



## Vehicle

### Other VEHICLE products

- Couplings
- Filter and sight glasses
- Manhole covers
- Manifolds
- Meters
- Pumps
- Sensor boxes
- System solutions
- Valves

### About Wennstrom

Wennstrom was founded in 1917 as a manufacturer of couplings and valves. We are now present in Finland, Norway and Sweden and provide intelligent solutions for petroleum distribution. Our product range encompasses mechanical and electronic components and systems. Our customers store, measure or transport fuels.

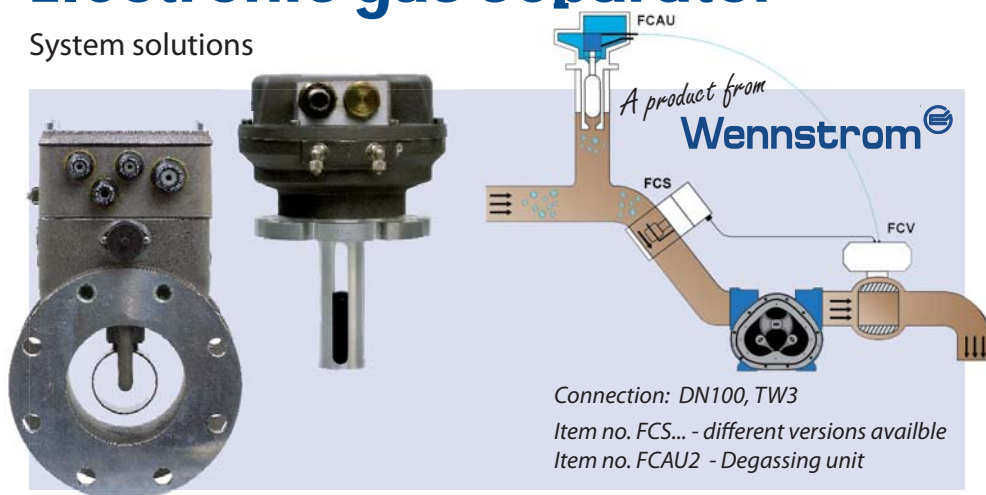
Wennstrom is certified to ISO9001:2000 and works systematically with environmental issues in accordance to ISO14000:2004.

Functional products are only one part of a successful business relationship. Quick and professional service with the right attitude is also a vital ingredient, which we secure through well-trained and experienced personnel.

*This is why Wennstrom can offer intelligent solutions for petroleum distribution.*

# FlowCheck Electronic gas separator

System solutions



Connection: DN100, TW3

Item no. FCS... - different versions available

Item no. FCAU2 - Degassing unit

### Patented electronic gas separator

FlowCheck continuously monitors the presence of gas in a delivery of petroleum products from road tankers with volumetric meters. Upon discovery of gas, the delivery is immediately stopped and gas separation commences automatically through a pneumatically controlled degassing unit.

### Fast and accurate deliveries

FlowCheck is approved to MID and OIML R117 standards up to a flow rate of 1300 litres per minute. The exceptionally low pressure drop of FlowCheck allows a substantially higher flow rate, with retained measurement accuracy, compared with traditional gas extractors thus making the actual discharge time much shorter.

### No product contamination

FlowCheck is designed to be completely empty after delivery, leaving no residues, thereby avoiding contamination.

### Widely spread

The first version of FlowCheck was introduced in the Swedish market in 1991. Since then the development of the product in terms of functionality and simplification of installation has made it popular and widely spread. There are now more than 3000 installations of FlowCheck on road tankers in many countries in Europe and Africa.

### Flexibility

FlowCheck can be installed together with traditional PD-meters but it's laminar flow makes it specially suitable for turbine meters. The sensor can be integrated with electrical metering systems thereby offering features like pre-set and interlock. The programmable logic of the sensor can be upgraded to satisfy future changes in regulations and demands. Another possibility is to apply the FlowCheck principle on other non-conductive liquids.

### Logically controlled outputs

FlowCheck enables up to three different outputs to be logically controlled by the sensor giving possibilities of simplifying the total installation of a metering kit.

## Basic features















- No moving parts
- Insensitive to dirt
- Low weight
- Small dimensions give a neat and simple installation
- Negligible contamination
- Negligible pressure drop resulting in quick and economical deliveries
- A delivery can easily be started regardless of compartment levels
- Can be integrated with the meter volume pre-set function
- Quick-start feature enabling fast filling of empty pipe system
- Enables conditional or logical control of a delivery pump or a vacuum breaker
- Eliminates the need for an "aircheck" valve after the meter since an empty FlowCheck sensor will keep the stop valve closed
- Full pump meter after delivery
- Allows full or empty gravity meter after delivery
- Can react to diffused air in the delivery (foam detect)
- Works with petroleum-based products
- Environmentally sound since it can be installed as a closed system (VOC)
- Intrinsically safe and Ex-approved

## Working principle

The sensor (FCS) monitors the product flow ahead of the meter and if any gas is detected it will close the pneumatic ball valve (FCV), fitted after the meter. Gas will then be led through the riser tube to the degassing unit, (FCAU). When the sensor activates degassing it also opens the degassing unit and the system pressure will push gas out of the unit. The gas can be led to the vapour return system or via a bypass to the outlet of the delivery hose.

## Approvals

FlowCheck is approved and certified in accordance to the ATEX Directive (VTT03 ATEX072X). It also holds MID Evaluation Certificate no. TC7272 for a gas separator issued by NMI in Holland as well as a "Pattern Approval of Gas Separation Device" based on OIMLR117 issued by Ministerie Van Economische Zaken in Belgium.

Versions of the FlowCheck sensor		Item no.
	Sensor with 1 solenoid valve output and FIK	FCS11
	Sensor with 3 solenoid valve outputs and FIK	FCS13
	Sensor with 1 solenoid valve output	FCS21
	Sensor with 3 solenoid valve outputs	FCS23
Options to the FlowCheck sensor		Item no.
	Logik for pumpcontrol and quickstart	FCL11
	Logik for vacuum breaker	FCL12
	Logik for back flush	FCL42R
	Solenoid valve	FCSV
	Solenoid valves	FCSV2-3
Degassing unit for FlowCheck		Item no.
	Degassing unit	FCAU2
Options to the degassing unit		Item no.
	Inlet/exhaust valve DN20	FCV20
Stop valves for the FlowCheck system		Item no.
	Stop valve DN50 with steel pipe flanges	FCV50
	Stop valve DN80 with aluminium TW1 flanges	FCV80
	Stop valve DN100 with aluminium TW3 flanges	FCV100