03.09

Fluidea

...we know how!

JEP2 DUAL AXIS ELECTRIC PROPORTIONAL JOYSTICKS

20.03





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Applications

The JEP2 electric proportional joysticks are used in the energy, railway, shipbuilding, agricultural and forestry, earthmoving, material handling and industrial automation industries

Description

The JEP2 dual-axis electric proportional joysticks are used to remotely control the electro-hydraulic pressure reducing valves fitted on main directional control valves, variable diplacement pumps and motors and various types servo-actuated users including clutches and brakes. The input suply can vary from 8 up to 32 Volt DC.

They are extremely compact and at the same time equipped with a robust, precise and reliable mechanical kinematic mechanism for positioning the sensors, which ensures excellent tactile sensitivity to the control lever.
Hall effect sensors, which eliminate any contact between moving parts, are totally protected from electromagnetic interference and radio frequencies (EMI and RFI) up to 100 V / M and are also programmable with magnetic temperature compensation logic to ensure constant operation and repeatable in any operating condition.

Hall effect proportional rollers

Rotary potentiometer

The JEP2 joysticks, available only in dual axis configuration, are designed for the maximum flexibility; the modular electronic system includes the analogue, PWM or CANbus output signals and can cover many applications from aerospace, railway, marine industries to construction equipment, agricultural machines, material handling and many industrial applications.

Proportional roller Hall effect, with integral PWM controller

Proportional dual axis mini-joystick Hall effect

Numerous accessories are available within the Fluidea range of components to integrate the configuration of the JEP2 joysticks and allow a variety of system options which can match any customer requirement, including a wide range of palm knobs IP1, multifinction cylindrical handles and ergonomic grips, which can be set up with on-off push-button switches, with selector switches, lightening leds, single and dual axis proportional mini-joysticks Hall effect without contacts.

Technical features

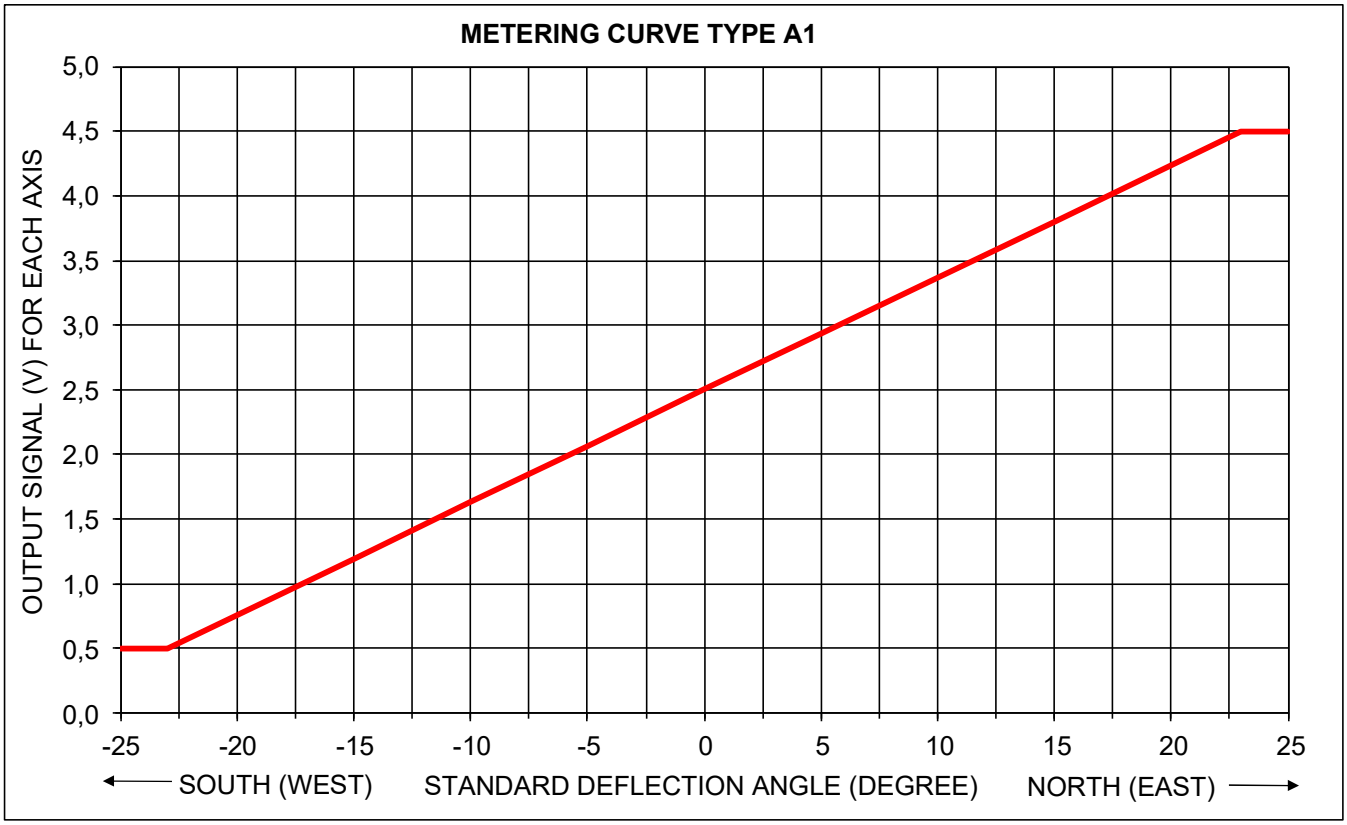
Mechanical

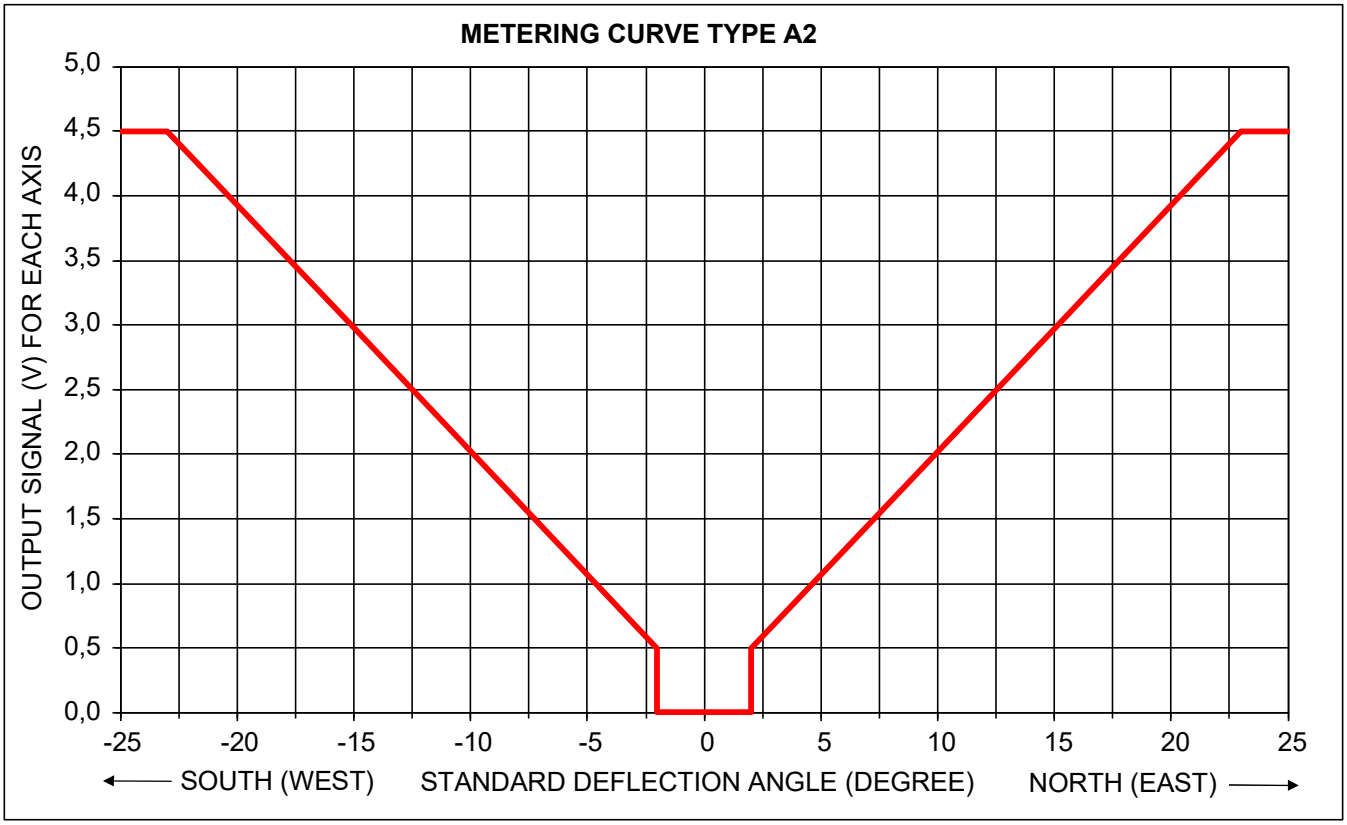
- Body material:	Aluminium alloy
- Rubber boot material:	NBR / 50° Shore - UV resistant
- Adapter materials:	Galvanized steel or brass
- Lever deflection angle:	+/- 23° (+/-1°)
- Electric adjustment angle:	+/- 23° (+/-1°)
- Operating temperature:	-25°C / + 80°C
- Protection class (above flange):	Up to IP67, depending on the handle
- Life:	> 5 millions cycles

Electrical features:

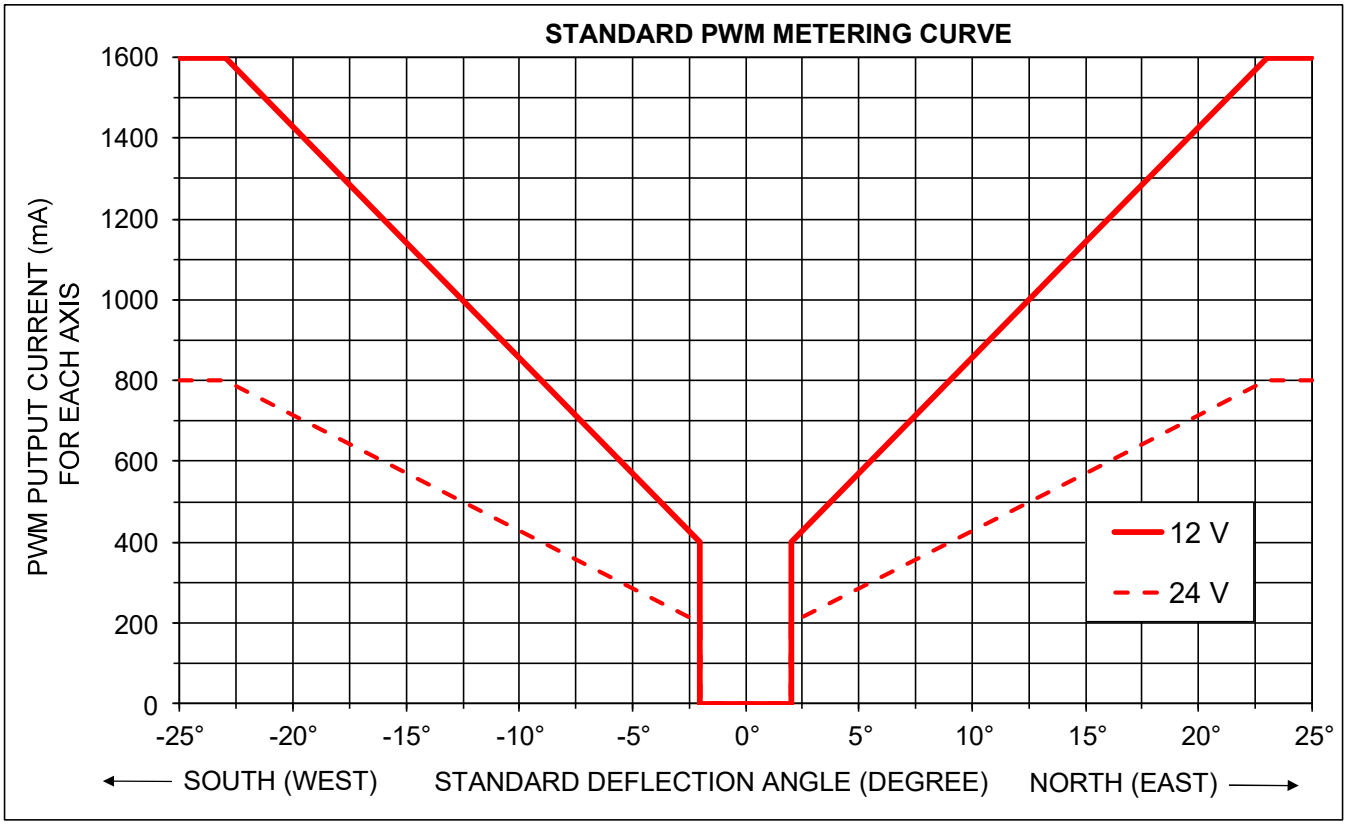
- Sensor:	Contactless Hall effect technology
- Supply voltage:	8 õ 32 V
- Current consumption in neutral:	25 mA (only for the sensor)
- Output signal configuration:	Analogue (0 ÷ 5 VDC) (pag.6), PWM (pag.7), CAN BUS
- Frequency (PWM signal):	60-250 Hz (standard 100 Hz)
- Electronic seal:	Potting
- Connector type:	Deutsch DT04-12P (PWM output signal) Deutsch DT04-4P (PWM programmer, CAN-BUS output signal) Other options on request
- Protections:	Overload and reverse polarity

Output metering curves





Output metering curve



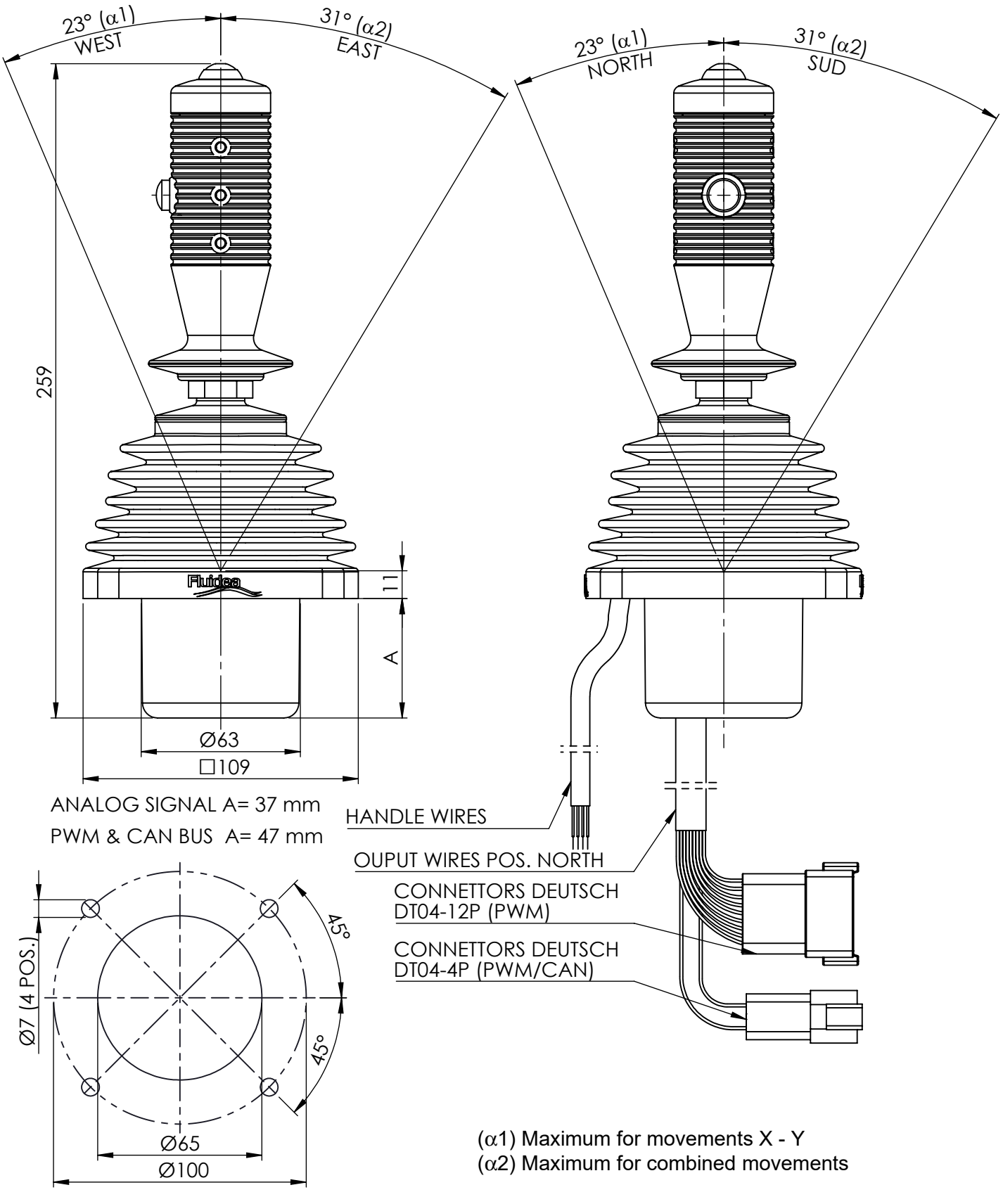
Portable chestpack control

Customized control box

Customized wiring kit

Overall dimensions

Dual axis joystick JEP2 with IC2 cylindrical handle and rubber boot Q

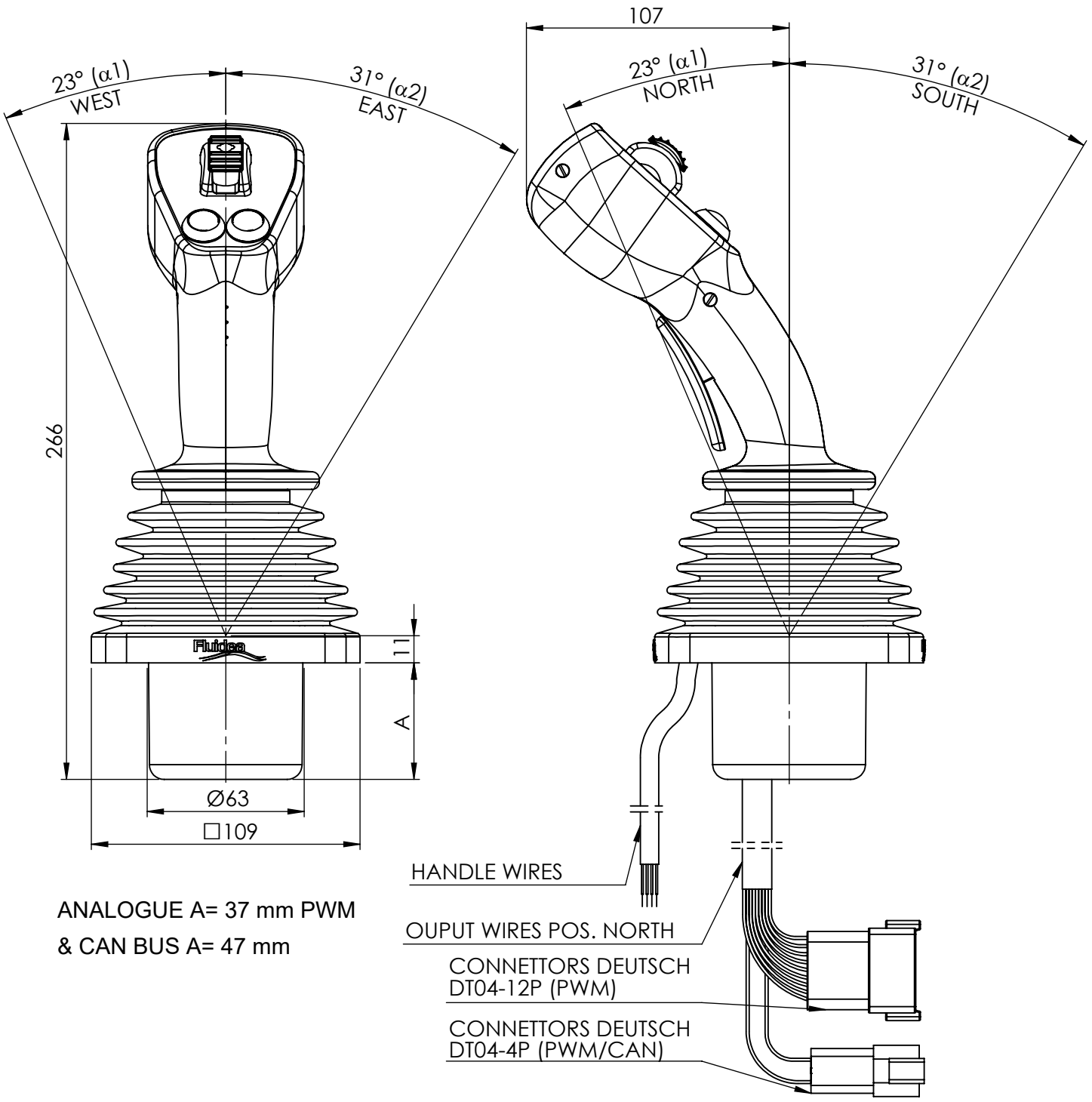


Mounting holes position,
common for all versions

(α1) Maximum for movements X - Y
(α2) Maximum for combined movements

Overall dimensions

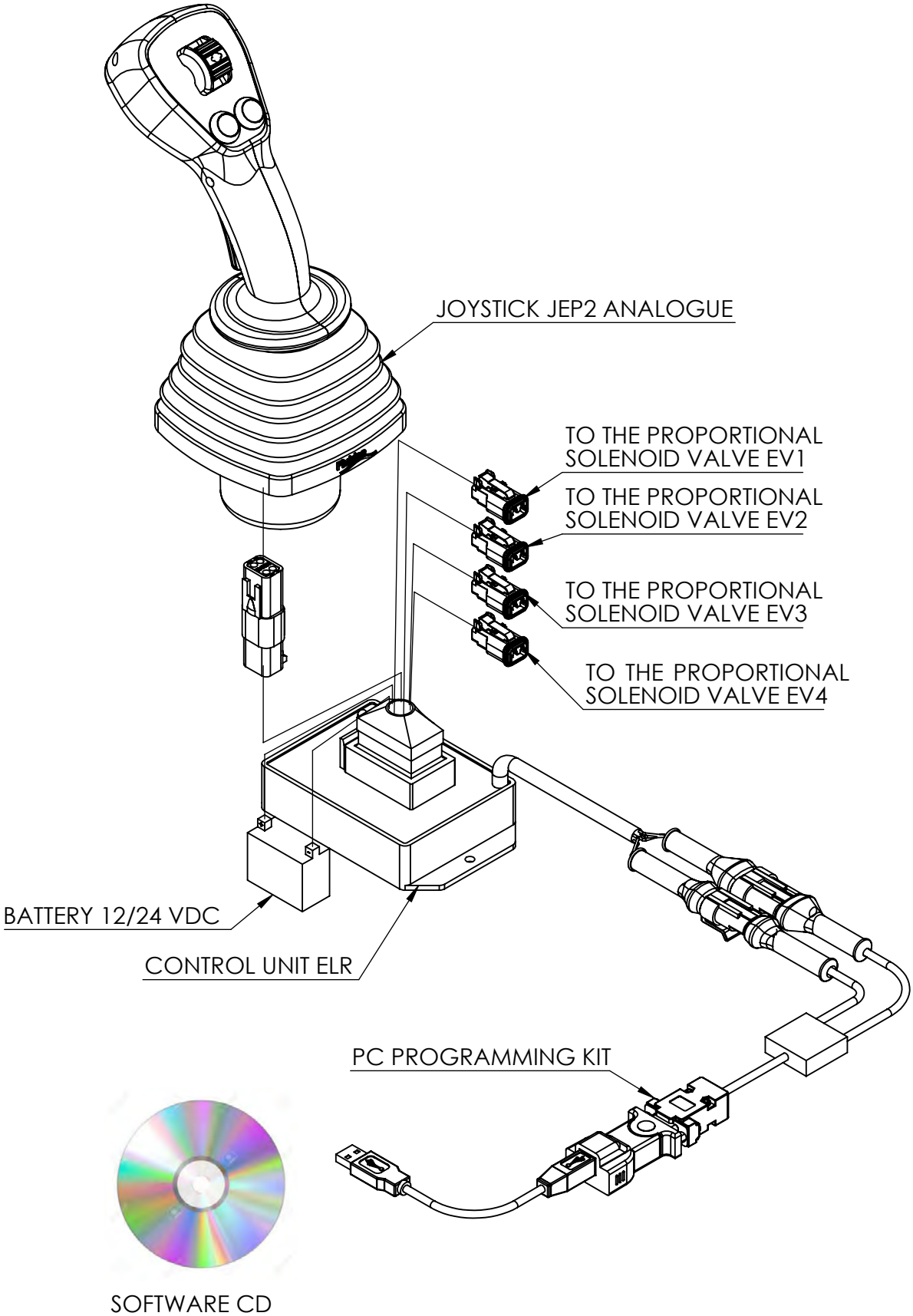
Dual axis joystick JEP2 with ergonomic handle IE2 and rubber boot Q



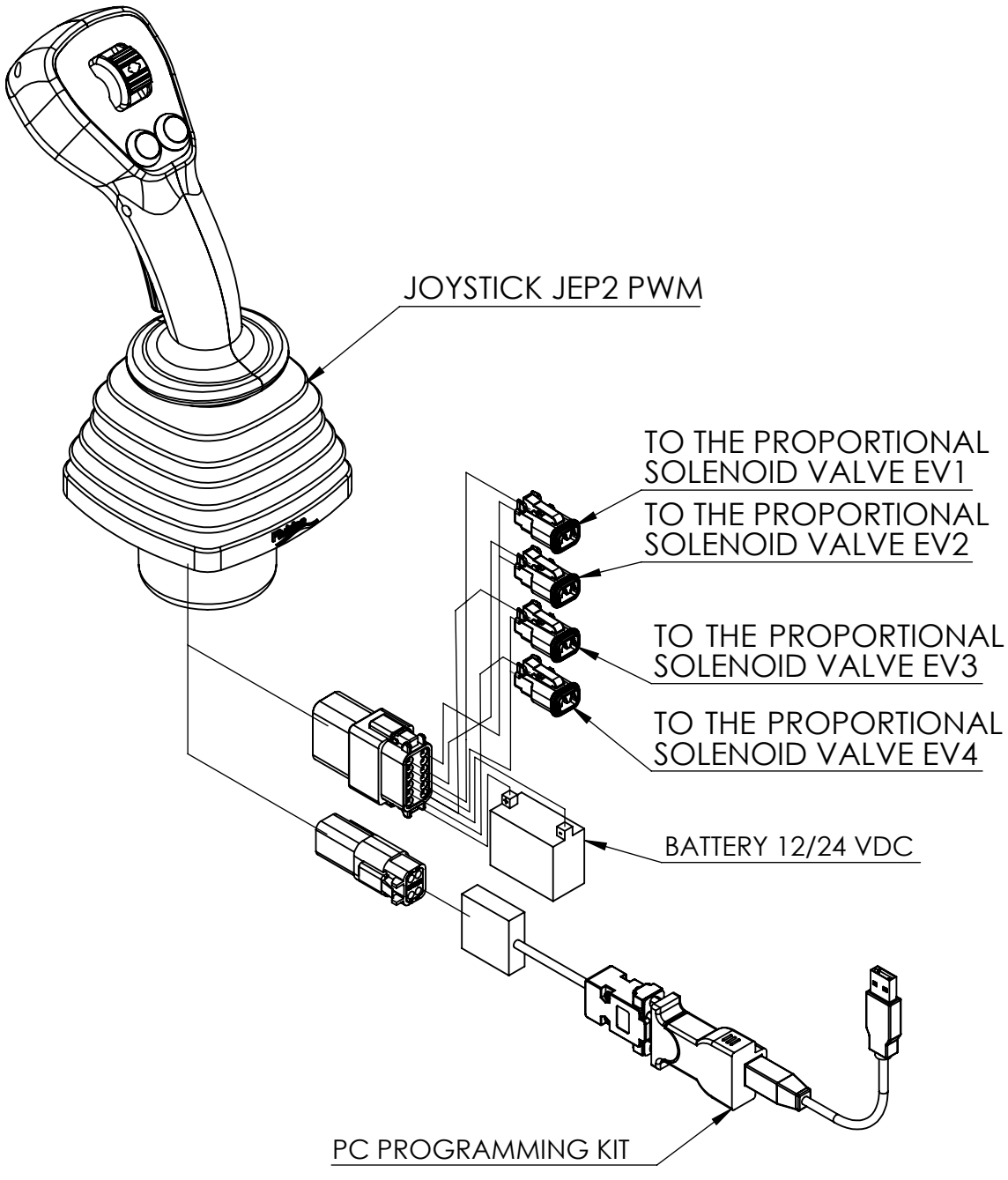
ANALOGUE A= 37 mm PWM
& CAN BUS A= 47 mm

(α1) Maximum for movements X - Y
(α2) Maximum for combined movements

Typical connection diagram for analogue joystick

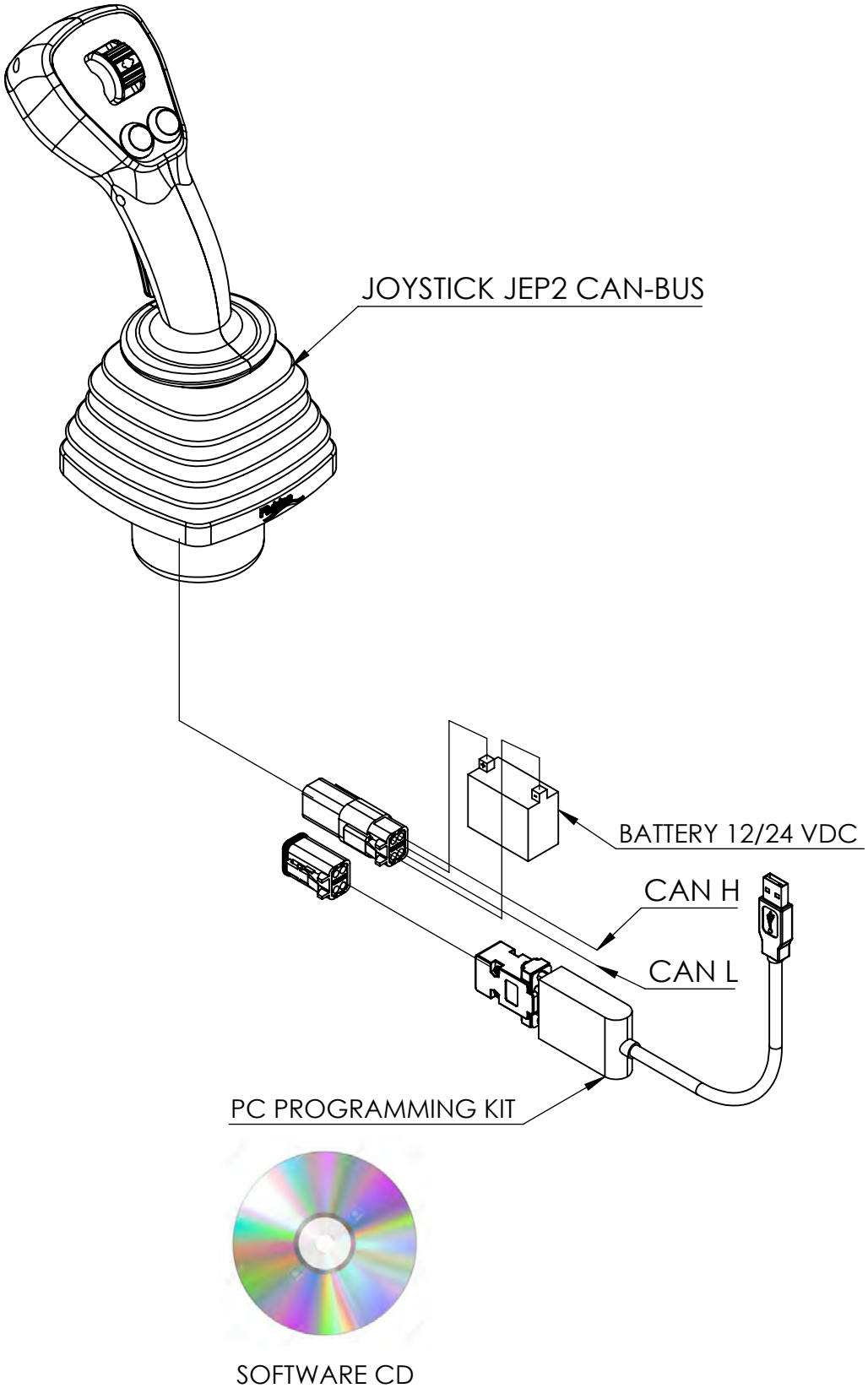


Typical connection diagram for PWM joystick



SOFTWARE CD

Typical connection diagram for CAN-BUS joystick



Control handles

For a detailed configuration of the handle, please refer to the technical catalogue of the required model

Without handle	Z

Standard straight handle	IC1

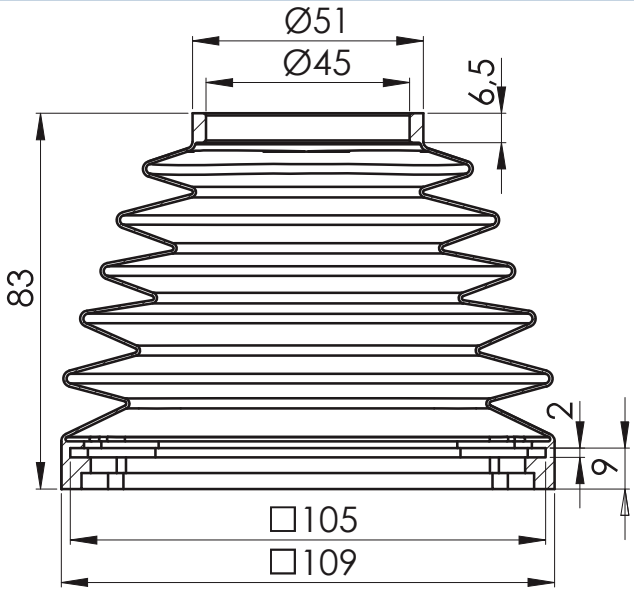
Multifunctional straight handle	IC2

Multifunctional ergonomic	IE2

Rubber boot

Without rubber boot	Z

With square rubber boot	Q



Ordering key

JEP2	A	IE20001	Q

Rubber boot (page 14):

- **Z** = Without rubber boot
- **Q** = Rubber boot for dual axis joystick

Handle (page 13):

- **IE20001** = Handle part number, assigned by Fluidea
  (for handle type please refer to the specific catalogue
- **Z** = without handle

Output metering curve (pages 5-6):

- **A1** = analogue signal from 0,5 to 4,5 VDC with one output (2,5 V in neutral position)
- **A2** = analogue signal from 0,5 to 4,5 VDC with one output (0 V in neutral position)
- **PWM0** = output current signal PWM
- **PWM4** = output current signal PWM + 4 on-off directional signals
- **CAN** = digital signal CAN-Bus

Basic model:

- **JEP2** = Proportional electric joystick

THE COMPREHENSIVE RANGE OF MANUFACTURED AND MARKETED COMPONENTS INCLUDES:

- Hydraulic gear and axial piston pumps & motors
- Directional control valves & selector valves
- Proportional EH pressure reducing valves & manifold blocks
- Hydraulic, pneumatic and electric on-off & proportional joysticks
- Control electronics
- Radio controls, push buttons stations, dashboards and armrests
- Multifunction ergonomic, cylindrical & palm grips
- Hydraulic filters & contamination control systems
- Heath exchangers and cooling systems
- Fluid monitoring & diagnostic instruments
- Bell housings, driving flanges & elastic couplings

Fluidea

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