



# KIESELMANN

FLUID PROCESS GROUP

Translation of the original

## Operating instruction

### Tank top equipment

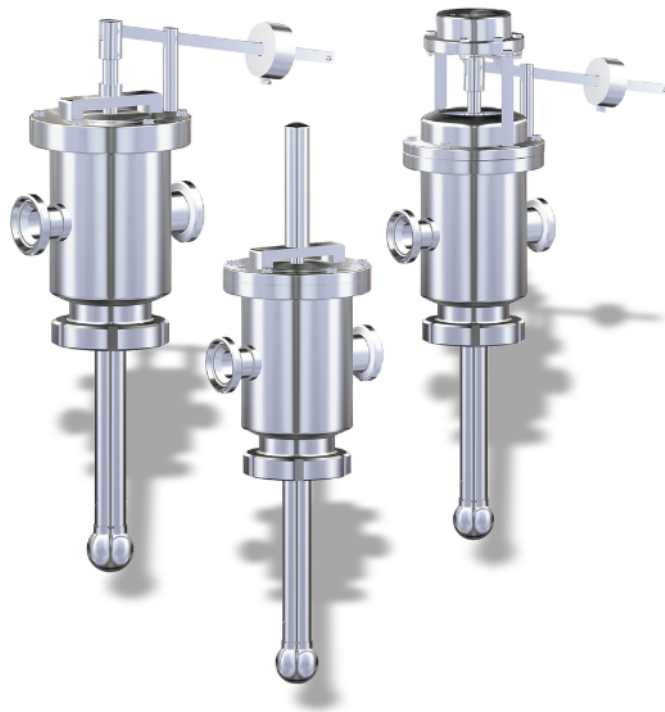
#### Type 6180 TDAM

with vacuum valve

- spring loaded

- weight-loaded

- weight-loaded, pneumatically liftable



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# 1 General informations

## 1.1 Informations for your safety

We are pleased that you have decided for a high-class KIESELMANN GmbH product. With correct application and adequate maintenance, our products provide long time and reliable operation.






Before installation and initiation, please carefully read this instruction manual and the security advices contained in it. This guarantees reliable and safe operation of this product and your plant respectively. Please note that an incorrect application of the process components may lead to great material damages and personal injury.

In case of damages caused by non observance of this instruction manual, incorrect initiation, handling or external interference, guarantee and warranty will lapse!

Our products are produced, mounted and tested with high diligence. However, if there is still a reason for complaint, we will naturally try to give you entire satisfaction within the scope of our warranty. We will be at your disposal also after expiration of the warranty. In addition, you will also find all necessary instructions and spare part data for maintenance in this instruction manual. If you don't want to carry out the maintenance by yourself, our KIESELMANN GmbH - service team will naturally be at your disposal.

## 1.2 Marking of security instructions

Hints are available in the chapter "safety instructions" or directly before the respective operation instruction. The hints are highlighted with a danger symbol and a signal word. Texts beside these symbols have to be read and adhered to by all means. Please continue with the text and with the handling at the valve only afterwards.

Symbol	Signal word	Meaning
	DANGER	Imminent danger which will result severe personal injury or death.
	WARNING	Imminent danger which may result severe personal injury or death.
	CAUTION	Dangerous situation which may cause slight personal injury or material damages.
	NOTICE	An harmful situation which may result in damages of the product itself or of adjacent vicinity.
	INFORMATION	Marks application hints and other information which is particularly useful.

## 1.3 General designated use

The fitting is designed exclusively for the purposes described below. Using the fitting for purposes other than those mentioned is considered contrary to its designated use. KIESELMANN GmbH cannot be held liable for any damage resulting from such use. The risk of such misuse lies entirely with the user. The prerequisite for the reliable and safe operation of the fitting is proper transportation and storage as well as competent installation and assembly. Operating the fitting within the limits of its designated use also involves observing the operating, inspection and maintenance instructions.

## 1.4 Personnel

Personnel entrusted with the operation and maintenance of the tank safety system must have the suitable qualification to carry out their tasks. They must be informed about possible dangers and must understand and observe the safety instructions given in the relevant manual. Only allow qualified personnel to make electrical connections.

## **1.5 Modifications, spare parts, accessories**

Unauthorized modifications, additions or conversions which affect the safety of the fitting are not permitted. Safety devices must not be bypassed, removed or made inactive. Only use original spare parts and accessories recommended by the manufacturer.

## **1.6 General instructions**

The user is obliged to operate the fitting only when it is in good working order. In addition to the instructions given in the operating manual, please observe the relevant accident prevention regulations, generally accepted safety regulations, regulations effective in the country of installation, working and safety instructions effective in the user's plant.

## 2 Safety instructions

### 2.1 Intended use

The bunging valve is primarily intended to be used to hold the pressure of gaseous media in tanks and containers consistently and to prevent overpressure's if the safety function is set.

### 2.2 General notes



#### NOTICE - observe the operating instructions

To avoid danger and damage, the fitting must be used in accordance with the safety instructions and technical data contained in the operating instructions.



#### NOTICE

All data are in line with the current state of development. Subject to change as a result of technical progress.

### 2.3 General safety instructions



#### ⚠ WARNING

##### Risk of injury by moving parts

Do not grab into the valve when the actuator is pressurized. Limbs can be crushing or amputating.

- Remove the control air line before dismantling.
- Ensure that the actuator is unpressurized.



#### ⚠ WARNING

##### Risk of injury by outflowing medium

Dismantling the valve or valve assemblies from the plant can cause injuries.

- Medias flowing through the leakage drain outlet are to be drained off without splashing into a discharge arrangement.
- Carry the disassembling only if when the plant has been rendered pressure-less and free of liquid and gas.



#### ⚠ WARNING

##### ATEX - Guidelines

If the valve or the plant is operated in a potentially explosive atmosphere, the valid ATEX directive of the EC and the installation instructions in this operating manual must be observed.



#### ⚠ CAUTION

##### Malfunction due to contamination

Internal or external dirt may impair the function of the fitting or the safety equipment.

- Therefore the fitting must be operated in a way that protects it from external influences.
  - The fitting must be cleaned internal and external at regular intervals.
  - The fitting must be maintained at regular intervals.
  - The fitting must be checked for its function at regular intervals.



#### ⚠ CAUTION

Before starting the system, the entire pipeline system must be thoroughly cleaned.



 **CAUTION**

Steps should be taken to ensure that no external forces are exerted on the fitting.

## 3 Delivery, transport and storage

### 3.1 Delivery

- Immediately after receipt check the delivery for completeness and transport damages.
- Remove the packaging from the product.
- Retain packaging material, or expose of according to local regulations.

### 3.2 Transport



#### CAUTION

##### **Risk of injury and damage to the product**

During the transport the generally acknowledged rules of technology, the national accident prevention regulations and company internal work and safety regulations must be observed.

### 3.3 Storage



#### NOTICE

##### **Damage to the product due to improper storage!**

Observe storage instructions  
avoid a prolonged storage



#### INFORMATION

##### **Recommendation for longer storage**

We recommend regularly checking the product and the prevailing storage conditions during long storage times.

- To avoid damage to seals and bearings,
  - products up to DN 125 / OD 5 inch should be stored horizontally for maximum 6 months.
  - products larger than DN 125 / 5 inch, should be stored in the upright position with the actuator on top.
- Don't store any objects on the products.
- Protect the products for wetness, dust and dirt.
- The product should be stored in a dry and well ventilated room at a constant temperature (optimal indoor temperature: 25 C ±5 ; indoor humidity data 70% ±5%).
- Protect seals, bearings and plastic parts for UV light and ozone.



## 4 Function and operation

### 4.1 Description of function

#### Function: Gas reclaim

If the tank atmosphere (e.g. CO<sub>2</sub> reclaim) is reclaimed via the cleaning fitting, the tank dome fixture is equipped with a non-return bypass through which the gas can dissipate. This bypass is closed during the cleaning procedure.

#### Function: Gas feeding

The gas can also be fed (e.g. CO<sub>2</sub> overlay) via the cleaning fitting. When rotating cleaning units are used, steps must be taken to ensure that the gas stream is not fed into the tank via the spray pipe. The bypass may have to be opened during the gas reclaim.

#### Function: Pressure relief safeguard

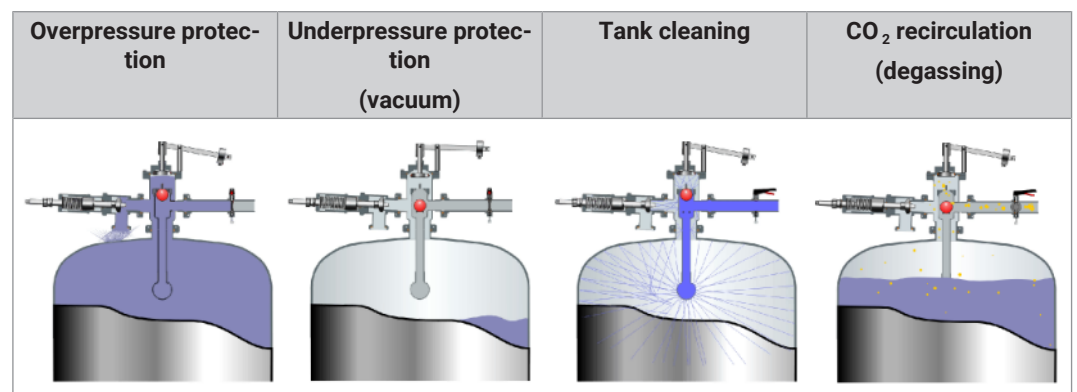
A directly loaded pressure relief valve is used as a safeguard when the rated system pressure is exceeded. The relief valve is connected directly with the tank dome fixture. The relief valve is designed and/or selected based on individually specified criteria for the system to be safeguarded.

#### Function: Vacuum relief safeguard

A directly loaded vacuum valve is used as a safeguard when the actual pressure drops below the rated system pressure. The vacuum valve is connected directly with the tank dome fixture. The relief valve is designed and/or selected based on individually specified criteria for the system to be safeguarded.

#### Function: Tank cleaning

The tank dome fixture is equipped with an integrated cleaning mechanism (spray pipe) that essentially feeds the cleaning agent to the tank cleaning unit. The interior surface of the tank dome fixture is also cleaned with additional cleaning units that are fed by the cleaning mechanism.



Presentation may differ

## 5 Commissioning, service and maintenance

### 5.1 Commissioning

#### 5.1.1 Installation instructions

##### Fitting position

The fitting is to be installed vertically. Liquid must be able to flow freely out of the housing.

#### 5.1.2 General welding guidelines

Sealing elements integrated in weld components must generally be removed prior to welding. To prevent damage, welding should be undertaken by certified personnel (EN ISO 9606-1). Use the TIG (Tungsten Inert Gas) welding process.



#### CAUTION

##### Damage and injuries due to high temperature supply

To avoid a distortion of the components, all welding parts must be welded to stress-relieved. Allow all components to cool before assembling.



#### NOTICE

##### Damage due to impurities

Impurities can cause damage to the seals and seals area. Clean inside areas prior to assembly.

#### 5.1.3 ATEX - Guidelines

For valves or plants/installations that are operated in the ATEX area, sufficient bonding (grounding) must be ensured (see valid ATEX Guidelines EG).

### 5.2 Service



#### RECOMMENDATION

##### Replacement of seals

To achieve optimal maintenance cycles, the following points must be observed!

- When replacement of seals, all product-contacting seals should be replaced.
- Only original spare parts may be installed.

##### Maintenance interval

The maintenance intervals depend on the operating conditions "temperature, temperature-intervals, medium, cleaning medium, pressure and opening frequency". We recommend replacing the seals 1-year cycle. The user, however should establish appropriate maintenance intervals according to the condition of the seals.

##### Lubricant recommendation

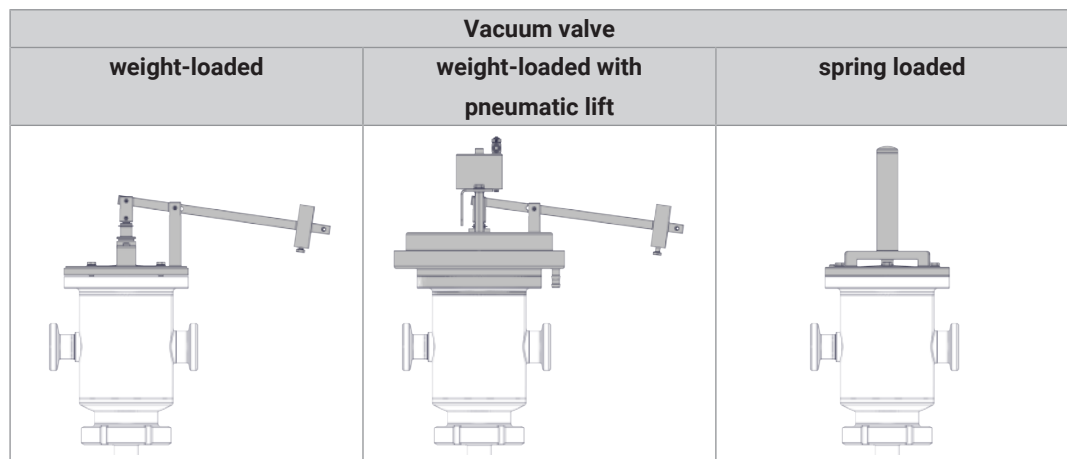
	EPDM; HNBR; NBR; FKM; k-flex	- Klüber Paraliq GTE703*
	Silicone	- Klüber Sintheso pro AA2*
	Thread	- Interflon Food*
*) It is only permitted to use approved lubricants, if the respective fitting is used for the production of food or drink. Please observe the relevant safety data sheets of the manufacturers of lubricants.		

### **5.3 Cleaning**

The cleaning of the fitting surfaces that touch the product takes place with the tank cleaning. The cleaning of the external surfaces must be performed at regular intervals. The cleaning cycles are to be defined by the user.

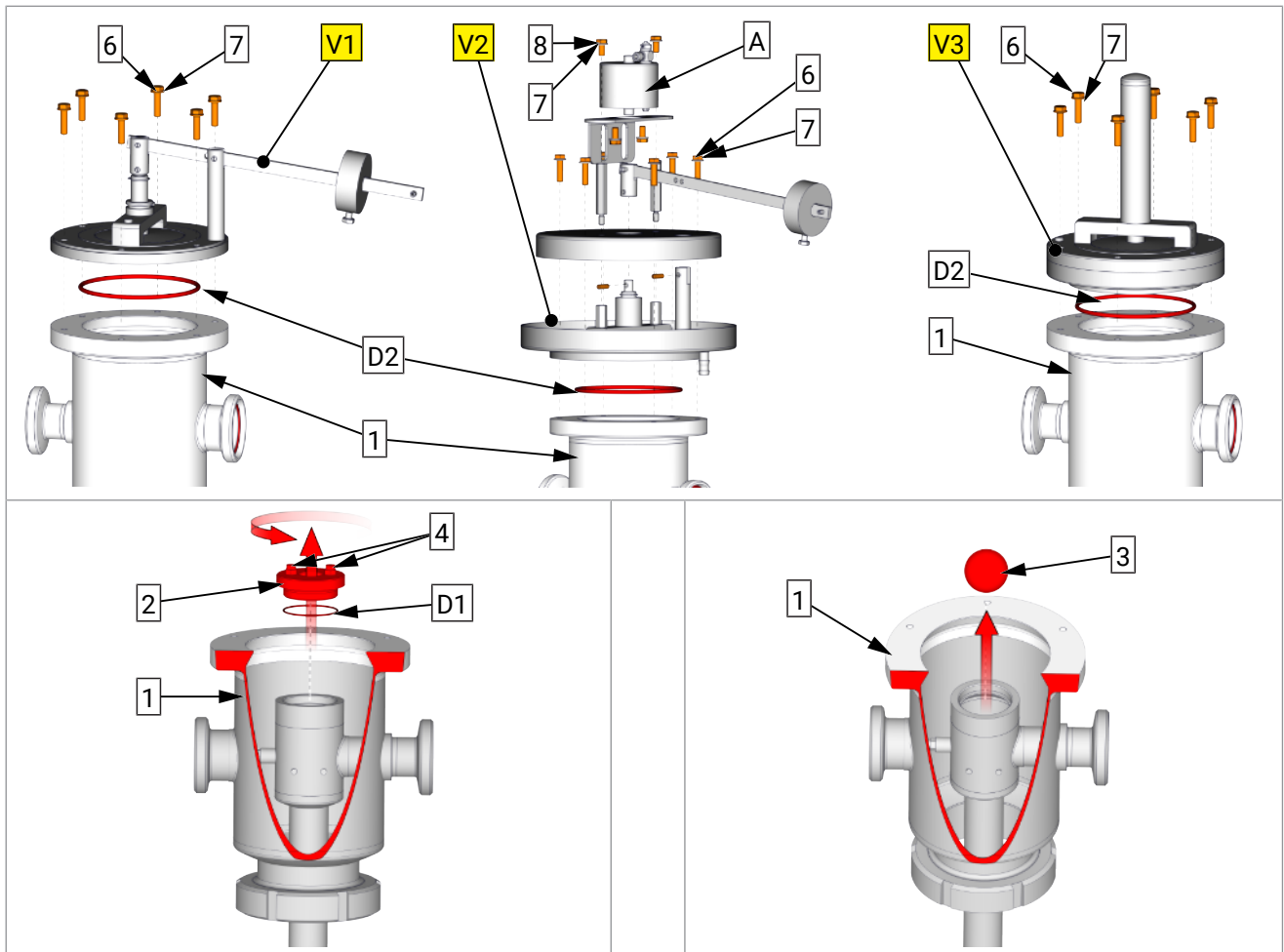
## 6 Technical data

Model	tank top equipment <ul style="list-style-type: none"> <li>• with vacuum valve (weight-loaded)</li> <li>• with vacuum valve (weight-loaded) (pneumatically liftable)</li> <li>• with vacuum valve (spring-loaded)</li> </ul>	
Connection	<ul style="list-style-type: none"> <li>• Liner / nut DIN 11581</li> <li>• Flange</li> <li>• Clamp</li> </ul>	
Temperature range	Operating temperature:	+0° to +60°C
	Cleaning temperature:	max. +85°C
Material: (in product contact)	Stainless steel:	1.4301 / AISI 304
	Surface:	Ra < 0,8µm
	Sealing material:	<ul style="list-style-type: none"> <li>• EPDM</li> <li>• NBR</li> </ul>



## 7 Disassembly and assembly

### 7.1 Disassembly



### NOTICE

For disassembly the vacuum valve (V), please refer to the documentation „Vacuum valves“.

### 7.2 Assembly

- Before installation, thoroughly clean and slightly lubricate mounting areas and running surfaces.
- Assemble in reverse order.

#### Performance test

- Check the function according to the specified performance data in the operating state.

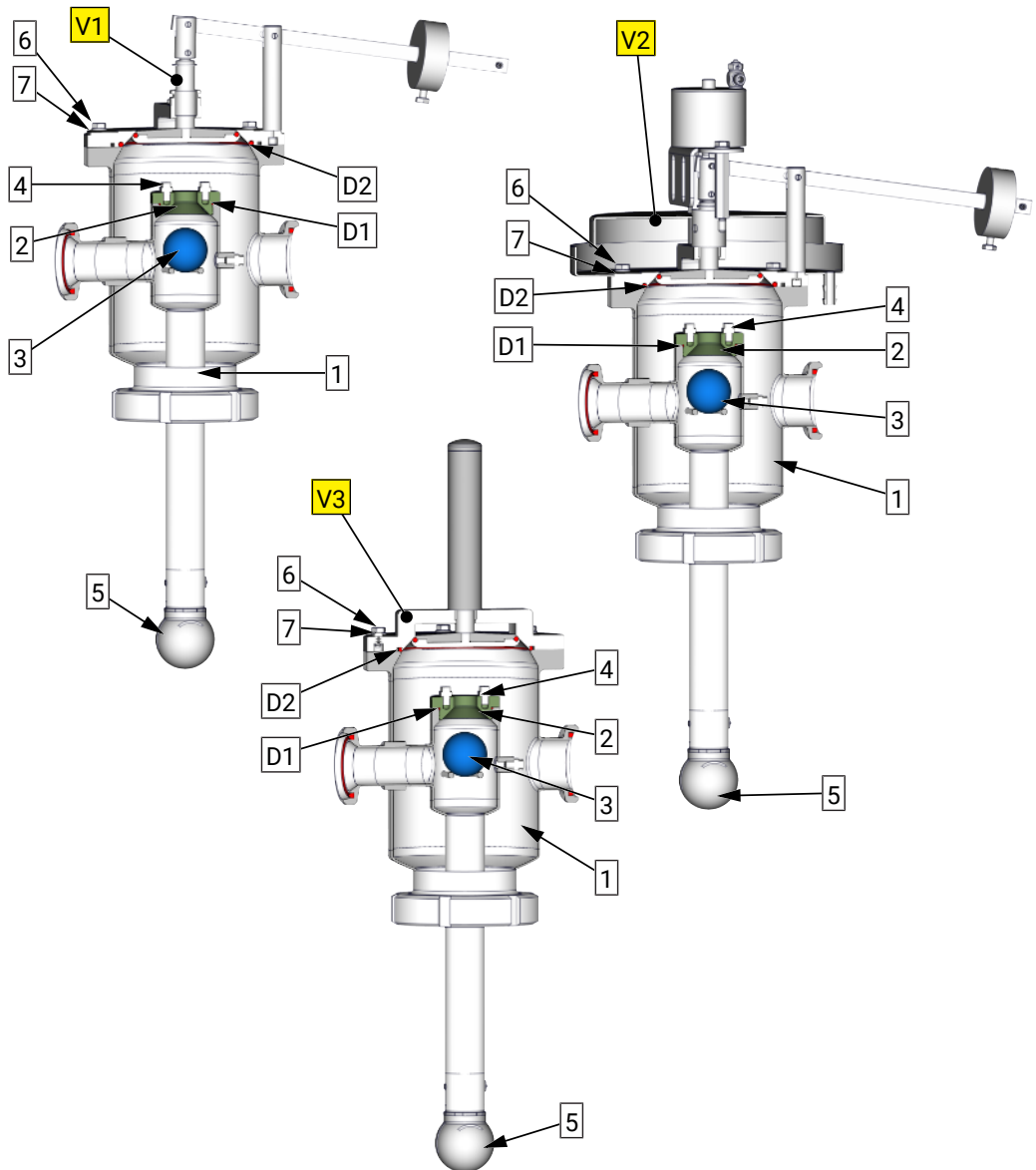
## 8 Drawings

- V1 = Vacuum valve weight-loaded
- V2 = Vacuum valve pneum. Pneum. actuator
- 3 = Vacuum valve spring loaded

- 1. = Housing
- 2. = Tightly seat
- 3. = Float ball
- 4. = Spray nozzles
- 5. = Spray ball
- 6. = Screw
- 7. = Disc

D1 = O-ring

D2 = O-ring



Flange	Clamp	K/M	Safety valve horizontally	Safety valve vertical

## 9 Appendix

### 9.1 Declaration of incorporation



#### Declaration of incorporation

Translation of the original

Manufacturer / authorised representative:

KIESELMANN GmbH  
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Authorised representative:  
(for compiling technical documents)

Achim Kauselmann  
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75438 Knittlingen  
Germany

<u>Product name</u>	<u>Function</u>
pneum. Lift actuators	Stroke movement
pneum. Rotary actuators	Rotary movement
Ball valves	Media cutoff
Butterfly valves	Media cutoff
Single seat valves	Media cutoff
Flow control valves	Control of liquefied media
Throttle valve	Control of liquefied media
Overflow valve	Definition of fluid pressure
Double seat valve	Media separation
Bellow valves	Sampling of liquids
Sampling valves	Sampling of liquids
Two way valves	Media cutoff
Tankdome fitting	Prevention of overpressure and vacuum, Tank cleaning
Safety valve	Prevention of overpressure

The manufacturer hereby states that the above product is considered as an incomplete machine in the sense defined in the Directive 2006/42/EC on Machinery. The above product is exclusively intended to be installed into a machine or an incomplete machine. The said product does not yet conform to all the relevant requirements defined in the Directive on Machinery referred to above for this reason.

The specific technical documents listed in Appendix VII, Part B, have been prepared. The Authorized Agent empowered to compile technical documents may submit the relevant documents if such a request has been properly justified.

Commissioning of an incomplete machine must not only be carried out if it has been determined that the respective machine into which the incomplete machine is to be installed conforms to the regulations set out in the Directive on Machinery referred to above.

The above product conforms to the requirements of the directives and harmonized standards specified below:

- Directive 2014/68/EU
- DIN EN ISO 12100 Safety of machinery

Knittlingen, 21.07.2017

i.V. Uwe Heisswoff  
Head of Development