



**Differential pressure producer  
according to ISO 5167**  
Measurement of the volume or mass flow  
of gases, steam and liquids

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Installation and operating instructions

**Attention:**  
**Please refer to the warning information**  
**on page 4 and 5 before commissioning!**

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# 1 General information

## 1.1 Safety information

This device left the factory free from safety problems. In order to maintain this status and to ensure safe operation of the device, please observe the safety information and warnings contained in this instruction.

- The device/system may only be set up and used in conjunction with this documentation.
- Correct, reliable operation of the product requires proper transport, storage, positioning and assembly as well as careful operation and maintenance by qualified personnel.
- This device may only be used for the applications described in the technical description and only in connection with devices or components from other manufacturers which have been approved or recommended by S.K.I. GmbH.
- You are obliged to respect the test certificates, provisions and laws applicable in your country during connection, assembly and operation of the device/system.
- The device can be operated both at high pressure and with aggressive and hazardous media. Therefore, improper use of this device may lead to serious injury and/or considerable damage to property. Especially, it must be noted when the device was in use and is to be exchanged.
- Commissioning and operation of a device/system may only be performed by qualified personnel. This personnel has to see to it that appropriate voltage is used (see type stamp), that ensures that in normal operation or in case of default of the device or of components no hazardous voltages may damage the device. Insofar, improper use of this device may lead to serious injury and / or considerable damage to property.

## 1.2 Qualified personnel

The installation and operating must be realized by qualified personnel. Qualified personnel includes persons familiar with the installation, assembly, commissioning and operation of the product and who have the appropriate qualifications for their activities such as

- They are authorized, trained or instructed in operating and maintaining devices and systems according to the safety regulations for electrical circuits, for media under high pressure or aggressive or hazardous media.
- For explosion-proof devices: They are authorized, trained, or instructed in carrying out work on electrical circuits for hazardous systems.
- They are authorized, trained or instructed in safety standards for maintenance and use of appropriate safety equipment.
- Training in first aid.

## 1.3 Further information

For clarity reasons, this notice does not contain all detailed information of all types of products and may not consider every possible application or maintenance.

**Attention:** If you need more information or have particular problems which are not covered sufficiently by the operating instructions, get in touch with S.K.I. GmbH directly (see last page). You may find contact information in the internet.

The contents of these instructions shall not become part of or modify any prior or existing agreement, commitment or legal relationship. All obligations on behalf of S.K.I. GmbH are contained in the respective sales contract which also contains the complete and solely applicable warranty conditions. Any statements contained herein do not create new warranties or modify the existing warranty.

The content reflects the technical status at the time of printing. We reserve the right to make technical changes in the course of further development.

## 1.4 Special warnings

**Exceeding pressure:** Appropriate measures are to be taken to secure that the allowed operation pressure according to the stamp on the type plate is not exceeded. Therefore, appropriate pressure relief valves have to be used.

**Normal usage:** On acceptance and within the required control intervals, a compression test under overpressure and a leakage test have to be conducted for the whole system.

**Exceeding or underrunning of the allowed operation temperature limits:** Appropriate measures are to be taken to secure that the allowed operation temperature limits are not exceeded. The pressure equipment may have to be prohibited from exceeding the allowed temperature by temperature limiter.

**Damage:** Please observe that the product is not dropped and that it is not affected by excess forces.

**Too many load cycles:** The pressure devices are constructed for a static operation. Appropriate measures are to be taken to observe the specifications which are defined in EN 13480-3; 10.2 c).

**Opening under pressure:** Appropriate measures are to be taken to secure that the valves of the product are not opened under pressure.

**Fire near the product:** Appropriate measures are to be taken to secure that the corrosion protection or the coating are not damaged to avoid corrosion and to guarantee the durability of the device. In case the device is damaged by fire or any other influence, immediately, the device product has to be taken out of operation and to be presented to an expert. In case of explosive gases, a fire has to be avoided in any case by appropriate measures.

**Improper mounting of the flow computer:** Please observe that the several components of the product are mounted properly.

**Improper mounting of the device:** Please observe that the device and its components are mounted properly. Improper mounting of the tubes: In any case, the installation and operation has to be carried out only by qualified personal. A low-stress assembling has to be observed.

**Assembling of pieces of equipment, valves etc.:** In case of assembling of pieces of equipment and when starting the working load, the pressure devices shall not be exposed to any loads which may endanger the operating safety. Especially, additional static and dynamic loads are not allowed.

**Welding of pieces of equipment:** Please observe that no welding, heat treatment or other interventions concerning the safety are affected. Necessary reparations have to be approved by the manufacturer.

**Falling components / bruises:** Locking of components especially when assembling; assembling only by qualified personal wearing safety equipment.

**Overhanging components:** Wear safety equipment, identification marking of secure lanes.

**Corrosion:** Check stability of the tube with your medium. Please observe that the product is used and installed as intended.

**Electricity:** Caution of voltage! Switch off the device before interfering in the wiring.

**Electric shock / electric charging:** Assembling and operation only by qualified personal and taking into account the delivered documents.

**Source of heat:** Identification of safe ways as well as isolation / housing.

**Damage in operation:** Controlling of plausible measuring results (for example "sensor break").

**Deployment In Explosive Environments:** Applicable national standards and regulations are to be complied with if the equipment is deployed in potentially explosive atmospheres. Add-on and purchased parts contain an independent declaration of conformity. Correct assembly and tightness must be checked by the customer. Thermal insulation must be installed according to the requirements of the entire system. When installing in an EX atmosphere, the requirements of the entire system must be observed. Potential equalisation must always be provided. If flame arresters are required, they must be provided by the customer.


**Other risks:** Please observe that the operation instructions of the manufacturer are respected at all times. Especially, pressure devices have to be used for the specified media.

## 2 Correct usage

The differential pressure producer is used to measure the volume or mass flow rate of gases, steam and liquids. The device may only be used for the purposes specified in these instructions. The operating safety may be revoked for improper or other than intended use. The manufacturer is not liable for resulting damage. The chemical material compatibility towards the medium must be reviewed by the orderer and is subject to his responsibility.

## 3 Inspection of incoming goods

Please check the scope of delivery for the following items:

<b>Differential pressure producer according to ISO 5167</b>	
 <p>Differential pressure producer according to ISO 5167</p>	1. Differential pressure producer according to ISO 5167
	2. Documentation
	3. Warning notices

## 4 Assembling instructions

### 4.1 General information

The following national regulations have to be observed at installation, especially

- The regulations of the pressure equipment directive 2014/68/EU (if relevant).
- Further applicable standards as AD2000 or DIN EN 13480 (if relevant).
- EC machinery directive 2006/42/EG (if relevant).
- Before assembling / disassembling, the tube or the pipe has to be unpressurized.
- Before assembling / disassembling, the tube has to be cleaned in case media toxic or hazardous to health.

The differential pressure producer is calculated for specific pipe lines and operating data. Check before installation if the data from the calculation according to ISO 5167 matches the actual operating data.

Verify before assembling if the necessary inlet and downstream conditions are respected and verify the required mounting position (see 4.2.1 In- and outlet routes)

Loose shutoff valves (if delivered) have to be mounted on the pressure tapping nozzles of the differential pressure producer or for steam applications on the condensate vessels.

All differential pressure lines must be placed with a sufficient drop/incline to the process from the differential pressure transmitter. (see 4.6 Installation positioning and piping).

- With steam and liquids, a pressure release has to be provided at the highest point.
- With gas, drainage has to be provided at the lowest point.

When connecting the differential pressure circuits between first cutoff of the flow meter and the valve manifold of the transmitter, the correct allocation of the pins (+) respectively (-) must be respected.

If devices have not been subjected to a pressure test in the factory, measuring flanges, covers with pre-welding flanges, measuring sections with flange-connected blinds are usually only delivered pre-installed. The screws and bolts must be finally tightened with the corresponding correct tightening torques.

Observe that the differential pressure producers must be transported with appropriate lifting gear to avoid any damages (see 4.3 Transport to measuring point).

### 4.2 Positioning of the device

#### 4.2.1 In- and outlet routes

To warrant an even flow profile, the differential pressure producer must be applied at a sufficient distance from the pipe bends or pipe bottlenecks. The required supply routes for different installation interferences can be taken from ISO 5167. The requirements from ISO 5167 to the pipes must be met (weld seams, roughness, etc.).

#### 4.2.2 Homogeneity

The fluid must be homogeneous. There must not be any change of the physical condition (liquid/gas/steam) and the process line and differential pressure lines must always be filled completely.

## 4.3 Transport to measuring point

Observe that the differential pressure producers must be transported with appropriate lifting gear to avoid any damage. At transportation, pressure tapping nozzles and fittings may not be subject to heavy loads. Any damages at transportation have to be avoided to prevent damage. Especially pressure tapping nozzles, fittings, flange finish and painting have to be protected against scratching or other damage.

## 4.4 Size/Dimensions

See technical documentation

## 4.5 Installation notes

### 4.5.1 Installation of differential pressure producer for flange connection (sandwich or with end flanges)

Observe alignment of the differential pressure producers: The inflow side is marked usually on the fitting ring by "+".

#### 4.5.1.1 Differential pressure producer with end flanges

The installation of the differential pressure producer between flanges has to be done with two seals which are adapted to pressure, temperature and media. These seals are not part of delivery. The seals must not protrude into the pipe.

At horizontal assembly, the lower flange screws are installed loosely first, then the seal is inserted from above. The last screws can be mounted and lightly tightened. Place the differential pressure producer centered. Finally, tighten the screw bolts. Torques are determined by the type of screws and the seal. Information on this is available from the seal or screw manufacturer.

#### 4.5.1.2 Differential pressure producers in sandwich-build

The installation of the differential pressure producer between flanges has to be done with two seals which are adapted to pressure, temperature and media. These seals are not part of delivery. Neither seals nor fitting ring must not protrude into the pipe. Therefore, the inner diameter of the fitting rings is designed a little larger for sandwich versions according to DIN 19205. Fitting rings with even sealing surface are centered by the flange screws.

At horizontal assembly, the lower flange screws are installed loosely first, then the fitting ring and seals are inserted from above. The remaining screws are installed and slightly tightened. Place the fitting ring centrally (may be measured from the outer flange diameter).

Finally, tighten the screw bolts considering the according and necessary torques. Information on this is available from the seal or screw manufacturer.

### 4.5.2 Measuring sections

The differential pressure producer has to be adjusted that the inlet marked with "+" points in direction of the inflow. The inlet is longer than the outlet. The following assembling corresponds to the procedure of differential pressure producers with end flanges.

### 4.5.3 Plug-in covers

#### Flange Removal

The device is delivered with measuring flanges. The device may have to be disassembled for welding in the flange due to danger of improper heating. Welding in and inspecting the flange weld must be performed according to the state-of-the-art and under adherence of the applicable welding provisions. The removal flanges must correspond to DIN19214 or ANSI16.36.

#### D-D/2-Tapping

According to ISO 5167, the following conditions must be met for D-D/2-tapping:

- Distance between cover disc and "+"-tapping:  $0.9 D \dots 1.1 D$
- Distance between cover disc and "-"-tapping:
  - $0.48D \dots 0.52D$  for  $\beta < 0.6$
  - $0.49D \dots 0.51D$  for  $\beta > 0.6$

Both distances are measured from the front of the cover disc (the "+"-side). The centre line of pressure tapping must intersect the centre of the pipe axis under an angle of  $90^\circ$  if possible, but in any case it has to be within  $3^\circ$  to the perpendicular line. The diameter of the pressure tapping bores must be less than  $0.13D$  and less than 13 mm.

### 4.5.4 Installation of differential pressure producer for welding-In

Welding in and inspection of the weld of the differential pressure producer is, according to the state-of-the-art, under adherence of the applicable welding provisions. Any required pressure tests must be performed after any required heat treatment and inspection of the weld seams. The requirements from ISO 5167 to the pipes must be met (weld seams, roughness, etc.).

## 4.6 Installation position and piping

### 4.6.1 Differential pressure producer with possibility of direct connection of the transmitter

The easiest and cheapest connection between the differential pressure producer and the transmitter is a differential pressure producer with possibility of direct assembling. This assembling type is favored by norm covers. In this case, a "sandwich" is built by a 3- or 5-valve manifold and a transmitter which is fixed by 8 screws (4 on each side) under precondition that the allowed temperatures on the diaphragm of the transmitter are not exceeded. The  $\oplus$ -side of the transmitter has to be connected with the  $\oplus$ -side of the differential pressure producer. Both sealing surfaces (the one between differential pressure producer and valve manifold as well as the one between the valve manifold and the transmitter) have to be furnished one-sided with seal-rings inserted in the according nuts. These seal-rings are part of the delivery. Therefore, an installation of differential pressure pipes is not necessary.

#### Assembling in horizontal pipes

- For flow rate measurement in gases, the differential pressure transmitter should be installed above the center-line of the pipe at all times. An upwards, vertical installation is preferred.
- For flow rate measurement in liquids, the differential pressure transmitter should be installed below the center-line of the pipe at all times. A downwards, vertical installation is preferred.
- For flow rate measurement in steam, the differential pressure transmitter should be installed within the center-line of the pipe at all times. The differential pressure transmitter has to be mounted below the connection of the differential pressure.

#### Assembling in vertical pipes

The differential pressure connections are always mounted horizontally. In case the equipment for direct assembling is tilted, the transmitter has to be installed

- above the connections of the differential pressure (for gases)
- below the connections of the differential pressure (for liquids and steam)



#### 4.6.2 Installation position and piping for measurement in liquids

For **flow rate measurement in liquids**, the differential pressure producer should be installed that the pressure tapping nozzles in horizontal pipes is allocated below the horizontal central-line of the pipe. Independent of the piping (horizontal or vertical) the differential pressure producer (not always part of delivery) should be installed below the pipe at all times. The differential pressure pipes have to be strictly monotonic decreasing from the differential pressure producer to the differential pressure transmitter. The decline should indicate at least 4°. If the differential pressure pipe is accurately dimensioned it is guaranteed that no air pockets falsify the measurement in those pipes.

For **measurements with solids shares**, such as contaminated liquids, installation of separators and discharge valves is sensible to catch and remove deposits.

For **flow measurement in vertical pipes**, a de-aeration is absolutely necessary before initial operation especially at assembly position with a downwards flow to avoid partial filling of the pipe during the measurement.

#### 4.6.3 Installation position and piping for measurement in gases

For **flow rate measurement in gases**, the differential pressure producer should be installed that the pressure tapping nozzles in horizontal pipes is allocated above the horizontal central-line of the pipe. Independent of the piping (horizontal or vertical) the differential pressure producer (not always part of delivery) should be installed above the pipe at all times. The differential pressure pipes have to be strictly monotonic increasing from the differential pressure producer to the differential pressure transmitter. The incline should indicate at least 4°. If the differential pressure pipe is accurately dimensioned it is guaranteed that no enclosed humidity falsify the measurement in those pipes.

For **flow rate measurement in humid gases**, installation of separators and discharge valves is sensible to catch and remove the condensate.

#### 4.6.4 Installation position and piping for measurement in steam

For **flow rate measurement in steam** use two condensation vessels. They must be at the same height. Usually, the condensation vessels as well as the initial shut-off valves are part of the delivery of differential pressure producers for steam. Dependent on pressure and temperature, initial shut-off valves for the connection of the differential pressure pipes dispose of a cutting-ring or a welding connection. The differential pressure transmitter (not always included in the delivery) should be installed below the pipe. The differential pressure pipes have to be strictly monotonic decreasing from the differential pressure producer to the differential pressure transmitter. The decline should indicate at least 4°. If the differential pressure pipe is accurately dimensioned it is guaranteed that no air pockets falsify the measurement in those pipes.

To guarantee a correct measurement, the lines between the differential pressure transmitter and condensate vessels must be completely filled with water on either side (water seal).

Usually, the filling is effected by filling valves. To fasten the assembling, we recommend a 5-valve-manifold for measurements in steam because the filling valves are integrative part of these equipments. For maintenance works, additional valves as well as blow-off-valves can be used.

### 4.7 Check of the installation

After assembling, we recommend to control with another qualified person. Especially, the following points should be checked:

- Is the differential pressure producer damaged?
- Is the identification of the differential pressure producer correct?
- Do the temperature and pressure of the process, the ambient temperature, the scope of measurement,... correspond to the specification of the device?

- Is the indication of the flow direction on the differential pressure producer corresponding to the real flow direction?
- Is the right positioning for the transmitter being chosen (according to the transmitter type, use and specifications of the medium)?
- Is the right sealing according to process conditions being used?
- Are all screws tightened up?
- Are the differential pressure pipes assembled correctly and connected correctly between differential pressure producer and differential pressure transmitter (+ and -)?
- Are all screws of the differential pressure pipes and the shut-off-valves tightened up?

(This list may not be complete)

## 4.8 Dismounting

Before dismounting of differential pressure producers, the process has to be stopped. Overpressure has to be avoided. Furthermore, general information (see chapter 1) have to be observed. The influence of the dismounting of the differential pressure producer on the whole system has to be considered.

For differential pressure producers in compact design with directly mounted transmitter, this has to be separated electronically and if necessary dismounted.

For all other differential pressure producers the existing differential pressure piping has to be removed first.

Furthermore, all valves have to be closed to avoid possible contamination. Seals, screws and other mounting material can only be used once. When dismounting any damage to the differential pressure producer has to be strictly avoided, especially concerning the sealing. The tubes should not be under tension.

### 4.8.1 Dismounting of differential pressure producers for flange connection (sandwich or with end flanges) and measuring systems

At horizontal assembly, first the flange screws are untightened and the upper flange-screws are to be removed. Then the differential pressure producer may be hold by means of transportation and the lower flange screws can be removed.

At vertical mounted differential pressure producers, the order of dismounting may be chosen as you like.

### 4.8.2 Dismounting of plug-in covers

Plug-in covers may be dismounted similar to chapter 4.8.1 after removal of the screws.

Welded parts (for example measuring flanges or D-D/2-tappings) have to be separated mechanically if necessary. This is not necessary for the dismounting of plug-in covers.

### 4.8.3 Dismounting of welded differential pressure producers

Welded differential pressure producers have to be separated mechanically.

## 5 Commissioning

### 5.1 Usage of further components

#### 5.1.1 Condensate vessels (for steam applications, if included in the scope of delivery)

##### **Usage**

Usage of condensate vessels is recommended for gaseous media that turn liquid in the differential pressure lines when cooling off. This is the case especially for steam. Depending on pressure and temperature, it may occur as well with other media (for example alcohols).

##### **Function, installation and commissioning**

During installation, observe that the two condensate vessels are at the same height; otherwise, zero-point calibration is difficult.

The condensate vessels, including the differential pressure lines to the differential pressure transmitter, must be filled with water/condensate before commissioning the measurement. They may be filled in different manners:

- Through fill sockets at the condensate vessels (if present)
- Through the condensate drain valves or vent of the differential pressure transmitter

For this, the differential pressure lines must be connected to the water supply, e.g. by a hose screw connection. After commissioning of the steam line, wait until the differential pressure lines and condensate vessels have filled with condensation on their own. All valves at the valve block must be closed for this.

##### **Attention!**

Overheating of the differential pressure transmitter must be avoided. Depending on steam temperature, the temperature at the valve block must be monitored. Close the shutoff valves in the differential pressure lines when there is any danger of overheating.

The condensate vessels ensure that the differential pressure lines are always filled with water and that no hot steam can reach the diaphragm of the differential pressure transmitter. Condensing steam ensures that the water column is retained. Excess condensation flows back and evaporates again. Using condensate vessels in steam applications considerably reduces fluctuations of the water column. The evened measuring signal and increased zero stability warrant even measuring accuracy. The water column transfers the effective pressure DP to the transmitter.

##### **Note!**

In any case, wait for a stable condition to be reached after filling and commissioning of the steel supply, before setting the zero point.

#### 5.1.2 Shutoff valves (if included in the scope of supply)

##### **Use**

Shutoff valves are used for initial shutoff of the measuring point. For high-pressure and high-temperature applications double initial shutoff may be recommended or prescribed depending on national regulations.

##### **Function**

Initial shutoff serves separation of the measuring system from the measuring line close to the process in case of a leak or maintenance work at the differential pressure lines.

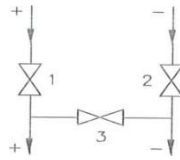
##### **Installation and commissioning**

After completion of installation, the shutoff valves must be closed. In the scope of commissioning, first carefully open the shutoff valves and check the entire measuring system for leaks.

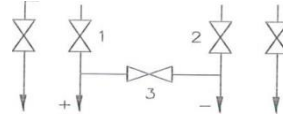
### 5.1.3 Valve block (if included in the scope of supply)

#### Versions

3-fold valve block  
(chart)



5-fold valve block  
(chart)



#### Valve Use

- 1 and 2 Separation of the differential pressure transmitter from the process
- 3 Pressure balancing valve (zero-point setting of the differential pressure transmitter)
- 4, 5 Venting (for liquids and steam)  
Drainage (for gases)  
Complete emptying of the differential pressure lines (e.g. for maintenance work)

#### Use

The valve block separates the differential pressure transmitter from the process or is used for regular zero-point setting of the differential pressure transmitter.

#### Function

If the differential pressure transmitter must be removed from the measuring point (e.g. for replacement or repair) closing of all three valves permits separating the transmitter completely from the process and removing it.

#### Commissioning

In the scope of commissioning, a zero point adjustment of the differential pressure producer must be provided for in all cases. At initial commissioning, all valves should be closed when starting up the process. Then the valves of the plus and minus sides must be opened carefully. The balancing valve remains closed. Then ensure that effective pressure links, valve block and transmitter are completely vented (for liquids and steam) or drained (for gas).

#### Zero Point Adjustment

For zero point adjustment, first close the valve of the minus side and then open the balancing valve so that both the minus and the plus sides of the transmitter are subject to the same static pressure. In this condition, the zero-point calibration of the differential pressure transmitter can be performed (see transmitter's operating instructions). After zero-point adjustment, the measuring system is commissioned again in reverse order. Zero-point setting should be inspected or corrected at regular intervals. The measuring system should also be inspected for complete venting or drainage at regular intervals.

#### Venting/Drainage

For 5-fold valve blocks, the additional valves are used for venting or drainage or complete emptying of the differential pressure lines, e.g. for maintenance work. For steam applications, the valves are used to blow off the differential pressure lines.

#### Note!

Complete venting/drainage of the differential pressure transmitter is always performed using the corresponding devices at the side of the transmitter flanges that lay opposite to the valve block.

#### Attention!

If all three valves at the valve block are opened simultaneously, the present differential pressure permits a medium flow through the valve block. This can lead to overheating of the valve block and the differential pressure transmitter in hot media. Therefore, simultaneous opening of all three valves must be avoided absolutely in operation.

## 6 Troubleshooting

Pos.	Description of defaults	Possible cause
<b>Differential pressure producer</b>		
1	No or to low differential pressure	<ul style="list-style-type: none"> <li>- The differential pressure producer is not mounting in direction of the flow.</li> <li>- Connections of differential pressure between differential pressure producer and transmitter are inverted (the side of the differential pressure producer which is facing the flow is not connected with the "+"-breast of the transmitter and the far side of the differential pressure producer is not connected with the "-"-breast of the transmitter).</li> <li>- Initial shut-off „+“ and/or „-“ side is not opened.</li> <li>- Counterbalance valve is not closed.</li> <li>- Leakage in the differential pressure lines.</li> <li>- In- and outcoming routes are too short.</li> <li>- Air pockets in the system / differential pressure lines or the transmitter (<i>see measurements of steam and liquids</i>).</li> <li>- Condensate in the system / differential pressure lines or the transmitter (<i>see measurements of gases</i>).</li> <li>- Differential pressure producer not mounted aligned centrally.</li> <li>- Condensate vessels not mounted on the same height (different heights in the condensate columns, only at steam applications)</li> </ul>
2	Exceeding scope of measurement	<ul style="list-style-type: none"> <li>- In- and outcoming lines too short.</li> <li>- Initial shut-off in the differential pressure line at the „-“ side is not opened.</li> <li>- Differential pressure producer not mounted aligned centrally.</li> <li>- Condensate vessels not mounted on the same height (different heights in the condensate columns, only at steam applications).</li> </ul>
3	Air pockets in the differential pressure producer / pressure line and/or transmitter ( <i>in case of measurement of liquids</i> )	<ul style="list-style-type: none"> <li>- Default of the mounting of the differential pressure producer or the transmitter.</li> <li>- Improper venting (see the operation instructions of the differential pressure transmitter).</li> <li>- Differential pressure lines without grade (<i>in case of measurement of steam and liquids</i>).</li> <li>- Transmitter not mounted below the differential pressure producer (<i>in case of measurement of steam and liquids</i>).</li> </ul>
4	Condensate in the differential pressure producer / pressure line and/or transmitter ( <i>in case of measurement of gases</i> )	<ul style="list-style-type: none"> <li>- Default of the mounting of the differential pressure producer.</li> </ul>
5	Leakage	<ul style="list-style-type: none"> <li>- A substitution of seals is only necessary in special cases, e.g. if aggressive or corrosive media are not compatible with the material of the seals.</li> </ul>

<b>Differential pressure transmitter</b>		
6	No or wrong output signal	- Default of the mounting of the differential pressure transmitter (see operating instruction of the differential pressure transmitter).
		- Wrong connection of the differential pressure transmitter (see operating instruction of the differential pressure transmitter).
		- Improper parameterization of the differential pressure transmitter (see calculation of the differential pressure of the differential pressure producer).
		- Zero-point calibration of the transmitter not successful.
		- Measuring cells charged with hot condensate / steam ( <i>only when measuring steam</i> ).

**Note!**

Differential pressure transmitters do not require any other maintenance works if used in a workmanlike way. When having standard revisions of the material it is recommended to examine the differential pressure transmitter intensively to ensure the functionality (material / edge sharpness, traces of tool wear).



# Konformitätserklärung

## Declaration of Conformity

## Déclaration de conformité

**Wir, die Firma**  
 We, the company  
 Nous, la société

**S.K.I. Schlegel und Kremer Industrieautomation GmbH**  
**Hanns-Martin-Schleyer-Straße 22, 41199 Mönchengladbach, Germany**

**erklären in alleiniger Verantwortung, dass das Produkt**  
 declare with full responsibility that the product  
 déclarons sous notre seule responsabilité que le produit

Drosselgerät Pressure Differential Device Appareil déprimogène	<b>AccuO, DPD</b>	(Blende, Düse, Venturirohr) (Orifice, Nozzle, Venturitube) (Diaphragme, Tuyère, Tube de Venturi)
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**auf das sich diese Erklärung bezieht, mit folgender Richtlinie und Norm übereinstimmt:**  
 which this declaration applies to, suits directive and standard:  
 qui fait objet de cette déclaration, est conforme à la directive et norme:

Richtlinie/Directive/Directive	Norm/Standard/Norme
2014/68/EU      Druckgeräterichtlinie Pressure Equipment Directive Directive équipements sous pression	EN13480

Bei maximalem Betriebsdruck unter 0,5 bar in Anlehnung an Art. 4.3 der Richtlinie 2014/68/EU.  
 Since the maximum operating pressure is below 0,5 bar similar to article 4 (3) of directive 2014/68/EU.  
 En cas de pression de service maximale inférieures à 0,5 bar, en référence à l'article 4 (3) de la directive 2014/68/EU.

Die Kennzeichnung des Geräts enthält folgende Angabe:  
 The equipment name plates contain the following information:  
 La plaque signalétique de l'équipement contient,

				Kennzeichnung/Marking/Repères	
Richtlinie Directive Directive	Konformitätsbewertung Assessment Evaluation de conformité	Kategorie Category Catégorie	Benannte Stelle Notified Body Organisme notifié		Nr. No. Nr.
2014/68/EU	Art. 4.3	Art. 4.3	n. a.	n. a.	n. a.
	Mod. A	I	n. a.	<b>CE</b>	.
	Mod. D1	II	TÜV Rheinland	<b>CE</b>	0035
	Mod. H	III	TÜV Rheinland	<b>CE</b>	0035

Mönchengladbach, den 31.05.2021

(Gerald Papperitz, QMB)



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