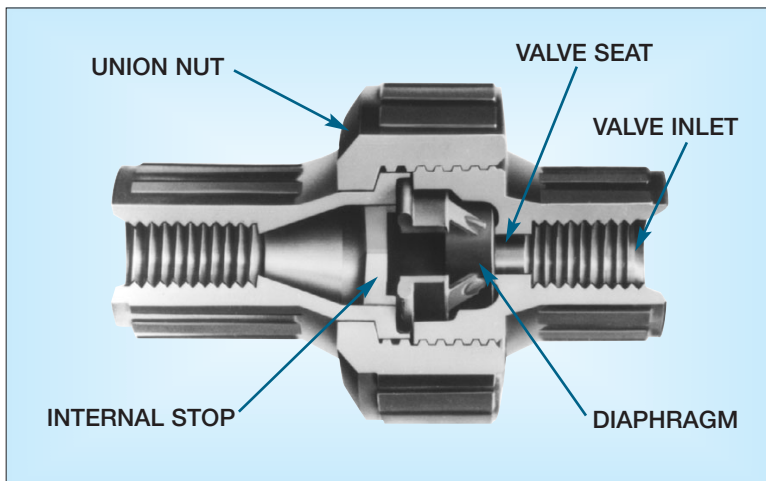


**CATALOG CKL**  
(Series CKM & CK)

## Self-Closing Thermoplastic Check Valves...

Patented Diaphragm Design Assures Dependable, Repetitive,  
Bubble-Tight Sealing... and They Can Be Mounted in Any Position!

Sizes: 1/2", 3/4" and 1"



### Features/Benefits:

- **Patented Design:** Self-sealing - are not dependent upon gravity, mounting position or reverse flow, a significant improvement over ball check valves.
  - **Silent Operation:** No internal sliding or loose parts to slam or vibrate - chattering is eliminated!
  - **Dependability:** Leak-free sealing protects against the potential hazards created by reverse flow of corrosive liquids such as acids, caustics and chlorine solutions.
- **Repetitive Long Term Sealing:** Diaphragm automatically positions itself against seat in the identical location. Superior to ball check valves which often leak at lower pressures.
  - **Convenience:** Union nut on Series CKM simplifies valve inspection/removal with minimum piping breakdown.
  - **Minimal Cracking Pressure:** Diaphragm begins to open at approximately 1.0 to 1.5 PSI.
  - **Cost Efficient:** Designed to improve system performance and competitively priced.

### Materials of Construction:

Plast-O-Matic Series CKM Check Valves are molded of Type 1, Grade 1, PVC (Polyvinyl Chloride), Glass-filled Polypropylene, Corzan® CPVC, and Kynar® PVDF in sizes 1/2", 3/4" and 1". A machined version, Series CK is available in PTFE in sizes 3/4" and 1". Diaphragms are of EPDM or FKM (Viton®). Threaded connections are standard on all models. Socket end connectors are available on all Series CKM models.

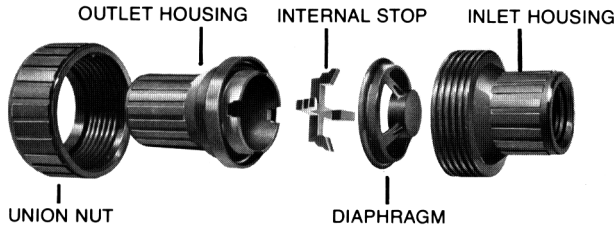
**Note:** For information on 1 1/2", 2" and 3" models, refer to Catalog CKS.

# Series CKM & CK Diaphragm Check Valves 1/2", 3/4" & 1"

## Design

Series CKM & CK Check Valves, normally closed in design, feature a patented diaphragm seal that will neither stick nor chatter and is automatic in action. The valves are not dependent upon gravity so they can be mounted in any position. Even in the absence of reverse flow or pressure, the diaphragm will automatically reposition itself to seal against the valve seat. This is achieved with or without the presence of reverse flow. The unique and patented diaphragm will seal in the identical location every time producing a more reliable and repetitive seal.

The molded Series CKM models have only one moving part – the diaphragm. This provides both design simplicity and maximum operating dependability.

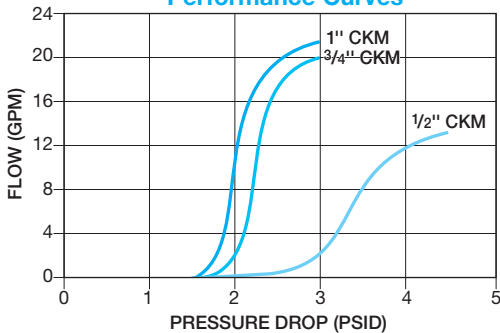


## Operation

Flow entering the valve inlet will open the valve by pushing the diaphragm off the valve seat until it comes to rest on the internal stop. This supports the diaphragm and eliminates force or stress under high flow condition. In this position both the diaphragm and valve seat are kept clean by the flushing action of the internal flow, keeping the entire sealing area free of particles which could cause leakage.

If the inlet flow is either stopped, or if a backflow of a higher pressure is sensed, the diaphragm 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.

Series CKM – Flow vs. Pressure Drop Performance Curves



Series CKM is a normally-closed design requiring 1.5 PSI or less to open

## Installation

Because of its normally closed design the Plast-O-Matic CKM and CK 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. Caution should 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 PTFE or other acceptable pipe sealant to effect a seal. The assembly should 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.

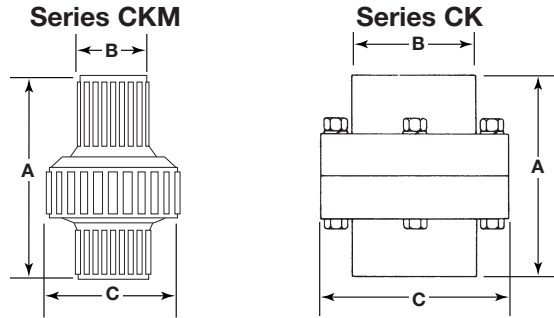
## Dimensions and Material Availability

### Series CKM – Molded Models: PVC, CPVC, GPP & PVDF

Pipe Size (NPT)	A		B		C	
	in.	mm	in.	mm	in.	mm
1/2"	3.8	97	1.3	33	2.4	62
3/4"	4.1	105	1.6	39	2.8	72
1"	4.7	120	1.9	48	2.8	72

### Series CK – Machined Models: PTFE

3/4"	3.6	92	1.9	48	3.0	76
1"	4.3	110	1.9	48	3.0	76



## Pressure Temperature Ratings

### Series CKM – Molded Models: PVC, CPVC, GPP & PVDF

Valve Body Material	Valve Diaphragm Material	Maximum Working Pressure							
		77°F (25°C)		140°F (60°C)		180°F (82°C)		280°F (138°C)	
		Inlet	Back	Inlet	Back	Inlet	Back	Inlet	Back
PVC	EPDM	150	100	150	100	NR	NR	NR	NR
	FKM	150	100	150	100	NR	NR	NR	NR
GPP 20% Glass Filled	EPDM	100	100	100	100	100	100	NR	NR
	FKM	100	100	100	100	100	100	NR	NR
PVDF	EPDM	150	100	150	100	150	100	NR	NR
	FKM	150	100	150	100	150	100	60	60
CPVC	EPDM	150	100	150	100	150	100	NR	NR
	FKM	150	100	150	100	150	100	NR	NR

### Series CK – Machined PTFE Models

PTFE	EPDM	40	40	40	40	40	40	5	5
	FKM	40	40	40	40	40	40	5	5

## Ordering Information For Series CKM & CK

Pipe Size	CKM - PVC	CKM - PP	CKM-PF	CKM-CPVC	CK-TF
	FKM Seals	FKM Seals	FKM Seals	FKM Seals	FKM Seals
1/2"	CKM050V-PV	CKM050V-PP	CKM050V-PF	CKM050V-CP	N.A.
3/4"	CKM075V-PV	CKM075V-PP	CKM075V-PF	CKM075V-CP	CK075V-TF
1"	CKM100V-PV	CKM100V-PP	CKM100V-PF	CKM100V-CP	CK100V-TF

**Note:** Threads are standard. For socket ends add "S" after seal material. (ex. CKM050VS-PV). For other body materials consult factory. Above shown with FKM (Viton®) Seals. For EPDM seals change "V" to "EP". N.A. = Not Available.

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