

New Maintenance Free Digital Flow Meter for Controlling Sealing Water of Vacuum Pumps

In General

The new flow meter is a blockless and maintenance free digital flow meter for seal water control of Nash pumps and other equipment where high flow is needed. The meter is a paddle-wheel flow transmitter for continuous flow measurement and control what is specially designed for use in neutral and solid-free water (e. g. seal water). Because of simple construction, the flow meter has no obstructive measuring components or parts that would make maintenance difficult. During the engineer process we took into consideration traditional kinds of float meters and created the FlowUnit that can replace traditional flow meters operation completely with new construction and operation.

A fitting system (all international threaded port connections) designed by Flow Control, ensures a simple installation into seal water pipe system from **DN 15 to DN 50; PN 10 (PN16)**.

The digital display and menu-guided operating elements allow a customised adjustment of all measuring parameters. The display is easy to program to different kinds of needs. Strengths and opportunities for new FlowUnit's are:

- Easy and quick to install and change blocked and dirty flow meters.
- The standard length of flow meter is only 375 mm (149 inches).
- Multi-language display.
- Customised measuring units.
- Teaching mode and simulation mode.
- A wide range of alarm alternatives.

General Data

Flow Transmitter

- 4...20 mA standard output signal
- Pulse output (NPN, PNP, or reed)
- Local flow display
- 2 totalizers display
- 2 programmable thresholds (optional)

Flow Pipe

- Threads: R ½ - R 2"
- Flanges: DN15 - 50

Optional Stand alone (Battery)

- Battery powered
- 2 totalizers displays
- Local flow display



Technical Data

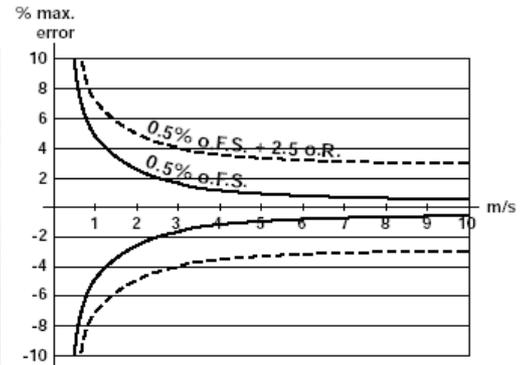
Pipe diameter from DN 15 to DN 50 (G 1/2" to G 2")
 Measuring range 0.3 m/s to 10 m/s (1.0 fps to 33 fps)
 as from 3 l/min (DN15 pipe, 0,3 m/s flow velocity)
 as from 0.9 gpm (1/2" pipe, 1.0 fps flow velocity)

Measuring error 1. With In-line calibration (Teach-In):
 $\leq \pm 0.5\%$ o.F.S. (at 10 m/s) *

2. With standard mean K-factor:
 $\leq \pm (0.5\% \text{ o.F.S.} + 2.5\% \text{ o.R.})$ *

Linearity $\leq \pm 0.5\%$ o.F.S. (at 10 m/s) *
 Repeatability 0.4% o.R. *

Fluid temperature max. 0°C to 100°C (32 to 212°F)
 Ambient temperature 0°C to 60°C (32 to 140°F)
 Storage temperature 0°C to 60°C (32 to 140°F)
 Pressure class PN 16
 Enclosure IP 65
 Fitting Stainless steel (AISI 316L)
 Sensor holder PVC (AISI 316L)
 Paddle-wheel PVDF
 Axis and bearing Ceramic
 O-rings FPM standard
 Housing PC
 Front plates foil Polyester



Specific data Flow Transmitter

Voltage supply 12...30 VDC
 Option: 115/230 VAC power supply
 Output signal 4...20 mA
 Load max. 900 Ω at 30V
 max. 500 Ω at 24V
 max. 100 Ω at 15V
 max. 800 Ω with power supply 115/203 VAC

Pulse output Open collector NPN and PNP, 0...30 V, 100 mA, protected
 Option: relay Reed closing 0,1 sec., opening depending on flow rate 0,1 sec. n.
 max. 34 V, 0,2 A

Relay output (option) 2 relays, freely programmable, 3 A, 230 V

Specific data Flow Switch

Voltage supply 12...30 VDC
 Option: 115/230 VAC power supply
 Relay output freely programmable, 3 A, 230 V

Specific data Stand Alone (Battery)

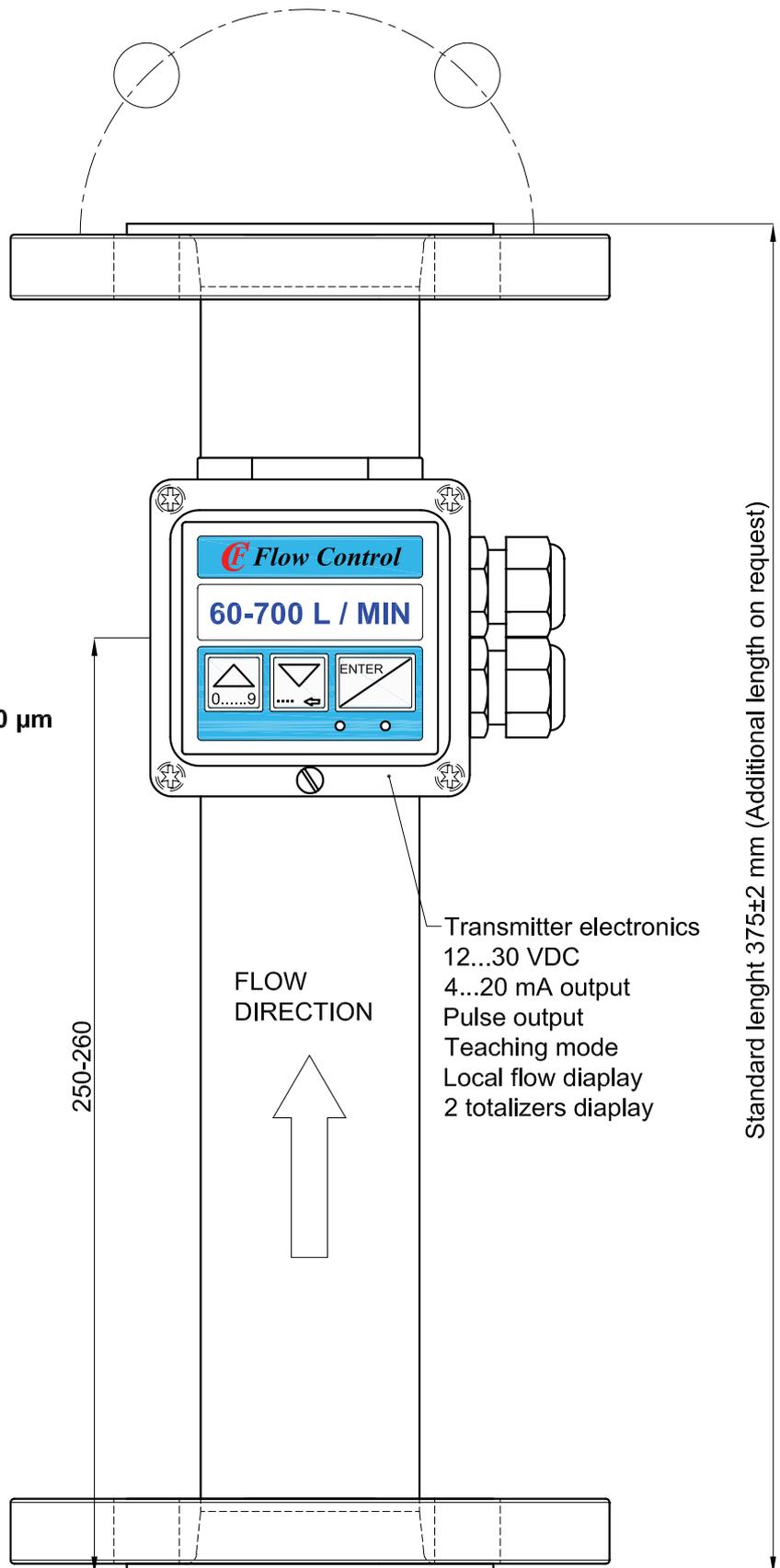
Voltage supply 9 VDC battery supply
 Autonomy 3...4 years with lithium batteries
 1...2 years with standard batterie

* Under reference conditions, i.e. measuring fluid = water, ambient and water temperature = 20°C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions. o.R. = of reading. o.F.S. = of full scale (10 m/s)

FlowUnit 8035 digital paddle wheel flow meter

Flange port connection

Flow range:
 60...700 l/min (0,1-10 m/s)
Flange port connection DN 50
 DIN 2642
Material: 1.4404 (flow pipe)
 1.4301 (paddle wheel holder)
 PVC/PVDF/1.4401 (sensor holder)
 PVDF (paddle wheel)
Solid-free liquids max. particle size 500 µm
Internal threads: G 1"
 PN 10 with plastic fitting
 PN 16 with metal fitting
Material: 1.4404
Fluid max. temperature 0°C...100°C
Ambient temperature 0°C...60°C
Measuring error: ± 2.5 at 10 m/s
 (with standard K-factor)
Measuring error: ± 0.5 at 10 m/s
 (teach-in)
Additional size on request



Transmitter electronics
 12...30 VDC
 4...20 mA output
 Pulse output
 Teaching mode
 Local flow display
 2 totalizers display

250-260

Standard length 375±2 mm (Additional length on request)

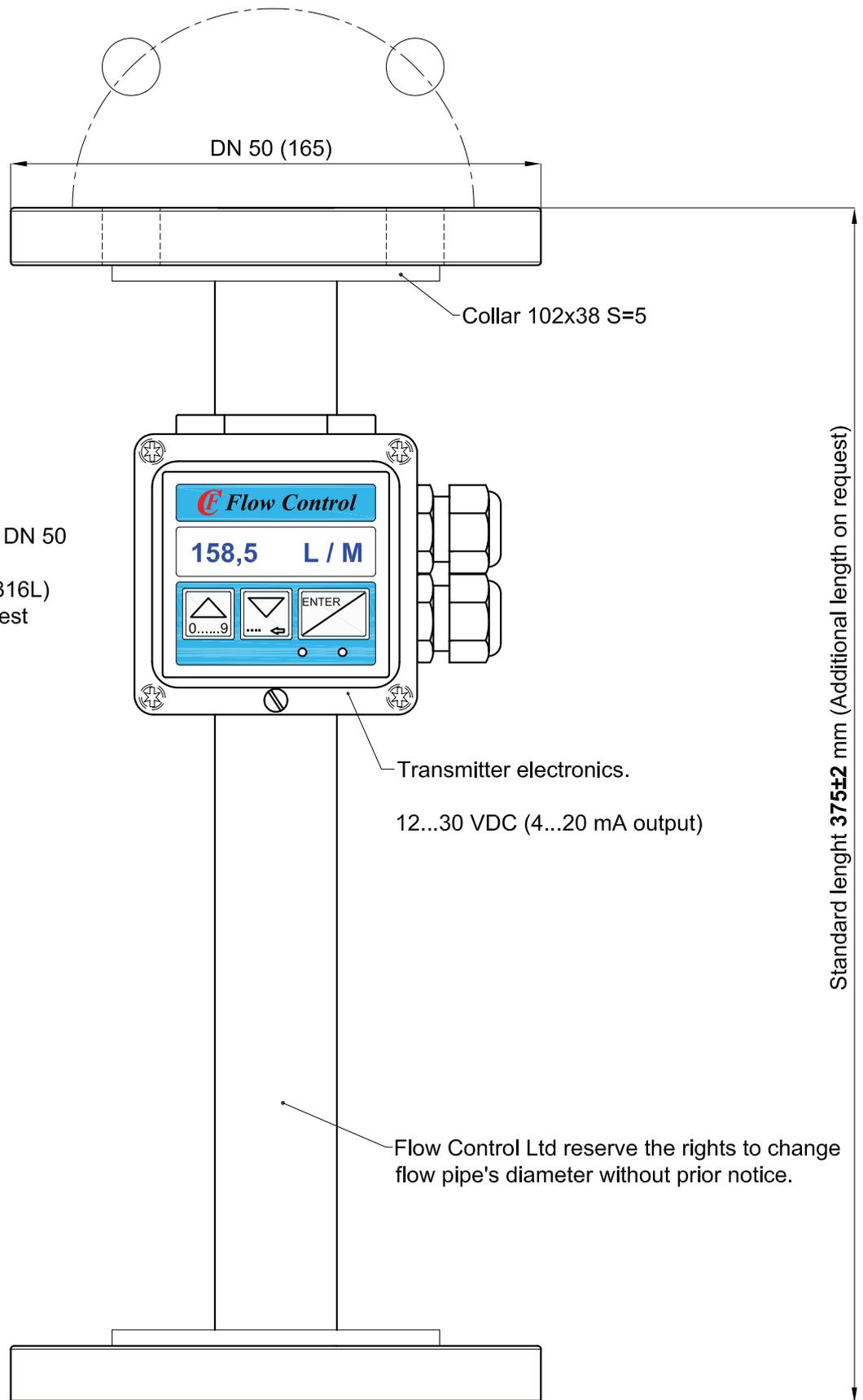
Tämän piirustuksen luvaton kopioiminen, monistaminen ja käyttäminen muihin kuin sallimiimme tarkoituksiin on kielletty vilpillisen kilpailun ehkäisemisestä 31.1.1930 annetun lain nojalla.

This drawing contains proprietary information belonging to Flow Control Oy. It shall not be copied, shown or handed out to competitors or any other unauthorized persons.

Designed: Tevi	Drawn: THU	Date: 1.4.2006	Product: FlowUnit 8035
FlowUnit 8035 with flange port connection DN 50 (60...700 l/min)			
	-	Scale: Scaled to fit A4	Drawing number:
			-

FlowUnit 8035 digital paddle wheel flow meter

Flange port connection



Flow range:
20...300 l/min
Flange port connection DN 50
DIN 2527 PN 10
Material: 1.4404 (AISI 316L)
Additional size on request

Transmitter electronics.
12...30 VDC (4...20 mA output)

Flow Control Ltd reserve the rights to change flow pipe's diameter without prior notice.

Standard length 375±2 mm (Additional length on request)

Tämän piirustuksen luvaton kopioiminen, monistaminen ja käyttäminen muihin kuin sallimiimme tarkoituksiin on kielletty vilpillisen kilpailun ehkäisemisestä 31.1.1930 annetun lain nojalla.

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Designed: Tevi	Drawn: THU	Date: 1.4.2006	Product: FlowUnit 8035
FlowUnit 8035 with flange port connection DN 50 (20...300 l/min DN 32)			
	-	Scale: Scaled to fit A4	Drawing number:
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