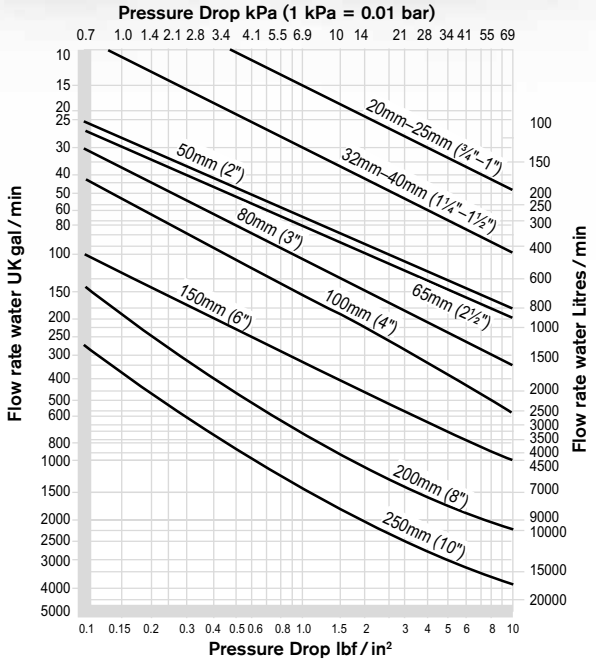
COMPLETE SOLUTIONS
FOR LIQUID FILTRATION

Sizing Data Single & Dual Filters

OV SINGLE FILTERS & OW DUAL FILTERS

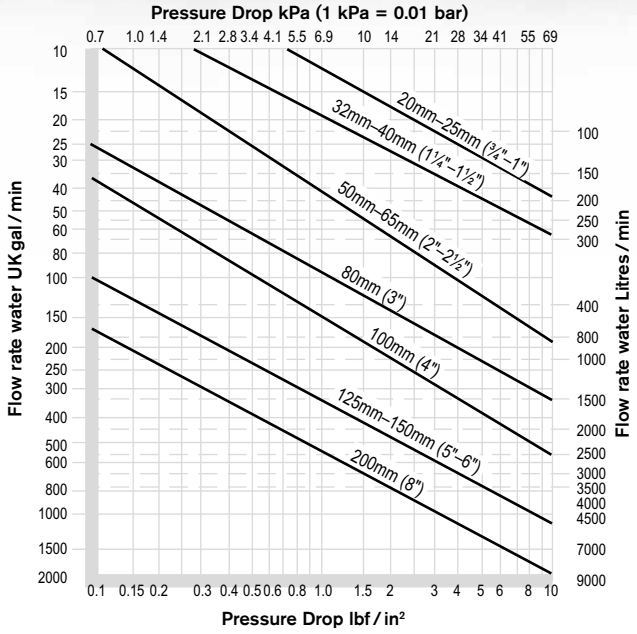
OV SINGLE FILTERS



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 litres/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 ½") cast iron OV filter with an 80 mesh lined basket.

OW DUAL FILTERS



A dual basket OW filter is required to filter particles the size of 80 microns from lubricating oil which has a viscosity of 230 centistokes at 40°C. The flowrate of oil is 150 litres/min at a pressure of 10 bar g. A clean basket pressure drop of no more than 41 kPa is acceptable.

1. Check temperature/pressure rating of filter and suitability for application, i.e. 40°C temperature at 10 bar g: **Standard Cast Iron Filter suitable**.
2. Selection of Mesh: Protection to 80 microns or less would require a **200 mesh basket**. (See Standard Basket Data).
3. Mark flowrate of 150 litres/min on chart to intersect diagonal "filter selection line" and read vertically to obtain pressure drop in kPa. 1**50 litres/min intersects 50mm (2") – 65mm (2.1/2") filter and will have a pressure drop of 5.5 kPa.**
4. Apply correction factor for oil at 230 centistokes with 200 mesh lined basket:
   Pressure drop = 5.5 kPa x 3.75 = **20.6 kPa**. (This falls within acceptable pressure at 41 KPa).
5. Selection for application would be 50 mm (2") or 65mm (2 ½") cast iron OW filter with a 200 mesh lined basket.

OV & OW 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 & OW

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 RATING

VISCOSITY CENTISTOKES	UNLINED PERFORATED BASKETS	20 MESH (910MM)	80 MESH (190MM)	120 MESH (130MM)	200 MESH (80MM)
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
860	3.0	3.5	4.2	5.0	6.0

STANDARD BASKET DATA FOR OV & OW

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 RATING

PERF. PLATE HOLES PER SQUARE INCH	DIAMETER OF HOLE			MATERIAL REF	PERCENTAGE CLEAR AREA
	INCHES	MM	MM		
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 MESHES PER LINEAR INCH	DIAMETER OF HOLE			MATERIAL REF	PERCENTAGE CLEAR AREA
	INCHES	MM	MM		
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

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ISSUED 05/2012 A170-EN