Hydro® systems

A DOVER™ COMPANY

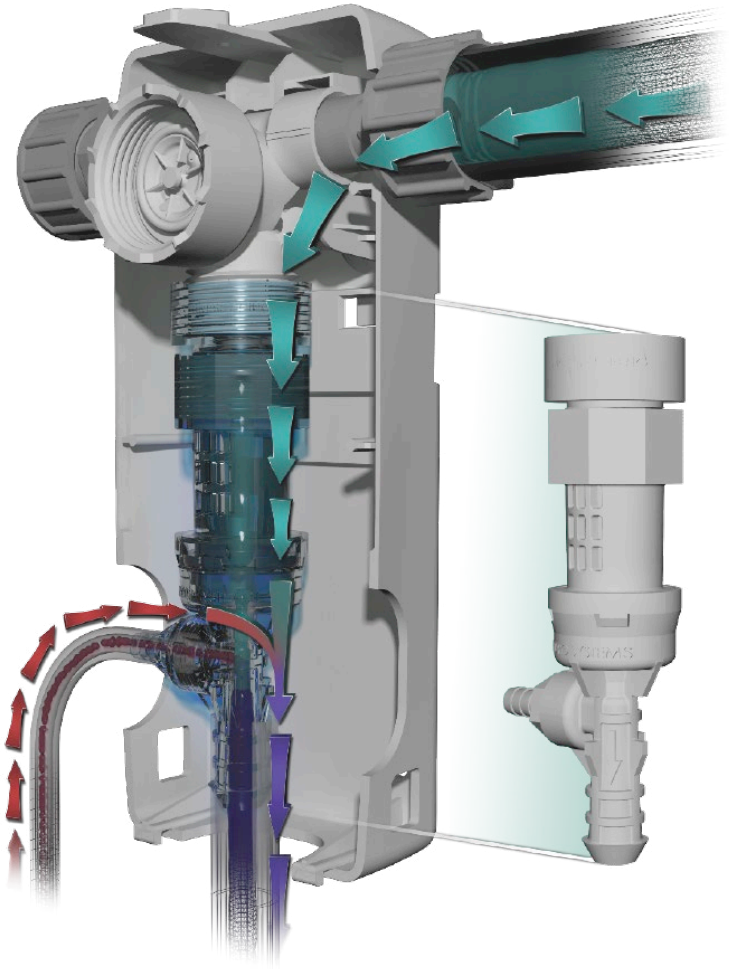
Innovative Dispensing Solutions

As the world's largest independent manufacturer of proportioning and dispensing systems Hydro has built long-lasting relationships with customers and offers custom, industry-leading solutions that positively impact their business. Hydro is committed to delivering superior customer support and ensuring unparalleled responsiveness to customers around the world. Our commitment to cutting edge technology, customer satisfaction and safer operations makes us a leader in the chemical proportioning and dispensing industry.

In addition to our North American corporate office, we have manufacturing and distribution facilities in the United Kingdom, China, Brazil, and Australia.

"A broad choice - whatever the application"

Technology



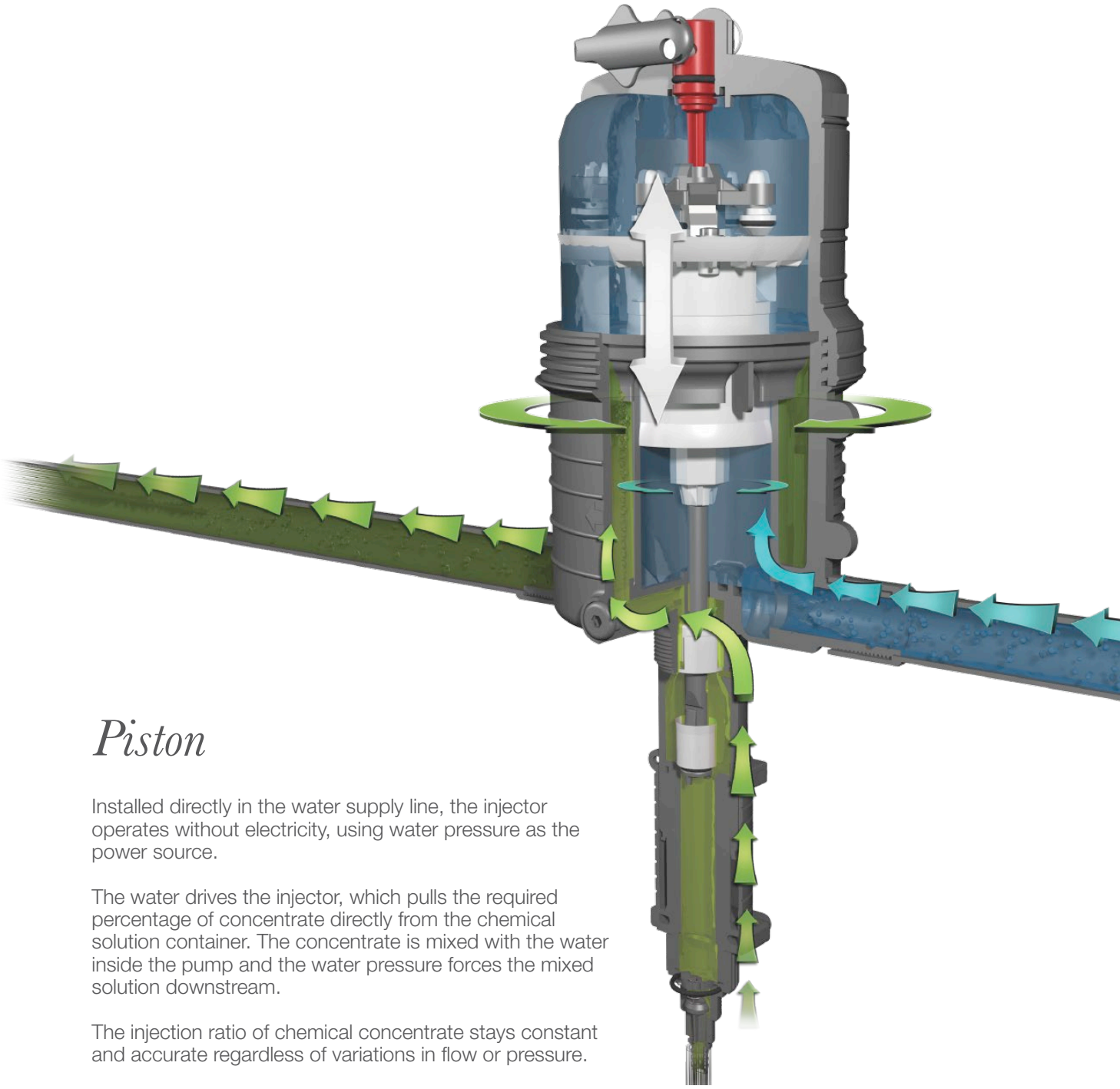
Venturi

Venturi technology (the vacuum created by manipulating the speed of a stream of water) is used to mix chemicals with water.

The incoming water stream is restricted by a nozzle, while the speed of the outgoing water is decreased by the inverted funnel shape at the bottom of the venturi. The result is a vacuum in the middle, where the chemical is sucked into the water stream.

The amount of chemical introduced is regulated by interchangeable metering tips that restrict chemical flow into the water stream.

The device does not require external electricity, batteries, pumps, or air; from ordinary water pressure available in most buildings.



Piston

Installed directly in the water supply line, the injector operates without electricity, using water pressure as the power source.

The water drives the injector, which pulls the required percentage of concentrate directly from the chemical solution container. The concentrate is mixed with the water inside the pump and the water pressure forces the mixed solution downstream.

The injection ratio of chemical concentrate stays constant and accurate regardless of variations in flow or pressure.

The injection rate is set by lining up the top of the ratio sleeve with desired ratio on the scale. The amount of injected concentrate is proportional to the amount of water coming into the injector: i.e. adjustment at 1% = 1:100 = 1 volume of concentrate + 100 volumes of water entering the injector.

StreamLine

Consistently correct dilution, for a variety of applications

Streamline dispensers in stainless steel cabinets are the industry's preferred equipment for dispensing a wide variety of automatically diluted solutions into spray bottles, buckets, auto scrubbers or other containers at the touch of a button.
Solutions dispensed through the Streamline Series are automatically diluted to the proportion called for by the concentrate manufacturer.

- Better chemical performance–consistent correct dilution
- Time and labor savings–solutions are prepared accurately with reduced preparation time
- Improved employee safety– eliminates splashing, spilling, and back strain
- Eliminates manual mixing, ensuring optimal performance of diluted solution
- 2, 3, and 4 button models offered for many applications
- Durable stainless steel cabinet
- Expandable and customized installation available
- Environmentally friendly

Streamline Series units are available with 3 types of eductors:

- Hydro's E-Gap eductors, which provide backflow protection through use of an elastomeric sleeve. (ASSE 1055B Approved)
- Hydro's patented HydroGap II™ air gap eductors, which use a one inch gap of air between the water source and the chemical inlet to provide backflow protection. (ASSE 1055B Approved.)
- Standard eductors with mechanical hose bibb vacuum breakers.

Number of Products	Backflow prevention			No.of Products		Approx. standard dilution range H2O : Chem.	
	Air Gap (DC)	E-Gap (DB)	E-Gap EN1717	4 lit./min.	14 lit./min.	4 lit./min.	14 lit./min.
1 Product Models (Either low flow or high flow, choice of dilution)	832GBA-2	8321GB		1		3:1 to 125:1	
			8321LGB	1		3:1 to 125:1	
	835GBA-2	8351GB			1		3:1 to 350:1
	835HFA-2		8351LGB		1		3:1 to 350:1
2 Product Models (Choice of dilution and flow rate for each product)	842GBA-2	8421GB	8421LGB	2		3:1 to 125:1	
	845GBA-2	8451GB			2		3:1 to 350:1
	845HFA-2		8451LGB		2		3:1 to 350:1
	847GBA-2	8471GB	8471LGB	1	1	3:1 to 125:1	3:1 to 350:1
3 Product Models (Choice of dilution and flow rate for each product)	852GBA-2	8521GB	8521LGB	3		3:1 to 125:1	
	855GBA-2	8551GB	8551LGB		3		3:1 to 350:1
	857GBA-2	8571GB	8571LGB	1	2	3:1 to 125:1	3:1 to 350:1
	859GBA-2	8591GB	8591LGB	2	1	3:1 to 125:1	3:1 to 350:1
4 Product Models (Choice of dilution and flow rate for each product)	861GBA-2	8611GB	8611LGB	4		3:1 to 125:1	
	862GBA-2	8621GB	8621LGB	1	3	3:1 to 125:1	3:1 to 350:1
	863GBA-2	8631GB	8631LGB	2	2	3:1 to 125:1	3:1 to 350:1
				2	2	3:1 to 125:1	3:1 to 350:1
	868GBA-2	8681GB		3	1	3:1 to 125:1	3:1 to 350:1
			8681LGB	3	1	3:1 to 125:1	3:1 to 350:1
	869GBA-2	8691GB			4		3:1 to 350:1
			8691LGB		4		3:1 to 350:1

HydroMinder

Reservoir and tank dilution solution

When the solution level in a reservoir drops, the HydroMinder's float opens a non-electric, magnetic valve. The flow of water siphons liquid concentrate into the water stream, automatically maintaining the level of ready-to-use solution. (Models are available for maintaining a tank of plain water, too.) When the tank reaches the preset fill level, the HydroMinder shuts off. This mechanism has been working in the field for over 20 years. That's why HydroMinders have become the industry standard for liquid level maintenance.

- Automatic mixing
- Environmentally friendly
- Useful in a variety of applications

Model	Backflow protection	Flow lit./min.	No. of products	Approx. Dilution range H2O:Chem. (3 Bar, 1.0cp)
5061GB	E-gap (DB)	19	1	4:1 to 240:1
502GB		24	0*	
503GB		24	0*	
506GB		15	1	4:1 to 240:1
507GB		16	0*	
511GB	Vacuum breaker (HA)	15	1	4:1 to 240:1
515GB	Vacuum breaker (HA)	9.5	1	1:1 to 100:1
532GB	Vacuum breaker (HA)	2 x 15	2	3:1 to 200:1

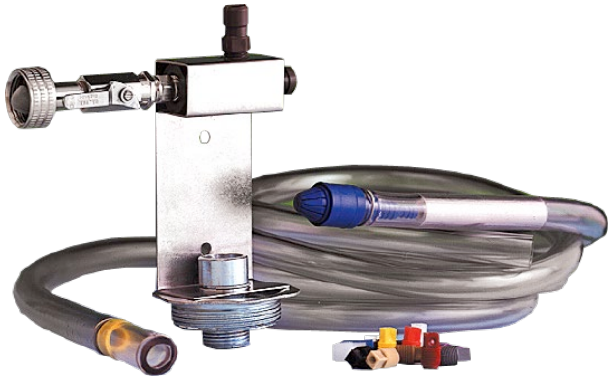
*Only water level maintenance

HydroMaster

Fluid driven proportioner dilutes straight into the water flow

HydroMaster drum or wall mounted proportioners automatically mix liquid cleaning and sanitizing concentrates with water and dispense the diluted solution into any container. Any size container of concentrate can be used with the HydroMaster because there's no need to tip the container to pour the contents. HydroMasters use water power, not electricity, so concentrates don't have to be located near outlets, just within a hose's reach of a water source.

- High quality, chemically resistant materials
- Increased productivity of employees
- Non-electric
- Enhanced safety
- Compact, easy to store
- Maximized cleaning product performance
- More conscientious response to environmental concerns



Model	Flow lit./min.	No. of products	Approx. Dilution range H2O:Chem. (3 Bar, 1.0cp)
206GB	22	1	4:1 to 180:1
208GB	10	1	1:1 to 110:1

SuperDos

Non-Electric, Fluid Driven Proportional Injector

SuperDos operates without electricity to precisely inject liquid concentrates into a water supply line using fluid flow as the power source.

SuperDos is designed with a patented internal mixing chamber that promotes homogeneous mixing, while segregating harsh chemicals from critical internal components.

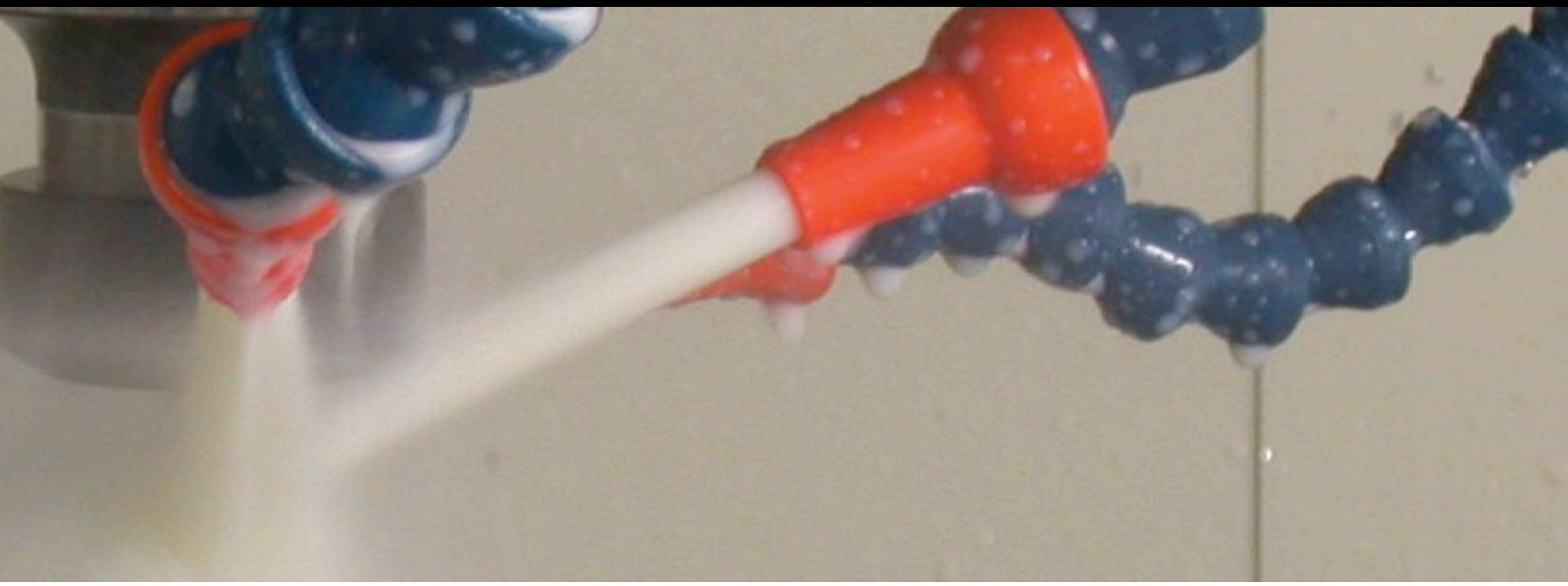
SuperDos comes in various models that easily satisfy the demands of your most challenging applications.

- Proprietary composite body for chemical compatibility and for mixing aggressive chemicals.
- Built-in on/off switch (30 and 45 models only), which allows user to stop the injection — but not the system.
- Separate internal mixing chamber to prevent chemical contact with motor piston — for longer life and uniform mixing.
- Interchangeable lower ends and can adjust ratios while in operation.
- Highly-aggressive, chemical-resistant models available

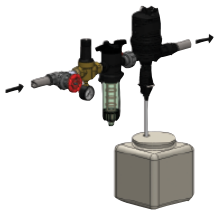
General Specifications

Housing	Proprietary engineered composite material
Average Dosing Accuracy	+/- 10%
Repeatibility	+/-3%
Fluid Maximum Temperature	38ºC
Fluid Minimum Temperature	1ºC
Maximum Vertical Suction of Concentrate	3.6 m
Seal materials available*:	Aflas Viton EPDM Kalrez

*Contact your representative for specific chemical information.

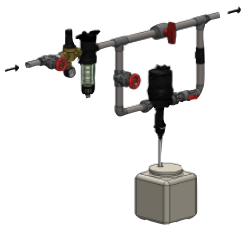


Basic installation



inline installation

dual remote injection installation



bypass installation

Model	Model #	Operating pressure (Bar)	Water Flow (lit./hr)	Dilution %	Ratio
SuperDos 20 0.3%	113728RGB	0.4 - 6.9	11 - 4,500	0.025 - 0.3	1:4000 - 1:333
SuperDos 20 0.3% HAC	113728HAC	0.4 - 6.9	11 - 4,500	0.025 - 0.3	1:4000 - 1:333
SuperDos 20 2.5%	113705GB	0.4 - 6.9	11 - 4,500	0.2 - 2.5	1:500 - 1:40
SuperDos 20 2.5% HAC	113705HAC	0.4 - 6.9	11 - 4,500	0.3 - 2.5	1:300 - 1:40
SuperDos 20 5%	113706GB	0.4 - 6.9	11 - 4,500	0.4 - 5.0	1:250 - 1:20
SuperDos 20 5% HAC	113706HAC	0.4 - 4.5	11 - 4,500	2.0 - 10.0	1:50 - 1:10
SuperDos 20 10%	113707GB	0.4 - 6.9	34 - 6,800	0.025 - 0.3	1:4000 - 1:333
SuperDos 30 0.3% HAC	113729HAC	0.4 - 6.9	34 - 6.800	0.025 - 0.3	1:4000 - 1:333
SuperDos 30 0.3%	113729RGB	0.4 - 6.9	34 - 6.800	0.2 - 2.5	1:500 - 1:40
SuperDos 30 2.5%	113709GB	0.4 - 6.9	34 - 6.800	0.3 - 2.5	1:300 - 1:40
SuperDos 30 2.5% HAC	113709HAC	0.4 - 6.9	34 - 6.800	0.4 - 5.0	1:250 - 1:20
SuperDos 30 5%	113710GB	0.4 - 6.9	57 - 10,000	0.025 - 0.3	1:4000 - 1:333
SuperDos 30 5% HAC	113710HAC	0.4 - 6.9	57 - 10,000	0.025 - 0.3	1:4000 - 1:333
SuperDos 45 0.3% HAC	113730HAC	0.4 - 6.9	57 - 10,000	0.2 - 2.5	1:500 - 1:40
SuperDos 45 0.3%	113730RGB	0.4 - 5.5	57 - 10,000	0.4 - 5.0	1:250 - 1:20
SuperDos 45 2.5%	113712GB	0.4 - 6.9	57 - 10,000	0.2 - 2.5	1:500 - 1:40
SuperDos 45 5%	113715GB	0.4 - 5.5	57 - 10,000	0.4 - 5.0	1:250 - 1:20

- Other models are available

- HAC units are designed to be used with highly aggressive chemicals

MiniDos

Non-Electric, Fluid Driven Proportional Injectors

MiniDos operates without electricity to precisely inject liquid concentrates into a water supply line using fluid flow as the power source.

MiniDos is designed with a patented internal mixing chamber that promotes homogeneous mixing, while segregating harsh chemicals from critical internal components.

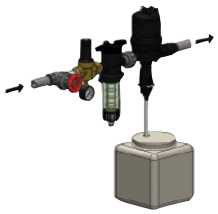
- Propietary composite body, which exceeds PVDF for chemical compatibility and for mixing aggressive chemicals.
- Built-in on/off switch, which allows user to stop the injection, but not the system.
- Separate internal mixing chamber to prevent chemical contact with motor piston, for longer life and uniform mixing.
- Highest standard operating pressure in the industry, minimizing pressure surge damage.

General Specifications

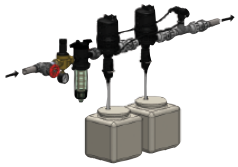
Housing	Proprietary engineered composite material
Average Dosing Accuracy	+/- 5%
Repeatibility	+/-3%
Fluid Maximum Temperature	38ºC
Fluid Minimum Temperature	1ºC
Maximum Vertical Suction of Concentrate	3.6 m
Seal material available*:	Aflas Viton EPDM

*Contact your representative for specific chemical information

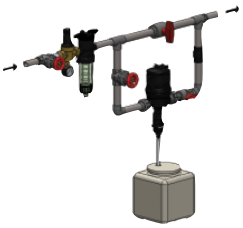
Basic installation



inline installation



dual remote injection installation



bypass installation

Operating principle

Installed directly in the water supply line, the injector operates without electricity, using water pressure as the power source. The water drives the injector, which pulls the required percentage of concentrate directly from the chemical solution container. Inside the patented mixing chamber the concentrate is mixed with the water and the water

pressure forces the mixed solution downstream. The amount of concentrate will be directly proportional to the volume of water entering the injector, regardless of variations in flow or pressure.

				Dilution	
Model	**Model #**	**Operating pressure (Bar)**	**Water Flow (lit./hr.)**	**%**	**Ratio**
MiniDos 0.4%	112609GB	0.5 - 9.6	7 - 2,700	0.025 - 0.4	1:4000 - 1:250
MiniDos 1%	112601GB	0.5 - 9.6	7 - 2,700	0.2 - 1.0	1:500 - 1:100
MiniDos 2.5%	112603GB	0.5 - 9.6	7 - 2,700	0.5 - 2.5	1:200 - 1:40
MiniDos 5%	112605GB	0.5 - 9.6	7 - 2,700	1.0 - 5.0	1:100 - 1:20
MiniDos 10%	112607GB	0.5 - 4.5	16 - 2,200	2.0 - 10.0	1:50 - 1:10
MiniDos 20%	112621GB	0.5 - 4.5	16 - 1,500	4.0 - 20.0	1:25 - 1:5

MicroDos

Non-Electric, Fluid Driven Proportional Injectors

MicroDos offers the widest range of models in the industry with flow rates from 7 l/h to 795 l/h and injection ratios from 0,5% to 10%.

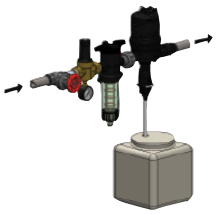
- Proprietary composite body for chemical compatibility and for mixing aggressive chemicals.
- Built-in on/off switch, which allows user to stop the injection—but not the system.
- Separate internal mixing chamber to prevent chemical contact with motor piston—for longer life and uniform mixing.
- Highest standard operating pressure in the industry, minimizing pressure surge damage.

General Specifications

Housing	Proprietary engineered composite material
Average Dosing Accuracy	+/- 5%
Repeatability	+/-3%
Fluid Maximum Temperature	38ºC
Fluid Minimum Temperature	1ºC
Maximum Vertical Suction of Concentrate	3.6 m
Seal material available*:	Aflas Viton EPDM

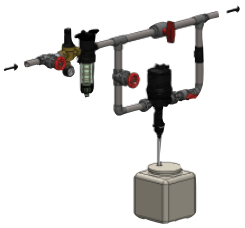
*Contact your representative for specific chemical information

Basic installation



inline installation

dual remote injection installation



bypass installation

Operating principle

Installed directly in the water supply line, the injector operates without electricity, using water pressure as the power source. The water drives the injector, which pulls the required percentage of concentrate directly from the chemical solution container. Inside the patented mixing chamber the concentrate is mixed with the water and the water

pressure forces the mixed solution downstream. The amount of concentrate will be directly proportional to the volume of water entering the injector, regardless of variations in flow or pressure.

				Dilution	
Model	**Model #**	**Operating pressure (Bar)**	**Water Flow (lit./hr.)**	**%**	**Ratio**
MicroDos 2%	116381GB	0.5 - 6.9	7 - 795	0.5 - 2.0	1:200 - 1:50
MicroDos 5%	116383GB	0.5 - 6.9	7 - 795	2.0 - 5.0	1:50 - 1:20
MicroDos 2% Fixed	116382GB	0.5 - 6.9	7 - 795	2.00	1:50
MicroDos 10% Fixed	116385GB	0.5 - 4.5	7 - 795	10.00	1:10

Office Locations

Hydro Systems Company
3798 Round Bottom Road
Cincinnati
OH 45244
U.S.A.
T 513-271-8800
F 513-271-0160
www.hydrosystemsco.com

Hydro Systems Europe
Unit 3, The Sterling Centre
Eastern Road
Bracknell, Berkshire
RG12 2PW
England
T +44 (0)1344 488880
F +44 (0)1344 488879
www.hydrosystemseurope.com

Hydro Systems Europe
13bis avenue Descartes
C33370 Artigues-pres-Bordeaux
France
T +33 557 97 13 13
F +33 577 97 10 19

Hydro Systems South America
Rua Mogiana, 172
Chácaras Reunidas
São José Dos Campos
12238-420SP
Brasil
T +55 12 3201 7707
www.hydronovabrasil.com

Hydro Systems Asia Pacific
Unit A, 1 Kellham Place
Glendenning
NSW 2761
Australia
T +612 9625 8122
F +612 9625 8177

Hydro Systems Asia Pacific
Block #B, No. 51
Mindong Road
Pudong New Area
Shanghai, PRC 201209
T +86 21 61871037
F +86 21 68727775

Dover Southeast Asia (Thailand)
762/2 , A Building, Room A540,
Rama 3 Road,
Bang Pong Pang, Yannawa,
Bangkok 10120, Thailand
T +66 2 295 2788
F +66 2 295 2785