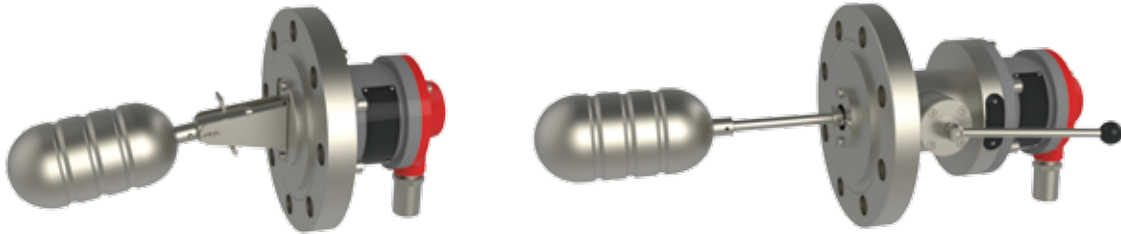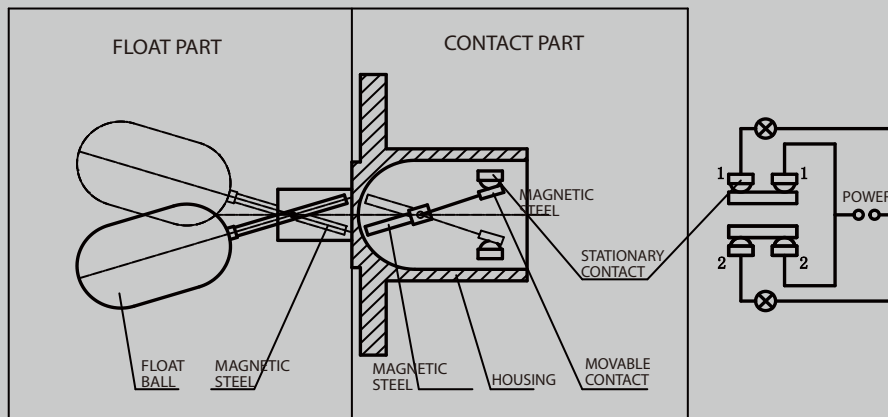# UQK(S)-100 FLOAT LEVEL SWITCH

Summary

UQK(S)-100 series Float Level Switch is suitable for petroleum, chemical, electric power, papermaking and food industries, etc, to control and alarm the fluid level or interface in various open or pressurized containers in the production process.

Operating Principle

UQK(S)-100 Float Level Switch belongs to two position level instruments. It consists of float and contact part. When the level changes, the float position changes correspondingly and makes the magnetic steel at the end of the ball rod to float up and down. According to magnetic repulsion principle, the magnetic steel mounted in contact part goes up and down at reverse direction. Moving contact switches on or off with the fixed contacts 1-1 and 2-2 to make alarm system alarm or pump start and stop. According to different structure, it can be divided into common type (UQK) and self-test type (UQKS). UQKS Float Level Switch can detect whether the internal float is moving or not through the external handle, which is very convenient for adjustment and maintenance. UQK（S）-105 Float Level Switch can move in the tank pilot pipe and adapt to the internal floating top tank.

UQK(S)-100 Float Level Switch Structure Schematic Diagram

Main Technical Data

- **Contact capacity**：AC220VA、DC50W (intrinsically safe type is only for 24V)
- **Power supply**：AC220V, DC24V
- **Permissible current**：AC1A, DC2A
- **Contact type**：SPDT (Single Pole Double Throw), DPDT (Double Pole Double Throw)

- **Ambient temperature**：-40℃～+80℃
- **Fluid temperature**：-40℃≤T≤+135℃（High temperature type:T≤450℃）
- **Fluid density**：≥0.45g/cm³
- **Wetted material**：304, 316L or on request
- **Flange standard**：HG/T20592-2009, HG/T20615-2009 or on request
- **Electrical connection**：M20×1.5 (female thread) or on request
- **Explosion-proof**：Exd Ⅱ CT1～CT5/T6 Gb, Exia Ⅱ CT1～CT5/T6 Ga
- **Safety Integrity Level**：SIL Ⅱ
- **IP Rating**：IP66
- **Relative equipment**：Safety barrier (see safety barrier recommendation sheet)

Technical parameter table for different models

Model	Nominal diameter (DN)	Nominal pressure (MPa)	Action range (mm)	Adjustment mode	Mounted type
UQK(S)-101	DN80、DN100	≤5.0MPa	10	Non-adjustable	Horizontal
UQK(S)-1011			60		
UQK(S)-1012			40		Vertical
UQK(S)-102			45～550	Step adjustable	Horizontal
UQK(S)-103			10～1000	Stepless adjustable	Vertical
UQK(S)-104	DN20~DN50		10	Non-adjustable	Outside horizontal
UQK(S)-105	DN100		10	Non-adjustable	Horizontal

Model Selection Table

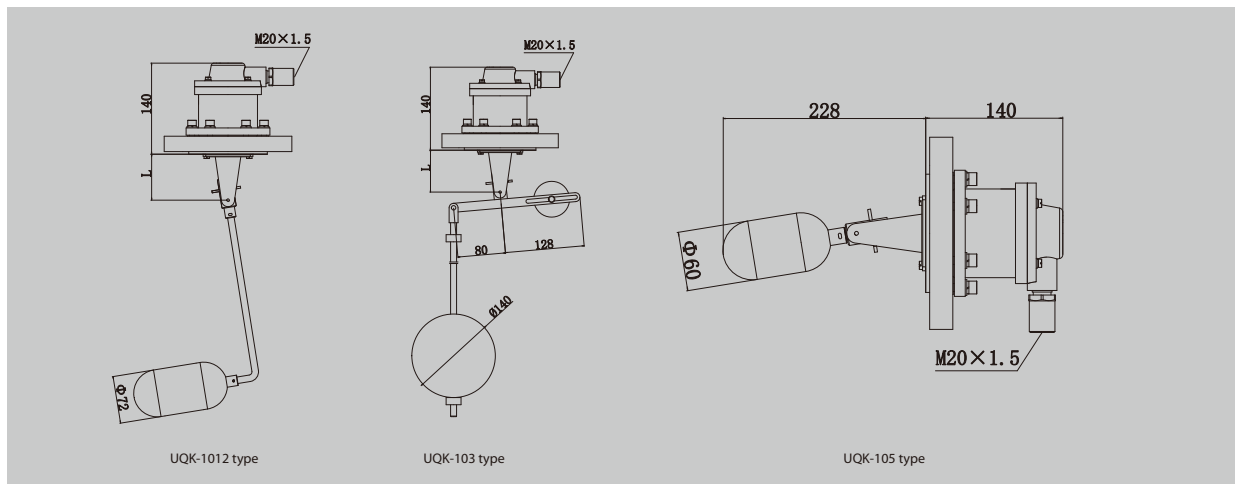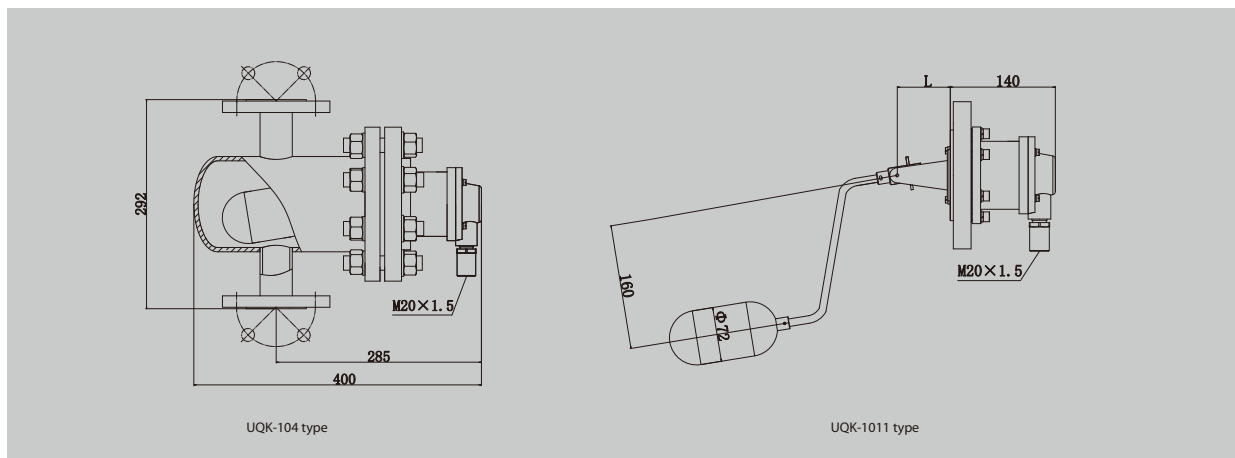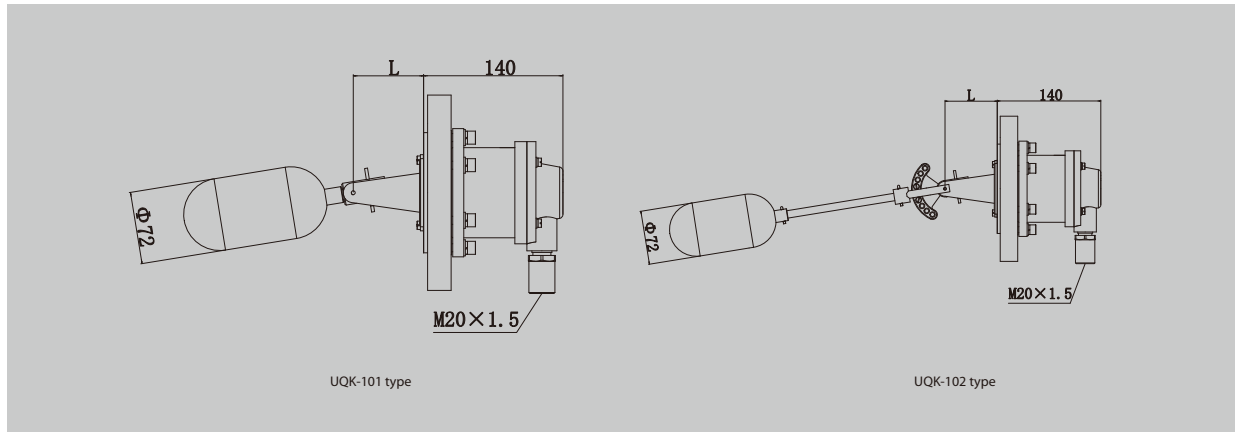| Model	Code					Content
UQK						Float Level Switch
	-					Normall Type Float Level Switch
	S-					Self-checking Float Level Switch
		1				101type
		2				102 type (neck length is no more than 70mm for self-checking)
		3				103 type (neck length is no more than 70mm for self-checking)
		4				104 type
		5				1011type
		6				1012 type
		F				105 type
			A			1.0 MPa
			B			4.0 MPa
			C			Other pressure rating
				*		Neck length 70≤L≤200mm(L=70mm, no need to mark)
					-	
					*	Fluid density (g/cm³)
					d	Explosion-proof
					i	Intrinsically safe
UQK	-	□	□	□	– □	□
UQK	S-	□	□	□	– □	□

Example

UQK-1B150-0.8d is UQK-101 Normall Type Float Level Switch, nominal pressure 4.0MPa, neck length 150mm, fluid density 0.8g/cm³, explosion-proof.

UQKS-1B150-0.8d is UQKS-101 Self-checking Float Level Switch, nominal pressure 4.0MPa, neck length 150mm, fluid density 0.8g/cm³, explosion-proof.
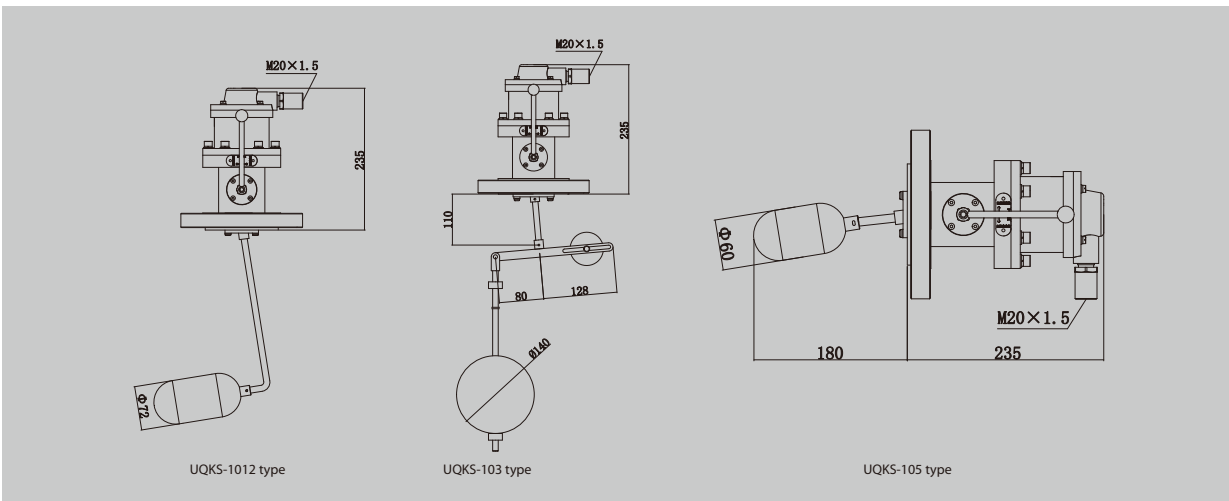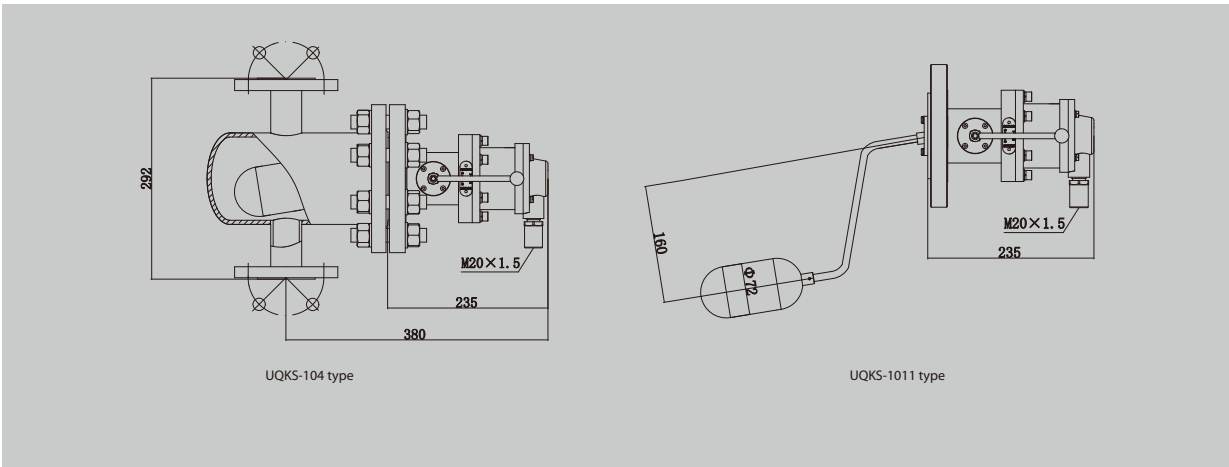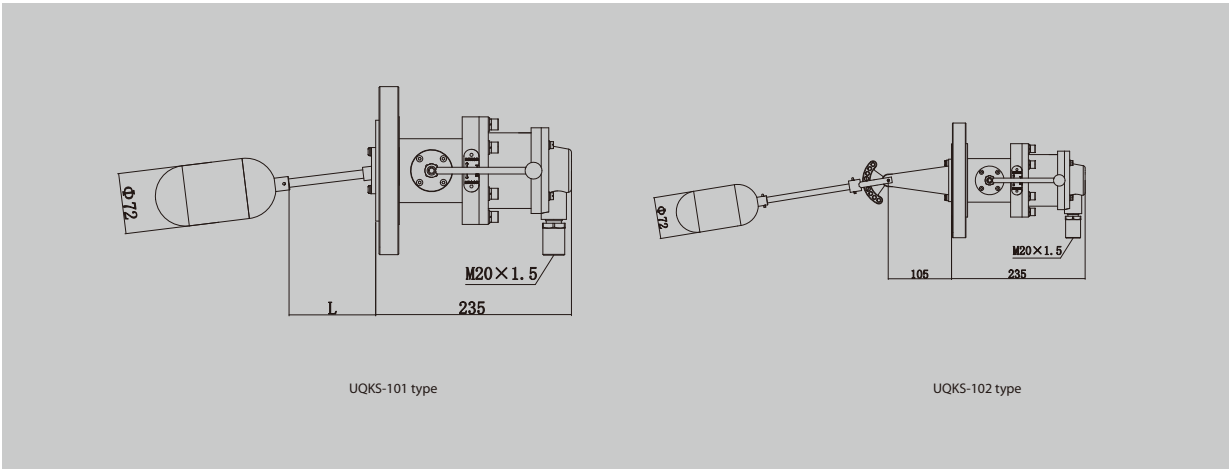
Outline and Installation

1. Normal type UQK-100 series

UQK-101 type

UQK-102 type

UQK-104 type

UQK-1011 type

UQK-1012 type

UQK-103 type

UQK-105 type

Note:

For UQK-103, as the size of float is Φ140, so need removable top cap and can only control upper or lower limit.

2. Self-checking type UQKS-100 series

UQKS-101 type

UQKS-102 type

UQKS-104 type

UQKS-1011 type

UQKS-1012 type

UQKS-103 type

UQKS-105 type

Note:

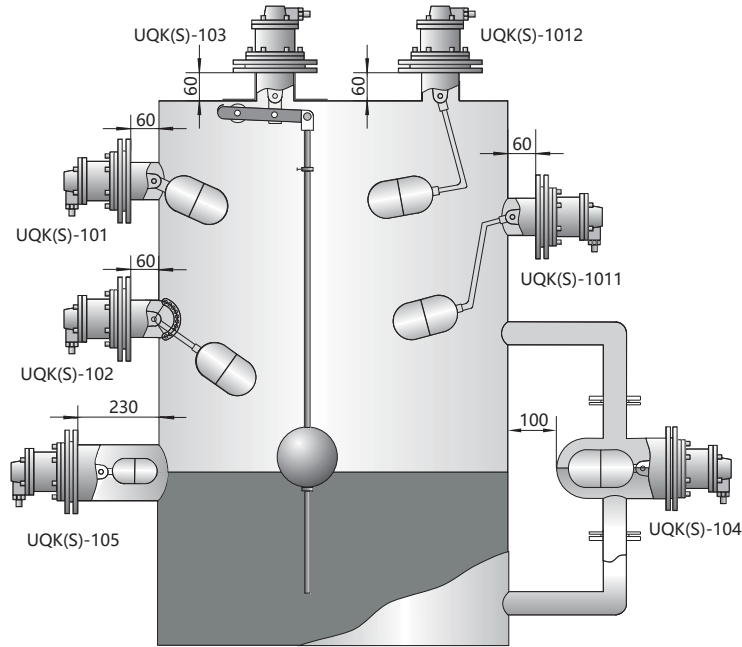For UQKS-103, as the size of float is Φ140, so need removable top cap and can only control upper or lower limit.

3. Installation Instruction

4. Safety Barrier Recommendation Sheet

Dandong Top Electronics Instrument (Group) Co., Ltd	TP5041 – EX TP5045-EX
Shanghai Automation Instrument Institute	CS8041-EX CS8045-EX

Ordering Information

➤

Model	Mounted type	Fluid name	Operating pressure	Operating temperature

➤

Flange standard	Wetted materials	Fluid density	Neck length	Other special requirements