

## Return Line Filter RKB

Flow direction from in to out  
up to 1,200 l/min, up to 10 bar

### 1. TECHNICAL SPECIFICATIONS

#### 1.1 FILTER HOUSING

##### Design

This filter system provides an economic solution for full-flow return line filtration for medium to large flow rates. The filter is mounted in the intermediate chamber that is formed in the bottom part of the tank. The oil flows into the filter from below and, after filtration, into the tank via the riser tube. This integrates the filter into the tank so any design is possible for the return port connections and several filters can be used without splitting up the return lines. The optimal flow conditions in the chamber guarantee optimum air separation, effective magnetic pre-filtration and very long filter service lives.

The filter housings are designed in accordance with international regulations. They consist of a housing tube, filter head and a filter cover. The filter element can be removed from the top!

##### Standard equipment

- with bypass valve
- with diffuser
- with element location spigot

#### 1.2 FILTER ELEMENTS

HYDAC filter elements are validated and their quality is constantly monitored according to the following standards:

ISO 2941, ISO 2942, ISO 2943,  
ISO 3724, ISO 3968, ISO 11170,  
ISO 16889

Filter elements are available with the following pressure stability values:

Plastic fibre (ULP): 6 bar  
Glass fibre with pre-filter (UMC): 6 bar  
Wire mesh (WPI): 6 bar

Other filtration ratings on request.

#### 1.3 FILTER SPECIFICATIONS

Nominal pressure	10 bar
Temperature range	30 °C to +100 °C
Material of filter cover	EN AC-47000
Material of housing tube	Steel
Bypass cracking pressure	2.5 bar (others on request)

#### 1.4 SEALS

NBR (= Perbunan)

#### 1.5 INSTALLATION

As in-tank filter

#### 1.6 SPECIAL MODELS AND ACCESSORIES

- without element location spigot
- Outlet grille in openings in protective tube
- Seals made of FKM

#### 1.7 SPARE PARTS

See original spare parts list

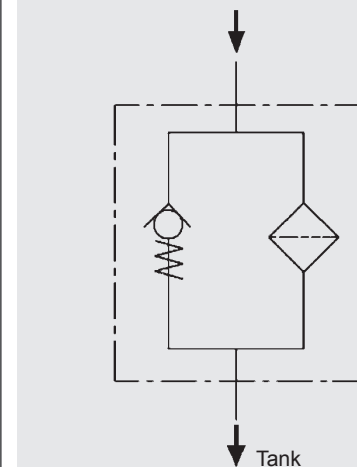
#### 1.8 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- Hydraulic oils H to HLPD DIN 51524
- Lubrication oils DIN 51517, API, ACEA, DIN 51515, ISO 6743
- Compressor oils DIN 51506
- Biodegradable operating fluids VDMA 24568 HETG, HEES, HEPG

#### 1.9 IMPORTANT INFORMATION

- Filter housings must be earthed.

##### Symbol



## 2. MODEL CODE (also order example)

RKB 0600 UMC 010 V X B L X E N VX X 1 /-XXX

### 2.1 FILTER ASSEMBLY

#### Filter type

RKB

#### Size

0600, 0800, 1200

#### Filter material

ULP Plastic fibre  
UMC Glass fibre with pre-filter  
WPI Wire mesh

#### Filtration rating in $\mu\text{m}$

ULP: 010, 025  
UMC: 010, 020  
WPI: 100

#### Bypass valve

C with bypass valve 0.8 bar  
V with bypass valve 2.5 bar, standard  
X without bypass valve

#### Magnetic core

X without magnetic core

#### Setting range

B 10 bar

#### Design: perforated plate

L Standard: with diffuser, perforated  
R with diffuser (openings with outlet grille)

#### Non-return valve in element

V with non-return valve  
X without non-return valve

#### Flange

X without flange  
B Version E with welding flange  
C Version I with welding flange  
E with die-cast aluminium flange  
I with die-cast aluminium flange and poka yoke

#### Seals

N NBR (Perbunan)  
V FKM

#### Clogging indicator

VX without clogging indicator

#### Response pressure of clogging indicator

X without

#### Modification number

X the latest version is always supplied

#### Supplementary details

## 2.2 REPLACEMENT ELEMENT

UMC-0010-xxx-xxxx-x-N-RT /-XXX

### Filter material

ULP, UMC, WPI

### Filtration rating in $\mu\text{m}$

ULP 0010, 0025

UMC 0010, 0020

WPI 0100

### RT code

### Seals

N NBR (Perbunan)

V FKM

### Packaging

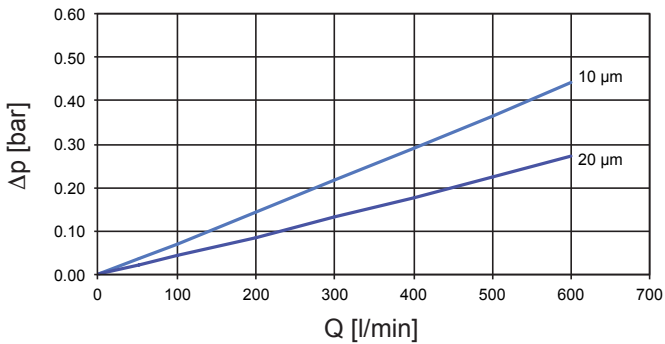
### Supplementary details

## 3. FILTER CALCULATION / DIMENSIONING

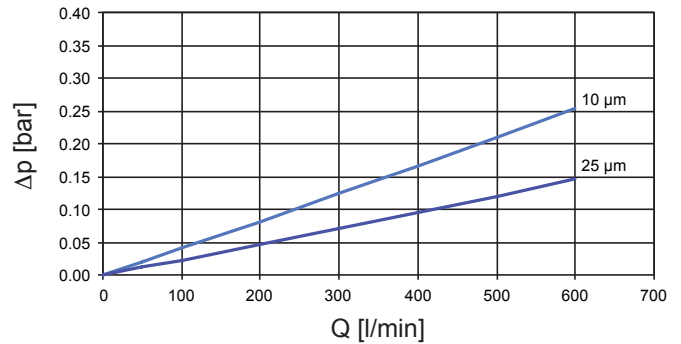
### 3.1 PERFORMANCE CURVES FOR FILTER ASSEMBLY

The total performance curves with element... apply to mineral oil with a density of  $0.86 \text{ kg/dm}^3$  and a kinematic viscosity of  $30 \text{ mm}^2/\text{s}$ .

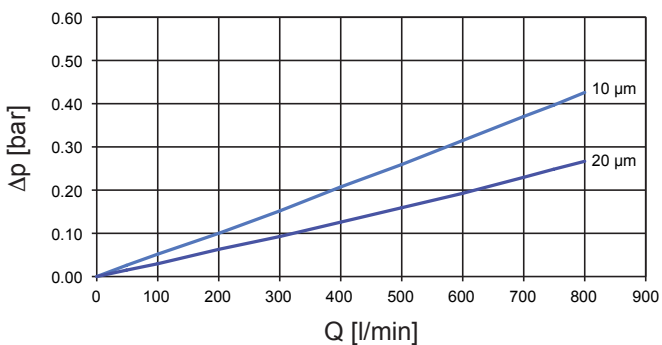
#### RKB 0600, filter elements UMC



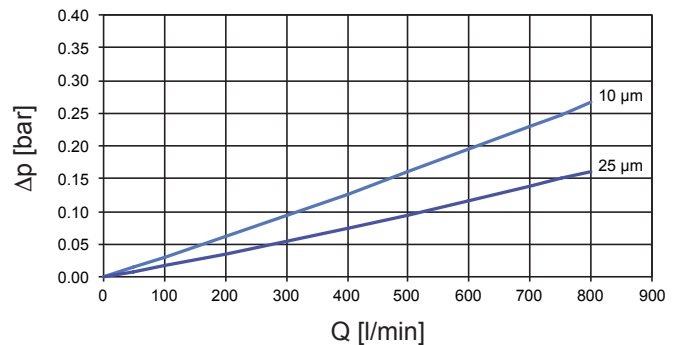
#### RKB 0600, filter elements ULP



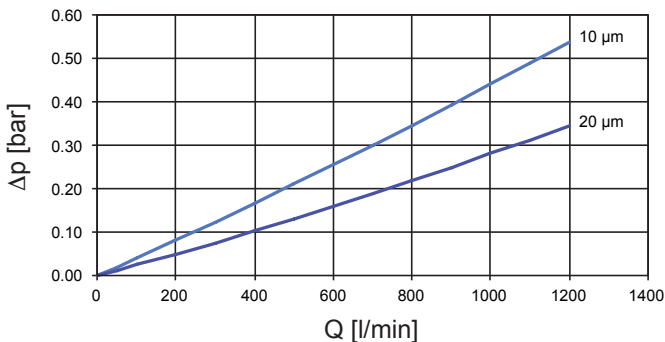
#### RKB 0800, filter elements UMC



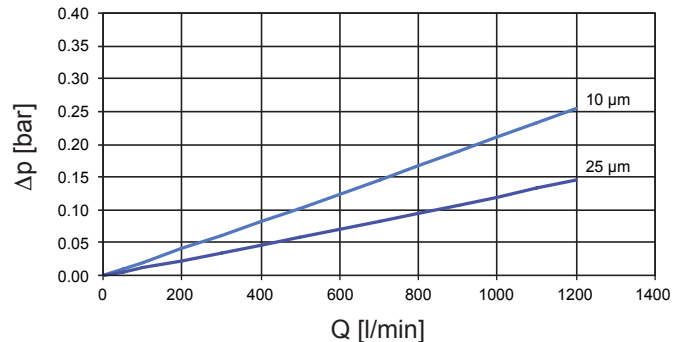
#### RKB 0800, filter elements ULP



#### RKB 1200, filter elements UMC



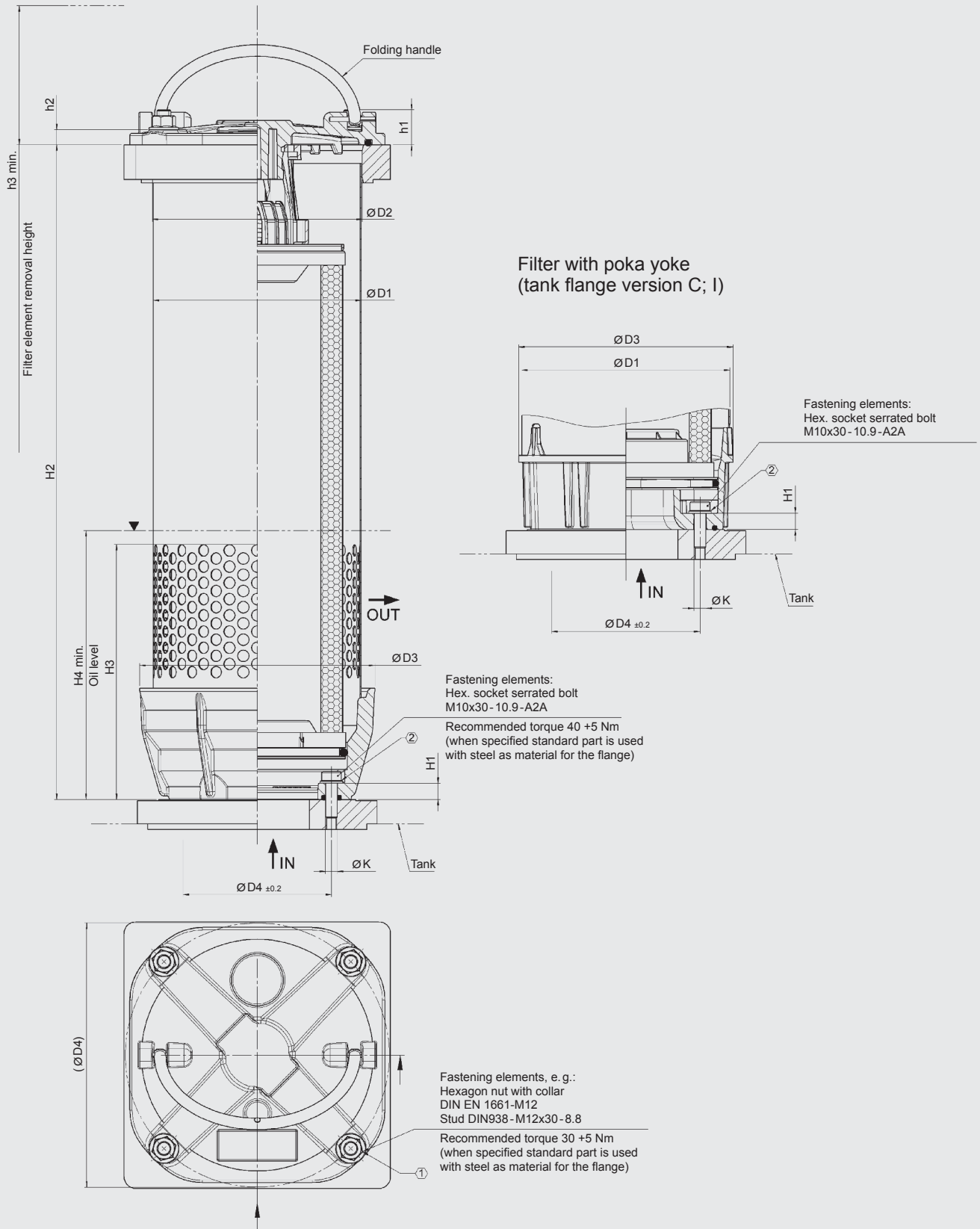
#### RKB 1200, filter elements ULP



Other curves on request

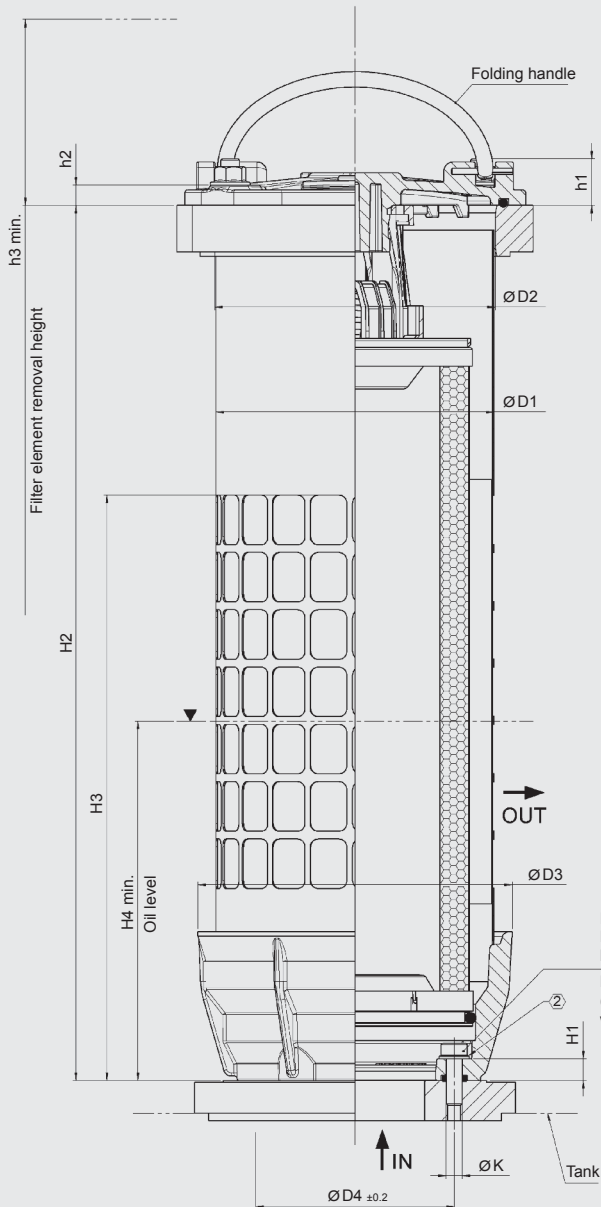
## 4. DIMENSIONS

### 4.1 RKB WITH DIFFUSER (PERFORATED)

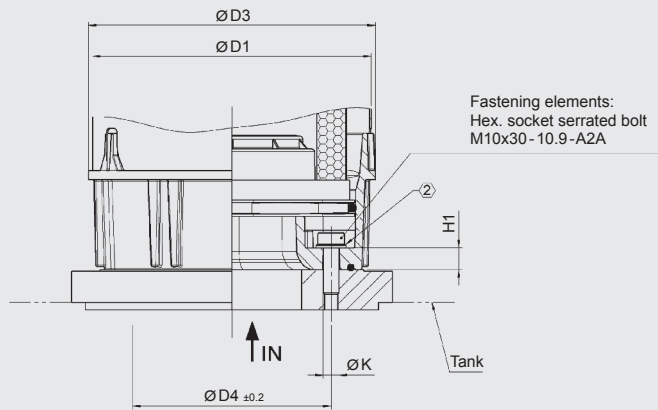


Type	Tube version	Tank flange	H1	H2	H3	H4	h1	h2	h3	ØD1	ØD2	ØD3	ØD4	ØK	Ød1	Weight [kg]
RKB 0600	L	B; E	14	565	220	232	30	13	485	179.5	181	203	128	10.5	228	8.6
		C; I										185				8.5
RKB 0800	L	B; E	14	758	220	232	30	13	678	179.5	181	203	128	10.5	228	11.3
		C; I										185				11.2
RKB 1200	L	B; E	14	912	220	232	30	13	832	179.5	181	203	128	10.5	228	13.6
		C; I										185				13.5

## 4.2 RKB WITH DIFFUSER (OPENING WITH GRILLE)

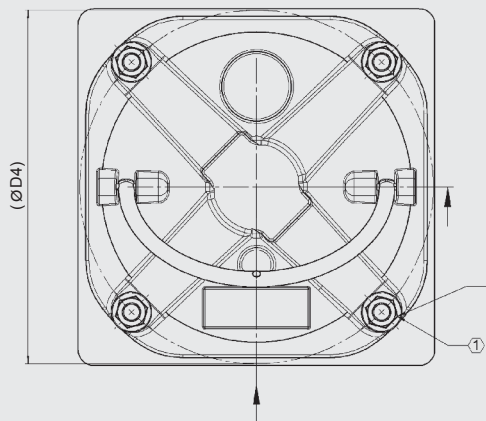


Filter with poka yoke  
(tank flange version C; I)



Fastening elements:  
Hex. socket serrated bolt  
M10x30 - 10.9 - A2A

Fastening elements:  
Hex. socket serrated bolt  
M10x30 - 10.9 - A2A  
Recommended torque 40 +5 Nm  
(when specified standard part is used  
with steel as material for the flange)



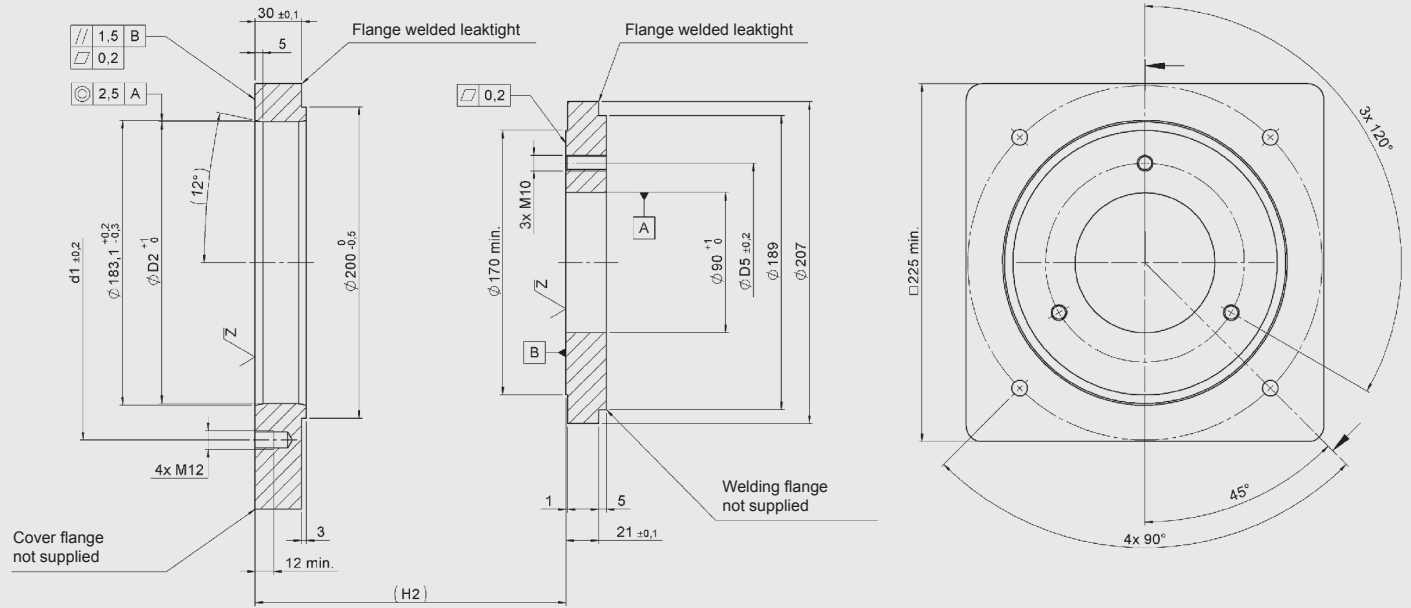
Fastening elements, e.g.:  
Hexagon nut with collar  
DIN EN 1661-M12  
Stud DIN938 - M12x30 - 8.8  
Recommended torque 30 +5 Nm  
(when specified standard part is used  
with steel as material for the flange)

Type	Tube version	Tank flange	H1	H2	H3	H4	h1	h2	h3	ØD1	ØD2	ØD3	ØD4	ØK	Ød1	Weight [kg]			
RKB 0600	R	B; E	14	565	378	232	30	13	485	179.5	181	203	128	10.5	228	8.8			
		C; I														8.7			
RKB 0800	R	B; E		758	452	269										832	203	11.6	
		C; I																11.5	
RKB 1200	R	B; E		912	600	343												185	14.0
		C; I																	13.9

## 5. SPECIFICATIONS FOR THE TANK FLANGE

1. In the filter mounting interface, the tank flange should have a maximum flatness of 0.2 mm and maximum roughness of Ra 3.2 µm.
2. In addition, the mounting interface should be free from damage and scratches.
3. The fixing holes of the cover flange must be blind, or stud bolts with threadlocker must be used to fix the filter.  
As an alternative, the cover flange can be continuously welded from the inside.
4. Both the tank sheet metal and the filter mounting flange must be sufficiently robust so that neither deform when the seal is compressed during tightening.

### 5.1 RKB 0600 – 1200



$$\sqrt{Ra12.5} \quad \left( \sqrt{Ra3.2} \right)$$

$$\sqrt{Z} = \sqrt{Ra3.2}$$

The cover flange must be aligned to the welding flange with a welding gauge.

## NOTE

The information in this brochure relates to the operating conditions and applications described.  
For applications or operating conditions not described, please contact the relevant technical department.  
All technical details are subject to change without notice.

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