CNC
FLOW CONTROL



C&C
CAST STEEL

Pressure Seal Bonnet

Gates, Globes, and Swing Checks

C&C

C&C is a product brand of CNC Flow Control

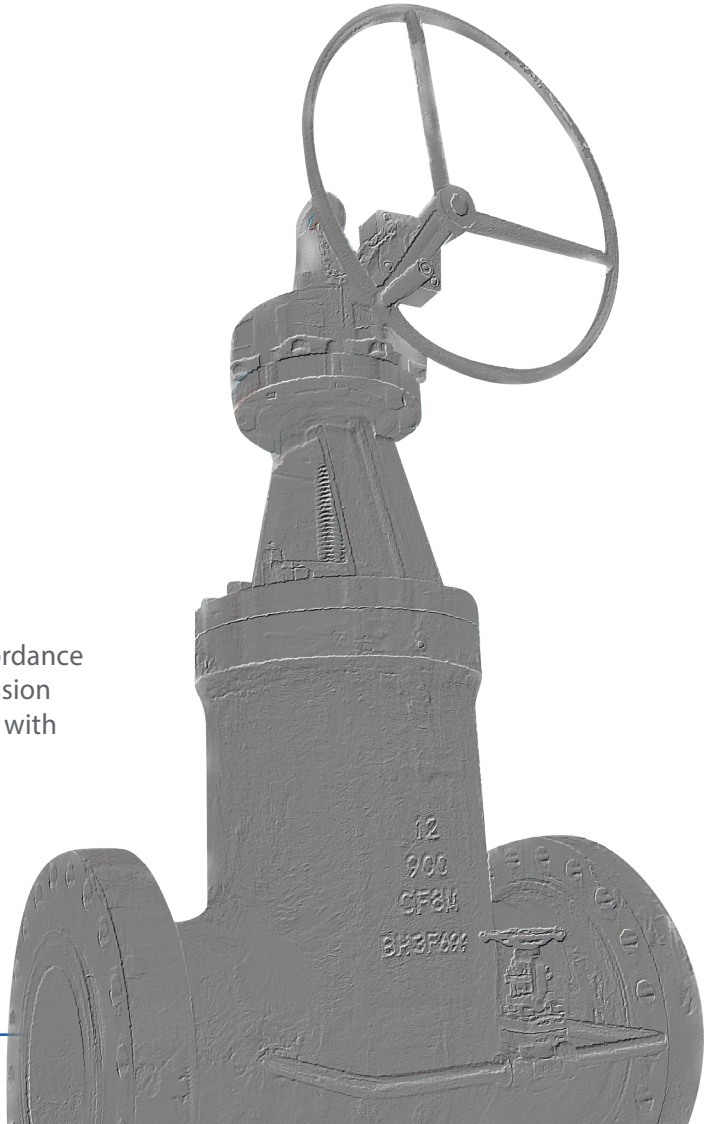
FLOW CONTROL

CONTENTS

STANDARDS & SPECIFICATIONS	2
HOW TO ORDER GUIDE	3
GATE VALVES: GENERAL INFORMATION AND BILL OF MATERIALS	4
GATE VALVES: WEIGHT AND DIMENSIONAL DATA	5
GLOBE VALVES: GENERAL INFORMATION AND BILL OF MATERIALS	6
GLOBE VALVES: WEIGHT AND DIMENSIONAL DATA	7
CHECK VALVES: GENERAL INFORMATION AND BILL OF MATERIALS	8
CHECK VALVES: WEIGHT AND DIMENSIONAL DATA	9

STANDARDS AND SPECIFICATIONS

- Scope of Offering:
  - Sizes: 2" - 24"
  - ASME Class: 600 – 2500
- Basic Design per ASME B16.34
- Basic Design CSA Z245.15-22
- Wall Thickness in Accordance with API 600 / ASME B16.34
- Bevel End per ASME B16.25 Fig.2B/3B
- Face to Face Dimensions per ASME B16.10
- Flanged End: ASME B16.5
- Pressure/Temperature Rating per ASME B16.34
- Pressure Tests per API 598
- Valves Comply with NACE MR0103, MR0175/ISO 15156
- Low Fugitive Emission Certification: API 624
- Design Temperature:
  - WCB: -20°F to +800°F (-29°C to +427°C)
  - LCC: -50°F to +650°F (-46°C to +343°C)
  - CF8M: -425°F to +1500°F (-254°C to +816°C)



Low Emission Packing
All C&C Gate and Globe valves are built with stem packing in accordance with API 622. This feature guarantees a valve suitable for low emission service. All gate and globe valves have been tested in accordance with API 624 to ensure leakage of less than 100 ppm.

Testing
Valves are production tested and inspected in accordance with API 598. They can also be tested and inspected to meet specific customer requirements.

HOW TO ORDER GUIDE

EXAMPLE:

A 2" Class 600 Pressure Seal Bonnet Gate Valve with Raised Face Flanged End Connections, WCB Carbon Steel Body/Bonnet, Trim 8 NACE trim, graphite packing, and a handwheel is written as 206PGA0108GRFH.

A	B	C	D	E	F	G	H
2	06	PGA	01	08	G	RF	H

Example: 2" CL 600 Forged Gate WCB T8 NACE Graphite Packing RF HW API 624/598 ASTM B16.34

A	Size	
	INCHES	DN
2	2"	50
3	3"	80
4	4"	100
6	6"	150
8	8"	200
10	10"	250
12	12"	300
14	14"	350
16	16"	400
18	18"	450
20	20"	500
24	24"	600

B	Pressure Class
06	Class 600
09	Class 900
15	Class 1500
25	Class 2500

C	Valve Type
PGA	Pressure Seal Gate (API 598)
PGL	Pressure Seal Globe (API 598)
PSW	Pressure Seal Swing Check (API 598)

D	Body/Bonnet Material
01	ASTM A216 WCB
02	ASTM A352 LCC
03	ASTM A351 CF8M

All bodies are overlay with stl #6

E	Trim Material
08	Trim 8 NACE
12	Trim 12 NACE

F	Packing Material
G	Graphite

G	End Connection
RF	Raised Face
RJ	Ring Joint
BW80	Butt Weld - Sch 80
BW160	Butt Weld - Sch 160
BWSP	Butt Weld - Special

H	Operator
G	Gear Operator
H	Handwheel
leave blank	N/A (Swing Check only)

Warning: Metallic materials selected using NACE MR0175/ISO 15156 are resistant to cracking in defined H2S containing environments in oil and gas production, but not necessarily immune to cracking under all service conditions. It is the equipment user's responsibility to select materials suitable for the intended service.

Cast Steel Pressure Seal Bonnet Gate Valves

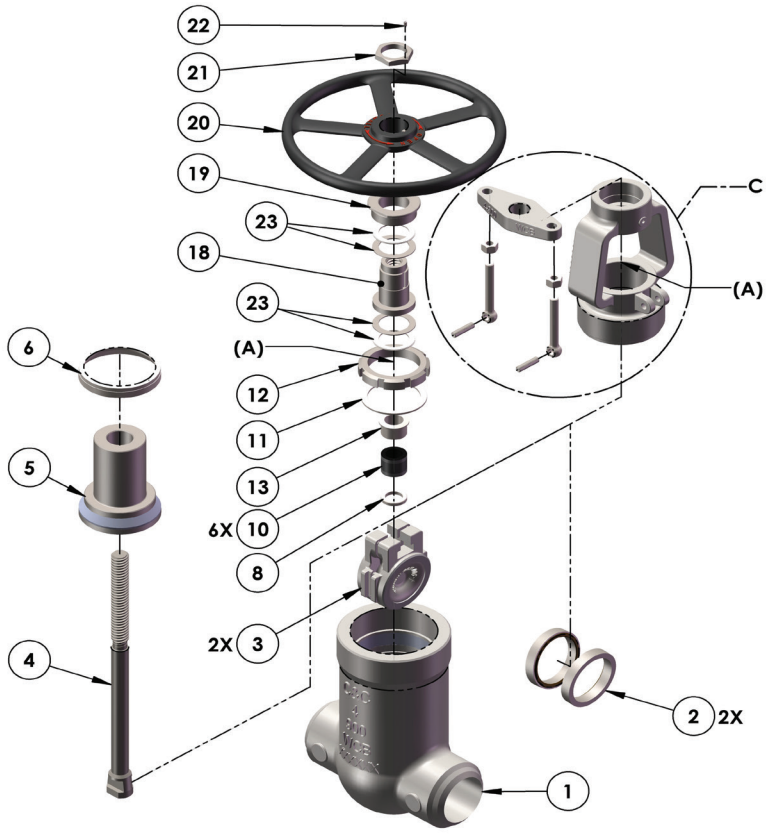
General Information & Bill of Materials

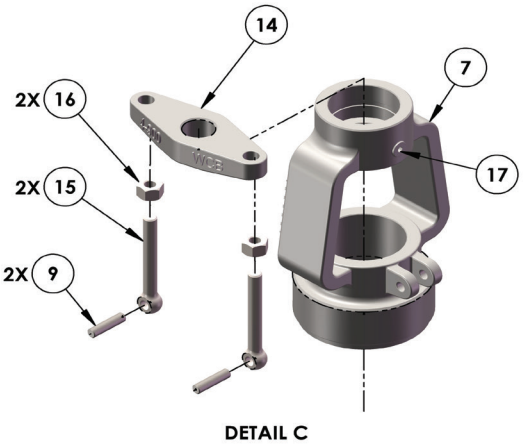
Range

Gate valves are available in ASME CL 600, 900 sizes 2" to 24", ASME CL 1500 sizes 2" to 20" and ASME CL 2500 sizes 2" to 18".

ITEM	NAME	QTY	MATERIAL	SPECIFICATION
1	BODY	1	CARBON STEEL	ASTM A216 WCB
2	SEAT RING	1	CARBON STEEL + HF OVERLAY	ASTM A105 + STL 6# FACED
3	DISC	1	CARBON STEEL + 13Cr OVERLAY	ASTM A216 WCB+13Cr FACED
4	STEM	1	STAINLESS STEEL	ASTM A182 F6a CL.2
5	BONNET	1	CARBON STEEL + HF OVERLAY	ASTM A105 + STL 6# FACED
6	SEAL RING	1	STAINLESS STEEL	ASTM A182 F316L
7	YOKE	1	CARBON STEEL	ASTM A216 WCB
8	SPACER RING	1	STAINLESS STEEL	ASTM A276 410
9	EYE BOLT PIN	2	CARBON STEEL	ASTM A576 1045
10	PACKING	1 SET	GRAPHITE	API 622
11	CLAMP WASHER	1	STAINLESS STEEL	ASTM A276 410
12	BONNET CLAMP	1	CARBON STEEL	ASTM A576 1045
13	GLAND	1	STAINLESS STEEL	ASTM A276 410
14	GLAND FLANGE	1	CARBON STEEL	ASTM A216 WCB
15	EYE BOLT	2	CARBON STEEL	ASTM A193 B7M
16	EYE BOLT NUT	2	CARBON STEEL	ASTM A194 2HM
17	GREASE NIPPLE	1	CARBON STEEL	AISI 1025
18	YOKE SLEEVE	1	DUCTILE IRON	ASTM A439 D2C
19	YOKE CAP	1	CARBON STEEL	ASTM A576 1045
20	HANDWHEEL	1	MALLEABLE IRON	ASTM A536 TYPE 60-40-18
21	HANDWHEEL NUT	1	CARBON STEEL	ASTM A576 1045
22	SET SCREW	1	CARBON STEEL	ASTM A576 1035
23	BEARING	2	CARBON STEEL	-
***	GEAR	1	CARBON STEEL	ASTM 216 WCB

1 The above BOM reflects WCB T8N construction. Contact CNC Flow Control for other material options. Variations also occur based on size, pressure class, and operator.



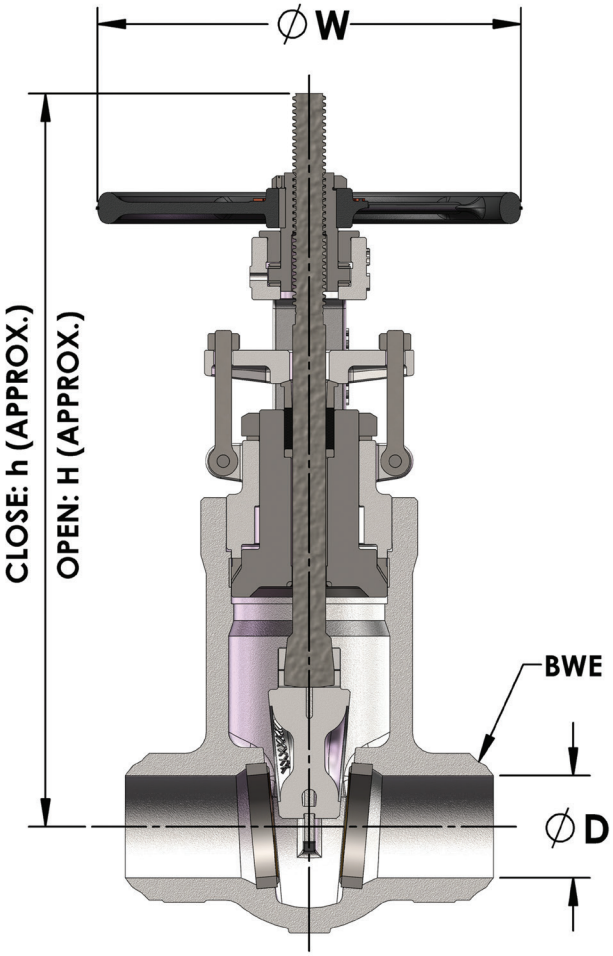


DETAIL C

Cast Steel Pressure Seal Bonnet Gate Valves

Weight and Dimensional Data

CLASS	FULL PORT VALVE - DIMENSIONS IN INCHES (IN)								
	SIZE	L	ØD	h (CLOSE) /GEAR	H (OPEN)	ØW	WEIGHT (LB)	BWE	CV
600	2"	7.0	2.00	15.70	18.20	8	95	SCH80	309
	3"	10.0	3.00	20.30	23.70	12	143	SCH80	714
	4"	12.0	4.00	24.40	29.00	12	181	SCH80	1306
	6"	18.0	6.00	GEAR	37.20	12	364	SCH80	3129
	8"	23.0	7.87	GEAR	44.60	12	712	SCH80	5572
	10"	28.0	9.75	GEAR	53.50	18	1091	SCH80	8555
	12"	32.0	11.75	GEAR	58.10	21	1616	SCH80	12839
	14"	35.0	12.87	GEAR	70.90	24	2221	SCH80	15463
	16"	39.0	14.75	GEAR	74.90	24	2898	SCH80	20316
	18"	43.0	16.50	GEAR	84.90	24	3646	SCH80	26453
	20"	47.0	18.25	GEAR	86.60	24	4456	SCH80	32369
	24"	55.0	22.00	GEAR	110.40	32	6231	SCH80	47028
900	2"	8.50	1.87	19.60	22.00	10	95	SCH80	270
	3"	12.0	2.87	22.80	26.10	14	154	SCH80	654
	4"	14.0	3.87	25.20	29.50	16	229	SCH80	1223
	6"	20.0	6.00	GEAR	36.20	12	518	SCH80	2875
	8"	26.0	7.87	GEAR	47.00	18	904	SCH80	5060
	10"	31.0	9.75	GEAR	54.50	24	1820	SCH80	7898
	12"	36.0	11.75	GEAR	60.20	24	2586	SCH80	11540
	14"	39.0	12.87	GEAR	66.90	24	3421	SCH80	14013
	16"	43.0	14.75	GEAR	76.10	28	4291	SCH80	18297
	18"	48.0	16.50	GEAR	88.80	32	5164	SCH80	24109
	20"	52.0	18.25	GEAR	92.20	32	6005	SCH80	29757
	24"	61.0	22.00	GEAR	105.50	32	7463	SCH80	42850
1500	2"	8.50	1.87	19.60	22.00	10	95	SCH160	270
	3"	12.0	2.75	23.70	27.10	18	221	SCH160	601
	4"	16.0	3.62	27.70	31.90	20	401	SCH160	1069
	6"	22.0	5.37	GEAR	36.80	18	760	SCH160	2506
	8"	28.0	7.00	GEAR	44.60	24	1583	SCH160	4408
	10"	34.0	8.75	GEAR	53.30	28	2787	SCH160	6890
	12"	39.0	10.37	GEAR	64.80	28	3235	SCH160	10039
	14"	42.0	11.37	GEAR	74.20	32	5140	SCH160	12069
	16"	47.0	13.00	GEAR	76.10	32	6477	SCH160	15777
	18"	53.0	14.62	GEAR	84.50	32	7857	SCH160	20763
	20"	58.0	16.37	GEAR	93.50	40	9256	SCH160	26038
2500	2"	11.0	1.50	18.60	20.50	14	176	SCH160	174
	3"	14.0	2.25	22.00	26.10	18	392	SCH160	402
	4"	18.0	2.87	28.20	32.00	20	522	SCH160	672
	6"	24.0	4.37	GEAR	38.60	18	772	SCH160	1660
	8"	30.0	5.75	GEAR	47.20	24	1852	SCH160	2976
	10"	36.0	7.25	GEAR	55.50	28	3504	SCH160	4731
	12"	31.0	8.62	GEAR	63.00	32	5420	SCH160	6934
	14"	44.0	9.50	GEAR	74.20	32	6369	SCH160	8425
	16"	49.0	10.87	GEAR	77.00	32	7897	SCH160	11030
	18"	55.0	12.25	GEAR	79.90	40	14561	SCH160	14568



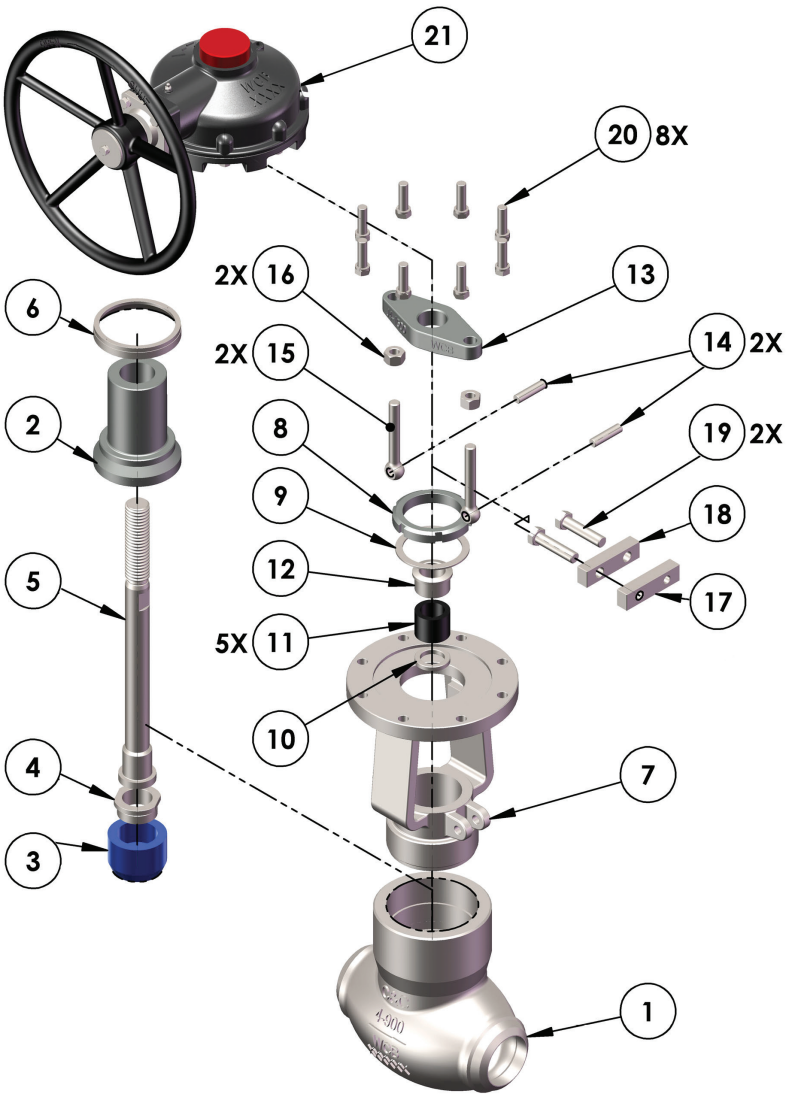


Cast Steel Pressure Seal Bonnet Globe Valves

General Information & Bill of Materials

Range

Globe valves are available in ASME CL 600, 900, 1500 sizes 2" to 12" and ASME CL 2500 sizes 2" to 10".



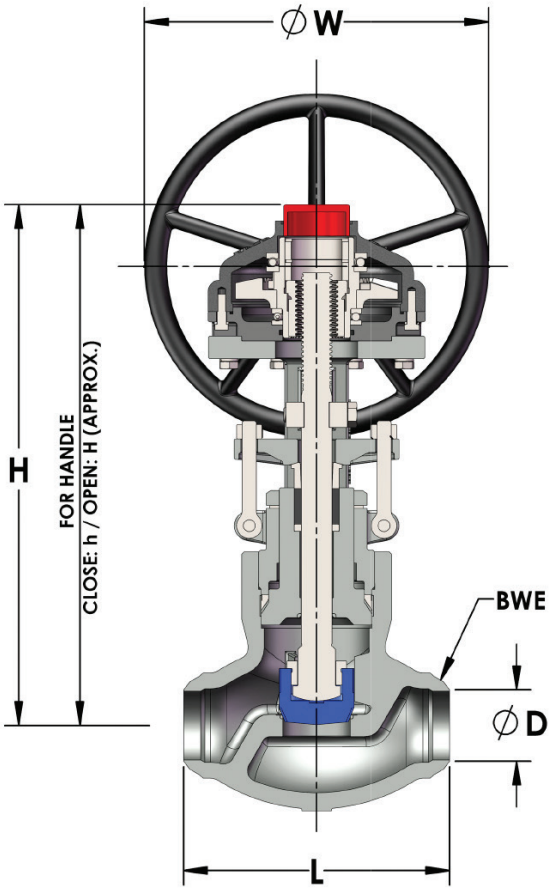
ITEM	NAME	QTY	MATERIAL	SPECIFICATION
1	BODY	1	CARBON STEEL + HF OVERLAY	ASTM A216 WCB + STL 6# FACED
2	BONNET	1	CARBON STEEL + HF OVERLAY	ASTM A105 + STL 6# FACED
3	DISC	1	STAINLESS STEEL	ASTM A182 F6a CL.2
4	DISC NUT	1	STAINLESS STEEL	ASTM A276 410
5	STEM	1	STAINLESS STEEL	ASTM A182 F6a CL.2
6	SEAL RING	1	STAINLESS STEEL	ASTM A182 F316L
7	YOKE	1	CARBON STEEL	ASTM A216 WCB
8	BONNET CLAMP	1	CARBON STEEL	ASTM A576 1045
9	CLAMP WASHER	1	STAINLESS STEEL	ASTM A276 410
10	SPACER RING	1	STAINLESS STEEL	ASTM A276 410
11	PACKING	5	GRAPHITE	API 622
12	GLAND	1	STAINLESS STEEL	ASTM A276 410
13	GLAND FLANGE	1	CARBON STEEL	ASTM A216 WCB
14	HINGE PIN	2	CARBON STEEL	ASTM A576 1045
15	EYE BOLT	2	CARBON STEEL	ASTM A193 B7M
16	EYE BOLT NUT	2	CARBON STEEL	ASTM A194 2HM
17	FRONT GUIDE PLATE	1	CARBON STEEL	ASTM A105
18	BACK GUIDE PLATE	1	CARBON STEEL	ASTM A105
19	SCREW	2	CARBON STEEL	ASTM A105
20	GEAR BOLT	8	CARBON STEEL	ASTM A576 1035
21	GEAR	1	CARBON STEEL	ASTM A216 WCB

1 The above BOM reflects WCB T8N construction. Contact CNC Flow Control for other material options. Variations also occur based on size, pressure class, and operator.

Cast Steel Pressure Seal Bonnet Globe Valves

Weight and Dimensional Data

CLASS	SIZE	L	ØD	h (CLOSE) /GEAR	H (OPEN)	ØW	Weight (LB)	BWE	Cv
600	2"	7.00	2.00	15.40	16.50	10	46	SCH80	47
	3"	10.00	3.00	18.20	19.40	12	106	SCH80	110
	4"	12.00	4.00	22.00	23.60	18	182	SCH80	200
	6"	18.00	6.00	GEAR	30.70	24	544	SCH80	480
	8"	23.00	7.87	GEAR	35.80	24	848	SCH80	855
	10"	28.00	9.75	GEAR	40.10	32	1444	SCH80	1312
	12"	32.00	11.75	GEAR	43.30	32	2315	SCH80	1978
900	2"	8.50	1.87	18.10	18.70	12	104	SCH80	41
	3"	12.00	2.87	21.10	22.20	14	150	SCH80	100
	4"	14.00	3.87	24.40	26.10	18	220	SCH80	188
	4"	14.00	3.87	GEAR	26.60	18	358	SCH80	188
	6"	20.00	5.75	GEAR	30.10	24	529	SCH80	441
	8"	26.00	7.50	GEAR	37.10	32	1069	SCH80	776
	10"	31.00	9.37	GEAR	43.00	32	1885	SCH80	1212
	12"	36.00	11.12	GEAR	46.90	40	2623	SCH80	1770
1500	2"	8.50	1.87	18.10	18.70	12	104	SCH160	41
	3"	12.00	2.75	23.60	24.90	18	199	SCH160	92
	4"	16.00	3.62	24.40	26.00	18	350	SCH160	164
	4"	16.00	3.62	GEAR	26.60	18.00	436	SCH160	164
	6"	22.00	5.37	GEAR	35.20	28	926	SCH160	384
	8"	28.00	7.00	GEAR	43.10	32	2028	SCH160	676
	10"	34.00	8.75	GEAR	46.30	32	2568	SCH160	1057
	12"	39.00	10.37	GEAR	50.10	40	4343	SCH160	1540
2500	2"	11.00	1.50	25.20	26.00	20	205	SCH160	27
	3"	14.50	2.25	28.00	29.10	22	352	SCH160	62
	4"	18.00	2.87	GEAR	31.10	24	631	SCH160	103
	6"	24.00	4.37	GEAR	36.60	28	1318	SCH160	255
	8"	30.00	5.75	GEAR	48.70	32	2712	SCH160	457
	10"	36.00	7.25	GEAR	51.10	40	3946	SCH160	726





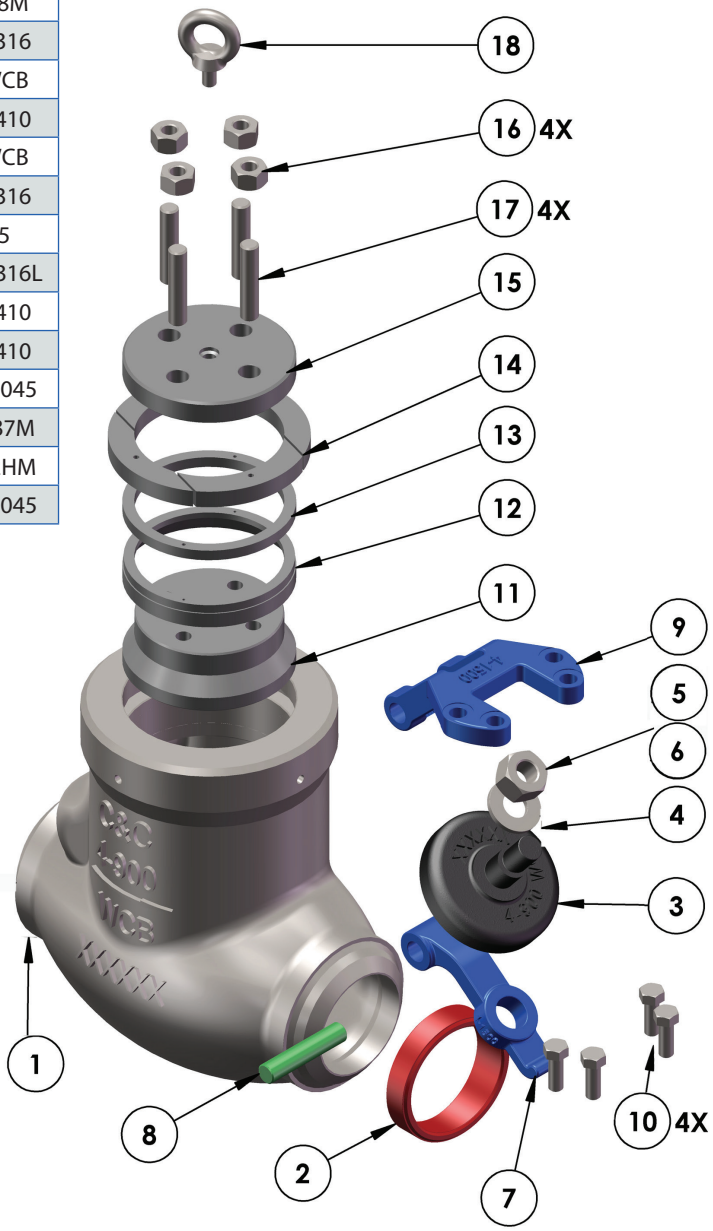
Cast Steel Pressure Seal Bonnet Check Valves

General Information & Bill of Materials

Range

Swing check valves are available in ASME CL 600, 900, 1500, 2500 sizes 2" to 12".

ITEM	NAME	QTY	MATERIAL	SPECIFICATION
1	BODY	1	CARBON STEEL	ASTM 216 WCB
2	BODY SEAT RING	1	CARBON STEEL + HF OVERLAY	ASTM A105+STL 6# FACED
3	DISC	1	CARBON STEEL + 13CR OVERLAY	ASTM A216 WCB + ER410 FACED
4	WASHER	1	STAINLESS STEEL	ASTM A276 316
5	DISC NUT	1	STAINLESS STEEL	ASTM A194 8M
6	DISC NUT PIN	1	STAINLESS STEEL	ASTM A276 316
7	ARM	1	CARBON STEEL	ASTM 216 WCB
8	ARM PIN	1	STAINLESS STEEL	ASTM A276 410
9	YOKE	1	CARBON STEEL	ASTM 216 WCB
10	SCREW	4	STAINLESS STEEL	ASTM A276 316
11	COVER	1	CARBON STEEL	ASTM A105
12	SEAL RING	1	STAINLESS STEEL	ASTM A182 F316L
13	PRESSURE RING	1	STAINLESS STEEL	ASTM A276 410
14	SEGMENT RING	1	STAINLESS STEEL	ASTM A276 410
15	BONNET CLAMP	1	CARBON STEEL	ASTM A576 1045
16	COVER BOLT NUT	4	STAINLESS STEEL	ASTM A193 B7M
17	COVER BOLT	4	STAINLESS STEEL	ASTM A194 2HM
18	EYE BOLT (>2")	1	CARBON STEEL	ASTM A576 1045

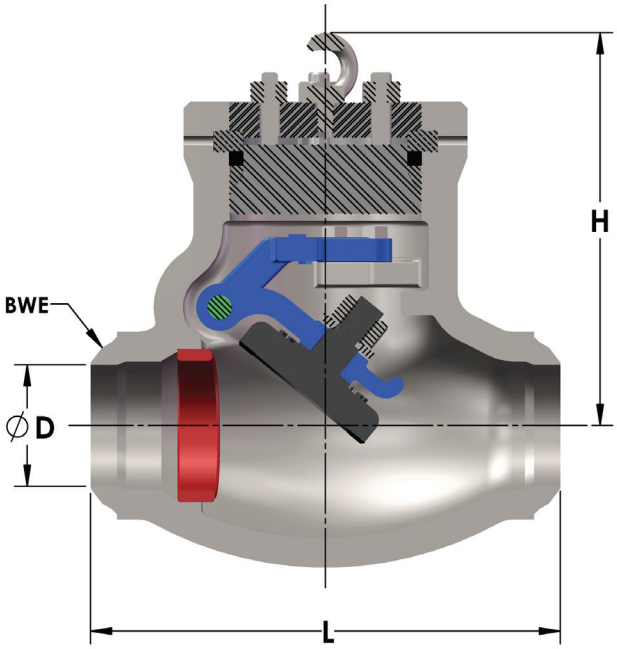


1 The above BOM reflects WCB T8N construction. Contact CNC Flow Control for other material options. Variations also occur based on size, pressure class, and operator.

Cast Steel Pressure Seal Bonnet Check Valves

Weight and Dimensional Data

CLASS	SIZE	L	ØD	H	BWE	Weight (LB)	Cv	Cracking Pressure
600	2"	7.00	2.00	6.80	SCH80	40	124	1 PSI
	3"	10.00	3.00	8.80	SCH80	71	286	1 PSI
	4"	12.00	4.00	11.10	SCH80	121	522	1 PSI
	6"	18.00	6.00	13.00	SCH80	287	1251	1 PSI
	8"	23.00	7.87	14.60	SCH80	573	2229	1 PSI
	10"	28.00	9.75	16.60	SCH80	816	3422	1 PSI
	12"	32.00	11.75	18.20	SCH80	1080	5157	1 PSI
900	2"	8.50	1.87	8.60	SCH80	46	108	1 PSI
	3"	12.00	2.87	10.20	SCH80	75	261	1 PSI
	4"	14.00	3.87	11.70	SCH80	150	489	1 PSI
	6"	20.00	5.75	14.30	SCH80	370	1150	1 PSI
	8"	26.00	7.50	16.60	SCH80	1019	2024	1 PSI
	10"	31.00	9.37	19.40	SCH80	1599	3159	1 PSI
	12"	36.00	11.12	21.70	SCH80	2362	4616	1 PSI
1500	2"	8.50	1.87	8.70	SCH160	46	108	1 PSI
	3"	12.00	2.75	10.20	SCH160	93	240	1 PSI
	4"	16.00	3.62	12.20	SCH160	163	427	1 PSI
	6"	22.00	5.37	14.50	SCH160	514	1002	1 PSI
	8"	28.00	7.00	18.90	SCH160	1111	1763	1 PSI
	10"	34.00	8.75	22.10	SCH160	1713	2756	1 PSI
	12"	39.00	10.37	26.30	SCH160	2547	4016	1 PSI
2500	2"	11.00	1.50	9.60	SCH160	117	69	1 PSI
	3"	14.50	2.25	12.40	SCH160	196	161	1 PSI
	4"	18.00	2.87	14.50	SCH160	313	269	1 PSI
	6"	24.00	4.37	16.00	SCH160	628	664	1 PSI
	8"	30.00	5.75	20.10	SCH160	1319	1191	1 PSI
	10"	36.00	7.25	23.20	SCH160	1727	1892	1 PSI
	12"	41.00	8.62	26.50	SCH160	3334	2773	1 PSI





NOTES

SERVICE CAPABILITIES

Trusted Partner. Reliable Solutions.

Our extensive product and application expertise allows us to be more than just a supplier. Our customers view us as the people they trust to integrate flow controls with their equipment and ensure the successful achievement of their project goals. Our increased involvement with a diverse range of projects, spanning an array of industries provides us with a multitude of references for successful integration.

PEOPLE

- Product and Application Know-How
- Technically Trained Sales Staff
- Exceptional Customer Service

PRODUCTS

- Ball, Butterfly, Check, Gate, Needle, Globe and Plug Valves, Adapters, Fittings, Gaskets, Joints, Couplings, Seals and Hammer Unions
- Product Leadership—Quality, Reliable and Innovative Products
- Replacement and Spare Parts
- ISO 9001:2015 Certified Organization

SERVICES

- Distribution Network Located throughout North, Central, and South America
- Customer Specific Labeling and Packaging
- Strategic Account Partnerships
- Express Delivery
- Quality and Materials Assurance
- Valve Customization and Automation

Valve Quality Development Team

Before the decision is made to brand a product C&C, our Valve Quality Development Team conducts comprehensive manufacturers audits and inspections on both the product and the manufacturer's production and testing process. These stringent audits and inspections ensure the manufacturer's ability to produce and provide products of consistent quality demanded by our customers and in accordance with documented procedures. Once manufacturers are qualified, the VQDT performs onsite witnessing and inspections of the product prior to releasing it for shipment. This added capability and oversight differentiates us from other suppliers.



API 6D Pressure Test Capability

Reports providing proof of quality and testing are available to our customers. Additional tests can be provided upon request.

- Positive Material Identification
- Material Test Reports
- Non-Destructive Testing
- Quality and Technical Documentation
- Supplementary Testing per Customer Requirements



Proof of Product Quality and Compliance

About Our Company

CNC Flow Control is headquartered in Houston, Texas with multiple other locations in the U.S. and Canada. Our company unifies several trusted valve and flow line brands that have been serving numerous industries in North America for nearly three decades. From long range projects to same-day delivery, our diverse team is dedicated to understanding customers' needs in order to ensure exceptional service and the best solutions.

Our extensive product portfolio ranges from commodity products like hammer unions and needle valves, to highly engineered products like API 6D trunnion mounted ball valves.

Quality assurance is critical to CNC Flow Control's process, and we hold multiple internationally recognized quality standards certifications and management systems. Our In-house engineering and product management teams work together to regulate the quality of each flow control product sold.

Member of API



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Edmonton, AB T6P 0E1
Phone: 780.462.9166

Multiple other branch locations throughout the U.S. and Canada.

Website: www.cncflowcontrol.com

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