

# ODIS

IRRIGATION EQUIPMENT LTD.

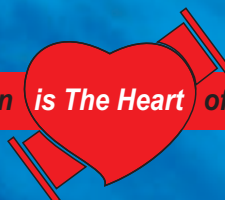
## DISC FILTERS SERIES 1500 2500

### APPLICATIONS

- Used as Control Filter in agriculture
- Specially designed for back-flushing in filter arrays
- For domestic use, construction sites and industry



ODIS Filtration *is The Heart* of Every Irrigation System



**DESCRIPTION**

A water disc filter with grooved plastic discs stacked together to form the filtering element. The effective filtering area is very big because of the special disc's grooves structure. The sediments are stopped on the outer face of the stacked discs and the clean water flows through them out of the filter.

The filters can be cleaned in two ways:

- Manual cleaning, after dismantling and removing the discs stack.
- Backflushing without dismantling the filter, usually in arrays.

Available in the following sizes: 2", 3", 4".

This filter is offered in two options:

- Horizontal inlet/outlet at 90° models 1502 (2"), 1503 (3"),1504 (4").
- Horizontal inlet/outlet at 180° models 2502 (2"), 2503 (3"), 2504 (4").

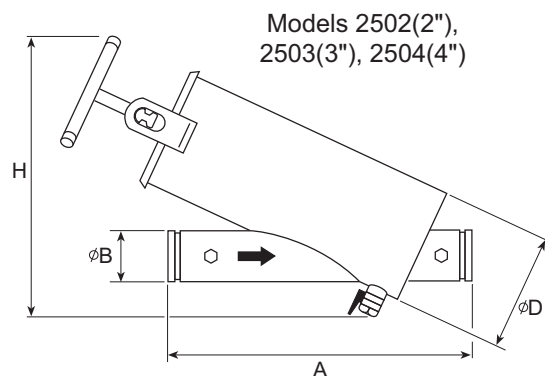
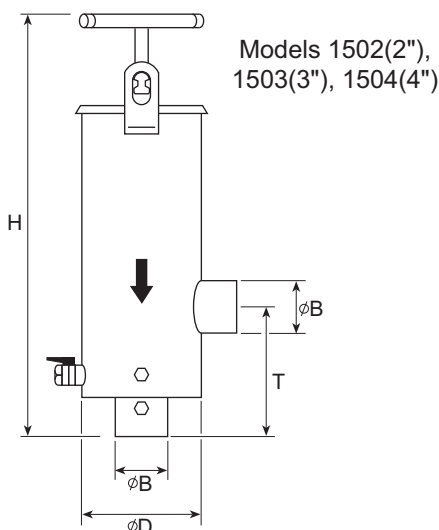
Each filter is equipped with a drain valve located at the bottom of the filter, and with two Pressure Testing Ports, in order to check head loss between inlet and outlet of the filter without interfering with the water flow.

Available with three end connections: Thread (M), Flange (F),Victaulic (V).

The filter has a 100 micron protective coating of extra durable polyester, applied electrostatically and oven cured on a zinc-phosphate layer for maximal anti-corrosion protection.

**Dimensions & Weight** Metric Units / U.S. Units

Model	B		D	A		H		T		Weight	
	mm	inch	inch	mm	inch	mm	inch	mm	inch	kg	lbs
1502	50	2"	8"			540	21	233	9.3	19	41
1503	80	3"	8"			650	25	288	11.3	22	49
1504	100	4"	8"			720	28	330	13	30	65
2502	50	2"	8"	490	19.3	455	18			20	44
2503	80	3"	8"	535	21	540	21			28	62
2504	100	4"	8"	685	27	490	19			33	71



## Recommended Flow Rates

Metric Units/ U.S. Units

Model	Inlet / Outlet Diameter		Filtering Area		Max. Recommended Flow Rate	
	inch	mm	cm <sup>2</sup>	sq. in.	m <sup>3</sup> /h	U.S. gpm
1502	2"	50	1100	171	25	110
1503	3"	80	1610	250	50	220
1504	4"	100	2100	326	80	350
2502	2"	50	1100	171	25	110
2503	3"	80	1610	250	50	220
2504	4"	100	2100	326	80	350

## Technical Data

- Filter element: grooved plastic discs stacked together.
- The filters can be cleaned in two ways:  
Manual cleaning, after dismantling and removing the discs stack.  
Backflushing without dismantling the filter, usually in arrays.
- Maximum recommended working pressure: 8 bar (120 psi).
- Maximum pressure: 10 bar (150 psi).
- Horizontal inlet/outlet at 90° models 1502 (2"), 1503 (3"), 1504 (4").
- Horizontal inlet/outlet at 180° models 2502 (2"), 2503 (3"), 2504 (4").

## Protective Coating

100 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

Thread (M)  
Flange (F)  
Victaulic (V)

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

## Plastic Discs

### Filtering Grades

Disc Color	Mesh Grade	micron
Brown	60	220
Yellow	80	190
Red	120	125
* Black	150	100

\* For finer filtration at lower rates.

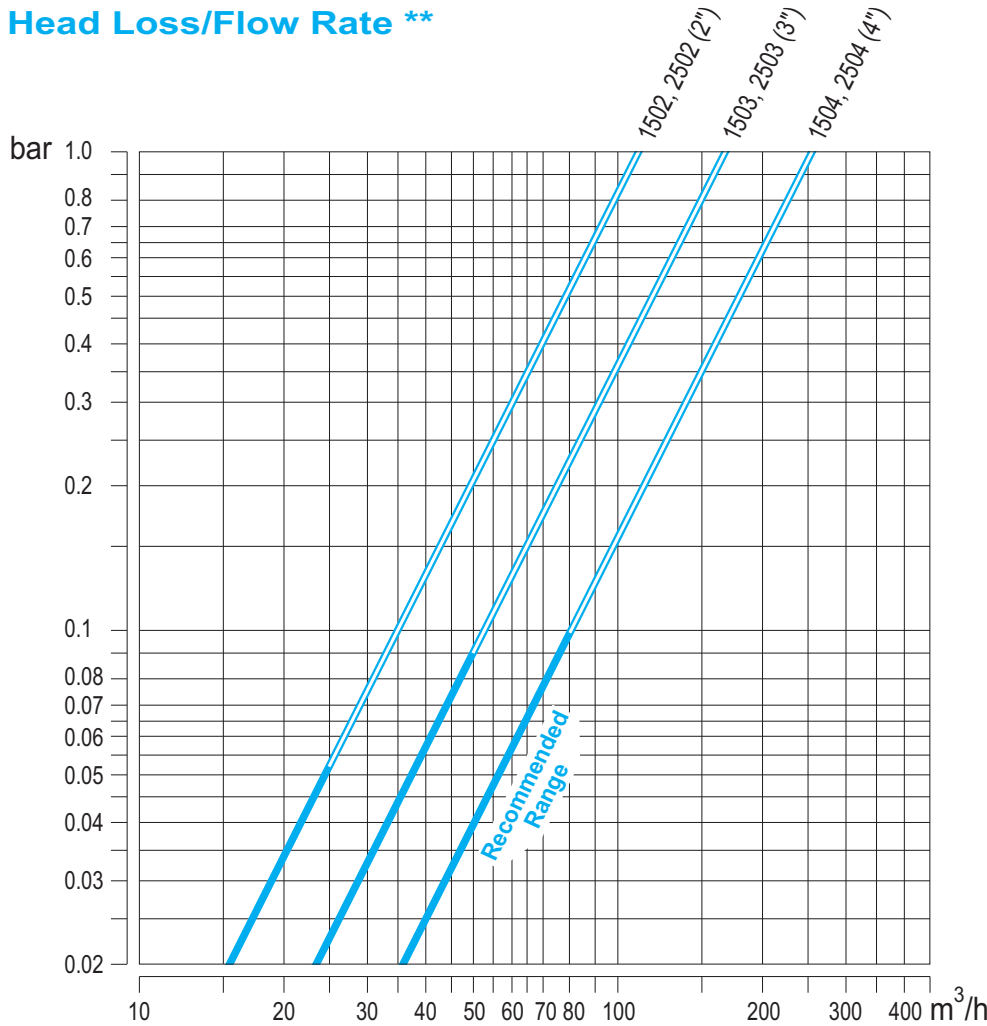
**HEAD LOSS/FLOW RATE**

**Metric Units**

**Head Loss \*\***

Model	Flow Rate Q (m <sup>3</sup> /h)									
	10	20	30	40	50	60	70	80	100	120
Head Loss dP (bar)										
1502, 2502 (2")	0.01	0.03	0.07	0.13	0.21	0.30	0.40	0.53	0.81	
1503, 2503 (3")		0.01	0.03	0.06	0.09	0.12	0.17	0.22	0.35	0.50
1504, 2504 (4")			0.01	0.03	0.04	0.06	0.07	0.10	0.16	0.23

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



\* For a clean filter and 120 mesh discs element.

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

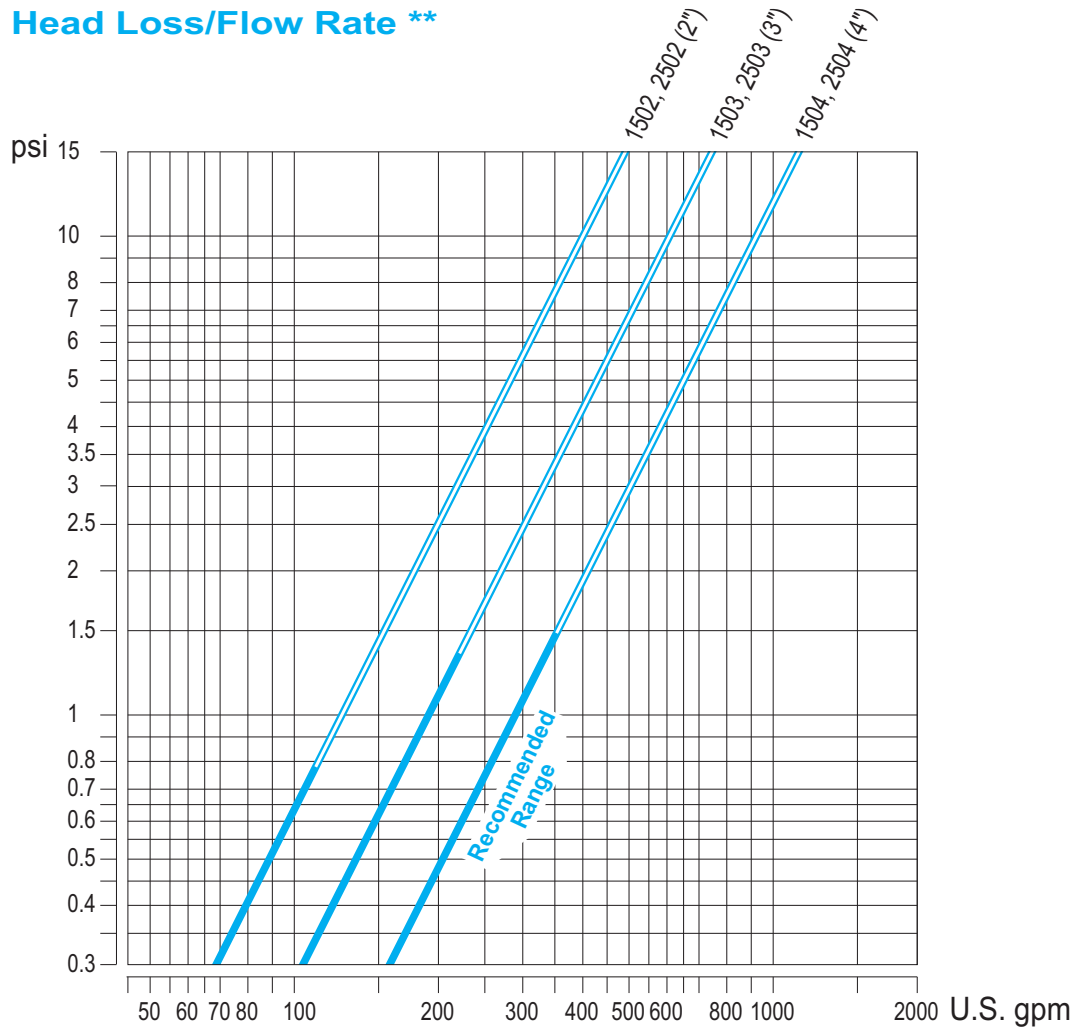
**HEAD LOSS/FLOW RATE**

**U.S. Units**

**Head Loss \*\***

Model	Flow Rate Q (U.S. gpm)											
	50	75	100	150	200	250	300	350	400	450	500	600
	Head Loss dP (psi)											
1502, 2502 (2")	0.15	0.35	0.6	1.3	2.4	3.7	5.3	7.2	9.4	12.0		
1503, 2503 (3")	0.07	0.15	0.3	0.6	1.1	1.7	2.5	3.4	4.4	5.6	6.9	9.9
1504, 2504 (4")		0.07	0.1	0.3	0.5	0.8	1.1	1.5	2.0	2.5	3.1	4.4

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

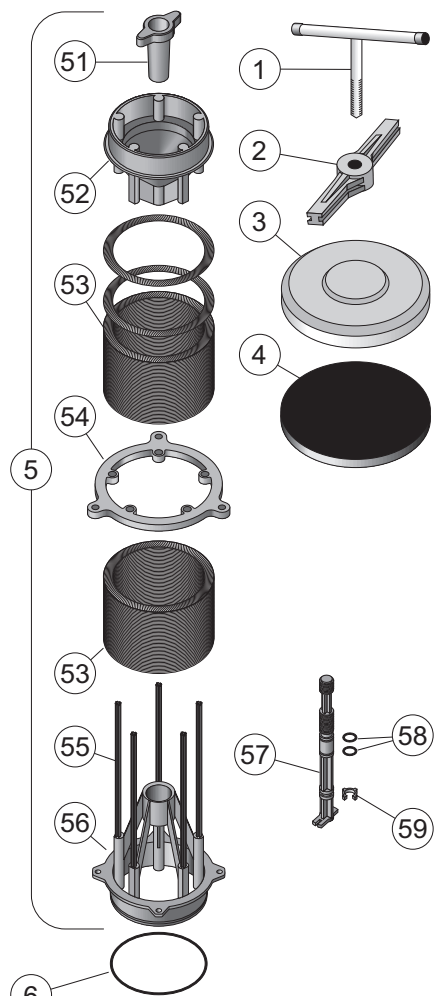


\* For a clean filter and 120 mesh discs element.  
 ■ 1 psi=0.069 bar=6.9 kPa=0.07 kg/cm<sup>2</sup>=0.7 m (W.C)

**ILLUSTRATED PARTS BREAKDOWN**

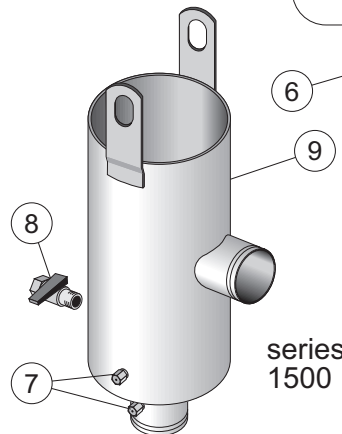
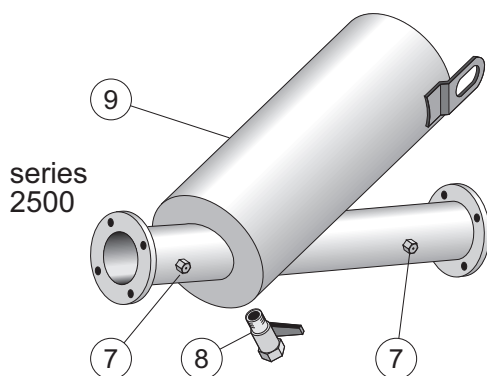
**Catalog Numbers**

Part No.	Description	Model					
		1502 (2")	1503 (3")	1504 (4")	2502 (2")	2503 (3")	2504 (4")
1	Handle	E 000 100	E 000 100	E 000 100	E 000 100	E 000 100	E 000 100
2	Tightening Bracket	E 000 218	E 000 218	E 000 218	E 000 218	E 000 218	E 000 218
3	Cover	E 001 280	E 001 280	E 001 280	E 001 280	E 001 280	E 001 280
4	Cover Gasket	E 150201	E 150201	E 150201	E 150201	E 150201	E 150201
5	Disc Element	E 001502	E 001503	E 002504	E 001502	E 001503	E 002504
5.1	Tightening Nut	E 150215	E 150215	E 150215	E 150215	E 150215	E 150215
5.2	Spine Cover	E 150210	E 150210	E 150210	E 150210	E 150210	E 150210
5.3	Discs *	E 150160	E 150160	E 150160	E 150160	E 150160	E 150160
5.4	Spacer Ring	E 150214	E 150214	E 150214	E 150214	E 150214	E 150214
5.5	Spine Rod	E 150212	E 150312	E 150412	E 150212	E 150312	E 150412
5.6	Spine Base	E 150211	E 150211	E 150211	E 150211	E 150211	E 150211
5.7	Center Bolt	E 150213	E 150313	E 150413	E 150213	E 150313	E 150413
5.8	Center Bolt "O" Ring	E 150801	E 150801	E 150801	E 150801	E 150801	E 150801
5.9	Center Bolt Clamp	E 150216	E 150216	E 150216	E 150216	E 150216	E 150216
6	Spine Base "O" Ring	E 150802	E 150802	E 150802	E 150802	E 150802	E 150802
7	Pressure Testing Port	E 000800	E 000800	E 000800	E 000800	E 000800	E 000800
8	Drain Valve	PM1050120	PM1050120	PM1050120	PM1050120	PM1050120	PM1050120
9	Filter Body	A 1502	A 1503	A 1504	A 2502	A 2503	A 2504



\* When ordering, please specify disc mesh.

■ Aimed at continued improvement, ODIS reserves the right to change specifications without prior notice.



## Operation

- Normal working conditions are obtained when headloss is less than 0.25 bar (4 psi) with clean filter discs.
- 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 (7) assembled at inlet and outlet of filter.

## Installation

- Install filter series 1500 vertically and series 2500 horizontally.
- Water inlet is clearly marked by arrow.
- Drain valve (8) should be at the bottom of the filter.
- If more than one filter is installed, leave sufficient space between units to facilitate maintenance.
- If pressure is not controlled effectively a pressure relief valve must be inserted before the filtering installation.
- 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.

## Periodic Cleaning

- Close valve at the inlet of the filter.
- Open drain valve (8), to release pressure within filter and drain.
- Open filter cover (3) and remove the filter element.
- Open the tightening nut (51) counterclockwise till loose, then rinse the discs thoroughly.
- Verify that filter discs are undamaged.
- Verify that the O-Ring is in position.
- Close the tightening nut (51) clockwise.
- Replace filter element carefully into filter housing.
- Place cover (3) on filter housing, so that cover fits over filter disc element and centers it.
- Mount tightening bracket (2) and tighten handle (1) properly.
- Check pressure reading again: headloss should be 0.25 bar (4 psi) or less.
- Recommended cleaning of filter and checking of discs: every two weeks or when headloss reaches 1.0 bar (15 psi) and on completion of irrigation.

### WARNING:

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

### NOTE:

In the event that the rinsing does not remove particles from discs, immerse filter discs in acid/alkaline solution. Keep them there for some time then rinse thoroughly.

## Maintenance

- Apply a layer of grease to thread of handle (1) 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.

## PACKING / SHIPPING DATA

### Metric Units

Model	Inlet / Outlet (inch)	Weight (kg)	Filter per Carton	Length (m)	Width (m)	Height (m)	Gross Volume (m <sup>3</sup> )
1502	2"	19	1	0.54	0.30	0.30	0.049
1503	3"	22	1	0.68	0.30	0.30	0.061
1504	4"	30	1	0.82	0.28	0.28	0.064
2502	2"	20	1	0.66	0.54	0.22	0.078
2503	3"	28	1	0.66	0.54	0.22	0.078
2504	4"	33	1	0.87	0.57	0.29	0.144

### U.S. Units

Model	Inlet / Outlet (inch)	Weight (lbs)	Filter per Carton	Length (inch)	Width (inch)	Height (inch)	Gross Volume (cu.ft)
1502	2"	41	1	21 <sup>1</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>4</sub>	1.73
1503	3"	49	1	26 <sup>3</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>4</sub>	2.16
1504	4"	65	1	32 <sup>1</sup> / <sub>4</sub>	11	11	2.26
2502	2"	44	1	26	21 <sup>1</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>4</sub>	2.78
2503	3"	62	1	26	21 <sup>1</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>4</sub>	2.78
2504	4"	71	1	34 <sup>1</sup> / <sub>4</sub>	22 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	5.10

## How To Order Odis Filters

1. Type of filter required.
2. Catalog Number of filter.
3. Preferred mesh grade.
4. End connections: Thread (M)  
Flange (F)  
Victaulic (V)
5. Min./max. pressure.
6. Maximal Flow rate.
7. Additional accessories: Nipples/Valves/Pilots/Relays/Manifolds/Pressure Gauges.
8. Filter arrays: see chapter 1.
9. Other than standard material, required for filter body and cover.
10. Special Coating Requirements.