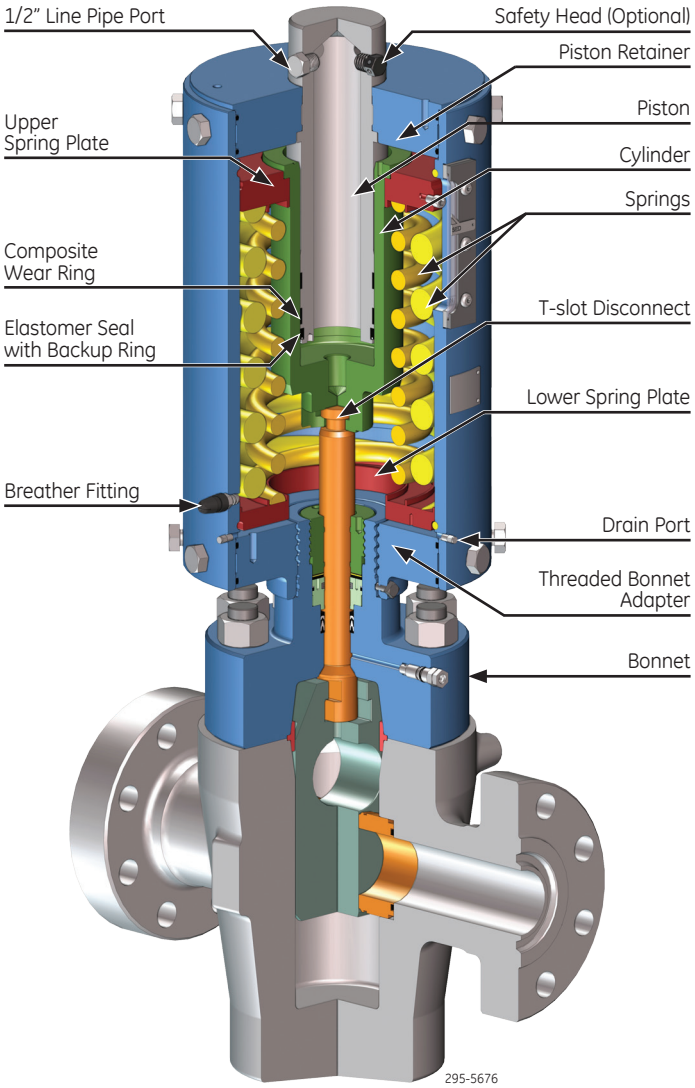
Actuators

Pressure Control CHA-WLC Classic Wireline Shearing Hydraulic Actuator

The CHA-WLC Classic 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-WLC's enhanced unitized construction and T-slot quick-disconnect enable it to be safely and quickly removed from the bonnet. It also features 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-WLC 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
  - Non-rising stem design with window for visual confirmation of the valve's position
- 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-WLC Classic Wireline Shearing Hydraulic Actuator

Optional Configurations —

- CHA-C Classic Standard Design (PC #12-0336) does not offer shearing capabilities
- CHA Top Access Standard Design (PC #12-0010) has rising stem and top access
- CHA-WLS Top Access Wireline Shearing Design (PC #12-0341) has rising stem and top access and is capable of shearing standard 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-WLC Classic Wireline Shearing	
Models	CHA-48WLC, CHA-55WLC, CHA-70WLC
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			
	15,000	Consult Engineering			
3-1/8"	3,000	CHA-48WLC/400	17.74 in^2	4.00"	67.07 in^3
	5,000	CHA-48WLC/400	17.74 in^2	4.00"	67.07 in^3
3-1/16"	10,000	CHA-48WLC/400	17.74 in^2	4.00"	69.29 in^3
	15,000	CHA-70WLC/850	38.51 in^2	8.50"	155.23 in^3
4-1/16"	3,000	CHA-48WLC/600	17.74 in^2	6.00"	87.03 in^3
	5,000	CHA-48WLC/600	17.74 in^2	6.00"	87.03 in^3
	10,000	CHA-55WLC/800	23.78 in^2	8.00"	116.67 in^3
	15,000	Consult Engineering			
5-1/8"	3,000	CHA-48WLC/600	17.74 in^2	6.00"	102.55 in^3
	5,000	CHA-48WLC/600	17.74 in^2	6.00"	102.55 in^3
	10,000	CHA-70WLC/850	38.51 in^2	8.50"	237.07 in^3
	15,000	Consult Engineering			
6-3/8"	3,000	CHA-55WLC/800	23.78 in^2	8.00"	170.17 in^3
	5,000	CHA-55WLC/800	23.78 in^2	8.00"	170.17 in^3
	10,000	Consult Engineering			
7-1/16"	3,000	CHA-55WLC/800	23.78 in^2	8.00"	188.00 in^3
	5,000	CHA-70WLC/850	38.51 in^2	8.50"	304.46 in^3
	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			
	15,000	Consult Engineering			
3-1/8"	3,000	CHA-48WLC/400	17.74 in^2	4.00"	67.07 in^3
	5,000	CHA-48WLC/400	17.74 in^2	4.00"	67.07 in^3
3-1/16"	10,000	CHA-48WLC/400	17.74 in^2	4.00"	69.29 in^3
	15,000	CHA-48WLC/400	17.74 in^2	4.00"	71.51 in^3
4-1/16"	3,000	CHA-48WLC/600	17.74 in^2	6.00"	87.03 in^3
	5,000	CHA-48WLC/600	17.74 in^2	6.00"	87.03 in^3
	10,000	CHA-48WLC/600	17.74 in^2	6.00"	87.03 in^3
	15,000	CHA-70WLC/850	38.51 in^2	8.50"	198.56 in^3
5-1/8"	3,000	CHA-48WLC/600	17.74 in^2	6.00"	102.55 in^3
	5,000	CHA-48WLC/600	17.74 in^2	6.00"	102.55 in^3
	10,000	CHA-55WLC/800	23.78 in^2	8.00"	146.39 in^3
	15,000	CHA-70WLC/850	38.51 in^2	8.50"	241.88 in^3
6-3/8"	3,000	CHA-55WLC/800	23.78 in^2	8.00"	170.17 in^3
	5,000	CHA-55WLC/800	23.78 in^2	8.00"	170.17 in^3
	10,000	CHA-70WLC/850	38.51 in^2	8.50"	290.02 in^3
7-1/16"	3,000	CHA-55WLC/800	23.78 in^2	8.00"	188.00 in^3
	5,000	CHA-55WLC/800	23.78 in^2	8.00"	188.00 in^3
	10,000	Consult Engineering			

GE imagination at work

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