

# ODIS

IRRIGATION EQUIPMENT LTD.

## SCREEN WATER FILTERS

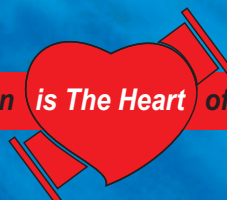
### SERIES 2000

#### 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).

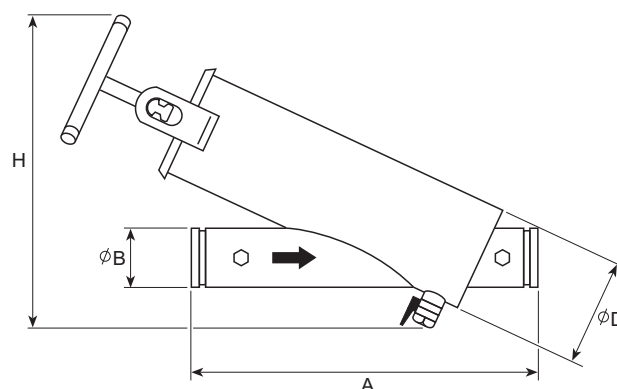
Available with three end connections: Thread (M), Flange (F), Victaulic (V).

The filter has a 120 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   |      | Weight |     |
|-------|-----|------|------|------|------|-----|------|--------|-----|
|       | mm  | inch | inch | mm   | inch | mm  | inch | kg     | lbs |
| 2010M | 25  | 1"   | 4"   | 320  | 12.6 | 340 | 13.4 | 5.5    | 12  |
| 2015M | 40  | 1½"  | 4"   | 330  | 13.0 | 380 | 15.0 | 7      | 15  |
| 2020M | 50  | 2"   | 6"   | 470  | 18.5 | 465 | 18.3 | 15     | 33  |
| 2020V | 50  | 2"   | 6"   | 465  | 18.3 | 465 | 18.3 | 15     | 33  |
| 2020F | 50  | 2"   | 6"   | 475  | 18.7 | 465 | 18.3 | 18     | 40  |
| 2030M | 80  | 3"   | 6"   | 585  | 23.0 | 530 | 20.9 | 27     | 60  |
| 2030V | 80  | 3"   | 6"   | 545  | 21.5 | 530 | 20.9 | 27     | 60  |
| 2030F | 80  | 3"   | 6"   | 555  | 21.9 | 530 | 20.9 | 31     | 68  |
| 2040V | 100 | 4"   | 8"   | 680  | 26.8 | 640 | 25.2 | 42     | 92  |
| 2040F | 100 | 6"   | 8"   | 690  | 27.2 | 640 | 25.2 | 48     | 106 |
| 2060V | 150 | 6"   | 12"  | 890  | 35.0 | 705 | 27.8 | 72     | 159 |
| 2060F | 150 | 6"   | 12"  | 900  | 35.5 | 705 | 27.8 | 82     | 180 |
| 2080V | 200 | 8"   | 12"  | 1100 | 43.3 | 810 | 31.9 | 91     | 200 |
| 2080F | 200 | 8"   | 12"  | 1110 | 43.7 | 810 | 31.9 | 105    | 231 |



## Recommended Flow Rates

### Metric Units

| Model | Inlet / Outlet Diameter |      | Recommended Flow Rate |
|-------|-------------------------|------|-----------------------|
|       | mm                      | inch | m <sup>3</sup> /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

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

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**

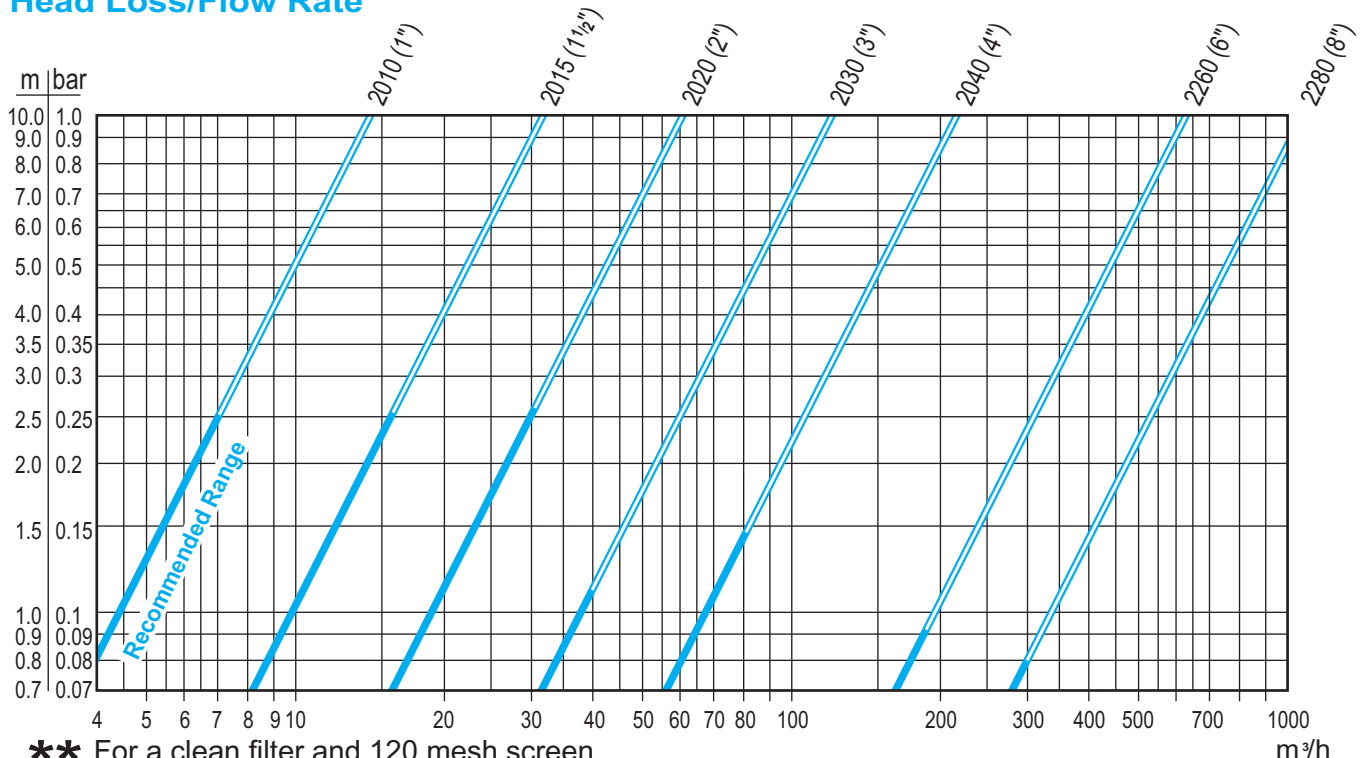
**Head Loss \*\***

| Model      | Flow Rate Q (m <sup>3</sup> /h) |      |      |      |      |      |      |      |      |      |      |      |
|------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|
|            | 2.5                             | 5    | 7.5  | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 50   | 60   |
| 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 <sup>3</sup> /h) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           | 30                              | 40   | 50   | 60   | 80   | 100  | 120  | 140  | 160  | 180  | 200  | 220  | 240  | 300  | 350  | 400  | 450  | 500  |
| 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/cm<sup>2</sup> =10.2 m (W.C)=14.5 psi

**HEAD LOSS/ FLOW RATE**

**U.S. Units**

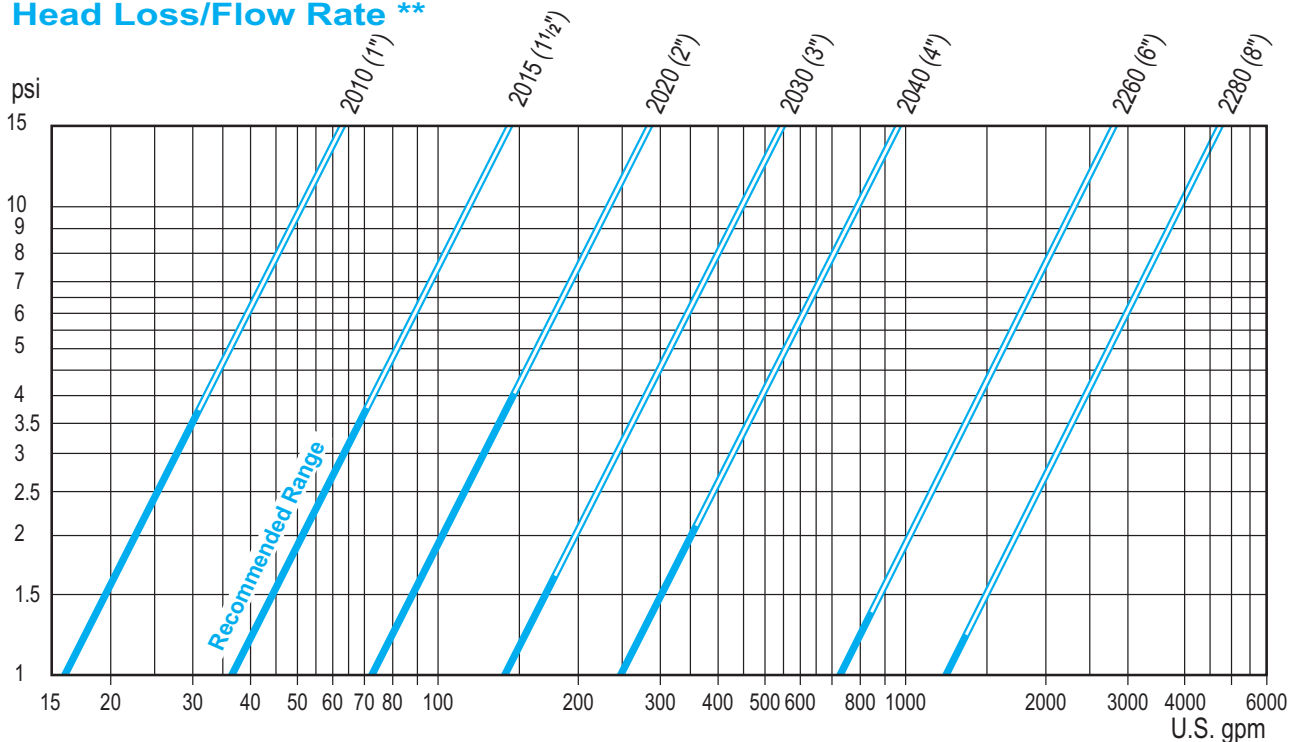
**Head Loss \*\***

| Model      | Flow Rate Q (U.S. gpm) |     |     |     |     |      |      |     |      |      |     |     |      |      |      |
|------------|------------------------|-----|-----|-----|-----|------|------|-----|------|------|-----|-----|------|------|------|
|            | 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  |

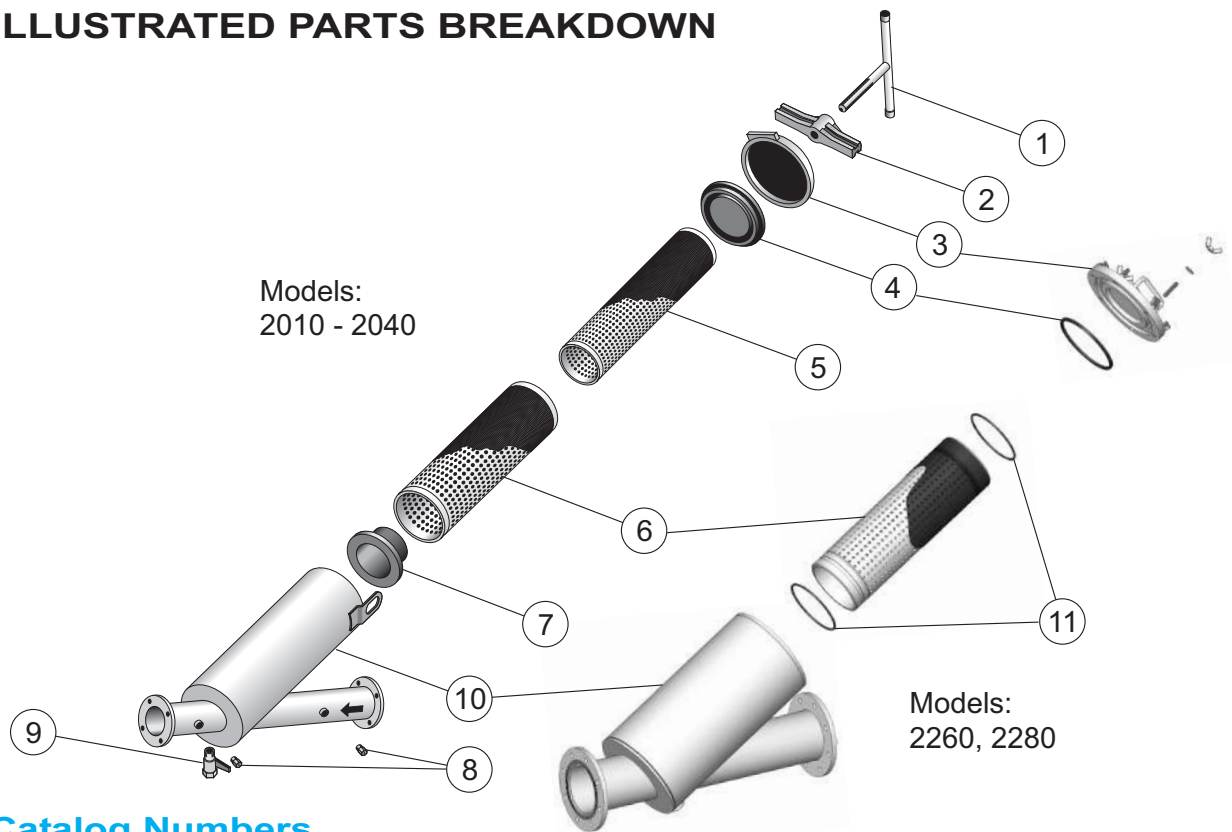
**Head Loss/Flow Rate \*\***



\*\* For a clean filter and 120 mesh screen.

■ 1 psi=0.069 bar=6.9 kPa=0.07 kg/cm<sup>2</sup> =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 001 280 | 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 <sup>3</sup> ) |
|-------|-----------------------|-------------|-------------------|------------|-----------|------------|--------------------------------|
| 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                |