

# ODIS

IRRIGATION EQUIPMENT LTD.

## SCREEN WATER FILTERS

SERIES

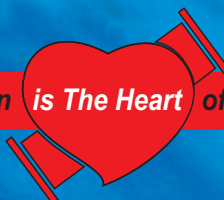
# 1900

### APPLICATIONS

- Specially designed as a single Control Filter after gravel/sand filter arrays.
- Used as an economic and compact Secondary Filter in agriculture.



ODIS Filtration *is The Heart* of Every Irrigation System



## DESCRIPTION

A water screen filter with one extra-strong stainless-steel screen.

This filter is offered in two options:

A. Horizontal inlet and outlet: models 19003, 19004, 19706, 19708, 19710, 19712

B. Horizontal inlet and an outlet at 90°: models 19903, 19904, 19806, 19808, 19810, 19812

Available in the following sizes: 3", 4", 6", 8", 10", 12".

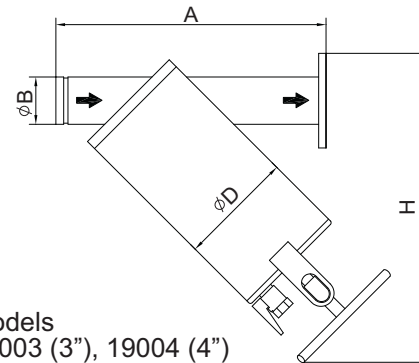
Each filter is equipped with a drain valve located on the cover, and with two pressure testing ports, in order to check head loss between inlet and outlet of the filter without interfering with the water flow.

Available with two end connections: Flange (F), Victaulic (V).

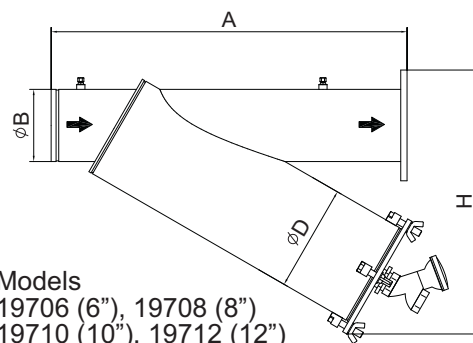
## Dimensions & Weight

### Metric Units

Model	B		D	A	H	T	Weight
	mm	inch	inch	mm	mm	mm	
19003	80	3"	8"	540	600	-	26
19004	100	4"	8"	565	600	-	27
19706	150	6"	10"	750	765	-	53
19708	200	8"	12"	1080	800	-	86
19710	250	10"	14"	1290	825	-	110
19712	300	12"	16"	1395	925	-	165
19903	80	3"	8"	215	680	310	26
19904	100	4"	8"	255	680	310	27
19806	150	6"	10"	292	820	460	45
19808	200	8"	10"	292	1060	570	55
19810	250	10"	14"	333	1115	610	105
19812	300	12"	16"	308	1210	780	152



Models  
19003 (3"), 19004 (4")

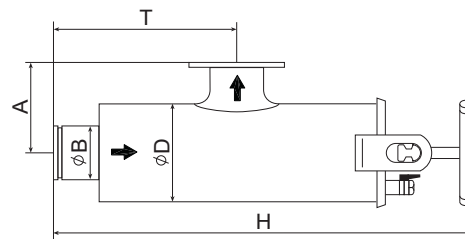


Models  
19706 (6"), 19708 (8")  
19710 (10"), 19712 (12")

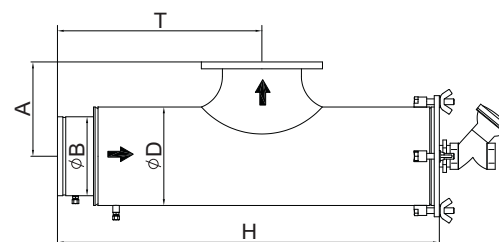
## Dimensions & Weight

### U.S. Units

Model	B	D	A	H	T	Weight
	inch	inch	inch	inch	inch	
19003	3"	8"	21.25	24	-	57
19004	4"	8"	22.25	24	-	59
19706	6"	10"	29.50	30	-	117
19708	8"	12"	42.50	32	-	190
19710	10"	14"	50.75	33	-	243
19712	12"	16"	55	37	-	364
19903	3"	8"	8.5	27	12	57
19904	4"	8"	10	27	12	59
19806	6"	10"	11.5	32	18	99
19808	8"	10"	11.5	42	23	121
19810	10"	14"	13	44	24	232
19812	12"	16"	12	48	31	335



Models 19903 (3"), 19904 (4")



Models 19806 (6"), 19808 (8")  
19810 (10"), 19812 (12")

## Recommended Flow Rates

### Metric Units

Model	Inlet / Outlet Diameter		Recommended Flow Rate
	inch	mm	m <sup>3</sup> /h
19003/19903	3"	80	up to 60
19004/19904	4"	100	up to 100
19706/19806	6"	150	up to 250
19708/19808	8"	200	up to 350
19710/19810	10"	250	up to 500
19712/19812	12"	300	up to 650

### U.S. Units

Model	Inlet / Outlet Diameter		Recommended Flow Rate
	inch		U.S. gpm
19003/19903	3"		up to 260
19004/19904	4"		up to 450
19706/19806	6"		up to 1100
19708/19808	8"		up to 1600
19710/19810	10"		up to 2200
19712/19812	12"		up to 2800

## Technical Data

- Filter screen: stainless-steel.
- Single filter screen.
- Grade of screen: 40 mesh (400 micron).
- Developed specially as a control screen filter after gravel/sand filter arrays.
- Max. recommended working pressure: 8 bar (120 psi).
- Max. pressure: 10 bar (150 psi).
- Horizontal inlet and outlet: models 19003 (3"), 19004 (4"), 19706 (6"), 19708 (8"), 19710 (10"), 19712 (12")
- Horizontal inlet and a vertical outlet at 90°: models 19903 (3"), 19904 (4"), 19806 (6"), 19808 (8"), 19810 (10"), 19812 (12").

## Protective Coating

120 micron extra-durable polyester, applied electrostatically and oven-cured on a zinc-phosphate layer for maximal anti-corrosion protection.

## Pressure Relief Valve

A pressure relief valve must be inserted before the filtering installation if pressure is not controlled effectively.

## End Connections

Flange (F)  
Victaulic (V)

- Each filter is designed and manufactured in order to achieve the highest standard of quality and finish.



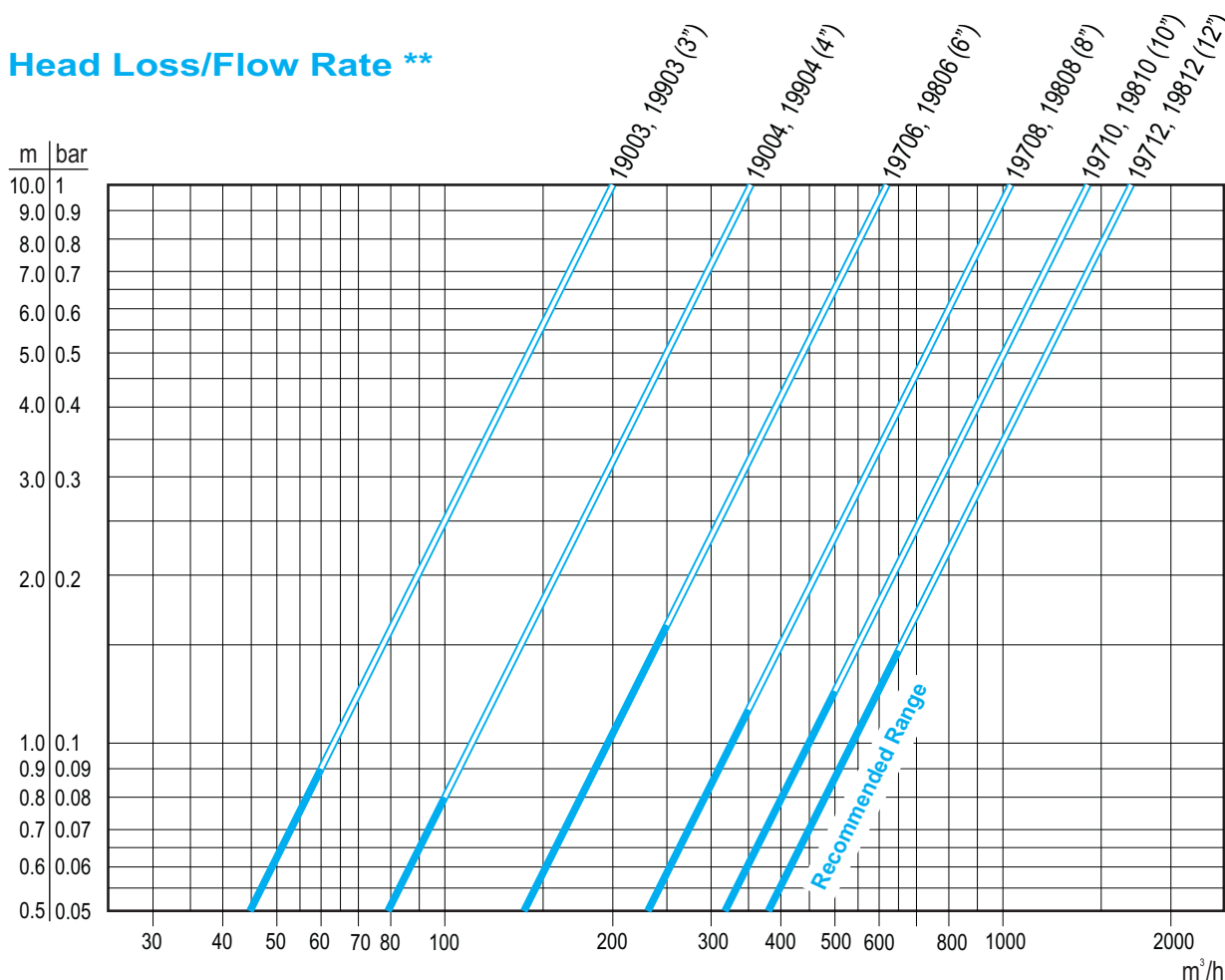
**HEAD LOSS/ FLOW RATE**

**Metric Units**

**Head Loss \*\***

Model	Flow Rate Q (m <sup>3</sup> /h)															
	25	50	100	150	200	250	300	350	400	450	500	600	700	800	900	1000
	Head Loss dP (bar)															
19003/19903 (3")	0.02	0.08	0.31	0.69	1.23											
19004/19904 (4")		0.02	0.08	0.18	0.33	0.51	0.73	1.00								
19706/19806 (6")				0.06	0.10	0.16	0.23	0.31	0.40	0.51	0.63	0.91				
19708/19808 (8")					0.04	0.06	0.08	0.11	0.15	0.18	0.23	0.33	0.44	0.60	0.76	0.94
19710/19810 (10")							0.04	0.06	0.08	0.10	0.12	0.17	0.23	0.32	0.40	0.50
19712/19812 (12")									0.05	0.07	0.08	0.12	0.17	0.22	0.28	0.35

**Head Loss/Flow Rate \*\***



\*\* For a clean filter and 40 mesh screen.

■ 1 bar=100 kPa=1.02 kg/cm<sup>2</sup>=10.2 m (W.C)=14.5 psi

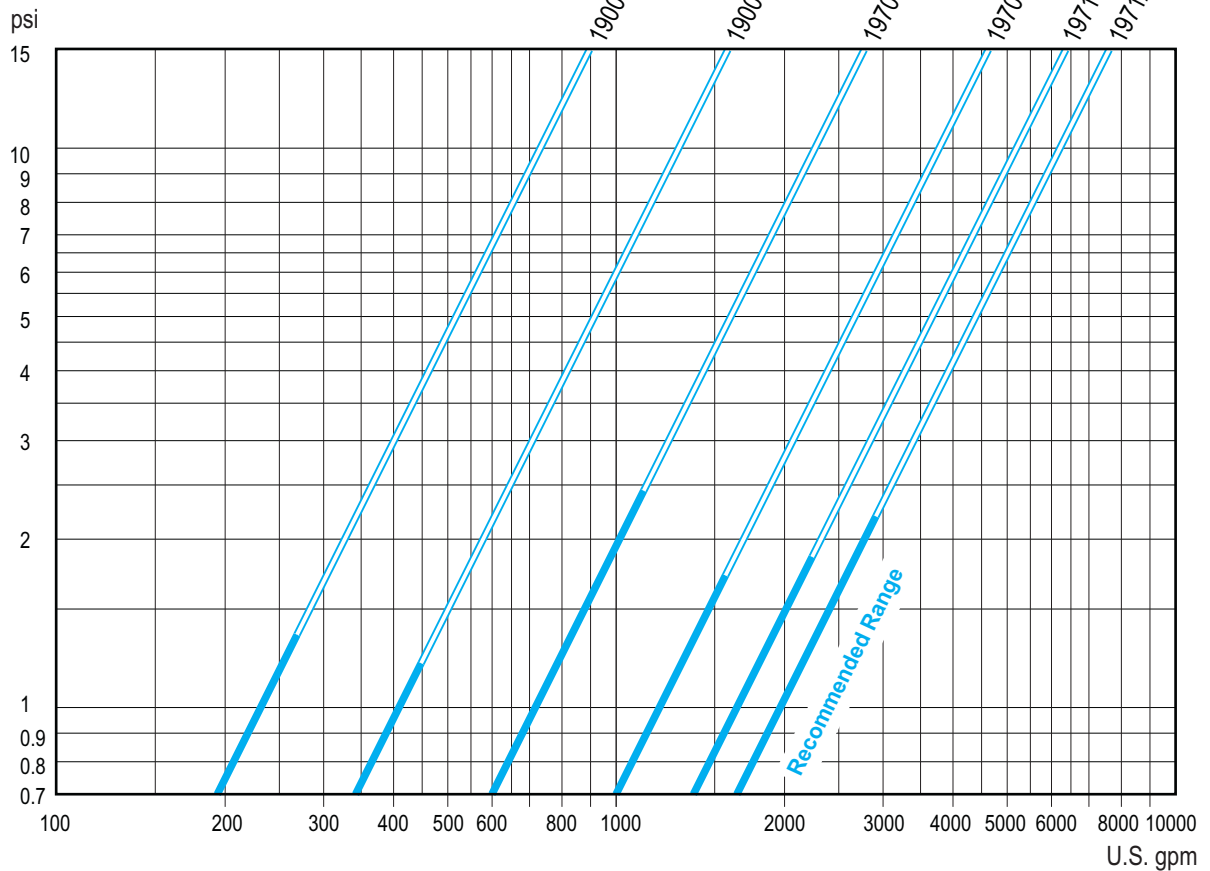
**HEAD LOSS/ FLOW RATE**

**U.S. Units**

**Head Loss \*\***

Model	Flow rate Q (U.S. gpm)															
	125	250	500	750	1000	1250	1500	1750	2000	2250	2500	3000	3500	4000	4500	5000
	Head Loss dP (psi)															
19003/19903 (3")	0.35	1.3	5.1	11.6												
19004/19904 (4")		0.4	1.5	3.4	6.1	9.5	13.7									
19706/19806 (6")			0.5	1.1	1.9	2.9	4.2	5.8	7.5	9.5	11.8					
19708/19808 (8")					0.7	1.1	1.5	2.1	2.7	3.4	4.2	6.1	8.3	11.2	14.2	
19710/19810 (10")						0.6	0.8	1.1	1.4	1.8	2.2	3.2	4.4	6.0	7.6	9.3
19712/19812 (12")							0.6	0.8	1.0	1.3	1.6	2.3	3.2	4.1	5.2	6.4

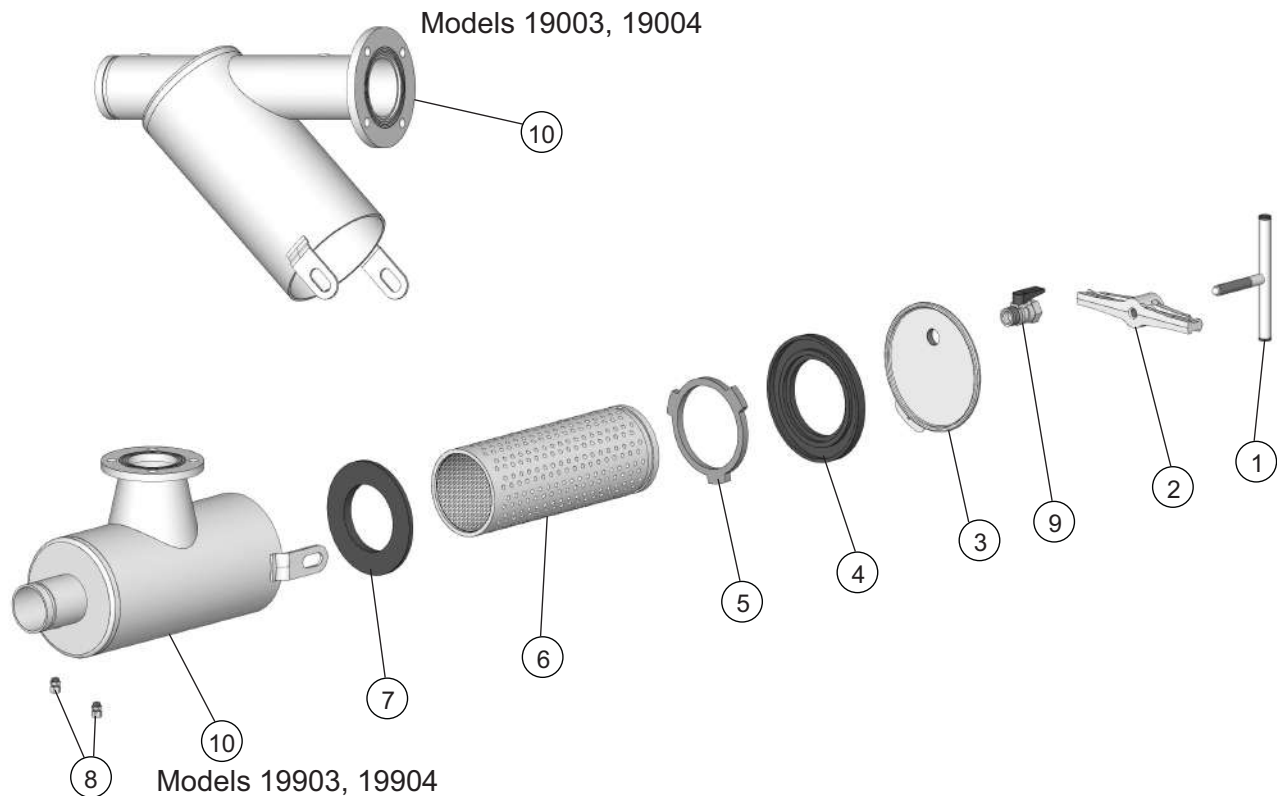
**Head Loss/Flow Rate \*\***



\*\* For a clean filter and 40 mesh screen.

■ 1 psi=0.069 bar=6.9 kPa=0.07 kg/cm<sup>2</sup>=0.7 m (W.C)

**ILLUSTRATED PARTS BREAKDOWN**



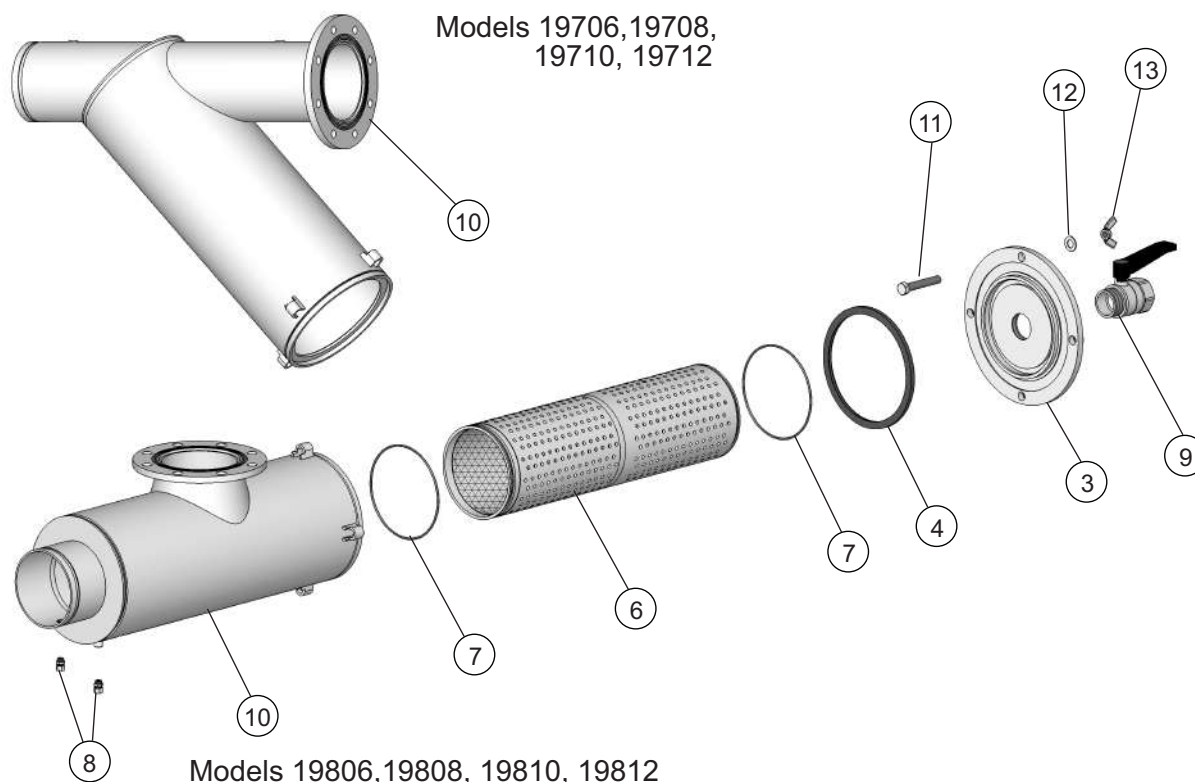
**Catalog Numbers**

Part No.	Description	Model	
		19003 (3") 19903 (3")	19004 (4") 19904 (4")
1	Handle	E 000 100	E 000 100
2	Tightening Bracket	E 000 218	E 000 218
3	Cover	E 400 280	E 400 280
4	Cover Gasket	E 000 930	E 000 930
5	Centering Piece	E 007 391	E 007 391
6	Extra Strong * Filter Screen	E 000 416	E 000 416
7	Inner Gasket	E 003 385	E 003 385
8	Pressure Testing Port	E 000 800	E 000 800
9	Drain Valve	PM 1100010	PM 1100010
10	Filter Body	A 19003	A 19004
		A 19903	A 19904

\* Supplied with a 40 mesh screen.

- Filter contains one extra strong stainless-steel screen.
- Aimed at continued improvement, ODIS reserves the right to change specifications without prior notice.

**ILLUSTRATED PARTS BREAKDOWN**



**Catalog Numbers**

Part No.	Description	Model							
		19806 (6")	19706 (6")	19808 (8")	19708 (8")	19810 (10")	19710 (10")	19812 (12")	19712 (12")
3	Cover	E198340	E198340	E198340	E198400	E197425	E197425	E000360	E000360
4	Cover Gasket	ER02004	ER02004	ER02004	E198120	ER10033	ER10033	E199101	E199101
6	Extra Strong * Filter Screen	E000489	E000489	E198202	E000490	E000492	E000492	E000494	E000494
7	Screen Seal	E198190	E198190	E198190	E197220	E197253	E197253	ER06072	ER06072
8	Pressure Test Port	E000800	E000800	E000800	E000800	E000800	E000800	E000800	E000800
9	Drive Valve	PM1200010	PM1200010	PM1200010	PM1200010	PM1200010	PM1200010	PM1200010	PM1200010
10	Filter Body	A19806	A19706	A 19808	A19708	A19810	A19710	A19812	A19712
11	Bolt	L1616508100U			L1619304100U			L1616508100U	
12	Washer	L200004			L200005			L200004	
13	Wing Nut	L2102508			L2102750			-----	

\* Supplied with a 40 mesh screen.

- Filter contains one extra strong stainless-steel screen.
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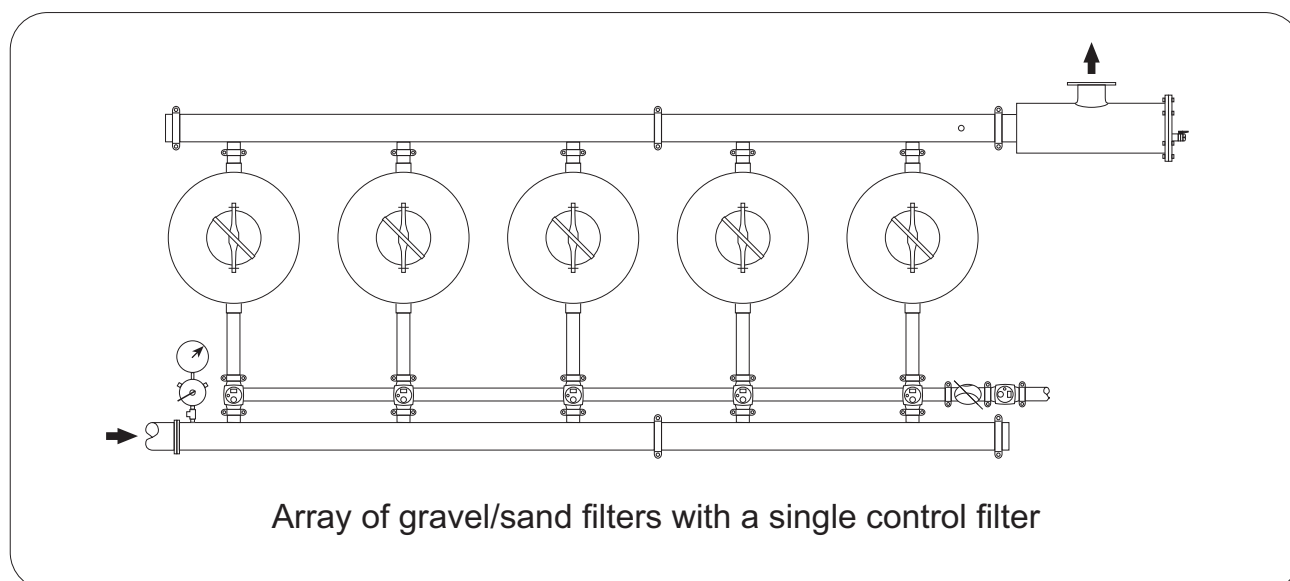
**GENERAL INSTRUCTIONS**

**Operation**

- Normal working conditions are obtained when headloss is less than 0.25 bar (4 psi) with clean filter screen.
- If headloss exceeds 0.25 bar (4 psi) - filter is either partially clogged or operating under an excessive flow rate.
- Maximal operational pressure should not exceed 8 bar (120 psi).
- Filter is designed to withstand a maximum pressure of 10 bar (150 psi).
- Verify headloss by inserting pressure gauge with needle into pressure testing ports, (8) assembled at inlet and outlet of filter.
- If head-loss is 0.7 bar (10 psi), open the drain valve (9) for 10 seconds. Check the head-loss again. If it remains 0.5 bar (7 psi), the screens should be removed for cleaning.

**Installation**

- Install filter according to drawing of array.
- Water inlet and outlet are clearly marked by arrows.
- All filters are supplied with instructions for correct assembly, installation, operation and maintenance.
- Specially designed ODIS manifolds (series 9000), are available for mounting multiple filter arrays.
- A pressure relief valve must be inserted before the filtering installation if pressure is not controlled effectively.





## Manual Flushing

- Manual flushing is performed by simply opening drain valve (9).
- Check time required to reach a headloss of 0.4 bar (6 psi).
- Open drain valve (9) and flush filter for 10-30 seconds.
- Check pressure reading again: headloss should be 0.25 bar (4psi) or less.
- Recommended cleaning of filter and checking of screens: every two weeks or when headloss reaches 0.6 bar (9 psi), and on completion of irrigation.

## Periodic Cleaning

- Close valve at the inlet of the filter or the array.
- Open drain valve (9), to release pressure, leave valve open to drain the filter.
- Remove the filter cover (3), by opening the handle (1) or the bolts or the wing nuts, what ever is applicable, wait until the water stops running from the drain valve.
- Carefully remove screen (6) from the filter body. Removing screen before all the water is drained might cause sediments to penetrate the irrigation system.
- Rinse filter screen thoroughly using clean water. If necessary use bristles brush to remove particles from the screen (**Do not use a wire brush**).

After cleaning, assemble filter as follows:

- Verify that filter screen (6), seals and/or gaskets are intact.
- On models 3" and 4" install the inner gasket (7) on one side of the screen and the centering piece (5) in a special groove on the other side of the screen.
- On models 6", 8" 10" and 12" install the screen seals (7) on both sides of the screen.
- Place the assembly into the filter body (10).
- Place cover gasket (4) so that it fits over filter screen (6) and centers it, place cover (3)
- Mount tightening bracket (2) and tighten handle (1) properly (models 3", 4"), or install bolts or wing nuts and tighten evenly (models 6", 8", 10", 12") what ever is applicable.
- On models with wing nuts, the wing nuts should be finger tight only.

### WARNING:

- **Do not tighten or open cover during operation or under pressure.**

### NOTE:

In the event that a bristle brush does not remove particles from screen, immerse filter screens in acid/alkaline solution.

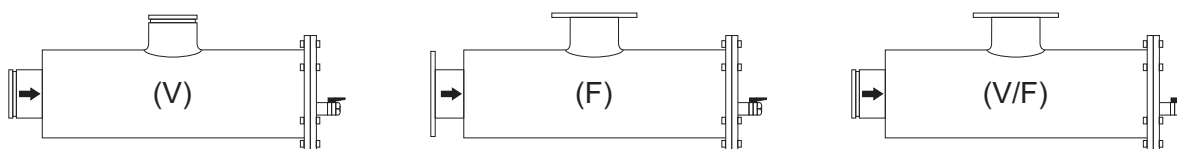
Keep it there for some time then rinse thoroughly.

## Maintenance

- Each filter is supplied with maintenance instructions, as well as assembly, installation and operation instructions.
- Apply a layer of grease to thread of handle (1) (models 3", 4") or bolt threads (models 6", 8", 10", 12" ), once a year.
- Any damage to the protective coating of filter must be repaired without delay. Prior to the application of the protective paint, thoroughly clean the damaged spot with wire brush.

### How To Order Odis Filters

1. Type of filter required.
2. Catalog Number of filter.
3. End connections (the two connections may be different):
  - Flange (F)
  - Victaulic (V)
  - Vic/Flange (V/F)



4. Min./max. pressure.
5. Maximal Flow rate.
6. Additional accessories: Nipples/Valves/Pilots/Relays/Manifolds/Pressure Gauges.
7. Filter arrays: see chapter 1.
8. Other than standard material, required for filter body and cover.
9. Special Coating Requirements.

### PACKING / SHIPPING DATA

#### Metric Units/ U.S. Units

Model	Inlet / Outlet (inch)	Gross* Weight (Kg)	Gross* Weight (lbs)	Packaging	Gross Volume (m <sup>3</sup> )	Gross Volume (cu. ft)
19003	3"	28	62	Packed in a carton	0.070	2.47
19004	4"	29	64	Packed in a carton	0.075	2.57
19706	6"	55	121	Packed in a carton	0.165	5.82
19708	8"	89	196	Packed in a carton	0.255	9.05
19710	10"	130	287	Packed on a pallet	0.370	13.06
19712	12"	185	408	Packed on a pallet	0.530	18.71
19903	3"	28	62	Paced in a carton	0.064	2.3
19904	4"	29	64	Packed in a carton	0.064	2.3
19806	6"	48	106	Packed ia a carton	0.136	4.8
19808	8"	55	121	Packed in a carton	0.215	7.6
19810	10"	125	276	Packed on a pallet	0.310	10.9
19812	12"	172	379	Packed on a pallet	0.530	18.71

\* Gross weight includes packaging materials