

GATE VALVE

PRODUCT DESCRIPTION

The **Mud King** DM & Model 72 style Gate Valves, with superior design features precision workmanship and a proven principle are engineered to meet the harsh drilling requirements in today's oilfield.

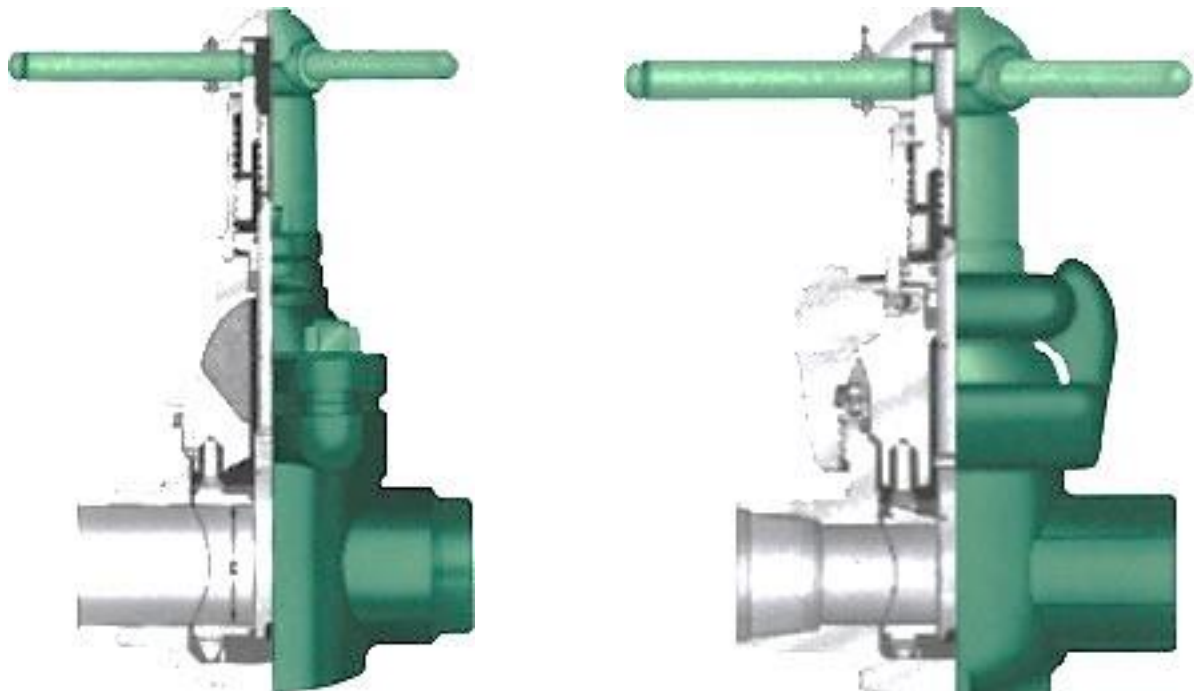
The **MKP Valve** conforms to the standard flange dimensions and pressure rating of 5000 and 7500 PSI working pressure, and temperature service up to 400°F

CONSTRUCTION

MKP Valves conform to API flange dimensions in all pressure class ratings. The valves have rising stems that are driven by a double threaded hub for quick opening and closing with minimum turning effort. The permanently lubricated stems and stem screws are fully sealed assembly consisting of homogenous and fabric backed rings for high and low pressure sealings.

APPLICATION FOR THE GATE VALVE

Mud pump lines and standpipe manifolds, oil and gas pipelines, sour gas and crude oil, corrosive water flood lines, cementing services, wellheads, and well treating chemicals.



APPLICATION

- D Drilling and well-treating chemicals
- D Sour gas and crude oil
- D Abrasive drilling mud
- D Pipelines and manifolds
- D Wellheads
- D Water, oil, and gas lines
- D Cements and slurries
- D Corrosive water flood lines
- D Up to 7500 psi and 400° Fahrenheit services

SEAT ELASTOMERS

Buna N (nitrile) is the basic seat elastomer. It is excellent for petroleum oil and gases, fuel oils and alcohols from -10° F to +200°F. **Hypalon** is optionally offered compounded for maximum chemical resistance. Particularly suited for oxidizing acids, it resists hydrocarbon oils and fuels from -10° F to +250° F. Viton is highly resistant to mineral acids and hydrocarbons and resists moderate concentrations of hydrogen sulphide. Serviceable from -10° F to +400° F (Not suitable for steam).

PLASTIC COATINGS

Internally plastic-coated valve bodies and bonnet are available on request.

TESTING

MKP Gate Valves are hydrostatically tested at assembly. Stem seal, body, and seat are inspected for zero leakage under pressure, before acceptance.

PRESSURE RATINGS

MKP Gate Valves are designed for the maximum working pressure and test pressure tabulated below:

5000
5000 WP
7500 PSI Test

7500
7500 WP
11,250 PSI Test

Gate Valve rating must be selected to match the piping system in which the valve will be installed. Tabulated below are working pressures at 100° F for ASTM A-106 Grade B pipe in sizes corresponding to MKP gate valves.

SIZE	SCH. 40	SCH. 80	SCH. 160	X X H
2"	1210	2220	4300	5970
3"	1460	2370	3930	5880
4"	1300	2130	3830	5150
5"	*****	1970	3730	4650
6"	1110	1970	3650	4724

ORDERING INFORMATION

Give size, pressure class, and end connection. Specify pressure class of flanged ends and raised face or RTJ. For threaded ends, give line pipe, NUE (non upset tubing) or EUE (external upset tubing). For weld or grooved ends, give schedule of mating pipe.

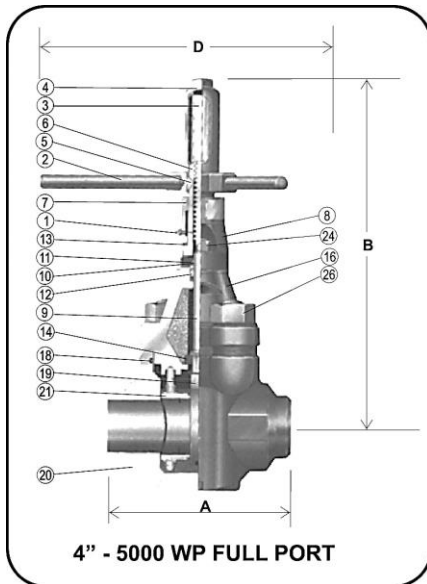
Typical requested material PN for direct order.

DM Gate Valve Assembly

No	Description	2in	3in	4in
1	GATE VALVE WELDED 5000 PSI	M-1031-1588111	M-1056-252211	M-7420-2588110
2	GATE VALVE THREADED 5000 PSI	MK-1028-0488110		M-7420-0488110

DM Repair kit parts list

No	Description	2in	3in	4in
1	SEAT	M-1876-021	M-1878-021	M-2207-021
2	GATE 5000 PSI SS316	M-1887008	M-1886008	M-1926008
3	SEAL BONNET	M-6530-342	M-6530-433	M-5520-439
4	STEM HOUSING STEEL	M-1848		
5	STEM SCREW	M-1913		M-7416
6	STEM SS316	M-1931-008	M-1932-008	M-7439-008
7	RETAINER STEEL 5000 PSI	M-1940		M-7413
8	STEM SEAL	M-1949-001	M-1950-001	M-1951-001
9	STEM SCREW SEAL	M-5530-224	M-5530-226	M-5539-226
10	INDEX PIN	M-1981		
11	SECONDARY SEAL BUNA N	M-5530-210	M-5530-212	M-5530-214
12	LOCK SCREW	M-5665-22004		
13	SEAL BONET	M-5530-342		
14	BRASS F/ STEM SEAL	M-1949-001B		
15	BODY STUD NUT			M-1890
16	BONNET STUD			M-2072
17	BONNET STUD NUT			M-53251-036
18	SCREW HOUSING			M-7418
19	STEM CAP MUDKING DUCTILE IRON			M-7411
20	DOWN STOP RING			M-7417
21	BODY STUD			M-2077
22	BEARING			M-7426



BASE PART NO.

M XXXX – X X X X X X X

END CONN
BODY CONFIG
STEM MATL.
GATE MATL.
INSERT
SEAT
COAT G

Screwed 1 – LP 1– NUE
Weld 2 – Sch. 80 2 – XXH 5 – Sch. 160
Flanged 3 – 5000 RTJ

4-Screwed 5-Weld 7-Flanged

2-303SS 8-316SS

1-Steel 8-316SS

1-Steel 8-316SS

1-Buna N 2-Viton

0 Uncoated
1 MUDKING 10

PRESSURE RATING	5000 PSI	
TEST PRESSURE	7,500 PSI	
SIZE	4" Screwed Weld Flanged	5" x 4" Screwed Weld

DIMENSIONS, INCHES

A	END TO END	Screwed & Weld 13 Flanged - RTJ 18	13
B	OPEN HEIGHT	24 $\frac{3}{8}$	
C	SEAT BORE	4	
D	HANDLE DIAMETER	22 $\frac{3}{4}$	
F	FLANGE DIAMETER FLANGE BOLTS RTJ RING NUMBER	NUMBER/SIZE 12 $\frac{1}{4}$ 8-1 $\frac{1}{4}$ R39	– – –

STANDARD ASSEMBLIES & WEIGHTS

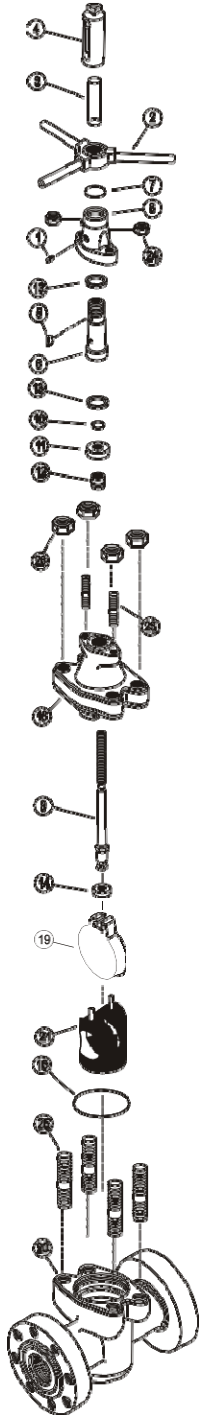
STANDARD MATERIALS: Cast Steel Body & Bonnet; Buna N Seat & Seals; Duct Iron Seat Inserts; 316 SS Stem; Steel Gets			
FULL PORT			4"
FIGURE NUMBER			4 - 5000
SCREWED END	Base Part No.		M-7420
	Weight, Lbs.		210
WELD END	Base Part No.		M-7420
	Weight, Lbs.	Weld End valves furnished for Sch. 80, XXH and Sch. 160 on 5000 WP	
			210
RTJ FLANGED END	Base Part No.		M-17263
		RTJ flanges comply with API Std. 6A, 1974	
	Weight, Lbs.		330

REGULAR PORT		5" x 4"
		5-5000R
WELD END	Base Part No.	M-7421
	Weight, Lbs.	210

GATE VALVE

DM PARTS LIST

4", 5" x 4" – 5000 WP



5000 WP

REF.	DESCRIPTION	SIZE	4"
			5" x 4"
1	LUBE FITTING	Steel	M-5195
2	HANDLE ASSEMBLY	Steel	M-7414
		Wt. Lbs.	10.1
3	TUBE	Clear Acrylic	M-7459
4	STEM CAP	Ductile Iron	M-7411
5	KEY	Steel	M-5305-10016
6	STEM SCREW	Steel	M-7416
7	STEM SCREW SEAL	Buna N	M-5526-226
8	SCREW HOUSING	Steel	M-7418
9	STEM	303 SS - 002	M-7439-xxx
		316 SS - 008	
10	SECONDARY SEAL	Buna N	M-5526-214
11	RETAINER	Steel	M-7413
12	STEM SEALASSEMBLY		M-1951-xxx
	(Includes Bronze Bushing)		
		Buna N - 001	
		Viton - 006	
13	BEARING (2)	Teflon/Phenolic	M-7426
14	DOWN STOP RING	303 SS	M-7417
16	BONNET - 4" SCREWED & WELD END		M-7419-03x
	& 5" x 4" WELD END VALVES		
		Uncoated - xx0	
		Coated MUD KING 10 - xx1	
18	BONNET SEAL	Buna N # 5520 Viton # 5531	M-xxxx-439
19	GATE		M-1926-xxx
		Steel, Nickel Plated - 002	
		316 SS - 008	
		Wt. Lbs.	9.0

5000 WP

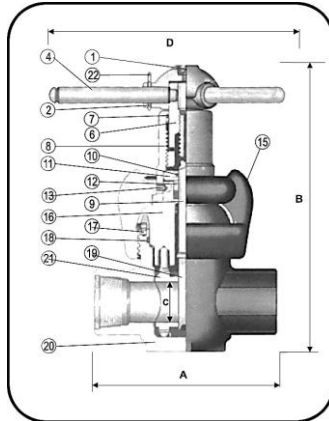
REF.	DESCRIPTION	SIZE	4"
			5" x 4"
20	BODY UNCOATED		M-1246-030
	FULL PORT - SCREWED LP		
		- NUE	M-1996-130
		WELD -SCH. 80 -1xx	M-1288-x30
		SCH xxH -2xx	
		- SCH 160 -5xx	
	FLANGED-RTJ		M-17288-230
	REG. PORT - WELD 5" - Sch. 80 -1xx		M-1249-x30
		- Sch.xxH -2xx	
		- Sch.160 -5xx	
	REG. PORT - WELD 6" - Sch. 80 -1xx		M-17287x30
		- Sch. xxH -2xx	
		- Sch. 150 -5xx	
	BODY COATING	MUD KING 10	M-xxxx-xx1
21	SEAT	Steel Buna N -021	M-2207-xxx
		Viton -022	
		Hypalon -023	
		Viton -032	
		Hypalon -033	
		315 SS Buna N -081	
		Viton -082	
		Hypalon -083	
		Wt. Lbs.	6.0
23	BONNET STUD (2)		M-2072
24	BONNET STUD NUT (2)		M-53251-036
25	BODY STUD (4) -4 SCREWED WELD END		M-2077
	& 5" x 4" WELD END VALVES		
	BODY STUD (4) -4" FLANGED END &		M-15432
26	BODY STUD NUT (4) -4 SCREWED & WELD END		M-1890
	& 5" x 4" WELD END VALVES		
			M-53251-038
	BODY STUD NUT (12) -4" FLANGED END &		

Caution: Test valve assembly, including replacement body, before installation and use.
Failure to do so may result in leakage or property damage or personal injury.

GATE VALVE PARTS

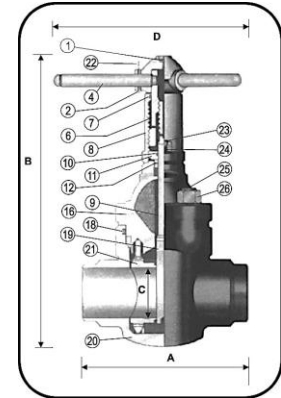
DM ASSEMBLY PART NUMBER

2", 3" – 5000 WP



END CONN
BODY CONFTG 4 - Screwed 5 - Weld 7 - Flanged
STEM MATL. 2 - 303 ss 8 - 316 ss
GATE MATL. 1 - Steel 8 - 316 ss
INSERT 1 - Steel 8 - 316 ss
SEAT 1 - Buna N 2 - Viton
COAT G 0 - Uncoated
1 - MUDKING 10

BASE PART NO.
MXXXX - X X X X X X X



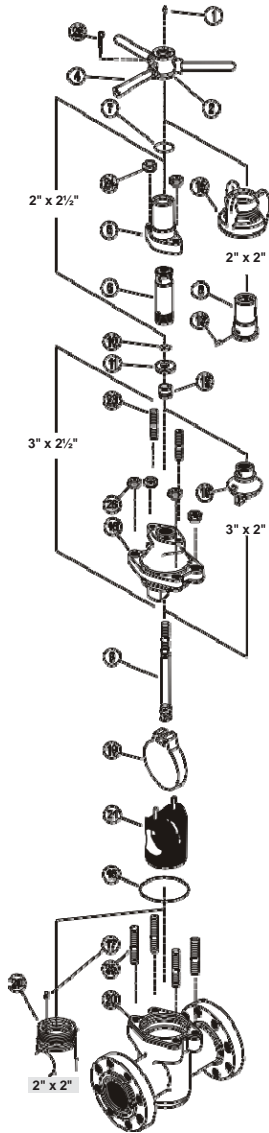
STANDARD ASSEMBLIES & WEIGHTS

STANDARD MATERIALS: Cast Steel Body & Bonnet; Buns N Seat & Seals; Duct Iron Seat Inserts; 316 SS Stem; Steel Gets			
FULL PORT		2"	3"
FIGURE NUMBER		2-5000	3-5000
SCREWED END	Base Part No.	M-1028	M-1047
Screwed End valves furnished for line pipe unless otherwise specified ... EUE 8 round on 2" valves; NUE 10 round on 3", NUE 8 round on 4"			
Weight, Lbs.		61	140
WELD END	Base Part No.	M-1031	M-1056
Weld End valves furnished for Sch. 80 on 2000 wp valves; Sch. 80 and Sch. 160 on 3000 wp; Sch. 80, XXH and Sch. 169 on 5000 wp			
Weight, Lbs.		61	140
GROOVED END	Base Part No.	****	****
Grooved End valves furnished for Sch. 80 pipe			
Weight, Lbs.		****	****
RTJ FLANGED END	Base Part No.	M-1025	M-1038
RTJ Flanges comply with API Std. 6A, 1974			
Weight, Lbs.		110	241

REGULAR PORT	2½" x 2"
FIGURE NUMBER	25-5000R
WELD END	Base Part No. M-1109
Weight, Lbs.	61

Pressure Rating & Size	5000 PSI WP 10,000 PSI TEST	
	2"	3"
DIMENSIONS, INCHES		
A. SCREWED, GROOVED & WELD		
- FULL PORT	9	11
- REGULAR PORT	****	****
FLANGED - RTJ	12 1/8	15 5/8
B. (OPEN) - FULL PORT	13	18
- REGULAR PORT	****	****
C. (SEAT BORE) - FULL PORT	2	3
REGULAR PORT	****	****
D. FULL PORT	14	19
REGULAR PORT	****	****
F (FLANGE DIAMETER)	8 1/2	10 1/2
FLANGE BOLTS NO. SIZE	8 7/8	8 - 1 1/8
RING NUMBER (RTJ)	R24	R35

DM PART LIST 2" & 3" – 5000 WP



REF.	DESCRIPTION	SIZE	5000 WP	
			2" 2½" x 2"	3" 4" x 3"
1	LUBE FITTING	Steel	M-5195	
2	HUB ASSEMBLY	Steel	M-14687	M-14688
4	LOCK HANDLE	Steel	M-1891	M-1892
6	STEM SCREW	Steel	M-1913	M-1914-003
7	STEM SCREW SEAL	Buna N	M-5530-224	M-5526-226
8	STEM HOUSING	Steel	M-1848	M-1852
9	STEM	303 SS -002 316 SS -008	M-1931-xxx	M-1932-xxx
10	SECONDARY SEAL	Buna N	M-5526-210	M-5526-212
11	RETAINER	Steel	M-1940	M-1941
12	STEM SEAL ASSEMBLY (Includes Bronze Bushing)	Buna N -001 Viton -006	M-1949-xxx	M-1950-xxx
13	LOCK SCREW	Steel	M-5665-22004	****
15	COUPLING		M-1445-030	****
16	BONNET, UNCOATED	Coated MUDKING -10	M-1237-02X	M-1980-03X
17	INDED	Steel	M-1981	****
18	BONNET SEAL	Buna N #5526 Viton #5531	M-xxx-342	M-xxx-433
19	GATE	Steel, Nickel Plated -002 Aluminum Bronze -004 316 SS -008	M-1887-xxx	M-1886-xxx
		Weight Lbs.	2.2	4.9
20	BODY UNCOATED			
	FULL PORT -SCRD -LP		M-1271-030	M-1987-030
	-NUE		****	M-1995-130
	-WED -Sch. 80 -1xx			
	-Sch. xth -2xx		M-1309-X30	M-1266-X30
	-Sch. 180 -5xx			
	-Grooved -Sch. 80		***	**
	-FLANGED-RTJ		M-1510-230	M-1511-230
	REG. PORT -WED -Sch. 80 -1xx			
	-Sch. xth -2xx		M-1273-x30	M-1267-x30
	-Sch. 180 -5xx			
	BODY COATING			
21	SEAT		M-1876-xxx	M-1878-xxx
		Ductile Iron	Buna N-011, Viton -012, Hypalon -013	
	4th BORE ONLY	Steel	Buna N-021, Viton -022, Hypalon -023	
		Aluminum Bronze	Buna N-041, Viton -042, Hypalon -043	
		316SS	Buna N-081, Viton -082, Hypalon -083	
		Weight Lbs.	1.5	3.0
22	PIN. LOCK HANDLE	Steel	M-5420-18728	M-5420-18732
23	BONNET STUD (2)		****	M2066
24	BONNET STUD NUT (2)	A194 Gr. 2H Steel	****	M-53251-034
25	BODY STUD (4)		****	M-2076
26	BODY STUD (4)	A194 Gr. 2H Steel	****	M-53251-144

Caution: Test valve assembly, including replacement body, before installation and use.
Failure to do so may result in leakage or property damage or personal injury.

MATERIAL SPECIFICATIONS

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	BODY	GATE	STEM	STUDS	SEAT INSERT	SEAT ELASTOMER
	S W F BONNET					
SIZE						
Cast Steel - ASTM A487 Class 4N or 2Q						
Cast Steel - ASTM A487 Class 4N or 2Q						
Cast Steel - ASTM A487 Class 4N or 2Q						
Wrought Steel - AISI 1045 Nickel Plate						
Cast Stainless Steel - ASTM A351						
Cast Aluminum Bronze - ASTM B148 Alloy 9B						
Wrought Stainless Steel - Type 303 Cold Finished						
Cold Finished Steel - ASTM A193 Grade B7, 125-105						
Forged Steel - AISI 1040						
Hypalon - ASTM D735-SG620 ABF, E, G						
Viton® - ASTM D735-TB720 A, BE, E, L						

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Model 72 Gate Valve Assembly

No	Description	2in	4in
1	GATE VALVE 4" SCREWED END FULL PORT		M-124000
2	GATE VALVE 4" 5000 PSI WELDED TYPE		M-114000
3	GATE VALVE 4" 5000 PSI SCREWED END FULL PORT MUDKING		M-124000-211
4	MANUAL GATE VALVE 4"	M-112000-111	M-114000-111
5	GATE VALVE 4" 5000 PSI FLANGE TYPE		M-134000

Model 72 Repair kit parts list

No	Description	2in	4in
1	O-RING SIZE 4"	M-121223-1	M-121243-1
2	GATE PACKING 4"	M-1210231	M-1210431
3	STEM PACKING 4" BUNA N	M-120732-1	M-120743-1
4	STEM PACKING RING 4"	M-120832	M-120843
5	GATE 4" ELEC. NICKEL PLATED 4130		M-120343
6	STEM NUT 4"	M-120232	M-120243
7	WEAR PLATE 4"	M-121123	M-121143
8	GATE 4" SS316	M-120323	M-120235

MODEL 72 ASSEMBLY PART NUMBER



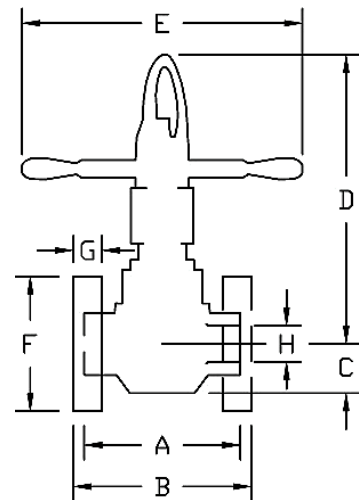
The MKP Model 72 gate valve is designed for easy operation and long life before maintenance is required.

The valve is hydrostatically tested after assembly per API-6D requirements.

With removable body subs and split bonnet design, field repair is simple and quick with no timing of the gate required.

DIMENSIONS & WEIGHTS

		2"	3"	4"
A - Threaded		9	11	13
B - Flanged		11 5/8	15 5/8	18
C - All		3 7/16	4 1/4	4 3/4
D - All		15 13/16	20 9/16	24 1/4
E - All		17 1/4	20	21 1/2
F - Flanged		8 1/2	10 1/2	12 1/2
G - Flanged		1 13/16	2 3/16	2 7/16
H - All, Min. Bore		2	3	4
Weight(lbs)	Threaded	98	188	272
	Flanged	140	254	384



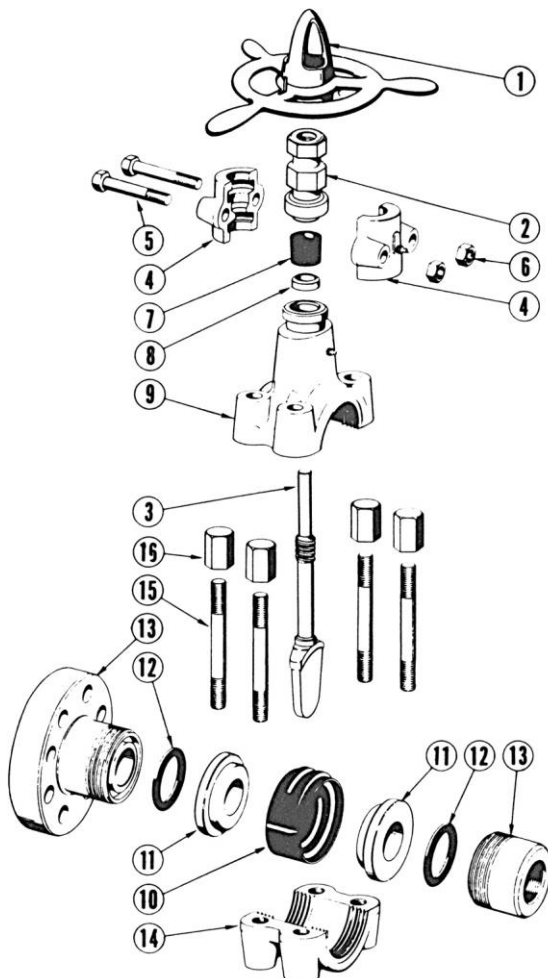
Standard Assemblies				
		5000 WP		
Size		2"	3"	4"
Weld End - Regular Port	Sch.xxH -10x Sch.160 -11x	M-112000-xx	M-113000-xx	M-114000-xx
Gate Packing/Stem Packing/O-Ring	Buna N -xx1 Viton Seat -xx2			
Screwed End - Full Port	LP -20x NUE -21x	M-122000-xxx	M-123000-xxx	M-124000
Gate Packing/Stem Packing/O-Ring	Buna N -xx1 Viton Seat -xx2			
Flanged End	Raised Race -30x RTJ -31x	M-132000-xxx	M-133000-xxx	M-134000-xxx
Gate Packing/Stem Packing/O-Ring	Buna N -xx1 Viton Seat -xx2			

MODEL 72 PARTS LIST 2", 3", 4" - 5000 WP

Field repair is simple with cost kept to a minimum. The valve features replaceable body subs that eliminate the expense of replacing valve bodies when connections can no longer be used.

The full rising one-piece stainless steel gate and stem is machined with heavy-duty, small pitch threads assembled with a durable ball bearing that makes for quick and smooth operation.

The oversized handwheel allows for tight shut-offs with the stem visible to show the user the gate position at a glance.



REF	DESCRIPTION	5000 WP		
		2"	3"	4"
1	Handwheel	M-120132	M-120142	M-120143
2	Stem Nut	M-120232	M-120242	M-120243
3	Gate Stainless Steel	M-120323	M-120333	M-120235
4	Split Bonnet Assembly	M-120432	M-120442	M-120443
5	Bonnet Bolt	M-120532	M-120542	M-120543
6	Bonnet Nut	M-120623	M-120623	M-120623
7	Stem Packing Buna N -1 Viton -2	M-120732-x	M-120742-x	M-120743-x
8	Stem Packing Ring	M-120832	M-120842	M-120843
9	Valve Body	M-120925	M-120935	M-120945
10	Gate Packing Buna N -1 Viton -2	M-121023-x	M-121033-x	M-121043-x
11	Wear Plate Stainless Steel	M-121123	M-121133	M-121143
12	O-Ring Buna N -1 Viton -2	M-121223-x	M-121233-x	M-121243-x
13	Thread Body Sub Regular Port - Weld Sch.xxH -10 Sch.160 -11 Full Port Screwed LP -20 NUE -21 Flanged Raised Face -30 RTJ -31	M-121323-xx	M-121333-xx	M-121343-xx
14	Body Cap	M-121425	M-121435	M-121445
15	Body Stud Bolt	M-121525	M-121535	M-121545
16	Body Stud Nut	M-121625	M-121635	M-121645