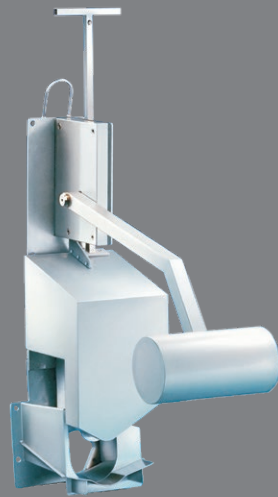






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## IKT Product Test Flow Regulators 02/2018

Top marks for the Steinhardt  
HydroSlide Automatic Regulator Type GM  
Excerpt from the test results

# Top marks for the Steinhardt HydroSlide Automatic Regulator Type GM

Excerpt from the results of the product testing carried out by the Institute for Underground Infrastructure – IKT – on Flow Regulators 02/2018



## Background

In February 2018 the Institute for Underground Infrastructure, IKT, carried out independent product testing on flow regulators. Six hydro-mechanical throttling devices for storm basins were examined and compared.

## Results

During testing, the **HydroSlide Automatic Regulator Type GM** was awarded full points in the rubric Hydraulic Function. Out of the 6 regulators put to the test, one gained an overall rating of “good”, three were judged to be “satisfactory” and one marked as “defective”. One device was disqualified from testing.

The test results can be found in the chart (Source IKT-Warentest 02/2018).

## IKT test results for Flow Regulators

Regulator designation	HydroSlide Automatic Regulator Giehlmatic	APA-SSD 200 Typ II	Balance Regulator Type II
Manufacturers	Steinhardt Water Technology GmbH	APA Wastewater Technology	BGU Environmental Systems GmbH
<b>IKT Audit Score *</b>	<b>Good (2.1)</b>	<b>Satisfactory (3.3)</b>	<b>Satisfactory (3.3)</b>
System testing [85%]	<b>Good 1.8</b>	Satisfactory (3.5)	Satisfactory (3.5)
Hydraulic functionality, phase I @ 25 l / s (35%)	<b>1,3</b>	1,9	3,4
after SüwVO I1 (10 %) / after SüwVO I2 (30 %) - Süw VO see below	<b>1,5 / 1,0</b>	1,5 / 2,0	1,0 / 2,0
Serviceability I3 (20%) / Serviceability I14 (40 %)	<b>2,0 / 1,0</b>	1,5 / 2,0	1,5 / 6,0
Hydraulic functionality, phase I @ 10 l / s (35%)	<b>1,8</b>	5,4	3,6
after SüwVO I5 (10 %) / after SüwVO I16 (30 %)	<b>2,2 / 1,0</b>	2,0 / 6,0	2,0 / 1,0
Serviceability I7 (20%) / Serviceability I18 (40 %)	<b>2,5 / 2,0</b>	5,0 / 6,0	3,5 / 6,0
Reliability in blockage removal (20%) <sup>9</sup>	<b>3,0</b>	4,0	4,0
Overall Status at end of use (10%) <sup>10</sup>	<b>1,2</b>	2,0	2,0
Quality assurance (15%) <sup>11</sup>	<b>Satisfactory (3.5)</b>	Good (2.0)	Good (2.5)
Regulator key data (10%) / Guarantee range (10%)	<b>+ / +</b>	+ / +	+ / +
Operating, maintenance and installation guide (10%)	<b>+</b>	0	+
Operating instructions and Risk assessments (10%)	<b>-</b>	-	+
Training (10%) / Qualification certificate (10%)	<b>- / -</b>	- / +	- / -
Self-monitoring (10%) / external monitoring (10%)	<b>- / +</b>	+ / +	- / +
Proof of Ex-protection (10%)	<b>-</b>	+	+
Abnormalities (10%)	<b>No abnormalities (+)</b>	No abnormalities (+)	No abnormalities (+)
<b>Additional information (not part of the grading):</b>			
Presence of moving parts	<b>Yes</b>	Yes	Yes
Need for external energy	<b>No</b>	No	No
Type of installation	<b>Wet</b>	Half Dry	Half Dry
Weight of regulator [kg] / dimensions of regulator [m]	<b>170 / 0.7 x 0.9 x 1.5</b>	430 / 1.7 x 0.9 x 1.4	170 / 1.6 x 0.5 x 1.0
Presence of purging burst / duration [s] / outflow peak [l / s]	<b>No / - / -</b>	Yes / 30 / 13	No / - / -
Operation delay / time duration [s] / outflow peak [l / s]	<b>No / - / -</b>	Yes / 90 / 13	No / - / -
Time required for installation / removal / removal [min]	<b>85 / 180 / 20</b>	95 / 240 / 20	95 / 5 / 20
Cost of regulator/fitting/removal (excl. VAT - EUR)	<b>7490/1000/1450</b>	7550/1450/1450	7460/incl./no data

\* The marks have been rounded up

\*\* Not rated, as this regulator cannot be changed to 10 l / s according to the manufacturer.

- Valuation of the hydraulic functionality with clear water after installation and operating load.
- Evaluation of the hydraulic functionality with dirty water after installation.
- Evaluation of the hydraulic functionality with clear water after installation and operating load.
- Evaluation of the hydraulic functionality with dirty water (regulator state uncleaned) after operating load.
- Assessment of hydraulic functionality with clear water after installation, end of use and impact tests
- Evaluation of the hydraulic functionality with dirty water after conversion.
- Assessment of hydraulic functionality with clear water (congestion) after conversion and end of use.
- Evaluation of the hydraulic functionality with dirty water (regulator state uncleaned) after end of use.
- Assessment of the ability of the regulator units to independently remove blockages.
- Evaluation of the functionality and the risk of corrosion by members of the steering committee.
- Rating: „+“ = proven : „-“ = not proven : „0“ = partially detected.
- The regulator consists of two parts; vortex chamber and slide valve

Evaluation key of the test results:

Very Good = 1.0 - 1.5. Good = 1.6 - 2.5.  
Satisfactory = 2.6 - 3.5. Sufficient = 3.6 - 4.5.  
Poor = 4.6 - 5.5. Insufficient = 5.6 - 6.0

SüwVO: Regulations for Self-Monitoring of Waste Water, State of North-Rhine Westphalia, Germany

Satisfactory (3.5)	Defective (5.0)	Unaudited
Turbo-Vortex Throttle TUR 3.3 DN 200	„Alpheus AA Automatic Regulator“	Jet Throttle Type 1
UFT Environmental and Fluid Technology GmbH	BIOGEST AG	UFT Environmental and Fluid Technology GmbH **
Satisfactory (3.5)	Defective (5.1)	Not evaluated
4,7	6,0	5,3
1,5 / 5,0	6,0 / 6,0	3,5 / 6,0
5,0 / 5,0	6,0 / 6,0	3,5 / 6,0
4,0	6,0	Unaudited
3,0 / 5,0	6,0 / 6,0	Unaudited
5,0 / 3,0	6,0 / 6,0	Unaudited
2,0	4,0	4,0
1,2	1,3	2,8
Satisfactory (3.0)	Acceptable (4.0)	Good (2.5)
+ / +	+ / -	+ / +
+	+	+
-	-	+
- / -	- / -	- / -
+ / -	- / -	- / +
+	+	+
No abnormalities (+)	No abnormalities (+)	No abnormalities (+)
Yes	Yes	Yes
No	No	No
Half Dry	Wet	Half Dry
140 / 1.1 x 0.7 x 0.7 ; 0.3 x 0.3 x 1.612	120 / 0.9 x 0.4 x 0.2	150 / 0.8 x 0.4 x 1.1
Yes / 240 / 36	Yes / 120 / 18	Yes / 60 / 37
Yes / 90 / 74	No / - / -	No / - / -
100 / 60 / 20	140 / 100 / 20	165 / 10 / 20
9819/796/689	6581/680/1080	7620/incl./no data

### Citations from the test report:



#### OVERALL IMPRESSION

The regulator attained the mark “very good” during the hydraulic functionality test phase I with 25 l/s (Mark 1.3), whereby evaluation of the individual criteria fell between 1.0 and 2.0.

The regulator attained the mark “good” during the hydraulic functionality test phase II with 10 l/s (Mark 1.8). Here, the assessment of the individual criteria lay between 1.0 and 2.5.

For blockage removal reliability the HydroSlide Automatic Regulator GM gained the mark 3.0. No blockage risk occurred during tests using wooden sticks, stoneware shards, bricks and core samples. Testing with hygiene articles (singly and as a mass) resulted in an activation of the automatic de-plugging process.

The system was awarded the mark 1.2 for its condition at the end of the test phase.

Quality assurance was marked with 3.5. The supplier provided 4 of 9 criteria (Regulator key technical data; Scope of guarantee; Operating, Maintenance and Installation Guide; External monitoring).”



**Source:** Product test certification from product test report IKT Product Test Flow Regulators, Issue 26.02.2018

Further information as well as the full test report in the German language can be found on the IKT homepage [www.IKT.de](http://www.IKT.de)

#### Constant improvement process

For Steinhardt GmbH the test results highlighted potential for improvement. The complete quality assurance documentation is now standard issue for all HydroSlide Automatic Regulator GM orders. The documents include not just operating instructions and risk assessment but also external monitoring and self-monitoring credentials, proof of ex-protection, qualification certificates and information on training courses.

We thank our clients for their constructive comments.