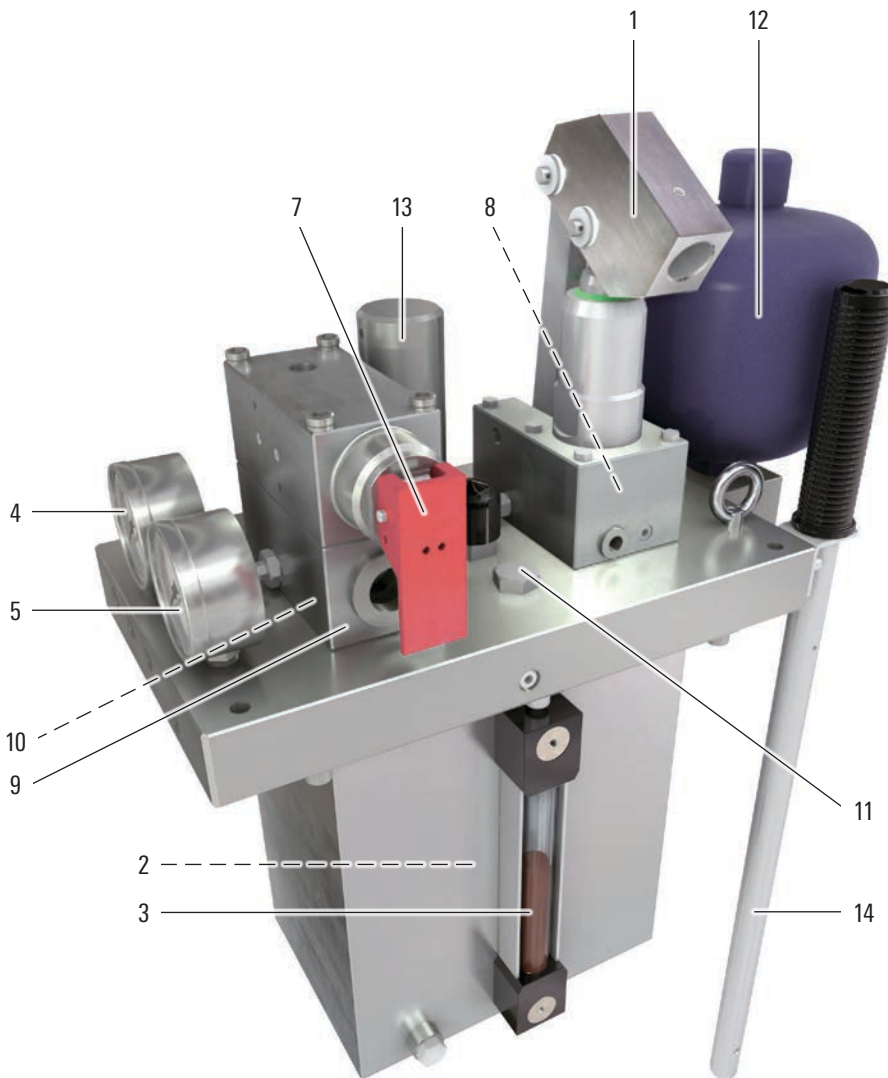


# LEDEEN SCCS

Self-contained control system

# LEDEEN SCCS

Cameron LEDEEN SCCS\* self-contained control systems provide reliable valve shutdown when a reliable external power source is unavailable. The complete system consists of a linear or quarter-turn hydraulic spring return actuator with a self-contained control.



Item	Description
1	Hand pump
2	Oil filter (not visible)
3	Oil tank with level gauge
4	Pressure gauge (high pressure)
5	Pressure gauge (low pressure)
6	Pilot valve (not visible)
7	Manual arming valve
8	Check valve (not visible)
9	Pressure regulator
10	Safety valve (not visible)
11	Filling cap
12	Accumulator (high pressure)
13	Accumulator (low pressure)
14	Pump handle

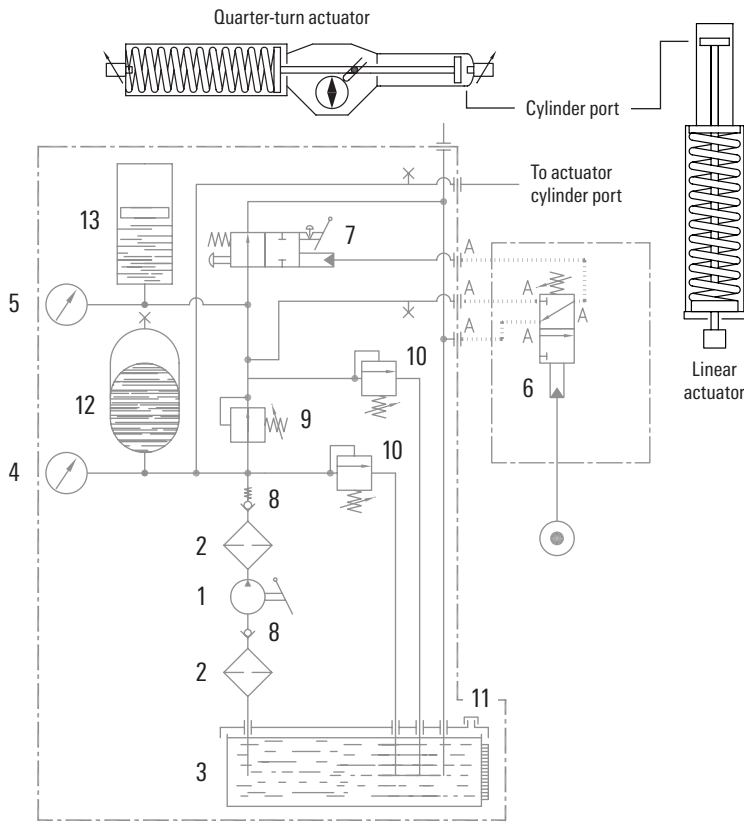
### Self-contained control

When using a hand pump with various control components, a zero-leakage circuit is maintained to ensure that valve movement does not inadvertently occur until a fail-safe signal is received. Controls are typically pilot tripped, but solenoids also can be used for remote control where electricity is available. The control must be reset manually after a fail-safe operation has occurred.

### Easy operation

To open, set the arming valve to the ready position and operate the hand pump until the actuator has reached the full open position. For the remote option, the solenoid valve must also be energized prior to hand pumping. For the automatic option, a normal sensing pressure must also be available to pilot valve prior to hand pumping.

To close in local operation, manually trip the arming valve to the fail position. For the remote option, deenergizing solenoid valve will trip arming valve to fail position. For the automatic option, any abnormal increase or decrease of pilot sensing pressure will trip arming valve to fail position.



Item	Description
1	Hand pump
2	Oil filter
3	Oil tank with level gauge
4	Pressure gauge (high pressure)
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6	Pilot valve
7	Manual arming valve
8	Check valve
9	Pressure regulator
10	Safety valve
11	Filling cap
12	Accumulator (high pressure)
13	Accumulator (low pressure)

### Connections

— Hydraulic

..... Connections at customer's care

The schematic diagram is shown with the valve in closed position and without hydraulic power.

# Standard Features

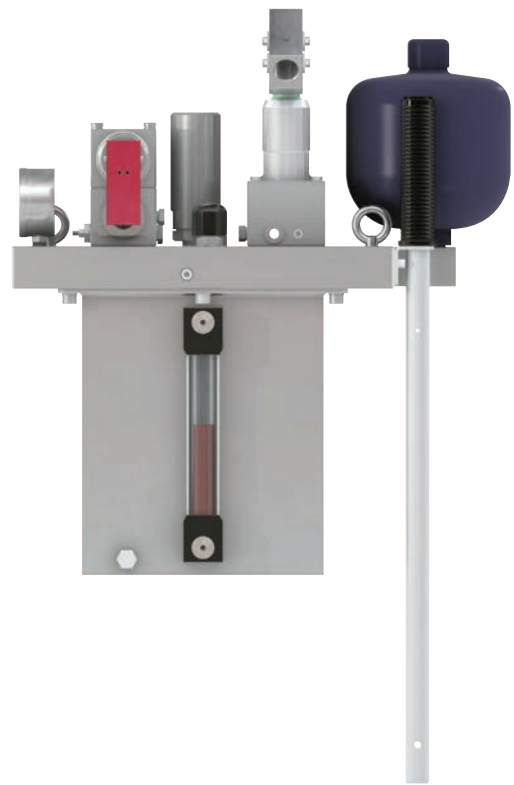
- Manifold-design subplate that provides a robust foundation for integration of all standard and optional control system components
- Subplate and control components constructed of corrosion-resistant anodized aluminum with stainless steel internals
- Rugged stainless steel oil reservoir that withstands harsh working environments and provides a corrosion-free environment
- Hand pump available in 3,000- or 5,000-psi [206- or 345-bar] output pressure models, which reduce actuator sizing and necessary fluid capacities
- Manual arming valve to provide quick fail-safe manual response in the event of an emergency
- Bright red handle on manual arming valve for highly visible local verification of system status being armed or tripped
- Dual filtration within hydraulic circuit that ensures only contaminant-free hydraulic fluid is moving within the system to extend zero-leakage performance
- Reduced-pressure control system that provides access to a broad range of low-pressure, zero-leakage control options, including pilot valves, low-wattage solenoids, and fusible plugs
- Temperature compensation of high-pressure actuator circuit and low-pressure control circuit via two separate accumulators that assure system stability by reducing relief valve operation and eliminating valve drift due to large temperature changes
- Overpressure protection of high-pressure actuator circuit and low-pressure control circuit via two separately designated relief valves that isolate relief valve operation to abnormally excessive pressure to minimize potential leak points that result in valve drift
- Seal material selected to exceed ambient conditions of end destination to assure zero-leakage integrity from -50 to 212 degF [-46 to 100 degC]
- Stainless steel pressure gauges with dual-scale indication for easy verification of high- and low-pressure circuit operating pressure
- Oil reservoir with liquid level gauge for easy confirmation of proper operating level of hydraulic fluid
- Manifold porting for spring-return actuators with closed-loop exhaust circuit to eliminate detrimental effects of airborne contaminants entering the actuator cylinder

# Available Options

- Control enclosure with lockable, stainless steel fabrication that enables unrestricted access for local emergency trip function while ensuring that only authorized personnel have access to the entire control system
- Transparent reservoir made of UV- and impact-resistant material and suitable for temperatures from  $-50$  to  $140$  degF [ $-46$  to  $60$  degC]
- Pilot valve that enables connecting customer-preferred models into the circuit onboard the manifold or pipeline, providing automatic operation of the shutdown system
- Subplate- or inline-mounted solenoid valve that enables easy field retrofit with low-power-consumption coils and provides efficient remote control of the shutdown system
- Fusible plug that quickly trips circuit to shutdown position when exposed to the rising temperature of a fire
- Instrumentation kit with all tube fittings, tubing, and fasteners required to easily mount and connect any pilot or solenoid valve into the shutdown system
- Instrumentation manifold that provides a rugged transition from the pipeline when direct mounting of pilot valve(s) to the pipeline is desired



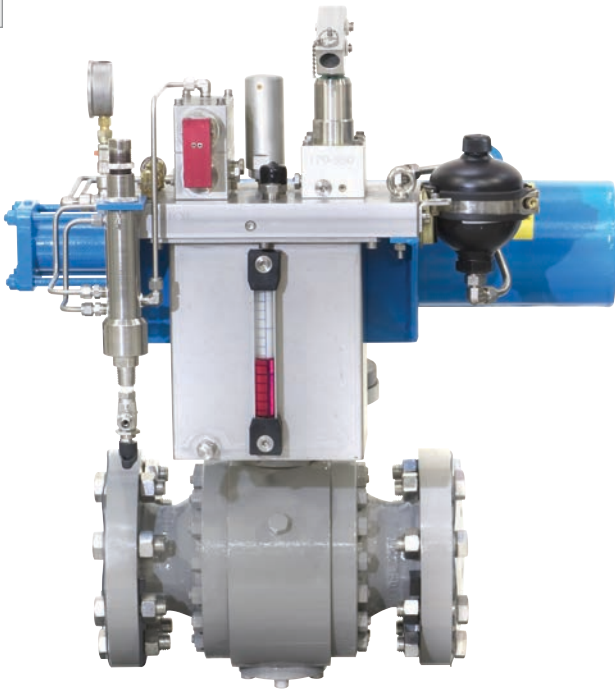
*Side view.*



*Front view.*

# Typical Applications

1



LEDEEN SCCS system shown on a quarter-turn actuator to operate an API Specification 6D ball valve. Control shown with optional pilot valve installed on the control manifold. Requires a single-customer tubing connection to be made between pilot valve and pipeline.

2



LEDEEN SCCS system shown on a linear actuator to operate an API 6A gate valve. Control shown as if optional pilot valve (not shown) was installed on the pipeline. Requires customer tubing connections to be made between control and pilot valve.

3



LEDEEN SCCS system mounted on a pedestal for installations in which off-mounting control from actuator provides operational convenience. Requires customer tubing connections to be made between control and actuator for manual or remote trip and between control and pipeline for pilot trip.

# Services for Valves and Actuation

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

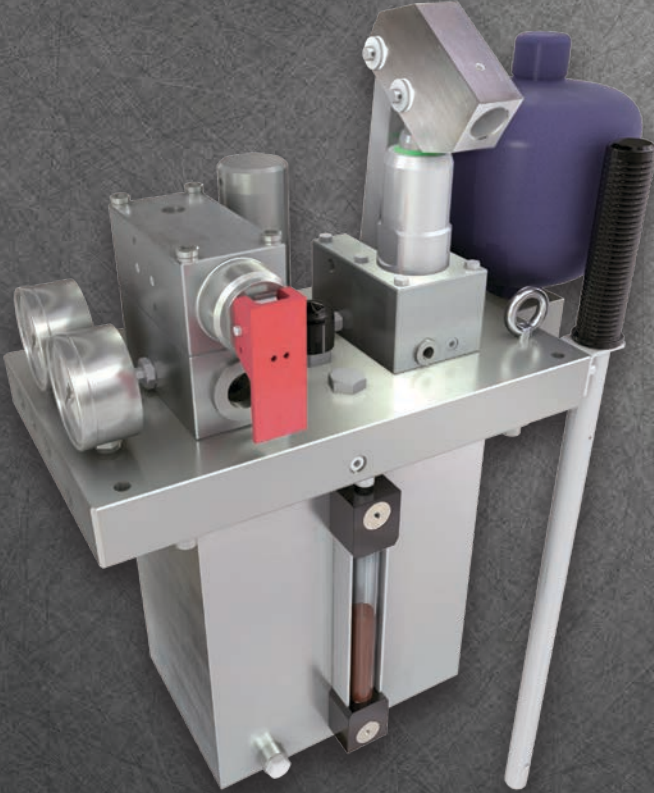
## **Comprehensive aftermarket services portfolio**

- 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





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