

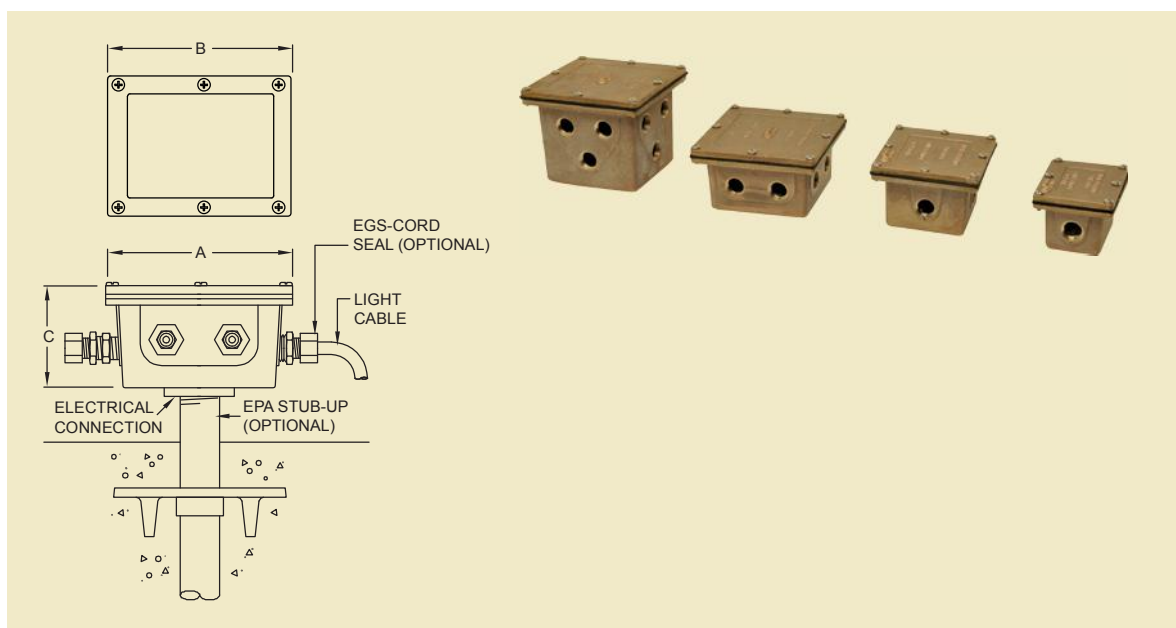
## EBJ Series – Underwater Junction Box

Submersible conduit mounted junction boxes for underwater lights and pumps. Junction boxes come in various sizes and are best used with brass cord seals (EGS) and brass conduit stub ups (EPA). Recommend to seal with junction box sealant (EBJC10 or EBJC20). UL and ULC listed. Made of cast bronze.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*

### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	side connections (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	inside vol. (cu. cm.)
EBJ202	3/4"	2 x 1/2"	102	83	83	78
EBJ204	3/4"	4 x 1/2"	115	115	96	149
EBJ208	1"	8 x 1/2"	140	140	89	265
EBJ212	1 1/4"	12 x 1/2"	140	140	115	420
EBJ216	1 1/2"	16 x 1/2"	178	178	140	768



EBJ202, EBJ204 and EBJ208 are available under our Quick Ship program! See page 15 for more details.

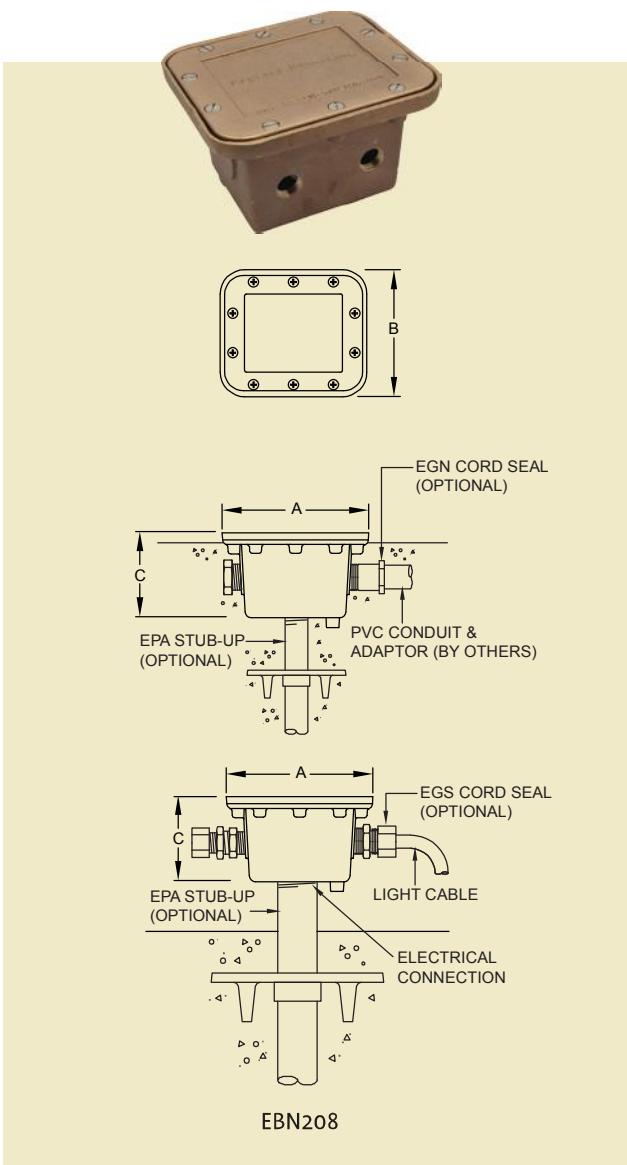
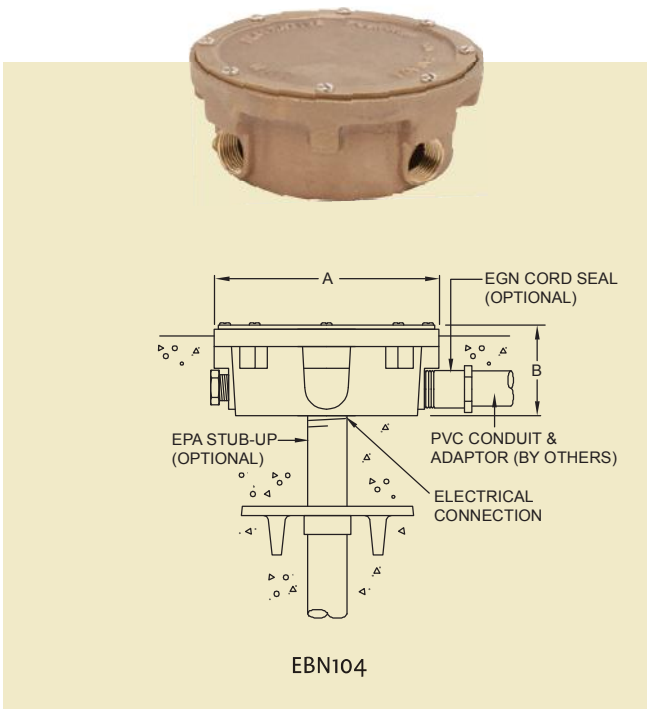
## EBN Series – Underwater Junction Box

Flush-mounted underwater electrical junction box for poured-in-concrete applications. Can also be conduit-mounted. Available in two sizes best used with brass cord seals (EGN) and brass conduit stub ups (EPA). Recommend to seal with junction box sealant (EJC10/C20). UL and ULC listed. Made of cast bronze.

**\*Contact Crystal Fountains for detailed specifications, installation and operation details.**

### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	side connections (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	inside vol. (cu. cm.)
EBN104	¾"	4 x ½"	64	166		149
EBN208	13 to 2"	8 x ½" or ¾"	194	166	115	400



EBN104 is available under our Quick Ship program! See page 15 for more details.

## ECL Series – Water Level Control Panel

The ECL water level control panel is used in conjunction with the AVQ Solenoid Fill Valve and water level sensors to monitor water levels in a fountain. It can monitor up to three water level operations depending on version selected. Operates on 120 or 220 volts. Panel interior NEMA 12 construction with optional weather-proof enclosure:

### Quick-Fill Operation:

Fills or replenishes pool water loss due to evaporation or splash.

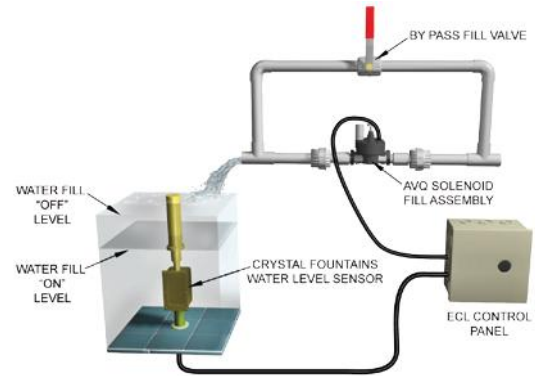
### Safe-Off Operation:

Shuts off in-pool electrical (lighting/pumps during low water level situations).

**Max. Level Control:** With the inclusion of a third sensor applications are expanded i.e

- To signal a high water level in traditional fountains
- Regulate start-up and shut-down water volumes on waterfall applications
- More precision control of high and low water volumes

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



TYPICAL SYSTEM DESIGN

### DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)
ECL100	159	153	108
ECL200	185	134	134
ECL300	286	235	159

## How to Order

### CHOOSE SENSOR

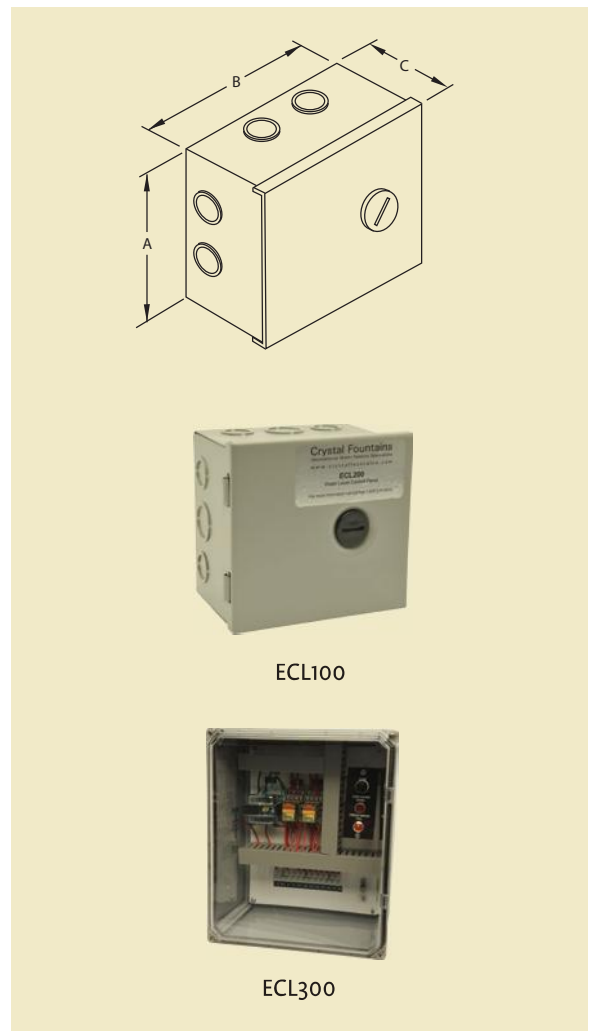
No. of Sensors	Function	Specific Application	Part No.
1	Quick fill	N/A	ECL100
	Safe-off	N/A	ECL101
2	Quick fill and safe-off	N/A	ECL200
3	Quick fill, safe-off and maxi-level control	Reservoir	ECL300
		Differential	ECL301
		High Water Alarm	ECL302

### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
Weather Proof Enclosure	W

### EXAMPLE OF HOW TO ORDER

Quantity	Product	Part No.
1	Quick fill and safe-off water level control panel with weather proof enclosure	ECL200W



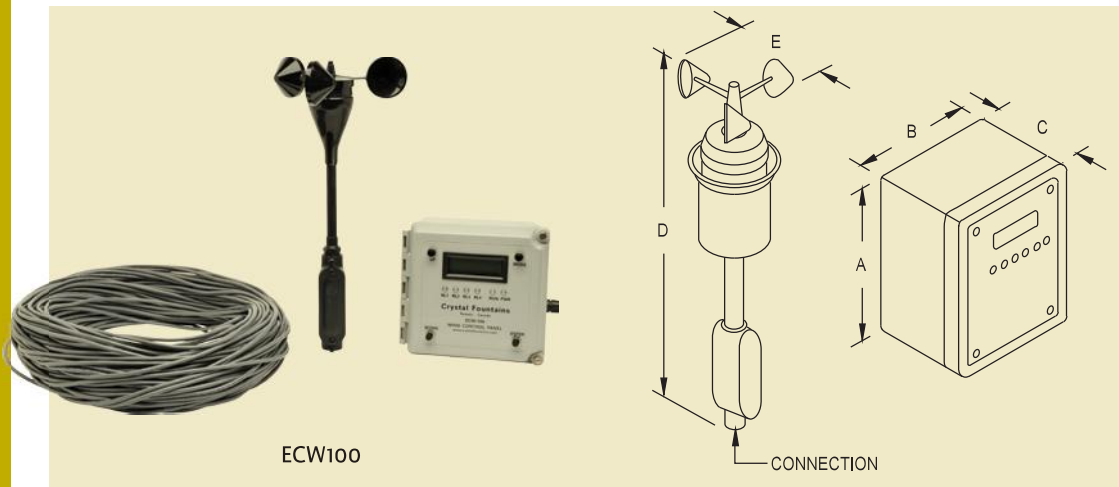
## ECW Series – Wind Control Panel

The ECW series wind control panel accurately senses wind velocity and adjusts the fountain controls to enable the system to continue to operate in less than perfect wind conditions. Panel includes an LCD display panel with adjustable wind-speed set points. Can monitor up to two wind zones at once using the dual sensor capability (ECW200). Can control up to 4 relays (i.e. pumps, sequencing devices etc) and comes with memory back up. Available in 120V/220V. Control panel housing of plastic NEMA 4x rated. Wind sensor with plastic sensing head, rubber boot enclosure and copper and aluminum stem. Cable - 92m length.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*

### DIMENSIONS

Part No.	No. of sensors	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (mm)	e dim. (mm)
ECW100	1	166	204	127	337	153
ECW200	2	166	204	127	337	153



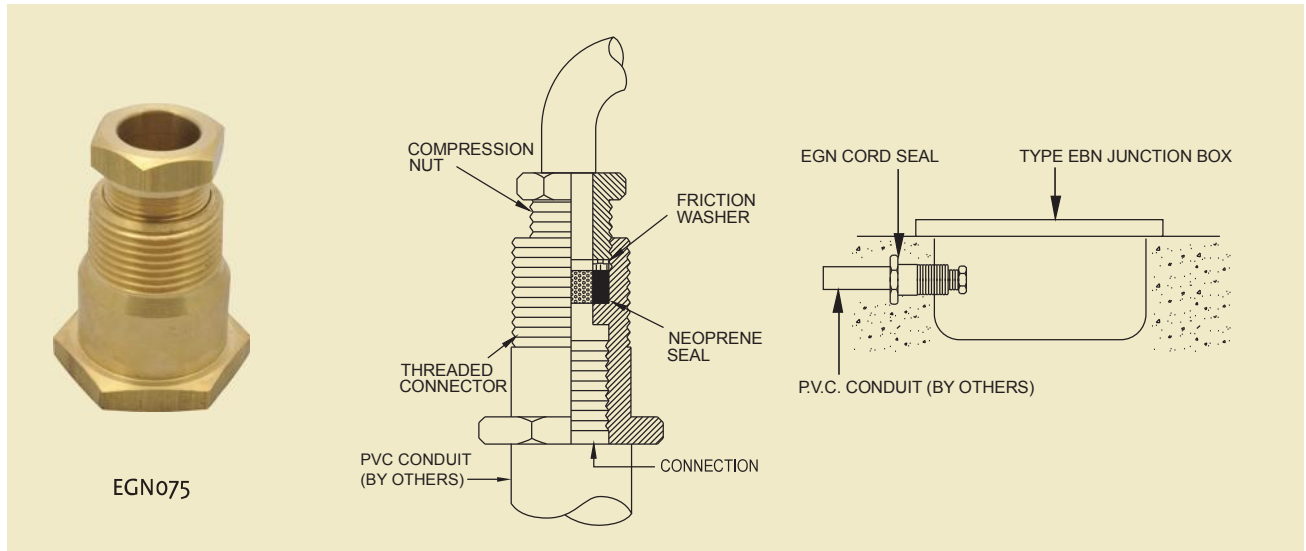
## EGN Series – Junction Box Cord Seal – Flush Mounted

Compression cord seal for use with EBN flush-mounted junction box. Provides watertight connection of underwater cables connecting junction boxes with lights. Threaded connector, compression nut and friction washer made of brass with neoprene compression seal.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*

### DIMENSIONS

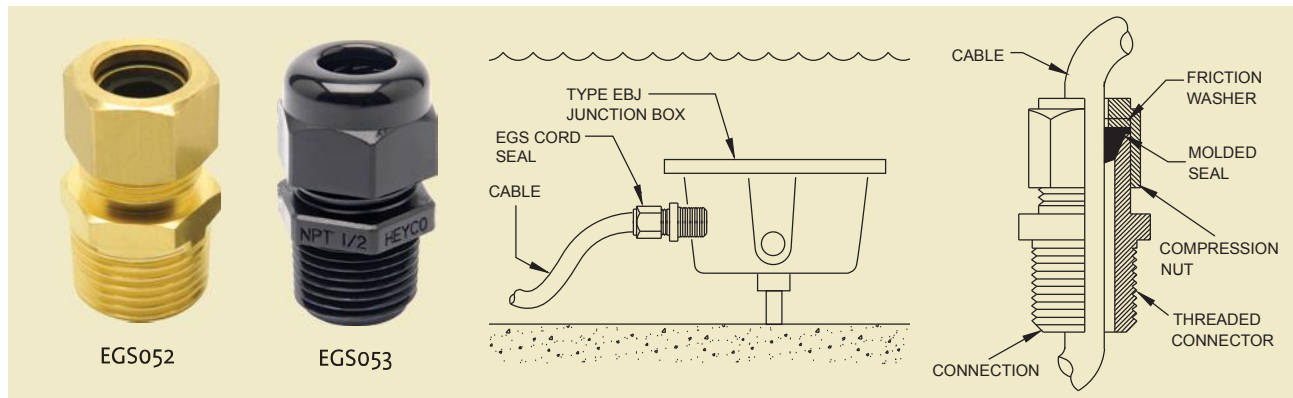
Part No.	Electrical connection (b.s.p.t.)	cable size	awg types
EGN075	3/4"	10 mm - 12 mm	18/3, 18/4, 16/3, 16/4 ...
EGN100	1"	17 mm	10/3--



EGN075 is available under our Quick Ship program! See page 15 for more details.

## EGS Series – Junction Box Cord Seal - Standard

For watertight connections of underwater cables connecting EBJ junction boxes with lights, water level sensors and pumps. Threaded connector, compression nut and friction washer made of brass with neoprene compression seal.



\*Contact Crystal Fountains for detailed specifications, installation and operation details.

### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	cable size	awg types
EGS052	1/2"	10 mm - 12 mm	18/3, 18/4, 16/3, 16/4 ...
EGS053	1/2"	13 mm	18/5
EGS071	3/4"	10 mm - 13 mm	16/5, 14/3 ...
EGS073	3/4"	13 mm - 16 mm	14/5, 12/3, 12/4, 10/3 ...
EGS074	3/4"	16 mm - 20 mm	12/5, 10/4, 8/3 ...

\*EGS053 is only to be used with:

- LED160 Series
- LED170 Slab Hanger Series
- LED180 Slab Hanger Series
- LED052 Series
- LED053 Series
- LED055 Series



EGS052 is available under our Quick Ship program! See page 15 for more details.

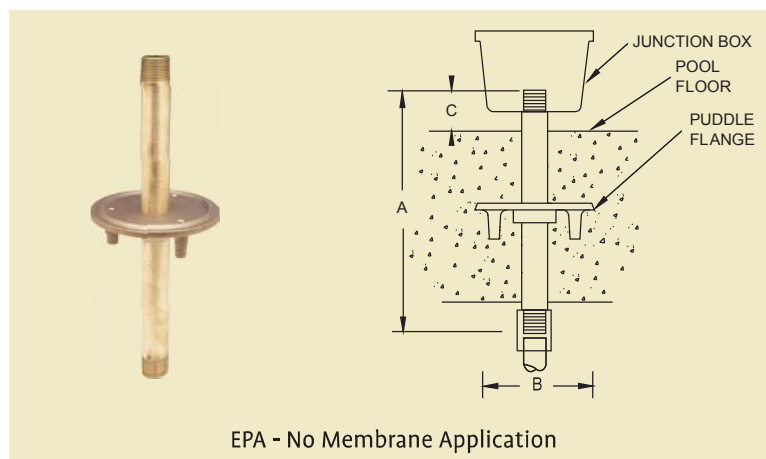
## EP Series – Stub Up

Flanged bronze conduit stub ups adheres to electrical code, are leak-proof and strong. Stub ups provide watertight and secure penetrations through concrete and membranes directly into fountain pools. Works with EBJ or EBN bronze underwater junction boxes. Available in 3 versions for different applications. Made of red brass with cast bronze and available in custom lengths.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*

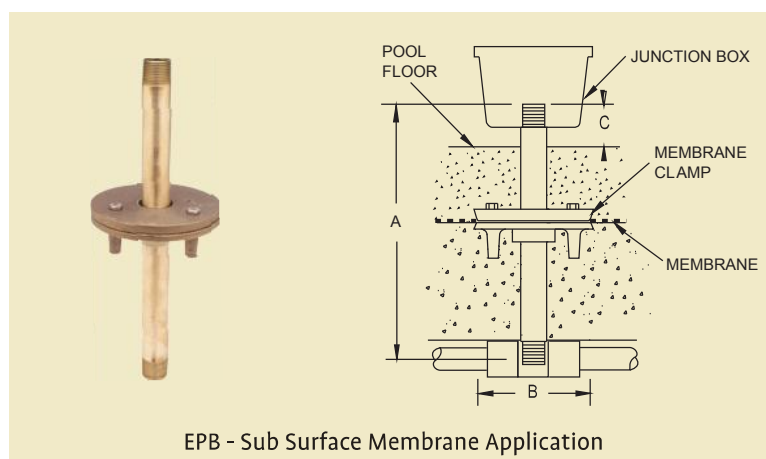
### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)
EPA050	1/2"	305	118	102
EPA075	3/4"	305	118	102
EPA100	1"	305	118	102
EPA125	1 1/4"	305	118	102
EPA150	1 1/2"	305	118	102
EPA200	2"	305	118	102
EPA300	3"	305	118	102



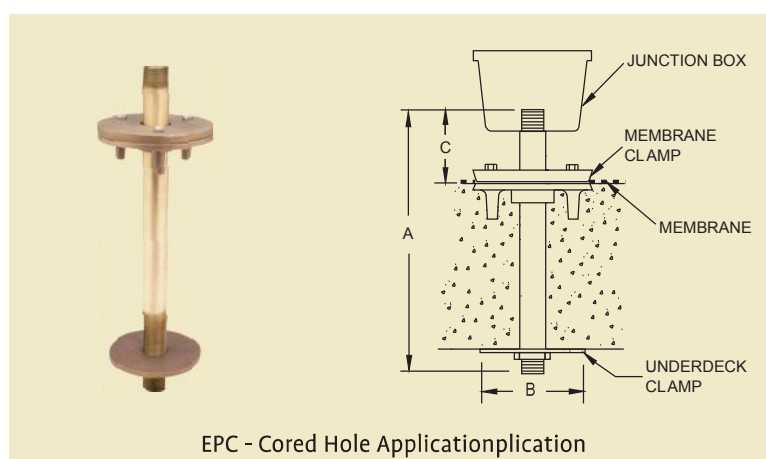
### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)
EPB050	1/2"	305	118	102
EPB075	3/4"	305	118	102
EPB100	1"	305	118	102
EPB125	1 1/4"	305	118	102
EPB150	1 1/2"	305	118	102
EPB200	2"	305	118	102
EPB300	3"	305	118	102



### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)
EPC050	1/2"	305	118	102
EPC075	3/4"	305	118	102
EPC100	1"	305	118	102
EPC125	1 1/4"	305	118	102
EPC150	1 1/2"	305	118	102
EPC200	2"	305	118	102
EPC300	3"	305	118	102

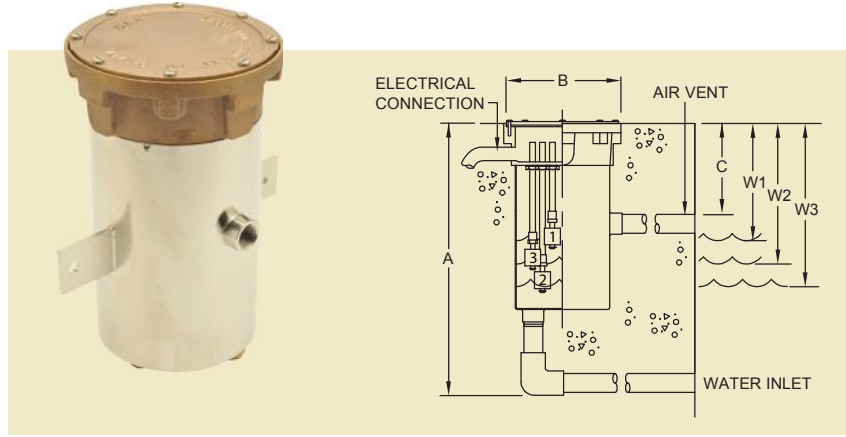


This product (excluding EPA50 and EPA300) is available under our Quick Ship program! See page 15 for more details.

## ESD Series – Deck Mounted Level Sensor

12 VAC 0.5 amp deck-mounted electronic water level sensor automatically monitors quick fill and safe-off functions from outside of the pool. Water entry and air vent tubes extend through pool wall. Top access facilitates final float adjustment. Low voltage for safety. Connects to ECL control panel. Available in 3 versions with 1 – 3 sensors for quick-fill or safe-off or maxi-level control. Made of cast bronze, brass, copper and stainless steel.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



- 1. Quick Fill or Safe off Sensor
- 2. Quick Fills Sensor
- 3. Maxi-Level Sensor

\*\*For typical system design see page 179

### DIMENSIONS

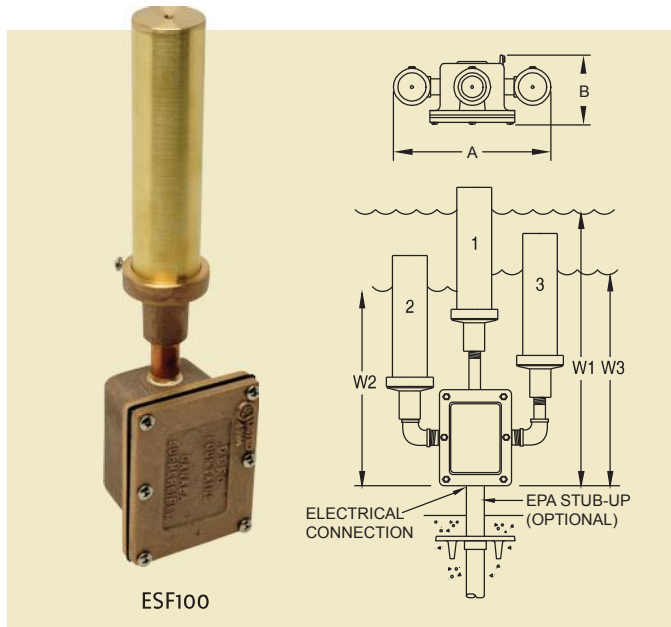
Part No.	Electrical connection (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	w1 dim. (mm)	w2 dim. (mm)	w3 dim. (mm)
ESD100	1/2"	369	166	147	254		
ESD200	1/2"	369	166	147	197	254	
ESD300	1/2"	369	166	147	197	223	254



## ESF Series – Conduit Mounted Level Sensor

12VAC/DC 0.28 amp conduit mounted electronic water level sensor automatically monitors quick fill and safe-off functions. Low voltage for safety. Connects to ECL control panel. Available in 3 versions with 1 – 3 sensors for quick-fill or safe-off or maxi-level control. Also available with custom sensor heights to meet any water depth application. Made of cast bronze and brass.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



ESF100

1. Quick Fill or Safe off Sensor
2. Quick Fills Sensor
3. Maxi-Level Sensor

\*\*For typical system design see page 179.

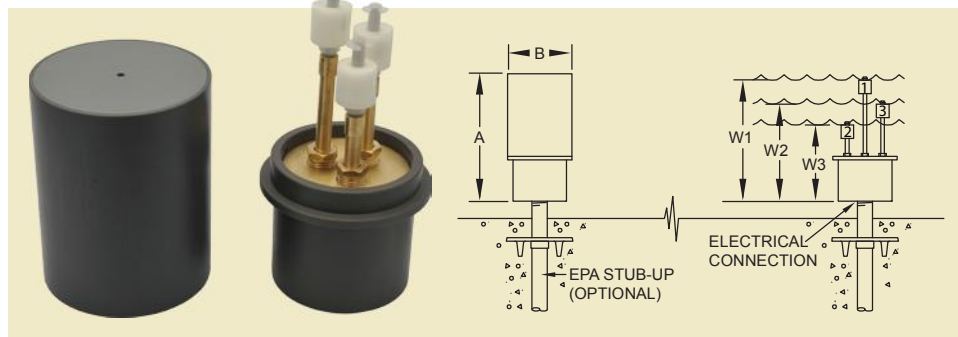
### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	a dim. (mm)	b dim. (mm)	w1 dim. (mm)	w2 dim. (mm)	w3 dim. (mm)
ESF100	¾"	83	83	254		
ESF200	¾"	102	204	204	254	
ESF300	¾"	102	204	204	229	254

## ESG Series – Conduit Mounted Level Sensor

12VAC/DC 0.28 amp conduit mounted electronic water level sensor automatically monitors quick fill and safe-off functions. Low voltage for safety. Connects to ECL control panel. Available in 3 versions with 1 – 3 sensors for quick-fill or safe-off or maxi-level control. Made of extruded plastic, brass, copper and stainless steel.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



1. Quick Fill or Safe off Sensor
2. Quick Fills Sensor
3. Maxi-Level Sensor

\*\*For typical system design see page 179.

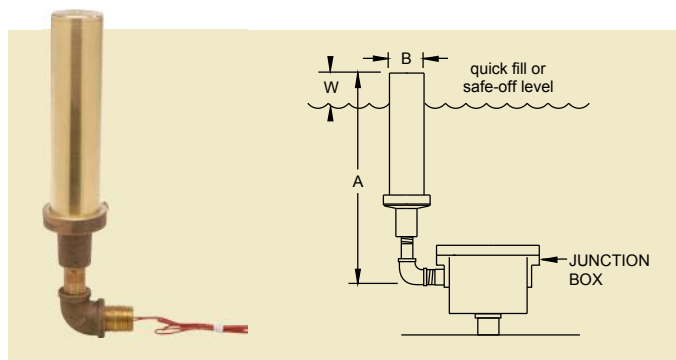
### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	a dim. (mm)	b dim. (mm)	w1 dim. (mm)	w2 dim. (mm)	w3 dim. (mm)
ESG100	3/4"	229	115	216		
ESG200	3/4"	229	115	216	166	
ESG300	3/4"	229	115	216	185	166

## ESL Series – Adaptable Level Sensor

The 24 VAC/DC 0.28 amp water level sensor is adaptable to most junction boxes for varied applications and good for fountain renovation. Sensors can be used for quick-fill and/or safe-off functions on pools where level controls either were not provided or are no longer functional. Connects to ECL control panel. Available in custom sizes for various water depths. Made of bronze and brass.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



\*\*For typical system design see page 179.

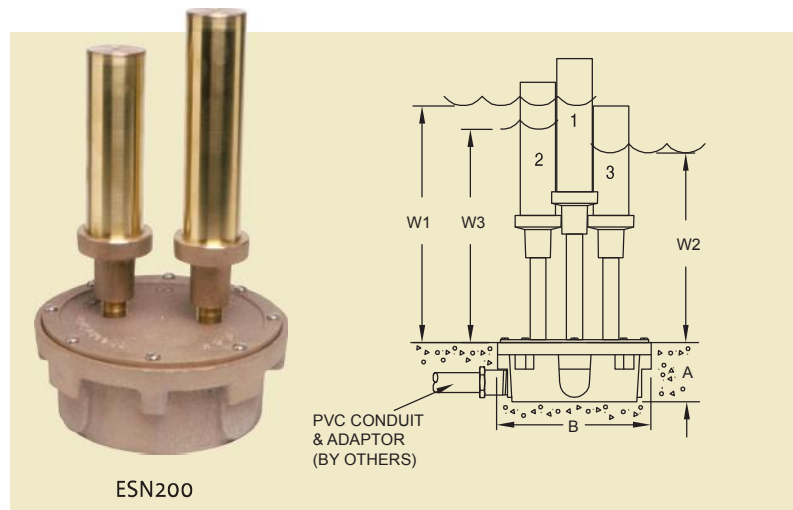
### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	a dim. (mm)	b dim. (mm)	w dim. (mm)
ESL100	1/2"	242	39	51

## ESN Series – Cast-In Level Sensor

24VAC/DC 0.28 amp cast-in electronic water level sensor automatically monitors quick fill and safe-off functions in very shallow water depths. Sensor is adjustable in height after installation. Low voltage for safety. Connects to ECL control panel. Available with either side or bottom power connection and is available in 3 versions with 1 – 3 sensors for quick-fill or safe-off or maxi-level control. Also available in custom sizes for various water depths. Made of cast bronze and brass.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



1. Quick Fill or Safe off Sensor
2. Quick Fills Sensor
3. Maxi-Level Sensor

\*\*For typical system design see page 179.

### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	a dim. (mm)	b dim. (mm)	w1 dim. (mm)	w2 dim. (mm)	w3 dim. (mm)
ESN100 / ESN101	½"	64	166	254		
ESN200 / ESN201	½"	64	166	254	204	
ESN300 / ESN301	½"	64	166	254	204	229

## How to Order

### CHOOSE SENSOR

Function	No. of Sensors	Connection	Part No.
Quick fill or safe-off	1	Side	ESN100
		Bottom	ESN101
Quick fill and safe-off	2	Side	ESN200
		Bottom	ESN201
Quick fill, safe-off and maxi-level control	3	Side	ESN300
		Bottom	ESN301

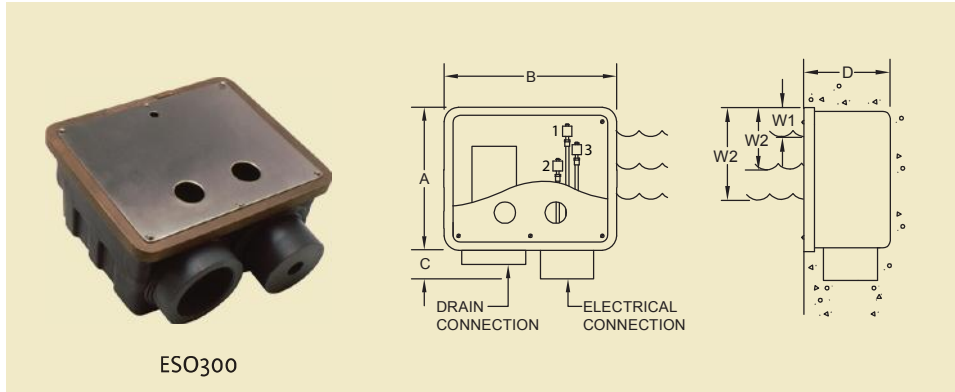
## ESO Series – Electronic Level Control and Overflow

12VAC 0.5 amp flush, wall mounted, combination electronic water level controller and overflow drain. Automatically monitors quick fill and safe-off functions, and drains overflow water through a built in drain. Integral adjustments on level sensors and standpipe facilitate adjustments after installation. Low voltage for safety. Connects to ECL control panel. Available in 3 versions with 1 – 3 sensors for quick-fill or safe-off or maxi-level control. Also available with vandal resistant kit or brass cover plate. Made of cast bronze with resistant stainless steel cover and molded plastic enclosure. Overflow drain assembly of brass, copper and extruded plastic fitted.

\*Contact Crystal Fountains for detailed specifications, installation and operation details.



This product is available under our Quick Ship program! See page 15 for more details.



- 1. Quick Fill or Safe off Sensor
- 2. Quick Fills Sensor
- 3. Maxi-Level Sensor

\*\*For typical system design see page 179.

### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	Drain connection (n.p.t.) (mm)	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (mm)	w1 dim. (mm)	w2 dim. (mm)	w3 dim. (mm)
ESO100 / ESO101	3/4"	77	254	305	51	147	64		
ESO200 / ESO201	3/4"	77	254	305	51	147	64	115	
ESO300 / ESO301	3/4"	77	254	305	51	147	64	89	115

### How to Order

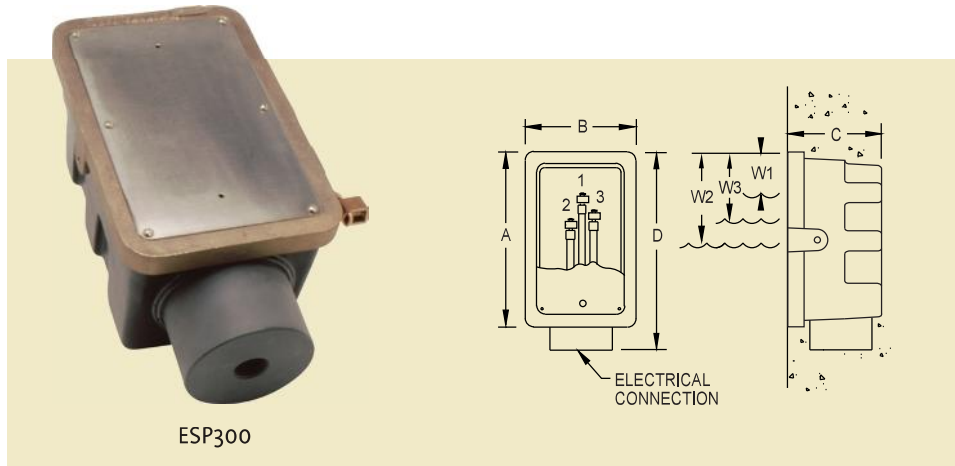
#### CHOOSE SENSOR

Function	No. of Sensors	Cover Material	Part No.
Quick fill or safe-off	1	Stainless Steel	ESO100
		Brass	ESO101
Quick fill and safe-off	2	Stainless Steel	ESO200
		Brass	ESO201
Quick fill, safe-off and maxi-level control	3	Stainless Steel	ESO300
		Brass	ESO301

## ESP Series – Wall Mounted Level Sensor

12VAC/DC 0.28 amp flush, wall mounted, electronic water level sensor automatically monitors quick fill and safe-off functions. Low voltage for safety. Connects to ECL control panel. Available in 3 versions with 1 – 3 sensors for quick-fill, safe-off or maxi-level control. Also available with vandal resistant kit or brass cover plate. Made of cast bronze frame with stainless steel.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



1. Quick Fill or Safe off Sensor
2. Quick Fills Sensor
3. Maxi-Level Sensor

\*\*For typical system design see page 179.

### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (mm)	w1 dim. (mm)	w2 dim. (mm)	w3 dim. (mm)
ESP100 / ESP101	3/4"	261	166	134	312	51		
ESP200 / ESP201	3/4"	261	166	134	312	51	102	
EPS300 / EPS301	3/4"	261	166	134	312	51	77	102

## How to Order

### CHOOSE SENSOR

Function	No. of Sensors	Cover Material	Part No.
Quick fill or safe-off	1	Stainless Steel	ESP100
		Brass	ESP101
Quick fill and safe-off	2	Stainless Steel	ESP200
		Brass	ESP201
Quick fill, safe-off and maxi-level control	3	Stainless Steel	ESP300
		Brass	ESP301

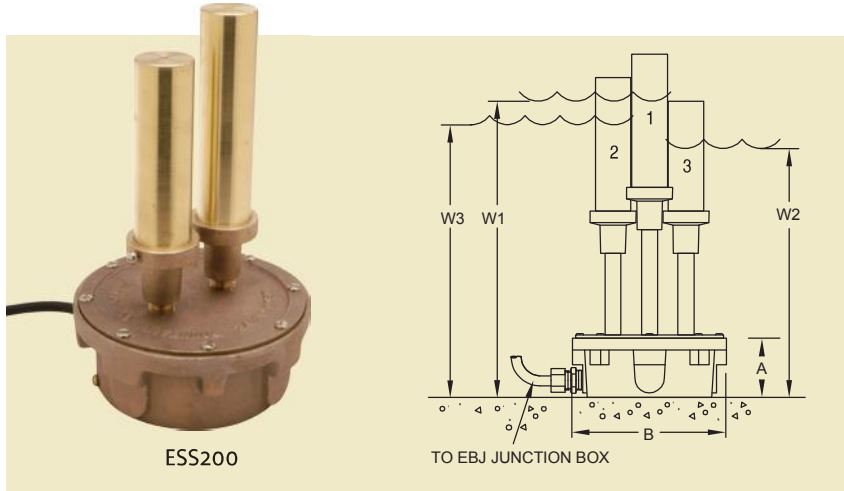


This product is available under our Quick Ship program! See page 15 for more details.

## ESS Series – Moveable Level Sensor

24 VAC/DC 0.28 amp moveable electronic water level sensor automatically monitors quick fill and safe-off functions in very shallow water depths. Connects to a junction box that can be moved to anywhere within its cable reach. Sensor is adjustable in height after installation. Low voltage for safety. Connects to ECL control panel. Available in 3 versions with 1 – 3 sensors for quick-fill or safe-off or maxi-level control. Made of cast bronze and comes with 2.7m type submersible cable.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



- 1. Quick Fill or Safe off Sensor
- 2. Quick Fills Sensor
- 3. Maxi-Level Sensor

\*\*For typical system design see page 179.

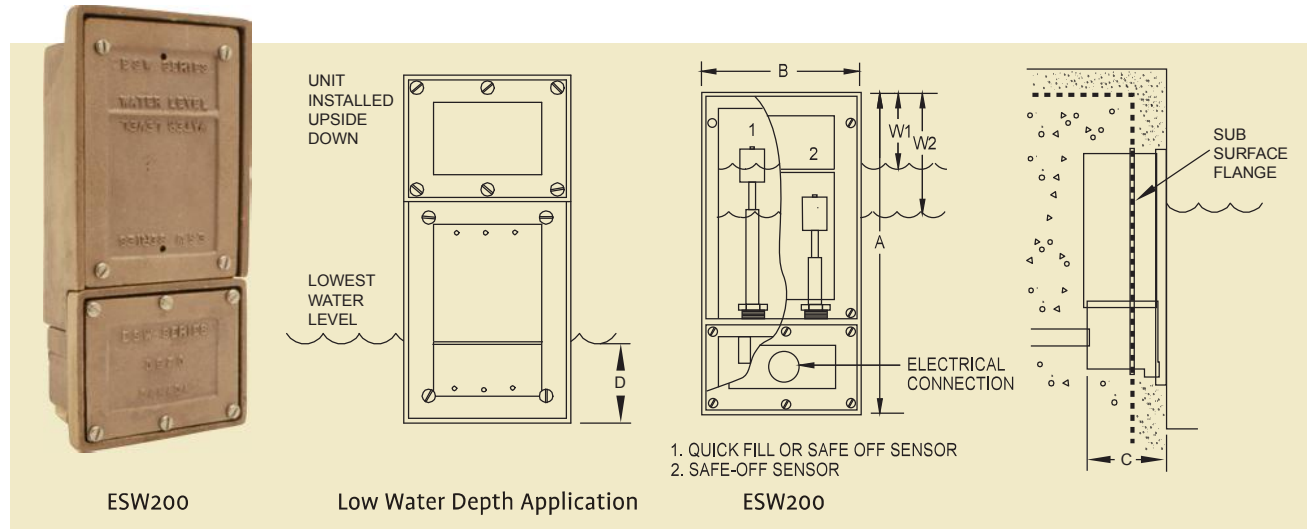
### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	a dim. (mm)	b dim. (mm)	w1 dim. (mm)	w2 dim. (mm)	w3 dim. (mm)
ESS100	1/2"	64	166	254		
ESS200	1/2"	64	166	254	204	
ESS300	3/4"	64	166	254	204	229

## ESW Series – Wall Mounted Level Sensor

24 VAC/DC 0.28 amp flush, wall mounted, electronic water level sensor automatically monitors quick fill and safe-off functions. May be mounted upside down for shallow applications. Standard with back connection. Low voltage for safety. Connect to ECL control panel. Available in 2 versions with 1 or 2 sensors for quick-fill or safe-off. Also available with optional bottom connection, surface flange or membrane clamp. Made of cast bronze.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



\*\*For typical system design see page 179.

### DIMENSIONS

Part No.	Electrical connection (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (mm)	w1 dim. (mm)	w2 dim. (mm)
ESW100 - ESW105	1/2"	254	121	77	64	64	
ESW200 - ESW205	1/2"	254	121	77	64	64	83

## How to Order

### CHOOSE SENSOR

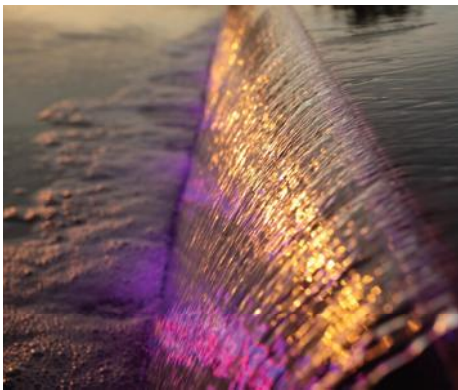
Function	No. of Sensors	Connection	Waterproof Membrane Clamp	Waterstop Subsurface Flange	Part No.
Quick fill or safe-off	1	back	no	no	ESW100
				yes	ESW101
			yes	yes	ESW102
		bottom	no	no	ESW103
				yes	ESW104
			yes	yes	ESW105
Quick fill and safe-off	2	back	no	no	ESW200
				yes	ESW201
			yes	yes	ESW202
		bottom	no	no	ESW203
				yes	ESW204
			yes	yes	ESW205



# DRAINS AND INLETS

Crystal Fountains manufactures a full line of safe, functional drains and inlets. Commercial quality drains and inlets with a 10 year warranty. For 40 years Crystal Fountains has manufactured a line of components for the fountain industry. From drains designed for interactive use to more functional drains, Crystal Fountains products are guaranteed to last.

192	DRAINS AND INLETS
193	DOA Series – Overflow Drain
194	DOB Series – Overflow Drain
195	DOL Series – Overflow Drain
196	DOW Series – Overflow Drain
197	DPB Series – Outlet Drain
198	DSA Series – Suction Drain
199	DSB – Foot Friendly Suction Drain
200	DTS Series – Threaded Sleeve Fitting
201	IEA Series – Inlet Fitting
202	IEB Series – Inlet Fitting
202	IET Series – Trough Inlet
203	IFA Series – Inlet Fitting

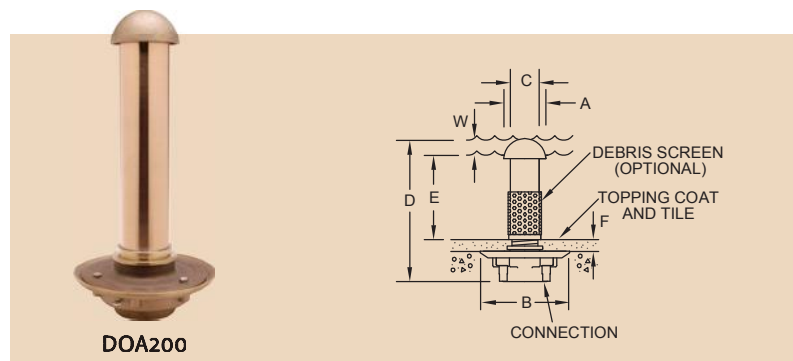




## DOA Series – Overflow Drain

Combination overflow and pool drain. Excess water overflows into standpipe. Slip connection on standpipe facilitates removal for draining. Available with optional debris screen, other stand-pipe sizes or underdeck clamp for low tile applications. Made of cast bronze with copper standpipe and stainless steel fasteners.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (max.) (mm)	e dim. (mm)	f dim. (mm)
DOA200	2"	83	166	51	553	458	51
DOA300	3"	108	223	77	553	458	39
DOA400	4"	134	229	102	553	458	26

### PERFORMANCE

Part No.	Flow (LPM)	38.0	46.0	57.0	76.0	95.0	113.0	132.0	151.0
DOA200	water level above drain (w dim.) (mm)	16	35	51	64	70	80	108	242
DOA300		16	19	35	54	83	127		
DOA400		16	13	26	29	39	54	67	86

### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
Debris Screen	D
Stand Pipe Greater than 450 mm	S
Underdeck Clamp	U

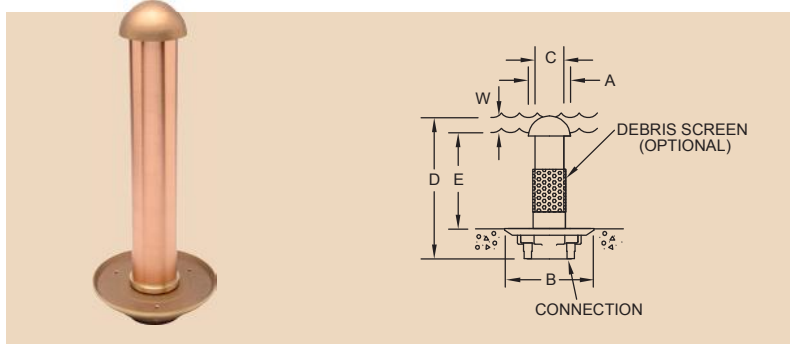


This product is available under our Quick Ship program! See page 15 for more details.

## DOB Series – Overflow Drain

This combination overflow and pool drain is the economical sister to the DOA Overflow Drain. Ideal for applications that do not require waterproofing membranes and clamp collars. Excess water flows into a standpipe which has a slip connection for easy draining. Available with optional debris screen and other standpipe sizes upon request. Made of cast bronze with copper standpipe and stainless steel fasteners.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (max.) (mm)	e dim. (mm)	w dim. (mm)
DOB200	2"	83	166	51	553	458	51
DOB300	3"	108	223	77	553	458	39
DOB400	4"	134	229	102	553	458	26

### PERFORMANCE

Part No.	Flow (LPM)	19.0	38.0	57.0	76.0	95.0	113.0	132.0	151.0
DOB200	water level above drain (w dim.) (mm)	16	35	51	64	70	80	108	242
DOB300		16	19	35	54	58	127		
DOB400		16	13	26	29	39	54	67	86

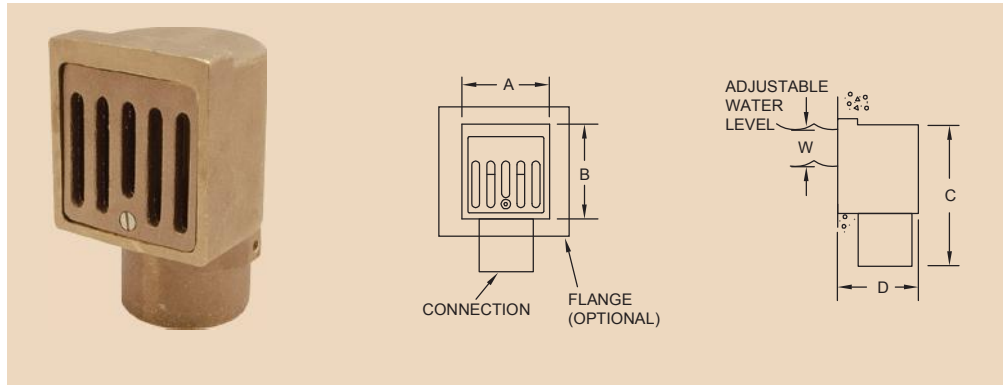
### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
Debris Screen	D
Stand Pipe Greater than 450 mm	S
Underdeck Clamp	U

## DOL Series – Overflow Drain

Light duty, wall mounted overflow drain regulates water level. Excess water spills over adjustable weir. Single screw adjusts overflow tube to desired level after installation. Available with optional surface flange or membrane clamp. Made of cast bronze.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



This product is available under our Quick Ship program! See page 15 for more details.

### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (mm)	w dim. (mm)
DOL150	1 1/2"	83	89	134	83	39

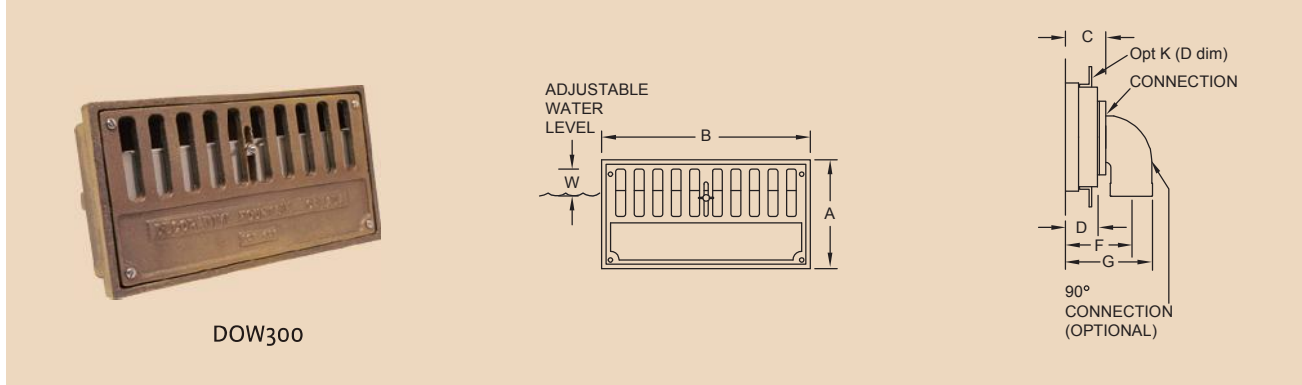
### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
Surface Flange	K
Membrane Clamp	L

## DOW Series – Overflow Drain

Heavy-duty, wall mounted overflow drain regulates water level. Excess water spills over adjustable weir. Single screw adjusts weir plate to desired level after installation. Available with optional open grate, surface flange, membrane clamp, 90° solder elbow or winter cover. Made of cast bronze.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



DOW300

### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (mm)	f dim. (mm)	g dim. (mm)	w dim. (mm)
DOW300	3"	159	305	64	32 to 51	120	159	51
DOW400	4"	159	305	64	32 to 51	147	185	51

### PERFORMANCE

Flow (LPM)	19.0	38.0	56.0	76.0	95.0	113.0	132.0	151.0	170.0	189.0	208.0	227.0	246.0	265.0	284.0	303.0	322.0	341.0	360.0	378.0	397.0	416.0	435.0
water level above drain (w dim.) (mm)	10	13	16	21	26	32	35	39	45	51	69	89	121										
	7	13	20	23	26	32	39	39	45	48	54	58	61	64	64	70	70	80	96	115	131	150	169

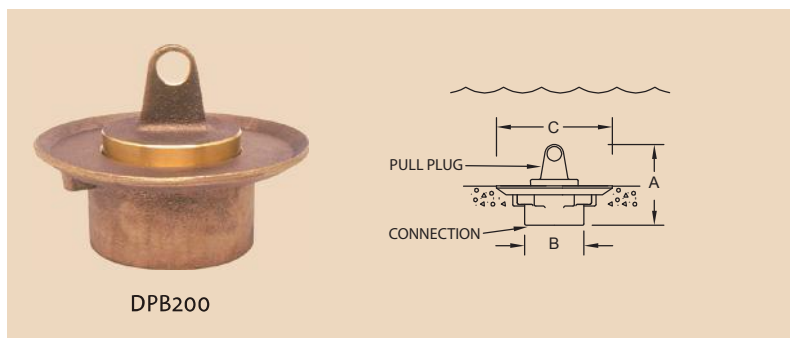
### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
Open Grate	E
Surface Flange	K
Membrane Clamp	L
90° Solder Elbow	M
Winter Cover	W

## DPB Series – Outlet Drain

Outlet drain for draining pools. Plug has slip connection for easy removal. Ideal for applications that do not require waterproofing membranes and clamp collars. Made of cast bronze.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)
DPB200	2"	89	89	166
DPB300	3"	127	102	166
DPB400	4"	134	127	166

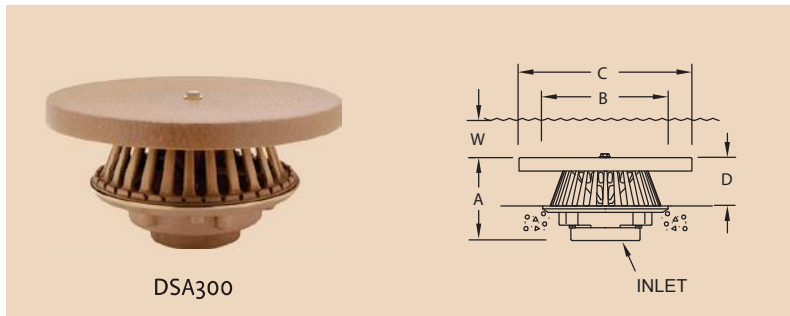
## DSA Series – Suction Drain

Pump suction drain for concrete pools. Low profile and inverted cone shaped “maxi-flo” strainer intercepts debris and anti-vortex plate prevents air entrainment. Available with optional adjustable flow regulator, cast bronze anti-vortex plate, debris screen, flat grate, membrane clamp, underdeck clamp, fiberglass square anti-vortex plate or fiberglass square anti-vortex plate recessed for tiles. Made of cast bronze with textured anti-vortex plate and stainless steel fasteners.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



DSA200 and DSA300 are available under our Quick Ship program! See page 15 for more details.



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (mm)	w dim. (mm)	Strainer/Grate Free Area (cm. squared)
DSA200	2"	134	166	204	89	77	142
DSA300	3"	166	229	305	102	102	304
DSA400	4"	166	229	305	102	204	304
DSA600	6"	166	305	407	102	254	517
DSA800	8"	254	356	407	178	254	968

### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
Adjustable Flow Regulator	A
Cast Bronze Anti-vortex Plate	C
Debris Screen	D
Flat Grate	G
Membrane Clamp	L
Underdeck Clamp	U
Fiberglass Square Anti-vortex Plate	V
Fiberglass Square Anti-vortex Plate recessed for tiles	Y
Winter Cover	W

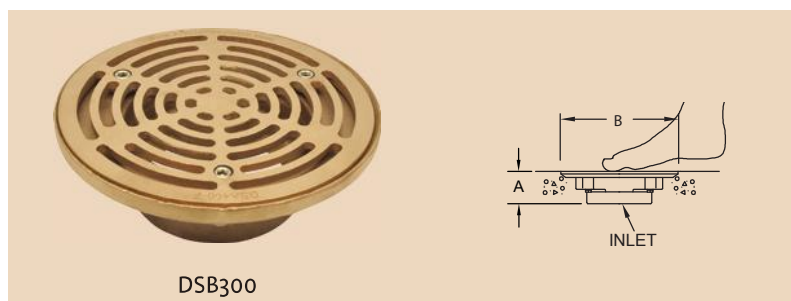
## DSB – Foot Friendly Suction Drain

The DSB series comes with foot friendly flat grate and is perfect for interactive water features.

### Safe for interactive play

- Openings are no more than 10mm to prevent toe entrapment.
- Flush mounted for no trip hazards. Made of cast bronze.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



DSB300

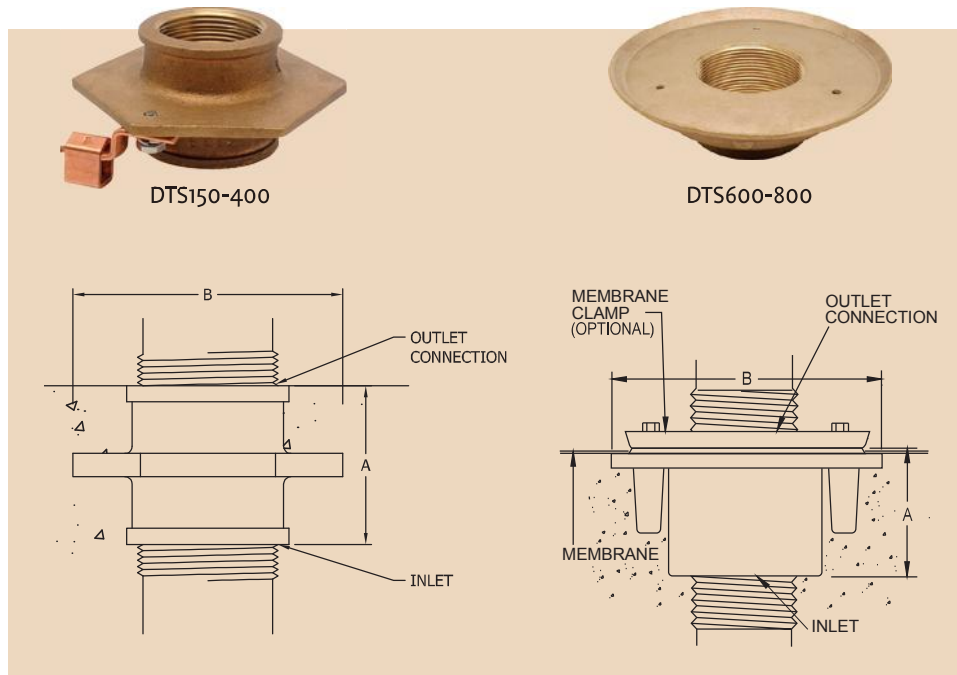
### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	w dim. (mm)	Strainer/Grate Free Area (cm. squared)
DSB300	3"	65	230	note	168
DSB400	4"	65	230	note	168
DSB600	6"	65	305	note	291

## DTS Series – Threaded Sleeve Fitting

Threaded sleeve fitting facilitates watertight penetrations through concrete slabs for supply and drain lines. Available with optional membrane clamp or underdeck clamp. Made of cast bronze with stainless steel fasteners.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)
DTS075	3/4"	58	127
DTS100	1"	58	127
DTS125	1 1/4"	58	127
DTS150	1 1/2"	58	127
DTS200	2"	58	166
DTS300	3"	70	229
DTS400	4"	70	229
DTS600	6"	70	293
DTS800	8"	77	343

### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
Membrane Clamp (DTS300-800 only)	L
Underdeck Clamp (DTS300-800 only)	U



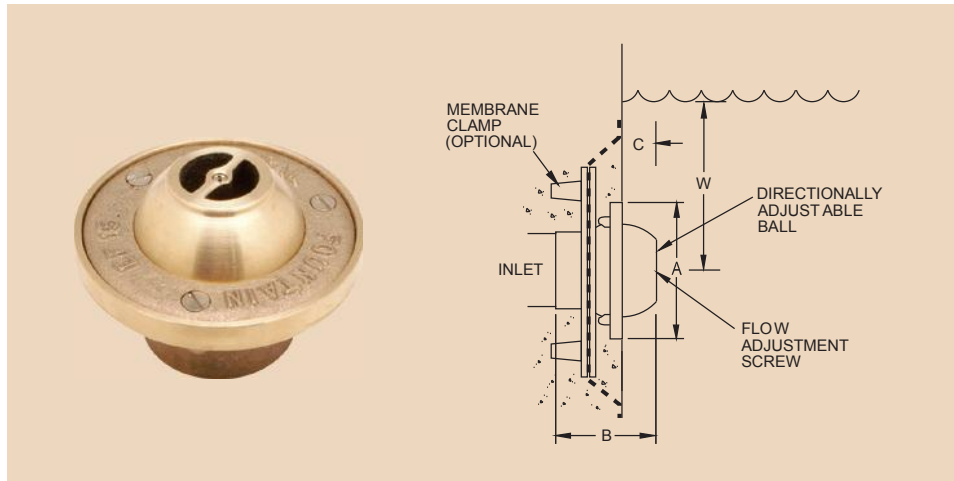
DTS100, DTS150 and DTS200 are available under our Quick Ship program! See page 15 for more details.



## IEA Series – Inlet Fitting

Precision engineered for heavy-duty fountain water recirculation. Adjustable eyeball filter return for pool recirculation. External adjustment makes flow regulation and balancing easy. Available with optional surface flange, membrane clamp or winter cover. Made of cast bronze with stainless steel fasteners.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	w dim. (min) (mm)
IEA150	1 1/2"	99	74	26	153

### Choose Additional Options

Options	Add Suffix
Surface Flange	K
Membrane Clamp	L
Winter Cover	W

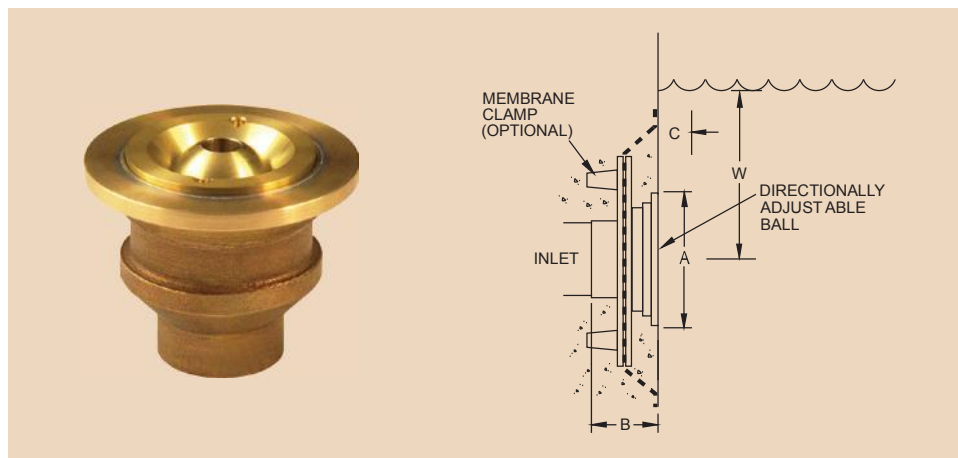


This product is available under our Quick Ship program! See page 15 for more details.

## IEB Series – Inlet Fitting

A directionally adjustable eyeball filter return for pool recirculation without flow regulator. Available with optional surface flange or membrane clamp. Made of bronze.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	w dim. (min) (mm)
IEB160	1"	89	77	153

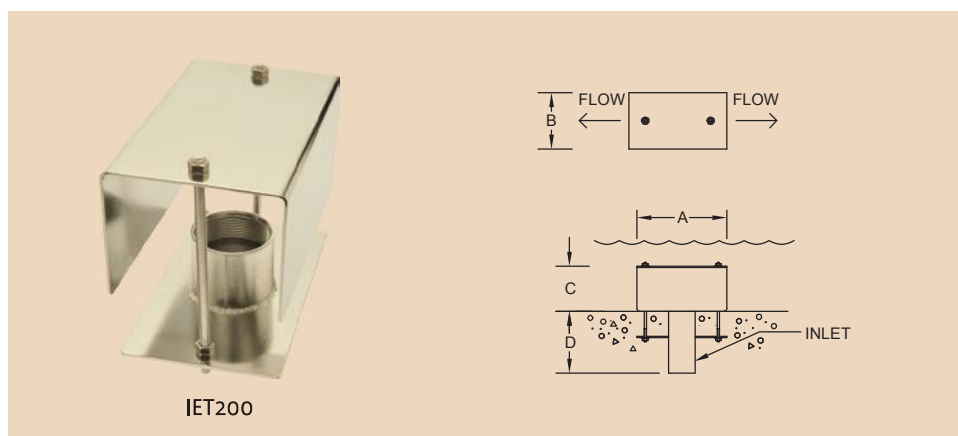
### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
Surface Flange	K
Membrane Clamp	L
Face Plate Removal Key	R
Winter Cover	W

## IET Series – Trough Inlet

Compact sized inlet to be used in small troughs in waterfalls or stepped cascades. Diverter plate conceals opening and diverts inlet water. Made of stainless steel or PVC.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



IET200

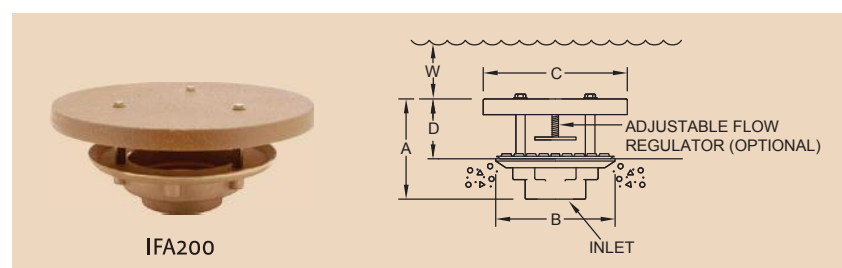
### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (mm)
IET200	2"	204	127	102	127
IET300	3"	254	204	102	127
IET400	4"	254	204	102	127

## IFA Series – Inlet Fitting

Supply inlet for concrete pools with diffuser plate to disperse flow and reduce surface turbulence. Ideal for waterfalls and cascade fountains.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (mm)	w dim. (min) (mm)
IFA200	2"	140	166	204	89	77
IFA300	3"	166	229	305	102	102
IFA400	4"	166	229	305	102	204
IFA600	6"	178	305	407	102	254
IFA800	8"	254	356	407	178	254

### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
Adjustable Flow Regulator	A
Cast Bronze Diffuser Plate	C
Membrane Clamp	L
Underdeck Clamp	U
Fiberglass Square Anti-vortex Plate	V
Fiberglass Square Anti-vortex Plate recessed for tiles	Y
Winter Cover	W

# ACCESSORIES

Crystal Fountains manufactures a select line of water feature accessories.

From swivel units to help align spray nozzles to hydraulic fill valves, Crystal Fountains manufactures a full line of commercial quality accessories for your fountain needs.

General Information for Accessories

**Standard Threading:**

Standard threading on components are National Pipe Thread (NPT) unless requested otherwise at the time of order. All thread sizes less than 26mm will be NPT.

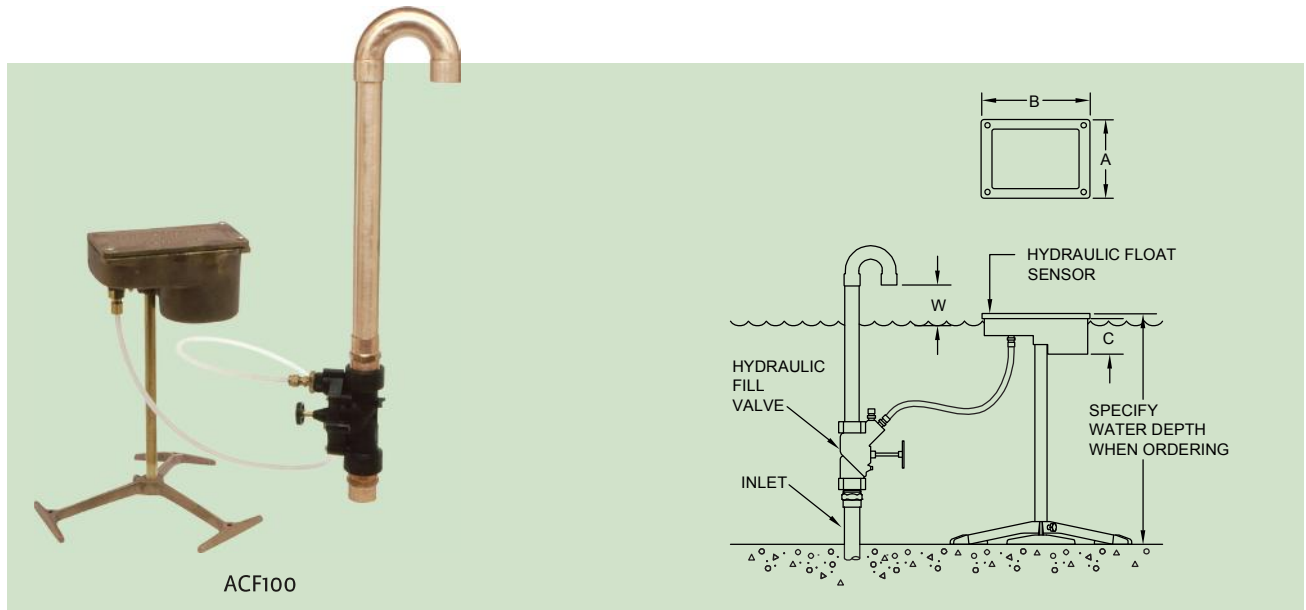
204	ACCESSORIES
205	ACF Series – Heavy-Duty Hydraulic Water Level Control
206	ACX Series – Light Duty Hydraulic Water Level Control
207	ADF Series – Spray-Thru Sleeve
207	ADG Series – Spray-Thru Sleeve
208	ADP Series – Debris Pan for Sump
208	AFG Series – Grate with Frame
209	AFI Series – Discharge Filter
210	APS Series – Submersible Fountain Pump
210	ASU Series – Swivel Connector
211	AVQ Series – Solenoid Actuated Fill Valve
212	AVR Series – Solenoid Valve with Manifold
213	AWA Series – Vacuum Fitting
213	AWB Series – Vacuum Fitting
214	AWO Series – Combination Hydraulic Water Level and Overflow Assembly
215	AWS Series – Wall Skimmer



## ACF Series – Heavy-Duty Hydraulic Water Level Control

Freestanding, non-electric hydraulic water level controls with quick fill action for medium-sized and large pools. Variable height adjustments and slow closing feature prevent shock from water hammer. Fill spout and valve assembly attach to in-pool water supply. Specify water depth when ordering. Made of brass, copper and stainless steel.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

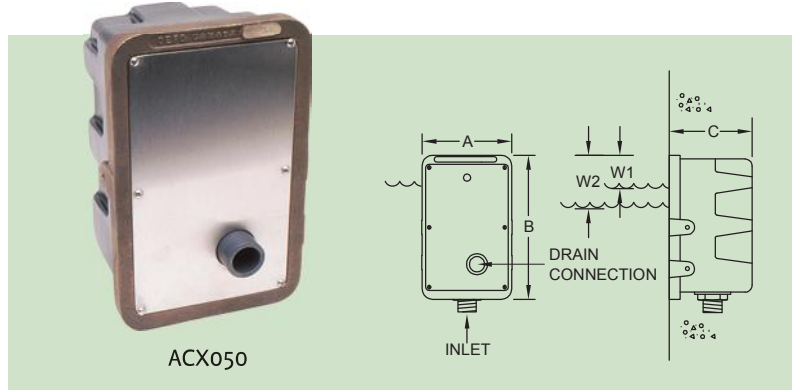
### PERFORMANCE

Part No.	inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	LPM at 15 PSI
ACF075	¾"	77	153	89	151.0
ACF100	1"	77	153	89	151.0
ACF125	1 ¼"	77	153	89	322.0
ACF150	1 ½"	77	153	89	341.0
ACF200	2"	77	153	89	454.0

## ACX Series – Light Duty Hydraulic Water Level Control

Flush, wall mounted, non-electric hydraulic water level control with built-in level adjustment automatically fills smart fountains. Available with optional brass cover plate or vandal resistant kit. Made of cast bronze frame with stainless steel cover.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



ACX050

### DIMENSIONS

### PERFORMANCE

Part No.	inlet (b.s.p.t.) (auto fill)	Drain Conn. (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	w1 dim. (mm)	w2 dim. (mm)	Recommended Water Pressure (PSI)	Recommended Flow (LPM)
ACX050 / ACX051	1/2"	2"	166	254	147	61	93	25 to 50	19.0
ACX100 / ACX101	1"	2"	166	254	147	51	83	35 max.	34.0

## How to Order

### Choose Sensor

Sensor Type	Cover Material	Part No.
19 LPM	Stainless Steel	ACX050
	Brass	ACX051
34 LPM	Stainless Steel	ACX100
	Brass	ACX101

### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
Chromed Frame	Q
Vandal Resistant Driver Kit	V

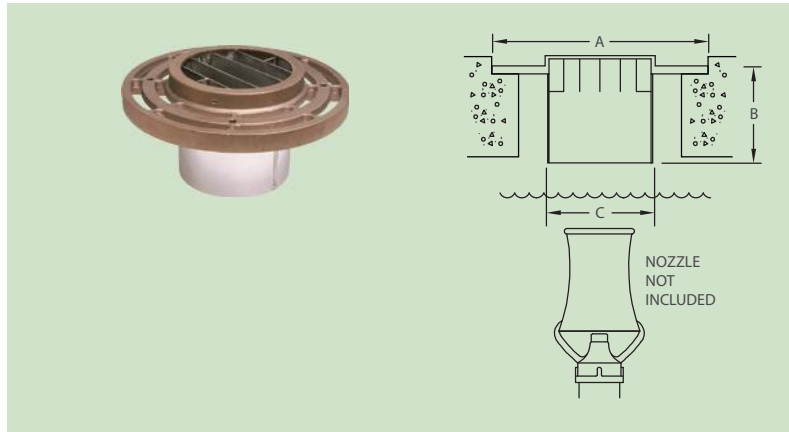


This product is available under our Quick Ship program! See page 15 for more details.

## ADF Series – Spray-Thru Sleeve

Used in “dry pool” applications where it is desirable to conceal water reservoir and jets beneath pool floor slab. Ideal for areas prone to vandalism. Cascading water projects through sleeve and drains through the surface flange. Made of cast bronze and stainless steel.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



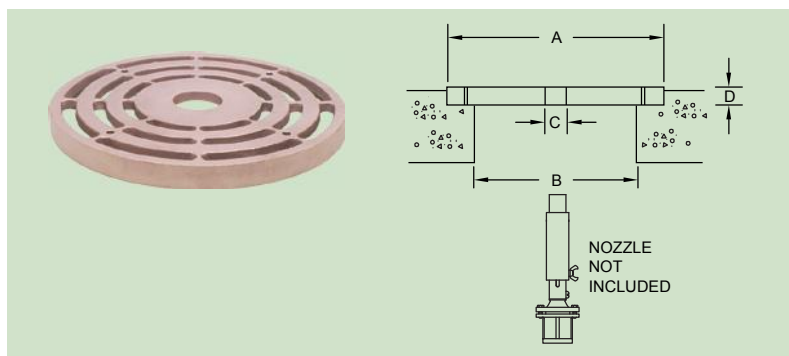
### DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)
ADF100	305	159	159

## ADG Series – Spray-Thru Sleeve

Used in “dry pool” applications to conceal water reservoir and jets beneath pool floor slab. Ideal for areas prone to vandalism. Cascading water projects through sleeve and drains through the surface flange. Made of bronze.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

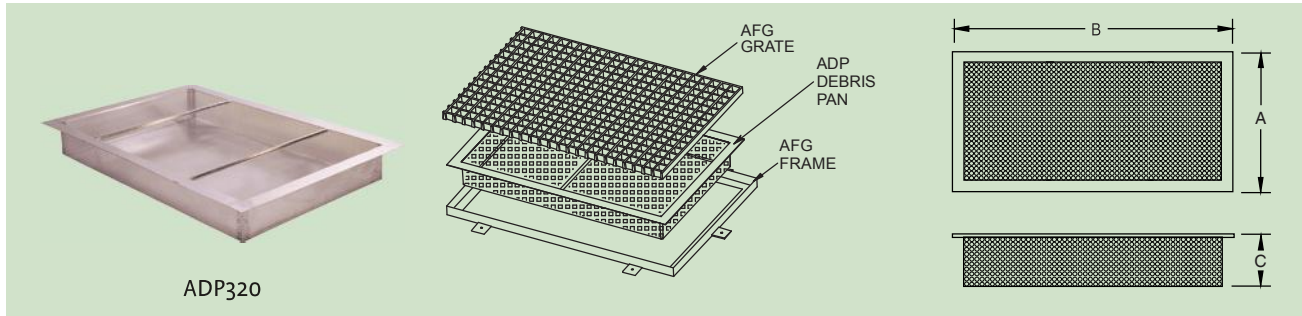
Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (mm)
ADG100	305	140	26 to 102	26



## ADP Series – Debris Pan for Sump

Fine 4mm screen debris pan fits between type AFG series sump grate to collect debris before reaching suction drains. The lift handle facilitates removal. Available in custom sizes and with optional screen openings.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)	Open Area (cm. squared)
ADP200	610	610	102	840
ADP320	610	915	102	1290
ADP330	915	915	102	2130
ADP430	915	1220	102	2775
ADP440	1220	1220	102	4065
ADP640	1220	1524	102	5170

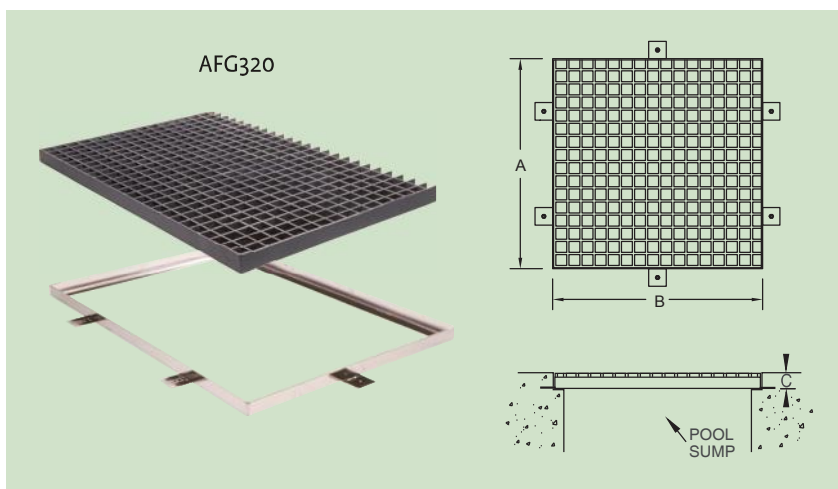
### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
2 mm Screen Openings	A
5 mm Screen Openings	B

## AFG Series – Grate with Frame

For use in sumps and pump pits or access to underdeck equipment. Permits water passage while providing a safety cover to the sump. Available in custom sizes or with optional ADP series stainless steel fine screen debris pan. Made of fiberglass with a heavy-duty stainless steel frame.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

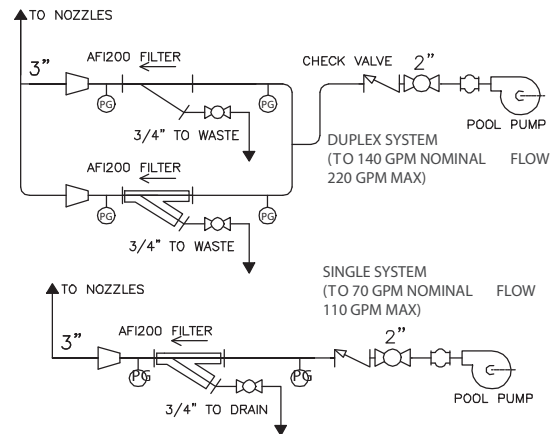
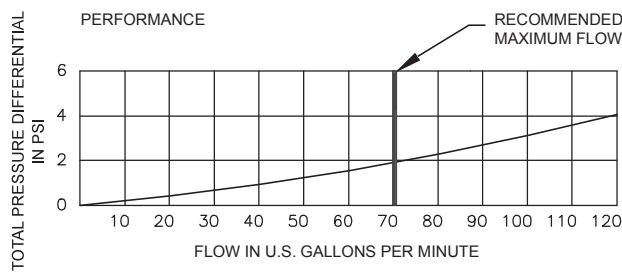
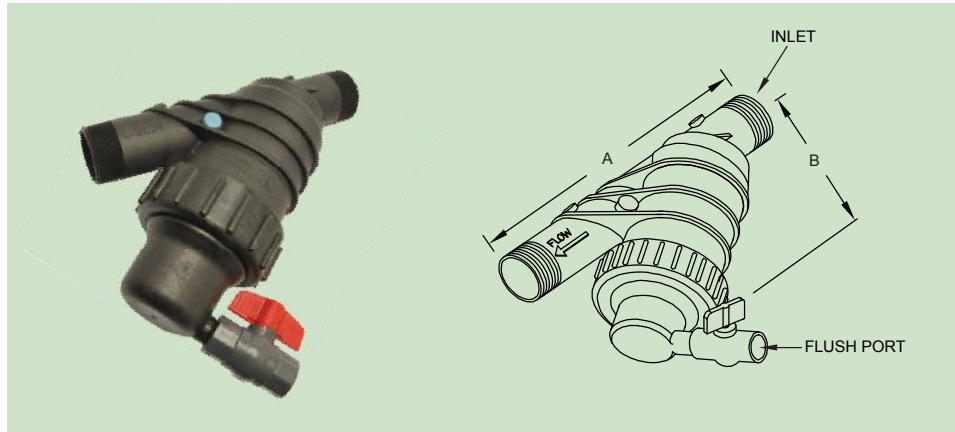
Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)	Open Area (cm squared)
AFG200	610	610	39	2580
AFG320	610	915	39	3870
AFG330	915	915	39	5810
AFG430	915	1220	39	7750
AFG440	1220	1220	39	10325
AFG640	1220	1524	39	12905



## AFI Series – Discharge Filter

The AFI series pump discharge filter is designed to be used with Crystal Fountains ChoreoSwitches™ or any other nozzle with small discharge passages to protect nozzles from clogging. Can be combined with other AFI filter products to increase filtration. Made of plastic and stainless steel. Available in imperial (NPT) size only.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	Flush Port (mm)	a dim. (mm)	b dim. (mm)	Mesh Opening Size (mm)	Water Pressure (PSI)	Flow Best (LPM)	Flow Max. (LPM)
AFI200	2"	20	305	305	0.6	150 max.	0.0 to 320.0	416.0

### PERFORMANCE

## APS Series – Submersible Fountain Pump

APS series submersible fountain pumps are designed for continuous operation. Comes with diaphragm pressure equalizer, automatic current and thermal overload protection. UL and ULC listed. Made of bronze construction with brass suction screen.

\*Contact Crystal Fountains for detailed specifications, installation and operation details.



### DIMENSIONS

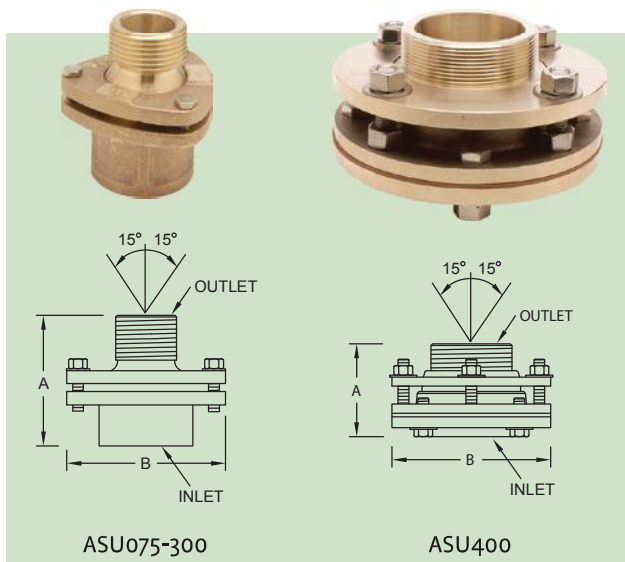
### PERFORMANCE

Part No.	Power (hp)	Voltage (v)	a dim. (mm)	b dim. (mm)	c dim. (mm)	Head (m.)	Flow (LPM)										
							3.1	4.6	6.1	7.7	9.2	10.1	12.2	13.8	15.3		
APS033	1/3	115	407	204	197		272.0	246.0	204.0	163.0	113.0						
APS050	1/2	115	407	204	197		341.0	314.0	272.0	238.0	204.0	159.0	106.0				
APS075	3/4	115	407	204	197		378.0	352.0	318.0	284.0	250.0	219.0	174.0	113.0			
APS100	1	230	407	204	197		424.0	405.0	386.0	360.0	333.0	303.0	257.0	204.0	151.0		

## ASU Series – Swivel Connector

Connects to the bottom of nozzles to help directional alignment after installation (up to 15° of adjustment from center line). Made of cast bronze and stainless steel fitted.

\*Contact Crystal Fountains for detailed specifications, installation and operation details.



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	Outlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)
ASU075	3/4"	3/4"	64	58
ASU100	1"	1"	70	64
ASU125	1 1/4"	1 1/4"	83	77
ASU150	1 1/2"	1 1/2"	96	83
ASU200	2"	2"	127	115
ASU300	3"	3"	147	153
ASU400	4"	4"	132	226

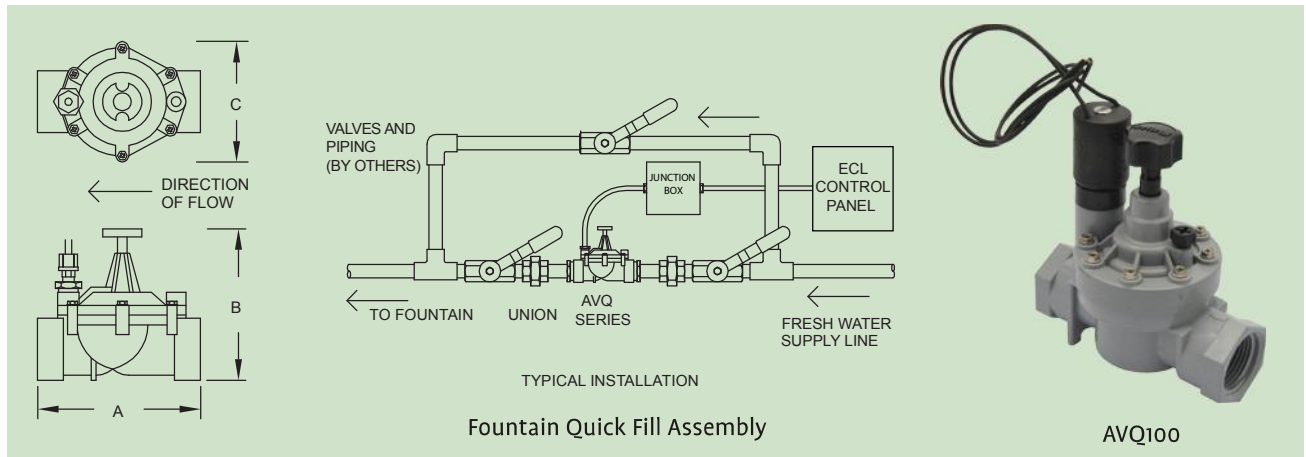


These products (excluding ASU300) are available under our Quick Ship program! See page 15 for more details.

## AVQ Series – Solenoid Actuated Fill Valve

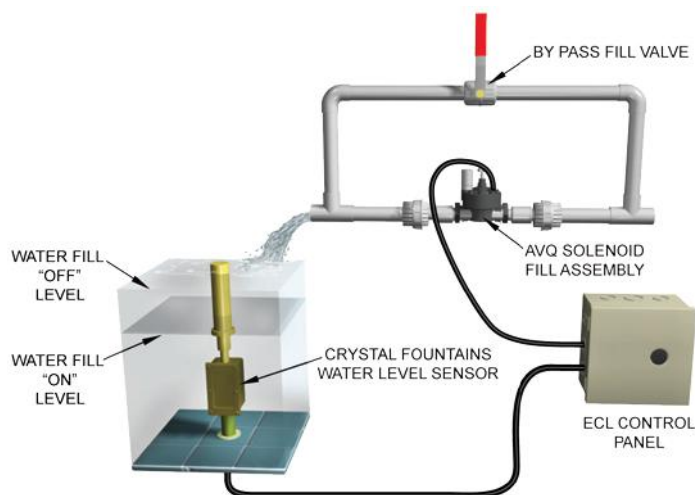
Solenoid fill valve used in conjunction with electronic water level sensors and ECL control panel to maintain optimum pool water levels. Has manual shut off as well as slow open/close feature to prevent waterhammer. Available in 24VAC. Made of PVC and stainless steel.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

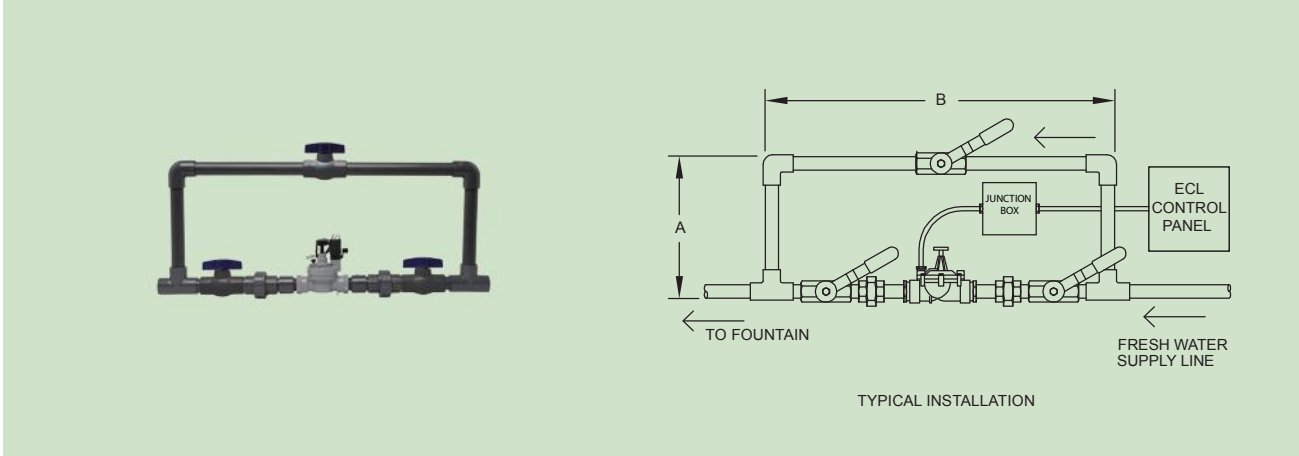
Part No.	Inlet (b.s.p.t.)	Voltage	Watts Hold	Watts in Rush	a dim. (mm)	b dim. (mm)	c dim. (mm)	Flow (LPM)	PERFORMANCE										
									38.0	57.0	76.0	113.0	151.0	189.0	227.0	303.0	378.0	454.0	530.0
AVQ100	1"	24 VAC	4.8 VA	9.6 VA	102	121	77	Head (m.)	0.8	1.6	2.9	3.7							
AVQ150	1 1/2"	24 VAC	4.8 VA	9.6 VA	140	197	108		0.8	0.8	1.6	2.2	2.9						
AVQ200	2"	24 VAC	4.8 VA	9.6 VA	159	216	127				0.8	0.8	1.1	1.6	2.9				
AVQ300	3"	24 VAC	4.8 VA	9.6 VA	207	267	162					1.6	1.6	1.6	2.2	2.9	3.7	4.3	



TYPICAL SYSTEM DESIGN

## AVR Series – Solenoid Activated Fill Valve with Manifold

Solenoid fill valve used in conjunction with electronic water level sensors and ECL control panel to maintain proper pool water levels. This version comes equipped with a pre-assembled manifold (solenoid fill valve, unions and shut off valve) for easy installation. Fill valve has manual shut off as well as slow-open/close feature to prevent waterhammer. Available in 24VAC. Made of PVC and stainless steel.



### DIMENSIONS

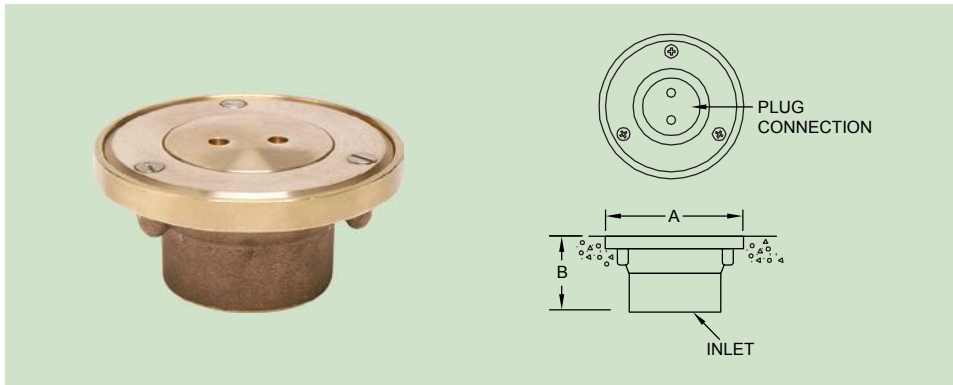
### PERFORMANCE

Part No.	Inlet (b.s.p.t.)	Voltage	Watts Hold	Watts in Rush	a dim. (mm)	b dim. (mm)	Flow (LPM)	Head (m.)														
								38.0	57.0	76.0	113.0	151.0	189.0	227.0	303.0	378.0	454.0	530.0				
AVR100	1"	24 VAC	4.8 VA	9.6 VA	254	458	0.8	1.6	2.9	3.7												
AVR150	1 1/2"	24 VAC	4.8 VA	9.6 VA	254	458				0.8	0.8	1.6	2.2	2.9								
AVR200	2"	24 VAC	4.8 VA	9.6 VA	381	762						0.8	0.8	1.1	1.6	2.9						
AVR300	3"	24 VAC	4.8 VA	9.6 VA	381	762							1.6	1.6	1.6	2.2	2.9	3.7	4.3			

## AWA Series – Vacuum Fitting

Precision engineered for heavy-duty fountain use. Supplied with vandal resistant vacuum plug. Available with optional security key/cover removal or membrane clamp. Made of cast bronze with stainless steel fasteners.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	Plug (mm)	a dim. (mm)	b dim. (mm)
AWA150	1 1/2"	39	159	48

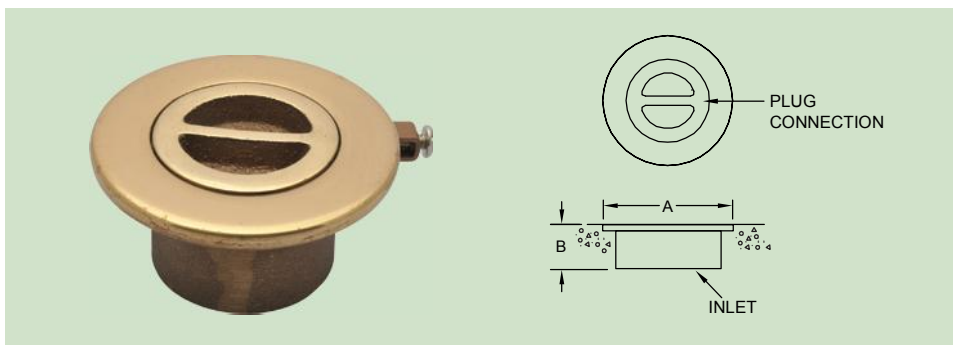
### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
Security Key	K
Membrane Clamp	L

## AWB Series – Vacuum Fitting

Cast-in-concrete vacuum fitting used for pool maintenance. Supplied with vacuum plug. Made of cast bronze.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	Plug (mm)	a dim. (mm)	b dim. (mm)
AWB150	1 1/2"	39	159	45

### CHOOSE ADDITIONAL OPTIONS

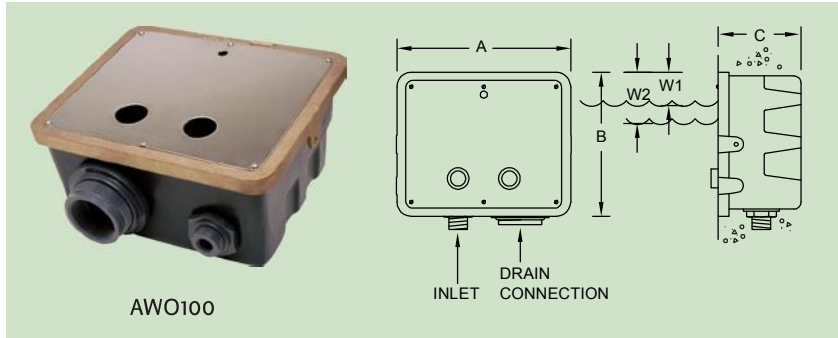
Options	Add Suffix
Security Key	K
Membrane Clamp	L

# AWO Series – Combination Hydraulic Water Level and Overflow

## Assembly

Flush, wall mounted, non-electric combination hydraulic water level control with built-in level adjustment and overflow drain. Automatically fills small to medium-sized pools and drains overflow water through a built-in adjustable drain. Available with optional brass cover plate or vandal resistant kit. Made of bronze with stainless steel cover, plastic body and quick-fill valve.

\*Contact Crystal Fountains for detailed specifications, installation and operation details.



AWO100

### DIMENSIONS

### PERFORMANCE

Part No.	Inlet (b.s.p.t. (auto-fill))	Outlet (n.p.t.) (mm)	a dim. (mm)	b dim. (mm)	c dim. (mm)	w1 (mm)	w2 (mm)	Recommended Water Pressure (PSI)	Recommended Flow (LPM)
AWO050	1/2"	51	305	254	140	61	86	25 to 50	19.0
AWO100	1"	51	305	254	140	45	77	35 max.	34.0

## How to Order

### CHOOSE SENSOR

Sensor Type	Cover Material	Part No.
19 LPM	Stainless Steel	AWO050
	Brass	AWO051
34 LPM	Stainless Steel	AWO100
	Brass	AWO101

### CHOOSE ADDITIONAL OPTIONS

Options	Add Suffix
Vandal Resistant Driver Kit	V

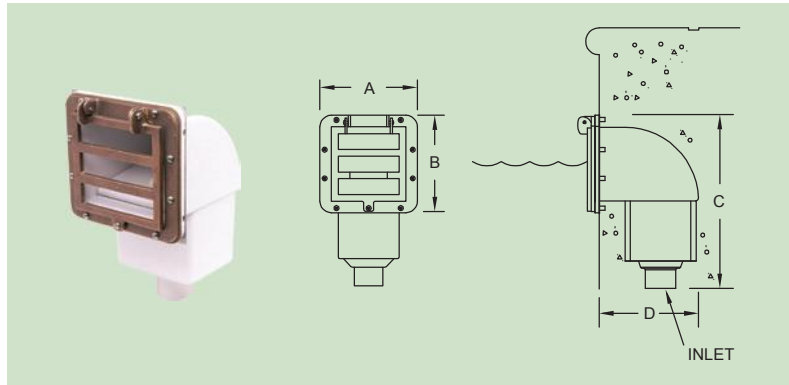


This product is available under our Quick Ship program! See page 15 for more details.

## AWS Series – Wall Skimmer

Ideal for surface skimming of leaves and debris. Front access allows for easy cleaning. Hinged and secured face grille prevents vandalism. Wall skimmer made of extruded plastic. Integral debris basket and floating weir skimmer, face plate and hinged grille made of cast bronze.

*\*Contact Crystal Fountains for detailed specifications, installation and operation details.*



### DIMENSIONS

Part No.	Inlet (b.s.p.t.)	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (mm)
AWS150	1 1/2"	191	185	318	159



This product is available under our Quick Ship program! See page 15 for more details.



# REPLACEMENT PARTS

Commercial quality components can be refurbished with replacement parts  
Look through the following pages for replacement parts for a range of Crystal Fountains components - nozzles, lighting, electrical, accessories and more! We do make replacement parts for any product we manufacture. If you don't see the item you need, please contact us.

216	REPLACEMENT PARTS
217	Replacement Parts for Nozzles
218	Replacement Parts for ChoreoSwitches®
219	Replacement Parts for Leapers
220	Replacement Parts For Lamínars
221	Replacement Parts for Lighting
222	Replacement Parts for Electrical
223	Replacement Parts for Drains and Inlets





## Nozzles

Contact Crystal Fountains if you have a specific replacement requirement that you don't see here.

### Nozzle Level – NLA100

Assists in the levelling of jets during installation to ensure water direction uniformity. For use with all Crystal Fountain nozzle products.



### Cover Removal Key – WMF082

Assists in the removal of deck level nozzles (NLF, NLG, WMO, WMF).



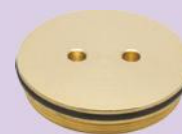
### Swivel Connectors – ASU Series

Connects to the bottom of nozzles to help directional alignment after installation (up to 15° of adjustment from center line). Made of cast bronze and stainless steel fitted. Also see page 210 under Accessories.



### Winter Covers Series – WMF081

For use to protect nozzles in colder climates. For use with nozzles NLF075/076 and WMF076, WMO100, WMO110, WMO115, WMD100, WMD110, WMD115.



### Winter Cover Series – NLG3200C15

For use to protect nozzles in colder climates. For use with NLG nozzles.



### Spray Ring Jets – NEA012, NEA025

For use with NSR Series Spray Rings to replace individual jets.

NEA012 is used with NSR122 through 822.

NEA025 is used with NSR223 through 823.



## ChoreoSwitches®

### Solenoid Assembly – SWS100A500 (12V), SWS100A510 (24V)

Solenoid assembly for use on all Crystal Fountains ChoreoSwitch products comes complete with 3m cable.



### Hold down clamps – SWS110C131

Holds ChoreoSwitch slab hanger cover into place.



## Nozzles for ChoreoSwitch®

### Replacement nozzles available in 3 different styles for use on playdeck or fountain products:

- Plastic nozzles are available in 25 mm and 40 mm sizes – SWS100C301 (25mm) and SWS150C301 (40mm)
- Bronze nozzles are available in 25mm and 40mm sizes – NWS100C301 (25mm) and SWS150C401 (40mm)
- Bronze Aerator nozzles are available in 25mm and 40mm sizes – NWS100A400 (25mm) and NWS150A400 (40mm)



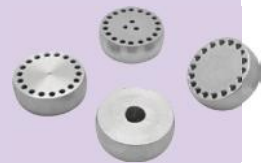
### Bronze for Deck level ChoreoSwitch in 4 models:

- NWS110C112 – Column Effect
- NWS110C114 – Angled Ring Effect
- NWS110C118 – Crown Effect
- NWS110A120 – Clear Stream Effect



### Stainless Steel nozzles for Playdeck ChoreoSwitch in 4 models:

- NWS110C115** – Column Effect
- NWS110C104** – Angled Ring Effect
- NWS110C108** – Crown Effect
- NWS110A122** – Clear Stream Effect



## Leapers

### Basket – NWV107C301 (Fiberoptic Version) and LED107C200 (LED Version)

Replacement basket for leaper products SWV100, SWV102, LED140 and LED141  
O-Ring for basket is also available - NWVC301 (Fiberoptic) and OR0132 (LED)



### Leaper Top/ Diverter Lid – SWV100A

Replacement diverter for SWV100 and LED140.



### Fiberoptic Kit – NWV107C201 – Fiber Rod WMV107A102 – Fiber Tip

Replacement fiberoptic tip and fiberoptic rod for SWV100, SWV102, WMV107 and WMV111.



### LED Assembly – LED107A100

Replacement LED assembly for LED140, LED141.



### Power Cords for SWV100 SWV102 (Fiberoptic)

Available in two different sizes:

- EL CORD 100A100 – 3m
- EL CORD 100A1001 – 7.7m



## Laminars

### Basket – NWV107C301 (Fiberoptic Version) and LED107C200 (LED Version)

Replacement basket for leaper products WMV107, WMV117, LED140, LED141  
O-Ring for basket is also available - NWVC301 (Fiberoptic) and OR0132 (LED)



### Starburst Laminar Valve Kit – WMV108

Starburst Laminar replacement valve and assembly.



### Fiber Optic Kit – NWV107C201 – Fiber Rod WMV107A102 – Fiber Tip

Replacement fiberoptic tip and fiberoptic rod for WMV107, WMV111, WMV117,  
WMV123.



### LED Assembly – LED107A100

Replacement LED assembly for WMV117, WMV123



## Lighting

### Cable Seal Kits (Cable Washer Nut Kit)

Replacement for halogen and LED lights.

**EL SEAL KIT 030** – For use with lights EL030/040 Series.



### Lens Gaskets

Replacement lens gaskets for halogen and LED lights.

**EL GASKET 2** – For LED051 Series

**EL GASKET 3** – For EL030/040 Series

**EL GASKET 6** – For LED052

**EL GASKET 10** – For EL002/LED002



### Sockets

**EL SOCKET 6** – For use with EL030/040 Series

**EL SOCKET 10** – For use with EL002/030/040 and LED002/030 Series



### Lenses

**EL LENS 2A (amber)** – For use with light fixture EL030/040

**EL LENS 2B (blue)**

**EL LENS 2C (clear)**

**EL LENS 2G (green)**

**EL LENS 2R (red)**

**EL LENS 2T (turquoise)**

**EL LENS 3A (amber)** – For use with light fixture LED050/052

**EL LENS 3B (blue)**

**EL LENS 3C (clear)**

**EL LENS 3G (green)**

**EL LENS 3R (red)**

**EL LENS 3T (turquoise)**

**EL LENS 5C (clear)** – For use with light fixture EL002 and LED002

\*Note: All lenses for LED Lighting to be clear only



### Cable Assemblies for Traditional Lighting

- EL CORD 1** – 16/3 cable (PER FT)
- EL CORD 4** – 10/3 CABLE (PER FT) EL030/040

### Cable Assemblies for LED Lighting

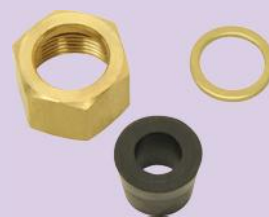
- EL CORDA105** – 3m cable. For use with LED002
- EL CORDA120** – 6m cable. For use with LED002
- EL CORD050L09** – 3m cable. For use with LED051
- EL CORD050L20** – 6m cable. For use with LED051
- EL CORD160L09** – 3m cable. For use with LED052/055 and 160 Series
- EL CORD160L20** – 6m cable. For use with LED052/055 and 160 Series

## Electrical

### Cable Seal Kits (Grommet, Washer Nut Kit)

Replacement for EGS cord seals.

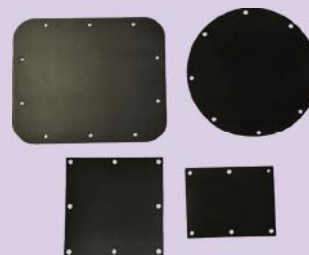
- EL SEAL KIT 015** – for use with EGS052 cord seals
  - EL SEAL KIT 010** – for use with EGN075 cord seals
  - EL SEAL KIT 071** – for use with EGN071/073 cord seals
  - EL SEAL KIT 074** – for use with EGS074 cord seals.
- \*Note: No Seal Kit available for EGN100



### Junction Box Gaskets

Replacement cover gaskets for junction boxes

- EBN104C30** – for use with EBN104
- EBN208C20** – for use with EBN208
- EBJ202C30** – for use with EBJ202
- EBJ204C30** – for use with EBJ204
- EBJ208C30** – for use with EBJ208/212
- EBJ216C30** – for use with EBJ216
- EBJ220C30** – for use with EBJ220



### Junction Box Potting Compound

- EBJC10** – 21 oz.
- EBJC20** – 12 oz.



### Water Level Sensors

Replacement parts for various Crystal Fountains electrical products.

- ES C40** – Gem Sensor Float Switch for ESD/ESF/ESG/ESL/ESN/ESO/ESP/ESS/ESW Water Level Sensors
- EL SEAL KIT 010** – Grommet, Washer Nut Kit for ESD/ESF/ESG/ESL/ESN/ESO/ESP/ESS/ESW Water Level Sensors
- ES C50** – Brass Stem for ESD/ESF/ESG/ESL/ESN/ESO/ESP/ESS/ESW Series Water Level Sensors
- ES C15** – Brass Shroud for ESF/ESL/ESN/ESS Series Water Level Sensors
- ESWC45** – Cover Gasket (2) for ESW Series Water Level Sensors
- EBN104C30** – Cover Gasket for ESD/ESN/ESS Series Water Level Sensors
- EBJ202C30** – Gasket for ESF Sensor



## DRAINS AND INLETS

### General Information for Drains

#### Standard Threading

Standard threading on components shall be National Pipe Thread (NPT) unless requested otherwise at the time of purchase. All thread sizes less than 26mm will be NPT.

#### DRAIN PLUGS

Part No.	Use with Drains
D3C55	DPB200
D3C55	DPB300
D4C40	DPB400



#### FLAT DRAIN GRATES

Part No.	Use with Drains
D2C85	DSA200
D3C85	DSA300/400
D6C85	DSA600



#### STRAINER BASKETS

Part No.	Use with Drains
D2C35	DSA200
D3C35	DSA300/400
D4C30	DSA600
D6C30	DSA800



#### INLET EXTENSION RODS

Part No.	Use with Inlets
IF2C10	IFA200
IF3C10	IFA300
IF4C10	IFA400
IF6C10	IFA600
IF8C10	IFA800



#### OVERFLOW DOMES

Part No.	Use with Drains
D2C60	DOA200
D3C60	DOA300
D4C60	DOA400



#### FIBERGLASS A.V. PLATES

Part No.	Use with Drains
D2C60	DSA200
D3C80	DSA300/400
D6C50	DSA600/800



#### BRONZE A.V. PLATES

Part No.	Use with Drains
D2C65	DSA200
D3C65	DSA300/400
D6C35	DSA80



#### OVERFLOW STANDPIPES

Part No.	Use with Stand Pipe Assemblies
DOA/F200A10	DOA/DOF200
DOA/F300A10	DOA/DOF300
DOA/F400A10	DOA/DOF400



#### DEBRIS SCREENS

Part No.	Use with Drains
D2S10	DSA200
D3S10	DSA300
D4S10	DSA400
D6S10	DSA600
D8S10	DSA800



# Engineering Data and Conversion Factors

The following pages contain a number of handy reference charts:

- Engineering Data and Conversion Factors
- Pipe Flow Guide and Waterfall Requirement
- Conductor Sizes in Conduits or Tubing
- Electrical Usage
- Flow Capacity and Friction Loss
- Friction Loss in Fittings

## QUICK CONVERSION FACTORS

Convert From	Multiply By	Convert Into
<b>FLOW</b>		
USGPM	0.0631	Litres/second
USGPM	3.785	Litres/minute
USGPM	227.3	Litres/hour
Litres/sec.	15.85	USGPM
Litres/min.	0.264	USGPM
Litres/hour	0.0044	USGPM
Cu. Ft./sec.	448.83	USGPM
Cu. M./min.	264.2	USGPM

## PRESSURE

PSI	6.895	KPA
PSI	2.31	Ft. Head
KPA	0.145	PSI
KPA	0.334	Ft. Head
Ft. Head	2.99	KPA
Ft. Head	0.433	PSI
Ft. Head	0.305	Metric Head
Ft. Head	3.28	Ft. Head

## VOLUME

U.S. Gals.	231	Cu. In.
U.S. Gals.	0.1336	Cu. Ft.
U.S. Gals.	3.785	Litres
U.S. Gals.	0.0038	Cu. Meters
Litres	0.2642	U.S. Gals
Litres	0.0353	Cu. Ft.
Cu. Metres	35.311	Cu. Ft.
Cu. Metres	264.2	U.S. Gals.
Cu. Ft.	7.48	U.S. Gals
Cu. Ft.	28.329	Litres
Cu. Ft.	0.028	Cu. Metres

## QUICK CONVERSION FACTORS

Convert From	Multiply By	Convert Into
<b>WEIGHT</b>		
U.S. Gals	8.35	Lbs.
Litres	2.2	Lbs.
Cu. Ft. Of Water	62.46	Lbs.
Cu. M. Water	22.06	Lbs.
<b>LENGTH</b>		
Inches	2.54	Centimeters
Feet	0.3048	Metres
Metres	39.37	Inches
Metres	3.28	Feet

## HORSEPOWER

HP	0.746	Kilowatts
HP	745.7	Watts
Kilowatts	1.34	HP

## U.S. PUMP CHARTS

GPM (60 cy)	0.8	GPM (50 cy)
Head (60 cy)	0.6	GPM (50 cy)



## Pipe Flow Guide and Waterfall Requirements

Pipe sizes and capacities are those recommended as good practice for fluid velocities on hydronic applications.

### Example:

To determine the LPM requirements for a 3 m long waterfall with a 1.25 m fall height; specified with 7.5 mm spill thickness, multiply 3m x 187 LPM = 561 LPM

**Note:** Turbulent water may require greater flow.

PIPE FLOW GUIDE			
Pipe Size	Flow (LPM)	Pipe Size	Flow (LPM)
40 mm	38-95	125 mm	757-1892
50 mm	76-189	150 mm	1249-3028
75 mm	208-511	200 mm	2649-4920
100 mm	435-1041	150 mm	4731-6624

WATERFALL REQUIREMENTS		
Spill	LPM	Maximum Fall Height
2.5 mm	62	0.30 m
5.0 mm	125	1.00 m
7.5 mm	187	1.25 m
10.0 mm	250	1.50 m
12.5 mm	312	1.75 m
15.0 mm	374	2.00 m
17.5 mm	436	2.25 m
20.0 mm	498	2.50 m
22.5 mm	558	2.75 m
25.0 mm	620	3.00 m

\*Water falling a distance greater than 1.2 m will break up and laminar effect will be lost.

# Electrical Usage – Wire Size Selection

## 115 VOLTS - 1 PHASE

Amps	AWG Wire Size							
	14	12	10	8	6	4	2	0
2	595	946	1479					
3	397	630	986					
4	298	470	740	1161	1808			
5	238	378	592	926	1447			
6	198	315	493	774	1206	1842		
7	170	270	423	663	1033	1579		
8	149	236	370	581	904	1381		
9	132	210	329	516	804	1228	1871	
10	119	189	296	464	723	1105	1684	
12	99	158	247	387	603	921	1403	
14		135	211	332	517	789	1203	1622
16		118	185	290	452	691	1052	1420
18			164	258	402	614	935	1201
20			148	232	362	553	842	1136
22			134	211				
24			123	194				

Maximum Distance of Wire Run.

## 200 VOLTS - 1 PHASE

Amps	AWG Wire Size									
	14	12	10	8	6	4	2	0		
2	1035	1644								
3	690	1096	1715							
4	518	822	1287							
5	414	658	1029	1615						
6	345	548	858	1346	2097					
7	296	470	735	1154	1797					
8	259	411	643	1010	1573	2403				
9	230	365	572	897	1398	2136				
10	207	329	515	808	1258	1922	2928			
12	173	274	429	673	1048	1602	2440			
14		235	368	577	899	1373	2091	2821		
16		206	322	505	786	1201	1830	2469		
18			286	449	699	1068	1627	2194		
20				257	404	629	961	1464	1975	
22					234	367	572	874	1331	1795
23					214	337	524	801	1220	1646
26						311	484	739	1126	1519
28						288	449	686	1046	1411
30						269	419	641	976	1317
35						231	359	549	837	1129
40							315	481	732	988
45							280	427	651	878
50							252	384	586	790
55								349	532	718
60								320	488	658

Maximum Distance of Wire Run.

# Electrical Usage – Wire Size Selection

230 VOLTS - 1 PHASE								
Amps	AWG Wire Size							
	14	12	10	8	6	4	2	0
2	1190	1891						
3	794	1261						
4	595	946	1479					
5	476	756	1184	1858				
6	397	630	986	1548	2411			
7	340	540	845	1327	2067			
8	293	473	740	1161	1808	2763		
9	265	420	658	1032	1607	2456		
10	238	376	592	929	1447	2210	3367	
12	198	315	493	774	1206	1842	2806	
14		270	423	663	1033	1579	2405	3245
16		236	370	581	904	1381	2105	2839
18			329	516	804	1228	1871	2524
20			296	464	723	1105	1684	2271
22			269	422	658	1005	1531	2065
23			247	387	603	921	1403	1893
26				357	556	850	1295	1747
28				332	517	789	1203	1622
30				310	482	737	1122	1514
35				265	413	632	962	1298
40					362	553	842	1136
45					321	491	748	1009
50					239	442	673	909

Maximum Distance of Wire Run.

200 VOLTS - 3 PHASE								
Amps	AWG Wire Size							
	14	12	10	8	6	4	2	0
2	1195	1899	2971					
3	797	1266	1981	3109				
4	598	949	1486	2332	3632			
5	478	760	1188	1865	2905			
6	398	633	990	1554	2421			
7	341	543	849	1332	2075	3170		
8	299	475	743	1166	1816	2774		
9	266	422	660	1036	1614	2466		
10	239	380	594	933	1453	2219	3381	
12	199	316	495	777	1211	1849	2817	
14		271	424	666	1038	1585	2415	3258
16		237	371	583	908	1387	2113	2851
18			330	518	807	1233	1878	2534
20			297	466	726	1110	1690	2281
22			270	424	660	1009	1537	2073
24			248	389	605	925	1409	1900
26				359	559	854	1300	1754
28				333	519	793	1207	1629
30				311	484	740	1127	1520
35				266	415	634	966	1303
40					363	555	845	1140
45					323	493	751	1014
50					291	444	676	912
55						404	615	829
60						370	563	760
65						341	520	702
70							483	652
75							451	608
80							423	570
85							398	537
90							376	507
95								480
100								456

Maximum Distance of Wire Run.

# Electrical Usage – Wire Size Selection

## 460 VOLTS - 3 PHASE

Amps	AWG Wire Size								
	14	12	10	8	6	4	2	0	
2	2749								
3	1833	2912							
4	1374	2184	3417						
5	1100	1747	2733						
6	916	1450	2278	3575					
7	785	1248	1952	3064					
8	687	1092	1708	2681					
9	611	971	1519	2383					
10	550	873	1367	2145	3341				
12	458	728	1139	1788	2784				
14		624	976	1532	2386	3646			
16		546	854	1341	2088	3190			
18			759	1192	1856	2836			
20			683	1073	1671	2552			
22			621	975	1519	2320	3535		
24			569	894	1392	2127	3240		
26				825	1285	1963	2991		
28				766	1193	1823	2777		
30				715	1114	1701	2592	3497	
35					613	955	1458	2222	2997
40						835	1276	1944	2623
45						742	1134	1728	2331
50						668	1021	1555	2098
55							928	1414	1907
60							851	1296	1748
65							785	1196	1614
70								1111	1499
75								1037	1399
80								972	1311
85								915	1234
90								864	1166
95									1104
100									1049

Maximum Distance of Wire Run.

## 230 VOLTS - 3 PHASE

Amps	AWG Wire Size								
	14	12	10	8	6	4	2	0	
2	1375	2184	3417						
3	916	1456	2278	3575					
4	657	1092	1708	2681					
5	550	873	1367	2145	3341				
6	458	728	1139	1788	2784				
7	393	624	976	1532	2386				
8	344	546	854	1341	2038	3190			
9	305	485	759	1192	1856	2836			
10	275	437	683	1073	1671	2552			
12	229	364	569	894	1392	2127	3240		
14		312	488	766	1193	1823	2777		
16		273	427	670	1044	1595	2430	3278	
18			380	596	928	1418	2160	2914	
20				342	536	835	1276	1944	2623
22				311	488	759	1160	1767	2884
24				285	447	696	1063	1620	2186
26					413	643	982	1495	2017
28					383	597	912	1389	1873
30					358	557	851	1296	1748
35					306	477	729	1111	1499
40						418	638	972	1311
45						371	567	864	1166
50						334	510	778	1049
55							464	707	954
60							425	648	874
65							393	598	807
70								555	749
75								518	699
80								486	656
85								457	617
90								432	583
95									552
100									525

Maximum Distance of Wire Run.