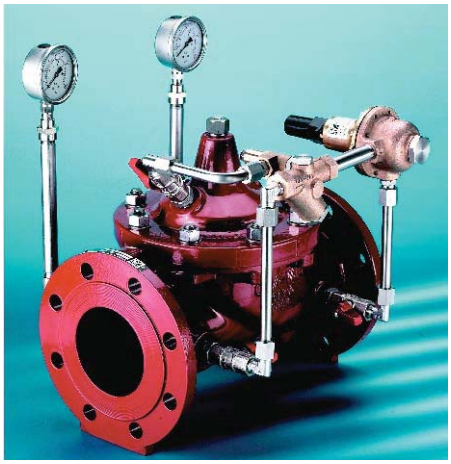
CLA-VAL™

MODEL 90GE-01 (Full Internal Port)
NGE90-01 (Reduced Internal Port)

Pressure Reducing Valve



Pressure Gauges Optional

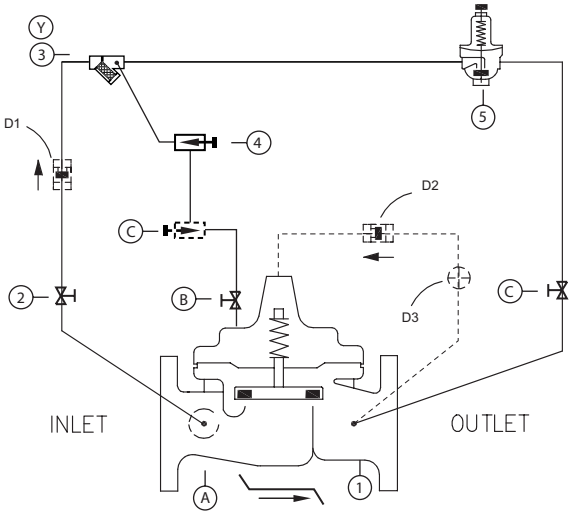
- **Extremely accurate control of set-point**
- **Positive drip tight shut-off at zero flow**
- **Exceptional reliability**
- **Adjustable over a wide range of pressures**
- **3 year Warranty**

The Cla-Val Model NGE90-01/90GE-01 Pressure Reducing Valve automatically reduces a higher inlet pressure to a steady lower downstream pressure, regardless of changing flow rate and/or varying inlet pressure. This valve is an accurate, pilot-operated regulator capable of holding downstream pressure to a pre-determined limit. When downstream pressure exceeds the pressure setting of the control pilot, the main valve and pilot valve close drip-tight.

If a check feature is added, and a pressure reversal occurs, the downstream pressure is admitted in the main valve cover chamber, closing the valve to prevent return flow.

Schematic Diagram

Item	Description
1	Hytrol (Main Valve)
2	RB117 Isolating Ball Valve
3	X44A Strainer with Incorporated Orifice
4	CV Flow Control (Opening)
5	CRD Pressure Reducing Control Valve

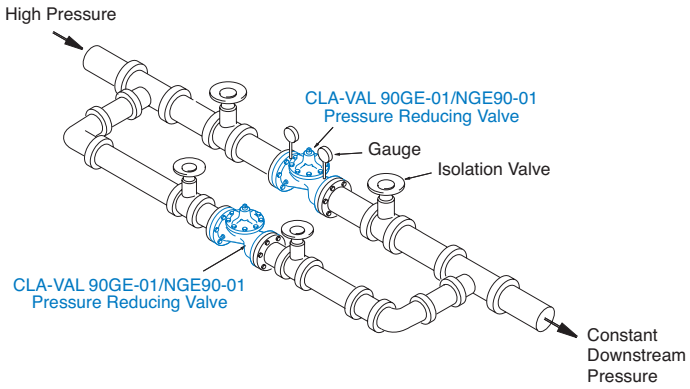


Optional Features

Item	Description
A	X46A Flow Clean Strainer
C	CV Flow Control (Closing)*
Y	X43/80-EP High Capacity Strainer
D	Check Valves with Isolation Valve

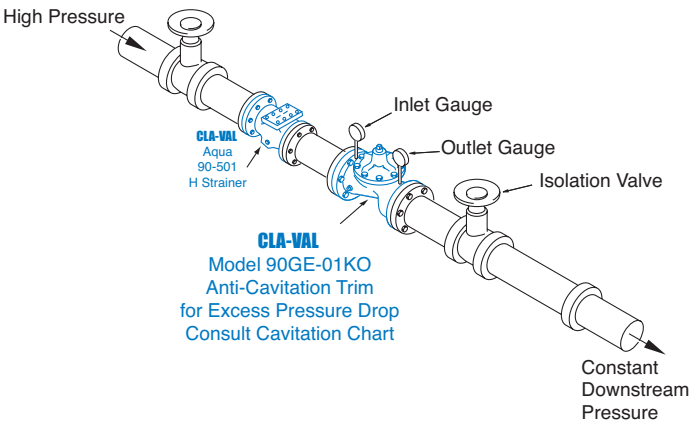
Typical Applications

Typical applications include pressure reducing valve station using model in parallel to handle wide range of flow rates. Larger model valve meets requirements of peak loads and smaller model handles low flows.



Cla-Val Model NGE90-01KO/90GE-01KO Pressure Reducing Valve with Anti-Cavitation Trim provides for optimum downstream pressure control while reducing noise and eliminating damage associated with cavitation.

See Cavitation Guide to determine if the valve is a candidate for the KO Anti-Cavitation Trim.



Model 90GE-01 (Uses Basic Valve Model 100GE-01)

Pressure Ratings (Recommended Maximum Pressure - bar)

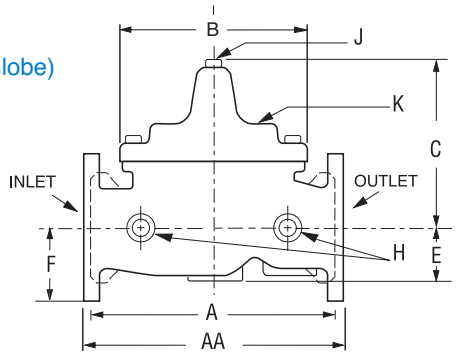
Valve Body & Cover		Pressure Class				
		Flanged				Threaded
Grade	Material	PN10	PN16	PN25	PN40	End Details
ASTM A536	Ductile Iron	10	16	25	40	20

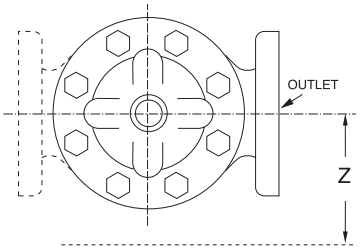
Materials

Component	Standard Material Combinations
Body & Cover	Ductile Iron - Fusion Bonded Epoxy coated
Available Sizes	32mm - 400mm *
Disc Retainer & Diaphragm Washer	Cast Iron - Fusion Bonded Epoxy coated
Trim: Disc Guide, Seat & Cover Bearing	Stainless Steel
Disc	EPDM
Diaphragm	Nylon Reinforced EPDM
Stem, Nut & Spring	Stainless Steel
* See TYTAN range for Larger Sizes	

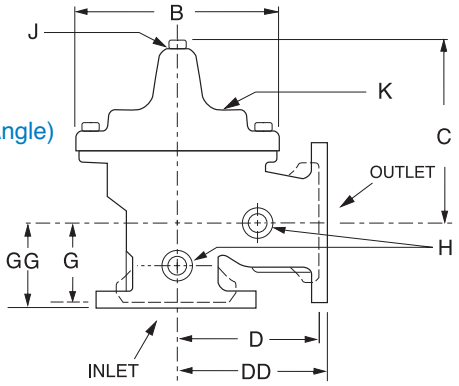
Dimensions
(In mm)

100GE-01 (Globe)





100AE-01 (Angle)



Model 90GE-01 Dimensions (In mm)

Valve Size (mm)	**32-40**	**50**	**65**	**80**	**100**	**150**	**200**	**250**	**300**	**350**	**400**
A Threaded	200	238	280	318	—	—	—	—	—	—	—
AA Flanged	216*	254	279	305	381	508	645	756	864	991	1051
AAAA Grooved End	216	228	279	318	381	508	645	—	—	—	—
B Dia.	145	170	205	235	295	400	510	600	712	832	900
C Max.	140	165	192	208	270	340	406	435	530	614	635
CC Max. Grooved End	120	146	175	184	236	308	371	—	—	—	—
D Threaded	83	121	140	159	—	—	—	—	—	—	—
DD Flanged	102*	127	149	162	191	254	324	378	432	495	528
DDDD Grooved End	—	121	—	152	191	—	—	—	—	—	—
E	29	38	43	52	81	110	135	235	273	321	394
EE Grooved End	52	64	73	79	108	152	192	—	—	—	—
F	75	82.5	93	100	110	142.5	170	236	274	267	295
G Threaded	48	83	102	114	—	—	—	—	—	—	—
GG Flanged	102*	89	110	111	126	153	203	219	349	378	398
GGGG Grooved End	—	83	—	108	127	—	—	—	—	—	—
H BSP Body Tapping	⅜	⅜	½	½	¾	¾	1	1	1	1	1
J BSP Cover Center Plug	¼	½	½	½	¾	¾	1	1	1¼	1½	2
K BSP Cover Tapping	⅜	⅜	½	½	¾	¾	1	1	1	1	1
Z (Approx Outer Limits of Pilot System)	150	150	165	203	216	230	285	330	370	400	475
Valve Stem Internal Thread UNF	10-32	10-32	10-32	¼-28	¼-28	⅜-24	⅜-24	⅜-24	⅜-24	⅜-24	½-20
Stem Travel	10	15	18	20	28	43	58	71	86	102	114
Approx. Ship Wt. Kgs.	13	20	25	30	50	95	170	310	470	726	970

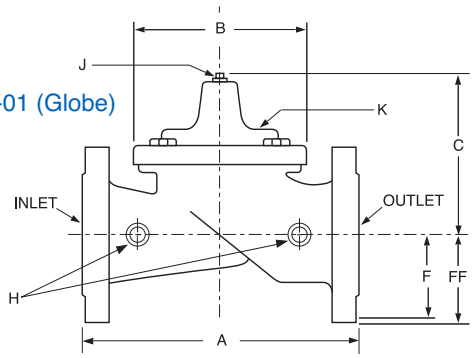
Model NGE90-01 (Uses Basic Valve Model NGE100-01)

Dimensions
(In mm)

Pressure Ratings (Recommended Maximum Pressure - bar)

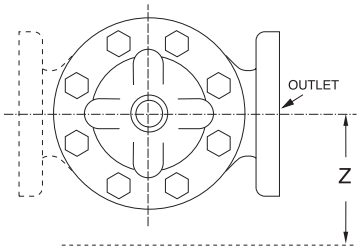
Valve Body & Cover		Pressure Class				
		Flanged				Threaded
Grade	Material	PN10	PN16	PN25	PN40	End Details
ASTM A536	Ductile Iron	10	16	25	40	20

NGE100-01 (Globe)



Materials

Component	Standard Material Combinations
Body & Cover	Ductile Iron - Fusion Bonded Epoxy coated
Available Sizes	50mm - 600mm *
Disc Retainer & Diaphragm Washer	Cast Iron - Fusion Bonded Epoxy coated
Trim: Disc Guide, Seat & Cover Bearing	Stainless Steel
Disc	EPDM
Diaphragm	Nylon Reinforced EPDM
Stem, Nut & Spring	Stainless Steel
* See TYTAN range for Larger Sizes	



Model NGE90-01 Dimensions (In mm)

Valve Size (mm)	**50**	**65**	**80**	**100**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**600**
A	230	290	310	350	480	600	730	850	980	1100	1200	1250	1450
B Dia.	145	170	170	235	295	400	510	600	712	712	712	900	900
C Max.	136	170	178	219	295	381	454	533	530	654	635	800	800
F PN16	83	93	100	110	143	170	200	228	260	290	325	370	430
FF PN25	83	93	100	118	150	180	213	243	278	310	335	370	430
H BSP Body Tapping	⅜	⅜	⅜	½	¾	¾	1	1	1	1	1	1	1
J BSP Cover Center Plug	½	½	½	½	¾	¾	1	1	1¼	1¼	2	2	2
K BSP Cover Tapping	⅜	⅜	⅜	½	¾	¾	1	1	1	1	1	1	1
Z (Approx Outer Limits of Pilot System)	190	200	200	200	250	270	290	365	400	425	450	520	520
Valve Stem Internal Thread UNF	10-32	10-32	10-32	¼-28	¼-28	⅜-24	⅜-24	⅜-24	⅜-24	⅜-24	½-20	½-20	½-20
Stem Travel	10	15	15	20	28	43	58	71	86	86	86	114	114
Approx. Ship Wt. Kgs.	15	20	25	39	70	120	190	330	540	640	681	980	1060

Valve Selection

			These Symbols and Indicate Available Sizes														
		Inches	1¼	1½	2	2½	3	4	6	8	10	12	14	16	18	20	24
		mm	32	40	50	65	80	100	150	200	250	300	350	400	450	500	600
		End Detail	Threaded	Threaded & Flanged				Flanged									
Model **90GE-01**	Basic Valve 100GE-01	Globe Pattern															
		CV (L/S)	7	8	13	20	28	48	111	185	299	414	552	706			
		Angle Pattern															
		CV (L/S)	6	7	16	24	33	57	130	238	378	601	734	1009			
	Suggested Flow (M^3/hr)	Max. Continuous	21.6	29	43	72	108	173	389	702	1080	1548	2088	2736			
		Max. Intermittent	27.36	34	54	90	137	216	482	864	1350	1944	2628	3456			
		Min. Continuous	2	2	3	5	7	12	26	47	68	90	115	148			
	Suggested Flow (Litres/Sec)	Max. Continuous	6	8	12	20	30	48	108	195	300	430	580	760			
		Max. Intermittent	7.6	9.5	15	25	38	60	134	240	375	540	730	960			
		Min. Continuous	0.4	0.4	0.6	1.3	1.9	3.2	7.2	13	19	25	32	41			
Contact Factory for Sizes not Shown																	
Model **NGE90-01**	Basic Valve NGE100-01	Globe Pattern					**										
		CV (L/S)			9	12	16	33	58	133	222	359	455	497	575	847	895
	Suggested Flow (M^3/hr)	Max. Continuous			36	61	90	144	316	565	882	1271	1732	2261	3535	3535	5090
		Min. Continuous			2.1	3.2	3	7	12	26	47	68	115	115	205	205	205
	Suggested Flow (Litres/Sec)	Max. Continuous			10	17	25	40	88	157	245	353	481	620	982	982	1414
		Min. Continuous			0.6	0.9	.9	1.9	3.2	7.2	13	19	32	32	57	57	57

NGE90-01 is the reduced internal port size version of the 90GE-01.

**Flanged End Detail Only

The flow coefficient CV, expressed as l/s is the flow which produces a 1 bar pressure drop across the fully open valve at a water temperature of 15 °c.
For 100GE-01 basic valves, suggested flow calculations were based on flow through Schedule 40 Pipe. Maximum continuous flow is approx. 6.1 meters/sec & maximum intermittent is approx. 7.6 meters/sec and minimum continuous flow is approx. .3 meters/sec. For NGE100-01 basic valves, suggested flow calculations were based on flow through the valve. Approx. 5.0 meters/sec was used for maximum continuous flow & .3 meters/sec is used for minimum continuous flow.

Many factors should be considered in sizing pressure reducing valves including inlet pressure, outlet pressure and flow rates. For sizing questions or cavitation analysis, consult Cla-Val with system details.

Pilot System Specifications

Adjustment Ranges

0.1 to 2.0 bar
1.0 to 5.3 bar
1.4 to 7.2 bar *
2.1 to 21.0 bar

*Supplied unless otherwise specified
Other ranges available, please consult factory

Temperature Range

Water: to 65°C

Materials

Standard Pilot System Materials
Pilot Control: Bronze ASTM B62
Trim: Stainless Steel Type 303
Rubber: Buna-N® Synthetic Rubber
Tubing and Fittings: Stainless Steel

Optional Pilot System Materials
Pilot Systems are available with optional Aluminum, Stainless Steel or Monel materials at additional cost.
Note: Available with remote sensing control.

When Ordering, Please Specify

1. Catalog No. 90GE-01 or No. NGE90-01
2. Valve Size
3. Pattern - Globe or Angle
4. Pressure Class
5. Threaded or Flanged
6. Trim Material
7. Adjustment Range
8. Desired Options
9. When Vertically Installed

CLA-VAL®

CVE-E-90GE-01/NGE90-01

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