

## YHL-100, 200 Type Hammerless Check Valve

This product is used to prevent fluid from flowing backwards into a hammerless check valve pump outlet. It prevents water hammers, protects pump pipelines, and also functions as a bypass valve.

### Features

- Water Hammer free.  
Prevent Water Hammer :The valve closes when fluid inside the pipeline becomes a speed of stoppage, based on precise movements of the spring & built-in buffer (a part inside the valve that resembles an umbrella playing an essential role in preventing Water Hammer).
- Suitable for pumps, pipelines protection & environmental preservation :Heavy noise & pressure loss, this is the most ideal valve for high-rise apartment buildings and other types of high-rise buildings, underground shopping malls, public office buildings, and other public buildings with little Water Hammer shock.
- Breakdown-free simple structure.
- One-year warranty if there is malfunction.
- Bypass valve function.
- Withdraw water inside pipeline on pump outlet side as bypass valve & replenishes guiding water when vacuum establishes on pump inlet side.

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YHL-100 Type



YHL-200 Type

### Specifications

Type	YHL-100	YHL-200
Maximum running pressure	Maximum 1,0MPa	Maximum 2,0MPa
Applicable fluid	Water	
Fluid temperature	5~80℃	
Leakage allowance	ANSI b16,104 Class V	
End connection	KS 10K RF FLANGE	KS 20K RF FLANGE
Materials	Body	GCD450
	Disc	NBR, CAC406
	seat	CAC 406
Hydraulic test pressure	2,0MPa	3,0MPa

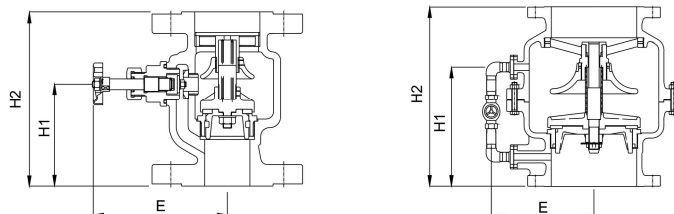
- ▶ Manufacturer's order for 2,0 MPa.
- ▶ Produce SCH2 Orders

### Dimensions

(mm)

Size	E	H1	YHL-100	YHL-200	Weight (kg)
40(1½")	120	95	162		7,3
50(2")	135	100	183		9,3(15,8)
65(2½")	145	100	200	156	11,2(19)
80(3")	150	110	210		15(25,5)
100(4")	160	120	217		20(31)
125(5")	190	125	255(259)	255(259)	31(52,7)
150(6")	200	135	280(284)	280(284)	40(68)
200(8")	235	210	416(424)	416(424)	80(136)
250(10")	275	260	560(568)	560(568)	92(160)
300(12")	340	402	622		126,3(215)
350(14")	370	488	834		168(290)
400(16")	415	582	932(970)	932(970)	212,3(361)

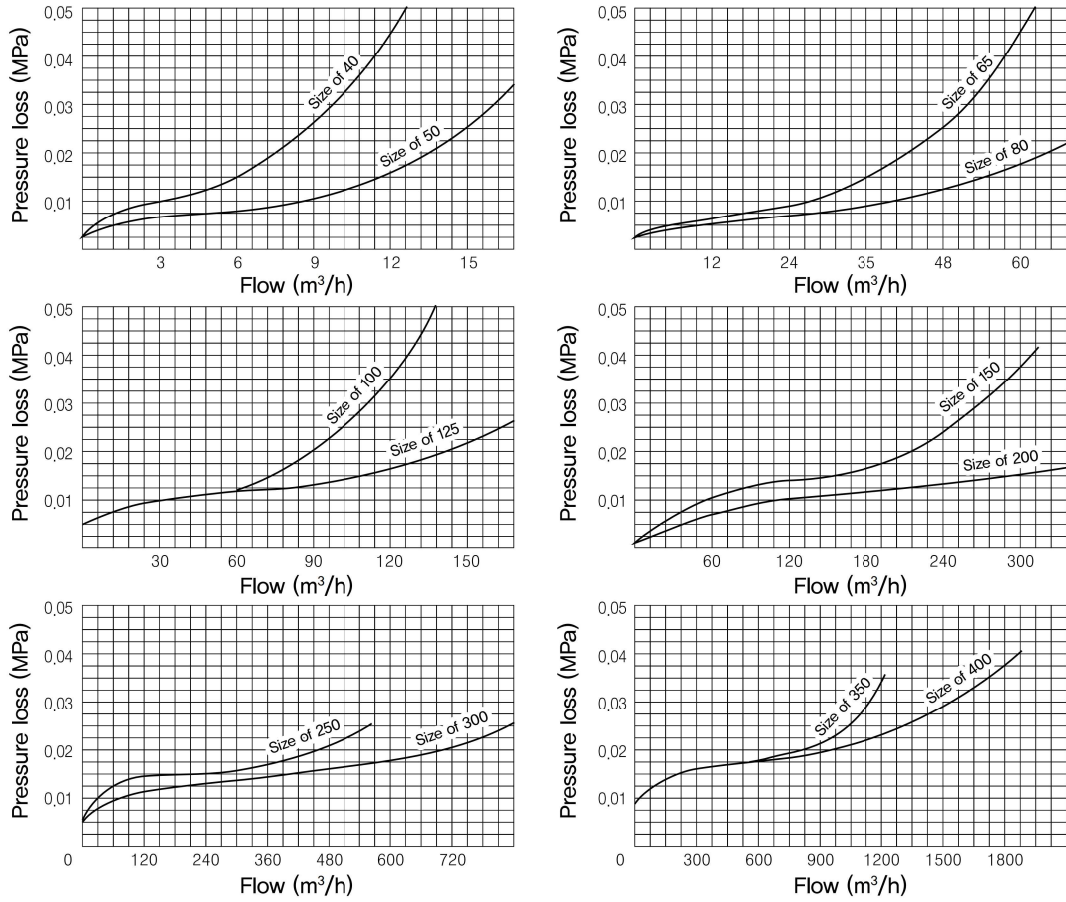
### Dimensions drawing



YHL-100, 200 Types

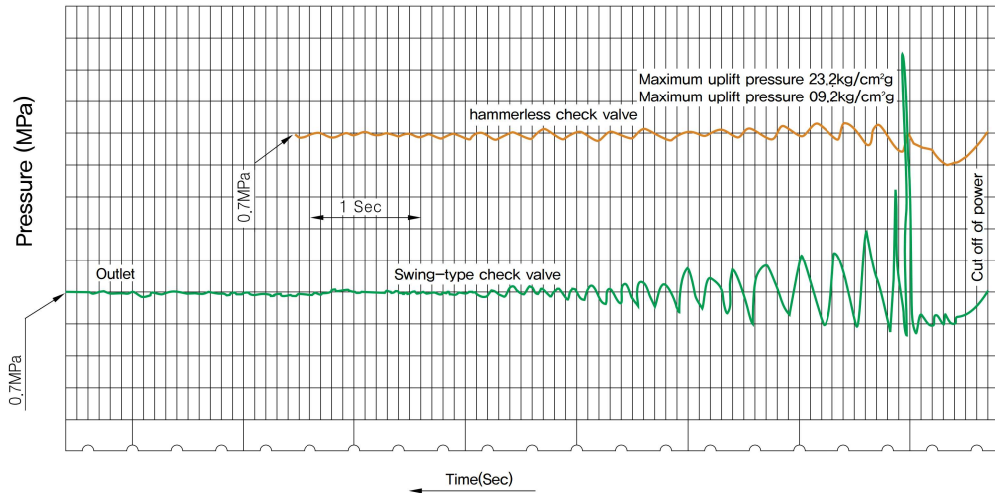
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## Pressure loss curve



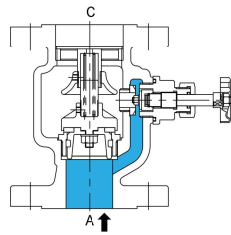
## Water hammer test and pressure increase

The pressure loss and characteristics chart below makes a comparison between the characteristics of Samyang's hammerless check valve and a general swing-type check valve. When tested under the same conditions, the closing time of the hammerless check valve is shorter, and thus there is little surge in pressure.

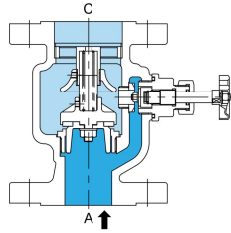


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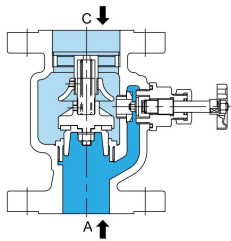
### How it works



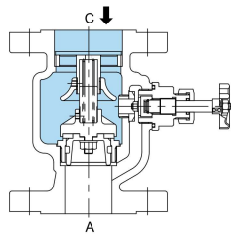
1. When the pump commences operation, the fluid's pressure arrives at side A, as seen in the diagram.



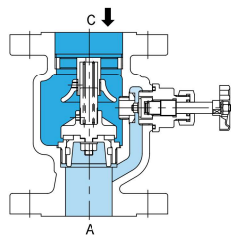
2. The fluid, which reached A, raises the disc even at extremely little pressure (0.1 kgf/cm<sup>2</sup>g), resulting in the fluid passing through.



3. The fluid, which reached A, raises the disc even at extremely little pressure (0.1 kgf/cm<sup>2</sup>g), resulting in the fluid passing through.



4. When the pump stops operating, the supply pressure drops, and when the supply pressure becomes 0.1 kgf/cm<sup>2</sup>g, the valve has been closed already by the spring's force. As a result, there is no pressure shock or vibration that occurs from the commencement of the backward flow of fluid. This is why there is no water hammer.



5. The bypass valve installed next to the valve is used to prevent freezing damages by draining water from the pipeline when the pump stops operating, and to replenish the empty pump with water when the pump starts to operate again.

### Cautions for use

1. Leave the bypass valve closed during normal operation. (If the foot valve breaks down, open the valve and replenish the fluid to an appropriate level.)
2. Special attention is needed so that foreign substances, such as sand or welding particles, do not get mixed with the fluid and flow inside the pipeline.
3. If the applicable fluid is different or the valve is intended to be used for high temperatures of 60°C or more, consult with Samyang prior to placing an order.