

Operating instructions

Pressure container, 5 litre/10 litre/19 litre-
capacity, for operating pressures of 2.5
and 6 bar

DOK-317-E.doc Rev. 0

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Use for intended purpose

Krautzberger material pressure containers are containers with detachable covers in which compressed air can be used to pressurise liquid and low-viscosity materials. The pressurised material can then be routed via suitable hoses and pipes to extraction points (e.g. spray guns or similar). Pressure containers are primarily used in the painting and coating sector.

The temperature of the coating medium may not be below -10°C or above +50°C. Corrosive or highly abrasive materials may only be used following consultation with Krautzberger.

Krautzberger pressure containers are equipped as standard with a material outlet with shutoff device, compressed air connection fitting with overpressure valve, and a pressure gauge for pressure indication.

Pressure containers may be fitted with stirrers, level gauges, filling devices and other accessories.

Krautzberger 5, 10, 19-litre pressure containers are designed for 10,000 stress reversals (1 stress reversal (or load cycle) is equivalent to a pressure fluctuation range > 3bar).



When using hazardous substances:

When using hazardous substances, note that the substance is released into the atmosphere if the safety valve is activated.

It is illegal to release certain hazardous substances directly into the atmosphere, and some substances may not be present at the workplace in inadmissibly high concentrations. This means that the safety valve must be of a design that permits connection to a pipeline, via which the hazardous substances can be routed to a treatment system if necessary. Krautzberger pressure containers can therefore be equipped with a safety valve with connection option.

1 General safety notes



Material pressure containers may not be transported in pressurised state!



The construction of pressure containers may not be altered!



Pressure containers may only be operated within the operating parameters (pressure, temperature etc.) specified on the rating plate!



The housing of the pressure containers is made of stainless steel and may have galvanised or enameled surfaces. The operator must check the compatibility of the materials with the coating substances used. Please also refer to the instructions of the manufacturer of the coating substance.



Before opening a pressure container, the compressed air feed must always be shut off and the container rendered pressureless via the venting valve!

Stirring mechanisms must be switched off and secured against accidental switch-on!

Please always read and observe the safety and treatment instructions of the material manufacturer – in particular instructions relating to:



- the wearing of protective equipment during the use of hazardous substances
- the avoidance of harmful or explosive environments

Electrostatic charges during operation of the pressure container can lead to electric shocks and spark formation.



The pressure container must therefore be earthed!

Air lines, material pipes and containers, equipment and electrically conductive surfaces in the working zones must also be earthed.

Components connected by the operator (hoses and pipes, fittings, extraction devices etc.) must be reliably able to withstand the loads to be expected during operation of the pressure container (pressure, temperature, chemical and mechanical influences).



Before each operating step, check hoses and pipes for possible damage and ensure that they are firmly connected. Loose, pressurised hoses may cause accidents due to whiplash-like movement and the uncontrolled discharge of fluids.

Rooms in which hazardous substances are stored or processed must have adequate ventilation. It may be necessary to install a ventilation system.



If the ventilation system fails, work must be stopped immediately and the stirrer switched off.

Always comply with the relevant national and regional regulations.



Do not store any flammable substances, empty coating substance containers or other materials that have been in contact with the coating substance (paper, cloths etc.) in the container or in the working zone.



Do not use halogenated detergents. Chemical reactions may cause explosive and caustic compounds!



In the working zone, avoid open flames and red-hot components as well as equipment, tools and parts that can create ignitable sparks.



Hang up “No Smoking” signs in a 5-metre radius of the container. Make fire extinguishers available if these are not already in place!



Comply with all national and regional water protection regulations!

Comply with all national and regional waste disposal regulations!



To ensure safe operation of the pressure container, please comply with the accident prevention regulations issued by the relevant trade associations – in particular (in Germany):

- BGV A1 (general regulations and in-company work protection principles)
- BGV B1 (handling hazardous substances)
- BGV D 15 (working with liquid spraying equipment)
- BGV D 25 (processing of coating substances)
- TRB 500 (process and inspection guidelines for pressure containers)
- TRB 600 (mounting of pressure containers)
- TRB 700 (operation of pressure containers)
- CHV 12 (regulations on pressure containers)

The relevant regulations and rules for Germany (written in German) can be ordered from the publishing company:

Carl Heymanns Verlag KG
Luxemburger Str. 449
50939 Cologne

2 Inspection by qualified experts in accordance with the “AD” info sheets

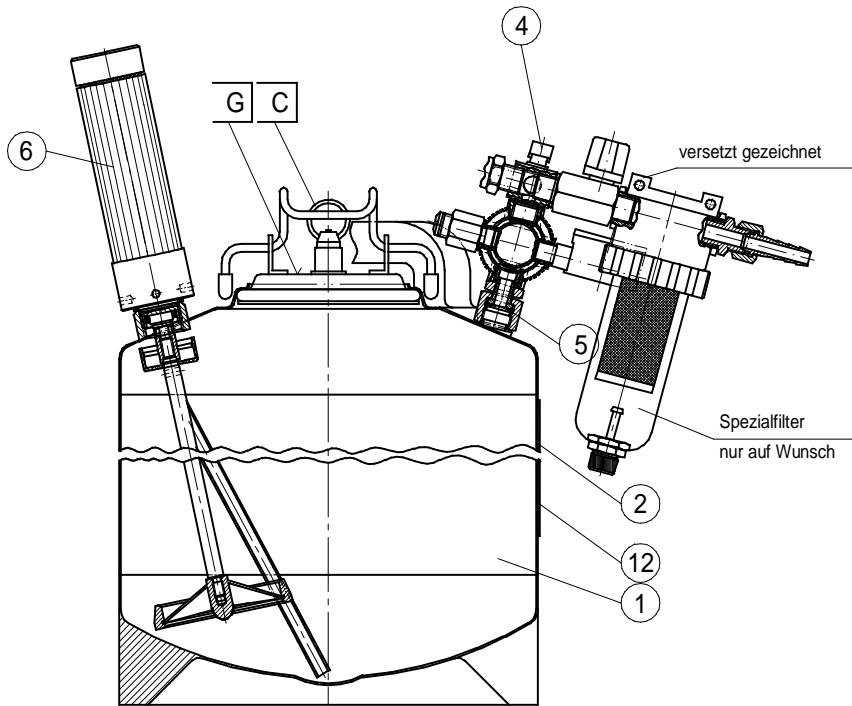
Pressure containers must be checked on a regular basis by qualified experts. The inspection intervals depend on operational experience, the substances used, and the outcome of previous inspections.

However, the following periods may not be exceeded:

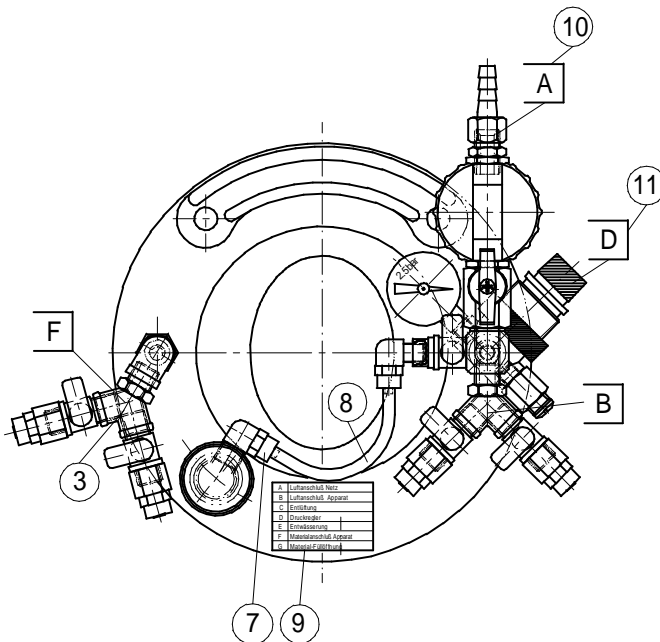
- Internal inspection: every 5 years
- Pressure testing: every 10 years
- External inspection: every 2 years

Internal and external inspection must be performed after 5,000 stress reversals. Record each startup and rundown of the container with a pressure fluctuation range > 3bar (equivalent to one stress reversal).

3 Basic design



Draufsicht ohne Behälterdeckel dargestellt



1	<i>housing</i>	A	Compressed air connection
3	Material extraction point (2 spray guns, optional)	B	Compressed air connection, spray gun
4	Compressed air connection, spray gun	C	Safety valve
5	<i>gasket 010-0192</i>	D	<i>Druckregler</i>
6	<i>stirrer (optional)</i>	F	Material extraction point
12	<i>rating plate</i>	G	<i>Material- feed opening</i>

The material extraction point may have more than one port for the connection of more than one consumer. The air fitting can be equipped with connection options for additional compressed air consumers – such as stirrers, handheld spray guns etc.

4 Installation, mounting of the container

Pressure containers must be installed in such a way that:

- neither employees nor third parties are at risk
- they are accessible for regular inspection
- the rating plate is easily visible
- the pressure container can be operated from a safe and stable position
- they are protected against external mechanical influences
- they are protected against unauthorised access

4.1 Connections

- Connect the material pressure hose leading to your extraction point to the material outlet
- Connect the compressed air feed to the air connection



The compressed air supply must be dry and oil-free. Make the necessary provision for a suitable shutoff device (ball cock).

The compressed air fitting can be equipped with more than one (if necessary adjustable) outlet for the connection of additional consumers (spray gun, stirrer etc.).

- Connect the waste air line to the safety valve
- Connect the earthing device and earth all conductive components in the working zone
- **Check firmness of all connections!**

4.2 Filling



Each time before you fill the container:

- Shut off the compressed air feed
- Vent the container via the ball cock until the container is pressureless
- Switch off stirrer – if present



Do not open the container cover until the container has been fully vented!

There is increased risk of fire when you open the cover! In the working zone, avoid open flames and red-hot components as well as equipment, tools and parts that can create ignitable sparks!

When removing the cover, make sure that the stirrer blades do not knock against the container wall, thus creating ignitable sparks.

- Loosen star-grip screws/clamp fasteners
- Remove cover
- Clean pressure container using a suitable detergent when necessary

- Fill pressure container. Do not exceed the maximum filling level (see Technical data)!
- Close cover, tighten star-grip screws/clamp fasteners
- Open compressed air feed

5 Regular checks, maintenance

- Check the proper functioning of the safety valve every time before you begin operating the system! To test the valve function, turn the knurled screw of the safety valve to the left. If the valve does not blow off, the pressure container must not be operated until a new safety component has been fitted!
- Check the air and material lines and their connections for seal-tightness and firm seat every time before you begin operating the system.
- Before opening the pressure container, check the cover gasket for soiling, wear and damage.



Before opening a pressure container for all maintenance., servicing and cleaning work on the open container, the air feed must always be shut off and the container rendered pressureless!

Stirring mechanisms must be switched off and secured against accidental switch-on!

6 Cleaning, disposal

Clean the pressure container after use thoroughly using a suitable detergent. Ensure that the sealing surfaces between container and container cover are clean.

Dispose of materials accumulating during cleaning (cloths etc.) through the appropriate channels. Comply with the regulations of the local waste disposal authorities.



Comply with the safety instructions of the detergent manufacturer. Detergents may be harmful to your health and be easily flammable!

Ensure that the detergent is compatible with the container materials!

7 Wearing parts, spare parts

Gaskets are subject to material fatigue and natural wear. Defective gaskets are noticeable from the leakage of air or coating substance on fittings or connections. Gaskets may be made of NBR, EPDM or Viton.

When changing gaskets, check compatibility with the coating substance used.

Cover gasket for 50-litre and 100-litre container

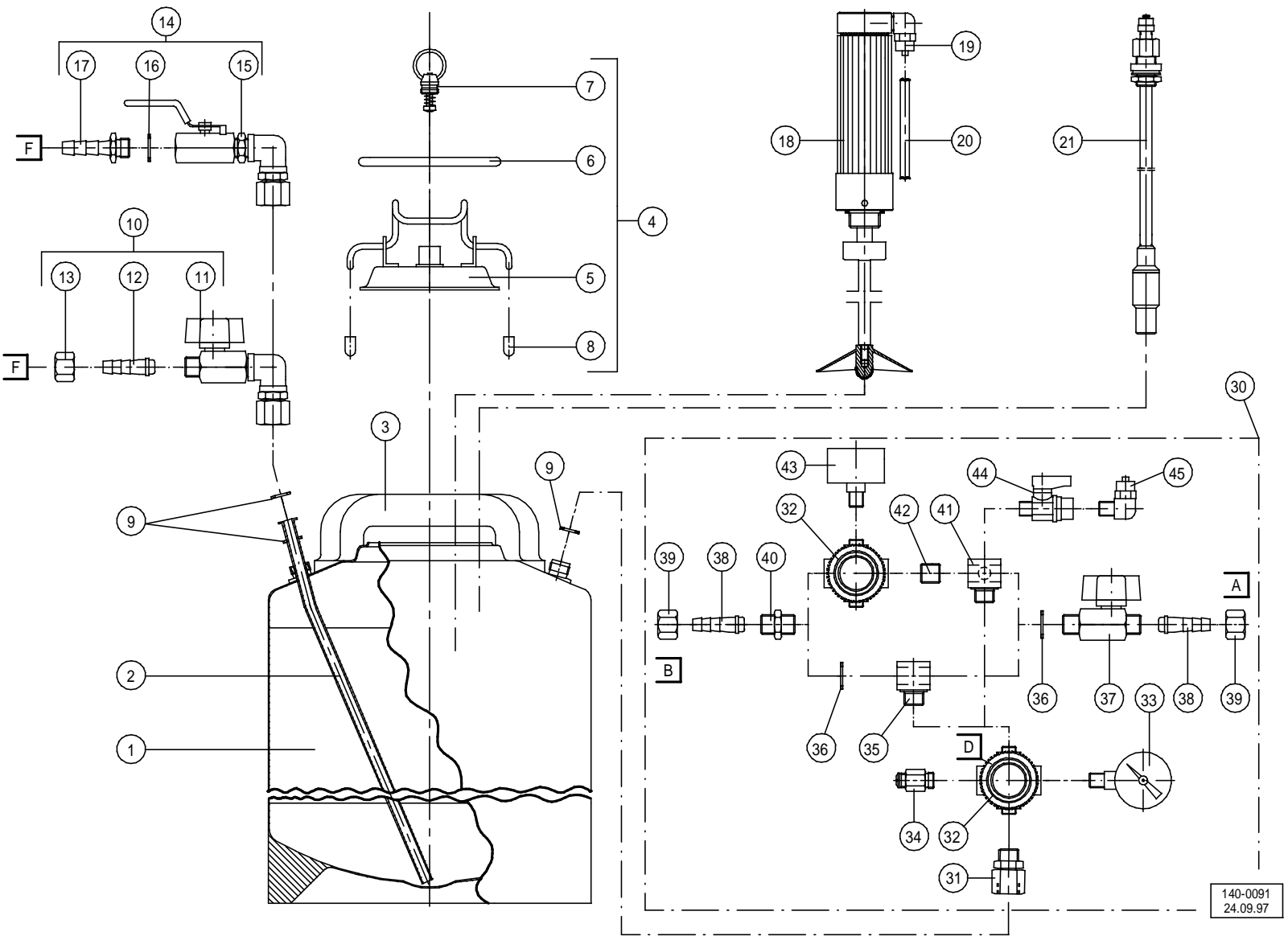
8 Troubleshooting

Problem	Cause	Remedy
Leakage between container flange and cover	Container flange, cover gasket soiled or porous	Clean or replace
Leakage at compressed air fitting	Gaskets defective	Replace gaskets
Leakage at stirrer mounting	Gasket defective	Replace gaskets
Leakage at material outlet	Gasket defective	Replace gaskets
Material pressure cannot be adjusted	Material pressure regulator defective	Replace

9 Technical data

	5-litre type	10-litre type	19 litre type
Compressed air feed	dry, oil-free, filtered 2.5-6bar	dry, oil-free, filtered 2.5-6bar	dry, oil-free, filtered 2.5-6bar
Max. filling volume	5,4 litres	9,2 litres	19 litres
Ambient temperature	-10 to +50°C	-10 to +50°C	-10 to +50°C
Temperature – coating material	-10 to +50°C	-10 to +50°C	-10 to +50°C
Test pressure/Date	3.6bar/8.6bar	3.6bar/8.6bar	3.6bar/8.6bar
Setting pressure of over-pressure valve	customer-specific	customer-specific	customer-specific
Weight (empty)	3-4kg	3,7-4,7kg	5,1-6kg
Dimensions	max. 350x216mm	max. 460x216mm	max. 720-216mm
Mains voltage – electric stirrer	230V/50Hz	230V/50Hz	

10 Spare parts drawing



11 Spare parts

pos.	article no.	designation
1	5705-080-0837 5710-080-0838 5719-080-0839	5litre (incl. pos. 2, 3, 4) 10litre (incl. pos. 2, 3, 4) 19litre (incl. pos. 2, 3, 4)
2	5705-040-1134 5710-040-1139 5719-040-1916	standpipe 5litre standpipe 10litre standpipe 19litre
3	5705-030-1309	handle
4	5705-040-1132	cap, cpl., gasket (PE)
4	5705-040-0163	cap, cpl., gasket (FKM)
4	5705-080-0162	cap, cpl., gasket (PTFE)
5	5705-040-2287	cap
6	5705-010-0191	cap gasket (EPDM)
6	5705-010-0945	cap gasket (FKM)
6	5705-010-0161	cap gasket (PTFE)
7	5705-080-0397	safety relieve valve (6bar)
8	5705-040-1133	sealing cap (2 pcs)
9	5705-010-0192	gasket (3 pcs)
10	5705-090-0771	fitting, cpl., brass
11	5705-080-0398	fitting, pre-assembled, brass
12	6902-030-2248	hose clip
13	6902-040-0821	nut
14	5705-090-0770	fitting, cpl., stainless-steel
15	5705-080-0146	fitting, pre-assembled, stainless-steel
16	5705-010-0174	gasket
17	6901-030-2213	hose clip
18	6313-090-0260 6313-090-0261 6313-090-1604	stirrer (5litre) stirrer (10litre) stirrer (19litre)
19	6903-030-0821	screwed joint
20	8210-100-0322	pipe
21	9200-090-0692 9200-090-0693 9200-090-0694	level probe (5litre) level probe (10litre) level probe (19litre)
30	see table below	compressed air fitting
31	5705-080-0150	screwed joint
32	5705-030-2021	pressure regulating valve (6bar, 2 pcs)
32	5705-090-0278	pressure regulating valve (2,5bar, 2 pcs)
33	5705-010-1031	manometer (6bar)
33	6825-030-1034	manometer (2,5bar)
34	5705-030-2839	safety relief valve (2,5bar)
35	5705-030-2122	distributor
36	5705-010-0174	gasket (2 pcs)
37	6915-030-0982	ball valve
38	6902-040-0822	hose clip (2 pcs)
39	6902-040-0821	nut (2 pcs)
40	6920-030-2235	double nipple
41	5705-030-2123	distributor
42	5705-040-1167	pipe nipple
43	6826-030-1061	manometer (6bar)
43	6826-030-1060	Manometer (4bar)
44	6915-030-0963	ball valve
45	6903-030-0820	screwed joint

compressed air-fittings (pos. 30)					
fitting, cpl. article.no	pressure control		air-pressure control		stirrer connection
	2,5bar	6bar	2,5bar	6bar	
5705-080-0874	X				
5705-080-0831		X			
5705-080-0876	X				X
5705-080-0833		X			X
5705-080-1068	X		X		
5705-080-0832		X		X	
5705-080-0875	X			X	
5705-080-1069	X		X		X
5705-080-0834		X		X	X
5705-080-0877	X			X	X

Regular inspections by qualified experts

Data on rating plate:

Manufacturer/Supplier:.....

Production no.:.....Production year:..... Manufacturer's symbol:.....

	Inspection 1	Inspection 2	Inspection 3	Inspection 4
Internal inspection	<input type="checkbox"/> OK <input type="checkbox"/> defective	<input type="checkbox"/> OK <input type="checkbox"/> defective	<input type="checkbox"/> OK <input type="checkbox"/> defective	<input type="checkbox"/> OK <input type="checkbox"/> defective
<i>Pressure container walls (depending on condition): sight check, thickness measurement, surface fissure inspection, ultrasound test, radiographic test General condition of pressure container Function testing of safety components</i>				
Pressure test	<input type="checkbox"/> OK <input type="checkbox"/> defective	<input type="checkbox"/> OK <input type="checkbox"/> defective	<input type="checkbox"/> OK <input type="checkbox"/> defective	<input type="checkbox"/> OK <input type="checkbox"/> defective
External inspection	<input type="checkbox"/> OK <input type="checkbox"/> defective	<input type="checkbox"/> OK <input type="checkbox"/> defective	<input type="checkbox"/> OK <input type="checkbox"/> defective	<input type="checkbox"/> OK <input type="checkbox"/> defective
<i>General condition, inspection of equipment components for:</i> <ul style="list-style-type: none"> ▪ presence ▪ adjustment ▪ functioning <i>Function testing of safety components</i>				

Inspection 1	<input type="checkbox"/> Inspection did not show any problems	Date:.....Qual. expert:.....
<input type="checkbox"/> Inspection revealed the following problems:		
Inspection 2	<input type="checkbox"/> Inspection did not show any problems	Date:.....Qual. expert:.....
<input type="checkbox"/> Inspection revealed the following problems:		
Inspection 3	<input type="checkbox"/> Inspection did not show any problems	Date:.....Qual. expert:.....
<input type="checkbox"/> Inspection revealed the following problems:		
Inspection 4	<input type="checkbox"/> Inspection did not show any problems	Date:.....Qual. expert:.....
<input type="checkbox"/> Inspection revealed the following problems:		

EG-Konformitätserklärung

EC-Declaration of conformity
gemäß Anhang VII der EG – Druckgeräte-Richtlinie 97/23/EG
as defined by Pressure Equipment Directive 97/23/EC Annex VII



Krautzberger GmbH
Stockbornstraße 13
65343 Eltville am Rhein

HIERMIT ERKLÄREN WIR, DASS FOLGENDES PRODUKT

HEREWITH WE DECLARE, THAT THE PRESSURE EQUIPMENT

Bezeichnung / Type: Materialdruckbehälter MDC mit 5l, 10l und 19l Inhalt; 2,5 - 6bar Betriebsdruck

Artikel-Nummer/Serial-no. 200-0278 200-0279 200-0280

Artikel-Nr. Sonderbehälter

Funktion/Function: Druckluft betriebener Materialdruckbehälter zur Druckbeaufschlagung von flüssigen und niederviskosen Medien

IN DER GELIEFERTEN AUSFÜHRUNG FOLGENDEN BESTIMMUNGEN ENTSPRICHT:
CORRESPONDS TO FOLLOWING PERTINENT REGULATIONS IN THE DELIVERED IMPLEMENTATION

EG – DRUCKGERÄTERICHTLINIE 97/23/EWG, EG-NIEDERSPANNUNGS-RICHTLINIE 73/23/EWG (NUR BEI ELEKTRISCHEN ANBAUTEILEN), EG-EMV-RICHTLINIE 93/68/EWG (NUR BEI ELEKTRISCHEN ANBAUTEILEN), EG-MASCHINENRICHTLINIE 98/37 EG (BEI ELEKTRO- UND DRUCKLUFTRÜHRWERKEN)

Folgende harmonisierte EU-Normen wurden angewendet:

APPLIED HARMONIZED STANDARDS, IN PARTICULAR:

- DIN EN 1050 (bei Rührwerken)
- DIN EN 292-1/2 (bei Rührwerken)
- DIN prEN 12757-1 (bei Rührwerken)
- DIN EN 60204-1 (bei Elektrorührwerken)

Folgende nationale Normen wurden angewendet:

APPLIED STANDARDS AND TECHNICAL SPECIFICATIONS, IN PARTICULAR

- AD 2000 Merkblätter

ANGEWANDTES KONFORMITÄTSMETHODENVERFAHREN: Modul A (5l)

Modul A1 (10l, 19l)

Benannte Stelle gem. Artikel 12 Druckgeräte-Richtlinie: TÜV Technische Überwachung Hessen GmbH

ENGAGED NOTIFIED BODIES:

Rüdesheimer Strasse 119
64285 Darmstadt

Datum: _____

i.A. 

Angaben zum Unterzeichner: M. Stoffels,
Leiter Konstruktion

diese Konformitätserklärung gilt nicht für Druckbehälter mit einem Druckinhaltsprodukt PS von <25bar x Liter. Diese Druckbehälter unterliegen nicht den Anforderungen der Druckgeräte-Richtlinie.