MODELS 306 / S306-PT / PTC

Double Chamber Hydraulically Operated Valve

KEY FEATURES

- Maintains positive control under all operating pressures
- Positive control, even with low operating pressure
- Precise positioning
- Internal drop check included on the PTC model

PRODUCT OVERVIEW

The 306-PT and 306-PTC series control valves are hydraulically operated by introducing or releasing water from the control chambers. PT and PTC valves have two operating chambers which are divided from each other by the diaphragm and are separated from the flowing media by an adaptor plate.

306-PTC is an enhancement of the 306-PT and includes an internal drop check feature. This mechanical check provides non-slam closure on reverse flow, independently of the stem position or the pilot operation.

PT and PTC valves are usually combined with our specific purpose pilots and accessories to provide control for a wide range of functions: typically pump control and solenoid control applications.

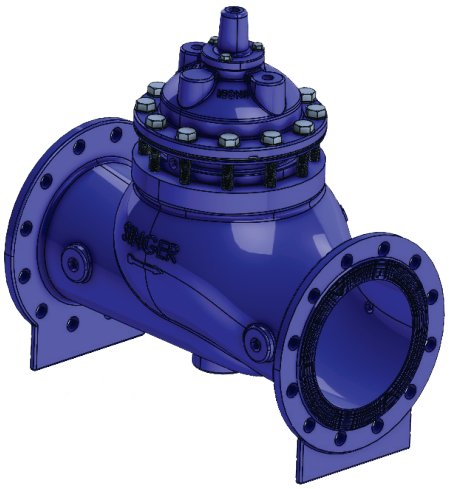
Refer to Main Valve Options and Pilots & Accessories sections to further customize the valve to suit specific applications.

SELECTION

The 306-PT and 306-PTC valves operate by introducing or exhausting water from the upper and lower chambers at controlled rates. Since the operating chambers are separated from the flowing media, a positive and precise differential pressure can be established across the diaphragm. Valves are sized to provide an appropriate pressure drop for each application. Valves usually exhaust to atmosphere.

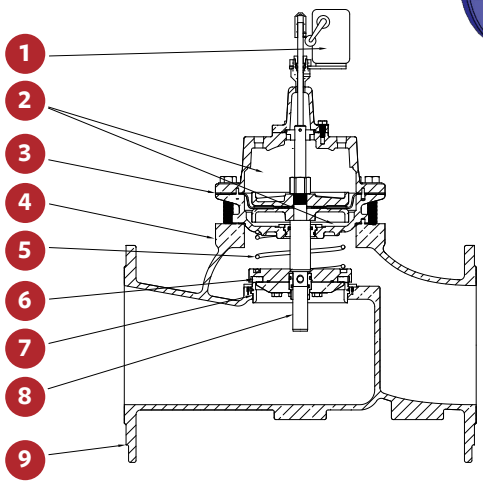
Sizing is ultimately determined by the specific application. Refer to the capacity charts for general guidelines.

Double-chambered automatic control valves are typically used for pump control. Other uses would include but not be limited to low-pressure differential applications. 306-PT and 306-PTC valves are particularly well suited for applications that require valves to open fully regardless of flow or pressure drop or any application where more relatively constant, controlled speed is required.



PRODUCT LINE DRAWING

ID	PART NAME
1	Optional Model X129 Limit Switch Assembly
2	Double Chamber Separated From the Flowing Media
3	ASTM A536 Ductile Iron Construction
4	EPDM Diaphragm
5	Optional Internal Check Feature (for PT Series)
6	EPDM Resilient Disc
7	AISI 316 Stainless-Steel Seat
8	AISI 316 Stainless-Steel Stem
9	NSF61 Fusion Bonded Epoxy Coating



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Double Chamber Hydraulically Operated Valve

VALVE SIZES & MATERIALS

VALVE MATERIALS		
	Standard	**Optional**
Available Sizes	Flanged	-
Globe	DN65 to DN400	-
VALVE COMPONENTS		
1. Valve Body, Cover	65-45-12 Ductile Iron	316 Stainless-Steel (limited sizes)
2. Seat Ring	316 Stainless-Steel	-
3. Disc Retainer	B16 Brass / B62 Bronze / A536 Ductile Iron	316 Stainless-Steel
4. Stem	316 Stainless-Steel	-
5. Stem Nut	B16 Brass	316 Stainless-Steel
6. Spring	316 Stainless-Steel	-
7. Guide Bushings	B16 Brass or SAE 660 Bronze	316 Stainless-Steel
8. Diaphragm	EPDM	Buna-N / Viton (limited sizes)
9. Resilient Disc	EPDM	Buna-N / Viton (limited sizes)
10. Coating	NSF61 Approved Fusion Bonded Epoxy - Thickness 250-300 microns	Consult factory
11. Fasteners	18-8 Stainless-Steel	316 Stainless-Steel

AVAILABLE OPTIONS

Further customize the valve by adding any of the available options below.

MAIN VALVE OPTIONS

Position Indicators (Available for install at Singer® manufacturing or as a field modification)

- Model X107 stem mounted position indicators
- Model X129 limit switch assembly with Single Pole Double Throw limit switch (Double Pole Double Throw optional)
- Model X156 analog position transmitters (4 - 20 mA)

PILOTS & ACCESSORIES, REFER TO MATERIALS OF CONSTRUCTION

Individual components can be upgraded from ductile iron, bronze, and brass to stainless-steel, for most sizes. Consult with us.

ORDERING INSTRUCTIONS

Refer to the order form and ordering instructions.

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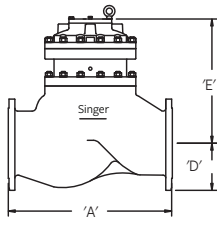
Double Chamber Hydraulically Operated Valve

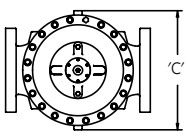
ANSI VALVE DATA (METRIC UNITS)

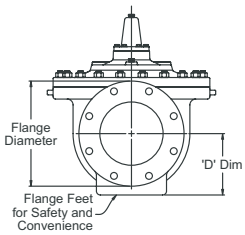
SIZE	DWG	STANDARD	FLAT DIAPHRAGM SYSTEM			
MM	REF	ISO	DN65	DN80	DN100	DN150
GLOBE DIMENSIONS			ALL FIGURES SHOW IN INCHES UNLESS OTHERWISE STATED			
Lay Length	A	PN10	290	310	350	480
Centerline to Bottom	D	PN10	95	102	144	152
Lay Length	A	PN16	290	310	350	480
Centerline to Bottom	D	PN16	95	102	144	152
Lay Length	A	PN25	290	310	350	480
Centerline to Bottom	D	PN25	95	102	144	152
Lay Length	A	PN40	290	310	350	480
Centerline to Bottom	D	PN40	95	102	144	152
COMMON DIMENSIONS (GLOBE & ANGLE)						
Width	C		185	200	235	311
Height (To Stem Cap) Globe	E		201	269	288	344
Body Port Tapping	FNPT	Inches	3/8	1	1	1
Stem Cap Plug	MNPT	Inches	3/8	3/8	3/8	3/8
Cover Port Tapping	FNPT	Inches	3/8	3/8	3/8	3/8
Valve Stroke		mm	19.2	28.2	32.4	35.1
Displaced Bonnet Volume (Liters)			0.16	0.41	0.56	0.92
Approximate Shipping Weight (Kilograms)			18.1	28.0	40.6	66.4
FLOW CAPACITIES (L/S) GLOBE						
Kv - Globe (m^3/h @ 1 bar)			48	69	130	261
Continuous (Globe)			16	22	37	67
Intermittent (Globe)			19	29	44	75
Momentary (Globe)			30	45	78	136
MAXIMUM PRESSURE RATINGS						
Bar		PN10	10	10	10	10
Bar		PN16	16	16	16	16
Bar		PN25	25	25	25	25
Bar		PN40	40	40	40	40
MAXIMUM TEMPERATURE						
Celcius			82°	82°	82°	82°

[1]Valves rated and stamped 400 psi as standard. Valves rated and stamped 600 psi on request.



GLOBE STYLE
ROLLING DIAPHRAGM





See pilot system information and additional engineering notes.

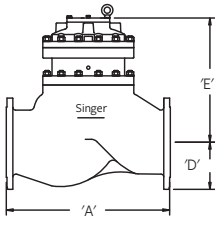
MODELS 306 / S306-PT / PTC

Double Chamber Hydraulically Operated Valve

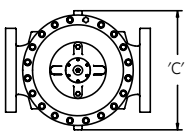
ANSI VALVE DATA (METRIC UNITS)

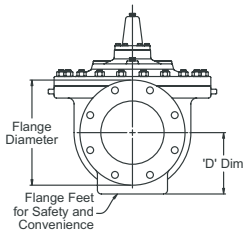
SIZE	DWG	STANDARD		ROLLING DIAPHRAGM SYSTEM			
MM	REF	ANSI	DN200	DN250	DN300	DN350	DN400
GLOBE DIMENSIONS		BS4504	ALL FIGURES SHOW IN INCHES UNLESS OTHERWISE STATED				
Lay Length	A	PN10	600	730	850	980	1100
Centerline to Bottom	D	PN10	200	217	240	270	298
Lay Length	A	PN16	600	730	850	980	1100
Centerline to Bottom	D	PN16	200	217	240	270	298
Lay Length	A	PN25	600	730	850	980	1100
Centerline to Bottom	D	PN25	200	217	240	270	298
Lay Length	A	PN40	600	730	850	980	1100
Centerline to Bottom	D	PN40	200	217	240	270	298
COMMON DIMENSIONS (GLOBE & ANGLE)							
Width	C		340	413	481	670	670
Height (To Stem Cap) Globe	E		467	578	622	730	730
Body Port Tapping	FNPT	Inches	1	1	1	1	1
Stem Cap Plug	MNPT	Inches	⅜	⅜	¾	¾	¾
Cover Port Tapping	FNPT	Inches	⅜	⅜	¾	¾	¾
Valve Stroke		mm	48.0	73.6	88.5	99.1	104.1
Displaced Bonnet Volume (Liters)			2.33	5.10	8.74	13.24	14.29
Approximate Shipping Weight (Kilograms)			94.0	169.3	300.2	463.4	490.2
FLOW CAPACITIES (L/S) GLOBE							
Kv - Globe (m^3/h @ 1 bar)			462	852	1341	2045	2149
Continuous (Globe)			150	267	417	560	600
Intermittent (Globe)			178	S	465	637	667
Momentary (Globe)			306	530	833	1019	1211
MAXIMUM PRESSURE RATINGS							
Bar		PN10	10	10	10	10	10
Bar		PN16	16	16	16	16	16
Bar		PN25	25	25	25	25	25
Bar		PN40	40	40	40	40	40
MAXIMUM TEMPERATURE							
Celcius			82°	82°	82°	82°	82°

[1]Valves rated and stamped 400 psi as standard. Valves rated and stamped 600 psi on request.



GLOBE STYLE
ROLLING DIAPHRAGM





See pilot system information and additional engineering notes.