

Operation Manual: HORN Manual Gate Valves

All HEC Choke and Kill Manifold Equipment is manufactured and tested according to HEC Quality Management Standards

Performance Requirement Level: PR1 & PR2

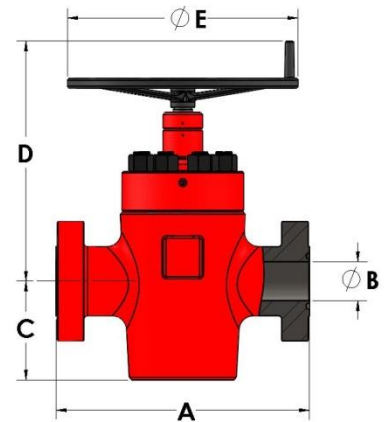
Through Bore: 2-1/16", 3-1/8", 3-1/16", 4 -1/16"

Rated Working Pressure: 5,000, 10,000, and 15,000 psi

Temperature Ranges:

Metallic: -20 to 250°F

Elastomers: 20 to 200°F



Assembly Weights and Dimensions:

SIZE AND WORKING PRESSURE	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	NUMBER OF TURNS	WEIGHT (lbs.)	MAX OPENING TORQUE (ft. lbs.)*
2-1/16" 5M	14.625	2.0625	6	20.5	14	12	182	75
2-1/16" 10M	14.625	2.0625	5.875	20.5	14	12.5	375	100
2-1/16" 15M	14.625	2.0625	6.125	20.5	14	12.5	350	125
3-1/8" 5M	18.625	3.125	7.625	26.5	18	17.5	360	75
3-1/16" 10M	24.375	3.0625	8.125	22.25	18	17.5	680	100
4-1/16" 5M	21.625	4.0625	9.25	23.875	18	23.25	545	175
4-1/16" 10M	26.375	4.0625	10.375	25	18	23.25	1057	200
4-1/16" 15M	29	4.0625	11.375	25.625	18	29	1300	225

*Max Torque required to open valve with rated working pressure on the valve.

Elastomers:

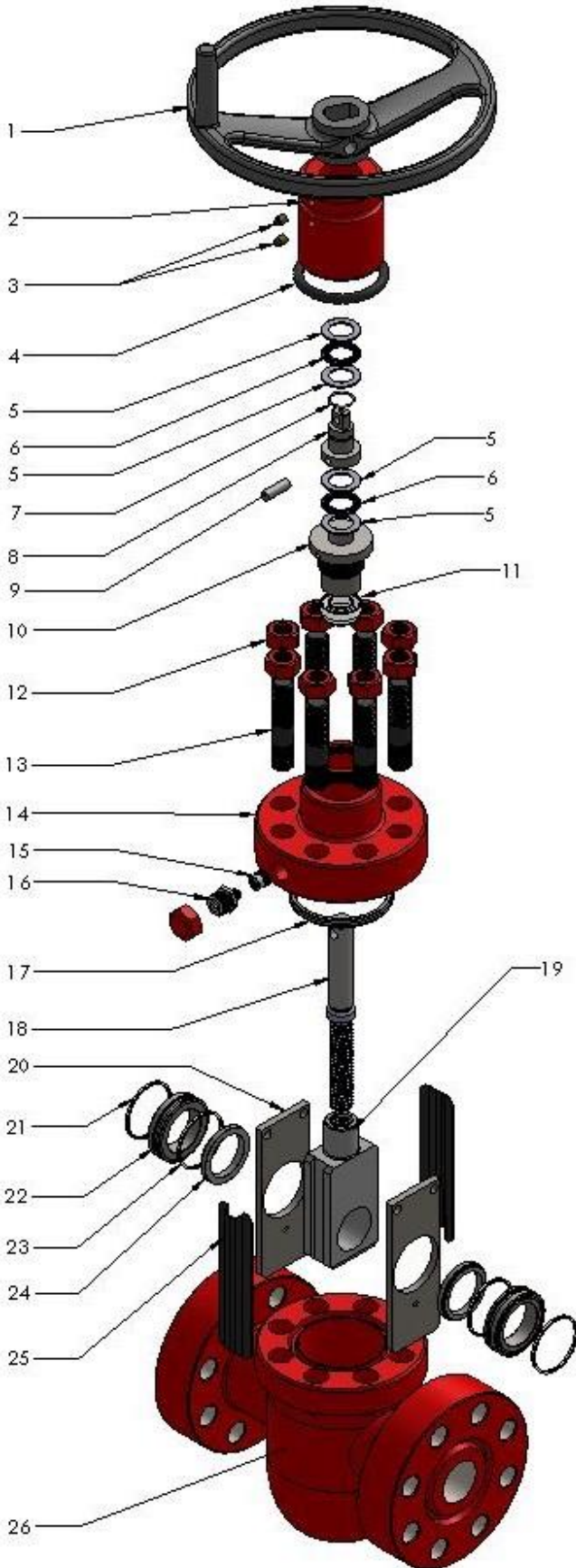
Acrylonitrile Butadiene Rubber (NBR)

Nominal Operating Range: 20 to 200°F

Operational Characteristics Summary

- Full and Half working pressure: 160 cycles
- Full Pressure at Max Temp.: 20 cycles
- Full Pressure at Min. Temp.: 20 cycles
- Full Pressure at Min. Temp. for 60 min.: 2 cycles
- Full Pressure at Max Temp. for 60 min.: 2 cycles

Exploded Parts View:



Part	Qty
1.Handwheel	1
2.Bearing Cap	1
3.Grease Zerk	1
4.O-Ring, Bearing Cap	1
5.Bearing Race	4
6.Thrust Bearing	2
7.O-Ring, Stem Adapter	1
8.Stem Adaptor	1
9.Stem Pin	1
10.Packing Glad	1
11.Stem Packing	1
12.Bonnet Nut	8
13.Bonnet Stud	8
14.Bonnet	1
15.Check Valve	1
16.Grease Fitting	1
17.Bonnet Gasket	1
18.Op. Stem	1
19.Gate	1
20.Retainer Plate	2
21.Seal Ring, Body Bushing	2
22.Body Bushing	2
23.Seal Ring, Seat	2
24.Seat Ring	2
25.Gate Guide	2
26.Body	1



Installation

- Clean out any dirt or mud from inside of valve
- Remove flange covers if installed
- Support valve during installation to insure proper seal on flanges
- Valve should be installed in the open position and with the stem vertical if possible.

Operation

- The gate inside of the valve is designed to be free floating, which means the gate should not be closed all the way down against the valve body.
- The valve should be closed by turning the hand wheel clockwise until it stops, then in the reverse direction 1/4 turns.
- The valve

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	ACTION
Fluid Leaks past the gate and seat assembly	Gate and seat assembly is worn	Replace the gate and seat assembly
	Hand wheel is not backed off	Back off the hand wheel ¼ turn
Fluid leaks around the valve stem	Stem packing is worn	Replace stem packing
Fluid leaks at the bonnet	Bonnet seal ring is worn	Replace the bonnet seal
	Bonnet or body seal groove is damaged	Return the valve to Horn Equipment for repair
Fluid leaks from the body lube fitting	Ball check inside the body lube fitting is worn	Replace the body lube fitting
	Body lube fitting loose	Tighten body lube fitting
Hand wheel is hard to turn	Thrust bearings have lost lubricant	Lubricate the thrust bearings
	Thrust bearings are corroded or worn	Replace the thrust bearings and races
	Gate and stem threads have lost lubricant	Lubricate the gate and stem through the body lube fitting
Hand wheel turns without opening or closing the valve	Stem pin is sheared	Replace the stem pin