

High pressure filters



# Type H/Models 100, 200, 300 and SH100



Models 100, 200, 300, SH100

## Model 100

**Flow rate:**

up to 100 l/min

**Working pressure:**

414 bar

**Ports:**

$\frac{1}{2}$ " ,  $\frac{3}{4}$ " threaded  
+ side manifold

## Model 200

**Flow rate:**

up to 250 l/min

**Working pressure:**

414 bar

**Ports:**

$\frac{3}{4}$ " , 1" ,  $1\frac{1}{4}$ " threaded  
flanged + manifold

## Model 300

**Flow rate:**

up to 350 l/min

**Working pressure:**

414 bar

**Ports:**

$1\frac{1}{4}$ " ,  $1\frac{1}{2}$ " threaded  
flanged + manifold

## Model SH100

**Flow rate:**

up to 100 l/min

**Working pressure:**

690 bar

**Ports:**

$\frac{1}{2}$ " ,  $\frac{3}{4}$ " threaded

Global Filtration Technology

Member of Parker Hannifin Corporation



## COMPANY PROFILE

Parker Arlon is a leading designer and manufacturer of filters for hydraulic and lubricating oil systems used in mobile and industrial applications throughout the world. The company offers standard, semi-standard and tailor-made solutions that meet all requirements. The product portfolio encompasses a wide variety of indicators, 3-way ball valves and filter elements, including the innovative *LEIF*<sup>®</sup> Low Environmental Impact Filter and *AQUASAFE*<sup>®</sup> water absorption elements. In addition, Parker Arlon provides oil analysis services.

In-depth know-how and experience, combined with an awareness of market demands and customer requirements are the foundation of Parker Arlon's customer-oriented approach. The company is pursuing new standards, not only in filtration efficiency and customer service, but also in environmental consciousness. Parker Arlon is ISO 9001 and ISO 14001 certified. Quality & environment are conveyed through technical efficiency, consistency, long lifecycles and cost efficiency.

Parker Arlon has engineering, R&D and manufacturing facilities located in Arnhem, the Netherlands, and exports 90% of its products around the world.

Parker Filtration BV is part of the Parker Hannifin Corporation – the world's largest motion and control company, manufacturing and supplying components and systems for just about anything that moves.

## UNTERNEHMENS PROFIL

Parker Arlon ist ein führender Entwickler und Hersteller von Filtrationsprodukten für Hydraulik- und Schmierölsysteme, welche weltweit auf dem Mobil- und Industrie-Sektor ihre Anwendung finden.

Mit seinen Standards, Halbstandards und kundenorientierten Lösungen bedient die Firma eine Vielzahl von Anforderungen. Die Produktpalette umfasst eine breite Vielfalt von Indikatoren, 3-Wege-Kugelhähnen und Filterelementen einschließlich der innovativen, umweltfreundlichen *LEIF*<sup>®</sup> Filter und *AQUASAFE*<sup>®</sup> wasserabsorbierenden Elementen. Zusätzlich bietet Parker Arlon einen Ölanalyse-Service an.

Der langjährige know-how und Erfahrung zusammen mit der Wahrnehmung hoher Kunden- und Marktansprüche ist die Grundlage für die kundenorientierte Ausprägung von Parker Arlon. Die Umsetzung neuester Standards zeigt sich gleichermaßen in der Qualität unserer Produkte, einem hohen Niveau an Kundenservice, wie in der Verfolgung umwelt- politischer Aspekte. Parker Arlon ist ISO 9001 und 14001 zertifiziert.

Qualität und Umwelt-Verantwortung kommen durch technische Effizienz, Konsistenz, lange Lebenszyklen und Kosteneffizienz zum Ausdruck.

Parker Arlon vereint Engineering, Forschung & Entwicklung sowie Produktion am Standort in Arnhem, Niederlande. 90% der Produkte werden in die ganze Welt exportiert.

Parker Filtration BV ist Teil der Parker Hannifin Corporation, einer der international führenden Anbieter auf dem Gebiet der Antriebstechnik.

## PROFIL DE L'ENTREPRISE

Parker Arlon est un des tous premiers concepteurs et fabricants mondiaux de filtres hydrauliques et de lubrification pour l'industrie et les applications mobiles.

La société propose des solutions standards, semi-standards et personnalisées pour toutes les demandes.

La gamme de produits comprend une grande variété d'indicateurs, des vannes 3 voies sphériques, d'éléments filtrants tels les innovants *LEIF*<sup>®</sup> filtre écologique et *AQUASAFE*<sup>®</sup>, élément absorbant l'eau.

De plus, Parker Arlon assure un service d'analyse d'huile.

Un grand savoir-faire et une longue expérience, ainsi qu'une connaissance des besoins du marché et des clients sont les bases de l'approche client de Parker Arlon. La société explore de nouveaux domaines, non seulement dans l'efficacité de filtration et le service client, mais aussi dans la prise de conscience environnementale.

Parker Arlon est certifié ISO9001 et ISO14001. Qualité et environnement se traduisent par efficacité technique, qualité constante, longues durées de vie et efficacité économique.

Parker Arlon a ses bureaux d'études, Recherche et Développement et usine de production à Arnhem en Hollande, et exporte 90% de sa production dans le monde entier.

Parker Filtration BV appartient au groupe Parker Hannifin Corporation, la plus grande société du monde spécialisée dans la fabrication de composants pour le contrôle des mouvements et des fluides.

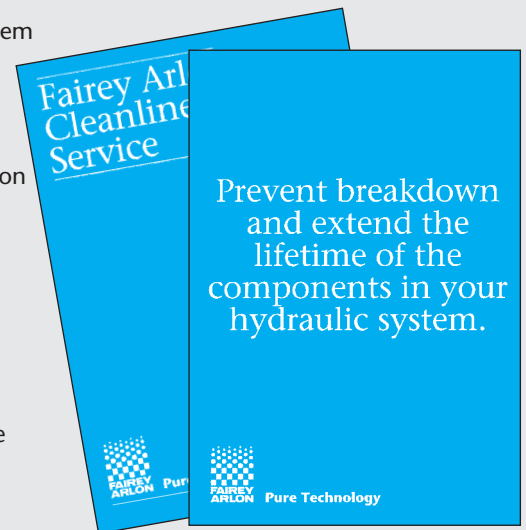
# Parker Arlon Cleanliness Service

With the Parker Arlon Cleanliness Service sample taking and analysis of your system fluids plus a proper report you can have a timely and accurate view on what is going on in your system.

That allows you to anticipate problems at the right moment and then you can avoid break-downs, repairs and excessive wear out. Supervising your oil condition with our Cleanliness Service offers you the following advantages:

1. Fewer breakdowns and breakdown costs.
2. Longer lifetime of the components in your hydraulic system.
3. Longer lifetime of the oil.
4. Optimal changing intervals.
5. Less environmental damage.

The Cleanliness Service utilises a very efficient logistic system, in which you are ensured of a quick and professional analysis and report. For the fluid sample taking procedure we refer to the enclosure in the sampling kit.



## Features and benefits

## Type H/Model 100/200/300/SH100

Parker Arlon high pressure filters offer the machine designer, builder and user the ultimate in hydraulic power and control protection. The filters have been developed from many years of experience in filtration to meet the needs of high technology hydraulic users.

The advanced designs reduce unscheduled maintenance and ensure optimum protection under all operating conditions. The cost effective filtration offered by Parker Arlon filters is the key to profitable operation of hydraulic systems.

Round-the-clock operation of modern hydraulic machinery depends upon the optimum protection given to all components in the hydraulic circuit. This can be achieved by fitting Parker Arlon filters.

Avoidable maintenance in a hydraulic powered plant can often exceed the original cost of the machinery unless efficient filters are fitted. The use of Parker Arlon filters ensures that the cause of 80% of all hydraulic malfunctions, "dirt", is eliminated. The range of hydraulic filters manufactured by Parker Arlon offer the following positive advantages:

### Wide range of port options:

Consisting of BSP and SAE threaded, SAE flanged and manifold mounted.

### By-pass valve & Indicator:

Ensures that indication is always achieved before by-pass opens. Indicators are magnetically actuated and have no external dynamic seal.

### By-pass valves:

#### Metering spool type

The most stable of all types of by-pass valve due to the metering effect of opening. When the by-pass valve cracks only a small area is initially open to flow. This area gradually increases with the rise in pressure drop, until the full area is opened.

This type of valve also produces very low hysteresis values, which is due to the metering effect and the fact that no foreign sealing materials are used between the spool and body.

#### Flat valve type

This type of by-pass has been developed for specialised, highly dynamic systems with excessive pressure cycling. This economic type of valve also has very low hysteresis characteristics; which is due to no sealing materials interfering with the piston and body assemblies and the dynamic properties of the valve.

With flat valve indicator by-pass the indicator part is not connected to the by-pass part. i.e. the indicator part will give a pre-indication.

### Visual indicators:

Standard or Memory type available. Red shows in window before by-pass opens to indicate element needs changing. Optional memory indication when equipment is shut down.

### Electrical indicators:

Allows provision of remote indication lamps which operate before by-pass. Opens- or closes to indicate element needs changing or to provide automatic shutdown of system.

### Dual indicators:

Available in dual electrical or mechanical visual and electrical options: not available on filter series 100.

### Modular Filter Options:

Enable rapid changeover of filters to meet specific customer needs and reduce distributor stock holding requirements.

### High Efficiency Elements:

Greater than 98% efficiency at  $\epsilon \times B75$ . Elements are multi pass tested to ISO 4572. A wide range of micron ratings are available. Choice of media available: inorganic, disposable, mesh or high strength options. Elements should be changed regularly to maintain system cleanliness.

# Filter weight specifications Type H/Model 100/200/300/SH100

Model 100	length 1	Standard Manifold	7.3 lbs. 10.6 lbs.	3.3 Kg. 4.8 Kg.	Model 300	length 1	Standard Manifold	31 lbs. 36 lbs.	14 Kg. 16.5 Kg.
Model 100	length 2	Standard Manifold	9.3 lbs. 12.6 lbs.	4.2 Kg. 5.7 Kg.	Model 300	length 2	Standard Manifold	37.5 lbs. 42.5 lbs.	17 Kg. 19.3 Kg.
Model 200	length 1	Standard Manifold	20 lbs. 24 lbs.	9 Kg. 11 Kg.	Model 300	length 3	Standard Manifold	44 lbs. 49.5 lbs.	20 Kg. 22.5 Kg.
Model 200	length 2	Standard Manifold	22 lbs. 26 lbs.	9.9 Kg. 11.9 Kg.	Model SH100	length 1	Standard	13.3 lbs.	6 Kg.
					Model SH100	length 2	Standard	16.6 lbs.	7.5 Kg.

## Wiring diagrams

## Type H/Model 100/200/300/SH100

### Electrical/Visual Clogging Indicator

A lamp is mounted on each side of the indicator assembly. On H, C and E type connectors the lamps are on during normal filter operation and on K, M and R type connectors the lamps are off during normal filter operation.

When the element becomes clogged, movement of the by-pass valve reverses the operation of the two lamps by actuating a microswitch.

The power supply for the two lamps has to be connected via terminals 1 and 2 on the plug connector for types H, C and E or terminals 1 and 3 on the plug connector for types K, M and R.

No other equipment should be connected to the lines in which the lamps are fitted. For operation of auxiliary equipment the free side of the circuit should be used.

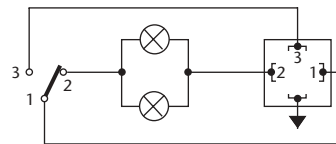
### Electrical Indicator

When the element becomes clogged movement of the by-pass valve actuates a microswitch which may be used to operate either a warning lamp or electrical relay.

### Electrical connector

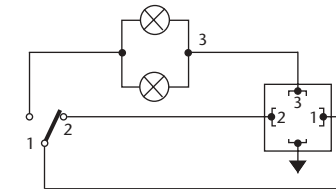
The electrical connector for both types of indicator is a three pole connector to DIN 43650 Gland size Pg11 suitable for most industrial applications.

### Connector type H, C, E



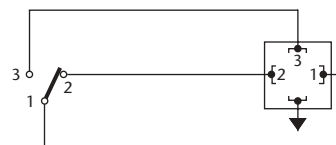
Plug connections	PIN code
Common	1
Normally closed	2
Normally open	3

### Connector type K, M, R



Plug connections	PIN code
Common	1
Normally closed	2
Normally open	3

### Connector type T



Plug connections	PIN code
Common	1
Normally closed	2
Normally open	3

## Diff. pressure indicators

## Type H/Model 100/200/300/SH100

### Visual clogging indicator

Check when the system is working at normal flow and operating temperature. As the element clogs and pressure drop reaches a predetermined level, red will appear in the window. It is at this point, prior to the opening of the by-pass valve that the element should be changed. If the visual memory indicator is fitted, the indicator must be reset by pressing the yellow button on top of the indicator.

### Electrical/Visual clogging indicator

When the element becomes clogged the indicator lamps will switch off, (connector type H, C, E) or on, (connector type K, M, R). This occurs before the by-pass valve opens and at this point the element should be changed.

### Electrical indicator

The electrical indicator may be used to operate either a lamp or an electrical relay. When this functions at normal

flow and operating temperature the element needs changing.

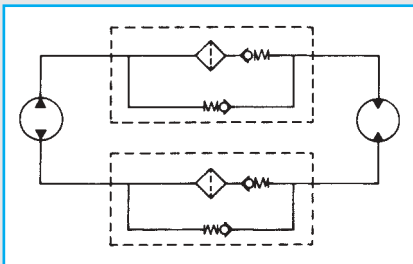
### Filter with no indicator

Elements must be changed on a regular time basis. When commissioning new equipment unknown quantities of contaminant will be present. Experience has shown that full protection of the system is maintained during the initial period of operation by changes of element at **10 hours** and **100 hours**. Based on field experience it is recommended that elements must be changed thereafter **every 500 hours**. This period is based upon 'average' usage, and may be varied to coincide with other servicing operations. If equipment is operated in particularly hostile conditions (mines, quarries, deserts) then a shorter period may be advisable.

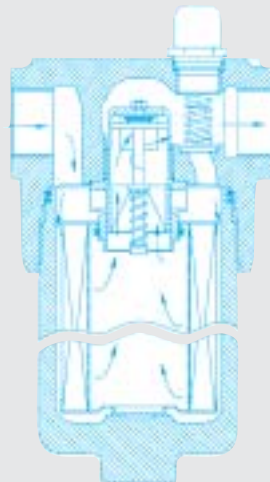
## Reverse flow valve

## Type H/Model 200/300

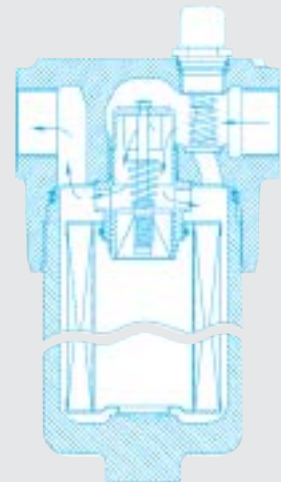
For hydrostatic drives and other systems where reverse flow is required a valve is incorporated which allows fluid to pass through the element in one direction but to by-pass the element when flow is reversed. (See diagram)



Normal Flow Condition



Reverse Flow Condition



**Note:** Reverse flow filters must be mounted vertical (Bowl Down).  
Not available on model 100 filters.

## Disposal element data

## Type H/Model 100/200/300/SH100

End Caps & Core		Corrosion Resistant Material.
Filter Media		Inert inorganic fibres/stainless steel fibres/stainless steel wire mesh.
Element Collapse Pressure	(As ISO 2941)	Element type Disposable 20 bar (290 psid). High strength 210 bar (3000 psid).
Fabrication Integrity	(As ISO 2942)	Contact Parker Arlon sales organisation.
Fluid Compatibility	(As ISO 2943)	L-type elements: Mineral oils only Z-type elements: All hydraulic fluids except phosphate esters (Contact tech. department) T-type elements: Special fluids like water glycols, except phosphate esters (Contact tech. department) F-type elements: Ammonia or refrigerant containing oils (Contact tech. department) S-type elements: Phosphate esters (Contact tech. department)
End Load Test	(As ISO 3723)	Contact Parker Arlon sales organisation.
Flow Fatigue Resistance	(As ISO 3724)	Contact Parker Arlon sales organisation.
ΔP/Flow Data	(As ISO 3968)	Contact Parker Arlon sales organisation.
Multi Pass Testing	(As ISO 4572)	Contact Parker Arlon sales organisation.



# Mounting & Maintenance Type H/Model 100/200/300/SH100

## Mounting

- 1 Prior to mounting check that fluid, pressure and flow are compatible with details shown on filter name plate and relevant data sheet.
- 1.1 The recommended mounting position is vertical bowl down. A clearance of 80 mm should be allowed for element removal. It is possible to mount at 45 degrees to the vertical; should you require alternative mounting please consult the technical department.
- 1.2 Mount filters with the following bolts.

Filter	Ports	
Model 100	BSP	M8 x 1.25
	SAE	$\frac{5}{16}$ " x 18 UNC 2B
Models 200/300	BSP	M10 x 1.5
	SAE	$\frac{3}{8}$ " x 16 UNC.

- 1.3 If there is a possibility of unwanted reverse flow, fit a check valve or specify a Parker Arlon Reverse Flow valve (see 1.8 for further details).  
**Note: Reverse flow through a filter element can cause damage to the element and indicator, also contamination can be flushed back into the system.**
- 1.4 Connect hoses or lines to ports. **Warning:** Only use adaptors or fittings compatible with ports supplied as described by the part number on name plate. The use of incorrect fittings can result in filter failure, loss of pressure, system failure and possible personal injury.
- 1.5 Connect electrical indicators if fitted as follows:

**Electrical/Visual Clogging Indicator**  
A lamp is mounted on each side of the indicator assembly. On H, C and E type connectors the lamps are on during normal filter operation and on K, M and R type connectors the lamps are off during normal filter operation. When element becomes clogged, movement of the by-pass valve reverses the operation of the two lamps by actuating a micro-switch. The power supply for the two lamps has to be connected via terminals 1 and 2 on the plug connector for types H, C and E or terminals 1 and 3 on the plug connector for types K, M and R. No other equipment should be connected to the lines in which the lamps are fitted. For operation of auxiliary equipment the free side of the circuit should be used.

**Electrical indicator**  
When the element becomes clogged movement of the by-pass valve actuates a microswitch which may be used to operate either a warning lamp or electrical relay.

**Electrical connector**  
Type available is the three pole connector to DIN43650 gland size Pg11, suitable for most industrial applications.

- 1.6 **Bleed Filter:**  
Operate system to expel air; check for leaks. If leaks are found; see 2.1.  
**Note:** Failing to bleed the filter housing adequately will increase the dissolved air content of the hydraulic fluid leading to shortened oil life and other possible problems.
- 1.7 **Painting:**  
Parker Arlon Filters are phosphate coated and painted blue stove enamel, aluminium free grit finish.  
**Note:** If overspraying is planned mask visual, electrical indicators and nameplate.
- 1.8 **Reverse Flow Filters: (NOT POSSIBLE IN 100 SERIES)**  
For hydrostatic drives and other systems where reverse flow is required a valve is incorporated which allows fluid to pass through the element in one direction but to by-pass the element when flow is reversed (See diagram).

## Maintenance

2. Parker Arlon Filters do not normally require maintenance except for the regular monitoring of the element clogging indicator.
  - 2.1 Should external leakage be noted, replace 'O' ring at leak. Apply torque load:-
 

Indicator	all models	38 Nm.	(28 lbf. ft.)
Bowl	model 100	38 Nm.	(28 lbf. ft.)
	model 200/300	136 Nm.	(100 lbf. ft.)
  - 2.2 Parker Arlon directly linked differential pressure indicators and switches act as dirty element warning devices. Actuation occurs when differential pressure across the element becomes excessive due to blocking by contaminant or high fluid viscosity under cold start conditions. Continued operation of filters when the indicator has actuated and the by-pass valve has opened allows the passage of unfiltered fluid. Continued operation of a non-by-pass filter without checking can cause element collapse allowing the passage of unfiltered fluid and possible media migration.
  - 2.3 A dirty system can quickly block a new element and it may take one or two initial element changes to stabilize the system. Element life should be several months for a properly sized filter in a closed or properly air vented system. Should short element life persist or excessive differential pressure be experienced, the filter may be undersized. Refer to data sheets for flow rate details. If the problem still persists please refer to the Parker Arlon product management department.
  - 2.4 The operators of hydraulic systems should regularly check if element change is necessary. This will prolong system life.

# To change element

# Type H/Model 100/200/300/SH 100

1. Remove Filter Bowl using the hexagon (If Bowl cannot be fully removed see note 9).
2. Pull Element off the adaptor.
3. Remove head to bowl seal and back-up ring (back-up ring to be retained for re-use, not fitted on model 100).

**Caution: Do not attempt to clean or re-use element**

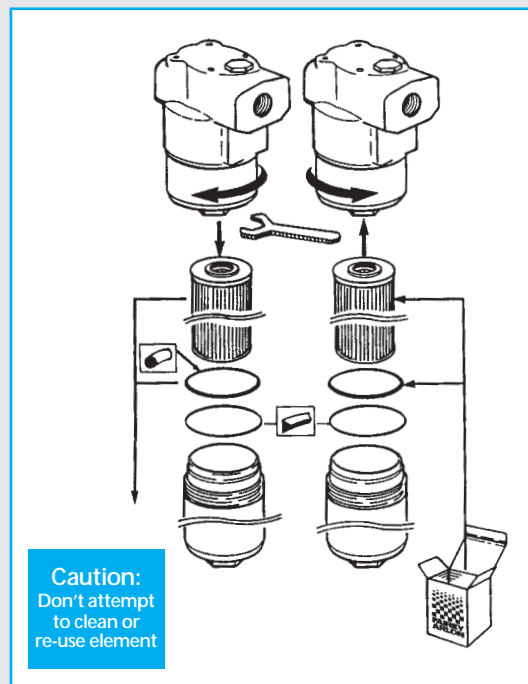
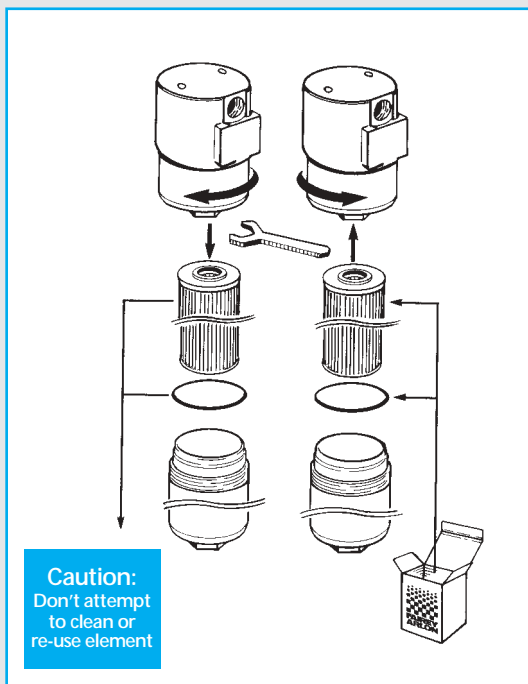
4. Clean Filter Bowl and refit Back-up ring onto nose of Filter Bowl followed by new Head to Bowl Seal. Wet Seal and fill Bowl approximately half full with clean fluid.
5. Push new element onto adaptor.
6. Refit Bowl (see head to bowl torque loads).

7. Operate system to expel air. Check for leaks from filter.
8. Check reservoir level and fill if necessary.
9. If Bowl cannot be fully removed while Element remains attached, use the following procedure.
  - a) lower Bowl as far as possible.
  - b) push Element off adaptor into Bowl and remove Element and Bowl together.
  - c) complete 3 and 4.
  - d) offer up Bowl with Element held partially inside Bowl. locate new Element on spigot of adaptor.
  - e) continue from 6.

## Type H/Model 100/SH100

Note: SH100 filter: 1. When assembling all threaded components anti-scuffing paste (or equivalent) **must** be used.  
 2. The bowl seal consists of an O-ring + back-up ring

## Type H/Model 200/300



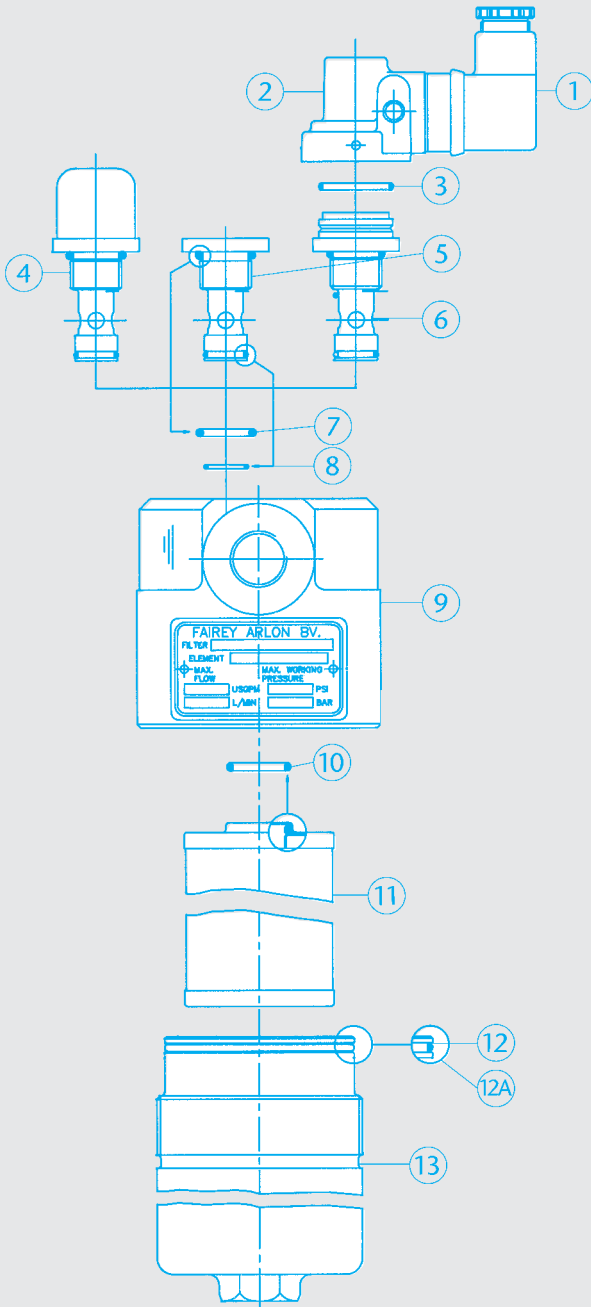
**Warning :** Parker Arlon can only guarantee all functions of their filters when genuine Parker Arlon parts are used.

# Beta Ratio information

# Type H/Model 100/200/300/SH 100

Element Type 7	Micron Rating	Filtration Ratio							
		$\bar{\beta}_X \geq 75$	$\bar{\beta}_3$	$\bar{\beta}_6$	$\bar{\beta}_{10}$	$\bar{\beta}_{12}$	$\bar{\beta}_{20}$	$\bar{\beta}_{25}$	$\bar{\beta}_{55}$
GDH 3	3	$\geq 75$	1000	> 5000	> 5000	> 5000	> 5000	> 5000	> 5000
GDH 6	6	$\geq 8$	$\geq 75$	1000	> 5000	> 5000	> 5000	> 5000	> 5000
GDH10	10	5	17	$\geq 75$	> 200	> 5000	> 5000	> 5000	> 5000
GDH 20	20	N/A	2	8	10	$\geq 75$	> 5000	> 5000	> 5000

## Type H/Model 100/SH100

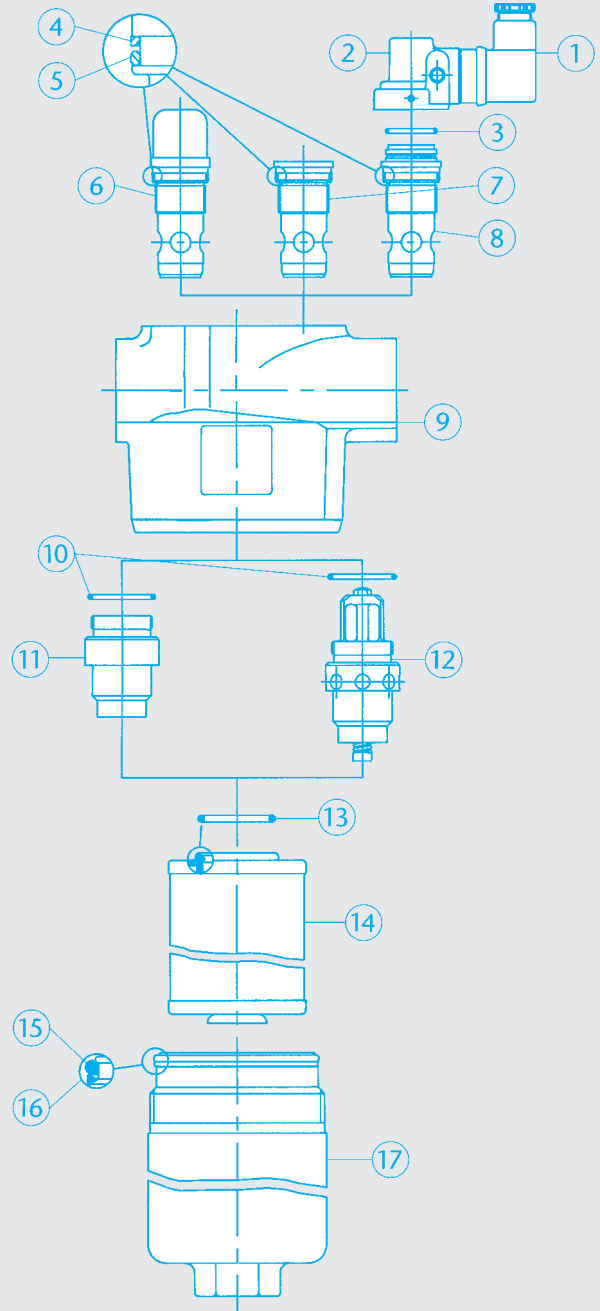


- 1. Hirschmann connector
- 2. Electrical cover
- 3. Cover seal
- 4. By-pass/indicator visual
- 5. By-pass only
- 6. By-pass/indicator electrical
- 7. Top O-ring seal indicator
- 8. Bottom O-ring seal indicator
- 9. Filterhead
- 10. Element seal
- 11. Element
- 12. O-ring seal bowl (Model 100)
- 12A. O-ring seal + back-up ring (Model SH100)
- 13. Filter bowl

### Sealkits:

- 3+7+8: Indicator sealkit
- 3+7+8+12: Filter sealkit (Model 100)
- 3+7+8+12A: Filter sealkit (Model SH100)

## Type H/Model 200/300



- 1. Hirschmann connector
- 2. Electrical cover
- 3. Cover seal
- 4. Support ring indicator
- 5. O-ring seal indicator
- 6. By-pass/indicator visual
- 7. By-pass only
- 8. By-pass/indicator electrical
- 9. Filterhead
- 10. Adaptor seal
- 11. Element adaptor
- 12. Reverse flow valve
- 13. Element seal
- 14. Element
- 15. O-ring seal bowl
- 16. Back-up ring
- 17. Filter bowl

### Sealkits:

- 3+4+5: Indicator sealkit
- 3+4+5+10+15+16: Filter sealkit



# Filter specifications

# Type H/Model 100

**Flow Rates** Model 100 - up to 100 L/min

**Degree of Filtration** Micron Ratings:  $\beta_3=75$  up to  $\beta_{20}=75$   
Mesh - 40 micron Abs.

**Indicators and By-pass Valves**

Types available	With by-pass	Without by-pass
Spool type		
- Visual indicator	X	X
- Visual memory indicator	X	X
- Electrical indicator	X	X
- Electrical/visual indicator	X	X

**Elect. Switch Ratings** A.C. 250V Inductive Load :0,5A  
Resistive Load :2A  
A.C. 110V Inductive Load :0,5A  
Resistive Load :2A  
D.C. 28V Inductive Load :1A  
Resistive Load :2A

**By-pass Valve** Metering Spool Type  
**Cracking Pressures** 3.5 bar

**Temp. Range** -40°C to +100°C

**Port Options** Choice of BSP, SAE Threaded. SAE Flanged or Manifold Mounting. Both Inlet and Outlet options are the same.

**Port threading dimensions**  
BSP : 1/2" - 3/4"  
RC : 1/2"  
SAE : 1/2" - 3/4"

**Pressure Ratings** Operating pressure (Max) 414 bar  
Test pressure 621 bar  
Burst pressure (Typical) 830 bar

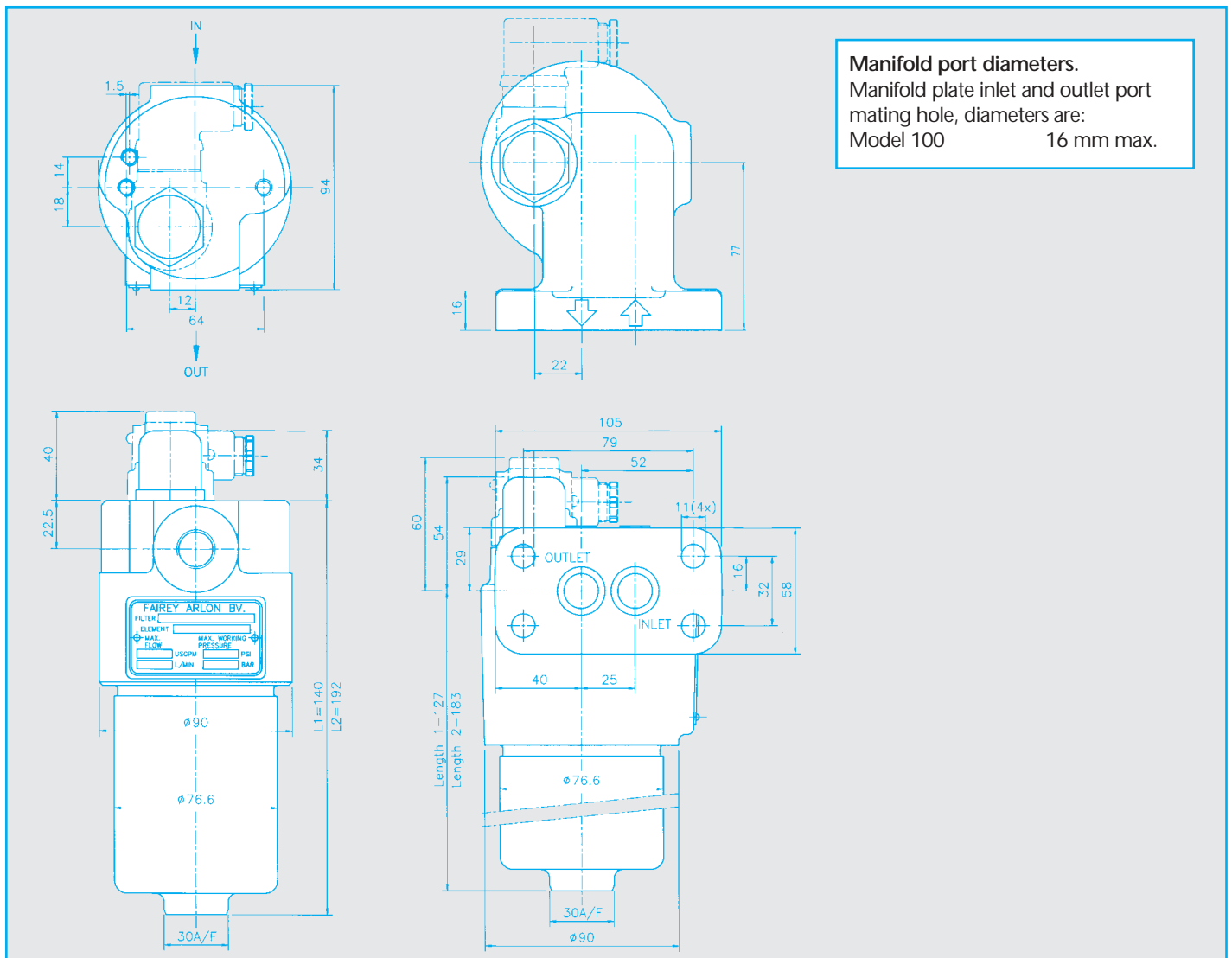
**Materials** Head: S.G. Iron casting  
Bowl: Extruded Steel

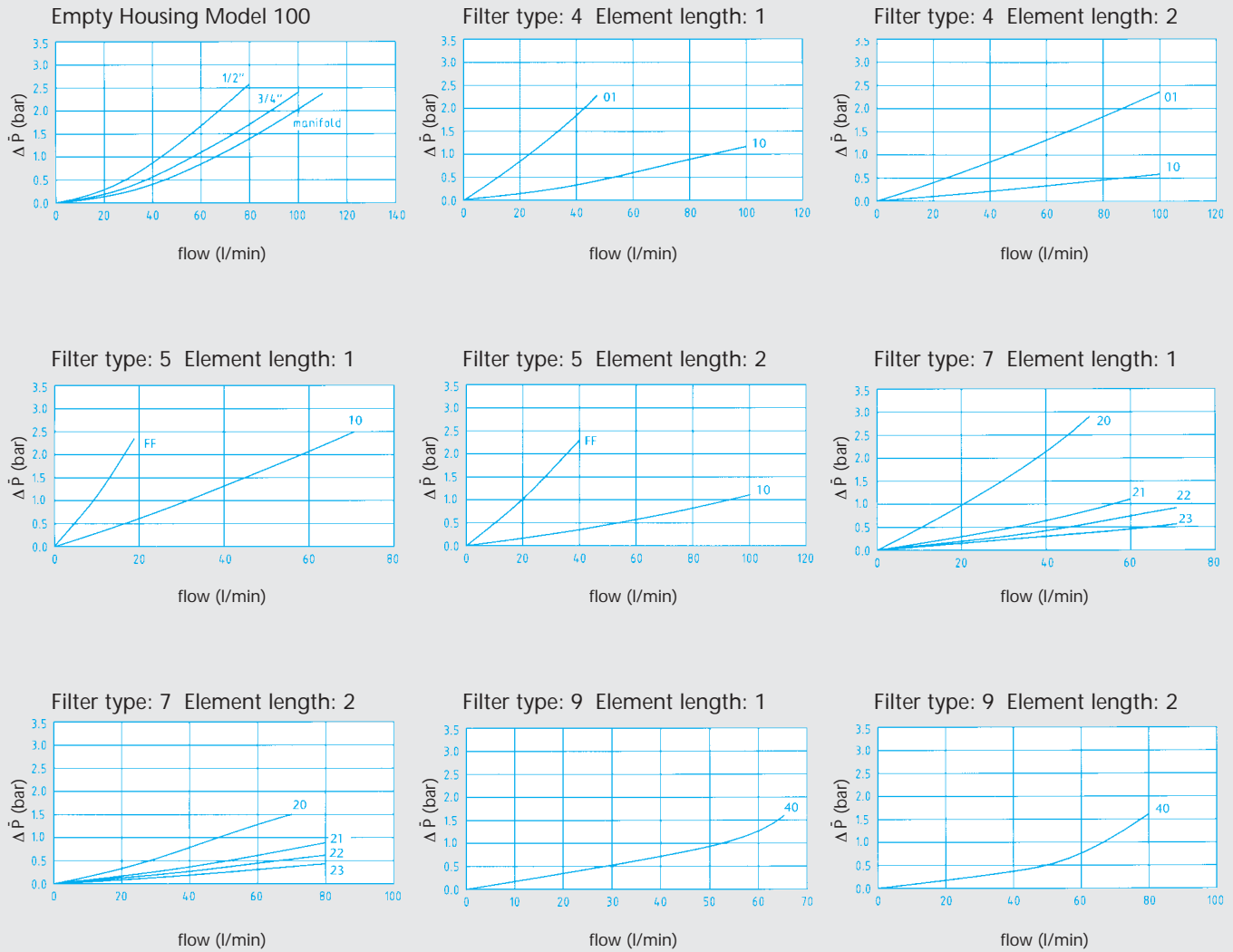
**Fatigue Tests** Typical fatigue life under full excursion pressure cycling in excess of 3,000,000 cycles at 0-276 bar.

**Shock & Vibration Tests** DEF STAN 07-55. Housings, By-pass Valves, Indicators and Elements tested and approved.

# Installation dimensions

# Type H/Model 100





Filter type	Code	Filtration Fineness ( $\beta_X \geq 75$ )
5	FF	3 $\mu$
4	01	6 $\mu$
4 or 5	10	15 $\mu$
9	40	40 $\mu$
7	20	GDH3
7	21	GDH6
7	22	GDH10
7	23	GDH20

Conversion calculation different oil type

Example: viscosity: 46 cSt, SG: 1.1

Element: 1.2 bar x 46/32 = 1.73 bar  
 Housing: 0.5 bar x 1.1/0.87 = 0.63 bar+

Calculated  $\Delta P$  2.36 bar

Pressure drop graphs according to ISO 3968-81. Fluid specification: viscosity: 32 cSt, SG: 0.87

For  $\beta$  value's, see filtration efficiency table.

# Filter specifications

# Type H/Model 200

**Flow Rates** Model 200 - up to 250 L/min  
**Degree of Filtration** Micron Ratings:  $\beta_3=75$  up to  $\beta_{20}=75$   
 Mesh - 40 micron Abs.

**By-pass Cracking Pressures** 1.0 bar, 3.5 bar, 5.0 bar

**Temp. Range** -40°C to +100°C

### Indicators and By-pass Valves

Types available	With by-pass	Without by-pass
Flat valve type		
- Visual indicator	X	X
- Visual memory indicator	X	X
- Electrical indicator	X	X
- Electrical/visual indicator	X	X
- Double: Pre-indicator		X
Main indicator	X	X

**Port Options** Choice of BSP, SAE Threaded, SAE Flanged or Manifold Mounting. Both Inlet and Outlet options are the same.

**Port threading dimensions**  
 BSP :  $3/4"$  - 1" - 1 $1/4"$   
 RC :  $3/4"$   
 SAE :  $3/4"$  - 1" - 1 $1/4"$

**Pressure Ratings**  
 Operating pressure (Max) 414 bar  
 Test pressure 621 bar  
 Burst pressure (Typical) 830 bar

Elect. Switch Ratings A.C. 250V Inductive Load :0,5A  
 Resistive Load :2A  
 A.C. 110V Inductive Load :0,5A  
 Resistive Load :2A  
 D.C. 28V Inductive Load :1A  
 Resistive Load :2A

**Materials**  
 Head: S.G. Iron casting  
 Bowl: Extruded Steel

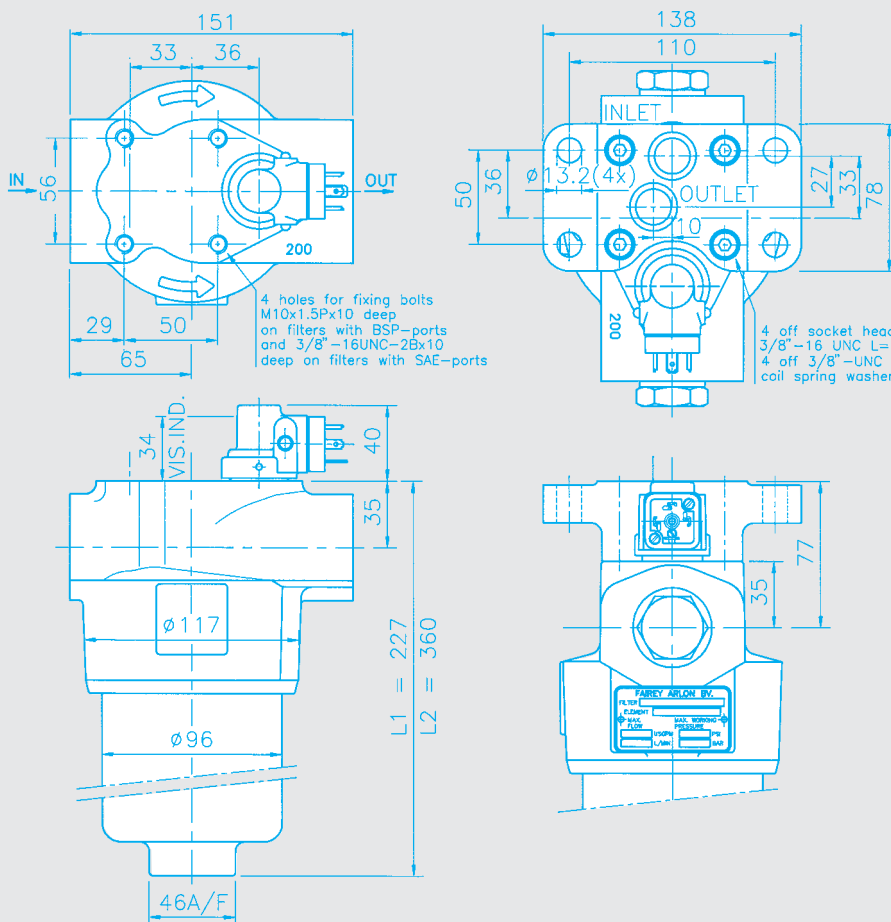
**Fatigue Tests** Typical fatigue life under full excursion pressure cycling in excess of 3,000,000 cycles at 0-276 bar.

**By-pass Valve** Flat valve type

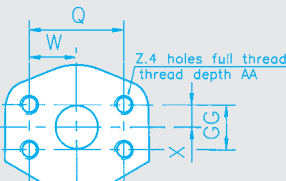
**Shock & Vibration Tests** DEF STAN 07-55. Housings, By-pass Valves, Indicators and Elements tested and approved.

# Installation dimensions

# Type H/Model 200

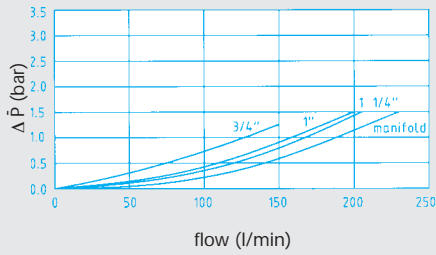


**Manifold port diameters.**  
 Manifold plate inlet and outlet port mating hole, diameters are:  
 Model 200 19 mm max.

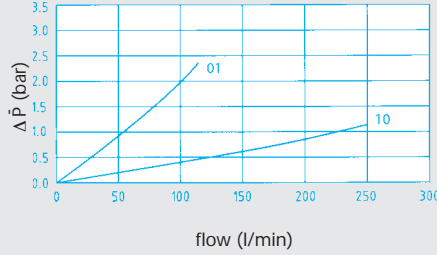


Port code	F	T
Flange size	$3/4"$	1"
Max. pressure	414 bar	207 bar
Q size	50.75	52.4
W size	25.37	26.2
GG size	23.75	26.2
X size	11.87	13.1
Z size	$3/4"$ x 16 UNC	$3/4"$ x 16 UNC
AA size	15	15

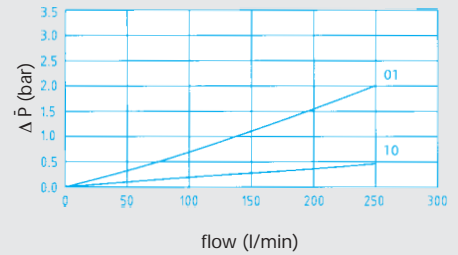
Empty Housing Model 200



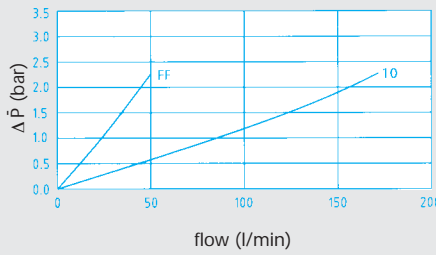
Filter type: 4 Element length: 1



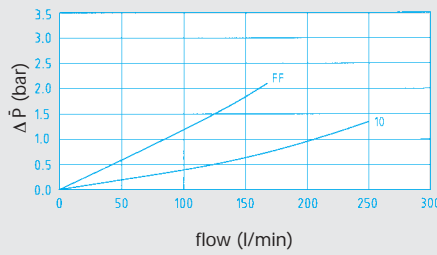
Filter type: 4 Element length: 2



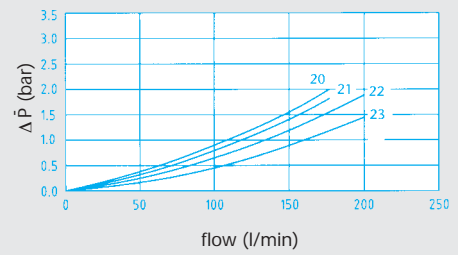
Filter type: 5 Element length: 1



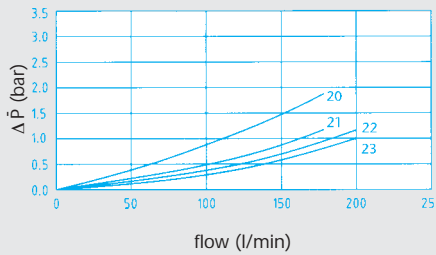
Filter type: 5 Element length: 2



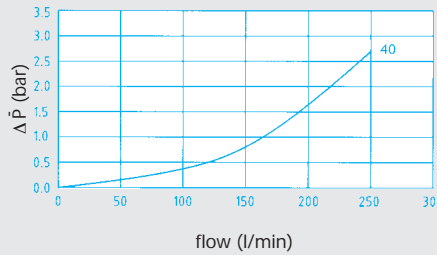
Filter type: 7 Element length: 1



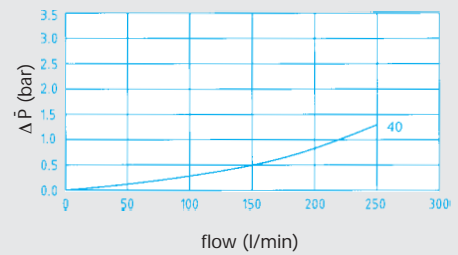
Filter type: 7 Element length: 2



Filter type: 9 Element length: 1



Filter type: 9 Element length: 2



Filter type	Code	Filtration Fineness ( $\beta_X \geq 75$ )
5	FF	3 $\mu$
4	01	6 $\mu$
4 or 5	10	15 $\mu$
9	40	40 $\mu$
7	20	GDH3
7	21	GDH6
7	22	GDH10
7	23	GDH20

Conversion calculation different oil type

Example: viscosity: 46 cSt, SG: 1.1

Element: 1.2 bar x 46/32 = 1.73 bar  
 Housing: 0.5 bar x 1.1/0.87 = 0.63 bar+

Calculated  $\Delta P$  2.36 bar

Pressure drop graphs according to ISO 3968-81. Fluid specification: viscosity: 32 cSt, SG: 0.87

For  $\beta$  value's, see filtration efficiency table.

# Filter specifications

# Type H/Model 300

**Flow Rates** Model 300 - up to 350 L/min

**Degree of Filtration** Micron Ratings:  $\beta_3=75$  up to  $\beta_{20}=75$   
Mesh - 40 micron Abs.

### Indicators and By-pass Valves

Types available	With by-pass	Without by-pass
Flat valve type		
- Visual indicator	X	X
- Visual memory indicator	X	X
- Electrical indicator	X	X
- Electrical/visual indicator	X	X
- Double: Pre-indicator		X
Main indicator	X	X

Elect. Switch Ratings A.C. 250V Inductive Load :0,5A  
Resistive Load :2A  
A.C. 110V Inductive Load :0,5A  
Resistive Load :2A  
D.C. 28V Inductive Load :1A  
Resistive Load :2A

**By-pass Valve** Flat valve type

**By-pass Cracking Pressures** 1.0 bar, 3.5 bar, 5.0 bar

**Temp. Range** -40°C to +100°C

**Port Options** Choice of BSP, SAE Threaded, SAE Flanged or Manifold Mounting. Both Inlet and Outlet options are the same.

**Port threading dimensions**  
BSP : 1 1/4"  
RC : 1 1/4"  
SAE : 1 1/4"

**Pressure Ratings**  
Operating pressure (Max) 414 bar  
Proof pressure 621 bar  
Burst pressure (Typical) 830 bar

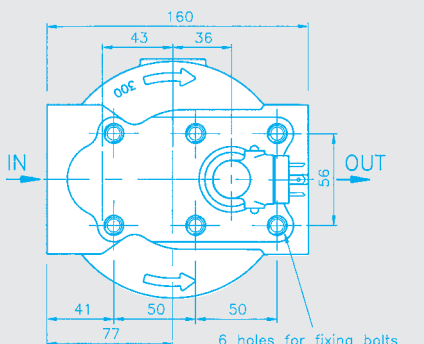
**Materials**  
Head: S.G. Iron casting  
Bowl: Extruded Steel

**Fatigue Tests** Typical fatigue life under full excursion pressure cycling in excess of 3,000,000 cycles at 0-276 bar.

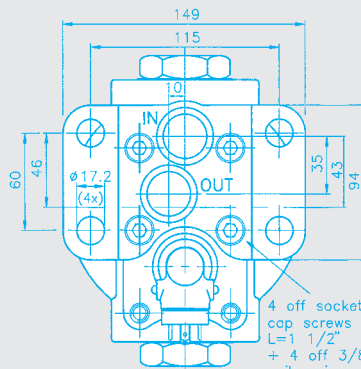
**Shock & Vibration Tests** DEF STAN 07-55. Housings, By-pass Valves, Indicators and Elements tested and approved.

# Installation dimensions

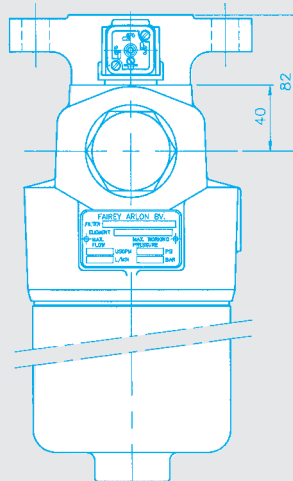
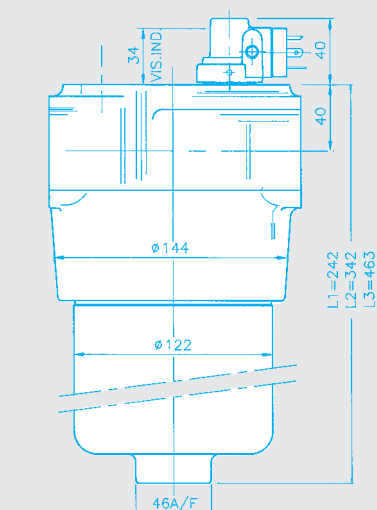
# Type H/Model 300



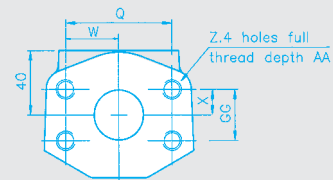
6 holes for fixing bolts M10x1.5P x 10 deep on filters with BSP-ports and 3/8"-16UNC-2Bx10 deep on filters with SAE-ports



4 off socket head cap screws 3/8"-16UNC L=1 1/2"  
+ 4 off 3/8"-UNC single coil spring washers

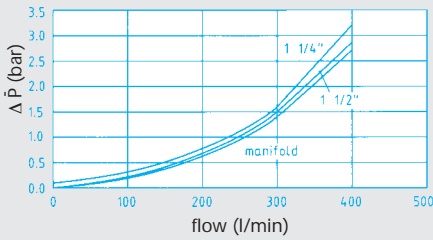


**Manifold port diameters.** Manifold plate inlet and outlet port mating hole, diameters are:  
Model 300 27 mm max.

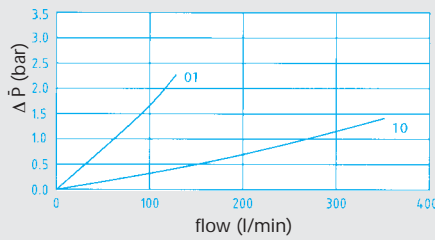


Port code	F	T
Flange size	1 1/4"	1 1/2"
Max. pressure	414 bar	207 bar
Q size	66.7	70.0
W size	33.35	35.0
GG size	31.75	35.7
X size	15.87	17.85
Z size	1/2"x 13 UNC	1/2"x 13 UNC
AA size	18	18

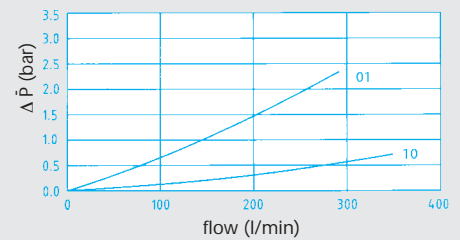
Empty Housing Model 300



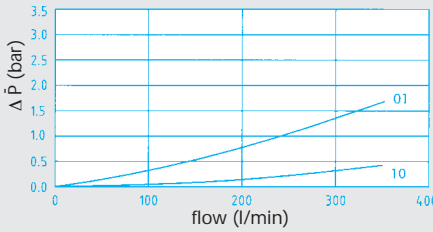
Filter type: 4 Element length: 1



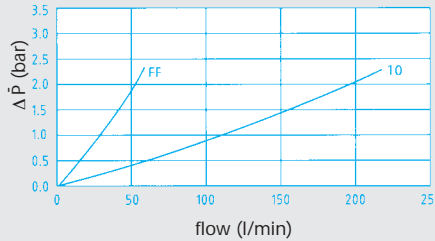
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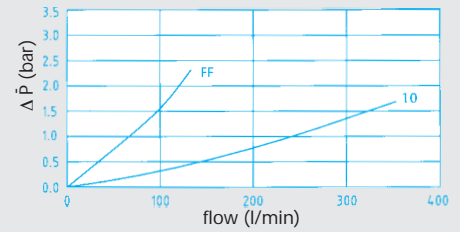
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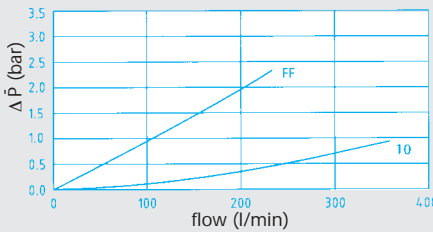
Filter type: 5 Element length: 1



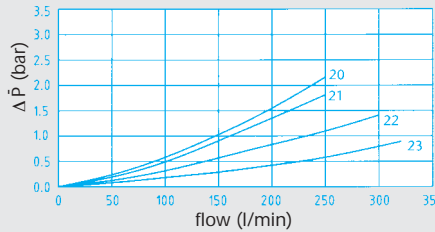
Filter type: 5 Element length: 2



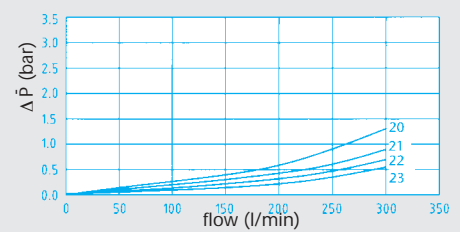
Filter type: 5 Element length: 3



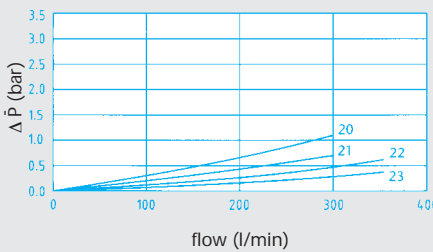
Filter type: 7 Element length: 1



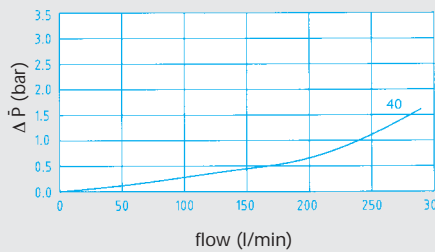
Filter type: 7 Element length: 2



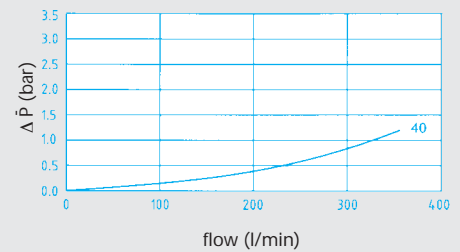
Filter type: 7 Element length: 3



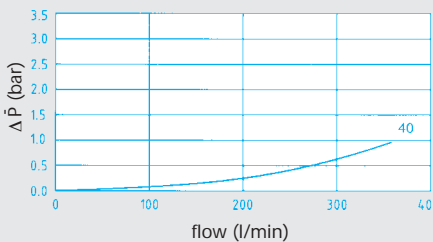
Filter type: 9 Element length: 1



Filter type: 9 Element length: 2



Filter type: 9 Element length: 3



Filter type	Code	Filtration Fineness ( $\beta_{X \geq 75}$ )
5	FF	3 $\mu$
4	01	6 $\mu$
4 or 5	10	15 $\mu$
9	40	40 $\mu$
7	20	GDH3
7	21	GDH6
7	22	GDH10
7	23	GDH20

Conversion calculation different oil type

Example: viscosity: 46 cSt, SG: 1.1

Element: 1.2 bar x 46/32 = 1.73 bar  
 Housing: 0.5 bar x 1.1/0.87 = 0.63 bar+

Calculated  $\Delta P$  2.36 bar

Pressure drop graphs according to ISO 3968-81. Fluid specification: viscosity: 32 cSt, SG: 0.87

For  $\beta$  value's, see filtration efficiency table.



# Filter specifications

# Type H/Model SH100

**Flow Rates** Model SH100 - up to 100 L/min  
**Degree of Filtration** Micron Ratings:  $\beta_3=75$  up to  $\beta_{20}=75$   
 Mesh - 40 micron Abs.

### Indicators and By-pass Valves

Types available	With by-pass	Without by-pass
Spool type		
- Visual indicator	X	X
- Visual memory indicator	X	X
- Electrical indicator	X	X
- Electrical/visual indicator	X	X

Elect. Switch Ratings A.C. 250V Inductive Load :0,5A  
 Resistive Load :2A  
 A.C. 110V Inductive Load :0,5A  
 Resistive Load :2A  
 D.C. 28V Inductive Load :1A  
 Resistive Load :2A

**By-pass Valve** Metering Spool Type

**By-pass Cracking Pressures** 3.5 bar

**Temp. Range** -40°C to +100°C

**Port Options** Choice of BSP, SAE Threaded or NPT threaded. Both Inlet and Outlet options are the same.

**Port threading dimensions**  
 BSP :  $1/2'' - 3/4''$   
 NPT :  $1/2'' - 3/4''$   
 SAE :  $3/4''$

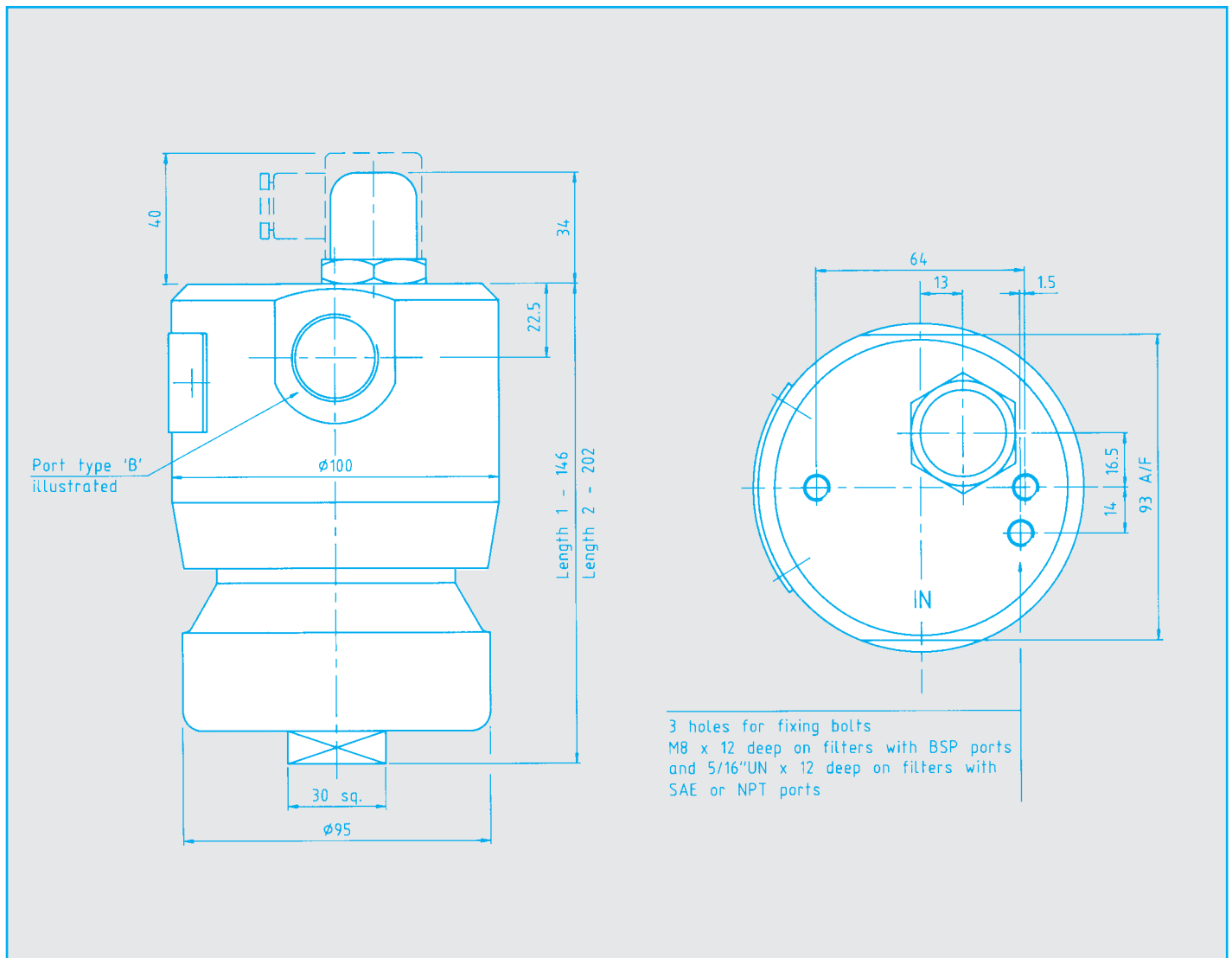
**Pressure Ratings**  
 Operating pressure (Max) 690 bar  
 Test pressure 1035 bar  
 Burst pressure (Typical) 1380 bar

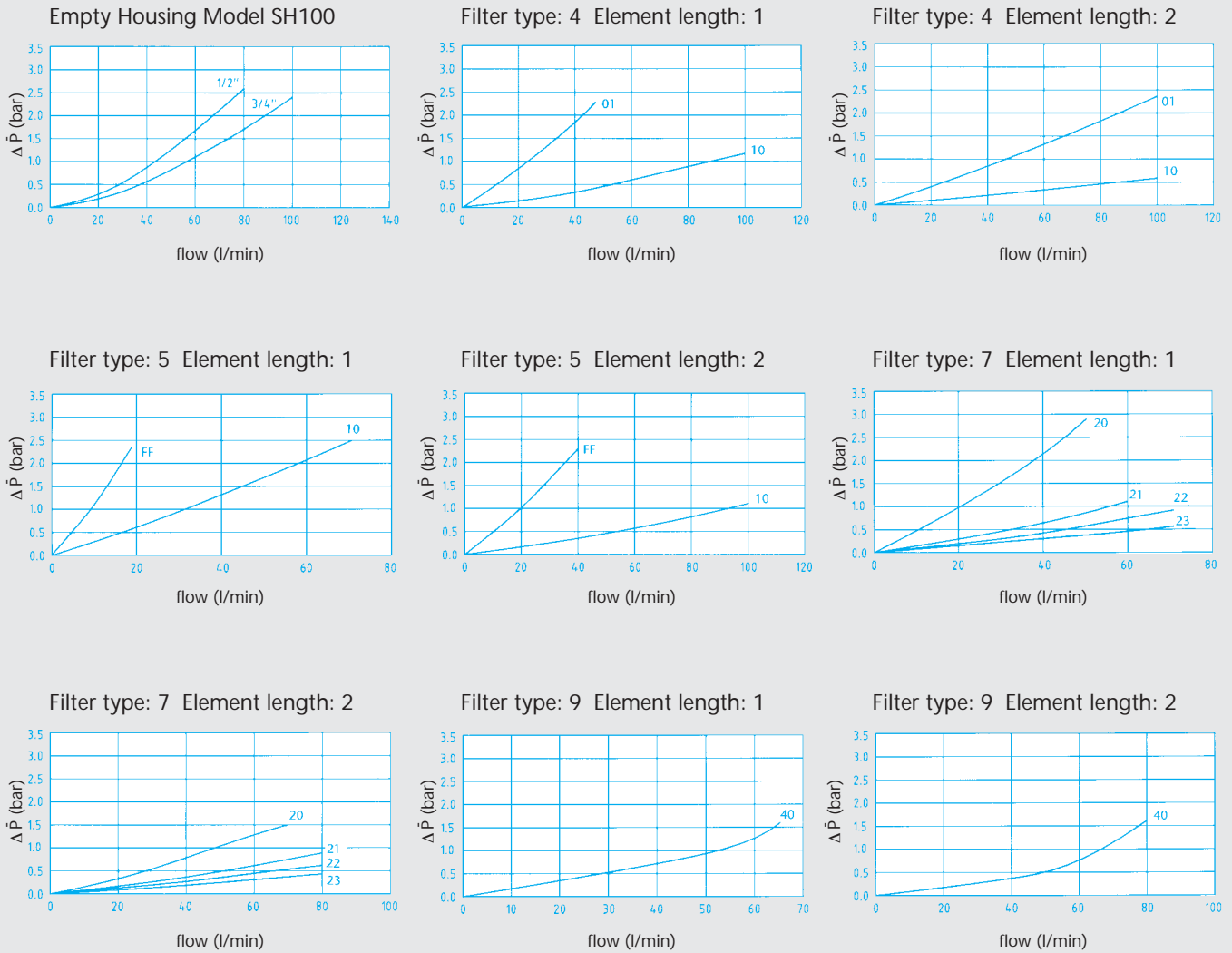
**Materials**  
 Head: Stainless Steel  
 Bowl: Stainless Steel

**Shock & Vibration Tests** DEF STAN 07-55. Housings, By-pass Valves, Indicators and Elements tested and approved.

# Installation dimensions

# Type H/Model SH100





Filter type	Code	Filtration Fineness ( $\beta_X \geq 75$ )
5	FF	3 $\mu$
4	01	6 $\mu$
4 or 5	10	15 $\mu$
9	40	40 $\mu$
7	20	GDH3
7	21	GDH6
7	22	GDH10
7	23	GDH20

Conversion calculation different oil type

Example: viscosity: 46 cSt, SG: 1.1

Element: 1.2 bar x 46/32 = 1.73 bar  
 Housing: 0.5 bar x 1.1/0.87 = 0.63 bar+

Calculated  $\Delta P$  2.36 bar

Pressure drop graphs according to ISO 3968-81. Fluid specification: viscosity: 32 cSt, SG: 0.87

For  $\beta$  value's, see filtration efficiency table.

Table 1 /Housing code

Model 100/SH100	100 l/min	1
Model 200	250 l/min	2
Model 300	350 l/min	3

Table 2/Filter type

High strength cleanable Stainless steel *	4
High strength inorganic fibre disposable	5
Inorganic fibre disposable	7
Corrosion resistant mesh (cleanable)*	9

\* Only valid with special cleaning routine

Table 3/Flow direction

Normal flow (out to in)	4
Reverse flow (Not in model 100/SH100)	2
Stainless steel (Model SH100 only)	5

Table 4/Seal material

Nitrile (NBR)	A
Ethylene Propylene (EP)	B
Viton (FPM)	H

Table 5 (100 series)

No by-pass port machined	0	
Spool type by-pass valve	1	
Spool type by-pass valve	2	
No by-pass valve	4	
Spool type by-pass valve	3	
No by-pass valve	5	

Table 5A (100 series)

N	No indicator / no by-pass valve	
N	No indicator	
N	Standard visual-indicator	
L	Visual indicator with memory (Latch out)	
T	Electrical DIN 43650 28V= / 250V≈ No lamps	
H	Electrical visual indicator 250V≈ Green lamps NC	
K	Electrical visual indicator 250V≈ Red lamps NO	
C	Electrical visual indicator 110V≈ Green lamps NC	
M	Electrical visual indicator 110V≈ Red lamps NO	
E	Electrical visual indicator 28V= Green lamps NC	
R	Electrical visual indicator 28V= Red lamps NO	

Table 5 (200 / 300 series)

Plugged by-pass/ind. port.	P	
By-pass only	B	
By-pass	B	
No by-pass valve	N	

Table 5A (200 / 300 series)

0	Plug	
N	No indicator	
V	Visual indicator	
L	Visual ind. with memory (Latch out)	
E	Electrical DIN 43650 28V= / 250V≈ No lamps	
ED	Electrical visual indicator 110V≈ Red lamps NO*	
EF	Electrical visual indicator 250V= Green lamps NC*	
EG	Electrical visual indicator 250V= Red lamps NO*	
VE	Double indicators (pré) visual 3,5 bar / (main) electrical 5,0 bar*	
EE	Double indicators (pré) electrical 3,5 bar / (main) electrical 5,0 bar*	
VV	Double indicators (pré) visual 3,5 bar / (main) visual 5,0 bar*	

\* Omit dash and shift pressure setting one step to the right

Table 6/By-pass differential Pressure Setting

100 + SH100	No by-pass / No indicator	00
	By-pass setting 3,5 bar	35
200 + 300	No by-pass / No indicator	00
	By-pass setting 3,5 bar	35
	By-pass setting 5,0 bar	50

Table 6A

Standard	-
Double indicators and Electrical / visual ind.	Omit dash and shift pressure setting one step to the right

Table 7/Port options

Model	100	200	300	SH100
ISO 228 - G 1/2 (1/2" BSP)	B			B
ISO 228 - G 3/4 (3/4" BSP)	G	B		E
ISO 228 - G 1 (1" BSP)		E		
ISO 228 - G1 1/4 (1 1/4" BSP)		G	B	
1/2" NPT				N
3/4" NPT				D
Rc 1/2"	N			
Rc 3/4"		N		
Rc 1 1/4"			N	
1/2" SAE (3/4"-16 UNF-2B)	S			
3/4" SAE (1 1/16"-12 UN-2B)	H	S		J
1" SAE (1 5/16"-12 UN-2B)		J		
1 1/4" SAE (1 7/8"-12 UN-2B)		H	S	
3/4" SAE flange 414 bar		F		
1 1/4" SAE flange 414 bar			F	
1" SAE flange 207 bar		T		
1 1/2" SAE flange 207 bar			T	
Manifold with V-plate		V	V	
Manifold side mounted	L			
Manifold without plate		W	W	

Table 8/Element types

Fluid Type	Rating	Code
Mineral oil only (Only available on filter type '7')	10&20µ only	L
All fluids exc. phos. esters, water glycols and amonia containing fluids	All ratings	Z
HFC-Fluids Please contact Parker Arlon before utilization	All ratings	*T
Ammonia containing fluids Please contact Parker Arlon before utilization	All ratings	*F
Phosphate esters Please contact Parker Arlon before utilization	All ratings	*S

\* = Special on request

Table 9/Element length

Length	Code
Length 1	1
Length 2	2
Length 3 (Model 300 only)	3

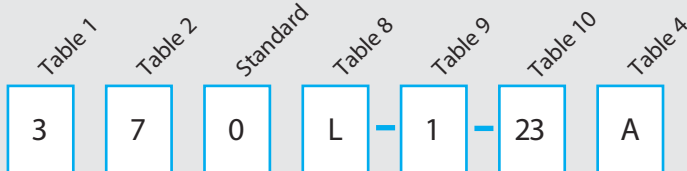
Table 10/Degree of Filtration

Filter type	Filtration Fineness ( X 75)	Code
5	3µ	FF
4	6µ	01
4 or 5	15µ	10
9	40µ	40
7	GDH3	20
7	GDH6	21
7	GDH10	22
7	GDH20	23

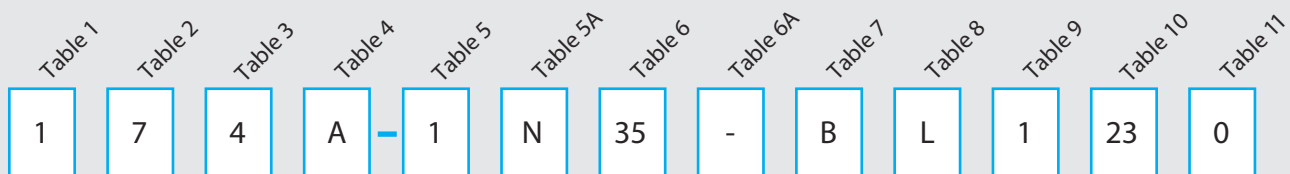
Table 11/Option code

Option	Code
Standard	0
Stainless steel (Model SH100 only)	S

Ordering example element



Ordering example filter



Due to continuous product improvement published data and specifications are subject to change without notice. / Aufgrund Produkt-Verbesserungen können Daten und Spezifikationen ohne Mitteilung geändert werden. / En fonction de l'évolution technique du matériel, nous nous réservons le droit de modifier cette documentation sans préavis.