Flow Measurement SITRANS F X

Overview

SITRANS F X vortex flowmeters provide accurate volumetric and mass flow measurement of steam, gases and liquids as an all-in-one solution with integrated temperature and pressure compensation.

Benefits

- All devices have 2-wire technology and HART communication
- Temperature compensation for saturated steam as standard feature
- Integrated temperature and pressure measurement enabling direct compensation of density
- Pressure, temperature and flow can be read at a single point. No additional installation of pressure and temperature sensors
- Direct measurement of energy or energy consumption
- Optimum process reliability thanks to Intelligent Signal Processing (ISP) - stable readings, free of external perturbations
- Fully welded stainless steel construction with high corrosion, pressure and temperature resistance
- Maintenance-free sensor design
- Ready to use due to plug & play feature. No additional cabling work
- Minimal pressure drop
- Compact or remote design
- Pressure and temperature compensation for fluctuating volume flows
- Measurement of consumption in compressed air systems
- No risk of deposits or damage (sensor in the turbulent area)
- All units parameterized prior to delivery

Application

The SITRANS FX300 is a flowmeter in a single or dual transmitter version, suitable for measuring industrial steam, gases, as well as conductive and non-conductive liquids, e.g. steam (saturated steam, superheated steam), industrial gases (compressed air, nitrogen, liquefied gases, flue gases), and conductive and non-conductive liquids (demineralized water, boiler feed water, solvents, heat transfer oil).

Design

The unit is available in a compact or a remote version with up to 30 meter distance from flowmeter to transmitter. When ordering a remote version the transducer cables are pre-mounted and ready for installation.

SITRANS FX300

The main applications of SITRANS FX300 can be found in the following sectors:

- Chemical
- Petrochemical
- Oil & Gas
- Power plants
  - Air
  - Heating
  - Cooling
  - Chilling
- Food & beverage
  - Pharmaceutical
  - Sugar refineries
  - Dairies
  - Breweries
  - Production of soft drinks
- Refining
- Water & waste water

System Overview

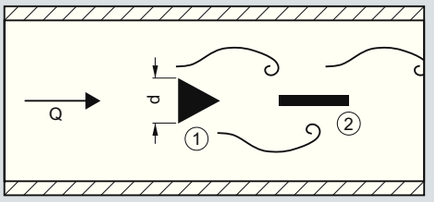
Version	Single transmitter			Dual transmitter
Options	Standard	Pressure sensor	Pressure sensor and isolation valve	Standard
Flange				
Sandwich				

Function

Operating Principle

SITRANS F X vortex flowmeters measure flow rate by detecting the frequency at which alternating vortices are shed from a bluff body inserted into the flow stream. This principle of measurement is known as Von Karman's vortex street principle: alternating vortices form behind an object in a stream. The frequency of the alternating vortices is proportional to the flow rate.
The passage of a vortex causes a slight stress on a pick-up placed downstream of the bluff body. The stress is picked up and counted as pressure surges by a dual Piezo crystal placed inside the wing.

SITRANS F X Flow Measurement



① = Bluff Body, ② = Pick-up

The flowmeter calculates the flow velocity using the following equation:

$Q = A \cdot V = A \cdot d / St \cdot f = 101{,}93 \cdot f / K$ [m^3/h]

Where:

Q = flow rate [m^3/h]
f = vortex shedding frequency [Hz]
K = calibration constant [pulses/m^3]
d = width of the bluff body [m]
St = Strouhal Number
A = cross-section area [m^2]
V = flow velocity [m/s]

Requirements

In order to generate the vortex streets, the medium must have a minimum velocity:

- For steam and gases, the flow velocity must be 2 to 80 m/s (6.6 to 262 ft/s)
- For liquids the flow velocity must be 0.4 to 10 m/s (1.3 to 32.8 ft/s)

Design

SITRANS FX300 volumetric and mass flowmeter is available in the following configurations:

SITRANS FX300 Single transmitter

The single transmitter is available as a flange or sandwich solution in the following versions:

- Vortex standard flowmeter
  Measurement with integrated temperature sensor as standard feature
- Vortex flowmeter with pressure sensor
  Measurement with integrated temperature and pressure sensors for compensation of gases, wet gases, gas mixtures or steam (for engergy measurement).
- Vortex flowmeter with pressure sensor and isolation valve
  Allowing the pressure sensor to be shut off for the purpose of pressure or leak testing of the pipeline or for being exchanged without interrupting the process. Using the built-in two-way valve, the pressure sensor can also be calibrated and tested at a later time.

SITRANS FX300 Dual transmitter

This is a genuine redundant system with two independent sensors and two converters providing twofold functional reliability and availability of the measurement. This variant is optimally suited for measurements in multi-product pipelines.

The dual converter is available as:

- Vortex standard flowmeter
  Measurement with temperature sensor for saturated steam compensation as standard feature

Technical specifications

Input	
Measuring range limits	See „Dimensional Drawings“
Media pressure	1 ... 100 bar (14.5 ... 1450 psi) (Higher pressures on request)
Output	
Current output	
• Measuring range	4 … 20 mA
• Over range	20.8 mA ± 1 % (105 % ± 1 %)
• Load	
- min.	100 Ω
- max.	$R_{max} = (U_{Power\ Supply} - 14\ V)/22\ mA$
• Error signal	NAMUR NE 43
• Maximum output	22 mA (112.5 %)
• Multidrop mode	4 mA
Digital output	
• Communication	HART
• Physical layer	FSK
• Device category	Transmitter
Pulse output	
(Passive pulse output, needs separate power supply. Pulse output has to be defined in the Option menu Y47 totalizer or energy unit has to be entered. E.g.: 1 pulse/kg or 1 pulse/10 m^3)	
• Pulse frequency	Max. 0.5 Hz
• Power supply	Min. 24 V DC as NAMUR or
• Non-Ex version	open < 1 mA, max. 36 V, closed 100 mA, U < 2 V
• Ex version	open < 1 mA, max. 30 V, closed 100 mA, U < 2 V
Accuracy	
Standard version	
• For liquids	
- Re ≥ 20 000	± 0.75 %
• For steam and gases	
- Re ≥ 20 000	± 1 %
• For steam, gases and liquids	
- 10 000 < Re < 20 000	± 2 %
Pressure and temperature-compensated version	
• For liquids	
- 10 000 < Re < 20 000	± 2 %
- Re ≥ 20 000	± 0.75 %
• For gases and steam	
- 10 000 < Re < 20 000	± 2.5 %
- Re ≥ 20 000	± 1.5 %
Repeatability	± 0,1 %
Installation conditions	
(At different conditions, e.g. installation after control valve, bends or reductions, please refer to the operating instructions.)	
• Inlet run	≥ 20 x DN
• Outlet run	≥ 5 x DN

Software	
Uncompensated for gases, steam and liquids, but temperature-compensated for saturated steam	Order option 1
Density-compensated by temperature and pressure for superheated steam, no energy calculation	Order option 4
Gross heat When the device has to operate as an energy calculation device	Order option 5
In options Y51 to Y56 add information regarding:	• Y51 Variable current output • Y52 Power unit Select one of the following units from power units table in Y52: kJ/h, MJ/h, GJ/h, Btu/h, kcal/h, kW, MW or special (custom) • Y53 Fullscale power value • Y54 Variable pulse output • Y55 Totalizer on/off • Y56 Configures for totalizer select one of the following units from energy units table in Y56: kJ, MJ, GJ, Btu th, kcal, kWh, MWh or special (custom).
Gases and wet gases	Order option 7
Wet gases	Select Y49 and enter relative humidity in %
FAD - Free Air Delivery When the device has to operate close to a compressor	Order option 8
In Y81 to Y87 add information regarding:	• Y81 Inlet suction temperature • Y82 Atmosphere pressure • Y83 Pressure drop at inlet filter • Y84 Inlet relative humidity • Y85 Actual revolutions per minute (of compressor) • Y86 Rated rpm of compressor • Y87 Outlet relative humidity. This information is available from compressor supplier.
Mixed gases	When the fluid is a gas mixture, contact your local Siemens representative and provide gas names and amount in %.

Rated operation conditions	
Ambient temperature	
• Non-Ex version	-40 … +85 °C (-40 … +185 °F)
• Ex version	-40 … +65 °C (-40 … +149 °F)
Storage temperature	-50 … +85 °C (-58 … +185 °F)
Media temperature	-40 … +240 °C (-40 … +464 °F)
Density	Taken into consideration when rating
Viscosity	<10 cP
Reynolds number	10 000 … 2 300 000
Media pressure limit	Max. 100 bar (1450 psi) Higher pressure on request (contact your local Siemens representative)

Design	
Material	
• Sensor: house/pick-up	AISI 316L (1.4404)/ AISI 316L (1.4435) Hastelloy C22/2.4602 available on request (contact your local Siemens representative)
• Housing: transmitter	Aluminum for increased requirements
• Sensor gaskets: for pick-up and pressure sensor	AISI 316L (1.4435) / FPM or FFKM FPM (Viton) by steam and non-aggressive gases. FFKM (Kalrez) by chlorine and other aggressive gases (only available together with a pressure sensor).
Process connections	Flange norm EN 1092-1 form B1/B2 or ASME B16.5 RF. Other flanges on request (contact your local Siemens representative)
• Flange version	DN 15 … 300 (½ … 12")
• Sandwich version	DN 15 … 100 (½ … 4")
Degree of protection	IP66/IP67
Dimensions and weights	See “Dimensional Drawings“
Display and operating interface	
Local display	2 lines, 10 characters per line
Languages	German, English, French
Power supply	
• Standard version	14 … 36 V DC
• Ex version	14 … 30 V DC
Certificates and approvals	
Explosion protection	
• ATEX	II 2G EEx d ia [ia] IIC T6
• FM US/C	Class I, II, III, Div. 1 and 2
Calibration	All flowmeters will be delivered with a 3 point calibration certificate
Material Certificate	Certificate of compliance, pressure test, material certificate, material in acc. of NACE and PMI of pressure bearing metal parts.
Cleaning	Choose Cleaning Class1 when fluid is oxygen or contains chloride.
Certificates	X-ray test on pressurized weldings and dye penetration test on pressure bearing weldings Dye penetration test

Selection and Ordering data		Order No.							
SITRANS FX300 Flanged **Single transmitter and T_{max} = 240 °C (464 °F)**		**7 M E 2 6 0 0 -**							
		■■■■■ -							
Connection size	**Sensor size**								
DN 15 (½")	DN 15	**1**	**A**						
DN 25 (1")	DN 25	**2**	**B**						
DN 40 (1½")	DN 40	**2**	**K**						
DN 50 (2")	DN 50	**2**	**R**						
DN 80 (3")	DN 80	**3**	**L**						
DN 100 (4")	DN 100	**3**	**S**						
DN 150 (6")	DN 150	**4**	**M**						
DN 200 (8")	DN 200	**4**	**T**						
DN 250 (10")	DN 250	**4**	**W**						
DN 300 (12")	DN 300	**5**	**E**						
Flange norm and nominal pressure									
Form B1/B2	**EN 1092-1**								
PN 10	DN 200 ... 300		**A**						
PN 16	DN 50 ... 300		**B**						
PN 25	DN 200 ... 300		**C**						
PN 40	DN 15 ... 300		**D**						
PN 63	DN 50 ... 150		**E**						
PN 100	DN 15 ... 150		**F**						
RF	**ASME B16.5**								
150 lb	½ ... 12"		**J**						
300 lb	½ ... 12"		**K**						
600 lb	½ ... 6"		**L**						
Sensor material/Gasket									
St. steel AISI 316L (1.4404)/AISI 316L (1.4435)/ FPM				**1**					
St. steel AISI 316L (1.4404)/AISI 316L (1.4435)/ FFKM				**5**					
Transmitter design									
Compact version - no cable					**1**				
Remote version:									
5 m (16.4 ft)					**2**				
10 m (32.8 ft)					**3**				
15 m (49.2 ft)					**4**				
Approval and cable gland									
Non-Ex, M20 x 1.5						**1**			
Non-Ex, ½" NPT						**2**			
IEC Ex, M20 x 1.5						**3**			
ATEX, M20 x 1.5						**4**			
ATEX, ½" NPT						**5**			
FM US/C, M20 x 1.5						**6**			
FM US/C, ½" NPT						**7**			
IEC Ex, ½" NPT						**8**			
Transmitter, display and communication									
With display, HART							**A**		
Pressure sensor and isolation valve									
Without pressure sensor								**A**	
With pressure sensor, range:									
4 bar (58 psi)								**B**	
6 bar (87 psi)								**D**	
10 bar (145 psi)								**E**	
16 bar (232 psi)								**G**	
25 bar (363 psi)								**H**	
40 bar (580 psi)								**K**	
60 bar (870 psi)								**L**	
100 bar (1450 psi)								**N**	
With isolation valve and pressure sensor, range:									
4 bar (58 psi)								**P**	
6 bar (87 psi)								**Q**	
10 bar (145 psi)								**R**	
16 bar (232 psi)								**S**	
25 bar (363 psi)								**U**	
40 bar (580 psi)								**V**	
60 bar (870 psi)								**W**	
100 bar (1450 psi)								**Y**	

Selection and Ordering data	Order No.	
SITRANS FX300 Flanged **Single transmitter and T_{max} = 240 °C (464 °F)**	**7 M E 2 6 0 0 -**	
	■■■■■ -	
Software		
Uncompensated for gases, wet gases, steam and liquids, respectively, temperature compensation for saturated steam		**1**
Density compensation for superheated steam		**4**
Density compensation for superheated steam and setting of Gross heat Opt. Y51 ... Y56 for Energy measuring		**5**
Density compensation for gases and wet gases and setting of Relative humidity at opt. Y49		**7**
Density compensation for gases, wet gases and setting of FAD - free air delivery Opt. Y49 and Y81 ... Y87 for Compressor settings		**8**

Selection and Ordering data		Order No.							
SITRANS FX300 Sandwich **Single transmitter and T_{max} = 240 °C (464 °F)**		**7ME2700-**							
		■■■■■ -							
Connection size	**Sensor size**								
DN 15 (½")	DN 15	**1**	**A**						
DN 25 (1")	DN 25	**2**	**B**						
DN 40 (1½")	DN 40	**2**	**K**						
DN 50 (2")	DN 50	**2**	**R**						
DN 80 (3")	DN 80	**3**	**L**						
DN 100 (4")	DN 100	**3**	**S**						
Nominal pressure									
EN									
PN 16	DN 50 ... 100		**B**						
PN 40	DN 15 ... 100		**D**						
PN 63	DN 50 ... 100		**E**						
PN 100	DN 15 ... 100		**F**						
ASME									
150 lb	½ ... 4"		**J**						
300 lb	½ ... 4"		**K**						
600 lb	½ ... 4"		**L**						
Sensor material/Gasket									
St. steel AISI 316L (1.4404)/AISI 316L (1.4435)/FPM				**1**					
St. steel AISI 316L (1.4404)/AISI 316L (1.4435)/FFKM				**5**					
Transmitter design									
Compact version - no cable					**1**				
Remote version:									
5 m (16.4 ft)					**2**				
10 m (32.8 ft)					**3**				
15 m (49.2 ft)					**4**				
Approval and cable gland									
Non-Ex, M20 x 1.5						**1**			
Non-Ex, ½" NPT						**2**			
IEC Ex, M20 x 1.5						**3**			
ATEX, M20 x 1.5						**4**			
ATEX, ½" NPT						**5**			
FM US/C, M20 x 1.5						**6**			
FM US/C, ½" NPT						**7**			
IEC Ex, ½" NPT						**8**			
Transmitter, display and communication									
With display, HART							**A**		
Pressure sensor and isolation valve									
Without pressure sensor								**A**	
With pressure sensor, range:									
4 bar (58 psi)								**B**	
6 bar (87 psi)								**D**	
10 bar (145 psi)								**E**	
16 bar (232 psi)								**G**	
25 bar (363 psi)								**H**	
40 bar (580 psi)								**K**	
60 bar (870 psi)								**L**	
100 bar (1450 psi)								**N**	
With isolation valve and pressure sensor, range:									
4 bar (58 psi)								**P**	
6 bar (87 psi)								**Q**	
10 bar (145 psi)								**R**	
16 bar (232 psi)								**S**	
25 bar (363 psi)								**U**	
40 bar (580 psi)								**V**	
60 bar (870 psi)								**W**	
100 bar (1450 psi)								**Y**	

Selection and Ordering data	Order No.	
SITRANS FX300 Sandwich **Single transmitter and T_{max} = 240 °C (464 °F)**	**7ME2700-**	
	■■■■■ -	■■■■
Software		
Uncompensated for gases, wet gases, steam and liquids respectively temperature compensation for saturated steam		**1**
Density compensation for superheated steam		**4**
Density compensation for superheated steam and setting of Gross heat Opt. Y51 ... Y56 for Energy measuring		**5**
Density compensation for gases and wet gases and setting of Relative humidity at opt. Y49		**7**
Density compensation for gases, wet gases and setting of FAD - free air delivery Opt. Y49 and Y81 ... Y87 for Compressor settings		**8**

SITRANS F X Flow Measurement

Selection and Ordering data		Order No.
SITRANS FX300 Flanged Dual transmitter and T_{max} = 240 °C (464 °F)		**7ME2800 -** ■■■■■ - ■■■■
Connection size	**Sensor size**	
DN 40 (1½")	DN 40	**2K**
DN 50 (2")	DN 50	**2R**
DN 80 (3")	DN 80	**3L**
DN 100 (4")	DN 100	**3S**
DN 150 (6")	DN 150	**4M**
DN 200 (8")	DN 200	**4T**
DN 250 (10")	DN 250	**4W**
DN 300 (12")	DN 300	**5E**
Flange norm and nominal pressure		
Form B1/B2	**EN 1092-1**	
PN 10	DN 200 ... 300	**A**
PN 16	DN 50 ... 300	**B**
PN 25	DN 200 ... 300	**C**
PN 40	DN 40 ... 300	**D**
PN 63	DN 50 ... 150	**E**
PN 100	DN 40 ... 150	**F**
RF	**ASME B16.5**	
150 lb	1½ ... 12"	**J**
300 lb	1½ ... 12"	**K**
600 lb	1½ ... 6"	**L**
Sensor material/Gasket		
Stainless steel AISI 316L (1.4404)/ AISI 316L (1.4435)/FPM		**1**
Stainless steel AISI 316L (1.4404)/ AISI 316L (1.4435)/FFKM		**5**
Transmitter design		
Compact version - no cable		**1**
Remote version:		
5 m (16.4 ft)		**2**
10 m (32.8 ft)		**3**
15 m (49.2 ft)		**4**
Approval and cable gland		
Non-Ex, M20 x 1.5		**1**
Non-Ex, ½" NPT		**2**
IEC Ex, M20 x 1.5		**3**
ATEX, M20 x 1.5		**4**
ATEX, ½" NPT		**5**
FM US/C, M20 x 1.5		**6**
FM US/C, ½" NPT		**7**
IEC Ex, ½" NPT		**8**
Transmitter, display and communication		
With display, HART		**A**
Pressure sensor and isolation valve		
Without pressure sensor		**A**
Software		
Uncompensated for gases, wet gases, steam and liquids respectively temperature compensation for saturated steam		**1**

Selection and Ordering data	Order code
Additional information Please add "**-Z**" to Order No. and specify as minimum Order code Y40, Y41, Y42 and Y45 and plain text.	
Input process data	
Medium: Specify steam, gas, liquid and customised	**Y40**
Temperature: Specify max. operating temperature and units	**Y41**
Pressure: Specify max. operating pressure and units	**Y42**
Density (only by customer-specified medium): Specify medium density and units	**Y43**
Viscosity (only by customer-specified medium): Specify medium viscosity and units	**Y44**
Flow rate: Specify min./max. flow rate and units	**Y45**
Setting of pulse output; Specify totalizer or energy unit (1 pulse/unit)	**Y47**
Relative humidity (amount in % of process medium)	**Y49**

Operating instructions for SITRANS FX300

Description	Order No.
English	**A5E2100423**

This device is shipped with a Quick Start guide and a CD containing further SITRANS F literature.

Selection and Ordering data	Order code
Further designs Please add "**-Z**" to Order No. and specify Order code.	
Converter housing material	
Aluminum for increased requirement, color: petrol green	**A10**
Material certificate	
Certificate of compliance EN 10204-2.1	**C10**
Pressure test + 3.1 accordance EN 10204	**C11**
Material certificate pressure parts + certificate 3.1	**C12**
Material in accordance with NACE MR 0175-01	**C13**
PMI of pressure bearing metal parts + certificate 3.1	**C14**
Material certificate pressure parts + PMI/certificate 3.1	**C15**
Calibration certificate FX300 As standard the flow device has a 3-point calibration certificate.	
Calibration certificate (5-point)	**D11**
Hardness test	
Hardness test on pressure bearing parts + 3.1 Equotip LD procedure according to NACE MR 0175-01	**H30**
Cleaning for oil and fat	
Class 1 increased requirement (customer-specified) and 3.1 (EN 10204)	**K46**
Class 2 and 3.1 (EN 10204)	**K48**
Certificates	
X-ray test on pressure bearing weldings	**M56**
Dye penetration test on pressure bearing weldings	**M58**
Tag name plate	
Stainless steel tag with 3 mm characters, max. 2 x 8 characters (40 x 20 mm, add plain text)	**Y17**
Stainless steel tag with 2.5 mm characters, max. 8 x 40 characters (120 x 46 mm, add plain text)	**Y18**

SITRANS FX300
Vírové průtokoměry

- **Pro měření objemového a hmotnostního průtoku páry (syté i přehřáté), kapalin a plynů.**
- **Provedení přírubové i mezi příruby.**
- **Výstupní signál 4 až 20 mA, HART.**
- **Jmenovitá světlost DN15 až DN300.**
- **Teplota měřeného média -40 až +240 °C.**
- **Materiál snímače nerezová ocel 1.4404/1.4435.**
- **Integrovaný senzor tlaku a teploty.**
- **Nevýbušné provedení Ex II 2G EEx d ia [ia] IIC T6.**
- **Stupeň krytí IP 66 (IP 67).**

Typ	Popis		
7ME2600-	Vírový průtokoměr SITRANS FX300 s přírubami, s převodníkem		
7ME2700-	Vírový průtokoměr SITRANS FX300 mezi příruby, s převodníkem		
Kód	**Světlost připojení**	**Světlost čidla**	
1A	DN 15 (1/2")	DN 15	
2B	DN 25 (1")	DN 25	
2K	DN 40 (1 1/2")	DN 40	
2R	DN 50 (2")	DN 50	
3L	DN 80 (3")	DN 80	
3S	DN 100 (4")	DN 100	
4M	DN 150 (6")	DN 150	(pouze pro provedení s přírubou)
4T	DN 200 (8")	DN 200	(pouze pro provedení s přírubou)
4W	DN 250 (10")	DN 250	(pouze pro provedení s přírubou)
5E	DN 300 (12")	DN 300	(pouze pro provedení s přírubou)
Kód	**Jmenovitý tlak**	**Světlost připojení**	
A	PN 10	DN 200 až DN 300	(pouze pro provedení s přírubou)
B	PN 16	DN 50 až DN 300	
C	PN 25	DN 200 až DN 300	(pouze pro provedení s přírubou)
D	PN 40	DN 15 až DN 300	
E	PN 63	DN 50 až DN 150	
F	PN 100	DN 15 až DN 150	
Kód	**Materiál snímače // těsnění**		
1	nerezová ocel 1.4404 (316L) / 1.4435 (316L) // FPM		
5	nerezová ocel 1.4404 (316L) / 1.4435 (316L) // FFKM		
Kód	**Provedení převodníku**		
1-	kompaktní provedení, bez kabelu		
Kód	**Kabelové vývodky a schválená zvláštní provedení**		
1	M20x1,5		
2	1/2" NPT		
4	M20x1,5, ATEX		
5	1/2" NPT, ATEX		
6	M20x1,5, FM		
7	1/2" NPT, FM		
Kód	**Převodník, displej a komunikace**		
A	s displejem, komunikace HART		
Kód	**Snímač tlaku a uzavírací ventil**	**Rozsah**	
A	bez snímače tlaku	-	
B	se snímačem tlaku	4 bar	
D		6 bar	
E		10 bar	
G		16 bar	
H		25 bar	
K		40 bar	
L		60 bar	
N		100 bar	
P	s uzavíracím ventilem a snímačem tlaku	4 bar	
Q		6 bar	
R		10 bar	
S		16 bar	
U		25 bar	
V		40 bar	
W		60 bar	
Y		100 bar	

Vírové průtokoměry SITRANS FX300

Kód	Software
1-Z	nekompenzovaný pro plyny, vlhké plyny, páru a kapaliny, resp. teplotně kompenzovaný pro sytou páru
4-Z	kompenzace hustoty pro přehřáté páry
5-Z	kompenzace hustoty pro přehřáté páry a nastavení pro měření energie (Y51 až Y56)
7-Z	kompenzace hustoty pro plyny a vlhké plyny a nastavení relativní vlhkosti (Y49)
8-Z	kompenzace hustoty pro plyny a vlhké plyny a nastavení FAD (Y49) a nastavení kompresoru (Y81 až Y87)
Kód	**Volitelné příslušenství a provedení**
A10	hliníkové pouzdro pro zvýšené požadavky
C10	prohlášení o shodě dle EN 10204-2.1
C11	tlaková zkouška a materiálový atest dle EN 10204-3.1
C12	materiál certifikát tlakových částí a materiálový atest 3.1
C13	materiál dle NACE MR 0175-01
C15	certifikovaný materiál tlakových částí a PMI/materiálový atest 3.1
D11	osvědčení o kalibraci (v 5 bodech) [1)]
Y17	nerezový štítek s popisem (znaky o velikosti 3 mm, max. 2 x 8 znaků - 40 x 20 mm)
Y18	nerezový štítek s popisem (znaky o velikosti 2,5 mm, max. 8 x 40 znaků - 120 x 46 mm)
Příklad objednávky: 7ME2600-2KD51-2AB4-Z C10	

[1)] … průtokoměr standardně obsahuje osvědčení o kalibraci ve 3 bodech