

Bypass chamber for instrumentation

RIZUR-KBU

Intended use and application area

Bypass chamber RIZUR-KBU is designed for level meters installation.

Bypass chamber RIZUR-KBU serves as an interconnected vessel connected to the tank with the help of a thread, flange (in acc. to GOST, DIN, ASME) or by welding. Due to this connection, the liquid level in the bypass chamber is equal to the liquid level in the main tank. The following types of level meters are mounted on the bypass chamber: ultrasonic, waveguide, displacer type, float and magnetostrictive.

NPO RIZUR has developed various sets of bypass chambers with different types of connections for various pressures and liquids. We also manufacture the components required for chamber mounting.



The chambers are manufactured in accordance with:

- standard dimensions;
- customer's general assembly drawings;
- album of drawings T-MM-04-06.

DN from 50 mm to 200 mm

PN from 16 kgf/cm² to 200 kgf/cm²

(up to 420 kgf/cm² upon a special inquiry)

Technical specifications

Process temperature, °C	From -196 to + 500
Ambient temperature, °C	From -60 to +85
Nominal pressure, bar	From -1 to 420
Bypass chamber and flange material	Carbon steel 20, 09G2S, 12H18N10T, AISI 304, AISI 316Ti and others
Bypass chamber diameter	DN50, DN65, DN80, DN100 (chamber wall width depends upon the process pressure). Other diameters are available on request
RIZUR-KBU operational range, mm	From 100 to 25 000 If the chamber should be longer than 5000 mm than the split-type construction is used.
Process connection	<ul style="list-style-type: none"> • Flange in acc. to GOST 12815-80, EN1092-1, DIN2526, ANSI/ASME B16.5 • Welded - welding sleeve • Thread - metric (M), pipe straight thread (G) or pipe taper thread (NPT)
Mounting	«Side-side», «side-bottom» and others are available on request
Vent / Drainage	Plugs, valves, flanges, welding sleeves, etc.

Options (for all models)

Steam heating	
- steam pressure - steam tracer connection	0,6 mPa (specify if pressure > 0,6mPa) Male thread R1½" or other (specified at the time of order)
Electrical heating	Insulation with a soft enclosure (a self-regulating heating cable is in the scope of supply)
Ultrasonic level switch RIZUR-900	(See a detailed description on page 4)
Float level switch	(See a detailed description on page 21)
Level transducer - output signal - display - voltage supply - protection class - explosion protection	(Is selected on the basis of the technical specifications/inquiry form) 4...20 mA, 4...20 mA+HART LCD, without display 24 V DC IP65...IP67 0Ex ia IIC T6 Ga X, 1Ex d IIC T6 Gb X

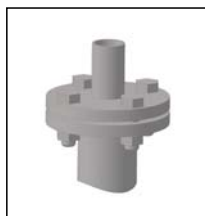
Examples of top end design variants of the bypass chamber



Flange



Flange with a threaded hole (with a plug)

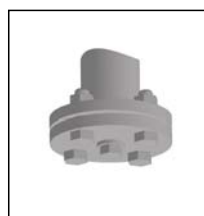


Flange with a weldneck

Examples of bottom end design variants of the bypass chamber



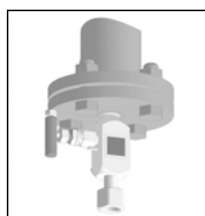
Blind flange



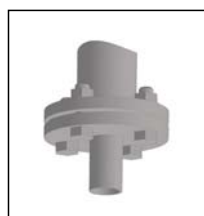
Flange with a threaded hole (with a plug)



Flange with a threaded vent/drainage ball valve



Flange with a vent/drainage needle valve

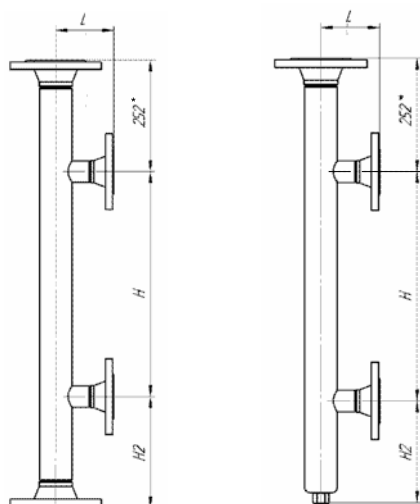


Flange with a weldneck



Cap with a weldneck

Dimensional drawing of the bypass chamber for level meters



* Size 252 mm is standard. A bypass chamber can be manufactured with any dimensions by a separate order.

Order code for bypass chamber RIZUR-KBU

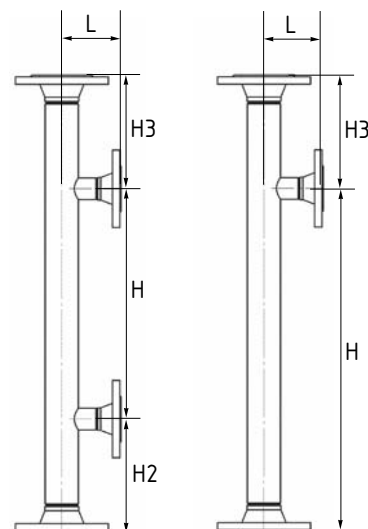
Ordering information:

RIZUR-KBU-50-1-BB-2/25/16-2000/300/200-F/1-25-16-FD/2-25/16-U-824/2,5/50

1 2 3 4 5 6 7 8 9 10

1. Model	
RIZUR-KBU	Bypass chamber RIZUR-KBU for level meters
2. Nominal diameter of the chamber	
XX	mm
3. Chamber material	
1	Stainless steel, AISI316
2	AISI 304
3	Carbon steel 20
4	09G2S
X	Other material (specified in written form outside the order code)
4. Design version	
BB	Side mounting («side-side»)
BN	Side mounting («side-bottom»)
X	Special design of the process connection (is manufactured in acc. with approved drawings)
5. Process connection type	
THREAD (thread type)	
R1	M20x1,5, male thread
R2	M27x1,5, male thread
R3	NPT ¾", male thread
R4	NPT ½", male thread
R5	G ¾", male thread
R6	G ½", male thread
R7	M20x1,5, sleeve nut
X	Other type (specified in writing outside the order code)
WELDED (nominal inside diameter, mm)	
P15	DN15
P20	DN20
P25	DN25
P32	DN32
X	Other type (specified in writing outside the order code)
FLANGE (acc. to GOST 33259-2015)	
XX/_/_	Flange face
A	Type A, flat face
B	Type B, raised face
C	Type C, tongue
D	Type D, groove
E	Type E, spigot
F	Type F, recess
J	Type J, O-ring gasket
K	Type K, oval section gasket
X	Other type (specified in writing outside the order code)
_ /XX/_	Nominal inside diameter, mm
10	DN10
15	DN15
20	DN20
25	DN25
32	DN32
X	Other type (specified in writing outside the order code)

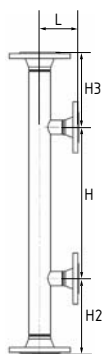
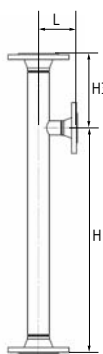
//XX	Nominal pressure, kgf/cm ²
16	PN 16
25	PN 25
40	PN 40
63	PN 63
100	PN 100
160	PN 160
320	PN 320
420	PN 420
X	Other type (specified in writing outside the order code)
6. Chamber dimensions, H, H2, L	
XX/_/_	H, mm
_ /XX/_	H2, mm (50 mm by default)
//XX	L, mm (200 mm by default)
7. Top end of the chamber	
F/XX	Flange for a level meter/switch mounting (specify the flange type)
FB/XX-XX	Flange with a welded sleeve for a level meter/switch mounting (specify the flange and thread type)
C	Other (specified in written form outside the order code)
8. Bottom end of the chamber	
FD/XX	Drainage flange (specify the flange type)
FZ/XX	Flange with a screw plug (specify the thread type and size)
FV/XX	Flange with a drainage valve (specify the thread type and size)
C	Other (specified in written form outside the order code)
9. Options	
0	No
S	Ultrasonic level switch RIZUR-900
U	Level meter
P	Float level switch
10. Medium parameters (All three parameters should be specified)	
XX/XX/XX	Medium density, kg/m ³ / Operating pressure, MPa / Max. operating temperature, °C (is to be specified in case of a complete supply with a level switch or a level meter)












INQUIRY FORM № _____

Technical regulations
TU 26.51.52-001-12189681-2018

Bypass chamber for level meters RIZUR-KBU

Company name			
Contact person, position			
Contact details, tel., e-mail			
Number of bypass chambers, pcs.			
Process temperature / design temperature, °C			
Process pressure / design pressure, MPa			
Ambient temperature, °C			
Bypass chamber material	<input type="checkbox"/> steel 20 <input type="checkbox"/> 09G2S	<input type="checkbox"/> 12X18H10T <input type="checkbox"/> AISI 304	<input type="checkbox"/> AISI 316Ti <input type="checkbox"/> _____
Mounting position:	<input type="checkbox"/> side mounting («side-side») 	<input type="checkbox"/> side mounting («side-bottom») 	
	Distance between the centers of connection points, H _____ mm Distance from the lowest connection point to the bottom end of the bypass chamber, H2, _____ mm Distance from the highest connection point to the top end of the bypass chamber, H3, _____ mm Distance from the chamber axis to the connection point, L _____ mm	Distance between the centers of connection points, H _____ mm Distance from the highest connection point to the top end of the bypass chamber, H3, _____ mm Distance from the chamber axis to the connection point, L _____ mm	
Nominal diameter (DN) of the bypass chamber			
Wall width of the bypass chamber	_____ (depends on the design process pressure)		
Process connection type:	<input type="checkbox"/> welding pipe DN _____	<input type="checkbox"/> thread Type _____ Size _____	<input type="checkbox"/> flange DN _____ Pressure _____ Face _____ GOST _____

Top end of the chamber – for meter installation Flange, thread or another type of connection	 Flange		 Flange with a threaded hole (with a plug)		 Flange with a weldneck	
Bottom end of the chamber (only for «side-side» design variant) Flange, screw plug, drainage valve or another type of connection	 Blind flange		 Flange with a threaded hole (with a plug)		 Flange with a threaded vent/drainage ball valve	
	 Flange with a vent/drainage needle valve		 Flange with a weldneck		 Cap with a weldneck	
Bypass chamber nozzles	Nozzle length (no less than 50 mm**)			Nozzle diameter (no more than 50 mm**)		
Complete with a level meter/level switch***	<input type="checkbox"/> Level switch RIZUR-900 (it's necessary to fill in the inquiry form for the required level switch)					
	<input type="checkbox"/> Level meter RIZUR-1300 (it's necessary to fill in the inquiry form for the required level meter)					
	<input type="checkbox"/> Magnetic float level switch RIZUR-M-V (it's necessary to fill in the inquiry form for the required level switch)					
	<input type="checkbox"/> Conductive level switch RIZUR-300 (it's necessary to fill in the inquiry form for the required level switch)					
	<input type="checkbox"/> Capacitive level switch RIZUR-100 (it's necessary to fill in the inquiry form for the required level switch)					
Presence of a heated enclosure/soft enclosure for the chamber (specify the required temperature maintained inside)						
Additional requirements (non-standard materials, equipment requests, non-standard design variants, etc)						

When ordering a bypass chamber the drawing agreement procedure is necessary.

*When installing the valve at the bottom end of the chamber, it's necessary to specify its parameters (type, thread, etc.);

**It's possible to have a non-standard design variant upon an agreement with the manufacturer;

***If the level switch is manufactured by a third party, then it's necessary to specify the probe length starting from the sealing surface of the device.