



# National Fire Equipment Ltd.

## Model CKVAG Standard Swing Check Valve – GXG

### Description

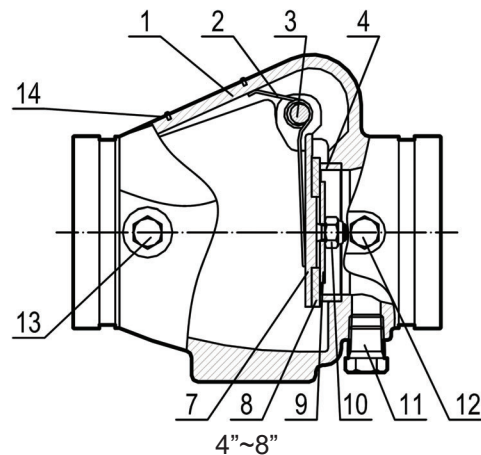
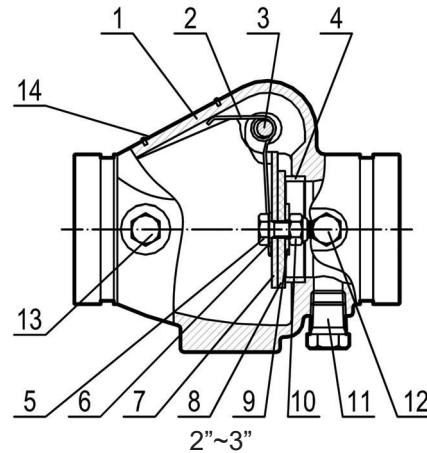
Style CKVAG Grooved-end Swing Check Valve. Developed using innovative engineering experience. CKVAG is an UL/cUL listed and FM approved non-return valve which permits water flow in one direction and prevents flow in reverse direction. This function is realized by a spring loaded stainless steel clapper with an EPDM rubber facing and a broadened bronze seat, to provide a long service life and leak-free sealing. It is widely used with various configurations in fire sprinkler systems, fire department connections, gravity pressure tank or by-pass connections etc.

### Product features

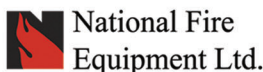
- Rated working pressure 365psi/25bars by UL/CUL listing and FM approval;
- Can be installed in both vertical (upward flow only) and horizontal positions;
- One design with “Shotgun” arrangement;
- Drains can be optionally provided both upstream and downstream of the clapper;
- Innovative hydro-dynamically efficient profile lowers pressure drop;
- Sealing achieved by a low head pressure of 2psi/0.15bar;
- All wetted parts made of anti-corrosion material to provide superior service time;
- Grooved end conforming to AWWA C606 for easy installation and maintenance.



PART	SPECIFICATION
1. Body	Ductile Iron ASTM A 536
2. Spring	Stainless Steel 304
3. Hinge Pin	Stainless Steel 304
4. Seat	Bronze
5. Bolt	Stainless Steel 304 (2"~3")
6. Gasket	EPDM Rubber (2"~3")
7. Clapper	CF8 (Stainless Steel 304)
8. Facing Seal	EPDM Rubber
9. Clamping Ring	Stainless Steel 304
10. Locknut	Stainless Steel 304
11. Plug 1/2" NPT	Carbon Steel
12. Plug 1/4" NPT	Carbon Steel
13. Plug 1/4" NPT	Carbon Steel
14. Name Plate	Stainless Steel 304



\*UL/CUL Listed and FM Approved under Shanghai CNG Piping Technology Co. Ltd model CVG01



TORONTO: (905) 761-6355  
Toll Free: (800) 267-8508

VANCOUVER: (604) 420-1131  
Toll Free: (800)-667-2138

EDMONTON: (780) 455-3870  
Toll Free: (888)-891-1008

MONCTON: (506) 859-7277  
Toll Free: (877) 816-3473

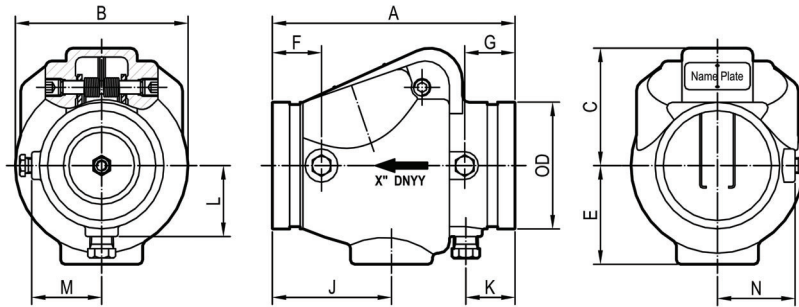
OTTAWA: (613) 723-6071

BURNABY: (604)-299-4498

CALGARY: (403) 236-5661

MISSISSAUGA: (905) 565-1385

[www.nationalfire.com](http://www.nationalfire.com)



### Dimension

Product No.	SIZE	OD	A	B	C	E	F	G	J	K	L	M	N	Wt.
	DN	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	Lbs.
CKVAG200	50	60.3	170	100	72	60	43	44	79	43	38	38	47	2.5
	2	2.375	6.70	3.94	2.83	2.36	1.70	1.73	3.11	1.70	1.50	1.50	1.85	5.5
CKVAG250	65	73.0	184	114	78	67	43	44	85	43	45	45	51	3.8
	2 1/2	2.875	7.25	4.50	3.07	2.64	1.70	1.73	3.35	1.70	1.77	1.77	2.00	8.4
CKVAG300	80	88.9	196	128	88	73	43	44	94	43	51	51	57	5.2
	3	3.500	7.72	5.04	3.46	2.87	1.70	1.73	3.70	1.70	2.00	2.00	2.25	11.5
CKVAG400	100	114.3	222	158	106	89	45	46	109	45	64	64	71	8.6
	4	4.500	8.75	6.22	4.17	3.50	1.77	1.81	4.29	1.77	2.52	2.52	2.80	18.9
CKVAG600	150	168.3	270	220	129	119	45	46	144	45	91	91	96	17.4
	6	6.625	10.63	8.66	5.08	4.69	1.77	1.81	5.67	1.77	3.58	3.58	3.78	38.3
CKVAG800	200	219.1	330	274	152	146	51	54	182	52	116	116	120	32.0
	8	8.625	13.00	10.80	6.00	5.75	2.00	2.13	7.17	2.05	4.57	4.57	4.72	70.5

### Check Valve Performance Data

Formulas for Kv Values

$$\Delta P = \frac{Q^2}{K_v^2} \quad Q = K_v \times \sqrt{\Delta P}$$

Where:  $Q$  = Flow rate (gallons per minute: M3/h)  
 $\Delta P$  = Pressure drop across valve (bar)  
 $K_v$  = Flow coefficient

Nominal Size	Pipe O.D.	(Full Open)
DN	mm	Kv
In.	In.	Cv
50	60.3	95
2	2.375	110
65	73.0	138
2 1/2	2.875	160
80	88.9	216
3	3.500	250

Formulas for Cv Values

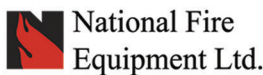
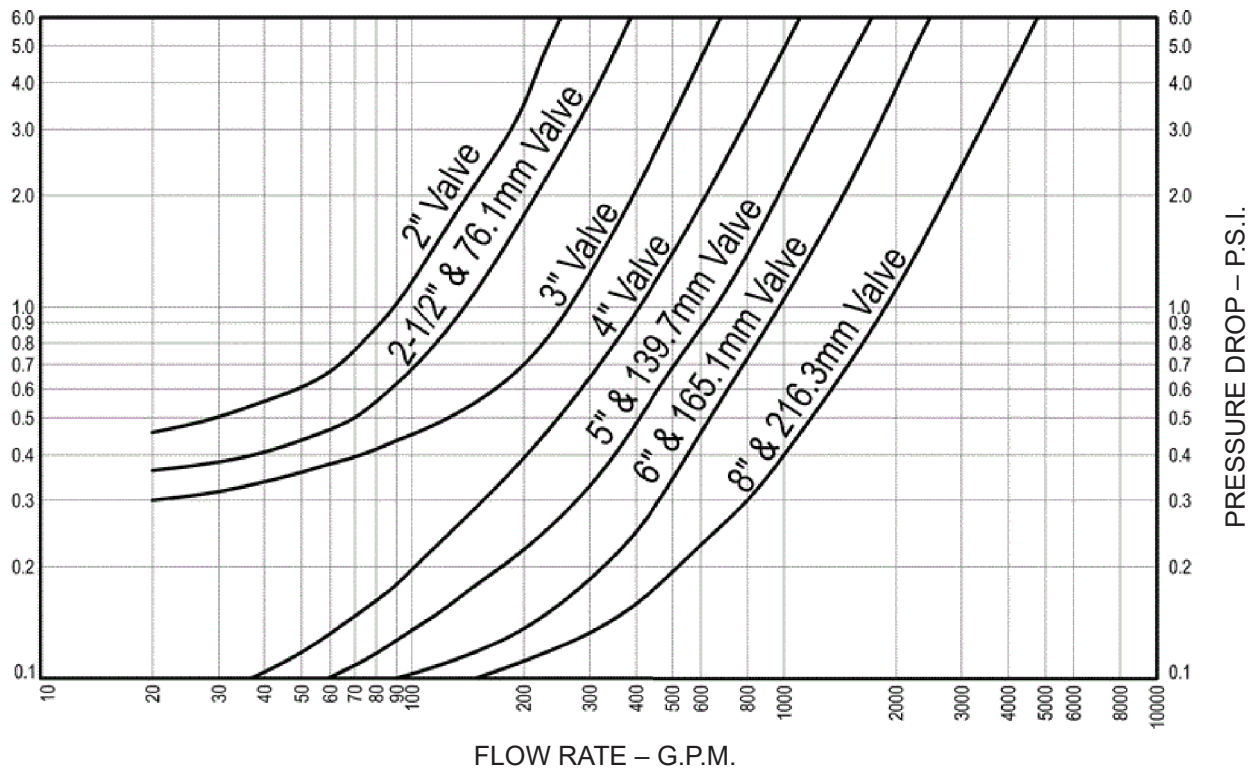
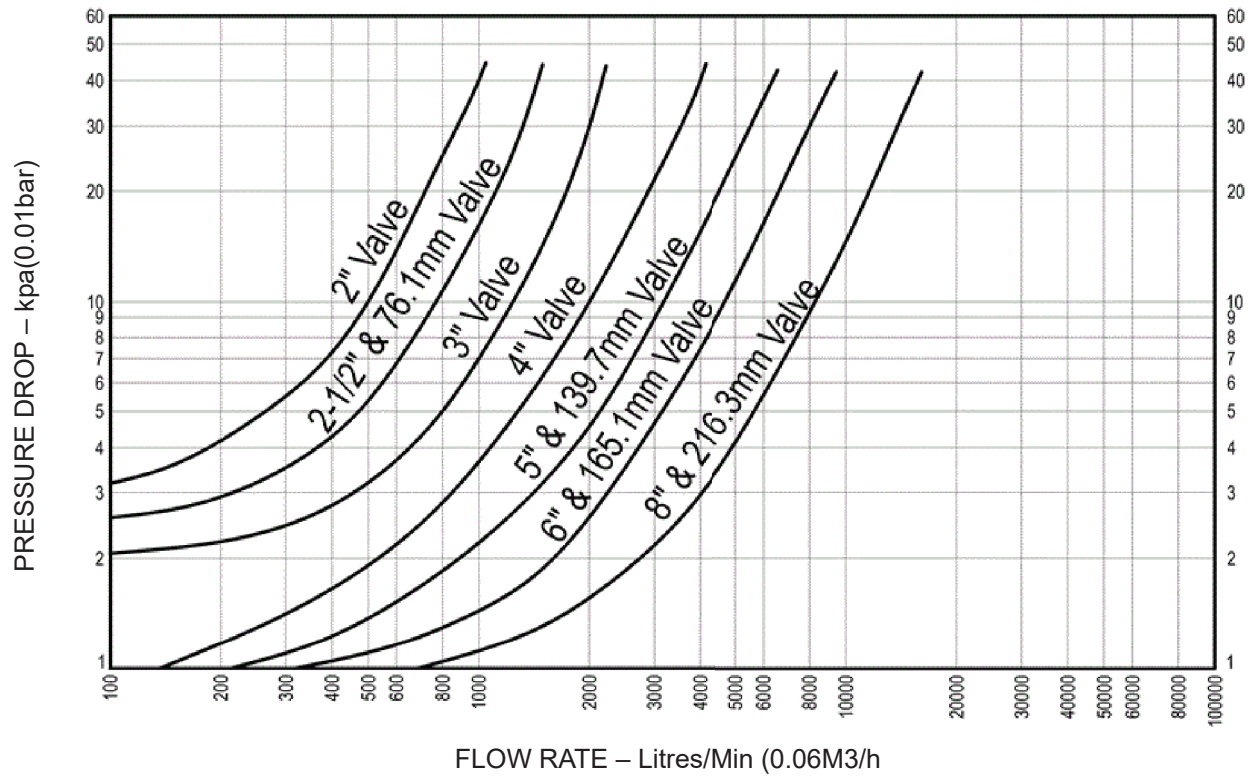
$$\Delta P = \frac{Q^2}{C_v^2} \quad Q = C_v \times \sqrt{\Delta P}$$

Where:  $Q$  = Flow rate (gallons per minute: M3/h)  
 $\Delta P$  = Pressure drop across valve (psi)  
 $C_v$  = Flow coefficient

Nominal Size	Pipe O.D.	(Full Open)
DN	mm	Kv
In.	In.	Cv
100	114.3	380
4	4.500	440

Nominal Size	Pipe O.D.	(Full Open)
DN	mm	Kv
In.	In.	Cv
150	168.3	864
6	6.625	1000
200	219.1	1555
8	8.625	1800

The chart below expresses the flow of water at 16 °C /60°F through valve.



TORONTO: (905) 761-6355  
Toll Free: (800) 267-8508  
OTTAWA: (613) 723-6071

VANCOUVER: (604) 420-1131  
Toll Free: (800)-667-2138  
BURNABY: (604)-299-4498

EDMONTON: (780) 455-3870  
Toll Free: (888)-891-1008  
CALGARY: (403) 236-5661

MONCTON: (506) 859-7277  
Toll Free: (877) 816-3473  
MISSISSAUGA: (905) 565-1385

[www.nationalfire.com](http://www.nationalfire.com)