

# **MAGNUM, LR, RC & CYGNET PUMPS**

Owner's Manual









CYGNET

LR PUMP

RC PUMP

MAGNUM, SERIES

Before installation, be sure to read all instructions and warnings carefully. Refer to product dataplate(s) for additional operation instruction and specifications.

# INSPECTION

Examine the equipment when received. Notify your dealer or carrier of any damage or missing parts. Verify that equipment is of size and model specified.

# **IMPORTANT SAFETY INSTRUCTIONS**

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

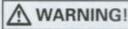


RISK OF SUCTION ENTRAPMENT HAZARD WHICH, IF NOT AVOIDED, MAY RESULT IN SERIOUS INJURY OR DEATH.

Pumps can quickly generate high suction, which poses the risk of entrapment if improperly connected to suction outlets. Disembowelment, entrapment, or drowning is possible when body parts or hair contact damaged, cracked, missing, or unsecured drain covers and suction outlets. Pumps and fittings shall be installed in accordance with the latest NSPI or IAF standards, CPSC guidelines, and national, state and local codes, to minimize this risk. Some of those requirements are as follows. Always consult the latest regulations to ensure that your installation meets the necessary requirements to minimize suction entrapment.

- 1. All fully submerged Suction Outlet Covers shall be listed to ANSI/ASME A112.19.8 standard.
- 2. Do not use a pump in an installation where there is only one fully submerged single suction outlet.
- 3. If main drains are installed in your pool, there must be a minimum of two for each pumping system, and each drain must include a Listed Suction Outlet Cover. Wading pools may have additional requirements to minimize entrapment hazards.
- Skimmers may supply 100% of the required flow to the pump, and must be vented to atmosphere. A skimmer is not considered a second main drain.
- 5. When two suction outlets are used, the maximum system flow rate shall not exceed the rating of any one of the listed suction outlet covers installed. When more than two are used, the sum of the ratings shall be at least twice the maximum system flow rate.
- 6. Each Suction Outlet Cover shall be separated by a minimum of three feet (3'), measured from center of suction pipes.
- Avoid installing check valves. If check valves must be used, ensure that the installation conforms to applicable standards.
- 8. Never use the pool or spa if a Suction Outlet Cover is damaged, cracked, missing, or not securely attached. Suction outlet cover must be attached with stainless steel screws supplied with the cover. If screws are lost, order replacement parts from your supplier.

NOTE: For the latest NSPI or IAF Standards, contact the Association of Pool and Spa Professionals (APSP) at www.theapsp.org or (703) 838-0083, ext. 301. For the latest Consumer Product Safety Commission (CPSC) Guidelines, contact the CPSC at www.cpsc.gov or (301) 504-7923. "Guidelines for Entrapment Hazards: Making Pools and Spas Safer" can be viewed at www.cpsc.gov/cpscpub/pubs/363.pdf



supervised at all times.

To reduce risk of injury, do not permit children to use this product unless they are closely

**MARNING!** 

(For cord & plug connected units) Risk of Electric Shock. Connect only to a grounding

type receptacle protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the receptacle is protected by a GFCI.

**⚠** WARNING!

(For cord & plug connected units) Do not bury cord. Locate cord to minimize abuse from lawn

mowers, hedge trimmers and other equipment.

**⚠** WARNING!

(For cord & plug connected units) To reduce the risk of electric shock, replace damaged

cord immediately.

**⚠** WARNING!

(For hot tub and spa pumps) Do not install within an outer enclosure or beneath the skirt

of the hot tub or spa, unless so marked.

**MARNING!** 

(For cord & plug connected units) To reduce the risk of electric shock, do not use an exten-

sion cord to connect unit to electric supply; provide a properly located outlet.

Locate the pump at least five feet (1.5M) from the pool to prevent it being used as a means of

access to the pool by young children. (See ANSI/NSPI-8 1996 "Model Barrier Code For Residential Swimming Pools, Spas and Hot Tubs".)

# INSTALLATION LOCATION

Locate the pump as close to pool/spa as possible, but keep at a minimum distance of five feet (1.5M). (See previous Warning.) Locate the pump preferably in a dry, well ventilated area away from direct sunlight. It should be on a hard, level surface. Give consideration to: drainage-away from pump, ventilation of pump motor, access for future servicing and winterizing, and protection from the elements. Pumps without strainer bodies are designed for flooded suction (all suction fittings and suction piping below water level) and will not self-prime. Consequently, the pump must be installed at an elevation that is below water level when pool or spa is filled; however, if suction line valves are installed, the pump may be located above the water level since the valve can be closed for priming. Keep vertical distance to a minimum if you choose to mount pump above water level. Pumps with strainer bodies are self-priming but should be mounted as close to the water level as possible or below for ease in priming.

# **GENERAL PLUMBING**

# FOR SOLVENT WELD CONNECTIONS

Rigid or flexible PVC pipe can be used. Pipe ends should be clean and free of any flash caused by the cutting operation. Be sure that the proper adhesive is used on the type of pipe specified. Recommended Adhesives - These are examples only and are not intended to restrict brands:

**PVC-PVC Joint** 

Uni-Weld Pool-Tite 2000 Suregard Flex 20 IPS Weld-On 705 **PVC-ABS Joint** 

Uni-Weld Pool-Tite 2000 Suregard Weld-All No. 5 IPS Weld-On 794

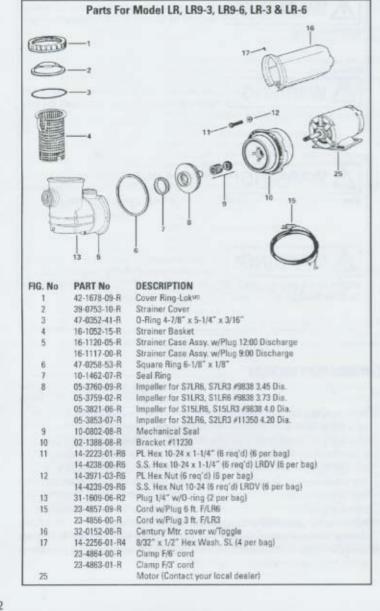
Note: A primer will assure that adhesive joints are superior. Suregard P-3000 has a purple tracer to qualify in areas where codes specify a primer must be used.

Caution: We recommend that you consider climatic conditions when applying adhesives. Certain atmospheric situations, such as high moisture content, make the adhesive action of certain glues less effective. Check the manufacturer's instructions.

# FOR THREADED CONNECTIONS

Use only Teflon tape or equivalent on threaded plumbing connections. Other pipe compounds may damage threads. We do not recommend the use of silicone or petroleum based compounds. DO NOT OVER-TIGHTEN: HAND TIGHTEN PLUS 1/2 TURN IS SUFFICIENT.

# PUMP PLUMBING



Suction pipe should be as large or larger than discharge pipe. Avoid using a suction pipe smaller than pump connection. Keep the piping as straight and short as possible, and of suitable size. Avoid connecting an elbow directly into the pump inlet (use a length of straight pipe to allow a proper entry for the water). Arrange horizontal runs to slope upward to the pump to prevent high spots that could form air pockets. Support the piping independently so that it places no strain on the pump. Keep as much of the suction line as possible below the water level to reduce priming time. Install valves and unions in the pump suction and return lines to facilitate servicing.

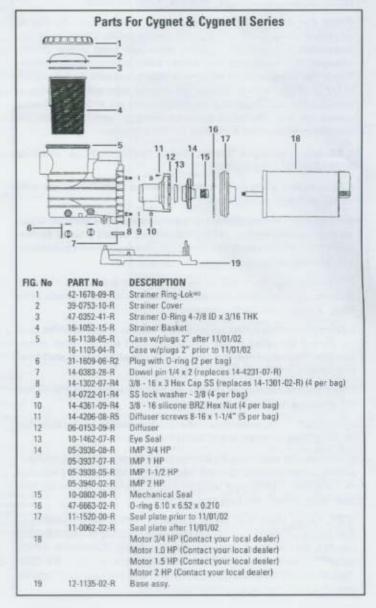
Valves are recommended for throttling the pump discharge. The valves are essential for pump maintenance if the system is installed below deck level. Suction valves are essential for priming all pumps without strainer bodies installed above water level. Pumps with strainer bodies are self-priming. Keep the valve in the suction line fully open during operation.

# **ELECTRICAL DATA**

Refer to information on motor nameplate for electrical service data. All motors should have fused disconnect switch or circuit breaker. Be sure wire size is sufficient for pump HP and distance from power source. Wiring should be done in accordance with applicable codes by a competent electrician. We recommend the installation of a ground fault circuit interrupter for maximum safety.

# **PUMP START-UP**

Do not operate pump until it has been primed as water acts to cool and lubricate the seal. For pumps without strainer bodies and located above water,



close suction line valve and fill pump with water in order to prime. For pumps with strainer bodies and located above water, prime by removing strainer cover and filling strainer body with water. Pumps located below water level will self-prime if all piping is also below water level. After pump has been primed, energize motor and open all suction and discharge line valves. It may take some time for pump to remove air from the suction lines. If no flow is observed in five minutes, stop the motor and re-prime. If the pump fails to operate, check for air leaks. Refer to Trouble Shooting section. After about 10 minutes of operation, check the return fittings for air bubbles. A continuous flow of air indicates leaks in the suction line. Locate and correct any leaks immediately.

# CONTROLLING THE OUTPUT

Keep the gate valve in the suction line fully open during operation. Should it be necessary to control the output, use a valve in the return line.

Caution: Do not re-tighten strainer Ring-Lok during operation.

Caution: Do not operate pump with closed suction or discharge valves.

#### TWO-SPEED PUMPS

Two-speed models are recommended in a swimming pool when high speed is needed for maximum filtration at peak periods and whenever turbidity levels are high. At other times, switch to low speed. For backwashing and vacuuming, high speed is required. In spas and hot tubs, use high speed to attain full performance in the hydrotherapy mode. At other times, such as filter/heat cycle mode, use low speed. Low speed provides sufficient flow to activate most spa heaters and provides sufficient flow for filtration. In jetted-tubs, use high speed to attain full performance in the hydrotherapy mode and use low speed for desired low flow conditions. NOTE: Two-speed pumps must be in high speed mode to prime.

#### WINTERIZING

Consult your dealer for advice on winterizing your equipment if freezing temperatures occur in your locality. His knowledge of your equipment makes him the best qualified source of information. Follow his recommendations, and if these include draining the filter system, proceed as follows: If your system does not contain a filter, proceed to step 2.

A. For sand filter: BACKWASH for 3 to 5 minutes and then set dial valve to WINTERIZE position.

B. Drain system by loosening drain plugs (drain plugs will drain without completely removing plug from unit) and/or removing pipe caps.

# WATER CHEMISTRY

A proper and consistent use of chemicals is necessary to maintain clean, sanitary water, prevent a spread of germ infection and control the growth of algae which can spoil the appearance and enjoyment of your pool or spa. Chlorine is the most commonly used chemical to provide clean, sanitary water. Either dry or liquid chlorine (calcium or sodium hypochlorite) can be used which should be added daily as it is dissipated by dirt and germs as well as by the sun and the wind. It is also important that the correct level of acidity or alkalinity of the pool water be maintained. This is the pH of your pool with pH 7.0 being neutral. Readings above pH 7.0 are alkaline and readings below are acid. A desirable range is 7.2 to 7.4.

# **PUMP MAINTENANCE**

- 1). Motors are self-lubricated no lubrication required.
- 2). Clean hair and lint strainer if you have a strainer body pump.
- Visually inspect motor for blockage of air vents on motor shell.
   Remove any debris after shutting off breaker. 4). Shaft seals may become worn and must be replaced if leakage is observed.

# CLEANING HAIR AND LINT STRAINER

Switch off the power. Close the valves in the suction and return line. Unscrew strainer Ring-Lok counter-clockwise and remove the strainer cover from the hair and lint strainer and lift out the strainer basket. Clean and replace the basket. Take care to seat the basket properly. Clean the O-Ring and re-lubricate with silicone based lubricant. Clean O-ring seats on the cover and strainer. Refit the cover and strainer Ring-Lok, hand-tighten only, and open the valves. Put the pump back into operation. Caution: Do not re-tighten strainer Ring-Lok during operation.

# MOTOR DOES NOT START:

Disconnect switch open or fuses blown; Motor windings burned out; Defective starting switch inside motor or defective wiring.

#### MOTOR DOES NOT REACH FULL SPEED:

Low voltage; Shaft binding or impeller rubbing.

# MOTOR OVERHEATS (protector trips):

Low voltage; Inadequate ventilation.

# PUMP DELIVERS LITTLE, OR NO WATER/LOW PRESSURE:

Pump not primed; Leakage of air into suction system; Impeller clogged; Valve in suction or discharge line partly closed; Suction or discharge line partly plugged or too small; Plugged basket in skimmer or hair in lint strainer; Dirty filter.

### HIGH PUMP PRESSURE:

Discharge valve or inlet fittings closed too much; Return lines too small; Dirty filter.

# NOISY PUMP AND MOTOR:

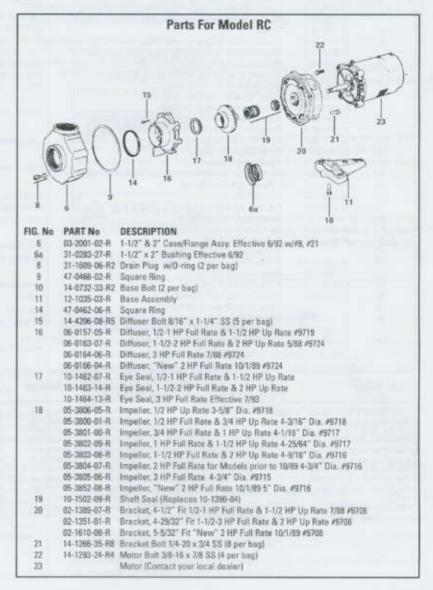
Plugged basket in skimmer or hair in lint strainer; Defective motor bearings; Valve in suction line partly closed or line partly plugged; Vacuum cleaner hose plugged or too small; Piping causing strain on pump case; Impeller rubbing on pump case.

# LEAKAGE OF WATER AT SHAFT:

Shaft seal requires replacement.

#### AIR BUBBLES AT INLET FITTINGS:

Leakage of air into suction line or strainer; Restriction in suction line; Low water level in pool.



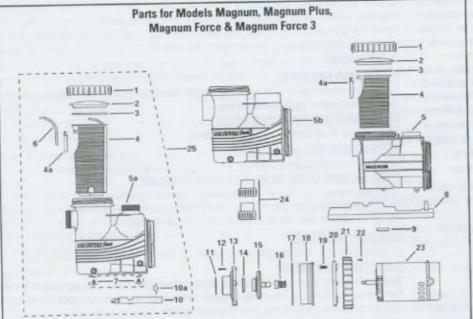


FIG. No	PART No	DESCRIPTION
110.140	42-2828-05-R	Strainer Ring-Lok <sup>rw</sup>
2	39-2579-02-R	Strainer Cover
3	47-0434-01-R	Strainer O-Ring 5-5/8" x 6-1/8" x 1/4" - Units prior to 7/89
	47-0358-03-R	Strainer O-Ring - Units after 7/89
4	16-1097-04-R	Strainer Basket w/Flapper for Magnum Plus
4	16-1086-06-R	Strainer Basket (9" tall) w/Flapper for Magnum Force prior to 02/01/03
	16-1134-09-R	Strainer Basket (12" tall) w/Fiapper for Magnum Force after 02/01/03
4a	16-1135-10-R	Flanger
58	03-2009-04-R	Magnum Force Body prior to 02/01/03 - obsolete refer to #25 below
Ju	03-0906-02-R	Mannum Force Body with Plugs and Basket after 02/01/03
5b	03-2008-05-R	Magnum Force 3 Body prior to 02/01/03 - obsolete refer to #25 below
200	03-0907-01-R	Magnum Force 3 Body with Plugs and Basket after 02/01/03
6	31-1746-00-R	Strainer Basket Air Bleed Tube
7	31-1609-06-R2	Drain Plug w/O-Ring (2 per bag)
	31-1609-06-R50	Drain Plug w/O-Ring (50 per bag)
8	12-1069-02-R	Base Motor Support Assembly for Magnum Plus
9	14-4231-07-R	Dowel Pin 1/4" x 1-1/4" SS for Magnum Plus
10	12-1126-03-R	Pump Base for Magnum Force
10a	12-1124-05-R	Motor Support for Magnum Force
11	47-0232-54-R	Square Ring Gasket
12	14-4206-08-R3	Hex Washer Head Screw #8 x 1-1/4" SS (2 or 3 req'd) (3 per bag)
13		Diffuser - See Chart Below
14	10-1462-07-R	Eye Seal, 1/2 - 3 HP
	10-1463-14-R	Eye Seal, 4 & 5 HP
15		Impellers - See Chart Below
16	10-1502-09-R	Shaft Seal
17	47-0364-47-R	0-Ring 6-3/4" x 7-1/8"
18		Seal Housing - See Chart Below
19	14-1293-24-R4	PL Hex Capscrew 3/8" - 16 x 7/8" (4 per bag)
20	02-1368-02-R	Motor Housing Bracket
21	42-2886-05-R	Pump Ring-Lok™ w/Rachet
22	42-2867-08-R	Mounting Ring-Lok <sup>tu</sup> Rachet
23		Motor (Contact your local dealer)
24	31-1003-35-R2	2UN Half Kit (incl. 2 each) Effective on units prior to 9/99
	31-1501-09-R2	2UN Half Kit (incl. 2 each) Effective on units built after 10/99
25	42-2345-06-R	Case/Base/Basket Assy. for Magnum Force: # 1, 2, 3, 4, 4a, 5, 6, 7, 8, 8a

PUMP RATING	DATE CODES	#13 DIFFUSEUR	#15 IMPELLER	SEAL HOUSING
1/2 HP full rate & 3/4 HP uprate 3/4 HP full rate & 1 HP uprate 1 HP full rate & 1-1/2 HP uprate 1 HP full rate & 1-1/2 HP uprate 1-1/2 HP full rate & 2 HP uprate 1-1/2 HP full rate & 2 HP uprate 2 HP full rate & 2 HP uprate 2 HP full rate & 2-1/2 HP uprate 3 HP full rate & 3 HP uprate 4 HP uprate 5 HP uprate 5 HP uprate	ALL ALL PRIOR TO 12/2/04 AFTER 12/1/04 PRIOR TO 12/2/04 AFTER 12/1/04 PRIOR TO 12/2/04 AFTER 12/1/04 ALL ALL ALL	06-0157-05-R 06-0167-03-R 06-0167-03-R 06-0116-03-R 06-0116-05-R 06-0110-02-R 06-0110-02-R 06-0165-05-R 06-010-02-R 06-0108-05-R 06-0088-05-R	05-3800-01-R 05-3855-05-R 05-3854-06-R 05-382-02-R 05-3819-00-R 05-3818-01-R 05-3848-01-R 05-3820-07-R 05-0372-04-R 05-0371-05-R	02-1366-04-R 02-1393-01-R 02-1393-01-R 02-1392-02-R 02-1392-02-R 02-1392-02-R 02-1392-02-R 02-1392-02-R 02-1392-02-R 02-1392-02-R 02-1392-02-R

# COMPETITION POOL ACCESSORIES INC.

Tel: (450) 437-2420 Fax: (450) 437-4860 www.competition-pool.com

# COMPETITION POOL ACCESSORIES INC. Limited Warranty

Competition pool accessories Inc. ("Competition") warrants "Competition" pool products to be free of defects in material and workmanship for a period of 24 month from the date of purchase with the following exceptions:

Shaft Seals - The Warranty regarding shaft seals is limited to a twelve-month period from the date of purchase of the pump.

Light Bulbs - Full Moon Watercolor LED light bulbs are warranted for 12 month from the date of purchase; incandescent bulbs are warranted for 90 days from the date of purchase.

Misc. - Filter elements, DE grids, white-goods, strainer baskets, strainer basket "flap" and "priming tube", pressure gauges, square rings, p-rings, gaskets, and all replacement parts are warranted for 12 month from the date of purchase.

# CONDITIONS IN ORDER TO EXERCISE THE WARRANTY:

In order to activate this 24 month warranty, "Competition" products must be registered with "Competition" by either of the following methods:

- . Mail-in the Warranty Registration Card
- . Online at www.competition-pool.com

All defects must be denounced within 72 hours in order to avoid the spreading to other equipment, failing which, the present warranty will not be honoured. This warranty is non transferable and extends only to the original retail buyer and only during the time in which the original retail buyer occupies the sita where the product was originally installed. "Competition" warranty obligation with regard to equipment which it does not itself manufacture is limited to the warranty actually extended to "Competition" by its suppliers (i.e. motors).

This warranty applies to products used in swimming pools, spas, & aquaculture applications only and does not apply to any product which has been subjected to negligence, alteration, accident, abuse, misuse, improper installation, abrasives, corrosion and/or electrolysis, improper voltage supply, vandalism, civil disturbances, or acts of God (including but not limited to damage caused by freezing, lightning strikes, and other damage caused by catastrophic events). The only warranties authorized by "Competition" are those set forth herein, "Competition" does not authorize other persons to extend any warranties with respect to its products, nor will "Competition" assume liability for any unauthorized warranties made in connection with the sale of its products. "Competition" will not be responsible for any statements that are made or published, written or oral, which are misleading or inconsistent with the facts as published in the literature or specifications furnished by "Competition".

# WARRANTY CLAIM PROCEDURE

Warranty claims shall be made by contacting the installer/seller, builder, dealer, or retailer (point of purchase) or the "Competition" pool products distributor in your area. All equipment must be inspected by a local "Competition" authorized representative or at the factory before warranty is authorized. All charges or expenses for freight to and from the factory, removal and reinstallation of the products, or installation of a replacement product are the responsibility of the purchaser unless otherwise expressly authorized in writing by "Competition". "Competition", at its discretion, may repair or replace free of charge (F.O.B. factory in Toronto, Ontario, or at the factory in Blainville) any product that proves defective within the warranty period, or it may issue credit in the amount of the invoice of the defective equipment in lieu of its repair or replacement. "Competition" reserves its right to substitute new or improved equipment on any replacements.

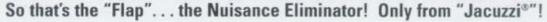
# So What's the "Flap"



Your new "Jacuzzi" Magnum Force" has a unique feature (we call it the "FLAP") that eliminates several nuisance problems that occur due to reverse flow in your pool system. When your pool pump turns "off", reverse flow will naturally occur if your pool equipment is above water level and if your filter collects and compresses a pocket of air. The "Flap" allows full flow through the strainer basket when the pump is running, but it restricts reverse flow in your system when the pump turns "off".

# The "Flap" will help:

- . Prevent debris in the skimmer basket from flowing back into the pool.
- Prevent the skimmer basket from being popped out into your pool (you can take the weight out of your skimmer basket).
- . Prevent debris in the pump strainer basket from flowing back into the pool.
- . Prevent dirt and debris in the filter (DE, sand or cartridge) from flowing back into the pool.
- . Prevent DE from flowing back into the pool.
- Prevent residual HOT water in the heater from flowing into the filter and causing damage to grids, valves, gaskets, etc.
- Prevent the pump from running backwards. (This will occur if the pump energizes when the pump impeller is turning backwards.)





# More than just a "Basket"

Most swimming pool pumps have a strainer basket to prevent leaves and other debris from clogging the pump impeller. The "Jacuzzia" Magnum™ offers a 180 cubic inch basket, one of the largest in the industry.



But more importantly, notice the <u>raised ribs</u> on the inside of your strainer basket. No matter how much debris or how many leaves collect in the basket, the raised ribs ensure a flow of water to your pump and keep it safe from "cavitation", a potentially very damaging condition created if your pump is "starved" for water.



Your new Magnum Force™ pump features our exclusive priming tube that has been included with the strainer basket to remove any air pockets and provide superior priming. For best performance, ensure the priming tube is located properly so the top end rests against the strainer lid.





# Ring-IoK ™... simple

The Ring-Lok™ an exclusive innovation to the pool industry over 15 years ago. Today is still an industry standard that many other manufacturers have adopted for their own products.

The Ring-Lok™ securing the clear lid on your Magnum Force™ pump strainer is designed to give you simple, "tool-free" access to your pump strainer basket. Even if the Ring-Lok™ is "really tight", there is a simple solution.

When your pump is running, it creates suction in the pump strainer which pulls the clear lid down! So, while the pump is running, loosen the Ring-Lok™ 1/2 turn. Turn off the pump! The Ring-Lok™ should now come off with a twist.

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