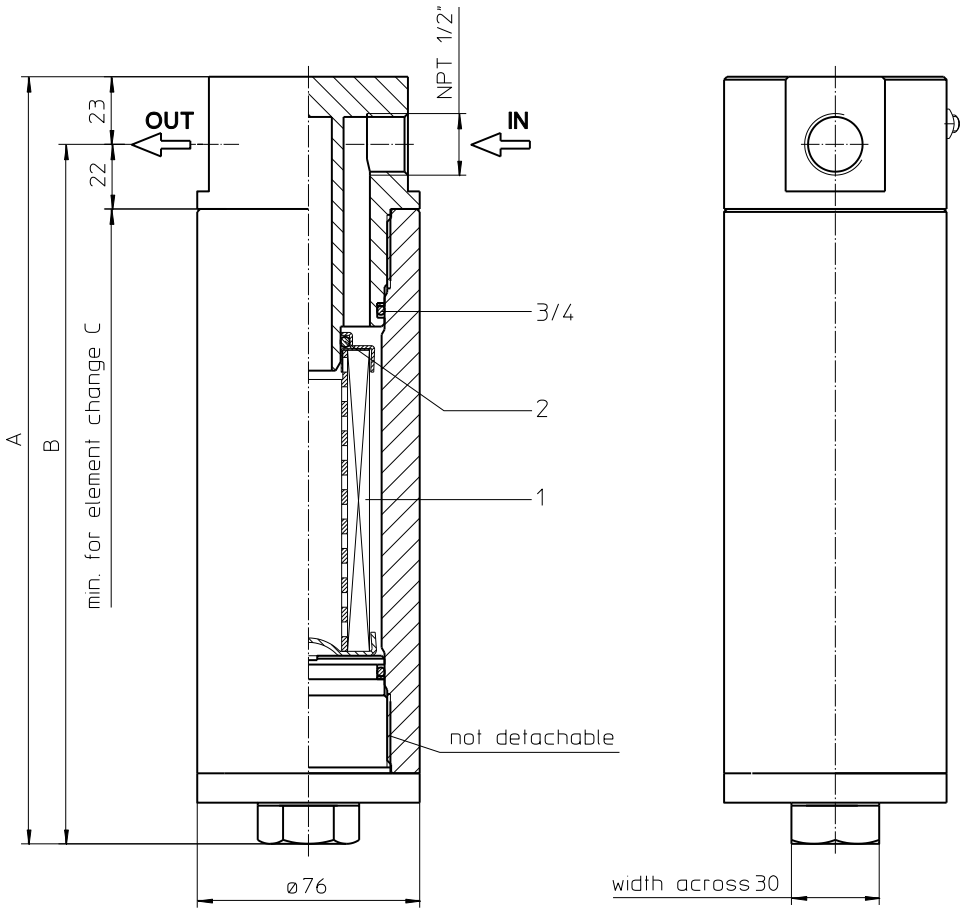
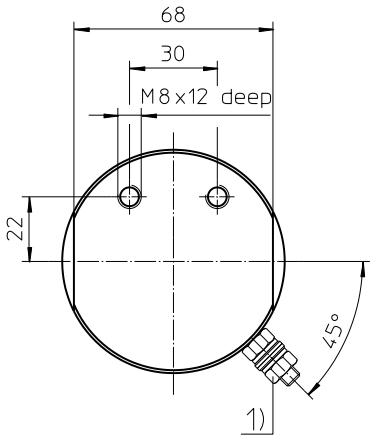
Series EHP 60-90
DN15 PN700/1400





Dimensions:

type	EHP 60	EHP 90
connection	NPT ½“	
A	261	326
B	238	303
C	360	425
weight kg	8,5	9,7
volume tank	0,3 l	0,4 l

1) Connection for the potential equalization, only for application in the explosive area.

Dimensions: mm

Designs and performance values are subject to change.

Stainless Steel-Pressure Filter Series EHP 60-90 DN15 PN700/1400

Description:

Stainless steel pressure filter series EHP 60-90 have a working pressure up to 700 bar or 1400 bar. Pressure peaks can be absorbed with a sufficient safety margin. The EHP-filter is in-line mounted.

The filter element consists of star-shaped, pleated filter material, which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. The flow direction is from outside to inside. Filter elements are available down to 5 $\mu m_{(c)}$. Finer filtration is available upon request.

Eaton filter elements are known for high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

Eaton filter elements are available up to a pressure resistance of 160 bar and a rupture strength of Δp 250 bar.

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.

1. Type index:

1.1. Complete filter: (ordering example)

EHP.	90.	10VG.	HR.	E.	P.	VA.	NPT.	3.	VA.	700
1	2	3	4	5	6	7	8	9	10	11

1 **series:**
EHP = stainless steel-pressure filter

2 **nominal size:** 60, 90

3 **filter-material:**
80G, 40G, 25G , stainless steel wire mesh
25VG, 16VG, 10VG, 6VG, 3VG microglass

4 **filter element collapse rating:**
30 = Δp 30 bar
HR = Δp 160 bar (rupture strength Δp 250 bar)

5 **filter element design:**
E = single-end open

6 **sealing material:**
P = Nitrile (NBR)
V = Viton (FPM)

7 **filter element specification:**
- = standard
VA = stainless steel
IS06 = for HFC application, see sheet-no. 31601

8 **process connection:**
NPT = thread connection according to ANSI B1.20.1

9 **process connection size:**
3 = NPT ½“

10 **filter housing specification:**
VA = stainless steel

11 **pressure level:**
700 = max. operating pressure 700 bar
1400 = max. operating pressure 1400 bar

1.2. Filter element: (ordering example)

01E.	90.	10VG.	HR.	E.	P.	VA
1	2	3	4	5	6	7

1 **series:**
01E. = filter element according to company standard

2 **nominal size:** 60, 90

3 - 7 see type index-complete filter

Technical data:

operating temperature:	-10 °C bis +100 °C
operating medium:	mineral oil, other media on request
max. operating pressure:	700 bar | 1400 bar
test pressure:	1000 bar | 2000 bar
process connection:	thread connection
housing material:	EN10088-3 - 1.4418 + QT900
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical

Pressure stage 700: Classified under the Pressure Equipment Directive 2014/68/EU for mineral oil (fluid group 2), Article 4, Para. 3.
Pressure stage 1400: Classified under the Pressure Equipment Directive 2014/68/EU for mineral oil category I (Modul A)
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 Δp and the element Δp and is calculated as follows:

$\Delta p_{assembly} = \Delta p_{housing} + \Delta p_{element}$
$\Delta p_{housing}$ = *(see Δp = f (Q) - characteristics)*

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

For ease of calculation our Filter Selection tool is available online at www.eaton.com/hydraulic-filter-evaluation

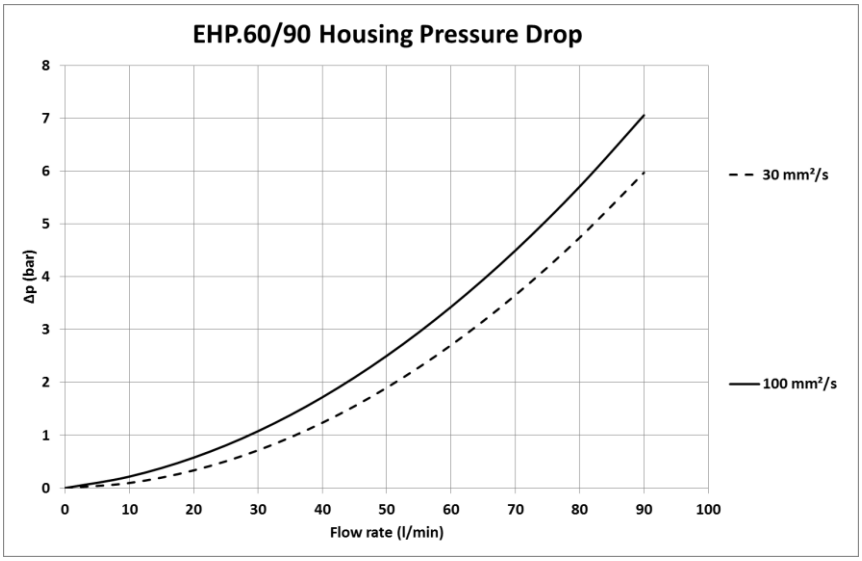
Material gradient coefficients (MSK) for filter elements

The material gradient coefficients in mbar/(l/min) apply to mineral oil (HLP) with a density of 0,876 kg/dm³ and a kinematic viscosity of 30 mm²/s (139 SUS). The pressure drop changes proportionally to the change in kinematic viscosity and density.

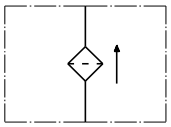
EHP	VG					G		
	3VG	6VG	10VG	16VG	25VG	25G	40G	80G
60	5,438	3,775	2,417	2,104	1,438	0,2205	0,1635	0,1526
90	3,271	2,271	1,454	1,266	0,865	0,1333	0,0988	0,0922

Δp = f(Q) – characteristics according to ISO 3968

The pressure drop characteristics apply to mineral oil (HLP) with a density of 0,876 kg/dm³. The pressure drop changes proportionally to the density.



Symbol:



Spare parts:

item	qty.	designation	dimension		article-no.	
			EHP 60	EHP 90		
1	1	filter element	01E.60….	01E.90…		
2	1	O-ring	22 x 3,5		304341 (NBR)	304392(FPM)
3	1	O-ring	45 x 3		304991 (NBR)	304997 (FPM)
4	1	support ring	52 x 2,6 x 1		311013	

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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