

job 1828

Dammon Engineering Inc.

1095 Florida Ave.
Slidell, LA 70458
(985) 649-5832
Fax: (985) 641-5950

FAX COVER SHEET

FAX NUMBER TRANSMITTED TO: 646-1018
TO: DAVID
FROM: CHUCK
CLIENT/MATTER: SLIDELL
REFERENCE: LA QUINTA Hwy 12
DATE: 2-15-07 NO. OF PAGES INCLUDING COVER SHEET: 1

COMMENTS:

DAVID, I NEEDED THE FOLLOWING INFO.

#1 POOL PUMP
VOLT # AMPS 1Ø OR 3Ø

#2 HTR VOLTS # AMPS

#3 CHLORINE TURBO CELL DO YOU
NEED JUST A 110 RECEPTACLE
TO PLUG INTO.

THANKS
Chuck

IF YOU EXPERIENCE ANY PROBLEMS RECEIVING THIS FAX, PLEASE CALL (985) 649-5832,
OR FAX (985) 641-5950

Rainbow Model 320

Automatic Chlorine/Bromine
In-Line Feeder

Saves time, reduces manual handling of chemicals

The Rainbow Model 320 uses large or small Trichlor or Bromine slow dissolving tablets to make sanitizing your new or existing pool or spa easy and automatic. Designed for installation in the return line, the Model 320 feeder dispenses sanitizer directly into your pool or spa, downstream of all equipment.

Chamber Capacity—1" Tablet	Bottom Feed	Top Feed
Quantity	98	98
Weight	3.5 lbs.	3.5 lbs.

Chamber Capacity—3" Tablet		
Quantity	11	11
Weight	4.8 lbs.	4.8 lbs.

Maximum Erosion in 24 Hours	0.67 lbs.	1.75 lbs.
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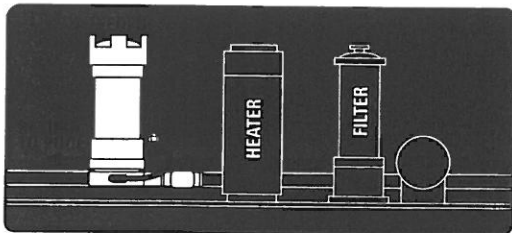
Treats Pool/Spa Size in Gallons per 24 Hours*		
@ 10 ppm	6,700	17,500
@ 5 ppm	13,400	35,000
@ 2½ ppm	26,800	70,000

Dimensions	17¾" H x 5" W x 10" D	17¾" H x 5" W x 10" D
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Service Clearance for Lid Removal	19"	19"
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*using 1" Trichlor tabs

Installs easily on pressure side of pump downstream of filter and heater



Standard features include:

- Positive external fine-control valve lets you adjust the feed rate to meet pool or spa demand.
- No special venting required.
- Completely enclosed system—no escaping fumes.
- Holds approximately 4.8 lbs. of large or 3.5 lbs. of small Trichlor or Bromine tablets or sticks.
- Can treat from 6,500 to 70,000 gallons.
- Top-loading for ease of adding chemicals.
- NSF listed for public or residential pool, spa, or hot tub use.
- Also available in clear for ease of tablet viewing.

Ask your Pool Professional about Pentair's comfort and convenience options to add a whole new dimension to your pool living:

- ☀ **automatic sanitizers**
- ☀ **automated controls**
- ☀ **heaters / heat pumps**
- ☀ **automatic cleaners**
- ☀ **automated color lighting**

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Listed
3/04 Part #RS-1007

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Rainbow Model 300

Automatic Chlorine/Bromine
Off-Line Feeder



The efficient, easy way to sanitize your pool or spa

The Model 300 automatic chlorine/bromine freestanding feeder not only saves time, but also reduces manual handling of chemicals. Years of customer satisfaction has proven the 300 to be an ideal choice for new or existing pools or spas. An external fine control valve lets you adjust the feed rate to meet specific pool or spa requirements. This is the perfect way to easily sanitize your pool or spa and create more time for enjoying them.

Chamber Capacity	Quantity	Weight
1" Tablet	98	3.5 lbs.
3" Tablet	11	4.8 lbs.

Maximum Erosion in 24 Hours 1.19 lbs.

Treats Pool/Spa Size in Gallons per 24 Hours*

@ 10 ppm	11,900
@ 5 ppm	23,800
@ 2½ ppm	47,600

21" H 7" W 12" D

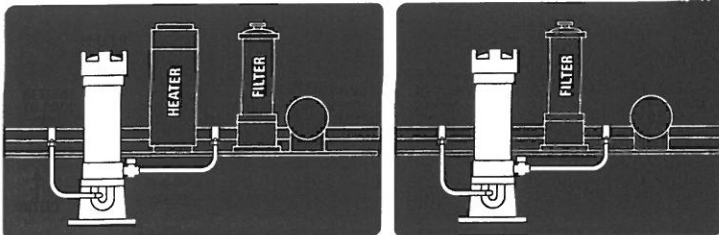
Service Clearance for Lid Removal 22¼"

*using 1" Trichlor tabs

Standard features include:

- Completely enclosed system—no escaping fumes.
- No special venting required.
- Operates on pressure side of pump.
- Holds approximately 4.8 lbs. of large or 3.5 lbs. of small Trichlor or Bromine tablets or sticks.
- Can treat from 12,000 to 48,000 gallons.
- Top-loading for ease of adding chemicals.
- Also available in 19" and 29" models for treatment capacity up to 56,000 gallons.
- NSF listed for public or residential pool, spa, or hot tub use.
- Also available in clear for ease of tablet viewing.

**Installs easily on pressure side of pump,
downstream of filter and heater**

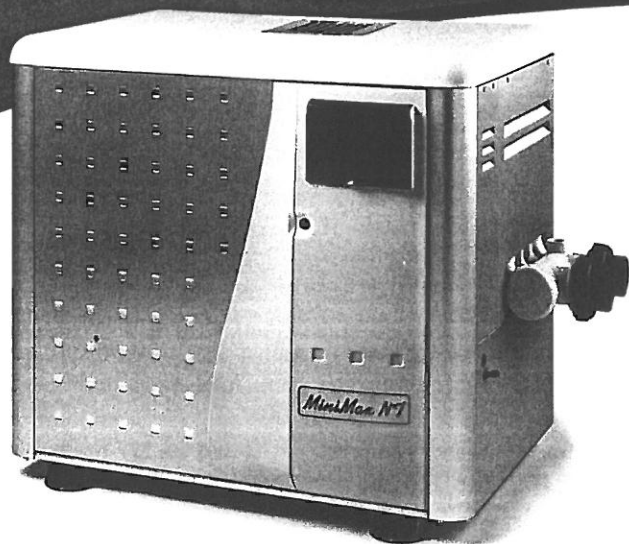




Pentair
Pool Products™

MiniMax® NT

High Performance Heater



The new standard in pool heating efficiency

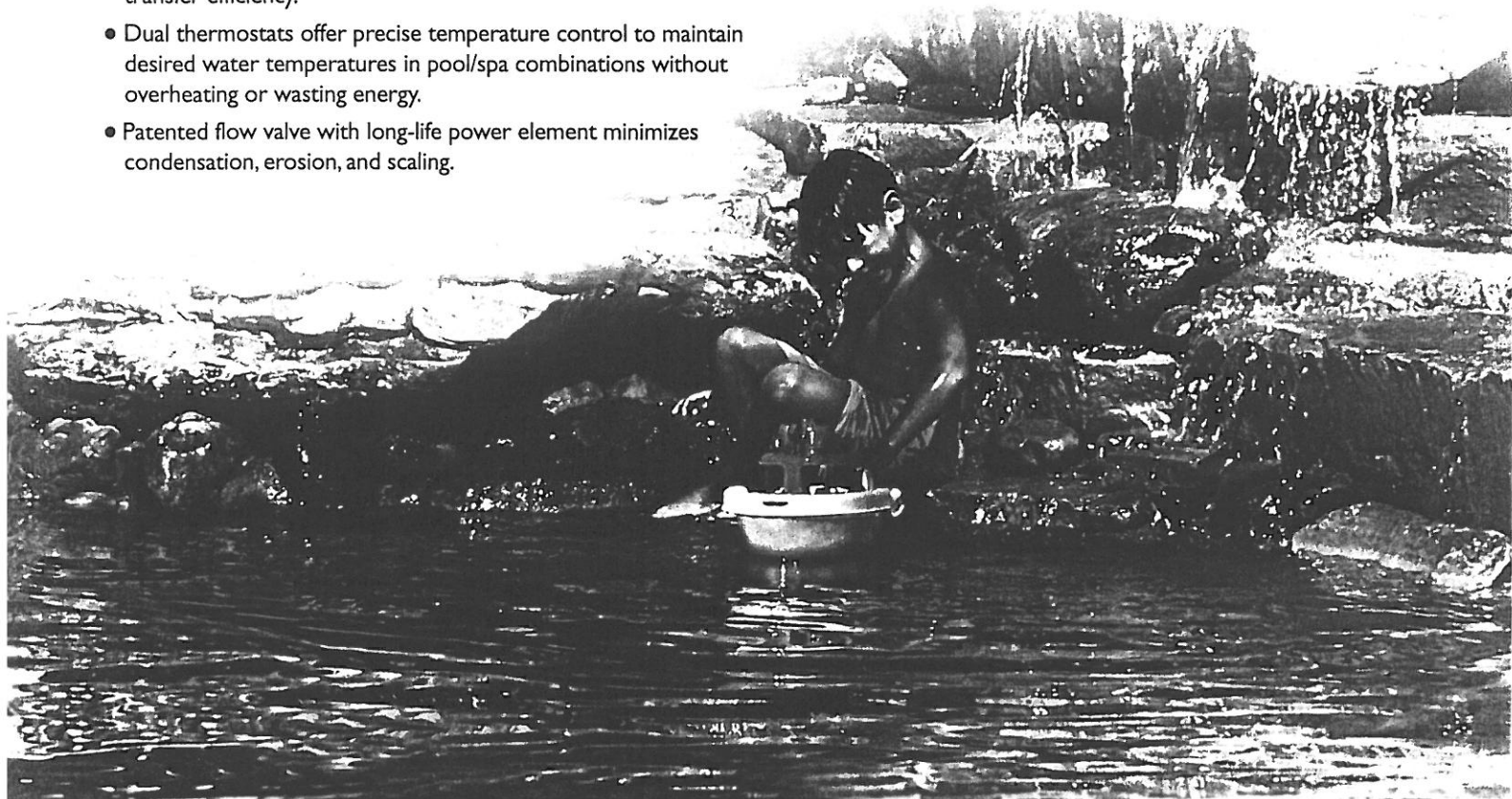
Today's heaters from Pentair make extending your pool season, adding to your comfort, and maximizing your backyard enjoyment surprisingly easy and affordable. They heat up fast. They are economical to run. And they're built to last for many years.

The MiniMax NT heater features strong corrosion resistant stainless steel burners, durable headers, a composite top, and a weatherproof anodized aluminum exterior. MiniMax NT also includes ceramic fiber tile insulation and "intelligent" controls that sense water temperature and pressure for optimum flow. It also features energy-saving "Hot Surface" ignition, fast heat-up, and exceptional efficiency for lower operating costs. What's more, with its space-saving, low profile design, the MiniMax NT will blend easily into any backyard décor.

In short, the MiniMax NT heater is the most technologically advanced heater we've ever developed. And it's available in models to meet any pool and spa heating requirement.

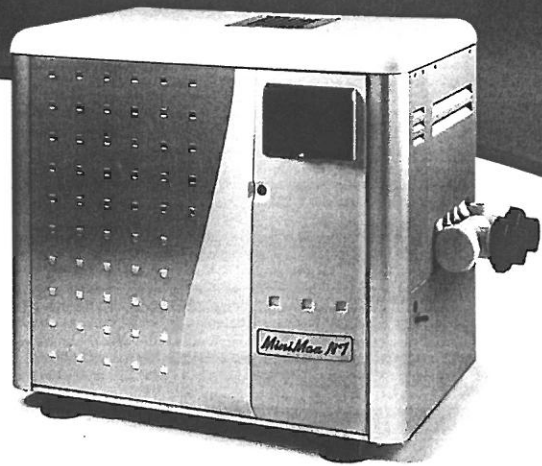
Standard features include:

- Thermal efficiency in excess of 82% for minimum operating cost.
- Long-life corrosion resistant composite header system integrated with premium copper high-fin heat exchanger for maximum thermal efficiency.
- LED lights on control panel provide at-a-glance monitoring of major heater functions.
- Higher water flow for better heating efficiency.
- Silicone-sealed combustion chamber system helps minimize fuel consumption.
- Ceramic tile insulation prevents heat loss for greater heat transfer efficiency.
- Dual thermostats offer precise temperature control to maintain desired water temperatures in pool/spa combinations without overheating or wasting energy.
- Patented flow valve with long-life power element minimizes condensation, erosion, and scaling.



MiniMax[®] NT

High Performance Heater



Nobody outheats us.
Nobody outlasts us.

With the MiniMax NT you make the most of your pool investment by extending your swimming season. It's pre-wired for use with all major brand pool/spa automatic controls.

Additional features include:

- Available in a range of sizes and in natural gas and propane versions.
- Fan-assisted exhaust for optimum ventilation.
- Easy service access to all major controls behind hinged access doors.
- Low profile design with rounded corners is visually attractive.
- Aluminum and composite jacket assembly for corrosion resistance.
- Stainless steel burners for long, corrosion-free life.
- Easy-to-install CPVC bulkhead connections and reversible headers.
- Two-year warranty. See warranty for details.



MiniMax NT heater required to heat pool in 24 hours

Pool capacity in gallons	Desired temperature rise					
	5°F	10°F	15°F	20°F	25°F	30°F
10000						
12000						
14000						
16000						
18000						
20000						
22000						
24000						
26000						
28000						
30000						
32000						
34000						
36000						

MiniMax NT model needed	200	250
Commercial Series MMX needed	525	

MiniMax NT heater required for maintenance heating

Pool surface area (sq. ft.)	Desired temperature rise				
	10°F	15°F	20°F	25°F	30°F
200					
300					
400					
500					
600					
700					
800					
900					
1000					

MiniMax NT heater required to heat spa in one hour

Spa capacity in gallons	Desired temperature rise				
	10°F	15°F	20°F	25°F	30°F
200					
300					
400					
500					
600					
700					
800					
900					
1000					



Ask your Pool Professional about Pentair's comfort and convenience options to add a whole new dimension to your pool living:

- automatic sanitizers
- automated controls
- heaters/heat pumps
- automatic cleaners
- automated color lighting



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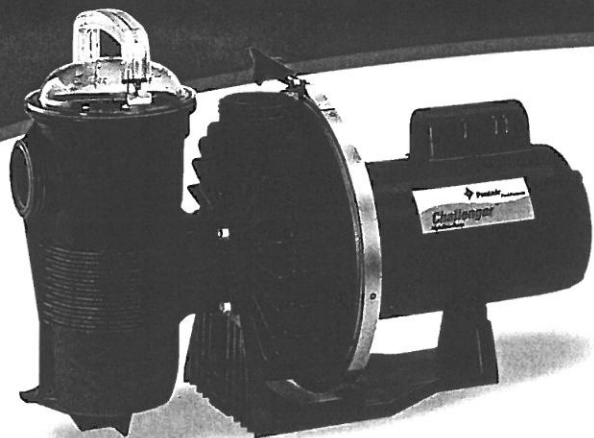
G.A.M.A.



Pentair
Pool Products®

Challenger®

High Flow Pump



Meeting and beating all demands for efficient, quiet and tireless performance

The right pump should circulate all pool water at least once a day...as efficiently as possible. Greater efficiency means lower utility costs...and the key lies in the heart of the pump's design. The secret is to minimize friction and turbulence. Less friction means greater efficiency. Less turbulence means less noise.

That's why all Pentair pumps feature a proprietary hydraulic design that's been refined over 40 years for superior performance. In fact, they are so efficient they often deliver the required flow and pressure using smaller horsepower motors—which cost less to run. No wonder more than 2 million Pentair pumps have been selected by pool professionals.

The Challenger High Flow pump is designed to provide years of trouble-free performance. Like all Pentair pumps, Challenger is quiet, ruggedly built, and exceptionally reliable.

Standard features include:

- Thermoplastic pump components are strong, durable, and corrosion resistant.
- Specially designed internal components and 2" ports provide rapid priming and quiet operation.
- Extra-large strainer basket extends time between cleanings.
- Transparent strainer lid with comfortable handle provides easy access to strainer basket.
- One-bolt stainless steel clamp removes easily to provide quick access for maintenance.



Challenger[®]

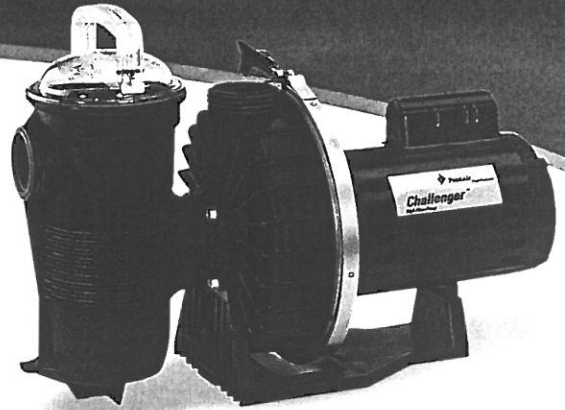
High Flow Pump

Unsurpassed performance and the industry's most rugged design

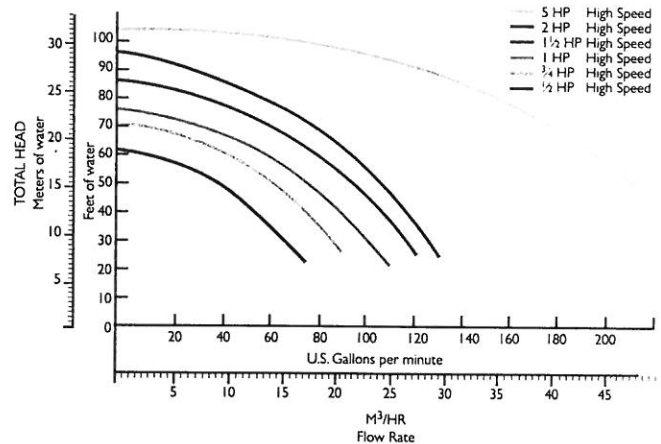
Challenger High Flow pumps provide outstanding, energy-efficient performance across a wide range of flow rates. And thanks to their incredibly rugged, dependable design, they'll keep on delivering that performance for years to come. They are available in sizes from 1/2 hp to 5 hp to fit a wide range of applications.

Other features include:

- Power end can be removed easily for service or winterizing without disturbing piping or pump support base.
- No tools required for removing thumbscrew drain plugs for draining or winterizing.
- One-year limited warranty. See warranty for details.



Full-rated Performance Curves



Ask your Pool Professional about Pentair's comfort and convenience options to add a whole new dimension to your pool living:

- automatic sanitizers
- automated controls
- heaters/heat pumps
- automatic cleaners
- automated color lighting



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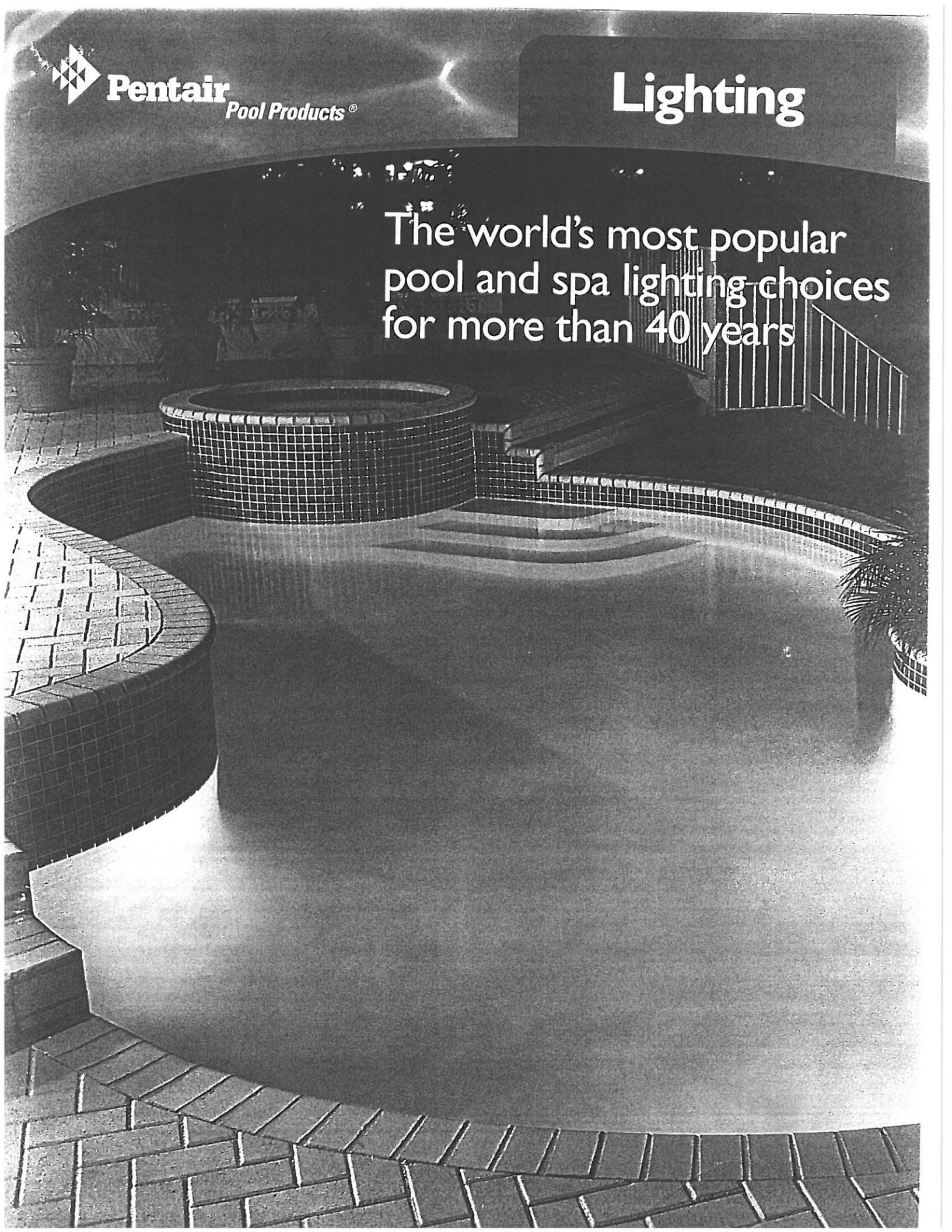
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Pentair
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Lighting

The world's most popular
pool and spa lighting choices
for more than 40 years



Amerlite® and AmerQuartz®

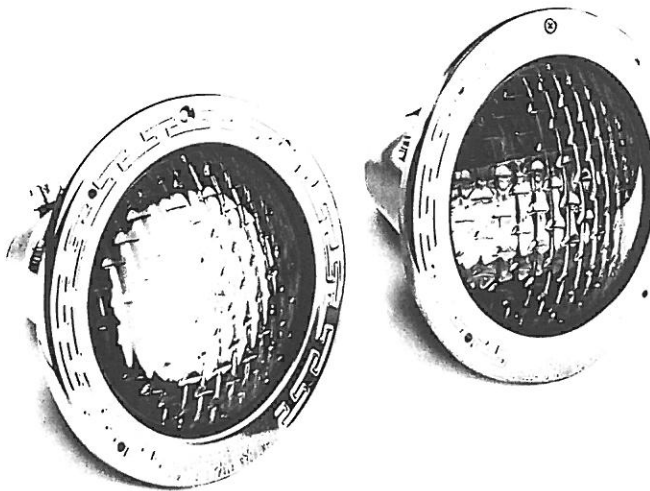
Pool Lights

The world standard in pool lighting

There's nothing better than attractive underwater lighting for enhancing a pool's appearance. And for giving your pool that special nighttime beauty, there's no better lighting than Amerlite and AmerQuartz pool lights. Amerlite incandescent lights and AmerQuartz halogen lights have been the world standard of reliability for underwater pool and spa lighting for over 40 years. They're expertly engineered to provide optimum performance for years to come. In fact, tonight they will light more than 3 million pools worldwide.

Standard features include:

- 8³/₈ inch prismatic tempered glass lens for optimum light diffusion.
- Optional snap-on lens covers in blue, red, green, and amber to instantly create a different ambience.
- Heat-sensing water cutoff for low water protection.
- Amerlite available in 100 and 300 watt, 12 volt models, and 300, 400, and 500 watt, 120 volt models. AmerQuartz available in 100 and 200 watt, 12 volt models, and 300 and 500 watt, 120 volt models.
- Stainless steel shell and face ring are durable and corrosion resistant.
- Optional plastic snap-on face rings let you coordinate with your pool finish.
- Easy to service. All Pentair lights allow you to relamp without lowering your water level.
- UL listed for Pentair niches only.
- One-year limited warranty. See warranty for details.



Amerlite



AmerQuartz





AquaLight[®] and SpaBrite[®]

Compact Pool and Spa Lights

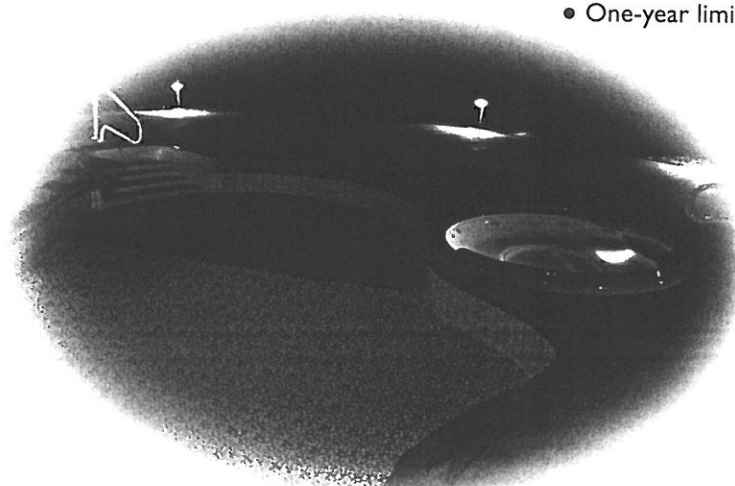


High intensity compact lights from the world leader in pool and spa lighting

AquaLight and SpaBrite lights are compact units especially designed to provide big lighting performance for smaller pools and spas. Whether you choose the halogen quartz AquaLight or the incandescent SpaBrite, your pool or spa will shine brilliantly when the sun goes down. Both lights feature high quality stainless steel housings and face rings for durability. Tempered glass lenses provide optimum light diffusion. Each light comes complete with red and blue snap-on lens covers.

Standard features include:

- Prismatic tempered glass lens for optimum light diffusion.
- Optional blue, magenta, green, purple, and blue-green mood-setting snap-on lenses.
- Heat-sensing cut-off device for low water protection.
- AquaLight available with halogen quartz lamps from 75 watts to 250 watts. SpaBrite features 100 watt incandescent lamp.
- Corrosion resistant stainless steel housing and face rings are strong and durable.
- Plastic snap-on face rings available to coordinate with your pool finish.
- Easy service stainless steel clamp for quick and easy bulb replacement.
- UL listed for Pentair niches only.
- One-year limited warranty. See warranty for details.



Lighting

Pentair offers more lighting options than anyone

When it comes to pool and spa lights, no one gives you more choices than Pentair. In addition to AmerQuartz, Amerlite, AquaLight, and SpaBrite, we also offer...

Spectrum Amerlite® (SAm®) and Spectrum AquaLight® (SAL®) Automated Color-Changing Lights

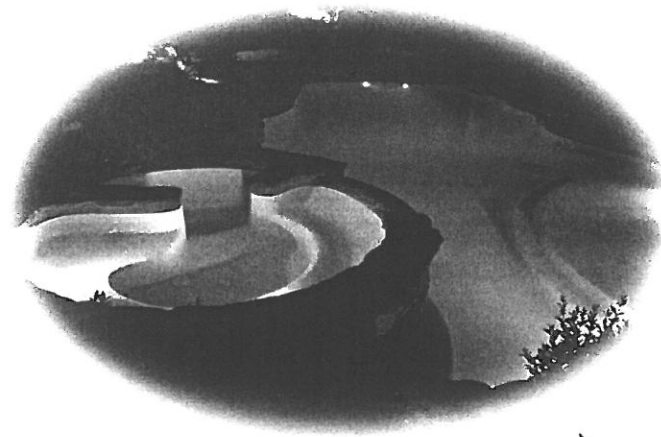
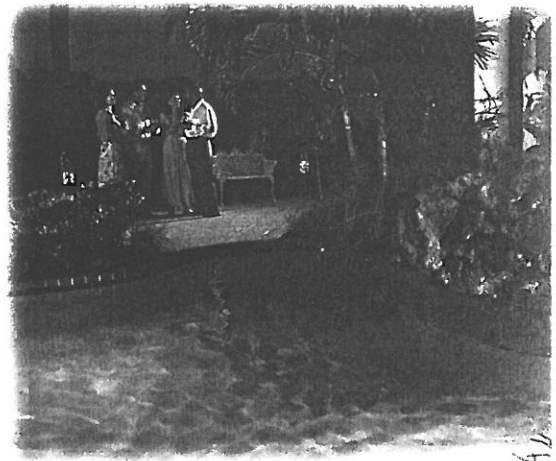
Bathe your pool and spa in an endless array of brilliant colors

The Spectrum Amerlite (SAm) and Spectrum AquaLite (SAL) are the world's first underwater lights that change color at the flip of a switch. Unlike ordinary pool and spa lights, SAm and SAL feature unique electronic circuitry that allows you to control the color of the light emitted by their halogen quartz bulbs. Delivering a nearly limitless spectrum of mesmerizing colors, SAm and SAL can bathe your pool and spa in a custom color you select to suit your mood, or slowly roll through the entire spectrum in a luminous underwater display. Imagine transforming your pool into a unique and breathtaking aquatic environment right before your eyes. And for pools and spas with more than one light, multiple SAm and SAL lights synchronize with one another to provide uniformly spectacular color from one end of the pool and spa to the other.

FIBERworks® Fiber Optic Lighting Systems

FIBERworks puts breathtaking light, color, and style at your fingertips

FIBERworks pool/spa, perimeter, water feature, and landscape lighting products offer features to enhance your entire pool experience. Features such as our patented OptiFusion™ technology with its superior light transmission capability. And our exclusive FreedomSync™ feature, which permits wireless color synchronization between two or more PG2000. Brighter. Better. Smarter. No wonder FIBERworks fiber optic systems are the world's most popular choice.



Ask your Pool Professional about Pentair's comfort and convenience options to add a whole new dimension to your pool living:

*automatic sanitizers
automated controls
heaters/heat pumps
automatic cleaners
automated color lighting*

 **Pentair**
Pool Products®

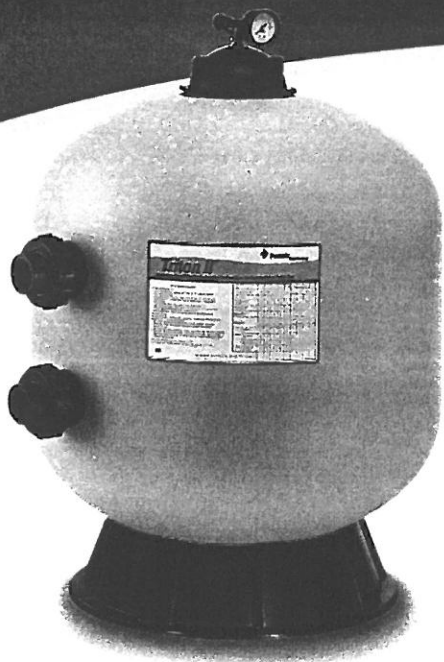
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The #1 sand filter in the world

Sand filters are one of the most popular ways to filter water. For good reasons. They are simple, effective, and require very little attention. Pool water is routed through a sand-filled pressure vessel. The sand traps particles large and small...so small they are undetectable to the human eye. Over time, dirt accumulates in the spaces between the sand particles causing the pressure in the vessel to rise as water finds it harder to pass through. This signals you to "backwash" the filter. Simply reverse the water flow and "knock out" the dirt. What could be simpler.

But all sand filters are not created equal. For optimum filtration all the water must flow through the same amount of sand at the proper rate. That's why all Pentair sand filters feature a special internal design that keeps the sand bed level, ensures even water flow, and results in the most efficient filtration possible. That's why more than 2 million Pentair filters have been installed worldwide.

Triton II is the result of over 40 years of product evolution and refinement. It has set the industry standard for effectiveness, efficiency, long runs between service, and providing years of dependable, low maintenance operation.

Standard features include:

- Time-proven internal design ensures that all water receives maximum filtration for crystal clear results.
- Patented GlasLok™ process creates a one-piece, fiberglass reinforced tank with a UV-resistant coating for years of dependable, corrosion resistant service.
- Flow system design controls filtration quality and ensures maximum run times between backwashing.

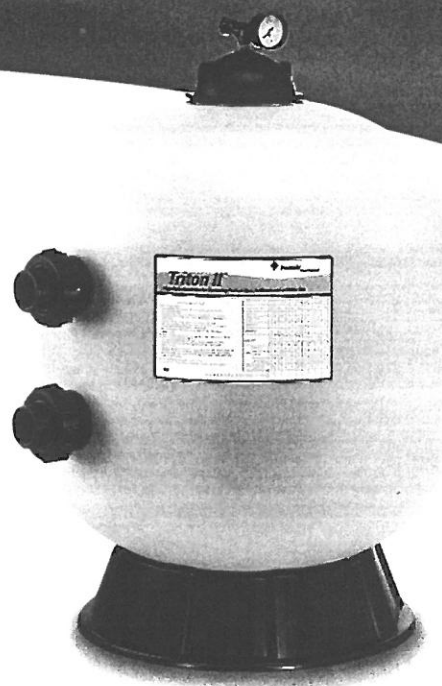


The best reputation in the industry for all the right reasons

Besides its superior filtration performance, Triton II delivers a level of dependability and ease of operation and maintenance for a track record that's unsurpassed. Every design detail has been refined to make the Triton II the industry standard.

Additional features include:

- Easy access, heavy-duty closure with built-in pressure relief valve makes inspection and maintenance fast, safe, and easy.
- Combination sand and water drain speeds servicing and winterizing.
- All internal parts are threaded for ease of maintenance.
- Swing-away water diffuser allows instant access to sand and all internal parts.
- One-year limited warranty. See warranty for details.



Triton II Side Mount—Sand Filter

Model Number	Filter Area Sq. Ft.	Vertical* Clearance	Filter Diameter	Required Sand† (lbs.)	Flow Rate GPM		Turnover Capacity-Res. (Gallons)		
					Res.	Comm.	6hrs.	8hrs.	12hrs.
TR 40	1.92	32.5"	19"	175	38	38	13,680	18,240	27,360
TR 50	2.46	36.75"	21"	225	49	49	17,640	23,520	35,280
TR 60	3.14	37.5"	24"	325	63	63	22,680	30,240	45,360
TR 100	4.91	41.75"	30"	600	98	74	35,280	47,040	70,560
TR 140	7.06	47.25"	36"	925	141	106	50,760	67,680	101,520

*Required clearance to remove the closure

†Use standard #20 silica sand



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automated controls
heaters/heat pumps
automatic cleaners
automated color lighting*



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AQUA RITE[®]

Electronic Chlorine Generator

THE CLEAR SOLUTION
TO CHLORINATION



GOLDLINE
CONTROLS INC.

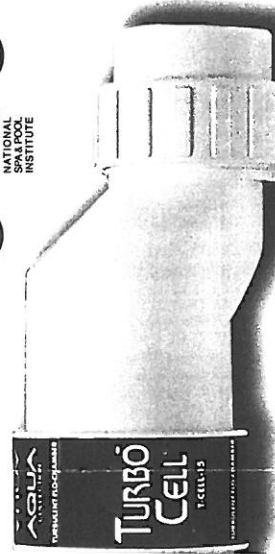
Assure Chlorine Again!

ore Odor or Bleached Items • No More Itchy Skin or Red Eyes

et of Controlled Chlorination

- plifies chlorine production & efficiency •
- flow pattern ensures peak performance •
- iction to speed purification & maximize longevity •
- formance boosting minimal flow restrictions •
- 0-generation safety & cost effectively •

onic control via a plug in cord, is simply plumbed into pump pushes the water through the Turbo Cell where only disperses the pure fresh filtered water throughout be easier, more effective, or trouble free!



Goldline

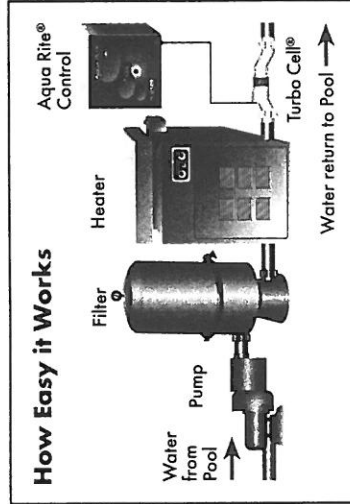
ly Made in the U.S.A.



Soft Silky Pure Water

Your pool can be an inviting backyard paradise with soft, pure, sparkling clean water. Imagine no chlorine smell or irritation, no red eyes or dry skin, just silky soft inviting water ready when you are. For fitness and pleasure, nothing is more nature friendly than an Aqua Rite system on your pool. For freshly purified, sparkling clear water with the level of purification you want, and for the fresh, healthy difference you'll enjoy, Aqua Rite is the answer!

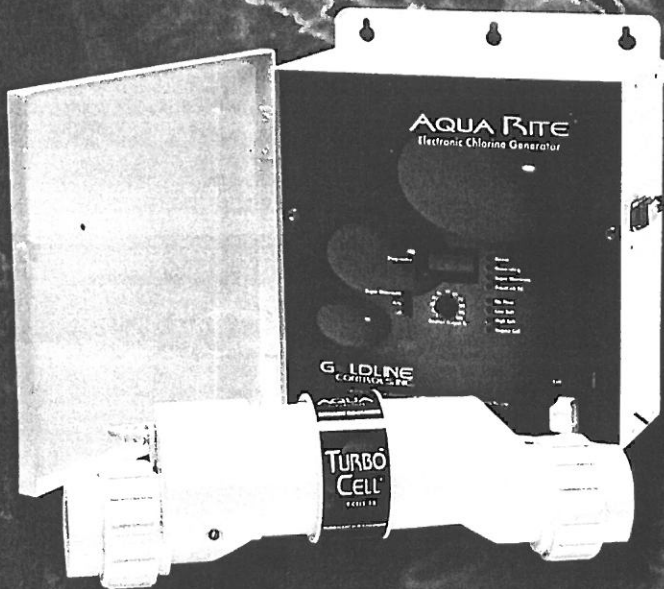
How Easy it Works



5-year Limited Warranty*

Goldline is well able to create a warranty* precedent and back it. With more than 2.5 million quality products sold, Goldline is rated number one nationally in many customer satisfaction surveys. With today's advanced Aqua Collection of electronic chlorinators, Goldline presents a new age in pool purification technology. It is also proud to support its many dealers with a strong warranty* and service network.

* See 5 year Limited Warranty statement for details.



Outstanding Quality

- Microprocessor Based Electrolytic Chlorine Generator
- Selectable Automatic Super Chlorinate Function
- Digital Salt Level Display & 8 Diagnostic LED's
- For Swimming Pools up to 40,000 Gallons
- Exclusive Turbo Cell with Quick Connection to Control
- Single Unit for 120VAC/240VAC 50/60 Hz Input
- Aqua Link® Interface for Remote Control & Monitoring
- Unique 5-Year Limited Warranty*

Affordable Performance

- Generates 100% of your Pools Purification Requirements
- Easily Installs on All Standard Filtration Systems
- Easy to Program & Operate for the Entire Swim Season
- No Changes in Filtering Times or Durations
- Easily Pays for Itself by Reduced Labor & Chemical Costs
- Manufactured by Goldline Controls, Inc. "The Recognized Technology Leader"

* See 5 year Limited Warranty statement for details.

GOLDLINE
CONTROLS INC.

42 Ladd Street
East Greenwich, RI 02818
800-343-0826
Fax 800-343-0827

San Diego, CA
800-294-4225
Fax 619-462-4498

www.goldlinecontrols.com

**See your local
authorized dealer**



Designed With You In Mind.™

SEALED-COMBUSTION GAS-FIRED WATER HEATERS 100,000 BTU/HR. THRU 199,000 BTU/HR.

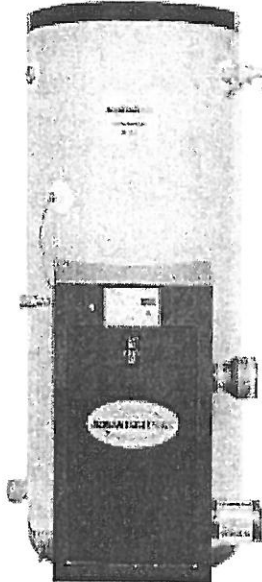
RHEEM-RUUD AdvantagePlus™ Gas Commercial Water Heaters are specifically designed to provide customers with maximum savings on operation, space and installation. Designed with the most advanced technology available, these products optimize efficiency and operating reliability.

CONSTRUCTION FEATURES:

- 316L stainless steel tank construction (requires no anode rods).
- No chimney required; direct vent using plastic pipe.
- Thermal efficiency of 95% dramatically reduces operating costs.
- 85 equivalent feet of vent length.
- Low NO_x emissions. Meets SCAQMD Rule 1146.2.
- High impact plastic jacket eliminates dents.
- 2" of non-CFC, polyurethane foam insulation.
- Less than 1/2 degree per hour heat loss (R17).
- Corrosion resistant, high efficiency 90/10 cupronickel heat exchanger.
- Self-diagnostic electronic control with digital readout for water temperature, set point and differential.
- Removable front cover allows easy access to equipment (24" service clearance recommended).
- Temperature range from 70°F to 160°F (maximum temperature setting of 180°F available on HE45-160 and HE45-199 booster models only).
- Zero clearance to all combustible surfaces.
- Factory installed AGA/ASME rated T&P relief valve.
- Booster installation kit provided with HE45-160 and HE45-199 booster models.



CERTIFICATIONS AND RATINGS:

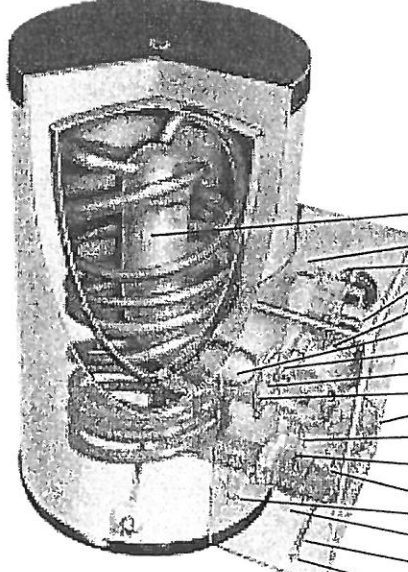
The water heaters are UL/ULC listed and exceed the minimum efficiency requirements of ASHRAE/IES 90.1b-1992. All water heaters are supplied with an AGA/ASME rated temperature and pressure relief valve. The control panel is an integrated solid state temperature and ignition control device with integral diagnostics, LED fault display capability and a digital display of temperature settings. All models are North Carolina Code compliant. **CERTIFIED FOR A 150 PSI MAXIMUM WORKING PRESSURE.**



NO CHIMNEY REQUIRED - VENTS UP TO 40 FEET USING 3" SCHEDULE 40 PVC, CPVC OR ABS PIPE

100,000 BTU AND 130,000 BTU MODELS ARE CERTIFIED TO VENT WITH 2" SCHEDULE 40 PVC, CPVC OR ABS PIPE



- Heat Exchanger/Combustion Chamber
- Control Well and E.C.O.
- Air Inlet Connector
- Gas Valve
- Combustion Blower
- Gas Burner
- Gas Inlet Nipple 1/2"
- Hot Surface Ignitor
- Flame Probe
- Exhaust Outlet Connector
- Control Board
- Vent Over-Temp Reset Switch
- Exhaust Elbow and Drain
- Pressure Switch
- Transformer
- Condensate Connector Hose
- Condensate Connector

WH

84-1

RHEEM-RUUD ADVANTAGEPLUS SEALED-COMBUSTION GAS-FIRED WATER HEATERS

RECOVERY CAPACITIES														
Recovery in U.S. Gallons/Hr. (GPH) and Liters/Hr. (LPH) at Various Temperature Rises														
MODEL NUMBER	INPUT (BTU/HR) NAT. & LP	THERMAL EFFICIENCY	UNITS	40°F (4.4°C)	50°F (10.0°C)	60°F (15.5°C)	70°F (21.1°C)	80°F (26.6°C)	90°F (32.2°C)	100°F (37.7°C)	110°F (43.3°C)	120°F (48.8°C)	130°F (54.4°C)	140°F (60.0°C)
HE45-100	100,000	95%	GPH	288	230	192	165	144	128	115	105	96	N/A	N/A
			LPH	1090	872	726	623	545	484	436	396	363	N/A	N/A
HE45-130 HE80-130 HE119-130	130,000	95%	GPH	374	299	249	214	187	166	150	136	125	N/A	N/A
			LPH	1417	1133	944	809	708	630	567	515	472	N/A	N/A
HE80-160 HE119-160	160,000	95%	GPH	461	368	307	263	230	205	184	167	154	N/A	N/A
			LPH	1744	1395	1162	996	872	775	697	634	581	N/A	N/A
HE80-199 HE119-199	199,000	95%	GPH	573	458	382	327	286	255	229	208	191	N/A	N/A
			LPH	2169	1735	1446	1239	1084	964	867	789	723	N/A	N/A
BOOSTER MODELS														
HE45-160	160,000	95%	GPH	461	368	307	263	230	205	184	167	154	142	132
			LPH	1744	1395	1162	996	872	775	697	634	581	536	498
HE45-199	199,000	95%	GPH	573	458	382	327	286	255	229	208	191	176	164
			LPH	2169	1735	1446	1239	1084	964	867	789	723	667	620

Recovery rating is based on thermal efficiencies obtained in an UL certified laboratory.

MAXIMUM DELIVERY															
In U.S. Gallons and Liters (Includes useable storage and recovery for indicated times)															
MODEL NUMBER	GALLONS	LITERS	INPUT (BTU/HR) NAT. & LP	TEMP. RISE	UNITS	5 MIN.	10 MIN.	15 MIN.	20 MIN.	30 MIN.	45 MIN.	1 HR.	2 HR.	3 HR.	MIN. TO RECOVER CONTENTS
HE45-100	45	170	100,000	100°F	GAL.	41	51	60	70	89	118	147	262	377	23
				37.7°C	LTR.	156	192	228	265	337	446	555	991	1427	
HE45-130	45	170	130,000	100°F	GAL.	44	56	69	81	106	144	181	331	481	18
				37.7°C	LTR.	166	214	261	308	403	544	686	1253	1819	
HE80-130	80	303	130,000	100°F	GAL.	68	81	93	106	131	168	206	355	505	32
				37.7°C	LTR.	259	306	354	401	495	637	779	1345	1912	
HE119-130	119	450	130,000	100°F	GAL.	96	108	121	133	158	196	233	383	532	48
				37.7°C	LTR.	363	410	457	504	599	750	882	1449	2015	
HE45-160	45	170	160,000	100°F	GAL.	47	62	78	93	124	170	216	400	584	15
				37.7°C	LTR.	177	235	294	352	468	642	817	1514	2211	
HE80-160	80	303	160,000	100°F	GAL.	71	87	102	117	148	194	240	424	609	26
				37.7°C	LTR.	270	328	386	444	561	735	909	1607	2304	
HE119-160	119	450	160,000	100°F	GAL.	99	114	129	145	175	221	268	452	636	39
				37.7°C	LTR.	373	432	490	548	664	838	1013	1710	2408	
HE45-199	45	170	199,000	100°F	GAL.	51	70	89	108	146	203	261	490	719	12
				37.7°C	LTR.	192	264	336	408	553	770	987	1854	2721	
HE80-199	80	303	199,000	100°F	GAL.	75	94	113	132	171	228	285	514	743	21
				37.7°C	LTR.	284	357	429	501	646	863	1079	1947	2814	
HE119-199	119	450	199,000	100°F	GAL.	102	121	141	160	198	255	312	542	771	31
				37.7°C	LTR.	338	460	532	604	749	966	1183	2050	2918	

All models have a maximum setpoint of 160°F with the exception of the HE45-160 and HE45-199 booster models. The HE45-160 and HE45-199 have a maximum setpoint of 180°F.

DIMENSIONAL INFORMATION													
All dimensions shown in English and Metric													
MODEL NUMBER	UNITS	A	B	C	D	E	F	G	H	VENT	WATER CONNECTIONS		APPROX SHIPPING WT.
											INLET	OUTLET	
HE45-100	inches	42	23 1/2	32	35	5	25 1/4	27 9/16	5 7/8	2	1	1	175 lbs.
HE45-130	mm	1067	597	813	889	127	641	700	149	51	25	25	79 kgs
HE45-160	inches	42	23 1/2	32	35	5	25 1/4	27 9/16	5 7/8	3	1	1	175 lbs.
HE45-199	mm	1067	597	813	889	127	641	700	149	76	25	25	79 kgs
HE80-130	inches	72	23 1/2	32	65	5	25 1/4	20 1/4	7 3/4	3"	1-1/2	1-1/2	235 lbs.
HE80-160	mm	1854	597	813	1651	127	641	514	197	76	38	38	106 kgs
HE119-130	inches	73	27	36	66 3/4	6 3/4	28 7/8	22	9 1/2	3"	1-1/2	1-1/2	405 lbs.
HE119-160	mm	1854	686	914	1695	171	733	559	241	76	38	38	184 kgs

0" CLEARANCE TO COMBUSTIBLES ON ALL ADVANTAGE PLUS UNITS, HOWEVER, A 24" CONTROL PANEL SERVICE CLEARANCE IS RECOMMENDED.

MODELS WITH INPUTS OF 100,000 BTU AND 130,000 BTU ARE CERTIFIED TO VENT WITH 2" SCHEDULE 40 PVC, CPVC OR ABS PIPE

* 130,000 BTU models are certified to be installed with 2' venting.

All models require a 120V power source.

See use and care manual for venting details.

RHEEM-RUUD ADVANTAGEPLUS SEALED-COMBUSTION GAS-FIRED WATER HEATERS

The HE45-160 and HE45-199 Booster models are the only models equipped with a 180°F thermostat. Models with 180°F thermostats come standard with the Booster Installation Kit which includes all necessary components for an approved installation.

BOOSTER INSTALLATION KIT INCLUDES:

- Nibco Tee – 1" x 1" x 1/2" (2 pieces)
- Female Adapter – 1" (2 pieces)
- Dial Thermometer (2 pieces)
- Expansion Tank – 4-1/2 gallon
- Grundfos 3 Speed Pump with Check Valve
- Nibco 1.2" x 12" Fitting Air Chamber
- Vacuum Relief Valve
- Pressure Gauge – 0-200 PSI
- Nibco Tee 712R – 1" x 1" x 3/4" (2 pieces)
- Nibco Tee 714RR – 1" x 1/2" x 1"
- Nibco Tee – 1" x 1/2" x 1" Copper
- Reducing Coupling
- Pressure Reducing Valve
- Nibco Male Adapter – 1"

ADVANTAGEPLUS SPECIFICATIONS

The Water Heaters shall be **RHEEM-RUUD** model number HE- 119-199. The Water Heaters shall be a sealed combustion system, taking only outside air for combustion and exhausting the flue gas with plastic pipe. The intake air shall be piped with plastic PVC or ABS pipe, 3" in diameter (2" in diameter for 100,000 BTU and 130,000 BTU) and the exhaust gas shall be piped with CPVC or ABS solid NON FOAM CORE for the first 7' only, with the remaining pipe being sch 40 or 80 CPVC solid - solid PVC NON FOAM CORE - ABS solid NON FOAM CORE. All related intake air and exhaust gas shall be approved for zero clearance to any combustible surface.

The heaters shall be constructed of 316L stainless steel. The primary condensing heat exchanger shall be constructed of 90/10 cupronickel. The insulation is a water blown foam and shall be 2" thick with rating of R14.2 and 3" on the top of the heater rated at R21.3. Insulation shall be enclosed in a plastic shell. All components shall be located in the front of the heater for easy access for serviceability. All related hardware shall be constructed of stainless steel studs and brass nuts for serviceability.

LIMITED WARRANTY

This product features a three year limited warranty against tank leaks. Please refer to Commercial Warranty Information brochure for complete warranty information.



RHEEM WATER HEATERS • 101 BELL ROAD, MONTGOMERY, ALABAMA 36117
RHEEM CANADA LTD./LTÉE WATER HEATER DIVISION • 128 BARTON STREET WEST, P.O. Box 2846, HAMILTON, ONTARIO, L8N 3P3

"In keeping with its policy of continuous progress and product improvement, Rheem-Ruud reserves the right to make changes without notice."

SECTION NAME:

CP CIR PUMP
CIRCULATING PUMP

ITEMS CONTAINED IN SECTION:

- UP26-64F SERIES UP CIRCULATOR PUMP
- L4006A HW 100-240F AQUASTAT
- 51.96.51 BRASS FLANGE SET

CP

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GRUNDFOS



Series UP
CLOSED
SYSTEMS

Wet-Rotor, In-Line, Single Stage, Maintenance Free, Circulator Pumps

Submittal Data

60 Cycle

	JOB or CUSTOMER:	
	ENGINEER:	
	CONTRACTOR:	
	SUBMITTED BY:	DATE:
	APPROVED BY:	DATE:
	ORDER NO:	DATE:
	SPECIFICATION REF:	

QUANTITY	TAG NO.	MODEL NO.	GPM	FEET	VOLT	PHASE	COMMENTS
		UP26-64F					

Technical Data

FLOW RANGE: 0 to 46 U.S. GPM
 HEAD RANGE: 0 to 32 Feet
 MOTOR: 2Pole, Single Phase
 MAXIMUM FLUID TEMPERATURE – CLOSED SYSTEMS: 230°F (110°C)

MIN. FLUID TEMPERATURE for UP15: 36°F (2°C)
 MIN. FLUID TEMPERATURE for ALL OTHERS: 32°F (0°C)

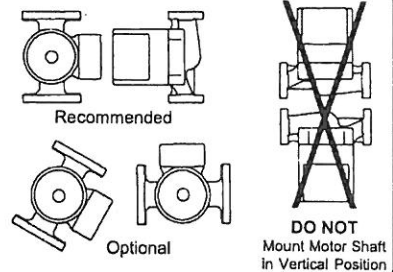


Ambient Air Temp.	95°F (35°C)	130°F (55°C)	140°F (60°C)	160°F (71°C)	175°F (79°C)
Maximum Water Temp.	230°F (110°C)	220°F (104°C)	210°F (99°C)	190°F (88°C)	175°F (79°C)

MAXIMUM WORKING PRESSURE: 145 PSI
 MINIMUM REQUIRED INLET PRESSURE:

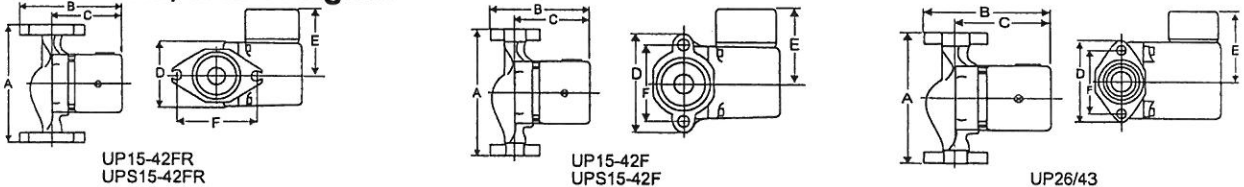
230°F (110°C)	190°F (88°C)	140°F (60°C)
36 Ft. (1.10m)	9.0 Ft. (2.8m)	3.0 Ft. (0.9m)
15.6 psi	4.0 psi	1.3 psi

Mounting Positions



FOR INDOOR USE ONLY

Dimensions, and Weights



CLOSED SYSTEM MODELS	A	B	C	D	E	F [⊕]	Shipping Connection Type and Size	Wt. (Lbs.)
UP15-42F (BRUTE II [®]) & UPS15-42F	6 1/2	5 1/4	4	4 3/16	3 1/4	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	7 1/4
UP15-FR (BRUTE II [®]) & UPS15-42FR	6 1/2	5 15/16	4	3 3/4	3 1/4	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	7 1/4
UP15-42FC (*Brute II w/ check valve)	6 1/2	5 1/4	4	4 3/16	3 1/4	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	7 1/4
UP26-64F & UP26-96F	6 1/2	6 3/8	5 1/16	4 1/8	3 1/2	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	11 1/4
UP26-99F	6 1/2	6 3/8	5 1/16	4 1/8	3 1/2	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	12 1/2
UP43-75F	8 1/2	6 11/16	5 3/16	4 3/4	3 1/2	3 7/16	Flange – (2) 1/2" Dia. Bolt Holes	13 1/2

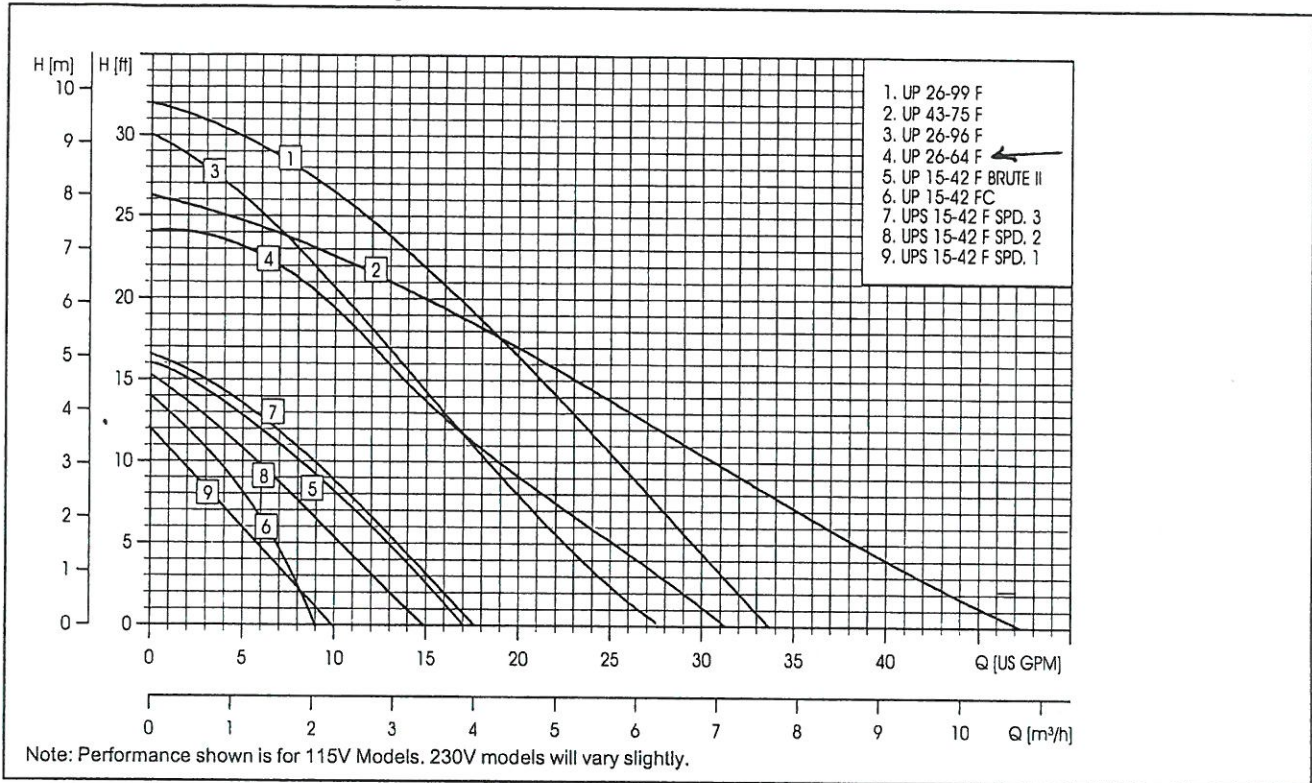
NOTES: All dimensions are in inches. [⊕]F dimension is the flange bolt centerline to centerline.
 *Circulators w/ check valve have a maximum water temperature of 200°F.

CP

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Performance Curves

Cast Iron Construction – Flange Mount



Electrical Data

MODEL	VOLTS	AMPS	WATTS	HP	CAPACITOR	MODEL	VOLTS	AMPS	WATTS	HP	CAPACITOR
UP15-42F/FR/FC (BRUTE II®)	115	.74	85	1/25	10µF/180V	UP26-64F	115	1.70	185	1/12	8µF/180V
	230	.43	95	1/25	2µF/400V		230	.80	175	1/12	2.5µF/380V
UPS15-42F Spd. 3 (115V)	115	.74	85	1/25	10µF/180V	UP26-96F	115	1.70	205	1/12	10µF/180V
	Spd. 2	---	.57	65	---		230	.80	205	1/12	2.5µF/380V
	Spd. 1	---	.40	45	---	---	---	---	---	---	---
UPS15-42F Spd. 3 (230V)	230	.43	95	1/25	2µF/400V	UP26-99F	115	2.15	245	1/6	10µF/180V
	Spd. 2	---	.19	40	---		230	1.07	245	1/6	2.5µF/380V
	Spd. 1	---	.14	30	---	---	---	---	---	---	---
---	---	---	---	---	---	UP43-75F	115	2.15	215	1/6	10µF/180V
---	---	---	---	---	---	230	1.07	220	1/6	2.5µF/380V	

NOTE: All UP models are single speed except for the 3-speed UPS15-42F, 115 and 230 volt.

Materials of Construction

DESCRIPTION	MATERIAL	DESCRIPTION	MATERIAL
Inlet Cone, Bearing Plate, Bearing Retainers, Rotor Can, Rotor Cladding, Shaft Retainer	304 Stainless Steel	Pump Housing (Volute)	Cast Iron
Stator Housing	Aluminum	O'Ring & Gaskets	EP (Ethylene Propylene Rubber)
Shaft, Upper & Lower Radial Bearings	Aluminum Oxide Ceramic	Impeller	PES Composite (30% Glass Filled)
Thrust Bearing	Metal Impregnated Carbon	Terminal Box	Noryl®
Check Valve	ACETAL With 302 Stainless Steel Spring & Nitrile Rubber Seats		

W1 Flange Set

NOTE: Noryl® is a registered trademark of General Electric Company. BRUTE II® is a registered trademark of Grundfos Pumps Corporation.

GRUNDFOS



Leaders in Pump Technology

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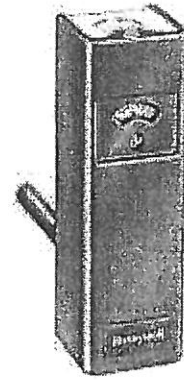
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Honeywell

L4006 Aquastat Controllers

Immersion type controllers for limiting or regulating temperatures of liquids in boiler or tanks.

- Totally enclosed Micro Switch snap-acting switches operates on temperature rise to setpoint
- Visible control point scale and external adjustment screw permit easy setting.
- Horizontal or vertical insertion of the sensing element.
- Direct or well immersion of the sensing element.
- Models available for strap-on mounting
- Remote bulb model may be used to sense air temperature in ducts and in outside air sensing applications.
- TRADELINE models include heat-conductive compound.
- Select models have wells.



L4006A1967

Product Specifications

Temperature Ratings (operating range)(F)	100 f to 240 f
Differential (F)	5 f to 30 f adj.
Electric Ratings (full load)	5.1 A @ 240 Vac, 8.0 A @ 120 Vac
Electrical Ratings (locked rotor)	30.6 A @ 240 Vac, 48.0 A @ 120 Vac
Electrical Ratings (millivolt)	0.25 A @ 0.25 to 12 Vdc
Insulation Depth (in.)	1 1/2 in.
Maximum Pressure Rating	capillary bulb (direct immersion); 200 psi (1379 kpa), immersion well: 255 psi (1758 kpa)
Bulb Size (in.)	3/8 in. x 2 7/8 in. copper
Spud Size (in.)	3/4 in.
Switching Action	spst, contacts break on temperature rise.
Temperature Ratings (ambient range)(F)	150 F
Temperature Ratings (operating range)(C)	38 c to 116 c
Differential (C)	3 c to 17 c adj.
Insulation Depth (mm)	38 mm
Bulb Size (mm)	10 mm x 73 mm copper
Spud Size (mm)	19 mm
Temperature Ratings (ambient range)(C)	66 C
Application	High or low limit
Approvals, Underwriters Laboratories, Inc.	UL Component Recognized: File No. MP466, Vol. 6, Sec.1, Guide No. MBPR2
Approvals, Canadian Standards Association	CSA Certified: File No. LR95329-1
Approvals, American Gas Association IAS	AGA Certified
Case Dimensions (in.)	5 5/8 in. high, 2 in. wide, 2 1/8 in. deep
Case Dimensions (mm)	143 mm high, 51 mm wide, 54 mm deep
Includes	1 1/2 in. (38 mm) insulation, stop factory-set at 240 F (116 C).
Mounting	Vertical or Horizontal
Description	Aquastat