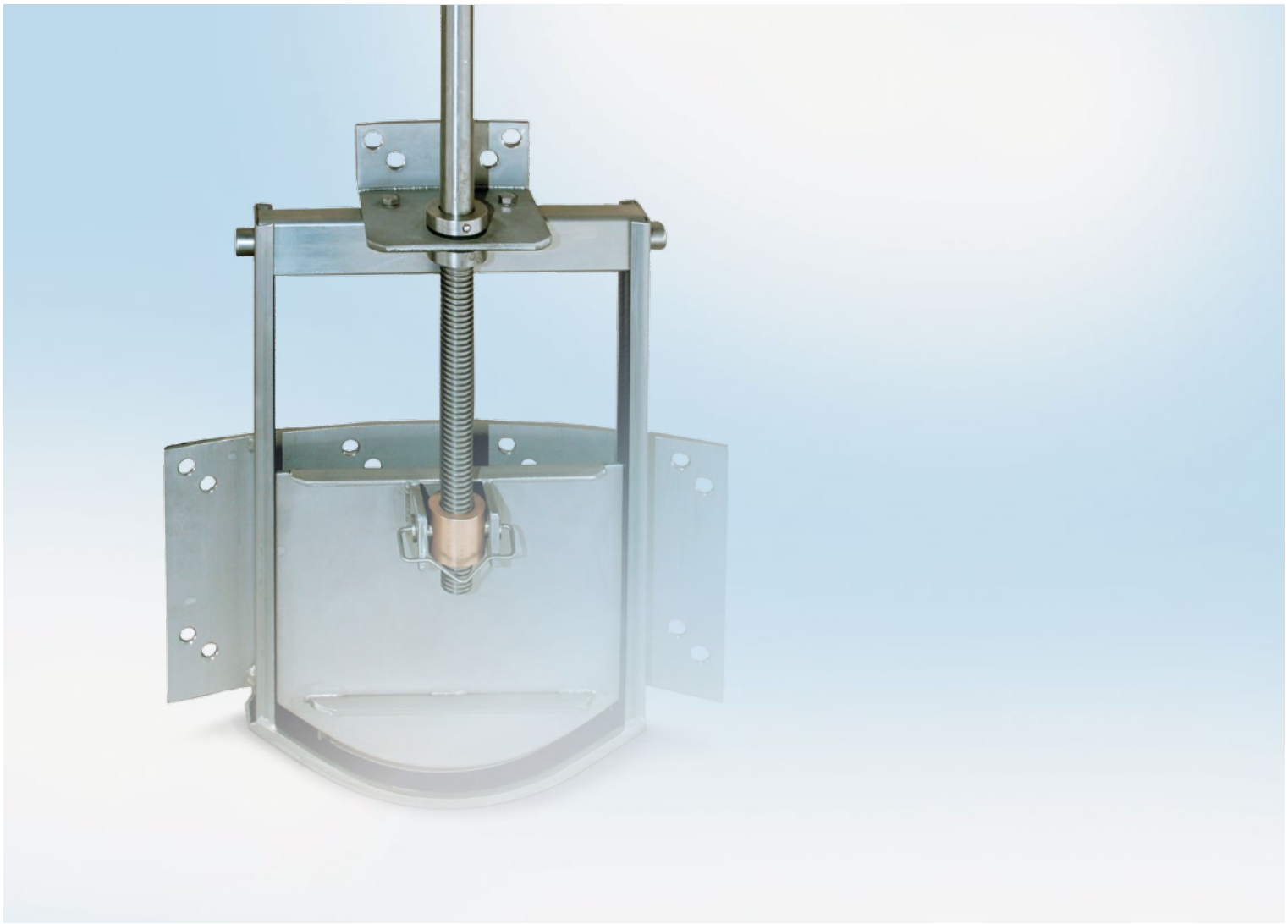
ERHARD
BY TALIS

WAGU®-
Sewage Engineering



WAGU®-SEWAGE ENGINEERING – FOR A CLEAN ENVIRONMENT

WAGU valves in use worldwide. Whether at Munich Airport or La Florida waterworks in South America – WAGU valves from ERHARD are ideally suited for use in sewage engineering, water industry and flood protection.

- WAGU® penstocks without housing are used as isolating and regulation devices in the fields of sewage and waste engineering. They are field-proven for isolating and regulating open channels, inlets and outlets of canals, sewers, pits, basins and pipelines.
- WAGU® penstocks are used for flow control, for maintaining the sewage level, for flow limitation, distribution of channel flow and ensure recirculation.
- The specialised variety of design versions and different materials provide the customer with a wide range of WAGU® penstocks to choose from for nearly all requirements in the field of sewage engineering.
- WAGU® penstocks are available from 150 mm to 3000 mm and in different materials such as hot-dip zinc-coated steel, stainless steel as well as aluminium alloys.

Installation

Depending on the type of design, WAGU® penstocks are eighter mounted to smooth concrete walls or in the channel.

- **Wall bolting type**
  Bolting is the most common installation method. Therefore, the frames are provided with factory-made boreholes. For fastening we recommend to use chemical anchors (resin bolts consisting of mortar cartridges and threaded rod with hexagon nut and A4 washer). Prior to wall attachment, seal the outer frame edge with flexible, single-faced adhesive sealing tape. The corresponding mounting parts including sealing tape are supplied with the valve.
- **Grouting type**
  The WAGU® penstocks are inserted in the provided recess and fixed. Then the recess is boarded and grouted with concrete of appropriate quality.
- **Channel recess mounting**
  Insert the WAGU® penstocks in the channel recess. The exact height is adjusted by means of the screw at the frame sill, with the frame being aligned to the recess by means of the lateral set screws. Then the recess is boarded and grouted with the proper type of concrete.
- **Installation**
  On request, the WAGU® penstocks can be installed on site by Erhard fitters. However, the penstocks can also be installed by an assembly company in accordance with the ERHARD installation instructions. For large-scale projects, we recommend to have ERHARD specialists conduct the installation work or in case of self-assembly to request the assistance of an ERHARD chief field service technician.

WAGU VALVES FOR EVERY TYPE OF WATER FLOW

WAGU gate valves and sluices are penstocks used for isolating and regulating open channels, inlets and outlets of canals, sewers, pits, basins and pipelines. Thanks to the wide variety of versions and specific material, WAGU valves are ideally suited for use in sewage engineering, the water industry and flood protection.

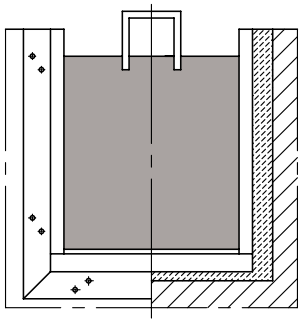
- Modular component assembly for universal accommodation of all operating gear options and for individual designs and sizes
- Customised material selection: stainless steel, aluminium alloys and hot-dip zinc-coated steel as well as special materials on request
- Tried and tested sealing principle with clamped lip and invert seal
- 3 or 4-facing seals in both directions of flow
- Plate guided by lateral slider strips or sliding curves in the frame, non-abrasive guides, low actuating forces
- Maintenance-friendly due to clamped or bolted sealing profile
- Easy installation due to wall sealing without grouting and variable fastening claws or fixing brackets
- Reduced recess dimensions, therefore low structural costs

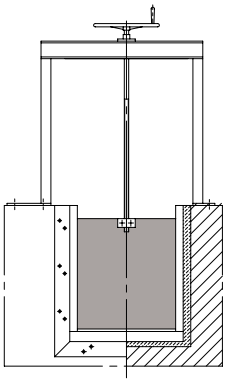
The WAGU range includes numerous variations, such as:

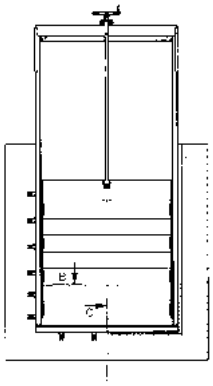
- **ERHARD WAGU CL**
  DN 150-1200, working pressure up to 0.4 bar, for wall bolting, also available as special version for Round sewers from diameter DN 1000
- **ERHARD WAGU PRO**
  DN 150-1200, working pressure up to 0.6 bar, for wall bolting or grouting or as a flange type, adapters available for Round sewers
- **ERHARD WAGU GK**
  DN 150-3000, special sizes possible, up to 2 bar working pressure, for wall bolting, grouting or as flange type, adapters available for Round sewers, also suitable for drinking water

ERHARD Performance	Benefit to the user
Welded design based on modular concept.	Low cost. Any dimension available.
Standardised sealing profiles ensure permanent sealing properties, low wear and easy replacement. Low operation forces required.	- Long life. - Reliability. - Little maintenance.
Alternatively 4-facing isolating devices available also in reinforced design.	Application for increased working pressures up to 2 bar. Higher gauge working pressures on request.
Ideal material combinations suited for every type of application: - Hot-dip zinc-coated steel. - Stainless steel. - Aluminium alloy.	Applicable for any flow medium
Many design variants and attachment options.	Existing plants can be upgraded to WAGU® standard at any time without modification of the buildings

WAGU®-PRODUCT RANGE – OVERVIEW - SHUT-OFF DEVICES



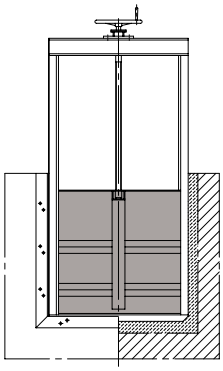




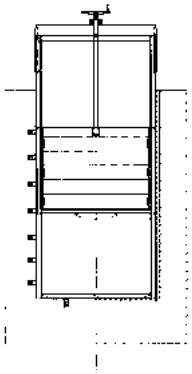
Type of valve	*Handstop*	*Channel Penstock L*	*WAGU-PRO-Channel Penstock*
Product characteristics	Welded U-shaped frame of C-profile with inserted profile seal and flush invert sealing. Smooth penstock door with lifting handle, from size width = 800 mm with reinforcing ribs.	Welded U-shaped frame of C-profile with inserted profile seal and flush invert sealing. Smooth penstock door, from width = 800 mm, with reinforcing ribs. Operating device consisting of welded bearing bracket with fixed stem and stem nut attached to door.	Welded frame made of torsion-proof rolled steel sections. Frame with positive-fit guide bar. Clamped lip profile. Wall sealing with self-adhesive sealing tape. Bolted to the wall by means of variable fastening claws. Operating gear is mounted directly on the thrust bridge.
Materials Frame/Door/Seal	1.4301/AlMg3/Neoprene 1.4301/1.4301/Neoprene 1.4571/1.4571/Neoprene *)	1.4301/AlMg3/Neoprene 1.4301/1.4301/Neoprene 1.4571/1.4571/Neoprene *)	Frame 1.4301/1.4571 Door 1.4301/1.4571
Sealing	3-facing	3-facing	3-facing
Apertures	Square Rectangular	Square Rectangular	Square Rectangular
Still shapes	Straight Round Trapezoidal	Straight Round Trapezoidal	Straight Round
Fixing types	Grouting Bolting to channel outlet Channel bolting	Grouting Bolting to channel outlet Channel bolting	Grouting Bolting to channel outlet Channel bolting
Dimensions W x H or DN	200 x 200 up to 1000 x 1000	200 x 200 up to 1200 x 1200	1000 X 1000 up to 2000 X 2000
Type of operation	Via lifting handle	Manual operation **) Electric actuator **) Hydraulic or pneumatic actuator See product line overview for operating gears	Manual operation **) Electric actuator **) Hydraulic or pneumatic actuator See product line overview for operating gears
Installation	In open channel or bolting to channel outlet width up to 1000 mm and door height up to 1000 mm. This door size should not be exceeded due to the required pulling force.	In open channel or mounting to channel outlet with widths up to 1200 mm and door heights up to 1200 mm, suitable for isolation or throttling of the flow medium.	In open channel or mounting to channel outlet up to size 2000 x 2000. Suitable for isolating or controlling or restricting the flow medium.

**) Other materials and different material combinations possible*

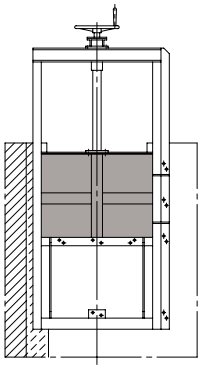
***) Rising stem upon reques*



Channel Penstock S



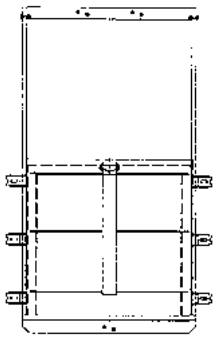
WAGU-PRO-Weir Type Channel Penstock

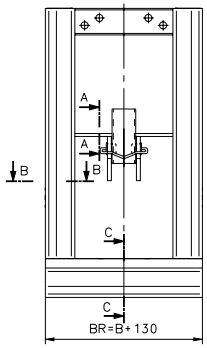


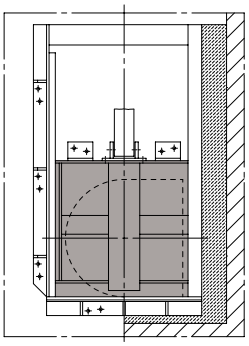
Weir Type Channel Penstock

Welded frame made of U-profile with thrust bridge and bolted-on profile seal as well as enclosed flush invert seal. Penstock door with reinforcing ribs and plastic rails. Operating gear is mounted directly on the thrust bridge, stem nut inserted in the door.	Welded frame made of torsion-proof rolled steel sections. Frame with positive-fit guide bar. Clamped lip profile. Wall sealing with self-adhesive sealing tape. Install variable fastening claws on the wall with dowels. Operating gear is mounted directly on the thrust bridge.	Welded frame with thrust bridge and bolted-on profile seal as well as enclosed flush invert seal, Penstock door with reinforcing ribs and plastic rails. Operating gear directly mounted on the thrust bridge. Stem nut inserted in the door.
Hot-dip zinc-coated steel/hot-dip zinc-coated steel/Perbunan 1.4301/1.4301/Perbunan 1.4571/1.4571/Perbunan *)	Frame 1.4301/1.4571 Door 1.4301/1.4571	Hot-dip zinc-coated steel/hot-dip zinc-coated steel/Perbunan 1.4301/1.4301/Perbunan 1.4571/1.4571/Perbunan *)
3-facing	3-facing	3-facing
Square Rectangular	Square Rectangular	Square Rectangular
Straight Round Trapezoidal	Straight	Straight
Grouting Bolting to channel outlet Channel bolting	Bolting Grouting into lateral recess	Bolting Grouting into lateral recess
400 x 400 up to the largest dimensions	150 x 150 up to 2000 X 2000	400 x 400 up to the largest dimensions
Manual operation **) Electric actuator **) Hydraulic or pneumatic actuator See product line overview for operating gears	Manual operation **) Electric actuator **) Hydraulic or pneumatic actuator See product line overview for operating gears	Manual operation **) Electric actuator **) Hydraulic or pneumatic actuator See product line overview for operating gears
Installation in open channel or mounting to channel outlet up to the largest dimensions. Suitable for isolating, regulating or restricting the flow medium.	Installation in open channel or mounting to channel outlet up to size 2000 x 2000. Suitable for discharge control or level adjustment.	Installation to the channel outlet up to the largest dimensions. Suitable for discharge control or level adjustment.

WAGU®-PRODUCT RANGE – OVERVIEW - SHUT-OFF DEVICES



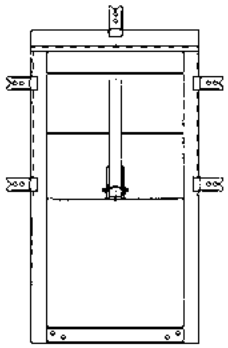


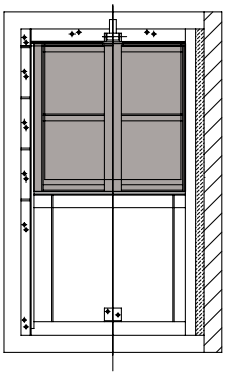


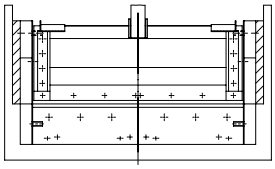
Type of valve	*WAGU-CL Penstock and Control Gate*	*WAGU-PRO-Gate Valve*	*Gate valve with slider rails/ slider skids*
Product characteristics	or similar made of stainless steel, self-supporting welded construction made of torsion-proof rolled-steel sections, stem non-rising, integrated and smooth-running lip seal system "CL" between door and frame, seal easy to replace, permissible working pressures on front and rear up to 4 m wc, 4-facing seal, leakage rate in accordance with Class 4 acc. to DIN 19569-4, in intermediate positions sealing must be ensured between the frame and door in unreleased part of cross-section, wedge closure not allowed, enclosed flat seal on the sill is flush with invert, brand: ERHARD	Welded frame made of torsion-proof rolled steel sections. Frame with positive-fit guide bar in the frame. Clamped lip profile. Wall sealing with self-adhesive sealing tape. Bolted to the wall by means of variable fastening claws.	Welded frame with bolted-on profile seal and enclosed flush invert seal. Gate with reinforcing ribs, sliding skids and suspension device for stem nut and push rod.
Materials Frame/Door/Seal	Frame 1.4301/1.4571 Door 1.4301/1.4571 Stem 1.4305/1.4571 Neoprene seal fixing parts A4	Frame 1.4301/1.4571 Door 1.4301/1.4571	Hot-dip zinc-coated steel/hot-dip zinc-coated steel/Perbunan 1.4301/1.4301/Perbunan 1.4571/1.4571/Perbunan *)
Sealing	4-facing	4-facing	4-facing
Apertures	Square Rectangularg	Square Rectangularg	Square Rectangularg
Still shapes	Straight Round	Straight Round	Straight Round
Fixing types	Bolting Grouting	Bolting Grouting	Bolting Grouting
Dimensions W x H or DN	150 x 150 up to 1200 x 1200	150 x 150 up to 1600 X 1600	150 x 150 up to the largest dimensions
Type of operation	Square cap hand Hand wheel Electric actuator Power piston	Manual operation **) Electric actuator **) Hydraulic/pneumatic actuator See product line overview for operating gears	Manual operation **) Electric actuator **) Hydraulic/pneumatic actuator See product line overview for operating gears
Installation		Mounting to pipe outlet or channel outlet up to 1200 x 1200 + 6m wc, suitable for isolation, regulation or reduction of the flow medium. 1300/1300 X 1600 X 1600 4mWS	Mounting to pipe outlet or channel outlet up to the largest dimensions, suitable for isolating or controlling/throttling the flow medium.

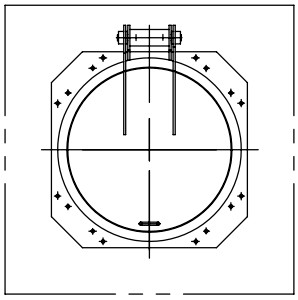
**) Other materials and different material combinations possible..*

***) Rising stem on request.*



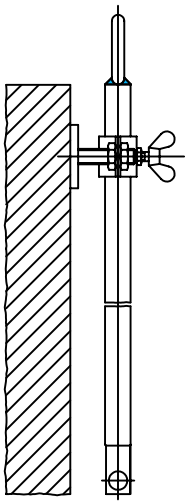
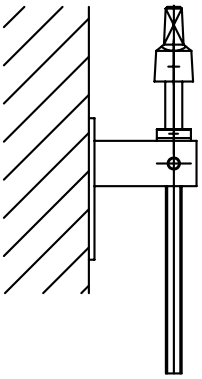
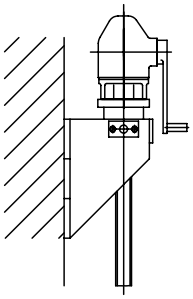
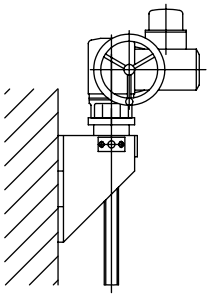
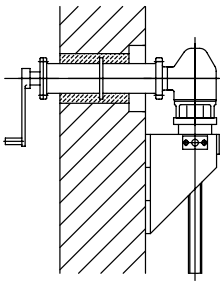






	WAGU-PRO-Penstock Gate	*Penstock Gate*	*Tilting-flap Spillway*	*Backwash Preventing Valve*
	Welded frame made of torsion-proof rolled steel sections. Frame with positive-fit guide bar. Clamped lip profile. Wall sealing with self-adhesive sealing tape. Bolted to the wall by means of variable fastening claws.	Welded frame with bolted-on profile seal and enclosed crown seal, gate with reinforcing ribs, plastic sliding strips and suspension device for stem nut and push rod.	Welded frame with lateral sealing plates, with spillway body in a torsion-proof hollow design. Longitudinal rubber tape seal bolted to frame and spillway body, serving as bearing and articulation at the same time, lateral faces: profile rubber attached to spillway body. Actuation via headstock with fixed stem.	Welded frame with cover hinge and transversal flap seating, facing inserted in frame or cover. The covers are available in three types: a: Plain cover b: Hollow-float cover c: Cover with lever and weight
	Frame 1.4301/1.4571 Door 1.4301/1.4571	Hot-dip zinc-coated steel/hot-dip zinc-coated steel/Perbunan 1.4301/1.4301/Perbunan 1.4571/1.4571/Perbunan *)	Hot-dip zinc-coated steel/hot-dip zinc-coated steel/Perbunan 1.4301/1.4301/Perbunan 1.4571/1.4571/Perbunan	Hot-dip zinc-coated steel/hot-dip zinc-coated steel/Perbunan 1.4301/1.4301/Perbunan 1.4571/1.4571/Perbunan
	4-facing	4-facing	3-facing	circumferential or 4-facing
	Square Rectangular	Square Rectangular	Square ectangular	Square Rectangular Round
	Straight	Straight	Straight	-
	Bolting Grouting into lateral Recesses	Bolting Grouting into lateral Recesses	Bolting	Bolting Grouted with wall ring Fixing with flange
	150 x 150 up to 1600 X 1600	150 x 150 up to the largest dimensions	500 x 200 up to 8000 x 1000 up to the largest dimensions	150 bzw. 200 x 200 up to the largest dimensions
	Manual operation **) Electric actuator **) Hydraulic/pneumatic actuator See product line overview for operating gears	Manual operation **) Electric actuator **) Hydraulic/pneumatic actuator See product line overview for operating gears	Manual operation **) Electric actuator **) Hydraulic/pneumatic actuator	Self-closing
	Attachment to tube or channel outlet up to size 1200 x 1200 and 6mWS, for isolation and regulation of the discharge flow or for adjustment of the medium level.	Mounting to channel outlet up to the largest dimensions, suitable for isolation as well as discharge or level control.	Installation in structural recesses for large discharge widths with low heights of travel, suitable for level control, floating sludge discharge, etc.	Installation in retaining reservoirs etc., suitable for use as a non-return device in a gravity sewer to prevent flooding.

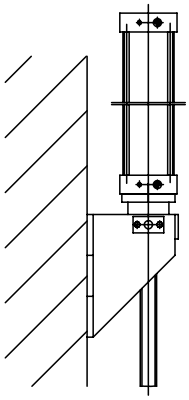
WAGU®-PRODUCT RANGE OVERVIEW – ACTUATION TYPES

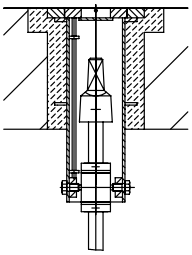






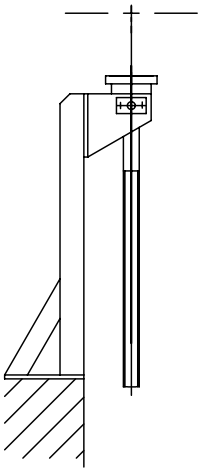
	Actuator type	*Manual lifting rod*	*Masonry bracket with cap*	*Wall bracket with cap*	*Wall bracket with gearbox*	*Wall bracket with Electric actuator*	*Wall bracket with Wall penetration*
	suitable for DN or W x H	150 - 400	150 - 1200	150 - 1200	150 - 2000	150 - 2000	150 - 2000
	Operating devices	Manual lifting rod	Operating key	Operating key	Operating manual wheel or manual crank	Electric	Manual wheel für crank or e-actuator
	Bearing types	-	Plain bearing, roller bearing	Plain bearing, roller bearingr	Roller bearing	Roller bearing	Roller bearing
	Stem types	-	Fixed stem or extension stem *)	Fixed stem or extension stem*)	Fixed stem or extension stem *)	Fixed stem or extension stem *)	Fixed stem or extension stem *)
Water-proof or submersible type	**Ceiling penetration**	-	x	x	x	x	-
	Stem bearing	-	x	-	-	x	x
	Gearbox	-	-	-	-	x	x
	E-actuator	-	-	-	-	-	-

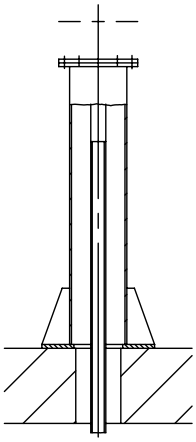
**) For installation depths less than 3 x DN or 3 x DN + 500, an extension stem is used. Rising stem on request*

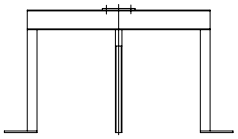
X = available type











Wall bracket with Pneumatic or hydraulic actuator	*Ceiling-mounted actuator*	*Projecting headstock*			*Projecting headstock*		*Drive pedestal*	
150 - 400	150 - 2000	150 - 2000			150 - 2000		up to the largest dimensions	
Pneumatic or hydraulic actuator with compressed air or hydraulic oil	Operating key or operating key via gearbox	Manual wheel or manual wheel or crank via gearbox	E-actuator	Pneumatic or hydraulic actuator with compressed air or hydraulic oil	Manual wheel or manual wheel or crank via gearbox	E-actuator	manual wheel or manual wheel or crank via gearbox	E-actuator
Rolling bearing	Plain bearing Roller bearing	Plain bearing Roller bearing	Roller bearing	Plain bearing	Plain bearing Roller bearing	Roller bearing	Roller bearing	Roller bearing
Piston rod	Fixed stem or Extension stem *)	Fixed stem or Extension stem *)	Fixed stem or Extension stem *)	Piston rod	Fixed stem or Extension stem *)	Fixed stem or Extension stem *)	Fixed stem or Extension stem *)	Fixed stem or Extension stem *)
x	x	x	x	x	x	x	x	x
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-

ALWAYS AT YOUR SIDE – ERHARD SERVICE

Merely delivering a product is not enough, especially where complex technical installations are involved. So we at ERHARD are at your side to help you with advice and support in all life-cycle phases. Highly qualified teams at our head office in Heidenheim and representatives throughout the whole of Germany and in more than 50 countries on five continents work together with you to devise first-class solutions.

Planning and design

Individual advice from our experienced engineers and technicians begins during the project phase. In a dialogue with our customers, we are thus able to achieve optimal solutions for series products or customised designs.

Particularly these "customised" packages are the reason why ERHARD products are very frequently used for difficult applications and installation situations.

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Installation and commissioning

If required by the customer, ERHARD fitters install the valves at your facility and commissioning the system together with your staff. This naturally also includes training and instruction measures for specialist staff based on detailed operating instructions and training documents.

Maintenance and repair

In addition, ERHARD also provides services during the long operational life of the valves Regular inspection and maintenance ensure a reliable valve operation at all times. In case of problems, repair work will be conducted promptly and on site. Spare parts required for repairs are quickly available even after years of operation. In addition, our technicians at the Heidenheim factory are available for major repair work. We also provide these services for other manufacturers' brands.

ERHARD – EXPERTISE THROUGH TRADITION

It was 1871 as the brass caster Johannes Erhard started his business in the small Swabian town of Heidenheim an der Brenz. Since this time, with our valves, we at ERHARD have been helping to ensure that water is available wherever it is needed: in private households, in public facilities, in agriculture or in industrial plant.

Proverbial Swabian inventiveness, the most recent technical findings and experience acquired over 140 years ensure that, with innovative solutions and our wide range of products, we can provide suitable systems for every task. Modern machinery, state of the art and environmentally friendly production methods and high-quality materials enable ERHARD to supply technically advanced, fully developed products with worldwide reputation:

ERHARD ERU K1 knife gate valve

ERHARD knife gate valve

ERHARD ECO knife gate valve

ERHARD Multamed-gate valve

ERHARD BEV for waste water and sewage

ERHARD SWING check valve

ERHARD RKV needle valve

ERHARD reflux valve

ERHARD ball check valve

www.talis-group.com

TALIS is the undisputed Number One for water transport and water flowcontrol. TALIS has the best solutions available in the fields of water andenergy management as well as for industrial and communal applications.We have numerous products for comprehensive solutions for the whole water cycle – from hydrants, butterfly valves and knife gate valves through to needle valves. Our experience, innovative technology, global expertise and individual consultation processes form the basis for developing longterm solutions for the efficient treatment of the vitally important resource "water".

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