CAMERON
A Schlumberger Company



G4N Gate Valves

Through-conduit, double block-and-bleed slab gate valves with fully protected seat faces for long-lasting, drop-tight shutoff in liquid pipelines

Contents

General information 3
Standard design features 4
Optional features 5
Special applications 7
Material specifications 8
Valve assembly 9

Dimensions and weights

ASME Class 150 10
ASME Class 300 11
ASME Class 600 12
ASME Class 900 13
ASME Class 1500 14

Services for valves and actuation 15

General Information

Applications

- Pipeline main valves
- Manifolds
- Storage tanks
- Pig launchers and receivers
- Station valves
- Oil and gas transmission
- Distribution industry

Product Range

Size, in [mm]	ASME Class					
	150	300	400	600	900	1500
4 [100]	●	●	●	●	●	●
6 [150]	●	●	●	●	●	●
8 [200]	●	●	●	●	●	●
10 [250]	●	●	●	●	●	●
12 [300]	●	●	●	●	●	●
14 [350]	●	●	●	●	●	●
16 [400]	●	●	●	●	●	●
18 [450]	●	●	●	●	●	●
20 [500]	●	●	●	●	●	●
22 [550]	●	●	●	●	●	●
24 [600]	●	●	●	●	●	●
26 [650]	●	●	●	●	●	
28 [700]	●	●	●	●	●	
30 [750]	●	●	●	●	●	
32 [800]	●	●	●	●	●	
34 [850]	●	●	●	●	●	
36 [900]	●	●	●	●	●	
38 [950]	●	●	●	●		
40 [1,000]	●	●	●	●		
42 [1,050]	●	●	●	●		
48 [1,200]	●	●	●	●		
54 [1,300]	●	●	●	●		
58 [1,450]	●	●	●	●		
60 [1,500]	●	●	●	●		

Standard design features

- Stem seals with self-energized nonrolling lip seals
- No side load and friction drag on the stem—low operating thrust
- Stem protector and gate position indicator
- Through-conduit, self-cleaning, floating slab gate
- Floating seat always in contact with the gate
- Metal-to-metal primary seal; protected O-ring secondary seal
- Block-and-bleed and double block-and-bleed design
- Top-entry body for inline maintenance
- API Spec 6D standard
- Fabricated body construction
- Flexible product design arrangements

Optional features

- Built-in sealant injection system for emergency sealing
- Reverse-acting gate
- Graphite packing fire-safe sealing
- Outside screw and yoke (OS&Y) bonnet design
- Back seat
- Seat skirts for dirty fluid application
- Metal-to-metal with tungsten carbide coating (TCC)

Standard Design Features

Valve construction

The G4N gate valve in the portfolio of GROVE* valves is fabricated of welded steel plates and forged rolled ends. As the size and the pressure class increases, the valve body is reinforced with multiple welded ribs. The pressure-containing plates are sandblasted and ultrasonically inspected.

Various welding procedures are available based on material, thickness, and joint requirements from welding personnel qualified to ASME Section IX.

Nondestructive magnetic and ultrasonic inspections of the welding are performed per ASME Section VIII Division 1 Approved VI/XII.

Seat construction

Both the gate and the seats are floating parts. The initial seal, at extremely low differential pressure, is obtained by a series of springs behind the seats pushing against the gate.

When the gate is closed, the forces derived from upstream working pressure push the gate tightly against the downstream seats. This results in upstream and downstream bubble-tight seals that work independently under all pressure conditions.

When the gate is open, the unbalanced pressure principal ensures that both upstream and downstream seats are forced against the gate, resulting in a through-conduit port without access to the line and the body cavity.

Sealing is performed by both a primary and a secondary metal-to-metal seal protected O-ring seal.

Self-relieving features

The seat design features an automatic internal body relief for protection against overpressure in the body cavity. The overpressure, higher than the upstream line pressure, overcomes the piston force to move the seat away from the gate.

Block-and-bleed and double block-and-bleed design

G4N gate valves are ideally suited for services requiring block-and-bleed or double block-and-bleed designs.

The valve's bubble-tight independent upstream and independent downstream seal design permits venting and draining of the line fluids from the body cavity. Additionally, small body cavities permit rapid drainage.

Body drain

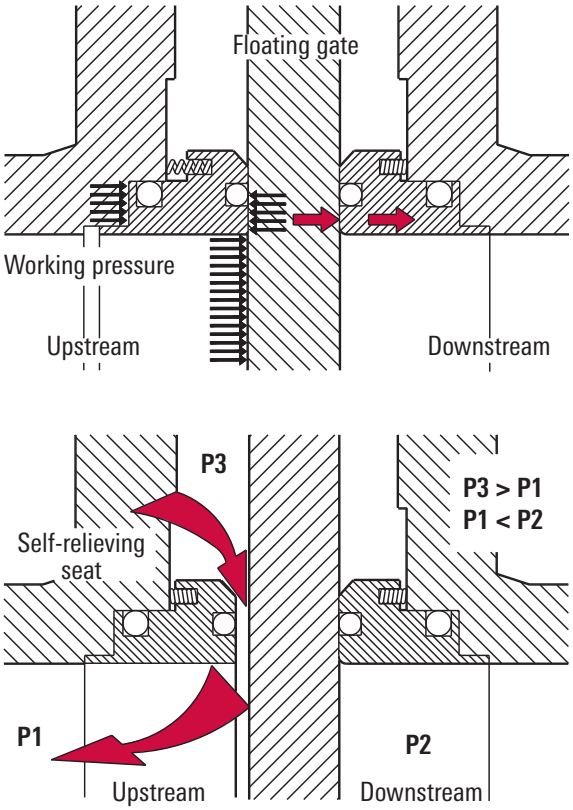
The body drain is located in the lowest part of the side point of the body cavity, and it is achieved by means of an NPT drain valve with safety plug.

A ½-in NPT bonnet plug allows for the possibility of flushing through the bonnet and drain.

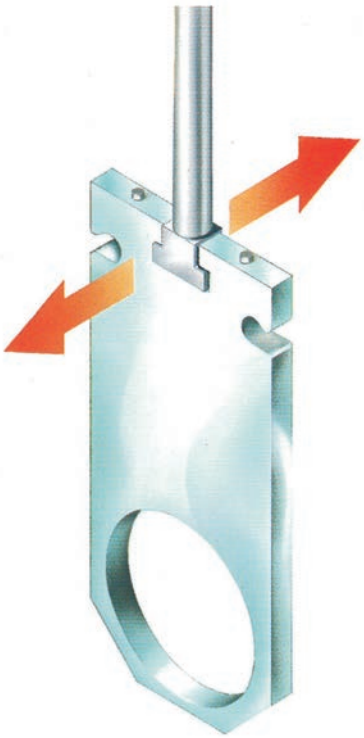
Stem and gate construction

The slab gate is aligned between the two floating seats. The stem and gate connection allows the gate to float, which allows compensation for pipe movement and stresses in the pipeline.

Mechanical stops can be used to adjust the vertical alignment of the gate port and the seats. A visible gate-position indicator rod and a stem protector are provided as a standard feature on handwheel-, gearbox-, and motor-operated valves.



Self-relieving feature.



Floating gate-stem connection.

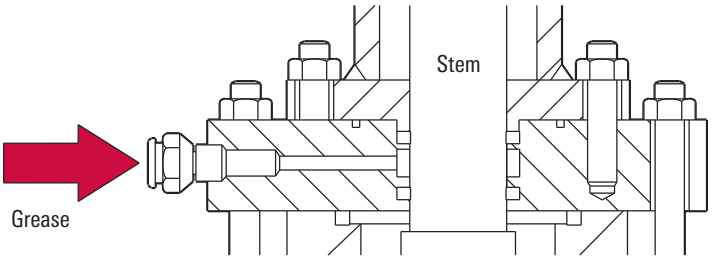
Stem seals
The stem is sealed with a primary and secondary ring energized lip seal made from abrasion-resistant material in a nonrolling configuration with provisions for emergency sealant injection between them.

Internal coating
Internal trim parts (gate, seats, and stem) usually are electroless nickel plated (ENP). The chemical process provides corrosion-resistance and low wear to the parts during operation. Depending on the type of the fluid, a variety of corrosion-resistant and hard overlays can be applied in the critical sealing areas.

Maintenance
The G4N top-entry gate valve is designed to be inline repairable. The complete disassembly of the yoke and bonnet can be achieved after line depressurization without removing the gate from the seats. In this case, the stem gaskets and the body bonnet O-ring can be replaced.

Using a simple wedge tool, the gate can be disengaged from the seats and all these parts can be disassembled, checked, and eventually replaced, if necessary.

The valves are equipped with handling devices, including lifting lugs and eyebolts.

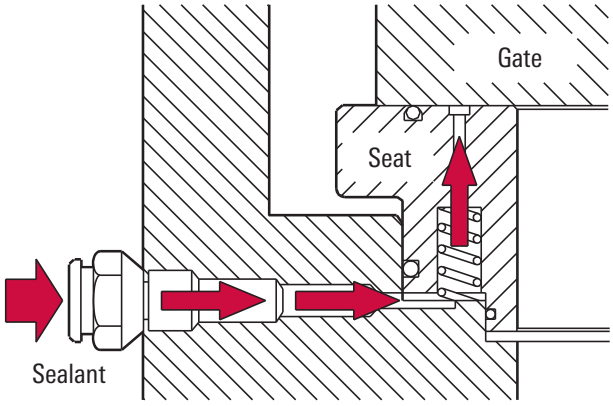


Bonnet-stem seal arrangement showing provision for lubricant or sealant injection.

Optional Features

Transition pieces
Transition pieces can be welded to the valve during the manufacturing process based on customer specifications or with engineering consultancy from a dedicated Cameron engineering team.

Emergency seat seal
All G4N gate valves are designed to not require sealants; however, if the metal-to-metal primary seal and the secondary O-ring seal are damaged, an emergency shutoff can be obtained with a sealant injected into an optional, specially designed groove in the seat ring assembly.



Emergency seat seal.

Stem extensions

G4N gate valves can be provided with optional stem extensions to permit buried or underground installations in remote or inaccessible areas.

When used for buried valve service, the valves can be furnished water tight, and the piping of the vent, drain, and grease injection system will be extended. When ordering extensions, please specify the distance required from the valve centerline to the handwheel centerline.

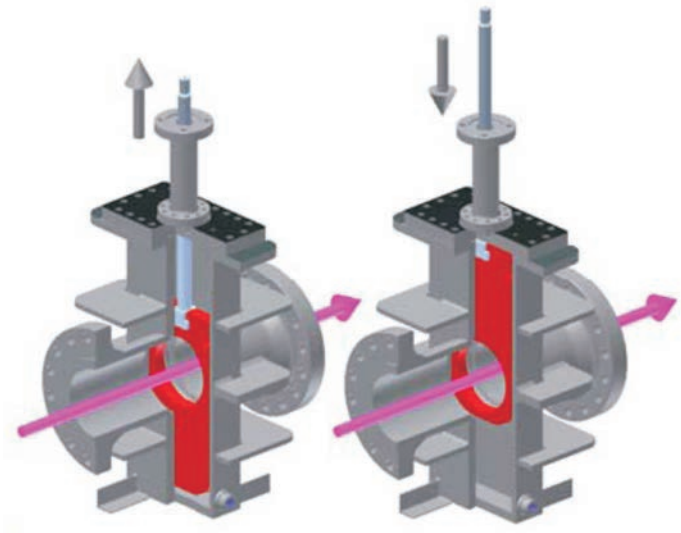
Reverse-acting gate design for fail-to-close applications

If the valve normally is open and fail-to-close is required, the valve can be supplied as reverse acting (gate moves upward to close).

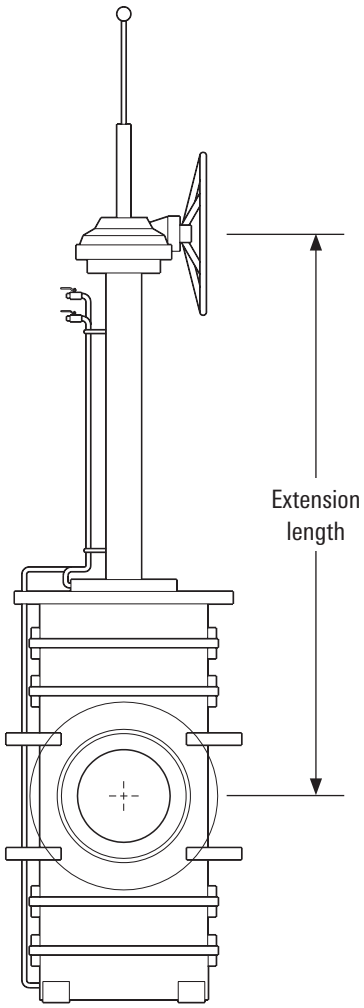
Normal-acting gate design for fail-to-open applications

If the valve normally is closed and fail-to-open is required, the valve can be supplied as normal acting (gate moves upward to open) with a special seat design, where the pressure in the body cavity allows the valve to easily open on demand.

The special seat design for this application maintains the bidirectionality of the valve to avoid installation mistakes.



Reverse acting. *Normal acting.*



Stem, packing, and drain extension.

Seat skirts for dirty fluid application

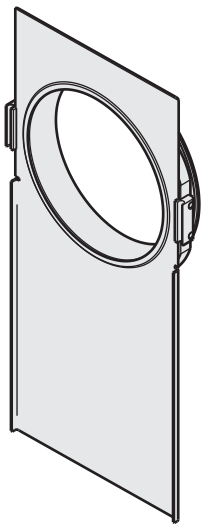
G4N gate valves can be supplied with protection skirts when the valves are used in dirty fluid applications. This feature is applicable to both the normal- and the reverse-acting design.

Because of the skirt design, a simple wedge tool can be used to disassemble and reassemble the seats.

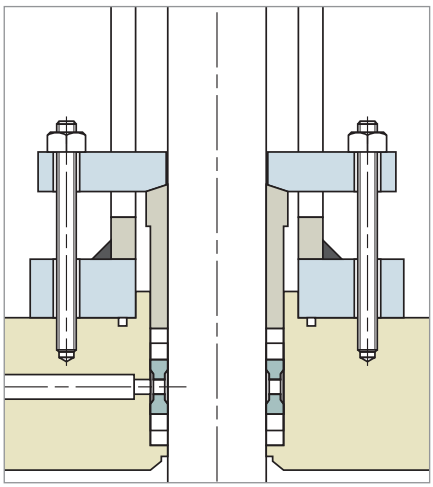
OS&Y bonnet and back seat

G4N gate valves can be supplied with an OS&Y bonnet and back seat.

This bonnet design incorporates the stem sealing injection system with a lantern ring in the middle of the stem graphite packing.



Optional full length seat skirts.



OS&Y bonnet and back seat.

Special Applications

Vertical installation

G4N gate valves can be designed for vertical installation in pipelines.

The valve is supplied together with special equipment that permits the gate and the seats to be removed while being supported during lateral disassembly.

Metal-seated gate valves

Metal-seated options are available for a variety of applications, including

- abrasive fluids
- service temperatures over the pressure or temperature ratings of the soft-seat insert materials
- service conditions requiring full reliability such as emergency shutdown valves.

Plating and coating technologies

A range of plating and coating materials is available to suit specific service requirements for metal-seated gate valves.

- Tungsten carbide powders applied with high-velocity spray systems can be applied in house.
- Depending on service conditions, ENP can be applied in the hard version, corresponding to ASTM B733 SC4 Type III, Class 2 NIP 1275.
- Our ENP process has been specially developed for valve applications and is applied using an in-house plating facility.
- Qualification testing can be performed at third-party or in-house facilities.





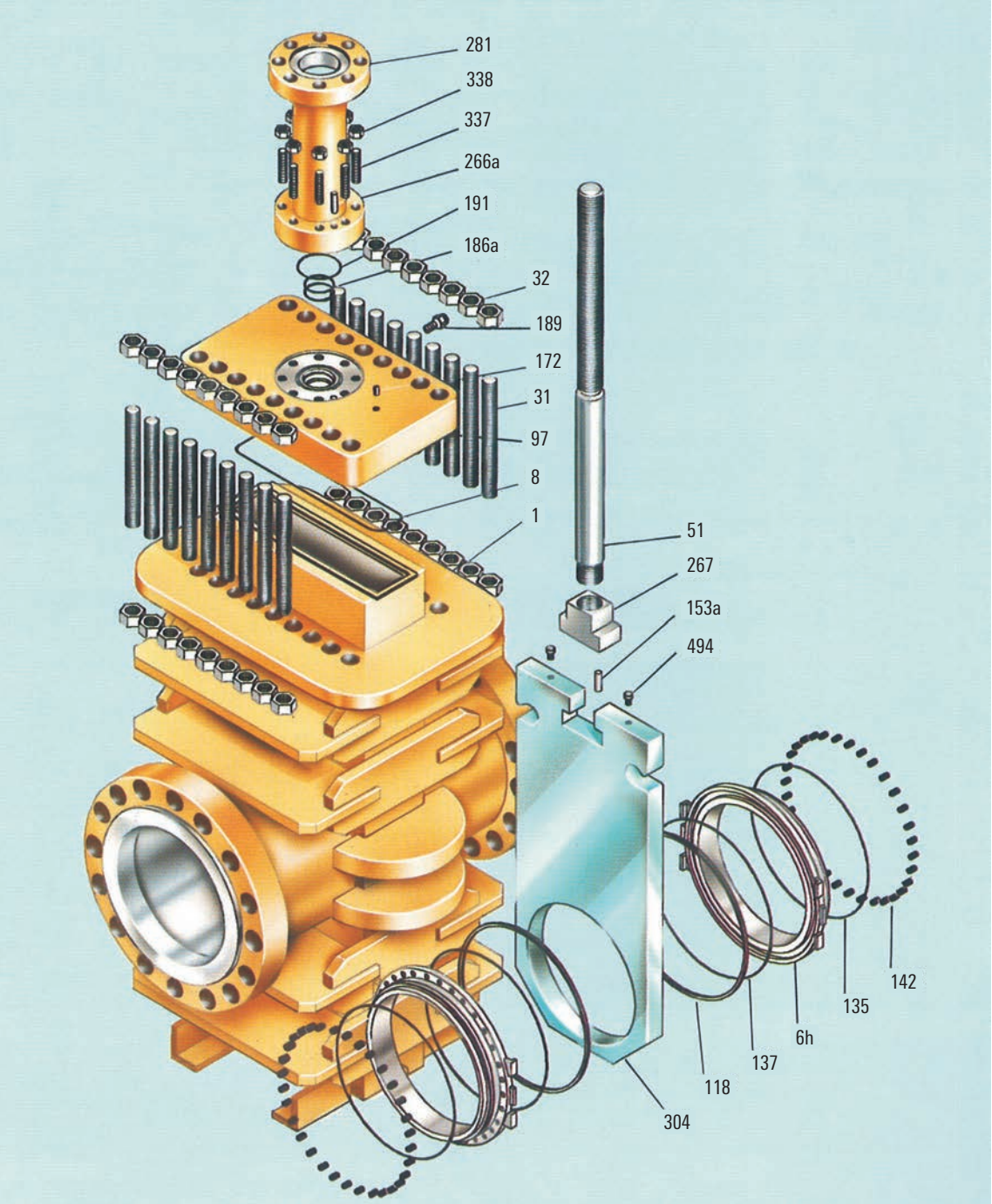
Material Specifications

Materials selection

The following is a typical listing of materials for ASME Classes 150 to 1500 valves for standard applications.

Standard Models and Materials	
Body	EN 10025 Grade Fe-510 EN 10028 Grade P355NL2
Bonnet	EN 10025 Grade Fe-510 EN 10028 Grade P355NL2
Stem	AISI 4140 (electroless nickel plating [ENP])
Bolting	A193 B7, A194 2H, A193 B7M, A194 2HM A320 L7, A194 Grade 7, A320 L7M, A194 Grade 7M
Internal Parts	
Gate	EN 10025 Grade Fe-510 EN 10028 Grade P355NL2
Seats	A105, A350 LF2
Springs	AISI 302, INCONEL® (different grades), Elgiloy®
Sealing Materials	
Stem gaskets	Nitrile rubber FKM fluoroelastomer (Viton® different grades) Hydrogenated nitrile rubber Graphite packing (for OS&Y bonnet)
Seat and bonnet gaskets	Nitrile rubber FKM fluoroelastomer (Viton different grades) Hydrogenated nitrile rubber
Plating and Coating	
0.001 in	25 um ENP
0.003 in	75 um ENP
NACE Requirements	
On request	G4N gate valves are supplied fully in accordance with NACE MR0175

Valve Assembly



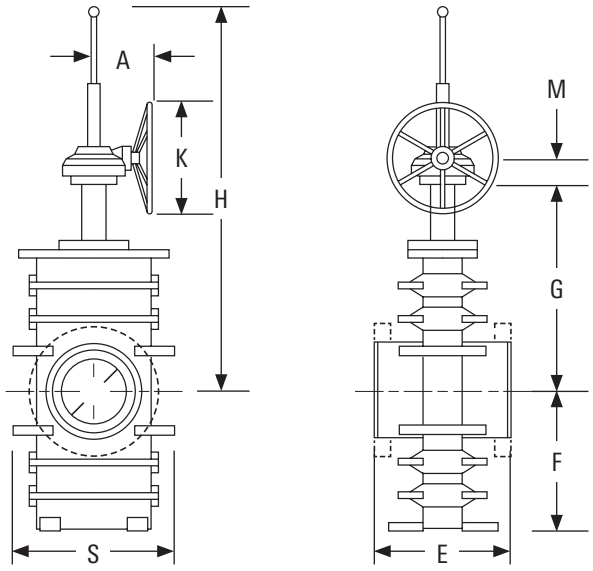
Item	Description
1	Body
5l	Stem
6h	Seat
8	Body O-ring
31	Body stud
32	Body stud nut
97	Bonnet
118	Seat ring
135	Seat gasket O-ring
137	Seal O-ring
142	Cylindrical spring

153a	Driver safety pin
172	Vent plug
186a	Stem seal gasket
189	Stem grease fitting
191	Lower-extension O-ring
266b	Adapter plate stop spring pin
267	Stem head
281	Yoke unit
304	Gate
337	Yoke stud
338	Yoke stud nut
494	Adjusting screw

Dimensions and Weights

ASME Class 150 Sizes 4–60 in [100–1,500 mm]

Larger on request. Reduced-bore valves are also available.

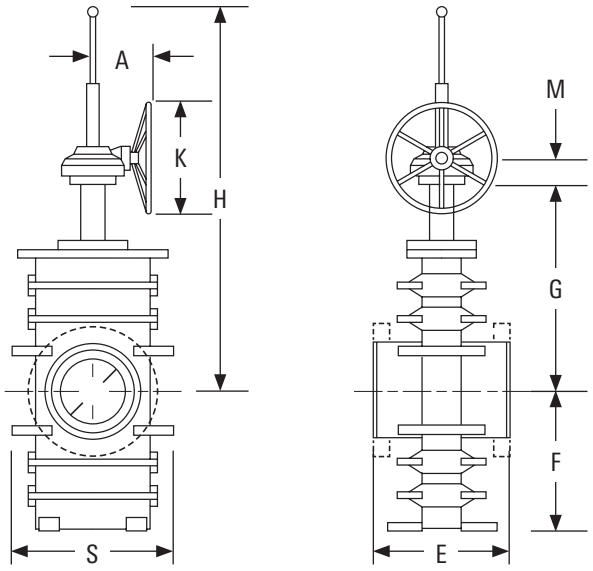


Size, in [mm]	D	E			F	G	S	H	A	K	M	Weight, lbm [kg]	
		WE	RF	RTJ								WE	RF/RTJ
4 [100]	4 [102]	12 [305]	9 [229]	9½ [241]	10½ [267]	20¼ [514]	9⅛ [232]	35½ [901]	7⅞ [200]	11¾ [300]	2¼ [56]	198 [90]	220 [100]
6 [150]	6 [152]	15⅞ [403]	10½ [267]	11 [279]	13⅜ [339]	24⅞ [631]	11⅜ [288]	43½ [1,104]	7⅞ [200]	11¾ [300]	2¼ [56]	397 [180]	441 [200]
8 [200]	8 [203]	16½ [419]	11½ [292]	12 [305]	16½ [420]	31½ [799]	13⅛ [334]	54⅜ [1,380]	7⅞ [200]	11¾ [300]	2¼ [56]	694 [315]	772 [350]
10 [250]	10 [254]	18 [457]	13 [330]	13½ [343]	19⅝ [499]	37⅜ [950]	15⅝ [396]	64¼ [1,633]	7⅞ [200]	11¾ [300]	2¼ [56]	992 [450]	1,102 [500]
12 [300]	12 [305]	19¾ [502]	14 [356]	14½ [368]	22½ [570]	42½ [1,078]	17⅝ [448]	73½ [1,868]	7⅞ [200]	11¾ [300]	2¼ [56]	1,148 [521]	1,275 [579]
14 [350]	13¼ [337]	22½ [572]	15 [381]	15½ [394]	24⅜ [618]	45⅝ [1,158]	19⅛ [486]	79⅛ [2,009]	7⅞ [200]	11¾ [300]	2¼ [56]	1,786 [810]	1,984 [900]
16 [400]	15¼ [387]	24 [610]	16 [406]	16½ [419]	27⅞ [709]	52⅝ [1,338]	21¾ [554]	90½ [2,299]	7⅞ [200]	11¾ [300]	2¼ [56]	2,021 [917]	2,245 [1,018]
18 [450]	17¼ [438]	26 [660]	17 [432]	17½ [445]	30⅜ [770]	57⅜ [1,456]	26½ [672]	99⅜ [2,525]	7⅞ [200]	11¾ [300]	2¼ [56]	2,976 [1,350]	3,307 [1,500]
20 [500]	19¼ [489]	28 [711]	18 [457]	18½ [470]	33⅜ [847]	61⅞ [1,571]	28⅜ [720]	108¼ [2,748]	7⅞ [200]	11¾ [300]	2¼ [56]	3,571 [1,620]	3,968 [1,800]
22 [550]	21¼ [540]	—†	—†	—†	37¾ [960]	70¾ [1,796]	35⅜ [900]	122½ [3,110]	8⅝ [220]	19⅝ [500]	2⅞ [74]	4,365 [1,980]	4,850 [2,200]
24 [600]	23¼ [591]	32 [813]	20 [508]	20½ [521]	40⅜ [1,026]	73⅛ [1,858]	39⅝ [1,005]	128¾ [3,269]	8⅝ [220]	19⅝ [500]	2⅞ [74]	5,159 [2,340]	5,732 [2,600]
26 [650]	25 [635]	34 [864]	22 [559]	—†	44⅛ [1,120]	81⅞ [2,081]	45¼ [1,150]	141⅜ [3,590]	8⅝ [220]	19⅝ [500]	2⅞ [74]	5,952 [2,700]	6,614 [3,000]
28 [700]	27 [686]	36 [914]	24 [610]	—†	47¼ [1,199]	85⅝ [2,175]	50⅞ [1,292]	150¼ [3,817]	9½ [241]	19⅝ [500]	3⅝ [92]	6,944 [3,150]	7,716 [3,500]
30 [750]	29 [737]	36 [914]	26 [660]	—†	50⅜ [1,280]	90¾ [2,306]	54½ [1,384]	159⅝ [4,056]	9½ [241]	19⅝ [500]	3⅝ [92]	7,937 [3,600]	8,818 [4,000]
32 [800]	30¾ [781]	38 [965]	28 [711]	—†	53 [1,345]	98 [2,488]	57½ [1,460]	170⅞ [4,340]	12⅝ [320]	19⅝ [500]	4 [102]	9,127 [4,140]	1,0141 [4,600]
34 [850]	32¾ [832]	40 [1,016]	30 [762]	—†	55⅞ [1,420]	103¼ [2,623]	60⅝ [1,540]	180⅛ [4,575]	12⅝ [320]	19⅝ [500]	4 [102]	10,318 [4,680]	11,464 [5,200]
36 [900]	34½ [876]	40 [1,016]	32 [813]	—†	58⅞ [1,495]	107½ [2,730]	65 [1,652]	188¼ [4,783]	12⅝ [320]	19⅝ [500]	4 [102]	11,250 [5,103]	12,500 [5,670]
38 [950]	36½ [927]	—†	—†	—†	62¼ [1,580]	115⅛ [2,923]	66½ [1,690]	199¾ [5,075]	12⅝ [320]	19⅝ [500]	4 [102]	12,500 [5,670]	13,889 [6,300]
40 [1,000]	38½ [978]	—†	—†	—†	64½ [1,639]	122 [3,099]	70⅛ [1,780]	210⅛ [5,337]	12⅝ [320]	19⅝ [500]	4 [102]	13,889 [6,300]	15,432 [7,000]
42 [1,050]	40¼ [1,022]	—†	—†	—†	68⅛ [1,730]	125⅜ [3,185]	72½ [1,840]	218½ [5,550]	16⅛ [410]	31½ [800]	4½ [115]	15,278 [6,930]	16,975 [7,700]
48 [1,200]	46 [1,168]	—†	—†	—†	76⅞ [1,953]	140⅞ [3,578]	79⅜ [2,016]	245¼ [6,230]	16⅛ [410]	31½ [800]	4½ [115]	19,643 [8,910]	21,826 [9,900]
54 [1,350]	51¾ [1,314]	—†	—†	—†	86¼ [2,190]	159 [4,040]	91 [2,310]	278 [7,060]	17⅞ [453]	31½ [800]	5⅞ [150]	24,405 [11,070]	27,117 [12,300]
56 [1,400]	53¾ [1,365]	—†	—†	—†	89⅜ [2,270]	164⅝ [4,180]	94⅛ [2,390]	287⅜ [7,300]	17⅞ [453]	31½ [800]	5⅞ [150]	26,191 [11,880]	29,101 [13,200]
60 [1,500]	57½ [1,461]	—†	—†	—†	95½ [2,425]	176 [4,470]	100⅜ [2,550]	306⅞ [7,795]	19⅝ [500]	31½ [800]	6⅛ [155]	29,762 [13,500]	33,069 [15,000]

† Upon request. Flanges up to 24 in, except 22 in, in accordance with ASME B16.5; 22 in and above 24 in in accordance with MSS-SP-44, if applicable.

ASME Class 300 Sizes 4–60 in [100–1,500 mm]

Larger on request. Reduced-bore valves are also available.



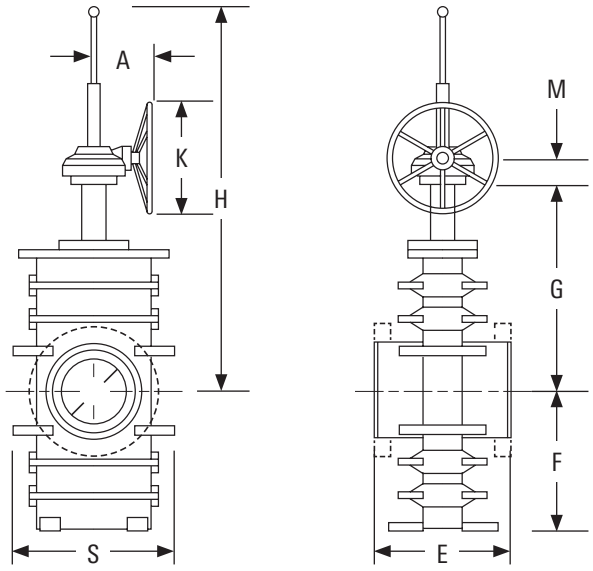
Size, in [mm]	D	E			F	G	S	H	A	K	M	Weight, lbm [kg]	
		WE	RF	RTJ								WE	RF/RTJ
4 [100]	4 [102]	12 [305]	12 [305]	12⅝ [321]	10½ [267]	20¼ [514]	9⅛ [232]	35½ [901]	7⅛ [200]	11¾ [300]	2¼ [56]	198 [90]	220 [100]
6 [150]	6 [152]	15⅞ [403]	15⅞ [403]	16½ [419]	13⅜ [339]	24⅞ [631]	11⅜ [288]	43½ [1,104]	7⅛ [200]	11¾ [300]	2¼ [56]	397 [180]	441 [200]
8 [200]	8 [203]	16½ [419]	16½ [419]	17⅛ [473]	16½ [420]	31½ [799]	13⅛ [334]	54⅜ [1,380]	7⅛ [200]	11¾ [300]	2¼ [56]	694 [315]	772 [350]
10 [250]	10 [254]	18 [457]	18 [457]	18⅝ [473]	19⅝ [499]	37⅜ [950]	15⅝ [396]	64¼ [1,633]	7⅛ [200]	11¾ [300]	2¼ [56]	992 [450]	1,102 [500]
12 [300]	12 [305]	19¾ [502]	19¾ [502]	20⅜ [518]	22½ [570]	42½ [1,078]	17⅝ [448]	73½ [1,868]	7⅛ [200]	11¾ [300]	2¼ [56]	1,148 [521]	1,275 [579]
14 [350]	13¼ [337]	30 [762]	30 [762]	30⅝ [778]	24⅜ [618]	45⅝ [1,158]	19⅛ [486]	79⅛ [2,009]	7⅛ [200]	11¾ [300]	2¼ [56]	1,786 [810]	1,984 [900]
16 [400]	15¼ [387]	33 [838]	33 [838]	33⅝ [854]	27⅞ [709]	52⅝ [1,338]	21¾ [554]	90½ [2,299]	7⅛ [200]	11¾ [300]	2¼ [56]	2,021 [917]	2,245 [1,018]
18 [450]	17¼ [438]	36 [914]	36 [930]	30⅞ [930]	30⅜ [770]	57⅜ [1,456]	26½ [672]	99⅜ [2,525]	7⅛ [200]	11¾ [300]	2¼ [56]	2,976 [1,350]	3,307 [1,500]
20 [500]	19¼ [489]	39 [991]	39 [991]	39¾ [1,010]	33⅜ [847]	61⅞ [1,571]	28⅜ [720]	108¼ [2,748]	7⅛ [200]	11¾ [300]	2¼ [56]	3,571 [1,620]	3,968 [1,800]
22 [550]	21¼ [540]	43 [1,092]	43 [1,092]	43⅞ [1,114]	37¾ [960]	70¾ [1,796]	35⅜ [900]	122½ [3,110]	8⅝ [220]	19⅝ [500]	2⅞ [74]	4,365 [1,980]	4,850 [2,200]
24 [600]	23¼ [591]	45 [1,143]	45 [1,143]	45⅞ [1,165]	40⅜ [1,026]	73⅛ [1,858]	39⅝ [1,005]	128¾ [3,269]	8⅝ [220]	19⅝ [500]	2⅞ [74]	5,159 [2,340]	5,732 [2,600]
26 [650]	25 [635]	49 [1,245]	49 [1,245]	50 [1,270]	44⅛ [1,120]	81⅞ [2,081]	45¼ [1,150]	141⅜ [3,590]	8⅝ [220]	19⅝ [500]	2⅞ [74]	5,952 [2,700]	6,614 [3,000]
28 [700]	27 [686]	53 [1,346]	53 [1,346]	54 [1,372]	47¼ [1,199]	85⅝ [2,175]	50⅞ [1,292]	150¼ [3,817]	9½ [241]	19⅝ [500]	3⅝ [92]	6,944 [3,150]	7,716 [3,500]
30 [750]	29 [737]	55 [1,397]	55 [1,397]	56 [1,422]	50⅜ [1,280]	90¾ [2,306]	54½ [1,384]	159⅝ [4,056]	9½ [241]	19⅝ [500]	3⅝ [92]	7,937 [3,600]	8,818 [4,000]
32 [800]	30¾ [781]	60 [1,524]	60 [1,524]	61⅛ [1,553]	53 [1,345]	98 [2,488]	57½ [1,460]	170⅞ [4,340]	12⅝ [320]	19⅝ [500]	4 [102]	9,127 [4,140]	1,0141 [4,600]
34 [850]	32¾ [832]	64 [1,626]	64 [1,626]	65⅛ [1,654]	55⅞ [1,420]	103¼ [2,623]	60⅝ [1,540]	180⅛ [4,575]	12⅝ [320]	19⅝ [500]	4 [102]	10,318 [4,680]	11,464 [5,200]
36 [900]	34½ [876]	68 [1,727]	68 [1,727]	69⅛ [1,756]	58⅞ [1,495]	107½ [2,730]	65 [1,652]	188¼ [4,783]	12⅝ [320]	19⅝ [500]	4 [102]	11,250 [5,103]	12,500 [5,670]
38 [950]	36½ [927]	–†	–†	–†	62¼ [1,580]	115⅛ [2,923]	66½ [1,690]	199¾ [5,075]	12⅝ [320]	19⅝ [500]	4 [102]	12,500 [5,670]	13,889 [6,300]
40 [1,000]	38½ [978]	76 [1,931]	76 [1,931]	–†	64½ [1,639]	122 [3,099]	70⅛ [1,780]	210⅛ [5,337]	12⅝ [320]	19⅝ [500]	4 [102]	13,889 [6,300]	15,432 [7,000]
42 [1,050]	40¼ [1,022]	–†	–†	–†	68⅛ [1,730]	125⅜ [3,185]	72½ [1,840]	218½ [5,550]	16⅛ [410]	31½ [800]	4½ [115]	15,278 [6,930]	16,975 [7,700]
48 [1,200]	46 [1,168]	90 [2,286]	90 [2,286]	–†	76⅞ [1,953]	140⅞ [3,578]	79⅜ [2,016]	245¼ [6,230]	16⅛ [410]	31½ [800]	4½ [115]	19,643 [8,910]	21,826 [9,900]
54 [1,350]	51¾ [1,314]	–†	–†	–†	86¼ [2,190]	159 [4,040]	91 [2,310]	278 [7,060]	17⅞ [453]	31½ [800]	5⅞ [150]	24,405 [11,070]	27,117 [12,300]
56 [1,400]	53¾ [1,365]	–†	–†	–†	89⅜ [2,270]	164⅝ [4,180]	94⅛ [2,390]	287⅞ [7,300]	17⅞ [453]	31½ [800]	5⅞ [150]	26,191 [11,880]	29,101 [13,200]
60 [1,500]	57½ [1,461]	–†	–†	–†	95½ [2,425]	176 [4,470]	100⅜ [2,550]	306⅞ [7,795]	19⅝ [500]	31½ [800]	6⅛ [155]	29,762 [13,500]	33,069 [15,000]

† Upon request. Flanges up to 24 in, except 22 in, in accordance with ASME B16.5; 22 in and above 24 in in accordance with MSS-SP-44, if applicable.

Shaded Dimensions in accordance to ISO 14313

ASME Class 600 Sizes 4–60 in [100–1,500 mm]

Larger on request. Reduced-bore valves also are available.

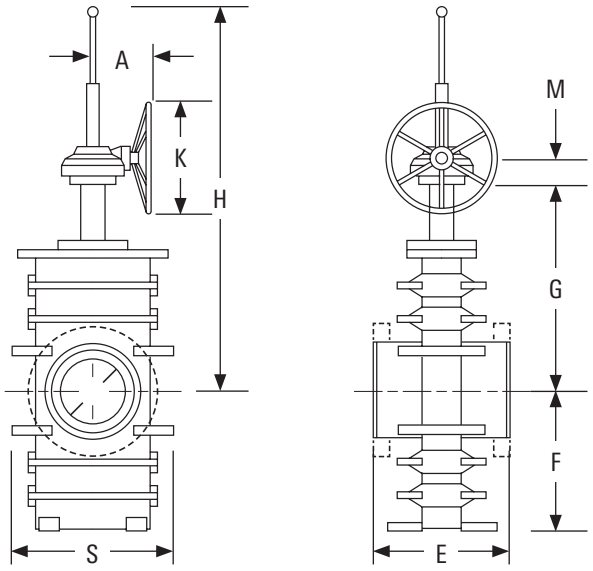


Size, in [mm]	D	E			F	G	S	H	A	K	M	Weight, lbm [kg]	
		WE	RF	RTJ								WE	RF/RTJ
4 [100]	4 [102]	17 [432]	17 [432]	17⅛ [435]	10⅞ [277]	20⅝ [524]	9½ [242]	35⅞ [911]	7⅞ [200]	11¾ [300]	2¼ [56]	595 [270]	661 [300]
6 [150]	6 [152]	22 [559]	22 [559]	22⅛ [562]	13⅜ [339]	25¾ [654]	14⅛ [358]	44⅜ [1,126]	7⅞ [200]	11¾ [300]	2¼ [56]	683 [310]	844 [380]
8 [200]	8 [203]	26 [660]	26 [660]	26⅛ [664]	16½ [420]	32⅜ [822]	16¼ [414]	55⅜ [1,405]	7⅞ [200]	11¾ [300]	2¼ [56]	1,162 [527]	1,119 [508]
10 [250]	10 [254]	31 [787]	31 [787]	31⅛ [791]	19⅝ [499]	37¾ [960]	21½ [546]	65½ [1,663]	8⅞ [225]	19¾ [300]	2¼ [56]	1,786 [810]	1,984 [900]
12 [300]	12 [305]	33 [838]	33 [838]	33⅛ [841]	22½ [570]	43¾ [1,111]	25⅜ [644]	75⅝ [1,921]	8⅞ [225]	19¾ [500]	2¼ [56]	2,519 [1,143]	2,646 [1,200]
14 [350]	13¼ [337]	35 [889]	35 [889]	35⅛ [892]	24⅜ [618]	46¼ [1,176]	28⅛ [714]	81⅛ [2,062]	9⅞ [241]	19¾ [500]	3¼ [74]	2,698 [1,224]	2,998 [1,360]
16 [400]	15¼ [387]	39 [991]	39 [991]	39⅛ [994]	27⅞ [709]	52⅜ [1,329]	31⅝ [802]	91⅞ [2,333]	12⅞ [320]	19¾ [500]	4¼ [108]	4,474 [2,030]	4,971 [2,255]
18 [450]	17¼ [438]	43 [1,092]	43 [1,092]	43½ [1,095]	31⅛ [789]	58⅜ [1,484]	34¾ [882]	102⅝ [2,601]	12⅞ [320]	19¾ [500]	4¼ [108]	5,754 [2,610]	6,393 [2,900]
20 [500]	19¼ [489]	47 [1,194]	47 [1,194]	47¼ [1,200]	34⅛ [866]	65 [1,652]	38⅞ [980]	113⅜ [2,879]	12⅞ [320]	19¾ [500]	4¼ [108]	7,341 [3,330]	8,157 [3,700]
22 [550]	21¼ [540]	51 [1,295]	51 [1,295]	51⅜ [1,305]	38⅜ [974]	73⅜ [1,863]	41¼ [1,065]	126½ [3,212]	16⅝ [410]	31⅝ [803]	4⅞ [124]	8,929 [4,050]	9,921 [4,500]
24 [600]	23¼ [591]	55 [1,397]	55 [1,397]	55⅜ [1,407]	41⅜ [1,051]	78⅝ [1,997]	46¼ [1,174]	136 [3,454]	16⅝ [410]	31⅝ [803]	4⅞ [124]	9,700 [4,400]	11,067 [5,020]
26 [650]	25 [635]	57 [1,448]	57 [1,448]	57½ [1,461]	44¾ [1,138]	83⅞ [2,130]	50¼ [1,276]	146¾ [3,729]	17⅝ [453]	31⅝ [803]	5⅞ [149]	13,115 [5,949]	14,572 [6,610]
28 [700]	27 [686]	61 [1,549]	61 [1,549]	61½ [1,582]	48 [1,219]	88¼ [2,241]	53⅞ [1,370]	155 [3,938]	17½ [453]	31⅝ [803]	5⅝ [143]	14,881 [6,750]	16,535 [7,500]
30 [750]	29 [737]	65 [1,651]	65 [1,651]	65½ [1,654]	51⅜ [1,305]	93⅞ [2,383]	57⅞ [1,469]	165⅛ [4,193]	19½ [500]	31⅝ [803]	6⅝ [168]	17,262 [7,830]	19,180 [8,700]
32 [800]	30¾ [781]	70 [1,778]	70 [1,778]	70⅝ [1,794]	54⅛ [1,375]	100⅜ [2,550]	60 [1,525]	175⅜ [4,455]	19⅝ [500]	31⅝ [803]	6 [152]	19,841 [9,000]	22,046 [10,000]
34 [850]	32¾ [832]	76 [1,930]	76 [1,930]	76⅝ [1,946]	57⅛ [1,450]	106⅞ [2,715]	63⅝ [1,615]	186 [4,725]	19⅝ [500]	31⅝ [803]	6 [152]	22,818 [10,350]	25,353 [11,500]
36 [900]	34½ [876]	82 [2,083]	82 [2,083]	82⅝ [2,099]	60¼ [1,530]	110⅞ [2,815]	68¼ [1,732]	195¼ [4,971]	20⅝ [660]	31⅝ [803]	8 [203]	25,992 [11,790]	28,880 [13,100]
38 [950]	36½ [927]	–†	–†	–†	63 [1,600]	116½ [2,960]	70⅞ [1,800]	206¼ [5,250]	26⅝ [660]	31⅝ [803]	8 [203]	29,762 [13,500]	33,069 [15,000]
40 [1,000]	38½ [978]	–†	–†	–†	66⅛ [1,680]	122¼ [3,105]	74 [1,880]	215⅜ [5,470]	26⅝ [660]	31⅝ [803]	8 [203]	33,730 [15,300]	37,478 [17,000]
42 [1,050]	40¼ [1,022]	96 [2,439]	96 [2,439]	96⅝ [2,455]	69⅝ [1,770]	128¾ [3,270]	77⅛ [1,958]	225⅜ [5,725]	—	—	—	37,639 [17,073]	41,821 [18,970]
48 [1,200]	46 [1,168]	–†	–†	–†	78¾ [2,000]	145⅝ [3,700]	88¼ [2,240]	255⅛ [6,480]	—	—	—	52,580 [23,850]	58,422 [26,500]
54 [1,350]	51¾ [1,314]	–†	–†	–†	87¾ [2,230]	163⅜ [4,150]	99 [2,515]	285⅞ [7,260]	—	—	—	71,627 [32,490]	79,586 [36,100]
56 [1,400]	53¾ [1,365]	–†	–†	–†	91⅛ [2,315]	168½ [4,280]	102⅜ [2,600]	295⅝ [7,510]	—	—	—	79,366 [36,000]	88,184 [40,000]
60 [1,500]	57½ [1,461]	–†	–†	–†	97½ [2,475]	179⅞ [4,570]	109½ [2,780]	315 [8,000]	—	—	—	97,223 [44,100]	108,025 [49,000]
60 [1,500]	57½ [1,461]	–†	–†	–†	95½ [2,425]	176 [4,470]	100⅜ [2,550]	306⅞ [7,795]	19⅝ [500]	31½ [800]	6⅛ [155]	29,762 [13,500]	33,069 [15,000]

† Upon request. Flanges up to 24 in, except 22 in, in accordance with ASME B16.5; 22 in and above 24 in in accordance with MSS-SP-44, if applicable.

ASME Class 900 Sizes 4–36 in [100–900 mm]

Larger on request. Reduced-bore valves are also available.

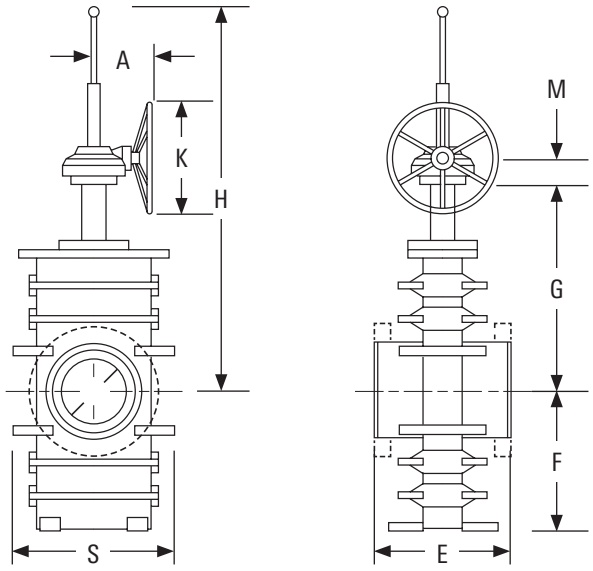


Size, in [mm]	D	E			F	G	S	H	A	K	M	Weight, lbm [kg]	
		WE	RF	RTJ								WE	RF/RTJ
4 [100]	4 [102]	18 [457]	18 [457]	18⅛ [460]	11⅛ [282]	21¼ [539]	10⅜ [262]	36⅜ [924]	7⅞ [200]	11¾ [300]	2¼ [57]	1,026 [466]	1,080 [490]
6 [150]	6 [152]	24 [610]	24 [610]	24⅛ [613]	13½ [344]	25⅞ [657]	17¾ [450]	44½ [1,129]	7⅞ [200]	11¾ [300]	2¼ [57]	1,257 [570]	1,323 [600]
8 [200]	8 [203]	29 [737]	29 [737]	29⅛ [740]	16⅞ [430]	32⅛ [816]	20⅞ [530]	55¾ [1,417]	8⅝ [220]	19⅝ [500]	2⅞ [73]	1,675 [760]	1,764 [800]
10 [250]	10 [254]	33 [838]	33 [838]	33⅛ [841]	19¾ [501]	38⅛ [967]	22¼ [566]	66⅜ [1,685]	9½ [241]	19⅝ [500]	3⅝ [92]	2,304 [1,045]	2,425 [1,100]
12 [300]	12 [305]	38 [965]	38 [965]	38⅛ [968]	23 [585]	44¾ [1,136]	26¼ [668]	78 [1,982]	12⅝ [320]	19⅝ [500]	4 [102]	3,142 [1,425]	3,307 [1,500]
14 [350]	12¾ [324]	40½ [1,029]	40½ [1,029]	40⅞ [1,038]	25⅛ [638]	48¼ [1,224]	32 [812]	83⅞ [2,130]	12⅝ [320]	19⅝ [500]	4 [102]	4,189 [1,900]	4,409 [2,000]
16 [400]	14¾ [375]	44½ [1,130]	44½ [1,130]	44⅞ [1,140]	28⅜ [720]	53⅞ [1,370]	34½ [876]	93¾ [2,381]	12⅝ [320]	19⅝ [500]	4 [102]	5,655 [2,565]	5,952 [2,700]
18 [450]	16¾ [425]	48 [1,219]	48 [1,219]	48½ [1,232]	31¾ [806]	61 [1,549]	36¾ [932]	106 [2,693]	16⅛ [410]	31½ [800]	4½ [115]	7,226 [3,278]	7,606 [3,450]
20 [500]	18⅝ [473]	52 [1,321]	52 [1,321]	52½ [1,334]	34⅝ [881]	67⅛ [1,704]	38¾ [984]	116 [2,945]	16⅛ [410]	31½ [800]	4½ [115]	9,370 [4,250]	9,921 [4,500]
22 [550]	20⅝ [524]	–†	–†	–†	38¾ [985]	73¼ [1,860]	44½ [1,130]	128⅛ [3,255]	17⅞ [454]	31½ [800]	5⅞ [150]	11,938 [5,415]	12,566 [5,700]
24 [600]	22½ [572]	61 [1,549]	61 [1,549]	61¾ [1,568]	41¾ [1,061]	79⅝ [2,023]	47⅛ [1,196]	138⅛ [3,509]	19⅝ [500]	31½ [800]	6⅛ [155]	14,917 [6,766]	15,702 [7,123]
26 [650]	24⅜ [619]	67 [1,702]	67 [1,702]	–†	45⅜ [1,153]	85⅛ [2,162]	51⅜ [1,306]	147⅞ [3,756]	19⅝ [500]	31½ [800]	6⅛ [155]	18,287 [8,295]	19,467 [8,830]
28 [700]	26¼ [667]	–†	–†	–†	48⅜ [1,230]	89¾ [2,280]	55⅛ [1,400]	159 [4,040]	26 [660]	31½ [800]	8½ [215]	23,038 [10,450]	24,251 [11,000]
30 [750]	28⅛ [714]	70⅞ [1,800]	70⅞ [1,800]	–†	52¼ [1,327]	98¼ [2,496]	58½ [1,485]	172½ [4,376]	26 [660]	31½ [800]	8½ [215]	28,880 [13,100]	30,512 [13,840]
36 [900]	33½ [853]	78 [1,981]	78 [1,981]	–†	60¼ [1,530]	111¼ [2,825]	78¾ [2,000]	192½ [4,890]	26 [660]	31½ [800]	8½ [215]	34,172 [15,500]	–

† Upon request. Flanges up to 24 in, except 22 in, in accordance with ASME B16.5; 22 in and above 24 in in accordance with MSS-SP-44, if applicable.

ASME Class 1500 Sizes 4–24 in [100–600 mm]

Larger on request. Reduced-bore valves are also available.



Size, in [mm]	D	E			F	G	S	H	A	K	M	Weight, lbm [kg]	
		WE	RF	RTJ								WE	RF/RTJ
4 [100]	4 [102]	21 ½ [546]	21 ½ [546]	21 ⅝ [549]	10 ⅝ [270]	21 ¾ [554]	17 ⅜ [445]	36 ¾ [935]	7 ⅞ [200]	19 ⅝ [300]	2 ¼ [57]	1,115 [506]	1,173 [532]
6 [150]	5 ¾ [146]	27 ¾ [705]	27 ¾ [705]	28 [711]	14 ⅛ [359]	28 [711]	21 ¾ [538]	48 [1,219]	8 ⅝ [220]	19 ⅝ [300]	2 ⅞ [74]	1,423 [645]	1,498 [679]
8 [200]	7 ⅝ [194]	32 ¾ [832]	32 ¾ [832]	33 ⅛ [841]	16 ⅞ [430]	33 ¾ [858]	25 ⅞ [640]	58 ¼ [1,480]	9 ½ [241]	19 ⅝ [500]	3 ⅝ [92]	1,885 [855]	1,985 [900]
10 [250]	9 ½ [241]	39 [991]	39 [991]	39 ⅜ [1,000]	20 ¼ [515]	39 ½ [1,003]	28 ¼ [735]	68 ⅞ [1,750]	12 ⅝ [320]	19 ⅝ [500]	4 [102]	3,344 [1,517]	3,520 [1,596]
12 [300]	11 ⅜ [289]	44 ½ [1,130]	44 ½ [1,130]	45 ⅛ [1,146]	23 ¼ [590]	45 ⅝ [1,160]	32 ¼ [830]	79 ¾ [2,025]	16 ⅛ [410]	31 ½ [800]	4 ½ [115]	4,458 [2,022]	4,693 [2,129]
14 [350]	12 ½ [318]	49 ½ [1,257]	49 ½ [1,257]	50 ¼ [1,276]	26 ⅝ [675]	52 ½ [1,335]	36 [925]	90 ⅛ [2,290]	16 ⅛ [410]	31 ½ [800]	4 ½ [115]	5,052 [2,292]	5,318 [2,412]
16 [400]	14 ¼ [362]	54 ½ [1,384]	54 ½ [1,384]	55 ⅜ [1,407]	29 ¾ [755]	57 ⅞ [1,470]	40 ½ [1,020]	100 ⅝ [2,555]	17 ⅞ [453]	31 ½ [800]	5 ⅞ [150]	8,377 [3,800]	8,818 [4,000]
18 [450]	16 [406]	60 ½ [1,537]	60 ½ [1,537]	61 ⅜ [1,559]	32 ⅛ [816]	62 ¾ [1,593]	44 ¾ [1,134]	108 ⅛ [2,747]	19 ⅝ [500]	31 ½ [800]	6 ⅛ [155]	10,774 [4,887]	11,341 [5,144]
20 [500]	17 ⅞ [454]	65 ½ [1,664]	65 ½ [1,664]	66 ⅜ [1,686]	35 ⅝ [906]	68 ½ [1,741]	47 ¾ [1,200]	119 ⅛ [3,026]	19 ⅝ [500]	31 ½ [800]	6 ⅛ [155]	13,746 [6,235]	14,469 [6,563]
22 [550]	19 ⅝ [500]	—†	—†	—†	39 ⅜ [1,000]	75 [1,905]	51 ½ [1,310]	131 ⅞ [3,350]	26 [660]	31 ½ [800]	8 ½ [215]	16,718 [7,583]	17,598 [7,982]
24 [600]	21 ½ [546]	76 ½ [1,943]	76 ½ [1,943]	77 ⅝ [1,972]	42 ¾ [1,086]	82 ⅛ [2,087]	55 ⅛ [1,405]	143 ¼ [3,638]	26 [660]	31 ½ [800]	8 ½ [215]	18,650 [8,459]	19,631 [8,905]

† Upon request. Flanges up to 24 in, except 22 in, in accordance with ASME B16.5; 22 in and above 24 in in accordance with MSS-SP-44, if applicable.

Services for Valves and Actuation

Global network and local support

Cameron is well positioned to quickly and efficiently deliver total aftermarket support with unmatched OEM expertise. Our highly skilled engineers and technicians are available around the clock to respond to customer queries, troubleshoot problems, and offer reliable solutions.

Easily accessible parts and spare valves

- OEM spare valves, actuators, and parts (including non Cameron brands)
- Handling, storage, packaging, and delivery
- Dedicated stocking program

Comprehensive aftermarket services portfolio

- Parts and spare valves
- Repair
- Field services
- Preventative maintenance
- Equipment testing and diagnostics
- Remanufacturing
- Asset preservation
- Customer property management
- Training and recertification services
- Warranty

Customized total valve care programs

- Engineering consultancy
- Site management
- Flange management
- Startup and commissioning
- Spare parts and asset management
- Operational support







G4N Gate Valves



products.slb.com/grove

*Mark of Schlumberger
Other company, product, and service names
are the properties of their respective owners.
Copyright © 2019 Schlumberger. All rights reserved. 19-VL-590142

CAMERON
A Schlumberger Company