Basic	¼"
	½"
Comfort	¼"
	½"

Proportional Pressure Regulation

Lucifer® Programmable EPP4 regulators
1/4" and 1/2" Comfort range

Parker

ENGINEERING **YOUR** SUCCESS.
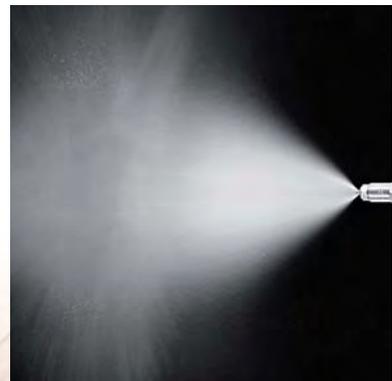
Market and/or Sub Market Description

Robotics

Paper industry

Machine tools

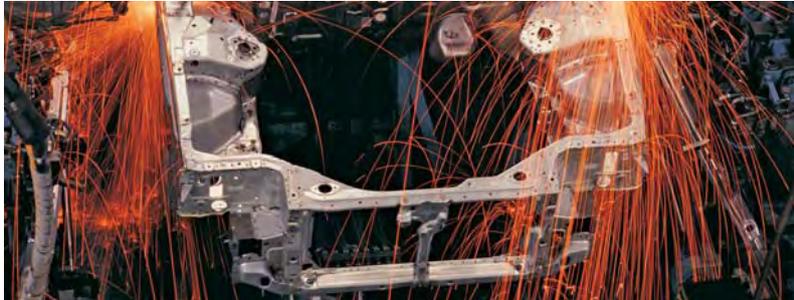Mobile

Buildings

Textile

Instrumentation

Semi conductor

Description of Applications

Welding

Speed and brake control

Sanding

Cutting

Humidification

Tension regulation

Painting

Presses

Polishing

Adaptative suspension control

Value Propositions for Lucifer® EPP4 Comfort Proportional Pressure Regulators

- All parameters fully adjustable through the PC software Calys
- Easy to use software
- Long life expectancy
- Compact and light
- Limited inventory
- Low power
- Flexible remote display positioning
- Proven expertise of Parker, a pioneer in pressure regulation technology

Calys Software

Calys is a unique software in house developed to configure all the parameters of the EPP4 Comfort range.

Calys is an option of the EPP4. It will be sent via email if you order cable reference 496449 wich permits the communication between the EPP4 and a PC.

Calys offers many capabilities:

- It enables the distributors to keep a main generic EPP4 reference in stock, and adjust it to the needs of each customer application. They can switch for example from 0-10 V to 4-20 mA, or from 0-7 bar pressure range to 0-5 bar.
- Engineers designing a pneumatic system are able to monitor precisely all the important values (electrical or pneumatical) directly on their laptop.
- After sales technicians are able to receive via email all the parameters measured by the EPP4 installed on a machine wherever its location. This way maintenance operations can be done remotely at distance.

Lucifer® EPP4 Comfort Technical Data

|	
Fluids:	Lubricated or non lubricated air and neutral gases Recommended filtration: 50 µm
Temperature range:	Ambient: 0 to +50 °C Fluid: 0 to +50 °C
Inlet pressure range:	1 to 12 bar (the inlet pressure must always be at least 1 bar above the regulated pressure)
Outlet pressure range:	0.05 to 10 bar
Hysteresis:	± 50 mbar (factory set up)
Air consumption at constant control signal:	0
Supply voltage:	24 V DC ± 15 % (Max. ripple 1 V)
Power consumption:	Max. 2.8 W with 24 V DC and constant changes of the control signal < 1.5 W without change of control signal
Control signal:	Analog 0 - 10 V; standard for 0 - 10 bar; adjustable Analog 4 - 20 mA; standard for 0 - 10 bar; adjustable
Outlet sensor signal:	Analog 0 - 10 V ; standard for 0 - 10 bar; adjustable Analog 4 - 20 mA ; standard for 0 - 10 bar; adjustable Digital 0/24 V for alarm features: ■ Adjustable pressure error (+/-) ■ Adjustable delay ON ■ Adjustable delay OFF ■ Adjustable logic (+/-)
Max. flow:	G1/4: 70 m³/h G1/2: 150 m³/h
Indicative response time: **Filling 2 to 4 bar:** **Filling 2 to 8 bar:** **Emptying 4 to 2 bar:** **Emptying 8 to 2 bar:**	With a volume of 330 cm³ at the outlet of the regulator G1/4 ~ 50 msec G1/2 ~ 60 msec G1/4 ~ 100 msec G1/2 ~ 120 msec G1/4 ~ 70 msec G1/2 ~ 90 msec G1/4 ~ 130 msec G1/2 ~ 190 msec
Safety position:	In case of control signal failure or if it is less than 50mV, the regulated pressure drops automatically to 0 bar (atmospheric pressure). In case of voltage supply failure, the regulated pressure will be kept constant.
Electrical connection:	M12 - 8 pin; male connector power supply/control signal M12 - 5 pin; male connector communication
Life expectancy:	> 50 Mio changes of control signal steps
Mounting position:	Indifferent (recommended position: upright; electronic part on top)
Resistance to vibrations:	30 g in all directions
Protection index:	IP 65
Assembly:	Silicone free
Electromagnetic compatibility:	In accordance with EN 61000-6-1: 2001 EN 61000-6-2: 2001 EN 61000-6-3: 2001 + A11 2004 edition (01/07/07) EN 61000-6-4: 2001
Installation and setting instructions:	See our "Notice 408128, 408134" and appendix supplied with the product.

Note: Parker reserves the right to change specifications without notification.

Description of Operation

Pneumatic Technology

Construction is made with a full aluminium body.

The piston is fabricated in a special polyacetal and is equipped with high performance dynamic seals, specially developed by Parker Lucifer for this application.
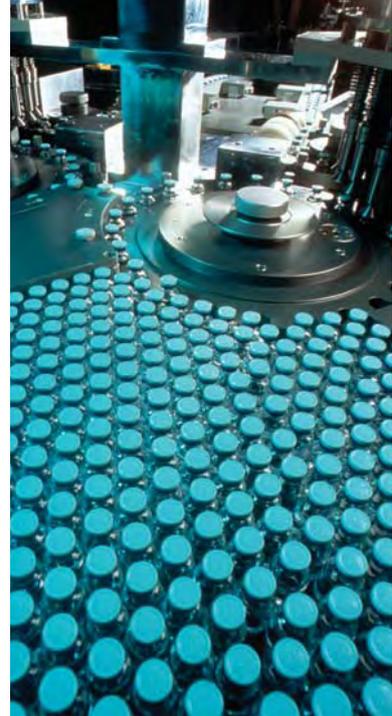
Electronic Technology

The Comfort version uses the board of the EPP4 1/2" Basic range for the regulation functions and a second board for specified options.

Technology used is fully digital. The cancellation of potentiometers allows customers to realise an easy, safe and precise set-up in their production.

Block Diagram

The controller receives both the control signal (set pressure) and the feedback signal from the sensor (outlet pressure).

Any difference between the two amplifier inputs results in a corresponding output which drives the appropriate 2-way pulse width modulated solenoid valve so that the piston moves to correct the pressure.

The same feedback signal from the sensor is used for the output feedback in voltage and current.

The digital signal (alarm) is activated when the conditions (out of pressure or time tolerance) are met.
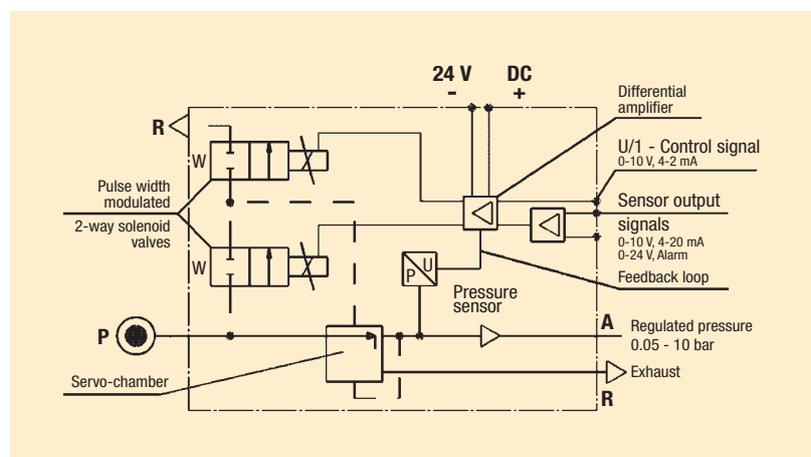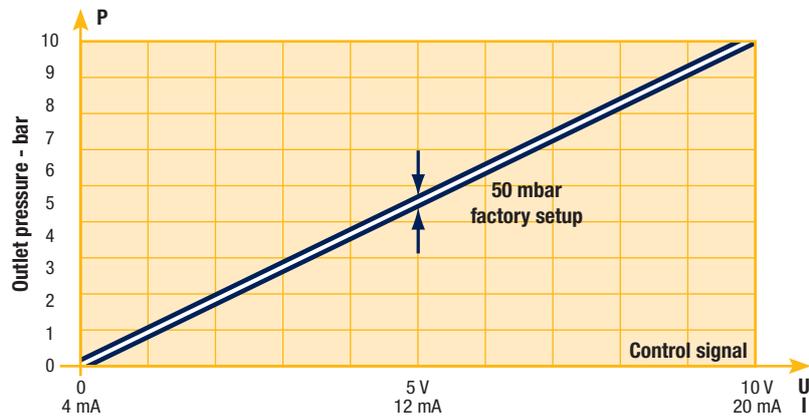
Lucifer® EPP4 Comfort References

Codes	Pipe (bar)	Pressure range		Control signal (see options)	Display
P4CG2001C001	G 1/4	0	10	0-10 V	-
P4CG2001C002	G 1/4	0	10	4-20 mA	-
P4CG2001C005	G 1/4	0	7	0-10 V	-
P4CG2001C006	G 1/4	0	7	4-20 mA	-
P4CG2002C001	G 1/4	0	10	0-10 V	included
P4CG2002C002	G 1/4	0	10	4-20 mA	included
P4CG2002C007	G 1/4	0	7	0-10 V	included
P4CG2002C008	G 1/4	0	7	4-20 mA	included
P4CN2001C001	1/4 NPT	0	10	0-10 V	-
P4CN2001C002	1/4 NPT	0	10	4-20 mA	-
P4CN2002C001	1/4 NPT	0	10	0-10 V	included
P4CN2002C002	1/4 NPT	0	10	4-20 mA	included
P4CG4001C001	G 1/2	0	10	0-10 V	-
P4CG4001C002	G 1/2	0	10	4-20 mA	-
P4CG4001C005	G 1/2	0	7	0-10 V	-
P4CG4001C006	G 1/2	0	7	4-20 mA	-
P4CG4002C001	G 1/2	0	10	0-10 V	included
P4CG4002C002	G 1/2	0	10	4-20 mA	included
P4CG4002C005	G 1/2	0	7	0-10 V	included
P4CG4002C006	G 1/2	0	7	4-20 mA	included
P4CN4001C001	1/2 NPT	0	10	0-10 V	-
P4CN4001C002	1/2 NPT	0	10	4-20 mA	-
P4CN4002C001	1/2 NPT	0	10	0-10 V	included
P4CN4002C002	1/2 NPT	0	10	4-20 mA	included

Other specific settings or specialties (external pressure supply, integrated exhaust of the pilot valves, etc…) are available, please contact us.
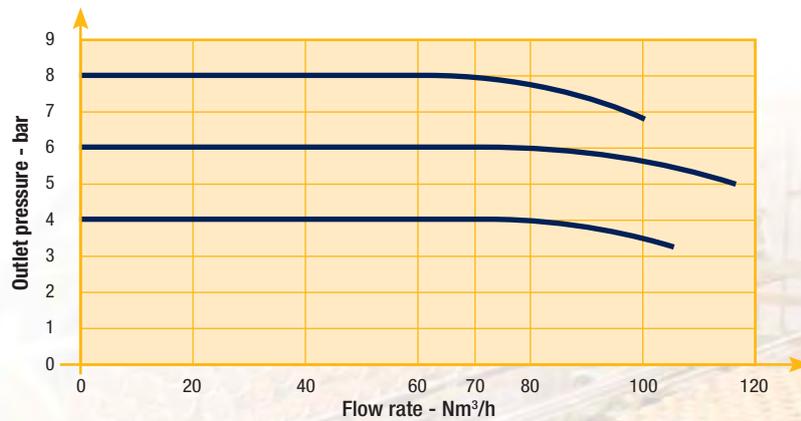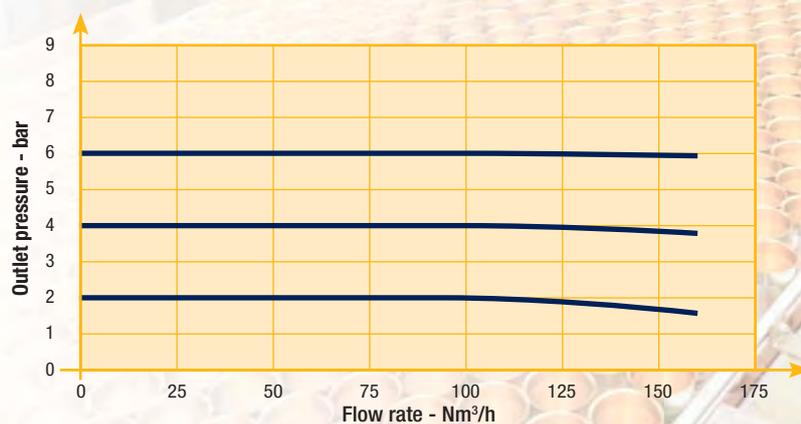
Lucifer® EPP4 Comfort Technical Characteristics

Hysteresis 1/4" & 1/2"

P

Outlet pressure - bar

50 mbar factory setup

Control signal

| 0 | 5 V | 10 V | U |
| 4 mA | 12 mA | 20 mA | I |

Flow Curve 1/4"

Outlet pressure - bar

Flow rate - Nm³/h

Flow Curve 1/2"

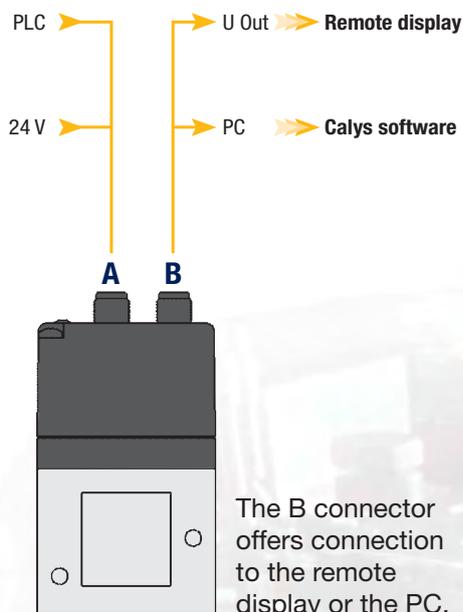Outlet pressure - bar

Flow rate - Nm³/h

7

Lucifer® EPP4 Comfort Options

Additional Features

The EPP4 Comfort **offers two main options** - a **remote display** and a **software** to easily set the regulator's parameters.

These are the key feature options for a comfortable use.

PLC ➤   ➤ U Out ⟫⟫ **Remote display**

24 V ➤   ➤ PC ⟫⟫ **Calys software**

A   **B**

The B connector offers connection to the remote display or the PC.

- A remote display connected to the pressure regulator offers flexible monitoring.
- A panel mounting kit is available to install the remote display.
- Calys is an easy-to-use software package designed to allow the user to match his regulators performance directly to his specific application.
- A power supply and control signal cable.

Lucifer® EPP4 Comfort Options

Remote Display

This option includes the Remote Display and 1.5 meter connecting cable.

This device is part of the EPP4 Comfort & Display pack, it is not sold separately.
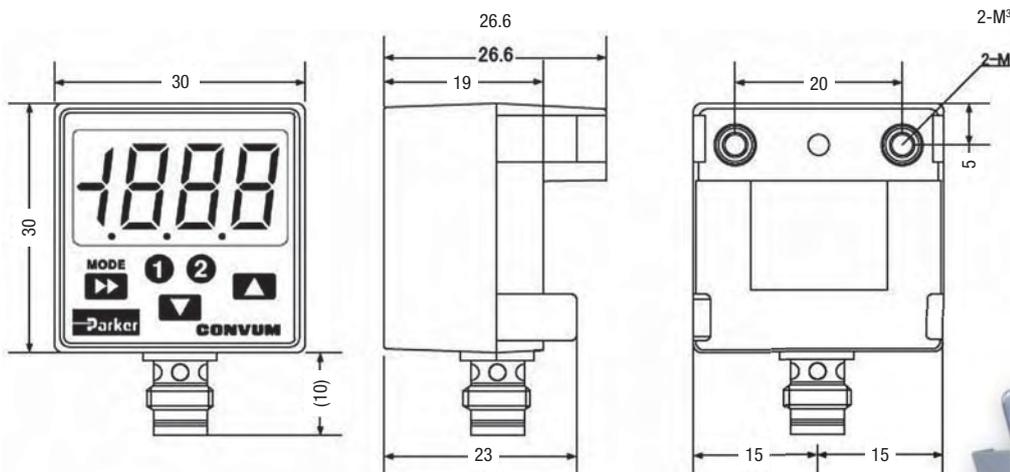
Order the P4CGX002 series (vs the P4CGX001 corresponding to the version without a display).

Compact and highly readable remote LED display:

- Bar and PSI scales
- Security lock
- 1.5 m cable
- Mounting brackets

Panel Mounting Kit

Order the Panel Mounting Kit under reference 496601

Lucifer® EPP4 Comfort Options

Calys Software

Calys is a software to set all relevant parameters of the Lucifer® EPP4 Comfort.

The cable 496449 (option) is needed to let the EPP4 communicate with any configured PC, this software is supplied free of charge with each cable unit.

Calys offers the following features:

- Live monitoring (control signal, regulated pressure, supply voltage,…)
- Recording of the main parameters (control signal, regulated pressure, supply voltage,…) in an Excel file
- Free calibration for the inputs and outputs
- Adjustable alarm (positive-negative, pressure limits, delays)
- Configuration files easy to duplicate
- Complete and interactive help file

- Data in 4 different pressure units
- Menus in 4 languages (English, German, French and Italian)
- Cable 496449 with RS-232 and USB connection
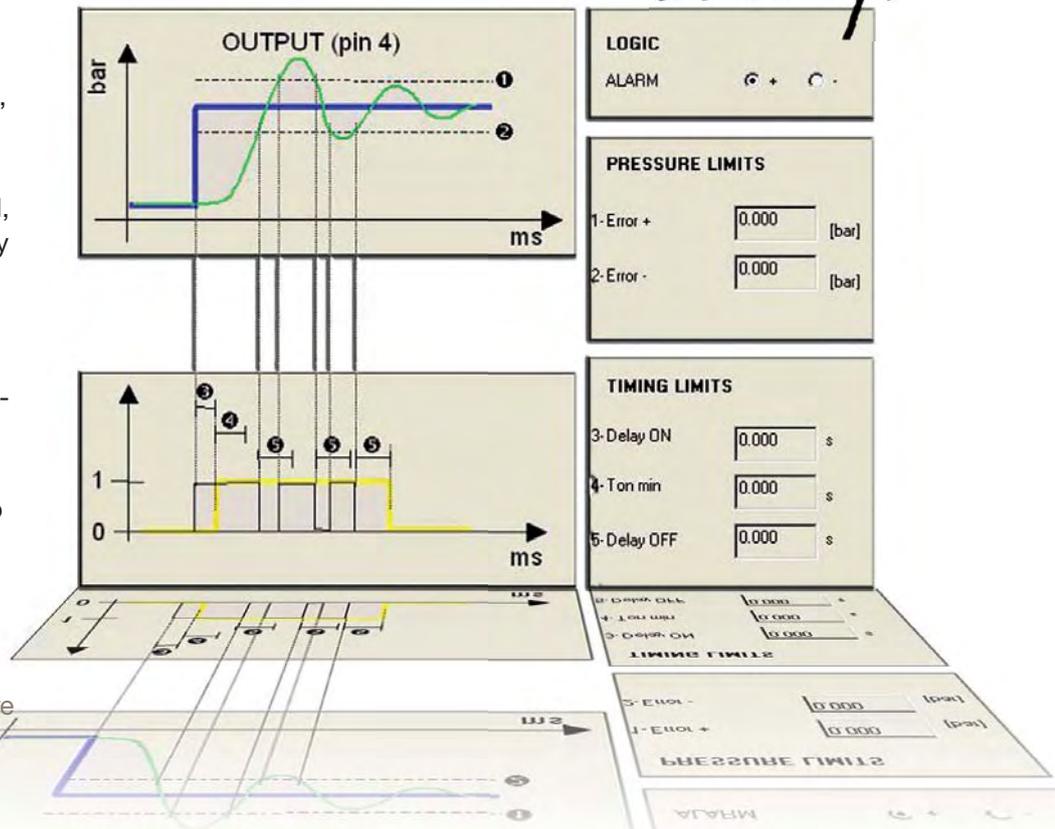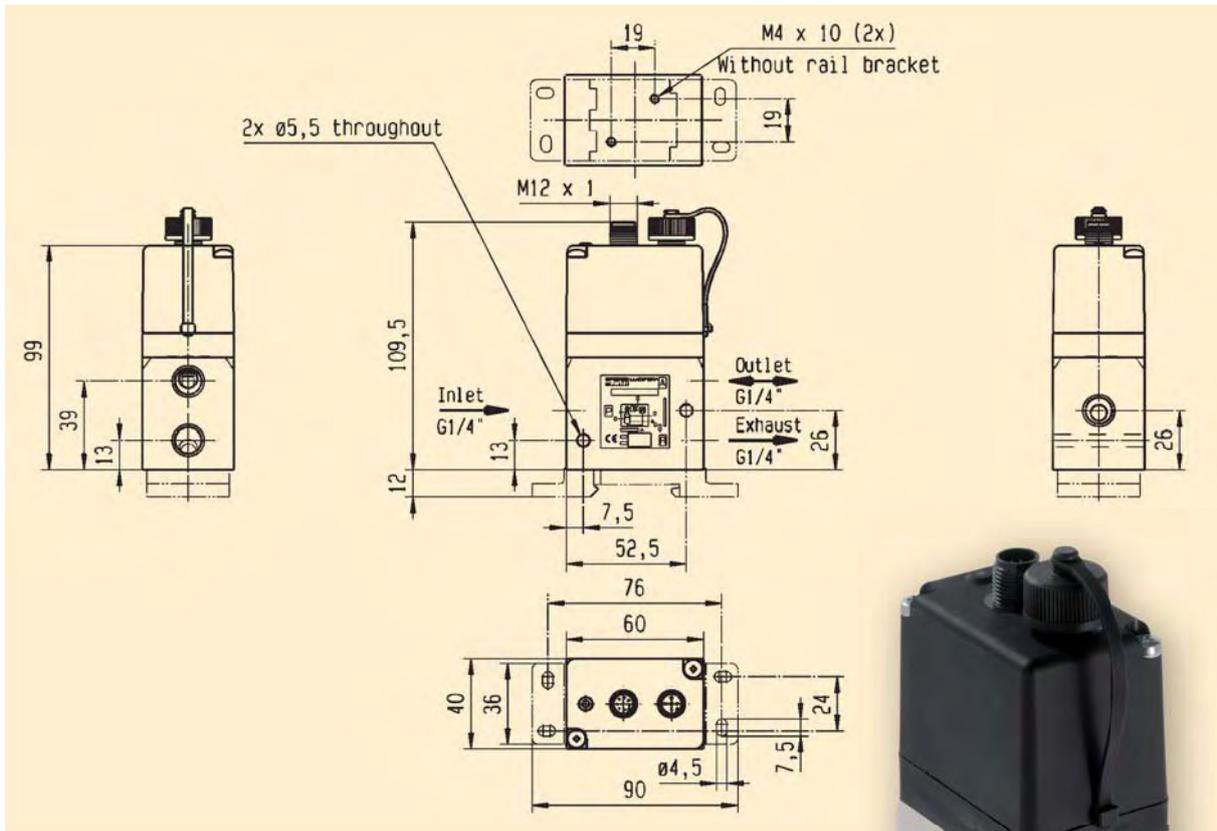

Power Supply / Control Signal Cable

- 2 m cable with moulded M12-8 pins connector

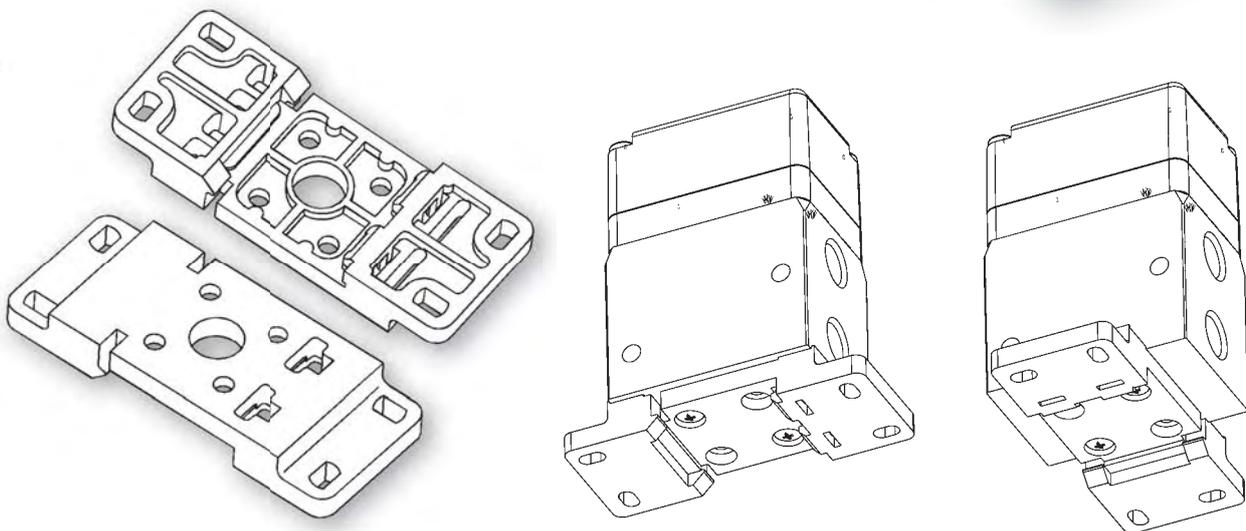| Order the PC software (including cable) under reference 496449 | Order the power supply / control signal cable under reference 496796 |

Lucifer® EPP4 Comfort Range 1/4"
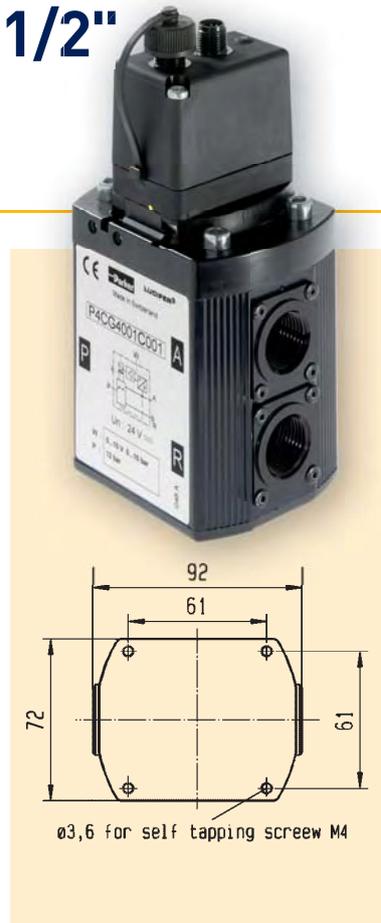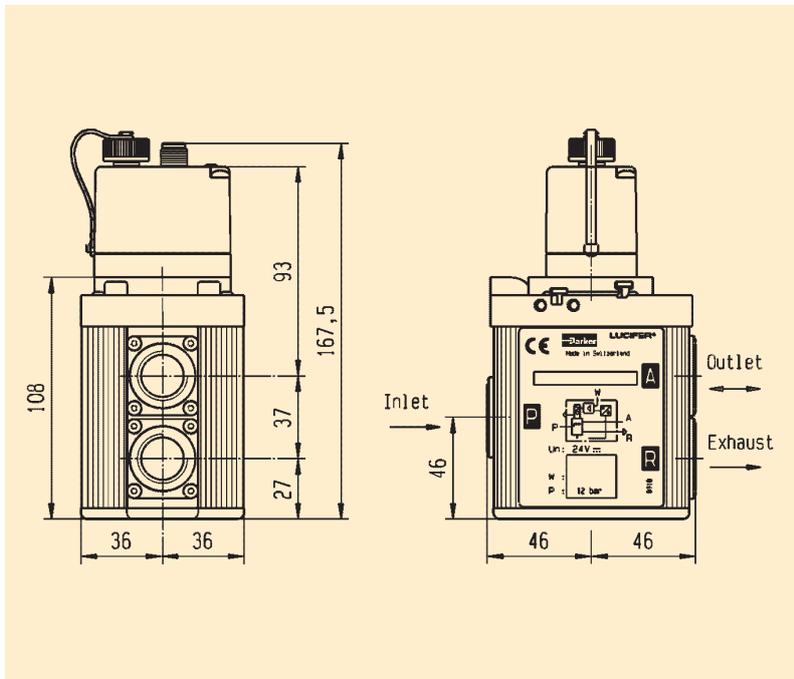
Dimensions

Accessories

Mounting bracket
(supplied as a standard
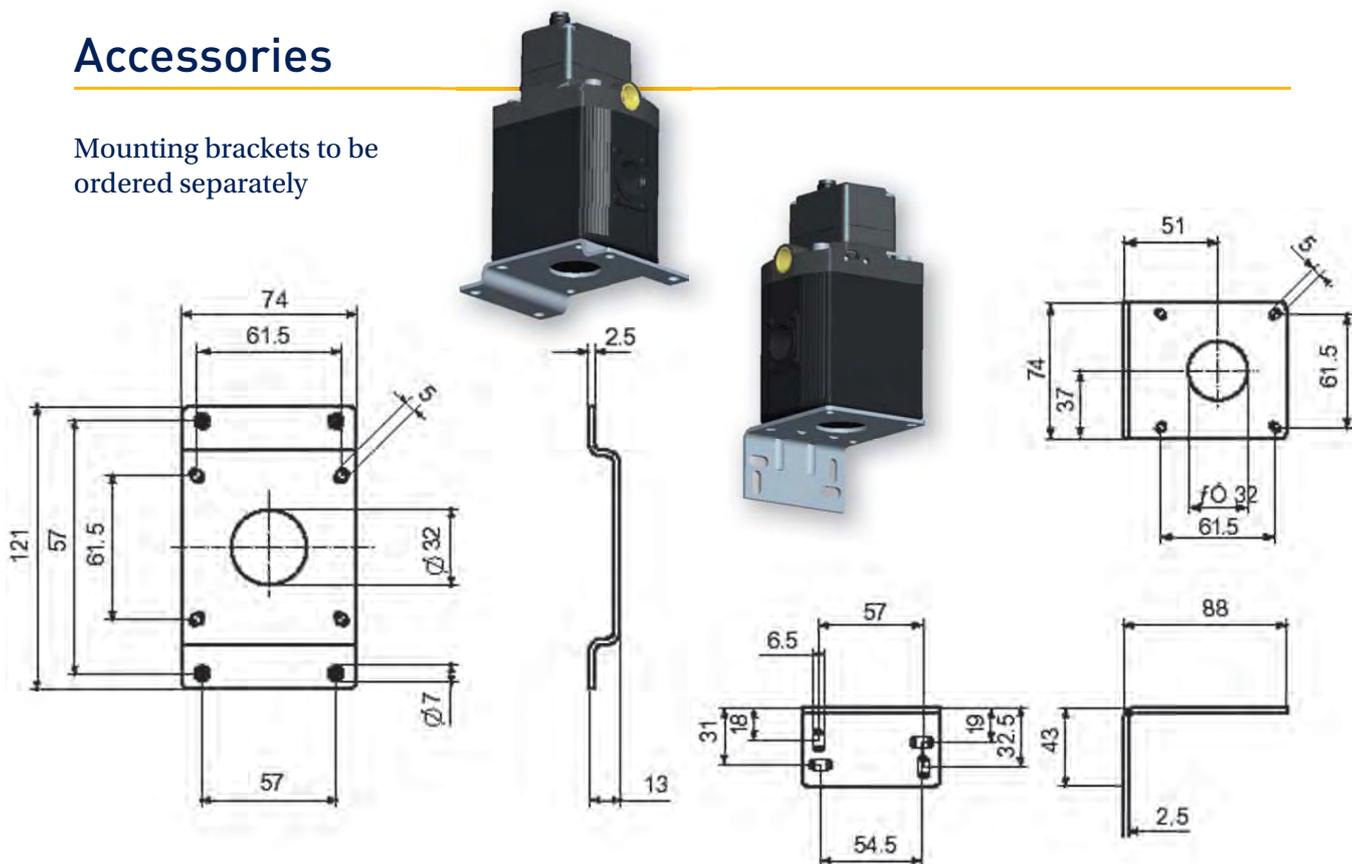with each Lucifer® EPP4 1/4")

Lucifer® EPP4 Comfort Range 1/2"

Dimensions

Accessories

Mounting brackets to be
ordered separately

Order reference 491366

Order reference 491367

Notes

Notes

Parker's Motion & Control Technologies

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 00800 27 27 5374.

AEROSPACE
Key Markets
- Aircraft engines
- Business & general aviation
- Commercial transports
- Land-based weapons systems
- Military aircraft
- Missiles & launch vehicles
- Regional transports
- Unmanned aerial vehicles

Key Products
- Flight control systems & components
- Fluid conveyance systems
- Fluid metering delivery & atomization devices
- Fuel systems & components
- Hydraulic systems & components
- Inert nitrogen generating systems
- Pneumatic systems & components
- Wheels & brakes

CLIMATE CONTROL
Key Markets
- Agriculture
- Air conditioning
- Food, beverage & dairy
- Life sciences & medical
- Precision cooling
- Processing
- Transportation

Key Products
- CO_2 controls
- Electronic controllers
- Filter driers
- Hand shut-off valves
- Hose & fittings
- Pressure regulating valves
- Refrigerant distributors
- Safety relief valves
- Solenoid valves
- Thermostatic expansion valves

ELECTROMECHANICAL
Key Markets
- Aerospace
- Factory automation
- Food & beverage
- Life science & medical
- Machine tools
- Packaging machinery
- Paper machinery
- Plastics machinery & converting
- Primary metals
- Semiconductor & electronics
- Textile
- Wire & cable

Key Products
- AC/DC drives & systems
- Electric actuators
- Controllers
- Gantry robots
- Gearheads
- Human machine interfaces
- Industrial PCs
- Inverters
- Linear motors, slides and stages
- Precision stages
- Stepper motors
- Servo motors, drives & controls
- Structural extrusions

FILTRATION
Key Markets
- Food & beverage
- Industrial machinery
- Life sciences
- Marine
- Mobile equipment
- Oil & gas
- Power generation
- Process
- Transportation

Key Products
- Analytical gas generators
- Compressed air & gas filters
- Condition monitoring
- Engine air, fuel & oil filtration & systems
- Hydraulic, lubrication & coolant filters
- Process, chemical, water & microfiltration filters
- Nitrogen, hydrogen & zero air generators

FLUID & GAS HANDLING
Key Markets
- Aerospace
- Agriculture
- Bulk chemical handling
- Construction machinery
- Food & beverage
- Fuel & gas delivery
- Industrial machinery
- Mobile
- Oil & gas
- Transportation
- Welding

Key Products
- Brass fittings & valves
- Diagnostic equipment
- Fluid conveyance systems
- Industrial hose
- PTFE & PFA hose, tubing & plastic fittings
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects

HYDRAULICS
Key Markets
- Aerospace
- Aerial lift
- Agriculture
- Construction machinery
- Forestry
- Industrial machinery
- Mining
- Oil & gas
- Power generation & energy
- Truck hydraulics

Key Products
- Diagnostic equipment
- Hydraulic cylinders & accumulators
- Hydraulic motors & pumps
- Hydraulic systems
- Hydraulic valves & controls
- Power take-offs
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects

PNEUMATICS
Key Markets
- Aerospace
- Conveyor & material handling
- Factory automation
- Food & beverage
- Life science & medical
- Machine tools
- Packaging machinery
- Transportation & automotive

Key Products
- Air preparation
- Compact cylinders
- Field bus valve systems
- Grippers
- Guided cylinders
- Manifolds
- Miniature fluidics
- Pneumatic accessories
- Pneumatic actuators & grippers
- Pneumatic valves and controls
- Rodless cylinders
- Rotary actuators
- Tie rod cylinders
- Vacuum generators, cups & sensors

PROCESS CONTROL
Key Markets
- Chemical & refining
- Food, beverage & dairy
- Medical & dental
- Microelectronics
- Oil & gas
- Power generation

Key Products
- Analytical sample conditioning products & systems
- Fluoropolymer chemical delivery fittings, valves & pumps
- High purity gas delivery fittings, valves & regulators
- Instrumentation fittings, valves & regulators
- Medium pressure fittings & valves
- Process control manifolds

SEALING & SHIELDING
Key Markets
- Aerospace
- Chemical processing
- Consumer
- Energy, oil & gas
- Fluid power
- General industrial
- Information technology
- Life sciences
- Military
- Semiconductor
- Telecommunications
- Transportation

Key Products
- Dynamic seals
- Elastomeric o-rings
- EMI shielding
- Extruded & precision-cut, fabricated elastomeric seals
- Homogeneous & inserted elastomeric shapes
- High temperature metal seals
- Metal & plastic retained composite seals
- Thermal management

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SE, UK, ZA)

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