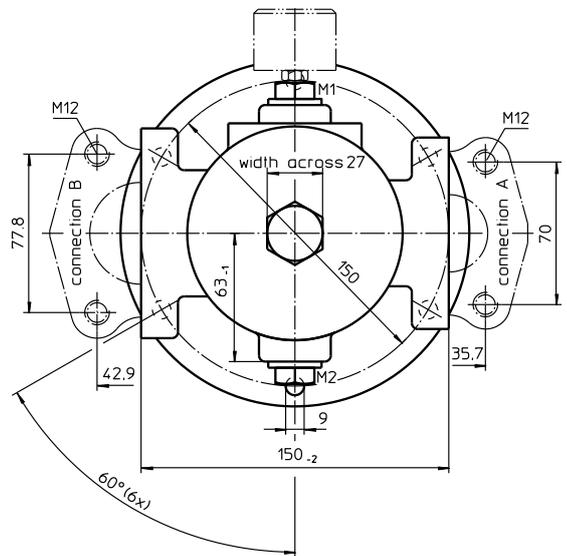
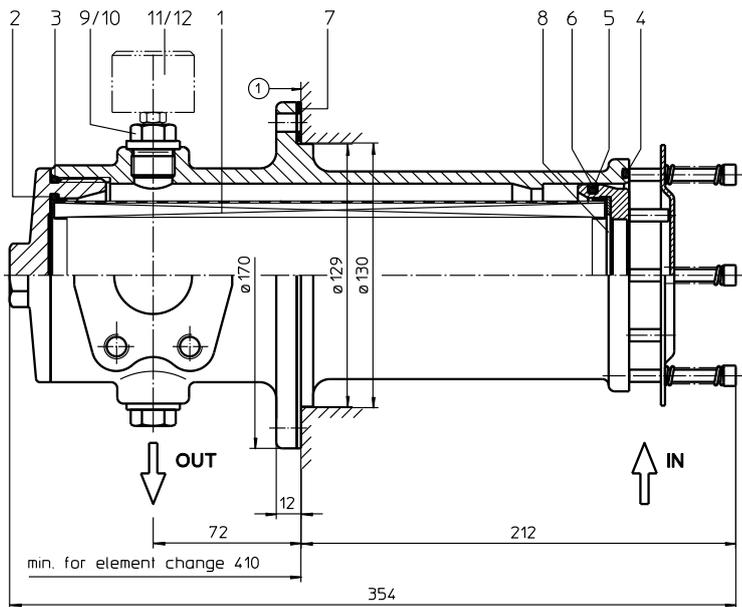


# Series AS 220 DN40-50



mounting surface	①
surface quality	3.2 ▽
flatness tolerance	▭ 0.2

Weight approx.: 4,5 kg

Dimensions: mm

Designs and performance values are subject to change!

# Suction Filter

## Series AS 220

### DN40-50

#### Description:

The AS filters can be installed horizontally or vertically in the tank and connected to the suction line. They are easy to maintain. The filter housing is made of high quality aluminum material.

The filter element consists of a star-shaped pleated filter material which is supported on the inside by a perforated core tube and is bonded to the end caps.

Eaton filter elements are known as stable elements which have excellent filtration capabilities and a high dirt retaining capacity, therefore having a long service life.

To change the filter element, the filter cover is unscrewed. When the filter cover is loosened, a plate valve closes the suction side of the filter and prevents dirty oil from flowing back into the tank or, if the filter is installed horizontally, the fluid from escaping from the tank. After the servicing respectively after changing the element the filter is again ready for operation.

Eaton filter can be used for petroleum-based fluids, HW emulsions, water glycols, most synthetic fluids and lubrication fluids. Consult factory for specific fluid applications.

#### Type index:

**Complete filter:** (ordering example)

**AS. 220. 40G. -. B. P. -. FS. 8. -. O1. -**

1	2	3	4	5	6	7	8	9	10	11	12
---	---	---	---	---	---	---	---	---	----	----	----

- 1 series:**  
AS = suction filter
- 2 nominal size:** 220
- 3 filter-material:**  
40G stainless steel wire mesh
- 4 filter element collapse rating:**  
- = not specified
- 5 filter element design:**  
B = both sides open
- 6 sealing material:**  
P = Nitrile (NBR)  
V = Viton (FPM)
- 7 filter element specification:**  
- = standard  
VA = stainless steel
- 8 process connection:**  
FS = SAE-flange connection 3000 PSI
- 9 no. of version:**
- | version      |      | 7  | 4  | 8  |
|--------------|------|----|----|----|
| connection A | type | -  | FS | FS |
|              | size | -  | 7  | 7  |
| connection B | type | FS | -  | FS |
|              | size | 8  | -  | 8  |
- type: FS = SAE-flange 3000 PSI  
size: - = no connection  
7 = 1 1/2"  
8 = 2"
- 10 filter housing specification:**  
- = standard
- 11 clogging indicator at M1:**  
- = without  
O1 = visual, see sheet-no. 1616  
E4.-0,25 = pressure switch, see sheet-no. 1616
- 12 clogging indicator at M2:**  
possible indicators see position 11 of the type index

To add an indicator to your filter, use the corresponding indicator data sheet to find the indicator details and add them to the filter assembly model code.

**Filter element:** (ordering example)

**01AS. 220. 40G. -. B. -. -**

1	2	3	4	5	6	7
---	---	---	---	---	---	---

- 1 series:**  
01AS. = suction filter element according to company standard
- 2 nominal size:** 220
- 3 - 5 / 7** see type index-complete filter
- 6 seling material:**  
- = without

#### Accessories:

- SAE-counter flanges, see sheet-no. 1652

## Technical data:

operating temperature:	-10°C to +100°C
operating medium	mineral oil, other media on request
process connection:	SAE-flange 3000 PSI
housing material standard:	G-AISI10Mgwa DIN 1725 (3.2381.61)
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	optional
volume tank:	1,6 l

Classified under the Pressure Equipment Directive 2014/68/EU for mineral oil (fluid group 2), Article 4, Para. 3.  
Classified under ATEX Directive 2014/34/EU according to specific application (see questionnaire sheet-no. 34279-4).

## Pressure drop flow curves:

### Filter calculation/sizing

The pressure drop of the assembly at a given flow rate Q is the sum of the housing  $\Delta p$  and the element  $\Delta p$  and is calculated as follows:

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

$$\Delta p_{housing} = (\text{see } \Delta p = f(Q) - \text{characteristics})$$

$$\Delta p_{element} (mbar) = Q \left( \frac{l}{min} \right) \times \frac{MSK}{10} \left( \frac{mbar}{l/min} \right) \times v \left( \frac{mm^2}{s} \right) \times \frac{p}{0,876} \left( \frac{kg}{dm^3} \right)$$

For ease of calculation our Filter Selection tool is available online at [www.eaton.com/hydraulic-filter-evaluation](http://www.eaton.com/hydraulic-filter-evaluation)

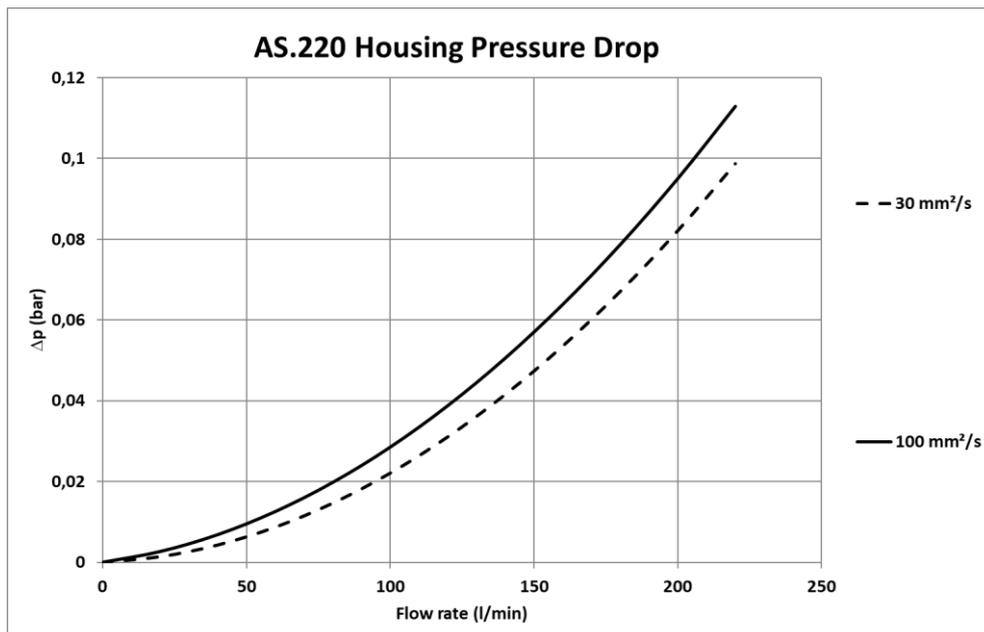
### Material gradient coefficients (MSK) for filter elements

The material gradient coefficients in mbar/(l/min) apply to mineral oil (HLP) with a density of 0,876 kg/dm<sup>3</sup> and a kinematic viscosity of 30 mm<sup>2</sup>/s (139 SUS). The pressure drop changes proportionally to the change in kinematic viscosity and density.

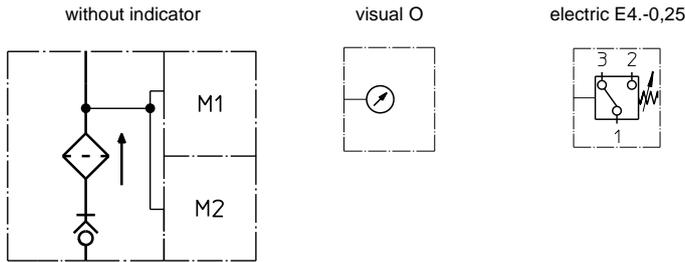
AS 220	40G
	0,0401

### $\Delta p = f(Q)$ – characteristics according to ISO 3968

The pressure drop characteristics apply to mineral oil (HLP) with a density of 0,876 kg/dm<sup>3</sup>. The pressure drop changes proportionally to the density.



## Symbols:



## Spare parts:

item	qty.	designation	dimensions	article-no.	
1	1	filter element	01AS.220...		
2	1	O-ring	75 x 3	302215 (NBR)	304729 (FPM)
3	1	O-ring	88 x 3	304417 (NBR)	310266 (FPM)
4	1	O-ring	96 x 4	305190 (NBR)	308148 (FPM)
5	1	O-ring	78 x 3,5	311610 (NBR)	314696 (FPM)
6	1	sliding ring	20165-4		305194
7	1	gasket	2 thick		305135
8	1	sliding washer	20164-4		305199
9	2	screw plug	G ½		309730
10	2	gasket	A 21 x 26		309815
11	1	clogging indicator, visual	O1		301722
12	1	pressure switch, electric	E4.-0,25		301725

## Test methods:

Filter elements are tested according to the following ISO standards:

ISO 2941	Verification of collapse/burst resistance
ISO 2942	Verification of fabrication integrity
ISO 2943	Verification of material compatibility with fluids
ISO 3723	Method for end load test
ISO 3724	Verification of flow fatigue characteristics
ISO 3968	Evaluation of pressure drop versus flow characteristics
ISO 16889	Multi-pass method for evaluating filtration performance

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