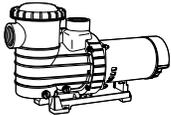




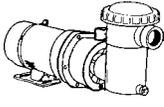
MAGNUM, LR, RC & CYGNET PUMPS

Owner's Manual

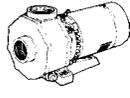
08/05



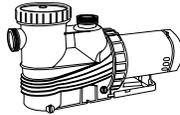
CYGNET



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.
4. 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.
7. 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/cpsc/pub/pubs/363.pdf



WARNING To reduce risk of injury, do not permit children to use this product unless they are closely supervised at all times.



WARNING (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.



WARNING (For cord & plug connected units) To reduce the risk of electric shock, **do not use an extension cord** to connect unit to electric supply; provide a properly located outlet.



WARNING 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".)



CAUTION (For pumps with a 25 ft. (7.62m) cord). This pump is for use with storable pools only. Do not use with permanently installed pools. A storable pool is constructed so that it may be readily disassembled for storage and reassembled to its original integrity. A permanently installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage.



CAUTION (For pumps with a 3 ft. (.91 m) cord). This pump is for use with permanently installed pools and may also be used with tubs and spas if so marked. Do not use with storable pools. A permanently installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storable pool is constructed so that it may be readily disassembled for storage and reassembled to its original integrity.

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.

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.
- 3) 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 petroleum jelly if necessary. 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.

SERVICE AND REPAIR PARTS

Refer all service to your local dealer as his knowledge of your equipment makes him the best qualified source of information. Order all repair parts through your dealer. Give the following information when ordering repair parts: Unit nameplate data and description of part.

TROUBLE SHOOTING

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.

Parts For Model RC

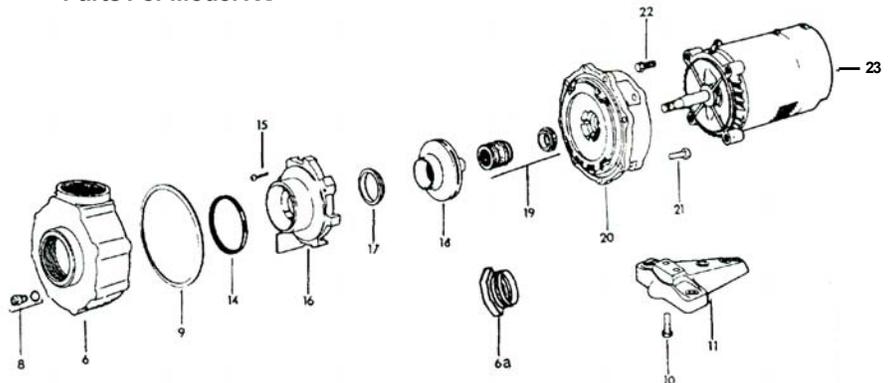


FIG NO.	PART NO.	DESCRIPTION
6	03-2001-02-R	1-1/2" & 2" Case/Flange Assy. Effective 6/92 w/#8, #21
6a	31-0283-27-R	1-1/2" x 2" Bushing Effective 6/92
8	31-1609-06-R2	Drain Plug w/O-ring (2 per bag)
9	47-0466-02-R	Square Ring
10	14-0732-33-R2	Base Bolt (2 per bag)
11	12-1035-03-R	Base Assembly
14	47-0462-06-R	Square Ring
15	14-4206-08-R5	Diffuser Bolt 8/16" x 1-1/4" SS (5 per bag)
16	06-0157-05-R	Diffuser, 1/2-1 HP Full Rate & 1-1/2 HP Up Rate #9719
	06-0163-07-R	Diffuser, 1-1/2-2 HP Full Rate & 2 HP Up Rate 5/88 #9724
	06-0164-06-R	Diffuser, 3 HP Full Rate 7/88 #9724
	06-0166-04-R	Diffuser, "New" 2 HP Full Rate 10/1/89 #9724
17	10-1462-07-R	Eye Seal, 1/2-1 HP Full Rate & 1-1/2 HP Up Rate
	10-1463-14-R	Eye Seal, 1-1/2-2 HP Full Rate & 2 HP Up Rate
	10-1464-13-R	Eye Seal, 3 HP Full Rate Effective 7/93
18	05-3806-05-R	Impeller, 1/2 HP Up Rate 3-5/8" Dia. #9718
	05-3800-01-R	Impeller, 1/2 HP Full Rate & 3/4 HP Up Rate 4-3/16" Dia. #9718
	05-3801-00-R	Impeller, 3/4 HP Full Rate & 1 HP Up Rate 4-1/16" Dia. #9717
	05-3802-09-R	Impeller, 1 HP Full Rate & 1-1/2 HP Up Rate 4-25/64" Dia. #9717
	05-3803-08-R	Impeller, 1-1/2 HP Full Rate & 2 HP Up Rate 4-9/16" Dia. #9716
	05-3804-07-R	Impeller, 2 HP Full Rate for Models prior to 10/89 4-3/4" Dia. #9716
	05-3805-06-R	Impeller, 3 HP Full Rate 4-3/4" Dia. #9715
	05-3852-08-R	Impeller, "New" 2 HP Full Rate 10/1/89 5" Dia. #9716
19	10-1502-09-R	Shaft Seal (Replaces 10-1390-04)
20	02-1389-07-R	Bracket, 4-1/2" Fit 1/2-1 HP Full Rate & 1-1/2 HP Up Rate 7/88 #9708
	02-1351-01-R	Bracket, 4-29/32" Fit 1-1/2-3 HP Full Rate & 2 HP Up Rate #9708
	02-1610-08-R	Bracket, 5-5/32" Fit "New" 2 HP Full Rate 10/1/89 #9708
21	14-1266-35-R8	Bracket Bolt 1/4-20 x 3/4 SS (8 per bag)
22	14-1293-24-R4	Motor Bolt 3/8-16 x 7/8 SS (4 per bag)
23		Motor (Contact your local dealer)

Parts for Models Magnum, Magnum Plus, Magnum Force & Magnum Force 3

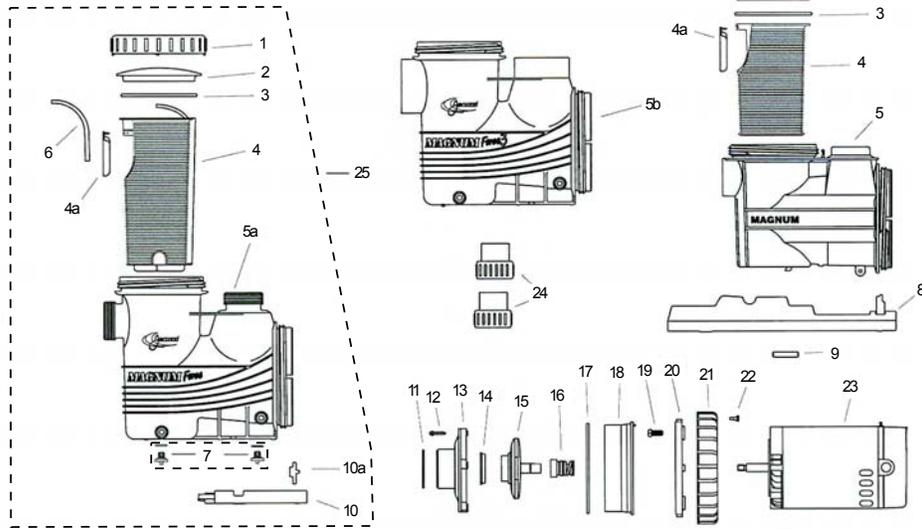


FIG. NO.	PART NO.	DESCRIPTION
1	42-2828-06-R	Strainer Ring-Lok™
2	39-2579-02-R	Strainer Cover
3	47-0434-01-R	Strainer O-Ring 5-5/8" x 6-1/8" x 1/4" - Units prior to 7/89
	47-0358-03-R	Strainer O-Ring - Units after 7/89
4	16-1097-04-R	Strainer Basket w/ Flapper for Magnum Plus
	16-1086-06-R	Strainer Basket (9" tall) w/Flapper for Magnum Force prior to 02/01/03
	16-1134-09-R	Strainer Basket (12" tall) w/Flapper for Magnum Force after 02/01/03
4a	16-1135-10-R	Flapper
5a	03-2009-04-R	Magnum Force Body prior to 02/01/03 - obsolete refer to #25 below
	03-0906-02-R	Magnum 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
	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	O-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/Ratchet
22	42-2867-08-R	Mounting Ring-Lok™ Ratchet
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 DIFFUSER	#15 IMPELLER	#18 SEAL HOUSING
1/2 HP full rate & 3/4 HP uprate	ALL	06-0157-05-R	05-3800-01-R	02-1366-04-R
3/4 HP full rate & 1 HP uprate	ALL	06-0167-03-R	05-3855-05-R	02-1393-01-R
1 HP full rate & 1-1/2 HP uprate	PRIOR TO 12/2/04	06-0167-03-R	05-3854-06-R	02-1393-01-R
1 HP full rate & 1-1/2 HP uprate	AFTER 12/1/04	06-0010-02-R	05-0382-03-R	02-1392-02-R
1-1/2 HP full rate & 2 HP uprate	PRIOR TO 12/2/04	06-0165-05-R	05-3819-00-R	02-1392-02-R
1-1/2 HP full rate & 2 HP uprate	AFTER 12/1/04	06-0010-02-R	05-0383-02-R	02-1392-02-R
2 HP full rate & 2-1/2 HP uprate	PRIOR TO 12/2/04	06-0165-05-R	05-3818-01-R	02-1392-02-R
2 HP full rate & 2-1/2 HP uprate	AFTER 12/1/04	06-0010-02-R	05-0384-01-R	02-1392-02-R
3 HP full rate & 3 HP uprate	ALL	06-0165-05-R	05-3820-07-R	02-1392-02-R
4 HP uprate	ALL	06-0008-06-R	05-0373-04-R	02-1392-02-R
5 HP uprate	ALL	06-0008-06-R	05-0371-06-R	02-1392-02-R

CANTAR Pool Products Ltd.
Produits de Piscine Ltée.

325 Humber College Blvd., Toronto, ON, M9W 7C3 · Phone: 800.836.1210 · Fax: 416.798.2801

Jacuzzi® is a registered trademark of Jacuzzi Inc. and used under license.

JACUZZI® POOL PRODUCTS

Limited Warranty

Cantar Pool Products (the Company or CPP) warrants Jacuzzi® pool products to be free of defects in material and workmanship for a period of **36 months** from the date of purchase or **48 months** from the date of manufacture, whichever comes first, with the following exceptions:

Shaft Seals - For all pumps with the Jacuzzi® patented "dry-run" heat sink, the shaft seal carries an *unconditional* warranty against damage or failure for 2 years from date of purchase/installation.

Light Bulbs - FullMoon Watercolor LED light bulbs are warranted for 1 year from date of purchase; incandescent bulbs are warranted for 90 days from date of purchase.

Misc. - Filter elements, DE grids, white-goods, strainer baskets, strainer basket "flap" and "priming tube", pressure gauges, square rings, o-rings, gaskets, and all replacement parts are warranted for 1 year from the date of purchase.

In order to activate this 3-year warranty, Jacuzzi® products may be registered with Cantar Pool Products by either of the following methods:

- Mail-in Warranty Registration Card
- Online at www.cantar.com

This warranty extends only to the original retail purchaser and only during the time in which the original retail purchaser occupies the site where the product was originally installed. CPP's warranty obligation with regard to equipment not of its own manufacture is limited to the warranty actually extended to CPP by its suppliers.

THIS WARRANTY IS EFFECTIVE January 1, 2005. ANY IMPLIED WARRANTIES WHICH THE PURCHASER MAY HAVE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE APPLICABLE WARRANTY PERIOD. Some US states or Canadian provinces do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. IN NO EVENT SHALL CPP BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some US states or Canadian provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above may not apply to you.

This warranty applies to products used in swimming pool, spa, & 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 freeze damage, lightning strikes, and other damage caused by catastrophic events). The only warranties authorized by CPP are those set forth herein. CPP does not authorize other persons to extend any warranties with respect to its products, nor will CPP assume liability for any unauthorized warranties made in connection with the sale of its products. The Company 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 the Company.

WARRANTY CLAIM PROCEDURE

Warranty claims shall be made by contacting the installing/selling, builder, dealer, or retailer (point of purchase) or the Jacuzzi® pool products distributor in your area. All equipment must be inspected by a local Company 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 by Cantar Pool Products.

The Company, at its discretion, may repair or replace free of charge (F.O.B. factory in Toronto, Ontario) 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 repair or replacement. The Company reserves the right to substitute new or improved equipment on any replacements. The provisions of this additional written warranty are in addition to and not a modification of or subtraction from the statutory warranties and other rights and remedies provided by any US state law or Canadian provincial law.