



# SINGLE FILTER OV & SINGLE FILTER MULTIBASKET OVM

AIRPEL®

**SINGLE FILTER OV**  
20 MM (3/4")–150 MM (6")

**MULTI BASKET FILTERS OV**  
200 MM (8")–250 MM (10")



## SINGLE FILTER OV

Single filter OV provides a cost-effective method of protecting pipeline equipment, cleaning liquids or salvaging valuable solids. Incorporated are a number of special features and optional extras. The filter is of cast construction and is supplied with one high quality stainless steel cylindrical basket. It is used in liquid handling installations where the flow can be shut off for short periods to allow the removal of the basket for cleaning.

## SINGLE FILTER OV MULTIBASKET

The single filter multi basket extends the range of single filters, specially designed to be compact and easily maintained with easier basket removal compared with other units of a similar pipe size. The filter is of cast construction and is supplied with four or five high quality stainless steel filter baskets depending on the pipe size. For use in liquid handling installations where flow can be interrupted to enable the removal of the filter baskets for cleaning.

### MAIN FEATURES

- High quality 316 grade stainless steel basket with large filtration areas resulting in low pressure drops.
- Compact design for space saving.
- Working pressures up to 50 bar (A300 Series).
- Quick release filter covers and knobs for easy maintenance.

### OPTIONS

- Range of extras allowing filter to be customised.
- Available in cast iron, cast steel, gunmetal (bronze) or stainless steel.
- Visual/Electrical differential pressure indicators are available.
- Magnetic columns (pre-magnetic filtration).

### SPECIFICATIONS FOR SINGLE FILTER OV

	OV	OV/S	OV/GM	OV/SS	OV/S & SS A300 Series
Body & cover material	Cast Iron EN1561/ EN-JL 1030	Cast steel EN 10213-2/1.0625	Gunmetal (Bronze) BS 1400 Grade LG4C	Stainless Steel BS 1504 316 C16	Cast steel EN10213-2/1.0625 (S)  Stainless steel BS1504 316 C16 (SS)
Maximum working pressure	17 bar at 50°C 250psi at 120°F	22 bar at 50°C 320psi at 120°F	13.8 bar at 50°C 200psi at 120°F	22 bar at 50°C 320psi at 120°F	50 bar at 50°C (S) 725psi at 120°F (S) 48 bar at 50°C (SS) 700psi at 120°F (SS)
Baskets	Stainless Steel — Basket & Mesh Lining BS1449 Grade 316 S31				
Drain plug	Brass	Stainless Steel	Gunmetal (Bronze)	Stainless Steel	Stainless Steel
Vent	Stainless Steel	Stainless Steel	Phosphor Bronze	Stainless Steel	Stainless Steel
Standard seals	Viton® (-20°C to +200°C) (-5°F to +400°F)				
Body colour	Blue	Silver	Natural	Natural	Silver (S) /Natural (SS)

Special alloys on request

### SPECIFICATIONS FOR MULTI BASKET FILTERS

	OVM	OVM/S	OVM/GM	OVM/SS
Body & cover material	Cast Iron EN1561/EN-JL 1030	Cast steel EN 10213-2/1.0625	Gunmetal (Bronze) BS1400 Grade LG4C	Stainless Steel BS 1504 316 C16
Maximum working pressure	13.8 bar at 50°C			
Baskets	Stainless Steel — Basket & Mesh Lining BS1449 Grade 316 S31			
Drain plug	Brass	Stainless Steel	Gunmetal (Bronze)	Stainless Steel
Vent	Stainless Steel	Stainless Steel	Phosphor Bronze	Stainless Steel
Standard seals	Viton® (-20°C to +200°C)			
Body colour	Blue	Silver	Natural	Natural

Special alloys on request

## EQUIVALENT MATERIAL SPECIFICATIONS

	Cast Iron	Cast Steel	Gunmetal	Stainless Steel
European Standard	BS EN1561/EN-JL 1030	BS EN10213-2/1.0625	BS 1400 GRD LG4C	BS 1504 316 C16
American Standard	ASTM A48/76 Class 35	ASTM A216 Grade WCB	—	ASTM A351 CR8M

Special alloys on request

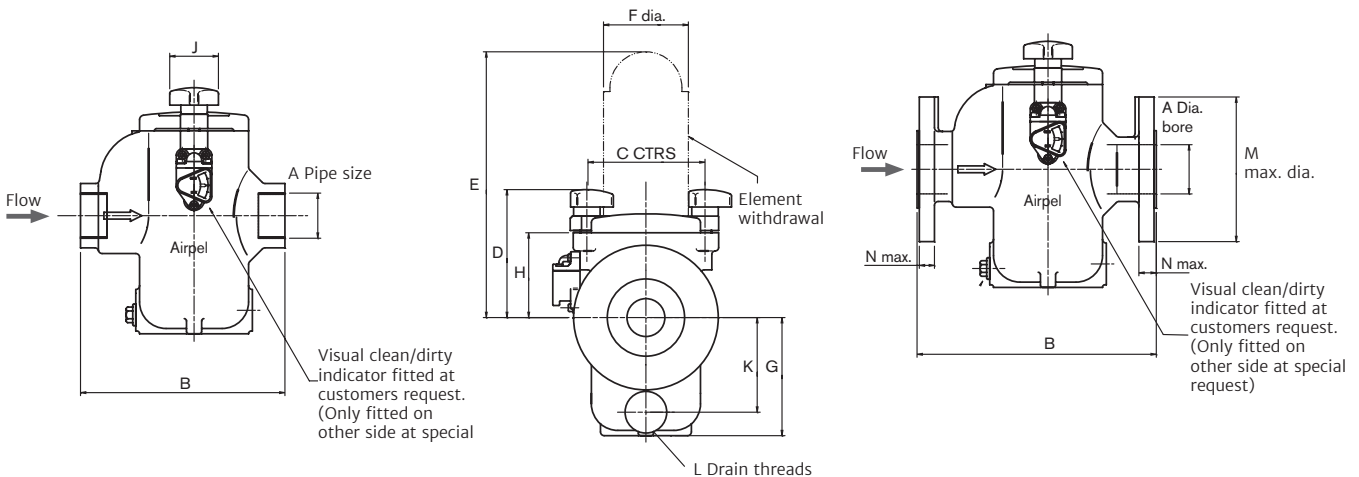
## THREADED BSP OR NPT SIZES IN MM

A Pipe Size	B	C	D	E	F	G	H	J	K	L	Element Area	Weight (Cast Iron)
20	159	108	103	220	73	105	64	50	86	1/2" BSP	184cm <sup>2</sup>	5kg
25	159	108	103	220	73	105	64	50	86	1/2" BSP	184cm <sup>2</sup>	5kg
32	174	108	129	306	73	145	90	50	122	1/2" BSP	268cm <sup>2</sup>	7kg
40	174	108	129	306	73	145	90	50	122	1/2" BSP	268cm <sup>2</sup>	7kg
50	270	156	165	351	112	156	112	76	131	1/2" BSP	484cm <sup>2</sup>	19kg
65	270	156	165	351	112	156	112	76	131	1/2" BSP	484cm <sup>2</sup>	19kg

## FLANGED BS10, BS4504, ANSI OR DIN SIZES IN MM (IN)

A	B	C	D	E	F	G	H	J	K	L	M*	N*	Element Area	Weight (Cast Iron)
25	194	108	103	220	73	105	64	50	86	1/2" BSP	124	16	184cm <sup>2</sup>	8kg
40	210	108	129	306	73	145	90	50	122	1/2" BSP	156	18	268cm <sup>2</sup>	12kg
50	310	156	165	351	112	156	112	76	131	1/2" BSP	165	20	484cm <sup>2</sup>	24kg
65	310	156	165	351	112	156	112	76	131	1/2" BSP	191	22	484cm <sup>2</sup>	25kg
80	343	175	198	451	132	210	140	76	186	1/2" BSP	210	22/24	718cm <sup>2</sup>	42kg
100	356	175	234	575	132	265	175	76	241	1/2" BSP	229/254	24	964cm <sup>2</sup>	45kg
150	480	—	296	728	160	361	218	—	330	1/2" BSP	318	26	1835cm <sup>2</sup>	107kg

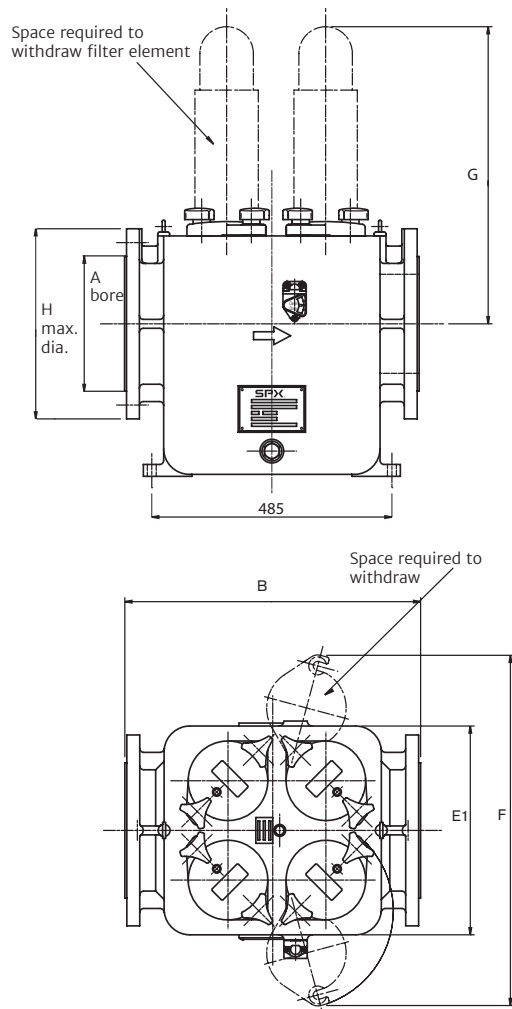
\* Dimensions left of the oblique are for cast iron filters. Dimensions right of the oblique are for Steel, Stainless Steel and Bronze



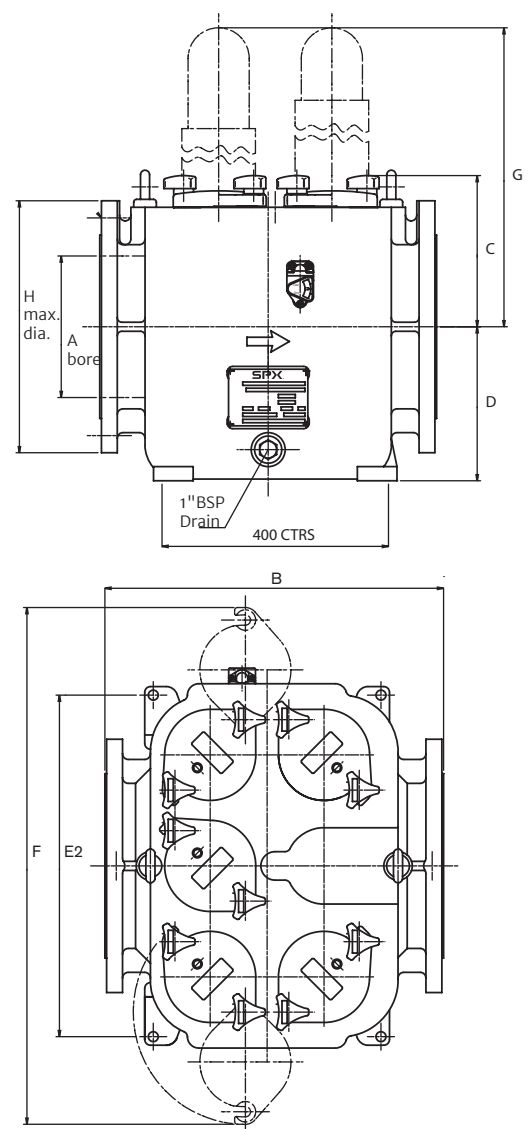
## SIZES (IN MM)

	A	B	C	D	E1 E2	F	G	H	WEIGHT (CAST IRON)
200 (8")	200	595	230	308	420 (E1)	658	610	381	260 KG
250 (10")	250	595	276	272	600 (E2)	908	610	445	391 KG

### 200 MM (8") — 4 BASKETS



### 250 MM (10") — 5 BASKETS

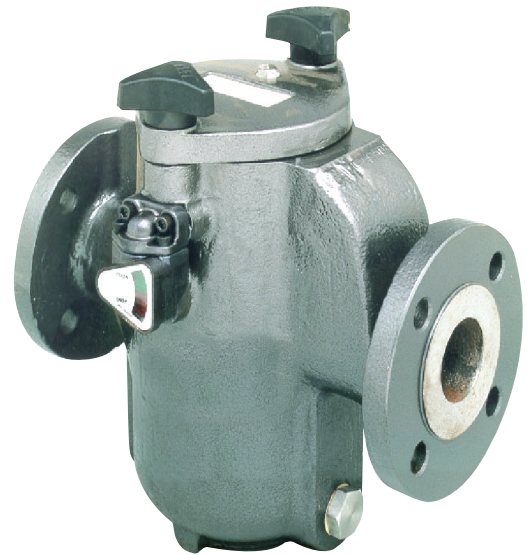


## ACCESSORIES AND SPARE PARTS FOR OV

A range of optional extras enables filters to be tailored to customers' precise requirements

### DIFFERENTIAL PRESSURE INDICATOR (D.P.I.)

The Differential Pressure Indicator is designed to monitor basket conditions and provide visual warning that cleaning is required.



### OPTIONAL EXTRAS WITH FILTERS

#### HEATING JACKET

For constant temperature processes to aid flow of viscous liquids.

#### AUTOMATIC AIR ELIMINATORS

To vent air from filter e.g. after element cleaning.

#### MAGNETIC INSERTS

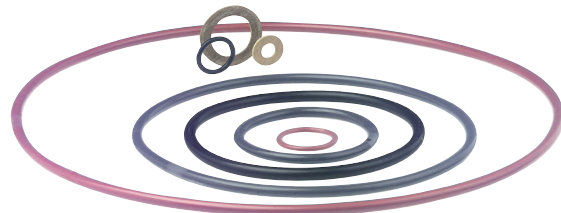
Suspended from the cover to capture metallic particles. Magnets can be nylon coated if required.

#### ALTERNATIVE O-RING MATERIALS

To suit chemical or low/high temperature applications

#### CUSTOM-DESIGNED ELEMENTS & BASKETS

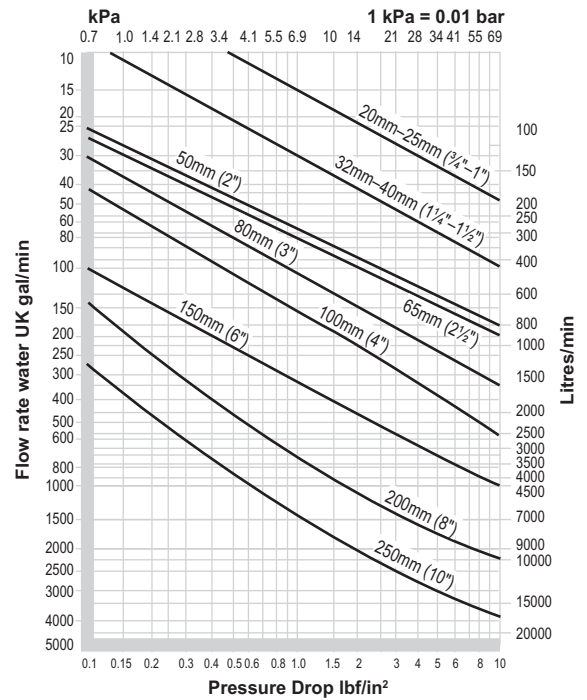
Made according to process needs



# SIZING DATA OV SINGLE FILTERS

A single basket OV filter is required to protect pipeline equipment to a level of 200 microns. The media is water at 20°C, at a pressure of 4 bar g and having a flow rate of 600 litres/min. A clean basket pressure drop of no more than 34 kPa is acceptable.

1. Check temperature/pressure rating of filter and suitability for application, i.e. 20°C temperature at 4 bar g: Standard Cast Iron Filter suitable.
2. Selection of Mesh: protection to 200 microns or less would require an 80 mesh basket (at 190 microns).
3. Mark flow rate of 600 litres/min on chart to intersect diagonal "filter selection line" and read vertically to obtain pressure drop in kPa. 600 l itres/min intersects 65 mm (2.1/2") filter and will have a pressure drop of 28 KPa.
4. Apply correction factor for 80 mesh basket:  
 Pressure drop  
 = 28 kPa x 1.1 (see table on reverse) = 30.8 kPa.  
 (This falls within acceptable pressure drop of 34 KPa).
5. Selection for application would be 65 mm (2 1/2") cast iron OV filter with an 80 mesh lined basket.



## OV BASKET IDENTIFICATION

Code numbers are used to identify the basket as shown on the end plate. Typical example:

E - GA	2	S	80
SIZE	MARK	MATERIAL	MESH
A = ¾" - 1	MK1-1	S = ST.ST	
B = 1¼" - 1½"	MK2-2		
C = 2" - 2½"			
D = 3"			
E = 4"			
F = 6" (OW)			
FT = 6" MULTI			
FV = 6" (OV)			
G = 8" (OV)			
GA/GB = 8"/10" (OV)			

## PRESSURE DROP CHART

The charts are for water flowing through a filter without an element. Use the following correction factors for the chosen filtration rating and for liquids of higher viscosity.

## CORRECTION FACTORS FOR OV

Either – multiply the pressure drop for water shown in the chart by the following correction factors to obtain the actual pressure drop. (Water has a viscosity of 1 centistoke at 20°C) Or – divide the acceptable pressure drop by the necessary correction factor in the table below and then use the chart to determine the filter size and flow rate.

## FILTRATION

VISCOSITY CENTISTOKES	UNLINED PERFORATED BASKETS	20 MESH (910µM)	80 MESH (190µM)	120 MESH (130µM)	200 MESH (80µM)
1	1	1	1.1	1.25	1.35
50	1.6	1.7	2.1	2.3	2.5
230	2.0	2.3	3.0	3.35	3.75
370	2.2	2.6	3.4	3.8	4.3

## STANDARD BASKET DATA

Baskets are constructed from stainless steel perforated plate. Welding the appropriate grade of stainless steel mesh to the basket provides the relevant degree of filtration. Pleated elements giving filtration down to 10 microns are also available.

## FILTRATION

PERF. PLATE HOLES PER SQUARE INCH	DIAMETER OF HOLE			MATERIAL REF	PERCENTAGE CLEAR AREA
	INCHES	MM	µM		
11	0.25	6.35	6350	S11	54
33	0.125	3.17	3170	S33	39
124	0.063	1.60	1600	S124	38

SQUARE MESH MESHERS PER LINEAR INCH	DIAMETER OF HOLE			MATERIAL REF	PERCENTAGE CLEAR AREA
	INCHES	MM	µM		
20	0.036	0.91	910	S20	53
30	0.022	0.56	560	S30	42
40	0.015	0.38	380	S40	40
60	0.01	0.25	250	S60	35
80	0.0075	0.19	190	S80	34
120	0.005	0.13	130	S120	32
200	0.003	0.08	80	S200	36
300	0.002	0.05	50	S300	32



| SPEED  
| EXCELLENCE  
| PARTNERSHIP

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