

# Alfa Laval 45BYMP

## Control/Check Valve

### Introduction

The Alfa Laval 45BYMP Check Valve is a Y-body ball check valve designed to enable the product to pass through the valve with no restrictions with a minimal pressure drop while preventing reverse product flow in hygienic stainless steel pipe installations. Capable of being installed in either a vertical or horizontal position, the valve features a seat and stem angled at approximately 45° to the pipe axis.

Durable and long-lasting, the valve operates at a wide range of pressures and flow rates. Because the sealing check ball moves completely out of the process flow when open, the valve offers low pressure drop and easily handles viscous products or liquids containing solid particles.

### Application

The 45BYMP Check Valve controls flow, pressure control in gas distribution systems and pressure reduction while preventing reverse flow in connection with gas storage. It is widely used across the dairy, food, beverage, home-personal care and chemical industries.

### Benefits

- Straightforward, robust, hygienic and reliable design
- Fast-acting
- Minimal pressure drop
- Leakproof
- Authorized to carry the 3-A symbol

### Standard Design

The valve consists of a single-piece, stainless steel body with an elastomeric ball (see Options for materials available). The "Y" branch of the valve maintains a Tri-Clamp® connection along with an associated Tri-Clamp, end cap, and NBR seal. The valve is polished internally and externally and is authorized to carry the 3-A symbol.

### Working principle

When liquid under normal pressure enters the inlet of the Alfa Laval 45BYMP Check Valve, an elastomeric ball is pushed upward into the "Y" branch (lower pressure area) of the valve. When the liquid flow stops, the pressure within the valve equalizes. The ball then



returns from the "Y" branch of the valve and rests itself against the smaller diameter of the valve near its inlet. Should a reverse-flow situation occur, the opposing pressure of the fluid will seat the ball firmly against the inlet of the valve, preventing reverse flow.

### Certificate

 Authorized to carry  
the 3A symbol

## TECHNICAL DATA

### Pressure

Max. product pressure:	200 PSI
Min. product pressure:	1 PSI - to unseat check ball

### Temperature

Temperature range:	Based on elastomer choice
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## PHYSICAL DATA

### Materials

Product wetted steel parts:	Stainless steel AISI 316L
Other steel parts:	Stainless steel AISI 304
Product wetted parts:	See option list below
Finish:	32 Ra standard

### Size

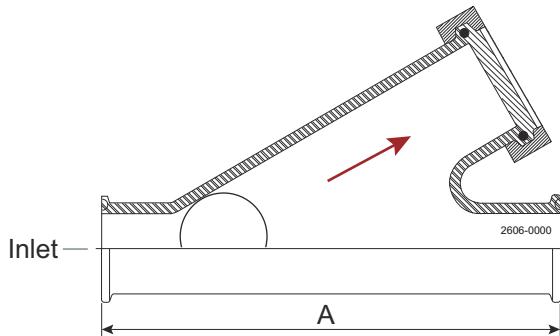
Available in sizes:	1½" to 3"
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### Connections

Tri-Clamp:	
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## Dimensions

### 45BYMP-Size-Ball Mat'l\*



Size (Tube OD)		A		Approx. Wt.	
inch	mm	inch	mm	lb	kg
1½	38.1	8¹⁹/₃₂	218.3	3.00	1.36
2	50.8	10³/₃₂	256.4	3.25	1.47
2½	63.5	11½	292.1	7.69	3.48
3	76.2	12³/₈	314.3	10.14	4.59



### Note!

\*End Connection: Tri-Clamp®

Valve Material: 316L Stainless Steel

All dimensions are for identification purposes only.

### 45BY-Size02-Ball Mat'l\*, Replacement Balls

Size (Tube OD)		Size (Ball)	
inch	mm	inch	mm
1½	38.1	1⁵/₈	41.3
2	50.8	2¹/₈	54.0
2½	63.5	3½	88.9
3	76.2	4¹/₈	104.8



### Note!

\*Ball Material:  
 U = Buna Ball  
 N = Nylon Ball  
 SF = Viton Ball  
 E = EPDM

## Options

### Ball Material

- Buna
- EPDM
- SFY
- Nylon (max. 140°F)

### Gasket Material

- NBR (standard)

## Ordering

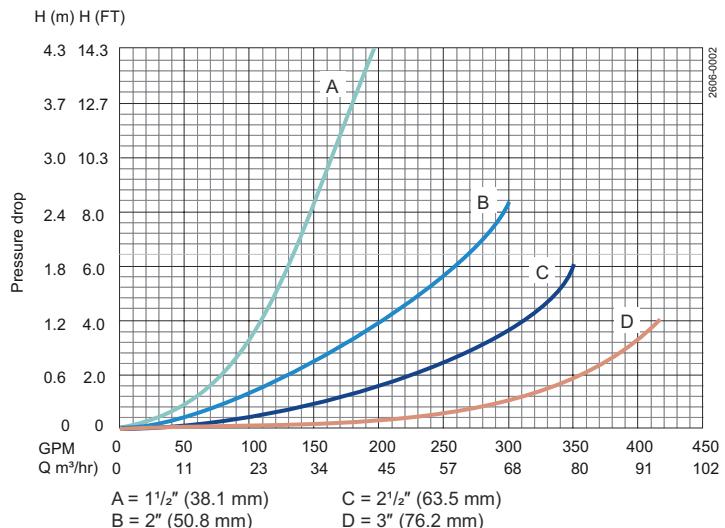
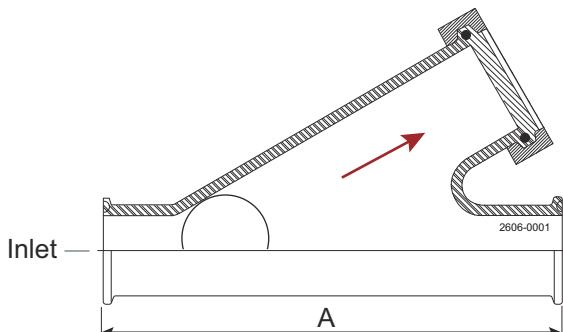
Please state the following when ordering:

- Connection size
- Connection type
- Check ball material

## Pressure Drop Curves

Model 45BYMP Ball Check Valve

All curves are tested pressure drop curves, not certified, and should be applied for guideline purposes only. Performance curves are based on tests using 68°F (20°C) water.



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