

GEMÜ BB07

3/2-way ball valve with bare shaft



Features

- Suitable for vacuum applications
- Low maintenance and reliable spindle sealing
- Antistatic device

Description

The GEMÜ BB07 stainless steel 3/2-way ball valve has a bare shaft. Thanks to the top flange according to ISO 5211, easy actuator mounting is possible.

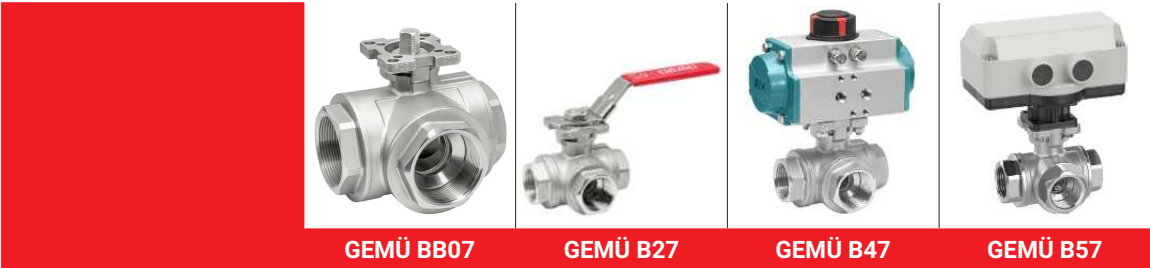
Technical specifications

- **Media temperature:** -40 to 180 °C
- **Ambient temperature:** -40 Up to 60 °C
- **Operating pressure :** 0 Up to 40 bar
- **Nominal sizes:** DN 8 to 50
- **Body configurations:** Multi-port body
- **Ball configurations:** L-port | T-port
- **Connection types:** Threaded connection
- **Connection standards:** DIN | NPT
- **Body materials:** 1.4408, investment casting material
- **Seal materials:** PTFE
- **Conformities:** FMEDA | Functional safety

Technical data depends on the respective configuration



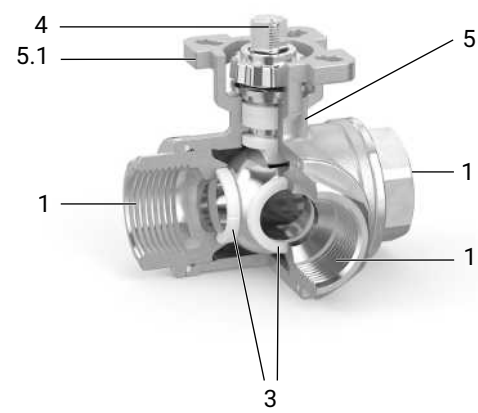
Product line



Operation				
With bare shaft	●	-	-	-
Manual	-	●	-	-
Pneumatic	-	-	●	-
Motorized	-	-	-	●
Nominal sizes	DN 8 to 50	DN 8 to 50	DN 8 to 50	DN 8 to 50
Media temperature	-40 to 180 °C	-40 to 180 °C	-40 to 180 °C	-40 to 180 °C
Operating pressure	0 to 40 bar	0 to 40 bar	0 to 40 bar	0 to 40 bar
Connection types				
Threaded connection	●	●	●	●

Product description

Construction



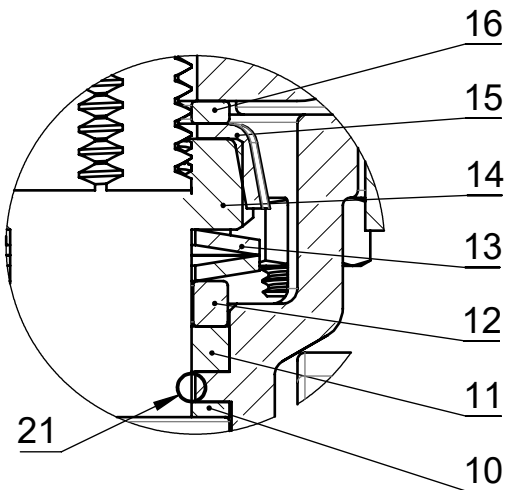
Item	Name	Materials
5	Ball valve body	1.4408 / CF8M
1	Pipe connections	1.4408 / CF8M
5.1	Mounting flange ISO 5211	1.4408 / CF8M
4	Ball valve shaft	1.4401 / SS316
3	Seal	PTFE

Pressure-relief hole

Pressure-relief
hole



The spindle seal system



Item	Name	Material
10	Seal	PTFE
11	V-ring	PTFE
12	Stainless steel sleeve	SS304-1.4301
13	Spring washer	SS304-1.4301
14	Spindle nut	A2 70
15	Cap	SS304-1.4301
16	Washer	SS304-1.4301
21	O-ring (spindle seal)	Viton

Long service life due to triple spindle seal

- Conical spindle seal:

The seal **10** arranged at an angle of 45° effectively prevents the leakage of media when operating the spindle

- O-ring:

Stabilising spindle seal **21** with low wear and long service life

- Pretensioned self-adjusting spindle seal:

The spindle packing consists of several V-rings **11**, a spring washer **13** and a stainless steel sleeve **12**. The spring washer **13** is pretensioned via the spindle nut **14**. The pretension force is distributed to the V-rings **11** via the stainless steel sleeve **12**, thereby preventing the leakage of media. The pretension provides low maintenance and reliable spindle sealing even after a long service life.

GEMÜ CONEXO

The interaction of valve components that are equipped with RFID chips and an associated IT infrastructure actively increase process reliability.



Thanks to serialization, every valve and every relevant valve component such as the body, actuator or diaphragm, and even automation components, can be clearly traced and read using the CONEXO pen RFID reader. The CONEXO app, which can be installed on mobile devices, not only facilitates and improves the "installation qualification" process, but also makes the mainten-

ance process much more transparent and easier to document. The app actively guides the maintenance technician through the maintenance schedule and directly provides him with all the information assigned to the valve, such as test reports, testing documentation and maintenance histories. The CONEXO portal acts as a central element, helping to collect, manage and process all data.

For further information on GEMÜ CONEXO please visit:

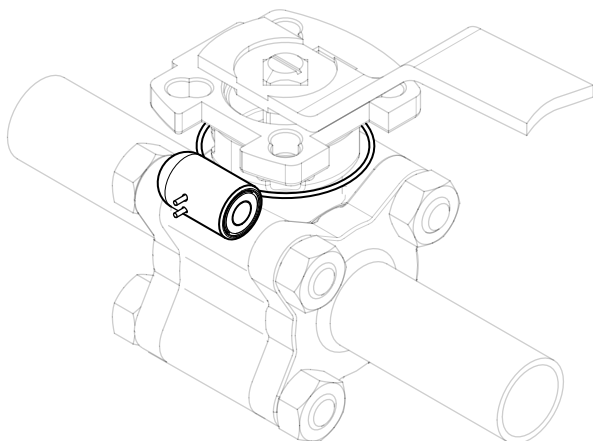
www.gemu-group.com/conexo

Ordering

GEMÜ Conexo must be ordered separately with the ordering option "CONEXO".

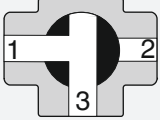
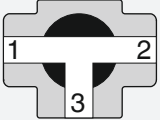
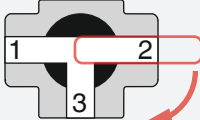
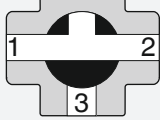
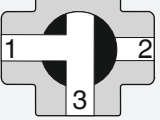
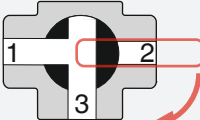
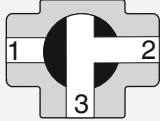
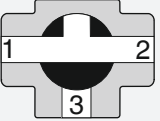
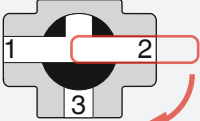
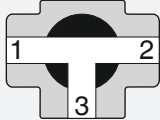
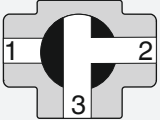
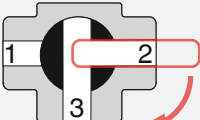
Installing the RFID chip

In the corresponding design with CONEXO, this product has an RFID chip for electronic identification purposes. The position of the RFID chip can be seen below.

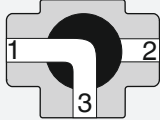
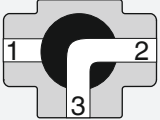
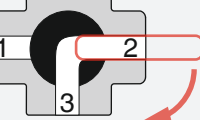
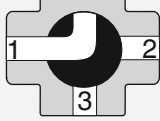
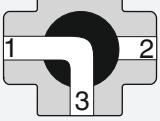
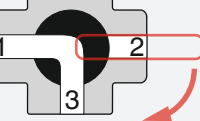


Port positions

T-port

	CLOSED end position	OPEN end position	Condition as supplied to customer OPEN
Delivery condition			
Code T			
Optional port positions, can be user adjusted			
Code 2			
Code 3			
Code 4			

L-port

	CLOSED end position	OPEN end position	Condition as supplied to customer OPEN
Delivery condition			
Code L			
Optional port positions, can be user adjusted			
Code 6			

Application

- Heating systems
- Beverage industry
- Foodstuff industry
- Chemical industry
- Drinking water installations
- Processing industry
- HVAC

Order data

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Products ordered with **bold marked ordering options** are so-called preferred series. Depending on the nominal size, these are available more quickly.

Order codes

1 Type	Code
Ball valve body, metal, multi-port, thread, ISO 5211, top flange, low-maintenance spindle seal and blow-out proof shaft, with antistatic unit	BB07

2 DN	Code
DN 8	8
DN 10	10
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50

3 Body/ball configuration	Code
Multi-port design, T-port, end position "Open", connection 1 and 3 open, T-port, end position "Closed", connection 1 and 2 open (for port position, see datasheet)	2
Multi-port design, T-port, end position "Open", connection 1 and 2 open, T-port, end position "Closed", connection 2 and 3 open (for port position, see datasheet)	3
Multi-port design, T-port, end position "Open", connection 2 and 3 open, T-port, end position "Closed", connection 1, 2 and 3 open (for port position, see datasheet)	4
Multi-port design, L-port, end position "Open", connection 1 and 3 open, L-port, end position "Closed", connection 1 open (for port position, see datasheet)	6
Multi-port design, L-port, standard end position "Open", connection 2 and 3 open, L-port, standard end position "Closed", connection 1 and 3 open (for port position, see datasheet)	L

3 Body/ball configuration	Code
Multi-port design, T-port, standard end position "Open", connection 1, 2 and 3 open, T-port, standard end position "Closed", connection 1 and 3 open (for port position, see datasheet)	T

4 Connection type	Code
Threaded socket DIN ISO 228	1
NPT female thread	31

5 Ball valve material	Code
1.4408/CF8M (body, connection), 1.4401/SS316 (ball, shaft)	37

6 Seal material	Code
PTFE	5

7 Special version	Code
Without	
ATEX certification	X

8 Type of design	Code
Standard	
Thermal separation between actuator and valve body by mounting kit, mounting kit and mounting parts in stainless steel	5227
K-no. 5227, K-no. 7056, 5227 – thermal separation by mounting kit, 7056 – drilled shaft, shortened hand lever	5237
Hand lever shortened for construction of feedback units. Shaft face drilled for mounting kit: DN 8–DN 20 M5 x 12.5/depth of thread 9.0 mm, DN 25–DN 100 M6 x 15/depth of thread 10.0 mm	7056

9 CONEXO	Code
Without	
Integrated RFID chip for electronic identification and traceability	C

Order example

Ordering option	Code	Description
1 Type	BB07	Ball valve body, metal, multi-port, thread, ISO 5211, top flange, low-maintenance spindle seal and blow-out proof shaft, with antistatic unit
2 DN	15	DN 15

Order data

Ordering option	Code	Description
3 Body/ball configuration	T	Multi-port design, T-port, standard end position "Open", connection 1, 2 and 3 open, T-port, standard end position "Closed", connection 1 and 3 open (for port position, see datasheet)
4 Connection type	1	Threaded socket DIN ISO 228
5 Ball valve material	37	1.4408/CF8M (body, connection), 1.4401/SS316 (ball, shaft)
6 Seal material	5	PTFE
7 Special version		Without
8 Type of design		Standard
9 CONEXO	C	Integrated RFID chip for electronic identification and traceability

Technical data

Medium

Working medium: Corrosive, inert, gaseous and liquid media and steam which have no negative impact on the physical and chemical properties of the body and seal material.

Temperature

Media temperature: Connection code 17, 19, 59, 60: -10 – 180 °C
 Connection code 1, 31, 8, 11: -20 – 180 °C
 For media temperatures > 100 °C, we recommend using a mounting kit with adapter between the ball valve and the actuator.

Ambient temperature: -40 – 60 °C
 For ATEX versions, the ambient temperature specifications in the "Supplement acc. to ATEX" and the specifications on the ATEX-marking on the product apply.

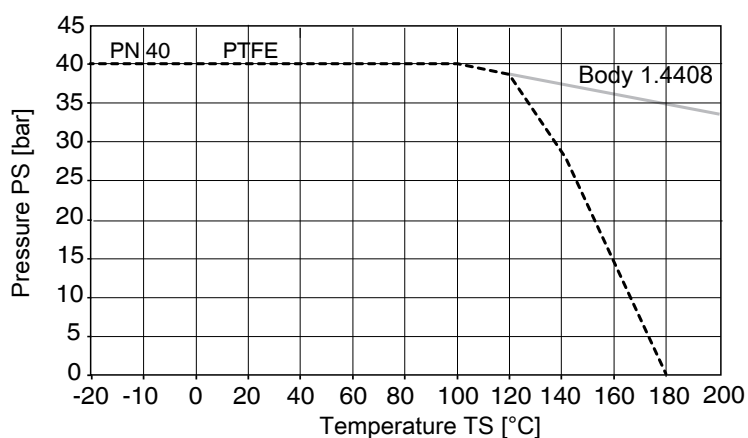
Storage temperature: 0 – 40 °C

Pressure

Operating pressure: 0 – 40 bar

Vacuum: Can be used up to a vacuum of 50 mbar (absolute)
 These values apply to room temperature and air. The values may deviate for other media and other temperatures.

Pressure/temperature diagram:



Note media temperature

Pressure/temperature data in accordance with diagram refers to static operating conditions. Strongly fluctuating or fast-changing parameters can lead to a reduction of the service life. Special applications must be talked through with your technical contact person in advance.

Leakage rate: Leakage rate according to ANSI FCI70 – B16.104
 Leakage rate according to EN12266, 6 bar air, leakage rate A

Kv values:



DN	NPS	Kv value	
		T-port	L-port
8	1/4"	8.8	6.0
10	3/8"	8.8	6.0
15	1/2"	8.8	6.0
20	3/4"	11.5	7.0
25	1"	16.5	9.7
32	1¼"	29.6	19.0
40	1½"	46.4	35.3
50	2"	71.5	45.7

Kv values in m³/h

Product conformity

Pressure Equipment Directive: 2014/68/EU

Explosion protection: ATEX (2014/34/EU), order code Special version X

ATEX marking: Gas:  II 2G Ex h IIC T6 ... T2 Gb X
Dust:  II -/2D Ex h -/IIIC T180 °C -/Db X

Mechanical data

Torques:

DN	NPS	Torques
8	1/4"	8.0
10	3/8"	8.0
15	1/2"	10.0
20	3/4"	13.0
25	1"	19.0
32	1¼"	29.0
40	1½"	51.0
50	2"	62.0

Torques in Nm

A safety factor of 1.2 is included

With dry, non-lubricating media the breakaway torque may be increased.

Valid for clean, non-particulate and oil-free media (water, alcohol, etc.), gas or saturated steam (clean and wet). PTFE seal.

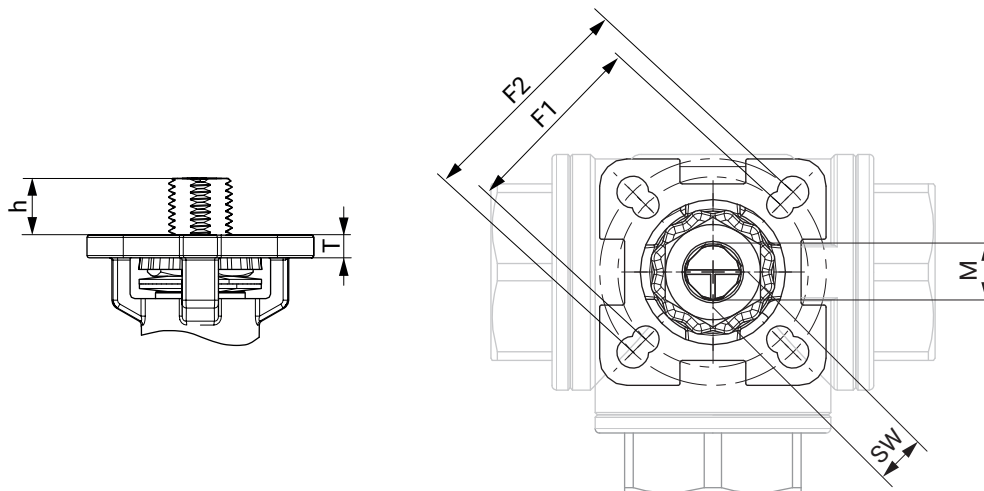
Weight:
Body

DN	NPS	Weight
8	1/4"	0.55
10	3/8"	0.55
15	1/2"	0.55
20	3/4"	0.85
25	1"	1.20
32	1¼"	2.20
40	1½"	3.40
50	2"	4.63

Weights in kg

Dimensions

Actuator flange

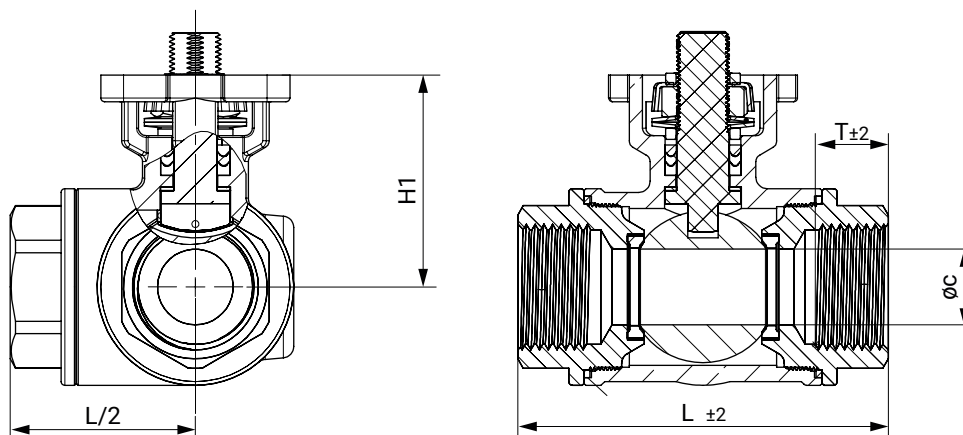


DN	G	F1	ISO 5211	F2	ISO 5211	SW	h	T	M
8	1/4"	36.0	F03	42.0	F04	9.0	9.0	6.5	M12
10	3/8"	36.0	F03	42.0	F04	9.0	9.0	6.5	M12
15	1/2"	36.0	F03	42.0	F04	9.0	9.0	6.5	M12
20	3/4"	36.0	F03	42.0	F04	9.0	8.5	6.0	M12
25	1"	42.0	F04	50.0	F05	11.0	11.5	7.0	M14
32	1 1/4"	42.0	F04	50.0	F05	11.0	11.5	7.0	M14
40	1 1/2"	50.0	F05	70.0	F07	14.0	14.0	8.5	M18
50	2"	50.0	F05	70.0	F07	14.0	14.0	8.5	M18

Dimensions in mm

Body dimensions

Threaded socket (connection code 1, 31)



DN	G	Øc	H1	L	T
8	1/4"	12.0	40.9	74.0	14.6
10	3/8"	12.0	43.0	74.0	14.6
15	1/2"	12.0	43.0	74.0	14.7
20	3/4"	15.0	45.0	86.0	16.7
25	1"	20.0	56.0	98.0	19.9
32	1¼"	25.0	62.0	118.0	21.9
40	1½"	32.0	74.0	130.0	22.4
50	2"	38.0	78.0	149.0	26.9

Dimensions in mm

Add-on components



GEMÜ ADA

Pneumatic quarter turn actuator

GEMÜ ADA is a pneumatic double acting quarter turn actuator. It works according to the double piston rack and pinion principle and is suitable for mounting to butterfly valves or ball valves.



GEMÜ ASR

Pneumatic quarter turn actuator

GEMÜ ASR is a pneumatic single acting quarter turn actuator. It works according to the double piston rack and pinion principle and is suitable for mounting to butterfly valves or ball valves.



GEMÜ GDR

Pneumatic basic quarter turn actuator, double acting

The GEMÜ GDR pneumatic basic actuator is a double acting, clockwise rotation quarter turn actuator for Open/Close applications. With its standardized connection for pilot valve, position feedback and flanged connection according to ISO 5211, it is suitable for mounting to butterfly valves and ball valves.



GEMÜ GSR

Pneumatic basic quarter turn actuator, single acting

The GEMÜ GSR pneumatic basic actuator is a single acting, clockwise rotation quarter turn actuator for Open/Close applications. With its standardized connection for pilot valve, position feedback and flanged connection according to ISO 5211, it is suitable for mounting to butterfly valves and ball valves.



GEMÜ DR

Pneumatic quarter turn actuator

GEMÜ DR is a pneumatic double acting quarter turn actuator. It works according to the double piston rack and pinion principle and is suitable for mounting to butterfly valves or ball valves.



GEMÜ SC

Pneumatic quarter turn actuator

GEMÜ SC is a pneumatic single acting quarter turn actuator. It works according to the double piston rack and pinion principle and is suitable for mounting to butterfly valves or ball valves.



GEMÜ 9428

Motorized quarter turn actuator

The product is a motorized quarter turn actuator. The actuator is designed for DC or AC operating voltages. A manual override and an optical position indicator are integrated as standard. The torque in the end positions is increased. This enables a closing curve matched to the valves.



GEMÜ 9468

Motorized quarter turn actuator

GEMÜ 9468 is a motorized quarter turn actuator. A manual override and an optical position indicator are integrated as standard. The torque in the end positions is increased. This enables a closing curve matched to the valves.



GEMÜ BC

Motorized quarter turn actuator

GEMÜ BC is a motorized quarter turn actuator. The weather-proof actuator has an aluminium housing and is available with different supply voltages and frequencies. The LOGIC version has a display and an on-site control. A manual override and an optical position indicator are integrated as standard. The actuator has adjustable potential-free limit switches and an integrated heating.



GEMÜ J4C

Motorized quarter turn actuator

The J4C actuator is a motorized quarter turn actuator. The motor is designed for DC and AC operating voltages. A manual override and an optical position indicator are integrated as standard. The end positions are potential-free and adjustable.

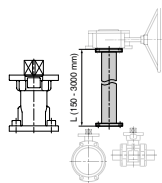


GEMÜ AB22

Hand lever

Hand lever with standard flange according to EN ISO 5211 for the manual operation of quarter turn valves.

Accessories



GEMÜ RC0

Shaft extension

The RC0 shaft extension for quarter turn valves is a distance piece between manually, pneumatically or electrically operated valves. This means that valves can be protected from flooding or better access for operation of the valve can be ensured (also for manual override).

Nominal sizes	Item no.	Designation	Height
DN 8 - 20	88742081	RC0VAF04 D09KF04 D09 60 M12	60 mm
DN 25 - 32	88742082	RC0VAF05 D11KF05 D11 65 M14	65 mm
DN 40 - 50	88742083	RC0VAF07 D14KF07 D14 80 M18	80 mm



GEMÜ MSC

Mounting kit

The MSC mounting kit is an interface, for the same and different ends, to join flange designs according to ISO 5211. This mounting kit ensures thermal separation of actuator and valve body. It can also be used as height compensation for insulated pipelines. The mounting kit is available in steel, electrogalvanized and stainless steel in an open or closed design.

GEMÜ MSC refers to mounting kits for ADA, ASR, DR and SC pneumatic actuators. The mounting kits contain different parts depending on the butterfly valve actuator configuration. Fixing screws are not included.

GEMÜ ADH

Mounting sleeve

The mounting sleeve accessories are available in the square and star geometry designs. These are used for the shaft and hub support for quarter turn actuators. Both sleeves have an internal square drive (please observe stated measurement dimensions here). The sleeve material is sintered metal and they are chemically nickel plated with a surface of 25 µm.

Certificates

Certificate	Standard	Item number
3.1 Material	EN 10204	88333336



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