

gaffey

WATER TREATMENT FOR LIFE

PRODUCT INFORMATION
HYPROLYSER (PI) - ISEC 30-90 (V1.0 EN)



 **Hyprolyser[®]**
iSEC[®]



Models: 30/60/90g Cl₂/h

Safe, reliable & efficient on-site generation of sodium hypochlorite.

Function

Using harmless salt, water and electricity, Hyprolyser[®] iSEC[®] electrochlorination systems provide an on-demand supply of <1.0% sodium hypochlorite solution. Generated through the electrolysis of diluted brine solution.

The iSEC[®] system automatically draws a concentrated brine solution from a salt saturator which is then diluted to the correct strength with softened water for efficient electrolysis. The diluted brine is automatically fed to the electrolytic cell where electric current is passed through the solution, producing sodium hypochlorite. The automatic process cycle is repeated until the product storage tank is filled.

Commercial strength sodium hypochlorite can degrade quickly in storage, often losing up to 20% of its chlorine content. The iSEC[®] system does not require caustic buffer chemicals or additives to retain its <1.0% w/w chlorine content remaining stable for many months.



 **MADE IN[®] BRITAIN**



Benefits

- Considerable Health & Safety benefit to operators by using only salt, eliminating delivery & handling of hazardous chemicals
- Generate chlorine on site for day tank storage or direct injection on demand
- A single iSEC® can provide chlorine disinfection for multiple injection points using a common product storage tank and dosing pumps
- Eliminate dosing pump air-locking associated with commercial sodium hypochlorite
- Eliminate injection point scaling associated with commercial sodium and calcium hypochlorites due to low mineral content of generated solution
- Simple and low maintenance frequency
- >5 year electrolyser long life span

Areas of Application

- Swimming & Spa Pool disinfection
- Chlorination of potable water supplies
- Food washing / processing treatment
- Dairies / Breweries cleaning in place (CIP)
- Cooling tower biocide treatment
- Secondary disinfection
- Industrial chlorination treatments
- Animal husbandry

**Electrolytic
Chlorination
Systems**



FEATURES

- iSEC® models available for 30, 60 and 90 g/h chlorine capacity
- Durable and attractive plastic cover
- Vivid LED illumination from the electrolytic chamber offers an attractive presence of the chlorine generation process and at the same time indicating through simple LED colour change the current operational status of the process
- Easy to operate membrane keypad multi-lingual control panel & OLED display with green, amber and red LED operational status indicators
- Operational parameters displayed and code protected programming
- Alarm event log with real time clock recording
- Volumetric flow measurement of water and brine for consistent high efficiency electrolysis
- Corrosion resistant PVDF tank level switches
- Failsafe system management of room ventilation via integrated hydrogen gas detector
- Telemetry alarm event, data logging & RS485 options
- Supplied with fixings for wall mounting and includes product tank level switch kit and brine suction assembly
- Installation easily customised to meet space restrictions
- 2 year product warranty

SPECIFICATIONS

Supply Water Quality (softened water only)

Temperature (°C)	8-20*
Max inlet pressure (MPa)	0.2
Turbidity (NTU)	<5
pH	6.5-10
Particle size (µm)	<100
Iron (µg/l)	<200
Manganese (µg/l)	<10
Fluoride (mg/l)	<2
Hardness (mg/l of CaCO ₃)	<20
Hardness (°dH)	<1
Free chlorine (mg/l)	<1

*A water heater or chiller is required if the water supply temperature is outside recommended parameters.

Salt Quality

Element/Compound	Upper Limit (mg/kg)
Arsenic (As)	13
Cadmium (Cd)	1.3
Chromium (Cr)	13
Iron (Fe)	10
Mercury (Hg)	0.26
Nickel (Ni)	13
Manganese (Mn)	0.5
Lead (Pb)	13
Antimony (Sb)	2.6
Selenium (Se)	2.6
Calcium (Ca)	100
Magnesium (Mg)	100
Bromide (Br ⁻)	100

Consumption Data

Model	30	60	90
Nominal water consumption (L/h)	5	10	15
Nominal salt consumption (kg/h)	0.1	0.2	0.3
Power (W)	150	300	450

Output Data

Model	30	60	90
Chlorine capacity (g/h)	30	60	90
Chlorine concentration g/L (+/-1g)	6	6	6
Liquid product output (L/h)	5	10	15

Operating Conditions & Limits

Model	30	60	90
Protection class	IP54		
Working humidity (RH)	20-90% (non-condensing)		
Ambient temperature (°C)	5-40		
Pollution degree	2		
Max. altitude (m)	2000 (ambient temperature derating of 5°C/1000m for operating altitude higher than 2000m/6500ft)		

This equipment is for indoor use only and should be located away from highly humid, dusty or corrosive environments.

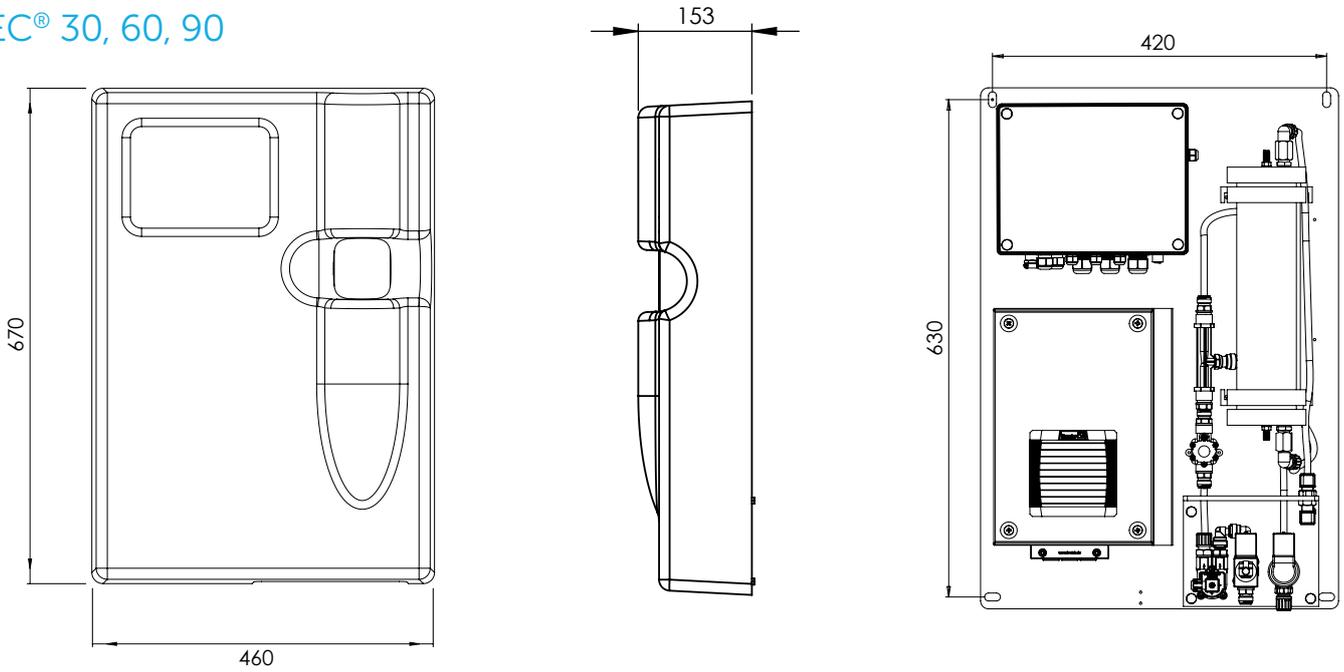
Quick Sizing Guide

Approx. Capacity	Drinking water m ³ /day	Total Pool Volume (m ³)		
	1,500	300		
1,000	180		iSEC 90	
500	90	iSEC 30		
	Chlorine gas (kg/day)	0.5	1	1.5
	Sodium hypochlorite 12% (L/day)	3.5	7	10.5
	Calcium hypo 70% (kg/day)	0.7	1.4	2.1

Current daily chemical usage

DIMENSIONS

iSEC® 30, 60, 90



Description	Unit	Measure
Dimensions (w x d x h)	mm	460 x 153 x 670
Generator, net weight	kg	12
Modular kit, shipping weight		18

SPECIFICATION

iSEC® SKID options

N.B. First select correct iSEC® generator model and then choose additional skid option below. Depending on site conditions/location, check with your supplier if the system installation will require an air blower ventilation kit.

SKID-I



SKID-I 30kg saturator
30 litre product tank

SKID-II



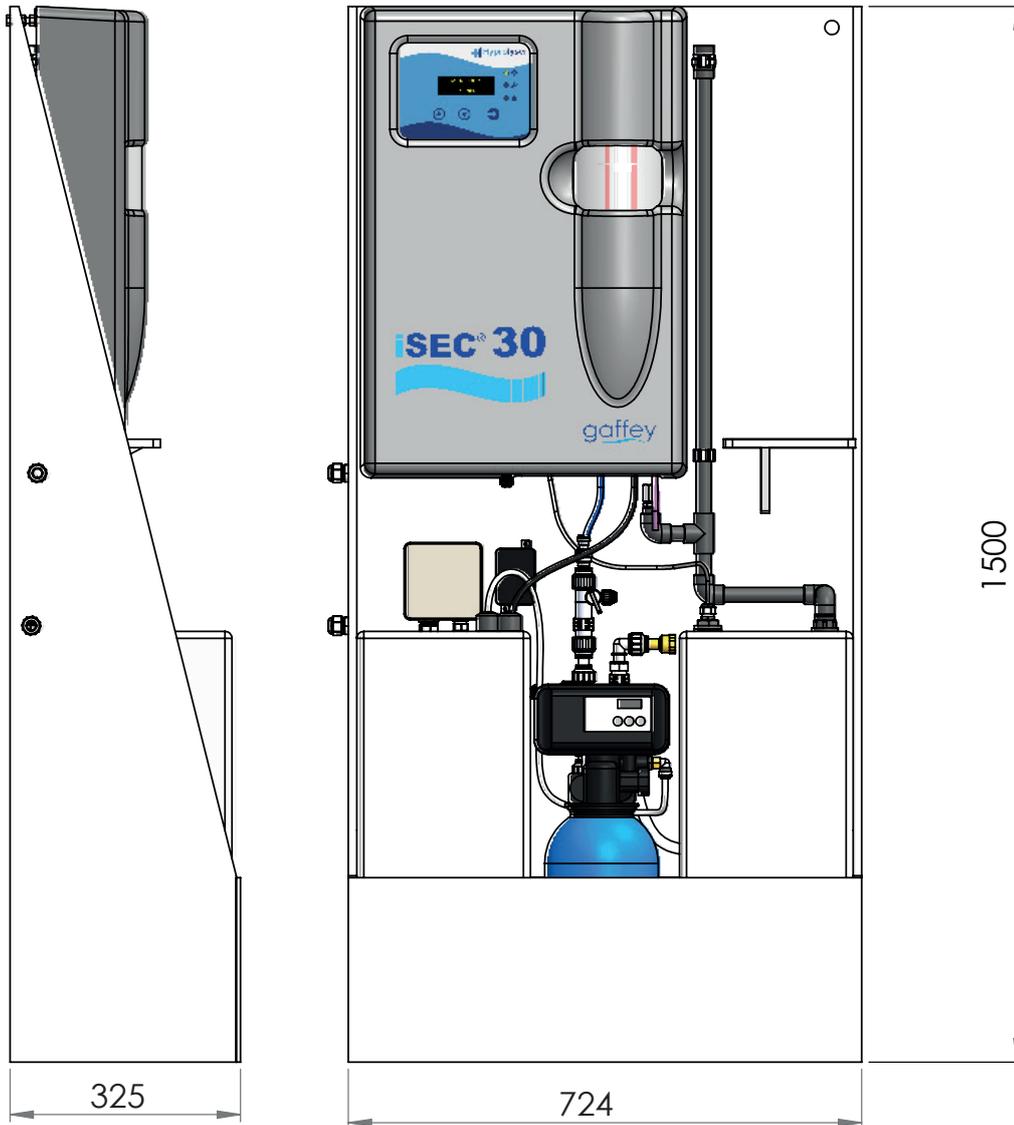
SKID-II 50kg saturator
200 litre product tank

Description	Unit	SKID-I	SKID-II
Salt saturator nominal capacity	kg	30	50
Chlorine product tank capacity	litre	30	200
Auto regenerative softener	watts	10	
Operating feed water pressure	Bar	2	
Water feed connection	-	15mmOD / ½" BSPm	
Ventilation outlet, uPVC solvent connection	-	20mm / ½"	
Softener drain outlet RPVC tubing	-	13mmID x 19mmOD (½"ID)	
Dimensions (w x d x h)	mm	715 x 325 x 1500	654 x 876 x 1512
Weight, net	kg	40	64

[Dosing pump(s) not included, available as optional extra]

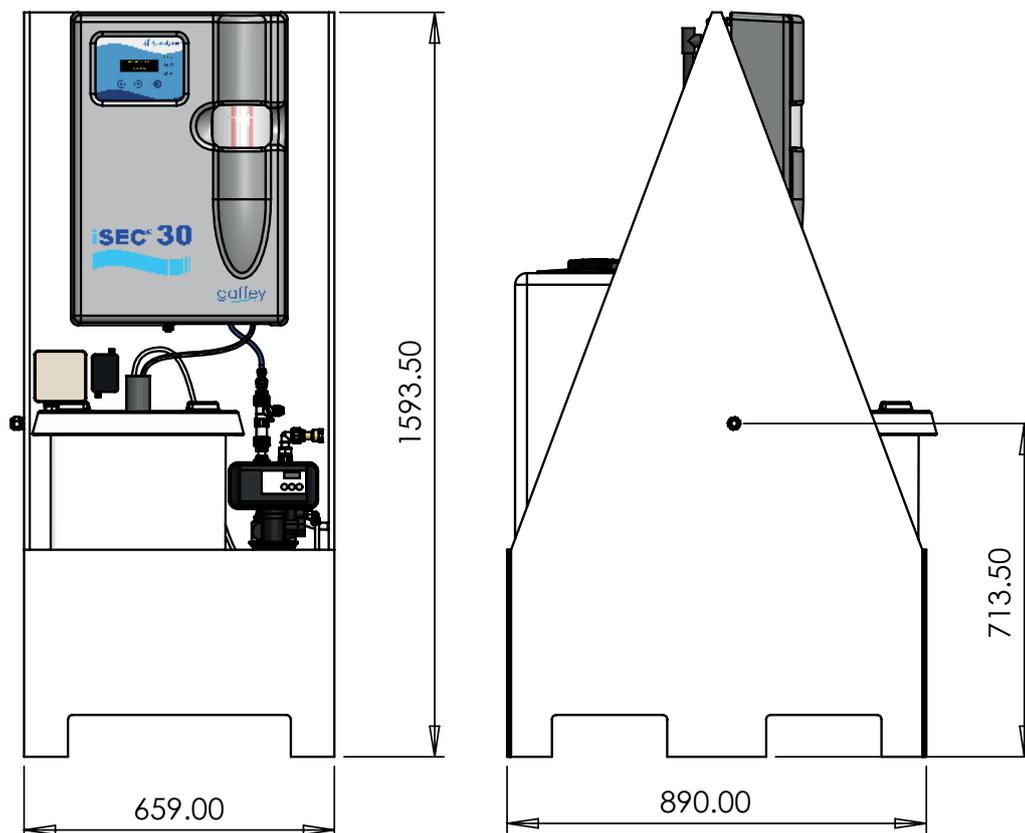
DIMENSIONS

iSEC® SKID-I



Description	Unit	SKID-I
Dimensions (w x d x h)	mm	715 x 325 x 1500
Shipping weight	kg	57

DIMENSIONS

 iSEC[®] SKID-II


Description	Unit	SKID-II
Dimensions (w x d x h)	mm	654 x 876 x 1512
Shipping weight	kg	81

SYSTEM COMPONENTS & ACCESSORIES



Modbus RTU module option available.
Not included in standard scope of supply.



Hyprolyser[®] Test Kit contains all instruments, glassware and reagents to carry out all necessary routine and service tests to confirm and monitor the efficient operation of the system.

SUMMARY



Low environmental impact

Minimal recyclable packaging, reduced transportation, no hazardous waste disposal.



Economical

Low cost of salt, reduced pH correction chemical costs, reduced operator labour, low service costs.



Simple to use

Fill saturator with salt, no remedial maintenance of chlorine injector, no technical intervention required by the operator, low hazard system.



Low maintenance

Smart design and robust engineering requires simple, minimal periodic maintenance.



Reliable

Annual test & inspection, 2 year service interval, 2-5 year warranty, 6-8 year typical electrolyser life.



Low hazard system

Delivery and storage of salt, no toxic dangers to staff or neighbours, no hazardous waste disposal and no chemical handling.

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