



NORWECO, INC.

220 Republic Street
Norwalk, OH 44857
USA

NQ 3680-910/2000-06-16 M1 (2004-09-10)

*Wastewater Treatment - Stand-Alone Wastewater Treatment
Systems for Isolated Dwellings*

Certificate number: **2783**

Issue date: **2023-11-30**

Expiry date: **2024-04-30**

Stand-alone wastewater treatment systems

Model Hydro-Kinetic®

Capacity	Model Number	Model Designation	Capacity (Liters/day)	Number of bedrooms
	1260L-4M 1260L-4T 1260L-3M 1260L-DT	1260L FEU	1260	3 or less
	1600L-4M 1600L-4T 1600L-3M 1600L-DT	1600L FEU	1600	4 or less
	1890L-4M 1890L-4T 1890L-3M	1890L FEU	1890	5 or less
	2270L-4M 2270L-4T 2270L-3M 2270L-4G	2270L FEU	2270	6 or less
	3020L-3M 3020L-4M	3020L FEU	3020	6 or less
	3780L-3M 3780L-4M 3780L-4T	3780L FEU	3780	6 or less

Model Configuration

3M: Pre-treatment tank, three chamber treatment tank, Bio-Film Reactor tank.
 3780L-3M: Pre-treatment tank, anoxic tank, three chamber treatment tank, Bio-Film Reactor tank.
 2270L-4G: Four chamber HDPE treatment tank, HDPE Bio-Film Reactor tank.
 4M: Four chamber treatment tank, Bio-Film Reactor tank.
 3780L-4M: Pre-treatment tank, anoxic tank, four chamber mid seam treatment tank, Bio-Film Reactor tank.
 4T: Four chamber top seam tank, followed by Bio-Film Reactor tank.
 3780L-4T: Pre-treatment tank, anoxic tank, four chamber top seam treatment tank, Bio-Film Reactor tank.
 DT: Two chamber pre-treatment/anoxic tank, two chamber aeration/clarifier tank, Bio-Film Reactor tank.

Treatment Class Class III.



Bureau de normalisation
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BNQ is a member of the National
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ANNEX TO THE CERTIFICATE

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Certificate precisions :

The tests specified in articles 8.1 and 8.2 were carried out with wastewater, at a minimum controlled temperature of $11\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$.

Note that this treatment chain has no septic tank.

Pre-treatment and anoxic tanks can be combined into a single tank or two tanks in series.

A single Bio-Film Reactor tank with up to two reactor elements is utilized for models rated 3020 L/d or less.

Models rated for 3780 L/d and greater may use two Bio-Film Reactor tanks with two reactor elements per tank, or one Bio-Film Reactor tank with four reactor elements.



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Stand-alone wastewater treatment systems

Model Hydro-Kinetic® + Phosphorus removal + UV disinfection

Capacity

Model Number	Model Designation	Capacity (Liters/day)	Number of bedrooms
1260L-P-UV-3M 1260L-P-UV-4M 1260L-P-UV-4T 1260L-P-UV-DT	1260L FEU	1260	3 or less
1600L-P-UV-3M 1600L-P-UV-4M 1600L-P-UV-4T 1600L-P-UV-DT	1600L FEU	1600	4 or less
1890L-P-UV-4M 1890L-P-UV-4T 1890L-P-UV-3M	1890L FEU	1890	5 or less
2270L-P-UV-4M 2270L-P-UV-4T 2270L-P-UV-3M 2270L-P-UV-4G	2270L FEU	2270	6 or less
3020L-P-UV-3M 3020L-P-UV-4M	3020L FEU	3020	6 or less
3780L-P-UV-3M 3780L-P-UV-4M 3780L-P-UV-4T	3780L FEU	3780	6 or less

Model Configuration

P-UV-3M: Pre-treatment tank, three chamber treatment tank, Bio-Film Reactor tank, Phos-4-Fade, UV disinfection.
 3780L-P-UV-3M: Pre-treatment tank, anoxic tank, three chamber treatment tank, Bio-Film Reactor tank, Phos-4-Fade tank, UV disinfection.
 2270L-P-UV-4G: Four chamber HDPE treatment tank, HDPE Bio-Film Reactor tank, Phos-4-Fade tank, UV disinfection.
 P-UV-4M: Four chamber treatment tank, Bio-Film Reactor tank, Phos-4-Fade tank, UV disinfection.
 3780L-P-UV-4M: Pre-treatment tank, anoxic tank, four chamber treatment tank, Bio-Film Reactor tank, Phos-4-Fade tank, UV disinfection
 P-UV-4T: Four chamber top seam treatment tank, Bio-Film Reactor tank, Phos-4-Fade tank, UV disinfection.
 3780L-P-UV-4T: Pre-treatment tank, anoxic tank, four chamber treatment tank, Bio-Film Reactor tank, Phos-4-Fade tank, UV disinfection
 P-UV-DT: Two chamber pre-treatment/anoxic tank, two chamber aeration/clarifier tank, Bio-Film Reactor tank, Phos-4-Fade tank, UV disinfection.

Treatment Class

Class IV and V



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Stand-alone wastewater treatment systems

Authorized UV Lamp:

Model AT 1500 from Norweco is authorized for systems with hydraulic capacity of 3780 L/d or less.

UV system can be installed inside Bio-Film Reactor tank when the configuration utilizes a single Bio-Film Reactor tank.

UV system can be installed inside Phos-4-Fade tank when the configuration utilizes a single Phos-4-Fade tank.

Certificate precisions:

- 1) Pre-treatment and anoxic tanks can be combined into a single tank or two tanks in series.
- 2) A single Bio-Film Reactor tank with up to two reactor elements is utilized for models rated 3020 L/d or less.
- 3) Models rated for 3780 L/d may use two Bio-Film Reactor tanks with two reactor elements per tank, or one Bio-Film Reactor tank with four reactor elements.

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Stand-alone wastewater treatment systems

Model Hydro-Kinetic® + UV disinfection

Capacity

Model Number	Model Designation	Capacity (Liters/day)	Number of bedrooms
1260L-UV-3M 1260L-UV-4M 1260L-UV-4T 1260L-UV-DT	1260L FEU	1260	3 or less
1600L-UV-3M 1600L-UV-4M 1600L-UV-4T 1600L-UV-DT	1600L FEU	1600	4 or less
1890L-UV-4M 1890L-UV-4T 1890L-UV-3M	1890L FEU	1890	5 or less
2270L-UV-4M 2270L-UV-4T 2270L-UV-3M 2270L-UV-4G	2270L FEU	2270	6 or less
3020L-UV-3M 3020L-UV-4M	3020L FEU	3020	6 or less
3780L-UV-3M 3780L-UV-4M 3780L-UV-4T	3780L FEU	3780	6 or less

Model Configuration

UV-3M: Pre-treatment tank, three chamber treatment tank, Bio-Film Reactor tank, UV disinfection.
 3780L-UV-3M: Pre-treatment tank, anoxic tank, three chamber treatment tank, Bio-Film Reactor tank, UV disinfection.
 2270L-UV-4G: Four chamber HDPE treatment tank, followed by HDPE Bio-Film Reactor tank, followed by UV disinfection.
 UV-4M: Four chamber treatment tank, Bio-Film Reactor tank, UV disinfection.
 3780L-UV-4M: Pre-treatment tank, anoxic tank, four chamber treatment tank, Bio-Film Reactor tank, UV disinfection.
 UV-4T: Four chamber top seam treatment tank, Bio-Film Reactor tank, UV disinfection.
 3780L-UV-4T: Pre-treatment tank, anoxic tank, four chamber top seam treatment tank, Bio-Film Reactor tank, UV disinfection.
 UV-DT: Two chamber pre-treatment/anoxic tank, two chamber aeration/clarifier tank, Bio-Film Reactor tank, UV disinfection



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Stand-alone wastewater treatment systems

Treatment Class	Class V.
Certificate precisions	The tests specified in articles 8.1 and 8.2 were carried out with wastewater, at a minimum controlled temperature of 11 °C ± 1 °C. Note that this treatment chain has no septic tank. Pre-treatment and anoxic tanks can be combined into a single tank or two tanks in series. A single Bio-Film Reactor tank with up to two reactor elements is utilized for models rated 3020 L/d or less. Models rated for 3780 L/d may use two Bio-Film Reactor tanks with two reactor elements per tank, or one Bio-Film Reactor tank with four reactor elements.

Authorized UV Lamp:

Model AT 1500 from Norweco is authorized for systems with hydraulic capacity of 3780 L/d or less.
UV system can be installed inside Bio-Film Reactor tank when the configuration utilizes a single Bio-Film Reactor tank.

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Stand-alone wastewater treatment systems

Model Hydro-Kinetic® + Phosphorus removal

Capacity

Model Number	Model Designation	Capacity (Liters/day)	Number of bedrooms
1260L-P-4M 1260L-P-4T 1260L-P-3M 1260L-P-DT	1260L FEU	1260	3 or less
1600L-P-4M 1600L-P-4T 1600L-P-3M 1600L-P-DT	1600L FEU	1600	4 or less
1890L-P-4M 1890L-P-4T 1890L-P-3M	1890L FEU	1890	5 or less
2270L-P-4M 2270L-P-4T 2270L-P-3M 2270L-P-4G	2270L FEU	2270	6 or less
3020L-P-3M 3020L-P-4M	3020L FEU	3020	6 or less
3780L-P-3M 3780L-P-4M 3780L-P-4T	3780L FEU	3780	6 or less

Model Configuration

P-3M: Pre-treatment tank, three chamber treatment tank, Bio-Film Reactor tank, Phos-4-Fade tank.
 3780L-P-3M: Pre-treatment tank, anoxic tank, three chamber treatment tank, Bio-Film Reactor tank, Phos-4-Fade tank.
 2270L-P-4G: Four chamber HDPE treatment tank, HDPE Bio-Film Reactor tank, Phos-4-Fade tank.
 P-4M: Four chamber treatment tank, Bio-Film Reactor tank, Phos-4-Fade tank.
 3780L-P-4M: Pre-treatment tank, anoxic tank, four chamber treatment tank, Bio-Film Reactor tank, Phos-4-Fade tank.
 P-4T: Four chamber top seam treatment tank, Bio-Film Reactor tank, Phos-4-Fade tank.
 3780L-P-4T : Pre-treatment tank, anoxic tank, four chamber top seam treatment tank, Bio-Film Reactor tank, Phos-4-Fade tank.
 P-DT: Two chamber pre-treatment/anoxic tank, followed two chamber aeration/clarifier tank, Bio-Film Reactor tank, Phos-4-Fade tank.

Treatment Class

Class IV



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Certificate precisions

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Note that this treatment chain has no septic tank.
Pre-treatment and anoxic tanks can be combined into a single tank or two tanks in series.
A single Bio-Film Reactor tank with up to two reactor elements is utilized for models rated 3020 L/d or less.
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List of recognized manufacturers for system components

Hydro-Kinetic® concrete manufacturers and system assemblers :

Aubert & Marois Itée
842, rue Principale
Lévis, Québec G6J 1A8

Rénova Béton inc.
317, rue St-François Xavier
Delson, Québec J5B 1X8

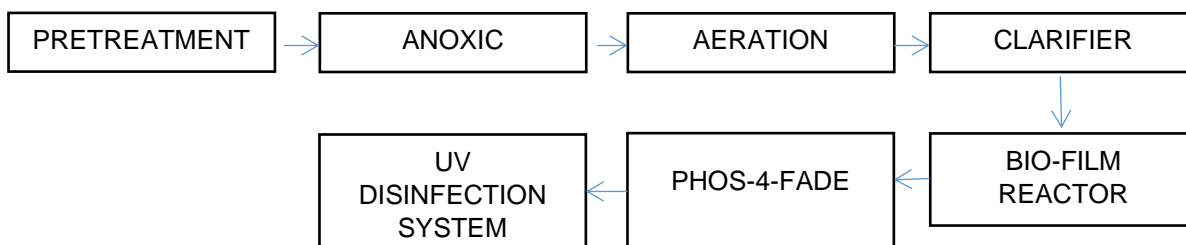
Ciment Lacasse Itée
48, montée Laramée
Ste-Anne-des-Plaines, Québec J0N 1H0

Béton architecturaux Breton
B.A.B. inc.
570, 2e Av, Saint-Romuald, QC
G6W 5M6

Hydro-Kinetic® HDPE manufacturers :

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**Flow Diagram of Hydro-Kinetic®
with phosphorus removal and UV disinfection**





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HISTORY	
Date	Modification description
2016-04-22	<ul style="list-style-type: none"> - Hydro-Kinetic® certification (Class III). - Hydro-Kinetic® with phosphorus removal and disinfection units certification (Classes IV and V). - Hydro-Kinetic® with disinfection unit certification (Class V).
2016-05-27	<ul style="list-style-type: none"> - Addition of models 1260L FEU and 1890L FEU for all Hydro-Kinetic® treatment classes. - Addition of Hydro-Kinetic® with phosphorus removal (Class IV) - Updated model numbers for all Hydro-Kinetic® treatment classes. - Addition of HDPE manufacturers. - Addition of flow diagram of Hydro-Kinetic® with phosphorus removal and UV disinfection.
2016-06-20	<ul style="list-style-type: none"> - Addition of the UV lamp authorized in sections mentioning the disinfection.
2018-04-13	<ul style="list-style-type: none"> - Renewal of certificate.
2018-05-31	<ul style="list-style-type: none"> - Addition of Ciment Lacasse Ltée as new concrete manufacturer and system assembler and removal of Entreprises Chartier Inc.
2018-09-18	<ul style="list-style-type: none"> - Addition of Entreprises Chartier (2009) Inc. as new concrete manufacturer and system assembler.
2019-02-04	<ul style="list-style-type: none"> - Withdrawal of Entreprises Chartier (2009) Inc. as manufacturer and system assembler.
2019-09-06	<ul style="list-style-type: none"> - Correction of model 3780L (instead of 3870L).
2020-04-22	<ul style="list-style-type: none"> - Renewal of certificate.
2020-06-04	<ul style="list-style-type: none"> - Addition of models 1260L-3M, 1260L-UV-3M, 1260L-P-UV-3M, 1260L-P-3M, 1600L-3M, 1600L-UV-3M, 1600L-P-UV-3M and 1600L-P-3M and precision on the integration of UV reactors inside Bio-Film Reactor tank and Phos-4-Fade tank.
2022-02-18	<ul style="list-style-type: none"> - Withdrawal of Ciment Lacasse Ltée as concrete manufacturer and system assembler.
2022-04-13	<ul style="list-style-type: none"> - Renewal of certificate.
2022-09-13	<ul style="list-style-type: none"> - Addition of models 1260L-DT and 1600L-DT for all Hydro-Kinetic® treatment classes.
2023-01-20	<ul style="list-style-type: none"> - Addition of Ciment Lacasse Ltée as concrete manufacturer and system assembler.
2023-03-14	<ul style="list-style-type: none"> - Addition of models 1260L-DT and 1600L-DT for treatment class IV.
2023-09-26	<ul style="list-style-type: none"> - Precisions on all Hydro-Kinetic® models.
2023-11-30	<ul style="list-style-type: none"> - Addition of Béton architecturaux Breton B.A.B. inc. as concrete manufacturer and system assembler.