Technical data sheet

Suction lance, continuous

for gamma/ X, gamma/ XL and DULCO flex Control DFXa

EN

Please carefully read these operating instructions before use. · Do not discard.
The operator shall be liable for any damage caused by installation or operating errors.
The latest version of the operating instructions are available on our homepage.

1 Suction lance, continuous, for gamma/ X, gamma/ XL and DULCO flex Control DFXa

1.1 Product identification

Part no.	Hose connector mm
1094379	6 x 4mm
1094380	12 x 9mm
1094382	8 x 5mm

1.2 Safety

CAUTION!

- The operator must take appropriate measures to rule out any danger to personnel by the feed chemicals. Pay attention to the material safety data sheet for the feed chemical as well.
- The suction lance is not liquid-tight nor gas-tight.
- Do not use the suction lance for flammable or explosive liquids.
- Check and ensure the chemical resistance of the wetted components.

1.3 General

The suction lance with continuous level measurement is configured for 30-litre standard canisters (to fit screw lid OV61) and metering pumps gamma/ X, gamma/ XL and DULCO flex Control DFXa.

1.4 Uses

For metering pumps gamma/ X GMXa, gamma/ XL GXLa and DULCO flex Control DFXa.

The suction lance works very well with feed chemicals containing a lot of water, such as diluted acids and alkalis, sodium-calcium hypochlorite, ...

(The dielectric constant ε_r must be higher than 30).

It does not work with feed chemicals, such as pure oil, fats, ...

Take into account the resistance of the wetted materials and the ProMinent Resistance List when selecting the feed chemical - see the ProMinent Product Catalogue or visit our website.

Install the suction lance vertically in a 30-litre liquid storage tank or smaller tank, preferably directly below the metering pump.

Push the suction lance as far as the base of the storage tank and then screw the lid closed.

Size the cross-section and length of the suction line so that the negative pressure produced during suction does not reach the vapour pressure of the feed chemical. Note the priming lift (m Ws) in relation to the performance data for the metering pump used!

Connect the suction line to the suction side of the liquid end of the pump.

1.5 Materials

Tab. 1: Materials, wetted

Component	Materials
Liquid level measurement	
Heat shrink hose	Polyolefin / PVDF
Housing parts, blue	PPE
Seal	TPE
Priming lance	
Pipe, hose and screw cap	PE *
Adapter, valve insert, clamping ring, hose nozzle, valve seat, distance sleeve, screen plate	PVDF
Flat seal	PTFE
Valve ball	Al_2O_3

* The pipe for suction lance 1094380 (12x9 mm) is made of PVC

Tab. 2: Materials, other

Component	Materials
Electronics	Electronic components

1.6 Technical data

Precision

Specification	Value
Precision (based on the entire measuring section):	2.5 %

Measuring section

Specification	Value
Length of measuring section:	460 mm
Start of measuring section:	13 mm

Temperatures

Specification	Value
Storage and transport temperature:	-10 ... +50 °C *
Ambient temperature during operation:	-10 ... +45 °C *

Specification	Value
Medium temperature:	-10 ... +50 °C *
Rel. humidity, max:	95 % **

* Do not allow the feed chemical to freeze in the suction lance

** non-condensing

Protection against contact and moisture

Specification	Value
Protection against contact and moisture: according to EN 60529	IP66

1.7 Electrical connection

Use the cable supplied to connect the suction lance to the level input of the pump.

Product	Part no.
Level sensor cable, 3 m	1082384

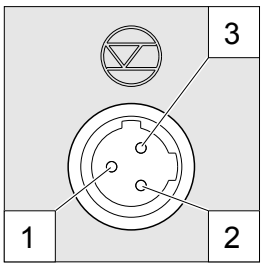

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Fig. 1: "Level" input of a pump

1.8 Settings on the pump

☰ ➔ *'Menu / Information ➔ Settings ➔ Inputs/outputs ➔ Suction lance ➔ continuous ➔ ...'*

1.8.1 Calibration

☰ ➔ *'Menu / Information ➔ Settings ➔ Inputs/outputs ➔ Suction lance ➔ continuous ➔ Calibrate ➔ ...'*

The suction lance with continuous level measurement can measure the liquid level in a 30-litre canister with 2.5% precision.

The relevant secondary display of the gamma/ X, gamma/ XL or DULCO flex Control DFXa indicates the liquid level, or the liquid level can be reported via a pump by bus to the control panel.

It is possible to calibrate the continuous level measurement in this sub-menu of the pump.

Perc. liquid level

☰ ➔ *'Menu / Information ➔ Settings ➔ Inputs/outputs ➔ Level measurement ➔ continuous ➔ Calibrate ➔ Perc. liquid level ➔ ...'*

For instance with initial commissioning, immerse the suction lance in the still fully filled storage tank and fix in place. Then under *'Calibrate'*, set the *'Perc. liquid level'* to *'100 %'*. Result: the pump will always display `100 %` with a full storage tank - providing the size of the storage tank has not been changed in the meantime.

1. Under *'Menu / Information* ➔ *Settings* ➔ *Inputs/outputs* ➔ *Level measurement'* select *'continuous'*.
2. Select *'Percent liquid level'* under *'Calibrate'*.
   ⇨ The *'Calib. "Liquid level"'* display appears with *'Calibr. to xx % liquid level'* and a *'Push'* symbol.
3. Immerse the suction lance in the feed chemical.
4. Use the *[dial]* to set the required percentage for this level and press the *[dial]*.
   ⇨ The pump saves the value.

   The application switches back to the Start menu.
5. Check whether the level measurement is working as expected (e.g. in the "Liquid level" secondary display or on your control panel).

Electrodes

☰ ➔ *'Menu / Information* ➔ *Settings* ➔ *Inputs/outputs* ➔ *Level measurement* ➔ *continuous* ➔ *Calibrate* ➔ *Electrodes* ➔ *...'*

You can calibrate the *'electrodes'* in this sub-menu – this is a step that is not normally necessary.

1. Remove the suction lance from the feed chemical.
2. Select *'Electrodes'* under *'Calibrate'*.
   ⇨ The *'Calibrate air values'* display appears with a *'Push'* symbol.
3. Press the *[dial]*.
   ⇨ The air value is calibrated.

   The *'Calibrate medium'* display appears with a *'Push'* symbol.
4. Immerse the suction lance in the feed chemical as far as the holding claws.
5. Press the *[dial]*.
   ⇨ The calibration process is completed.
6. Check whether the level measurement is working as expected (e.g. in the "Liquid level" secondary display or on your control panel).

1.8.2 Configuration

☰ ➔ *'Menu / Information* ➔ *Settings* ➔ *Inputs/outputs* ➔ *Suction lance* ➔ *continuous* ➔ *Configure* ➔ *...'*

You need to enter the warning thresholds for the suction lance with continuous level measurement and the required unit if necessary into this sub-menu of the pump.

1. Enter the *'Warning threshold level'* as a % and press the *[dial]*.
2. Enter the *'Error threshold level'* as a % and press the *[dial]*.

   (Note: Ensure that the error threshold is below the warning threshold.)

3. Select the *'Liquid level unit'* for the "continuous level" secondary display: select *'Percentage'* or *'Litre'* and press the *[dial]*.

1.9 Dimensions of the "suction lance continuous for gamma/ X, gamma/ XL or DULCO flex Control DFXa"

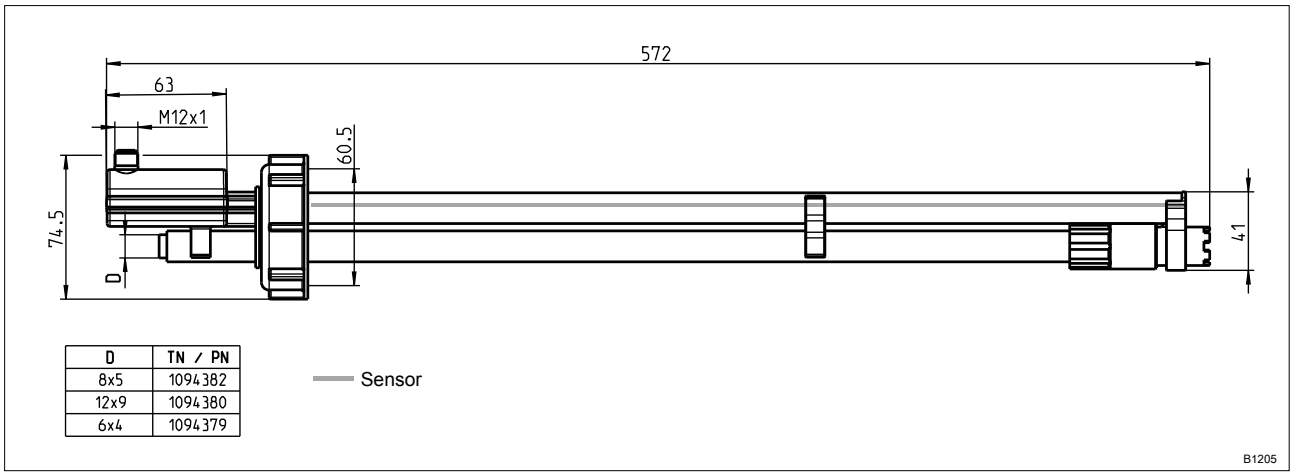

Fig. 2: Diagram is not strictly binding

1.10 Declaration of Conformity

We,

- ProMinent GmbH
- Im Schuhmachergewann 5 - 11
- D - 69123 Heidelberg, Germany,

hereby declare that the product specified below complies with the relevant basic health and safety requirements of the Directive, on the basis of its functional concept and design and in the version distributed by us.

Any modification to the product not approved by us invalidates this declaration.

Tab. 3: Excerpt from the Declaration of Conformity

Designation of the product:	Suction lance for continuous liquid level measurement
Product type:	PN: 1094379 1094380 1094382
Serial number:	see nameplate on the device
Relevant EU directives:	EMC Directive (2014/30/EU) RoHS Directive (2011/65/EU)
Harmonised standards applied, in particular:	EN 61326-1:2013, Class B, industrial EN 650581:2012
Date:	21.04.2020