

91.09.17

HYPOCELL SYSTEM 100 SERIES

REGISTRATION NO. 20186
PEST CONTROL PRODUCTS ACT

MAX OUTPUT EQUIVALENT
PER CELL 2.80 Kg/DAY

HYPOCHLOROUS ACID

CAUTION: HYPOCELL SYSTEMS SWITCH OUT
IN LOW WATER FLOW CONDITIONS.

DO NOT BYPASS SAFETY SYSTEMS AS
FLAMMABLE GASES MAY BUILD UP
RESULTING IN FIRE AND EXPLOSION.

MANUFACTURED BY:
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HYPOCELL SEMI-COMMERCIAL BROCHURE

Question: WHAT IS IT?

The Hypocell System is a satellite unit through which slightly saline water is passed. Using an electrolytic process within the cell, a powerful bactericide and algicide is created. This forms an extremely effective, continuous purification residual within the water to give complete bather protection at all times.

The five main components of the commercial range are the cells, the main power assembly, a master console (which controls all the systems and which gives a visual display of operating controls), a water sampling system with probes (for continuous water analysis), and a pH dosing unit. This gives a system that can adjust to any purification or pH requirements.

Question: HOW DOES IT WORK?

The Hypocell system creates a powerful purification agent: Hypochlorous acid (HOCl).

HOCl is generated through the electrolysis of a mild salt solution (4,000 ppm. sodium chloride). HOCl can be measured anywhere in the water by standard chlorine test kits and will destroy bacteria and algae on contact. The HOCl, however, soon reverts back into a salt solution, thus the salt is not used up in the process, only borrowed.

The Hypocell unit continuously monitors itself, and by feedback mechanisms, will adjust the purification residual level and the pH of the water. The machine can be set to maintain any normal required purification residual within a pool or spa, and will keep the pH between 7.2 to 7.6 via an acid vat and dosing pump. Thus the two major parameters of water purification are maintained automatically.

GENERAL BENEFITS

HYPOCELL SIMPLIFIES AND IMPROVES THE EFFICIENCY OF WATER MAINTENANCE:

Chlorine donor chemical based purification methods require continual monitoring, regulating and inspection to maintain high health and safety standards. This is very labour intensive and demanding of key individuals. With the automatic monitoring features of the Hypocell System, much of the work is eliminated with the corresponding increase in efficiency of water management.

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WATER MAINTAINED AT A CONSTANT PH - INCREASED LIFE OF EQUIPMENT

The water is maintained at a constant pH around 7.4 at all times, therefore damage to pumps, filters and the pool itself is minimized as the water shouldn't become aggressive. The life expectancy of the plant equipment is thus considerably increased.

ELIMINATES CORROSION:

Droplets or mist of concentrated chlorine/bromine will corrode other plant equipment i.e. pumps, filters, heaters, electrical wiring, junction boxes, boilers and pipes, etc. This does not occur with the Hypocell System since the purification residual is created in the pool water itself, which is always in a dilute format.

REDUCED OPERATING AND MANAGEMENT COSTS

When chemical, engineering and staff expenses are added to pool operating expenses the total cost of chemical based water purification methods prove to be alarmingly high. There is also the added inconvenience and expense of insuring regular chemical

supplies. Most of these can be avoided with the Hypocell System since, once in operation, it creates its own powerful bactericide and algaecide. The system monitors itself and will automatically adjust to different pollution loads and water pH conditions.

LIFE-TIME SAVINGS

Once installed, the Hypocell System minimizes the impact of inflation on labour, chemical, water and energy costs. This benefit, over time, saves thousands of dollars.

The Hypocell System eliminates the need to inventory, invoice, buy, store or dose chlorine or bromine by creating it's own purification from the pool water, as it is needed.

COMPLIES WITH GOVERNMENT LEGISLATION REQUIRING HIGHER STANDARDS OF HEALTH AND SAFETY IN AND AROUND PUBLIC POOLS

Chemically based water purification systems must be continuously monitored to insure a safe level of protection. This tends to be labour intensive and means that the system is open to human error. In many instances, through the lack of efficient chlorination, pools are under protected and chloramines are allowed to develop. With the Hypocell Commercial Systems, the highest government health and safety standards are automatically maintained.

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NO SMELL OR BURNING EYES

Because the Hypocell System continuously monitors the water and reacts to purification demand, chloramines are continuously burnt out as they form, for there is always sufficient free available HOCl in the water to achieve this. Therefore there shouldn't be any of the smell or burning red eyes normally associated with improper chlorination practices.

ELIMINATES HANDLING AND USE OF CONCENTRATED CHEMICAL BASED WATER PURIFICATION METHODS:

Concentrated chemicals present serious risks to health and safety in their handling and storage, particularly in the large quantities required for commercial pools. Since inventories of chlorine/bromine are eliminated, there is no danger from the misuse or mishandling of these agents.

The hazards of handling or dosing concentrated chlorine or bromine by unskilled personnel is also removed, this translates into a considerable increase in safety to the public, the

maintenance and pool personnel and the property of a pool operator.

LITIGATION DEFENCE

Could provide hard evidence for defence against potential law suits.

INTERNATIONALLY ACCLAIMED

The Hypocell System is now available in 14 countries and has been exceeding legislated health standards since 1977

FOR WHIRLPOOLS

Question: HOW EFFECTIVE IS HYPOCELL?

The source and nature of bacterial contamination in pools can vary. Municipal pools are usually subjected to high contamination loads in concentrated bathing sessions. Hotel pools, although having lower bathing loads, have the potential for a larger variety of bacterial strains, because of their larger catchment areas. Different countries and regions have different endemic strains of bacteria.

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To cope with this, the Hypocell System has been subjected to the most rigorous performance tests. Three particular organisms are considered by various authorities to act as indicators of pool hygiene conditions. Escherichia coli, Staphylococcus aureus and Pseudomonas aeruginosa. Hypocell was tested against these three organisms in concentrations ten thousand times more than those found in the average pool conditions. The test results clearly demonstrated Hypocell's fast kill time of under five seconds.

A major public health study concluded that "the Hypocell System produced an extremely effective bactericide at least as good as present forms of pool sanitization, but with a standard of safety hitherto unknown in the pool purification field."(1)

A Department of Health Quote "All tests were found to be within acceptable health guidelines. The clarity and chemical balances have been excellent."(2)

Quote "No evidence of intestinal organisms e.g. E. Coli or Coliforms in any samples."(3)

Detailed test data is available upon request.

(1) Performance test performed by C. Dulake, M.B., F.R.C. Path,

Dip. Bact. Public Health, Dulwich Hospital, East Dulwich Grove, London SE 22 8QF, England

- (2) Letter from the Medical Officer of Health and the Supervisor of Public Health Inspections, from the Department of Health of the City of Scarborough, Canada regarding the Warden and 401 Holiday Inn Hypocell Units.
- (3) From a research paper by Dr. E.P. Wright, M.R.C., Path. Dip. Bact., District Pathology Laboratory. Royal East Sussex Hospital, England.

WHIRLPOOL BENEFITS REDUCED OPERATING COSTS

EQUIPMENT SAVINGS

Prevents scale formation giving longer life to pumps, filters and heaters.

REDUCED LABOUR COSTS

To dump an average size whirlpool, 9000 Litres, (2000 Imp.Gals., 2400 U.S. Gals.) takes approximately 2 hours labour, to empty, scrub down, refill, bring the temperature back up to normal and to put in all the various assorted chemicals.

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The Hypocell system eliminates much of this since the water is being continuously monitored and purification residuals are being automatically maintained. Thus, hundreds of dollars are saved, since the water does not have to be emptied once per week.

REDUCED WATER COSTS

There are many Hypocell controlled spas that only dump their whirlpool once or twice a year, yet the water meets all Health Department regulations and stays crystal clear and clean. Many spas WITHOUT the Hypocell System are having to be emptied once per week, thus wasting hundreds of dollars in water costs.

REDUCED ENERGY COSTS

The cost of energy increases every year. A spa having to completely reheat its water a few times per year will save hundreds of dollars in electrical or gas costs over a spa having to reheat the water once per week, because of having to dump the water frequently.

COST EFFECTIVE

A cost benefit analysis will usually show a pay back in about 1 1/2 years.

Question: WHICH OF THE HYPOCELLS WILL MEET MY REQUIREMENTS?

The two main factors to be taken into account when addressing the sanitization of a pool are, bathing loads (pollution level), and volume of water. The type of pool, it's location, the nature and cleanliness of the bathers and the water temperature also have an impact on which system should be chosen. The latter becomes increasingly important as water volumes decrease and temperatures increase, as in hot tubs and whirlpools. The following charts give an indication of the Hypocell System you will need.

NOTES TO CHARTS:

- 1) These charts are only a guide. For unusual bather load or other conditions, please contact Nature Pool (Canada) Inc. (416) 823-8557.
- 2) Larger units for larger bather load/water volumes are available on request.
- 3) This sizing assumes for whirlpools (a) Water temperature max. 40'C - 104'F (b) pH is maintained at 7.2 - 7.6.
- 4) This sizing assumes for pools (a) Water temperature 28'C - 82'F (b) pH is maintained at 7.2 - 7.6.

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- 5) Max. bather density per hour is given inside brackets (i.e. 6/HR means up to 5 bathers per hour).

Question: HOW IS IT INSTALLED?

The Hypocell Commercial Series can easily be installed into the pool's existing filtration system with minimum disruption. The diagram above illustrates the positioning of the unit within the standard pool/whirlpool system.

Question: HOW MUCH DOES THE HYPOCELL SYSTEM COST?

Specifications for each pool can vary quite considerably, and for this reason the Hypocell Engineers will provide individual quotations to each pool operator.

In comparison with the real costs of conventional chemicals, the Hypocell System is very economical and will pay for itself in a few years. Because of the chemical and maintenance (labour) savings, and the very low operating costs, a typical cost/benefit analysis of an installation will show a realistic pay-back period of about three years for commercial pools and about eighteen months for whirlpools.

Question: WHAT IS THE GUARANTEE?

The Hypocell Systems are guaranteed against defective materials and workmanship for a period of one year from the date of purchase of the unit, provided that the Unit has been installed, operated and maintained in accordance with the installation and operating instructions.

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