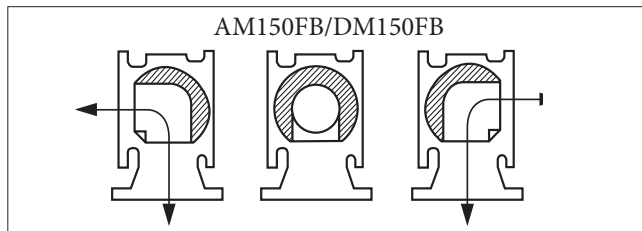
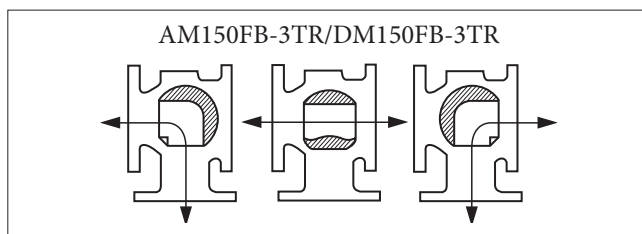
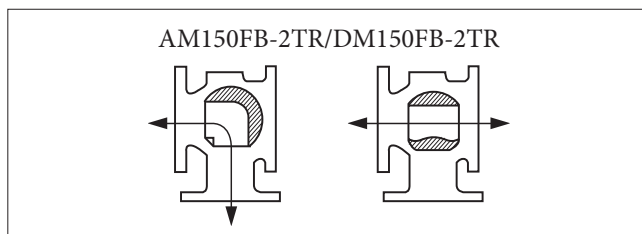


2" – 8" (DN 50 – 200) Jamesbury™ bottom ported 3-way flanged ball valves

Jamesbury bottom ported 3-way ball valves provide a variety of flow paths not commonly found in other 3-way designs. The basic design is suitable for diversion applications where positive shut-off is also required. It is equipped with a ball having a right angle port



which, during its two step (180° rotation), connects either end port with the bottom port of the valve, plus has an intermediate shut-off position. Available in 2" – 8" (DN 50 – 200) sizes, these valves are designed for Class 150 service. It can also be ordered for 2-position operation, without stops at the intermediate position.



Also available, is a special version which has a ball with two completely separate flow paths. Furnished for two position service (90° rotation), the 2TR provides either throughway flow through the endports, or diversion flow between either of the endports and the bottom port.



The 3-position 3TR, permits diversion flow between the bottom port and either end port, and through way flow by rotating the ball through two 90° steps.

Features

Bidirectional flow

- Handles flow into the end ports or into the bottom port.

Effective stem sealing

- The compression of low friction PTFE box rings eliminates stem leakage and allows for easy adjustment.

Economical

- One 3-way valve does the work of two or three conventional valves.

Easy automation

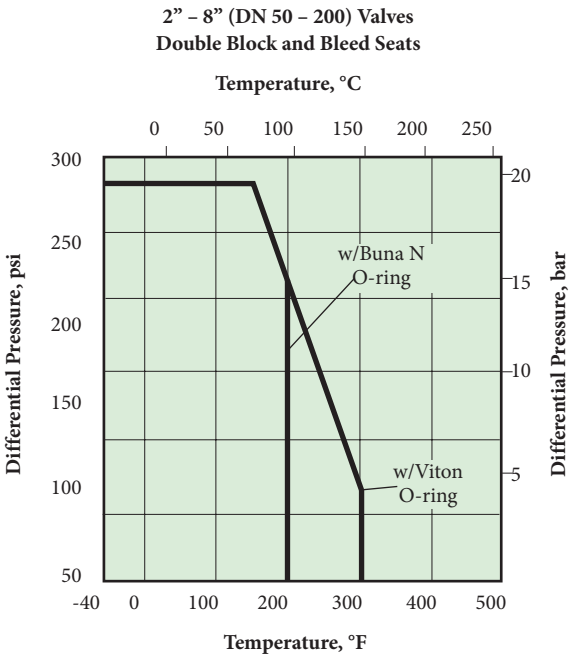
- 2 position models can be equipped with Jamesbury pneumatic, hydraulic or electric actuators for single source responsibility.
- 3 position models can be equipped with special 180° operators offering two 90° steps.

Specifications

Valve seat ratings

Seat ratings, indicated by solid lines in the charts, are based on differential pressure with the valve ball in the fully closed position and refer to seats only. Maximum working pressures for Class 150 steel valve bodies are shown in the tables on the below.

Valves are equipped with double block seats and the rating of the elastomer becomes the limiting factor insofar as temperature is concerned. Rating for standard elastomer Buna-N material is -40°F to +200°F (-40°C to +93°C). Rating for Viton elastomer is 0°F to 300°F (-17°C to +149°C). The DBB seat material is Filled PTFE.



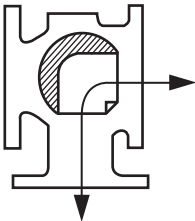
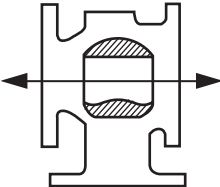
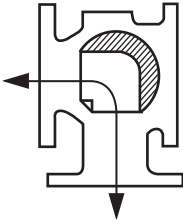
Valve body ratings

These are maximum working pressure ratings of the valve body only. Test pressures are for hydrostatic test with ball half open.

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

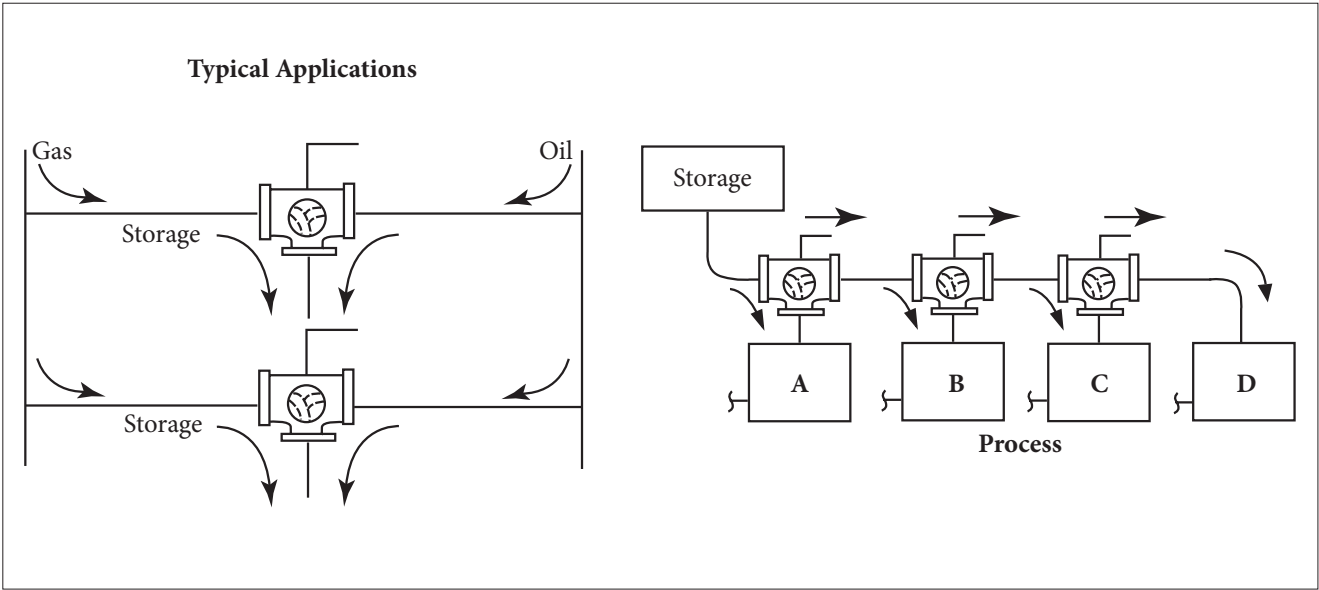
Temperature	Carbon Steel	316 Stainless Steel
°C	bar	bar
-29 to +38	19.6	19.0
100	17.7	16.2
150	15.8	14.8
200	13.8	13.7
250	12.1	12.1
Test Pressure	30	29

Flow data

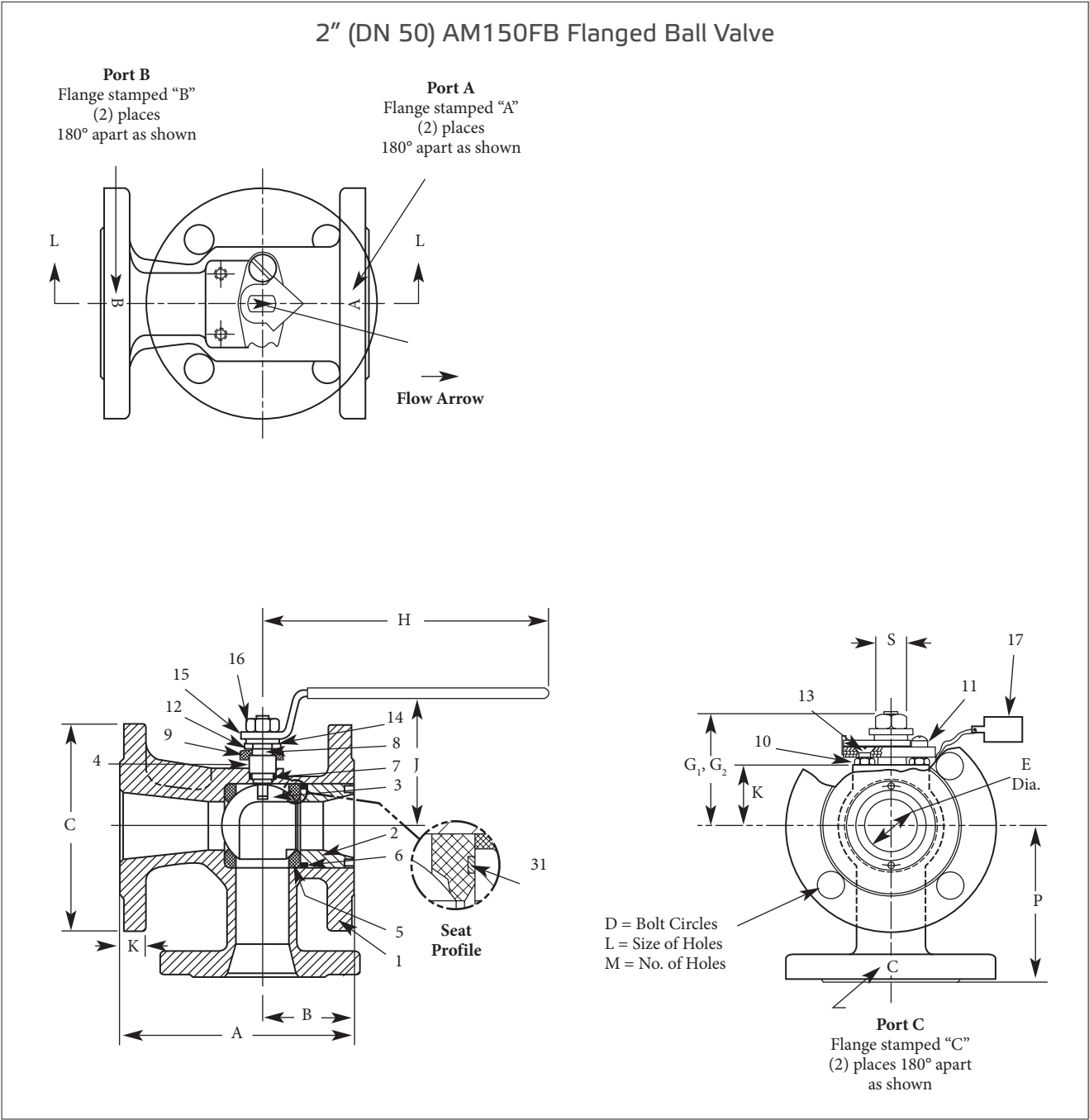
Valve Size		AM150FB/DM150FB	AM150FB-2TR-3TR/ DM150FB-2TR-3TR	
		Cv	Cv	
				
Inch	DN		N/A	
2	50	50		
3	80	155	125	90
4	100	270	220	160
6	150	440	350	260
8	200	880	700	520

Cv – Flow of water in gpm at 1 psi pressure drop

Typical applications



Dimensions

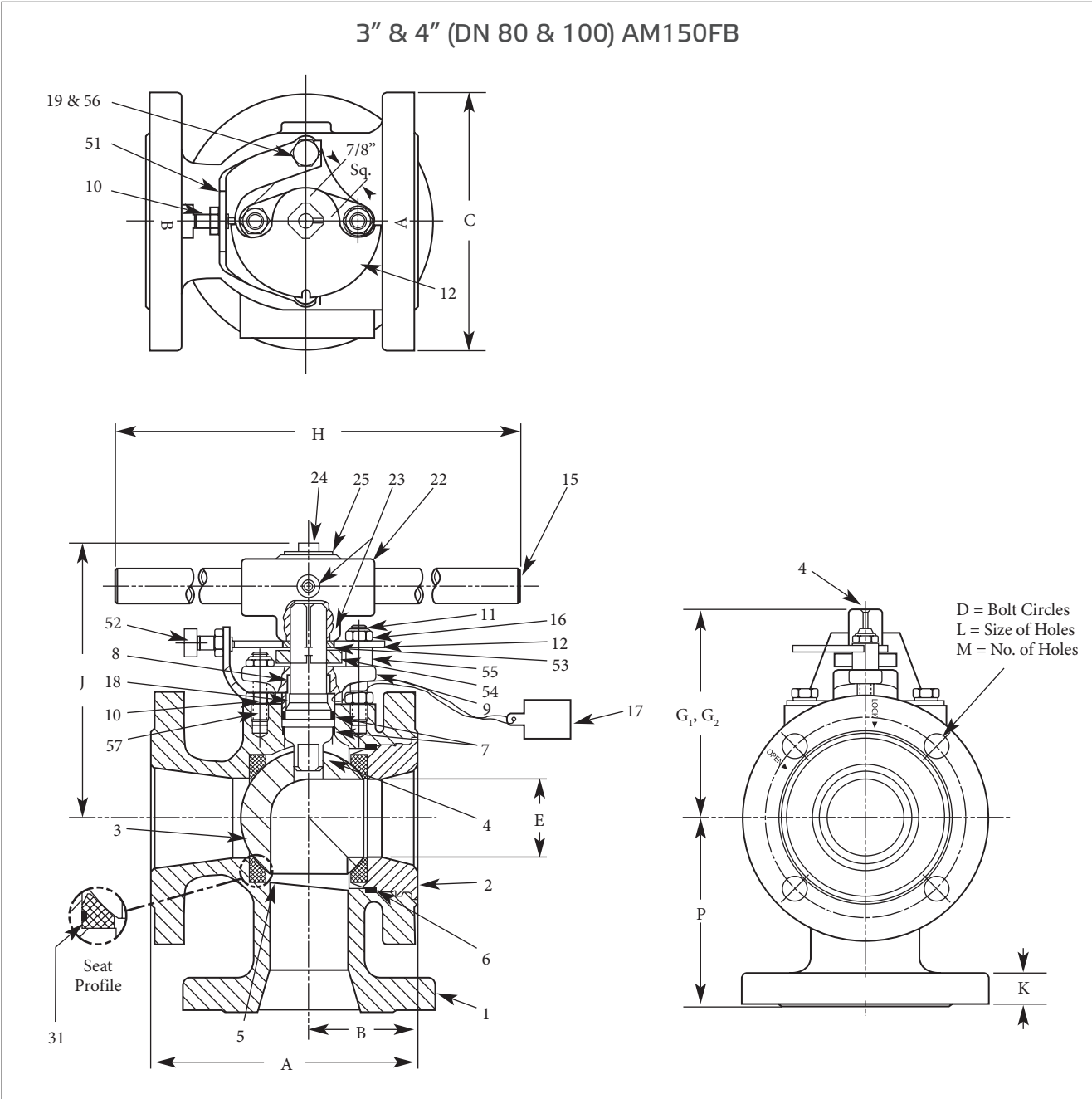


Dimensions, inches															
Valve size inches	A	B	C	D	E	G ₁	G ₂	H	J	K	L	M	P***	S	Approx. weight lbs
2	7.00	2.78	6.00	4.75	1.50	3.13	3.13	8.63	3.78	.62	.75	4	4.46	.37	26

Dimensions, mm															
Valve size DN	A	B	C	D	E	G ₁	G ₂	H	J	K	L	M	P***	S	Approx. weight kg
50	178	71	152	121	38	79.5	79.5	219	96	16	19	4	113	9	12

2" (DN 50) AM150FB – BILLS OF MATERIALS AND PARTS LIST			
Part no.	Part name	Body material	
		Carbon steel (22)	316 Stainless steel (36)
1	Body	Carbon steel ASTM A216 Type WCB	316 Stainless steel ASTM A351 Type CF8M
2	Insert	Carbon steel	316 Stainless steel
3	Ball	316 Stainless steel	
4	Stem	316 Stainless steel	
5	Seat	Elastomer backed filled PTFE	
6	Body Seal	PTFE	
7	Stem Seal	PTFE	
8	Stem Bearing	Filled PTFE	
9	Compression Plate	Carbon steel	Stainless steel
10	Hex Jam Nut	Carbon steel	
11	Bonnet Screw	300 Series Stainless steel	
12	Indicator Stop	Carbon steel	Stainless steel
13	Flat Head Cap Screw	Stainless steel	
14	Retaining Ring	Carbon steel	
15	Handle	Carbon steel	
16	Stem Nut	300 Series Stainless steel	
17	Identification Tag	300 Series Stainless steel	
31	O-Ring	Buna-N or Viton A (as specified)	

Dimensions

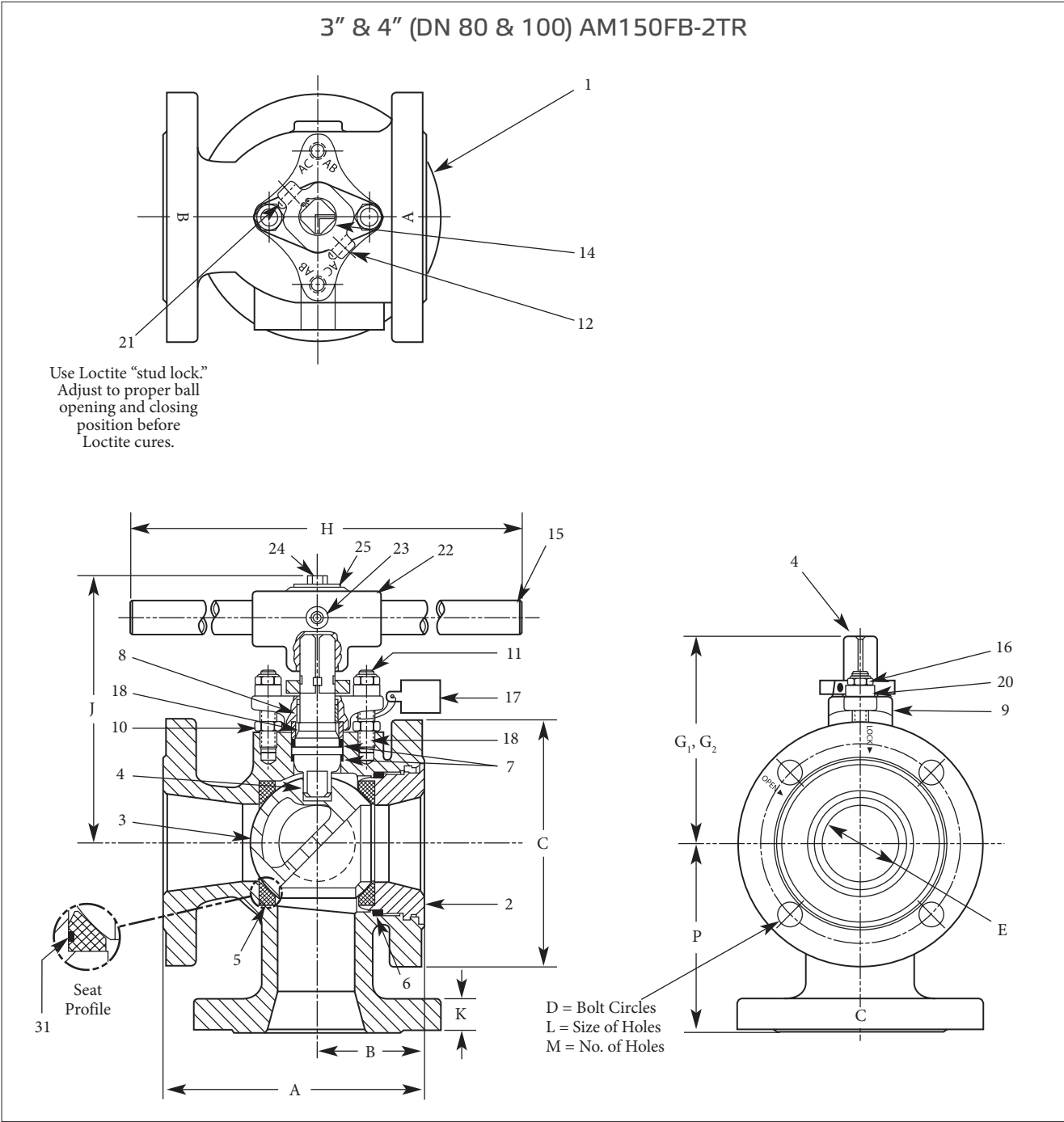


Dimensions, inches															
Valve size inches	A	B	C	D	E	G ₁	G ₂	H	J	K	L	M	P***	S	Approx. weight lbs
3	8.00	3.25	7.50	6.00	2.31	6.25	6.25	21.50	5.50	.75	.75	4	5.75	.88	74
4	9.00	4.00	9.00	7.50	3.13	6.88	6.88	21.50	6.50	.94	.75	8	6.50	.88	95

Dimensions, mm															
Valve size DN	A	B	C	D	E	G ₁	G ₂	H	J	K	L	M	P***	S	Approx. weight kg
80	203	83	191	152	59	159	159	546	140	19	19	4	146	22	34
100	229	102	229	191	80	175	175	546	165	24	19	8	165	22	43

3" & 4" (DN 80 & 100) AM150FB – BILLS OF MATERIALS AND PARTS LIST			
Part no.	Part name	Body material	
		Carbon steel (22)	316 Stainless steel (36)
1	Body	Carbon steel ASTM A216 Type WCB	316 Stainless steel ASTM A351 Type CF8M
2	Insert	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	Elastomer backed filled PTFE	
6	Body Seal	PTFE	
7	Stem Seal	PTFE	
8	Stem Bearing	Filled PTFE	
9	Compression Plate	Carbon steel	Stainless steel
10	Hex Jam Nut	Carbon steel	
11	Bonnet Stud	300 Series Stainless steel	
12	Indicator Stop	Carbon steel	Stainless steel
15	Handle	Carbon steel	
16	Stop Nut	300 Series Stainless steel	
17	Identification Tag	300 Series Stainless steel	
18	Compression Ring	300 Series Stainless steel	
19	Lockwasher	300 Series Stainless steel	
22	"T" Handle Adaptor	Malleable Iron	
23	Set Screw	300 Series Stainless steel	
24	Stem Screw	Carbon steel	
25	Washer	Carbon steel	
31	O-Ring	Buna-N or Viton A (as specified)	
51	Bracket	Carbon steel	
52	Spring Plunger	Carbon steel	
53	Top Spacer	Carbon steel	
54	Lower Spacer	Carbon steel	
55	Stud Spacer	Carbon steel	
56	Hex Head Cap Screw	Carbon steel	300 Series Stainless steel
57	Bonnet Stud	300 Series Stainless steel	

Dimensions

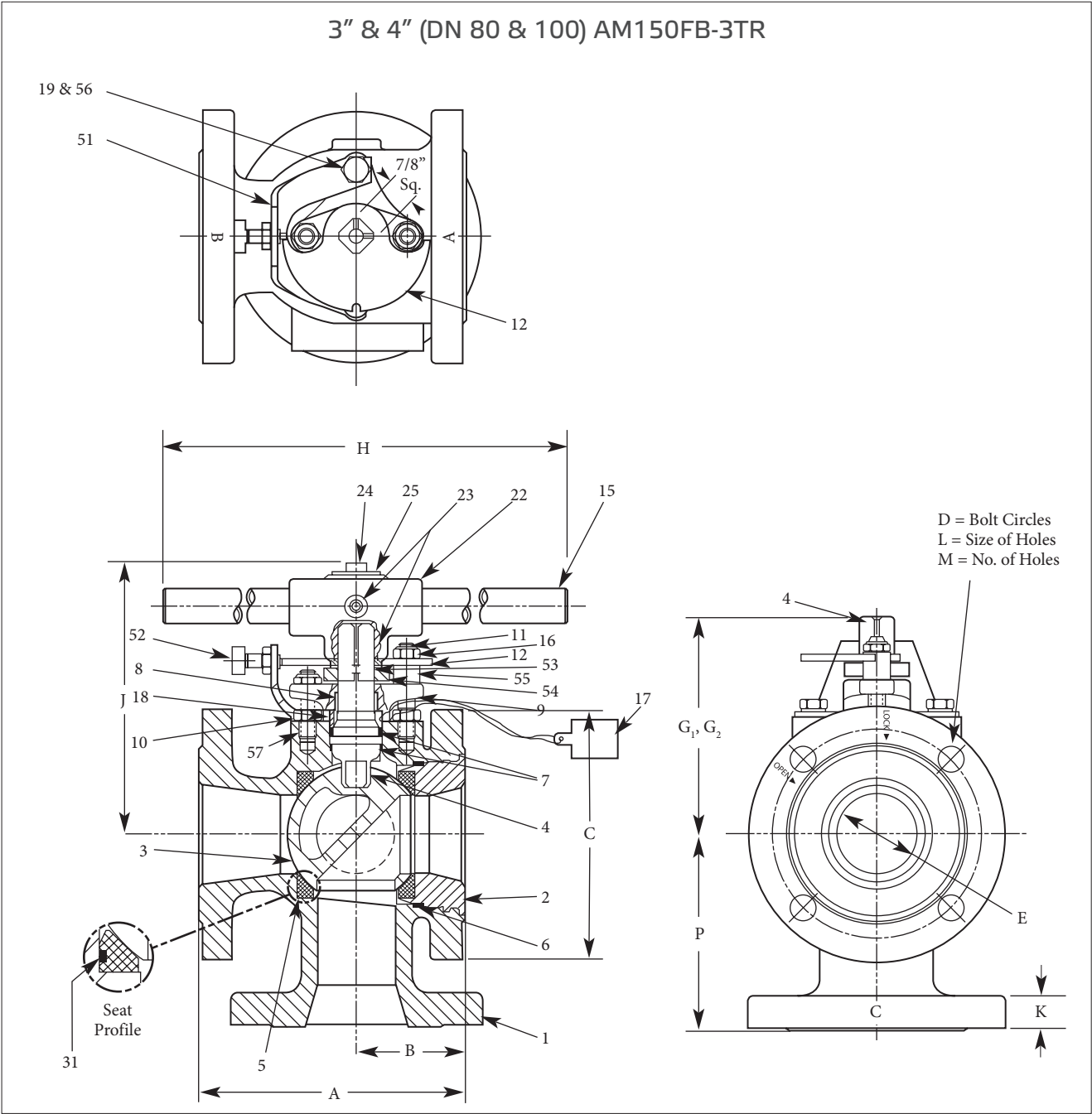


Dimensions, inches															
Valve size inches	A	B	C	D	E	G ₁	G ₂	H	J	K	L	M	P***	S	Approx. weight lbs
3	8.00	3.25	7.50	6.00	2.31	6.25	6.25	21.50	5.50	.75	.75	4	5.75	.88	74
4	9.00	4.00	9.00	7.50	3.13	6.88	6.88	21.50	6.50	.94	.75	8	6.50	.88	95

Dimensions, mm															
Valve size DN	A	B	C	D	E	G ₁	G ₂	H	J	K	L	M	P***	S	Approx. weight kg
80	203	83	191	152	59	159	159	546	140	19	19	4	146	22	34
100	229	102	229	191	80	175	175	546	165	24	19	8	165	22	43

3" & 4" (DN 80 & 100) AM150FB-2TR – BILLS OF MATERIALS AND PARTS LIST			
Part no.	Part name	Body material	
		Carbon steel (22)	316 Stainless steel (36)
1	Body	Carbon steel ASTM A216 Type WCB	316 Stainless steel ASTM A351 Type CF8M
2	Insert	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	Elastomer backed filled PTFE	
6	Body Seal	PTFE	
7	Stem Seal	PTFE	
8	Stem Bearing	Filled PTFE	
9	Compression Plate	Carbon steel	Stainless steel
10	Hex Jam Nut	Carbon steel	
11	Bonnet Stud	300 Series Stainless steel	
12	Indicator Stop	Carbon steel	Stainless steel
14	Retaining Ring	300 Series Stainless Steel	
15	Handle	Carbon steel	
16	Stem Nut	300 Series Stainless steel	
17	Identification Tag	300 Series Stainless steel	
18	Compression Ring	300 Series Stainless steel	
20	Spacer	300 Series Stainless steel	
21	Set Screw	300 Series Stainless steel	
22	"T" Handle Adaptor	Malleable Iron	
23	Set Screw	300 Series Stainless steel	
24	Stem Screw	Carbon steel	
25	Washer	Carbon steel	
31	O-Ring	Buna-N or Viton A (as specified)	

Dimensions

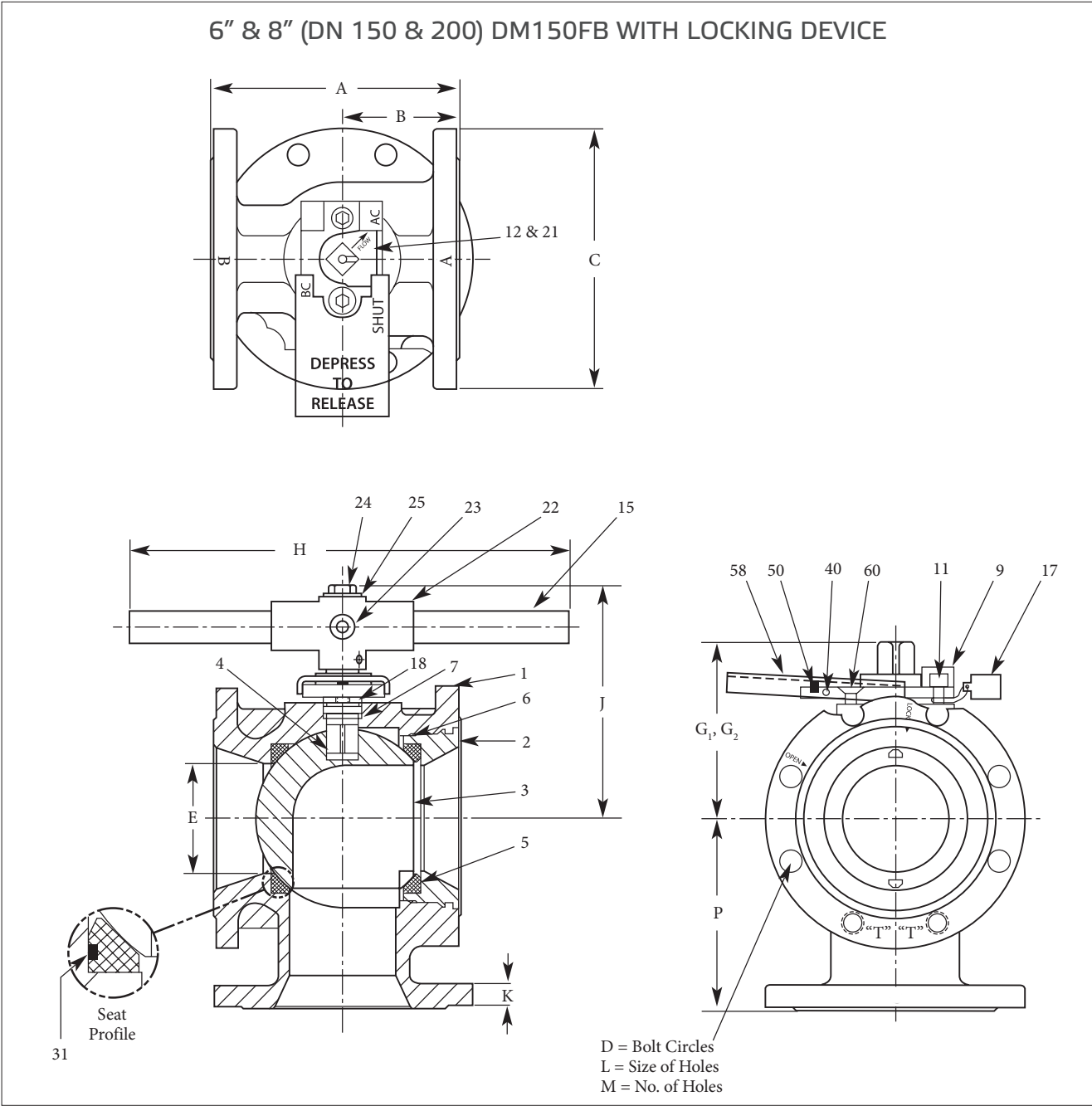


Dimensions, inches															
Valve size inches	A	B	C	D	E	G ₁	G ₂	H	J	K	L	M	P***	S	Approx. weight lbs
3	8.00	3.25	7.50	6.00	2.31	6.25	6.25	21.50	5.50	.75	.75	4	5.75	.88	74
4	9.00	4.00	9.00	7.50	3.13	6.88	6.88	21.50	6.50	.94	.75	8	6.50	.88	95

Dimensions, mm															
Valve size DN	A	B	C	D	E	G ₁	G ₂	H	J	K	L	M	P***	S	Approx. weight kg
80	203	83	191	152	59	159	159	546	140	19	19	4	146	22	34
100	229	102	229	191	80	175	175	546	165	24	19	8	165	22	43

3" & 4" (DN 80 & 100) AM150FB-3TR – BILLS OF MATERIALS AND PARTS LIST			
Part no.	Part name	Body material	
		Carbon steel (22)	316 Stainless steel (36)
1	Body	Carbon steel ASTM A216 Type WCB	316 Stainless steel ASTM A351 Type CF8M
2	Insert	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	Elastomer backed filled PTFE	
6	Body Seal	PTFE	
7	Stem Seal	PTFE	
8	Stem Bearing	Filled PTFE	
9	Compression Plate	Carbon steel	Stainless steel
10	Hex Jam Nut	Carbon steel	
11	Bonnet Stud	300 Series Stainless steel	
12	Indicator Stop	Carbon steel	Stainless steel
15	Handle	Carbon steel	
16	Stop Nut	300 Series Stainless steel	
17	Identification Tag	300 Series Stainless steel	
18	Compression Ring	300 Series Stainless steel	
19	Lockwasher	300 Series Stainless steel	
22	"T" Handle Adaptor	Malleable Iron	
23	Set Screw	300 Series Stainless steel	
24	Stem Screw	Carbon steel	
25	Washer	Carbon steel	
31	O-Ring	Buna-N or Viton A (as specified)	
51	Bracket	Carbon steel	
52	Spring Plunger	Carbon steel	
53	Top Spacer	Carbon steel	
54	Lower Spacer	Carbon steel	
55	Stud Spacer	Carbon steel	
56	Hex Head Cap Screw	Carbon steel	300 Series Stainless steel
57	Bonnet Stud	300 Series Stainless steel	

Dimensions



Dimensions, inches															
Valve Size inches	A	B	C	D	E	G ₁	G ₂	H	J	K	L	M	P***	S	Approx. Weight lbs
6	10.50	5.00	11.00	9.50	4.50	7.50	9.44	30.00	8.13	1.00	.88	8	8.0	1.00	168
8	11.50	5.75	13.50	11.75	6.00	8.69	10.69	30.00	9.14	1.13	.88	8	9.75	1.00	265

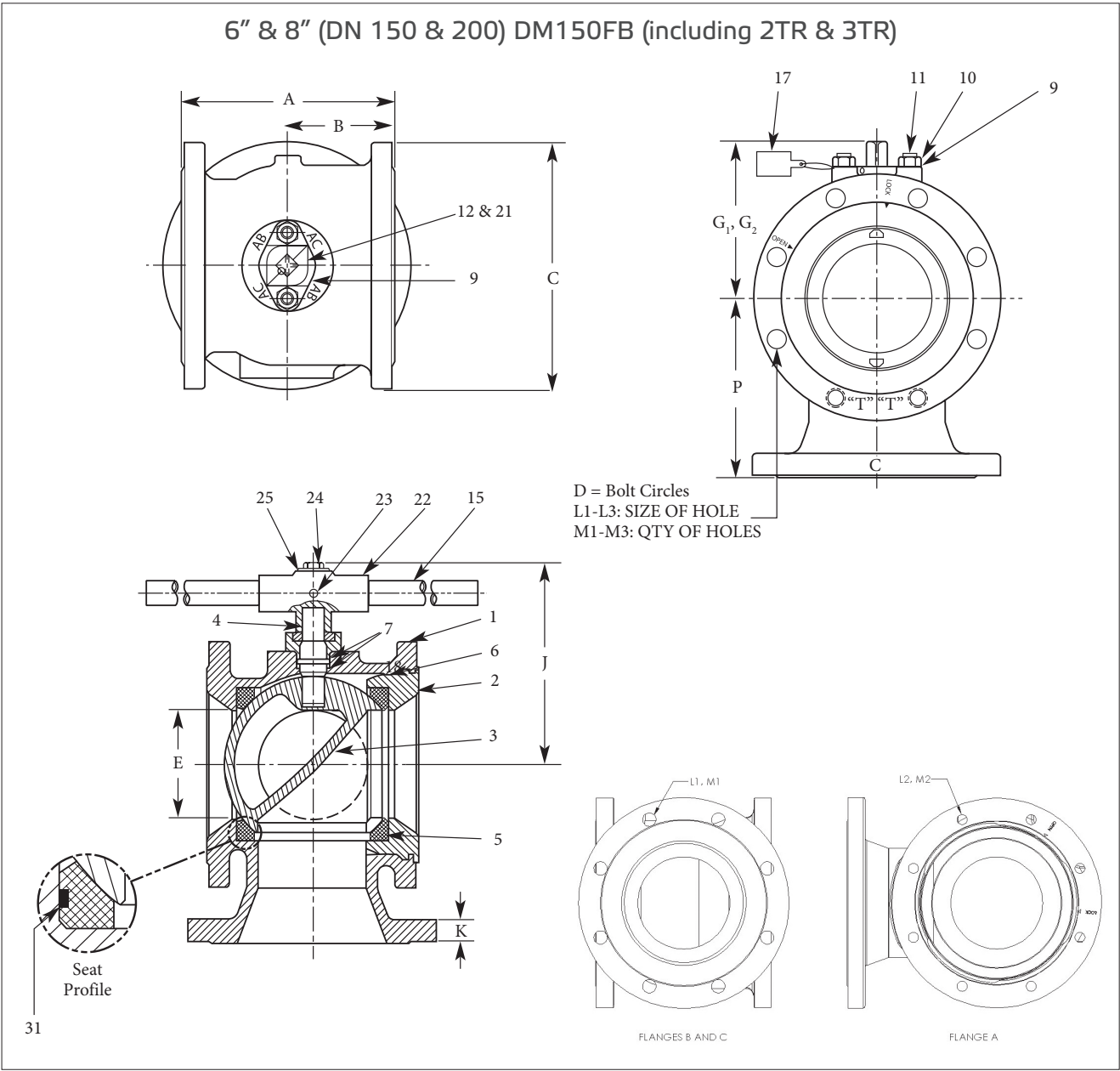
Dimensions, mm															
Valve Size DN	A	B	C	D	E	G ₁	G ₂	H	J	K	L	M	P***	S	Approx. Weight kg
150	267	127	279	241	114	191	240	762	207	25	22	8	203	25	76
200	292	146	343	298	152	221	272	762	239	29	22	8	248	25	120

6" & 8" (DN 150 & 200) DM150FB – BILLS OF MATERIALS AND PARTS LIST			
Part no.	Part name	Body material	
		Carbon steel (22)	316 Stainless steel (36)
1	Body	Carbon steel ASTM A216 Type WCB	316 Stainless steel ASTM A351 Type CF8M
2	Insert	Carbon steel ASTM A216 Type WCB	316 Stainless steel ASTM A351 Type CF8M
3	Ball	316 Stainless steel	
4	Stem ¹	316 Stainless steel	
5	Seat	Elastomer backed filled PTFE	
6	Body Seal	PTFE	
7	Stem Seal	PTFE	
9	Compression Plate	Carbon steel	Stainless steel
11	Bonnet Stud ²	300 Series Stainless steel	
12	Indicator Stop ²	Carbon steel	Stainless steel
15	Handle ²	Carbon steel	
17	Identification Tag	300 Series Stainless steel	
18	Compression Ring	300 Series Stainless steel	
21	Set Screw ²	300 Series Stainless steel	
22	"T" Handle Adaptor ²	Malleable Iron	
23	Set Screw ²	300 Series Stainless steel	
24	Stem Screw ²	300 Series Stainless steel	
25	Washer ²	300 Series Stainless steel	
31	O-Ring	Buna-N or Viton A (as specified)	
40	Driv-Lock in ²	300 Series Stainless steel	
50	Spring ²	300 Series Stainless steel	
53	Positive Stop ²	Carbon steel	
60	Fl.Hd.Mach. Screw ²	Carbon steel	

Note: ¹ Different, longer stem used when actuator is mounted.

Note: ² Items not used when actuator is mounted.

Dimensions



Dimensions, inches																	
Valve size inches	A	B	C	D	E	G ₁	G ₂	H	J	K	L1	L2	M1	M2	P***	S	Approx. weight lbs
6	10.50	5.00	11.00	9.50	4.50	7.50	9.44	30.00	8.13	1.00	0.88	N/A	16	8	8.0	1.00	168
8	11.50	5.75	13.50	11.75	6.00	8.69	10.69	30.00	9.14	1.13	0.88	3/4-10 UNC	16	8	9.75	1.00	265

Dimensions, mm																	
Valve size DN	A	B	C	D	E	G ₁	G ₂	H	J	K	L1	L2	M1	M2	P***	S	Approx. weight kg
150	267	127	279	241	114	191	240	762	207	25	22	N/A	16	8	2	25	76
200	292	146	343	298	152	221	272	762	239	29	22	3/4-10 UNC	16	8	2	25	120

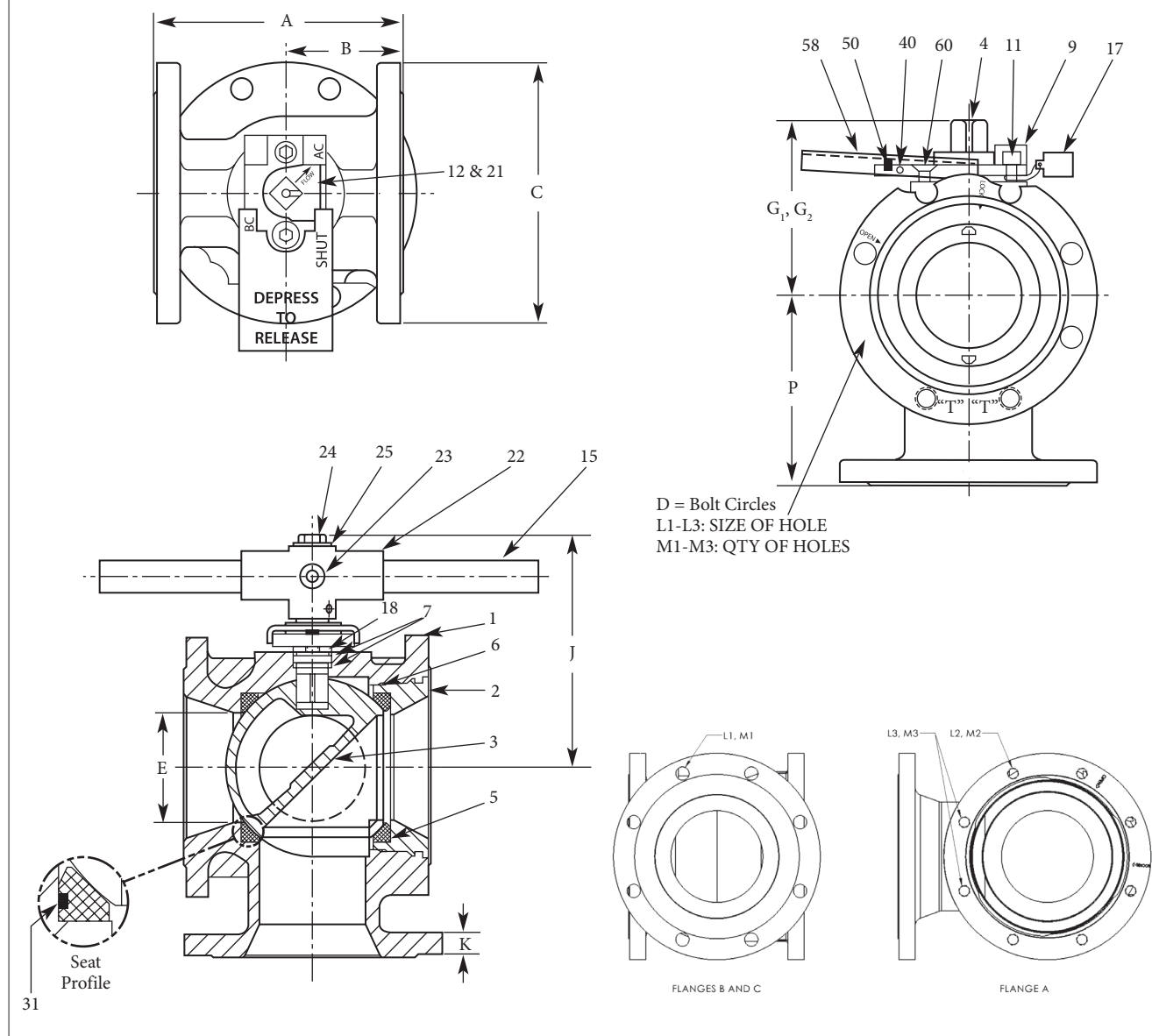
6" & 8" (DN 150 & 200) DM150FB-2TR & 3TR – BILLS OF MATERIALS AND PARTS LIST			
Part no.	Part name	Body material	
		Carbon steel (22)	316 Stainless steel (36)
1	Body	Carbon steel ASTM A216 Type WCB	316 Stainless steel ASTM A351 Type CF8M
2	Insert	Carbon steel ASTM A216 Type WCB	316 Stainless steel ASTM A351 Type CF8M
3	Ball	316 Stainless steel	
4	Stem ¹	316 Stainless steel	
5	Seat	Elastomer backed filled PTFE	
6	Body Seal	PTFE	
7	Stem Seal	PTFE	
9	Compression Plate ²	Carbon steel	Stainless steel
10	Hex Jam Nut ²	Carbon steel	
11	Bonnet Stud ²	300 Series Stainless steel	
12	Indicator Stop ²	Carbon steel	Stainless steel
14	Retaining Ring ²	300 Series Stainless Steel	
15	Handle ²	Carbon steel	
16	Stem Nut	300 Series Stainless steel	
17	Identification Tag	300 Series Stainless steel	
21	Set Screw ²	300 Series Stainless steel	
22	"T" Handle Adaptor ²	Malleable Iron	
23	Set Screw ²	300 Series Stainless steel	
24	Stem Screw ²	Carbon steel	
25	Washer ²	Carbon steel	
31	O-Ring	Buna-N or Viton A (as specified)	

Note: ¹ Different, longer stem used when actuator is mounted.

Note: ² Items not used when actuator is mounted.

Dimensions

6" & 8" (DN 150 & 200) DM150FB (including 2TR & 3TR) WITH LOCKING DEVICE



Dimensions, inches

Valve size inches	A	B	C	D	E	G ₁	G ₂	H	J	K	L1	L2	L3	M1	M2	M3	P***	S	Approx. weight lbs
6	10.50	5.00	11.00	9.50	4.50	7.50	9.44	30.00	8.13	1.00	0.88	N/A	N/A	8	6	2	8.0	1.00	168
8	11.50	5.75	13.50	11.75	6.00	8.69	10.69	30.00	9.14	1.13	0.88	0.75	3/4-10 UNC	8	6	2	9.75	1.00	265

Dimensions, mm

Valve size DN	A	B	C	D	E	G ₁	G ₂	H	J	K	L1	L2	L3	M1	M2	M3	P***	S	Approx. weight kg
150	267	127	279	241	114	191	240	762	207	25	22	N/A	N/A	8	6	2	203	25	76
200	292	146	343	298	152	221	272	762	239	29	22	19.00	3/4-10 UNC	8	6	2	248	25	120

6" & 8" (DN 150 & 200) DM150FB – BILLS OF MATERIALS AND PARTS LIST			
Part no.	Part name	Body material	
		Carbon steel (22)	316 Stainless steel (36)
1	Body	Carbon steel ASTM A216 Type WCB	316 Stainless steel ASTM A351 Type CF8M
2	Insert	Carbon steel ASTM A216 Type WCB	316 Stainless steel ASTM A351 Type CF8M
3	Ball	316 Stainless steel	
4	Stem ¹	316 Stainless steel	
5	Seat	Elastomer backed filled PTFE	
6	Body Seal	PTFE	
7	Stem Seal	PTFE	
9	Compression Plate	Carbon steel	Stainless steel
11	Bonnet Stud ²	300 Series Stainless steel	
12	Indicator Stop ²	Carbon steel	Stainless steel
15	Handle ²	Carbon steel	
17	Identification Tag	300 Series Stainless steel	
18	Compression Ring	300 Series Stainless steel	
21	Set Screw ²	300 Series Stainless steel	
22	"T" Handle Adaptor ²	Malleable Iron	
23	Set Screw ²	300 Series Stainless steel	
24	Stem Screw ²	Carbon steel	
25	Washer ²	Carbon steel	
31	O-Ring	Buna-N or Viton A (as specified)	
40	Driv-Lock in ²	300 Series Stainless steel	
50	Spring ²	300 Series Stainless steel	
53	Positive Stop ²	Carbon steel	
60	Fl.Hd.Mach. Screw ²	300 Series Stainless steel	

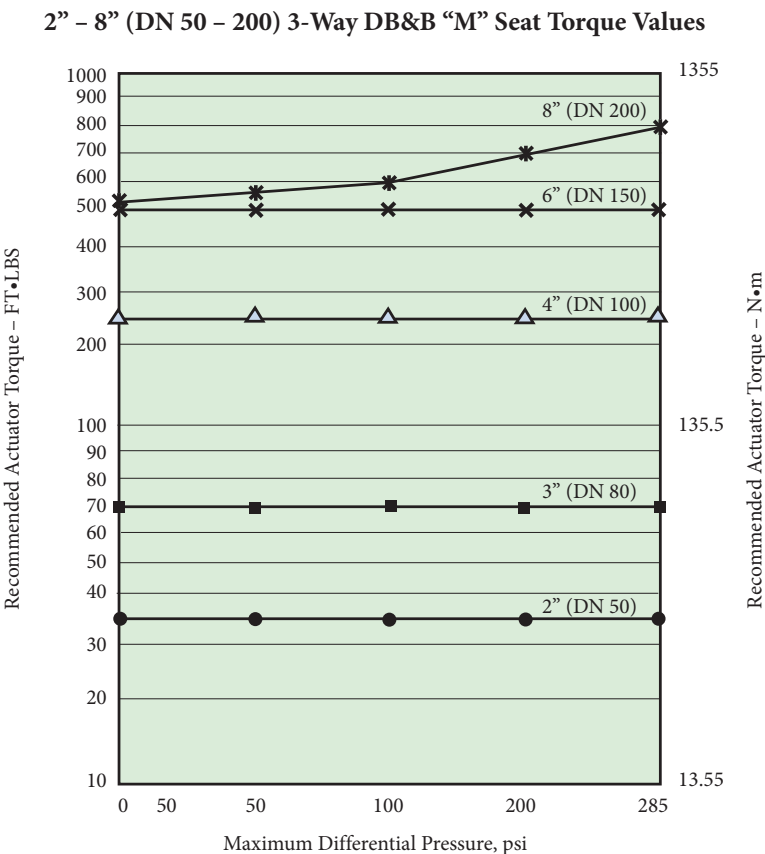
Note: ¹ Different, longer stem used when actuator is mounted.

Note: ² Items not used when actuator is mounted.

Valve torque data

These torque charts for valves equipped with filled PTFE (M) Double Block and Bleed seats are to be used as a guide for actuator selection. **Note:** with these 3-way valves, differential pressure will exist only when one of the side ports is blocked. An actuator should be selected that provides the same or greater torque output than that shown in the chart below. Refer to bulletins on Jamesbury pneumatic and electric actuators for torque output values and actuator selection tables.

Additional requirements may be imposed by media characteristics, trim, and frequency of valve operation. For clean lubricating fluid service, required torque may be reduced 33% when the valve is equipped with corrosion resistant trim. For difficult services (slurries, semi-solids) increase values by 50%. If in doubt, select the next larger actuator.



Actuators

Pneumatic actuators that include both double-acting and spring-return types are available. Neles Brand actuators can only be used with AM150FB-2TR and DM150FB-2TR (90° rotation) valves. Electric actuators are available in both watertight and hazardous location models.

For description of actuator types, see the following bulletins:

Actuator	Bulletin
Manual Gear Actuators	A100-1
Spring Diaphragm Rotary Actuators	A110-4
VPVL Rack & Pinion Actuators	A111-5
V-Series Electric Actuators	A200-1
ADC-Series Electric Actuators	A201-1

WARNING:

As the use of the valve is application specific, a number of factors should be taken into account when selecting a valve for a given application. Therefore, some of the situations in which the valves are used are outside the scope of this manual. If you have any questions concerning the use, application or compatibility of the valve with the intended service, contact Valmet for more information.

How to order

To specify a Jamesbury 3-way valve it is necessary only to determine the size and material required for a particular service. Then make a selection from each of the categories below to complete the proper catalog code.

1	2	3	4	5	6	7	8	9	10
4"	AM	150	FB	2TR	DBB	2236	M	T	52

EXAMPLE: (Code in Parenthesis) 4" Class 150 3-way flanged valve (AM150FB), 2 position valve with dual ported ball (2TR), double block and bleed seats (DBB), Carbon steel body (22), 316 stainless steel trim (36), Filled PTFE seats (M), PTFE seals, and Buna-N O-rings: 4" AM150FB2TRDBB2236MAT52

1	Size				
inches	2 ¹	3	4	6	8
DN	50	80	100	150	200

7	Body/Trim material
2236	Carbon steel body/316 Stainless steel trim
3600	316 Stainless steel body/316 Stainless steel trim

2	Body style
AM	2" – 4" (DN 50 – 100)
DM	6" – 8" (DN 150 – 200)

8	Seat material
M	Filled PTFE

3	Body rating
150	ANSI Class 150

9	Seal material
T	PTFE

4	Configuration
FB	Bottom ported flanged body

10	Model
A	Model A 2", 3", 4", 12"
D	Model D 6", 8", 10"

5	Configuration
–	Basic Design
2TR	2 position valve with dual ported ball
3TR	3 position valve with dual ported ball

11	O-Ring / Stem selection
2" thru 8"	
52	Buna N
53	Viton
6" thru 8"	
AO	Buna N with operating stem
DO	Viton with operating stem

6	Configuration
DBB	Double block and bleed seats

¹ Not available with 2TR/3TR ball

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