	<b>PBD-20388-125</b>
4 inch DIN	<b>PBD-20377-221</b>	8 inch DIN	<b>PBD-20388-225</b>
6 inch DIN	<b>PBD-20377-321</b>	10 inch DIN	<b>PBD-20388-325</b>
8 inch DIN	<b>PBD-20377-421</b>	12 inch DIN	<b>PBD-20388-425</b>
10 inch DIN	<b>PBD-20377-521</b>	14 inch DIN	<b>PBD-20388-525</b>
<u>40 TPH, mild steel-epoxy flowguide</u>		16 inch DIN	<b>PBD-20388-625</b>
2 inch DIN	<b>PBD-20377-122</b>	<b>Gasketing</b>	
4 inch DIN	<b>PBD-20377-222</b>	40 TPH, gasket	<b>PBD-22600493</b>
6 inch DIN	<b>PBD-20377-322</b>	300 TPH, gasket	<b>PBD-22600494</b>
8 inch DIN	<b>PBD-20377-422</b>		
10 inch DIN	<b>PBD-20377-522</b>		
<u>40 TPH, 304 (1.4301) stainless steel flowguide</u>			
2 inch DIN	<b>PBD-20377-124</b>		
4 inch DIN	<b>PBD-20377-224</b>		
6 inch DIN	<b>PBD-20377-324</b>		
8 inch DIN	<b>PBD-20377-424</b>		
10 inch DIN	<b>PBD-20377-524</b>		
<u>40 TPH, 316 (1.4401) stainless steel flowguide</u>			
2 inch DIN	<b>PBD-20377-125</b>		
4 inch DIN	<b>PBD-20377-225</b>		
6 inch DIN	<b>PBD-20377-325</b>		
8 inch DIN	<b>PBD-20377-425</b>		
10 inch DIN	<b>PBD-20377-525</b>		

- 1) For versions 1 and 2 only.
- 2) For versions 1, 2 or 3.
- 3) For version 3 only.
- 4) Not available with cabinet construction options 1, 2, 3.

# Solids Flowmeters

## LVDT flowmeters

### SITRANS WF300 series

#### Selection and ordering data

Article No.

Article No.

#### SITRANS WF340

Compact vertical flow, low to medium-capacity solid flowmeters for various product sizes, densities, and fluidities, particularly fine powders. A sensing plate, sensing head and integrator are required to complete the system.

7MH7104-

0

#### Version

Base mount, 40 t/h (44 STPH) max. design capacity

1

Side mount, 40 t/h (44 STPH) max. design capacity

2

Base mount, 300 t/h (330 STPH) max. design capacity

3

#### Flowguide size

No flowguide (5 x 16 inch model)

A

3 x 6 inch (76 x 152 mm)<sup>1)</sup>

B

4 x 10 inch (102 x 254 mm)<sup>1)</sup>

C

5 x 12 inch (127 x 305 mm)<sup>1)</sup>

D

5 x 16 inch (127 x 406 mm)<sup>2)</sup>

E

6 x 20 inch (152 x 508 mm)<sup>2)</sup>

F

No flowguide (WF340-300 6 x 20 inch model)

G

#### Flowguide construction

No flowguide

A

Mild steel, polyester painted

B

304 (1.4301) stainless steel<sup>1)</sup>

C

304 (1.4301) stainless steel<sup>2)</sup>

D

316 (1.4401) stainless steel<sup>1)</sup>

E

316 (1.4401) stainless steel<sup>2)</sup>

F

Mild steel, polyester painted with PTFE liner

G

Mild steel, polyester painted with abrasion resistant liner

H

304 (1.4301) stainless steel, with PTFE liner<sup>1)</sup>

J

304 (1.4301) stainless steel, with PTFE liner<sup>2)</sup>

K

Mild steel, epoxy paint with zinc primer<sup>1)</sup>

L

Mild steel, epoxy paint with zinc primer<sup>2)</sup>

M

Other flowguide materials available upon request

#### Cabinet construction

Mild steel, painted

1

304 (1.4301) stainless steel<sup>1)</sup>

2

304 (1.4301) stainless steel<sup>2)</sup>

3

316 (1.4401) stainless steel<sup>1)</sup>

4

316 (1.4401) stainless steel<sup>2)</sup>

5

Mild steel, epoxy paint with zinc primer<sup>1)</sup>

6

Mild steel, epoxy paint with zinc primer<sup>2)</sup>

7

#### Further designs

Please add "-Z" to article no. and specify order code(s).

Order Code

Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number/identification (max 27 characters), specify in plain text.

Y15

Manufacturer's test certificate: According to EN 10204-2.2

C11

Inspection certificate type 3.1 per EN 10204<sup>3)</sup>

C12

#### Instruction manual

• English

7ML1998-5CU02

• German

7ML1998-5CU32

Note: The instruction manual should be ordered as a separate line on the order.

#### Additional instruction manuals

• Solids Flowmeter Application Guidelines, English

7ML1998-5GK01

• Solids Flowmeter Application Guidelines, German

7ML1998-5GK31

This device is shipped with the Siemens Milltronics manual DVD containing the complete instruction manual library.

#### Spare parts

##### 40 TPH, mild steel flowguide

3 x 6 inch

PBD-20401-100

4 x 10 inch

PBD-20395-100

5 x 12 inch

PBD-20405-100

##### 40 TPH, mild steel-epoxy flowguide

3 x 6 inch

PBD-20401-200

4 x 10 inch

PBD-20395-200

5 x 12 inch

PBD-20405-200

##### 40 TPH, 304 (1.4301) stainless steel flowguide

3 x 6 inch

PBD-20401-300

4 x 10 inch

PBD-20395-300

5 x 12 inch

PBD-20405-300

##### 40 TPH, 316 (1.4401) stainless steel flowguide

3 x 6 inch

PBD-20401-400

4 x 10 inch

PBD-20395-400

5 x 12 inch

PBD-20405-400

##### 40 TPH, mild steel-PTFE flowguide

3 x 6 inch

PBD-20401-500

4 x 10 inch

PBD-20395-500

5 x 12 inch

PBD-20405-500

##### 40 TPH, 304 (1.4301) stainless steel-PTFE flowguide

3 x 6 inch

PBD-20401-600

4 x 10 inch

PBD-20395-600

5 x 12 inch

PBD-20405-600

##### 40 TPH, mild steel-AR flowguide

3 x 6 inch

PBD-20401-700

4 x 10 inch

PBD-20395-700

5 x 12 inch

PBD-20405-700

##### 300 TPH, mild steel flowguide

5 x 16 inch

PBD-20455-10

6 x 20 inch

PBD-20458-10

##### 300 TPH, mild steel-epoxy flowguide

5 x 16 inch

PBD-20455-20

6 x 20 inch

PBD-20458-20

<sup>1)</sup> For versions 1 and 2 only.

<sup>2)</sup> For version 3 only.

<sup>3)</sup> Not available with cabinet construction option 1.

**Selection and ordering data**

Article No.

300 TPH, 304 (1.4301) stainless steel flowguide

5 x 16 inch

**PBD-20455-30**

6 x 20 inch

**PBD-20458-30**300 TPH, 304 (1.4301) stainless steel-PTFE flowguide

5 x 16 inch

**PBD-20455-40**

6 x 20 inch

**PBD-20458-40**300 TPH, 316 (1.4401) stainless steel flowguide

5 x 16 inch

**PBD-20455-50**

6 x 20 inch

**PBD-20458-50**300 TPH, mild steel-PTFE flowguide

5 x 16 inch

**PBD-20455-60**

6 x 20 inch

**PBD-20458-60**300 TPH, mild steel-AR flowguide

5 x 16 inch

**PBD-20455-70**

6 x 20 inch

**PBD-20458-70****Gasketing**

40 TPH, gasket

**PBD-22600495**300 TPH, gasket

• 5 x 16 inch

**PBD-45000969**

• 6 x 20 inch

**PBD-45000970**

## Solids Flowmeters

### LVDT flowmeters

#### SITRANS WF300 series

##### Selection and ordering data

###### SITRANS WF350

Low to medium capacity flowmeters for powders conveyed by aerated gravity conveyors. A sensing plate, sensing head and integrator are required to complete the system.

###### Version

40 t/h (44 STPH) maximum design capacity

300 t/h (330 STPH) maximum design capacity

###### Flowguide size

8 inch (203 mm), 40 t/h (0.2 to 44 STPH) version

10 inch (254 mm), 300 t/h

12 inch (305 mm), 40 t/h (0.2 to 44 STPH) version

14 inch (356 mm), 300 t/h

20 inch (508 mm), 300 t/h

###### Flowguide construction

Mild steel, polyester painted

304 (1.4301) stainless steel

316 (1.4401) stainless steel

###### Cabinet construction

Mild steel, polyester painted

304 (1.4301) stainless steel

316 (1.4401) stainless steel

###### Venting flange

ASME flange pattern

DIN flange pattern

###### Further designs

Please add **"-Z"** to article no. and specify order code(s).

Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number/identification (max. 27 characters), specify in plain text.

Manufacturer's test certificate:  
According to EN 10204-2.2

Inspection certificate type 3.1 per EN 10204  
Not available with cabinet construction option 1.

###### Instruction manuals

English

German

Note: The instruction manual should be ordered as a separate item on the order.

###### Additional instruction manuals

- Solids Flowmeter Application Guide, English
- Solids Flowmeter Application Guide, German

This device is shipped with the Siemens Milltronics manual DVD containing the complete instruction manual library.

Article No.

**7MH7106-**



1

2

B

C

D

E

F

B

D

E

1

3

4

1

2

Order Code

**Y15**

**C11**

**C12**

Article No.

**7ML1998-5CV02**

**7ML1998-5CV32**

**7ML1998-5GK01**

**7ML1998-5GK31**

###### Spare parts

40 TPH, mild steel flowguide

8 inch

12 inch

40 TPH, 304 (1.4301) stainless steel flowguide

8 inch

12 inch

40 TPH, 316 (1.4401) stainless steel flowguide

8 inch

12 inch

300 TPH, mild steel flowguide

10 inch

14 inch

20 inch

300 TPH, 304 (1.4301) stainless steel flowguide

10 inch

14 inch

20 inch

40 TPH, 316 (1.4401) stainless steel flowguide

10 inch

14 inch

20 inch

###### Gasketing

40 TPH, gasket

300 TPH, gasket

Article No.

**PBD-22520-1A0**

**PBD-22520-2A0**

**PBD-22520-1B0**

**PBD-22520-2B0**

**PBD-22520-1C0**

**PBD-22520-2C0**

**PBD-22519-1A0**

**PBD-22519-2A0**

**PBD-22519-3A0**

**PBD-22519-1B0**

**PBD-22519-2B0**

**PBD-22519-3B0**

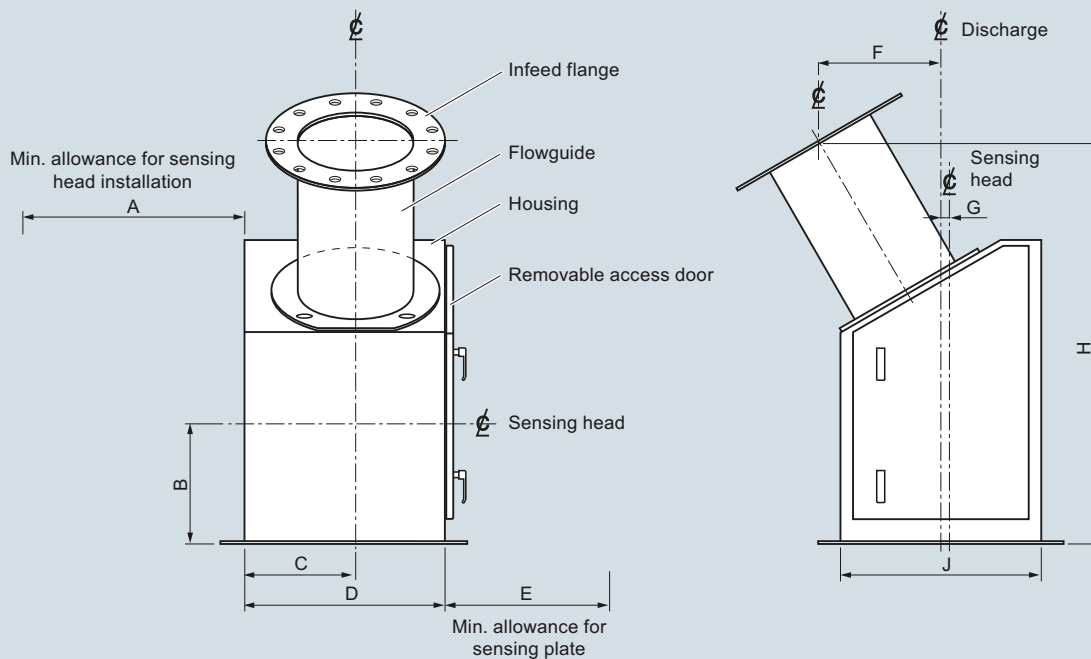
**PBD-22519-1C0**

**PBD-22519-2C0**

**PBD-22519-3C0**

**PBD-45000972**

**PBD-45005013**

**Dimensional drawings**
**SITRANS WF330 series**


Model	A	B	C	D	E	F	G	H	J
40 t/h (44 STPH)	686 (27)	356 (14)	254 (10)	457 (18)	610 (24)	279 (11)	25 (1)	914 (36)	457 (18)
300 t/h (330 STPH)	1 042 (41)	457 (18)	305 (12)	610 (24)	610 (24)	330 (13)	38 (1.5)	1 270 (50)	610 (24)

**40 t/h version inlet sizes**

51 (2)	102 (4)	152 (6)	203 (8)	254 (10)
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**300 t/h version inlet sizes**

152 (6)	203 (8)	254 (10)	305 (12)	356 (14)	406 (16)
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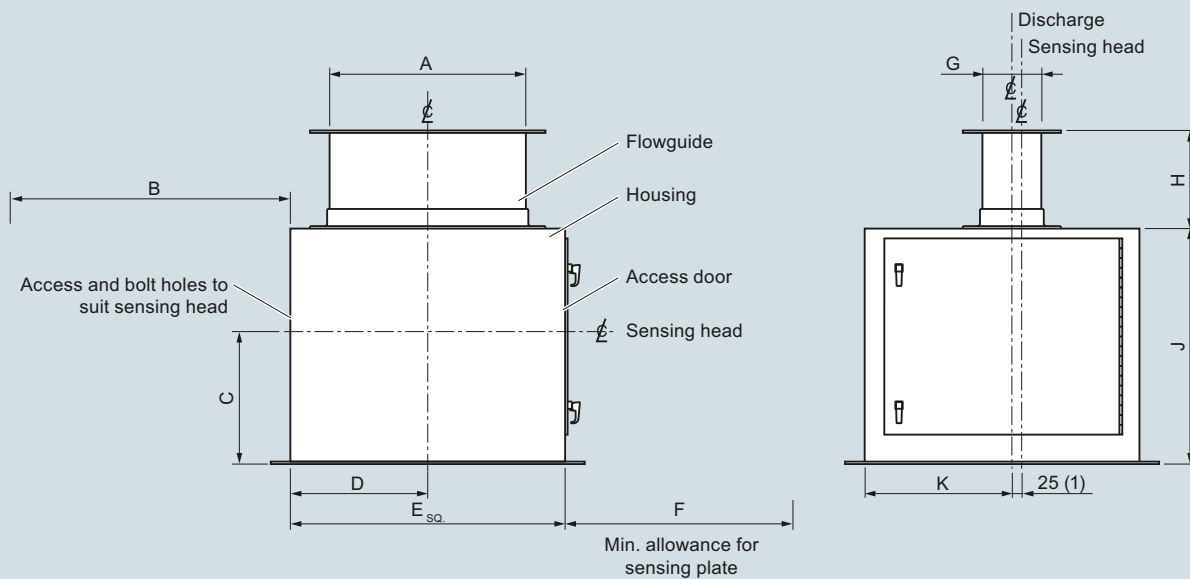
SITRANS WF330 series dimensions in mm (inch)

## Solids Flowmeters

### LVDT flowmeters

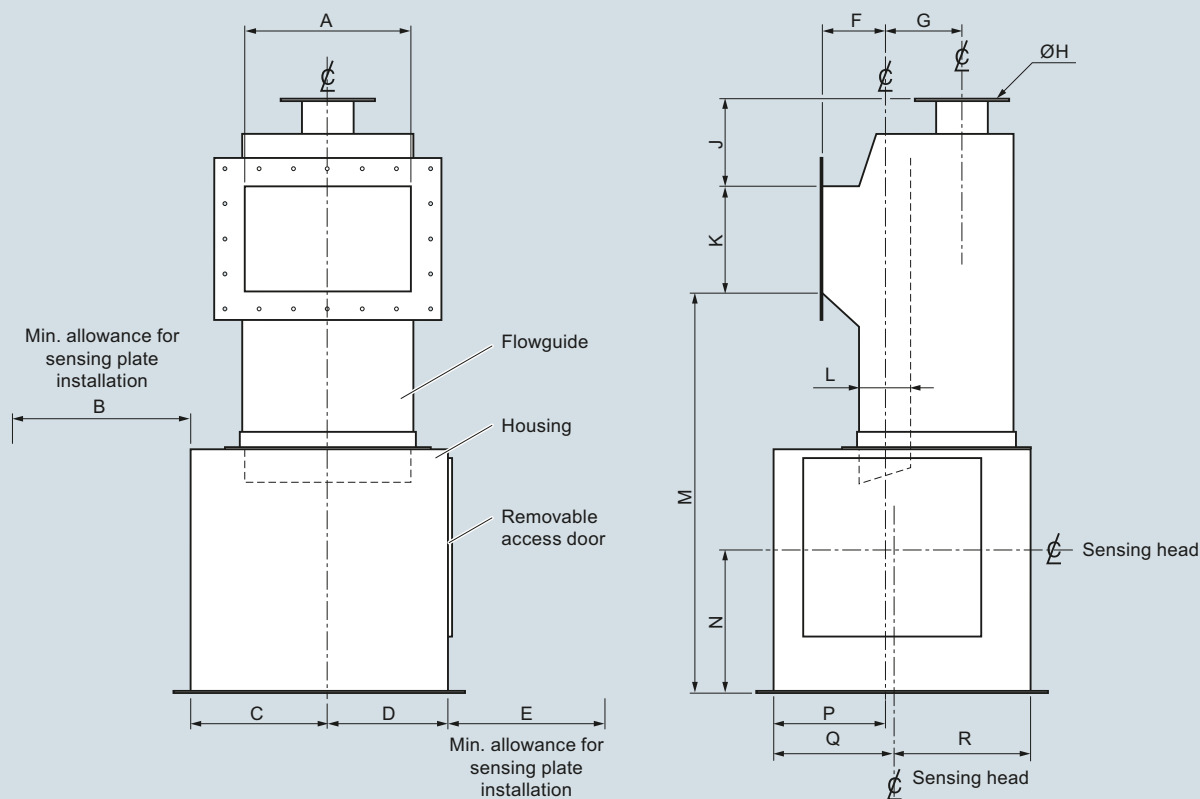
#### SITRANS WF300 series

#### SITRANS WF340 series



Size	A	B	C	D	E	F	G	H	J	K
40 t/h (44 STPH)	152 (6)	686 (27)	304 (12)	254 (10)	508 (20)	457 (18)	76 (3)	203 (8)	508 (20)	254 (10)
40 t/h (44 STPH)	254 (10)	686 (27)	304 (12)	254 (10)	508 (20)	457 (18)	102 (4)	203 (8)	508 (20)	254 (10)
40 t/h (44 STPH)	305 (12)	686 (27)	304 (12)	254 (10)	508 (20)	457 (18)	127 (5)	203 (8)	508 (20)	254 (10)
300 t/h (330 STPH)	406 (16)	1 041 (41)	343 (13.5)	305 (12)	610 (24)	762 (30)	127 (5)	254 (10)	610 (24)	330 (13)
300 t/h (330 STPH)	508 (20)	1 041 (41)	343 (13.5)	356 (14)	711 (28)	762 (30)	152 (6)	254 (10)	610 (24)	381 (15)

SITRANS WF340 series dimensions in mm (inch)

**SITRANS WF350 series**

Size	A	B	C	D	E	F	G	H
40 t/h (44 STPH)	203 (8)	686 (27)	305 (12)	254 (10)	711 (28)	127 (5)	203 (8)	102 (4)
40 t/h (44 STPH)	305 (12)	686 (27)	305 (12)	254 (10)	711 (28)	127 (5)	203 (8)	102 (4)
300 t/h (330 STPH)	254 (10)	1 041 (41)	406 (16)	356 (14)	889 (35)	191 (7.5)	229 (9)	152 (6)
300 t/h (330 STPH)	356 (14)	1 041 (41)	406 (16)	356 (14)	889 (35)	191 (7.5)	229 (9)	152 (6)
300 t/h (330 STPH)	508 (20)	1 041 (41)	406 (16)	356 (14)	889 (35)	191 (7.5)	229 (9)	152 (6)

Size	J	K	L	M	N	P	Q	R
40 t/h (44 STPH)	229 (9)	203 (8)	76 (3)	914 (36)	305 (12)	229 (9)	229 (9)	330 (13)
40 t/h (44 STPH)	229 (9)	203 (8)	102 (4)	914 (36)	305 (12)	229 (9)	229 (9)	330 (13)
300 t/h (330 STPH)	254 (10)	305 (12)	127 (5)	1 168 (46)	419 (16.5)	330 (13)	356 (14)	406 (16)
300 t/h (330 STPH)	254 (10)	305 (12)	152 (6)	1 168 (46)	419 (16.5)	330 (13)	356 (14)	406 (16)
300 t/h (330 STPH)	254 (10)	305 (12)	178 (7)	1 168 (46)	419 (16.5)	330 (13)	356 (14)	406 (16)

SITRANS WF350 series dimensions in mm (inch)

## Solids Flowmeters

### Sensing heads

#### SITRANS WFS300 series sensing heads

##### Overview



SITRANS WFS300 and WFS320 sensing heads are out-of-the process sensing elements for SITRANS WF300 series solids flowmeters.

##### Benefits

- Easy installation with modular assembly
- $\pm 1\%$  accuracy (or better) with high repeatability
- Totally enclosed, dust-tight, flow metering of bulk solids
- Sensing mechanism is outside the process, protected from contamination
- No zero drift, due to unique sensing mechanism
- Low maintenance; only the sensing plate is in the process
- No restriction of product flow

##### Application

SITRANS WFS300 and WFS320 sensing heads are used in applications such as product rationing, batch load-out, and process feed rate control, the WFS series of sensing heads has been field-proven in thousands of applications with some units providing over a quarter century of reliable performance. The WFS sensing heads use only the horizontal force created by impact of product upon the sensing plate and then apply the horizontal deflection to a highly reliable linear variable differential transformer (LVDT).

Friction-less pivots exclude the vertical force from the sensing process and the LVDT travel range is controlled by a coil spring selected for the specified full-scale flow rate. A viscous fluid damper provides mechanical damping in the event of pulsating flows.

The LVDT converts the horizontal movement, proportional to the impact forces into an electrical signal, which is converted by the integrator to time-based flow rate indication and totaling. This method of sensing material flow has been proven best in thousands of applications all over the world.

**Technical specifications**


	WFS300	WFS320
<b>Mode of operation</b>		
Measuring principle	Deflection measurement using LVDT (linear variable differential transformer)	
Typical application	For use in all WF300 series flowmeters	
<b>Flow input</b>		
Maximum particle size	13 mm (0.5 inch)	25 mm (1 inch)
Minimum flow rate	0 ... 0.2 t/h (0 ... 0.2 STPH)	0 ... 20 t/h (0 ... 22 STPH)
Maximum flow rate	0 ... 40 t/h (0 ... 44 STPH)	0 ... 300 t/h (0 ... 330 STPH)
<b>Performance</b>		
Accuracy <sup>1)</sup>	± 1 % or better of full scale, higher accuracy with linearizing features offered by integrators	
Repeatability	± 0.2 %	
Specified range	33 ... 100 %	
<b>Medium conditions</b>		
Ambient temperature		
• Without internally mounted LVDT card	-40 ... +60 °C (-40 ... +140 °F)	-40 ... +60 °C (-40 ... +140 °F)
• With optional internally mounted LVDT card	-40 ... +50 °C (-40 ... +122 °F)	-40 ... +50 °C (-40 ... +122 °F)
Maximum product temperature	232 °C (450 °F)	232 °C (450 °F)
<b>Design</b>	IP64 aluminum body, fiberglass cover, 304 (1.4306) stainless steel sensing plate	
<b>Options</b>	<ul style="list-style-type: none"> <li>• Epoxy paint coating of external aluminum casting surfaces</li> <li>• Internally mounted LVDT conditioner card for use with SF500 integrator</li> <li>• Externally mounted LVDT conditioner card in NEMA 4 (IP65) enclosure for use with Milltronics SF500 or SIWAREX FTC integrator when sensing head is mounted in hazardous areas or with high ambient temperatures</li> </ul>	
<b>Approvals</b>	CE, RCM, CSA, FM, GOST, ATEX, IEC Ex	CE, RCM, CSA, FM, GOST, ATEX, IEC Ex

<sup>1)</sup> Accuracy subject to:  
 On factory approved installations the flowmeter system's totalized weight will be within the specified accuracy when compared to a known weighed material test sample.  
 The test rate must be within the specified range of the design capacity and held constant for the duration of the test.  
 The minimum material test sample must be equivalent to a sample obtained at the test flow rate for at least ten minutes running time.

## Solids Flowmeters

### Sensing heads

#### SITRANS WFS300 series sensing heads

Selection and ordering data	Article No.	Order Code
<b>SITRANS WFS300 sensing head</b> Out-of-the-process sensing element for 40 t/h (44 STPH) solids flowmeters. A flowguide, sensing plate and integrator are required to complete the system. Order flowguide, sensing plate and integrator separately.	<b>7MH7110-</b> 	<b>Further designs</b> Please add "-Z" to article no. and specify order code(s). Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number/identification (max. 27 characters), specify in plain text.
<b>Mounting</b> Base Side Base, CSA/FM Class I, Div. 1 Groups C and D; Class II, Div. 1 Groups E, F and G, ATEX II 3G, Ex nA IIC T6 Gc, ATEX II 2D - Ex tb IIIC T70 °C Db IP64, IECEx FMG 13.0016X, Ex nA IIC T6 Gc, Ex tb IIIC T70 °C Db IP64 Side, CSA/FM Class I, Div. 1 Groups C and D; Class II, Div. 1 Groups E, F and G, ATEX II 3G, Ex nA IIC T6 Gc, ATEX II 2D - Ex tb IIIC T70 °C Db IP64, IECEx FMG 13.0016X, Ex nA IIC T6 Gc, Ex tb IIIC T70 °C Db IP64 Note: Externally mounted LVDT Conditioner in NEMA 4 enclosure required for use with SF500 or SIWAREX FTC and mounting option 3 and 4. See optional equipment.	<b>0</b> <b>1</b> <b>3</b> <b>4</b>	<b>Y15</b> <b>C11</b>
<b>Range (Range spring size/leaf spring thickness/viscosity of damping fluid)</b> C2/A2/1 000 C3/A2/1 000 C4/A2/1 000 C5/A2/1 000 C6/A2/1 000 C7/A2/1 000 C8/A2/3 000 C9/A2/3 000 C10/A2/3 000 C11/A3/5 000 C12/A3/5 000 C13/A3/5 000 C14/A3/5 000 C0/A2/500 C0/A3/500 C10/A3/3 000	<b>A</b> <b>B</b> <b>C</b> <b>D</b> <b>E</b> <b>F</b> <b>G</b> <b>H</b> <b>J</b> <b>K</b> <b>L</b> <b>M</b> <b>N</b> <b>P</b> <b>Q</b> <b>R</b>	<b>Article No.</b> <b>A5E32880243</b> <b>7ML1998-5GK01</b> <b>7ML1998-5GK31</b>
<b>Gasketing</b> Silicone Silicone, light duty PTFE	<b>A</b> <b>B</b> <b>E</b>	
<b>Coating (process side only)</b> None, standard aluminum Epoxy - white/aluminum, external castings only	<b>0</b> <b>1</b>	
<b>Sensing head mounted LVDT conditioner</b> None <sup>1)</sup> Included, required for use with SF500 or SIWAREX FTC integrator <sup>2)</sup>	<b>0</b> <b>1</b>	
		<b>Calibration hanger weights</b> 20 g (0.04 lb) 50 g (0.1 lb) 100 g (0.2 lb) 200 g (0.4 lb) 500 g (1.1 lb) 1 000 g (2.2 lb) 2 000 g (4.4 lb) 5 000 g (11 lb) Note: Calibration accessories should be ordered as a separate item on the order.

<sup>1)</sup> For use with Compu Series integrators or when externally mounted LVDT conditioner required.


<sup>2)</sup> Applicable for mounting options 0 and 1 only.

Selection and ordering data	Article No.
<i>Spare parts</i>	
LDVT conditioner in NEMA 4 enclosure (to interface SF500 or SIWAREX FTC and LVDT sensor)	<b>7MH7723-1AJ</b>
Silicone inner diaphragm	<b>7MH7723-1DN</b>
Silicone outer diaphragm	<b>7MH7723-1DP</b>
PTFE inner diaphragm	<b>7MH7723-1AL</b>
PTFE outer diaphragm	<b>7MH7723-1AM</b>
LVDT transformer and core, standard spare	<b>7MH7723-1DS</b>
Encapsulated LVDT replacement kit	<b>7MH7723-1DE</b>
Damping fluid, 1 000 CS, 1 lb bottle	<b>7MH7723-1EU</b>
Damping fluid, 3 000 CS, 1 lb bottle	<b>7MH7723-1EV</b>
Damping fluid, 5 000 CS, 1 lb bottle	<b>7MH7723-1EW</b>
Range spring assembly, C2	<b>7MH7723-1EX</b>
Range spring assembly, C3	<b>7MH7723-1EY</b>
Range spring assembly, C4	<b>7MH7723-1FA</b>
Range spring assembly, C5	<b>7MH7723-1FB</b>
Range spring assembly, C6	<b>7MH7723-1FC</b>
Range spring assembly, C7	<b>7MH7723-1FD</b>
Range spring assembly, C8	<b>7MH7723-1FE</b>
Range spring assembly, C9	<b>7MH7723-1FF</b>
Range spring assembly, C10	<b>7MH7723-1FG</b>
Range spring assembly, C11	<b>7MH7723-1FH</b>
Range spring assembly, C12	<b>7MH7723-1FJ</b>
Range spring assembly, C13	<b>7MH7723-1FK</b>
Range spring assembly, C14	<b>7MH7723-1FL</b>
Leaf spring, A2, kit	<b>7MH7723-1BN</b>
Leaf spring, A3, kit	<b>7MH7723-1BP</b>
WFS300 calibration wheel kit	<b>7MH7723-1KB</b>
Circuit card, LVDT, conditioner	<b>7MH7723-1ET</b>
WFS300 replacement O-ring kit	<b>7MH7723-1DC</b>

## Solids Flowmeters

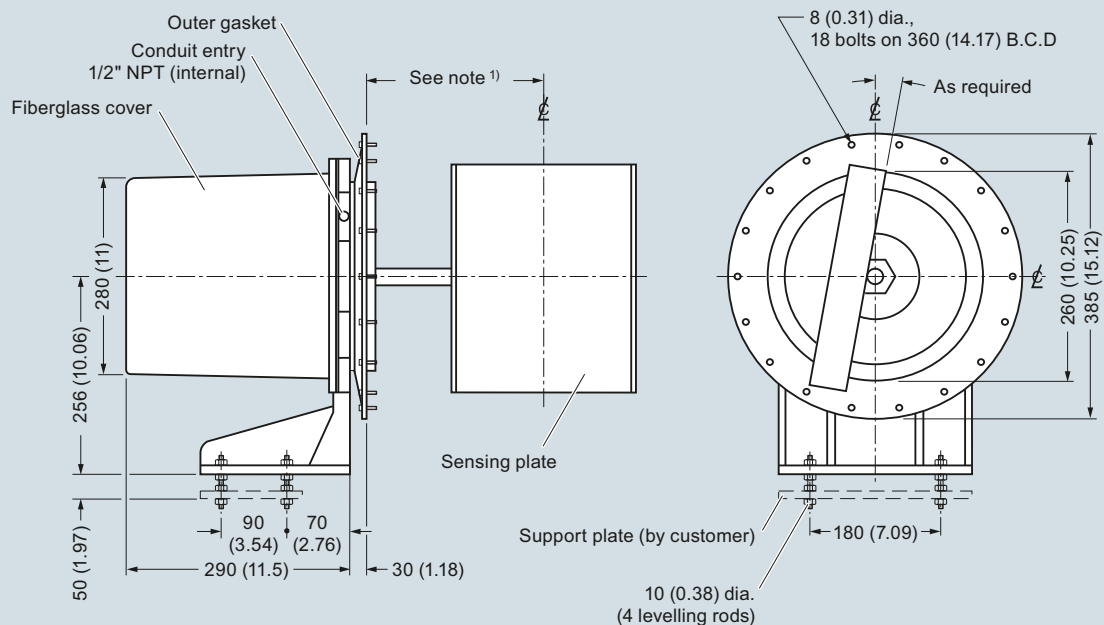
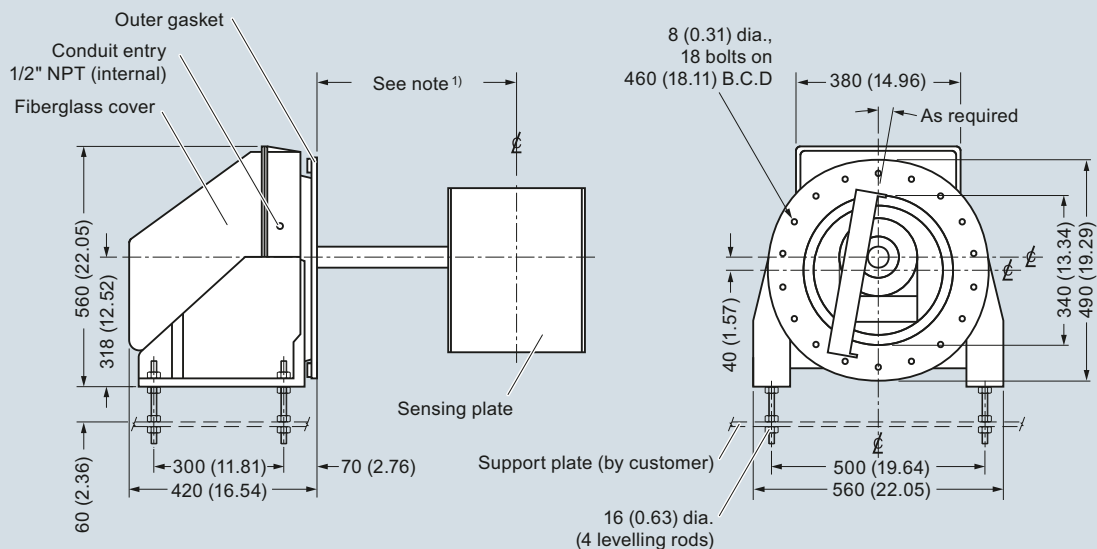
### Sensing heads

#### SITRANS WFS300 series sensing heads

Selection and ordering data	Article No.	Order Code
<b>SITRANS WFS320 sensing head</b> Out-of-the-process sensing element for use with 300 t/h (330 STPH) flowmeters. A flowguide, sensing plate and integrator are required to complete the system. Order flowguide, sensing plate and integrator separately.	<b>7MH7112-</b> 	<b>Further designs</b> Please add <b>"-Z"</b> to article no. and specify order code(s). Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number/identification (max. 27 characters), specify in plain text.
<b>Classification</b> Non-hazardous Hazardous, CSA/FM Class I, Div. 1 Groups C and D; Class II, Div. 1 Groups E, F and G, ATEX II 3G, Ex nA IIC T6 Gc, ATEX II 2D - Ex tb IIIC T70 °C Db IP64, IECEx FMG 13.0016X, Ex nA IIC T6 Gc, Ex tb IIIC T70 °C Db IP64 Note: Externally mounted LVDT conditioner in NEMA 4 enclosure required for use with SF500 or SIWAREX FTC and classification option 2. See calibration hanger weights.	<b>1</b> <b>2</b>	<b>Y15</b> <b>C11</b>
<b>Range (range spring size/viscosity of damping fluid)</b> D1/1 000 Position 1 D1/1 000 Position 2 D1/1 000 Position 3 D2/1 000 Position 1 D2/1 000 Position 2 D2/1 000 Position 3 D3/3 000 Position 1 D3/3 000 Position 2 D3/3 000 Position 3 D4/5 000 Position 1 D4/5 000 Position 2 D4/5 000 Position 3 D5/5 000 Position 1 D5/5 000 Position 2 D5/5 000 Position 3	<b>A</b> <b>B</b> <b>C</b> <b>D</b> <b>E</b> <b>F</b> <b>G</b> <b>H</b> <b>J</b> <b>K</b> <b>L</b> <b>M</b> <b>N</b> <b>P</b> <b>Q</b>	<b>Article No.</b> <b>A5E32880290</b>
<b>Gasketing</b> Silicone PTFE Other gasketing available upon request	<b>A</b> <b>D</b>	<b>Calibration hanger weights</b> 20 g (0.04 lb) 50 g (0.1 lb) 100 g (0.2 lb) 200 g (0.4 lb) 500 g (1.1 lb) 1 000 g (2.2 lb) 2 000 g (4.4 lb) 5 000 g (11 lb) Note: Calibration accessories should be ordered as a separate item on the order.
<b>Coating (process side only)</b> None, standard aluminum Epoxy - white/aluminum, external castings only Other coatings available upon request.	<b>0</b> <b>1</b>	<b>Spare parts</b> LVDT conditioner in NEMA 4 enclosure to interface SF500 and LVDT sensor) Silicone inner diaphragm Silicone outer diaphragm PTFE inner diaphragm PTFE outer diaphragm LVDT transformer and core, standard spare Encapsulated LVDT replacement kit Damping fluid, 1 000 CS, 1 lb bottle Damping fluid, 3 000 CS, 1 lb bottle Damping fluid, 5 000 CS, 1 lb bottle Range spring assembly, D1 Range spring assembly, D2 Range spring assembly, D3 Range spring assembly, D4 Range spring assembly, D5 Leaf spring kit, 4 required Circuit card, LVDT, conditioner WFS320 calibration wheel kit WFS320 replacement o-ring kit WFS320 Taper Pin, spare
<b>Sensing head mounted LVDT conditioner</b> None <sup>1)</sup> Included, required for use with SF500 or SIWAREX FTC integrator <sup>2)</sup>	<b>0</b> <b>1</b>	<b>7MH7724-1AC</b> <b>7MH7724-1AD</b> <b>7MH7724-1AE</b> <b>7MH7724-1AF</b> <b>7MH7724-1AG</b> <b>7MH7724-1AH</b> <b>7MH7724-1AJ</b> <b>7MH7724-1AK</b> <b>7MH7723-1AJ</b> <b>7MH7723-1DQ</b> <b>7MH7723-1DR</b> <b>7MH7723-1BA</b> <b>7MH7723-1BB</b> <b>7MH7723-1DS</b> <b>7MH7723-1DE</b> <b>7MH7723-1EU</b> <b>7MH7723-1EV</b> <b>7MH7723-1EW</b> <b>7MH7723-1FM</b> <b>7MH7723-1FN</b> <b>7MH7723-1FP</b> <b>7MH7723-1FQ</b> <b>7MH7723-1GJ</b> <b>7MH7723-1BQ</b> <b>7MH7723-1ET</b> <b>7MH7723-1KA</b> <b>7MH7723-1DD</b> <b>7MH7723-1GD</b>

<sup>1)</sup> For use with Compu series integrators or when externally mounted LVDT conditioner required. See Note under Classification.

<sup>2)</sup> Available with classification option 1 only.

**Dimensional drawings**
**WFS300 Sensing Head**

**WFS320 Sensing Head**

**Notes:**

- 1) Refer to flowmeter drawing for sensing head mounting hole to flowguide centerline dimension.
- 2) Sensing head support plate should be rigid and independent of flowmeter housing.
- 3) Ensure outer gasket seals dust tight to flowmeter housing wall.

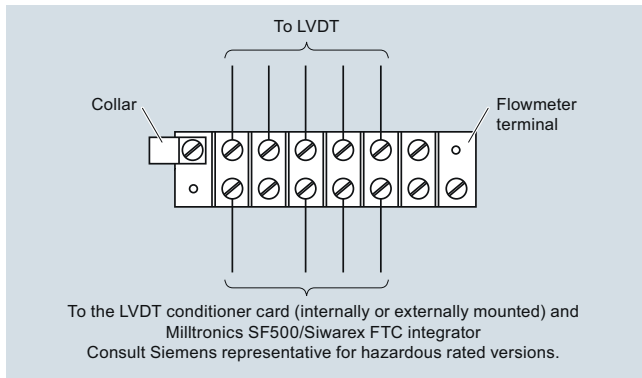
WFS300 series sensing head dimensions in mm (inch)

## Solids Flowmeters

### Sensing heads

#### SITRANS WFS300 series sensing heads

##### Schematics



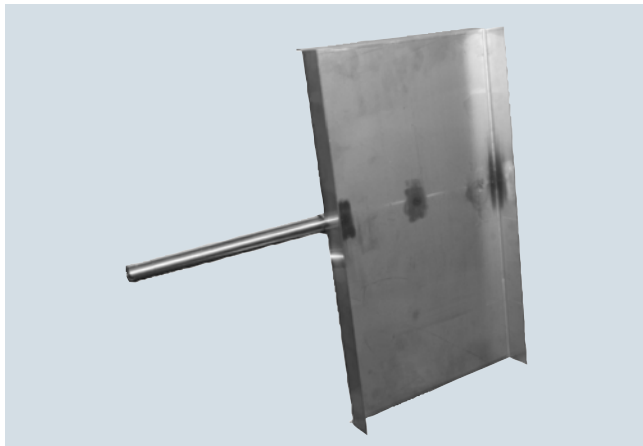
WFS300 series, connections

# Solids Flowmeters

## Sensing plates

### SITRANS flowmeter sensing plates

#### Overview



The sensing plate transfers the impact force to the sensing head of the flowmeter.

#### Selection and ordering data

**SITRANS flowmeter sensing plates**  
The sensing plate transfers the impact force to the sensing head of the flowmeter.

##### Version

WF330, 40 t/h, base mount or side mount	1
WF340, 40 t/h, base mount or side mount	3
WF350, 40 t/h, base mount or side mount	4
WF330, 300 t/h	5
WF340, 300 t/h	6
WF350, 300 t/h	7
C-40	8

##### Plate size

18 x 10 inch (457.2 x 254 mm), for version option 1 with 2, 4 or 6 inch (50.8, 101.6 or 152.4 mm) flowguide <sup>1)</sup>	A
20 x 12 inch (508 x 304.8 mm), for version option 1 with 8 inch (203.2 mm) flowguide <sup>1)</sup>	B
20 x 14 inch (508 x 355.6 mm), for version option 1 with 10 inch (254 mm) flowguide <sup>1)</sup>	C
22 x 12 inch (558.8 x 304.8 mm), for version option 5 with 6 or 8 inch (152.4 or 203.2 mm) flowguide <sup>1)</sup>	D
24 x 16 inch (609.6 x 406.4 mm), for version option 5 with 10 or 12 inch (254 or 304.8 mm) flowguide <sup>1)</sup>	E
24 x 20 inch (609.6 x 508 mm), for version option 5 with 14 or 16 inch (355.6 or 406.4 mm) flowguide <sup>1)</sup>	F
12 x 12 inch (304.8 x 304.8 mm), for version option 4 with 8 inch (203.2 mm) flowguide <sup>2)</sup>	G
16 x 14 inch (406.4 x 355.6 mm), for version option 4 with 12 inch (304.8 mm) flowguide <sup>2)</sup>	H
14 x 18 inch (355.6 x 457.2 mm), for version option 7 with 10 inch (254 mm) flowguide <sup>2)</sup>	J
18 x 20 inch (457.2 x 508 mm), for version option 7 with 14 inch (355.6 mm) flowguide <sup>2)</sup>	K

#### SITRANS flowmeter sensing plates

The sensing plate transfers the impact force to the sensing head of the flowmeter.

24 x 22 inch (609.6 x 558.8 mm), for version option 7 with 20 inch (508 mm) flowguide<sup>2)</sup>

12 x 10 inch (304.8 x 254 mm), for version option 3 with 3 x 6 inch (76.2 x 152.4 mm) flowguide<sup>3)</sup>

14 x 14 inch (355.6 x 355.6 mm), for version option 3 with 4 x 10 inch (101.6 x 254 mm) flowguide<sup>3)</sup>

16 x 16 inch (406.4 x 406.4 mm), for version option 3 with 5 x 12 inch (127 x 304.8 mm) flowguide<sup>3)</sup>

18 x 20 inch (457.2 x 508 mm), for version option 6 with 5 x 16 inch (127 x 406.4 mm) flowguide<sup>3)</sup>

20 x 24 inch (508 x 609.6 mm), for version option 6 with 6 x 20 inch (152.4 x 508 mm) flowguide<sup>3)</sup>

12 x 12 inch (304.8 x 304.8 mm), for C-40 with 6 inch (152.4 mm) flowguide<sup>4)</sup>

12 x 14 inch (304.8 x 355.6 mm), for C-40 with 10 inch (254 mm) flowguide<sup>4)</sup>

#### Plate material

304 (1.4301) stainless steel <sup>5)</sup>	A
304 (1.4301) stainless steel <sup>6)</sup>	B
316 (1.4401) stainless steel <sup>7)</sup>	C
316 (1.4401) stainless steel <sup>6)</sup>	D
304 (1.4301) stainless steel, heavy-duty <sup>7)</sup>	E
304 (1.4301) stainless steel, heavy-duty <sup>6)</sup>	F
316 (1.4401) stainless steel, light-duty <sup>8)</sup>	G
316 (1.4401) stainless steel, heavy-duty <sup>7)</sup>	H
316 (1.4401) stainless steel, heavy-duty <sup>6)</sup>	J

#### Plate liner

No liner	1
Polyurethane <sup>7)</sup>	2
Polyurethane <sup>6)</sup> 9)	3
PTFE <sup>7)</sup>	4
PTFE <sup>6)</sup>	5
Alumina ceramic tiles <sup>7)</sup>	6
Alumina ceramic tiles <sup>6)</sup>	7
Plasma A/R <sup>7)</sup>	8
Plasma A/R <sup>6)</sup>	0

#### Further designs

Please add "-Z" to article no. and specify order code(s).

Inspection certificate type 3.1 per EN 10204

#### Instruction manuals

- Solids Flowmeter Application Guidelines, English
- Solids Flowmeter Application Guidelines, German

Note: Instruction manual should be ordered as a separate item on the order. This device is shipped with the Siemens Milltronics manual DVD containing the complete instruction manual library.

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Order Code

C12

Article No.

7ML1998-5GK01

7ML1998-5GK31

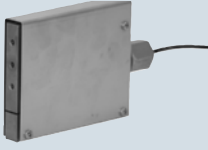
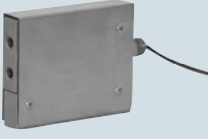

1) See 7MH7102, page 6/18.  
 2) See 7MH7106, page 6/22.  
 3) See 7MH7104, page 6/20.  
 4) Available as spare part only.  
 5) Available with flowmeter version 1 ... 4 and 8 only.  
 6) Available with flowmeter version 5 ... 7 only.  
 7) Available with flowmeter version 1 ... 4 only.  
 8) Available with flowmeter version 1, 2 and 3 only.  
 9) Maximum material temperature: +85 °C (+185 °F).

## Solids Flowmeters

### Solids flowmeters peripherals

#### Selection and ordering data

##### Flowmeter spare load cells

<b>Millflo flowmeters stainless steel, with hardware</b>	Article No.	
1 lb (0.5 kg)	<b>Replace with 2 lb</b>	
2 lb (0.9 kg)	<b>PBD-23900176</b>	
5 lb (2.3 kg)	<b>PBD-23900177</b>	
10 lb (4.6 kg)	<b>7MH7725-1AA</b>	
20 lb (9.2 kg)	<b>7MH7725-1AB</b>	
<b>Millflo L, M, and MA series flowmeters stainless steel, with hardware</b>		
50 lb (22.7 kg)	<b>7MH7725-1AC</b>	
100 lb (45.4 kg)	<b>7MH7725-1AD</b>	
<b>Millflo 304 stainless steel sensing plates</b>		
100 mm (4 inch)	<b>PBD-25570-1AA0</b>	
150 mm (6 inch)	<b>PBD-25570-2AA0</b>	
200 mm (8 inch)	<b>PBD-25570-3AA0</b>	
250 mm (10 inch)	<b>PBD-25570-4AA0</b>	
250 mm (10 inch) light duty	<b>PBD-25570-5AA0</b>	
300 mm (12 inch)	<b>PBD-25570-6AA0</b>	
<b>Millflo 304 stainless steel, PTFE coated sensing plates</b>		
100 mm (4 inch)	<b>PBD-25570-1BA0</b>	
150 mm (6 inch)	<b>PBD-25570-2BA0</b>	
200 mm (8 inch)	<b>PBD-25570-3BA0</b>	
250 mm (10 inch)	<b>PBD-25570-4BA0</b>	
250 mm (10 inch) light duty	<b>PBD-25570-5BA0</b>	
300 mm (12 inch)	<b>PBD-25570-6BA0</b>	

##### Flowmeter spare load cells

<b>Millflo 304 stainless steel, polyurethane lined sensing plates</b>	Article No.	
100 mm (4 inch)	<b>PBD-51027413</b>	
150 mm (6 inch)	<b>PBD-51027371</b>	
200 mm (8 inch)	<b>PBD-51027463</b>	
250 mm (10 inch)	<b>PBD-51027486</b>	
300 mm (12 inch)	<b>PBD-51027369</b>	
<b>Millflo 316L stainless steel sensing plates</b>		
100 mm (4 inch)	<b>PBD-25570-1AB0</b>	
150 mm (6 inch)	<b>PBD-25570-2AB0</b>	
200 mm (8 inch)	<b>PBD-25570-3AB0</b>	
250 mm (10 inch)	<b>PBD-25570-4AB0</b>	
250 mm (10 inch) light duty	<b>PBD-25570-5AB0</b>	
300 mm (12 inch)	<b>PBD-25570-6AB0</b>	
<b>Millflo 316L stainless steel, PTFE coated sensing plates</b>		
100 mm (4 inch)	<b>PBD-25570-1BB0</b>	
150 mm (6 inch)	<b>PBD-25570-2BB0</b>	
200 mm (8 inch)	<b>PBD-25570-3BB0</b>	
250 mm (10 inch)	<b>PBD-25570-4BB0</b>	
250 mm (10 inch) light duty	<b>PBD-25570-5BB0</b>	
300 mm (12 inch)	<b>PBD-25570-6BB0</b>	