

**ProVent® 200**

**Series 39 310 70 550**

**Operating Instructions**

**MANN+  
HUMMEL**



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## 1. Preface

These operating instructions should make it easier for personnel to familiarize themselves with the ProVent® and to use it in the various application areas for which it was designed.

The operating instructions contain important information on operating the components safely, correctly and economically. These instructions must be followed in order to avoid danger, reduce repair costs and down times and increase the reliability and working life of your machine.

The instructions must be made accessible to every person working with the filter.

Furthermore, these instructions must be supplemented as necessary with the applicable national regulations regarding accident prevention and environmental protection (in particular the disposal of removed parts).

We reserve the right to make technical modifications to the filter and/or modify the content of these operating instructions.

encl: Technical Drawing

## 2. Safety

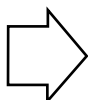
### 2.1 Warning instructions and symbols



All instructions in the operating manual that affect safety are marked with this symbol. Ignoring the symbol may endanger personnel.



All instructions marked with this symbol must be observed closely in order to avoid damage to or the destruction of unit components.



This symbol indicates that special attention must be paid to these instructions in order to ensure trouble-free, economical operation.

### 2.2 Intended use

The ProVent® was constructed using state-of-the-art technology in accordance with recognised safety specifications. However, the functional safety of downstream assemblies may be affected if:

- the ProVent® is used incorrectly or for a purpose for which it was not intended,
- the operating conditions change,
- conversions are carried out without consultation with the manufacturer,
- necessary maintenance and repair work is not performed.

Use the ProVent® only if in perfect condition and in accordance with the respective technical specifications, observing correct procedures regarding safety and danger, and in compliance with the operating instructions. Rectify immediately (or have rectified) all faults, especially if they affect safety.

Intended use also includes observing operating instructions and complying with inspection and maintenance requirements.

The filter manufacturer is **not** liable for dangers caused by the product being filtered. This applies in particular for the processing of hazardous materials. The operator of the ProVent® is responsible for providing the necessary, specified safety equipment.

### 2.3 Operational safety

All modes of operation that may affect operational safety of the ProVent® must be avoided.

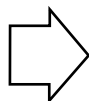
Independent conversions or modifications to the ProVent® are not permitted under any circumstances. **Furthermore, the manufacturer's warranty would immediately become invalid.**

All labelling and identification marks on the ProVent® must be legible at all times.

## 3. Description

The ProVent® is a crankcase ventilation system and essentially consists of a housing with an integral pressure control valve, a cover with a bypass valve, an oil separator and a support.

The ProVent® can be used as an open system (oil separation only) or as a closed crankcase ventilation system (recirculation of the blow-by gases and regulation of the crankcase pressure as well).



The environmental regulations of each country must be followed!

## 4. Installation

The ProVent® can be positioned in the support at twelve increments of 30° and at four height settings.

- Open fixing.
- Move ProVent® to required position.
- Close fixing.
- Mount bracket fitted to the ProVent® vertically.  
Tightening torque:  $9 \pm 2$  Nm.
- Attach hose lines at inlet, outlet and oil return connectors and secure using hose clamps.

To guarantee safe operation, the ProVent® should be protected from dirt (by fitting splash guards).

## 5. Maintenance



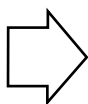
Only carry out maintenance work when the motor is switched off. Never start without an oil separator and/or cover.



Danger of burns from hot air that may escape. Housing, cover and hoses can become very hot.

The maintenance of the ProVent® essentially involves replacing the oil separator.

Check the ProVent® regularly for damage and external soiling.



High-pressure cleaners may not be used, as the valves may be damaged and water may enter the oil circuit.

### 5.1. Maintenance intervals

The oil separator must be replaced in accordance with specifications from the device manufacturer or after 1000 operating hours at the latest.



Maintenance intervals may need to be shortened depending on the operating conditions. In normal mode, if the O-ring is intact and oil leaks through the bypass valve (item 2, customer drawing), this indicates that the oil separator is worn and must be replaced immediately.

### 5.2. Removing the oil separator

- Rotate the cover approx. half a turn anti-clockwise and remove. Should the cover be difficult to move, a tool (e.g. screwdriver) can be used to help turn the cover (see customer drawing).
- Pull the oil separator upwards to remove and dispose of as per local waste regulations.

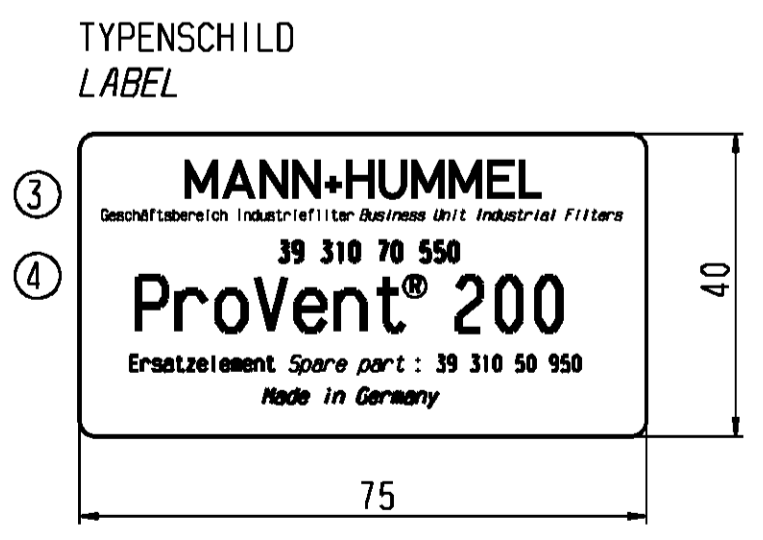
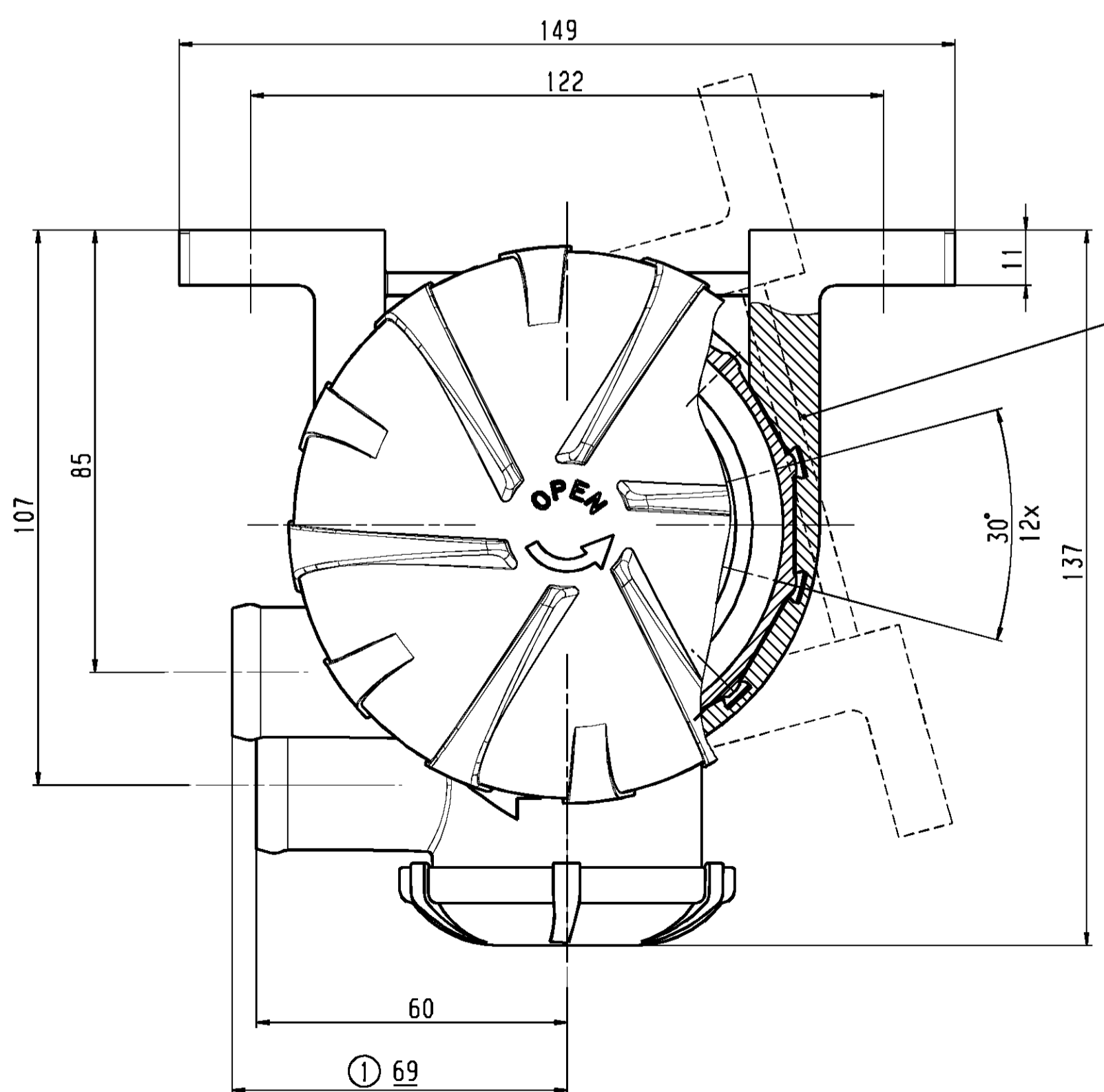
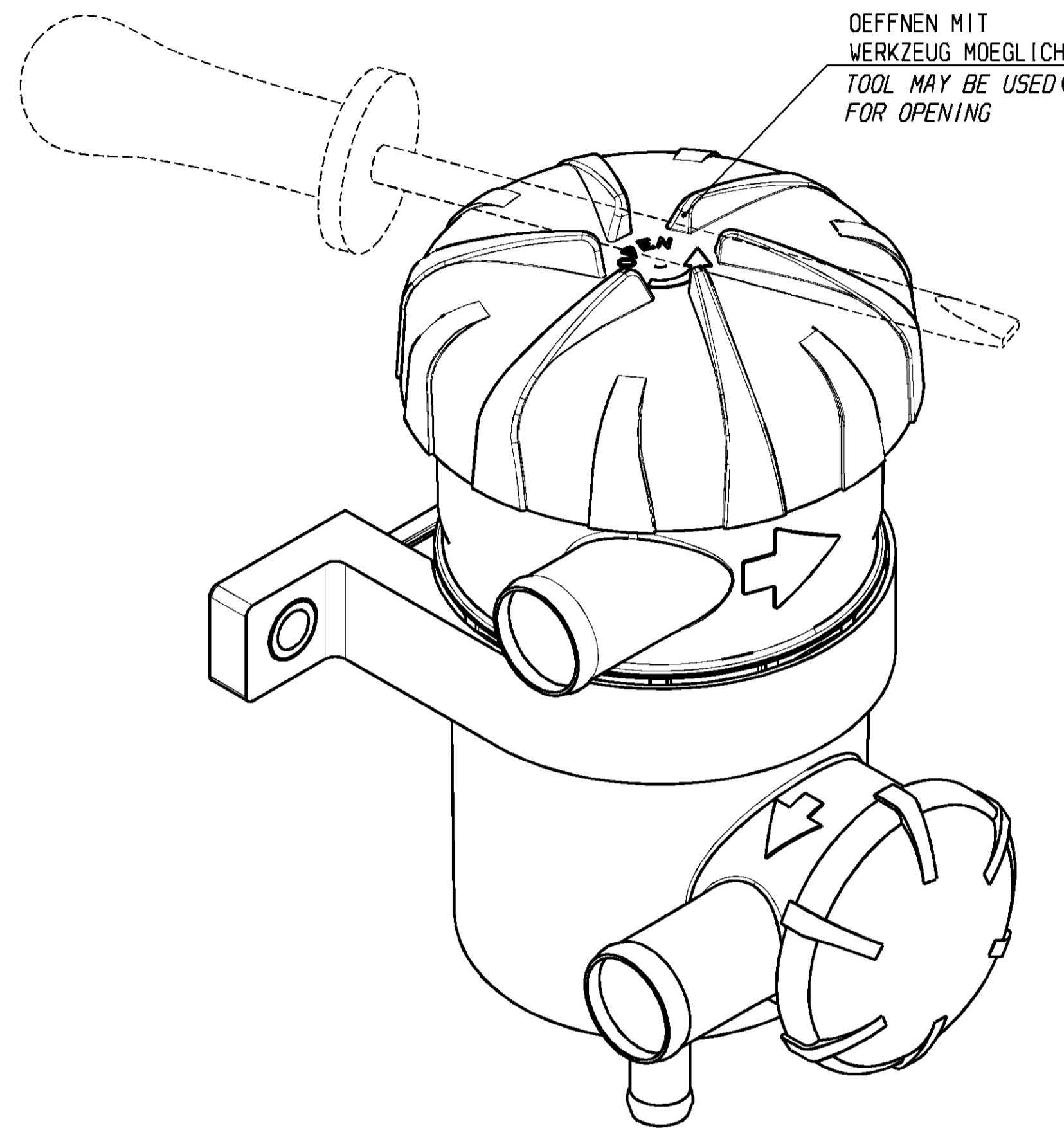
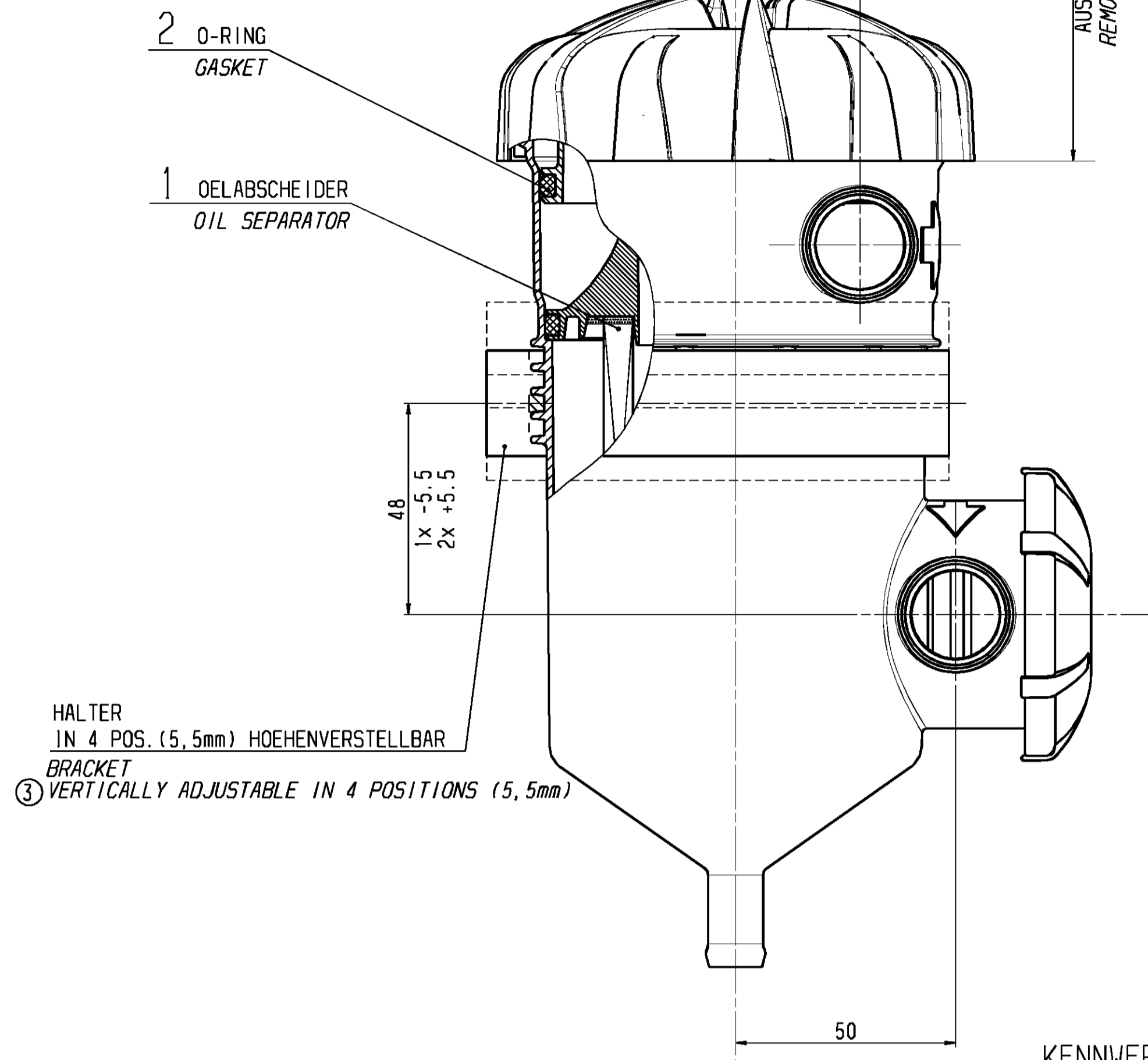
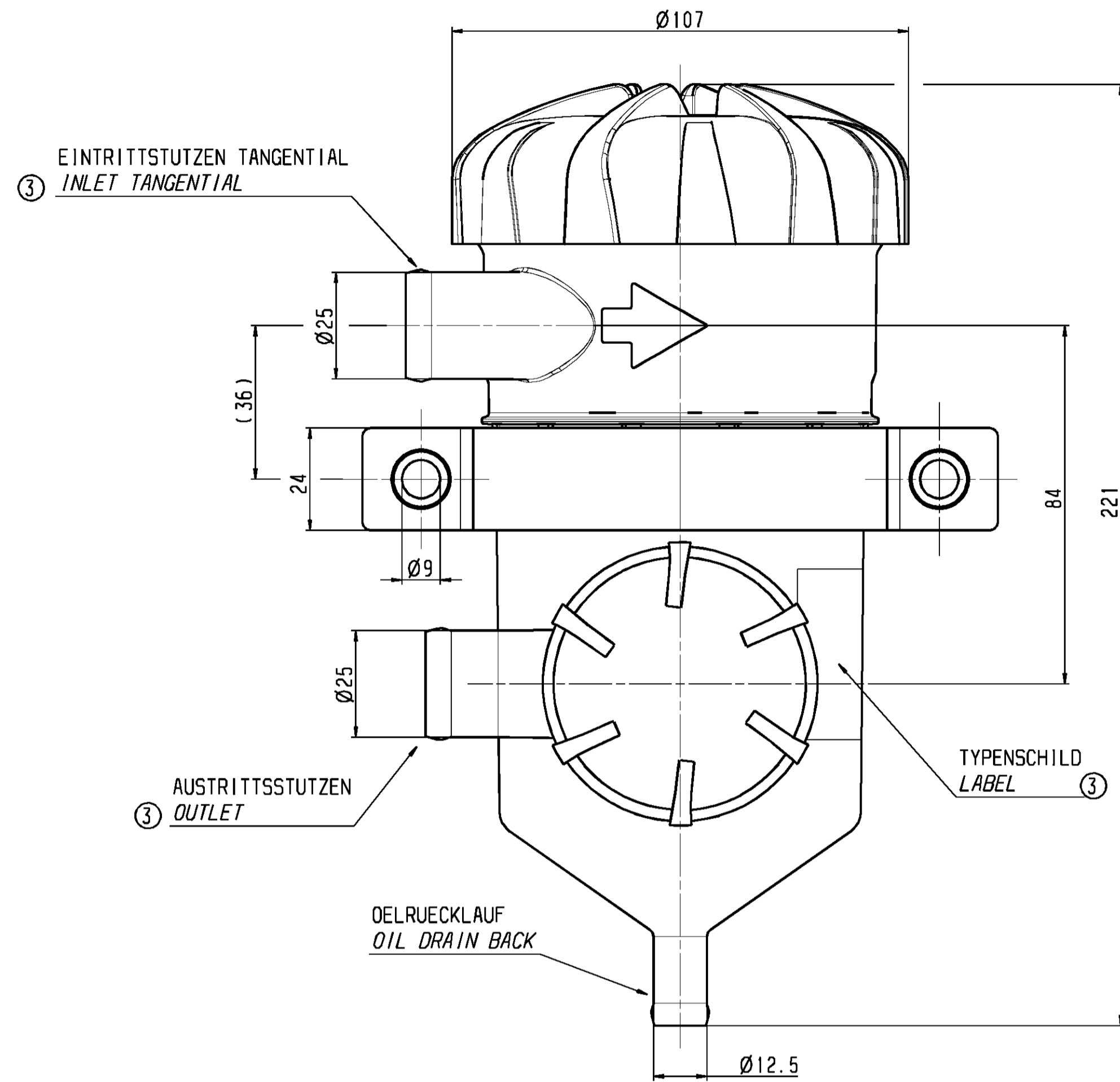
### 5.3. Assembly

- Clean housing, cover and sealing surfaces.
- Change O-ring (item 2, customer drawing) and rub in a small amount of engine oil.
- Slide the new oil separator into the housing with a new, slightly oiled O-ring.
- Put on the cover and turn clockwise until it latches into place.

## 6. Technical data / Spare parts list

See customer drawing

AE NO.	AE.-M. CH.-NO.	ÄNDERUNG DESCRIPTION OF CHANGE	DATUM DATE	BEARB. DRAWN	GEPR. CHECK.	GESEH. APP.
01	C55502	EINTRITTSTUTZEN VERLÄNGERT 69 W. 64; MASSE U. WERTE KORRIGIERT INLET CHANGED 69 W. 64; DIMENSION A. VALUE CHANGED	22.10.02	HARTMANN	DWORATZEK	MUENKEL
02	D74702	MASSE UND WERTE KORRIGIERT DIMENSION A. VALUE CHANGED	17.01.03	HARTMANN	DWORATZEK	MUENKEL
03	B42303	BESTELL-NR. 23 079 32 171 WAR 23 079 32 101; TEXT GEÄNDERT; TYPENSCHILD NEU PART-NO. 23 079 32 171 WAS 23 079 32 101; TEXT CHANGED; LABEL NEW	07.05.03	ZUERKER	HEIKAMP	HEIKAMP
04	E69404	BENENNUNG PROVENT WAR OELABSCHIEDER; TYPENSCHILD UEBERARBEITET NAME PROVENT WAS OIL SEPARATOR MODUL; LABEL REVISED	14.12.04	ZUERKER	HEIKAMP	HEIKAMP



**KENNWERTE:**

GEWICHT WEIGHT	.....	450g 450g
BLOW BY VOLUMENSTROM BLOW BY FLOW RATE	.....	max. 200 L/MIN max. 200 L/MIN
KURBELGEHAUSEDRUCK CRANK CASE PRESSURE	.....	-15 BIS MAX. +5 mbar -15 BIS MAX. +5 mbar
UMGEBUNGSENTIL OEFFNUNGSDRUCK BLOW OFF VALVE'S OPENING PRESSURE	.....	50mbar 50mbar
TEMPERATURBEREICH TEMPERATURE RANGE	.....	-35°C TO +120°C (KURZFRISTIG +140°C) -35°C TO +120°C (SHORT TIME +140°C)

POS. POS.	BENENNUNG NAME	BESTELL-NR. PART-NO.	FREMD-NR. CUSTOMER-NO.
2	O-RING O-RING	23 079 32 171 ③	
1	OELABSCHIEDER OIL SEPARATOR	39 310 50 950	

FORM- UND LAGETOLERANZEN TOLERANCES OF FORM AND POSITION		KUNDENVERMERKE / CUSTOMER NOTICES	
NACH / ACCORDING TO	ISO 1101	ISO 128	<b>ANGEBOTSZEICHNUNG</b> CUSTOMER DRAWING  SCHUTZVERMERK DIN 34 BEACHTEN / PROTECTION MARK ACCORDING TO DIN 34 THE COPYING, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESSED AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR ORNAMENTAL DESIGN REGISTRATION.
OBERFLAECHEN / SURFACES NACH / ACCORDING TO	ISO 1302	MASS-STAB SCALE	
WERKSTUECKKANTEN WORKPIECE EDGES NACH / ACCORDING TO	DIN 6784	1:1	
MASSE OHNE TOLERANZANGABEN: DIM. WITHOUT TOLERANCES:		ABT. / DEPT. S1-E3	DATUM DATE
LAENGEN LENGTHS	± 1	BEARB. / DRAWN	14.02.02 HARTMANN
RADIEN RADI	± 1	GEPR. / CHECK.	02.05.02 DWORA
FASEN CHAMFERS		GESEH. / APP.	02.05.02 MUENKEL
WINKEL ANGLE	± 2°	<b>MANN PROVENT PROVENT</b>	
PROGRAMM-NR. / PROGRAM-NO.		ZEICHNUNGS-NR. DRAWING-NO.	
CAD-ZEICHNUNG CAD-DRAWING		<b>39 310 70 550</b>	
		AHNLICH / SIMILAR ERSATZ FUER / SUBSTITUTE FOR	AE NO. <b>04</b>

ERSATZTEILLISTE / SPARE PARTS LIST