

USER MANUAL

GATE VALVE zGAT

Fig. 110

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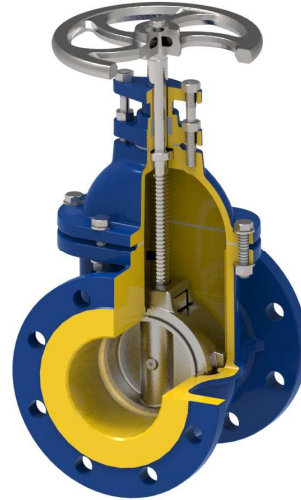


Fig. 110

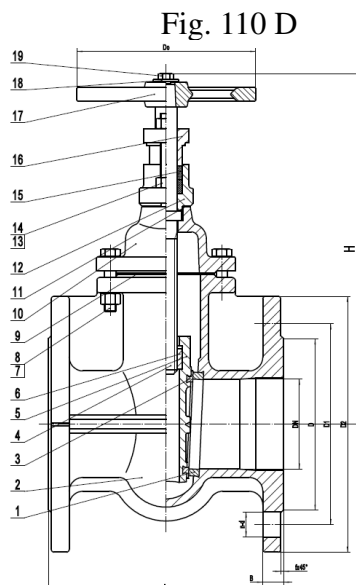
1. OPIS PRODUKTU

Gate valves are made in accordance with EN 1171, EN 1072-2, EN 1984 and EN 12266-1. The primary control element of the gate valve is the handwheel.

The gate valves have permanent marking. Marking facilitates technical identification and includes:

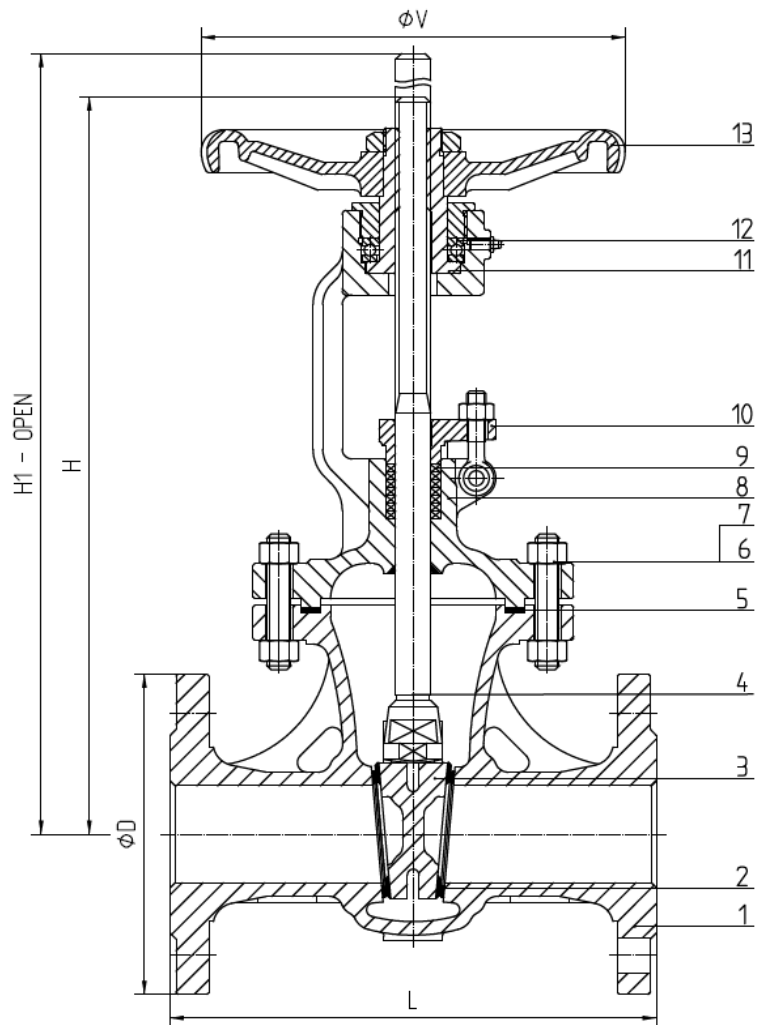
- nominal diameter DN (mm),
- nominal pressure PN (bar),
- identification of the body and cover material,
- symbol of the manufacturer
- CE marking, for valves subjected 2014/68/UE directive. CE marking starts from DN32

The D material gate valve has a non-rising handwheel and stem. The F-material gate valve has a non-rising handwheel and a rising stem.



	Body material	D	
	Type	02	01
1	Body seat ring	CuZn39Pb2	X20Cr13 (1.4021)
2	Body	EN-GJS-500-7 (5.3200)	
3	Wedge seat ring	CuZn39Pb2	X20Cr13 (1.4021)
4	Stem	X20Cr13 (1.4021)	
5	Wedge	EN-GJS-500-7 (5.3200)	
6	Stem nut	CuZn39Pb2	
7	Bolt	5,6	
8	Nut	5,6	
9	Gasket	Graphite	
10	Bonnet	GGG50 (EN-GJS-500-7 -5.3200)	
11	Stuffing box gasket	EPDM+ graphite	
12	Stuffing box	EN-GJS-500-7 (5.3200)	
13	Bolt	5,6	
14	Nut	5,6	
15	Packing	Graphite	
16	Gland follower	EN-GJS-500-7 (5.3200)	
17	Handwheel	EN-GJL 250 (5.1301)	
18	Washer	5,6	
19	Bolt	5,6	
Max. temperatur		120°C	150°C

Fig. 110 F



	Body material	F	
		01	03
1	Kadlub	GP240GH (1.0619)	
2	Body seat ring	Stellite 6	
3	Wedge + wedge seat ring	GP240GH (1.0619) + X20Cr13 (1.4021)	
4	Stem	X20Cr13 (1.4021)	
5	Gasket	Steel + Graphite	
6	Nut	ASTM A194 2H	
7	Bolt	ASTM A193 B7	
8	Bonnet	GP240GH (1.0619)	
9	Gasket	Graphite	
10	Gland follower	GP240GH (1.0619)	
11	Stem nut	Brass	
12	Bearing	Steel	---
13	Handwheel	EN-GJS 400-18 (5.3105)	---
Max. temperatur		400°C	

2. REQUIREMENTS FOR MAINTENANCE STAFF

Staff assigned to assembly, operating and maintenance should be qualified to perform this work.
In case of using mechanical actuators for valve, please read carefully and follow its manual.

3. TRANSPORT AND STORAGE

Store in closed and dry room.

4. FUNCTION

Gate valves feature shut-off function, i.e. they should operate in fully closed or fully open position. gate valves are not allowed for flow regulation.

5. APPLICATION

Designed for industrial and heating installations, shipbuilding industry, refrigeration and air conditioning, for media: drinking water, industrial water, glycol, diathermic oil, steam, compressed air, containing petroleum substances and other chemically neutral liquids.

Valves were designed for normal working conditions. In the case that working conditions exceed these requirements (for example for aggressive or abrasive medium) user should ask manufacturer before placing an order.

Working pressure should be adapted to maximum medium temperature according to the table as below.

Material	PN		Temperature [° C]								
			-60°C ÷ <-10°C	-10°C ÷ 120°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C
Acc EN 1092-2											
EN-GJS-500-7	16	bar	-----	16	15,2	---	---	---	---	---	---
Acc EN 1092-1											
GP240GH	16	bar	16	14,8	14	13,3	12,1	11	10,2	9,5	5,2
	25	bar	25	23,2	22	20,8	19	17,2	16	14,8	8,2
	40	bar	40	37,1	35,2	33,3	30,4	27,6	25,7	23,8	13,1

Table cells in gray relate to work in conditions of creep.



Valves made of GP240GH cast steel and operating at temperatures above 400°C due to material creep, cannot operate under these conditions for more than 100,000 hours.



The valve design withstands an unlimited number of fatigue cycles.

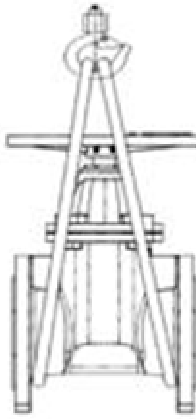
6. INSTALLATION

Handle with due care.

Valves should be lifted by means of safety straps and hook (Fig. 1).

During the assembly of gate valves following rules should be followed:

- to evaluate before an assembly if the valves were not damaged during the transport or storage,
- make sure that the valves used are appropriate for the operating parameters and media in a given installation,
- make sure that operating parameters and medium (fluid) on the installation are following requirements listed in manual
- take off dust caps if the valves are provided with them,
- steam lines must be routed in such a way as to prevent the accumulation of water; to prevent water hammer
- a condensate separator should be used,
- make sure that the pipeline is clean and free from any foreign material such as earth, stones, etc.
- if mounted in a manhole, install suitable outfall and drain.
- when installing gate valves with a diameter above DN 200, it is recommended to use dismantling interface to facilitate assembly/disassembly.
- tighten the screws with cross method, distributing pressure evenly until the valve body contacts with flanges.



Rys. 1



Pipeline where the valves are fitted should be conducted and assembled in such a way that the valve body is not loaded with bending moment and stretching forces.

Bolted joints on the pipeline must not cause additional stress resulted from excessive tightening and fastener materials must comply with working conditions of the plant.

7. OPERATION



- Do not leave the water-filled valves in locations where temperature may drop causing the freeze, if there is no liquid flow. In this case, empty the pipeline.

- Water hammers can cause damage or breakdown. Prevent them from occurring or install flexible connectors to reduce the effects of water hammers.

- the operation of the installed gate valves can be checked by repeated opening and closing. If there are leaks on the valve stem tighten two gland nuts using moderate force until leakage stops

- when it is necessary to supplement the packing, this operation should be done when: no pressure in the gate valve, cooled medium and fully open gate valve because then the internal space of the gate valve is completely cut off: in gate valves, through the profiled end of the stem and interface on the bonnet.

- to supplement the packing: unscrew the gland nuts (on the swing bolts), move up the gland in the wheel direction and fill stuffing-box with an open packing disc, then assemble gland back and tighten the nuts

8. MAINTENANCE AND REPAIR

The valve should work in the fully open or fully closed position. Operation of the gate valve in an intermediate position may damage it.

The gate valve should be opened and closed at least once a year. If too much force is required to override, close and open the gate valve several times to remove dirt from the stem.

During the current operation, pay attention to the tightness of the gland. The detected leakage must be removed immediately by tightening the gland screws. The gland packing graphite pack is a spare part subject to normal wear and tear and is not subject to warranty replacement.

9. VALVE SERVICE DISCONTINUITY

All obsolete and dismantled valves must not be disposed with household waste. ZETKAMA valves are made of materials which can be re-used and should be delivered to designated recycling centers.

10. WARRANTY CONDITIONS

ZETKAMA grants warranty for proper operation of its products, provided that they are installed in accordance with the instruction manual and operated in accordance with the technical specifications and parameters described in the ZETKAMA data sheets. Warranty period is 18 months from the date of installation, but not longer than 24 months from the date of sale.

the warranty does not cover assembly of foreign parts and design changes made by the user, neither natural wear and mechanical damage.

The user should inform ZETKAMA about hidden defects of the product immediately after detection.
Complaint must be in writing.

Address for correspondence:

ZETKAMA Sp. z o.o.
ul. 3 Maja 12; 57-410 Ścinawka Średnia
Phone +48 74 865 21 11
www.zetkama.com