

POTABILISATION



Chlorine dosing in a
DRINKING WATER supply



The Dosatron solution



Producing drinking water for small communities requires reliable equipment that is adapted to the sometimes extreme conditions of certain rural areas. These facilities must comply with current health standards and provide a continuous supply of drinking water to the local population. Our unique water-powered, non-electric proportional dosing pump, developed in 1974, comes with a Certificate of Sanitary Conformity (Attestation de Conformité Sanitaire - ACS) and is NSF 61 certified.

It is the ideal alternative to chlorine gas and electrochlorination, and complements UV disinfection by providing long-lasting disinfection.

Dosatron's Water Line has been awarded the "Solar Impulse Efficient Solution" label, which recognises cost-effective solutions that help protect the environment.

- 1 Water supply from an impoundment or catchment facility
- 2 Borehole water supply
- 3 In-line water chlorination
- 4 In-line rechlorination
- 5 Pipeline disinfection - building and construction
- 6 Chlorination for residential / private use
- 7 Chlorination for recreational use
- 8 Membrane post-treatment
- 9 pH adjustment

Configuration



Choosing the right dosing pump

1 • Filling the drinking water storage tank

Your tank can be fed by gravity or, if required by a suitable pump. Its volume helps ensure the required contact time for complete disinfection (usually about 30 to 45 minutes).

Tip: Water flow rate will depend upon the time taken to fill a tank of given volume. For example, if a 25 litre tank fills up in one minute this is equivalent to a water flow rate of 1,500 litres per hour (l/h).

The minimum flow rate corresponds to the minimum operating flow rate of the dosing pump:

Dosatron model selection will depend upon your water flow rate, with each model having its own minimum & maximum capability which needs to be matched to your system.

For example, a flow rate of 100l/h would suggest a Dosatron D3 model, while at 1,500l/h you may wish to consider a D3, a D9 or a D20 model.

The design flow rate:

It is important to take into account the number of operating hours per day. Where water flow approaches maximum capacity of a specific Dosatron unit you may wish to consider a higher water flow rate model for longer operating life.

Please refer to the model table shown on the opposite page.

2 • The minimum and maximum main line pressure

Do not exceed the operating pressure indicated on the dosing pump - install a pressure regulator if necessary.

3 • The expected level of chlorination

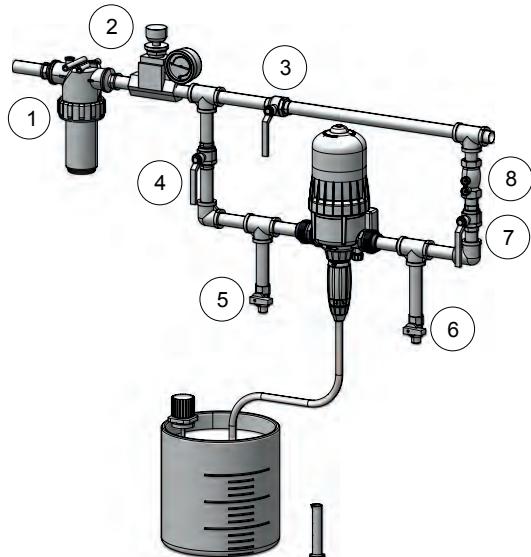
Chlorination should be adapted to the nature of the water and its chlorine consumption. The injection percentage determines the amount of chlorine added. Commercial solutions must be pre-diluted.

Special feature: Dosatron pumps operate using the proportional volumetric dosing principle – this means that proportional dosing for each unit is accurate regardless of fluctuations in water flow rate & pressure (within Dosatron operating parameters)

4 • Hardness and calcium build-up

The External Injection (IE) option significantly reduces calcium deposits in the pump when used in hard water. *Please contact us to discuss its limitations of use*

Full flow or partial by-pass installations



Item number	Description
1	Filter
2	Pressure Reducer
3	By-pass valve (A fully closed valve will create a full by-pass system. A partially open valve will create a partial by-pass system.)
4,7	Isolation valves
5	Clear water / stock solution valve
6	Fast priming / flushing / Dosatron test / sampling valve
8	Non-return valve

For information on the dimensioning factors for a partial bypass installation, please contact us.

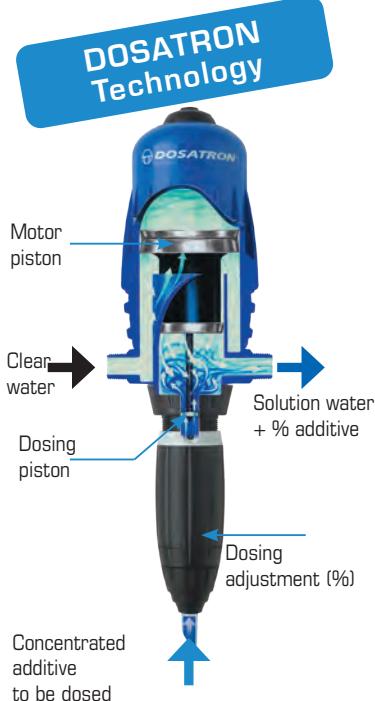
The models

Model	Operating flow range			Operating pressure		Injection range		Injection flow rate	
	l/h	m³/h	gpm	bar	PSI	%	1:	l/h	gpm
D3WL3000IE	Min.	10	0.01	Min.	0.5	7.3	Min.	0.03	1:3000
	Max.	3000	3	Max.	6	85	Max.	0.3	1:333
D3WL3000	Min.	10	0.01	Min.	0.3	4.3	Min.	0.03	1:3000
	Max.	3000	3	Max.	6	85	Max.	0.3	1:333
D3WL2	Min.	10	0.01	Min.	0.3	4.3	Min.	0.2	1:500
	Max.	3000	3	Max.	6	85	Max.	2	1:50
D9WL3000IE	Mini	500	0.5	2.2	Mini	0.5	7.25	Mini	0.03
	Maxi	9000	9	Maxi	8	116	Maxi	0.2	1:500
D9WL3000	Mini	500	0.5	2.2	Mini	0.3	4.35	Mini	0.03
	Maxi	9000	9	Maxi	8	116	Maxi	0.2	1:500
D9WL2	Mini	500	0.5	2.2	Mini	0.3	4.35	Mini	0.2
	Maxi	9000	9	Maxi	8	116	Maxi	2	1:50
D20WL2	Min.	1000	1	5	Min.	0.12	2	Min.	0.2
	Max.	20000	20	100	Max.	10	120	Max.	2
D30WL30000IE	Min.	8000	8	35	Min.	0.5	7	Min.	0.003
	Max.	30000	30	132	Max.	6	87	Max.	0.03
D30WL30000	Min.	8000	8	35	Min.	0.5	7	Min.	0.003
	Max.	30000	30	132	Max.	8	116	Max.	0.03
D30WL5000	Min.	8000	8	35	Min.	0.5	7	Min.	0.02
	Max.	30000	30	132	Max.	8	116	Max.	0.2

The quantity of additive injected is proportional to the quantity of water passing through the dosing pump. A 1% dose rate setting gives a solution of 1 part additive to 100 parts water. *Please use the calculation tool available in the Dosatron app*

Options : A wide range of dosing pumps and an equally wide choice of options (high flow rates, micro-dosing, high chemical resistance materials, etc.) enable us to meet your needs.

- VF** Seals for acids, oils, odour-control concentrates...
- AF** Seals for alkaline concentrates
- K** Seals for highly concentrated acids (> 15 %) PVDF - we recommend a PVDF body for concentrations
- BP** By-pass switch – unit will actively dose with the switch in the “on” position but not in the “off” position.
- PVDF** PVDF housing for highly concentrated acids
- V** Viscous additive kit, recommended for viscosities above 400 cPs
- IE** External injection



ADVANTAGES OF DOSATRON

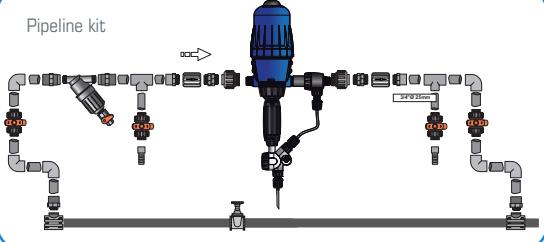
- Operates without electricity**
- Unaffected by pressure variations**
- Proportional dosing**
- Easy to install and operate**

Model	VF	AF	K	PVD	Bleed	BP	IE	Intelligent flow divider	Connection flange	Feet	ACS	NSF
D3WL3000IE	Standard		X			X					X	X
	Optional											
D3WL3000	Standard	X	X			X					X	X
	Optional			X	X		X	X				
D3WL2	Standard	X	X			X					X	X
	Optional			X	X		X					
D9WL3000IE	Standard	X				X					X ⁽¹⁾	X ⁽¹⁾
	Optional							X				
D9WL3000	Standard	X	X	X		X					X	X ⁽¹⁾
	Optional						X	X				X ⁽¹⁾
D9WL2	Standard	X	X			X					X ⁽¹⁾	X ⁽¹⁾
	Optional							X				
D20WL2	Standard	X					X					X
	Optional											
D30WL3000IE	Standard	X				X	X	X	X		X	
	Optional	X					X					
D30WL30000	Standard	X				X			X	X		X
	Optional	X					X	X				
D30WL5000	Standard	X				X			X	X		X
	Optional	X					X					

(1) Please consult us

ACCESSORIES

- Filters
- Pipeline kit
- Stock solution preparation tank
- Pressure Reducer



Case studies



Installation recommendations

- You must comply with the standards and regulations in force in the country of installation. ACS, NSF or other certifications may be required.
- Install a 300 micron [50 mesh] filter upstream of the dosing pump.
- The level in the dosing product container must never be higher than the dosing pump (risk of siphoning).
- Ensure sufficient chlorine contact time and check that the expected active chlorine level is achieved.

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