

6D15 DIGESTER CAPPING VALVES

The JAMESBURY® 6D15 digester capping valves provide automatic opening and closing of batch digesters for chip fill. By automating this operation, complete computer control of a batch digester system is permitted.

Available in 20" (DN 500) and 24" (DN 600) sizes, valves are normally full port ANSI class 150 design with an ANSI Class 300 flange on the digester end, and with a chip chute flange conforming to customer requirements on the fill end. Digester end flanges may also be cast and machined to meet the digester opening requirements.

6D15 capping valves are furnished as complete operating assemblies that include a pneumatic actuator designed and manufactured specifically for large quarter-turn valve operation. An electromechanical interlock positively locks the valve in the closed position until signals indicate the cook is finished and the digester is completely depressurized. Enclosed limit switches provide interlock command signals and can remotely indicate valve and interlock positions.

FEATURES

Proven Seat Design

- Vapor tight sealing after thousands of cooks.
- Flexible-lip PTFE upper seat gives tightest closure and saves substantial steam loss. Lower PTFE seat protects the body cavity from digester gases, minimizing deposits on the surface of the ball.
- Seats are self-adjusting for pressure changes and wear - no auxiliary adjusting devices are needed.
- Trunnion supported ball provides optimum sealing.
- Seat geometry directs any pressure in the ball cavity to vent into the digester during the initial opening motion.

Easy Maintenance

- Top seat can be replaced without removing the actuator.
- The minimum cap height allows disassembly even where overhead space is limited.
- The cavity isolation accomplished by the lower seat design eliminates the circulation of cooking vapors and other contaminants in the ball cavity. No need to flush or steam the cavity to maintain trouble free operation.



Easy and Secure Operation

- To help prevent false operation when the digester is pressurized, the jammer device built into the actuator is operated by a pressure sensing switch installed in the digester.

Valve Seat Rating

- Seats in these capping valves are rated to provide continuing tight shutoff at all pressure/temperature combinations normally encountered in digester pulp cooking operations.

Valve Body Ratings

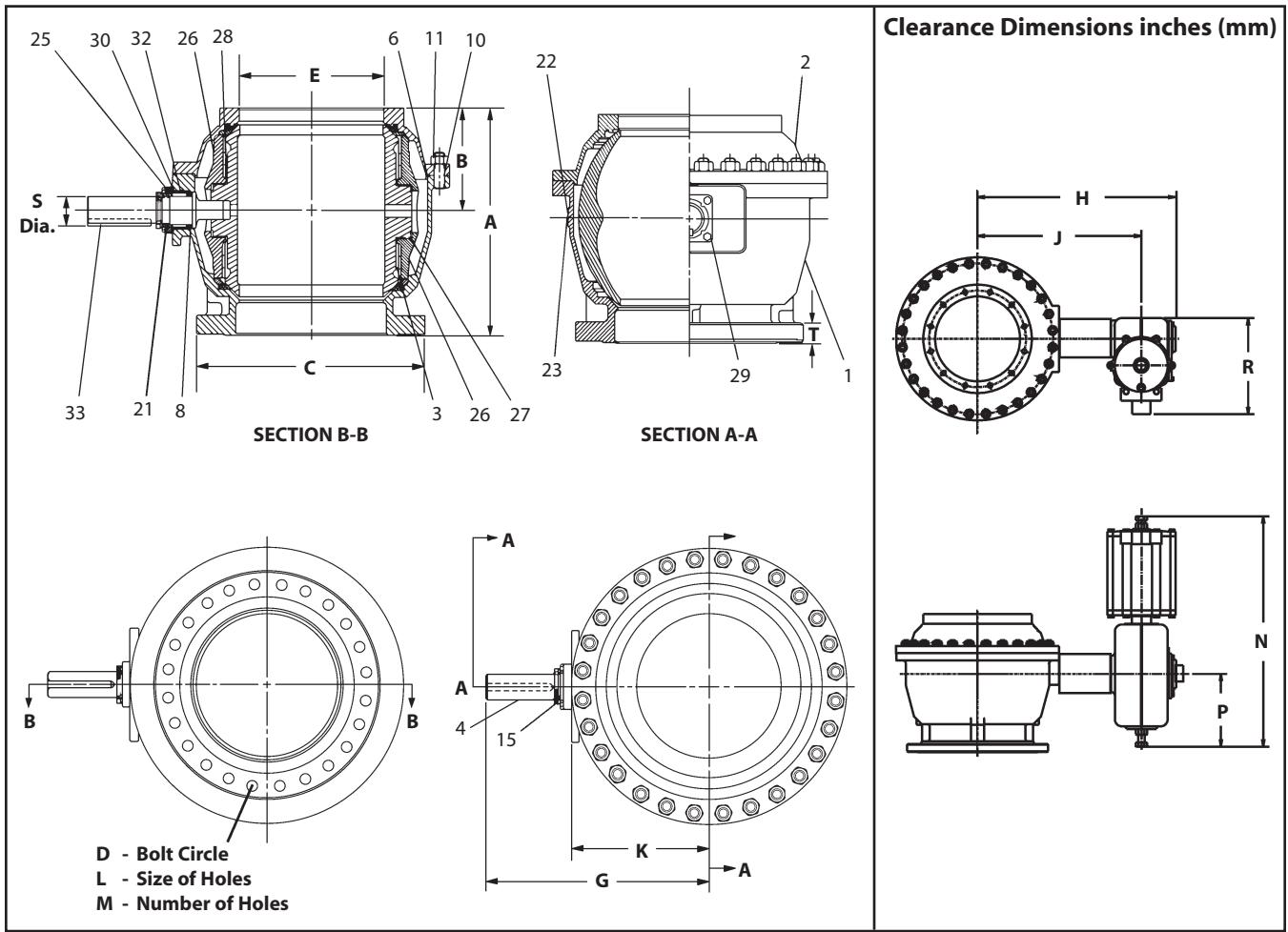
- These are maximum working pressure ratings of the valve body only. The seat ratings actually determine the practical pressure limitations according to actual service conditions. Test pressures are for hydrostatic test with ball half open.

Temp °F	Carbon Steel psi	316 Stainless Steel psi
-20 to +100	285	275
200	260	235
300	230	215
400	200	195
500	170	170
Test Pressure	450	425

Temp °C	Carbon Steel * bar	316 Stainless Steel * bar
-29 to +38	19.6	19.0
100	17.7	16.2
150	15.8	14.8
200	13.8	13.7
250	12.1	12.1
Test Pressure	30	29

*In accordance with ASME B16-34-2004 Class 150

DIMENSIONS

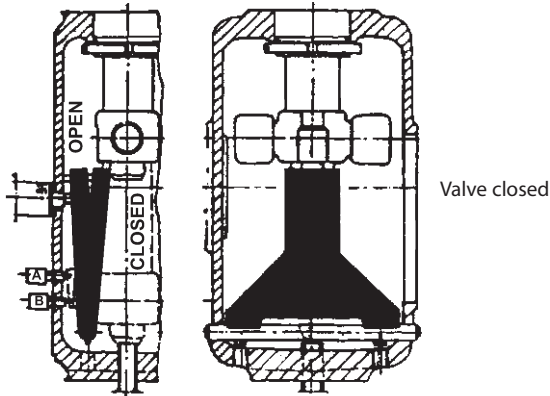


Actuator	Valve Size inches	DIMENSIONS - inches															Approx. Weight lbs	
		A	B	C	D	E	G	H	J	K	L	M	N	P	R	S		T
BC32	20	31.44	13.63	30.50	27.00	19.25	29.81	44.03	37.14	18.50	1.38	24	52.36	16.54	15.55	3.50	2.50	3200
BC40	24	36.34	15.97	36.00	32.00	23.25	33.13	51.72	42.86	22.00	1.63	24	65.35	20.08	19.88	3.50	2.75	5500

Actuator	Valve Size DN	DIMENSIONS - mm															Approx. Weight kg	
		A	B	C	D	E	G	H	J	K	L	M	N	P	R	S		T
BC32	500	799	346	775	686	489	757	1118	943	470	35	24	1330	420	395	89	64	1455
BC40	600	923	406	914	813	591	842	1314	1089	559	41	24	1660	510	505	89	70	2500

BC Actuator Jammer Interlock

A totally enclosed failsafe jammer mechanism which cannot be affected by chips, dust, dirt, spilled black liquor or other contaminants.

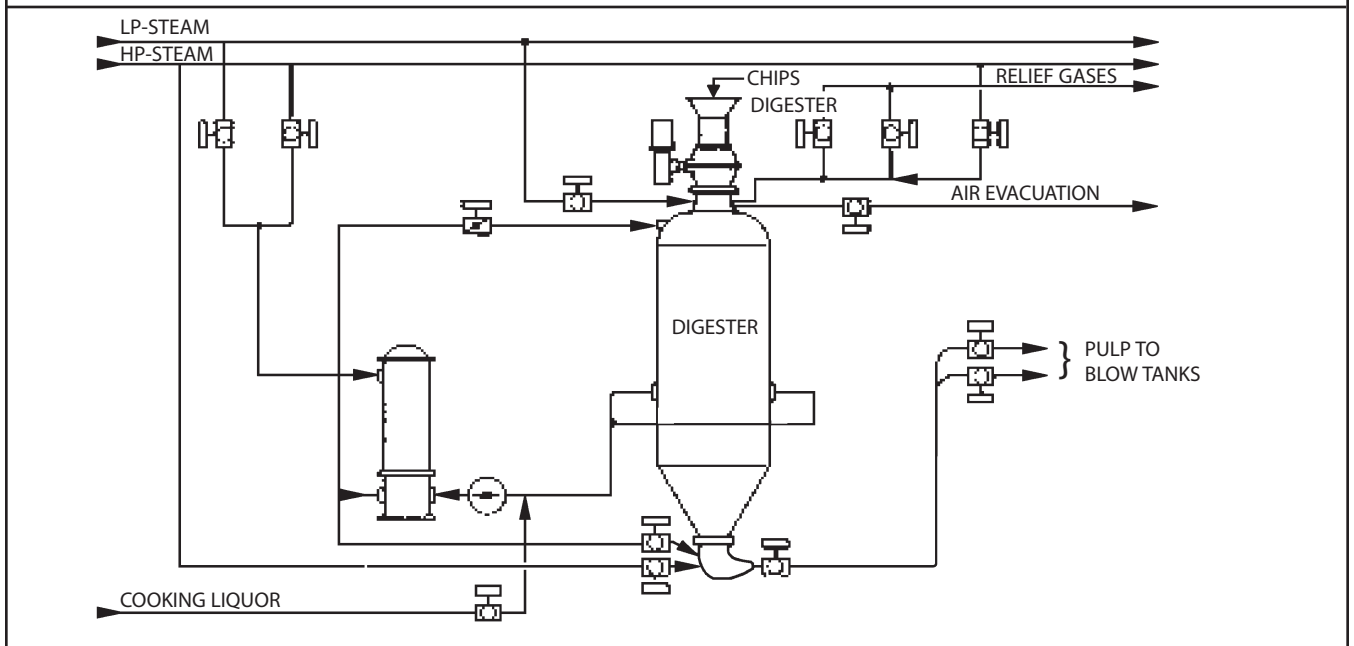
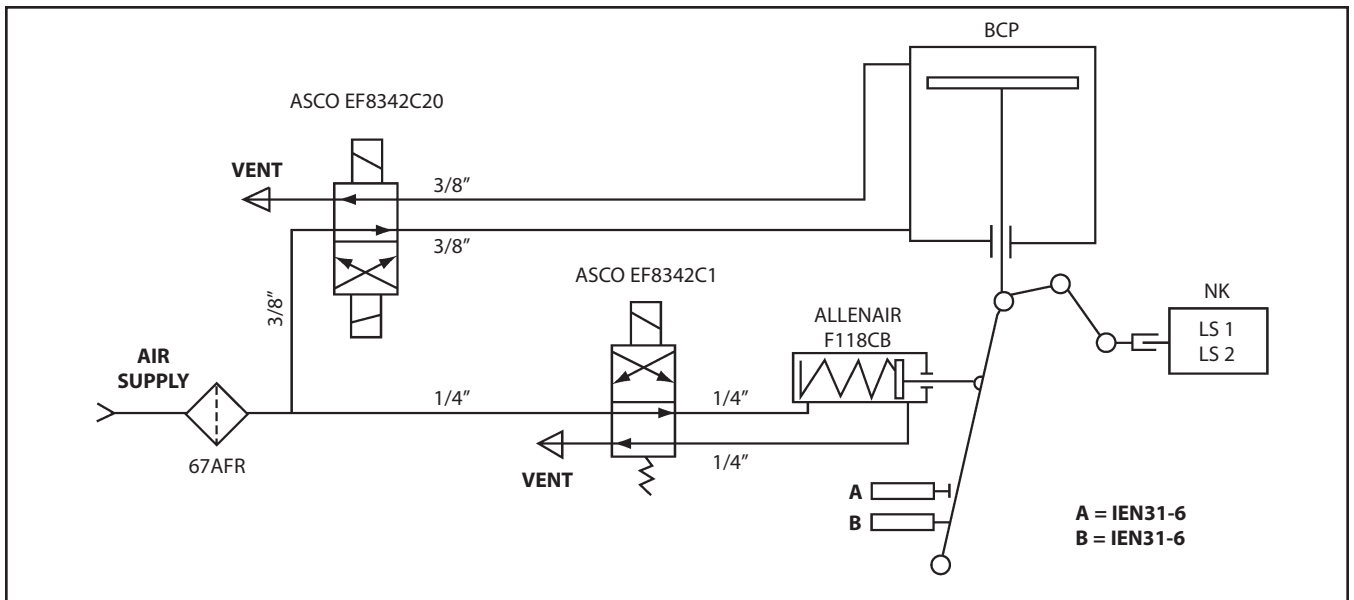


Actuator Selection

The BC double acting actuator is provided by Metso for operating capping valves.

Actuator size depends on valve size, and supply pressure available for the actuator and the most appropriate actuator size will be recommended by Metso Automation upon determination of the minimum available supply pressure. Complete specifications on BC actuators are contained in Bulletin 6B20.

JAMMER INTERLOCK SCHEMATICS



BILL OF MATERIAL AND PARTS LIST			
Part No.	Part Name	Carbon Steel (22)	316 Stainless Steel (36)
1	Body	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M
2	Body Cap	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M
3	Ball	316 Stainless Steel	
4	Stem	316 Stainless Steel	
5	Seat-Body	PTFE	
6	Body Seal	PTFE/316 Stainless Steel	
8	Stem Bearing	PTFE	
10	Body Stud	ASTM A193 Grade B8, B8C, or B8T Class 2	
11	Nut	ASTM A194 Grade 8, 8C, or 8T	
15	Stem Nut	Carbon Steel	
21	Compression Ring	Stainless Steel	
22	Identification Tag	Stainless Steel	
23	Drive Screw	Stainless Steel	
25	Stem Retainer Seal	Graphite	
26	Trunnion Plate	Carbon Steel Type WCB	316 Stainless Steel Type CF8M
27	Trunnion Bearing	PTFE/316 Stainless Steel	
28	Bearing Spacer	PTFE	
29	Hex Head Cap Screw	ASTM A193 Grade B8, B8C, or B8T Class 2	
30	Stem Retainer	Carbon Steel ASTM A216 Type WCB	316 Stainless Steel ASTM A351 Type CF8M
32	Upper Stem Seal	PTFE	
33	Key	Carbon Steel	
35	Trunnion Ring-Body	Carbon Steel	316 Stainless Steel
37	Trunnion Ring-Cap	Carbon Steel	316 Stainless Steel
38	Seat-Cap	PTFE	

SELECTION OF VALVE SIZE

The most appropriate capping valve size for a given application is dependent on digester size, desired fill time, rate of chip feed, chute arrangement, and air evacuation

during chip feed. Metso personnel customarily work with the customer on each specific application to properly size the valve and optimize fill time.

HOW TO ORDER DIGESTER CAPPING VALVES

1	2	3	4	5	6	7	8	9
20"	6	D	15	61	36	00	TT	2

1	Size	
inches	20	24
DN	500	600

2	Body Design
6	Full Port

3	Special Service
D	Digester Capping Valve

4	Digester Side Flange Design Rating
15	ANSI Class 150

5	Digester Side Flange Facing
61	Raised Face

6	Valve Body Material*
22	Carbon Steel
36	316 Stainless Steel

7	Valve Trim Material
36	316 Stainless Steel
00	Use only if Body is 316 Stainless Steel

8	Seat / Seal Material
TT	PTFE

9	Body Fastener Material
2	Studs: ASTM A193 Gr. B8, B8C, or B8T Nuts: ASTM A-194 Gr 8, 8C, or 8I

*Other materials including 317 stainless steel and 254SMO are available for compatibility with sulfite systems.

Example: A 20" (DN 500) full port capping valve (6D), ANSI Class 150 (15), with raised face digester flange (61), constructed of 316 stainless steel body (36), 316 stainless steel trim (00), PTFE seats and seals (TT), and Gr. B8 body studs with Gr. 8 nuts (2) is written: 20" 6D15-61-3600TT-2.

Subject to change without prior notice.

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