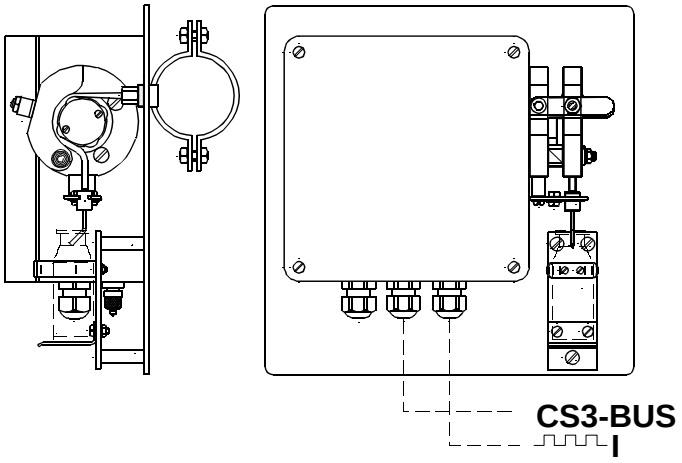
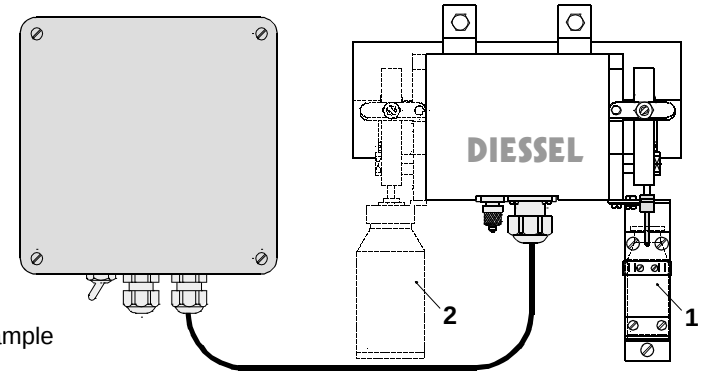


PS3E1™ with integrated electronics



1 individual sample
2 tour sample

PS4S™ with separate electronics

Description

This sampler has been especially designed for the use on milk collection trucks. It is based on the principle of a peristaltic pump and takes the samples straight from the pipeline.

Specific features

- Quasi-continuous operation by using a stepping motor
- Improved hose life by the redesigned pump head and speed limiter
- Good representativeness due to the very small volume and the frequent taking of individual samples
- Low carry-over effect due to the small wetting surfaces in the system. Suitable for bacteriological sampling.
- Simple installation
- Good cleanability
- Low maintenance requirements
- Bottle holder for different sizes. Optionally, the system can be equipped with a bottle sensor.
- Possibility of a later extension by a conductivity sensor for the start-stop control
- The sampling process for devices with a display can be optionally started by an external signal (e.g. from the pump) or a flow sensor with digital switching output.

A later installation into an available pipeline is possible without any problems.

Specific features of the different sampler types:

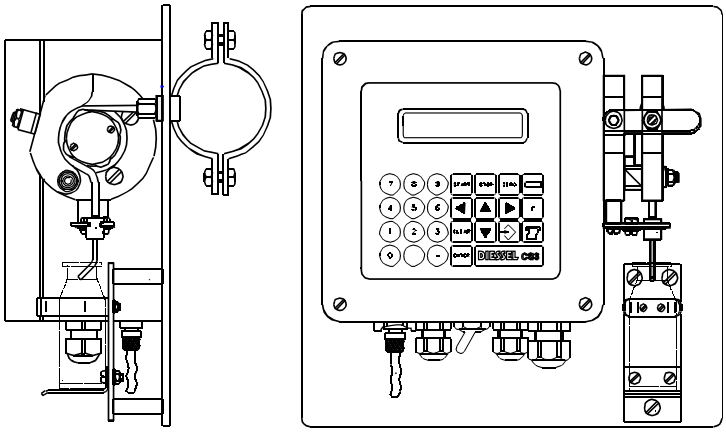
PS3E1™ with integrated electronics

The **PS3E1™**-type sampler has to be operated by the ZEVODAT™ control unit from GEA Diessel.
Possibilities of later extensions (options):

- Sensor for bottle detection
- Conductivity sensor for empty-pipe detection
- CCD scanner or barcode reader

PS3I™ with integrated control unit – as a stand-alone device

The **PS3I™**-type sampler is equipped with an electronic motor-actuated control which can operate a sampler. If the sampler is later installed into an existing pipeline, the pipeline has to be provided with a borehole (diameter = 14.5 mm) in an appropriate position to permit a socket to be welded in. Afterwards, the **PS3™**-type sampler is put on the socket and fixed by pipe clips. The sampler, type **PS3™**, is separately operated via the integrated display. In this case, the control unit has to be parameterized for the respective application. Before each sampling process the system has to be configured by inputting the volume expected to be received. In this mode of operation the representativeness is essentially dependent of the operators.



PS3I™ with integrated control unit

PS4S™ with separate electronics

The **PS4S™**-type sampler can be equipped with 2 pump heads. It consists of the sampler in stainless steel housing and the separate control unit in aluminium housing.
It is possible to take 2 independent samples simultaneously.

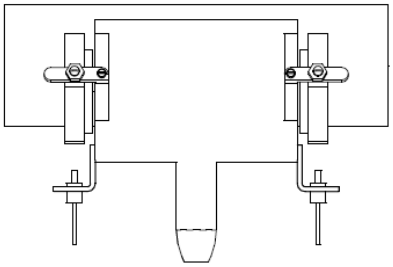
For a later installation into an available pipeline it will be necessary to open the pipeline in an appropriate place and to provide it with two counterflanges. Afterwards the sampler, type **PS4S™**, which is equipped with a pipe section and the suitable flanges, can be easily installed.
The sampler is automatically controlled by the ZEVODAT™ control units from GEA Diessel.

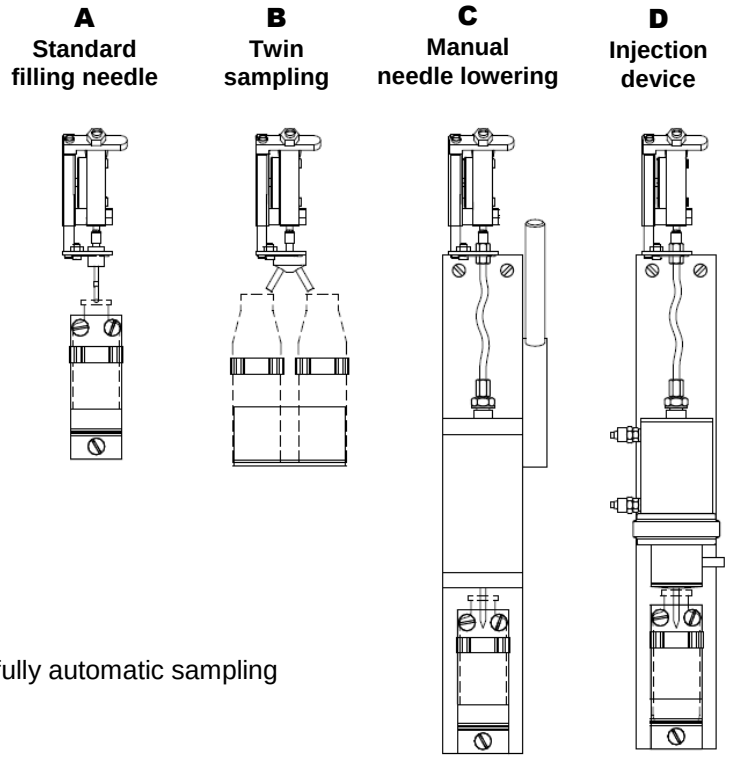
PS4I™ with integrated control unit

The **PS4I™**-type sampler can be equipped with 2 pump heads. It consists of the sampler in stainless steel housing and the separate control unit for a time-dependent or volume-dependent sample taking.
It is possible to take 2 independent individual samples at the same time.

The sampler, type **PS4I™**, is separately operated via the integrated display. The control unit has to be parameterized for the respective application. Before each sampling process the system has to be configured by inputting the volume expected to be received. In this mode of operation the representativeness is essentially dependent of the operators.

Further versions for taking samples





Version A: With filling needle
The sample quantity is filled straight into an unsealed sample bottle.

Options: Version C or D
- Injection needle for low-germ sampling
- Sample bottle with slotted rubber plug
- Magazine for several sample bottles for fully automatic sampling

Version B: Twin sampling
Double sampling for 2 equal sample bottles

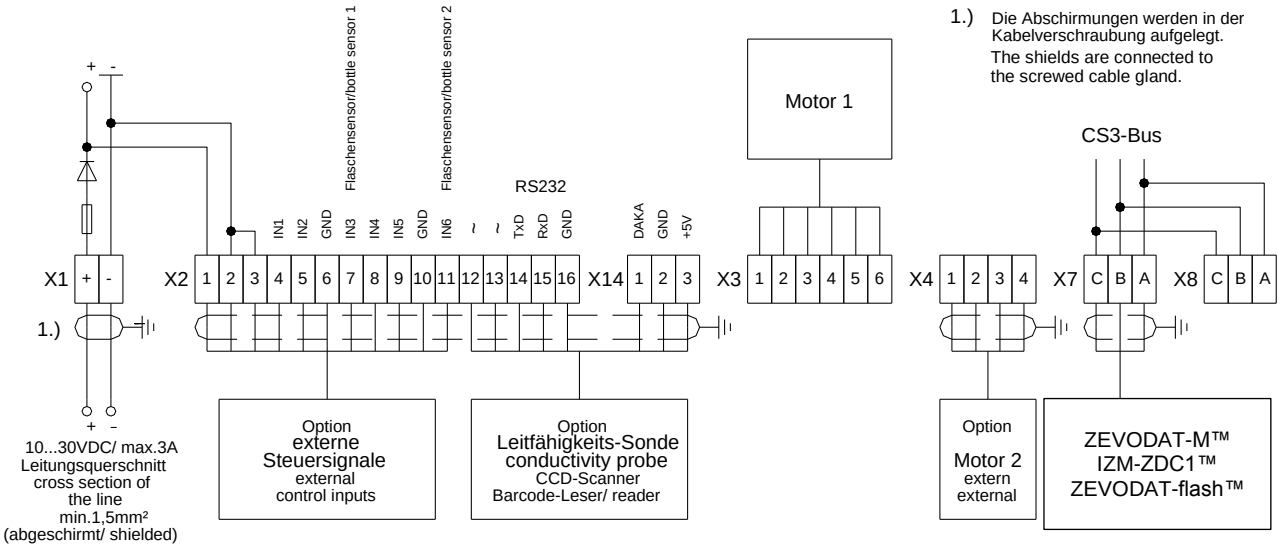
The sampler is preferably fixed to a horizontal pipeline. The sampler version with only one pump head can be installed on a vertical pipeline, too.

Technical data

Pipe connection	Connection to different nominal widths possible			
	PS3I™/PS3E1™: Bore hole Ø 14.5 mm for socket			
	PS4S™/PS4I™: Flange connection PN10 (small flange)			
Sample volume	**ATTENTION:** In case of small quantities received it is indispensable to check the operating conditions in order to determine the sample volume to be obtained. **Reference value:** 30 ml at a minimum operating period of 20 seconds			
	PS3E1™/PS4S™/PS4I™: 140 ml/min. at a maximum			
Pressure in the product line (pressure: bar *absolute*)	1 – 2.5 bar **Special version** for the use at pressures below the atmospheric pressure (0.5 – 1 bar abs.) (special adapter!)			
Materials	Stainless steel no. 1.4301 (AISI 304); housing of the control unit: aluminium, varnished; silicone hose			
Operating voltage	10 … 30 V DC			
Current consumption for 2 motors (max.)		**12 V DC**	**24 V DC**	**30 V DC**
	Quiescent current	0.3 A	0.15 A	0.12 A
For one motor	**Operating current**	2.7 A	1.3 A	1.0 A
For two motors	**Operating current**	5.2 A	2.3 A	1.8 A
Fuse protection of the device	7.5 A (brown)			
Typical conveying speed of a sample	Minimum = 10 ml/min. maximum = 140 ml/min.			
Typical dissolution rate of a sample	0.1 ml per step			
Typical sample quantities	Individual sample	40 ml – 80 ml		
	Tour sample	500 ml – 1,000 ml		

Pin assignment

PS3E1™/PS3I™



PS4S™/PS4I™