

SCREEN FILTERS – Series 2000 & 2200

GENERAL INSTRUCTIONS

This filter has been designed and manufactured to achieve the highest standards of quality and finish. It is mainly used as a control filter in agriculture and turf, and is suitable for filtering small quantities of impurities at higher flow rates.

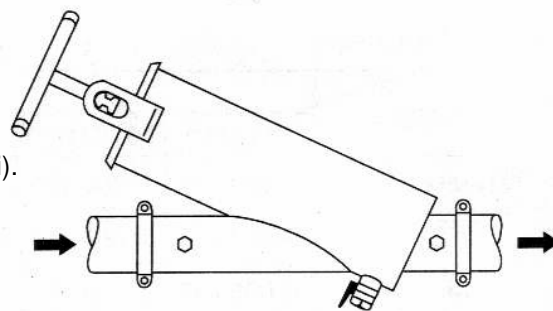
For best results, the filter must be installed, operated and maintained according to the following instructions.

INSTALLATION

- Install filter horizontally with its body pointing upwards, drain valve (9) should point downwards.
- Water inlet and outlet are marked clearly by arrows.
- If more than one filter is installed, leave sufficient space between the units to facilitate the maintenance.
- Specially designed **ODIS** manifolds (series 9000) are available for mounting multiple filter arrays.
- If pressure is not controlled effectively a pressure relief valve must be installed before filter's installation.

OPERATION

- Maximal operational pressure should not exceed 8 bar (120 psi).
- Filter is designed to withstand a maximum pressure of 10 bar (150 psi).
- Normal working conditions are obtained when the head-loss is less than 0.25 bar (4 psi), with clean screens.
- If head-loss exceeds 0.25 bar (4 psi), filter is partially clogged or operating under an excessive flow-rate.
- Verify head-loss by inserting a needle pressure gauge into pressure testing ports (8), at the filter's inlet and outlet.
- 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.



Warning: Do not tighten or open cover during operation or under pressure.

MANUAL FLUSHING

- Manual flushing is performed simply by opening drain valve (9) located at the filter's bottom.
- Check time required to reach a head-loss of 0.4 bar (6 psi).
- Open drain valve and flush filter for 10-30 seconds.
- Check pressure reading again, head loss should be 0.25 bar (4 psi) or less. If pressure remains above 0.5 bar (7psi), screens should be removed for cleaning.

PERIODIC CLEANING

- Close filter's inlet valve.
- Open drain valve (9), to release pressure and leave valve open to drain the filter.
- Remove filter's cover (3), by releasing the handle (1) or wing nuts whatever the model is. Wait until water stops running from drain valve (9).
- Remove screens (5, 6) with carefullly. Removing screens before all the water is drained may cause sediments to penetrate the irrigation system.
- Recommended cleaning of filter and checking of screens: every two weeks or when head-loss reaches bar (15 psi), and on completion of irrigation.

NOTE: If a bristle brush does not remove particles from screens, immerse screens in an acid/alkaline solution for some time, then rinse it thoroughly. Recommended solution: 1% - 2% Hydrochloric Acid (HCl), or 5% Sodium Hydroxide (NaOH).

WARNING: Chemicals manufacturer's safety instructions should be read before the using chemicals .

- Verify that filter's screens are intact.
- On models 2010-2040 verify that inner gasket (7) is placed with cutout, next to the drain valve (9).
- On models 2260-2280 verify that screen seals (11) are intact.
- Place screens (5, 6) carefully into filter's body.
- Verify that top of both screens are leveled with top of filter's body. Place cover (3), so that cover's gasket (4) fits over the screens and centers them.
- Mount tightening bracket (2) and tighten the handle (1) or the wing nuts whatever the model is.

END OF IRRIGATION SEASON

- Perform all the instructions in the section “Periodic cleaning”. Dry filter till next season.

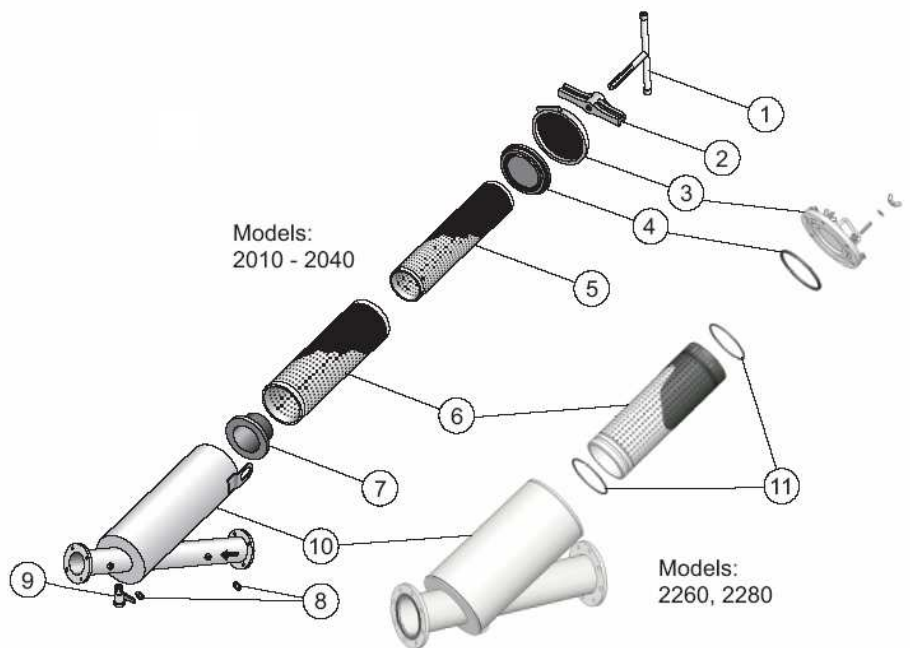
MAINTENANCE

- Each filter is supplied with instructions for maintenance, installation and operation.
- Apply a layer of grease to the handle’s (1) threads or the bolts, once a year.
- Any damage to filter’s protective coating must be repaired at once. Prior to the application of the protective paint, clean thoroughly the damaged area with a wire brush.



ILLUSTRATED PARTS BREAKDOWN

Recommended Flow Rate				
Model	Inlet / outlet Diameter		Recommended Flow rate- up to...	
	inch	mm	m ³ / h	US gpm
2010	1	25	7	31
2015	1½	40	15	65
2020	2	50	30	130
2030	3	80	40	180
2040	4	100	80	350
2260	6	150	180	800
2280	8	200	300	1320



CATALOG NUMBERS

Part no.	Description	Model						
		2010 (1")	2015 (1.5")	2020 (2")	2030 (3")	2040 (4")	2260 (6")	2280 (8")
1	Handle	E 000101	E 000101	E 000100	E 000100	E 000100	-	-
2	Tightening bracket	E 000214	E 000214	E 000216	E 000216	E 000218	-	-
3	Cover	E 000240	E 000240	E 000260	E 000260	E 000280	E 220291	E 220291
4	Cover gasket	E 001340	E 001340	E 001360	E 001361	E 001380	ER 02004	ER 02004
5	Inner screen*	-	-	E 000401	E 000404	E 000405	-	-
6	Outer screen*	E 000434	E 000401	E 000411	E 000412	E 000413	E 220425	E 220426
7	Inner gasket	E 001345	E 001345	E 001365	E 001366	E 001385	-	-
8	Pressure testing port	-	E 000800	E 000800	E 000800	E 000800	E 000800	E 000800
9	Drain valve	PM 1050120	PM 1050120	PM 1075020	PM 1075020	PM 1075020	PM 1150010	PM 1150010
10	Filter body	A 2010	A 2015	A 2020	A 2030	A 2040	A 2260	A 2280
11	Screen Seal	-	-	-	-	-	ER02025	ER02025

- When ordering screen, please specify screen mesh or “micron”.
- When ordering Filter body, please specify end connections: Thread (M)/ Flange (F)/ Victaulic (V).
- Models 2010, 2015, 2260, 2280 contains one screen only.

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ODIS

IRRIGATION EQUIPMENT LTD.

SCREEN WATER FILTERS

SERIES

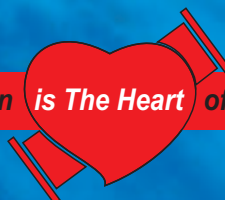
2000

APPLICATIONS

- Used as Control Filter in agriculture.
- Adapted for filtering small quantities of impurities at higher flow rates.
- For domestic use, construction sites and industry.



ODIS Filtration *is The Heart* of Every Irrigation System



DESCRIPTION

A water screen filter with two stainless steel screens for added safety. The filter has a horizontal inlet and outlet, for in-line installation and has an oblique body.

Available in the following sizes: 1", 1½", 2", 3", 4", 6", 8". Each filter is equipped with a drain valve at the bottom of the filter body 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.

Filters contain two filter screens or one (see Technical Data).

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

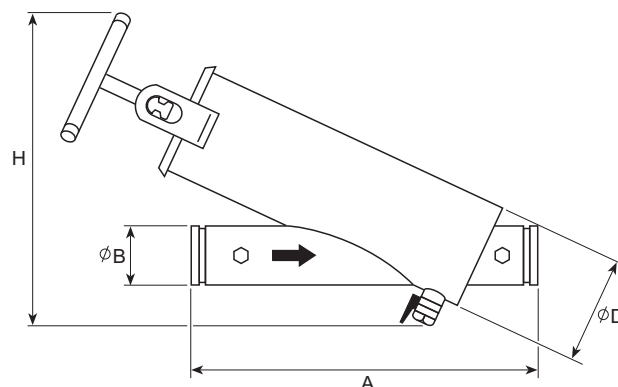
Model	B		D	A*	H	Weight kg
	mm	inch	inch	mm	mm	
2010	25	1"	4"	250	320	5.5
2015	40	1½"	4"	340	370	7
2020	50	2"	6"	470	460	15
2030	80	3"	6"	555	520	27
2040	100	4"	8"	685	620	42
2260	150	6"	12"	890	680	72
2280	200	8"	12"	1100	780	91

* For Flange connection, dimension increases by 10 mm

U.S. Units

Model	B	D	A*	H	Weight lbs
	inch	inch	inch	inch	
2010	1"	4"	9.7	13	12
2015	1½"	4"	13.3	15	15
2020	2"	6"	18.5	18	33
2030	3"	6"	22	21	60
2040	4"	8"	27	25	92
2260	6"	12"	35	27	159
2280	8"	12"	43	31	200

* For Flange connection, dimension increases by 0.39 inch



Recommended Flow Rates

Metric Units

Model	Inlet / Outlet Diameter		Recommended Flow Rate
	mm	inch	m ³ /h
2010	25	1"	up to 7
2015	40	1½"	up to 15
2020	50	2"	up to 30
2030	80	3"	up to 40
2040	100	4"	up to 80
2260	150	6"	up to 180
2280	200	8"	up to 300

U.S. Units

Model	Inlet / Outlet Diameter	Recommended Flow Rate
	inch	U.S. gpm
2010	1"	up to 31
2015	1½"	up to 65
2020	2"	up to 130
2030	3"	up to 180
2040	4"	up to 350
2260	6"	up to 800
2280	8"	up to 1320

Technical Data

- Filter screen: stainless-steel.
- Single filter screen: Models 2010 (1"), 2015 (1½"), 2260 (6"), 2280 (8").
- Double filter screen: Models 2020 (2"), 2030 (3"), 2040 (4").
- Max. recommended working pressure: 8 bar (120 psi).
- Max. pressure: 10 bar (150 psi).
- Horizontal water inlet/outlet at 180°.

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.

HEAD LOSS/ FLOW RATE

Metric Units

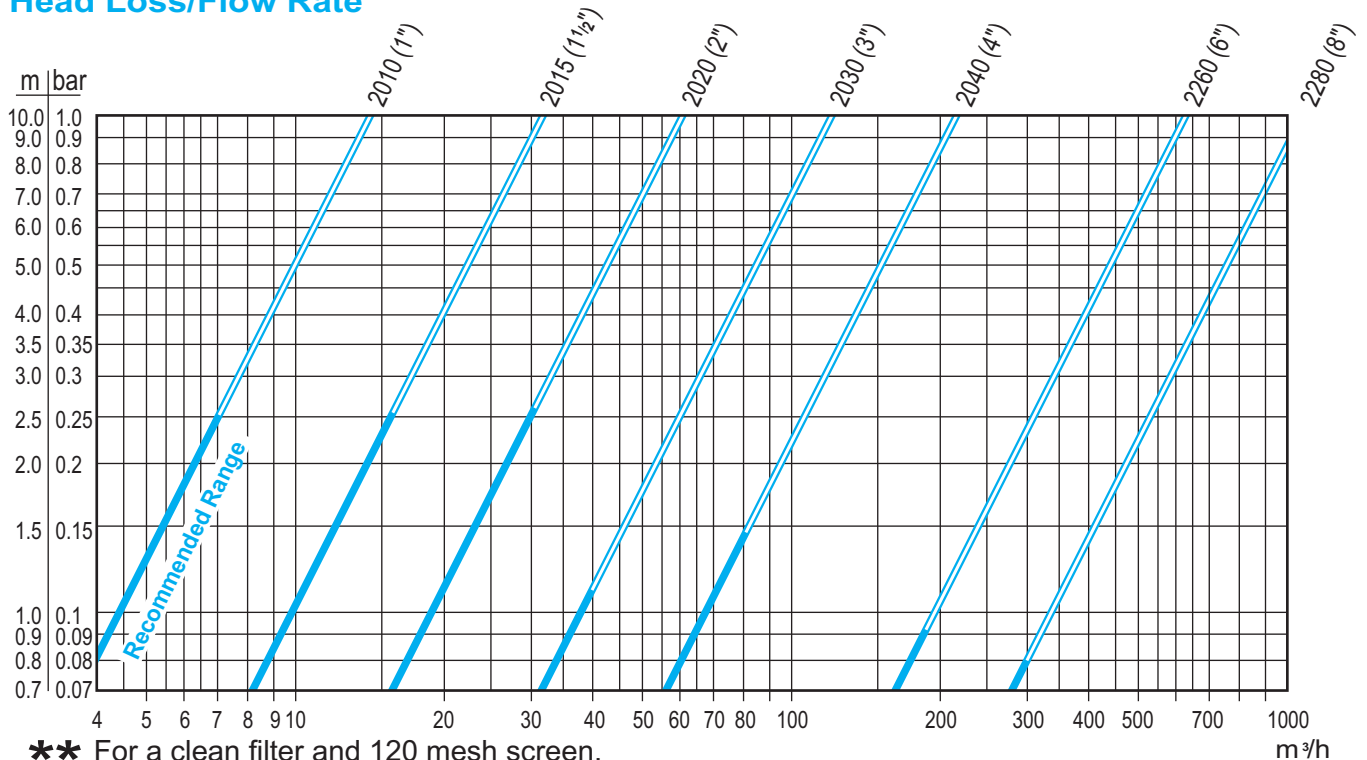
Head Loss **

Model	Flow Rate Q (m ³ /h)											
	2.5	5	7.5	10	15	20	25	30	35	40	50	60
	Head Loss dP (bar)											
2010 (1")	0.03	0.12	0.27	0.48	1.07							
2015 (1½")			0.06	0.10	0.23	0.42	0.65	0.94	1.27			
2020 (2")					0.06	0.11	0.17	0.24	0.33	0.43	0.67	0.97

Head Loss **

Model	Flow Rate Q (m ³ /h)																	
	30	40	50	60	80	100	120	140	160	180	200	220	240	300	350	400	450	500
	Head Loss dP (bar)																	
2030 (3")	0.06	0.11	0.17	0.25	0.44	0.69	1.00											
2040 (4")			0.05	0.08	0.14	0.22	0.31	0.42	0.55	0.70	0.87	1.05						
2260 (6")						0.03	0.04	0.05	0.07	0.08	0.10	0.13	0.15					
2280 (8")								0.02	0.03	0.03	0.04	0.04	0.05	0.08	0.11	0.14	0.18	0.22

Head Loss/Flow Rate **



** For a clean filter and 120 mesh screen.

■ 1 bar=100 kPa=1.02 kg/cm² =10.2 m (W.C)=14.5 psi

HEAD LOSS/ FLOW RATE

U.S. Units

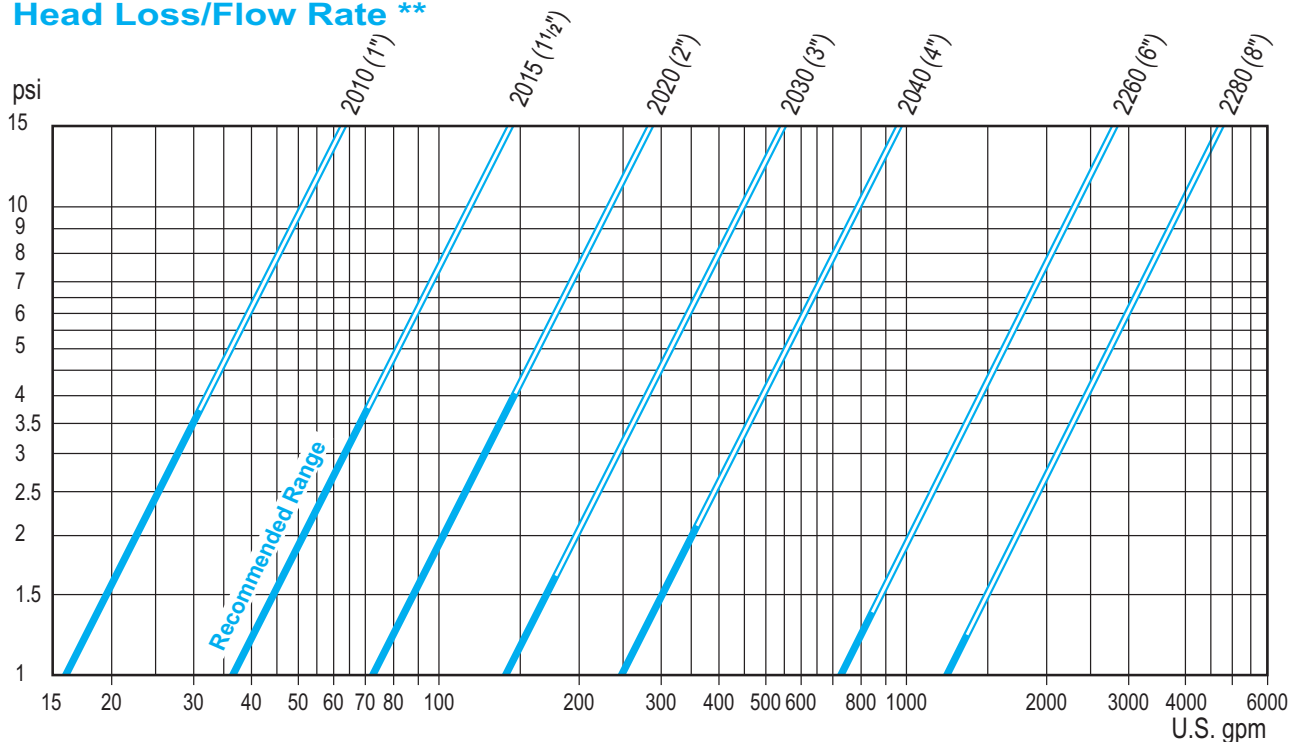
Head Loss **

Model	Flow Rate Q (U.S. gpm)														
	10	20	30	40	50	60	75	100	125	150	175	200	225	250	275
	Head Loss dP (psi)														
2010 (1")	0.4	1.4	3.2	5.7	8.9	12.8	20.0								
2015 (1½")			0.7	1.2	1.9	2.8	4.4	7.8	12.2	17.5					
2020 (2")						0.7	1.1	2.0	3.1	4.5	6.2	8.0	10.2	12.6	15.2

Head Loss **

Model	Flow Rate Q (U.S. gpm)																			
	100	150	200	250	300	350	400	450	500	550	600	700	800	900	1000	1200	1400	1600	1800	2000
	Head Loss dP (psi)																			
2030 (3")	0.5	1.2	2.1	3.2	4.7	6.4	8.3	10.5	13.0	15.7										
2040 (4")			0.6	1.0	1.5	2.0	2.6	3.3	4.0	4.9	5.8	7.9	10.4	13.1	16.2					
2260 (6")									0.5	0.6	0.7	1.0	1.2	1.6	1.9	2.8	3.8	5.0		
2280 (8")											0.24	0.33	0.43	0.54	0.67	0.97	1.3	1.7	2.2	2.7

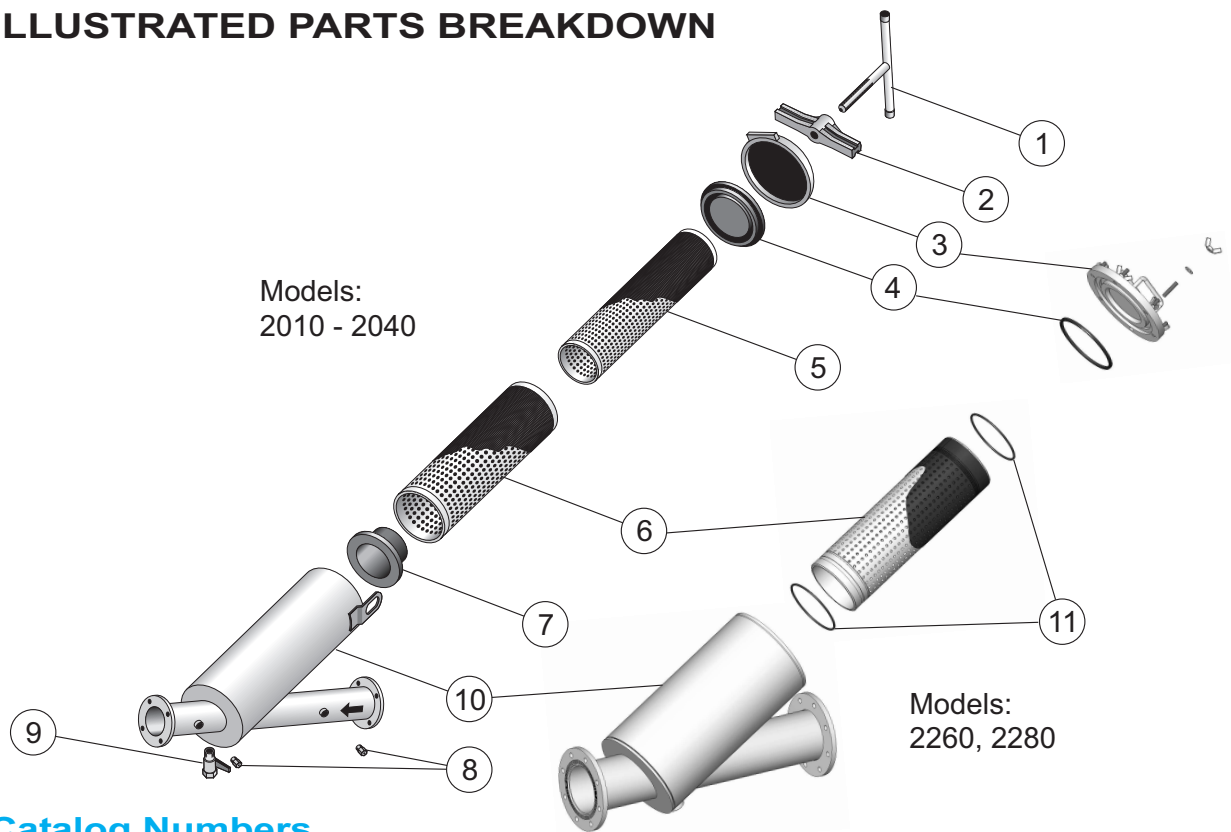
Head Loss/Flow Rate **



** For a clean filter and 120 mesh screen.

■ 1 psi=0.069 bar=6.9 kPa=0.07 kg/cm² =0.7 m (W.C)

ILLUSTRATED PARTS BREAKDOWN



Catalog Numbers

Part No.	Description	Model						
		2010 (1")	2015 (1½")	2020 (2")	2030 (3")	2040 (4")	2260 (6")	2280 (8")
1	Handle	E 000 101	E 000 101	E 000 100	E 000 100	E 000 100	-	-
2	Tightening Bracket	E 000 214	E 000 214	E 000 216	E 000 216	E 000 218	-	-
3	Cover	E 000 240	E 000 240	E 000 260	E 000 260	E 000 280	E 220 291	E 220 291
4	Neoprene Cover Gasket	E 001 340	E 001 340	E 001 360	E 001 361	E 001 380	ER02004	ER02004
5	Inner * Filter Screen	-	-	E 000 401	E 000 404	E 000 405	-	-
6	Outer * Filter Screen	E 000 434	E 000 401	E 000 411	E 000 412	E 000 413	E 220 425	E 220 426
7	Neoprene Inner Gasket	E 001 345	E 001 345	E 001 365	E 001 366	E 001 385	-	-
8	Pressure Testing Port	-	E 000 800	E 000 800	E 000 800	E 000 800	E 000 800	E 000 800
9	Drain Valve	PM1050120	PM1050120	PM1075020	PM1075020	PM1075020	PM1150010	PM1150010
10	Filter Body	A2010	A2015	A2020	A2030	A2040	A2260	A2280
11	Screen Seal	-	-	-	-	-	ER02025	ER02025

*** When ordering, please specify screen mesh.**

■ Models 2010, 2015, 2260, 2280 contains one filter screen only.

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

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 horizontally with body pointing upwards.
- Water inlet and outlet are clearly marked by arrow.
- Drain valve (9) should point downwards.
- If more than one filter is installed, leave sufficient space between units to facilitate maintenance.
- 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 (see chapter 1).
- 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) located at filter bottom.
- 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.

Periodic Cleaning

- Recommended cleaning of filter and checking of screens: every two weeks or when headloss reaches 1.0 bar (15 psi), and on completion of irrigation.
- Close valve at the inlet of the filter.
- Open drain valve (9), to release pressure within filter and drain.
- Open handle (1), release tightening bracket (2) and remove filter's cover (3), wait until water stops running from drain valve (9).
On models 2260 (6") and 2280 (8") open wing nuts to remove filter's cover (3).
- Gently remove filter screens (5,6).
- Rinse filter screens (5,6) thoroughly with clean water, using a brush to remove particles from screen (**do not use a wire brush**).
- Keep water level below collar of gasket to prevent contaminated water from entering the network.
- After cleaning, assemble filter as follows:
 - Verify that filter screens are intact and undamaged.
 - Verify that inner gasket (7) is in position with the cutout next to the drain valve (9).
On models 2260 (6") and 2280 (8") verify that screen seals (11) are intact.
 - Replace filter screens (5,6) carefully into the filter housing.
 - Ensure tops of both filter screens are leveled with top of filter housing.
 - Place cover (3) on filter housing, so that cover gasket (4) fits over filter screens and centers them.
- Mount tightening bracket (2) and handle (1), fasten and secure it properly.
On models 2260 (6") and 2280 (8") close wing nuts and secure them properly.

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) 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.

Stainless Steel Filter Screen

Filtering Grades

Mesh Grade	mm	micron	Effective Filtering Area (%)
40	0.435	435	47
60	0.225	225	31
80	0.178	178	31
100	0.139	139	30
120	0.122	122	33
140*	0.112	112	37
160*	0.094	94	35
200*	0.072	72	32

NOTES:

- Filters models 2020, 2030, 2040 are supplied with one or two screens.
- Filters models 2010, 2015, 2260, 2280 are supplied with one screen only.
- * Mesh grades 140, 160, 200 on special request.

How To Order Odis Filters

1. Type of filter required.
2. Catalog Number of filter.
3. Preferred mesh grade.
4. No. of screens for models 2020 (2"), 2030 (3"), 2040 (4").
5. End connections: Thread (M)
Flange (F)
Victaulic (V)
6. Min. /max. pressure.
7. Maximal Flow rate.
8. Additional accessories: Nipples/Valves/Pilots/Relays/Manifolds/Pressure Gauges.
9. Filter arrays: see chapter 1.
10. Other than standard material, required for filter body and cover.
11. Special Coating Requirements.

Filter Catalog Numbers

Model	Thread (M)	Flange (F)	Victaulic (V)
2010 (1")	2010 M - Male		
2015 (1½")	2015 M - Female		2015 V
2020 (2")	2020 M - Female	2020 F	2020 V
2030 (3")	2030 M - Female	2030 F	2030 V
2040 (4")		2040 F	2040 V
2260 (6")		2260 F	2260 V
2280 (8")		2280 F	2280 V

PACKING / SHIPPING DATA
Metric Units

Model	Inlet / Outlet (inch)	Weight (kg)	Filter per carton	Length (m)	Width (m)	Height (m)	Gross Volume (m ³)
2010	1"	5.5	1	0.48	0.24	0.24	0.028
2015	1½"	7.0	1	0.48	0.24	0.24	0.028
2020	2"	15.0	1	0.65	0.35	0.23	0.052
2030	3"	27.0	1	0.66	0.54	0.22	0.078
2040	4"	42.0	1	0.87	0.57	0.29	0.144
2260	6"	72.0	1	0.95	0.75	0.40	0.280
2280	8"	91.0	1	1.10	0.76	0.42	0.350

U.S. Units

Model	Inlet / Outlet (inch)	Weight (lbs)	Filter per carton	Length (inch)	Width (inch)	Height (inch)	Gross Volume (cu.ft)
2010	1"	12	1	19	10	10	1.00
2015	1½"	15	1	19	10	10	1.00
2020	2"	33	1	26	14	10	1.84
2030	3"	60	1	26	22	9	2.78
2040	4"	92	1	34	23	12	5.10
2260	6"	159	1	38	30	16	10.00
2280	8"	200	1	43	31	17	12.35