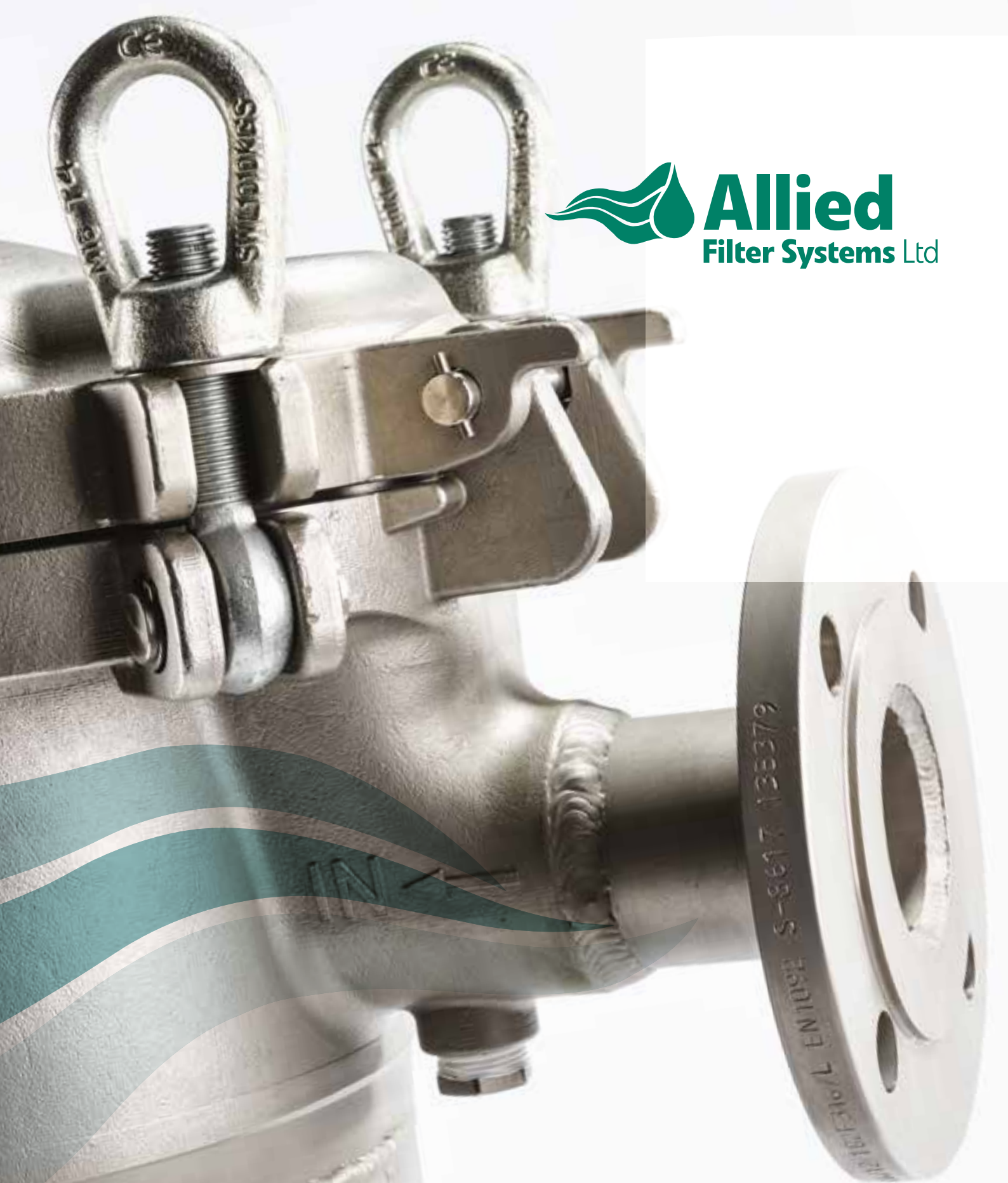




**Allied**  
Filter Systems Ltd



# **FILTER HOUSINGS**

**BAG FILTERS, CARTRIDGE FILTERS AND STRAINERS**

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# OVERVIEW FILTER HOUSINGS

**A HIGH QUALITY FILTER HOUSING IS A VITAL COMPONENT OF A FILTER SYSTEM. THE PERFORMANCE OF A FILTER BAG OR CARTRIDGE, SOME OF WHICH ARE RATED AT EFFICIENCIES OF 99.98% AT A GIVEN MICRON RATING, CAN BE REDUCED IF COMPROMISE IS MADE WHEN PURCHASING A FILTER HOUSING.**

Allied Filter Systems Ltd manufactures exceptional filter housings to suit all requirements and budgets. Our range has been developed by considering customer demands and by applying extensive knowledge gained through our company being active in the filtration market for nearly 40 years.

Our comprehensive range of filters provides economical, reliable and cost effective filtration. The precision construction of every filter ensures high performance, durability and efficiency whilst conforming to and exceeding the required safety standards.

**Our innovative and modern designs ensure maximum filter system performance. Thought has been invested into every aspect of our range, from providing excellent filter sealing arrangements, through to offering imaginative and practical closure systems.**



As well as having a high quality of construction and design, we have produced a range of versatile products adaptable to all customer needs. Our vessels offer optional features including, for example, being fitted with a selection of connection types and a choice of inlet and outlet orientations.

Allied's filter housings are suitable for applications ranging from small batches

(e.g. <math>5\text{m}^3/\text{hr}</math> flow) to continuous flows in excess of <math>640\text{m}^3/\text{hr}</math>.

All vessels are designed, manufactured, tested and inspected to meet and exceed EC regulations\* (Pressure equipment directive 97/23/EC), which enables us to offer CE marked pressure vessels to all classifications. They can also be certified to ATEX Directive 94/9/EC for use in potentially explosive atmospheres.

**FOR RECOMMENDATIONS ON FILTER HOUSING MODEL SELECTION, COMPLETE PRESSURE DROP AND FLOW RATE DATA, AND ALSO HOW TO SIZE FILTER HOUSINGS, PLEASE CONTACT THE ALLIED FILTER SYSTEMS LTD SALES TEAM.**

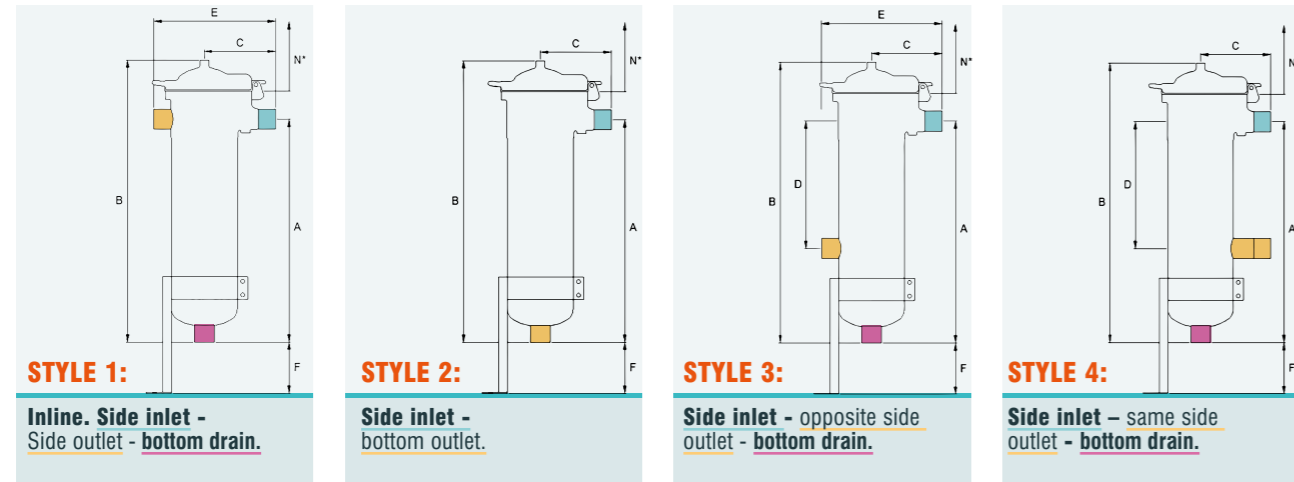
\*All products are manufactured to ISO9001 quality standard. All AFS filter vessels are designed and manufactured in accordance with the Pressure Vessel directive 97/23/EC. The company holds weld procedures and welder qualifications to the latest editions of the following standards: BS EN ISO 15614-1: 2004 + A2: 2012 weld procedure qualification testing and BS EN 287-1: 2011 Welder qualification testing. All regulations and standards stated are current at time of issue, Allied Filter Systems Ltd is committed to adhere to subsequent amendments. For more information on Pressure Vessel Equipment and Directive please contact Allied Filter Systems Ltd.



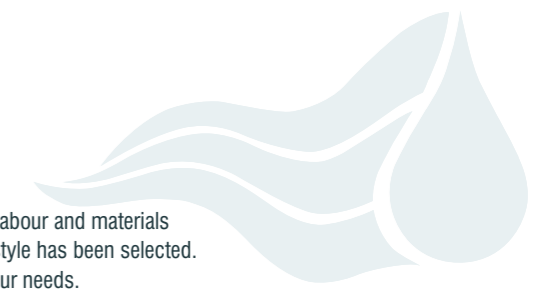
# STYLES/DIMENSIONS

## CUSTOMISATION AND FLEXIBILITY

Our range of filter housings is offered with a comprehensive choice of inlet and outlet orientations.



MODEL	CONNECTION TYPE	STYLE	A	B	C	D	E	F	N*
RBFP13	1" BSP (F)	2	299	392	94				180
RBFP13	1" Flanged	2	301	394	123				180
RBFP14	1" BSP (F)	2	439	532	94				320
RBFP14	1" Flanged	2	441	534	123				320
RBFP11	2" BSP (F)	2	506	623	143			80-280	340
RBFP11	2" BSP (F)	3	606	723	143	425	286	0-190	340
RBFP11	2" BSP (F)	4,7,8	606	723	143	425		0-190	340
RBFP11	2" BSP (F)	5	527	644	143		286	60-260	340
RBFP11	2" BSP (F)	6	527	644	143			60-260	340
RBFP11	2" Flanged	2	516	633	176			70-270	340
RBFP11	2" Flanged	3	606	723	176	425	352	0-190	340
RBFP11	2" Flanged	4,7,8	606	723	176	425		0-190	340
RBFP11	2" Flanged	5	527	644	176		352	90-260	340
RBFP11	2" Flanged	6	527	644	176			90-260	340
RBFP12	2" BSP (F)	2	876	993	143			0-280	710
RBFP12	2" BSP (F)	3	976	1093	143	795	286	0-190	710
RBFP12	2" BSP (F)	4,7,8	976	1093	143	795		0-190	710
RBFP12	2" BSP (F)	5	897	1014	143		286	60-260	710
RBFP12	2" BSP (F)	6	897	1014	143			60-260	710
RBFP12	2" Flanged	2	886	1003	176			0-270	710
RBFP12	2" Flanged	3	976	1093	176	795	352	0-190	710
RBFP12	2" Flanged	4,7,8	976	1093	176	795		0-190	710
RBFP12	2" Flanged	5	897	1014	176		352	90-260	710
RBFP12	2" Flanged	6	897	1014	176			90-260	710
RBFP13	1" BSP (F)	2	299	383	94				180
RBFP13	1" Flanged	2	301	386	123				180
RBFP14	1" BSP (F)	2	439	523	94				320
RBFP14	1" Flanged	2	441	526	123				320
RBFD11	2" BSP (F)	2	506	718	143			80-280	340
RBFD11	2" BSP (F)	3	606	818	143	425	286	0-190	340
RBFD11	2" BSP (F)	4,7,8	606	818	143	425		0-190	340
RBFD11	2" BSP (F)	5	527	739	143		286	60-260	340
RBFD11	2" BSP (F)	6	527	739	143			60-260	340
RBFD11	2" Flanged	2	516	728	176			70-270	340
RBFD11	2" Flanged	3	606	818	176	425	352	0-190	340
RBFD11	2" Flanged	4,7,8	606	818	176	425		0-190	340
RBFD11	2" Flanged	5	527	739	176		352	90-260	340
RBFD11	2" Flanged	6	527	739	176			90-260	340

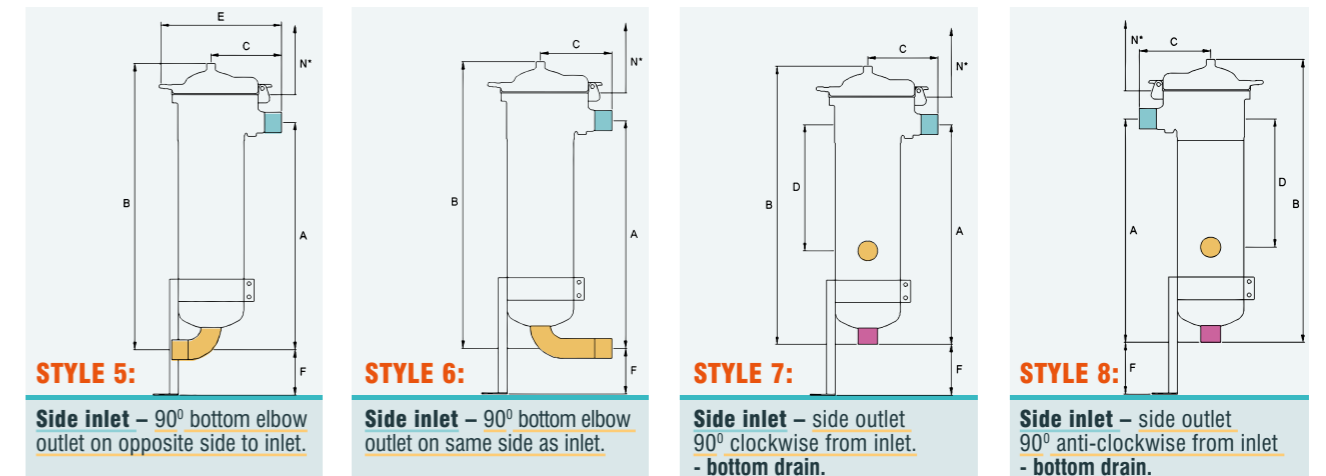


Such customisation and flexibility of design is a standard option.

Different orientations of inlet and outlet are referred to as housing "Styles". The cost of labour and materials associated with vessel installation can be substantially reduced if the most convenient style has been selected.

Complex pipework arrangements are avoided and result in an economical solution to your needs.

**WE OFFER A STANDARD CHOICE OF 8 STYLES AND OTHER ORIENTATIONS ARE AVAILABLE ON SPECIAL REQUEST.**



MODEL	CONNECTION TYPE	STYLE	A	B	C	D	E	F	N*
RBFD12	2" BSP (F)	2	876	1088	143			0-280	710
RBFD12	2" BSP (F)	3	976	1188	143	795	286	0-190	710
RBFD12	2" BSP (F)	4,7,8	976	1188	143	795		0-190	710
RBFD12	2" BSP (F)	5	897	1109	143		286	60-260	710
RBFD12	2" BSP (F)	6	897	1109	143			60-260	710
RBFD12	2" Flanged	2	886	1098	176			0-270	710
RBFD12	2" Flanged	3	976	1188	176	795	352	0-190	710
RBFD12	2" Flanged	4,7,8	976	1188	176	795		0-190	710
RBFD12	2" Flanged	5	897	1109	176		352	90-260	710
RBFD12	2" Flanged	6	897	1109	176			90-260	710
HD13	1" BSP (F)	1	199	326	138		240		180
HD13	1" BSP (F)	2	199	326	138				180
HD13	1" Flanged	1	199	326	160		280		180
HD13	1" Flanged	2	204	331	160				180
HD14	1" BSP (F)	1	334	461	138		240		320
HD14	1" BSP (F)	2	334	461	138				320
HD14	1" Flanged	1	334	461	160		280		320
HD14	1" Flanged	2	339	466	160				320
HD11	2" BSP (F)	1	366	559	236		390	190-250	340
HD11	2" BSP (F)	2	366	559	236			190-250	340
HD11	2" BSP (F)	5	387	580	236		368	170-230	340
HD11	2" BSP (F)	6	387	580	236			170-230	340
HD11	2" Flanged	1	366	559	257		427	190-250	340
HD11	2" Flanged	2	373	566	257			185-245	340
HD11	2" Flanged	5	387	580	257		427	170-230	340
HD11	2" Flanged	6	387	580	257			170-230	340
HD12	2" BSP (F)	1	740	933	236		390	0-155	710
HD12	2" BSP (F)	2	740	933	236			0-250	710
HD12	2" BSP (F)	3	740	933	236	525	390	0-155	710
HD12	2" BSP (F)	4,7,8	740	933	236	525		0-155	710
HD12	2" BSP (F)	5	761	954	236		368	40-230	710
HD12	2" BSP (F)	6	761	954	236			40-230	710
HD12	2" Flanged	1	740	933	257		427	0-150	710
HD12	2" Flanged	2	747	940	257			0-245	710
HD12	2" Flanged	3	740	933	257	525	427	0-150	710
HD12	2" Flanged	4,7,8	740	933	257	525		0-150	710
HD12	2" Flanged	5	761	954	257		427	90-230	710
HD12	2" Flanged	6	761	954	257			90-230	710

ALL DIMENSIONS (mm) ARE NOMINAL, NOT TO BE USED FOR INSTALLATION PURPOSES.

\*N = bag removal height.

# HD SERIES

**THE HD11 AND 12 SINGLE BAG FILTERS ARE DESIGNED FOR HEAVY DUTY INDUSTRIAL APPLICATIONS AND GIVES THE HIGHEST POSSIBLE PERFORMANCE IN DEMANDING PROCESSES.**

Featuring investment cast and precision machined components, it is the most modern, innovative and practical filter bag housing available on the market.

The HD series has a top entry design, ensuring a minimum head of unfiltered liquid. It features flush top fitting of filter bags, which enables easy changeout, and is therefore suitable for use with the most aggressive fluids. The filter bag is held in position by compression from the top cover ensuring a 360° positive seal.

The vessel features Stainless steel 316L heavy duty investment-cast lid, bag seating and inlet port components.

The design provides a smooth fluid flow path ensuring low pressure drops. The open structure of the underside of the lid and inlet port allows all parts to be easily accessible, making the housing easy to clean.

**A unique feature of the HD series is the availability of inline connections (Style 1), enabling easy installation and eliminating the need for complex pipework arrangements.**

**Any of the standard style types 1-8 can be selected, see page 4 for further details.**

**THE HD SERIES FEATURES A PRECISION MANUFACTURED HEAVY DUTY BASKET, WITH NO NEED FOR AN UNDER BASKET O-RING. CONSTRUCTED FROM LARGE OPEN AREA PERFORATED STAINLESS STEEL, THE INTERNAL RESTRAINER BASKET CAN SERVE AS A BAG FILTER SUPPORT OR A STRAINER. IT HOLDS TRADITIONAL STEEL RING FILTER BAGS AS WELL AS THOSE DESIGNED WITH OUR UNIQUE MOULDED 'WELSEAL' RINGS TO ELIMINATE PRODUCT BYPASS, WHILST OPERATING AT HIGH DIFFERENTIAL PRESSURES.**

MODEL CODE	NUMBER OF FILTER BAGS	BAG SIZE NUMBER	FILTRATION SURFACE AREA (m <sup>2</sup> )	INLET/OUTLET SIZE (inches)	MAXIMUM FLOW RATE*		
					GPM	litres/min	m <sup>3</sup> /hr
HD11	1	1	0.25	2" – 4"	73	333	20
HD12	1	2	0.50	2" – 4"	147	666	40

\*Maximum flow rate is based on aqueous flow at ΔP=1.0psi clean through filter only without bag installed. Achieved flow rate is dependant on type of fluid being filtered, fluid viscosity and temperature, micron rating and type of filter bag.

The lid is held in place by four reclining swing bolts with eye nuts. The lid is hinged, and has an integrated lifting handle. The HD vessel seals with a single O-ring.

As standard, HD filter housings have a stainless steel 316L construction (optional SS304 body) and have a bead blasted external finish. The HD filter housing is 110°C and 10 bar rated, can be CE Marked, and can have ATEX certification. Optional features (see page 16 and 17) are available to meet all customer requirements.

- 🔥 ½" BSP (F) plug standard on top vent.
- 🔥 ½" BSP (F) plug standard on inlet drain.
- 🔥 2" BSP (F) drain standard on side outlet vessels (style 1,3,4,7,8).
- 🔥 2" BSP (F) inlet and outlet standard on all threaded vessels.
- 🔥 2" ANSI 150# or DN50 PN16 inlet and outlet flanges standard on all flanged vessels.
- 🔥 Customer may specify any connection size, type and configuration if different from standard.
- 🔥 Adjustable legs are standard.
- 🔥 Gasket materials include Buna-n (nitrile), EPDM (Ethylene propylene), Viton, PTFE, PTFE Encapsulated.



**TOP ENTRY FILTER BAG HOUSING GIVING THE HIGHEST POSSIBLE PERFORMANCE.**

# RBF PROFILE SERIES

The RBF Profile Series is a side entry, recessed basket design filter bag housing. The vessel features our unique profiled body, which seats both the restrainer basket and filter bag.

The filter bag is held in position within the profile, and precision manufacture ensures a positive seal between the filter bag and housing. A hold down device is present for further security and is compressed by the top cover. The profiled body eliminates crevices, and with all parts being accessible, the vessel is easy to clean.

The heavy duty restrainer basket is constructed from high open area perforated stainless steel and holds our complete range of filter bags, from traditional steel ring to our moulded 'Welseal' collar. Precision manufacture of the vessel's profiled body ensures no need for an under basket O-ring.

The RBF Profile is 110°C and 10 bar rated, can be CE Marked, and can have ATEX certification.

WITHIN THIS SERIES ARE TWO MODELS, THE RBFP AND THE RBFD, GIVING A CHOICE OF TWO LID CLOSURE TYPES TO SUIT ALL BUDGETS.

## RBFP : TRI-CLOVER TOP COVER PLATE

Lid is held in place by three reclining swing bolts with eye nuts and seals with a single O-ring. One of the nuts acts as a hinge. The cover plate also has a lid stop and an integrated lifting handle, and can be orientated to 3 different opening positions.

## RBFD : DOME LID DESIGN

V-clamp band closure, single O-ring seal.

The RBF Profile series is available in stainless steel grades 304 and 316L, and as standard has a bead blasted exterior finish. There is a choice of seven connection configurations (Styles 2 – 8), see page 4.

As standard, the RBF Profile series is provided with adjustable legs, but on request, it is also available with an inverted dished base and bolt down plate.

Other optional features are available to meet all customer requirements, see page 16 and 17 for further details.

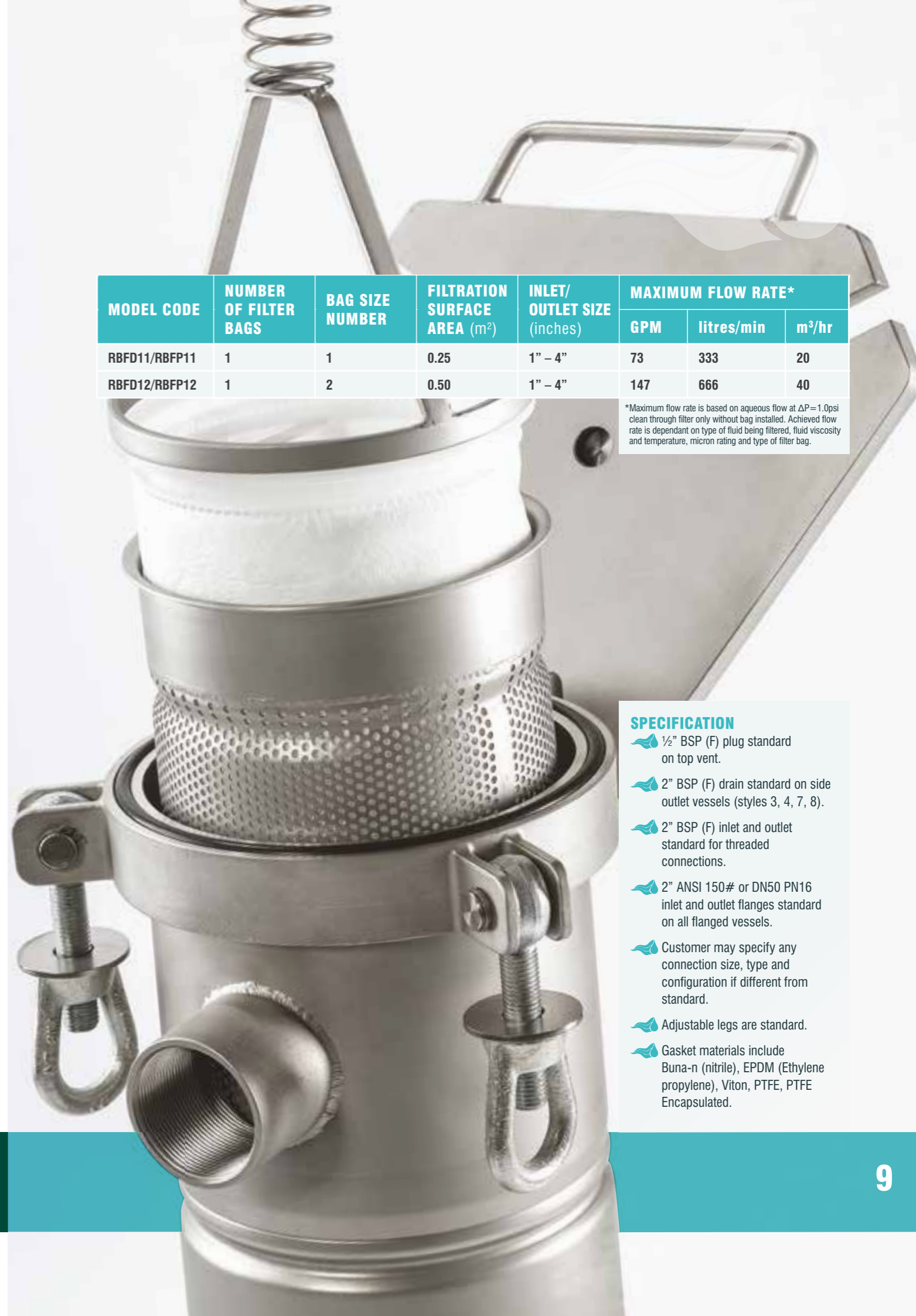


MODEL CODE	NUMBER OF FILTER BAGS	BAG SIZE NUMBER	FILTRATION SURFACE AREA (m <sup>2</sup> )	INLET/OUTLET SIZE (inches)	MAXIMUM FLOW RATE*		
					GPM	litres/min	m <sup>3</sup> /hr
RBFD11/RBFP11	1	1	0.25	1" – 4"	73	333	20
RBFD12/RBFP12	1	2	0.50	1" – 4"	147	666	40

\*Maximum flow rate is based on aqueous flow at ΔP=1.0psi clean through filter only without bag installed. Achieved flow rate is dependant on type of fluid being filtered, fluid viscosity and temperature, micron rating and type of filter bag.

## SPECIFICATION

- 1/2" BSP (F) plug standard on top vent.
- 2" BSP (F) drain standard on side outlet vessels (styles 3, 4, 7, 8).
- 2" BSP (F) inlet and outlet standard for threaded connections.
- 2" ANSI 150# or DN50 PN16 inlet and outlet flanges standard on all flanged vessels.
- Customer may specify any connection size, type and configuration if different from standard.
- Adjustable legs are standard.
- Gasket materials include Buna-n (nitrile), EPDM (Ethylene propylene), Viton, PTFE, PTFE Encapsulated.



 SIDE ENTRY FILTER BAG HOUSING FEATURING UNIQUE PROFILED BODY.

# RBF SERIES

**THE RBF SERIES IS A SIDE ENTRY, RECESSED BASKET DESIGN FILTER BAG HOUSING. IT FEATURES A TRI-CLOVER TOP COVER PLATE WHICH IS HELD IN PLACE BY THREE RECLINING SWING BOLTS WITH EYE NUTS, AND SEALS WITH A SINGLE O-RING. ONE OF THE NUTS ACTS AS A HINGE. THE COVER PLATE ALSO HAS A LID STOP AND AN INTEGRATED LIFTING HANDLE, AND CAN BE ORIENTATED TO 3 DIFFERENT OPENING POSITIONS.**

**The RBF vessel features an internal machined ring, which seats both the restrainer basket and filter bag. The filter bag is held in position by compression of a hold down device by the top cover ensuring a 360° positive seal.**

The heavy duty restrainer basket is constructed from high open area perforated stainless steel and holds our complete range of filter bags, from traditional steel ring to our moulded 'Welseal' collar. Precision manufacture ensures that there is no need for an under basket O-ring.

The RBF series is manufactured from either stainless steel 304 or 316L, and has a bead blasted exterior finish. There is a choice of seven connection configurations (Styles 2 – 8), see page 4 for further details.

Optional features are available to meet all customer requirements, see pages 16 and 17 for more information.

**The RBF is 110°C and 10 bar rated, can be CE Marked and be provided with ATEX certification.**

**THE RBF IS ALSO AVAILABLE WITH A PRESSURE RATING OF 16 BAR FOR MORE DEMANDING APPLICATIONS.**

# TRBF SERIES

**THE TRBF SERIES FILTER BAG VESSEL FEATURES A SINGLE POINT CENTRE BOLT CLOSURE WHICH IS ENGAGED BY A T-BAR. THE DESIGN PROVIDES QUICK OPENING AND CLOSING OF THE HOUSING, AND REQUIRES NO TOOLS FOR OPERATORS. THE LID IS HINGED ENSURING EASY HANDLING. LOCATION GUIDES ARE PRESENT TO ENABLE PERFECT POSITIONING WHEN CLOSING THE LID.**

The TRBF features a precision engineered internal ring, achieving an excellent seal with the filter bag and therefore producing the best possible filtration result.

The vessel is available in two sizes to suit industry standard size 1 (TRBF11) and size 2 (TRBF12) filter bags and can be constructed from either stainless steel 304 or 316L. Various connection types and orientations are available to provide the exact product to suit the application, see page 4.

**The TRBF has a pressure rating of 6.5 bar, can be CE marked and can be provided with ATEX certification.**

#### SPECIFICATION :

- 👉 1/2" BSP (F) plug standard on top vent.
- 👉 2" BSP (F) drain standard on side outlet vessels (styles 3, 4, 7, 8).
- 👉 2" BSP (F) inlet and outlet standard for threaded connections.
- 👉 2" ANSI 150# or DN50 PN16 inlet and outlet flanges standard on all flanged vessels.
- 👉 Customer may specify any connection size, type and configuration if different from standard.
- 👉 Adjustable legs are standard.
- 👉 Gasket materials include Buna-n (nitrile), EPDM (Ethylene propylene), Viton, PTFE, PTFE Encapsulated.

MODEL CODE	BAG SIZE NUMBER	FILTRATION SURFACE AREA (m <sup>2</sup> )	INLET/OUTLET SIZE (inches)	MAXIMUM FLOW RATE* m <sup>3</sup> /hr
RBF11/TRBF11	1	0.25	1" – 4"	20
RBF12/TRBF12	2	0.50	1" – 4"	40

\*Maximum flow rate is based on aqueous flow at ΔP=1.0psi clean through filter only without bag installed. Achieved flow rate is dependant on type of fluid being filtered, fluid viscosity and temperature, micron rating and type of filter bag.

# MINI SERIES

ALLIED FILTER SYSTEMS OFFERS A RANGE OF MINI BAG FILTER HOUSINGS IDEALLY SUITED TO SMALL BATCH OPERATIONS.

These compact bag filters are manufactured as standard using stainless steel 316L, and have an exterior bead blasted finish.

All mini filter housings are 110°C and 10 bar rated. Depending on model, they can be CE Marked and can have ATEX certification. Optional features are available to meet all customer requirements (See pages 16,17).

The standard range includes three models in two different sizes:

## HD 13 AND 14

Flush top bag fitting, with laser cut profile top held in place by two reclining swing bolts with eye nuts. One of the nuts acts as a hinge to the top cover.

## RBFP 13 AND 14

Recessed bag fitting with profiled body, with tri-clover lid held in place by three reclining swing bolts with eye nuts. One of the nuts acts as a hinge to the top cover.

MODEL CODE	NUMBER OF FILTER BAGS	BAG SIZE NUMBER	FILTRATION SURFACE AREA (m <sup>2</sup> )	INLET/OUTLET SIZE (inches)	MAXIMUM FLOW RATE*		
					GPM	litres/min	m <sup>3</sup> /hr
RBFV13 RBFP13 HD13	1	1M (3)	0.07	1" – 2"	22	100	6
RBFV14 RBFP14 HD14	1	2M (4)	0.12	1" – 2"	37	167	10

\*Maximum flow rate is based on aqueous flow at ΔP=1.0psi clean through filter only without bag installed. Achieved flow rate is dependant on type of fluid being filtered, fluid viscosity and temperature, micron rating and type of filter bag.

## RBFV 13 AND 14

Recessed bag fitting with profiled body and V-clamp closure lid design.

## SPECIFICATION

- 1" BSP (F) drain standard on all side outlet vessels (HD style 1 (inline), and all models styles 3,4,7,8).
- 1/4" BSP (F) plug standard on inlet HD13 and HD14 only.
- 1/4" BSP (F) plug standard on top vent of all models.
- 1" BSP (F) inlet and outlet standard for threaded vessels.
- 1" ANSI 150# or DN25 PN16 inlet and outlet standard for all flanged vessels.
- Customer may specify piping size, connection type and configuration if different from standard.
- Gasket materials include Buna-n (nitrile), EPDM (Ethylene propylene), Viton, PTFE, PTFE Encapsulated.



BAG FILTERS FOR SMALL BATCH OPERATIONS WITH A CHOICE OF DESIGNS.

# MULTI BAG SERIES



Allied Filter Systems is able to offer multi bag vessels for applications requiring high flow rates or a large filtration surface area. Flow is split equally through each filter bag ensuring an even distribution of solid loading.

Filter bags are individually held in position by three point locking bayonets, which compress the filter bag ring and produce a seal with the filter vessel.

The vessel lid has a counterbalanced spring assisted lifting mechanism ensuring that opening and closing the filter is safe and easy for operators.

The counterbalance is precise and gives the lid a practically weightless feel. As an additional safety feature, a simple locking system is fitted on the hinge as standard and can be engaged when the lid is in the fully open position.

Multi bag vessels are provided with a choice of two closure types, either a bolted lid or with a quick closure clamp.

## QUICK CLOSURE SYSTEM

The quick closure system was developed for multi bag vessels to eliminate the need for swing bolts, decreasing the time required for filter bag changeout.

The system consists of a heavy duty precision engineered clamp, an opening wheel with counter screw, and a safety lock attached to a ball valve fitted to the vent of the housing.

To change the filter bags, first the safety lock is released, simultaneously venting the filter housing. Turning the hand wheel then opens the clamp. The hinged lid can then be lifted and the filter bags changed. The reverse procedure is carried out to close the housing.

**MULTI BAG VESSELS ARE DESIGNED TO BE ERGONOMIC. A TANGENTIAL BOTTOM OUTLET MINIMISES VESSEL HEIGHT, REDUCING THE INSTALLATION SPACE AND PROVIDING OPERATORS WITH A CONVENIENT BAG CHANGEOUT HEIGHT.**

There are two standard inlet and outlet orientations :

### STYLE 3

Side inlet / tangential bottom outlet on the opposite side.

### STYLE 4

Side inlet / tangential bottom outlet on the same side.

The hinged lid design minimises the installation floor space required compared to traditional davit lid models.

Multi bag vessels are constructed from stainless steel 304 or 316L. The standard pressure rating is 10 bar, the standard temperature rating is 80°C. Higher pressure and temperature ratings are available on request. Multi bag vessels can be CE marked if required.

Optional features are available to meet all customer requirements such as alternative inlet and outlet orientations, heating jackets and many more. See pages 16 and 17 for further information.

MODEL CODE	NUMBER OF FILTER BAGS	BAG SIZE NUMBER	FILTRATION SURFACE AREA (m <sup>2</sup> )	INLET/OUTLET SIZE	MAXIMUM FLOW RATE*		
					GPM	litres/min	m <sup>3</sup> /hr
HD42	4	2	2.0	DN100	587	2667	160
HD62	6	2	3.0	DN150	880	4000	240
HD82	8	2	4.0	DN200	1174	5333	320
HD102	10	2	5.0	DN200	1468	6667	400
HD122	12	2	6.0	DN250	1761	8000	480
HD162	16	2	8.0	DN250	2348	10667	640

LARGER HOUSINGS ARE AVAILABLE ON REQUEST.

\*Maximum flow rate is based on aqueous flow at ΔP=1.0psi clean through filter only without bag installed. Achieved flow rate is dependant on type of fluid being filtered, fluid viscosity and temperature, micron rating and type of filter bag.



MULTI BAG VESSELS FOR HIGH FLOW RATES WITH A CHOICE OF LID CLOSURE DESIGNS.



# SPECIAL OPTIONS AND BESPOKE VESSELS

**ALLIED FILTER SYSTEMS IS ABLE TO OFFER VESSELS WITH SPECIAL OPTIONS TO SUIT ALL CUSTOMER REQUIREMENTS.**

- 🌊 Various connection sizes and orientations (styles). See page 4.
- 🌊 Other connection types eg. Sanitary (Tri-clamp, RJT, Dairy fittings etc.), Camlock, plain pipe.
- 🌊 Higher pressure and temperature ratings.
- 🌊 Heating jackets.
- 🌊 Multiple housings manifolded. For example, duplexed using L-port, T-port or butterfly valves.
- 🌊 Modular system, allowing expansion.
- 🌊 Custom designed systems including multiple housings, valves, pipework and pumps.
- 🌊 Trolley or skid mounted.
- 🌊 Custom made, special design vessels.
- 🌊 Inclined vessels.
- 🌊 Stainless steel mesh lined baskets.
- 🌊 Stainless steel bolts.
- 🌊 Electropolished interior and/or exterior.
- 🌊 Interior coated vessels (e.g. Halar®).
- 🌊 Polished internal finish to specified Ra value.
- 🌊 Various support options e.g. longer adjustable legs, wall mounting brackets, welded mounting plates.
- 🌊 Complete with differential pressure gauge ports and installation.

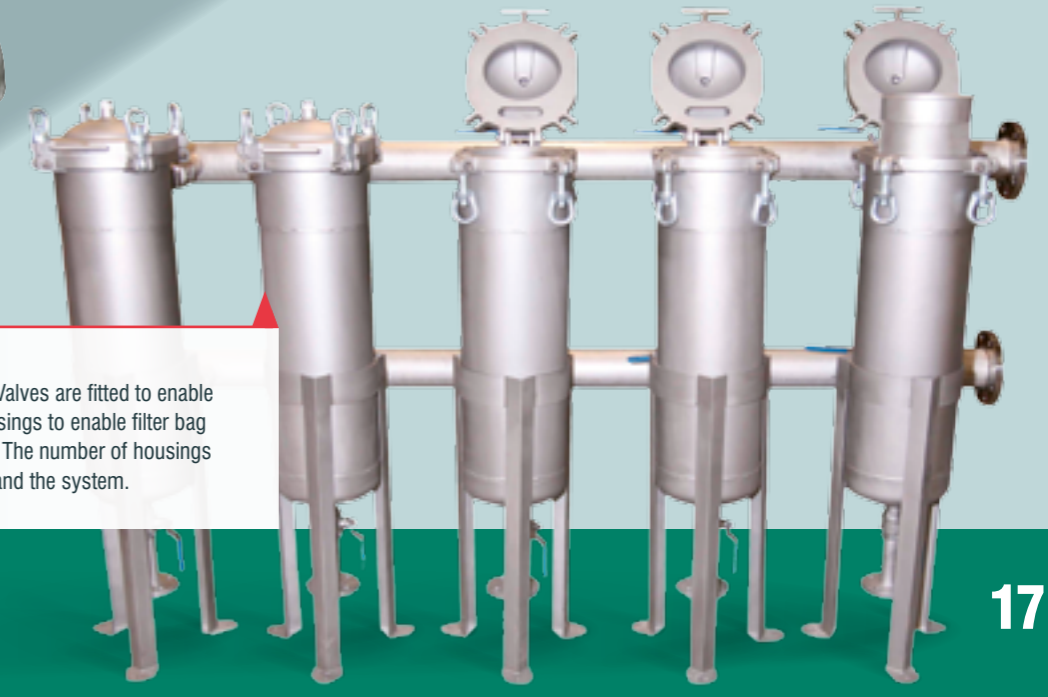


**TWO RBFP HOUSINGS**  
manifolded together and fitted with valves to enable use in a continuous process. One filter bag can be changed out whilst the other housing is in use.



**HD FILTER HOUSING**  
with internal and external antistatic Halar® coating.

**TROLLEY MOUNTED RBF FILTER HOUSINGS**  
Interconnecting pipework and valves enable multiple flow configurations.



**MODULAR SYSTEM**  
with common inlet and outlet pipes. Valves are fitted to enable isolation of individual or multiple housings to enable filter bag change during continuous operation. The number of housings may be increased at any time to expand the system.



# POLYPROPYLENE SERIES

FOR APPLICATIONS WHERE CORROSIVE FLUIDS ARE BEING FILTERED, THESE VESSELS CAN BE PRODUCED FROM PVDF.

Polypropylene bag filter housings are available for applications where materials such as stainless steel are incompatible with the fluid to be processed.

The Polypropylene series is a side entry, recessed basket design filter housing. The polypropylene restrainer basket has a high open area and holds our complete range of filter bags, including our moulded 'Welseal' collar.

An important feature of our design is that it has a bolted lid, which is advantageous compared to screwed lid models. Polypropylene threads can wear over time due to repeated opening and closing of a screwed lid, which ultimately damages the lid closure arrangement.

The bolted lid design enables our polypropylene filter bag housings to be CE Marked.

For continuous processes, we are able to offer duplexed systems with interconnecting valves, or if higher flows are required, several housings can be manifolded together.

The standard configuration is our style 3 (side inlet - bottom side outlet). It has a bottom drain and top vent, and DN50 (or 2" ANSI) flanged inlet and outlet connections.

**THE VESSEL IS DESIGNED TO BE FLOOR MOUNTED, ALTHOUGH OPTIONAL ADJUSTABLE STAINLESS STEEL LEGS ARE AVAILABLE. POLYPROPYLENE FILTER BAG HOUSINGS ARE AVAILABLE EITHER 6 BAR OR 10 BAR RATED** (see graph below).

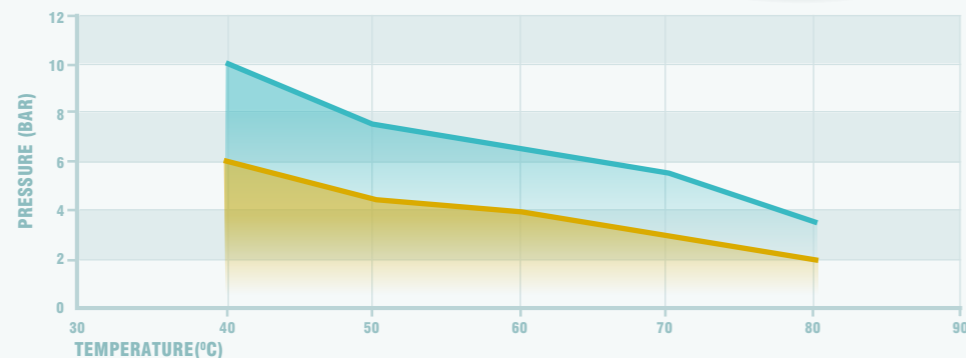


MODEL CODE	BAG SIZE NUMBER	FILTRATION SURFACE AREA (m <sup>2</sup> )	INLET/OUTLET SIZE (inches)	MAXIMUM FLOW RATE* m <sup>3</sup> /hr
PP11	1	0.25	2"	20
PP12	2	0.50	2"	40

\*Maximum flow rate is based on aqueous flow at ΔP=1.0psi clean through filter only without bag installed. Achieved flow rate is dependant on type of fluid being filtered, fluid viscosity and temperature, micron rating and type of filter bag.

## PRESSURE RATING VERSUS TEMPERATURE FOR POLYPROPYLENE BAG FILTER HOUSINGS

10 BAR RATED HOUSING  
6 BAR RATED HOUSING

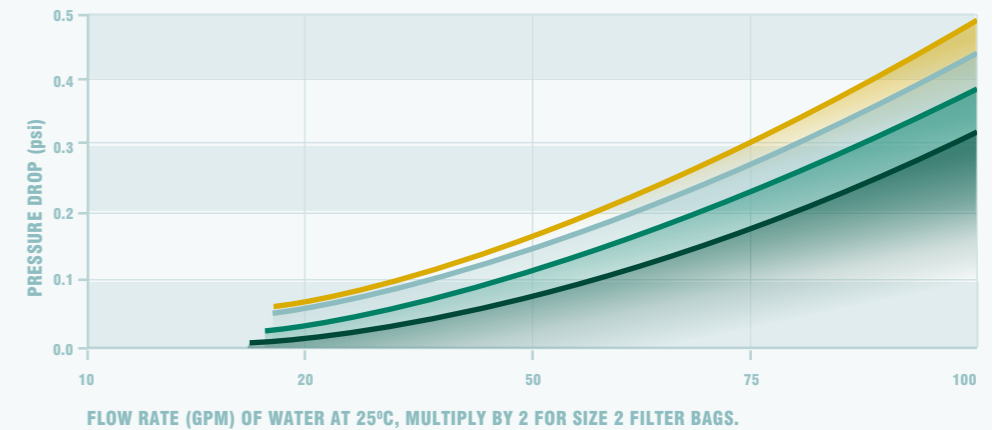


# TECHNICAL AND PERFORMANCE DATA



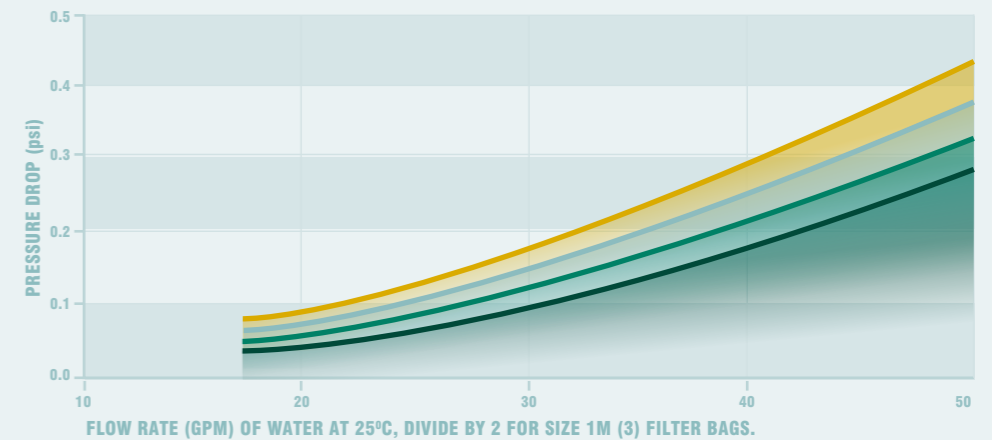
## FILTER BAG PERFORMANCE FOR SIZE 1 BAGS

5 & 10 MICRONS  
25 MICRONS  
50 MICRONS  
100 MICRONS



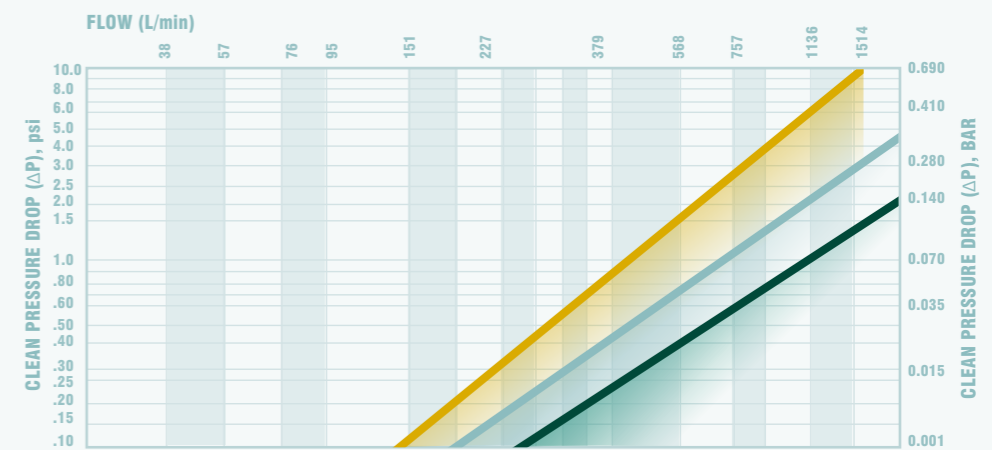
## FILTER BAG PERFORMANCE DATA FOR SIZE 2M (4) BAGS

5 & 10 MICRONS  
25 MICRONS  
50 MICRONS  
100 MICRONS



## PRESSURE DROPS

PIPE SIZE 2"  
PIPE SIZE 3"  
PIPE SIZE 4"



POLYPROPYLENE BAG FILTER HOUSINGS ARE AVAILABLE FOR APPLICATIONS WHERE MATERIALS SUCH AS STAINLESS STEEL ARE INCOMPATIBLE WITH THE FLUID TO BE PROCESSED.

# ACCESSORIES

ALLIED FILTER SYSTEMS LTD IS ABLE TO SUPPLY A WIDE RANGE OF BAG FILTER ACCESSORIES TO COMPLEMENT OUR RANGE OF FILTER HOUSINGS AND ALSO THOSE FROM OTHER MANUFACTURERS.

**1 Restrainer baskets** – Stainless steel 316L in all industry standard sizes and available in a variety of styles to fit all types of housings. Baskets can also be manufactured with a stainless steel mesh lining (37 to 840 micron) or produced from perforated sheet other than the standard 3mm, commonly 1mm to 10mm. Coated baskets (e.g. Halar®) are also available.

**2 High capacity basket and bag fitting tool** – Provides increased surface area compared to traditional baskets. See separate filter bag brochure (page 9) for further information.

**3 Basket removal tool.**

**4 Adjustable legs** – Stainless steel construction in standard or custom made lengths.

**5 Wall mounting brackets.**

**6 Pressure gauges** – Stainless steel gauges supplied either on their own, or as an assembly with Tee piece and vent valve. We can also provide differential pressure gauges with or without electrical contacts, and an installation option when ordered with a vessel.

**7 Hold down devices.**

**8 Bar Magnets** – Magnetic particles from process liquid adhere to the bar magnet surface. Filter bag lifetime is prolonged by reducing the amount of solid collected by the bag, and reducing surface abrasion of filter media which can be effected by sharp particles. Neodymium rare earth magnets have a magnetic flux density of 12,000 Gauss, are deep field, and can operate upto 120°C without significant loss of field strength. Magnet holding ring can be fitted with upto 5 magnetic bars.

**9 Displacement floats** – Displace liquid in the vessel ensuring easier bag changes and reducing product wastage.

**10 Valves** – All common types such as monoblock, L-port, T-port, butterfly valves.

**11 Stainless steel adaptor head** – For open bag systems, with BSP fitting.

**12 Deflector plate** – For oil absorption insert, see separate filter bag brochure page 13.

**13 V-clamps** – For use with housing models such as Rbfd, Rbfv and CHD series.

**14 Eye nuts, swing bolts and clevis pins** – Zinc Galvanised or stainless steel.

**15 Eye nut key.**

**16 O-rings** – Materials include Viton, EPDM (ethylene propylene), Buna-n (nitrile), silicone, PTFE, PTFE encapsulated viton, PTFE encapsulated silicone. Available in all cross section types and sizes.



SELECTING THE CORRECT ACCESSORIES SUCH AS FLOATS, MAGNETS OR HIGH CAPACITY BASKETS CAN REDUCE FLUID WASTAGE AND INCREASE FILTRATION PERFORMANCE.

# CARTRIDGE FILTER HOUSINGS

**ALLIED FILTER SYSTEMS LTD MANUFACTURES A COMPREHENSIVE RANGE OF INDUSTRIAL FILTER CARTRIDGE VESSELS WHICH ACCEPT EVERY TYPE OF STANDARD FILTER CARTRIDGE SUCH AS MELT BLOWN, STRING-WOUND, RESIN BONDED, PLEATED AND METALLIC.**

## LV1 SERIES SINGLE CARTRIDGE VESSELS

The LV1 series single cartridge vessel consists of an investment cast head with 1" BSP (F) inline connections and 1/8" BSP (F) vent, a quick release clamp, and a bowl with 1/4" BSP (F) bottom drain.

LV1 vessels are produced in four sizes to suit industry standard 10", 20", 30" and 40" nominal length filter cartridges. The universal head can be configured to suit double open ended, code 8 (222 O-rings/fin) or code 3 (222 O-rings/flat) cartridges. The LV1 can also accept code 7 (226 O-rings/fin) cartridges when supplied with an adaptor. The head is provided with locating sockets for an optional wall mounting bracket.

As standard, the LV1 series cartridge vessel has a mechanically polished exterior finish.

The material of construction is stainless steel 316L, and the housing has a pressure rating of 10 bar and temperature rating of 80°C (higher ratings are available on request). The LV1 is suitable for filtration of liquids, alternative designs are available for gas applications.

## CH AND CHD SERIES MULTI ROUND CARTRIDGE VESSELS

Multi round cartridge housings are available with a choice of two lid designs:

### BOLTED LID (CH SERIES)

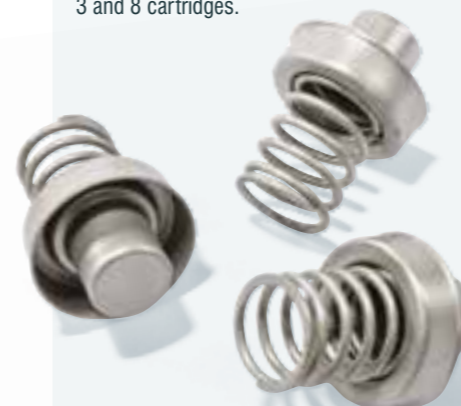
Standard range contains from 3 to 34 cartridges and suits industry standard 10", 20", 30" and 40" nominal length filter cartridges. Larger vessels are available on request.

### DOME LID WITH V-BAND CLAMP CLOSURE (CHD SERIES)

Standard range contains from 3 to 7 cartridges and suits industry standard 10", 20", 30" and 40" nominal length filter cartridges.

**THE CH AND CHD SERIES CAN BE MANUFACTURED WITH AN INVERTED DISHED BASE WITH BOLT DOWN PLATE, OR ALTERNATIVELY WITH DISHED END AND ADJUSTABLE LEGS.**

Multi round cartridge vessels feature a universal bottom cup to suit double open ended, code 8 (222 O-rings/fin) or code 3 (222 O-rings/flat) cartridges. Our vessel design therefore provides versatility - by simply exchanging the cartridge top sealing components, the vessel can be converted to suit either double open ended cartridges or to suit code 3 and 8 cartridges.



For use with double open ended cartridges, vessels are provided with a cup and spring component which achieves both top sealing and cartridge core location, and a compression plate.

To use with code 3 or 8 cartridges, vessels are provided with a compression plate with cartridge end cap locating holes.



Multi round cartridge vessels are constructed from either stainless steel 304 or 316L. As standard, the external finish is bead blasted. Other surface finishes such as internal and external electropolishing are available on request.

## ALL VESSELS ARE PROVIDED WITH A TOP VENT AS WELL AS CLEAN AND DIRTY DRAIN PORTS.

Larger diameter vessels are fitted with either a davit arm lid lift or a spring assisted counterbalanced hinge.

The standard connection types are BSP screwed, DIN Flanged or ANSI flanged with connection size according to model.

The standard pressure rating is 10 bar at a temperature of 110°C. Vessels can be CE marked and provided with ATEX certification on request.

Allied Filter Systems can manufacture custom made cartridge vessels. Common modifications include specified connection sizes and types, different cartridge sealing arrangements, and duplexed systems. See pages 16 and 17 for more details.



**INDUSTRIAL CARTRIDGE FILTER VESSELS TO SUIT ALL COMMON CARTRIDGE CONFIGURATIONS.**

# FABRICATED STRAINERS

## IBF SERIES (INLINE BASKET FILTER)



**IBF SERIES FABRICATED STRAINERS ARE THE IDEAL SOLUTION FOR REMOVING SOLID PARTICLES FROM A LIQUID STREAM. APPLICATIONS INCLUDE PROTECTION FROM DEBRIS OF PUMPS, METERS, VALVES, NOZZLES AND HEAT EXCHANGERS.**

The IBF series features inline connections, enabling easy pipeline installation. Standard connection sizes are 1" to 12" flanged (ANSI or DIN), with bigger vessels available on request.

Fabricated strainers have a bolted lid fitted with a lifting handle and ½" vent valve. Larger models are provided with a davit arm lid lift and can have optional features such as lifting lugs. The standard pressure rating is 10 bar and temperature rating is 110°C, higher ratings are available on request.

The internal basket has an elliptical, 45° angled top, and provides a high filtration surface area which is vastly superior to cast strainers with the equivalent connection size. The IBF series filters are specifically designed to have high open area ratios (free screen area divided by nominal outlet area), resulting in low pressure drops and longer service before cleaning.

The standard basket is constructed from 3mm perforated sheet, and can be lined with precision woven wire stainless steel meshes ranging from 840 to 37 microns (20 to 400 mesh). For applications requiring coarser filtration, we offer a range of perforated sheet baskets rated from 1mm to 10mm (18 mesh to 3/8"). Other than our standard grades, we are able to provide filter baskets manufactured from specified or heavy duty meshes, or from materials such as wedge wire.

**The standard materials of construction are stainless steel 304 or 316L. The IBF series is customisable to meet specific needs. Options include adjustable or welded leg assemblies, different nozzle types, heating jackets, backflush/backwash system, additional nozzles for gauge ports and many more. Fabricated strainers can be CE marked and provided with ATEX certification on request.**



**FABRICATED STRAINERS PROVIDE A HIGH FILTRATION SURFACE AREA WHICH IS VASTLY SUPERIOR TO CAST STRAINERS WITH THE EQUIVALENT CONNECTION SIZE.**



## SIMPLEX AND DUPLEXED BASKET FILTER

**SIMPLEX FABRICATED BASKET FILTERS ARE DESIGNED FOR APPLICATIONS WHERE TEMPORARY INTERRUPTION OF A PROCESS CAN BE PERMITTED FOR BASKET CLEANING. THEY FEATURE A RECESSED BASKET WITH LIFTING HANDLE, SEATED ON AN INTERNAL RING.**

An under basket O-ring is present to ensure an excellent seal between the filter housing and basket. Simplex basket filters are bolted lid, side entry vessels, with either a bottom or side outlet (Styles 2-8, see page 4 for more details).

Fabricated basket filters can also be duplexed to enable continuous operation. The system consists of two strainers - one duty and one standby - interconnecting pipework and gear operated butterfly valves.

When the maximum acceptable differential pressure is reached across the duty filter, the flow can be switched to the other filter housing without disruption to the filtration process. The filter not in use can then be cleaned and prepared for use again.

**The standard range of simplex and duplexed basket filters are available with up to 12" connections, and can be customised to meet specific requirements.**

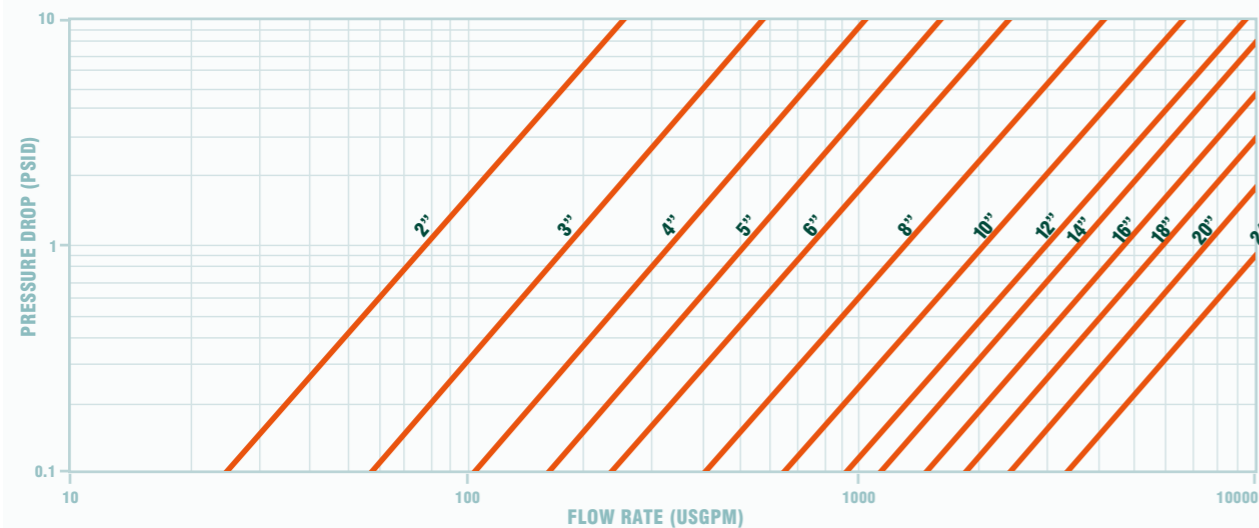


# TECHNICAL DATA

## FABRICATED BASKET FILTERS



**PRESSURE DROP VERSUS FLOW RATE, BASED ON WATER  
CLEAN, 3mm PERFORATED SHEET BASKET.**



Flow rate conversion 100 US GPM = 83.3 Imperial GPM = 22.7m<sup>3</sup>/hr

## OPEN AREA RATIOS

CONNECTION SIZE	BASKET PERFORATION (mm)	OPEN AREA %	NOMINAL OUTLET AREA (m <sup>2</sup> )	GROSS BASKET AREA (m <sup>2</sup> )	FREE BASKET AREA (m <sup>2</sup> )	OPEN AREA RATIO (O.A.R.)
DN25 (1")	3.0	40%	0.00056	0.110	0.044	78.6
DN50 (2")	3.0	40%	0.00233	0.110	0.044	18.9
DN80 (3")	3.0	40%	0.00534	0.171	0.0684	12.8
DN100 (4")	3.0	40%	0.00900	0.171	0.0684	7.6
DN150 (6")	3.0	40%	0.0199	0.243	0.0972	4.88
DN200 (8")	3.0	40%	0.0339	0.362	0.1448	4.27
DN250 (10")	3.0	40%	0.0532	0.605	0.242	4.55
DN300 (12")	3.0	40%	0.0753	0.760	0.304	4.04

## PRESSURE DROP CORRECTION FACTOR

For mesh lined baskets and for use with fluids with viscosities higher than water.

VISCOSITY (CENTIPOISE)	UNLINED PERFORATED BASKET	20 MESH LINED BASKET	40 MESH LINED BASKET	60 MESH LINED BASKET	80 MESH LINED BASKET	100 MESH LINED BASKET	200 MESH LINED BASKET
1	1	1.05	1.2	1.4	1.6	1.7	2
100	1.6	1.7	1.9	2.1	2.4	2.6	3.1
200	1.7	2	2.2	2.4	2.6	2.8	3.3
400	1.9	2.2	2.4	2.7	2.9	3.2	3.8
650	2	2.3	2.6	2.9	3.2	3.5	4.1
1100	2.2	2.6	3	3.5	4	4.5	5.3
2200	2.5	3	3.5	4.2	5	6	7.1

To calculate clean pressure drop :

- 1 Obtain water pressure drop from graph on page 26.
- 2 Multiply the pressure drop obtained from 1 by the specific gravity of the liquid.
- 3 Multiply the pressure drop from 2 by the appropriate correction factor for the mesh liner and/or viscosity.

Allied Filter Systems recommends cleaning the basket when there is a differential pressure of 5 PSI across the strainer.

### US STANDARD MESH

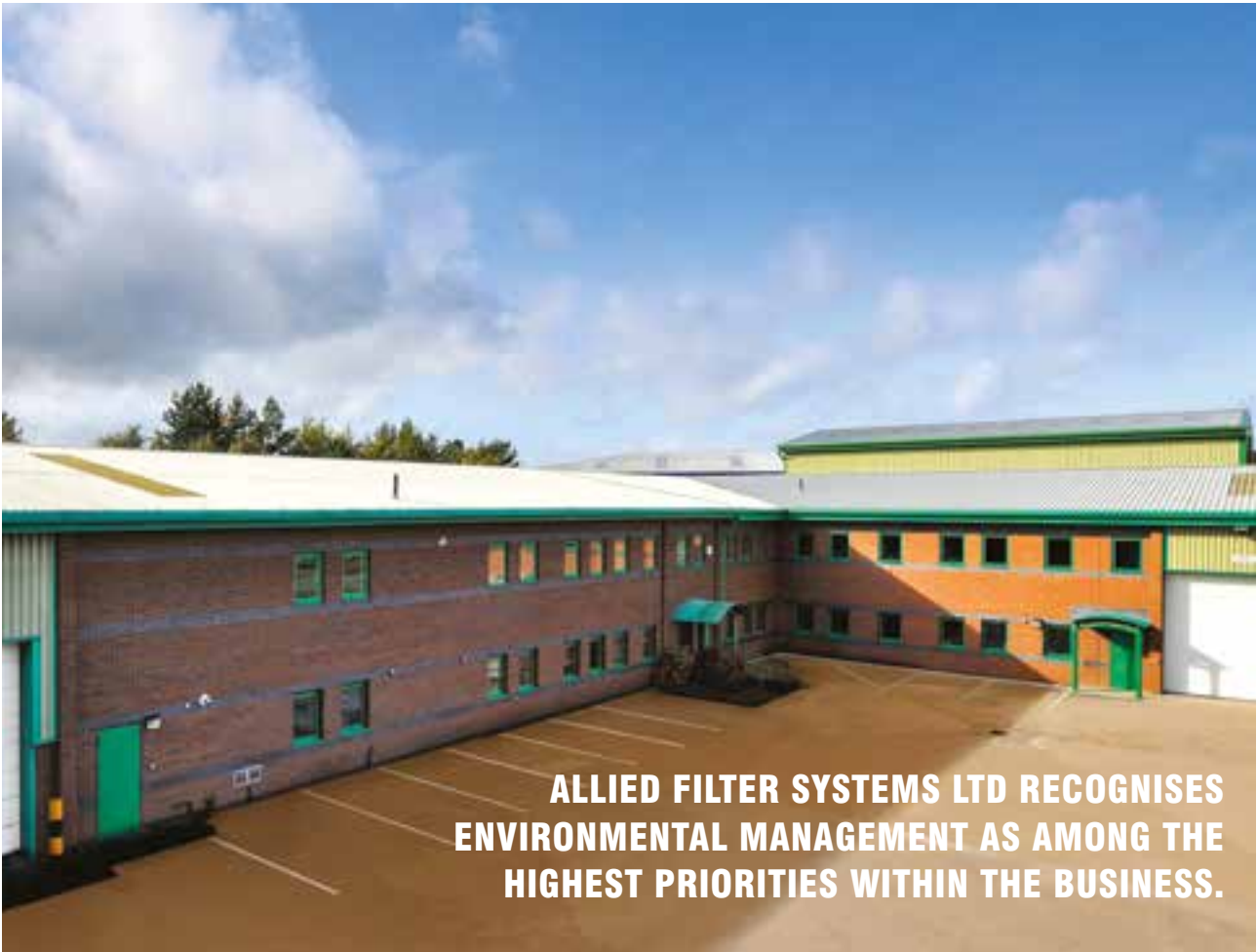
18	20	25	30	35	40	45	50	60	70	80	100	120	140	170	200	230	270	325	400	550	800	1250
1000	840	710	590	500	420	350	297	250	210	177	149	125	105	88	74	62	53	44	37	25	15	10

### MICRONS



FOR FURTHER INFORMATION, PLEASE CONTACT YOUR LOCAL SALES REPRESENTATIVE OR VISIT OUR WEBSITE

[www.alliedfilter.co.uk](http://www.alliedfilter.co.uk)



**ALLIED FILTER SYSTEMS LTD RECOGNISES ENVIRONMENTAL MANAGEMENT AS AMONG THE HIGHEST PRIORITIES WITHIN THE BUSINESS.**

**Our working practices minimise waste generation and resource consumption to safeguard the environment. We continually assess and improve the environmental impacts of our**

**business and work with our suppliers and customers to help develop more environmentally friendly processes and products.**

There are no implied warranties, including the implied warranty of merchantability and fitness for a particular purpose not specific herein respecting this agreement or the product being sold here under or the service provided herein.

This brochure has been printed on paper manufactured from renewable timber, produced on a fully sustainable basis and is suitable for recycling. The pulp used in this paper has been bleached by an elemental chlorine free process (ECF).

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