PLAST-O-MATIC

PRODUCT DATA

CATALOG CKS

Series CKS Self-Closing Check Valves In Sizes 1½", 2", 3" and 4"

Features/Benefits:

- Normally-closed design, self-sealing, not dependent upon gravity, mounting position or reverse flow… a significant improvement over ball check valves.
- Leak-free sealing protects against the potential hazards created by reverse flow of corrosive liquids such as acids, caustics and chlorine solutions.
- PFA encapsulated stainless steel spring provides bubble-tight seal mounted in any position.
- Rapid closure by spring-loaded poppet helps to eliminate sudden back-flow water hammer.
- Positive repetitive sealing: Poppet automatically positions itself against seat in the identical location each time for long cycle life dependability.
- Minimal Cracking Pressure: Valve begins to open at approximately 1.0 to 1.5 PSI.
- Rugged thermoplastic construction meets highest industry standards.

Materials of Construction:

Plast-O-Matic Series CKS Check Valves are available standard in PVC (Polyvinyl Chloride), CPVC, Polypropylene and Kynar® PVDF in sizes 1½", 2", 3" and 4".

Seals are in EPDM, or FKM. Threaded or socket connections are standard.

Note: For information on ½", ¾" and 1" Self-Closing Check Valves, refer to Catalog CKL.

Design:

Series CKS Check Valves are normally-closed in design. They feature a corrosion resistant PFA encapsulated spring which energizes a poppet seal that will neither stick nor chatter and is automatic in action. The valves are not dependent upon gravity or reverse flow and represent a significant improvement over ball check valves. They can be mounted in any position. Even in the absence of reverse flow or pressure, the poppet will automatically reposition itself to seal against the valve seat. The unique poppet will seal in the identical location every time, producing a reliable and repetitive seal.

PLAST-O-MATIC VALVES, INC.
1384 Pompton Avenue, Cedar Grove, New Jersey 07009
(973) 256-3000 • Fax (973) 256-4745 • www.plastomatic.com

Series CKS Check Valves 1 1/2", 2" and 3"

Operation:

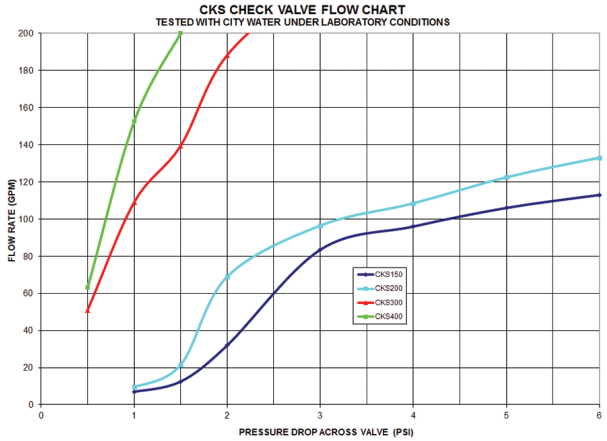
Flow entering the valve inlet will open the valve by pushing the poppet off the valve seat. In this position, the valve seat is kept clean by flushing action of the internal flow, keeping the entire sealing area free of particles which could cause leakage.

If the inlet flow is stopped, or if a backflow of a higher pressure is sensed, the spring-loaded poppet will automatically reposition itself, closing off the valve seat. Reverse flow or pressure is not required to close the valve when the inlet flow stops. If reverse pressure is present it simply creates a tighter seal.

Installation:

Because of their normally-closed design Plast-O-Matic CKS Check Valves can be installed in any position. Concern over the valve seat closing due to gravity (as with ball check designs) is of no consequence since CKS valves seal in any position. Caution must be exercised to make certain that the direction of flow is correct. Threaded connections should never be made to metal piping and should always be wrapped with Teflon® tape or other acceptable pipe sealant to effect a seal. The assembly need only be made hand-tight followed by a one-quarter turn more with a strap wrench. DO NOT overtighten and DO NOT use a pipe wrench as a future valve fracture could result.

Series CKS Performance Curve
Pressure Drop vs. Flow



Typical data, actual may vary due to spring force variation.

Series CKS Pressure Ratings

VALVE BODY MATERIAL	SEAL MATERIAL	MAXIMUM WORKING PRESSURE						
		75°F (25°C)	110°F (43°C)	140°F (60°C)	180°F (82°C)	220°F (104°C)	240°F (115°C)	284°F (140°C)
PVC	EPDM	100	100	40	N.R.	N.R.	N.R.	N.R.
	FKM	100	100	40	N.R.	N.R.	N.R.	N.R.
PP	EPDM	100	80	50	30	N.R.	N.R.	N.R.
	FKM	100	80	50	30	N.R.	N.R.	N.R.
PVDF	EPDM	100	100	100	100	N.R.	N.R.	N.R.
	FKM	100	100	100	100	60	30	10
CPVC	EPDM	100	100	80	40	N.R.	N.R.	N.R.
	FKM	100	100	80	40	N.R.	N.R.	N.R.

Notes: 1. 140°F (60°C) is the maximum recommended temperature for PVC. 2. For information on 1/2", 3/4" and 1" self-closing check valves request Catalog CKL.
N.R. = Not Rated

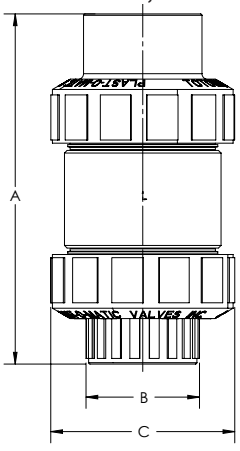
Series CKS Dimensions & Model Numbers

PIPE SIZE (NPT)	Cv FACTOR	A		B		C		MODEL NUMBER*
		In.	mm	In.	mm	In.	mm	
1 1/4"	45	7.4	188	2.5	64	3.5	89	CKS125VT-NC-PV
1 1/2"	45	7.4	188	2.5	64	3.5	89	CKS150VT-NC-PV
2"	45	8.4	213	3.3	83	4.1	114	CKS200VT-NC-PV
3"	95	9.8	250	4.2	106	5.8	146	CKS300VT-NC-PV
4"	C.F.	11.7	298	5.8	146	7.9	200	CKS400VT-NC-PV

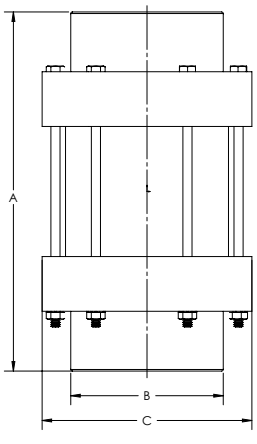
*Model numbers shown for valves with FKM seal, threaded connection and PVC body material.

1. For EPDM seals, change first "V" to "EP"; i.e. CKS150EPT-NC-PV.
2. For socket connections, change "T" to "S"; i.e. CKS150VS-NC-PV.
3. For Natural Polypropylene body change "PV" to "PP".
   For Kynar PVDF body change "PV" to "PF"; i.e. CKS150VT-NC-PF.
   For Corzan CPVC body change "PV" to "CP"; i.e. CKS15OVT-NC-CP.

1 1/2", 2"



3", 4"



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