

# Actuators

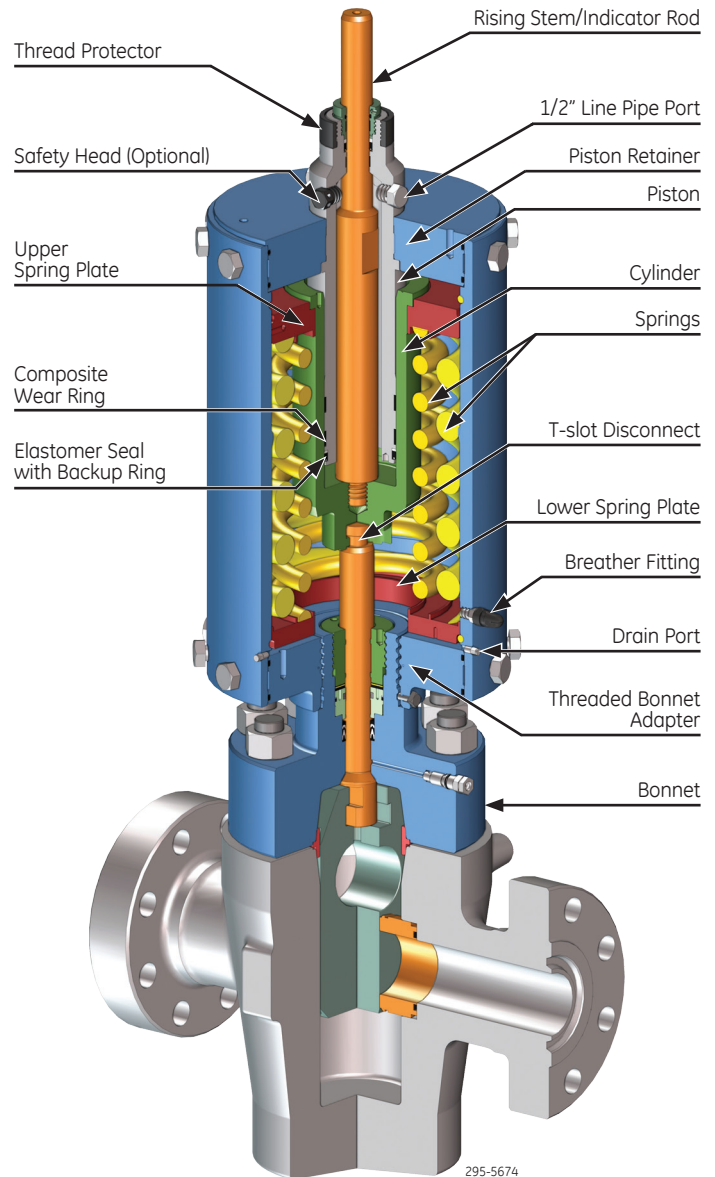
## Pressure Control CHA-WLS Top Access Wireline Shearing Hydraulic Actuator

The CHA-WLS Top Access Wireline Shearing Hydraulic Actuator is available for valve sizes from 1-13/16" through 7-1/16" and wellhead pressure ratings from 2,000 psi through 15,000 psi and operates at a maximum supply pressure of 6,000 psi. Based on the field-proven CH actuator, the CHA-WLS's enhanced unitized construction and T-slot quick-disconnect enable it to be safely and quickly removed from the bonnet. It also features a rising stem for visual confirmation of the valve's position as well as a dual coil spring package capable of shearing standard 7/32" braided cable to allow valve closure. Easy seal replacement minimizes downtime during maintenance.

The CHA-WLS actuator is designed to operate when hydraulic pressure is applied between a stationary piston and a movable cylinder, causing the cylinder and spring to move downward, while opening a reverse-acting gate valve. When hydraulic pressure is vented or lost, the helical spring returns the actuator to the fully up (closed) position. This fail-safe return action occurs independent of valve pressurization.

### Features —

- Improved safety
  - Quick-disconnect allows for removal of actuator from bonnet within the valve operating stroke without depressurizing the valve and releasing hydrocarbons
  - Powerful dual coil spring package capable of shearing standard 7/32" braided cable allowing valve closure
  - Captured spring designed to prevent release of preloaded spring during repair or actuator removal
  - Top access rising stem provides both a visual confirmation of the valve's position and an interface for the use of accessories
- Designed for long life and enhanced efficiency
  - 6,000 psi maximum supply pressure allows use of smaller actuator and greater control system flexibility
  - Hard chrome plated cylinder resists wear and extends elastomer life
  - Optimized coatings on internal metallic components provide enhanced corrosion resistance
  - Optional safety head protects actuator from overpressure
- Easy to maintain
  - No special tools required
  - External drift adjustment is permanently set within bonnet before installation and remains set regardless of work performed
  - Actuator piston seals can be replaced without removal or complete disassembly while mounted onto pressurized gate valve
  - Two 1/2" LP actuator ports minimize closure time, eliminate debris buildup, and provide easy alignment for supply line installation



# CHA-WLS Top Access Wireline Shearing Hydraulic Actuator

## Optional Configurations –

- CHA Top Access Standard Design (PC #12-0010) has no shearing capabilities
- CHA-C Classic Standard Design (PC #12-0336) has no rising stem or top access
- CHA-WLC Classic Wireline Shearing Design (PC #12-0342) has no rising stem or top access and is capable of standard shearing 7/32" braided wire

## Accessories –

- Integral electric valve position indicator
- Electric valve position indicator
- Fusible lock open device
- Lock open cap
- Stem guard
- Clear stem protectors
- Manual and hydraulic overrides

## Specifications –

Model CHA-WLS Top Access Wireline Shearing	
Models	CHA-48WLS, CHA-55WLS, CHA-70WLS
Valve Size	1-13/16" thru 7-1/16" (2,000 psi thru 15,000 psi)
API Specification	API 6A
Hydraulic Actuator	Standard Service
PR2	Annex F
Temperature	-20°F to +150°F (-29°C to +66°C)
Maximum Supply Pressure	6,000 psi (414 bars)
Maximum Test Pressure	9,000 psi (621 bars)

## Hydraulic Actuator Sizing Charts –

3,000 psi Maximum Hydraulic Supply Pressure Systems					
Valve		Actuator			
Bore	psi	Model	Piston Eff. Area	Maximum Actuator Stroke	Volume Displacement
1-13/16"	10,000		Consult Engineering		
	15,000		Consult Engineering		
2-1/16"	3,000		Consult Engineering		
	5,000		Consult Engineering		
	10,000		Consult Engineering		
	15,000		Consult Engineering		
2-9/16"	3,000		Consult Engineering		
	5,000		Consult Engineering		
	10,000		Consult Engineering		
3-1/8"	3,000	CHA-48WLS/400	15.97 in <sup>2</sup>	4.00"	60.38 in <sup>3</sup>
	5,000	CHA-48WLS/400	15.97 in <sup>2</sup>	4.00"	60.38 in <sup>3</sup>
3-1/16"	10,000	CHA-48WLS/400	15.97 in <sup>2</sup>	4.00"	62.38 in <sup>3</sup>
	15,000	CHA-70WLS/850	35.37 in <sup>2</sup>	8.50"	142.58 in <sup>3</sup>
4-1/16"	3,000	CHA-48WLS/600	15.97 in <sup>2</sup>	6.00"	78.35 in <sup>3</sup>
	5,000	CHA-48WLS/600	15.97 in <sup>2</sup>	6.00"	78.35 in <sup>3</sup>
	10,000	CHA-70WLS/850	35.37 in <sup>2</sup>	8.50"	173.53 in <sup>3</sup>
	15,000		Consult Engineering		
5-1/8"	3,000	CHA-48WLS/400	15.97 in <sup>2</sup>	6.00"	92.32 in <sup>3</sup>
	5,000	CHA-55WLS/800	22.01 in <sup>2</sup>	8.00"	127.24 in <sup>3</sup>
	10,000	CHA-70WLS/850	35.37 in <sup>2</sup>	8.50"	217.74 in <sup>3</sup>
	15,000		Consult Engineering		
6-3/8"	3,000	CHA-55WLS/800	22.01 in <sup>2</sup>	8.00"	157.50 in <sup>3</sup>
	5,000	CHA-70WLS/850	35.37 in <sup>2</sup>	8.50"	253.11 in <sup>3</sup>
7-1/16"	3,000		Consult Engineering		
	10,000		Consult Engineering		

5,000 psi Maximum Hydraulic Supply Pressure Systems					
Valve		Actuator			
Bore	psi	Model	Piston Eff. Area	Maximum Actuator Stroke	Volume Displacement
1-13/16"	10,000		Consult Engineering		
	15,000		Consult Engineering		
2-1/16"	3,000		Consult Engineering		
	5,000		Consult Engineering		
	10,000		Consult Engineering		
	15,000		Consult Engineering		
2-9/16"	3,000		Consult Engineering		
	5,000		Consult Engineering		
	10,000		Consult Engineering		
3-1/8"	3,000	CHA-48WLS/400	15.97 in <sup>2</sup>	4.00"	60.38 in <sup>3</sup>
	5,000	CHA-48WLS/400	15.97 in <sup>2</sup>	4.00"	60.38 in <sup>3</sup>
3-1/16"	10,000	CHA-48WLS/400	15.97 in <sup>2</sup>	4.00"	62.38 in <sup>3</sup>
	15,000	CHA-48WLS/400	15.97 in <sup>2</sup>	4.00"	64.38 in <sup>3</sup>
4-1/16"	3,000	CHA-48WLS/600	15.97 in <sup>2</sup>	6.00"	78.35 in <sup>3</sup>
	5,000	CHA-48WLS/600	15.97 in <sup>2</sup>	6.00"	78.35 in <sup>3</sup>
	10,000	CHA-48WLS/600	15.97 in <sup>2</sup>	6.00"	78.35 in <sup>3</sup>
	15,000	CHA-70WLS/850	35.37 in <sup>2</sup>	8.50"	182.37 in <sup>3</sup>
5-1/8"	3,000	CHA-48WLS/600	15.97 in <sup>2</sup>	6.00"	92.32 in <sup>3</sup>
	5,000	CHA-48WLS/600	15.97 in <sup>2</sup>	6.00"	92.32 in <sup>3</sup>
	10,000	CHA-55WLS/800	22.01 in <sup>2</sup>	8.00"	135.49 in <sup>3</sup>
	15,000		Consult Engineering		
6-3/8"	3,000	CHA-55WLS/800	22.01 in <sup>2</sup>	8.00"	157.50 in <sup>3</sup>
	5,000	CHA-55WLS/800	22.01 in <sup>2</sup>	8.00"	157.50 in <sup>3</sup>
7-1/16"	10,000	CHA-70WLS/850	35.37 in <sup>2</sup>	8.50"	266.37 in <sup>3</sup>
	3,000	CHA-55WLS/800	22.01 in <sup>2</sup>	8.00"	174.01 in <sup>3</sup>
7-1/16"	5,000	CHA-55WLS/800	22.01 in <sup>2</sup>	8.00"	174.01 in <sup>3</sup>
	10,000		Consult Engineering		



GE imagination at work

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