MODEL FC GATE VALVE

VALVEWORKS USA
WHEN PRESSURE DEMANDS QUALITY®

OVERVIEW

The Valveworks USA Model FC consists of a lineup of gate valves with reliable, proven designs that are engineered and manufactured to meet the requirements of API 6A. This model of gate valves offers the user several options depending on the specific application including achieving a positive seal at wellbore/flowline pressures ranging from 3,000 to 5,000 PSI.

Model FC gate valves are full-bore valves. This allows for downhole tools to be passed through the wellhead and reduces turbulent flow. Model FC valves are similar to each other in design with only slight variations across the lineup, offering a high percentage of parts interchangeability, giving you an efficiency-driven advantage in the management and maintenance of your gate valve fleet and providing optimal lifecycle management integrity.

This brochure provides an in-depth look at the details of this series of gate valves and explains the features, benefits, characteristics, dimensional & technical data and other valuable information needed to determine which valve suits your specific application.

TABLE 1 - PRODUCT FEATURES

	MODEL FC
FLOW DIRECTION	BIDIRECTIONAL
AVAILABLE BORE SIZES[a] & RATED WORKING PRESSURES (psi)	2 1/16" 5K[b] 2 9/16" 5K[b] 3 1/8" 3/5K[b] 4 1/16" 3/5K[b]
AVAILABLE PSL[c]	1,2,[d]
MATERIAL CLASSES	AA,BB,EE,FF, HH
VALVE BODY	FORGED
GATE TYPE	SLAB
SEALING ACTION	PRESSURE ENERGIZED
OPERATION TYPE	MANUAL[e]
BORE TYPE	THROUGH-CONDUIT[f]
GATE / SEAT SEAL	METAL TO METAL
STEM TYPE	NON-RISING
STEM PACKING TYPE	OPTI-SEAL
REPACKING	YES[g]
THRUST BEARINGS	2[h]
BODY LUBRICATION FITTINGS	1
BODY / BONNET CONNECTION	BOLTED
END CONNECTIONS	FLANGED (RTJ)
TEMPERATURE RANGE	-75°F (-60°C) THRU 250°F (121°C)

a) 2 1/16" x 1 13/16", 3 1/8" x 3 3/16", 4 1/16" x 4 1/8", and 4 1/16" x 4 1/4" available upon request.
b) 10/15K available in XPR1 or FC upon request.
c) Product Specification Level
d) PSL 3 available upon request.
e) Also referred to as "HANDWHEEL OPERATED"
f) Also referred to as "FULL-OPENING".
g) Repacking is achieved via backseat method.
h) Valve bonnet equipped with grease ports and fittings for bearing lubrication.

TABLE 2 - TEMPERATURE RATINGS

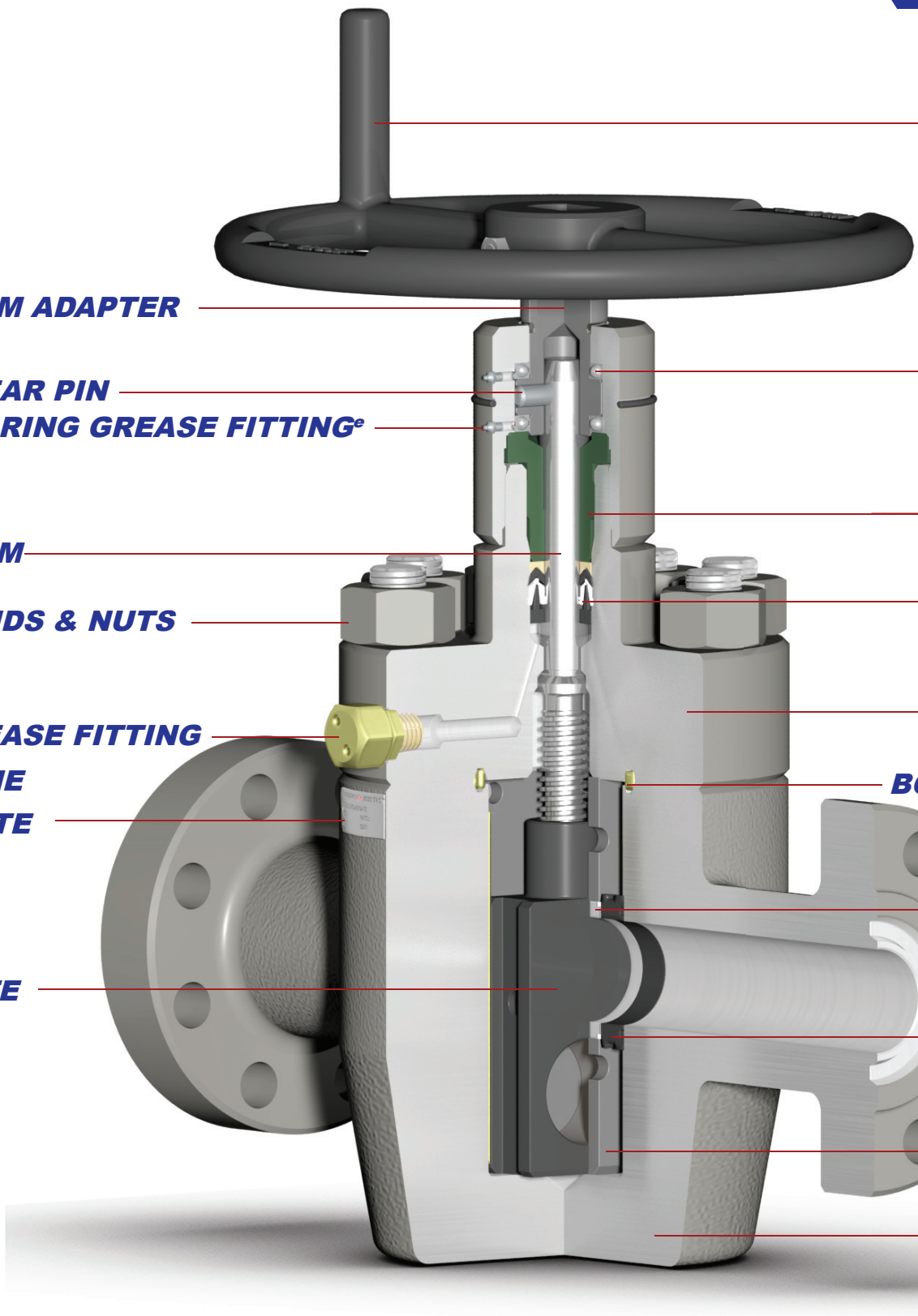
TEMPERATURE CLASSIFICATION	OPERATING RANGE
K	-75°F (-60°C) TO 180°F (82°C)
L	-50°F (-46°C) TO 180°F (82°C)
N	-50°F (-46°C) TO 140°F (60°C)
P	-20°F (-29°C) TO 180°F (82°C)
S	0°F (-18°C) TO 140°F (60°C)
T	0°F (-18°C) TO 180°F (82°C)
U	0°F (-18°C) TO 250°F (121°C)
V	35°F (2°C) TO 250°F (121°C)

TABLE 3 - MATERIAL REQUIREMENTS

		MINIMUM MATERIAL REQUIREMENTS	
MATERIAL CLASS		BODY, BONNET END & OUTLET CONNECTIONS	PRESSURE-CONTROLLING PARTS & STEMS
AA	GENERAL SERVICE	CARBON OR LOW-ALLOY STEEL	CARBON OR LOW-ALLOY STEEL
BB	GENERAL SERVICE	CARBON OR LOW-ALLOY STEEL	STAINLESS STEEL
CC	GENERAL SERVICE	STAINLESS STEEL	STAINLESS STEEL
DD	SOUR SERVICE[a]	CARBON OR LOW-ALLOY STEEL[b]	CARBON OR LOW-ALLOY STEEL[b]
EE	SOUR SERVICE[a]	CARBON OR LOW-ALLOY STEEL[b]	STAINLESS STEEL[b]
FF	SOUR SERVICE[a]	STAINLESS STEEL[b]	STAINLESS STEEL[b]
HH	SOUR SERVICE[a]	CRA[acd]	CRA[acd]

a) As defined by ISO 15156 (all parts) (NACE MR0175; See Clause 2).
b) In accordance with ISO 15156 (NACE MR0175; See Clause 2).
c) CRA required on retained-fluid wetted surfaces only.
d) CRA as defined in Clause 3; ISO 15156 (all parts) (NACE MR0175; See Clause 2) definition of CRA does not apply.

MODEL FC GATE VALVE

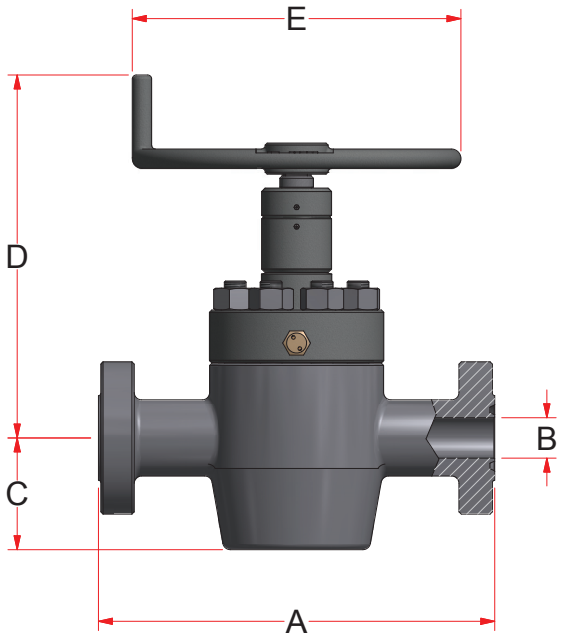


*THE ACTUAL PRODUCT MAY VARY SLIGHTLY FROM SHOWN SCHEMATIC DUE TO ENGINEERING APPROVED VARIATION

MODEL FC GATE VALVE

DIMENSION TABLE KEY

A	**FACE TO FACE**
B	**VALVE BORE SIZE**
C	**BORE CENTERLINE TO BOTTOM**
D	**BORE CENTERLINE TO TOP**
E	**HANDWHEEL DIAMETER**
NT	**NUMBER OF TURNS**
RJ	**RING JOINT**
BSS	**BONNET STUD SIZE**
N	**NUMBER OF STUDS**
WT	**APPROXIMATE WEIGHT**
HT	**HANDWHEEL OPERATING TORQUE**



SIZE	WP (PSI)	A	B	C	D	E	NT	RJ	BSS	N	WT (LBS)	HT (FT-LBS)
2 1/16	5K	14 5/8	2 1/16	5 7/8	18 7/8	14	12	R-24	7/8	8	189	32
2 9/16	5K	16 5/8	2 9/16	6 5/16	19 1/2	16	16 1/4	R-27	1	8	275	49
3 1/8	3K	17 1/8	3 1/8	7 13/16	20 1/2	16	17 1/2	R-31	1 1/8	8	337	40
	5K	18 5/8	3 1/8	7 9/16	20 1/2	16	17 1/2	R-35	1 1/8	8	355	67
4 1/16	3K	20 1/8	4 1/16	9 5/16	22	20	23 1/4	R-37	1 1/4	8	498	70
	5K	21 5/8	4 1/16	9 13/16	22	20	23 1/4	R-39	1 1/4	8	550	113

VALVEWORKS USA DESCRIPTION KEY

GV , 6A , VW-FC , SLAB GATE , 2 1/16” 5M , FE , EE-NL - KU - 1 - 2 , HWO

- GATE VALVE
- API SPECIFICATION
- VALVEWORKS USA MODEL
- GATE TYPE
- BORE SIZE (NOMINAL)
- RATED WORKING PRESSURE
- END CONNECTION
- MATERIAL CLASS
- TEMPERATURE RATING/CLASSIFICATION
- PSL
- PR
- OPERATION TYPE

ABBREVIATION KEY

FC = MODEL VW-FC
HWO = HANDWHEEL OPERATED (MANUAL)
SG = SLAB GATE
FE = FLANGED END

RTJ = RING TYPE JOINT
PSL = PRODUCT SPECIFICATION LEVEL
PR = PERFORMANCE REQUIREMENT
CRA = CORROSION-RESISTANT ALLOY
XYL = XYLAN®
NIT = NITRIDE

*ALL DIMENSIONS ARE IN INCHES