

ODIS

IRRIGATION EQUIPMENT LTD.

ODISMATIC® ELECTRIC FILTERS SERIES 862

APPLICATIONS

- Used as an Automatic Screen Filter for high flow rates and water containing large quantities of dirt due to the large screen area 10050 cm².
- The filter contains an Electrically operated Collector with Suction Nozzles to ensure continuous trouble free operation.
- For: Irrigation, Water Recycling and Industry.



ODIS Filtration *is The Heart* of Every Irrigation System

DESCRIPTION

The **OdisMatic® Electric Filter Model 862** is an automatic self cleaning screen filter with a very large screen area 10,050 cm² (1560 inch²).

The Self Cleaning System is electrically operated and contains a suction system for cleaning the screen, an electric motor with a worm gear to drive the suction system in a helical movement, and standard DC controller to perform the cleaning process.

The cleaning process is short, efficient, saves water and leaves the screen clean.

Dirty water enters the filter and is pre-filtered through a coarse screen (1). The water then flows through a sintered multi layer stainless steel fine screen (2) and flows out through the outlet port. The dirt particles gradually build up a filter "cake" on the inside of the fine screen. This "cake" improves filtration efficiency as it performs a finer filtration, and creates a pressure differential across the screen. The differential pressure rises until the predetermined value is reached [normally 0.5 bar (7.5 psi)].

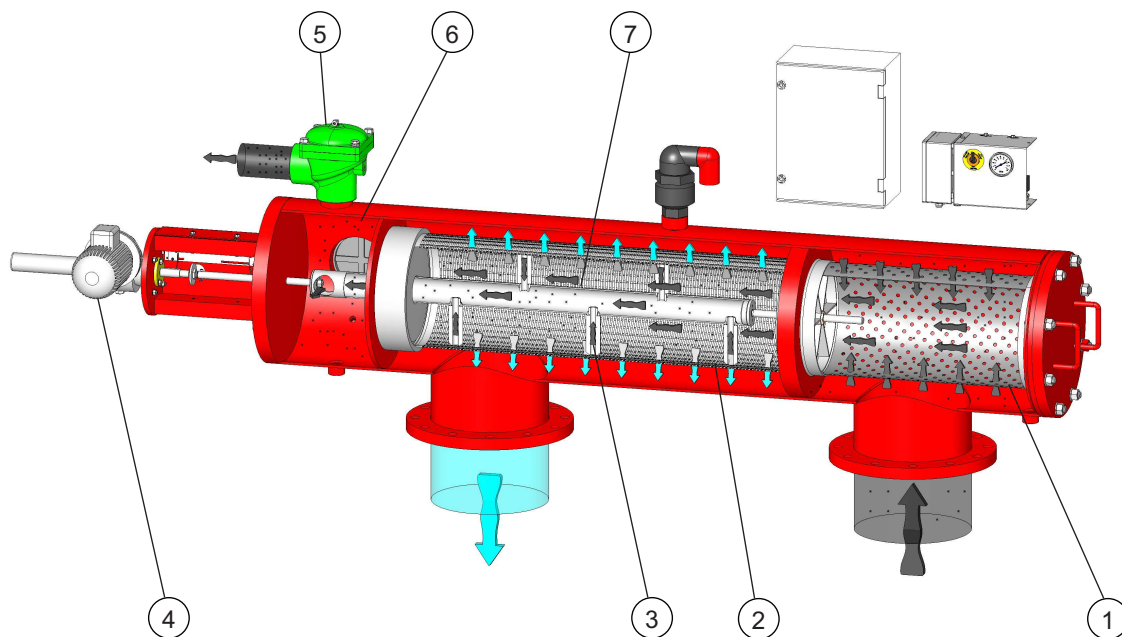
A pressure switch activates the self cleaning process. A timer backup guarantees that the time passed from the last self cleaning process will not be longer than the preset value determined by the user.

On a flushing command, the flushing valve(5) opens to the atmosphere and create pressure drop in the flushing chamber (6) as well as in the collector pipe (7), causing the dirt to be sucked in from the screen by the nozzles (3) outward to drain through the collector (7) and the flushing valve (5). Simultaneously the electric motor with the worm gear (4) creates a helical motion of the collector with the suction nozzles to "cover" the entire screen's surface, enabling complete and effective cleaning of the screen.

The PLC performs the process and activates flushing cycles as necessary.

Available in the following inlet sizes: 12", 14", 16".

Filter is supplied with Flanged Connection (F).

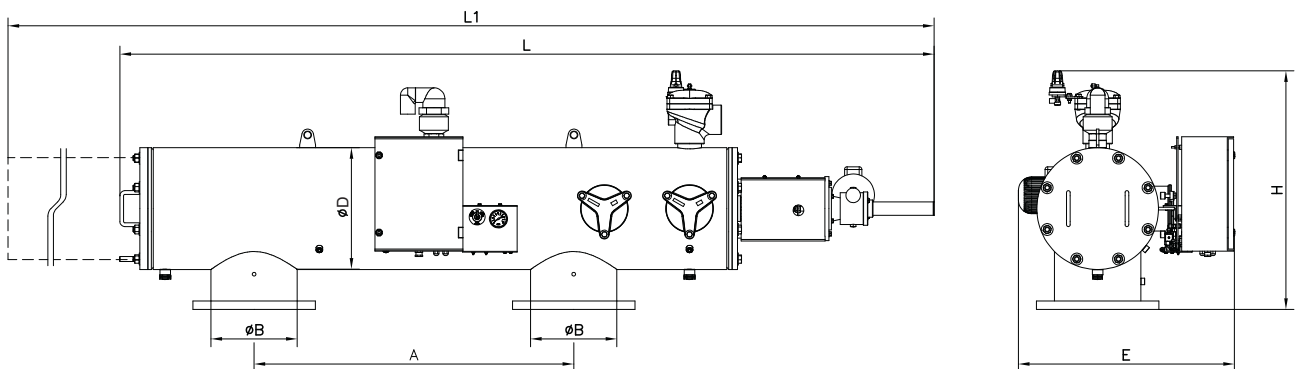


Dimensions & Weight Metric Units

Model	B		D	A	H	E	L	L1	Weight
	mm	inch	inch	mm	mm	mm	mm	mm	kg
86212	300	12"	18"	1200	890	900	3060	4950	400
86214	350	14"	18"	1200	890	900	3060	4950	415
86216	400	16"	18"	1200	890	900	3060	4950	430

Dimensions & Weight U.S. Units

Model	B	D	A	H	E	L	L1	Weight
	inch	inch	inch	inch	inch	inch	inch	lbs
86212	12"	18"	47.25	35	34.5	120.5	195	880
86214	14"	18"	47.25	35	34.5	120.5	195	915
86216	16"	18"	47.25	35	34.5	120.5	195	950



Screen Area & Recommended Flow Rates

Model	Inlet/Outlet diameter		Max. Flow Rate		Flushing Flow Rate		Screen Area	
	inch	mm	m ³ /h	U.S. gpm	m ³ /h	U.S. gpm	cm ²	sq.inch
86212	12"	300	600	2630	35	155	10050	1560
86214	14"	350	800	3520	35	155	10050	1560
86216	16"	400	1000	4400	35	155	10050	1560

- The max. flow rate refers to screens over 200 microns/less than 80 mesh. For finer filtration degrees consult our representative.

Stainless Steel Filter Screens

Filtering Grades

Mesh Grade	Micron
40	400
50	300
80	200
100	150
120	120
150	100
200	80
300	50
500	30

- Coarse screen – Perforated cylinder.
- Fine screen – Multi layer stainless steel wire mesh sintered together.

Technical Data

- Max. recommended working pressure: 10 bar (150 psi).
- Min. recommended working pressure: 2 bar (30 psi).
- Two filtering stages:
 - Coarse Screen: Perforated cylinder, prevents large particles from entering the cleaning mechanism.
 - Fine Screen: Multi layer stainless steel wire mesh sintered together, stops the fine dirt particles.
- Wide range of screens down to 30 micron.
- Automatic self cleaning of the screen – activated by time elapsed or DP (differential pressure).
- Suction system with nozzles.
- Electric motor with worm gear – to drive the suction system in a helical movement on the screen
- PLC – to control the cleaning process.
- Electrical data :
 - Mains – 3 phase 380V / 50Hz, 220V/440V/60Hz
 - Drive assembly – 1/3HP, 1/4 KW.
 - Booster Pump – 0.75 HP, 0.55KW
- PLC operated by 24VDC

Protective Coating

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

Pressure Relief Valve

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

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

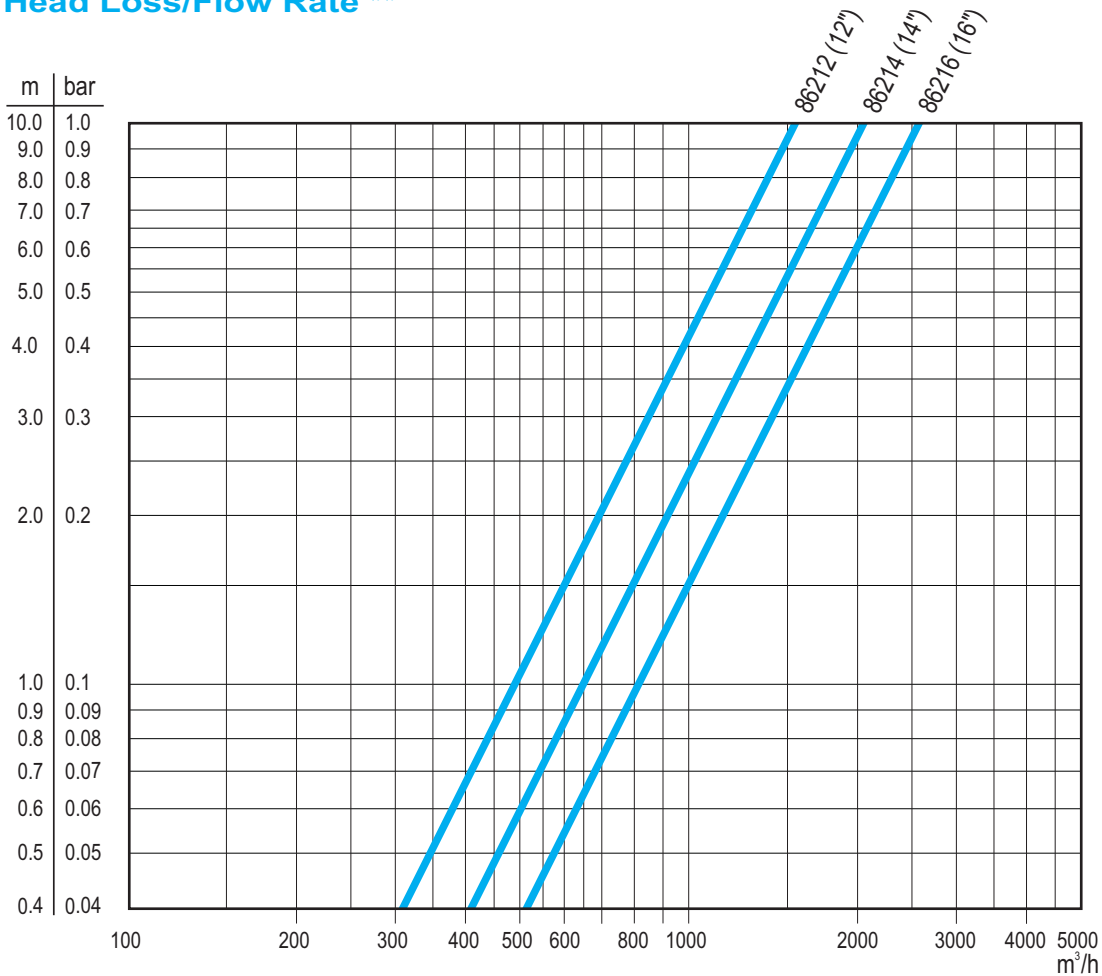
HEAD LOSS/ FLOW RATE

Metric Units

Head Loss **

Model	Flow Rate Q (m ³ /h)												
	400	500	600	700	800	900	1000	1200	1500	1800	2000	2300	2500
	Head Loss dP (bar)												
86212 (12")	0.07	0.11	0.15	0.21	0.27	0.34	0.42	0.61	0.95				
86214 (14")		0.06	0.09	0.12	0.15	0.19	0.24	0.35	0.54	0.78	0.96		
86216 (16")			0.05	0.07	0.09	0.12	0.15	0.21	0.33	0.48	0.59	0.78	0.92

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

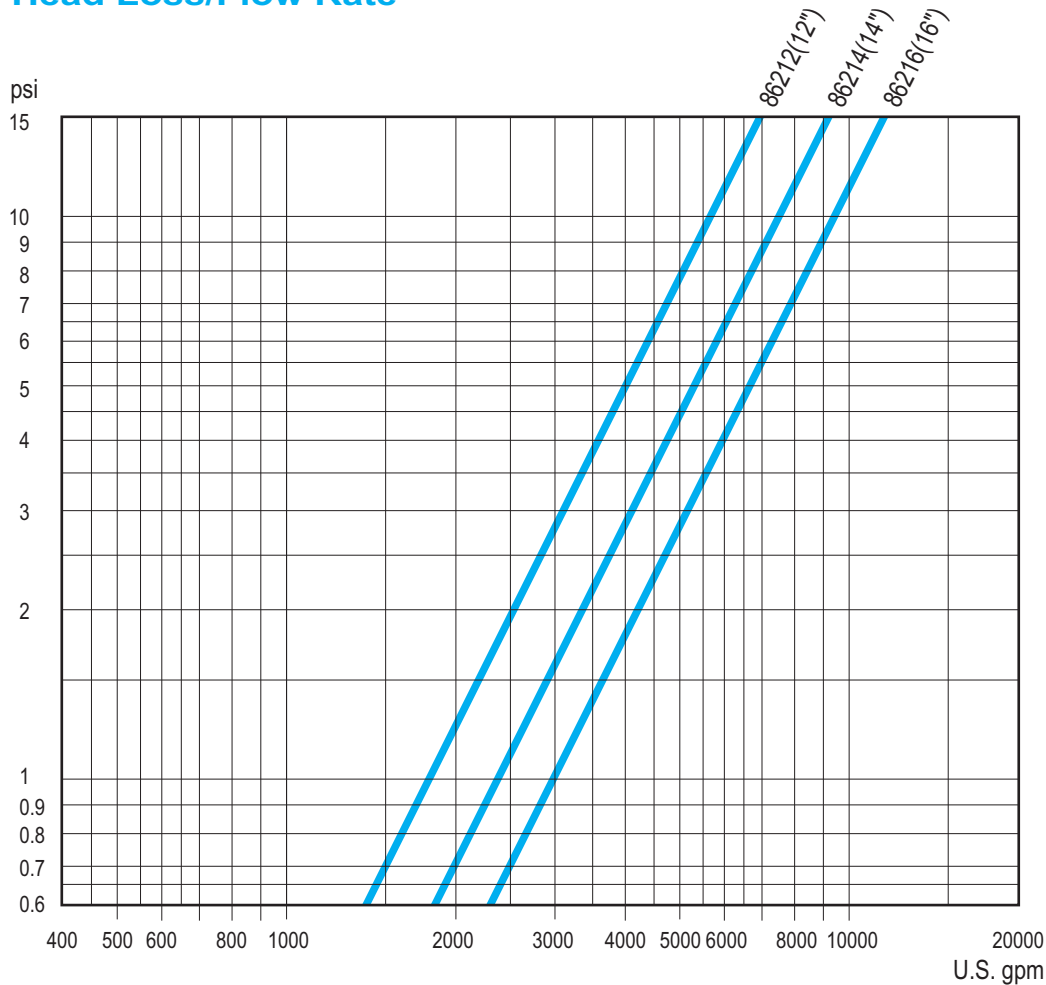
HEAD LOSS/ FLOW RATE

U.S. Units

Head Loss **

Model	Flow Rate Q (U.S. gpm)												
	1800	2000	2600	3000	3500	4000	4500	5000	6000	7000	8000	9000	10000
Head Loss dP (psi)													
86212 (12")	1.0	1.3	2.1	2.8	3.9	5.0	6.4	7.9	11.4	15.5			
86214 (14")	0.6	0.7	1.2	1.6	2.2	2.9	3.6	4.5	6.5	8.8	11.5	14.6	
86216 (16")			0.7	1.0	1.4	1.8	2.2	2.8	4.0	5.4	7.1	9.0	11.1

Head Loss/Flow Rate **

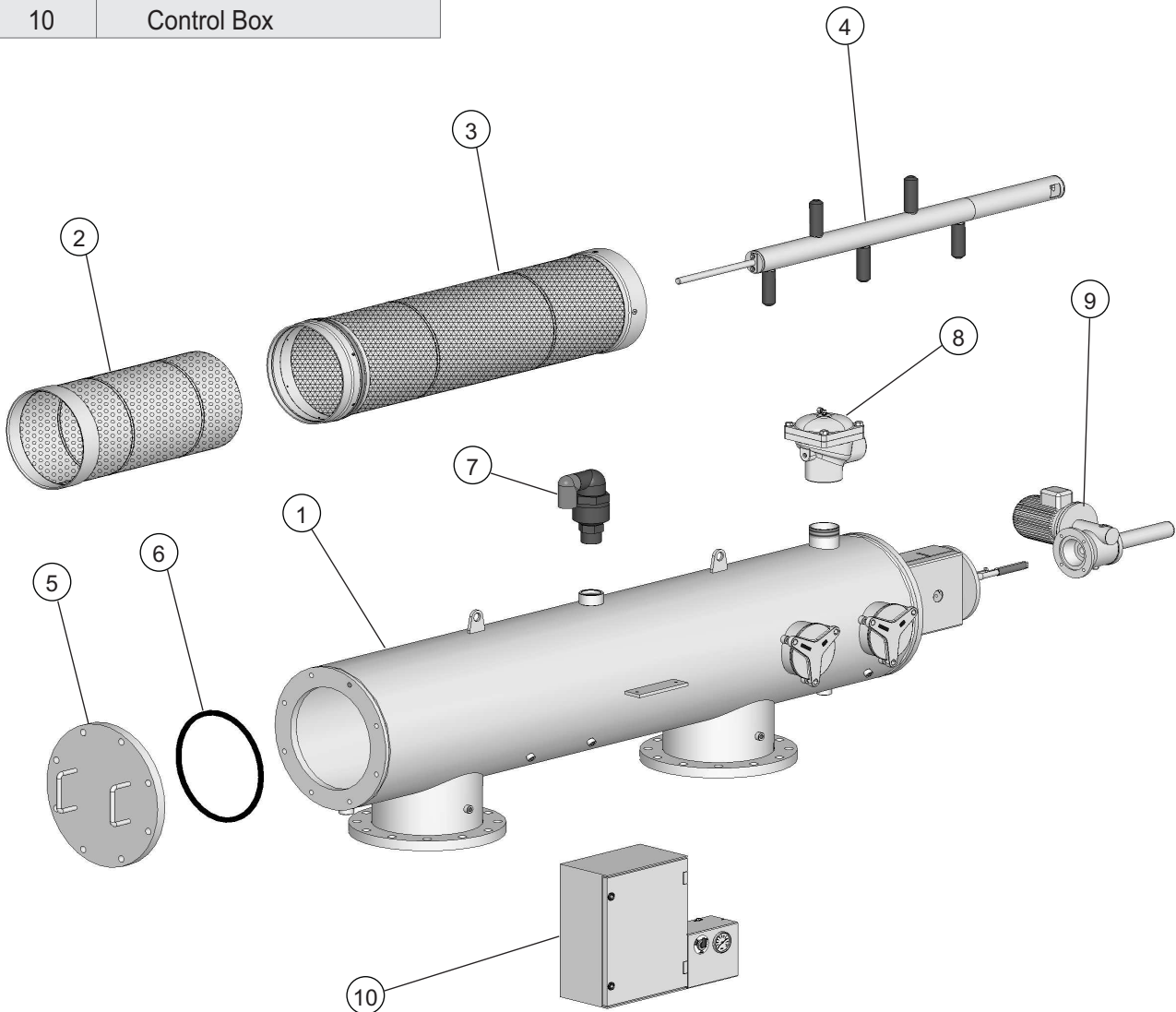


** For a clean filter and 120 mesh screen.

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

ILLUSTRATED PARTS BREAKDOWN

NO.	DESCRIPTION
1	Filter Body
2	Coarse Screen Assembly
3	Fine Screen Assembly
4	Dirt Collector Assembly
5	Cover
6	Cover Gasket
7	Air Valve
8	Rinse Valve
9	Worm Gear Motor
10	Control Box



GENERAL INSTRUCTIONS

Operation

- The **Odismatic[®] Electric Filter** is equipped with an automatic cleaning system electrically operated which includes: Suction System for cleaning the screen, Electric Motor with worm gear to drive the suction nozzles in a helical movement, and PLC to control the cleaning process.
- The cleaning cycle is activated when the differential pressure across the screen reaches 0.5 bar (7.5 psi) with a timer backup.
- The minimum working pressure is 2 bar (30 psi).
- The maximum working pressure is 10 bar (150 psi).

Installation

The **Odismatic[®] Electric Filter** can be installed in any position, although for ease of maintenance, a horizontal installation is recommended.

- For best results, the filter should be installed as near as possible to the system it is required to protect. However, if low filter inlet pressure is a concern, either before or during flushing, the filter may need to be installed closer to the pressure source.
- Ensure that the upstream pipe size from pressure source to filter is equal to or greater than filter inlet size.
- It is recommended to install inlet and outlet isolation valves for easy maintenance.
- In situations where a constant supply of water is required downstream during filter servicing it is recommended to install Inlet and bypass valves. Note that this also applies in installation of bypass units.
- It is recommended to install a check valve downstream of the filter to prevent reverse flow and to protect the filter from water hammer.
- An Air-Release Valve must be installed on top of the inlet manifold.
- Ensure that the filter is mounted in the proper direction of flow as indicated by the arrows on the filter housing.
- A drain line should be attached to each flushing valve. For details see Technical Manual.
- If pressure is not controlled effectively a pressure relief valve must be inserted before the filtering installation.
- Connect power supply

Start-Up

1. Slowly open the inlet valve to the filter allowing the filter to pressurize.
2. Check for any external leakage and eliminate.
3. Check to ensure that the filter inlet pressure is higher than 2 bar (30 psi).
4. Slowly open the outlet valve of the filter.
5. Initiate a manual flushing cycle by depressing the manual flushing button on the electrical control box and see the movement of the screw.

Periodic Cleaning

- Initiate a manual flushing cycle and check for proper filter function by observing the pressure. This step should be performed for all individual filters in multiple installations.
- Check coarse screen and clean as required.
- Filters equipped with by-pass should be engaged at least once a month. This will clean the valve seat of any accumulated dirt, as well as ensuring proper by-pass operation.

WARNING

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

Maintenance

- Each filter is supplied with Technical Manual for detailed maintenance instructions, as well as assembly, installation and operation instructions.
- Apply a layer of grease to bolt threads once a year.
- Apply Molykote grease to the screw of the drive assembly every 3 months.
- Clean Control Filter every 3 month at least.
- 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 the wire brush.

PACKING / SHIPPING DATA
Metric Units

Model	Inlet / Outlet (inch)	Gross * Weight (kg)	Packaging	Gross Volume (m ³)
86212	12"	525	Packed on a pallet	2.8
86214	14"	540	Packed on a pallet	2.8
86216	16"	555	Packed on a pallet	2.8

U.S. Units

Model	Inlet / Outlet (inch)	Gross * Weight (lbs)	Packaging	Gross Volume (cu.ft)
86212	12"	1160	Packed on a pallet	99
86214	14"	1190	Packed on a pallet	99
86216	16"	1225	Packed on a pallet	99

* Gross weight includes packaging materials

How To Order *Odismatic*® Electric Filter

1. Type of filter required.
2. Catalog Number of filter.
3. Preferred mesh grade.
4. Min. / Max. pressure.
5. Maximal Flow rate.
6. Electricity.
7. Additional accessories: Nipples/Valves/Pilots/Relays/Manifolds/Pressure Gauges.
8. Other than standard material, required for filter body and cover.
9. Special Coating Requirements.