

# OPADEN™ Nitrate Removal System

Ion Exchange Technology

OPADEN™ is a reliable and safe solution for drinking water treatment that meets World Health Organization's (WHO) recommendations. The OPADEN™ units use well-known and efficient technologies such as ion exchange resin and counter-current upflow regeneration.

High quality potable water :  
Nitrate < 50 mg/L

Flow rates:  
from 10 up to 130 m<sup>3</sup>/h per unit



## Features & Benefits

- Complete treatment line including all necessary equipment and reagents
- Proven technology using ion exchange resin
- Upflow counter-current resin regeneration process
- Certified ACS French Health Compliance
- Flexible; can treat different flows and nitrate concentration
- Simplex, duplex or triplex units
- Modular systems; can be combined to treat larger volumes
- Remote control device; easy to operate
- Skid-mounted systems; short lead-time; quick installation and commissioning; can be integrated into concrete plants
- Several options available

## Applications

- Nitrate removal for drinking water
- Small sized cities

## Related Services

- Support for installation and commissioning
- Local after-sales service for preventative and corrective maintenance program
- Tailor-made design according to project

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## System Dimensions & Performances

	Exchanger Diameter (mm)	Shell Height (mm)	Area (m <sup>2</sup> )	Treated water per unit (m <sup>3</sup> /h)	NO <sub>3</sub> in Raw water (mg/l)	NO <sub>3</sub> in Treated water (mg/l)	By pass flowrate (m <sup>3</sup> /h)	Resin Capacity (eq/l)	Resin volume (liters)
OPADEN 820	800	2000	0.5	10	90	25	3	0.3	880
	800	2000	0.5	15	50	25	12	0.3	880
OPADEN 1020	1000	2000	0.8	18	90	25	6	0.3	1375
	1000	2000	0.8	23	50	25	19	0.3	1375
OPADEN 1220	1200	2000	1.1	24	90	25	8	0.3	1986
	1200	2000	1.1	26	50	25	20	0.3	1986
OPADEN 1420	1400	2000	1.5	32	90	25	10	0.3	2700
	1400	2000	1.5	36	50	25	28	0.3	2700
OPADEN 1420	1800	2000	2.5	54	90	25	16	0.3	4463
	1800	2000	2.5	72	50	25	58	0.3	4463

\*Design based on resin capacity of 0.3 eq/l

The OPADEN standard unit includes one or several skid-mounted ion exchangers fitted with their respective pipe work, valving, feed pump, electrical control cabinet and brine preparation tank.

- Stainless steel and PVC manifold
- Electrical or pneumatic valves
- Specific adapted ion-exchange resin for eliminating nitrates
- Brine silo
- Prefabricated modular unit to be placed on a concrete slab
- Operating pressure from 0 to 16 bars
- The unit may be housed in a heated container to make it frost-proof
- Continuous nitrate monitoring and remote process control

For higher flow rates or other processes, consult your local Veolia Water Technologies representative.

Visit our website: [www.veoliawatertechnologies.com/opaden/en/](http://www.veoliawatertechnologies.com/opaden/en/)

In keeping with the progressive nature of the company, we reserve the right to amend details without notice.

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