



# Hydraulic equipments

for waste water  
and/or storm water  
networks

Flow  
regulation



Penstocks



# Techneau

## A competence centre at your service

Demonstration of our involvement in sailing sports: The Class 40 Techneau sailing boat has participated in the famous transatlantic solo race "Route du Rhum 2010".



Located in Normandy, on an industrial site of 8 hectares, Techneau has developed internally all skills for design, development, manufacture and commercialization of its products.

**In 1991 the Techneau adventure began focusing on the creation and development of innovative products designed for the water pre-treatment and the water pumping.**

**In 1998, Techneau created the Plasteau company in order to jointly develop the production of rotomoulded single-piece polyethylene hollow tanks.**

Specialized in the production of single-piece hollow bodies of large volume dedicated to the management and reclamation of rain water for the industry sector and local communities, Plasteau is equipped with 4 machines **able to produce spheres of up to dia. 3.5 m.**

## Recognised industrial expertise

**The industrial boiler manufacturer, Chaudreau, was created in 2001.** This allowed Techneau to industrialize its production tool, while keeping flexibility on customization. Chaudreau is continuing its development to become within 12 years a major and well-known actor in the production of:

- moulds for plastic and polyester industries,
- hydraulic equipment (penstocks and flow controllers),
- units for water pre-treatment and treatment,
- floor equipment (manhole covers, stainless steel siphons and gutters)

**The production site represents 4130 m<sup>2</sup> and total surface of offices + annexes is 310 m<sup>2</sup>. The production unit is composed of:**

- 1 plasma cutting bench of 2 x 4 m,
- 3 folding presses, 2 shearing machines, 2 rolling machines,
- 1 automated production line,
- 1 painting tunnel,
- 1 second painting area of 80 m<sup>2</sup>



Industrial boiler making



Bi-component coating application unit

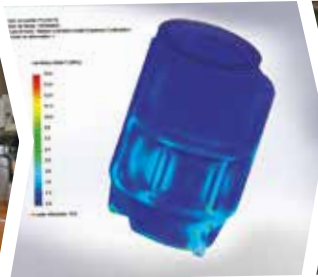




## Research & Development department Inventing tomorrow's products...

Our Research and Development department is composed of 15 technicians and engineers in charge of **studying your needs and anticipating tomorrow's products.**

The Quality unit tests and validates each product before its commercialisation.



## A Sales Department as close as possible to meet your expectations

**12 area managers together with 7 sedentary technical salesmen** are available to study and propose the most relevant technical solutions for your projects and jobsites.

With **more than 25,000 technical offers per year**, Techneau remains close to its initial commitment: guarantee you a precise **customized study within a 24 to 48 hours** deadline.



Sales Department  
for mainland France

Tel. : **+33 2 33 56 62 08**

Sales Department  
for EXPORT

Tel. : **+33 2 33 56 66 43**

## A large stock at your disposal for an even more efficient responsiveness...

**70 references, representing more than 350 units**, are always on stock ready to be dispatched on the very same day as your order.

Polyester workshop



Assembly of the STAR1000 pumping stations





**Techneau,**  
Design, manufacture and sales :  
all our skills gathered in a single site  
in Normandy



French  
manufacture  
for worldwide  
delivery



*Polyester  
workshop*



*Filament winding*



**Techneau**



*Boiler  
workshop*



**80,000m<sup>2</sup> of storage capacity**  
Tests area and logistic solutions



*Polyethylene  
workshop*

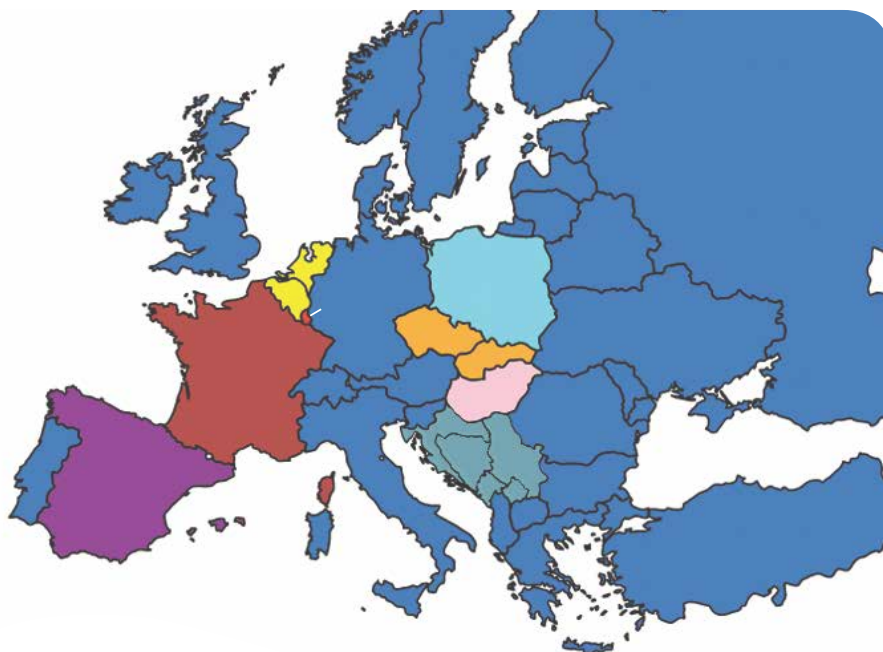
**Office sales department**







Export department on the field



Maintenance department



+33 233 77 21 19  
[maintenance@techneau.fr](mailto:maintenance@techneau.fr)

Floor equipments Department



## Why is it necessary to regulate the flow?

The increasing urbanisation associated to a huge rise of the rainfall intensities create an important influx of water in the unitary or separate networks.

**The consequences are numerous and various but we can particularly note:**

- **A premature wear of the pipes.**
- **Important flow speeds that can saturate networks and then generate floods.**
- **Damages for treatment factories and pumping units.**

In order to effectively cope with this phenomenon, it is now necessary to regulate upstream and downstream of the networks to protect the critical areas. **The Water Act, article n°92-3 dated 3rd January 1992** in particular requires to:

- **Control the rain water and run-off waters.**
- **Protect against flooding.**
- **Fight against pollution.**

Through all its range, Techneau can propose an array of solutions for:

- **The regulation of flow**
- **The sectioning of the networks.**
- **The confinement of the pumping stations and water treatment works.**

In the context of the regulation of water, **several parameters must be taken into consideration:**

- **The consistency of the leakage rate.**  
The leaflet 77-284 (the technical instruction for urban areas sewage networks) reminds that a flow can be considered as "constant if it doesn't vary by more than 10% according to the water height.
- **The admission surface of the incoming flow**  
With similar flow and water height, a traditional nozzle (for ex. a hose) will have an admission surface 2 or 3 times lower than a flow regulator or controller. This will thus multiply the risks of clogging and consequently floods.
- **The maintenance of the device.**  
Devices with moving parts must be prohibited in sewage networks.

## Why do these regulation elements must be tailor-made?

The dimensioning of a flow controller depends on the following parameters:

- **Diameter and slope of the downstream canalisation,**
- **Maximal water height in the device,**
- **Expected leakage rate.**

To establish our range of products and to make a price list, we have chosen to quote the water height by steps of 0.5m. But, during the jobsite phase this method is not sufficient enough and generates important differences in the leakage rate if the product is not adapted to the site statements.

On average, a more or less 0.5m approximation of the water height will generate an error of more or less 12% of the leakage rate.



That is why Techneau has set up a precise identification of the technical parameters when the order is validated.





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## The penstocks



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## > HydroRégul – Storm water

Our range of flow regulators, HydroRégul, can provide a constant leakage rate (variation of the flow +/- 10% for water heights from 0.4 to 3 meters. It can regulate flow rates from 4 to 360 l/s and can be installed on outlets with cross-section from 100 to 500 mm.

### How it works?

The combination float-arm is connected to a regulation plate whose kinetic is defined by the flow to regulate and the maximal water height present. This plate is connected together with the guillotine that reduces or increases the outlet according to the water height.

## > HydroVortex – Storm water, slight or heavy waste water.

Our range of flow controllers, Hydrovortex, can provide a constant leakage rate according to a given water height between 0.4 and 6 meters. It can control flow rates from 0.50 to 500 l/s and can be installed on outlets with cross-section from 100 to 600 mm.

### How it works?

This device operates on the hydraulic Vortex principle: an increase of the rotating speed in the regulation cone creates a load loss that in turn causes a reduction of the hydraulic cross-section.

## > HydroSeuil and overflow storm chambers

Our range of regulation chambers and overflow storm chambers enables to control flows directed to the treatment network in order to ensure its efficiency.

Associated with a LT-US-type autonomous self-monitoring remote-control device, the plant can also record the by-passed and treated flows. These elements can be useful for the reporting and maintenance of the network.

## > HydroLeap

The HydroLeap is a regulation device for unitary network perfectly adapted for renovation.

## > Penstocks

Our range of penstocks, HydroVE, HydroVM and HydroVL enables to ensure the sectioning of the network and to guarantee a perfect upstream or downstream watertightness. Our penstocks are available from Dn 0150 to Dn 1200.



# The benefits resulting from them

## The HydroRégul

- > +/- 10% variation of the flow.
- > Reduces the volume of a basin by 30% compared to a nozzle.
- > Reduces the risk of clogging with variable outlet cross-section.



## The HydroVortex

- > No moving parts.
- > Can work in storm water as well as in waste water.
- > Reduces the risk of clogging with an inlet cross-section 2 to 3 times superior to a nozzle.



## The Regulation Chamber

- > No moving parts.
- > Controls of the flows through the treatment unit and the by-pass.
- > Protects the treatment device.



## The penstock

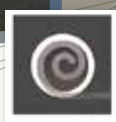
Isolates a device **upstream and downstream** of installations such as:

- > Pumping station
- > Regulation chamber
- > Retention basins, etc.









## Flow regulation



**Selection tables** \_\_\_\_\_ p.12-13

### HydroRégul-type flow regulators

with front arm, **RDM or RDF** models \_\_\_\_\_ p.14-15

with side arm, **RDL or RDT** models \_\_\_\_\_ p.16-17

### HydroVortex-type flow controllers

fixed, installation on flange in wet area **V2UH** model \_\_\_\_\_ p.18-19

fixed, installation on flange in dry area **V2US** model \_\_\_\_\_ p.20-21

removable, installation on support in wet area **V2PH** model \_\_\_\_\_ p.22-23

### HydroSeuil stormwater overflows

regulation chamber with labyrinth-type calibrated threshold, **SLE** model \_\_\_\_\_ p.24-25

overflow storm chamber for unitary network, **RDO** model \_\_\_\_\_ p.26

### HydroLeap stormwater overflows

flow controllers with threshold for unitary network, **LW** model \_\_\_\_\_ p.27

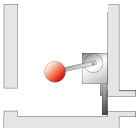
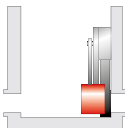
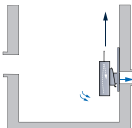
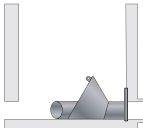
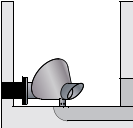
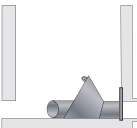
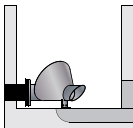




# HydroRégul & HydroVortex

## Selection of the model

The good control of the intense rainy conditions consists to store the volumes upstream in order to release them progressively towards the natural environment or the networks.

Effluent	Stormwater					Combined or stormwater	
Flow	Regulated		Controlled			Regulated	
Range	HydroRégul		HydroVortex			HydroVortex	
Installation	Wet		Wet		Dry	Wet	Dry
Flow range	4 - 360		0.5 - 20	5 - 500	1 - 350	5 - 500	1 - 350
Configuration	FRONT arm	SIDE arm	REMOVABLE on support	FIXED on flange	FIXED on flange	FIXED on flange	FIXED on flange
Model							
	RDM or RDF	RDL or RDT	V2PH	V2UH	V2US	V2UH	V2US

## Selection of the reference

A flow regulator is determined in accordance with the leakage rate and the maximum water height in the device. With the tables below, you will be able to select directly the reference you need by crossing the notions of flow rate and water height.

### For example:

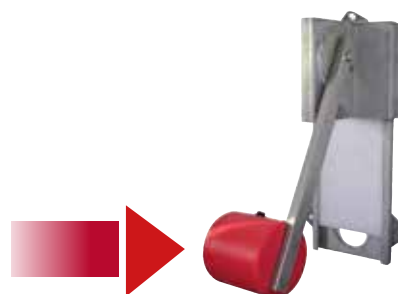
The RDM model is needed for the jobsite.

The leakage rate requested is 5 l/s with a maximum water height of 1.5 m .

1.5 m is comprised between 4 and 9 l/s, the reference will then be:

RDM1015

Leakage rate		4 to 9 l/s	10 to 24 l/s	25 to 39 l/s
Water height	Reference			
1.0 m		1010	1510	2010
1.5 m	RDM or RDL	1015	1515	2015
2.0 m		1020	1520	2020





## Selection tables

### > RDM or RDF / RDL or RDT models

Leakage rate ▶		4 to 9 l/s	10 to 24 l/s	25 to 39 l/s	40 to 55 l/s	56 to 90 l/s	91 to 140 l/s
Water height	Reference						
1.0 m	RDM or RDL	1010	1510	2010	2510	3010	3510
1.5 m		1015	1515	2015	2515	3015	3515
2.0 m		1020	1520	2020	2520	3020	3520
2.5 m		1025	1525	2025	2525	3025	3525
3.0 m		1030	1530	2030	2530	3030	3530

### Storm water

	141 to 200 l/s	201 to 275 l/s	276 to 360 l/s
RDF or RDT	4010	-	-
	4015	4515	5015
	4020	4520	5020
	4025	4525	5025
	4030	4530	5030

### > V2PH models

Leakage rate ▶		0.5 to 1 l/s	1.1 to 2 l/s	2.1 to 3 l/s	3.1 to 4 l/s	4.1 to 6 l/s	6.1 to 8 l/s	8.1 to 10 l/s	10.1 to 12 l/s	12.1 to 14 l/s	14.1 to 16 l/s	16.1 to 20 l/s
Water height	Reference											
0.5 to 1.0 m	V2PH	00110	00210	00310	00410	00610	00810	01010	01210	01410	-	-
1.5 m		00115	00215	00315	00415	00615	00815	01015	01215	01415	01615	02015
2.0 m		00120	00220	00320	00420	00620	00820	01020	01220	01420	01620	02020
2.5 m		00125	00225	00325	00425	00625	00825	01025	01225	01425	01625	02025
3.0 m		-	-	00330	00430	00630	00830	01030	01230	01430	01630	02030

### Storm water

### > V2US or V2UH models

Leakage rate ▶		1 to 3 l/s	3.1 to 5 l/s	5.1 to 10 l/s	10.1 to 15 l/s	15.1 to 20 l/s	20.1 to 30 l/s	30.1 to 40 l/s	40.1 to 50 l/s	50.1 to 60 l/s	60.1 to 80 l/s
Water height	Reference										
0.5 to 1.0 m	V2US or V2UH	00310	00510	01010	01510	02010	03010	04010	-	-	-
1.5 m		00315	00515	01015	01515	02015	03015	04015	05015	06015	08015
2.0 m		00320	00520	01020	01520	02020	03020	04020	05020	06020	08020
2.5 m		00325	00525	01025	01525	02025	03025	04025	05025	06025	08025
3.0 m		-	-	-	01530	02030	03030	04030	05030	06030	08030

### Storm water and/or waste water

Non-contractual texts, dimensions, photos and schemes



# HydroRégul flow regulator with front arm, RDM or RDF models

For pre-treated light  
waste water & storm water

## Description

The HYDROREGUL flow regulator is an equipment with front arm. It is made of:

- A stainless steel (A2) frame with drilled holes for wall mounting and lifting rings.
- A stainless steel front arm with a float at the end which operates a regulation plate.
- RDM model, Dn 100 to Dn 350: removable regulation plate and float in polyethylene.
- RDF model, Dn 400 to Dn 500: removable regulation plate and float in stainless steel (A2).
- Supplied with mounting kit.

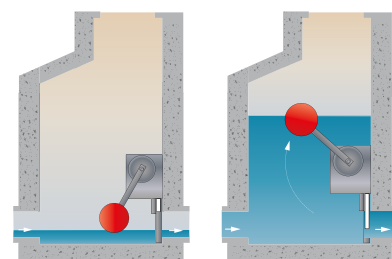


Manufacturing in  
stainless steel (A4)  
on request

## How it works?

The combination float-arm is connected to a regulation plate whose kinetic is defined by the flow to regulate and the maximal water height present.

This plate is connected together with the guillotine that reduces or increases the outlet according to the water height.



## Advantages

- Constant leakage rate provided with a variation of  $\pm 10\%$  on the complete water height.
- Evolving target rate once the regulator is installed (possible change of the regulation plate, please contact our design office).
- Device created and manufactured with materials resistant to corrosion.
- Low lateral dimensions.

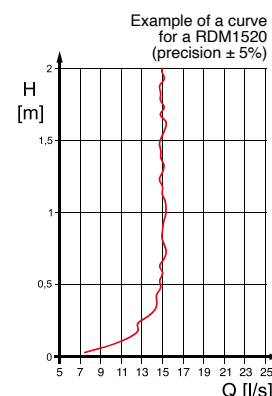
## Options

Flow regulators can be manufactured with a block valve directly manoeuvrable with a rod in order to isolate the device downstream.

The references of these models will have the letter **V** at the end.

1 **Shutter valve, V model**, with guillotine in polyethylene equipped with a stainless steel (A2) operating rod.

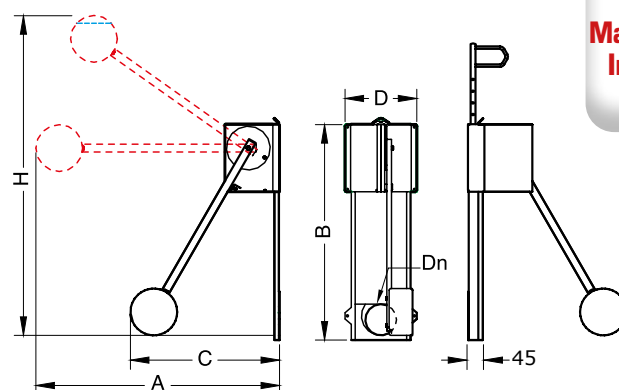
2 **Adaptation plate, ARD model**, to install the regulator in a hole with different Dn.



Reference	ARD1030	ARD1530	ARD2040	ARD2540	ARD3050	ARD3550
Dn of the regulator	100	150	200	250	300	350
Dn of the civil works	$150 \leq Dn \leq 300$	$200 \leq DN \leq 300$	$250 \leq DN \leq 400$	$300 \leq DN \leq 400$	$350 \leq DN \leq 500$	$400 \leq DN \leq 500$



## The dimensions



RDM / RDMV	Leakage rate	Water height	Dn	A	B	C	D	H	Weight RDM	Weight RDMV
1010	4 to 9 l/s	1.0 m	100	837	750	549	360	1130	28	34
1015		1.5 m		1050	1050	722		1630	33.6	39.6
1020		2.0 m		1530	1350	895		2130	38.2	44.2
1025		2.5 m		1877	1650	1068		2630	43.5	59.5
1030		3.0 m		2223	1950	1241		3130	47.5	53.5
1510	10 to 24 l/s	1.0 m	150	837	750	549	360	1080	28	34
1515		1.5 m		1050	1050	722		1580	33.6	39.6
1520		2.0 m		1530	1350	895		2080	38.2	44.2
1525		2.5 m		1877	1650	1068		2580	43.5	49.5
1530		3.0 m		2223	1950	1241		3080	47.5	53.5
2010	25 to 39 l/s	1.0 m	200	870	780	606	440	1130	39.1	46.1
2015		1.5 m		1216	1080	783		1630	45.5	52.5
2020		2.0 m		1562	1380	956		2130	51.8	58.8
2025		2.5 m		1909	1680	1129		2630	58.3	65.3
2030		3.0 m		2255	1980	1303		3130	63.3	70.3
2510	40 to 55 l/s	1.0 m	250	870	780	606	440	1080	39.1	46.1
2515		1.5 m		1216	1080	783		1580	45.5	52.5
2520		2.0 m		1562	1380	956		2080	51.8	58.8
2525		2.5 m		1909	1680	1129		2580	58.3	65.3
2530		3.0 m		2255	1980	1303		3080	63.3	70.3
3010	56 to 90 l/s	1.0 m	300	1030	930	930	560	1130	55	69
3015		1.5 m		1238	1110	1110		1630	59.7	73.7
3020		2.0 m		1585	1410	1410		2130	67	81
3025		2.5 m		1931	1710	1710		2630	74	88
3030		3.0 m		2278	2010	2010		3130	83.1	97.1
3510	91 to 140 l/s	1.0 m	350	1030	930	930	560	1080	55	69
3515		1.5 m		1238	1110	1110		1580	59.7	73.7
3520		2.0 m		1585	1410	1410		2080	67	81
3525		2.5 m		1931	1710	1710		2580	74	88
3530		3.0 m		2278	2010	2010		3080	83.1	97.1
RDF / RDFV	Leakage rate	Water height	Dn	A	B	C	D	H	Weight RDF	Weight RDFV
4010	141 to 200 l/s	1.0 m	400	980	820	875	630	1080	98	114
4015		1.5 m		1330	1120	962		1580	99	115
4020		2.0 m		1680	1420	1164		2080	116	132
4025		2.5 m		2017	1720	1224		2580	124.5	140.5
4030		3.0 m		2364	2020	1404		3080	141.4	157.4
4515	201 to 275 l/s	1.5 m	450	1321	1120	910	680	1580	98	132
4520		2.0 m		1667	1420	1296		2080	117	151
4525		2.5 m		2013	1720	1296		2580	149	183
4530		3.0 m		2360	2020	1416		3080	149	183
5015	276 to 360 l/s	1.5 m	500	1317	1120	1116	730	1580	99	135
5020		2.0 m		1663	1420	1308		2080	124	160
5025		2.5 m		2010	1720	1260		2580	140	176
5030		3.0 m		2356	2020	1428		3080	162	198

Dimensions in mm, weights in kg

For flows > 360 l/s and water heights > 3 m,  
please consult our design department.





# HydroRégul flow regulator

With side arm, RDL or RDT models

## Description

The HydroRégul flow regulator is an equipment with side arm. It is composed of:

- A stainless steel (A2) frame with drilled holes for wall mounting and lifting rings.
- A stainless steel side arm with a float at the end which operates a regulation plate.
- RDL model, Dn 100 to Dn 350: removable regulation plate and float in polyethylene.
- RDT model, Dn 400 to Dn 500: removable regulation plate and float in stainless steel (A2).
- Supplied with Mounting kit.

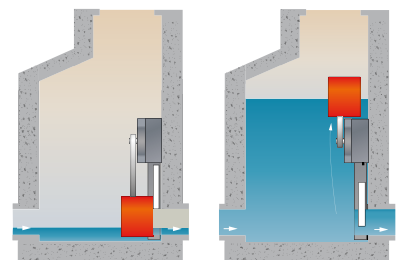


Manufacturing in  
stainless steel (A4)  
on request

## How it works?

The combination float-arm is connected to a regulation plate whose kinetic is defined by the flow to regulate and the maximal water height present.

This plate is connected together with the guillotine that reduces or increases the outlet according to the water height.



## Advantages

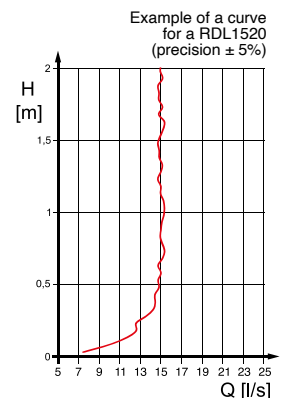
- Constant leakage rate provided with a variation of +/- 10% on the complete water height.
- Evolving target rate once the regulator is installed (possible change of the regulation plate, please consult our design office).
- Device created and manufactured with materials resistant to corrosion.
- Low lateral dimensions.

## Options

Flow regulators can be manufactured with a block valve directly manoeuvrable with a rod in order to isolate the device downstream.

The references of these models will have the letter **V** at the end.

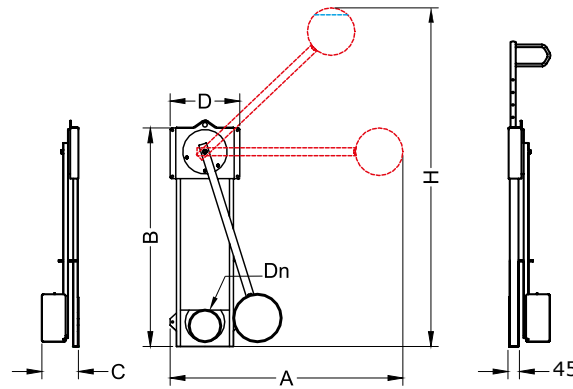
- **Shutter valve, V model**, with guillotine in polyethylene equipped **1** with a stainless steel (A2) operating rod.
- **Adaptation plate, ARD model**, to install the regulator **2** in a hole with different Dn.



Reference	ARD1030	ARD1530	ARD2040	ARD2540	ARD3050	ARD3550
Dn of the regulator	100	150	200	250	300	350
Dn of the civil works	$150 \leq Dn \leq 300$	$200 \leq DN \leq 300$	$250 \leq DN \leq 400$	$300 \leq DN \leq 400$	$350 \leq DN \leq 500$	$400 \leq DN \leq 500$



## The dimensions



RDL / RDLV	Leakage rate	Water height	Dn	A	B	C	D	H	Weight RDL	Weight RDLV
1010	4 to 9 l/s	1.0 m	100	835	750	281	360	1130	19.7	25.7
1015		1.5 m		1115	1050			1630	25.2	31.2
1020		2.0 m		1406	1350			2130	30.1	36.1
1025		2.5 m		1700	1650			2630	35.1	41.1
1030		3.0 m		1997	1950			3130	40.6	46.6
1510	10 to 24 l/s	1.0 m	150	835	750	281	360	1080	19.7	25.7
1515		1.5 m		1115	1050			1580	25.2	31.2
1520		2.0 m		1406	1350			2080	30.1	36.1
1525		2.5 m		1700	1650			2580	35.1	41.1
1530		3.0 m		1997	1950			3080	40.6	46.6
2010	25 to 39 l/s	1.0 m	200	928	780	231	440	1130	26	33
2015		1.5 m		1189	1080			1630	32.4	39.4
2020		2.0 m		1471	1380			2130	38.4	45.4
2025		2.5 m		1760	1680			2630	44.6	51.6
2030		3.0 m		2053	1980			3130	50.5	57.5
2510	40 to 55 l/s	1.0 m	250	928	780	231	440	1080	26	33
2515		1.5 m		1189	1080			1580	32.4	39.4
2520		2.0 m		1471	1380			2080	38.4	45.4
2525		2.5 m		1760	1680			2580	44.6	51.6
2530		3.0 m		2053	1980			3080	50.5	57.5
3010	56 to 90 l/s	1.0 m	300	1161	930	216	560	1130	38.1	49.1
3015		1.5 m		1307	1110			1630	43.2	54.2
3020		2.0 m		1572	1410			2130	50.9	61.9
3025		2.5 m		1852	1710			2630	58.5	69.5
3030		3.0 m		2139	2010			3130	64	75
3510	91 to 140 l/s	1.0 m	350	1161	930	216	560	1080	38.1	49.1
3515		1.5 m		1307	1110			1580	43.2	54.2
3520		2.0 m		1572	1410			2080	50.9	61.9
3525		2.5 m		1852	1710			2580	58.5	69.5
3530		3.0 m		2139	2010			3080	60	75
RDT / RDTV	Leakage rate	Water height	Dn	A	B	C	D	H	Weight RDT	Weight RDTV
4010	141 to 200 l/s	1.0 m	400	1285	940	261	670	1080	68	84
4015		1.5 m		1418	1070			1580	69	85
4020		2.0 m		1670	1390			2080	85	101
4025		2.5 m		1941	1691			2580	103.5	120
4030		3.0 m		2222	1940			3080	122	138
4515	201 to 275 l/s	1.5 m	450	1481	1169	250	680	1550	103	137
4520		2.0 m		1723	1470			2050	113	147
4525		2.5 m		1981	1769			2550	116	150
4530		3.0 m		2265	2069			3050	124	158
5015	276 to 360 l/s	1.5 m	500	1538	1169	212	800	1550	108	144
5020		2.0 m		1755	1421			2050	131	167
5025		2.5 m		2059	1720			2550	149	185
5030		3.0 m		2331	2020			3050	168	204

Dimensions in mm, weights in kg

For flows > 360 l/s and water heights > 3 m,  
please consult our design department.



# HydroVortex flow controller

Fixed, installation on flange, in wet area, V2UH model

For pre-treated  
waste water & storm water



Manufacturing in  
stainless steel (A4)  
on request

## Description

The HydroVortex flow controller is an equipment which controls the flow. It is composed of:

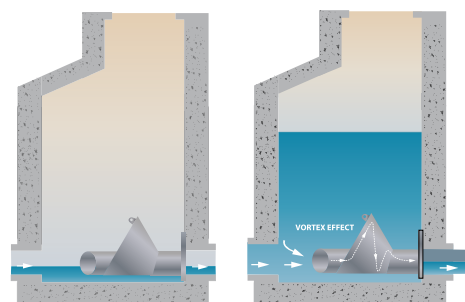
- A **vortex control** chamber.
- A straight wall mounting bracket (option: curved bracket ref. **V2P15**).
- A lifting ring at the upper part of the cone.
- A connection sleeve to enable an air intake of the cone (option **OL1000**).
- Supplied with mounting kit.

## How it works?

This controller operates on the principle of the vortex effect, triggered upstream by the hydrostatic pressure (water height) and the cone of regulation.

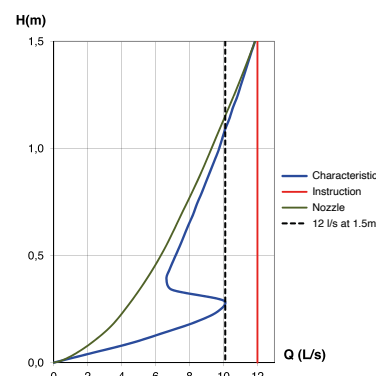
This one, full of air, generates the creation of the vortex effect and reduces momentarily the hydraulic section of the outlet cross-section.

V2UH model has to be installed in a **wet zone**.



## Advantages

- No moving parts.
- Can work in storm water as well as in waste water.
- Reduces the risk of clogging with an inlet cross-section 2 to 3 times superior to a nozzle.
- Device created and manufactured with materials resistant to corrosion.

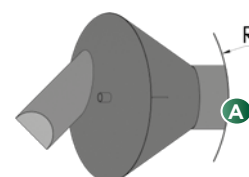


## Options

### A Curved plate reference V2P15

This option enables to install the V2UH-type flow controller in a **cylindrical chamber**.

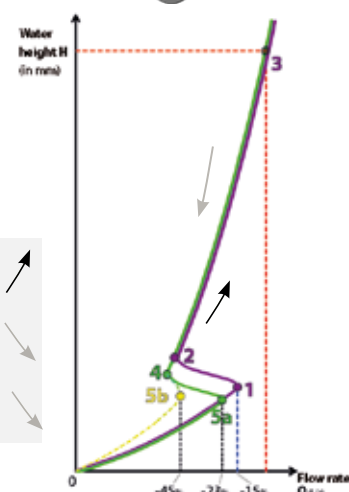
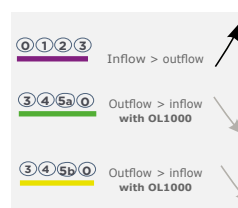
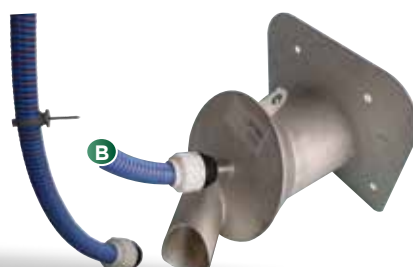
**R rating** must be precised when the unit is ordered.



### B The loss of the vortex effect OL1000

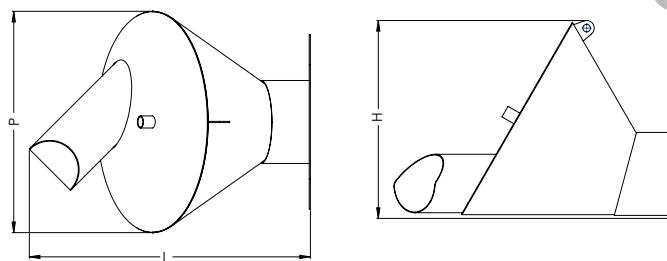
This option enables to break the vortex effect in order to restore rapidly a free water flow.

The OL1000 is supplied with a 3 ml pipe.





## The dimensions



V2UH	Leakage rate	Water height	L	P	H	Dn mini network	Weight
V2UH00310	1 to 3 l/s	0.5 à 1.0 m	354	262	237	150	5.5
V2UH00315		1.5 m	367	277	250	150	5.8
V2UH00320		2.0 m	381	289	261	150	6
V2UH00325		2.5 m	391	299	269	150	6.3
V2UH00510	3.1 to 5 l/s	0.5 à 1.0 m	406	303	273	150	6.4
V2UH00515		1.5 m	424	322	289	150	6.8
V2UH00520		2.0 m	440	336	301	150	7.2
V2UH00525		2.5 m	464	357	323	150	7.8
V2UH01010	5.1 to 10 l/s	0.5 à 1.0 m	495	371	332	150	8.2
V2UH01015		1.5 m	518	394	351	150	8.8
V2UH01020		2.0 m	535	411	366	150	9.3
V2UH01025		2.5 m	549	424	377	150	9.8
V2UH01510	10.1 to 15 l/s	0.5 à 1.0 m	557	418	372	150	9.5
V2UH01515		1.5 m	582	443	394	150	10.4
V2UH01520		2.0 m	601	462	410	150	11
V2UH01525		2.5 m	617	477	423	150	11.6
V2UH01530		3.0 m	630	490	435	150	12
V2UH02010	15.1 to 20 l/s	0.5 à 1.0 m	593	454	403	200	12.6
V2UH02015		1.5 m	633	482	427	150	11.7
V2UH02020		2.0 m	654	503	445	150	12.5
V2UH02025		2.5 m	671	519	460	150	13.1
V2UH02030		3.0 m	685	533	472	150	13.7
V2UH03010	20.1 to 30 l/s	0.5 à 1.0 m	655	511	453	250	14.8
V2UH03015		1.5 m	700	542	480	200	15.9
V2UH03020		2.0 m	723	565	500	200	17
V2UH03025		2.5 m	742	584	516	200	17.8
V2UH03030		3.0 m	758	600	529	200	18.5
V2UH04010	30.1 to 40 l/s	0.5 à 1.0 m	716	556	491	250	16.5
V2UH04015		1.5 m	748	590	521	250	18.1
V2UH04020		2.0 m	788	615	542	250	19.1
V2UH04025		2.5 m	809	635	560	200	20.1
V2UH04030		3.0 m	826	652	575	200	21
V2UH05015	40.1 to 50 l/s	1.5 m	802	629	555	300	19.8
V2UH05020		2.0 m	828	656	578	250	21.2
V2UH05025		2.5 m	849	678	597	250	22.3
V2UH05030		3.0 m	883	696	613	250	23.2
V2UH06015	50.1 to 60 l/s	1.5 m	835	663	585	300	22.8
V2UH06020		2.0 m	875	692	609	300	23
V2UH06025		2.5 m	898	715	629	250	24.3
V2UH06030		3.0 m	917	734	646	250	25.3
V2UH08015	60.1 to 80 l/s	1.5 m	918	721	635	350	27
V2UH08020		2.0 m	944	752	661	300	28.6
V2UH08025		2.5 m	968	777	683	300	30
V2UH08030		3.0 m	988	798	701	300	31.4

Dimensions in mm, weights in kg



For flows > 80 l/s and water heights > 3 m,  
please consult our design department.



# HydroVortex flow controller

Fixed, installation on flange, in dry area, V2US model

For pre-treated  
waste water & storm water

## > Description

The HydroVortex flow controller is an equipment which controls the flow. It is composed of:

- A **vortex control** chamber.
- A connection flange.
- A lifting ring at the upper part of the cone.
- A connection sleeve to enable an air intake of the cone (option: **OL1000**).
- Supplied with mounting kit.



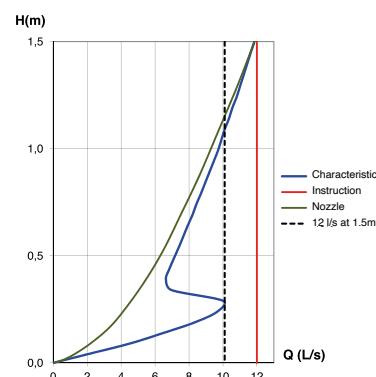
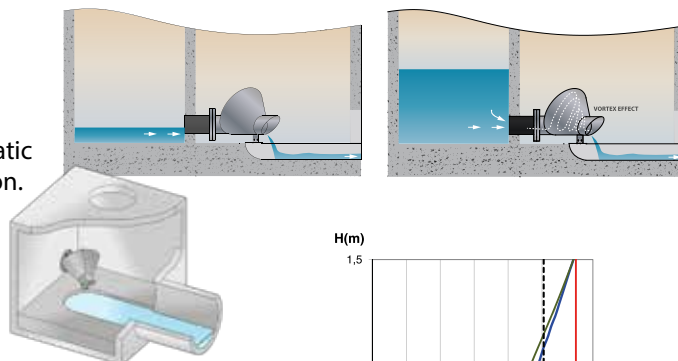
Manufacturing in  
stainless steel (A4)  
on request

## > How it works?

This controller operates on the principle of the vortex effect, triggered upstream by the hydrostatic pressure (water height) and the cone of regulation.

This one, full of air, generates the creation of the vortex effect and reduces momentarily the hydraulic section of the outlet cross-section.

V2US model has to be installed in a **dry zone**



## > Advantages

- No moving parts.
- Can work in storm water as well as in waste water.
- Reduces the risk of clogging with an inlet cross-section 2 to 3 times superior to a nozzle.
- Installation in a dry zone to facilitate maintenance operations.
- Device created and manufactured with materials resistant to corrosion.

## > Options

**Concerning the mounting kits below, it is possible to add a shutter valve (see next page for more information).**

### • Mounting plate ref **K1VR....A**

Manufactured in galvanized steel with a flange that enables the connection of a V2US flow controller.

### • By-pass kit ref **K2VR....A (A + B)**

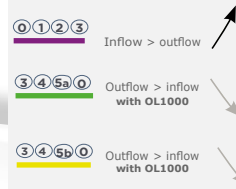
Composed of a galvanized steel mounting plate with a double flange and a PVC pipe.

### • Mounting kit ref **KVR....A**

This kit enables to install a by-pass in a V2US flow controller (K1VR...A + K2VR...A)

### • The loss of the vortex effect: **OL1000**

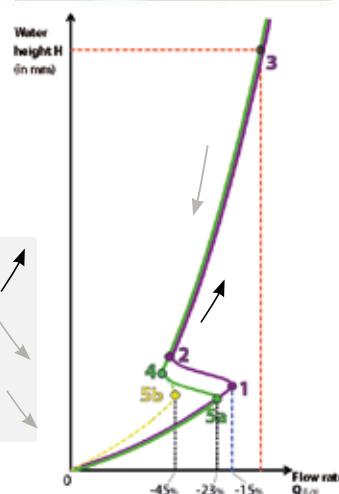
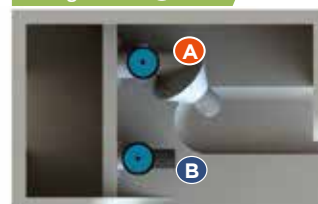
This option enables to break the vortex effect in order to restore rapidly a free water flow. The OL1000 is supplied with a 3 ml pipe.



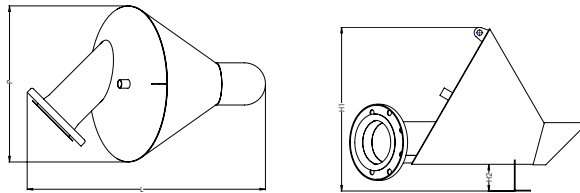
### Configuration ① K1VR



### Configuration ② KVR



## The dimensions



V2UH	Leakage rate	Water height	L	P	H1	H2	Weight
V2US00310	1 to 3 l/s	0.5 à 1.0 m	474	262	313	80	4.6
V2US00315		1.5 m	464	277	327		4.8
V2US00320		2.0 m	476	289	337		5.1
V2US00325		2.5 m	485	299	345		5.3
V2US00510	3.1 to 5 l/s	0.5 à 1.0 m	494	303	349		5.5
V2US00515		1.5 m	523	322	365		5.9
V2US00520		2.0 m	536	336	377		6.2
V2US00525		2.5 m	549	347	387		6.5
V2US01010	5.1 to 10 l/s	0.5 à 1.0 m	599	371	408		8
V2US01015		1.5 m	626	394	428		8.3
V2US01020		2.0 m	642	411	442		8.8
V2US01025		2.5 m	655	424	454		9.2
V2US01510	10.1 to 15 l/s	0.5 à 1.0 m	664	418	449		9.6
V2US01515		1.5 m	705	443	470		10.4
V2US01520		2.0 m	726	462	487		11
V2US01525		2.5 m	725	477	500		11.1
V2US01530		3.0 m	737	490	511		11.5
V2US02010	15.1 to 20 l/s	0.5 à 1.0 m	728	454	480		11.4
V2US02015		1.5 m	766	482	504		12.4
V2US02020		2.0 m	781	503	522		12.7
V2US02025		2.5 m	795	519	536		13.2
V2US02030		3.0 m	805	533	548		13.7
V2US03010	20.1 to 30 l/s	0.5 à 1.0 m	825	511	549	100	14.9
V2US03015		1.5 m	905	542	576		16.6
V2US03020		2.0 m	878	565	596		16.2
V2US03025		2.5 m	894	584	613		16.9
V2US03030		3.0 m	909	600	626		17.5
V2US04010	30.1 to 40 l/s	0.5 à 1.0 m	889	556	588		17
V2US04015		1.5 m	947	590	617		18.6
V2US04020		2.0 m	968	615	639		19.6
V2US04025		2.5 m	1006	635	657		20.8
V2US04030		3.0 m	1037	652	671		21.7
V2US05015	40.1 to 50 l/s	1.5 m	1039	629	652		22
V2US05020		2.0 m	1025	656	675		21.8
V2US05025		2.5 m	1044	678	694		22.8
V2US05030		3.0 m	1061	696	709		23.7
V2US06015	50.1 to 60 l/s	1.5 m	1046	663	701	120	23.5
V2US06020		2.0 m	1125	692	726		25.6
V2US06025		2.5 m	1095	715	746		25.2
V2US06030		3.0 m	1113	734	762		26.2
V2US08015	60.1 to 80 l/s	1.5 m	1178	721	751		28.5
V2US08020		2.0 m	1178	752	778		28.7
V2US08025		2.5 m	1199	777	800		30
V2US08030		3.0 m	1231	798	818		31.4

## Kits selection table

For flows > 80 l/s and water heights > 3 m, please consult our design department.

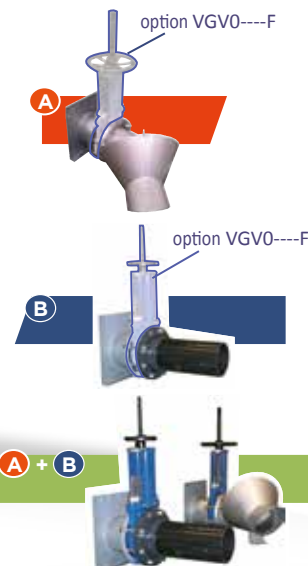
K1VR			
Kit for outlet to the flow controller <b>A</b>			
Reference		Dn inlet VUS	Block valve (option)
K1VR	0080A	080	VG080F
	0100A	0100	VG0100F
	0125A	0125	VG0125F
	0150A	0150	VG0150F
	0200A	0200	VG0200F
	0250A	0250	VG0250F
	0300A	0300	VG0300F
	0450A	0450	VG0450F

K2VR			
Kit for outlet to the by-pass <b>B</b>			
Reference		Dn by-pass	Block valve (option)
K2VR	0080A	150	VG0150F
	0100A		
	0125A		
	0150A		
	0200A	200	VG0200F
	0250A		
	0300A		
	0450A		

KVR ---- A

**A** + **B**

Dimensions in mm, weights in kg





# HydroVortex flow controller

Removable, installation on support, in wet area, V2PH model

## Description

The HYDROVORTEX flow controller is an equipment which controls the flow. It is made of:

- A **vortex** control chamber.
- A connection flange.
- A lifting ring at the upper part of the cone.
- A connection sleeve to enable an air intake of the cone (option: **OL1000**).
- Supplied with mounting kit.

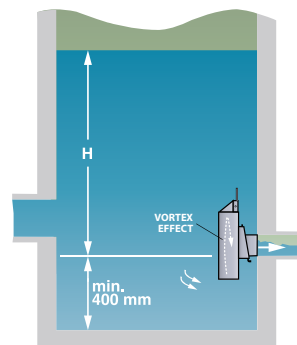
Manufacturing in stainless steel (A4) on request



## How it works?

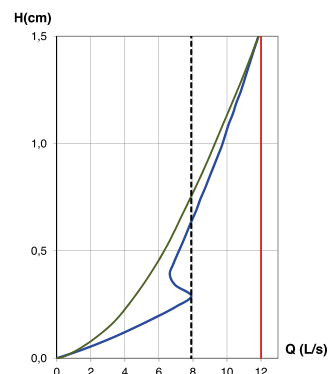
This controller operates on the principle of the vortex effect, triggered upstream by the hydrostatic pressure (water height) and the cone of regulation. This one, full of air, generates the creation of the vortex effect and reduces momentarily the hydraulic section of the outlet cross-section.

V2PH model has to be installed in a **wet area**.



## Advantages

- No moving parts.
- Reduce the risk of clogging with an inlet cross-section 2 to 3 times superior to a nozzle.
- Perfectly suitable for small flows.
- Device created and manufactured with materials resistant to corrosion.

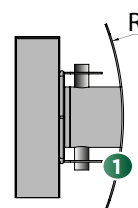


## Options

### 1 Curved plate reference V2P15

This option enables to install the V2PH-type flow controller in a cylindrical chamber.

**R rating** must be precised when the unit is ordered.



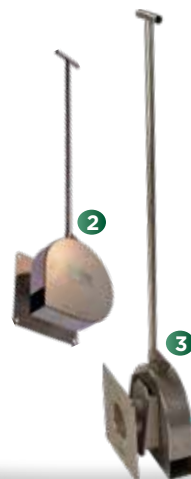
**Operating tee** (to be precised when the unit is ordered\*)

### 2 V2P05 for a height of 1.5m

### 3 V2P10 for a height of 3 m

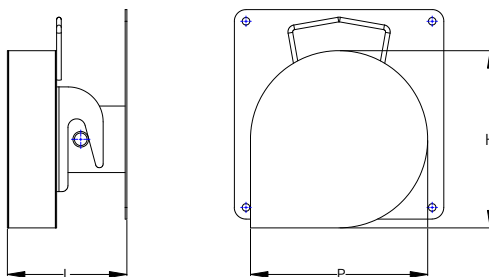


\* As standard, the V2PH is supplied with its lifting handle. V2P05 or V2P10 option must be precised when the unit is ordered, the Operating tee will be directly fixed or welded to the chamber.





## ➤ The dimensions



**0.5 - 20 l/s flow**

**Maximum water height: 6m  
Installation: upstream**

V2PH	Leakage rate	Water height	L	P	H	Dn mini network	Weight
V2PH00110	0.5 to 1 l/s	0.5 to 1.0 m	170	184	184	100	6.2
V2PH00115		1.5 m	165	206	206	100	6.4
V2PH00120		2.0 m	162	222	222	100	6.6
V2PH00125		2.5 m	160	234	234	100	6.8
V2PH00210	1.1 to 2 l/s	0.5 to 1.0 m	190	260	260	100	7.5
V2PH00215		1.5 m	183	282	282	100	7.8
V2PH00220		2.0 m	179	298	298	100	8
V2PH00225		2.5 m	176	310	310	100	8.2
V2PH00310	2.1 to 3 l/s	0.5 to 1.0 m	205	305	305	100	8.5
V2PH00315		1.5 m	197	327	327	100	8.8
V2PH00320		2.0 m	192	343	343	100	9.1
V2PH00325		2.5 m	188	355	355	100	9.3
V2PH00330	3.1 to 4 l/s	3.0 m	185	365	365	100	9.5
V2PH00410		0.5 to 1.0 m	244	336	336	125	9.9
V2PH00415		1.5 m	209	359	359	100	9.7
V2PH00420		2.0 m	203	374	374	100	10
V2PH00425	4.1 to 6 l/s	2.5 m	198	387	387	100	10.2
V2PH00430		3.0 m	195	397	397	100	10.4
V2PH00610		0.5 to 1.0 m	295	381	381	150	12
V2PH00615		1.5 m	254	403	403	125	11.7
V2PH00620	6.1 to 8 l/s	2.0 m	247	419	419	125	12
V2PH00625		2.5 m	241	431	431	125	12.2
V2PH00630		3.0 m	212	441	441	125	11.9
V2PH00810		0.5 to 1.0 m	314	413	413	150	13.2
V2PH00815	8.1 to 10 l/s	1.5 m	300	435	435	150	13.6
V2PH00820		2.0 m	262	451	451	150	13.1
V2PH00825		2.5 m	256	463	463	125	13.4
V2PH00830		3.0 m	251	473	473	125	13.6
V2PH01010	10.1 to 12 l/s	0.5 to 1.0 m	381	437	437	200	17.8
V2PH01015		1.5 m	315	459	459	150	14.6
V2PH01020		2.0 m	305	475	475	150	14.9
V2PH01025		2.5 m	298	488	488	150	15.2
V2PH01030	12.1 to 14 l/s	3.0 m	263	498	498	150	14.6
V2PH01210		0.5 to 1.0 m	395	457	457	200	18.7
V2PH01215		1.5 m	379	480	480	200	19.1
V2PH01220		2.0 m	318	495	495	150	15.8
V2PH01225	14.1 to 16 l/s	2.5 m	310	508	508	150	16.1
V2PH01230		3.0 m	304	518	518	150	16.3
V2PH01410		0.5 to 1.0 m	409	474	474	200	19.5
V2PH01415		1.5 m	391	497	497	200	19.9
V2PH01420	16.1 to 20 l/s	2.0 m	380	512	512	200	20.3
V2PH01425		2.5 m	372	525	525	200	20.5
V2PH01430		3.0 m	314	535	535	150	17.1
V2PH01615		1.5 m	403	511	511	200	20.6
V2PH01620	18.1 to 20 l/s	2.0 m	391	527	527	200	21
V2PH01625		2.5 m	382	539	539	200	21.3
V2PH01630		3.0 m	375	549	549	200	21.5
V2PH02015		1.5 m	477	536	536	250	23.2
V2PH02020	20.1 to 22 l/s	2.0 m	410	552	552	200	22.3
V2PH02025		2.5 m	400	564	564	200	22.6
V2PH02030		3.0 m	392	574	574	200	22.8

Dimensions in mm, weights in kg

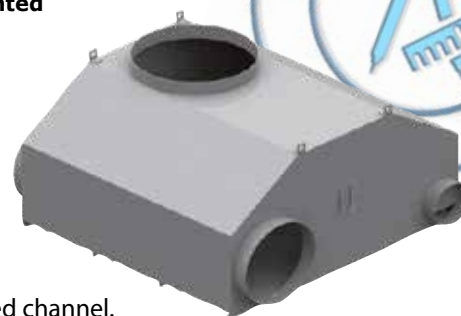


For flows > 20 l/s and water heights > 3 m, please consult our design department.



# HydroSeuil regulation chamber with labyrinth-type calibrated threshold, SLE model

Genuine Techneau innovation, the regulation chamber is a **patented regulation process, n° FR3013745**.



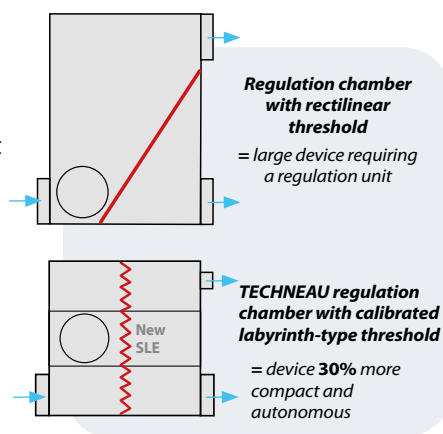
## ➤ Description

THE REGULATION CHAMBER is available in **painted steel or in Polyester**. It is composed of:

- An inlet adapted to the nominal diameter of the main pipe.
- A labyrinth-type calibrated threshold.
- An integrated screening that protects the inlet of the calibrated channel.
- A calibrated flow channel connected to the treatment network.
- An outlet to the by-pass.

## ➤ Advantages

- Very shallow loading of the upstream network.
- A total control of the flow rate to the treatment plant via a calibrated flow channel.
- An optimal evacuation of the storm flow by reducing the hydraulic jumps downstream from the overflow blade.
- A 30% smaller floor space compared to a traditional storm chamber.



## ➤ Options

### • Effluent connecting chamber, SLS model

All the equipment installed on the network affect the hydraulic calculations. That is why Techneau has developed a connecting chamber which enables:

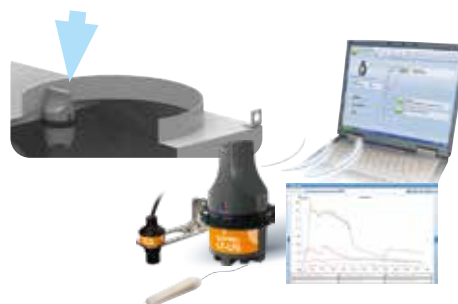
- A reduced floor space,
- A control of the delta inlet/outlet.



### • Flow control unit, DT005 model

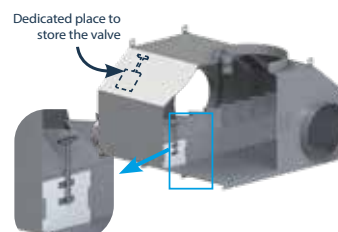
The Sofrel LT-US operates on battery power and is directly installed inside the regulation chamber.

It registers and transmits, via the GSM network, all the rain events data passing through the regulation chamber.



### • Block valve, VS001 model

The block valve is removable and stored inside the regulation chamber. It is placed at the inlet of the calibrated channel to secure the maintenance operations.





# Focus on the runoff water management & treatment network

Principle  
scheme

Peak flow by-passed till 1660 l/s\*

\* For higher flows, please consult us.

Flow regulation



The +

Guaranteed flow control

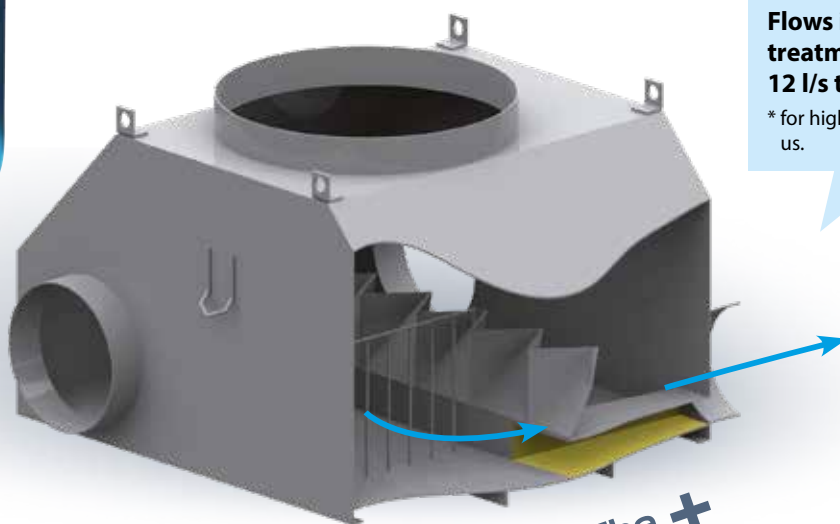
The **SLE** regulation chamber ensures perfect distribution of the **intake flow** and **prevents all hydraulic** overloads in the treatment device.

+

The **SLE** regulation chamber also proposes an integrated **screening** to retain most of the debris

Flows inside the treatment device from **12 l/s to 200 l/s\***

\* for higher flows , please consult us.



The +

Reduced floor space

The **SLE** chamber, as well as the whole network, is also available in **Polyester**.



... compared to a traditional installation



Storm water overflows



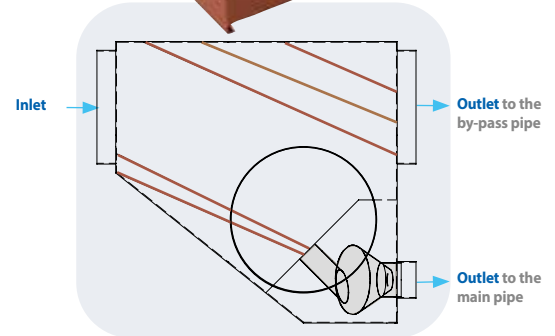
# HydroSeuil storm water overflows for combined sewer network, RDO model



## ➤ Description

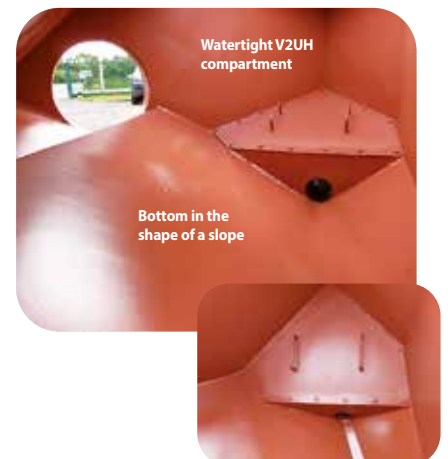
The RDO model is available in painted steel. Its specific coating resists to an acid effluent (PH > 3). It is composed of:

- An inlet adapted to the nominal diameter of the main pipe,
- An inclined overflow blade,
- An integrated ditch that avoids any dead zone,
- An outlet equipped as standard with an adjustable nozzle,
- An outlet to the by-pass pipe.



## ➤ Advantages

- No accumulation of water in the device, this avoids deposits and H<sub>2</sub>S gas arrival.
- No need to make an internal concrete ditch which can destroy the coating.
- A complete access to the inlet and outlet of the unit.
- A possible integration of a vortex flow controller.



## ➤ Options

### • Vortex flow controller, V2UH model

This controller operates on the principle of the vortex effect, triggered upstream by the hydrostatic pressure (water height) and the cone of regulation.

This one, full of air, generates the creation of the vortex effect and reduces momentarily the hydraulic section of the outlet cross-section.

It increases thus significantly the cross-section.







# HydroLeap flow controller for combined sewer network, LW model



## ➤ Description

The HYDROLEAP is a flow controller for combined sewer network. It is designed for minimum slopes of 1.5%, for a "torrential" regime (Froude number  $< 1.5$ ).

It is manufactured in stainless steel (A2) and is directly installed inside the chamber:

- **Diameter and length adapted to the site constraints thanks to its rectangular opening and its adjustable plate.**
- Adjustable to the requested flows evolutions.
- Mounting plates adjustable to the existing network.
- Easier access to the device and to the main network (big opening).
- Till Dn 500, manhole with a Dn 600.

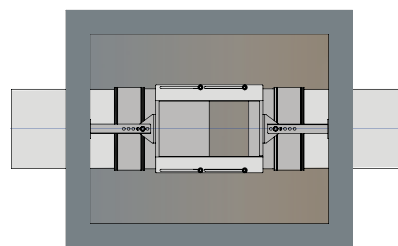
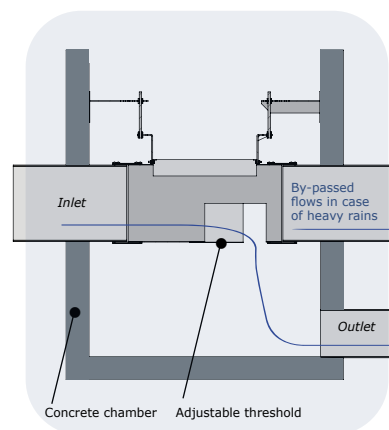
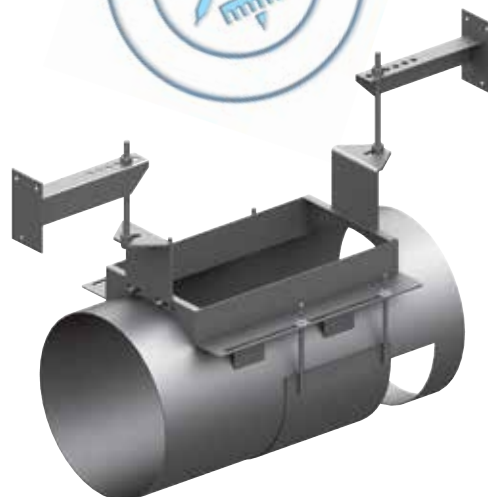
*We advise you to install the HYDROLEAP before the final installation of the cover slab and to adapt the width of the chamber to the size of the flow controller that will be integrated.*

## ➤ Advantages

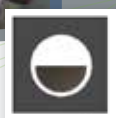
- Connection to the pipe easier with nitrile seals (not supplied).
- Easier installation thanks to several adjustments provided, in particular:
  - The height, to be aligned to the existing pipe,
  - The length, to adjust the distance between the inlet and the outlet,
  - The slope, to be adequate to the one of the network.
- Reliability of an industrial manufacturing associated to the tailor-made adaptability.
- Evolving system with possibility to modify the flow thanks to the adjustable plate.
- Dimensioning of the rectangular opening (length and width) according to the ENGEES calculation note.

## ➤ Options

The HYDROLEAP can also be manufactured in stainless steel (A4).







# Penstocks

**Selection guide** \_\_\_\_\_ p.30-31

## Penstocks

**HydroVM** range \_\_\_\_\_ p.32-33

**HydroVE** range \_\_\_\_\_ p.34-35

**HydroVML** range:

**V model** \_\_\_\_\_ p.36-37

**T model** (with operating rod) \_\_\_\_\_ p.38-39

## Motorisation

**ServoMotor** for **HydroVM** and **HydroVE**  
penstocks \_\_\_\_\_ p.40

## Control unit

For penstocks \_\_\_\_\_ p.41



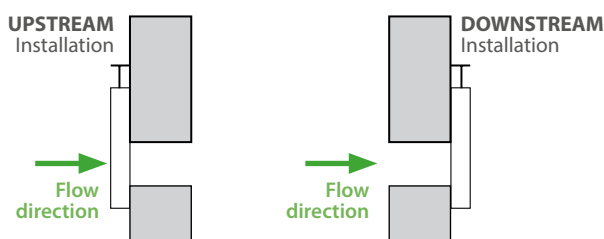
# Selection guide penstocks

## ➤ Introduction

Our penstocks are especially designed for waste water and rain water retention. They are generally integrated in constructions such as:

- Sewage treatment plants,
- Storm basins,
- Inspection manholes,
- Settle solids interceptors and/or oil interceptors,
- Pumping stations.

The first selection criterion concerns the installation site and the watertightness of the penstock. We will thus retain 2 types of installation:



## ➤ The ranges

Once this selection is made, **we distinguish 3 ranges:**

- Upstream watertightness, Dn 200 to 1200, manual control.
- Upstream and downstream watertightness, Dn 800 to 1200, manual control or with motorisation.
- Upstream watertightness, Dn 150 to 600, manual control.



## ➤ Determination of the model according to the water height\*

	Upstream			Downstream	
	Hydro <b>VM</b>	Hydro <b>VML</b>	Hydro <b>VE</b>	Hydro <b>VM</b>	Hydro <b>VE</b>
Dn 150	-	1 meter	-	-	-
Dn 200	6 meters		-	6 meters	-
Dn 300			-		-
Dn 400			-		-
Dn 500			-		-
Dn 600			-		-
Dn 800		6 meters	-	6 meters	3 meters
Dn 1000	-				
Dn 1200	-				

\*Data conform to DIN19569-4 standard, the leakage flow must be inferior to 20 mL/s per meter of seal.

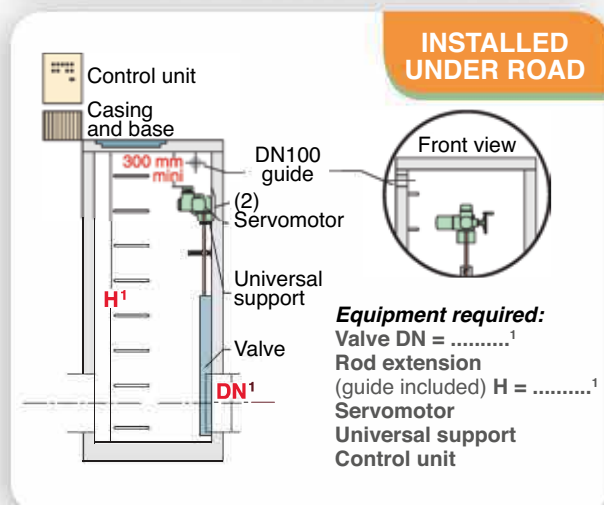
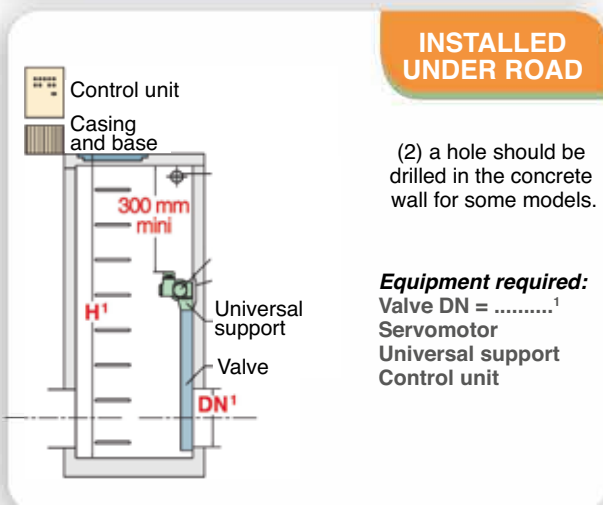
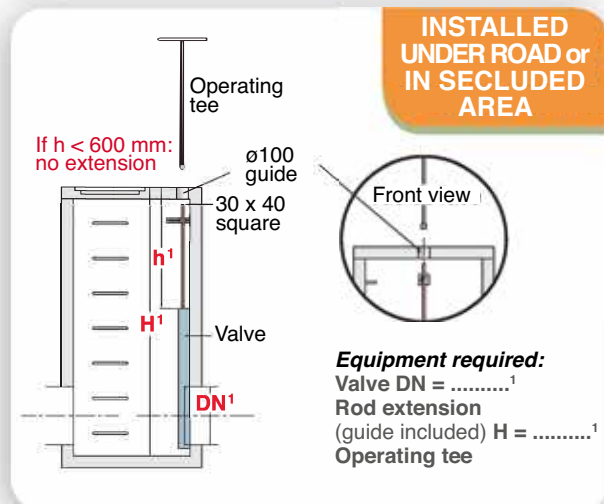
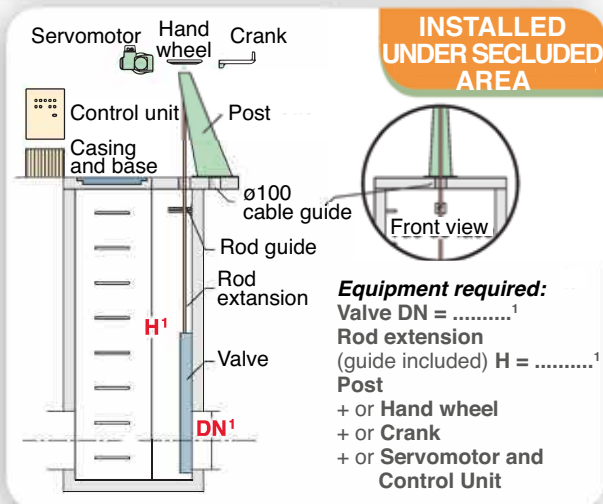
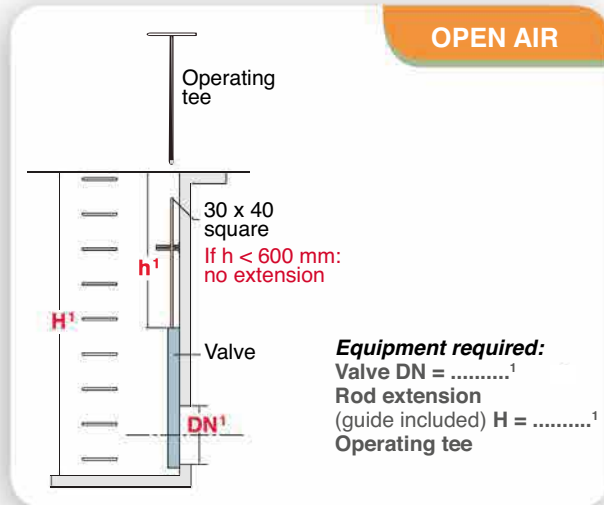
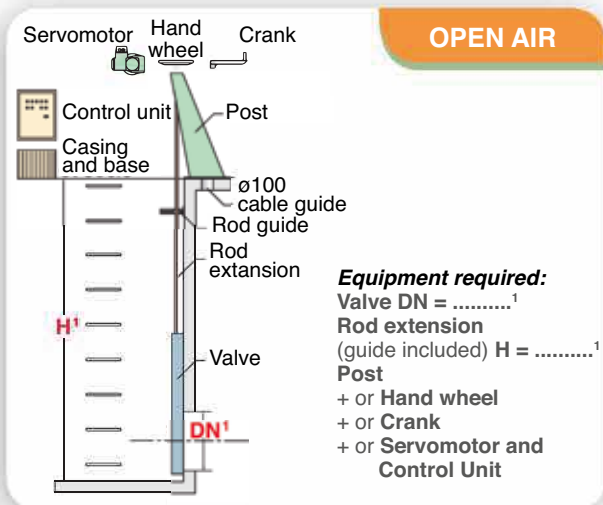






# Selection guide penstocks

## Possible configurations



Non-contractual texts, dimensions, photos and schemes

Penstocks



### ➤ Description

Our HydroVM penstocks are manufactured in galvanized steel (**VM\_A** models) or in stainless steel (A2) (**VM\_I** models). The closing is made clockwise with a non rising threaded rod.

They are systematically supplied with a mounting kit containing steel dowels and a modular watertight band.

They have a full-flow round orifice and the following equipments:

- A 30 x 30 galvanised steel control square,
- A bronze threaded rod nut with a stainless steel (A2) stud bolt stop,
- A zinc-plated steel threaded rod (in stainless steel (A2) for VM\_I models),
- A galvanised steel frame and disk (in stainless steel (A2) for VM\_I models).



### ➤ Advantages

The penstock is machine-welded, this enables to change easily all its components.

The frame has two lifting rings to facilitate the handling and the installation.

Supplied with a drilling template, very useful when the penstock weighs more than 40 kg.

The final adjustment of the disk, in the closed position, can be made slimmer thanks to four locking nuts.

The EPDM seal is removable.

### ➤ Options / The operating accessories, OV models:

- ➊ **Cast iron hand wheel for Dn 200 to Dn 500 penstocks:**  
Dn 200 and 300: **OV010**, diameter 200mm, weight 3 kg  
Dn 400 and 500: **OV015**, diameter 300mm, weight 5 kg
- ➋ Galvanised steel **crank**, with rotating handle:  
Dn 200 to 1200: **OV020**, length 380mm, weight 2 kg
- ➌ Galvanised steel **operating tee**, equipped with a 30 x 30 cast iron female square:  
Height 1000mm: **OV026**, weight 3.5 kg  
Height 1500mm: **OV025**, weight 4 kg
- ➍ Galvanised steel column, provided with four fitting holes:  
Height: 900mm: **OV002**, weight 29 kg.  
**Caution**, make sure to use an extension of at least RV12I-type for integration in the post.
- ➎ **Rod extension**, adjustable on site, **RV model**  
The extension is equipped with a galvanised steel male square at the upper part and a cast iron female square at the lower part. It is supplied with mounting dowels and one or two rod guide(s).

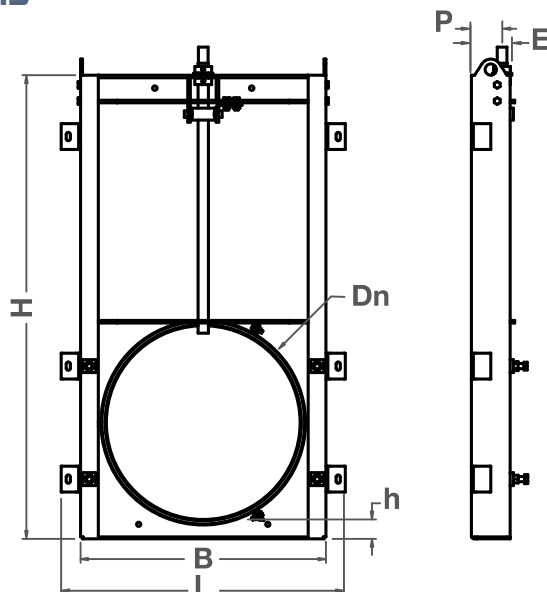


## > The dimensions

Manufacturing in  
stainless steel (A4)  
on request

Water height: 3 to 6m  
Installation:  
upstream & downstream

ø200 → 1200  
Galvanised steel or  
stainless steel



VM Steel or stainless steel	Leakage rate	Water height upstream	Water height downstream	Dn	H	L	B	E	P	h	Weight
VM0200A	< 20 ml/s per meter of seal	6 m	6 m	200	636	480	360	120	90	60	33
VM0200I				300	836	580	460				42
VM0300A				400	1036	680	560				64
VM0300I				500	1236	780	660				89
VM0400A				600	1436	880	760				108
VM0400I				800	1836	1160	960				216
VM0500A			3 m	1000	2238	1340	1160	155	101	67.5	281
VM0500I				1200	2638	1560	1360				357
VM0600A											
VM0600I											
VM0800A											
VM0800I											
VM1000A											
VM1000I											
VM1200A											
VM1200I											

## > Extensions selection table (RV models, option)

1 rod guide			2 rod guides		
Height of the extension	Reference	Weight	Height of the extension	Reference	Weight
300 to 500 mm	RV05I	6	1100 to 1500 mm	RV15I	14
400 to 800 mm	RV08I	8	1400 to 2000 mm	RV20I	17
700 to 1200 mm	RV12I	13	1900 to 2500 mm	RV25I	18

Dimensions in mm, weights in kg

## > Motorisation

Please see page 40



### ➤ Description

Our HydroVE penstocks are manufactured in galvanized steel (**VE\_A** models) or in stainless steel (A2) (**VE\_I** models). The closing is made clockwise with a non rising threaded rod.

They are systematically supplied with a mounting kit containing steel dowels and a modular watertight band.

They have a full-flow round orifice and the following equipments:

- A 30 x 30 galvanised steel control square,
- A bronze threaded rod nut with a 304L stainless steel stud bolt stop,
- A stainless steel (A2) threaded rod,
- A galvanised steel frame and disk (in stainless steel A2 for VE\_I models).



### ➤ Advantages

The penstock is machine-welded, this enables to change easily all its components.

The frame has two lifting rings to facilitate the handling and the installation.

Supplied with a drilling template, very useful when the penstock weighs more than 40 kg.

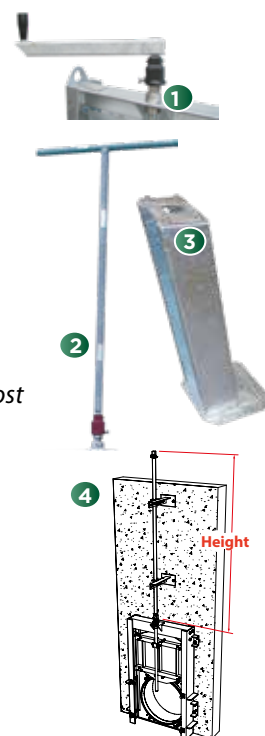
The final adjustment of the disk, in the closed position, can be made slimmer thanks to four locking nuts.

The EPDM seal is removable.

Stainless steel (A2) roller-mounted disk. The penstock has teflon anti-friction washers.

### ➤ Options / The operating accessories, OV models:

- 1 Galvanised steel **crank**, with rotating handle:  
Dn 200 to 1200: **OV020**, length 380mm, weight 2 kg
- 2 Galvanised steel **operating tee**, equipped with a 30 x 30 cast iron female square:  
Height 1000mm: **OV026**, weight 3.5 kg  
Height 1500mm: **OV025**, weight 4 kg
- 3 Galvanised steel **column**, provided with four fitting holes:  
Height: 900mm: **OV002**, weight 29 kg.  
**Caution**, make sure to use an extension of at least RV12I-type for integration in the post
- **Rod extension**, adjustable on site **RV**
- 4 The extension is equipped with a galvanised steel male square at the upper part and a cast iron female square at the lower part. It is supplied with mounting dowels and one or two rod guide(s).



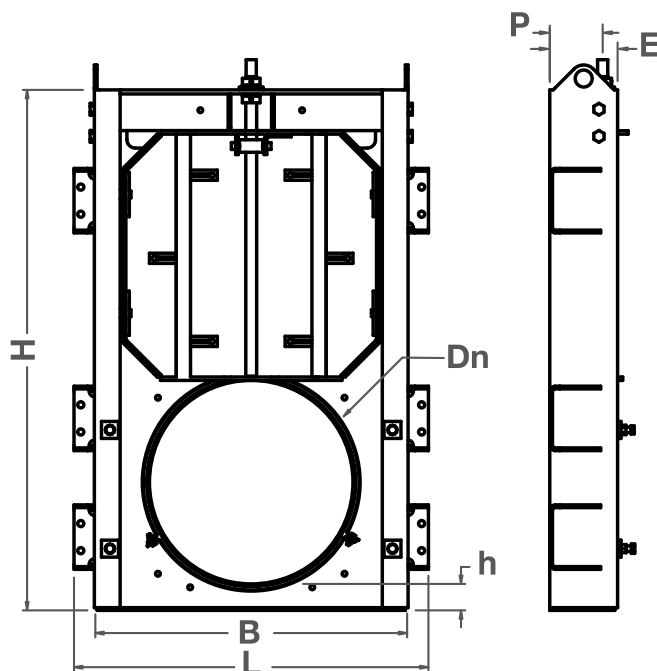


Maximum water height: 6m  
Installation:  
upstream & downstream

ø800 → 1200  
Galvanised steel or  
stainless steel

## ➤ The dimensions

Manufacturing in  
stainless steel (A4)  
on request



VE Steel or stainless steel	Leakage rate	Water height upstream and downstream	Dn	H	L	B	E	P	h	Weight
VE0800A	< 20 ml/s per meter of seal	6 m	800	1927	1245	1125	200	156	78	315
VE0800I			1000	2274	1445	1325				403
VE1000A			1200	2674	1645	1525		158		497
VE1000I										
VE1200A										
VE1200I										

## ➤ Extensions selection table (RV models, option **RV**)

1 rod guide			2 rod guides		
Height of the extension	Reference	Weight	Height of the extension	Reference	Weight
300 to 500 mm	RV05I	6	1100 to 1500 mm	RV15I	14
400 to 800 mm	RV08I	8	1400 to 2000 mm	RV20I	17
700 to 1200 mm	RV12I	13	1900 to 2500 mm	RV25I	18

Dimensions in mm, weights in kg

## ➤ Motorisation

Please see page 40.



### > Description

Our HydroVML\_V penstocks are manufactured in stainless steel (A2). The closing is made with an operating screw.

They are systematically supplied with a mounting kit containing stainless steel dowels and a silicone seal.

They have a full-flow round orifice and the following equipments:

- A stainless steel operating rod (A2),
- A PEHD disk with anti-UV treatment,
- A stainless steel frame (A2).



### > Advantages

The penstock is machine-welded, this enables to change easily all its components.

### > Options / The operating accessories, OV models:

#### 1 Cast iron hand wheel for Dn 200 to Dn 500 penstocks:

Dn 200 and 300: **OV010**, diameter 200mm, weight 3 kg  
Dn 400 and 500: **OV015**, diameter 300mm, weight 5 kg

#### 2 Galvanised steel **crank**, with rotating handle:

Dn 200 to 1200: **OV020**, length 380mm, weight 2 kg

#### 3 Galvanised steel **operating tee**, equipped with a 30 x 30 cast iron female square:

Height 1000mm: **OV026**, weight 3.5 kg

Height 1500mm: **OV025**, weight 4 kg

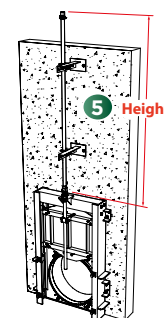
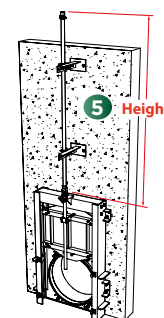
#### 4 Galvanised steel **column**, provided with four fitting hole:

Height: 900mm: **OV016**, weight 29 kg.

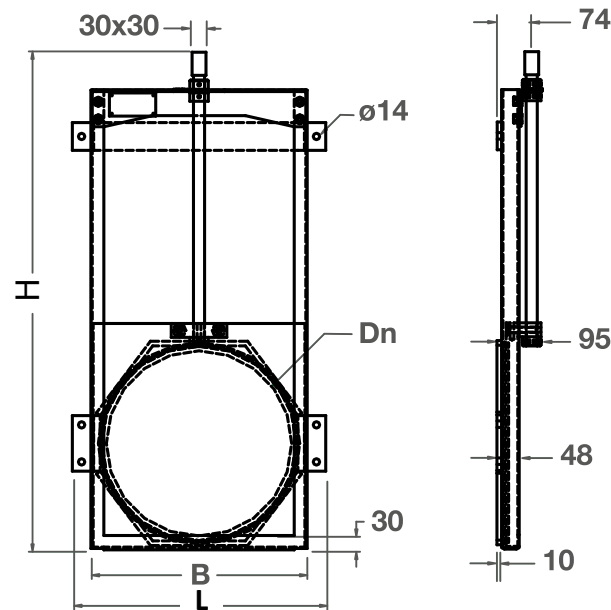
**Caution**, make sure to use an extension of at least RVML12I-type for integration in the post.

#### 5 Rod extension, adjustable on site, **RVML model**

The extension is equipped with a galvanised steel male square at the upper part and a cast iron female square at the lower part. It is supplied with mounting dowels and one or two rod guide(s).



## ➤ The dimensions



VMLV Steel or stainless steel	Leakage rate	Water height Upstream	Dn	H	L	B	Weight
VML0150VA	< 20 ml/s per meter of seal	1 m	150	575	297	217	10.4
VML0150VI							9.5
VML0200VA			200	675	347	267	12.9
VML0200VI							11.8
VML0300VA			300	875	447	367	19
VML0300VI							17.3
VML0400VA			400	1075	547	467	24
VML0400VI							21.9
VML0500VA			500	1275	649	569	33.3
VML0500VI							30.4
VML0600VA			600	1475	749	669	48.9
VML0600VI							45.4

## ➤ Extensions selection table (RVML models, option)

1 rod guide			2 rod guides		
Height of the extension	Reference	Weight	Height of the extension	Reference	Weight
300 to 500 mm	RVML05I	2.3	1100 to 1500 mm	RVML15I	5.4
400 to 800 mm	RVML08I	3	1400 to 2000 mm	RVML20I	5.8
700 to 1200 mm	RVML12I	4.9	1900 to 2500 mm	RVML25I	6.7

Dimensions in mm, weights in kg



### Description

Our HydroVML\_T penstocks are manufactured in stainless steel (A2). The closing is made with an operating rod.

They are systematically supplied with a mounting kit containing stainless steel dowels and a silicone seal.

They have a full-flow round orifice and the following equipments:

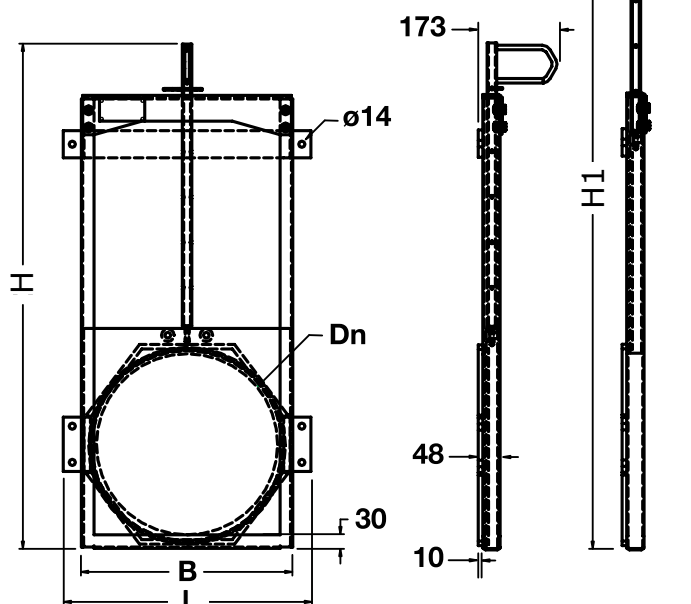
- A stainless steel operating rod (A2),
- A PEHD disk with anti-UV treatment,
- A stainless steel frame (A2).

Manufacturing in stainless steel (A4) on request

### Advantages

The penstock is machine-welded, this enables to change easily all its components.

### The dimensions



VMLT Steel or stainless steel	Leakage rate	Water height Upstream	Dn	H	H1	L	B	Weight
VML0150TA	< 20 ml/s per meter of seal	1 m	150	617	797	297	217	9.1
VML0150TI								8.3
VML0200TA			200	714	944	347	267	11.6
VML0200TI								10.4
VML0300TA			300	914	1244	447	367	17.5
VML0300TI								15.7
VML0400TA			400	1114	1544	547	467	24.4
VML0400TI								22.1
VML0500TA			500	1313	1843	649	569	38.9
VML0500TI								36
VML0600TA			600	1513	2143	749	669	48.4
VML0600TI								44.8

Dimensions in mm, weights in kg









# ServoMotors

Motorisation for penstocks **VM** and **VE** models



## > Description

The standard servomotors include a motor with thermal protection, kinematic chain, manual control, connection unit, load limiters and limit switches.

## > Technical characteristics

The servomotors are designed to work in both extreme positions, and possibly in intermediate positions.

VM & VE	
Control	Load limiters and limit switches
Power supply	3-phase AC - 400 V / 50 Hz - S2 - 15mn
Motor	1 thermal protection Class F tropicalized insulation
Heating resistor	Heating, self-regulating to avoid internal condensation
Gland inlet	2 x M25 x 1.5 - 1 x M20 x 1.5
Auto. service	On - Off
Manual service	Intermediary positions
Hand wheel	Manual, automatic mechanism (the motor has the priority). Visual revolution indicator
Protection	IP68 (72h under 5m of water)
Temperature	-25°C to +25°C
Closing	Clockwise
Coating	Polyurethane

## > Option

### • Universal support



Manufactured in galvanised steel, it can be installed either on the penstock or on the structure. Supplied with fasteners

Penstock	Support
VM or VE 0200	OV004
VM or VE 0300A to 0500	OV005
VM or VE 0600 to 1000	OV006
VE 1200	OV008

Penstock ref.		Motor ref.	Speed (tr/mn)	Minimum closing time* (min)	Flange ref.	Torque maxi (nM)	Current		Power (KW)	Weight (kg)
							Nominal (A)	maxi (A)		
VM & VE	0200	SA05	46	1'05"	F10	60	1.5	5	0.37	25
	0300			1'31"						
	0400			1'57"						
	0500			2'23"						
	0600	SA07	46	2'23"	F10	140	3.4	24	1.5	31
	0800	SA10	61	2'21"	F14	300	5.1	27	2.2	49
	1000			2'52"						
	1200	SA12	92	2'16"	F16	700	9.2	69	4.5	76

\* For faster closing times or for an ADF protection, ATEX standard for servomotors, please consult our design office.





# ComMotors

## Control unit for penstocks, CV500P model

[for VM and VE penstocks]



### Technical characteristics

- **Equipment:** Polyester cabinet, IP 669  
Protected by a circuit breaker  
Padlockable main switch  
Key switch, local or remote position (remote control)
- **Dimensions:** H 645 x W 435 x D 250mm - Weight: 20 kg (**CV500P**)
- **Power supply:** 3-phase 400 V / 50 Hz with general circuit breaking
- **Signalling:** *Penstock condition display:*  
Powered / Opening / Closing  
Penstock closed / Penstock opened  
Disk blocked (*failure signal*)  
Thermal protection activated (*failure signal*)
- **Control:** Pushbuttons  
Opening/Closing/Stop, self-holding  
Remote control by dry contacts (opening/closing), usually in opened position  
Remote control voltage: 230 V - Maximum distance: 500m.

### Options

- **Electrical cable:**  
The cables are equipped with packing glands fitted to their section. Each cable wire is marked:  
**please see the table below** for the ref.

	Motor ref.	Current (A)	From 0 to 50 meters		From 51 to 100 meters		From 101 to 500 meters	
			400V supply cable 4g	230V control cable 12g	400V supply cable 4g	230V control cable 12g	400V supply cable 4g	230V control cable 12g
VM & VE	SA05	1.1	4 g1.5 <sup>2</sup> & 12g1.5 <sup>2</sup> <b>OV065</b>		4 g1.5 <sup>2</sup> & 12g1.5 <sup>2</sup> <b>OV065</b>		4 g2.5 <sup>2</sup> & 12g1.5 <sup>2</sup> <b>OV067</b>	
	SA07	3.4					4 g10 <sup>2</sup> & 12g1.5 <sup>2</sup> <b>OV073</b>	
	SA10	5.1			4 g2.5 <sup>2</sup> & 12g1.5 <sup>2</sup> <b>OV067</b>			
	SA12	9.2			4 g4 <sup>2</sup> & 12g1.5 <sup>2</sup> <b>OV069</b>		4 g16 <sup>2</sup> & 12g1.5 <sup>2</sup> <b>OV075</b>	

- **Casing and base for outdoor installation:**  
Polyester casing and base with double door, and a panel with glass front door.  
Dimensions: H 1095 x W 450 x D 270mm. Weight: 10 kg. Ref.: **OV055**



Handwriting practice area with horizontal dotted lines.

Handwriting practice lines consisting of 30 horizontal dotted lines.



is also

#### WATER ENGINEERING

- **Water treatment:**  
Oil and grease separators,  
Stormwater treatment units,  
Dry-docks units
- **Water pumping:**  
Pumping stations for individual houses,  
small communities and communities  
Made-to-measure pumping stations  
up to 2.90m diameter

#### FLOOR DRAIN EQUIPMENTS

- **Manhole covers**
- **Siphons**
- **Stainless steel floor drains & gutters**

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