

## WD-UQK-60系列浮筒（浮球）液位控制器

### WD-UQK-60 SERIES BUOY (FLOAT) LIQUID LEVEL CONTROLLER

#### 概述 Introduction

UQK-60系列浮筒（浮球）液位控制器是引进国外先进制造技术的基础上开发的产品。结构合理，可靠性高的新一代液位控制器，特别适用于石化、电力、食品、医药等行业在生产过程中对各种敞口或带压容器内介质的液位或界位的控制、报警。

UQK-60 series buoy(float) liquid level controller is manufactured based on foreign advanced technology. With reasonable structure & high reliability, the controller is applied in petroleum chemical、electric power、 food and pharmaceuticals industry for level controlling and alarming .

#### 工作原理 Principle

##### 浮球液位控制器 Float level controller

当液位变化时，浮球与液位同步变化，磁性轴套与浮球刚性连接，所以磁性轴套与液位同步变化，液位上升，磁性轴套随之上升而进入外磁场，磁钢吸合，开关动作，触点状态改变，从而输出控制信号。同理，液位下降，磁钢在弹簧作用下释放，开关触点为另一种状态，实现了对液位的控制。

If the level change,the float change with the level .Due to hard connection between magnetic sleeve pipe and the float,the sleeve pipe change synchronistically with level.When level is up,magnetic sleeve pipe is also up to enter the external magnetic field, the magnet operates, switch acts to output controlling signal. In a similar way,when the level is down, the magnet releases under the spring ,contact point is in another status to control .

##### 浮筒液位控制器 Buoy level controller

浮筒挂在一根平衡弹簧上，当液位上升时，液体对浮筒产生的浮力增大，浮筒的有效重量发生变化，从而弹簧回到新的平衡位置上。当弹簧移动时，磁性轴套也随之移动并进入外磁场，控制器开关动作，触点状态改变，从而输出控制信号；同理，当液位下降时，磁性轴套脱离磁场，控制器开关触点为另一种状态。

Buoy level controller:the buoy is hung on a balance spring,when the level is up,the buoyancy increases which the liquid acts on the buoy,the effective weight of the buoy changes too,so the spring reaches to a new balance position.As the spring moves,the magnetic sleeve pipe enters into the external magnetic field,switch acts to output controlling signal; in a similar way,as the level is down,the magnetic sleeve pipe exits the magnetic field,the switch output another signal.

##### 重锤液位控制器 Weight drop level controller

重锤悬挂在一根平衡弹簧上，浮板上升时，弹簧受压缩，带动磁性轴套进入外磁场中，控制器开关动作，触点状态改变，输出控制信号。下降时，重锤靠自身克服弹簧力，磁性轴套随之下降，控制器开关触点为另一状态。控制器在液位上升、下降过程中并无信号，只有在上升到上限位置或下降位置才有控制信号。

he weight drop is hung on a balance spring, when floating plate is up,the spring is compressed to bring the magnetic sleeve pipe into the external magnetic field,switch output a controlling signal. When the floating plate is down,the weight drop overcome the spring-loaded,the magnetic sleeve pipe is also down,the switch output another controlling signal. During the moving process,the controller have no signal.Once it reaches up-position or down-position ,the switch will output controlling signal



#### 技术参数 Technical Parameters

输出信号 Output signal: 一常开，一常闭、二常开，二常闭  
 one normal open & one normal close  
 two normal open & two normal close

触点容量 Contact capacity: 250VAC 5A, 24VDC 50mA

工作温度 operating temp: 标准型 standard: -40~200℃  
 高温型 high temp: 200~400℃

环境温度 ambient temp: -40~70℃

介质粘度 medium viscosity: ≤1st(10-4m<sup>2</sup>/S)

介质密度 medium density: 0.4~3.0g/cm<sup>3</sup>

介质密度差 medium density difference: ≥0.16 g/cm<sup>3</sup>

工作压力 operating pressure: 4.0, 6.3, 10.0MPa

工作寿命 operating life: ≥10<sup>5</sup>次

基本误差 basic error: 液位控制 liquid level control 4mm  
 界位控制 interface control 12mm

电气接口 electric connection: M20\*1.5内螺纹 inner screw

蒸汽夹套接头 steam jacket joint: G1/2"外螺纹 outer screw  
 材质 material:

浮筒、浮球、重锤 buoy、float、weight drop:  
 1Cr18Ni9Ti 不锈钢(SS)

法兰 flange: 碳钢(CS)、1Cr18Ni9Ti 不锈钢(SS)

防爆标志 safe classification:

隔爆型 explosion-proof: d II CT4~CT4  
 本安型 intrinsically safe: ia II CT4~CT4

WD-UQK-60型浮筒（浮球）液位控制器型号规格表UQK-60 Buoy(Float) Level Controller Model &amp; Spec

WD-UQK-60	浮筒（浮球）液位控制器buoy(float) liquid level switch	
WD-UQKS-60	手动自检浮筒（浮球）液位控制器manual self-checking buoy(float)liquid level switch	
	1	螺纹安装G1"(内螺纹)inner thread
	2	侧底法兰DN25side-bottom flange
	3	侧侧法兰 I 型DN25 side-side flange
	4	卧式螺纹连接G1"（内螺纹）horizontal,inner thread connecting
	5	侧侧法兰 II 型DN25side-side flange
	6	顶装式DN100 top-mounted
	1	上限或下限up or down limited
	2	上下限up & down limited
	Q	浮球float
	T	浮筒buoy
	C	重锤weight drop
	<input type="checkbox"/>	介质密度density(g/cm3)
	1	4.0MPa
	2	6.3MPa
	3	10.0MPa
	4	其他压力等级other pressure
	A	标准型standard: -40~200℃
	B	高温型high temp: 200~400℃
	<input type="checkbox"/>	测量范围measuring range(mm)
	P	无normal
	B	本质安全型intrinsically safe type:Exia II CT4~CT6
	D	隔爆型explosion-proof type:Exd II CT4~CT6
	/E	带蒸汽夹套with heating jacket
WD-UQK-60	- <input type="checkbox"/>	- <input type="checkbox"/>
WD-UQKS-60	- <input type="checkbox"/>	- <input type="checkbox"/>

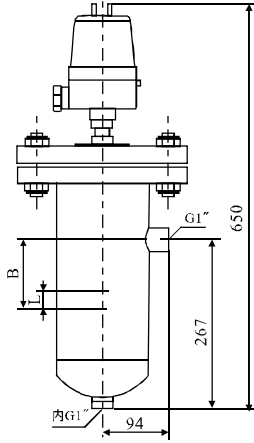
## 液位控制Liquid Level Control

测量元件 measuring element	控制点 control point	最高压力 Max pressure	最小密度(g/cm <sup>3</sup> ) min density	B(mm)	L(mm)	H(mm)	说明description
浮球式 float	上或下限 up or down limited	4	0.7	200	10/r		控制点不可调 control point not adjustable
浮筒式 bouy	上或下限 up or down limited	6.3	0.4	190	12/r~12/r+40		控制点可调 control adjustable
	上下限 up&down limited		0.45	225	12/r	40~90	上下限范围可调 up&down limited adjustable

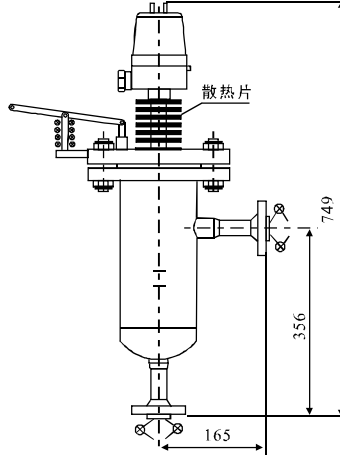
## 界位控制Interface Control

测量元件 measuring element	控制点 control point	最高压力 Max pressure	最小密度(g/cm <sup>3</sup> ) min density	B(mm)	L(mm)	H(mm)	说明description
浮球 float	上或下限 up or down limited	4	0.5	100	25		控制点不可调 control point not adjustable

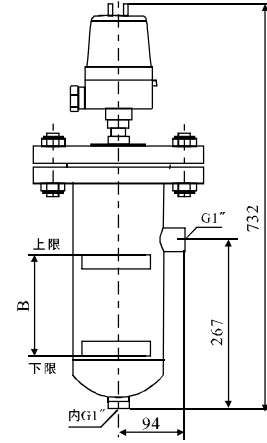
## 外形尺寸图Dimensions



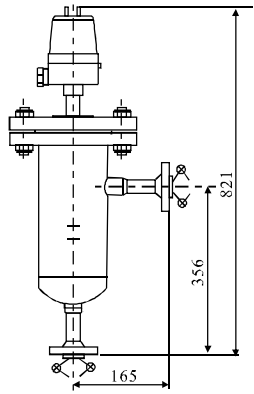
6011型



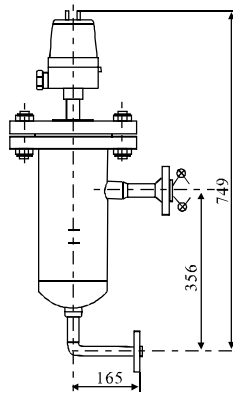
6021型 (带手动自检)



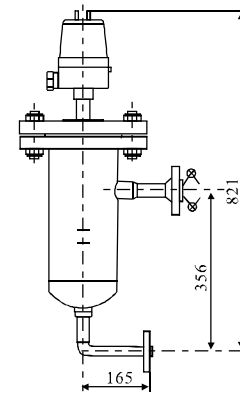
6012型



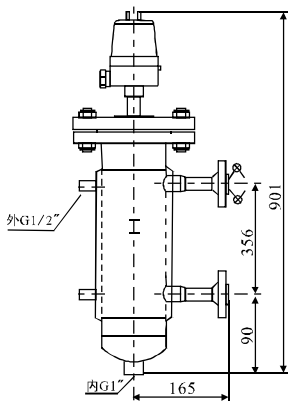
6022型



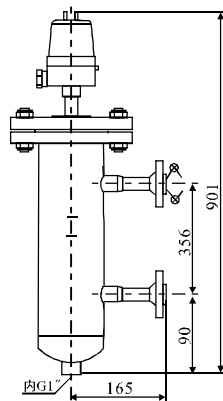
6031型



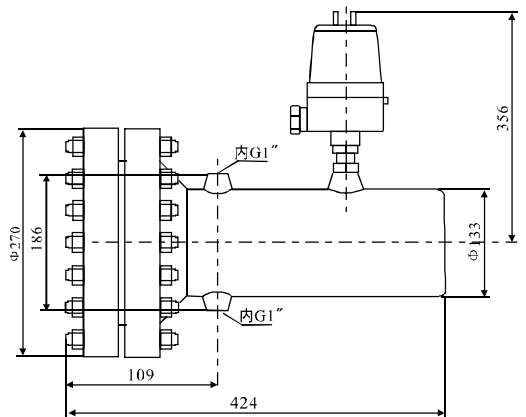
6032型



6051型 (带蒸气夹套)



6052型



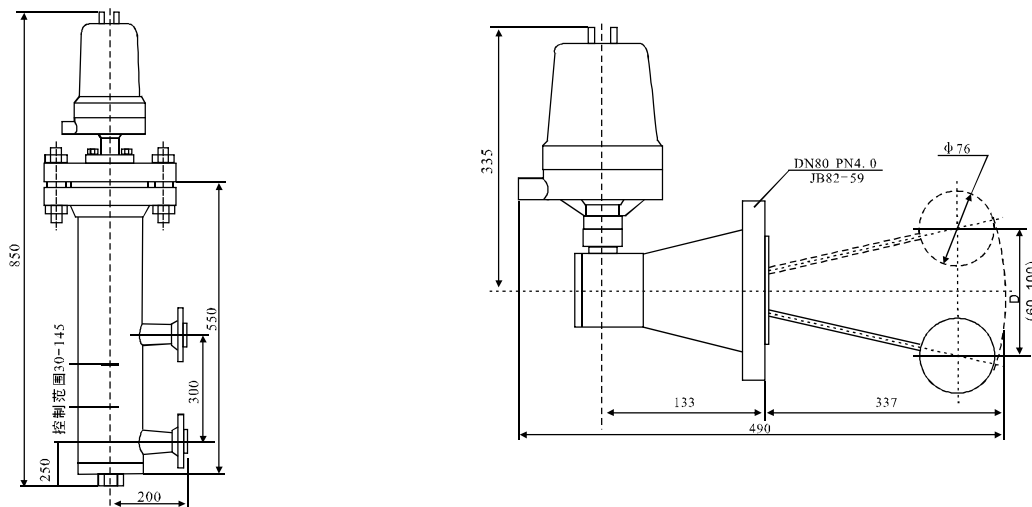
604型

WD-UQK-61型浮球液位控制器型号规格表UQK-61 Float Level Controller Model &amp; Spec

WD-UQK-61	浮球液位控制器float liquid level switch					
WD-UQKS-61	手动自检液位控制器manual self-checking liquid level switch					
	1	侧装式side-mounted	安装方式 installation			
	2	顶装式top-mounted				
	1	上限或下限up or down limited	报警方式 alarming			
	2	上下限up & down limited				
	1	1.6MPa	工作压力 operating pressure			
	2	2.5MPa				
	3	4.0MPa				
	4	6.3MPa				
	X	其他压力等级other pressure				
	A	-40~200℃	工作温度 operating temp			
	B	200~400℃				
	P	无normal	选项 options			
	B	本质安全型intrinsicly safe type: Exia II CT4~CT6				
	D	隔爆型explosion-proof type: Exd II CT4~CT6				
WD-UQK-61	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WD-UQKS-61	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

型号model	安装方式Installation	切换差switching error	测量范围measuring range(mm)	法兰flange
UQK-611	侧装式side-mounted	20~70	250	DN80
UQK-612	顶装式top-mounted	10~30	300, 500, 800, 1000, 1250,	DN125

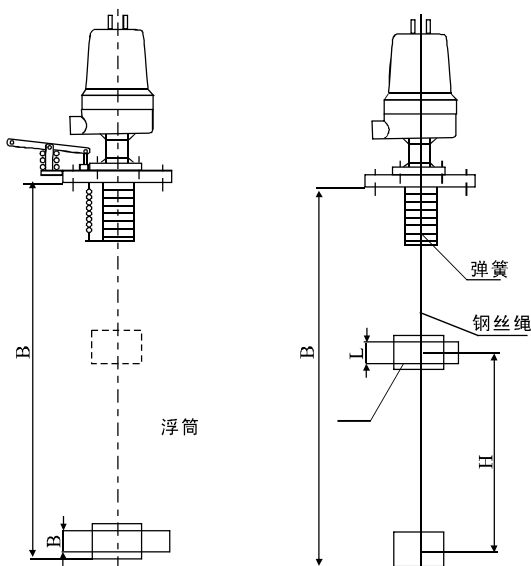
外形尺寸图Dimensions



WD-UQK-62型浮筒液位控制器型号规格表UQK-62 Buoy Level Controller Model &amp; Spec

WD-UQK-62	浮球液位控制器float liquid level switch		
WD-UQKS-62	手动自检液位控制器manual self-checking liquid level switch		
	1	上限或下限up or down limited	报警方式 alarming
	2	上下限up & down limited	
	1	4.0MPa	工作压力 operating pressure
	2	6.3MPa	
	X	其他压力等级other pressure	
	A	-40~200℃	工作温度 operating temp
	B	200~400℃	
	P	无normal	选项 options
	B	本质安全型intrinsically safe type: Exia II CT4~CT6	
	D	隔爆型explosion-proof type: Exd II CT4~CT6	
WD-UQK-62	-	<input type="checkbox"/>	
WD-UQKS-62	-	<input type="checkbox"/>	
	-	<input type="checkbox"/>	
	-	<input type="checkbox"/>	

外形尺寸图Dimensions

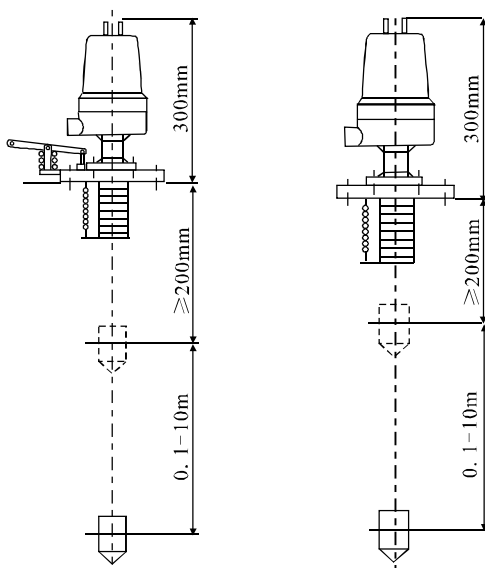


控制点 control point	上或下限 up or down limited	上下限 up & down limited
最小密度min density(g/cm <sup>3</sup> )	0.4	0.45
B(mm)	340-1540	340-1540
L(mm)	12/r~1400	12/r
H(mm)	—	70~1270
备注remark	r是介质密度	r是介质密度

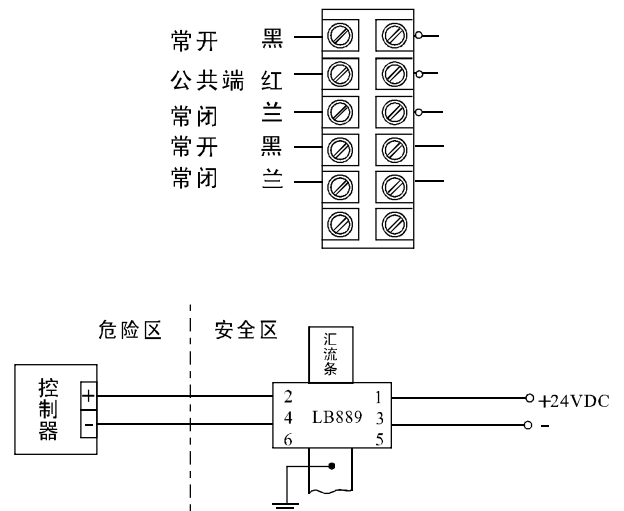
WD-UQK-63型液位控制器型号规格表UQK-63 Level Controller Model &amp; Spec

WD-UQK-63	浮球液位控制器float liquid level switch			
WD-UQKS-63	手动自检液位控制器manual self-checking liquid level switch			
	1	上限或下限up or down limited	报警方式 alarming	
	2	上下限up & down limited		
	1	4.0MPa	工作压力 operating pressure	
	2	6.3MPa		
	X	其他压力等级other pressure		
	A	-40~200℃	工作温度 operating temp	
	B	200~400℃		
	P	无normal	选项 options	
	B	本质安全型intrinsically safe type: Exia II CT4~CT6		
	D	隔爆型explosion-proof type: Exd II CT4~CT6		
WD-UQK-63	-	-	-	-
WD-UQKS-63	-	-	-	-

外形尺寸图Dimensions



接线端子图Terminals Wiring



安装示意图 Installation Diagram

