Automotive MultiRheo Filter
AMRF 2/3/4/5/6/7

Description

The AMRF automotive MultiRheo filters are offline filtration units for use in open systems which are continually exposed to contamination.

The filter elements protect components such as nozzles, high pressure pumps or working filters, for example in function test rigs or industrial part washers.

Various sizes with a variety of connection options are available.

Applications

- Function test rigs
- Industrial part washers
- Machining centres
- Filling stations
- Engine oils
- Lubrication systems

Advantages

- Economic operation through high quality standards, defined filtration rates and high separation values
- Compact housing with high flow rates
- Service-friendly for replacing elements
- Efficient system and component protection
- Environmentally protective disposal because ashable

Model code

AMRF – 4 – E / 15 – Q – 40 – 10 – F – D32 – 0 / – OE

Type

AMRF	= Automotive MultiRheo filter
AMRFD	= Change-over automotive MultiRheo filter

Filter size

2	= ≈ 220 mm housing diameter
3	= ≈ 274 mm housing diameter
4	= ≈ 355 mm housing diameter
5	= ≈ 406 mm housing diameter
6	= ≈ 508 mm housing diameter
7	= ≈ 610 mm housing diameter

Housing material

E	= Stainless steel*

* For quality, see technical specifications

Number of elements

		For size					
		2	3	4	5	6	7
5	= 5 filter elements	2					
8	= 8 filter elements		3				
15	= 15 filter elements			4			
18	= 18 filter elements				5		
26	= 26 filter elements					6	
38	= 38 filter elements						7

Hydraulic connection

		For size					
		2	3	4	5	6	7
D	= G 1"	2	3				
F	= G 1 ½"	2	3				
G	= G 2"	2	3				
L	= SAE DN50	2	3				
J	= DIN DN 50	2	3				
Q	= DIN DN 80			4			
R	= DIN DN 100				5		
S	= DIN DN 150					6	
W	= DIN DN 200						7

Element length

		For size					
		2	3	4	5	6	7
10	= 10 "	2	3				
20	= 20 "	2	3				
30	= 30 "	2	3	4	5	6	7
40	= 40 "	2	3	4	5	6	7

Pressure range

		For size					
		2	3	4	5	6	7
10	= 10 bar	2	3	4	5	6	7
16	= 16 bar	2	3	4	5	6	7

Seal material

F	= FPM (Viton)

Clogging indicator

D32	= Differential pressure indicator (Gw.0/-V-113)
Dz	= Piping for retrofitting a differential pressure indicator
Z	= Without clogging indicator

See HYDAC brochure for filter clogging indicators (D 7.050...)

Modification number

0	= The latest version is always supplied

Supplementary details

OE	= Without drain
L	= Without foot / drip tray
E	= Air bleed connection
KL	= Hinged screws
KLM	= Clamp screw

Filter calculation

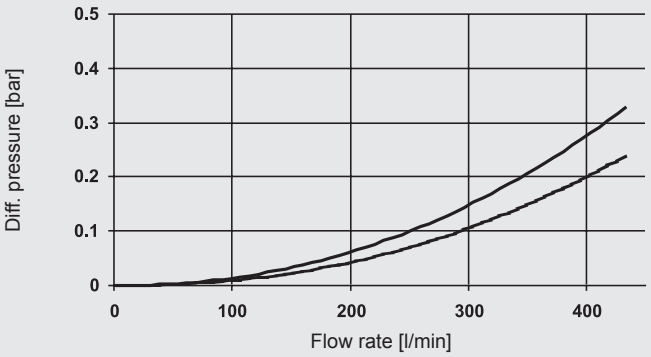
The total pressure drop of the filter at a certain flow rate is the sum of the housing Δp and the element Δp. The housing pressure drop can be determined using the following pressure drop curves. The filter element Δp is calculated using the R-factors (see filter element data sheet).

Housing ∆p: Housing pressure drop graphs

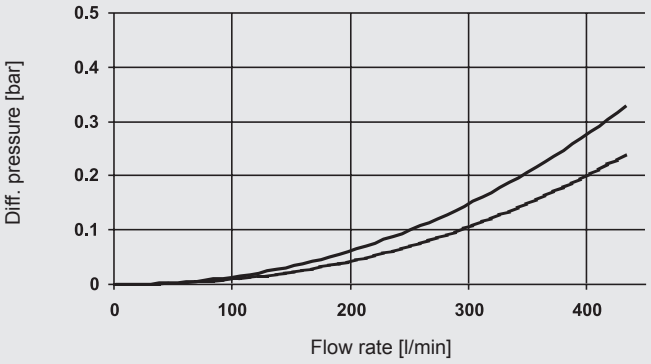
The housing curves above apply to mineral oil with a density of 0.86 kg/dm³ and a kinematic viscosity of 30 mm²/s. The lower housing curves apply to water at 20 °C. For turbulent flow, the differential pressure will change proportionally to the density; for laminar flow, it will change proportionally to the density and viscosity. The flow velocity should not exceed 3 m/s at the filter inlet for oil and 4 m/s for water.

Housing pressure drop graphs (Housing-∆p)

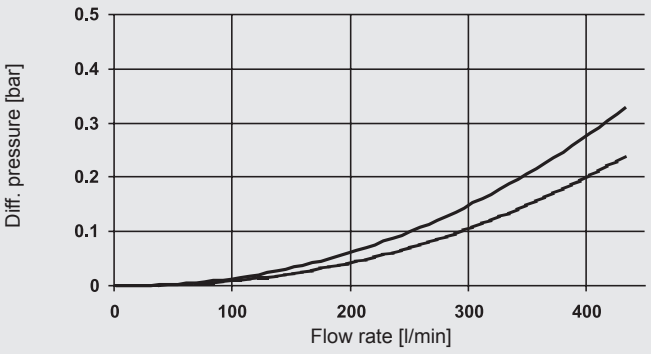
AMRF-2



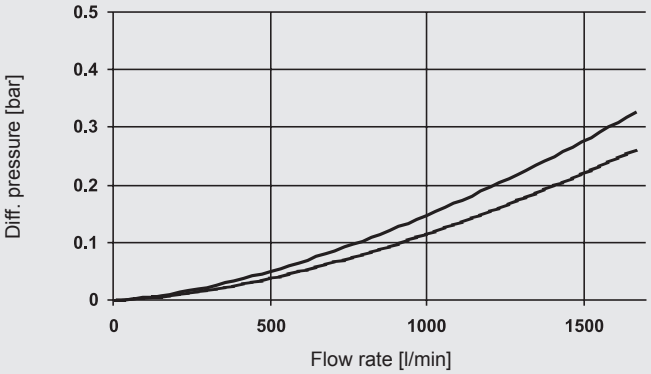
AMRFD-2



AMRF-3



AMRF-4



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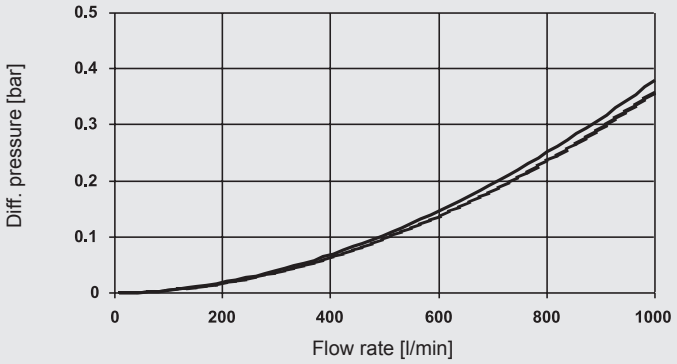
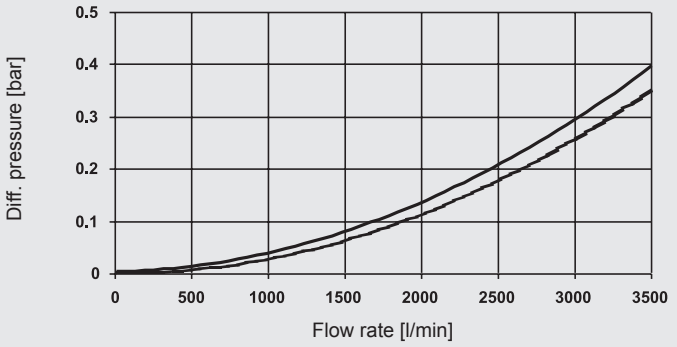
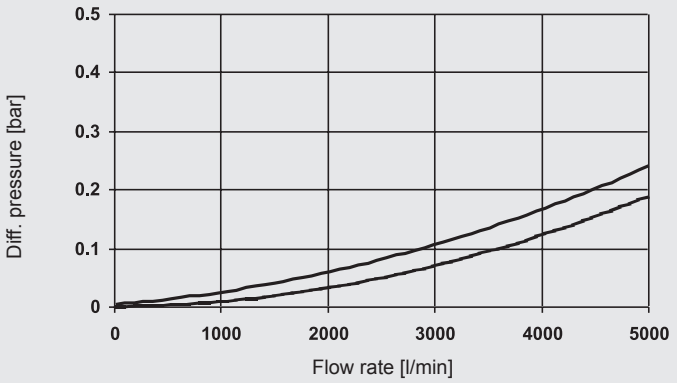


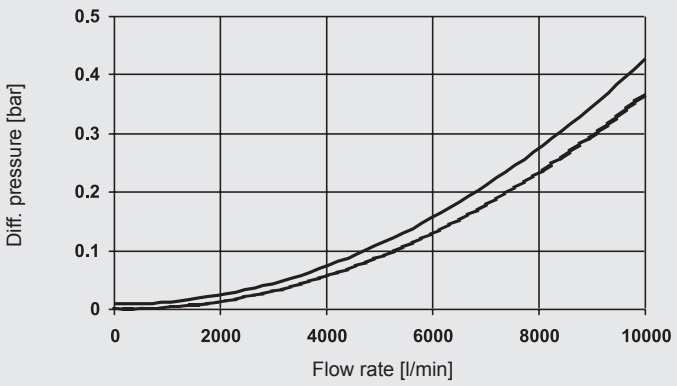
AMRF-5



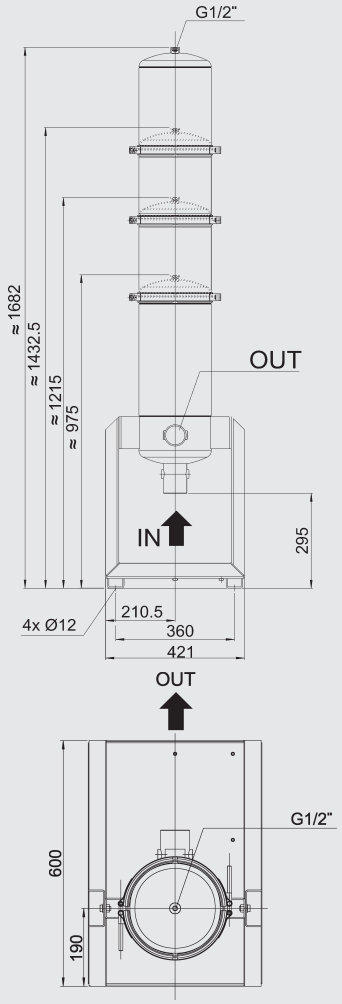
AMRF-6



AMRF-7

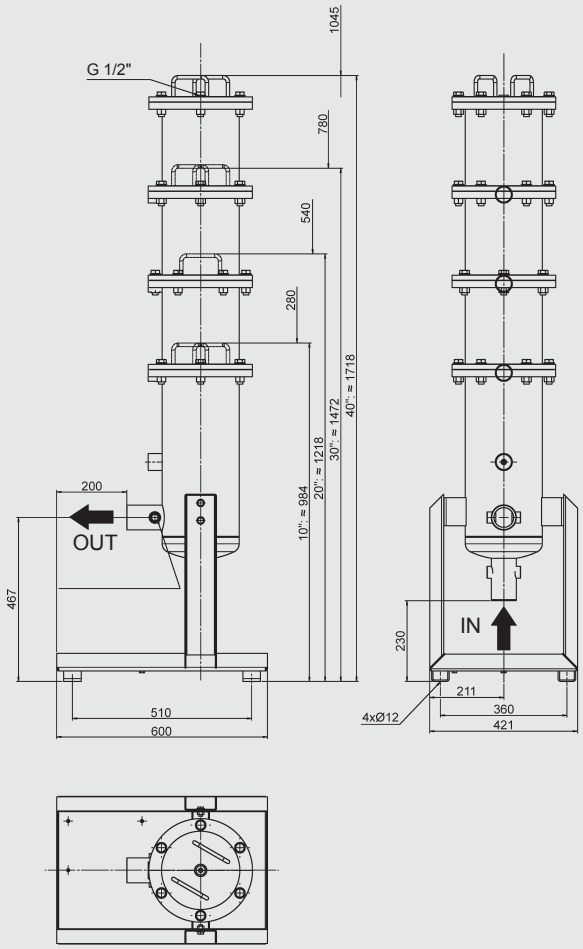


AMRF-2



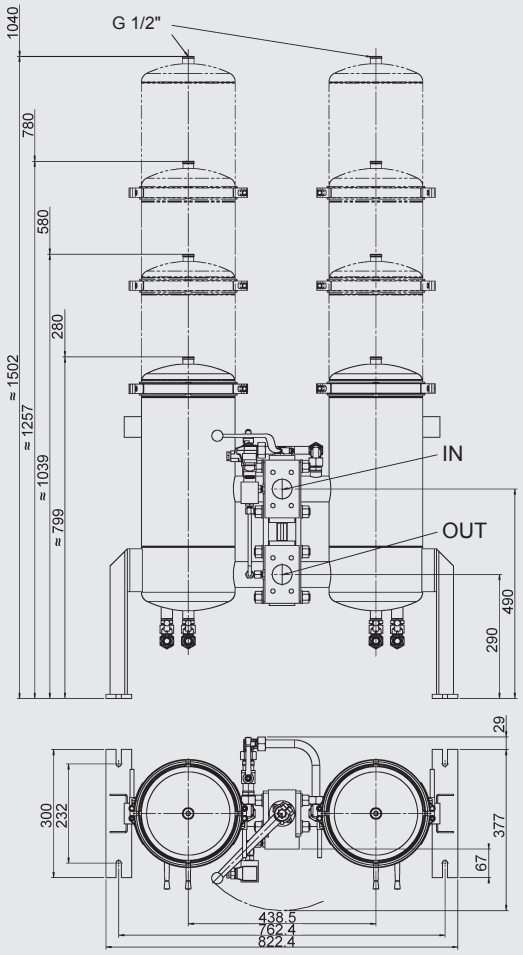
Max. operating pressure	10 bar
Hydraulic connection (IN, OUT)	G 1", G1 1/2", G2" DIN DN 50
Permitted temp. range of fluid	-10 to 90 °C
Weight	10": 30 kg 20": 35 kg 30": 36 kg 40": 38 kg
Volume of housing	10": 16 l 20": 24 l 30": 32 l 40": 40 l
Material of filter head	Stainless steel 1.4301
Material of filter bowl	Stainless steel 1.4301
Material of seals	FPM

AMRF-2 16bar



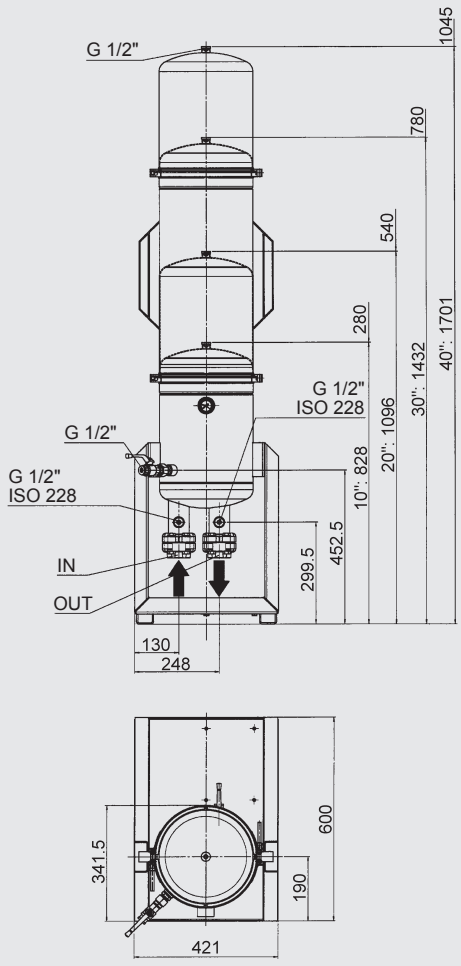
Max. operating pressure	16 bar
Hydraulic connection (IN, OUT)	G 1", G1 1/2", G2"
Permitted temp. range of fluid	-10 to 90 °C
Weight	10": 66 kg 20": 70 kg 30": 75 kg 40": 78 kg
Volume of housing	10": 21 l 20": 31 l 30": 40 l 40": 50 l
Material of filter head	Stainless steel 1.4301
Material of filter bowl	Stainless steel 1.4301
Material of seals	FPM

AMRFD-2 10bar



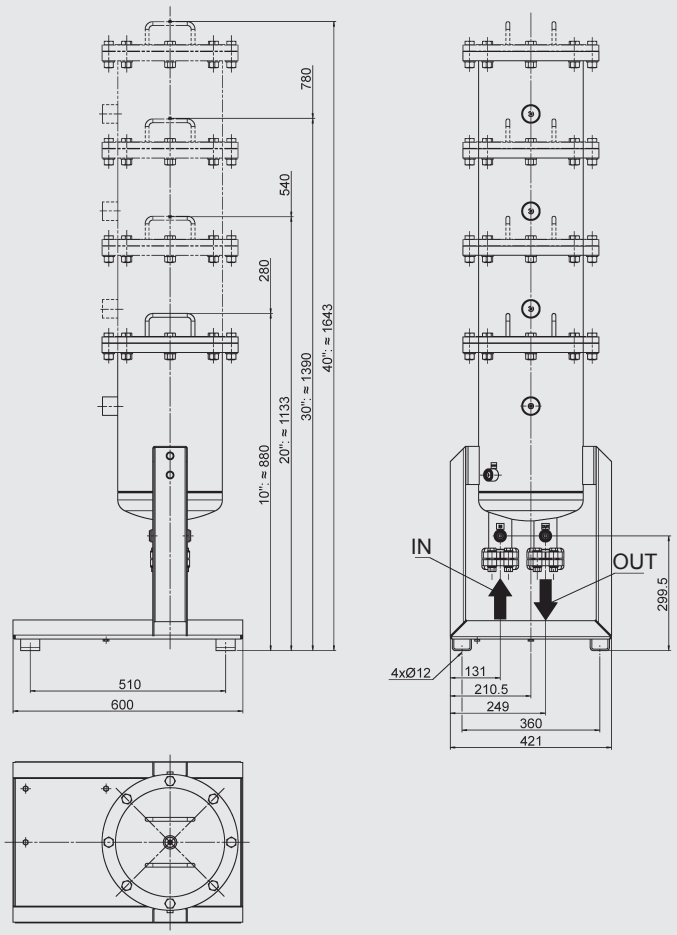
Max. operating pressure	10 bar
Hydraulic connection (IN, OUT)	SAE DN 50
Permitted temp. range of fluid	-10 to 90 °C
Weight	10": 120 kg 20": 130 kg 30": 135 kg 40": 144 kg
Volume of housing	10": 2 x 17 l 20": 2 x 26 l 30": 2 x 35 l 40": 2 x 45 l
Material of filter head	Stainless steel 1.4301
Material of filter bowl	Stainless steel 1.4301
Material of seals	FPM

AMRF-3



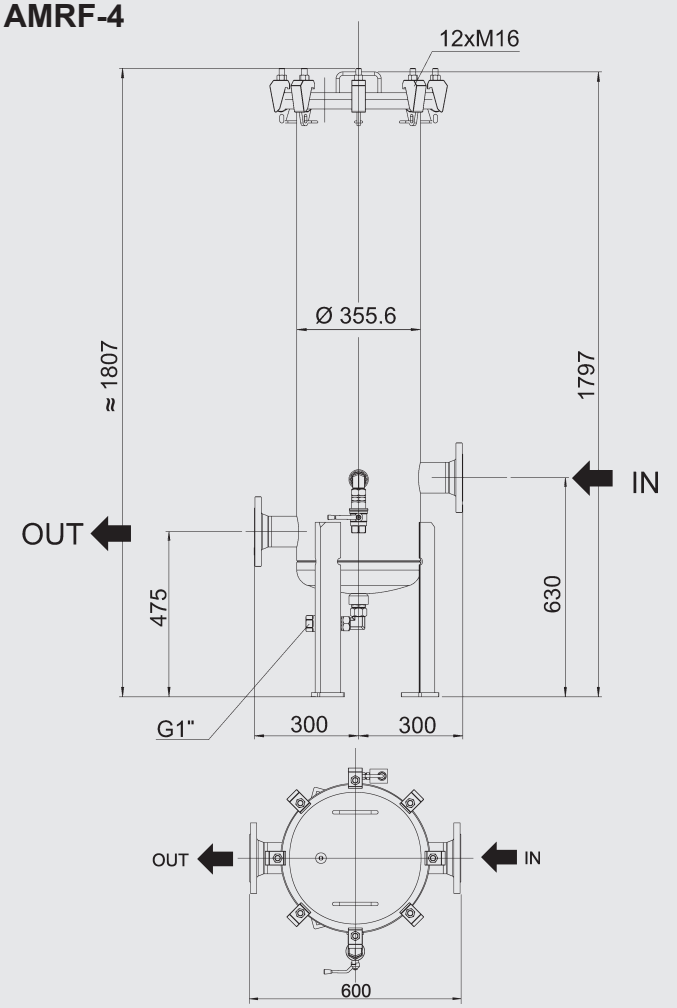
Max. operating pressure	10 bar
Hydraulic connection (IN, OUT)	G1", G1 1/2", G2", SAE DN50, DIN DN50
Permitted temp. range of fluid	-10 to 90 °C
Weight	10": 35 kg 20": 40 kg 30": 45 kg 40": 49 kg
Volume of housing	10": 21 l 20": 42 l 30": 56 l 40": 70 l
Material of filter head	Stainless steel 1.4301
Material of filter bowl	Stainless steel 1.4301
Material of seals	FPM

AMRF-3 16bar



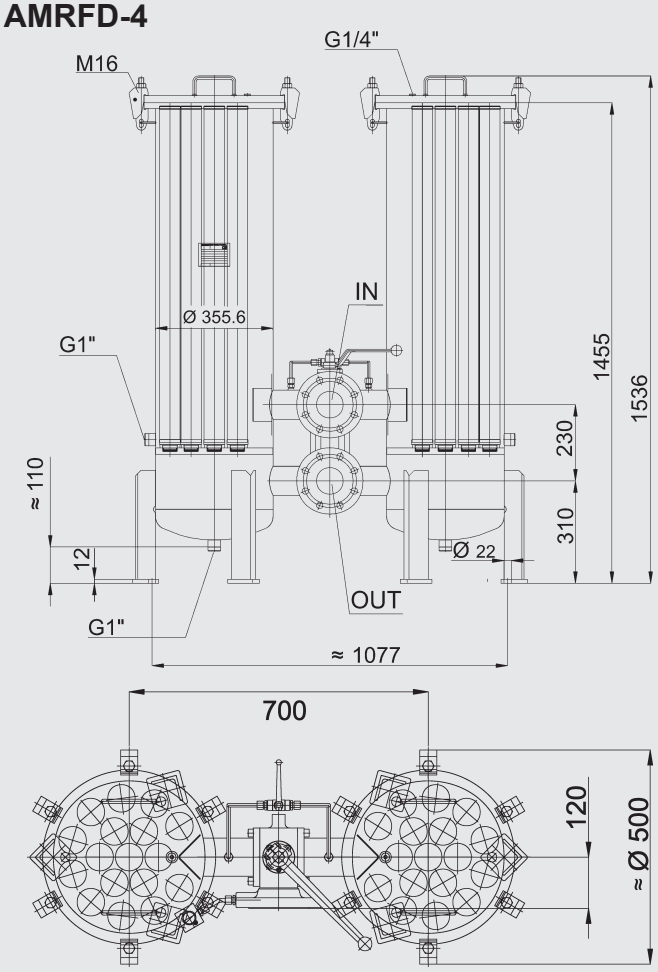
Max. operating pressure	16 bar
Hydraulic connection (IN, OUT)	G 1", G1 1/2", G2" SAE DN 50, DIN DN 50
Permitted temp. range of fluid	-10 to 90 °C
Weight	10": 105 kg 20": 110 kg 30": 120 kg 40": 125 kg
Volume of housing	10": 33 l 20": 47 l 30": 60 l 40": 71 l
Material of filter head	Stainless steel 1.4301
Material of filter bowl	Stainless steel 1.4301
Material of seals	FPM

AMRF-4



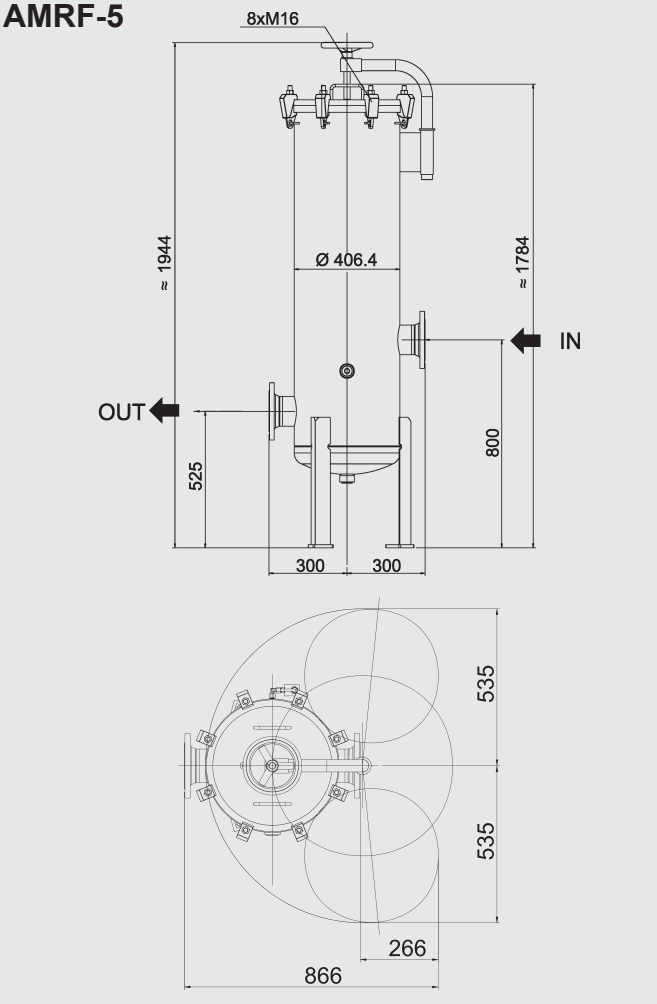
Max. operating pressure	10 bar / 16 bar
Hydraulic connection (IN, OUT)	DN 80
Permitted temperature range of fluid	-10 to 90°C
Weight	165 kg (10 bar)
Volume of housing	130 l
Material of filter head	Stainless steel 1.4301 or higher
Material of filter bowl	Stainless steel 1.4301 or higher
Material of seals	FPM

AMRFD-4



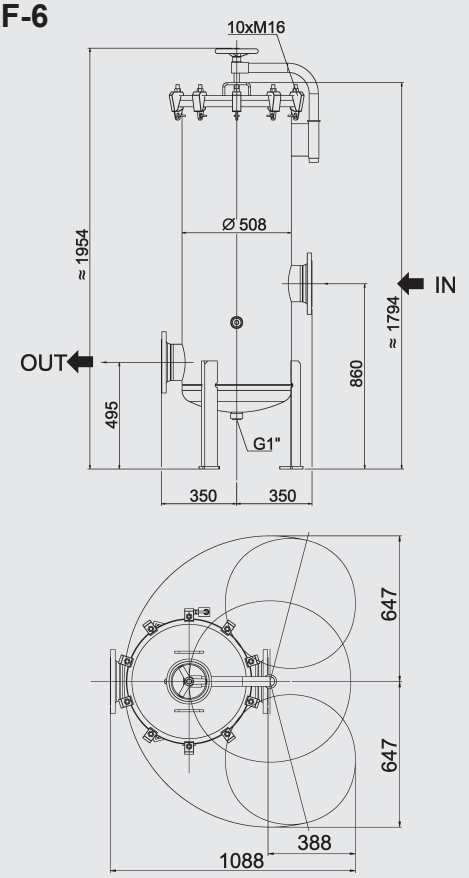
Max. operating pressure	10 bar / 16 bar
Hydraulic connection (IN, OUT)	DN 80
Permitted temperature range of fluid	-10 to 90 °C.
Weight	380 kg (10 bar)
Volume of housing	2 x 130 l
Material of filter head	Stainless steel 1.4301 or higher
Material of filter bowl	Stainless steel 1.4301 or higher
Material of seals	FPM

AMRF-5



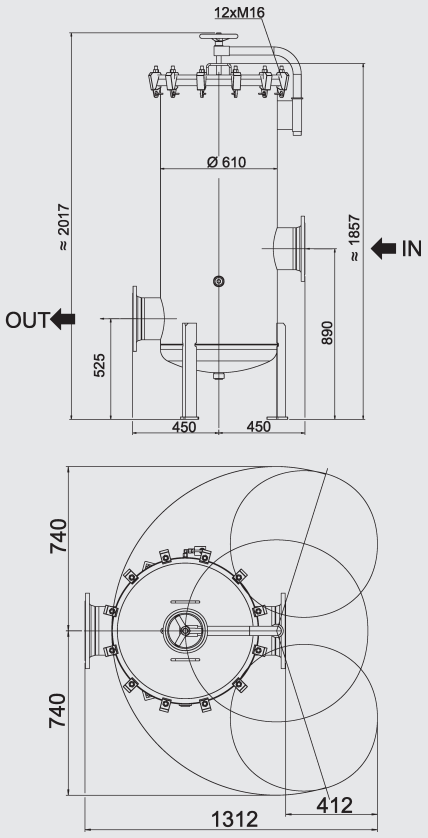
Max. operating pressure	10 bar / 16 bar
Hydraulic connection (IN, OUT)	DN 100
Permitted temperature range of fluid	-10 to 90°C
Weight	230 kg (10 bar)
Volume of housing	180 l
Material of filter head	Stainless steel 1.4301 or higher
Material of filter bowl	Stainless steel 1.4301 or higher
Material of seals	FPM

AMRF-6



Max. operating pressure	10 bar / 16 bar
Hydraulic connection (IN, OUT)	DN 150
Permitted temperature range of fluid	-10 to 90°C
Weight	305 kg (10 bar)
Volume of housing	290 l
Material of filter head	Stainless steel 1.4301 or higher
Material of filter bowl	Stainless steel 1.4301 or higher
Material of seals	FPM

AMRF-7



Max. operating pressure	10 bar / 16 bar
Hydraulic connection (IN, OUT)	DN 200
Permitted temperature range of fluid	-10 to 90°C
Weight	400 kg (10 bar)
Volume of housing	465 l
Material of filter head	Stainless steel 1.4301 or higher
Material of filter bowl	Stainless steel 1.4301 or higher
Material of seals	FPM

Note

The information in this brochure relates to the operating conditions and applications described.

For applications and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

HYDAC FILTER SYSTEMS GMBH
Industriegebiet
D-66280 Sulzbach / Saar, Germany
Tel.: +49 (0) 6897/509-01
Fax: +49 (0) 6897/509-9046
Internet: www.hydac.com
E-mail: filtersystems@hydac.com