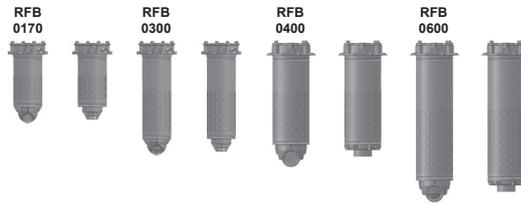




Return Line Filter RFB

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

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

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

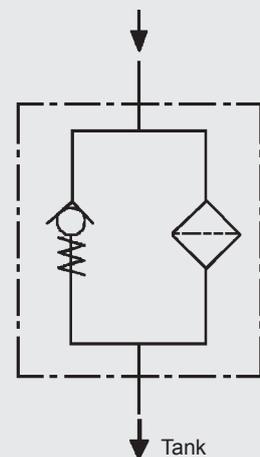
1.8 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- 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 Plastic fibre
UMC Glass fibre with pre-filter

Filtration rating in μm

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 μm

ULP 0010, 0025
 UMC 0010, 0020

RT code

Seal

N NBR (Perbunan)
 V FKM

Packaging

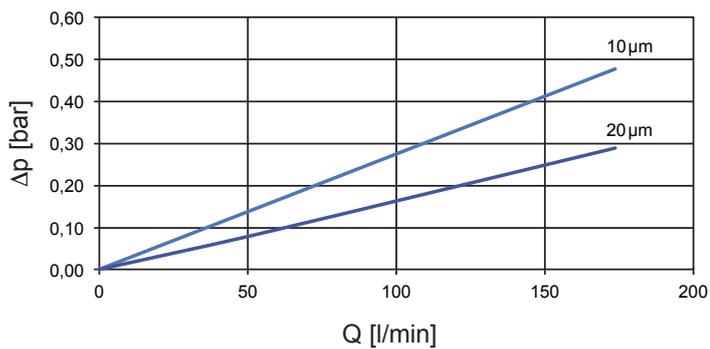
Supplementary details

3. FILTER CALCULATION / DIMENSIONING

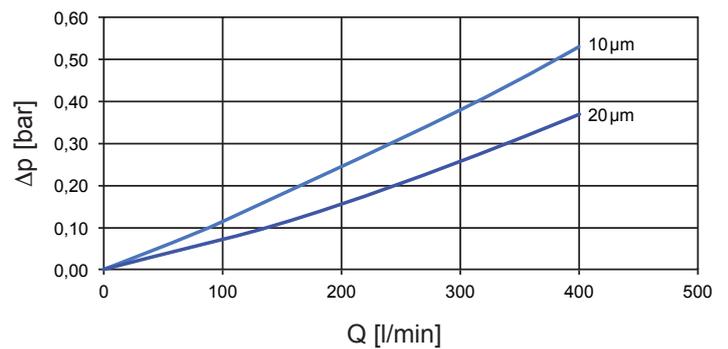
3.1 PERFORMANCE CURVES FOR FILTER ASSEMBLY

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

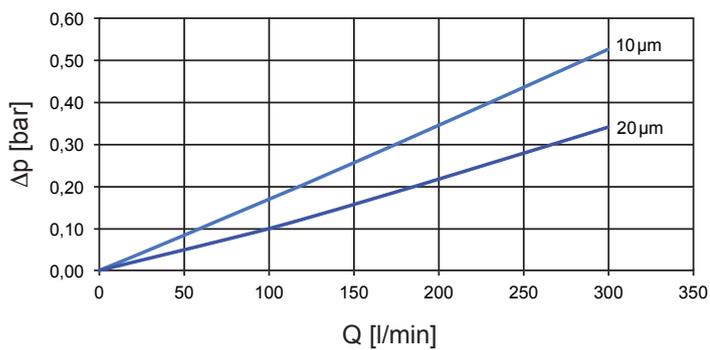
RFB 0170



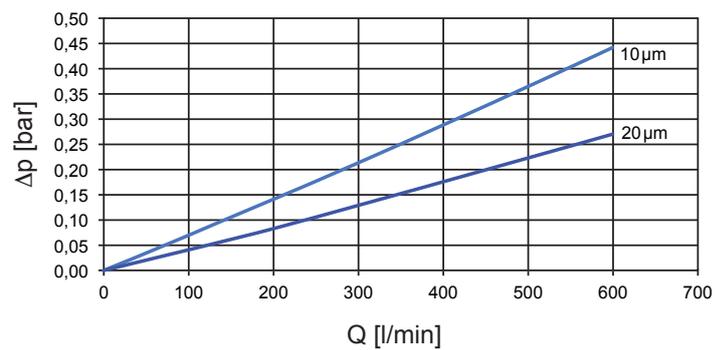
RFB 0400



RFB 0300



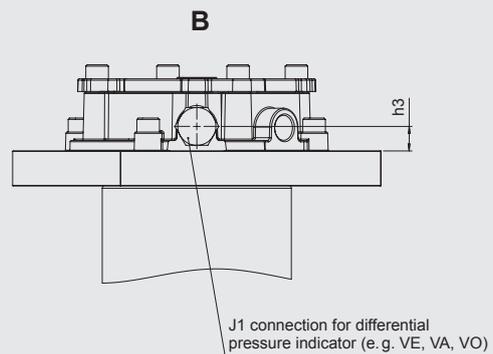
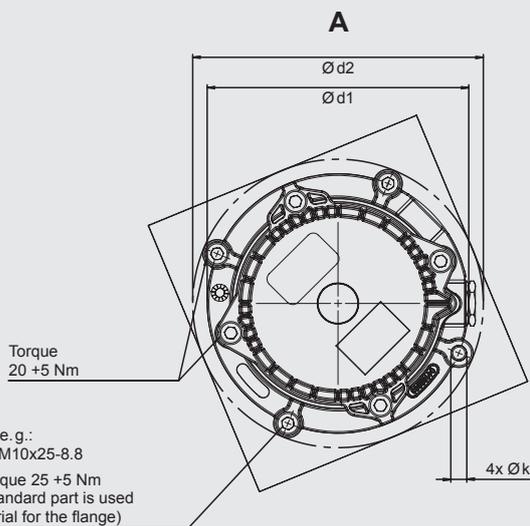
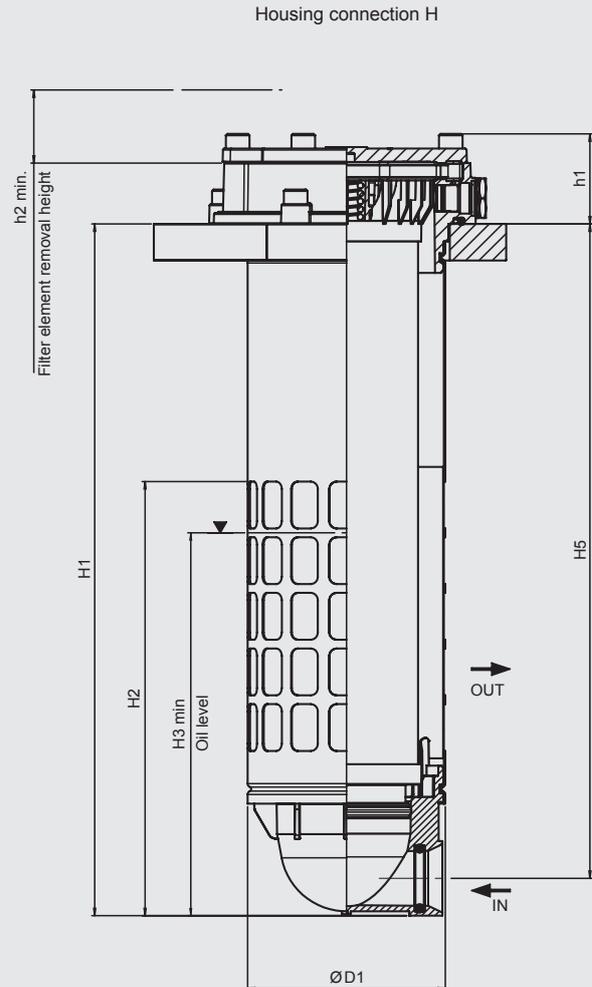
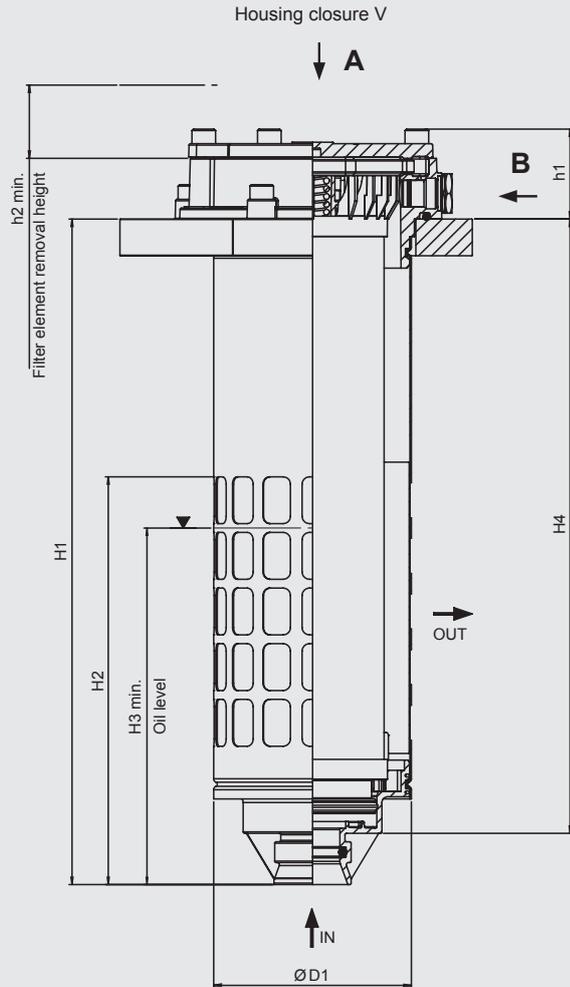
RFB 0600



Others on request!

4. DIMENSIONS

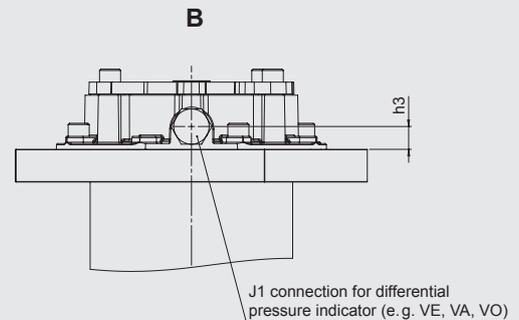
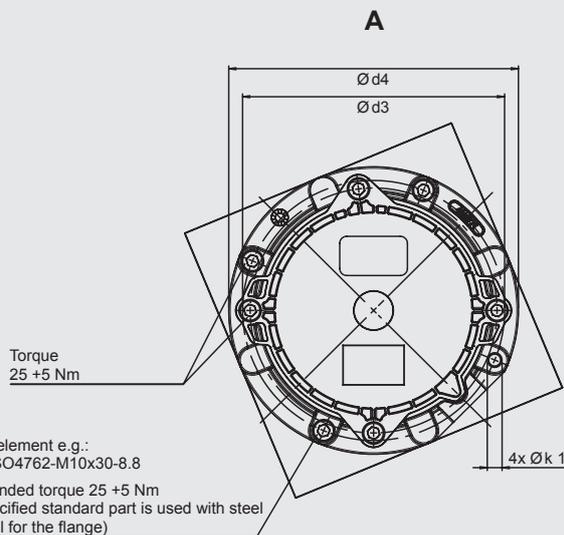
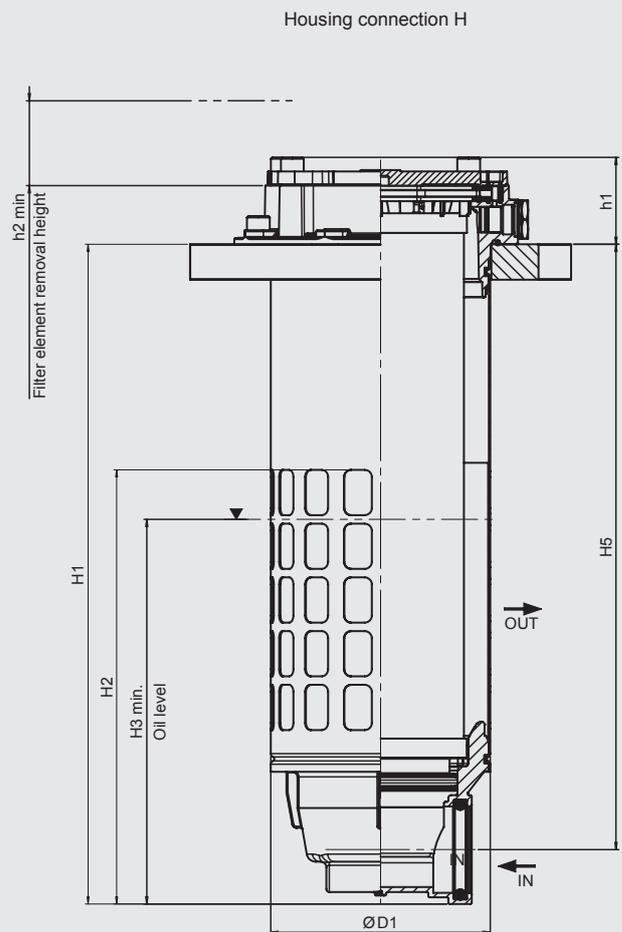
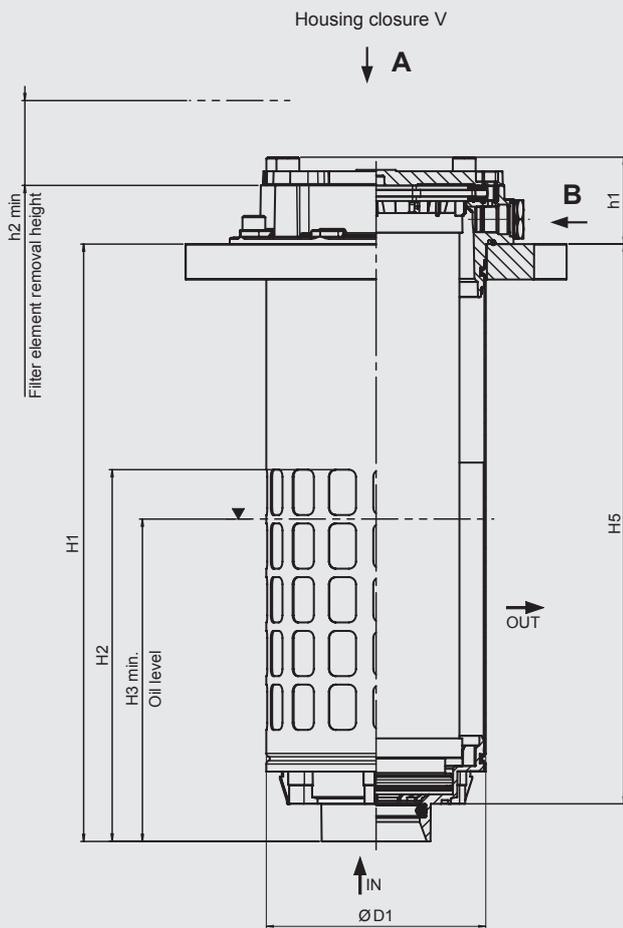
4.1 RFB 0170 – 0300



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	61.5	450	17.5	134	180	200	10.5	3.9
	Diffuser with opening	V	454.5	278.5	244	419.5	–								4.0

4.2 RFB 0400 – 0600



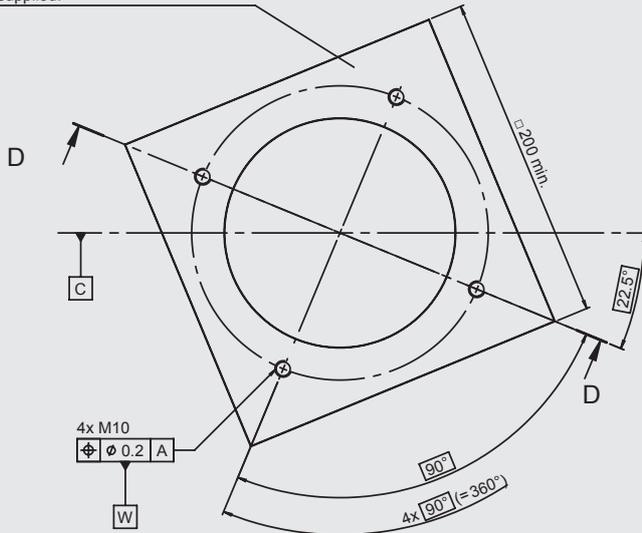
Type	Design	Connection pos.	H1	H2	H3	H4	H5	h1	h2	h3	ØD1	Ød1	Ød2	Øk1	Weight [kg]
RFB 0400	Diffuser with opening	H	466.5	307	234	–	428	61.5	430	17.5	154	185.7	205	10.5	4.5
	Diffuser with opening	V	422.4	262.6	182	393.8	–								4.3
RFB 0600	Diffuser with opening	H	613.7	383.2	310	–	575.2		580						5.5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

5. SPECIFICATIONS FOR THE TANK FLANGE

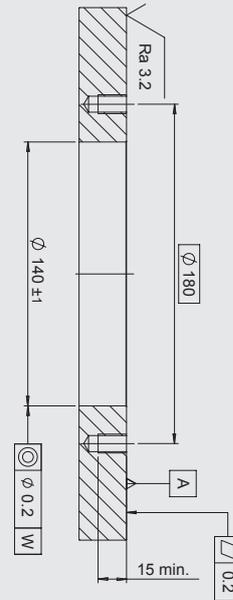
1. In the filter mounting interface, the tank flange should have a maximum flatness of 0.2 mm and a maximum roughness of Ra 3.2 μm .
2. In addition, the mounting interface should be free from damage and scratches.
3. The fixing holes of the flange must be blind, or stud bolts with threadlocker must be 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.



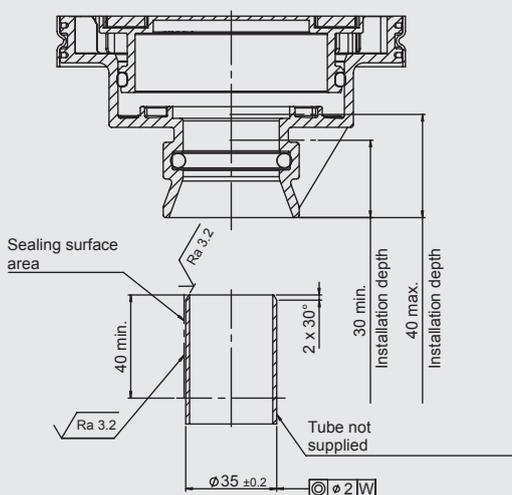
D-D



Tank flange not supplied.

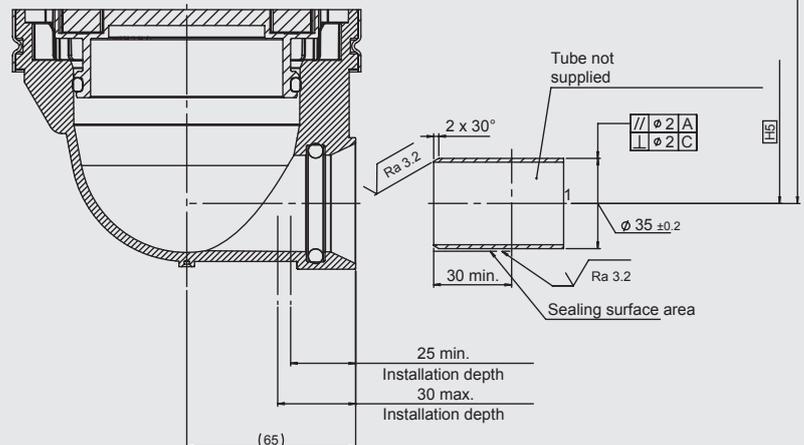
1:1

Housing connection V



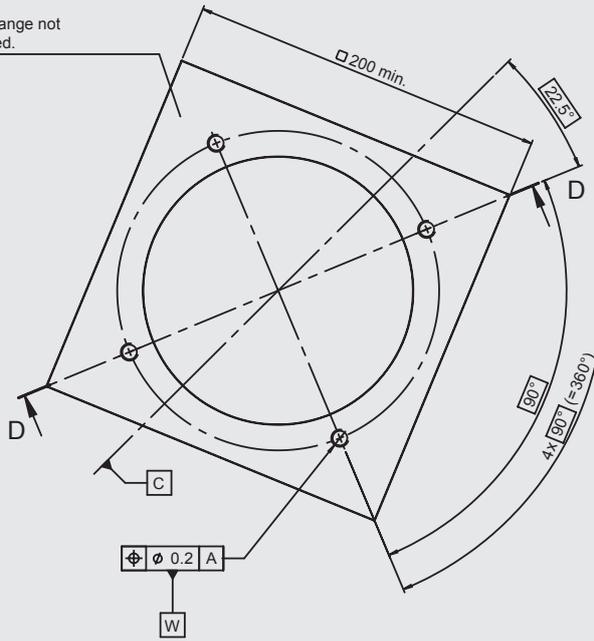
1:1

Housing connection H

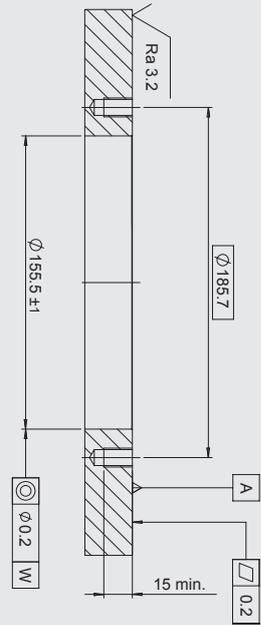


5.2 RFB 0400, 0600

Tank flange not supplied.



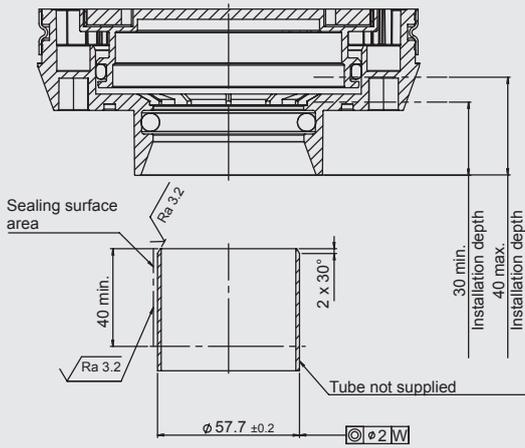
D-D



Tank flange not supplied.

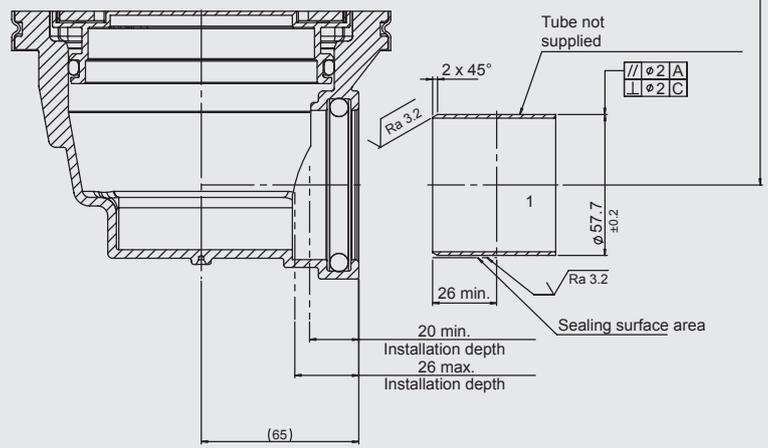
1:1

Housing connection V



1:1

Housing connection H



15

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.

HYDAC Filtertechnik GmbH
Industriegebiet
D-66280 Sulzbach/Saar
Tel.: 0 68 97 / 509-01
Fax: 0 68 97 / 509-300
Internet: www.hydac.com
E-mail: filter@hydac.com