B & V Chemicals

GENOX

Safe alternative to ClO_2

Low hazard HOCl biocide

Cost effective – from 4 pence/ m^3 of treated water

DWI approved

HSG274 - HOCl is the most effective form of Chlorine

Used widely in the NHS

Suitable for...

Hot / cold systems

Primary disinfection

Secondary disinfection

Hospitals

Hotels

Care homes

Schools

Legionella control

Drinking water

Horticulture

Breweries

Dairies

Food processing

And more ...

DWI approved Neuthox®

GENOX

Produces low hazard, HOCl biocide NEUTHOX® for primary and secondary disinfection.

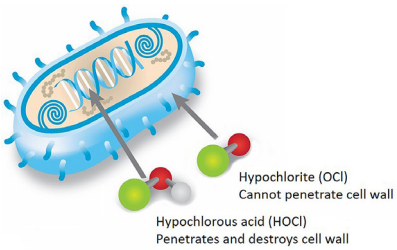
Cost effective, safe and powerful biocide for large and small systems

A specially developed GENOX Generator System uses electrolysis of brine to generate a biocide (NEUTHOX®) on demand. NEUTHOX® is a powerful, proven disinfectant that controls biofilm and destroys Legionella and Pseudomonas and is effective even at 40-50°C. The active ingredient in NEUTHOX® is hypochlorous acid (HOCl) which is produced naturally in the human body within white blood cells to fight infection.

HOCl is lethal to pathogens. It is low hazard, easy to handle and easy to dose. Generation is inexpensive and HOCl is stored securely in a drum. The unit merely requires water, Genox salt and electricity.

A wide range of units are available and all are compact allowing for simple retro fitting to areas with small available space footprints. Horticultural units are also available.

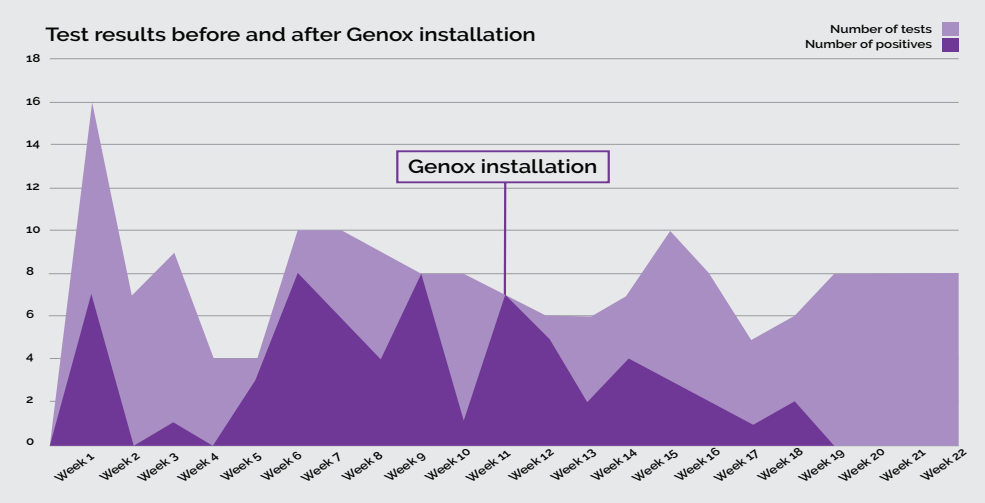
How it works



HOCl renders bacteria inactive and achieves its results by a two-stage disruptive process. On breaching the bacteria cell wall, it interacts chemically with the cell's proteins, attacking the cell's DNA and causing the whole cell to die. The cell floods with water and acidic fluid and dies. Once the bacteria has been destroyed, its co-dependent relationship with the biofilm is disrupted and the biofilm begins to break up, bringing Legionella and Pseudomonas levels back or permanently under control to acceptable levels.

NEUTHOX® is approved with food and has no impact on water pH.

A UK school experienced persistent Legionella bacteria counts despite daily flushing, efforts to increase water flow and improve pipework and thermal pasteurisation of the water distribution system. Genox was trialled and eradicated Legionella bacteria counts below detectable levels within weeks.



Genox compared with conventional chlorine dioxide

ClO_2	GENOX producing NEUTHOX®
Complex Generator maintenance	Simple, fast Generator maintenance
Requires supply and dosing of two chemicals	No hazardous chemical handling
Danger of Chlorite and Chlorate overdose	HOCl is produced at a low hazard concentration
Pre-stabilised ClO_2 has a limited shelf life	HOCl stored in secure 50-200L tanks
ClO_2 in solution can sometimes be tasted	No taste, no colour, reduced danger of over-dosing
Complex control	Easy monitoring, control and adjustment remotely (optional)
Hazardous	Ecologically safe
Handling issues	PPE equipment for low hazard
Relatively expensive to generate	Inexpensive and cost effective to generate
	Easy training to measure the system reserve

Multiple applications with units tailored to needs, flow and application

Model T05

Model T10

Model T20

T00
Owner / Operator Manual
Install Guide (we will fit)
pH: 8.5
9-15L/hour options
500 x 640 x 250mm (W x H x D)
Lease finance option

T05
Owner / Operator Manual
Install Guide (we will fit)
ORP sensor and transmitter
Injection kit
pH: 8.5
9-15L/hour options
500 x 640 x 250mm (W x H x D)
Lease finance option

T10
Owner / Operator Manual
Install Guide (we will fit)
pH 6-8.5
30-100L/hour options
708 x 840 x 333mm (W x H x D)
Lease finance option

T15
Owner / Operator Manual
Install Guide (we will fit)
Dosing pump
Dosing kit
pH: 6-8.5
40-100L/hour options
708 x 840 x 333mm (W x H x D)
Lease finance option

T20
Owner / Operator Manual
Install Guide (we will fit)
pH: 6-8.5
125-400L/hour options
850 x 1440 x 460mm (W x H X D)
Lease finance option

T10
Owner / Operator Manual
Install Guide (we will fit)
Brine Tank – KCl (160L)
Brine Tank – Nacl (140L)
NEUTHOX® Buffer Tank (100L)
40-100L/hour options
pH: 8.5
708 x 840 x 333 (W x H x D)
Lease finance option

T15
Owner / Operator Manual
Install Guide (we will fit)
Brine Tank (160L)
Brine Tank – NaCl (140L)
NEUTHOX® Buffer Tank (100L)
40-100L/hour options
pH: 8.5
708 x 840 x 333 (W x H x D)
Lease finance option

T20
Owner / Operator Manual
Install Guide (we will fit)
Brine Tank - KCl (400L)
Brine Tank – NaCl (140L)
200-400L/hour options
pH: 8.5
708 x 840 x 333 (W x H x D)
Lease finance option

GENOX Generator		**T00**			**T05 inc dosing pump**					
Version		LC	LC	STD	LC	LC	LC	LC	LC	STD
NEUTHOX® Production Capacity (+ or - 10%)	L/hour*	9	15	15	9			15		
Chloride Content in NEUTHOX®	mg/L*	1,000	1,700	2,000	1,000	1,000	1,000	1,700	1,700	2,000
Chlorate CLO_3 Content in NEUTHOX®	mg/L*	14	14	15	14	14	14	14	14	15
Perchlorate CLO_4 Content in NEUTHOX®	mg/L*	N/A			N/A					
Free Active Chlorine	ppm*	500			500					
pH Value	pH	8.5			8.5					
Approx NaCl Consumption	Kg/day**	0.4	0.8	1	0.4	0.4	0.4	0.8	0.8	1
Max Pre-fuse	A	13			13					
Max Power Consumption	W	380	400	400	410	410	410	430	430	430
Voltage	v.Hz	200-240 VAC (+ or - 10%); 50-60Hz			200-240 VAC (+ or - 10%); 50-60Hz					
Power Cable Length	m	3			3					
Enclosure Class, Electrical Cabinet	IP	54			54					
Required Water Pressure	Bar	1.5-6.2			1.5-6.2					
Max Drain Back Pressure	Bar	0.2			0.2					
Ambient Temperature Tolerance	oC	5<T<40			5<T<40					
Min Required Room Ventilation	m3/h	7	12	12	7	7	7	12	12	12
Recommended Running Hours	h/day	15			15					
Max Running Hours	h/day	20			20					
Water Connection Hose Length	m	1			1					
Water Connection (BSP Male)	Inch	1/2 inch			1/2 inch					
Drain Connection (Push-in)	mm	6			6					
Drain Hose (Min Inner Diameter)	mm	4			4					
Drain Hose (Max Length)	m	5			5					
Dosing Pump (type and manufacture may alter)		**N/A**			**Grundfos**	**Grundfos**	**Grundfos**	**Grundfos**	**Grundfos**	**Grundfos**
Max Flow Rate	L/h				6	6	6	20	17	20
Max Pressure	Bar				6	7	10	7	7	7
Suction Head	mWg				3					
Max Pre-fuse	A				13					
Max Power Consumption	W				40	23	22	35	24	35
Voltage (EU)	V,Hz				230 VAC (+ or - 10%); 50-60Hz					
Placement					N/A	External				
Dimensions (Width, Height, Depth)	mm	500 x 640 x 250			500 x 640 x 50					
Brine Tank Capacity, NEUTHOX® Tank Capacity	L	33,33			33,33					
Weight (subject to pump types and cell configuration)	Kg	30	30.6	30	30.5	30.6				
Sound Pressure	dB(A)	51			52					

* These values can vary by + or - 10%

** At 20oC, water hardness 400ppm, 20-hour operation

GENOX Generator		**T10**					**T15 inc dosing pump**	
Version		LC	LC	LC	STD	STD	STD	STD
NEUTHOX® Production Capacity (+ or - 10%)	L/hour*	30	50	75	40	100	40	100
Chloride Content in NEUTHOX®	mg/L*	1,700			3,800		3,800	
Chlorate CLO_3 Content in NEUTHOX®	mg/L*	14	14	15				
Perchlorate CLO_4 Content in NEUTHOX®	mg/L*	N/A					N/A	
Free Active Chlorine	ppm*	500					500	
pH Value	pH	8.5			6 - 8.5	6 - 8.5	6 - 8.5	
Approx NaCl Consumption	Kg/day**	1.9	3	4.9	4	11.3	4	11.3
Max Pre-fuse	A	13					13	
Max Power Consumption	W	775	1,125	1,325	675	1,590	675	1,590
Voltage	v.Hz	200-240 VAC (+ or - 10%); 50-60Hz					200-240 VAC (+ or - 10%); 50-60Hz	
Power Cable Length	m	3					3	
Enclosure Class, Electrical Cabinet	IP	54					54	
Required Water Pressure	Bar	2.5-6.2					2.5-6.2	
Max Drain Back Pressure	Bar	0.2					0.2	
Ambient Temperature Tolerance	oC	5 < T < 40					5 < T < 40	
Min Required Room Ventilation	m3/h	18	24	30	15	36	15	36
Recommended Running Hours	h/day	15					15	
Max Running Hours	h/day	20					20	
Water Connection Hose Length	m	1.3					1.3	
Water Connection (BSP Male)	Inch	1/2 inch					1/2 inch	
Drain Connection (BSP Male)	Inch	1/2 inch					1/2 inch	
Drain Hose (Min Inner Diameter)	mm	12					12	
Drain Hose (Max Length)	m	5					5	
Dosing Pump (type and manufacture may alter)		**N/A**					**Grundfos**	**Grundfos**
Max Flow Rate	L/h						60	150
Max Pressure	Bar						10	4
Suction Head	mWg						2	
Max Pre-fuse	A						13	
Max Power Consumption	W						62	110
Voltage (EU)	V,Hz						230 VAC (+ or - 10%); 50-60Hz	
Placement							External	
Dimensions (Width, Height, Depth)	mm	708 x 840 x 333					708 x 840 x 333	
Brine Tank Capacity, NEUTHOX® Tank Capacity	L	100,100					100,100	
Weight	Kg	55			53	55	53	55
Sound Pressure	dB(A)	51					51	

* These values can vary by + or - 10%

** At 20oC, water hardness 400ppm, 20-hour operation

GENOX Generator		T20				
Version		LC	LC	LC	LC	STD
NEUTHOX® Production Capacity (+ or - 10%)	L/hour*	125	250	200	300	400
Chloride Content in NEUTHOX®	mg/L*	1,700		3,800		
Free Active Chlorine	ppm*	500				
pH Value	pH	6 - 8.5				
Approx NaCl Consumption	Kg/day**	12.2	24.3	29.5	34.3	38.9
Max Pre-fuse	A	16				
Max Power Consumption	W	2,260	4,420	2,620	3,820	5,140
Voltage	v.Hz	200-240 VAC (+ or - 10%); 50-60Hz				
Power Cable Length	m	3				
Enclosure Class, Electrical Cabinet	IP	54				
Required Water Pressure	Bar	2.5-6.2				3-6.2
Max Drain Back Pressure	Bar	0.2				
Ambient Temperature Tolerance	oC	5 < T < 40				
Min Required Room Ventilation	m3/h	34	114	63	93	126
Recommended Running Hours	h/day	15				
Max Running Hours	h/day	20				
Water Connection Hose Length	m	1.3				
Water Connection (BSP Male)	Inch	1/2 inch				
Drain Connection (BSP Male)	Inch	1/2 inch				
Drain Hose (Min Inner Diameter)	mm	12				
Drain Hose (Max Length)	m	5				
Dosing Pump		**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Max Flow Rate	L/h					
Max Pressure	Bar					
Suction Head	mWg					
Max Pre-fuse	A					
Max Power Consumption	W					
Voltage (EU)	V,Hz					
Placement						
Dimensions (Width, Height, Depth)	mm	850 x 1440 x 460				
Brine Tank Capacity, NEUTHOX® Tank Capacity	L	350, 350				
Weight	Kg	180	190	185	185	190
Sound Pressure	dB(A)	70				

* These values can vary by + or - 10%

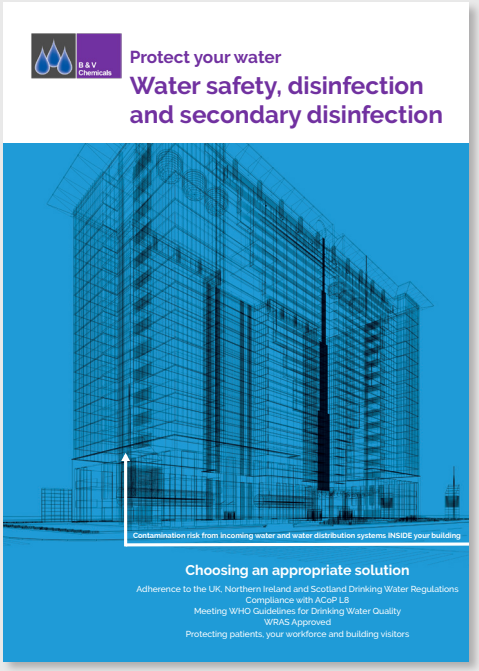
** At 20oC, water hardness 400ppm, 20-hour operation

GENOX Generator		T10 HORTICULTURE		T15 HORTICULTURE		T20 HORTICULTURE		
Version		STD_HC	STD-HC	STD-HC	STD-HC	STD_HC	STD_HC	STD_HC
NEUTHOX® Production Capacity (+ or - 10%)	L/hour*	40	100	40	100	200	300	400
Chlroide Content in NEUTHOX®	mg/L*	3,800		3,800		3,800		
Free Active Chlorine	ppm*	500		500		500		
pH Value	pH	8.5		8.5		8.5		
Approx KCl Consumption	Kg/day**	4.5	12	4.5	12	34	39	45
Approx NaCl Consumption	Kg/day**	0.7	1.6	0.7	1.6	3.5	5.1	6.9
Max Pre-fuse	A	13		13		16		
Max Power Consumption	W	776.25	1828.5	839	1,891	3,013	4,393	5,911
Voltage	v.Hz	200-240 VAC (+ or - 10%); 50-60Hz		200-240 VAC (+ or - 10%); 50-60Hz		3 x 400 VAC (+ or = 10%); 50/60 Hz		
Power Cable Length	m	3		3		3		
Enclosure Class, Electrical Cabinet	IP	54		54		54		
Required Water Pressure at 15L/min	Bar	2.5-6.2		2.5-6.2		2.5-6.2	2.5-6.2	3-6.2
Max Drain Back Pressure	Bar	0.2		0.2		0.2		
Ambient Temperature Tolerance	oC	5 < T < 40		5 < T < 40		5 < T < 40		
Min Required Room Ventilation	m3/h	15	36	15	36	63	93	126
Recommended Running Hours	h/day	15		15		15		
Max Running Hours	h/day	20		20		20		
Water Connection Hose Length	m	1.3		1.3		1.3		
Water Connection (BSP Male)	Inch	1/2 inch		1/2 inch		1/2 inch		
Drain Connection (BSP Male	Inch	1/2 inch		1/2 inch		1/2 inch		
Drain Hose (Min Inner Diameter)	mm	12		12		12		
Drain Hose (Max Length)	m	5		5		5		
Dosing Pump (type and manufacture may alter)		**N/A**		**Grundfos**	**Grundfos**	**N/A**	**N/A**	**N/A**
Max Flow Rate	L/h			60	150			
Max Pressure	Bar			10	4			
Suction Head	mWg			2	2			
Max Pre-fuse	A			13	13			
Max Power Consumption	W			62	110			
Voltage (EU)	V,Hz			230 VAC (+ or - 10%); 50-60Hz				
Placement				External	External			
Dimensions (Width, Height, Depth)	mm	708 x 840 x 333		708 x 840 x 333		850 x 1440 x 460		
Brine Tank (KCl) Capacity	L	160		160		400		
Bine Tank (NaCl) Capacity		140		140		140		
NEUTHOX® Tank Capacity		100		100		Not included		
Weight	Kg	53	55	53	55	185	185	190
Sound Pressure	dB(A)	51		51		70		

* These values can vary by + or - 10%

** At 20oC, water hardness 400ppm, 20-hour operation

Further reading



A water safety, secondary disinfection overview is available on the website.

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