

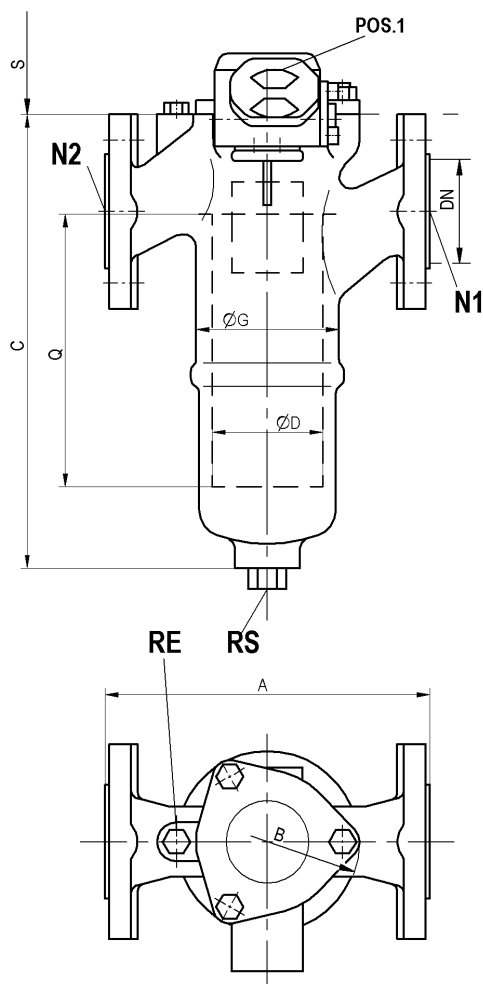
## DESCRIPTION AND OPERATING INSTRUCTIONS

### FOR THE SINGLE FILTER

#### Contents:

1. Type sheet
2. Spare parts drawing and spare parts list
3. Description and Operating Instructions for the single filter
4. Description and Operating Instructions for the filter element cleaning
5. Data Sheet for the Differential Pressure Indicator (to order)
6. Spare parts drawing for the Differential Pressure Indicator (to order)

**Z45542**  
TYP1.14.2  
13.06.2005



**N1 FILTEREINTRITT**  
FILTERINLET  
ENTRÉE DE FILTRE

**N2 FILTERAUSTRITT**  
FILTEROUTLET  
SORTIE DU FILTRE

**N1/N2 NACH DIN2501 PN40 GEBOHRT**  
N1/N2 DRILLED ACC. TO DIN2501 PN40  
N1/N2 PERCÉE D'APRÈS DIN2501 PN40

**BEI KORBSIEB DURCHFLUSS ENTGEGENGESETZT**  
WITH BASKET ELEMENTS FLOW IN OPPOSITE DIRECTION  
AVEC DES PANIERS À CORBEILLE LE PASSAGE EST EN SENS CONTRAIRE

**RE ENTLÜFTUNG G1/4**  
AIR ESCAPE  
DÉSAÉRATION

**RS ENTLERUNG G1**  
DRAIN  
VIDANGE

**S SIEBAUSBAU**  
DISMOUNTING OF THE FILTER ELEMENT  
DÉMONTAGE DU PANIER

**GEHÄUSE AUS EN-GJS-400-15**  
HOUSING OF CAST IRON WITH SPHEROIDAL  
CORPS EN FONTE SPHÉROLITIQUE

**ALLGEMEINTOLERANZEN DIN ISO 2768-V**  
TOLERANCE DIN ISO 2768-V  
TOLÉRANCE DIN ISO 2768-V

**AUF WUNSCH** , ON REQUEST , SUR DEMANDE  
**POS.1 DIFFERENZDRUCKANZEIGER**  
DIFFERENCE PRESSURE INDICATOR  
INDICATEUR DE DIFFÉRENCE DE PRESSION

**BESTELLBEISPIEL**  
ORDERING EXAMPLE  
EXEMPLE DE COMMANDE

TYP    øG    Q    DN  
1.14.2    110    210    40

øG	Q	DN N1/N2	PN/120°C	A	øB	C	øD	E	s	VOL. L	KG
90	95	25	40	200 +3	118	230	65	55	170	0.9	8
	145	32				265		60	220	1.2	9.5
110	210	40	40	250 +3	142	350	85	75	300	2.3	13.5
	260	50		260 +3		400		350	2.7	16.5	

SUBJECT TO ALTERATIONS

ÄNDERUNGEN VORBEHALTEN!

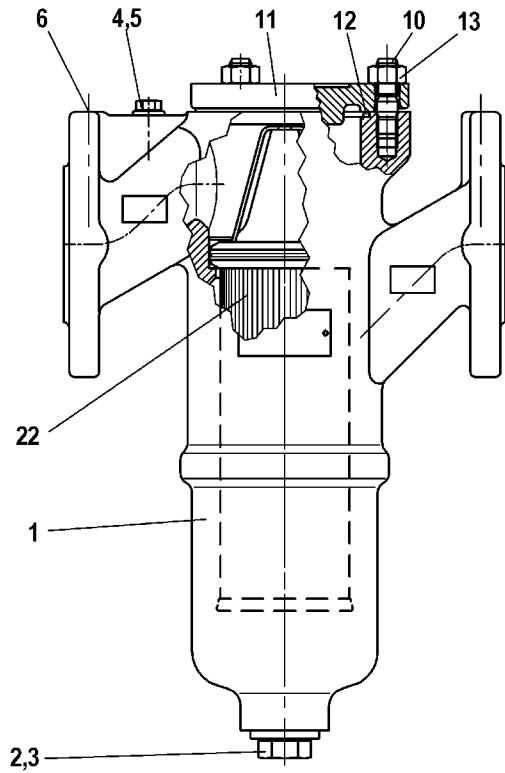
MODIFICATIONS RÉSERVÉES

SINGLE FILTER

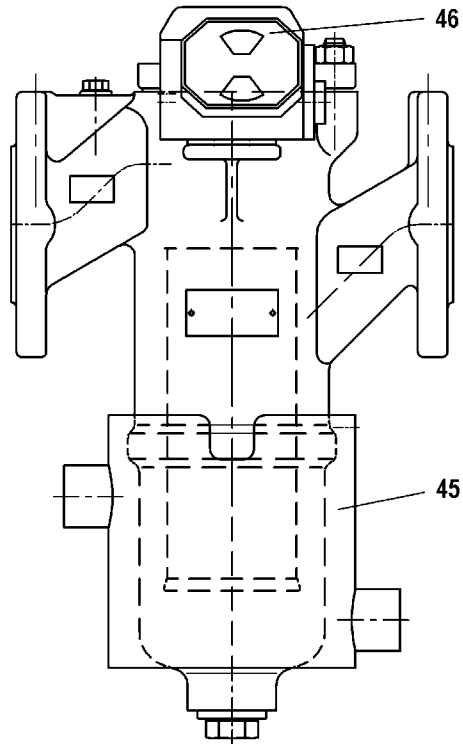
**EINFACHFILTER 1.14.2**

FILTRE SIMPLE

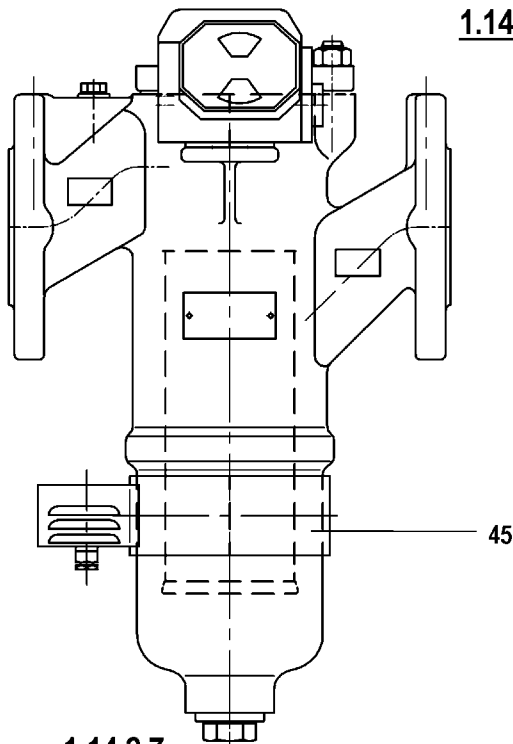
**Z29635**  
28.02.2000



**1.14.2**



**1.14.2.6**



**1.14.2.7**

## ERSATZTEILLISTE TYP 1.14.2 SPARE PART LIST                      LISTE DES PIECES DE RECHANGE

**Typenschlüssel:**

1.14.2	=	Einfachfilter	single filter	Filtre simple
G	=	Gehäusedurchmesser	cabin diameter	diamètre du corps
Q	=	Filtereinsatzlänge	length of the filter element	longueur du
panier				
DN	=	Anschlußflansche	connection flanges	brides désirées

Pos. Nr.	Bezeichnung	Gr. 90.95 DN 25	Stück parts pièce	Gr. 90.145 DN 32	Stück parts pièce	Gr. 110.210 DN 40	Stück parts pièce	Gr. 110.260 DN 50	Stück parts pièce
1	Gehäuse casing corps	2-27338	1	2-26530	1	2-26532	1	2-26534	1
2	Verschlusschraube screw plug vis	DIN 910 G 1 2000191	1	DIN 910 G 1 2000191	1	DIN 910 G 1 2000191	1	DIN 910 G 1 2000191	1
3	Dichtung gasket joint	DIN 7603 A 33 x 39 x 2 3270006	1	DIN 7603 A 33 x 39 x 2 3270006	1	DIN 7603 A 33 x 39 x 2 3270006	1	DIN 7603 A 33 x 39 x 2 3270006	1
4	Verschlusschraube screw plug vis	DIN 910 EG 1 2002885	1	DIN 910 EG 1 2002885	1	DIN 910 EG 1 2002885	1	DIN 910 EG 1 2002885	1
5	Dichtung gasket joint	DIN 7603 A 14 x 18 x 1 3270002	1	DIN 7603 A 14 x 18 x 1 3270002	1	DIN 7603 A 14 x 18 x 1 3270002	1	DIN 7603 A 14 x 18 x 1 3270002	1
6	Verschlusschraube screw plug vis	DIN 906 NPT ¼ 2008566	2	DIN 906 NPT ¼ 2008566	1	DIN 906 NPT ¼ 2008566	1	DIN 906 NPT ¼ 2008566	1
10	Stiftschraube stud bolt bis	DIN 939 M 10 x 25 2000002	3	DIN 939 M 10 x 25 2000002	3	DIN 939 M 12 x 25 2000003	3	DIN 939 M 12 x 25 2000003	3
11	Deckel cover couvercle	4-26002	1	4-26002	1	4-25721	1	4-25721	1
12	O-Ring o-ring joint	2-232 3030742 3040102	1	2-232 3030742 3040102	1	2-238 3035046 3042329	1	2-238 3035046 3042329	1
13	Mutter nut écrou	DIN 934 M 10 2100005	3	DIN 934 M 10 2100005	3	DIN 934 M 12 2100006	3	DIN 934 M 12 2100006	3
22	Filtereinsatz filter element élément filtrant	Fabr.-Nr. Filter Typ		Fabr.-Nr. Filter Typ		Fabr.-Nr. Filter Typ		Fabr.-Nr. Filter Typ	
45	Heizmantel heating jacket chemise de chauffage	12077	1	12077	1	12078	1	12078	1
45	Elektro.-Heizung electrical heating chaffage électrique	3-29028 D 92	1	3-29028 D 92	1	3-29028 D 105	1	3-29028 D 105	1
46	Differenzdruckanzeiger differ.press.indicator indicator de diff. de pressure	Typ/Druck type/pressure type/pression		Typ/Druck type/pressure type/pression		Typ/Druck type/pressure type/pression		Typ/Druck type/pressure type/pression	

## INSTALLATION AND OPERATING INSTRUCTIONS FOR BOLL SINGLE FILTERS

### 1. *Description*

The filter casing is designed to meet the current regulations for the range of pressures in question. The filter elements are resistant to differential pressure. The admissible values are shown on the nameplate of the differential pressure indicator. The effective differential pressures which are economically advisable are 0.8 bar for filters with filter mesh and 2 bar for filters with micro-cartridges.

Single filters are used where the plant or the filter can be isolated with shut-off valves for cleaning or changing the filter elements.



According to the AD Information Sheets, the filter housings are only rated for internal overpressure. Additional external forces and moments at the connection flanges of the filter are to be avoided (possibly support feed lines).

### 2. *Installation*

When the filter is being secured to the foundation, the filter casing must be free from strain. The same applies when connecting the piping. The inlet/outlet connections depend on the strainer element used (see works standard WN 211). Pay attention to the direction arrows marked and the inlet and outlet.

#### ***Heated filters with shut-off valves***

*- Additional parts required for heated filters -*



- a) For steam-heated filters:  
Safety valves for the filter chamber, set to operate at a relief pressure which is 10 % above the maximum admissible operating pressure of the filter casing.
- b) For electrically heated filters:  
Thermostats which cut off the power supply to the heater plate at a maximum admissible temperature of 150 ° in the filter chamber as well as one safety valve per filter pot.

Heating of the filter serves to make up for the heat loss at the filter during the filtration process and to heat the liquid in the filter before start-up of the plant.

### 3. *Commissioning*

#### 3.1 **Pressure filters** (> 0.1 bar pressure in the filter)

- Open the air vent of the filter chamber (only about 1 turn of venting screw)
- Start the plant up slowly
- Close air vent when the air has escaped and liquid starts to emerge.  
The filter is now ready for operation.

#### *Cleaning*

The filter element has to be cleaned or the cartridge changed at a differential pressure of 0.8 bar in filters with filter mesh and 2 bar in filters with a micro-cartridge.

- Open the air vent of the isolated filter; this relieves the liquid pressure.
- Dismantle the casing cover of the isolated filter.
- Open the drain.
- Drain the liquid down to the strainer base in the case of basket strainers; drain filter casing completely in the case of jacket strainers, cartridge strainers and micro-cartridges.
- Remove the filter element vertically upwards.
- Clean filter element (see operating instructions "Strainer cleaning"); replace disposable elements with new ones and install them in the filter.
- When mounting the cover, check that the seal is in perfect condition and seated properly; if necessary, replace seal. Screw cover on, the air vent remains open.
- Close drain.
- Slowly start up plant. Open the inlet shut-off valve slightly.
- Close air vent as soon as the air has escaped and liquid emerges.
- Open both shut-off valves fully.

### 3.2 Suction filters (< 0.1 bar pressure in the filter)

- Fill and vent the filter chamber.
- Start up plant.
- When the differential pressure across the filter inlet and outlet reaches the maximum allowed by the pump suction head, the filter element must be cleaned or the cartridge replaced.

#### **Cleaning**

- Stop plant and close shut-off valves upstream and downstream of the filter.
- Open air vent of the isolated filter.



Air may be sucked in if the liquid level drops.

- Dismantle casing cover from the isolated filter.
- Open drain.
- Drain liquid.
- Remove filter element vertically upwards.
- Clean filter element (see operating instructions "Strainer cleaning"). Replace disposable elements with new ones and install them in the filter.
- Fill filter casing.
- When mounting the cover, check that the seal is in perfect condition and seated properly; if necessary, replace seal, and close air vent.
- Open both shut-off valves.



It is not permitted to fill the filter against the indicated flow direction of the filter elements.

5.

#### **Maintenance**

The single filter is maintenance-free.

## 1. Maintenance and Cleaning

- 1.1 Take the filter out of operation. See the operating instructions for simplex and duplex filters.
- 1.2 The filter chamber taken out of operation is drained, using the discharge screw, until the level of the liquid is below the element support. The basket element is then removed from the housing. The coarsest dirt particles can now be shaken off. The element should then be placed in a suitable cleaning gent, e.g. BOLL CLEAN 2000, and compressed air should carefully be blown through the element from the outside to the inside. For obstinate dirt, use of a soft brush which will not damage the mesh is recommended.

If media containing ferrite particles are to be filtered out, the basket element is fitted with a bar magnet (225).

### 1.3 Structure of the Basket Element

The basket element is a compound structure, consisting of a bottom plate (11), top ring (1), handle (124), support mantle (80) and tie rod (222).

All the elements are held together on the tie rod (222). The thread on the tie rod (222) is glued to the handle (124) so that the element can only be dismantled by undoing the hexagonal nut (221). The wire gauze (100) is welded from inside on to the support mantle (8). The flow is always from the inside to the outside.

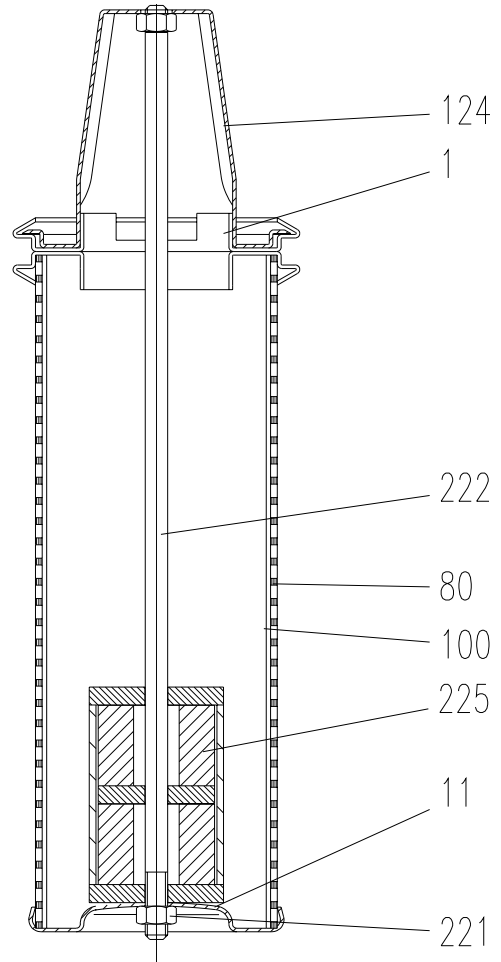
### 1.4 Basket element

The element is to be inspected and cleaned at regular intervals. The length of the intervals depends on the amount of contamination expected. It is recommended, however, that the initial cleaning should take place immediately after a new system

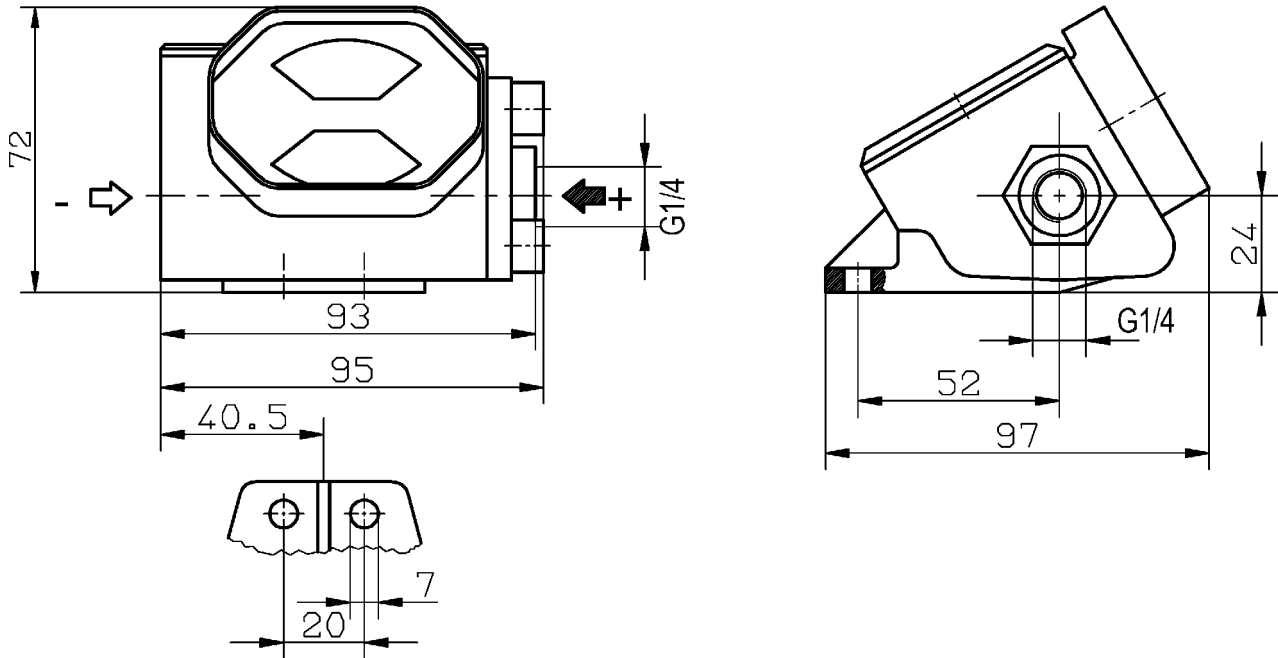
is flushed through.

In general, however, the pressure drop across the filter is a good indicator of the contamination on the filter element. This pressure drop should not exceed 0,8 bar, since otherwise there is a danger of the element fracturing.

(Dedicated differential-pressure monitors are available from the BOLL & KIRCH product range.)



Z45552  
TYP4.36.1  
01.01.00



MATERIAL : GD - ALUMINIUM  
RATING : MAX. PRESSURE 100 BAR  
MAX. TEMPERATURE 150°C

RANGES OF PRESSURE DIFFERENTIAL DELTA P =

0 - 0.5 BAR	} TO BE SPECIFIED WHEN ORDERING
0 - 0.8 BAR	
0 - 1.2 BAR	
0 - 2.0 BAR	
0 - 3.0 BAR	

DESCRIPTION:

THE PURPOSE OF THE DEVICE IS TO MEASURE AND GIVE A VISUAL INDICATION OF A VARIABLE PRESSURE DIFFERENCE.

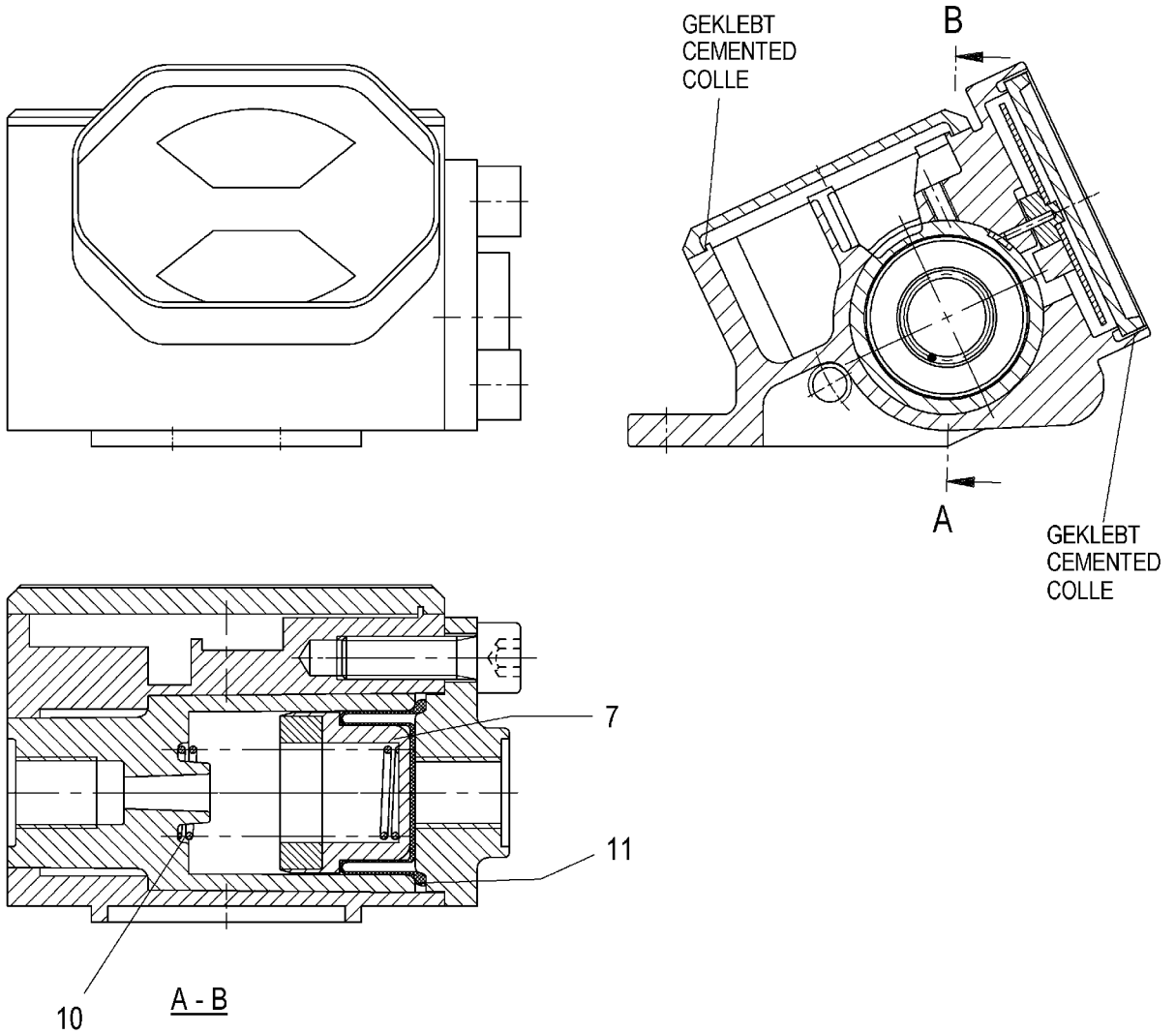
METHOD OF OPERATION:

A PISTON WITH DIAPHRAGM SEAL DIVIDES THE SPACE UNDER PRESSURE INTO TWO CHAMBERS. THROUGH THE ACTION OF A SPRING UNDER TENSION THE PISTON IS KEPT IN THE ZERO POSITION WHEN DELTA P = 0.

AS THE PRESSURE DIFFERENCE INCREASES (DELTA P > 0), THE PISTON MOVES AGAINST THE SPRING. AT THE SAME TIME AN INDICATOR DISC IS ROTATED BY MAGNETIC MEANS, THAT IS VIRTUALLY WITHOUT FRICTION. AS A RESULT OF THE MOVEMENT OF THE PISTON, THE RED SEGMENT OF THE DISC BECOMES VISIBLE IN THE REGION EXTENDING FROM APPROX 50% TO 100% OF THE DIFFERENTIAL PRESSURE RANGE.

DIFFERENTIAL PRESSURE INDICATOR TYPE 4.36.1

Z21513  
TYP4.36.1+4.46.1  
18.01.93



BEI BESTELLUNG ANGEBEN  
TO BE MENTIONED IN CASE OF ORDER  
A MENTIONNER LORS DE LA COMMANDE

AUFTR.NR.:  
ORDER NO.  
NO DE COMMANDE

TYP 4.36.1

11	ROLLMEMBRAN	DIAPHRAGM	DIAPHRAGME	
10	FEDER	SPRING	RESSORT	
7	KOLBEN	PISTON	PISTON	
POS.NR.	BEZEICHNUNG	DESIGNATION	DESIGNATION	

SPARE PARTS  
DRAWING

ERSATZTEILZEICHNUNG  
ZUM TYP 4.36.1 UND 4.46.1

PLAN DES PIÈCES  
DE RECHANGE



Bei Service- und Ersatzteilbedarf wenden Sie sich bitte an das Stammhaus oder an unsere Niederlassungen, Vertretungen oder Service-Stellen.  
If you need service or spares for our products please contact our head office or our branch-offices, agencies or service-stations.



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