



Innovative. Efficient. Dependable. Dunkirk.

Dunkirk H₂O

- Stainless Steel Single & Dual Coil Indirect Water Heaters
- Storage Tanks
- Hydronic Buffer Tanks



INTRODUCING THE NEW DUNKIRK H₂O SERIES...

A complete line of Stainless Steel, Single and Dual Coil Indirect Water Heaters, Storage Tanks, and Hydronic Buffer Tanks.

Need An Easy Domestic Hot Water Solution With A Low Operating Cost and the Longevity Of Stainless Steel?

Dunkirk H₂O Stainless Steel Single Coil Indirect Water Heaters

Need A Hot Water Solution To Balance Input and Storage While Reducing Short Cycling?

Dunkirk H₂O Stainless Steel Storage Tanks

Need A Hot Water Solution For Use With Chillers, Heat Pumps, and Low Mass Boilers?

Dunkirk H₂O Stainless Steel Hydronic Buffer Tanks











Need A Hot Water Solution For Solar Applications Or Small Zones?

Dunkirk H₂O Stainless Steel Single & Dual Coil Solar Water Heaters

(Electric Back-Up can heat the tank if solar heat is unavailable)

**Stainless Steel
Single Coil Indirect
Water Heaters**

STANDARD FEATURES

Capacities (Gallons)	30, 40, 40L, 50, 60, 60L, 80 & 115
316L Stainless Steel Construction	
Top Connections (For Easy, Neat, Clean Installation)	
Stainless Steel Dip Tube	
Thermoplastic Jacket (Won't dent, scratch or corrode)	
Low Pressure Drop (Ideal For Low Mass Boilers)	
T & P Valve, Stainless Aquastat Well & Drain Valve (Factory installed-taped and doped).	
2.25" EPS Insulation (Provides Less Than .5°F Per Hour Standby Loss)	
Large Diameter, Smooth Coil Heat Exchangers - Prevent Buildup (Stainless Steel Coils Are 25 to 30' Long and 1-1/8" in Diameter)	
Honeywell L4080B (Shipped Loose)	
Made in the USA	

WARRANTY

Limited Lifetime Warranty (Residential), 5 Yr. (Commercial)	
Limited Lifetime Warranty	N/A

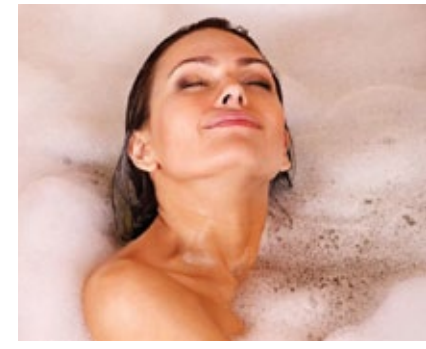
OPTIONS

Low Profile	40L & 60L Capacities
High Output	80 & 115 Capacities
Electric Back-Up	60, 80 & 115 Capacities
Commercial Connections (For increased DHW flow)	80 & 115 Capacities (1-1/2" Dom., 1-1/4" Blr.)
*Coil	Standard

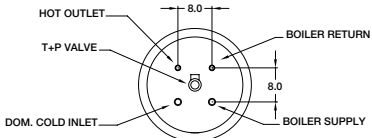
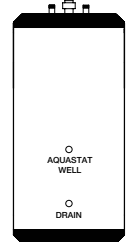


Stainless Steel Storage Tank Stainless Steel Buffer Tanks Stainless Steel Dual Coil Solar Water Heaters

30, 40, 60, 60L, 80 & 115	40, 60, 80 & 115	60, 80 & 115
	N/A	
N/A	*	
	N/A	
	N/A	N/A
N/A		
60L Capacities	N/A	N/A
N/A	N/A	N/A
N/A	N/A	60, 80 & 115 Capacities
80 & 115 Capacities (1-1/2")	All Capacities (1-1/4", 1-1/2", 2")	N/A
N/A	40, 60, 80 & 115 Capacities	Standard



Dunkirk H₂O Stainless Steel Single Coil Indirect Water Heaters

Dimensions/Weights	Model	Storage Capacity (Gals.)	Coil Heating Surface Sq. Ft.	Piping Connections NPT	
				Domestic Water In/Out (Inches)	Boiler Water In/Out (Inches)
  STANDARD UNIT	H2OI30DK	30	7.0	3/4	1
	H2OI40DK	40	7.5	3/4	1
	H2OI40LDK	42	7.1	3/4	1
	H2OI50DK	60	8.0	3/4	1
	H2OI60DK	60	8.4	3/4	1
	H2OI60LDK	60	7.5	3/4	1
	H2OI80DK	80	8.0	1	1
	H2OI115DK	115	8.9	1	1
	H2OI80CDK	80	8.0	1-1/4	1-1/4
	H2OI115CDK	115	8.9	1-1/4	1-1/4
	H2OI80HODK	80	13.5	1	1
	H2OI115HODK	115	14.4	1	1
	H2OI80HOC DK	80	13.5	1-1/2	1-1/4
	H2OI115HOC DK	115	14.4	1-1/2	1-1/4

Note: Max. Working pressure 150 psi for all capacities.

General Information (See Installation, Operation and Maintenance Manual for complete instructions)

Model	Max. First Hour Rating Gal./Hr @		Continuous Rating Gal./Hr. @		Boiler Output Required (BTU/Hr.)	Min. Boiler Water Flow Through Coil (Gal./Min.)	Pressure Drop Through Coil (Ft. Water)
	140° F	115° F	140° F	115° F			
H2OI30DK	182	242	155	215	116,200	10.0	2.7
H2OI40DK	202	266	166	230	124,500	10.0	2.9
H2OI40LDK	193	251	157	215	117,900	10.0	2.8
H2OI50DK	222	290	177	245	132,800	10.0	3.1
H2OI60DK	240	311	186	257	139,400	10.0	3.2
H2OI60LDK	220	284	166	230	124,500	10.0	2.9
H2OI80DK	257	328	185	256	138,600	12.0	3.7
H2OI115DK	309	388	206	285	154,200	12.0	4.0
H2OI80CDK	257	328	185	256	138,600	12.0	3.7
H2OI115CDK	309	388	206	285	154,200	12.0	4.0
H2OI80HODK	386	507	314	435	235,670	15.0	9.0
H2OI115HODK	439	568	336	465	251,780	15.0	9.5
H2OI80HOC DK	386	507	314	435	235,670	15.0	9.0
H2OI115HOC DK	439	568	336	465	251,780	15.0	9.5

Note: All ratings are based on 200° F boiler water supply and 50° F cold water inlet. See installation manual for ratings at different temperatures and flow rates. Specifications subject to change without notice.

Dimensions & Weights			
Models	Height (Inches)	Dia. (Inches)	Shp. Wgt. (Lbs.)
H2OI30DK	32	22.5	85
H2OI40DK	42	22.5	100
H2OI40LDK	34	26.0	100
H2OI50DK	52	22.5	110
H2OI60DK	60	22.5	125
H2OI60LDK	44	26.5	120
H2OI80DK	54	26.5	140
H2OI115DK	72	26.5	175
H2OI80CDK	54	26.5	120
H2OI115CDK	72	26.5	175
H2OI80HODK	54	26.5	155
H2OI115HODK	72	26.5	190
H2OI80HOC DK	54	26.5	155
H2OI115HOC DK	72	26.5	190

Standard Equipment Factory installed brass drain and relief valves, welded stainless steel cold water dip tube factory installed and pressure tested, Honeywell L4080B aquastat for field installation.

Options (L) Low profile models for applications with low clearances. (C) Commercial models with larger tappings for higher flow rates. (HO) High Output models available to meet greater demand.

Certification/Decoding



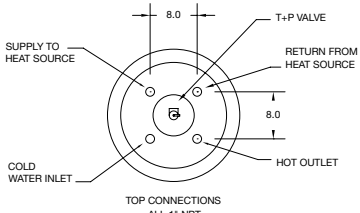
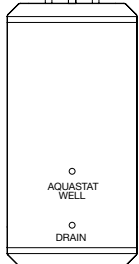
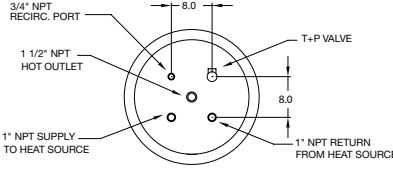
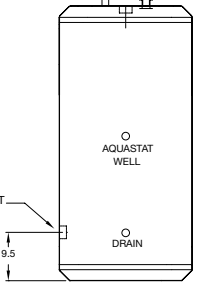

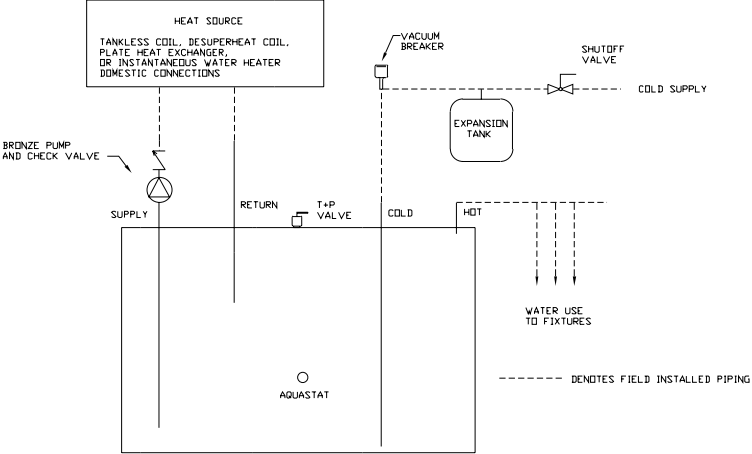
Intertek

H2O I 30 L DK

I=Indirect Capacity: 30=30 Gals. 40=40 Gals. 50=50 Gals. 60=80 Gals. 80=80 Gals. 115=115 Gals. L=Lowboy C=Commercial HO=High Output HOC=High Output Commercial DK=Dunkirk

Conforms to UL STD 174
Certified to CAN/CSA STD C22.2 No. 110-94

Dunkirk H₂O Stainless Steel Storage Tanks

Dimensions/Weights	Model	Storage Capacity (Gals.)	Piping Connections NPT	
			Cold/Hot Supply/Return (Inches)	Heat Source Pressure (Inches)
 <p>TOP CONNECTIONS ALL 1" NPT</p>  <p>STANDARD UNITS</p>   <p>COMMERCIAL UNITS</p>	H2OST30DK	30	1	1
	H2OST40DK	40	1	1
	H2OST60DK	60	1	1
	H2OST60LDK	60	1	1
	H2OST80DK	80	1	1
	H2OST115DK	115	1	1
	H2OST80CDK	80	1-1/2	1
	H2OST115CDK	115	1-1/2	1
	Note: Max. Working pressure 150 psi for all capacities.			
General Information (See Installation, Operation and Maintenance Manual for complete instructions)				
Specifications subject to change without notice.				
Standard Equipment	Factory installed brass drain and relief valves, welded stainless steel cold water dip tube factory installed and pressure tested, Honeywell L4080B aquastat for field installation.			
Options	(L) Low profile models for applications with low clearances. (C) Commercial models available for applications with larger connections.			
Certification/Decoding	<div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center;">  <p>Intertek</p> </div> <div style="margin: 0 20px;"> <p>H2O ST 30 L DK</p> <p>ST=Storage Tank Capacity: 30=30 Gals. 40=40 Gals. 60=60 Gals. 80=80 Gals. 115=115 Gals. L=Lowboy C=Commercial DK=Dunkirk</p> </div> <div style="text-align: center;"> <p>Conforms to UL STD 174 Certified to CAN/CSA STD C22.2 No. 110-94</p> </div> </div>			
Schematic Diagram (Typical Installation)	 <p>HOT WATER BOOSTER / STORAGE TANK DOMESTIC WATER HEATING SYSTEM / TYPICAL SCHEMATIC Note: Installation must conform to all local codes.</p>			
Dimensions & Weights				
Models	Height (Inches)	Dia. (Inches)	Shp. Wgt. (Lbs.)	
H2OST30DK	34.0	23.5	75	
H2OST40DK	44.0	23.5	90	
H2OST60DK	62.0	23.5	115	
H2OST60LDK	46.0	28.0	110	
H2OST80DK	56.0	28.0	140	
H2OST115DK	74.0	28.0	175	
H2OST80CDK	56.0	28.0	140	
H2OST115CDK	74.0	28.0	175	

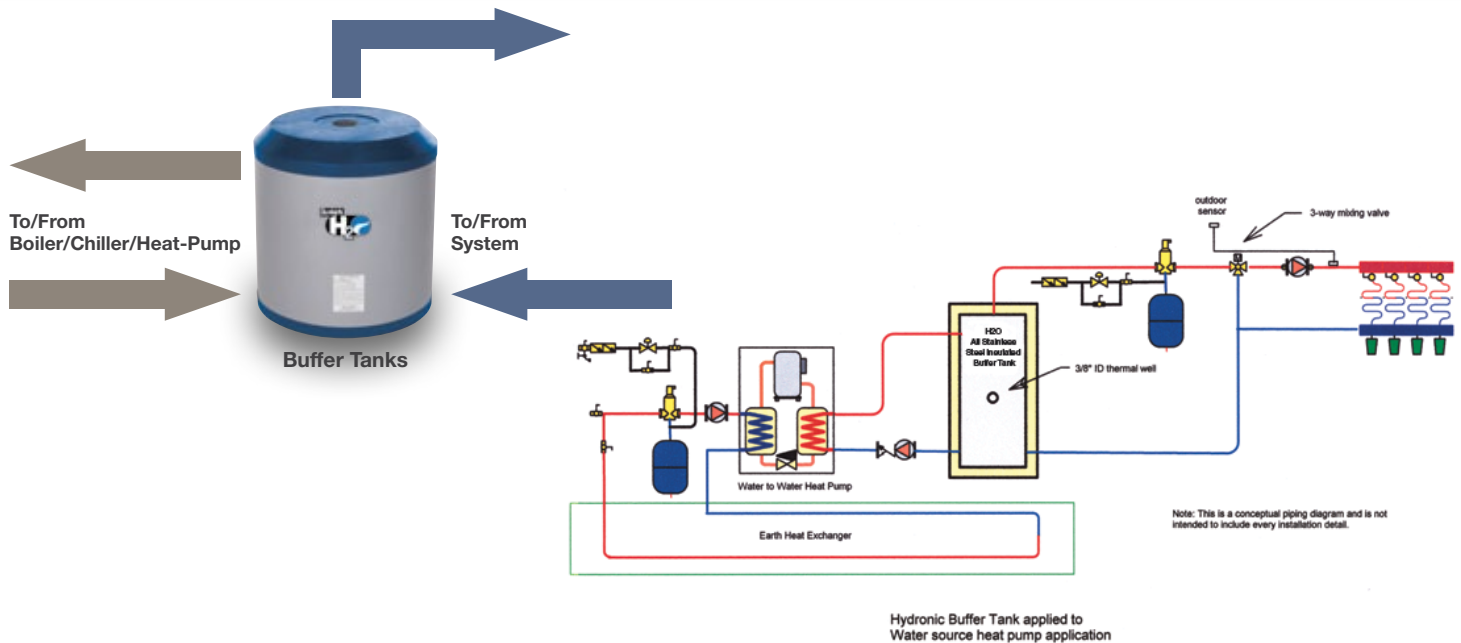
Dunkirk H₂O Stainless Steel Buffer Tanks

Dimensions/Weights	Model	Storage Capacity (Gals.)	Piping Connections NPT (Inches)	
<p>4 CONNECTIONS 1 ON RIGHT SIDE 2 ON LEFT SIDE 1 ON TOP</p>	H2OBT40114DK	40	1-1/4	
	H2OBT40112DK		1-1/2	
	H2OBT402DK		2	
	H2OBT60114DK	60	1-1/4	
	H2OBT60112DK		1-1/2	
	H2OBT602DK		2	
	H2OBT80112DK	80	1-1/4	
	H2OBT80114DK		1-1/2	
	H2OBT802DK		2	
	H2OBT115114DK	115	1-1/4	
	H2OBT115112DK		1-1/2	
	H2OBT1152DK		2	
	H2OBT40114WCDK	40	1-1/4	
	H2OBT40112WCDK		1-1/2	
	H2OBT402WCDK		2	
	H2OBT60114WCDK	60	1-1/4	
	H2OBT60112WCDK		1-1/2	
	H2OBT602WCDK		2	
	H2OBT80114WCDK	80	1-1/4	
	H2OBT80112WCDK		1-1/2	
H2OBT802WCDK	2			
H2OBT115114WCDK	115	1-1/4		
H2OBT115112WCDK		1-1/2		
H2OBT1152WCDK		2		
Note: Max. Working pressure 60 psi for all capacities.				
General Information (See Installation, Operation and Maintenance Manual for complete instructions)				
Specifications subject to change without notice.				
Standard Equipment	Factory installed brass drain and relief valves, welded stainless steel cold water dip tube factory installed and pressure tested, Honeywell L4080B aquastat for field installation.			
Options	(WC) With Coil			
Certification/Decoding	<div style="text-align: center;"> <p>H2O BT 40 114 WC DK</p> <p>BT=Buffer Tank Capacity: 40=40 Gals., 60=60 Gals., 80=80 Gals., 115=115 Gals. 114=1-1/4" NPT, 112=1-1/2" NPT, 2=2" NPT WC=With Coil DK=Dunkirk</p> </div> <p>Intertek Conforms to UL STD 174 Certified to CAN/CSA STD C22.2 No. 110-94</p>			
Dimensions & Weights				
Model	Height A (Inches)	B (Inches)	C (Inches)	Shp. Wgt. (Lbs.)
H2O40BT114DK	42.0	31	11	87 (97 WC)
H2O40BT112DK				
H2O40BT2DK				
H2O60BT114DK	44.0	31.5	11.5	115 (125 WC)
H2O60BT112DK				
H2O60BT2DK				
H2O80BT114DK	54.0	40.5	11.5	125 (135 WC)
H2O80BT112DK				
H2O80BT2DK				
H2O115BT114DK	72.0	61.5	11.5	160 (170 WC)
H2O115BT112DK				
H2O115BT2DK				

DUNKIRK H₂O STAINLESS STEEL BUFFER TANKS

- Reduces chiller or boiler short cycling
(Short cycling results in reduced operating efficiency and shorter equipment life)
- Used in systems having several low BTU cooling or heating loads calling at different times
- Full size tapings on buffer tank for peak performance (1-1/4", 1-1/2", and 2")
- Used in systems operating below the design load condition, which is most of the time.

H₂O HYDRAULICALLY DECOUPLED



Buffer Tank Sizing - Calculating Capacity

Dunkirk H₂O buffer tanks are a simple, cost effective way to improve overall system efficiency by reducing unnecessary equipment short cycling. The recommended capacity or volume of a buffer tank is based on four variables.

- 1) The duration of the heating or cooling source "on time" (minutes). The desired length of "on time" for each run cycle depends on the type of equipment used. Heat pump and chiller manufacturers typically recommend a minimum of 5 to 10 minutes on time, and boiler manufacturers may recommend a minimum of 10 minutes "on time". Check with your equipment manufacturer. Generally, the longer the "on time", the higher the overall operating efficiency.
- 2) The minimum rate of heat input (BTU/HR). This is based on the heat pump or chiller output, or the boiler output at the minimum firing rate if the boiler has a variable input system that ramps input down as the demand decreases.
- 3) The minimum system load (BTU/HR). This is the demand placed on the system with the smallest zone calling for heat.
- 4) The allowable tank temperature rise (deg. F). This varies depending on the type of heating or cooling system used, and on the design of the distribution system. Chillers may require a tight, (6 deg. F), differential to assure good dehumidification and prevent freezing, heat pumps may require a (10 deg. F) differential to maintain a high COP, and boilers with hydronic heating distribution systems may require a differential anywhere between 10 to 40 deg. F depending on the application.

The following formula determines the tank volume:

$$V = \frac{T \times (Q \text{ heat input} - Q \text{ min. heat load})}{\text{Tank temp. rise} \times 500}$$

V = Buffer tank volume (gallons)
 Q heat source = heat source output (BTU/HR)
 Tank temp rise (deg. F)

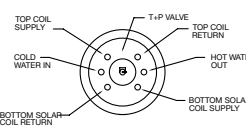
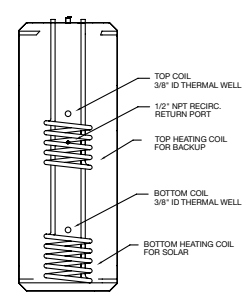
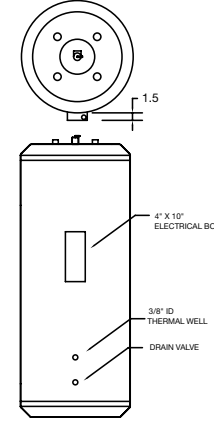

T = desired heat source "on cycle" (min.)
 Q min. heat load = heat output to minimum load

Water to Water Heat Pump Example:

Town and Country Mechanical wants a minimum heat pump on time of 10 minutes. The heat pump output is 46,500 BTU/HR. The smallest zone is a 7,000 BTU/HR bathroom. The allowable temperature differential is 90 to 100 deg. F for the radiant heat zones.

$$V = \frac{10 \times (46,500 - 7,000)}{(100-90) \times 500} = 79.0 \text{ Gallons minimum volume. Choose the H2O80BT buffer tank.}$$

Dunkirk H₂O Stainless Steel Dual and Single Coil Solar Water Heaters

Dimensions/Weights	Model	Storage Capacity (Gals.)	Top Coil Heating Surface Sq. Ft.	Bottom Coil Heating Surface Sq. Ft.	Piping Connections NPT (Inches)			
  DUAL COIL UNITS  ELECTRIC BACKUP UNITS	SINGLE COIL							
	H2OI60EDK	60	N/A	8.3	1			
	H2OI80EDK	80	N/A	8.0	1			
	H2OI115EDK	115	N/A	8.9	1			
	DUAL COIL							
	H2OI60DDK	60	7.4	8.3	1			
	H2OI80DDK	80	7.4	8.0	1			
	H2OI115DDK	115	7.4	8.9	1			
	H2OI60DEDK	60	7.4	8.9	1			
	H2OI80DEDK	80	7.4	8.0	1			
H2OI115DEDK	115	7.4	8.9	1				
Note: Max. Working pressure 150 psi for all capacities.								
General Information (See Installation, Operation and Maintenance Manual for complete instructions)								
Model	Max. First Hour Rating Gal./Hr. @		Continuous Rating Gal./Hr. @		Max. Rec. Top Coil	Max. Rec. Bottom Coil	Min. Boiler Water Flow Through Coil	Pressure Drop Through Coil
	140° F	115° F	140° F	115° F	(Gal./Hr.)	(Gal./Hr.)	(Gal./Min.)	(Ft. Water)
SINGLE COIL								
H2OI60EDK	45.9	52.0	15.9	22.0	N/A	214	10.0	3.5
H2OI80EDK	55.9	62.0	15.9	22.0	N/A	214	10.0	3.6
H2OI115EDK	73.9	80.0	15.9	22.0	N/A	214	10.0	3.9
DUAL COIL								
H2OI60DDK	45.9	52.0	15.9	22.0	185	214	10.0	3.5
H2OI80DDK	55.9	62.0	15.9	22.0	180	214	10.0	3.6
H2OI115DDK	73.9	80.0	15.9	22.0	190	214	10.0	3.9
H2OI60DEDK	45.9	52.0	15.9	22.0	185	214	10.0	3.5
H2OI80DEDK	55.9	62.0	15.9	22.0	180	214	10.0	3.6
H2OI115DEDK	73.9	80.0	15.9	22.0	190	214	10.0	3.9
Note: All ratings are based on 180° F boiler water supply and 50° F cold water inlet. For Dual Coil units, continuous ratings shown are for the lower coil only. Specifications subject to change without notice.								
Standard Equipment	Factory installed brass drain and relief valves, welded stainless steel cold water dip tube factory installed and pressure tested, Honeywell L4080B aquastat for field installation. Removable thermal well to accept a solar control thermostat or thermistor. Dual coil units equipped with two aquastat wells which control each coil independently and built-in recirculation tapping. Units with Electric Back-Up are provided with 4" x 10" electrical box with pre-wired heating element, thermostat, and hi-limit. All electric back-up units provided with 240 volt AC, 3500 watt element.							
Options	(E) Electric Back-Up models for supplemental heating.							
Certification/Decoding	<div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;"> <h2 style="margin: 0;">H2O I 60 D E DK</h2> <p style="font-size: small; margin: 0;"> I=Indirect Capacity: 60=60 Gals. 80=80 Gals. 115=115 Gals. D=Dual Coil E=Electrical Back up (3500 Watts) DK=Dunkirk </p> </div> </div> <p style="margin-top: 10px;"> Intertek Conforms to UL STD 174 Certified to CAN/CSA STD C22.2 No. 110-94 </p>							

Dimensions & Weights			
Models	Height (Inches)	Dia. (Inches)	Shp. Wgt. (Lbs.)
SINGLE COIL			
H2OI60EDK	62.0	23.5	135
H2OI80EDK	56.0	28.0	145
H2OI115EDK	74.0	28.0	180
DUAL COIL			
H2OI60DDK	62.0	23.5	165
H2OI80DDK	56.0	28.0	175
H2OI115DDK	74.0	28.0	205
H2OI60DEDK	62.0	23.5	175
H2OI80DEDK	56.0	28.0	185
H2OI115DEDK	74.0	28.0	215

PN 240009330 Rev. 8/13

Contractor Assistance: 800.325.5479



P.O. Box 4729
 Utica, New York 13504
 tel: 315.797.1310 • fax: 315.797.3762
 www.dunkirk.com

