

ODIS

IRRIGATION EQUIPMENT LTD.

SCREEN WATER FILTERS

SERIES
7000

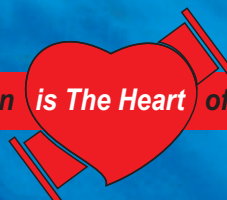
APPLICATIONS

- Used as Secondary Filter after gravel/sand filter without additional valves
- Specially designed for back-flushing in automated irrigation installations



THE STANDARDS INSTITUTION OF ISRAEL

ODIS Filtration *is The Heart* of Every Irrigation System



DESCRIPTION

A water screen filter with one reinforced stainless steel screen, especially designed to withstand inverted flow during back-flushing process.

When installed as a secondary filter after a gravel/sand filter, an additional valve is not required. The filter is back-flushed together with the gravel/sand filter.

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.

This filter is offered in two options:

A. Horizontal inlet and outlet: models 7020, 7030, 7040.

B. Vertical inlet and horizontal outlet: models 7930, 7940.

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

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

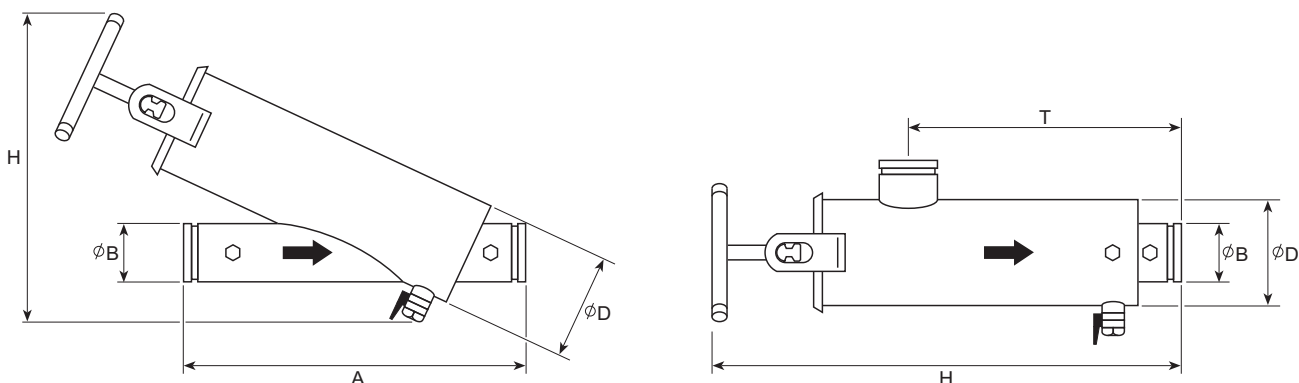
The filter has a 120 micron protective coating of extra-durable polyester, applied electrostatically and oven-cured on a zinc-phosphate layer for maximal anti-corrosion protection.

Dimensions & Weight Metric Units

Model	B		D	A	H	T	Weight kg
	mm	inch	inch	mm	mm	mm	
7020	50	2"	6"	470	460	-	14
7030	80	3"	6"	555	520	-	20
7040	100	4"	8"	685	620	-	40
7930	80	3"	6"	-	715	410	17
7940	100	4"	8"	-	820	510	32

Dimensions & Weight U.S. Units

Model	B	D	A	H	T	Weight lbs
	inch	inch	inch	inch	inch	
7020	2"	6"	18.5	18	-	31
7030	3"	6"	22	21	-	44
7040	4"	8"	27	25	-	88
7930	3"	6"	-	28	16	38
7940	4"	8"	-	32	20	71



Recommended Flow Rates

Metric Units

Model	Inlet / Outlet Diameter		Recommended Flow Rate
	inch	mm	m ³ / h
7020	2"	50	up to 35
7030	3"	80	up to 60
7040	4"	100	up to 105
7930	3"	80	up to 60
7940	4"	100	up to 105

U.S. Units

Model	Inlet / Outlet Diameter		Recommended Flow Rate
	inch		U.S. gpm
7020	2"		up to 155
7030	3"		up to 265
7040	4"		up to 460
7930	3"		up to 265
7940	4"		up to 460

Technical Data

- Filter screen: reinforced stainless-steel screen especially designed to withstand inverted flow.
- Horizontal inlet/outlet, Models: 7020(2"), 7030(3"), 7040(4").
- Vertical inlet/horizontal outlet, Models: 7930(3"), 7940(4").
- All models are available with a single filter screen only.
- When the filter is installed as a secondary filter after gravel/sand filter, the filter is back-flushed together with the gravel/sand filter, and does not require an additional valve.
- Max. recommended working pressure: 8 bar (120 psi).
- Max. pressure: 10 bar (150 psi).

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

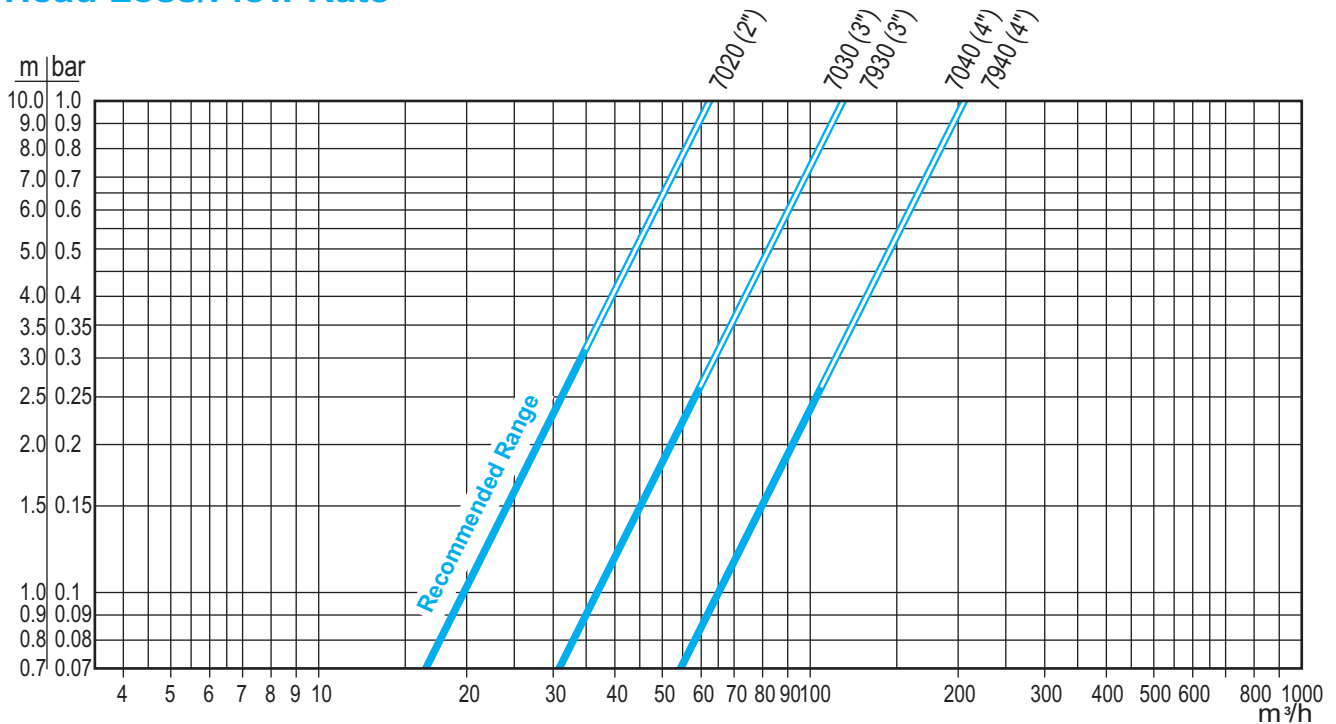
Head Loss **

Model	Flow Rate Q (m ³ /h)											
	10	20	30	40	50	60	70	80	90	100	110	125
Head Loss dP (bar)												
7020 (2")	0.03	0.10	0.23	0.42	0.65	0.94	1.27					
7030 (3")		0.03	0.07	0.12	0.19	0.27	0.36	0.48	0.60	0.74	0.90	1.16
7930 (3")		0.03	0.07	0.12	0.19	0.27	0.36	0.48	0.60	0.74	0.90	1.16

Head Loss **

Model	Flow Rate Q (m ³ /h)											
	60	70	80	90	100	110	125	150	175	200	225	250
Head Loss dP (bar)												
7040 (4")	0.09	0.12	0.15	0.19	0.24	0.29	0.38	0.54	0.74	0.96	1.22	1.50
7940 (4")	0.09	0.12	0.15	0.19	0.24	0.29	0.38	0.54	0.74	0.96	1.22	1.50

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

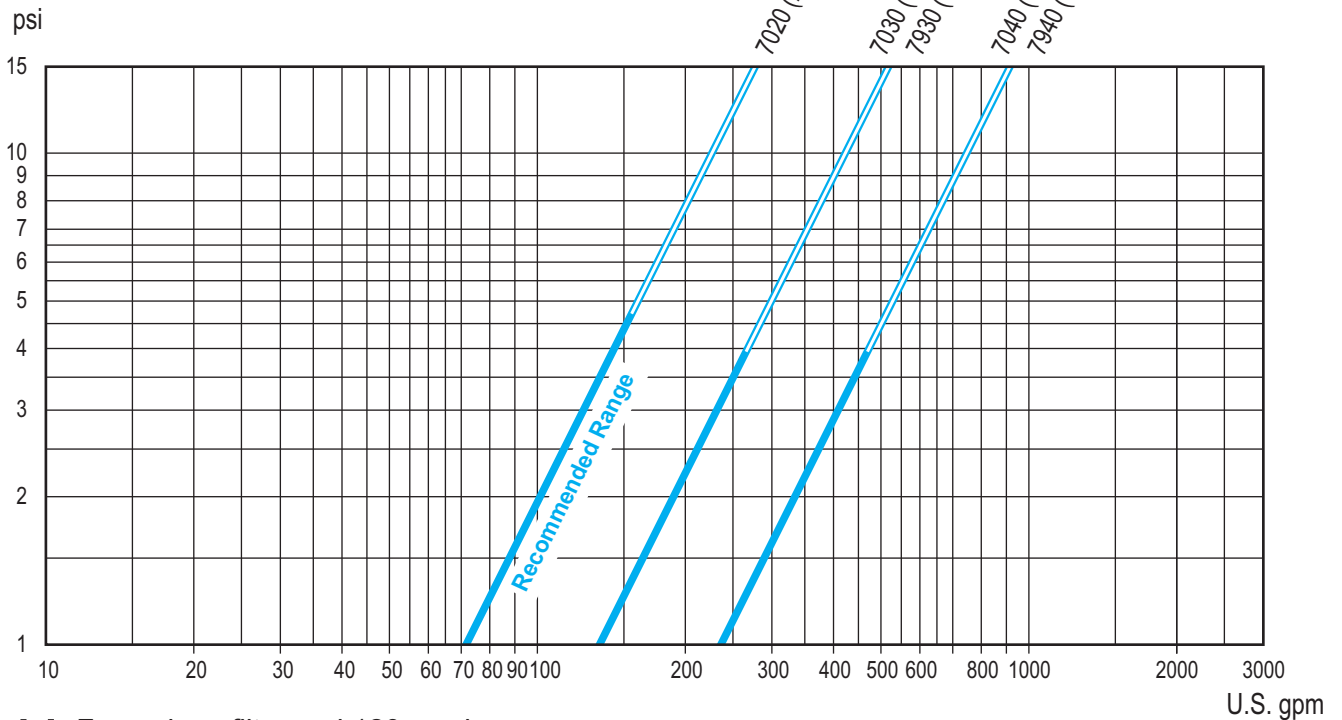
Head Loss **

Model	Flow Rate Q (U.S. gpm)																
	50	75	100	125	150	175	200	225	250	275	300	325	350	400	450	500	550
	Head Loss dP (psi)																
7020 (2")	0.5	1.1	1.9	3.0	4.4	6.0	7.8	9.9	12.2	14.7	17.5						
7030 (3")		0.3	0.6	0.9	1.3	1.7	2.2	2.8	3.5	4.2	5.0	5.9	6.8	8.9	11.3	13.9	16.8
7930 (3")		0.3	0.6	0.9	1.3	1.7	2.2	2.8	3.5	4.2	5.0	5.9	6.8	8.9	11.3	13.9	16.8

Head Loss **

Model	Flow Rate Q (U.S. gpm)																	
	175	200	225	250	275	300	325	350	400	450	500	550	600	650	700	750	800	900
	Head Loss dP (psi)																	
7040 (4")	0.6	0.7	0.9	1.1	1.4	1.6	1.9	2.2	2.9	3.6	4.5	5.4	6.5	7.6	8.8	10.1	11.5	14.6
7940 (4")	0.6	0.7	0.9	1.1	1.4	1.6	1.9	2.2	2.9	3.6	4.5	5.4	6.5	7.6	8.8	10.1	11.5	14.6

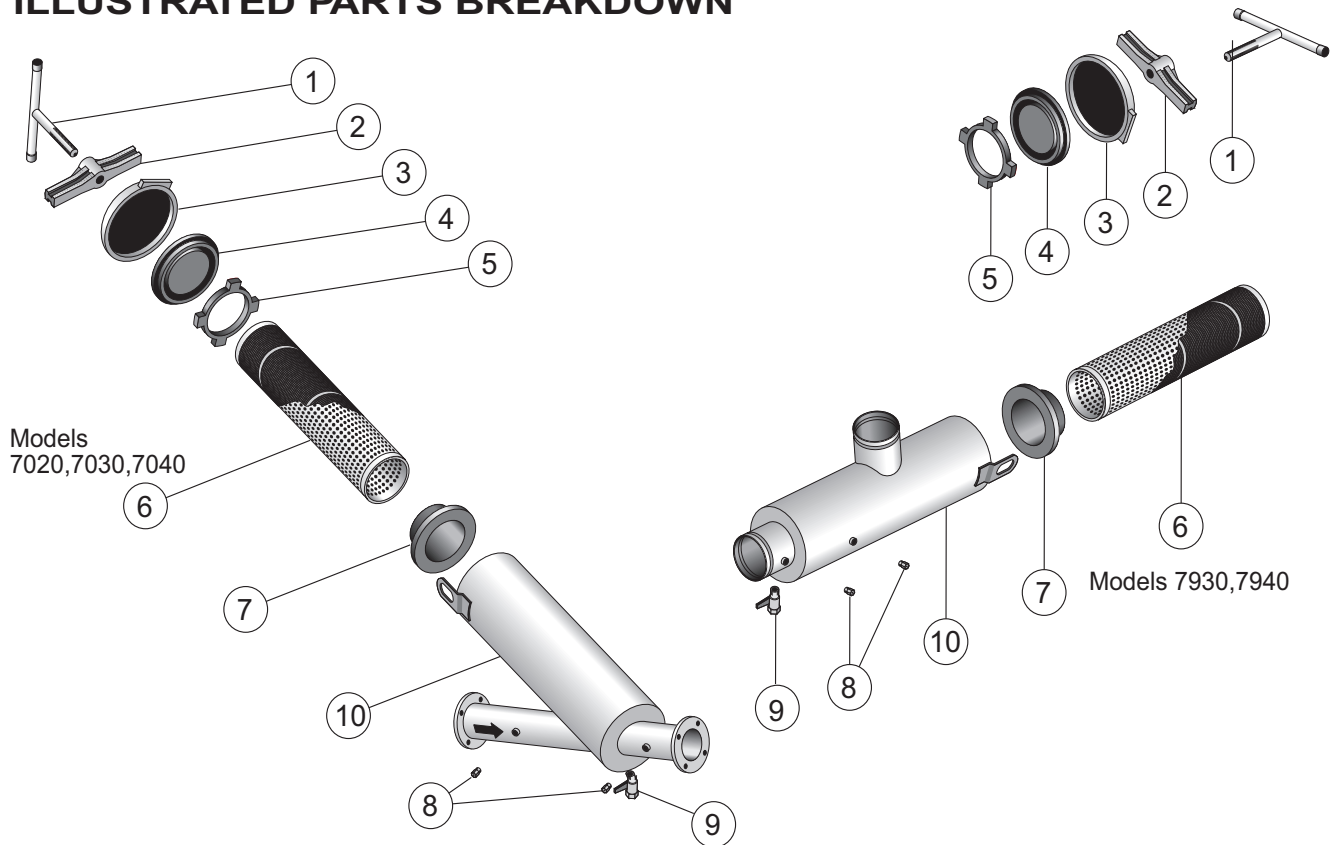
Head Loss/Flow Rate **



** 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				
		7020 (2")	7030 (3")	7040 (4")	7930 (3")	7940 (4")
1	Handle	E 000 100	E 000 100	E 000 100	E 000 100	E 000 100
2	Tightening Bracket	E 000 216	E 000 216	E 000 218	E 000 216	E 000 218
3	Cover	E 000 260	E 000 260	E 001 280	E 000 260	E 001 280
4	Neoprene Cover Gasket	E 001 361	E 001 361	E 007 380	E 001 361	E 007 380
5	Centering Piece	E 007 388	E 007 388	E 007 389	E 007 388	E 007 389
6	Reinforced * Filter Screen	E 000 430	E 000 432	E 000 433	E 000 432	E 000 433
7	Neoprene Inner Gasket	E 007 365	E 007 365	E 007 385	E 007 365	E 007 385
8	Pressure Testing Port	E 000 800	E 000 800	E 000 800	E 000 800	E 000 800
9	Drain Valve	PM 1075020	PM 1075020	PM 1075020	PM 1075020	PM 1075020
10	Filter Body	A 7020	A 7030	A 7040	A 7930	A 7940

* When ordering, please specify screen mesh.

■ Filters contain one reinforced stainless steel screen.

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

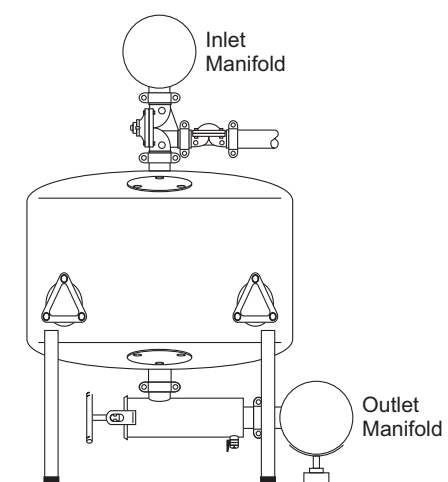
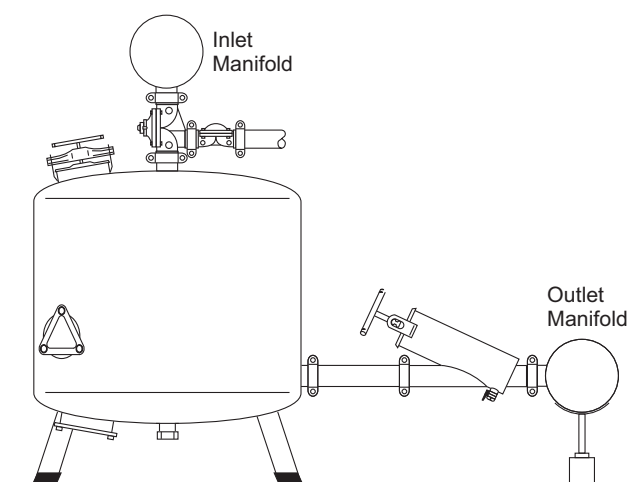
GENERAL INSTRUCTIONS

Operation

- Normal working conditions are obtained when headloss is less than 0.3 bar (5 psi) with clean filter screens.
- If headloss exceeds 0.3 bar (5 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.
- 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.
- When the filter is installed as a secondary filter after gravel/sand filter, it does not require an additional valve. The filter is back-flushed together with the gravel/sand filter.



Manual Flushing

- Manual flushing is not required as this filter is automatically back-flushed together with the gravel/sand filter.

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).
- Gently remove filter screen (6).
- Rinse filter screen (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 screen is intact and undamaged.
- Replace filter screen (6), with centering piece (5), in place, into the filter housing (10). Place cover (3) on filter body (10), so that gasket (4) fits over filter screen and centers it.
- Mount tightening bracket (2) and handle (1), fasten and secure it 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 Screens

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

NOTES:

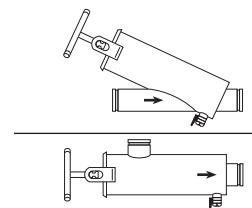
- Filters are supplied with one reinforced stainless steel screen specially designed to withstand inverted flow.
- Recommended screen for secondary filter after gravel/sand filter - 100 mesh.

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.

Filter Catalog Numbers

Model	Thread (M)	Flange (F)	Victaulic (V)
7020 (2")	7020 M - Female	7020 F	7020 V
7030 (3")	7030 M - Female	7030 F	7030 V
7040 (4")		7040 F	7040 V
7930 (3")			7930 V
7940 (4")			7940 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)
7020	2"	14	1	0.65	0.35	0.23	0.052
7030	3"	20	1	0.66	0.54	0.22	0.078
7040	4"	40	1	0.87	0.57	0.29	0.144
7930	3"	17	1	0.75	0.25	0.25	0.047
7940	4"	32	1	0.82	0.28	0.28	0.064

U.S. Units

Model	Inlet / Outlet (inch)	Weight (lbs)	Filter per carton	Length (inch)	Width (inch)	Height (inch)	Gross Volume (cu.ft)
7020	2"	31	1	26	14	9	1.84
7030	3"	44	1	26	21	9	2.78
7040	4"	88	1	34	23	12	5.10
7930	3"	38	1	30	10	10	1.66
7940	4"	71	1	32	11	11	2.26