

# Pump Stations and Filtration *System-Powering Performance and Efficiency.*

Rain Bird applies our world-leading irrigation expertise to the design and manufacture of golf pump stations and filters. As part of a fully integrated Rain Bird irrigation system, these pump stations bring real-time response to your pump, monitoring the operation of the pump and maximizing flow throughout the irrigation cycle. You'll get reduced water use, lower energy costs and less wear and tear on your pump station.

## **Designed for Durability**

RAIN & BIRDO

Rain Bird<sup>®</sup> pump stations and filters are built to the highest quality standards. Whether it's a sophisticated suppression system that reduces the risk of electronic component damage or a durable polyester powder coating that protects the appearance of your investment, these pumps and filters offer enduring performance.

## A Fit for Any Environment or Budget

RAINER

LELL

Every Rain Bird pump station is custom built for the specific requirements of your course, offering a variety of options that make it easier to achieve the most efficient performance possible.



HORIZ	ONTAL PUMPS					
	Pump Direction and Number	Motor (with VFD)	Max psi (bar)	Max gpm (lps) (m³/h)	Enclosure	Display
HES1	One horizontal end suction pump	15 to 60 HP	125 psi (8.6 bar)	600 gpm (37.8 lps, 136.3 m³/h)	Aluminum	Monochrome touch-panel Optional color touch-panel
HES2	Two horizontal end suction pumps	15 to 60 HP	125 psi (8.6 bar)	1200 gpm (76 lps, 273 m³/h)	Aluminum	Monochrome touch-panel Optional color touch-panel
HES3	Three horizontal end suction pumps	20 to 60 HP	125 psi (8.6 bar)	1800 gpm (114 lps, 409 m³/h)	Aluminum	Monochrome touch-panel Optional color touch-panel

PUMP STATIONS AND FILTRATION

	Pump Direction and Number	Motor (with VFD)	Max psi (bar)	Max gpm (lps) (m³/h)	Enclosure	Display
VM1	One vertical multistage pump	15 to 60 HP	155 psi (10.7 bar)	500 gpm (31.5 lps, 113.6 m³/h)	Aluminum	Monochrom touch-pane Optional colo touch-pane
VM2	Two vertical multistage pumps	15 to 60 HP	150 psi (10.3 bar)	1000 gpm (63.1 lps, 227 m³/h)	Aluminum	Monochrom touch-panel Optional colo touch-panel



PANEL ONLY							
	Number of Pumps	Motor Type	Additional Accessories				
Panel	Controls 1 to 10 pumps up to 100 HP each	VFD or VPM	Flow meter and pressure transducer included				

Ask about our retrofit options for existing panels.





COMPACT DECKS		
Features	VT1	VT2
Motor (with VFD)	15 to 75 HP	25 to 75 HP
Max psi (bar)	140 psi (9.7 bar)	140 psi (9.7 bar)
Max gpm (lps) (m³/h)	800 gpm (51 lps, 181 m³/h)	1600 gpm (101 lps, 363 m³h)
Display	Color touch-panel	Color touch-panel



LARGE DECKS			
Features	VT2	VT3	VT4
Integrated Filtration	Yes	Yes	Yes
Motor (with VFD)	20 to 100 HP	40 to 100 HP	40 to 100 HP
Max psi (bar)	140 psi (9.7 bar)	140 psi (9.7 bar)	140 psi (9.7 bar)
Max gpm (lps) (m³/h)	2000 gpm (126 lps, 454 m³/h)	3000 gpm (189 lps, 681 m³/h)	4000 gpm (252 lps, 908 m³/h)
Display	Color touch-panel	Color touch-panel	Color touch-panel

#### VT-Custom

- Custom-designed to meet your requirements.
- Provide us with your specifications.
- Five or more motors
- Multiple filter configurations



#### **Remote Pump Station Access**

Rain Bird's user interface is a network ready design that allows for remote access via PC, laptop, tablet, smartphone or any web-enabled mobile device. The screen always formats properly to the remote device and allows complete control and monitoring of the golf pump station. This remote accessibility provides Rain Bird customers the confidence to control their pumping systems when they are away from the course.

#### **Electrical Design**

Rain Bird pump stations are UL508A listed and use the industry's best surge suppression, reducing the risk of electronic component damage that could lead to inconvenient and costly downtime. This design includes full heavy-duty circuit breaker integration providing the ultimate protection with the best serviceability.

#### **Backup Pressure Regulation**

Every station comes with a properly sized pressure relief valve to provide automatic pressure regulation in the event of an overpressure situation.

#### VFD Per Motor (VPM) Option

Rain Bird offers the industry's most comprehensive catalog of customer-focused solutions, including a VFD for each main motor on a multi-pump station. This option provides superior flow and pressure regulation, and eliminates mechanical switching components, increasing uptime. It also provides a level of efficient backup pressure regulation that a pressure relief valve or butterfly valve cannot deliver.

#### **Durable Polyester Powder-Coating**

Rain Bird's in-house steel-grit blasting system assures all exterior surfaces of the pump station are prepared to white metal specification standards and allows for the best coating adhesion. The polyester powder-coat Rain Bird applies is far more durable than competitive solvent-based multi-layer coatings. In fact, Rain Bird's powder-coating process scores a 10 out of 10 on an ASTM corrosion test provided by Sherwin Williams. Other industry pump stations scored four (4) out of 10 on the very same test. In addition, the powder-coating process is considered very environmentally friendly.

#### **Engineered Pump Station Skid Design**

Using 3D modeling, the channel steel skid frame is engineered for strength and rigidity. This engineered design reduces vibration and eliminates the need for raised, extra-thick steel plates under the pump heads, which can be a trip hazard. The deck is the industry's strongest and longest lasting with continuously welded smooth steel plate. In addition, Rain Bird follows industry standards and manufacturers' recommendations for station components such as the proper specifications for flow meters.

#### **Advanced Controls**

With the industry's leading touch screens, Rain Bird continues to innovate by offering sizes up to 15". Beyond being network ready, this interface offers up to 20 years of historical memory capability and USB backup. With features such as filtration integration, water feature control, lake level control, pump lockouts, auto set point adjustment per pump, motor starts protection, and many more, Rain Bird has driven pump station innovation in the golf industry for the last decade.

#### **Real-Time System Integration**

Rain Bird pump stations have Pump Manager 2 and Smart Pump<sup>™</sup> technology at the central control, so you can configure your system to automatically monitor and self-adjust to changing conditions. This seamless integration by Rain Bird improves your system's overall performance by reducing watering windows and minimizing energy use.

#### **Pump and Motor Options**

Rain Bird offers custom designed cast ductile iron discharge heads for golf irrigation pump stations. With superior flow characteristics and 12 times the required tensile strength for golf pump stations, they are the obvious choice for the application. Rain Bird utilizes G.E. motors with industry-leading warranties, efficiencies and durability. The standard Class H motor insulation provides unmatched motor life.

#### **Air Relief**

Rain Bird provides air relief on each pump. Individual air relief valves allow for the maximum amount of air to be removed from the pump columns and not enter into the irrigation system.

#### **User Controls**

Rain Bird pump stations have set the bar with simple, large-icon touchscreen controls in nine (9) different languages. Each pump has a lighted, three position Manual–Off–Auto switch for intuitive, safe backup control of the station.



Custom colors available.

# Pump Manager 2

Rain Bird<sup>®</sup> Pump Manager 2 is engineered for the golf course professional looking to simplify pump control, monitoring and data reporting. This powerful software application gives you full control of your pump station from your computer or central control.

## FEATURES AND BENEFITS

- Provides a direct link to the pump station touchscreen so you can view and modify pump operations from your computer or tablet as though you were standing right in front of it.
- Since all pump operation data is contained on your computer, Pump Manager 2 and its built-in reporting capabilities can keep you apprised of operations, flow, water use and other key information.
- Includes common reports for future review or regulatory reporting.
- For customized reporting, data can be exported in a file compatible with common spreadsheet applications such as Microsoft® Excel®.
- Standard with 11 different language options.
- Can be used with any computer and provide remote monitoring for any irrigation system using a competitive control system.
- Best of all, Pump Manager 2 is fully integrated with Rain Bird's exclusive central control feature, Smart Pump.



# Smart Pump<sup>™</sup>

## FEATURES AND BENEFITS

Rain Bird's Smart Pump is a powerful central control software tool that improves pump station performance more than any comparable product on the market. It integrates your irrigation system from reservoir to rotor, constantly comparing actual flow to expected flow. By making smart, real-time decisions based on this information, it optimizes your system — saving water, conserving electricity and reducing wear and tear on your valuable pumping system.

#### **Actual Flow Measurement**

Unlike other irrigation central control software, Smart Pump bases its decisions on actual flow, not estimated flow. By using accurate information — in real time — Smart Pump automatically balances supply with system demand. That means greater efficiency and an end to wasted water and electricity.

#### 24-Hour Pump Supervision

With Smart Pump, you can relax knowing your system will instantly respond to actual field conditions with the right decisions. For instance, if a pipe breaks, Smart Pump will stop water flow to the pipe to prevent turf damage. Or if a pump fails, Smart Pump will make immediate water demand adjustments to keep the system from shutting down permanently. It's like having your own irrigation supervisor at every sprinkler, 24/7.

#### **Integration Meets Intelligence**

Smart Pump seamlessly integrates your entire irrigation system. It automatically starts waiting sprinklers or pauses active sprinklers to reduce flow or increase demand, keeping your irrigation system running at peak efficiency at all times.

Rain Bird is the only manufacturer providing both irrigation and pump station control software. This provides a level of integration that is unmatched in the industry.



SMARTPUMPM MODEL Smart Pump



# Self-Cleaning Pump Suction Screen

Keep debris out of your pumping and irrigation system.

## **FEATURES**

- Galvanized, self-cleaning pump suction screen removes large trash and debris from water sources, saving time and money in energy, pumping efficiency and maintenance costs.
- Heavy 12 or 24 mesh stainless steel screen increases your pump efficiency for many years to come.
- All water must pass through the pump suction screen attached to the end of the pump suction line before entering the pump intake pipe. A small, side-stream from the pump discharge plumbing drives two spray bars that continually rotate, jetting water at the screen and blasting debris away.



To pump suction

- Standard flanged connections — other adapters available
- Incoming water self-cleaning jets

## **Performance Data**

Model Number	Flo	ow	Screen Length	Total Length	Screen Diameter	Flange Size	Return Inlet Pipe Size	Operating Pressure	Weight	Cleaning Spray
	(gpm)	(m³/h)	(in)	(in)	(in)	(in)	(in)	(min-max psi)	(lbs)	(gpm)
PSS200	325	73.8	11	25	16	4	1.5	35-100	38	20
PSS400	550	124.9	15	28.8	16	6	1.5	40-100	57	20
PSS600	750	170.3	16	32.5	24	8	1.5	40-100	101	20
PSS800	950	215.7	18	34.5	24	10	1.5	45-100	108	20
PSS1000	1350	306.5	23	39.5	24	10	1.5	50-100	116	24
PSS1400	1650	374.6	26	42.5	24	12	1.5	55-100	128	24
PSS1700	1950	442.7	28	44.5	26	12	1.5	55-100	148	24
PSS2000	2350	533.5	32	48.5	26	14	1.5	60-100	160	24
PSS2400	2600	590.2	35	52.5	30	16	1.5	65-100	233	28
PSS3000	3000	681.0	40	57.5	30	16	1.5	40-65	236	44
PSS3500	3500	794.5	40	59.5	36	18	1.5	40-65	283	44
PSS4000	4000	908.0	40	63.5	42	18	1.5	40-65	358	44

Performance data based on 12-mesh filter.

# **Additional Filtration Products**

Rain Bird offers an extensive line of filtration products to fit any course need. For more information about these products, contact Rain Bird Filter Department at filters@rainbird.com or 520-741-6189.



**HDF 2 Disc Filters** Automatic

self-cleaning disc filtration equipment with 2" valves and high-density polyethylene manifold.



HN-G-02-1



#### Low Flow Rate Secondary Screen Filters

G-Series HN Filters for secondary low-flow zones requiring finer filtration. Typically 40-70 gpm but dependent on micron size required (multiple filters can also run in parallel for higher flows). Available with controller (-1 model) or without controller (-2 model). Special setup required for use without controller, inquire with factory.

HN-G-02-2

# **I-Series Hydraulic Suction Scanning Filter**

Self-cleaning line powered hydraulic water filters for turf, landscape, agriculture, greenhouse, golf course and nursery applications.

#### **FEATURES**

- Flow Rate: 600 to 3,400 gpm (136.27 to 772.22 m<sup>3</sup>/h)
- Max Temperature: 160° F (71° C)
- Flushing Operations: Single electric ball valve for flushing operations standard
- Screen: Stainless steel mesh/PVC and stainless steel sintered screen options
- Screen Opening:  $5\mu$  to  $4000\mu$
- Working Pressure: 40 to 150 psi (2.76 to 10.34 bar)
- Material: Powder-coated carbon steel, stainless steel and duplex stainless options
- Configurations Available: Filter only, or a complete assembly with bypass manifold and valves



## **Standard Bypass Manifold**

Line Size	Model Number Powder Coated Carbon Steel	Max Flow Rate (gpm)
3"	I-3-CS-F	300
4"	I-4-CS-F	600
6"	I-6-CS-F	800
8"	I-8-CS-F	1500
10"	I-10-CS-F	3200
12"	I-12-CS-F	3400

Perform Line	nance Dat	a Woven Screen Area	300 50 Max Flow Rate	200 75 Std. Flow Rate	120 125 Std. Flow Rate	100 140 Std. Flow Rate	Micron Mesh Flush Volume	Rinse Duration	Flush Line Size	
Size	Number	(in²)	(in²)	(gpm)	(gpm)	(gpm)	(gpm)	(gpm)	(seconds)	(in)
Powder Coate	ed Carbon Steel									
3"	H0-I-03-PS-C	254	—	300	300	300	260	≈ 35	16 to 18	1.5"
4"	HO-I-04-PS-C	413	—	500	500	500	420	≈ 35	16 to 18	1.5"
6"	H0-I-06-PS-C	413	—	750	750	580	420	≈ 35	16 to 18	1.5"
8"	H0-I-08-PM-C	413	—	1000	830	580	420	≈ 35	16 to 18	1.5"
8"	H0-I-08-PS-C	614	—	1400	1240	880	650	≈65	16 to 18	2"
10"	H0-I-10-PS-C	614	—	2000	1300	920	675	≈65	16 to 18	2"
12"	H0-I-12-PS-C	826	—	2750	1800	1200	850	≈65	16 to 18	2"
14"	HO-I-14-PS-C	826	—	3750	1950	1300	875	≈65	16 to 18	2"
Stainless Ste	el									
3"	HT-I-03-LP-S	—	360	300	300	300	300	≈ 12	10 to 12	1"
4"	HT-I-04-PE-S	_	720	600	600	600	600	≈ 35	10 to 12	1.5"
6"	HT-I-06-PE-S	—	720	800	800	800	720	≈ 35	10 to 12	1.5"
8"	HT-I-08-PS-S	—	1,008	1,400	1,400	1,400	1000	≈ 35	10 to 12	1.5"
8"	HT-I-08-PE-S	—	1,152	1,500	1,500	1,500	1152	≈65	10 to 12	2"
10"	HT-I-10-PE-S	—	1800	3,200	3200	2520	1800	≈65	10 to 12	2"
12"	HT-I-12-PS-S	—	1820	3,400	3,400	2550	1850	≈65	10 to 12	2"
Standard flow	rates assume av	erage water qualit	y (<40 ppm solids).							

All models must have an inlet pressure during rinse cycle of at least 40 psi.

Models and performance data listed are a sample representation of the product line as applied with average water quality. Specific model and performance data can be supplied upon quote request and is based on water source, water quality and filtration level (micron size) required.

Standard drawings are available at www.rainbird.com. Quotations are available upon request at filters@rainbird.com or rainbird.com/golf/products/filtration



# **E-Series Electric Suction Scanning Filter**

Rain Bird's E-Series automatic self-cleaning water filters utilize an electric motor to assist in cleaning during the backwash cycle in turf, landscape, agriculture, greenhouse, golf course, nursery applications and emerging green and blue industries like Aquaculture. Rain Bird electric filters can operate at system pressures as low as 15 psi.

#### **FEATURES**

- Flange: Parallel
- Flow Rate: 400 to 4,250 gpm (90.85 to 965.28 m<sup>3</sup>/h)
- Max Temperature: 210° F (99° C)
- Single electric ball valve for flushing operations standard
- 316 L stainless steel sintered screens standard
- Screen Opening: 5µ to 4000µ
- Working Pressure: 15 to 150 psi (1.03 to 10.34 bar)
- Materials of Construction: Powder-Coated Carbon Steel, Stainless Steel and Duplex Stainless Steel Options
- Available as a filter unit only, or as a filter assembly including bypass plumbing and valves



Filte Differentia Pressure RAIN BIRD Gauge Isolation Isolation Valve Valve Bypass OUTLET

Perform	nance Data		300 50	200 75	Micron Mesh		S	tandard	d Bypas
Line Size	Model Number Powder Coated Carbon Steel	Sintered Screen Area (in²)	Max Flow Rate (gpm)	Std. Flow Rate (gpm)	Flush Volume (gpm)	Flush Line Size (in)		Line Size	Model Numbe
4"	E-04-PS-G	620	400	360	≈ 50	2"		4"	E-4-CS-F
6"	E-06-PE-G	930	720	650	≈ 50	2"		6"	E-6-CS-F
8"	E-08-PS-G	930	1320	1200	≈ 50	2"		8"	E-8-CS-F
10"	E-10-PE-G	1240	1800	1620	≈ 100	2"		10"	E-10-CS-F
12"	E-12-PS-G	1240	2650	2385	≈ 100	2"		12"	E-12-CS-F
14"	E-14-PE-G	1560	4250	3825	≈ 100	2"		12"	E-12-CS-F

# ss Manifold

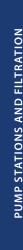
Line Size	Model Number	Max Flow Rate
4"	E-4-CS-F	600 gpm
6"	E-6-CS-F	800 gpm
8"	E-8-CS-F	1500 gpm
10"	E-10-CS-F	3200 gpm
12"	E-12-CS-F	3400 gpm
12"	E-12-CS-F	3400 gpm

Standard flow rates assume average water quality (<40 ppm solids).

E-Series models are specifically designed for pressures < 40 PSI.

Models and performance data listed are a sample representation of the product line as applied with average water quality. Specific model and performance data can be supplied upon quote request and is based on water source, water quality and filtration level (micron size) required.

Quotations are available upon request at filters@rainbird.com or www.rainbird.com/golf/products/filtration





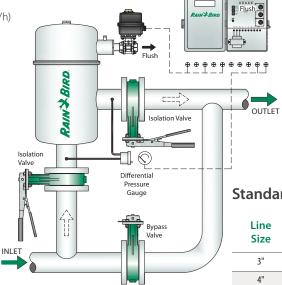
# **G-Series Hydraulic Suction Scanning Filter**

The G-Series is a self-cleaning hydraulic suction scanning screen filter that is powered by source line water pressure. They provide worry-free medium-flow rate filtration for irrigation, industrial and municipal water sources.

G-Series self-cleaning water filters have a compact right angle flange configuration (90°). The G-Series automatic water filter is much smaller than its I-Series counterpart and provides a space-saving alternative.

#### FEATURES

- Standard Flow Rates: 200 to 1,320 gpm (45.42 to 300 m<sup>3</sup>/h)
- Flush Cycle Duration: 4 to 16 seconds
- Flush Valve Size: Single 1" or 1.5"
- Screen: Stainless steel mesh/PVC and stainless steel sintered screen options
- + Screen Opening:  $5\mu$  to  $4000\mu$
- Maximum Temperature: 210°F (99°C)
- Flush Volume: 3 to 7 gallons per backwash
- Working Pressure: 35 to 150 psi (2.40 to 10.34 bar)
- Material of Construction: Powder-coated carbon steel, stainless steel and duplex stainless options
- Available as filter only, or as a complete assembly with bypass manifold and valves



AUTO-EC-2 110VAC Controller



## **Standard Bypass Manifold**

Line Size	Model Number	Max Flow Rate
3"	G-3-CS-F	200
4"	G-4-CS-F	600
6"	G-6-CS-F	750
8"	G-8-CS-F	1320

300	200	120	100	Micron	
50	75	125	140	Mesh	

Line Size	Model Number	Woven Screen Area (in <sup>2</sup> )	Sintered Screen Area (in²)	Max Flow Rate (gpm)	Std. Flow Rate (gpm)	Std. Flow Rate (gpm)	Std. Flow Rate (gpm)	Flush Volume (gpm)	Rinse Duration (seconds)	Flush Line Size (in)
Powder Coated Carbon Steel										
3"	HO-G-03-LE-C	120	—	200	200	170	120	≈ 10	8 to 10	1"
4"	HO-G-04-LS-C	120	—	300	250	170	120	≈ 10	8 to 10	1"
4"	HO-G-04-LE-C	466	_	500	500	500	470	≈25	8 to 10	1.5"
6"	H0-G-06-LS-C	466	_	750	750	650	460	≈25	8 to 10	1.5"
8"	H0-G-08-LS-C	648	—	1300	1300	905	650	≈25	8 to 10	1.5"
8"	HO-G-08-LE-C	810	—	1320	1320	1135	810	≈ 55	8 to 10	2"
Stainless Steel										
3"	HT-G-03-LE-S	_	216	200	200	200	200	≈ 10	8 to 10	1"
4"	HT-G-04-LS-S	—	432	500	500	500	430	≈ 10	8 to 10	1"
4"	HT-G-04-LE-S	_	720	600	600	600	600	≈ 10	8 to 10	1"

Standard flow rates assume average water quality (<40 ppm solids) and some type of pre-filter for large solids (pump suction screen / wye-strainer) if water source is a lake or river. All models must have an inlet pressure during rinse cycle of at least 35 psi. Models and performance data listed are a sample representation of the product line as applied with average water quality. Specific model and performance data can be supplied upon quote request and is based on water source, water quality and filtration level (micron size) required. Standard drawings are available at www.rainbird.com. Quotations are available upon request at filters@rainbird.com or www.rainbird.com/golf/products/filtration

Standard Rain Bird controller: 110V AC (G-Series filters integrated with a Rain Bird pump station are controlled by the pump station PLC/controls).