

# Models 106-HC / 206-HC Hydraulic Check Valve



206-HC Globe

## KEY FEATURES

- Drip-tight seat
- Independently adjustable opening and closing speed controls

## Product Overview

The 106-HC and 206-HC hydraulic check valves are based on the 106-PG or 206-PG main valve. The valve functions as a two position valve - either fully open or fully closed.

The HC allows one way flow only. Under normal forward flow, the valve opens as the higher inlet pressure lifts the inner valve assembly and the fluid in the upper chamber is discharged to the lower pressure, downstream side of the valve.

When pressure is reversed, the now higher downstream pressure is applied to the upper operating chamber as flow reversal occurs.

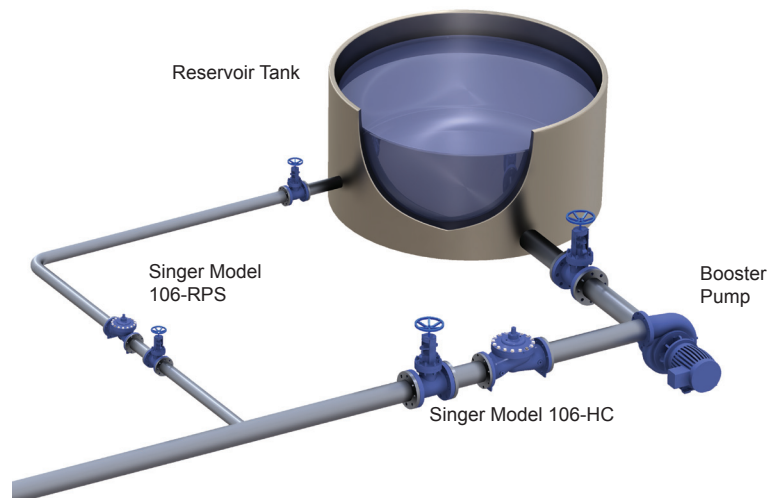
The diaphragm / inner valve assembly moves down and the valve closes tightly.

## Typical Application

Primary use as a simple, effective way to start and stop pumps without surges. No electrical supply or interconnections required. Power failure shutdown is the same as normal operation. Best used when the pump is electric motor driven and has positive suction head. A system relief valve is recommended for sizes 6 in / 150 mm and larger or when velocities exceed 6 ft/s / 2 m/s.

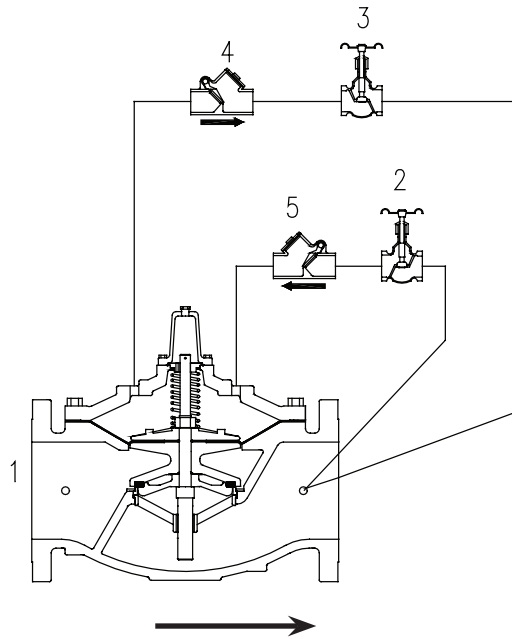
### Important Note:

To provide smooth "non-slam" shutdown when the pump stops, the flow reverses for a short period. Install with forward flow over the seat. Most pumps and motors can accept reverse rotation (consult with pump manufacturer before selecting hydraulic check valves). Engine drivers will be damaged by reverse rotation - include a non-reverse clutch or similar device. No other check or foot valves should be installed to prevent reverse flow. When there is suction lift on the pump inlet, a separate form of priming is necessary. See BPC or DW valves for alternate methods of starting or stopping flows exceeding 13 ft/s / 4 m / s).



# Models 106-HC / 206-HC Hydraulic Check Valve

## Schematic Drawing



Schematic A-0422D

1. Main Valve 106-PG or 206-PG - "Flow Over Seat"
2. Closing Speed Control
3. Opening Speed Control
4. Swing Check Valve - opening
5. Swing Check Valve - closing

The standard valve is normally installed in a horizontal pipeline with the stem oriented vertically up. Confirm other orientations before ordering.

Type	Pressure Rating*
300 SCR.	200 psi / 13.8 bar
150 FLG.	200 psi / 13.8 bar
300 FLG.	300 psi / 20.7 bar

\* Pressure ratings are limited by the choice of pilot components.

## Standard Materials

Standard materials for pilot system components are:

- ASTM B-62 bronze or ASTM B-16 brass
- AISI 303 / 316 stainless steel trim

## Specifications

- The valve shall be a Singer Valve model 106-HC / 206-HC, size "\_\_\_\_\_", ANSI Class 150 (ANSI 300, ANSI flanges drilled to ISO PN 10 / 16 / 25 or 40) pressure rating / flange standard, globe (angle), style valve. The Opening Speed Control shall be adjusted in the field to allow for slow opening. Closing speed should be field adjusted to permit slow closing after allowing surges through the valve and back to the source preventing damage (check with pump supplier to determine if backflow through pump is acceptable). Assembly shall be according to Schematic A-0422D.
- The valve shall open for normal direction of flow and close to prevent reverse flow. Opening and closing speeds shall be individually adjusted to prevent surges. The valve shall be installed allowing for flow over the seat (flow is in the opposite direction through the valve as compared to other standard function categories).
- Refer to Main Valve section, page 11, 106-PG / 206-PG for detailed information pertaining to valve sizes and materials, selection criteria and specifications.

# Models 106-HC / 206-HC Hydraulic Check Valve

## Selection Summary:

1. Generally select size to minimize losses during normal forward flow.
2. Use the performance curves and sizing bulletin (see Technical and Sizing Information Section page 275) to check the pressure drop across the valve at normal flow rate. Use the same performance curves for flow over the seat or flow under the seat.
3. Check the maximum operating pressure. The pilot system limits the rating.
4. Standard construction provides: 200 psi / 13.8 bar
5. Rating for ANSI 150 flanged and NPT screwed ends; 300 psi / 20.7 bar rating for ANSI 300 flanged. Consult Singer Valve for applications requiring higher pressure ratings.

## Ordering Instructions

Refer to page 286 for the order form and ordering instructions.

Additionally, include the following information for this product:

- Full port (106) or reduced port (206)

106-HC	Flow Capacity (See 106-PG in Main Valve section for other valve data)								
Size (inches)	1/2 in	3/4 in	1 in	1-1/4 in	1-1/2 in	2 in	2-1/2 in	3 in	4 in
Size (mm)	15 mm	19 mm	25 mm	32 mm	40 mm	50 mm	65 mm	80 mm	100 mm
Max. Continuous (USGPM)	12	19	49	93	125	210	300	460	800
Max. Continuous (L/s)	0.8	1	3	6	8	13	19	29	50

106-HC	Flow Capacity (See 106-PG in Main Valve section for other valve data)								
Size (inches)	6 in	8 in	10 in	12 in	14 in	16 in	20 in	24 in	36 in
Size (mm)	150 mm	200 mm	250 mm	300 mm	350 mm	400 mm	500 mm	600 mm	900 mm
Max. Continuous (USGPM)	1800	3100	4900	7000	8500	11000	17500	25000	55470
Max. Continuous (L/s)	114	196	309	442	536	694	1104	1577	3500

206-HC	Flow Capacity (See 206-PG in Main Valve section for other valve data)								
Size (inches)	3 in	4 in	6 in	8 in	10 in	12 in	16 in	18 in	20 in
Size (mm)	80 mm	100 mm	150 mm	200 mm	250 mm	300 mm	400 mm	450 mm	500 mm
Max. Continuous (USGPM)	300	580	1025	2300	4100	6400	9230	16500	16500
Max. Continuous (L/s)	19	37	65	145	260	404	582	1040	1040

206-HC	Flow Capacity (See 206-PG in Main Valve section for other valve data)					
Size (inches)	24 x 16 in	24 x 20 in	28 in	30 in	32 in	36 in
Size (mm)	600 x 400 mm	600 x 500 mm	700 mm	750 mm	800 mm	900 mm
Max. Continuous (USGPM)	16500	21700	33600	33650	33700	33800
Max. Continuous (L/s)	1040	1370	2120	2123	2126	2132