

Installation, Operation and Maintenance Manual

**Demco
DM 7500
Gate Valve**



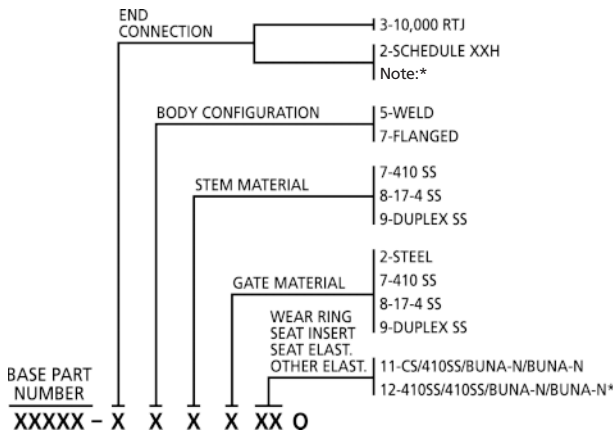
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Base Part Numbers



DM7500 Butt Weld End	2"	3"	4"	5"	6X5"
Base Part Number	24993	25051	24967	24994	24981
Weight (lb)	76	256	310*	506	506
Wear Ring I.D. (Min)	1.97"	2.98"	3.97"	5.17"	5.17"

DM7500 Flanged End	2"	3"	4"	5"
Base Part Number	24993	25051	24967	24994
Weight (lb)	124	372	475*	761
Wear Ring I.D. (Min)	1.97"	2.98"	3.97"	5.17"

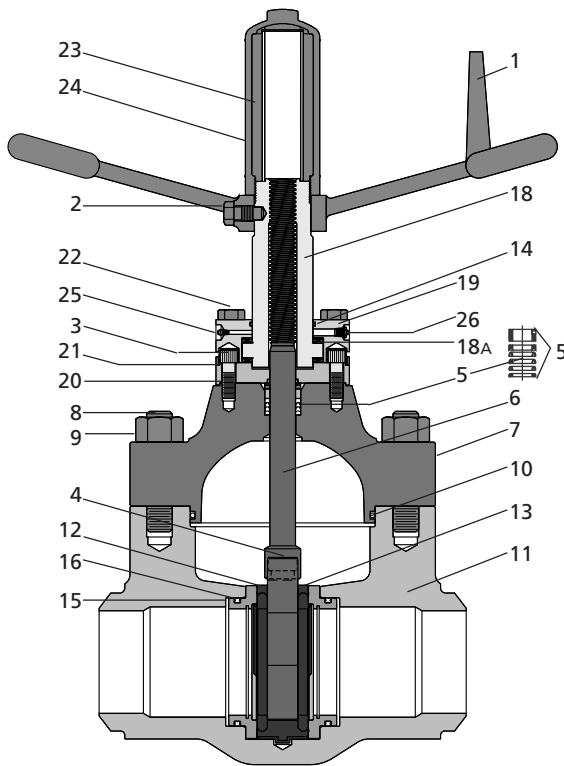
*Note: Other weld preps available.

Refer to page 19 for metric Minimum I.D. and Weight tables.

Figure 1 - Base Part Numbers Diagram

Optional materials are available upon request. Contact your Cooper Cameron representative.

Standard Bill of Materials



No.	Component	Material	Description
1	Handwheel	Ductile Iron	ASTM A536 Grade 65-45-12
2	Lock Screw	Carbon Steel	AISI 1213
3	Skt Hd Cap Screw	Alloy Steel	ASTM B18.3
4	Gate Clip	Stainless Steel	AISI 302
5	Stem Packing Assy.	Elastomeric/Bronze	BUNA-N Seals/Bronze Bushing
6	Stem	Stainless Steel	AISI410 HRC 22 Max.
7	Bonnet	Alloy Steel	ASTM A487 Grade 4 Class C
8	Bonnet Stud	Alloy Steel	ASTM A193 Grade B7M
9	Bonnet Nut	Alloy Steel	ASTM A194 Grade 2H
10	Bonnet Seal	Elastomeric	BUNA-N
11	Body	Alloy Steel	ASTM A487 Grade 4 Class C
12	Seat Insert	Stainless Steel/Elastomeric	AISI 410/BUNA-N
13	Gate	Alloy Steel	AISI 4130
14	Grease Seal	Elastomeric	BUNA-N
15	Wear Ring	Alloy Steel	AISI 4142
16	Wear Ring Seal	Elastomeric	BUNA-N
18	Stem Screw Assy.	Carbon Steel	AISI 1022
18A	Bearing	Steel	Roller Thrust
19	Screw Housing	Carbon Steel	AISI 1022
20	Grease Seal	Elastomeric	BUNA-N
21	Packing Retainer	Carbon Steel	AISI 1022
22	Hex Cap Screw	Alloy Steel	ASTM A307 Grade 2
23	Stem Protector	Plastic	Clear Acrylic
24	Stem Cap	Ductile Iron	ASTM A536 Grade 65-45-12
25	Grease Fitting	Commercial	-
26	Grease Vent	Commercial	-

Figure 2 - Standard Bill of Materials

Note: Individual drawings of each size 7500 DM are provided with assembly steps in this manual.

Installation

Handling of Valves

The valves should be lifted such that the body supports the load. The end connection necks are suitable places to attach lifting slings. Never use handwheels, other protruding parts or actuators, not designated for this purpose. If the valve is equipped with lifting lugs, these should be used for handling.

The end protector covers should be kept in place on the end connections during all handling and removed only during final installation of the valve.

During handling, end connection faces and fittings shall be protected against damage from the lifting devices.

Flanged-Ended Valves

Boxed end wrenches are preferred for bolting the valve into the line, however open-end wrenches may be used where there is insufficient clearance.

Threads of flange bolts and nuts should be lubricated to obtain maximum loading of bolts.

Finger-tighten all nuts first.

When tightening bolts, use the crisscross method and torque each bolt to API specifications or the gasket manufacturer's recommendations.

Weld-Ended Valves

Caution: This valve has a resilient seat and seals. Remove bonnet, seat, bonnet seal and wear rings before welding into line.

Use solvent to clean grease or rust inhibitor, if present, from the bore and welded area of the valve.

Use a qualified weld procedure, compatible with the body material listed in the valve bill of material. Electric welding equipment is preferred for all installations. However, if only oxygen-acetylene welding equipment is available, extreme caution should be taken regarding excess welding temperature.

Avoid rapid application of excess welding material. Weld each end of valve with a continuous bead using a 1/8 inch maximum diameter electric welding rod. Thoroughly clean weld slag from valve bore and line before reassembling the valve.

Follow applicable assembly section of this publication for instructions to reassemble the valve.

Hydrostatic Testing

When Demco DM 7500 Gate valves are installed in a piping system that requires hydrostatic testing of the adjoining pipe, the following procedure should be utilized to minimize any damage that could occur to the sealing surfaces and seat seals inside the valve.

The valve should be in the fully open position when the injection of test fluid begins. This will allow any pipeline debris to be flushed through the valve bore and out of the piping.

Once the piping system has been purged of debris and the system has been filled completely with the test fluid the valve is ready for line testing. Make sure the valve is in the open position to prevent over pressuring of the seat seal. Please see valve nameplate information for maximum test pressure.

When testing the seats with the valve in the closed position, do not exceed the valve's cold working pressure rating.

Operating Instructions for 7500 DM Gate Valves

The 7500 DM gate valve should be either fully 'open' or fully 'closed' position while in service.

CAUTION: Never leave the valve partially open while handling flow, as this will result in erosion to the gate and seat and could adversely affect the performance of the valve.

1. Open the valve by turning the handle counter-clockwise until the stem head backseats against the bonnet.
2. Close the valve by turning the handle clockwise until the gate is firmly seated against the bottom of the gate slot in the seat.

NOTE: You will know the gate is firmly seated by the sharp increase in the operating torque as the gate makes contact.

CAUTION: Never back the handle off a fraction of a turn, as may be customary on other valves. Backing off the handle a fraction of a turn will result in leakage and erosive damage to the 7500 DM gate valve.

Closing torque will depend on the condition of the valve, the operating pressure and the nature of the flow media.

Approximate torque values for closing a "new" 7500 DM gate valve against full-rated differential pressure for water are shown here.

Ft. Lbs. of Torque Required vs Valve size and Internal Pressure for DEMCO DM7500 Valves								
Valve Size	0 PSI	1000 PSI	2000 PSI	3000 PSI	4000 PSI	5000 PSI	6000 PSI	7500 PSI
2"	18	24	48	72	97	121	145	181
3"	32	42	85	127	170	212	254	318
4"	29	39	78	117	156	195	234	292
5"	51	68	137	205	273	341	410	512

Chart 1 - Closing Ft.-Lbs. Torque Chart

Refer to page 19 for metric Torque Required vs Valve Size and Internal Pressure table.

Demco DM 7500 Gate Valve Overview

The Demco Series DM 7500 Gate Valve is designed to meet the 7,500 psi working pressure demands of deep well drilling. The DM 7500 Gate Valve is chosen for the following drilling applications: standpipe manifolds, pump manifolds, pump manifold block valves, high pressure drilling system block valves and high pressure frac service. The Demco DM 7500 Gate Valve is available in sizes 2" to 6" with butt weld end or flanged end connections. The bonnet is easily removed for internal parts inspection and/or

replacement without removing the valve from the line. This design permits fast and easy service without the need for special tools. When special tools or lubricants are required, this manual will name them.

Throughout this manual, you will find notes for "CAUTION" and "WARNING." Failure to perform actions outlined in a "CAUTION" note could result in damage to the valve. Failure to perform actions outlined in a "WARNING" note could result in personal injury to the operator or other personnel.

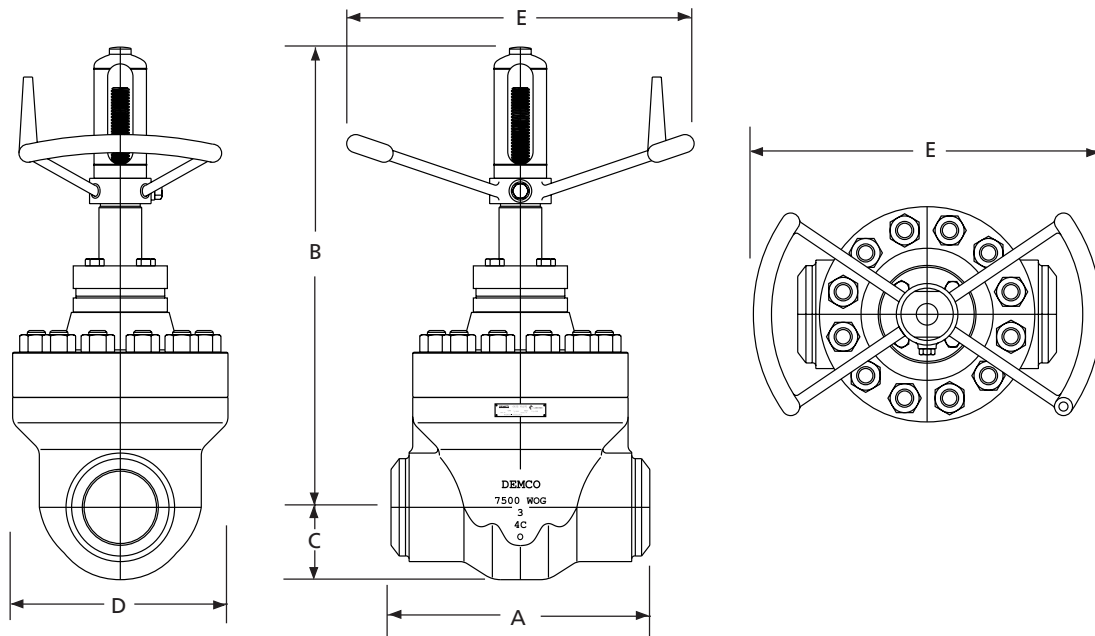


Figure 3 - Demco DM 7500 Dimensions

	2"		3"		4"		5"		6"	
	Weld	Flange	Weld	Flange	Weld	Flange	Weld	Flange	Weld	Flange
A	9.00	18.38"	13.00"	24.38"	16.00"	26.38"	17.88"	29.00"	17.88"	N/A
B	13.04"	13.04"	24.60"	24.60"	31.00"	31.00"	31.81"	31.81"	31.81"	N/A
C	2.62"	3.94"	5.31"	5.31"	4.40"	6.22"	5.00"	7.03"	5.00"	N/A
D	6.38"	6.38"	10.50"	10.50"	11.75"	11.75"	14.88"	14.88"	14.88"	N/A
E	13.88"	13.88"	22.81"	22.81"	20.00"	20.00"	24.00"	24.00"	24.00"	N/A

Refer to page 19 for metric dimensions table.

Name Plate Information

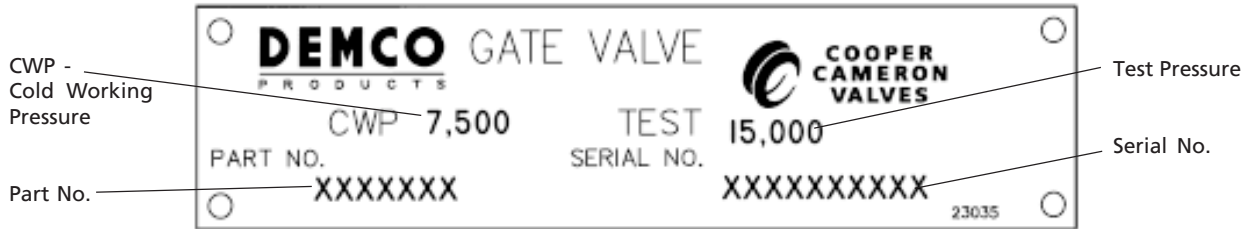


Figure 4 - Demco Nameplate

You must have complete nameplate information when ordering parts from your Cooper Cameron Valves representative.

Storage

The Demco 7500 Gate Valve should be stored off the ground, preferably on a pallet, and should remain covered until ready for installation. All provisions are made by Demco personnel to protect the end connections of each valve from damage and to prevent the entry of dirt or debris into the valve during handling and shipping. Inspect the valve for chips, burrs, nicks or other damage that may have occurred during shipment that may cause malfunction. Pay particular attention to the valve gate and stem. Take care to keep the exterior of the valve protected and as clean as possible until ready for use.

All valves should remain in the 'open' position until installed.

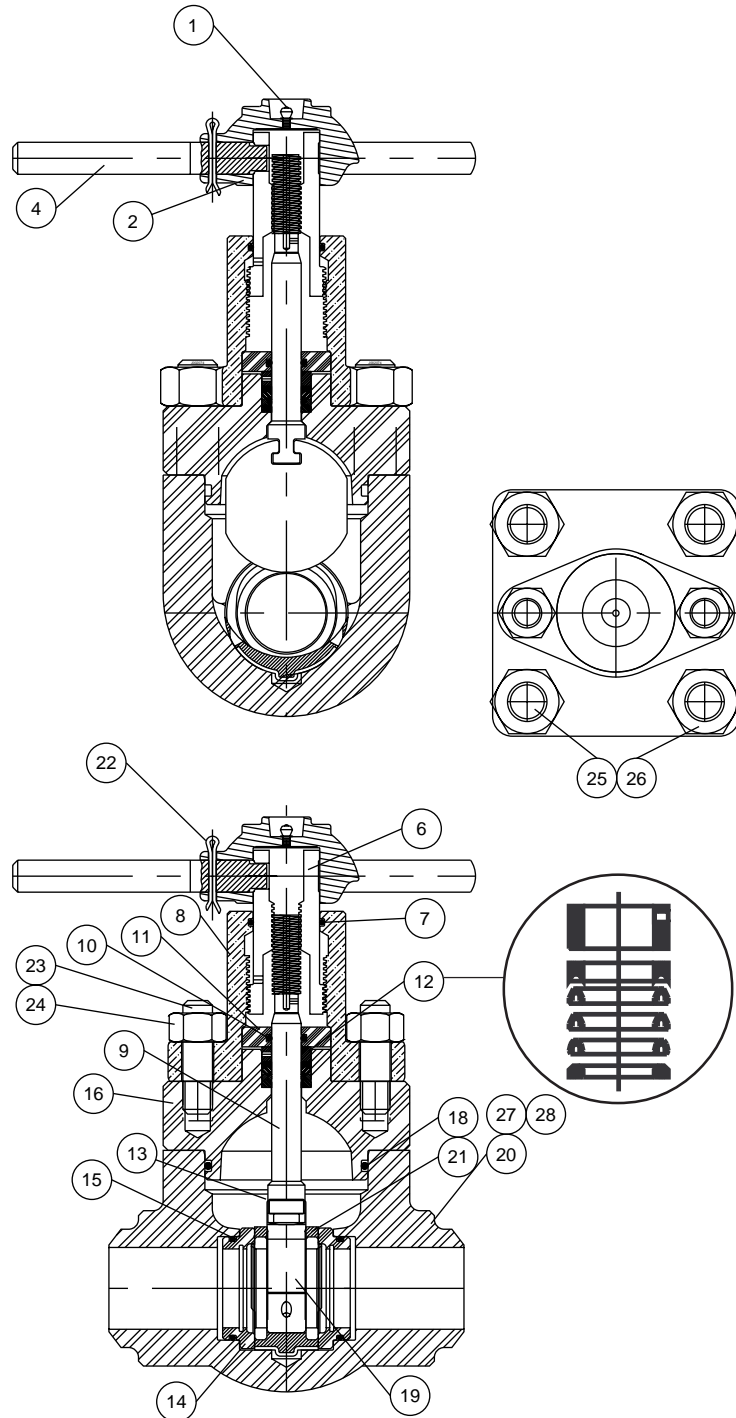


Figure 5 - 2" Series DM 7500 Gate Valve

Assembly

2" Series DM 7500 Gate Valve

Note: If Lubricant is needed, use Chevron Ultra Duty #2 or its equivalent.

CAUTION: Keep lubricant and all valve parts free of chips, dirt and other debris. Failure to do so could cause damage to the valve and could result in valve malfunction.

1. Install two stem screw housing studs (23) in the bonnet (16).
2. Lubricate the stem (9) and packing bore in the bonnet.
3. From the underside, gently slide the threaded end of the stem through the bonnet stem hole.

CAUTION: Be careful not to scratch the sealing area of the stem while threading the end of the stem through the bonnet stem hole. Scratching the sealing area of the stem could result in loss of sealing capability.

Stem Seal Assembly

The stem seal sub assembly (12) consists of a bottom adapter ring, a soft rubber (special) seal ring, a fiber-reinforced seal ring, a flat-backed follower ring and a bushing. These parts must be assembled over the stem (in the order listed) with the hollow side down, as shown (See Figure 5).

- a. Apply lubricant to seal rings
- b. Gently work the seal rings down over the stem threads
- c. Work the seal rings individually into the bonnet bore.
- d. Install the flat backed follower ring (flat side up) on top of the seal rings.

- e. Slide bushing over stem and down to follower ring.

CAUTIONS:

Use care to avoid cutting or folding back the inside or outside edges of the seal rings. Failure to do so could damage the seal rings and may cause stem leakage.

Do not use metal tools when working with the seal rings. Use plastic tools when installing seal rings. Using metal tools could cause scratches on the stem or bonnet bore which could result in stem leakage.

1. Lubricate secondary seal o-ring (10) and place in groove in retainer (11). Work retainer and o-ring down gently over the stem threads and down on top of the bonnet.
2. Install O-ring (7) into groove in stem screw housing (8). Lubricate threads on stem screw and in stem screw housing. Assemble stem screw into the stem screw housing and engage 6 turns.
3. Lubricate stem threads. Set stem screw/stem screw housing into the stem and engage 6 turns. Do not let stem screw turn relative to stem screw housing during this operation.
4. Place stem screw housing down over studs.
5. Install two nuts (24) onto the studs. Torque to approximately 170 ft-lb.
6. Using the lock handle (4) and cotter pin (22) to secure, attach handwheel (2) to stem screw (6).
7. Install the gate clip (13) over the stem T-head and attach the gate (19) to the T-head of the stem. Bend the gate clip down (parallel with the gate) to lock the gate/stem together.
8. Lubricate bonnet o-ring seal (18) and install the o-ring seal onto the bonnet groove.

CAUTION: Make sure the groove is clean. Failure to keep groove clear of dirt or debris could cause damage to the valve.

9. Lubricate the body wear ring counter bores in the body (20) before installing o-rings (15) onto the wear ring (14) hub grooves.

NOTE: Two wear rings are required.

10. Install the wear rings (14) with the o-ring seals into the body (20) counter bores.

CAUTION: Use a wood or plastic bar to fully seat the wear rings. Using a metal tool to seat the wear rings could cause damage to these valve parts.

11. Lubricate the seat insert (21) and then align the lock shell button with the mating hole in the bottom of the body cavity.
12. Squeeze the top of the seat insert (21) while installing it into the body cavity until the seat insert ring lock shoulders engage the mating wear ring access.
13. Lubricate the short ends of the body studs (25) – or the tapped holes – and thread them into the body (20) until the last run out thread on the stud is flush with the top of the body.
14. Turn the handwheel (1) clockwise until the handwheel contacts the top of the stem screw housing (8).
15. Now turn the handwheel counterclockwise for ten and $\frac{1}{4}$ turns.
16. Rotate the gate and stem counterclockwise until the stem shoulder contacts the back seat in the bonnet.
17. Adjust to align the gate perpendicular to the to the axis of the stem screw housing studs (23).

CAUTION: Make sure the top of the seat insert (21) is fully open to allow insertion of the gate. Attempting to insert the gate when the seat insert is not fully open will cause damage to the valve.

18. Insert the bonnet assembly into the body until the body and bonnet are face-to-face.

19. Lubricate the body stud threads (25), thread on four nuts (26), and evenly tighten to pull the bonnet down until it is flush with the body.
20. Torque nuts to approximately 550 ft-lb.
21. Close and open the valve while observing the gate position to make sure the valve will close and open fully.

NOTE: A clearance of 0.2" should exist between the handwheel and the top of the stem screw housing when the gate is fully closed.

CAUTION: If the valve is difficult to operate, the cause should be determined and problem corrected before the valve is placed in operation. Always leave the valve in the open position until problem is corrected. If cause of problem cannot be determined, contact your Cooper Cameron Valves Representative.

3" Series DM 7500 Gate Valve

Note: If lubricant is needed, use Chevron Ultra Duty #2 or its equivalent.

CAUTION: Keep lubricant and all valve parts free of chips, dirt and other debris. Failure to do so could cause damage to the valve and could result in valve malfunction.

1. Lubricate the stem (9) and packing bore in the bonnet (16).
2. From the underside, gently slide the threaded end of the stem through the bonnet stem hole.

CAUTION: Be careful not to scratch the sealing area of the stem while threading the end of the stem through the bonnet stem hole. Scratching the sealing area of the stem could result in loss of sealing capability.

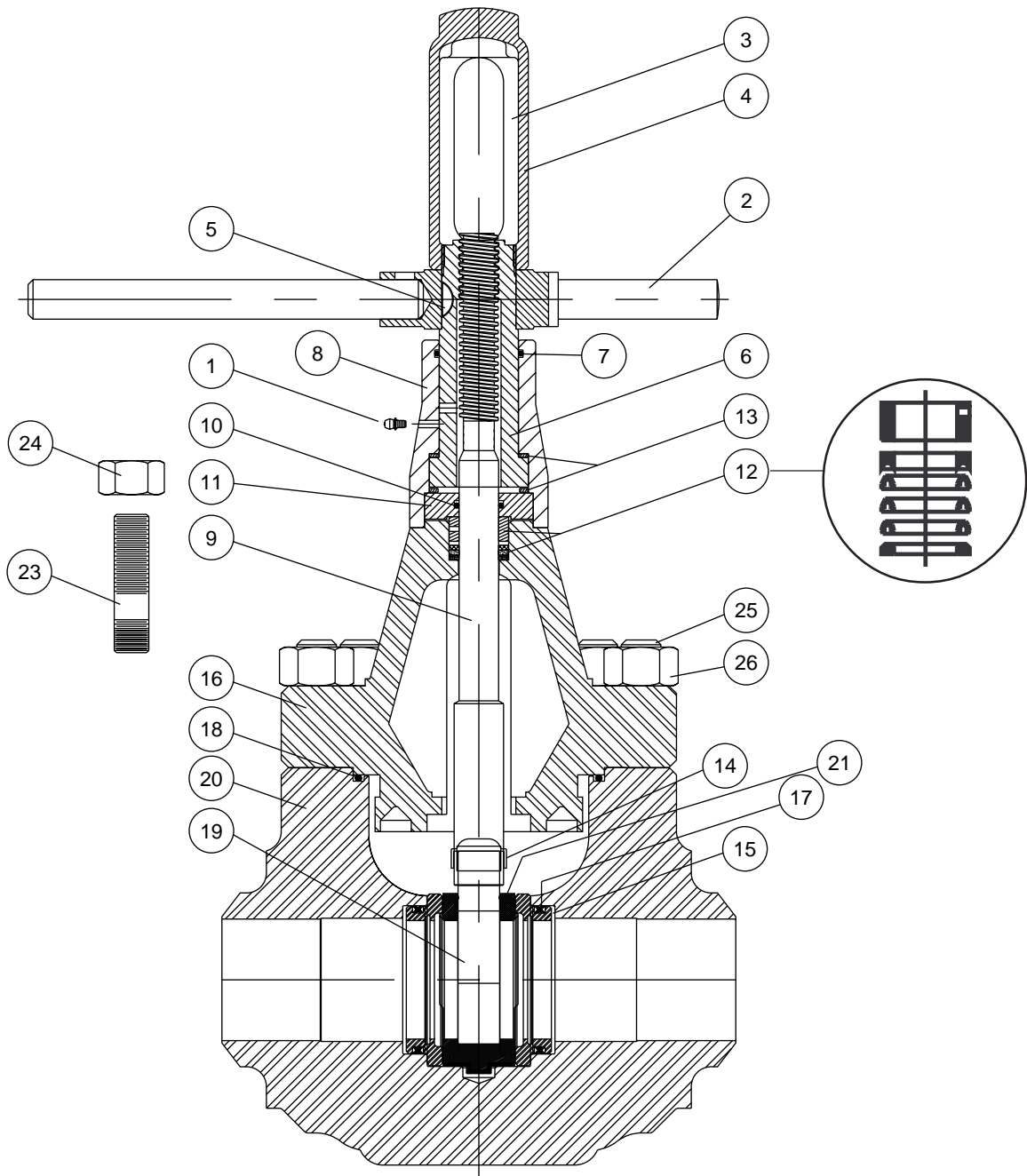


Figure 6 - 3" Series DM 7500 Gate Valve

Stem Seal Assembly

The stem seal sub assembly (12) consists of a bottom adapter ring, a soft rubber (special) seal ring, a fiber-reinforced seal ring, a flat-backed follower ring and a bushing. These parts must be assembled over the stem (in the order listed) with the hollow side down, as shown (See Figure 6).

- a. Apply lubricant to seal rings.
- b. Gently work the seal rings down over the stem threads.
- c. Work the seal rings individually into the bonnet bore.
- d. Install the flat backed follower ring (flat side up) on top of the seal rings.
- e. Slide bushing over stem and down to follower ring.

CAUTIONS: Use care to avoid cutting or folding back the inside or outside edges of the seal rings. Failure to do so could damage the seal rings and may cause stem leakage.

Do not use metal tools when working with the seal rings. Use plastic tools when installing seal rings. Using metal tools could cause scratches on the stem or bonnet bore which could result in stem leakage.

3. Lubricate secondary seal o-ring (10) and place in groove in retainer (11). Position the retainer with 1-5/8" counterbore toward the bonnet. Work retainer and o-ring down gently, over stem threads.
4. Lubricate and install one thrust washer (13) on top of retainer (11).
5. Lubricate the stem (9) and stem screw (6) threads and turn stem screw counterclockwise on stem until it seats against the thrust washer. Install second thrust washer over the top of stem screw.

CAUTION: The packing may be damaged if the stem threads are allowed to fall below the retainer (11);

6. Install one o-ring (7) into the ID groove in screw housing (8).
7. Lubricate screw housing bore and stem screw (6) and install housing over studs (23).

NOTE: Lubricate screw threads to prevent galling.

8. Draw housing down with hex nuts (24) and torque hex nuts (24) to approximately 319 ft-lbs.
9. Install lube fitting (1) in the housing.
10. Install the handwheel (2) and key (5) on to the stem screw (6).
11. Install clear acrylic tube (3) and stem cap (4) over the stem and tighten snugly against the handwheel, making sure the acrylic tube is centered in its groove in the upper part of the stem cap.
12. Install the gate clip (14) over the stem T-head and attach the gate (19) to the T-head of the stem. Bend the gate clip down (parallel with the gate) to lock the gate/stem together. Now turn the handwheel counterclockwise to draw the gate up into the bonnet.
13. Lubricate bonnet o-ring seal (18) and install the o-ring seal onto the bonnet groove.

CAUTION: Make sure the groove is clean. Failure to keep groove clear of dirt or debris could cause damage to the valve.

14. Lubricate the body wear ring counter bores in the body (20). Install O-rings (17) on to the wear ring (15) hub grooves.

NOTE: Two wear rings are required.

16. Install the wear rings (15) with the O-ring seals into the body (20) counter bores.

CAUTION: Use a wood or plastic bar to fully seat the wear rings. Using a metal tool to seat the wear rings could cause damage to these valve parts.

17. Lubricate the seat insert (21) and then align the lock shell button with the mating hole in the bottom of the body cavity.
18. Squeeze the top of the seat insert (21) while installing it into the body cavity until the seat insert ring lock shoulders engage the mating wear ring recess.
19. Lubricate the short ends of the body studs (25) – or the tapped holes – and thread them into the body (20) until the last run out thread on the stud is flush with the top of the body.
20. Turn the handwheel (1) clockwise until the top of the stem is aligned with closed indicator on the stem cap (4).

CAUTION: Make sure the top of the seat insert (21) is fully open to allow insertion of the gate. Attempting to insert the gate when the seat insert is not fully open will cause damage to the valve.

21. Install the bonnet (16) assembly on the body (20), making sure that the gate (19) is aligned with the seat insert (21) and that the bonnet bolt holes are aligned with the body studs (25).
22. Drive the gate into the seat insert and turn the handwheel (1) counterclockwise a few turns to the partially 'open' position to fully seat the bonnet into the body.
23. Lubricate the body stud threads (25).
24. Thread the nuts (26) on and tighten evenly all around to pull the bonnet down flush with the body. Torque should be approximately 360 ft-lbs.
25. Close and open the valve while observing the gate position to make sure the valve will close and open fully.

CAUTION: If the valve is difficult to operate, the cause should be determined and problem corrected before the valve is placed in operation. Always leave the valve in the open position until problem is corrected. If cause of problem cannot be determined, contact your Cooper Cameron Valves Representative.

4", 5", and 6" Series DM 7500 Gate Valve

Note: If lubricant is needed, use Chevron Ultra Duty #2 or its equivalent.

CAUTION: Keep lubricant and all valve parts free of chips, dirt and other debris. Failure to do so could cause damage to the valve and could result in valve malfunction.

1. Lubricate the stem (6) and packing bore in the bonnet (7).
2. From the underside, gently slide the threaded end of the stem through the bonnet stem hole.

CAUTION: Be careful not to scratch the sealing area of the stem while threading the end of the stem through the bonnet stem hole. Scratching the sealing area of the stem could result in loss of sealing capability.

Stem Seal Assembly

The stem seal sub assembly (5) consists of a bottom adapter ring, a soft rubber (special) seal ring, two fiber-reinforced seal rings, a flat-backed follower ring and a bushing. These parts must be assembled over the stem (in the order listed) with the hollow side down, as shown (See Figure 7).

- a. Apply lubricant to seal rings

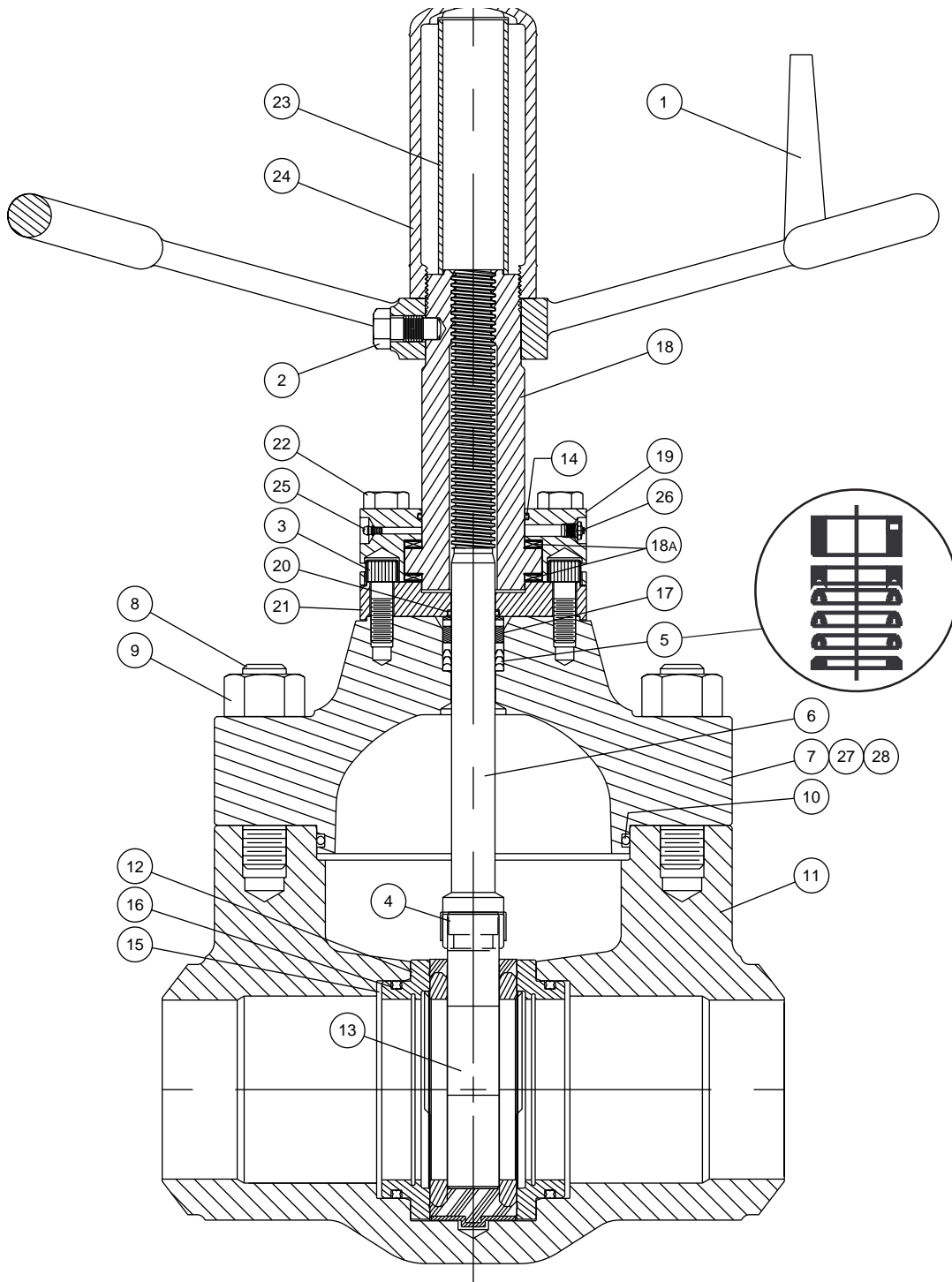


Figure 7 - 4", 5" and 6" Series DM 7500 Gate Valve

- b. Gently over work the seal rings down over the stem threads
- c. Work the seal rings individually into the bonnet bore.
- d. Install the flat back follower ring (flat side up) on top of the seal rings.
- e. Slide bushing over stem and down to follower ring.

CAUTIONS:

Use care to avoid cutting or folding back the inside or outside edges of the seal rings. Failure to do so could damage the seal rings and may cause stem leakage.

Do not use metal tools, such as screwdrivers, when working with the seal rings. Use plastic tools when installing seal rings. Using metal tools could cause scratches on the stem or bonnet bore which could result in stem leakage.

3. Lubricate secondary seal o-ring (20) and place in groove in retainer (21). Work retainer and o-ring down gently stem threads until flush with bonnet.

CAUTION: When working in and around the stem, be sure to protect the stem from wrench damage.

4. Lubricate the screw threads to prevent galling.
5. Draw the retainer packing down against the bonnet with four screws (3) spaced 90 degrees apart.
6. Torque the cap screw (3) to approximately 112 ft-lbs.
7. Lubricate and install one bearing and two thrust washers (18a) on top of retainer. (Bearing sets between two thrust washers).

8. Lubricate the stem (6) and stem screw (18) threads and turn stem screw counterclockwise on stem until it seats against the thrust washer. Install second set of bearings and thrust washers over top of stem screw.

CAUTION: The packing may be damaged if the stem threads are allowed to fall below the retainer (21).

9. Install one o-ring (14) into the ID groove of the screw housing (19).
10. Lubricate housing bore and stem screw and install housing over the stem screw, making sure that the large holes in the housing fit over the heads of the screws (3).

NOTE: Lubricate screw threads to prevent galling.

11. Draw housing down with hex bolts (22).
12. Torque hex bolts (22) to approximately 133 ft. lb. on the 4" valve and 225 ft. lb. on the 5" and 6"x5" valves.
13. Install lube fitting (25) and relief fitting (26) in the housing.
14. Attach handwheel (1) to stem screw (18) with handwheel screw (2). Before tightening, make sure the end of the screw is aligned with the drilled hole in the stem screw.
15. Install clear acrylic tube (23) and stem cap (24) over the stem and tighten snugly against the handwheel, making sure the acrylic tube is centered in its groove in the upper part of the stem cap.
16. Install the gate clip (4) over the stem T-head and attach the gate (13) to the T-head of the stem.
17. Bend the gate clip down parallel with the gate to lock the gate/stem together.
18. Lubricate bonnet o-ring seal (10) and install onto the bonnet groove.

CAUTION: Make sure the groove is clean. Failure to keep groove clear of dirt or debris could cause damage to the valve.

19. Install O-rings (16) onto the wear ring (15) hub grooves.
20. Lubricate the body wear ring counter bores in the body (11).

NOTE: Two wear rings are required.

21. Install the wear rings (15) with O-ring seals into the body (11) counter bores.

CAUTION: Use a wood or plastic bar to fully seat the wear rings. Using metal tools could cause damage to the rings.

22. Lubricate the seat insert (12) and then align the lock shell button with the mating hole in the bottom of the body cavity.
23. Squeeze the top of the seat insert (12) while installing it into the body cavity until the seat insert ring lock shoulders engage the mating wear ring access (15).
24. Lubricate the short ends of the body studs (8) – or the tapped holes – and thread them into the body (1) until the last run out thread on the stud is flush with the top of the body.
25. Turn the handwheel (1) clockwise until the stem thread is aligned with the closed indicator on the stem cap (24).

CAUTION: Make sure the top of the seat insert (12) is fully open to allow insertion of the gate. Attempting to insert the gate when the seat insert is not fully open will cause damage to the valve.

26. Install the bonnet (7) assembly on the body (11), making sure that the gate (13) is aligned with the seat insert (12) and that the bonnet bolt holes are aligned with the body studs (8).

27. Drive the gate into the seat insert and turn the handwheel (1) counterclockwise as necessary to draw the bonnet into the body.
28. Lubricate the body stud threads (8) and thread the nuts (9) on and tighten evenly all around to pull the bonnet down flush with the body. Torque should be approximately 600 ft. lb. on the 4" valve and 950 ft. lb. on the 5" and 6"x5" valves.
29. Close and open the valve while observing the gate position to make sure the valve will close and open fully.

CAUTION: If the valve is difficult to operate, the cause should be determined and problem corrected before the valve is placed in operation. Always leave the valve in the open position until problem is corrected. If cause of problem cannot be determined, contact your Cooper Cameron Valves Representative.

Routine Maintenance

Demco Series 7500 Gate Valves are designed and manufactured for long service life and are virtually maintenance free. Valves should be cycled on a routine schedule, at least every three months. There is one grease fitting on the stem. This should be lubricated every six months with Chevron Ultra Duty #2 or its equivalent.

Troubleshooting

Trouble	Probable Cause	Remedy
Hard to operate.	<p>Material trapped in bonnet cavity or seat area.</p> <p>Bent stem, thread damage to stem or stem screw.</p> <p>Broken or gulled bearings.</p>	<p>Remove bonnet assembly and inspect bonnet cavity and seat area for debris. Refer to Assembly section, see pages 9 – 17, to disassemble the bonnet.</p> <p>Inspect the stem and bonnet threads and replace, as needed. Always install new stem seal and bonnet seals when replacing any parts in the bonnet assembly.</p> <p>Replace bearings.</p>
Leaking between bonnet and body.	Bonnet seal is damaged.	Remove bonnet assembly and replace bonnet seal. See Assembly section, pages 9 – 17. Avoid tilting bonnet while lowering into the body to prevent damage to the bonnet seal.
Leaking through the valve bore.	<p>Valve is not fully closed.</p> <p>Gate or seat has been damaged.</p>	<p>Make sure the gate is fully closed into the seat.</p> <p>Remove bonnet assembly to inspect gate for cuts or scratches in the metal. See Assembly section, pages 9 – 17. Also inspect the seat for damage on sealing surfaces or on bottom of seat. Replace with new parts and bonnet seal.</p>
Leaking from the stem.	Stem seal assembly has damage.	Remove bonnet from valve. Refer to Assembly section, see pages 9 – 17, to disassemble the bonnet and replace stem seal assembly.

Metric Weight, Torque and Dimension Tables

Minimum I.D. and Weights

DM7500 Butt Weld End	50.8 mm	76.20 mm	101.60 mm	127.00 mm	152.40x 127.00mm
Base Part Number	24993	25051	24967	24994	24981
Weight (Kg)	34.51	116.23	140.74*	229.73	229.73
Wear Ring I.D. (mm)	50.04	75.7	100.84	131.32	131.32

DM7500 Flanged End	50.8 mm	76.20 mm	101.60 mm	127.00 mm
Base Part Number	24993	25051	24967	24994
Weight (kg)	56.30	168.89	215.65*	345.50
Wear Ring I.D. (mm)	50.04	75.7	100.84	131.32

Newton Meters (Nm) of Torque vs Valve Size and Internal Pressure

Newton Meters (Nm) of Torque Required vs Valve size and Internal Pressure for DEMCO DM7500 Valves								
Valve Size	0 kg/Cm2	70.30 kg/Cm2	140.60 kg/Cm2	210.90 kg/Cm2	281.20 kg/Cm2	351.50 kg/Cm2	421.80 kg/Cm2	527.25 kg/Cm2
50.80 mm	24 Nm	33 Nm	65 Nm	98 Nm	132 Nm	164 Nm	197 Nm	245 Nm
76.20 mm	43 Nm	57 Nm	115 Nm	172 Nm	230 Nm	287 Nm	344 Nm	431 Nm
101.60 mm	39 Nm	53 Nm	106 Nm	159 Nm	212 Nm	264 Nm	317 Nm	396 Nm
127.00 mm	69 Nm	92 Nm	186 Nm	278 Nm	370 Nm	462 Nm	556 Nm	694 Nm

Demco DM 7500 Dimensions

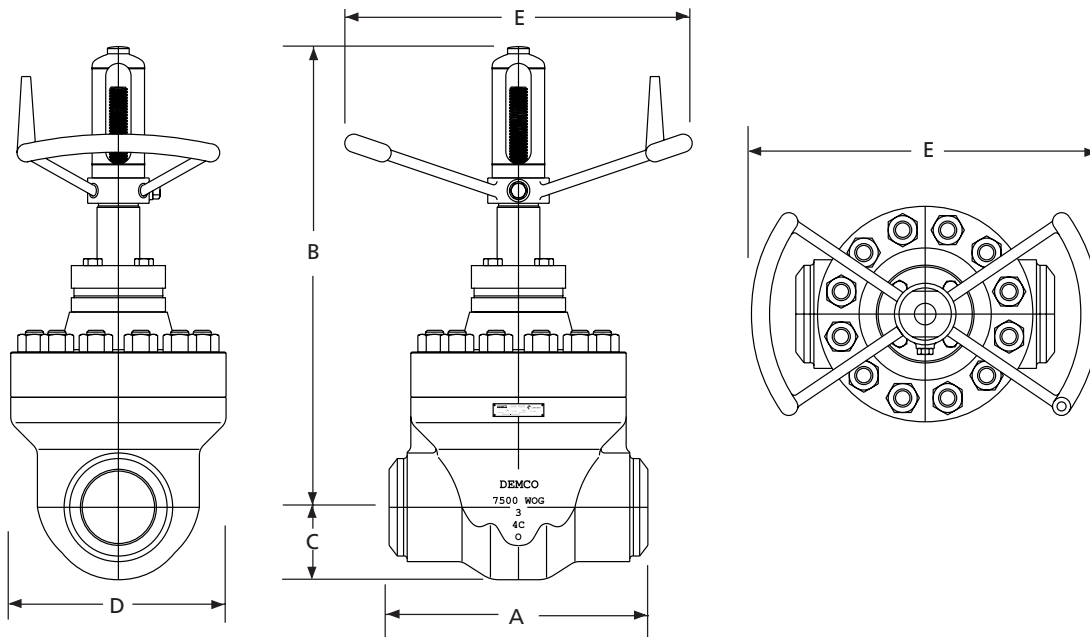


Figure 3 - Demco DM 7500 Dimensions

	50.80 mm		76.20 mm		101.60 mm		127.00 mm		154.40 mm	
	Weld	Flange	Weld	Flange	Weld	Flange	Weld	Flange	Weld	Flange
A	228.60	466.85	330.20	619.25	406.40	670.05	454.15	736.60	454.15	N/A
B	331.22	331.22	624.84	624.84	787.40	787.40	807.97	807.97	807.97	N/A
C	66.55	100.08	134.87	134.87	111.76	157.99	127.00	178.56	127.00	N/A
D	162.05	162.05	266.70	266.70	298.45	298.45	377.95	377.95	377.95	N/A
E	352.55	352.55	579.37	579.37	508.00	508.00	609.60	609.60	609.60	N/A



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