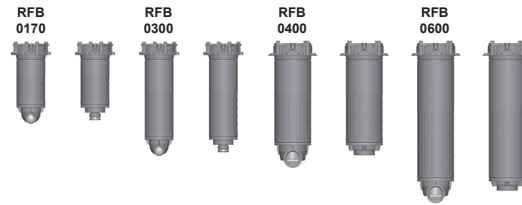
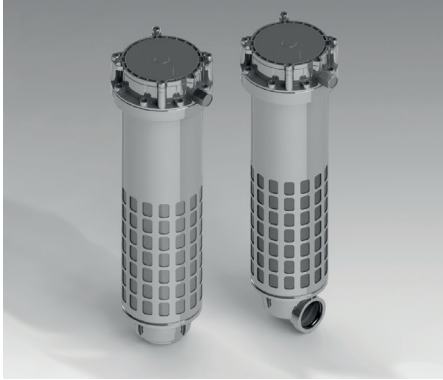




# RT FILTER TECHNIK

## Return Line Filter RFB

Flow direction from in to out  
up to 600 l/min, up to 10 bar



### 1. TECHNICAL SPECIFICATIONS

#### 1.1 FILTER HOUSING Design

The RFB filters are suitable for smaller to medium flow rates. The filter is mounted in the tank and flow passes through it through a pipe connection from below or from the side. The optimal flow conditions created by flow from beneath guarantee optimum air separation, high pulsation stability 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 element is top-removable!

#### Standard equipment

- Fixing holes on the filter head
- with bypass valve
- Inlet as plug-in connection
- Outlet via diffuser (openings with outlet grille)
- multi-patented filter (including integrated housing seal and two-part bypass)
- without clogging indicator
- with non-return valve

#### 1.2 FILTER ELEMENTS

RT 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:

Glass fibre (ULP): 6 bar  
Glass fibre with pre-filter (UMC): 6 bar

#### 1.3 FILTER SPECIFICATIONS

Nominal pressure	10 bar
Temperature range	-30 °C to +100 °C
Material of filter head and cover	EN-AC-47000
Material of housing tube	Steel
Material of floor section (inlet)	PA66-GF30
Bypass cracking pressure	2.5 bar (others on request)

#### 1.4 SEALS

NBR (= Perbunan)

#### 1.5 MOUNTING

As in-tank filter

#### 1.6 SPECIAL MODELS AND ACCESSORIES

- Proof of originality can be provided at element (No element/retrofit element) by clogging indicator
- Differential pressure measurement at element (clogging indicator)
- Seals made of FKM
- without non-return valve

#### 1.7 SPARE PARTS

See Original Spare Parts List

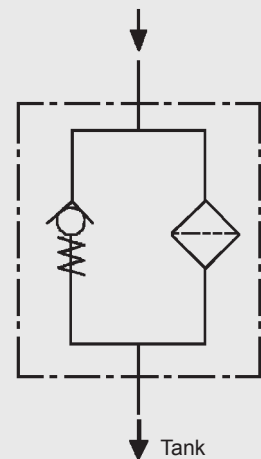
#### 1.8 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- 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
- When using electrical clogging indicators, the electrical power supply to the system must be switched off before removing the clogging indicator connector

#### Symbol



## 2. MODEL CODE (also order example)

RFB 0400 UMC 010 V X B V R 0 V N J1 VX X 1 /-XXX

### 2.1 FILTER ASSEMBLY

#### Filter type

RFB

#### Size

0170, 0300, 0400, 0600

#### Filter material

ULP Glass fibre  
UMC Glass fibre with pre-filter

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

ULP 010, 025  
UMC 010, 020

#### Bypass valve

C with 0.8 bar bypass valve  
V standard: with 2.5 bar bypass valve

#### Magnetic core

X without magnetic core

#### Setting range

B 10 bar

#### Connection position

V centrally from below  
H from side

#### Tube version

R standard: with diffuser (openings with outlet grille)

#### Type of pipe connection to clogging indicator

0 0° to clogging indicator (others on request!)

#### Non-return valve

X without valve  
V with valve

#### Seal

N NBR (Perbunan)  
V FKM

#### Position of clogging indicator

J1 bored, for orientation see point 4.

#### Clogging indicator

VA visual/electrical  
VE electrical  
VO visual  
VX no clogging indicator, sealed up with screw plug

#### Response pressure of clogging indicator

C 0.8 bar  
D 2.0 bar  
X none (if no clogging indicator is installed)

#### 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

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

ULP 0010, 0025  
 UMC 0010, 0020

### RT code

### Seal

N NBR (Perbunan)  
 V FKM

### Packaging

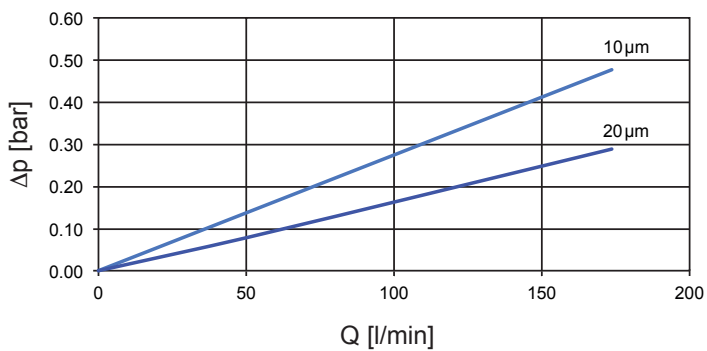
### Supplementary details

## 3. FILTER CALCULATION / DIMENSIONING

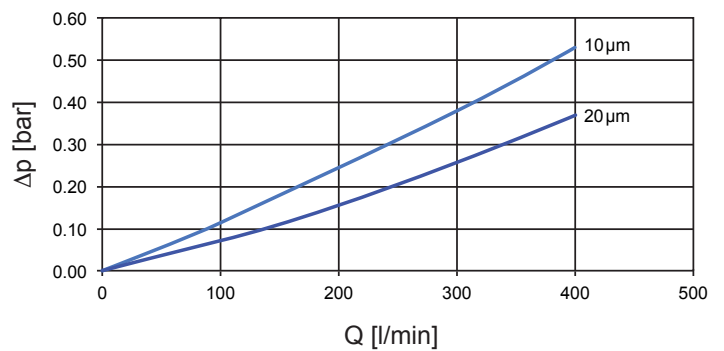
### 3.1 PERFORMANCE CURVES FOR FILTER ASSEMBLY

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

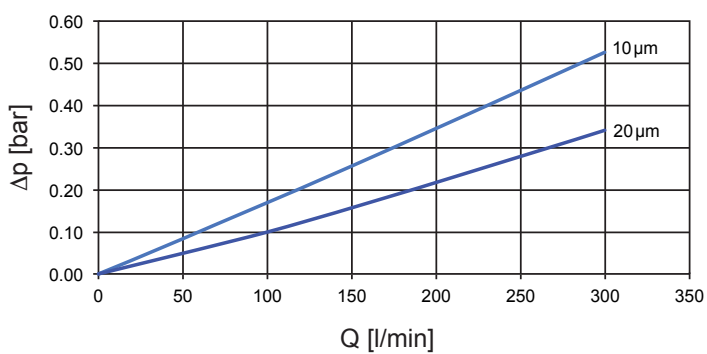
#### RFB 0170



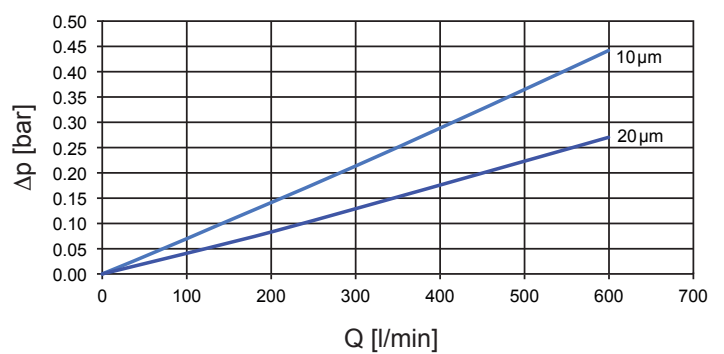
#### RFB 0400



#### RFB 0300



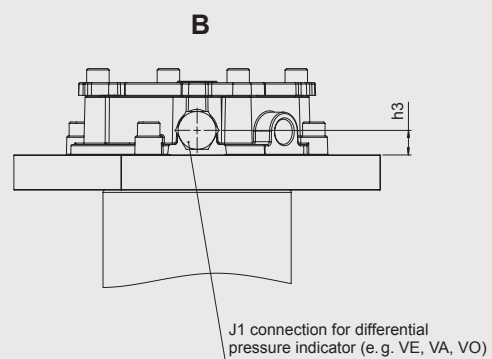
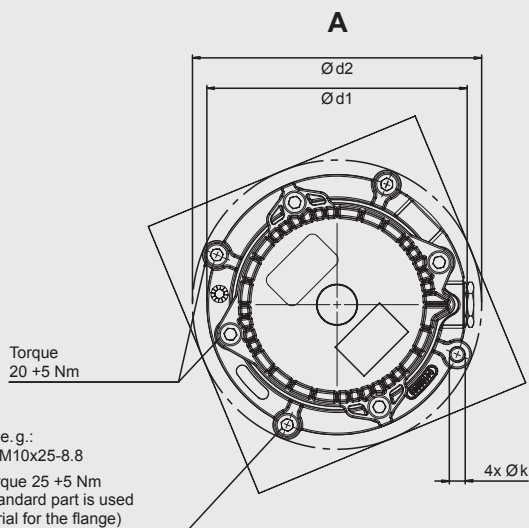
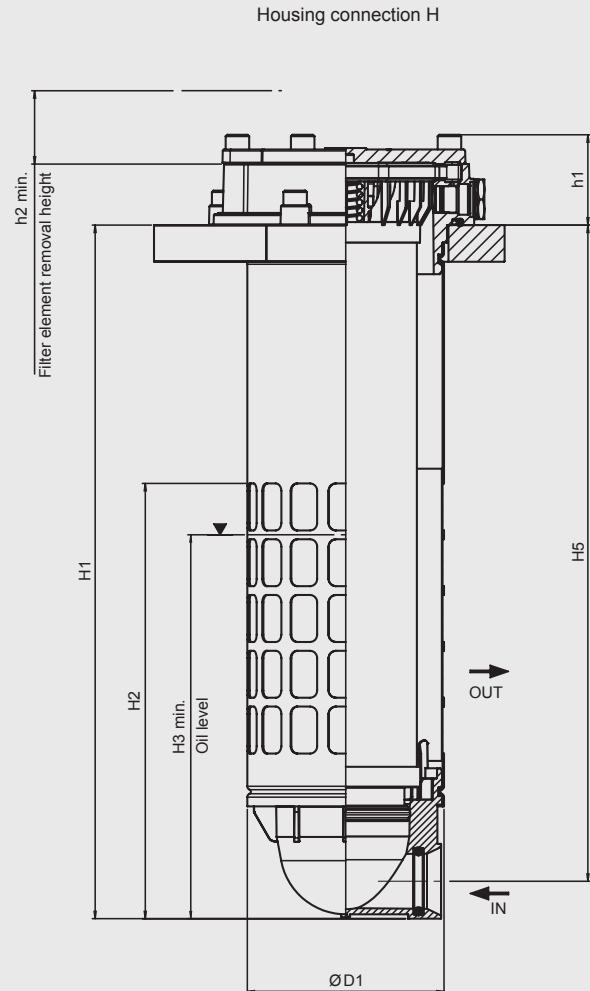
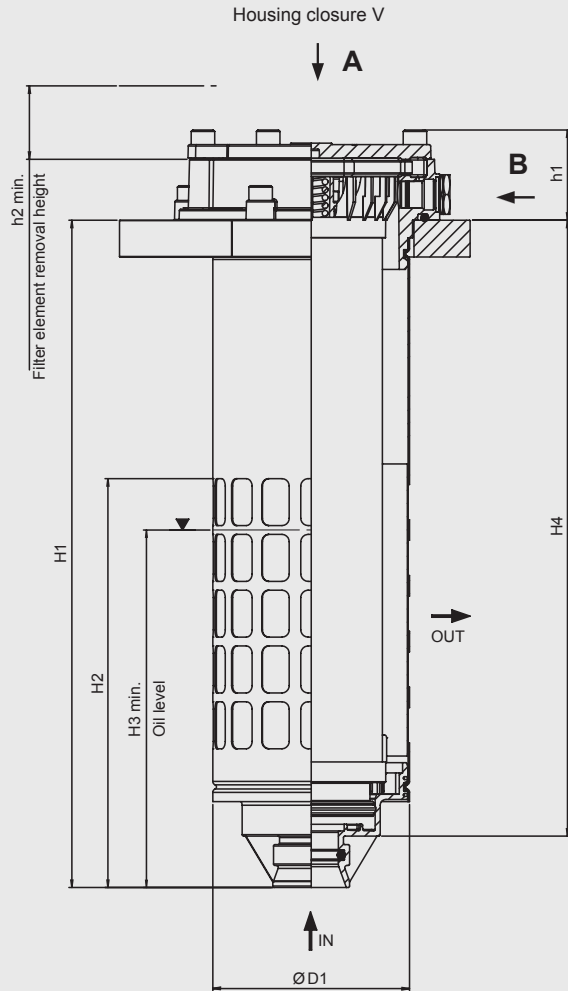
#### RFB 0600



Others on request!

# 4. DIMENSIONS

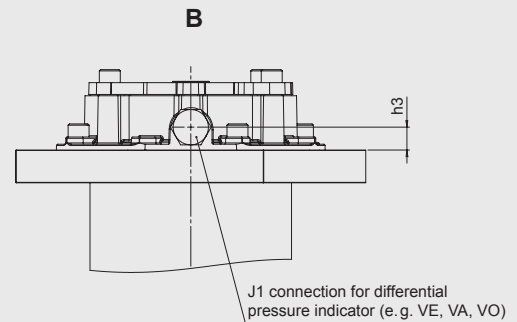
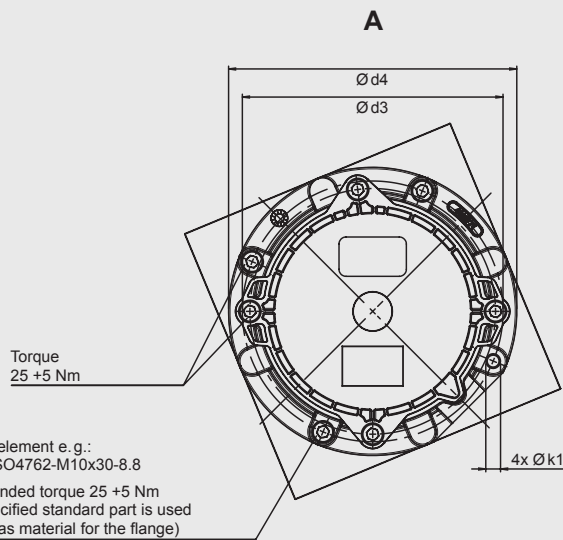
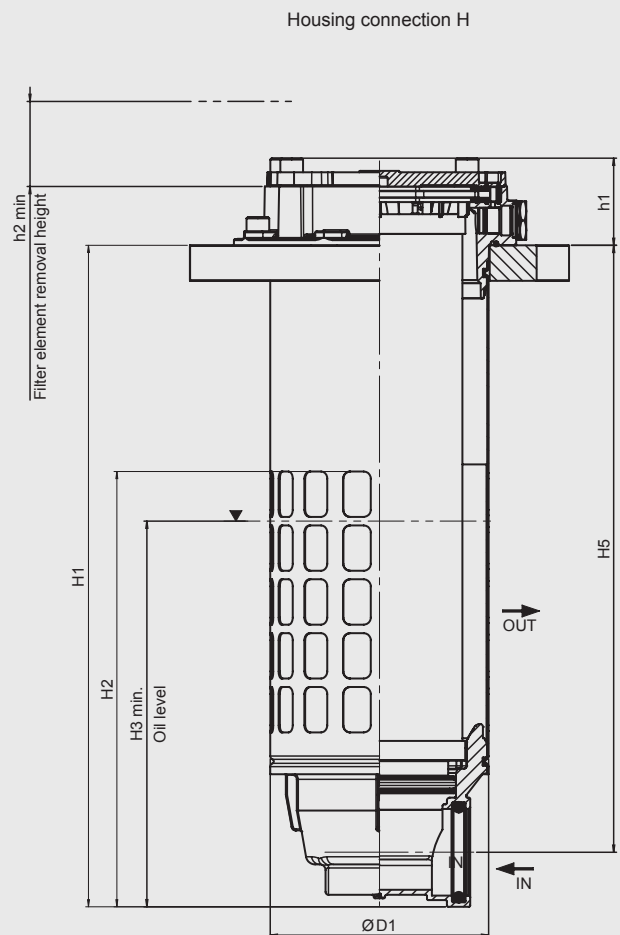
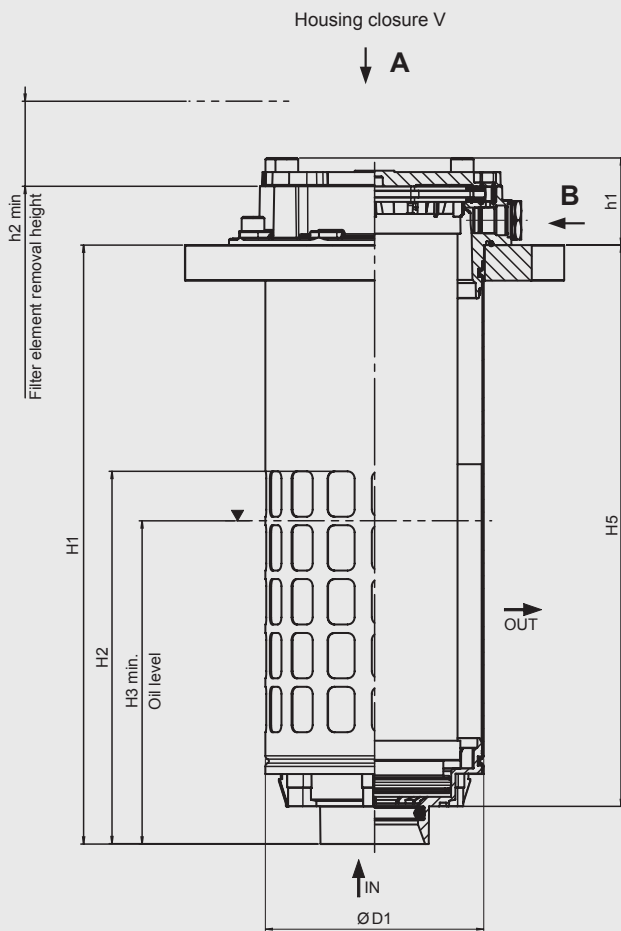
## 4.1 RFB 0170 – 0300



Mounting element e. g.:  
Cyl. scr. ISO4762-M10x25-8.8  
Recommended torque 25 +5 Nm  
(when specified standard part is used  
with steel as material for the flange)

Type	Design	Connection pos.	H1	H2	H3	H4	H5	h1	h2	h3	ØD1	Ød1	Ød2	Øk	Weight [kg]
RFB 0170	Diffuser with opening	H	322.5	220.5	186	-	297	61.5	300	17.5	134	180	200	10.5	3.3
	Diffuser with opening	V	304.5	202.5	168	269.5	-		3.2						
RFB 0300	Diffuser with opening	H	472.5	296.5	262	-	447		450						3.9
	Diffuser with opening	V	454.5	278.5	244	419.5	-		4.0						

## 4.2 RFB 0400 – 0600



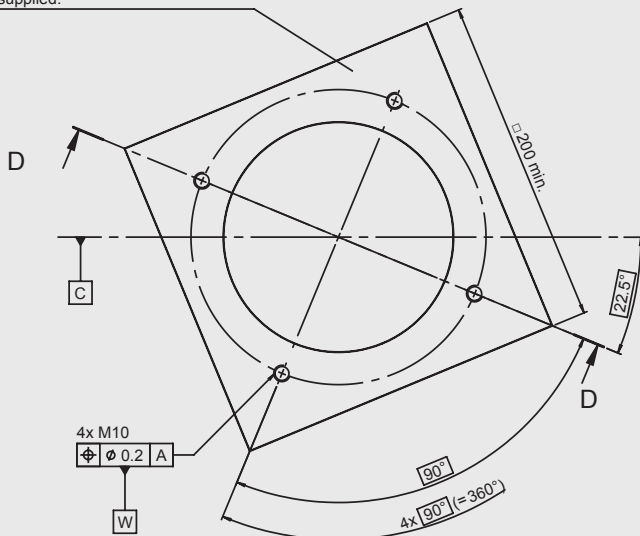
Type	Design	Connection pos.	H1	H2	H3	H4	H5	h1	h2	h3	ØD1	Ød1	Ød2	Øk1	Weight [kg]
RFB 0400	Diffuser with opening	H	466.5	307	234	–	428	61.5	430	17.5	154	185.7	205	10.5	4.5
	Diffuser with opening	V	422.4	262.6	182	393.8	–								4.3
RFB 0600	Diffuser with opening	H	613.7	383.2	310	–	575.2		580						5.5
	Diffuser with opening	V	561.6	331.1	258	541	–								5.3

## 5. SPECIFICATIONS FOR THE TANK FLANGE

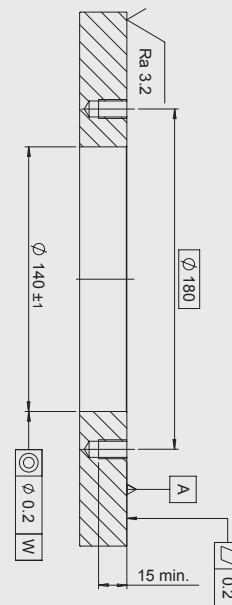
1. In the filter mounting interface, the tank flange should have a maximum flatness of 0.2 mm and a maximum roughness of Ra 3.2  $\mu\text{m}$ .
2. In addition, the mounting interface should be free from damage and scratches.
3. The fixing holes of the flange must be blind, or stud bolts with threadlocker must be used to fix the filter. As an alternative, the tank 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 RFB 0170, 0300

Tank flange not supplied.



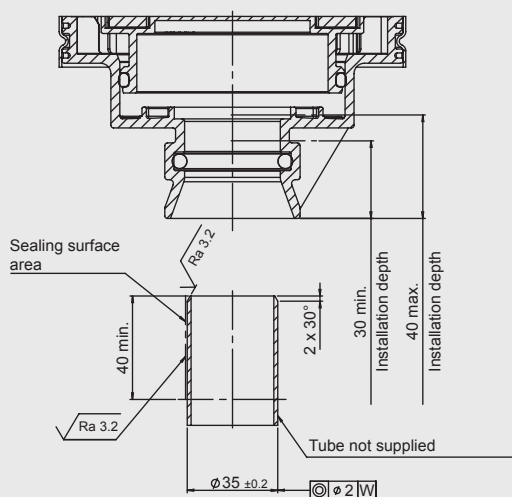
D-D



Tank flange not supplied.

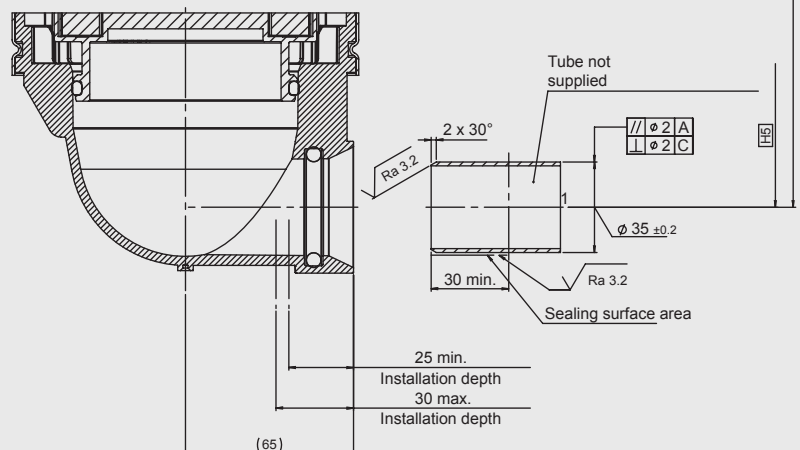
1:1

Housing connection V



1:1

Housing connection H





## 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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