

PASSAVANT GEIGER



Passavant Shut-off Devices

PASSAVANT

Products & Services

SHUT-OFF DEVICES

Passavant Shut-off Devices

Shut-off devices play a central role in the shutting-off, regulation and control of water and effluent flows in drainage systems. As regards flood-fighting and protection of surface waters, they also perform the safety relevant functions serving the protection of people, buildings and installations in the endangered areas. It follows that functionality and reliability have to meet stringent criteria.

Fields of Application

Shut-off devices are used to shut-off and regulate the flow of water and effluents in various plants:

- Municipal and industrial sewage plants
- Flood protection
- Surface water retention
- Drain network shafts
- Storage basins
- Dams
- Cooling towers at power stations

Passavant offers made-to-measure and use-friendly solutions for these and other fields of application.

Programme Variety

Passavant offers a comprehensive range of reliable products and system components which do full justice to requirements as regards operating convenience, functionality, reliability and safety. Shut-off devices are available:

- for various drainage sections
- in corrosion-resistant materials
- in dimensions ranging from
DN 150 to 3400 mm wide x 3400 mm high

In addition, shut-off devices are also available in larger dimensions for particularly special applications.

Quality without Compromise

On the occasion of the development and production of shut-off devices, Passavant looks back on more than 100 years of experience. Stringent quality criteria guarantee safety within a general framework and reliability down to the most minute detail. It follows that Passavant's shut-off devices have proved themselves all over the world – also under the most rigorous conditions.

Recommendations for the Use of Passavant Shut-off Devices

The general conditions for the fitting and operation of shut-off devices are set out by DIN 19569, part 4. This standard also includes Passavant's long standing experience and special know-how. It is almost a matter of course that the shut-off devices meet the requirements of this DIN standard.

When deciding on the installation of shut-off devices, a large number of factors (for example type of installation, channel/drain cross-section and water properties) have to be taken into consideration. A fundamental decision is the choice of the ideal material which is primarily a function of the degree of impurities and the chemical load of the water/effluent.

The adjacent comparison provides a decision guidance for the choice of materials and indicates the major advantages presented by the different types of construction.

1 Regulating gate and sluice gate combination front side, installed in the sewer system of Dresden, Germany

2 Penstock made of cast iron for flood protection in the sewer systems of Cologne, Germany

3 Cast iron gate with 3400 x 3400 mm design



Cast Iron Type

- Metallic sealing with wedging system
- DN 150 – 1400 mm for dowelling
- DN 150 – 3000 mm for pouring
- Special dimension on request

Recommendation for Use

Eminently suitable for coarsely soiled water/waste water at normal chemical load. Chiefly to be used as shut-off device for slide sills which cannot be mounted flush.

Fields of Application

- Drain network shafts
- Surface water retention basins
- Flood protection constructions
- Municipal sewage plants
- Pumping stations
- Trade and industrial water protection

Advantages

- Long service life thanks to material-related solidity
- High loading capacity with regard to hard and bulky objects in the waste water
- Long maintenance intervals, thus low running costs
- Convenient operating thanks to a favourable friction coefficient
- Metallic seal

Stainless Steel Type

- Elastic sealing with pressure lock at the base
- DN 200 – 3000 mm for dowelling and grouting
- Special dimension on request

Recommendation for Use

Eminently suitable for mechanically soiled water/waste water at higher chemical load. As shut-off and regulating device for slide sills which can be mounted flush.

Fields of Application

- Drain network shafts
- Surface water retention basins
- Flood protection constructions and sewage plants
- Dam lower discharge tunnels
- Cooling tower installations for power stations
- Pumping stations
- Trade and industrial water protection

Advantages

- Long service life thanks to choice of materials
- Seal replaceable on the plant
- Can be used as shut-off and regulating sliding valve
- Straight or semi-circular sill capable of being mounted flush
- All dimensions, including intermediate sizes, obtainable
- Can also be used for higher operating pressures in the form of reinforced types

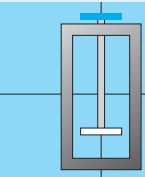
Cast Iron Type



Stainless Steel Type

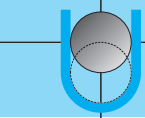


Sluice Gates and Penstocks in all Variations for Made-to-measure Installation



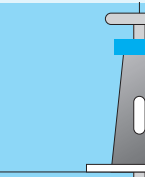
The tables below illustrate the diversity of installation possibilities, dimensions, materials and functions when using sluice gates as well as different types and various possibilities of penstocks.

	Sluice Gates	Weir Sluice Gates
Field of Application	Installation in open channel or fitted to channel inlet and outlet. Suitable to shut-off and regulate the through-flow medium.	Fitted to channel inlet and outlet. Suitable for regulating the outflow or setting the level.
Types of Fastening	pouring into recess/dowelling to smooth concrete wall	dowelling to smooth concrete wall/pouring into lateral recess
Cross-section Shapes	square, rectangular	square, rectangular
Sill Shapes	straight, circular, triangular	straight
Dimensions (mm)	200 x 200 – 3000 x 3000	200 x 200 – 3000 x 3000
Materials	stainless steel	stainless steel
Means of Operation	manual, electric actuator, piston drive	



	Penstock with Wedge Lock and Metallic Seal	Penstock with Roller Wedge Lock and Metallic Seal	Penstock with Wedge Lock or Roller Wedge Lock and Metallic Seal	Penstock with Sliding Kids and Elastic Profile Seal
Field of Application	Fitted to pipe or drain outlet (inlet). Suitable to shut-off the through flow medium.			Fitted to pipe and drain outlet (inlet). Suitable to shut-off and regulate the through flow medium.
Types of Fastening	mounting to smooth concrete wall by chemical anchors	mounting to smooth concrete wall by chemicals anchors	grouting into recess	dowelling to smooth concrete wall/grouting into recess
Cross-section Shapes	circular, rectangular	circular	circular, square, rectangular, egg-/mouth-shaped	square, rectangular
Dimensions (DN or W x H in mm)	150 – 500 200 x 200 – 1200 x 1200	600 – 1400	150 – 3400	200 x 200 3000 x 3000
Materials	GG (grey cast-iron) GGG (ductile cast-iron)	GG (grey cast-iron) GGG (ductile cast-iron)	GG (grey cast-iron) GGG (ductile cast-iron)	stainless steel
Means of Operation	manual, electric actuator, piston drive			—

The Correct Drive at all Levels for Reliable Operation and Convenient Handling



The tables below supply detailed information on the type of drive, as well as the requirements to be met by installation and operation. Several types of drive are available to operate the sluice gates and penstocks. In principle, a distinction is made between two types of drive:

- Drives for above floor use (For shut-off devices with drive above floor, e.g. actuated by bracket stand with handwheel)
- Drives for below floor use (For shut-off devices with drive inside the shaft, e.g. actuated by operating keys)

Drives for Above Floor Use	Drive on Yoke	Drive on Mounting Beam	Drive on Bracket Headstock	Drive on Headstock
Suitable for Shut-off Devices	sluice gates, weir sluice gates, penstocks DN 150 – 3000, W x H 200 x 200 – 3400 x 3400 mm			
Operating Device	handwheel, bevel gear with handle, electric actuator, piston drive			
Types of Spindle	non-rising, non-rising with sleeve pipe, rising spindle			
Types of Bearings	friction bearing/roller bearing			
Additional Fittings	pressure sealed ceiling passage/Indicator (mechanical or with limit switch)			
Drives for Below Floor Use	Manual Lifting Rod	Drive Inside Shaft	Drive in Ceiling	
Suitable for Shut-off Devices	hand gate DN 150 – 450	penstocks, sluice gates, weir sluice gates DN 150 – 3000, W x H 3400 x 3400 mm		
Operating Device	manual lifting rod	operating key, spur gear or bevel gear, electric actuator, piston drive	operating key, spur gear	
Types of Spindle	—	fixed spindle, non-rising spindle with sleeve pipe, draw spindle, non-rising spindle		
Types of Bearings	—	friction bearing, roller bearing		
Additional Fittings	suspension eye	pressure sealed wall passage/Indicator (mechanical or with limit switch)		

Special Solutions for Individual Requirements. Flaps, other Shut-off Devices and Accessories.



The types illustrated by the table below give an overview of the potential of this special range which offers proven solutions even for exceptional conditions. In addition, if requested, our designers also provide made-to-measure, application-specific individual solutions.

Types	Flap Valves	Handgate	Flushing Inserts	Stop Plate	Dam-beam Log	Regulating Gate	Flood Valves
Fields of Application	Fitted to retention constructions. Suitable for backflow protection against flooding.	Fitted to pipe and drain outlet/inlet. Suitable to shut-off the throughflow medium.	Fitted to pipe and drain outlet/inlet. Suitable as flush device for drains.	Fitted in open channels or to channel inflow and channel outflow. Suitable to shut-off the through flow medium.	Fitted in open channels or to channel inflow and channel outflow. Suitable to shut-off the through flow medium.	Fitted to pipe and drain outlet/inlet. Suitable to regulate the throughflow volume.	To be fitted to constructions in the ground water area. The valve opens up when there is water pressure from below.
Types of Fastening	grouting, dowelling, flanging	grouting, dowelling, flanging	grouting	grouting, dowelling	grouting, dowelling	grouting, dowelling	grouting
Cross-section Shapes	square, rectangular, circular	circular	circular	square, rectangular	square, rectangular	square, rectangular	circular
Dimensions (DN or W x H in mm)	200 – 2600 200 x 200 – 3000 x 3000	100 – 450	150 – 500	500 x 500 – 3000 x 3000	500 x 500 – 3000 x 3000	200 x 2200 1000 x 1000	200
Materials	GG (gray cast-iron) stainless steel	GG (gray cast-iron)	GG (gray cast-iron)	stainless steel	stainless steel aluminium	stainless steel	GG (gray cast-iron) stainless steel
Operating-method	—	manual pull	manual pull	lifting device	lifting device	manual, electric actuator, piston drive	—





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