

Series PRGB Top Guided Globe Type

Control Valve

DN15 - DN200

ANSI CL150 / PN16



Flow Control With Precision

DIE ERSTE Series PRGB Pneumatic Actuated Regulating Globe Valve is designed and constructed to fit various application, such as oil&gas, petrochemical, chemical, marine, steel, steam, and energy applications. It is specially designed using recent advances in control valve technology. The body is designed with single seated unbalanced trim construction for most pressure and temperature conditions, which provides features of high strength, S-shape flow path, low pressure drop, high rangeability, high Cv flow, and precise control. Flow characterized trim offered in equal percentage (EQ%) and linear type.

For more advanced conditions, cages are applied upon request. Cage design is used to lower side-way loading and trim movement due to pipeline vibration by pumps and other equipments, and further provides a stable performance in the valve travel. It also used when anti-cavitation or low-noise trim is required. From our experiences, high pressure drop may cause erosion, noise or vibration, which significantly affect flow control.

(A) Tight Shutoff

Shutoff classes from ANSI IV to VI are available to meet applications. Standard seat material is metal to metal sealing face, and soft seat option is available upon request for CLASS VI type seal

(B) Flow Option

Flow-to-close and Flow-to-open

(C) Precise Control Positioner

Mechanical EP type,
SMART positioner with PROFIBUS, FIELDBUS

(D) Stem Seal Option

General type packing seal
High temperature extended bonnet seal
Bellow type bonnet seal

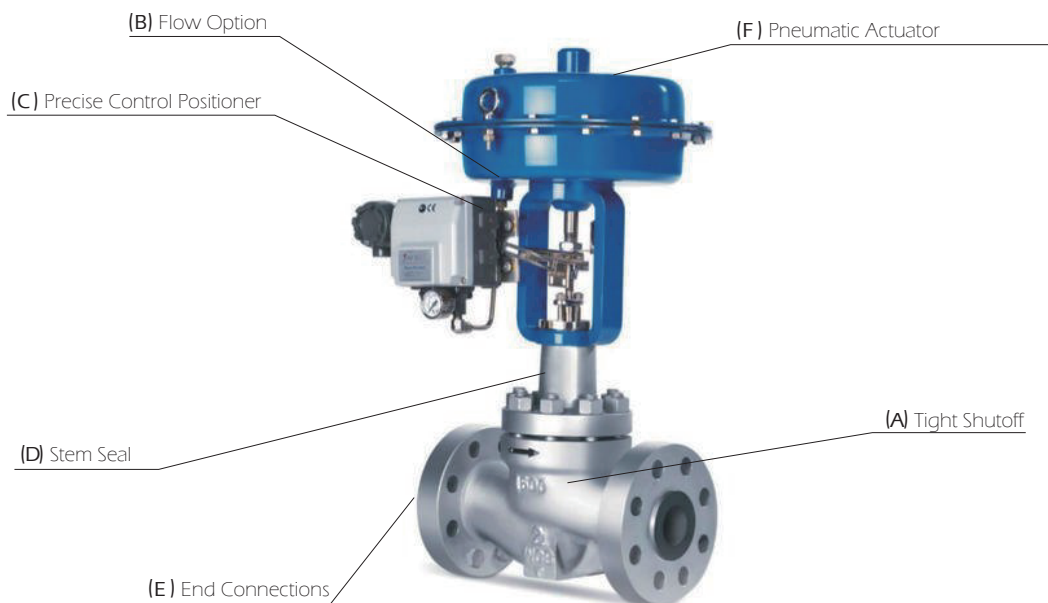
(E) Connection Type

Flange End ANSI B16.5 CLASS 150/300
Flange End HG/T 20615, HG/T 20592
Flange End JB/T 79.1
Butt Weld ANSI B16.25

(F) Pneumatic Actuator

Diaphragm type pneumatic actuator with multiple springs

Features





Key Features

Reliable Quality

Strong body construction top-guided plug provides operational stability under various conditions. This compact and simple body design helps to lower maintenance costs and extends product life cycles. This versatile product line helps customers to solve a multitude of control valve application problems using a common platform, including all cavitation free liquid services, steam and gas services that meet noise regulations.

High Performance

With trim designs, actuator stability, tight shut-off capabilities, and precise valve positioning offers optimized control performances. Series PRGB is available in many different type of materials, pressure ratings, and end connections.

Diaphragm Actuator

Diaphragm actuator is equipped with compact multiple spring sets, which reduces stem side loading. It is available for field reversible action, where user is able to change the operating direction onsite without moving from pipeline. Spring sets are designed to reduce friction and wear, providing long cycle life and precise control against the air inlet or outlet. Number of spring sets provides a constant effective area of spring contact face gives smooth linear control.

Top guiding system with larger stem diameter provides increase stability when valve is in operation. Valve position can be directly viewed with position indicator on the stem.

Actuation can be done with wide selection of actuators including pneumatic and electric and top-mounted hand-wheel are available.

Trim Options

Series PRGB is offered with single or double stage noise reduction and anti-cavitation trim. The trim materials, including plug, stem, and seat face, undergo hardened treatment with Stellite face or other treatments. For seat ring, it can be interchangeable or with threaded seat design. Seat ring can also be machined for reduced sizes for low flow capacity requirements. Lastly, soft seat ring are available for certain applications.

Stem Seal Options

As control valve stem moves up and down, the stem seal becomes a critical part of the valve leakage detection. Three types of stem seal are offered:

- 1) Standard type packing system with PTFE and soft seals.
- 2) High temperature packing system with sulfur-free graphite
- 3) Bellow seal system

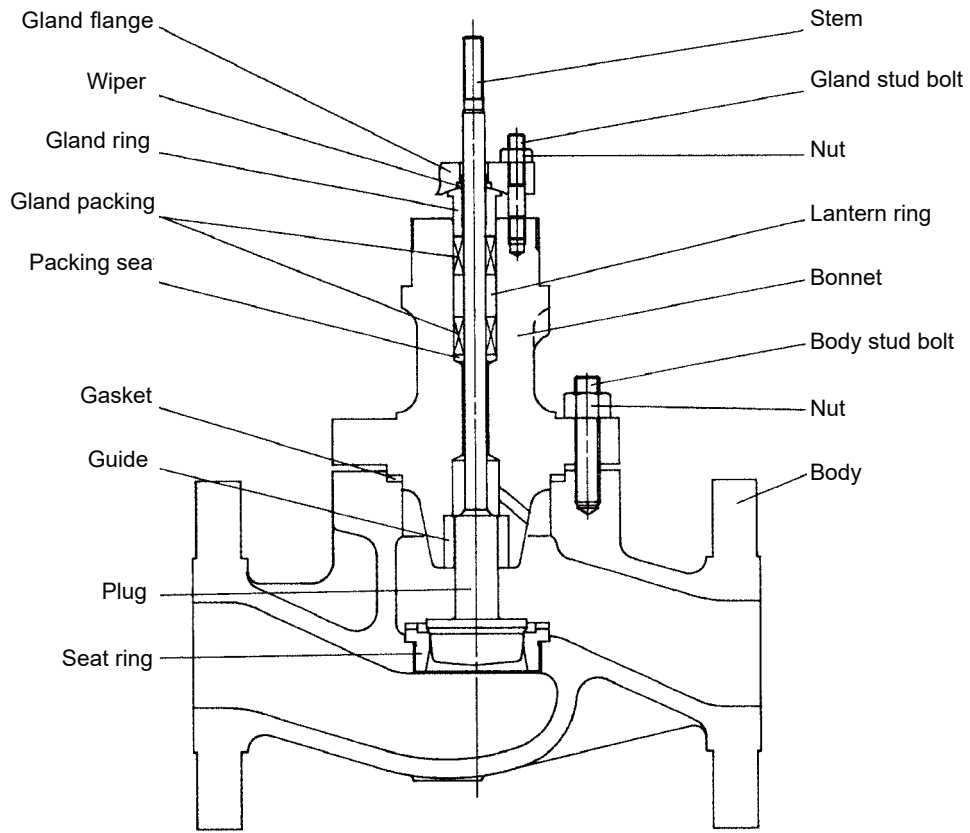
Each type is suitable for particular applications regarding to temperature, pressure, and media. Please consult with DIE ERSTE for product selection.

Cage Design

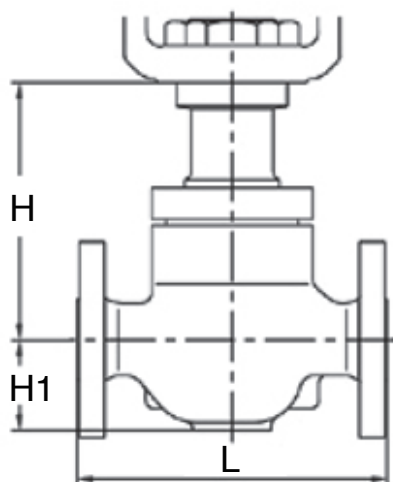
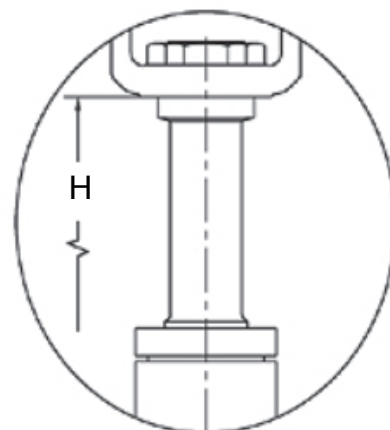
In high pressure drop applications, cavitation may occur by vapour bubbles, and thus damage the valve trim, reducing the product life cycle. It also creates high noise and further brings vibration in the system. To avoid such problems, multi-stage or multi-path trim is available for product selection. High pressure media will go through a series of changing direction in small flow path, and gradually reduce the pressure, and thus, eliminates the possibilities of cavitation. For further information, please contact us.



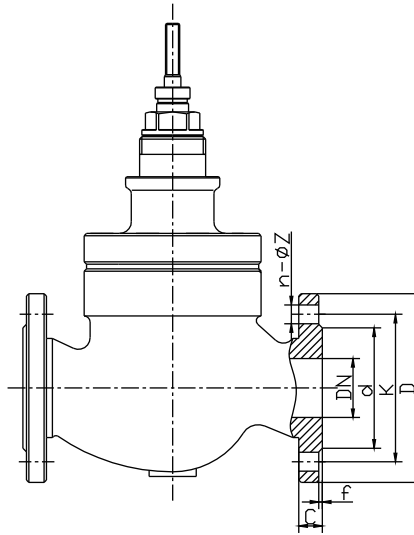
Electric Actuator Available



PART NAME	MATERIAL
BODY / END CAP	ASTM A216 WCB
	ASTM A351 CF8 / CF8M
PLUG	ASTM A182 F304 / F316
	ASTM A276 410 / 420
SEAT	ASTM A182 F304 / F316
	ASTM A276 410 / 420
STEM	ASTM S17400 17-4PH
	ASTM A276 410 / 420
	ASTM A276 F304 / F316
CAGE	ASTM A351 CF8 / CF8M

**Flanged****Extension Bonnet /
Bellows Bonnet**

SIZE	L	L	H	H	H	H1
	ANSI#150 PN16	ANSI#300 PN40	STANDARD DESIGN	HIGH TEMP DESIGN	BELLOW/ SEAL	
20	184	194	184	334	445	52
25	184	197	184	334	445	52
40	222	235	238	407	550	68
50	254	267	262	432	565	83
65	276	292	307	507	710	93
80	298	317	319	519	720	98
100	352	368	351	551	750	117
125	403	425	403	660	880	133
150	451	473	444	704	930	150
200	543	568	517	777	980	186



ANSI CLASS 150 FLANGE DIMENSION

SIZE	NPS	D	K	d	C	f	n-φz
20	3/4"	100	70	43	13	1.6	4-16
25	1"	110	79.5	51	14.5	1.6	4-16
40	1-1/2"	130	98.5	73	17.5	1.6	4-16
50	2"	150	120.5	92	19.5	1.6	4-18
65	2-1/2"	180	139.5	105	22.5	1.6	4-18
80	3"	190	152.5	127	24	1.6	4-18
100	4"	230	190.5	157.5	24	1.6	4-18
125	5"	255	216	186	24	1.6	8-18
150	6"	280	241.5	216	25.5	1.6	8-22
200	8"	345	298.5	270	29	1.6	8-22

PN16 FLANGE DIMENSION

SIZE	NPS	D	K	d	C	f	n-φz
20	3/4"	105	75	55	16	2	4-14
25	1"	115	85	65	18	2	4-14
40	1-1/2"	145	110	85	20	2	4-18
50	2"	160	125	100	22	2	4-18
65	2-1/2"	180	145	120	24	2	4-18
80	3"	195	160	135	24	2	8-18
100	4"	215	180	155	26	2	8-18
125	5"	245	210	185	28	2	8-18
150	6"	280	240	210	28	2	8-23
200	8"	335	295	265	30	2	12-23

ANSI CLASS 300 DIMENSION

SIZE	NPS	D	K	d	C	f	n-Φz
20	3/4"	120	82.5	43	16	1.6	4-18
25	1"	125	89	51	17.5	1.6	4-18
40	1-1/2"	155	114.5	73	21	1.6	4-22
50	2"	165	127	92	22.5	1.6	8-18
65	2-1/2"	190	149	105	25.5	1.6	8-22
80	3"	210	168.5	127	29	1.6	8-22
100	4"	255	200	157.5	32	1.6	8-22
125	5"	280	235	186	35	1.6	8-22
150	6"	320	270	216	37	1.6	12-22
200	8"	380	330	270	41.5	1.6	

PN40 DIMENSION

SIZE	NPS	D	K	d	C	f	n-Φz
20	3/4"	105	75	55	16	2	4-14
25	1"	115	85	65	16	2	4-14
40	1-1/2"	145	110	85	18	2	4-18
50	2"	160	125	100	20	2	4-18
65	2-1/2"	180	145	120	22	2	8-18
80	3"	195	160	135	24	2	8-18
100	4"	230	190	160	26	2	8-23
125	5"	270	220	188	28	2	8-25
150	6"	300	250	218	28	2	8-25
200	8"	375	320	282	30	2	12-30

Calculated Cv and stroke

Size	Seat Diameter	Stroke	Rated Cv	
			Equal %	Linear
20	6	16	1	1
	8	16	1.5	1.5
	10	16	2	2
	12	16	2.5	2.5
	15	16	4	5
	20	16	8	10
25	6	16	1	1
	8	16	1.5	1.5
	10	16	2	2
	15	16	4	5
	20	16	8	10
	25	16	10	15
32	25	16	10	15
	32	16	20	25

Size	Seat Diameter	Stroke	Rated Cv	
			Equal %	Linear
40	32	25	20	25
	40	25	32	35
50	40	25	32	35
	50	25	45	50
65	50	40	45	50
	65	40	75	85
80	65	40	75	85
	80	40	110	135
100	80	40	110	135
	100	40	185	210
125	100	60	185	210
	125	60	298	345
150	125	60	298	345
	150	60	385	466
200	150	60	385	466
	200	60	600	678

HOW TO ORDER

PRODUCT CODE

PRGB-21221-DN25X20-ANSI#150-D-L452C

Code	Product Type
PRGB	Pneumatic Control Valve

Code	Trim Type
2	Unbalanced trim
4	Balanced trim

Code	Flow Type
1	Straight Body
2	Angle Body
3	Three way type

Code	Flow Type
1	Econ type, screw-in seat
2	High performance, cage Seat
3	High performance, twin Seats
4	On-off type
5	Econ type, cage with twin seat
6	Cage with one seat
7	Cage with multi holes
8	Cage with labyrinth
9	Multiple pressure drop

Code	Bonnet Type
1	Standard type
2	Heat fin type
3	Extended bonnet
4	Bellow type
5	Jacket type

Code	Connection Type
1	Flange type
2	Wafer type
3	Butt weld type
4	Threaded end type

Code	Additional Info
R	Soft seat
Y	Metal seat
S	Cage guide
C	PFA / FEP lined
H	Three way mixing
F	Three way diverting

Code	Flow Characteristics
Z	Linear
D	Equal percentage
X	Quick opening

Code	Actuator
4	Diaphragm type with springs
6	Cylinder type
7	Electric actuator
0	Other

Code	Valve Action
5	Single acting, FC
6	Single acting, FO
7	Double acting, FC
8	Double acting, FO
9	Double acting



Taiwan
5F-1, No.936,
Sec. 4, Wen-Sin Road
Taichung City, 406, Taiwan
T +886(4)2231 0059
F +886(4)2236 0236

Shanghai
No.8, Lane 1
Xin-Xiao Road
Shanghai, 201612, China
T +86(21)5777 3810
F +86(21)5777 3919

DIE ERSTE INDUSTRY CO., LTD.
www.die-erste.com | sales@die-erste.com

Copyright © 2010 by DIE ERSTE INDUSTRY CO., LTD. CM-112/PRGB

Due to continuous development of the products, DIE ERSTE reserves the right to alter the dimension and information contained in the document as required. For specific performance data and proper material selection, please consult with your DIE ERSTE representatives