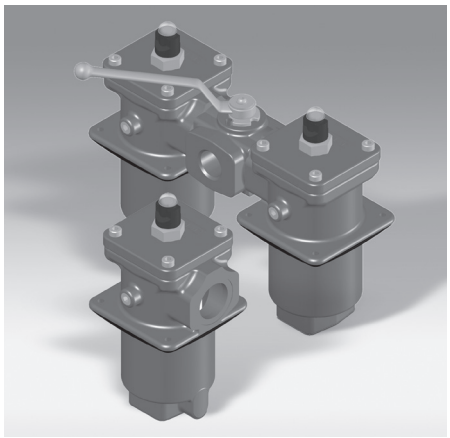
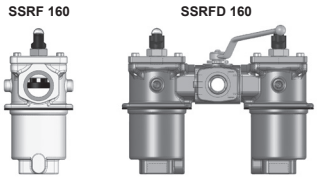


Return Line Filter SSRF and Change-Over Return Line Filter SSRFD

up to 150 l/min, up to 25 bar



1. TECHNICAL SPECIFICATIONS

1.1 FILTER HOUSING

Construction

The filter housings are designed in accordance with international regulations. They consist of a filter housing with cover plate.

Standard equipment:

- bypass valve
- connection for a clogging indicator

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

NUMBER OF FILTER ELEMENTS

Filter	Elements
SSRF 160	1x0160 R elements
SSRFD 160	2x0160 R elements

Filter elements are available with the following pressure stability values:

Optimicron® (ON):	20 bar
Ecomicron® (ECON2):	10 bar
Stainl. st. wire mesh (W/HC):	30 bar
Stainless steel fibre (V):	210 bar
Betamicron®/Aquamicron® (BN4AM):	10 bar
Aquamicron® (AM):	10 bar

1.3 FILTER SPECIFICATIONS

Nominal pressure	25 bar
Temperature range	-10 °C to +100 °C
Material of filter housing and cover plate	Stainless steel BS 3146-ANC4BFC
Type of clogging indicator	VR Connection thread G ½ (return line indicator up to 25 bar operating pressure)
Pressure setting of clogging indicator	2 bar (others on request)
Bypass cracking pressure	3 bar (others on request)

1.4 SEALS

NBR (=Perbunan)

1.5 INSTALLATION

Tank-top filter

1.6 SPECIAL MODELS AND ACCESSORIES

On request

1.7 SPARE PARTS

See Original Spare Parts List

1.8 CERTIFICATES AND APPROVALS

On request

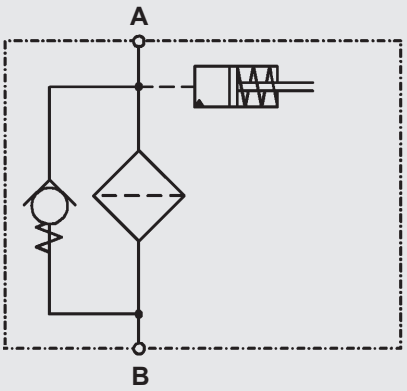
1.9 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- 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
- Fire-resistant fluids HFA, HFB, HFC and HFD
- Operating fluids with high water content (>50% water content) on request

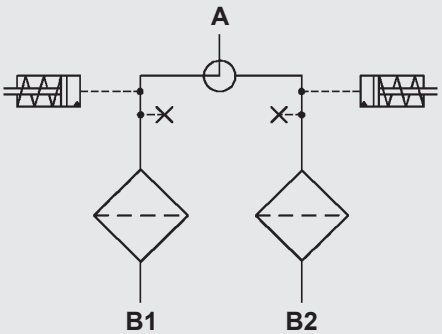
1.10 IMPORTANT INFORMATION

- 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 for hydraulic systems SSRF



SSRFD



E 7.129.2/11.16

2. MODEL CODE (also order example)

SSRF ON 160 D D 10 D 1 . X /-L24

2.1 COMPLETE FILTER

Filter type

SSRF Single filter
SSRFD Change-over filter

Filter material

ON Optimicron®
ECO Ecomicron® (ECON2)
ECO.../SO361 Ecomicron® (ECON2) only to be used for water-glycol applications with "SO361"!
V Stainless steel fibre
W/HC Stainl. st. wire mesh
AM Aquamicron®
BN/AM Betamicron®/Aquamicron® (BN4AM)

Size of filter or element

SSRF/SSRFD: 160

Operating pressure

D = 25 bar
V = 7 bar (for SSRF/SSRFD with clogging indicator up to max. 7 bar operating pressure)

Type and size of connection

Type	Port	Filter size 160
D	G 1	●
N	NPT 1"	●
I	SAE DN 25 (1")	●

Filtration rating in µm

ON: 1, 3, 5, 10, 15, 20 W/HC: 25, 50, 100, 200 BN/AM: 3, 10
ECO, V: 3, 5, 10, 20 P/HC: 10, 20 AM: 40

Type of clogging indicator

Y plastic blanking plug in indicator port
A steel blanking plug in indicator port
B visual
C electrical
D visual and electrical
] for other clogging indicators, see brochure no. 7.050../..

Type code

1 Standard indicator port in cover
2 Standard indicator port in cover + 2 secondary take-off ports (¼ NPTF) in housing

Modification number

X the latest version is always supplied

Supplementary details

B. cracking pressure of bypass (e.g. B6 = 6 bar)
KB without bypass valve
L... light with appropriate voltage (24, 48, 110, 220 volts)
LED 2 light-emitting diodes up to 24 volts
] only for clogging indicators type "D"
EX/ENC electrical clogging indicator EX version (Eexd IIC T6; with IP66 junction box M20x1.5)
EX/FL electrical clogging indicator EX version (Eexd IIC T6; with flying lead – 2m or 10m)
IS/ENC intrinsically safe electrical clogging indicator with IP66 junction box (M20x1.5 cable entry)
IS/FL intrinsically safe electrical clogging indicator (with flying leads – 2m or 10m)
SS elements with stainless steel support tube
V FKM seals
SO361 elements with polyamide support fibre, optimised for water-glycol (only for ECO-Material)

2.2 REPLACEMENT ELEMENT

0160 R 010 ON /-V

Size

0160

Type

R

Filtration rating in µm

ON: 001, 003, 005, 010, 015, 020 W/HC: 025, 050, 100, 200 BN4AM: 003, 010
ECON2, V: 003, 005, 010, 020 P/HC: 010, 020 AM: 040

Filter material

ON, ECON2, V, W/HC, P/HC, BN4AM, AM

Supplementary details

SO361 elements with polyamide support
V (for descriptions, see Point 2.1)

2.3 REPLACEMENT CLOGGING INDICATOR

VR 2 D . X /-L24

Type

VR return line indicator up to 25 bar operating pressure

Pressure setting

2 standard 2 bar, others on request

Type of clogging indicator

D (see point 2.1)

Modification number

X the latest version is always supplied

Supplementary details

L..., LED, V (for descriptions, see point 2.1)

3. FILTER CALCULATION / SIZING

The total pressure drop of a filter at a certain flow rate Q is the sum of the housing Δp and the element Δp and is calculated as follows:

$\Delta p_{total} = \Delta p_{housing} + \Delta p_{element}$

$\Delta p_{housing}$ = (see Point 3.1)

$$\Delta p_{element} = Q \cdot \frac{SK^*}{1000} \cdot \frac{viscosity}{30}$$

(*see point 3.2)

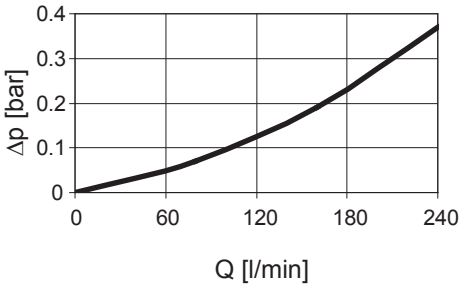
For ease of calculation, our Filter Sizing Program is available on request free of charge.

NEW: Sizing online at www.hydac.com

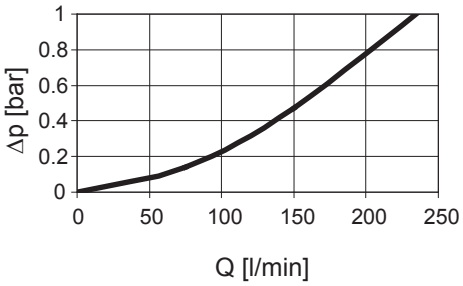
3.1 Δp-Q HOUSING CURVES BASED ON ISO 3968

The housing curves apply to mineral oil with a density of 0.86 kg/dm³ and a kinematic viscosity of 30 mm²/s. In this case, the differential pressure changes proportionally to the density.

SSRF 160



SSRFD 160



3.2 GRADIENT COEFFICIENTS (SK) FOR FILTER ELEMENTS

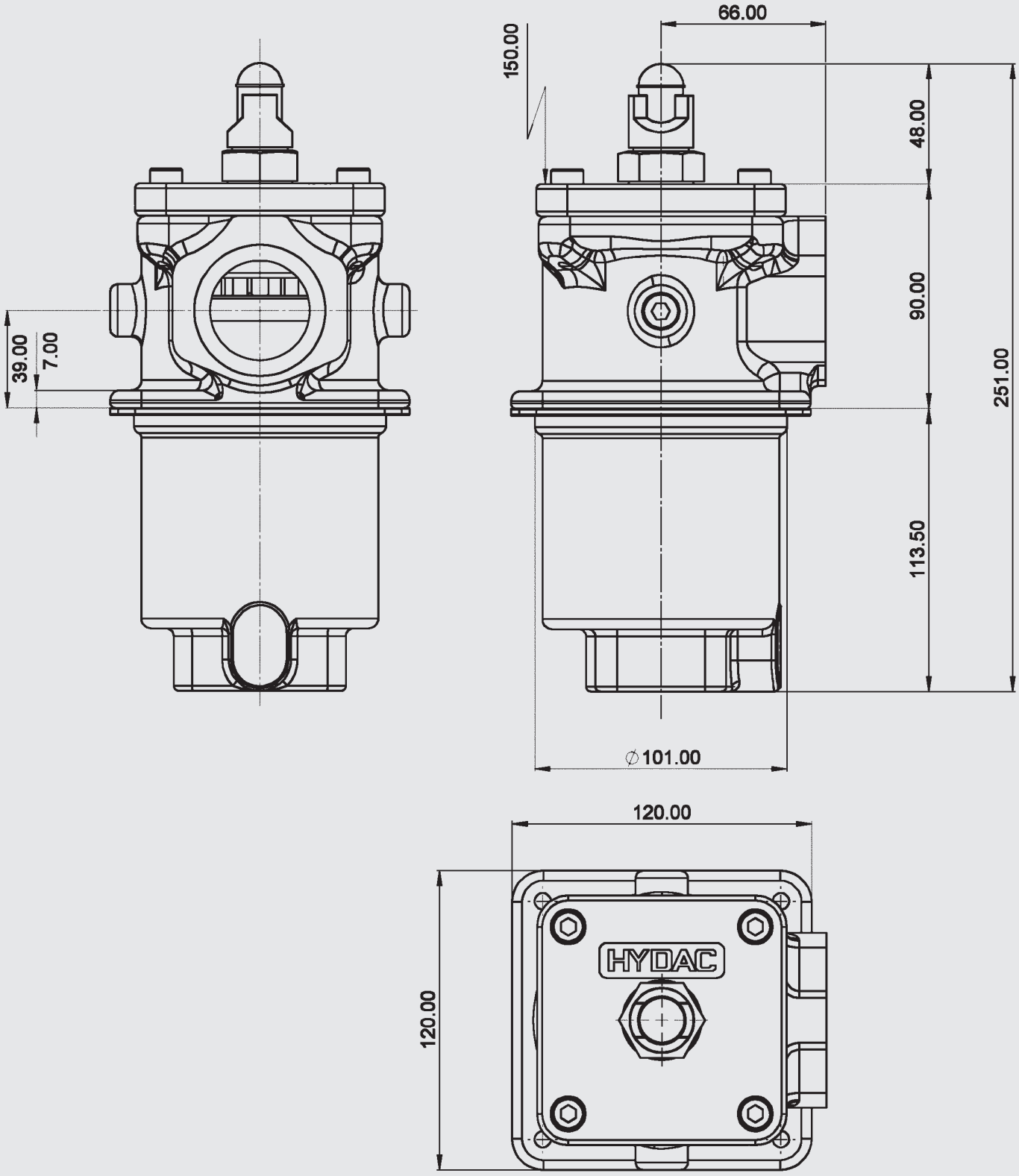
The gradient coefficients in mbar/(l/min) apply to mineral oils with a kinematic viscosity of 30 mm²/s. The pressure drop changes proportionally to the change in viscosity.

SSRF/ SSRFD	ON					
	1 µm	3 µm	5 µm	10 µm	15 µm	20 µm
160	16.0	8.00	5.68	3.22	2.69	2.32

SSRF/ SSRFD	V				W/HC	ECON2			
	3 µm	5 µm	10 µm	20 µm	–	3 µm	5 µm	10 µm	20 µm
160	4.9	3.5	2.4	1.5	0.348	9.5	5.9	3.8	2.9

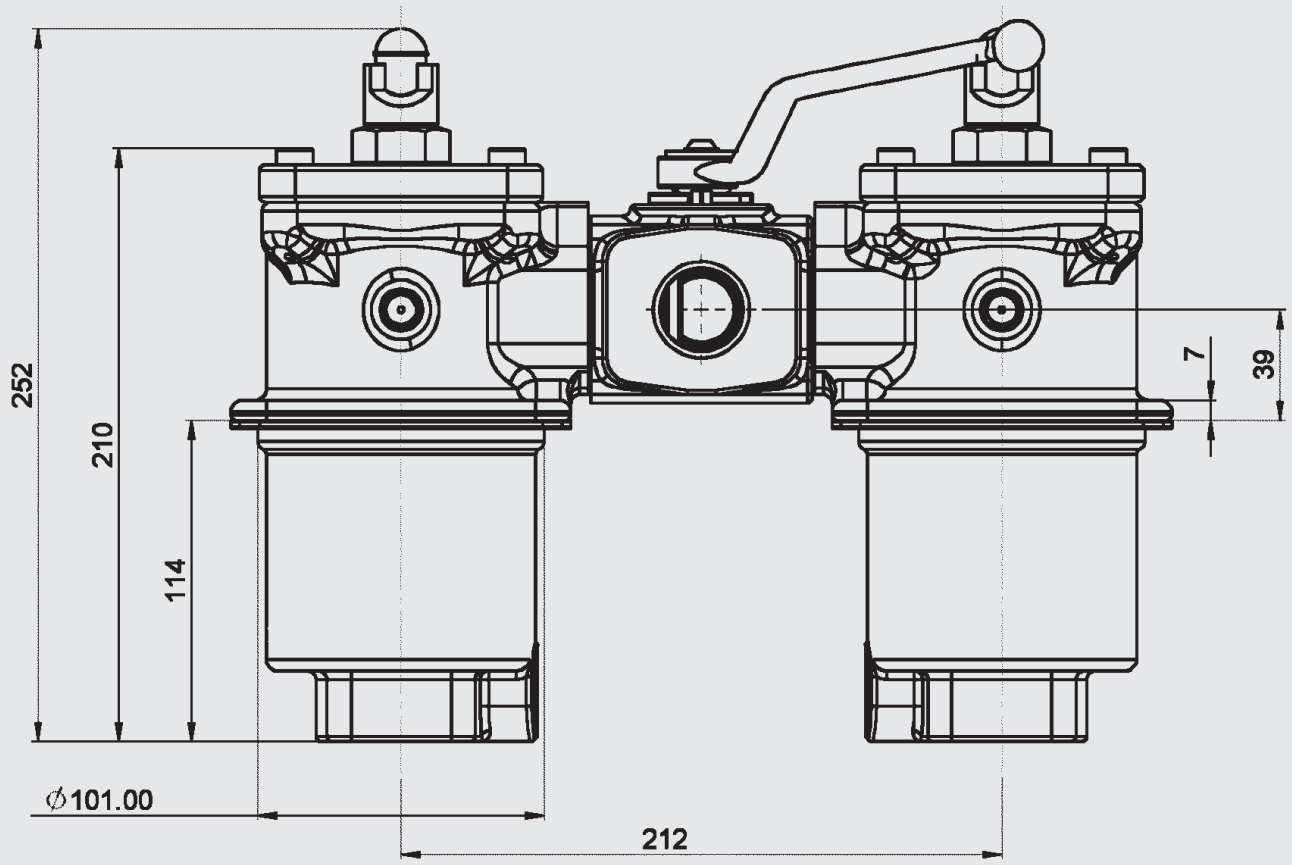
4. DIMENSIONS

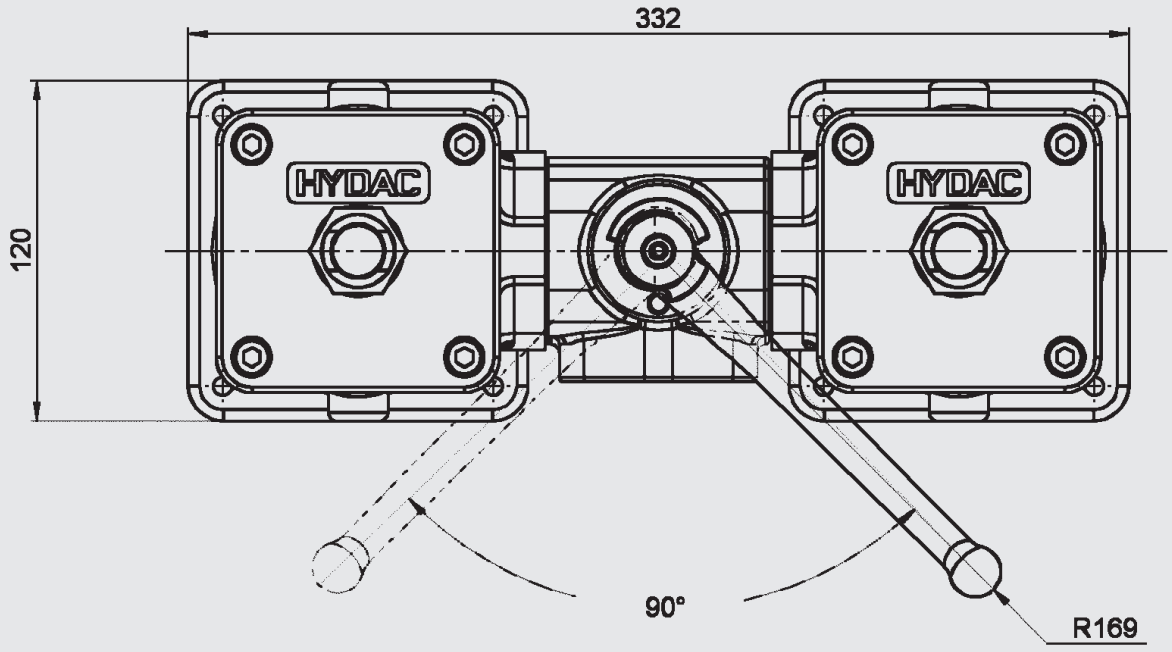
SSRF 160



SSRF	Weight incl. element [kg]	Volume of pressure chamber [l]
160	1.5	0.90

SSRFD 160





SSRFD	Weight incl. element [kg]	Volume of pressure chamber [l]
160	4.1	2.0

NOTES

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.
Subject to technical modifications.

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