



Valve Control Board for Pneumatic LEDEEN Actuators

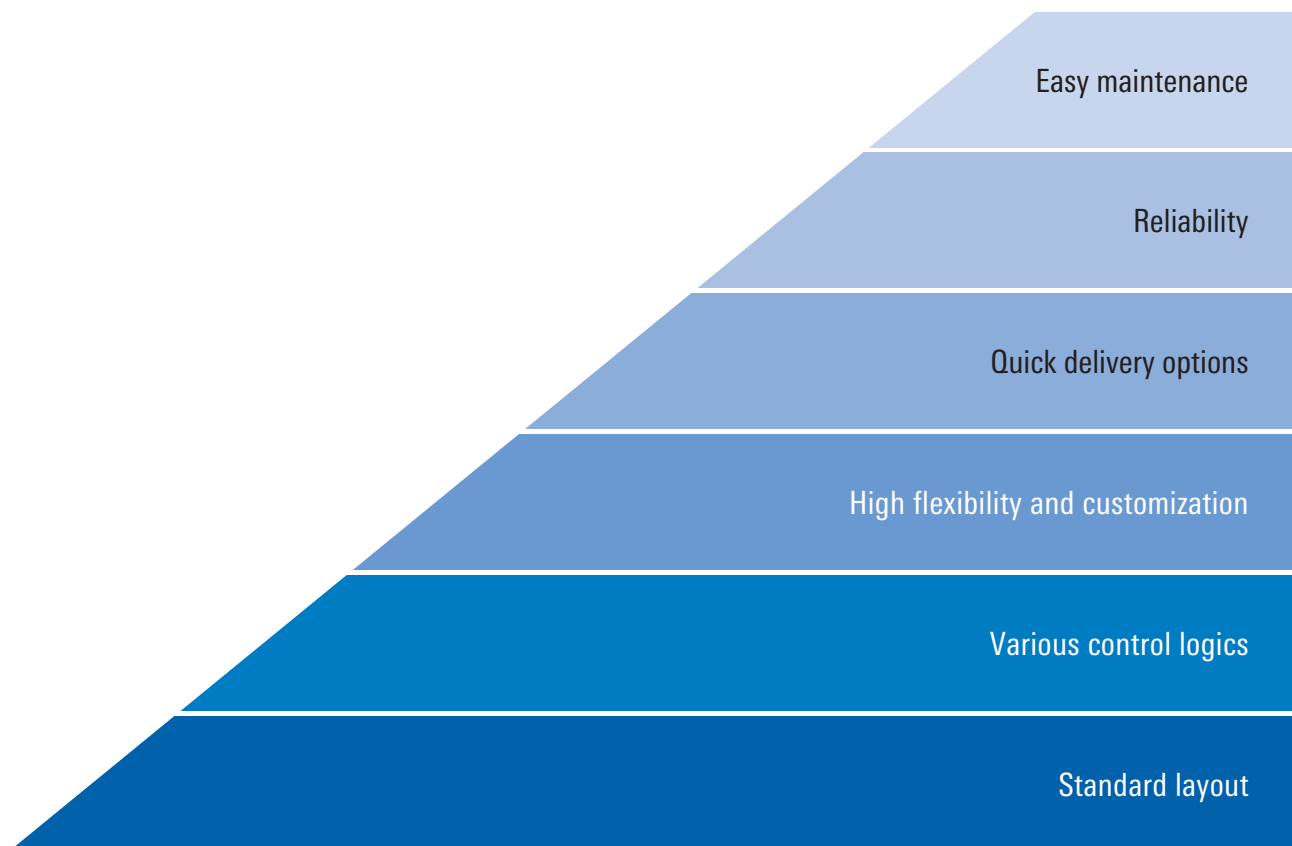
Turnkey control panel for on-off valves
in oil and gas applications

Overview

LEDEEN* actuators have been a source of engineering and technical precision since 1948. Continuing this legacy, Cameron has designed a standard valve control board (VCB) for pneumatic LEDEEN actuators.

Designed using in-field, real-world problem solving and keeping serviceability in mind, this VCB offers one of the highest levels of reliability and safety on the market today. The system has been developed to provide a turnkey control panel for the most common logics used for on-off valves in oil and gas applications. The VCB for pneumatic LEDEEN actuators is capable of a variety of operations, including increased flow capacities and suite operation requests on stroking time on a wide range of actuators.

This innovative product is highly customizable, enabling a flexible layout with a variety of options, including stop, check, relief, and flow-regulating valves. It offers one of the easiest retrofits in the industry, maintaining brand neutrality and certification quality.



Technical Data

Panel

Control system components are mounted on a stainless steel (SS) 316 panel complete with a sunshade.

Dimensions

- Fail-open and fail-closed schematics for spring-return actuators:
18 in × 16 in × 10 in [450 mm × 400 mm × 250 mm]
- Stay-put schematics for double-acting actuators:
22 in × 18 in × 10 in [550 mm × 450 mm × 250 mm]

Mounting

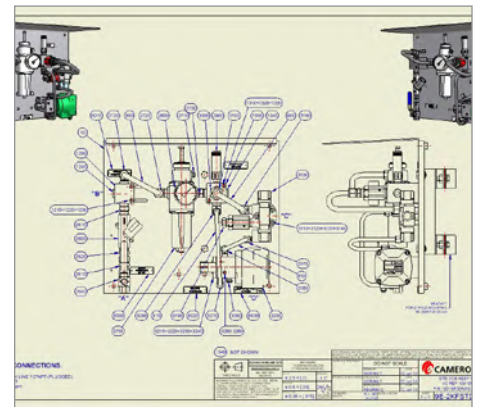
- On board (panel mounted directly to LEDEEN actuator)
- On pole (mounting kit separately delivered on request)
- On wall (mounting kit separately delivered on request)

Tubing and fittings

- Tubing: SS 316L—imperial size (metric available on request)
- Fittings: SS 316 double ferrule type

Ambient temperature range

- -4 to 122 degF [-20 to 50 degC]
- -22 to 212 degF [-30 to 100 degC]



Spring-return actuator configurations

The diagram shows a hydraulic circuit for a crane. At the bottom, a 'Supply line' (indicated by a solid black circle) feeds into a pressure gauge labeled '12†'. This is followed by a valve labeled '12†', a pressure gauge labeled '23†', and a 'Tank port' (indicated by a cross symbol). Above this, a pressure relief valve is labeled '8'. A pressure gauge labeled '28' is connected to the line. A valve labeled '32†' is also present. A pressure gauge labeled '86†' is connected to the line. A valve labeled '50' is connected to the line. A pressure gauge labeled '36' is connected to the line. The line then splits to a crane mechanism (indicated by a cross symbol) and a pressure gauge labeled '30'.

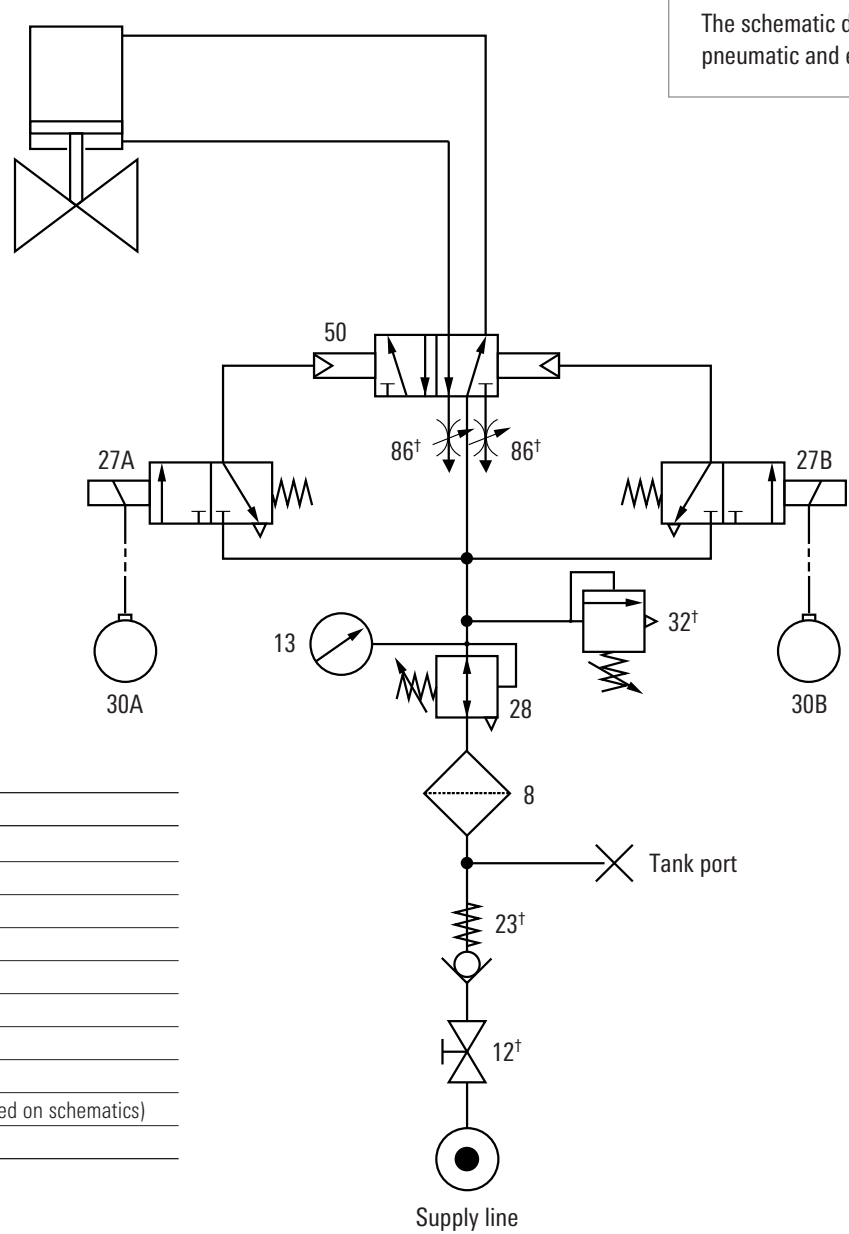
[†] Optional on request.

Schematic		Inlet Size, in	Pilot Valve	Quick Exhaust	Recommended for LEDEEN Actuator Series
Fail (spring return)	S1	¼	—	—	VA0; VA1
	S2	¼	—	●	GS2; GS6; SY8
	S3	½	●	—	SY10; SY13
	S4	½	●	●	SY16
	S5	½	●	●	SY20

Stay Put on Supply Failure

Double-acting actuator configurations

The schematic diagram is shown without pneumatic and electric power.



Item	Description
8	Filter
12	Stop valve [†]
13	Pressure gauge
23	Check valve [†]
27	Solenoid valve
28	Pressure regulator
30	Junction box (built in)
32	Safety valve [†]
50	Pneumatic piloted valve (based on schematics)
86	Flow control valve [†]

[†]Optional on request.

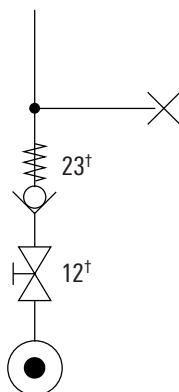
The VCB complements a complete range of actuators. Options are available to increase flow performance.

Schematic		Inlet Size, in	Pilot Valve	Recommended for LEDEEN Actuator Series
Stay put (double acting)	D1	¼	—	GS2; GS6; SY8; SY10
	D2	¼	•	SY13; SY16; SY20

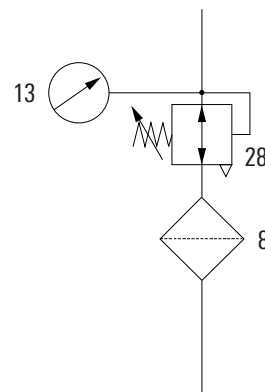
Functional Elements Description

Item	Description
12	Stop valve [†]
23	Check valve [†]

[†]Optional on request.



Item	Description
8	Filter
13	Pressure gauge
28	Pressure regulator



Air supply

Standard

- Straight inlet port for supply line (½ NPT)

Options

- Stop valve
- Check valve and additional tank port (½ NPT)

Air treatment

Standard

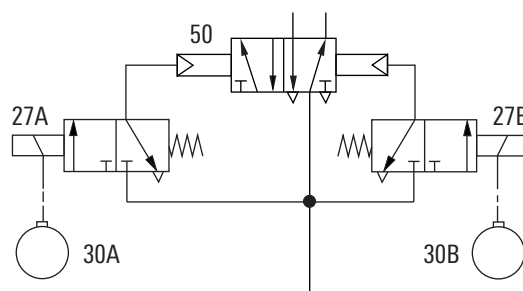
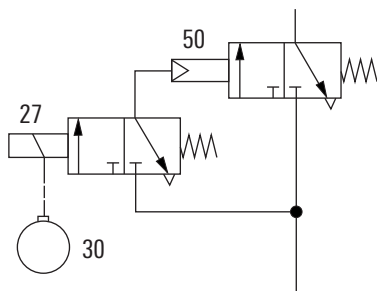
- Filter regulator: aluminum body = 25-um mesh
- Pressure gauge: 50-mm diameter, dual scale with bar and psi

Options

- Filter regulator: SS body, alternative brands

Item	Description
27	Solenoid valve
30	Junction box (built in)
50	Pneumatic piloted valve [†]

[†]Based on schematics.



Air power logic

Standard

- Solenoid valve: SS 316 body, aluminium enclosure coil, 24 VDC, ATEX-IECEX Ex-d certified
- Pilot valve (based on stroking time requirement)

Options

- Solenoid valve: SS 316 enclosure coil, 110 VAC, manual reset, alternative brands

Optional accessories

Flow Regulation Valve

Inlet and exhaust flow modulation to set stroking times

Safety Valve

Overpressure relief to prevent valve or actuator damage

Quick Exhaust

Exhaust flow enhancement to match stroking time requirement

Electric Positioner

Valve position monitoring and partial-stroke test (PST) functionality

Coding

Control System Logic and Certification

1001 S1 0 AI

Architecture	Diagram	Feature	Certification
One-out-of-one (1001) architecture	Schematic diagram†	0 Without PST feature 1 With PST feature	AI ATEX/IECEx

† Refer to pages 4–5.

Filter Regulator

S S

Type	Body Material
S Standard for LEDEEN actuators	S Stainless steel A Aluminum
N Norgren® filter	
V Versa® filter	
A ASCO® filter	

Solenoid Valve

A A 24D 0

Filter Type	Coil Enclosure Material	Voltage	Reset
S Standard for LEDEEN actuators	A Aluminum S Stainless steel	24D 24 VDC 115A 115 VAC	0 Automatic 1 Manual
N Norgren filter			
A ASCO filter			
M Maxseal® filter			
V Versa filter			

Accessories

0 0 0 M

Accessory	Flow Regulator	Relief	Tubing Size
0 None	0 None	0 None	I Imperial M Metric
C Check valve†	I Inlet E Exhaust B Both	P Pressure Equipment Directive	
S Stop valve		U ASME "UV" stamped	
B Both		C Canadian Registration Number	

† Comes with tank port.

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