03.08

Fluidea

...we know how!

ELECTRIC PROPORTIONAL JOYSTICK JEP

20.03





Index:

Description

The purpose of the electrical joystick series JEP is to control remotely devices like electro-hydraulic pressure reducing valves, main directiona control valves or variable displacement pumps and motors. The inlet supply is 12 or 24 VDC with a voltage stabilizer adjusted at the fixed value of 5,5 VDC.

The JEP series includes single and dual axis configuration.
The robust mechaical control device of the electric sensors, made with Hall effect contactless technology, ensures maximum reliability and life with excellent precision and tactile sensitivity. Hall effect sensors are protected against electromagnetic interferences and radiofrequencies (EMI and RFI) up to 100 V/M and can be programmed with logical magnetic compensation of the temperature, to ensure a constant and repeatable efficiency in any operating condition.

The remote controls series JEP are designed for the maximum flexibility; the modular electronic system and the analogue output signal can cover many applications from aerospace to marine, from construction equipment to agricultural machinery, materil handling machines and a wide range of industrial applications.

JEP joysticks can be combined with IE2 multifinction ergo grips, IC1&IC2 straight cylindrical handles and IP1 and knobs(see related cataloges). The IE2 grips additionally can be fitted with a wide reange of on-off push button switches and proportional Hall effect mini-joysticks and rollers, some of which are integrated with optinal PWM electronic card.

In Fluidea range are also available PWM and analogue amplifiers/converters, voltage stabilizers, USB interface cables and programming software for the adjustable parameters. For further information, please contact our sales office.

Optional proportional roller with integral PWM control

Peculiarities

- Single, dual and triple axis configuration
- Wide range of adapters and control grips
- 15 million life cycles in any direction
- 20° deflection angle for each semi-axis
- IP68S protection
- Electromagnetic withstand EMI/RFI up to 100V/
- Adjustable pre-stroke, extra-stroke blind angle
- Output analogue, PWM, CANbus and USB signal
- On-off optional neutral position signal

Technical features

Electrical

In compliance with directive 2002/95/CE

	MIN	TYPICAL	MAX
Nominal supply voltage (Volt)	5 @ 20°C and 1 mA (4.7 kΩ)		
Supply voltage (Volt)	4,50	5,00	5,50
Output signal (Volt)	0,5 ÷ 4,5		
Output signal tolerance at minimum angle 0°÷2° @ 5 V (Volt)	-0,15	N/A	+0,15
Output signal tolerance at maximum angle 19°÷20° @ 5 V (Volt)	-0,15	N/A	+0,15
Supply current for each sensor (mA)	N/A	N/A	10
Output current limits (mA)	-1	N/A	+1
Sensor	Hall effect, analogue, 1 or 2 output for axis		
Sensor design	Double magnet		

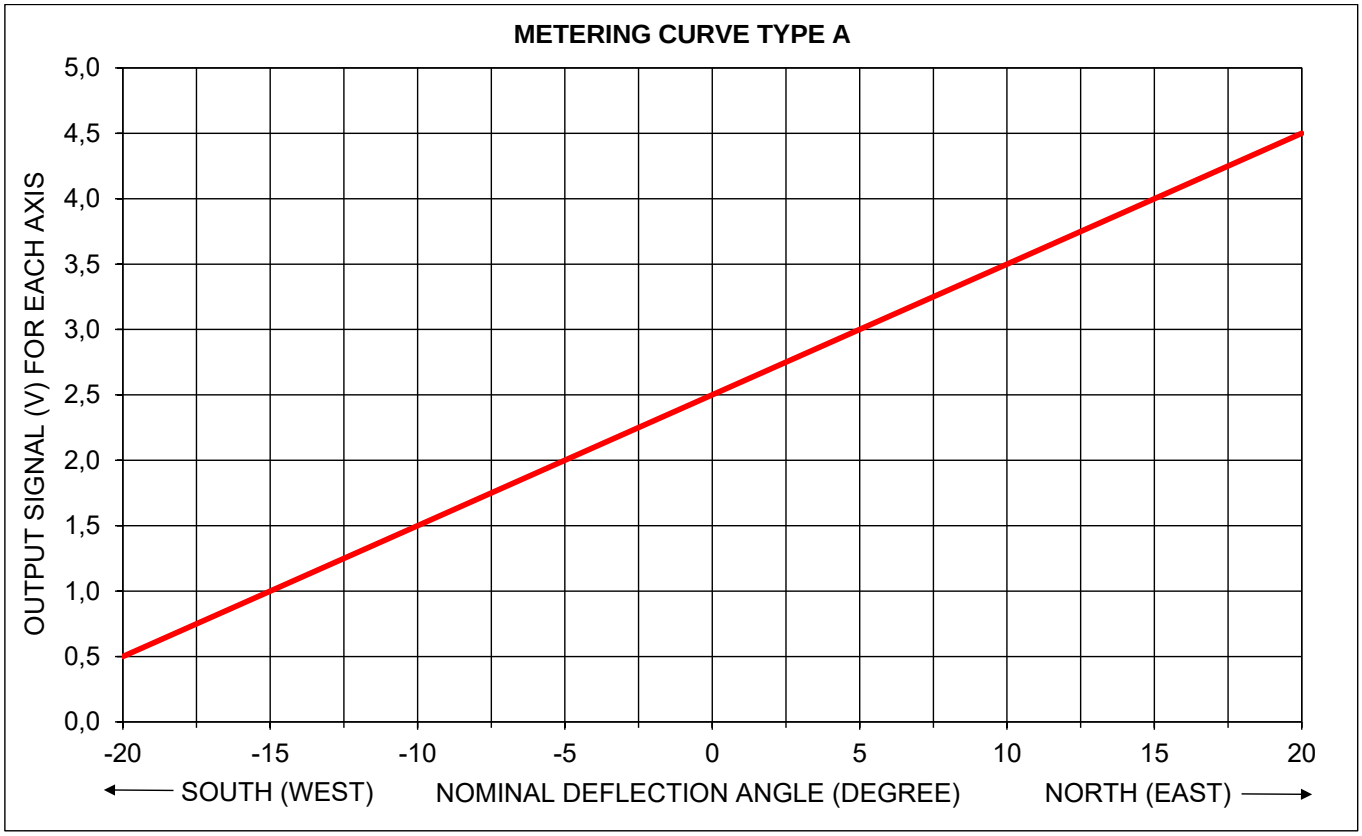
Mechanical

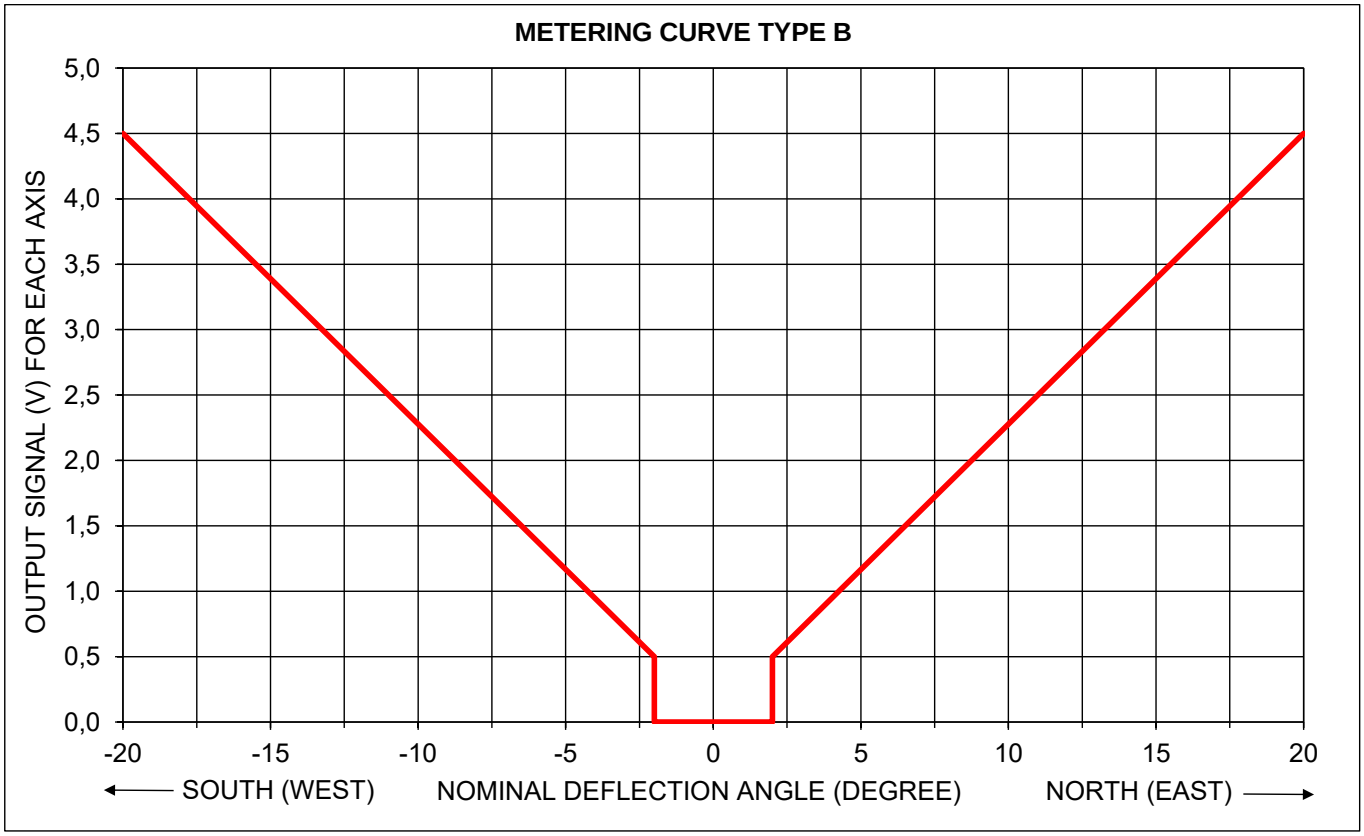
	MIN	TYPICAL	MAX
Mechanical life (in any direction)	15.000.000 cycles		
Nominal deflection angle (°)	19	20	21
Pre-stroke angle (°)	1,5	2,0	2,5
Extra-stroke angle (°)	0,5	1,0	1,5
Operating force at lever midpoint @ 20÷85°C (N)	15,6	20,0	24,4
Operating force at lever midpoint @ -40°C (N)	57,8	68,9	80,0

Environmental

	MIN	TYPICAL	MAX
Ambient temperature °C	-40	20	85
Storage temperature °C	-65	20	105
Humidity resistance test	96% RH @ 70 °C for 96 hours		
Vibration resistance test	10g, 10 Hz ÷ 2kHz sinusoidal		
Protection class	IP68		
RFI withstand	100V/M, from 14 kHz to 1 GHz		
EMI withstand	MIL-STD-461D/SAE J1113-22		

Output metering curves

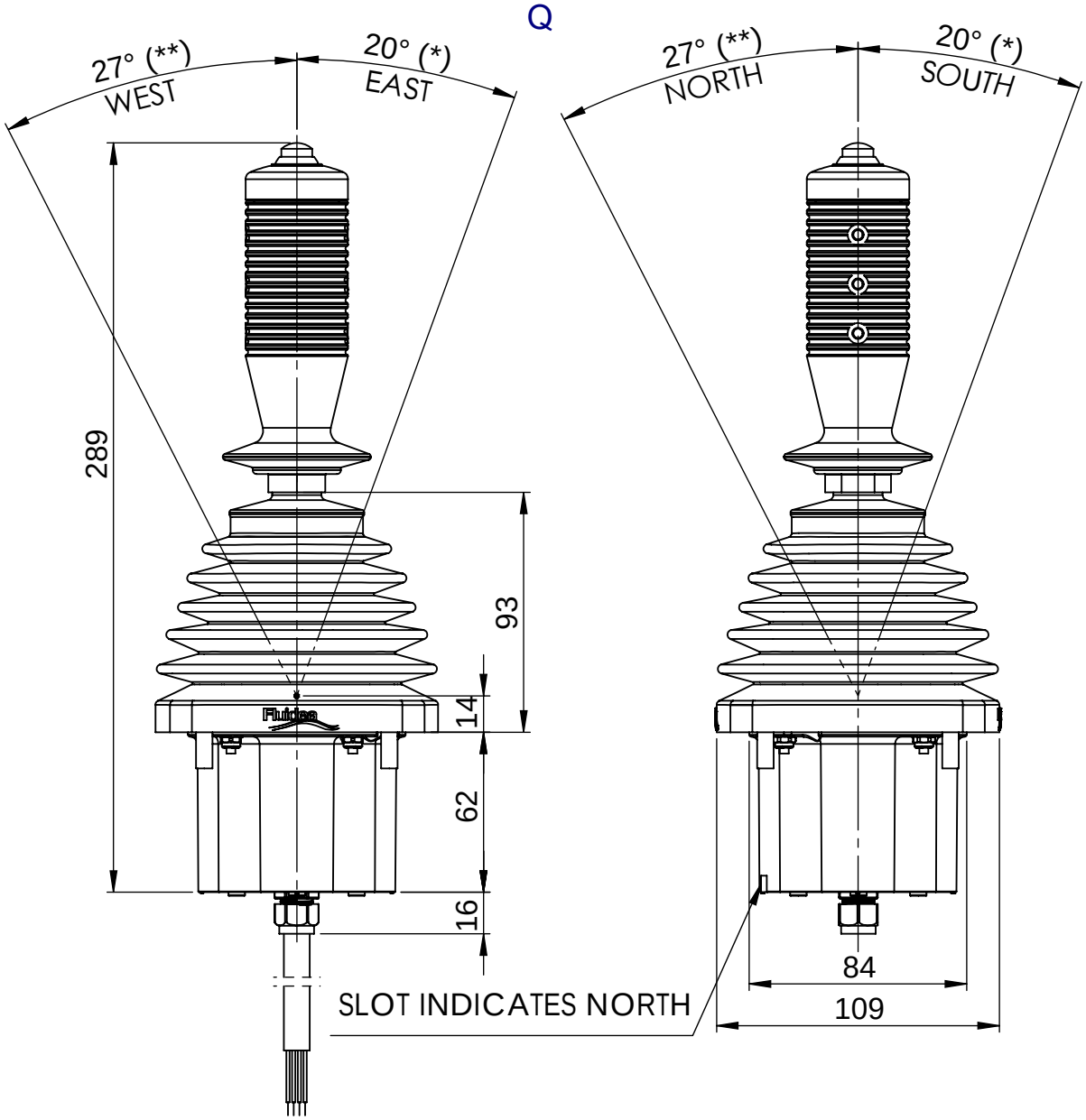




Overall dimensions

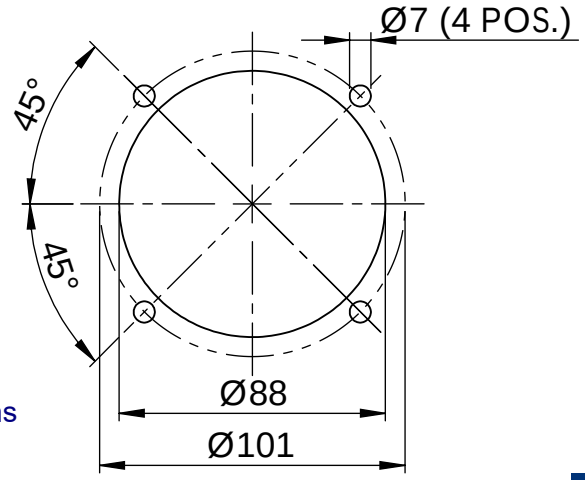
Dual axis joystick JEP with straight handle IC2, and rubber boot

Q



(*) Maximum for movements X - Y

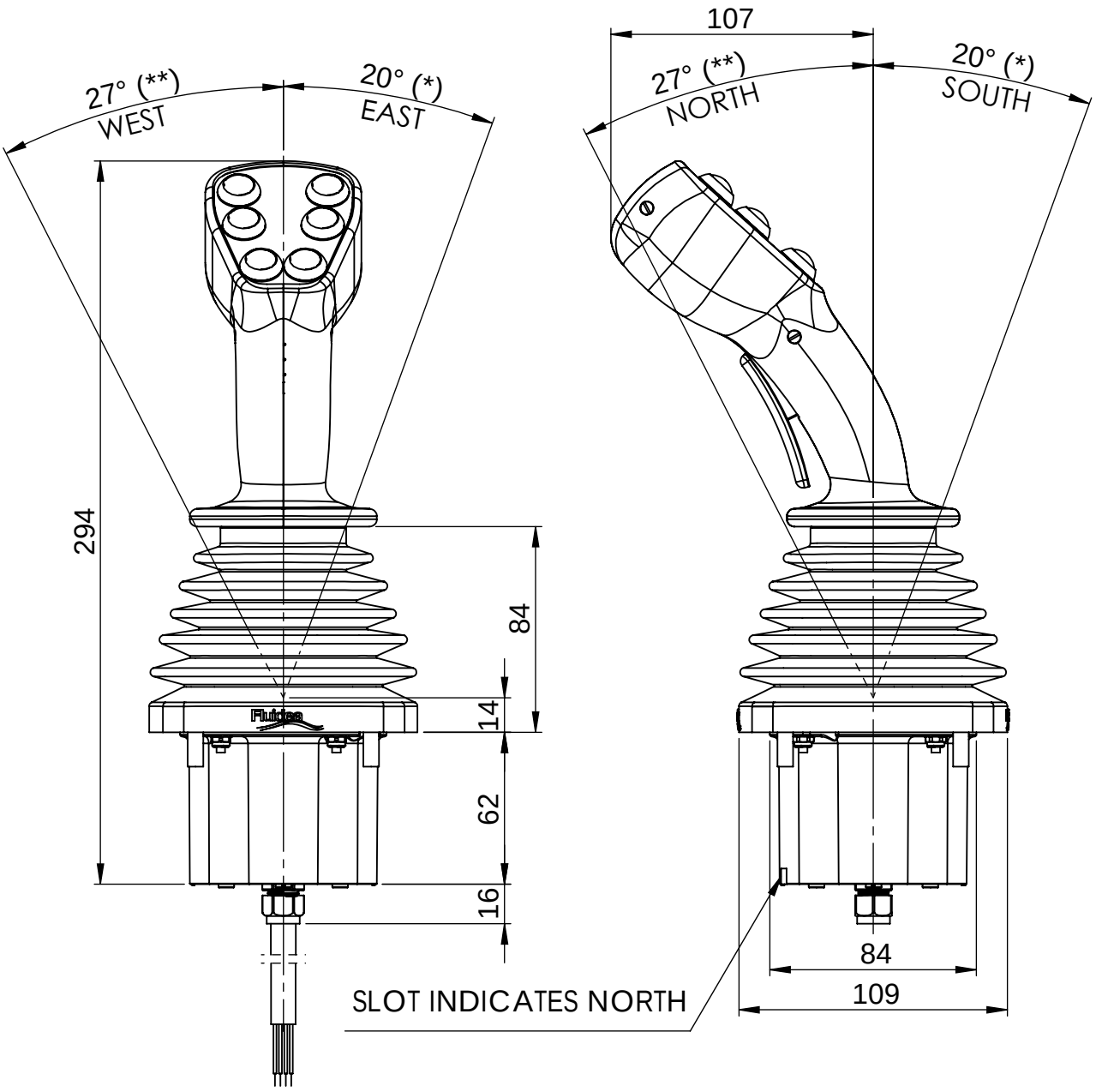
(**) Maximum for combined movements



Mounting holes
Valid for all versions

Overall dimensions

Dual axis joystick JEP with IE2 ergo grip IE2 and Q rubber boot

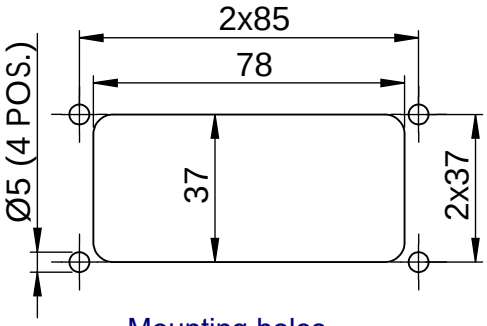


(*) Maximum angle for movements X - Y

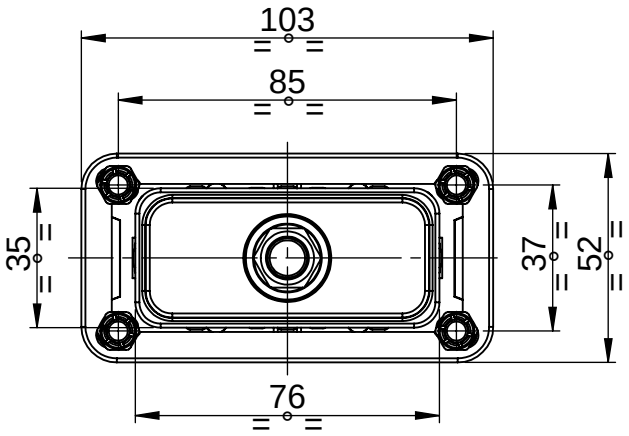
(**) Maximum angle for combined movements

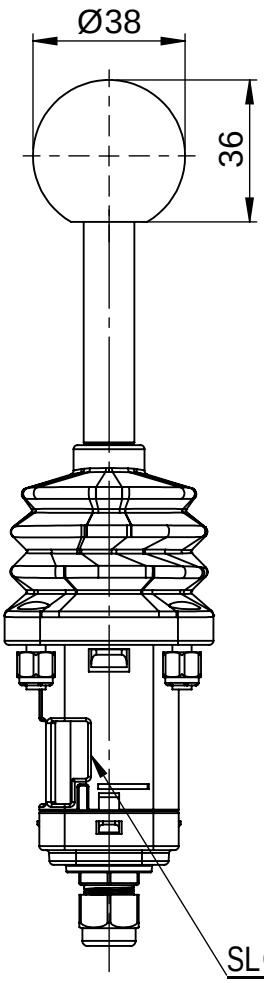
Overall dimensions

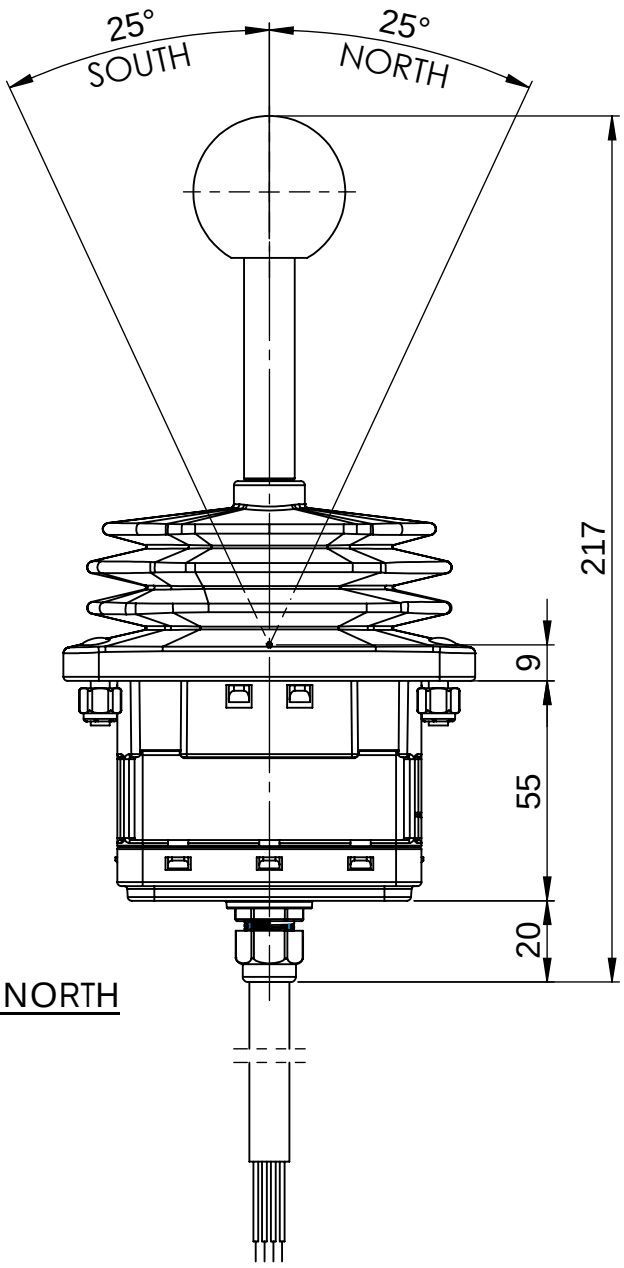
Single axis JEP with IP1 knob and R rubber boot



Mounting holes
Valid for all versions



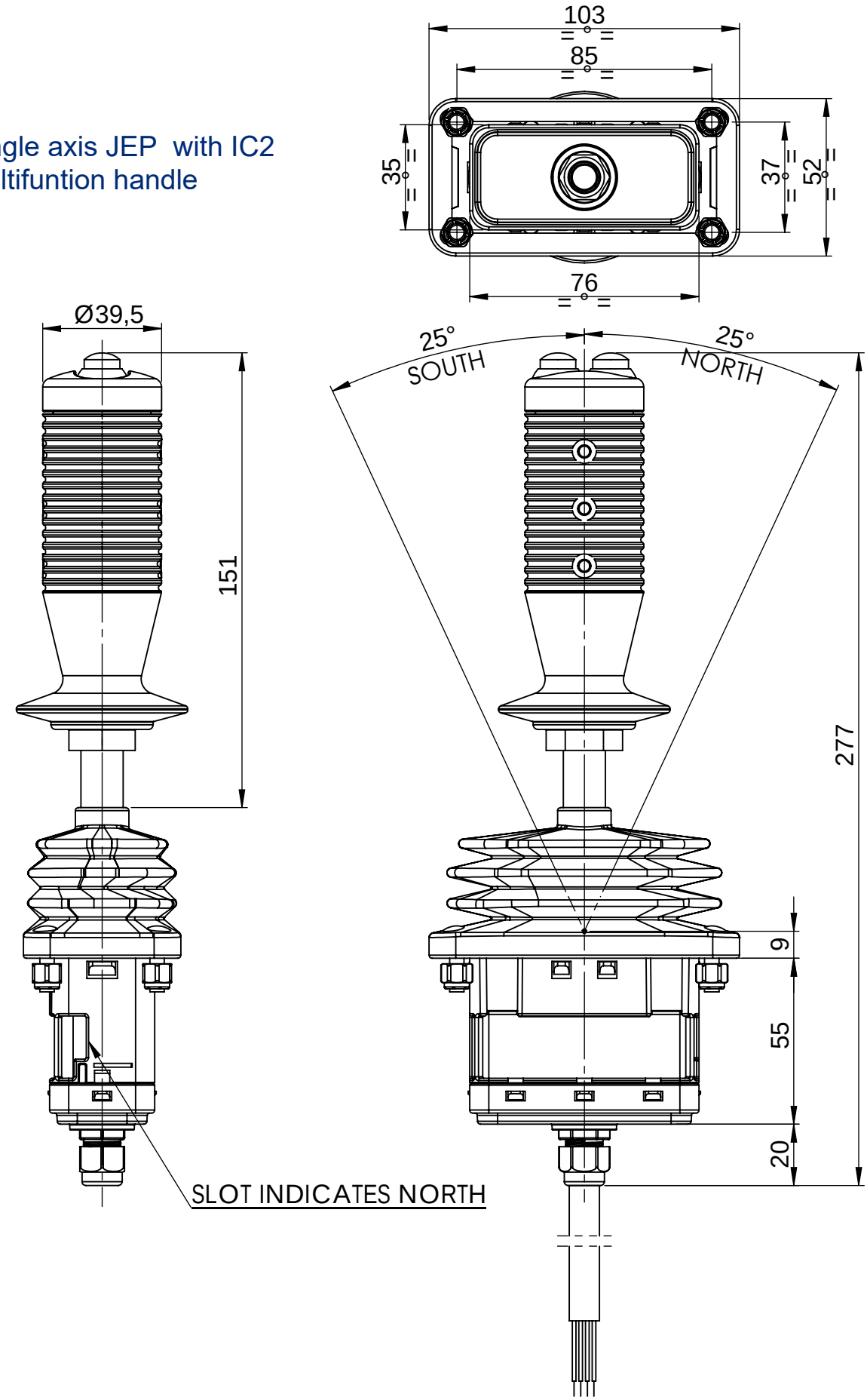




SLOT INDICATES NORTH

Overall dimensions

Single axis JEP with IC2 multifuntion handle



Control handle

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

Without handle	Z
With knob, only for single axis M	IP1

Standard straight handle	IC1

Multifunctional straight handle	IC2

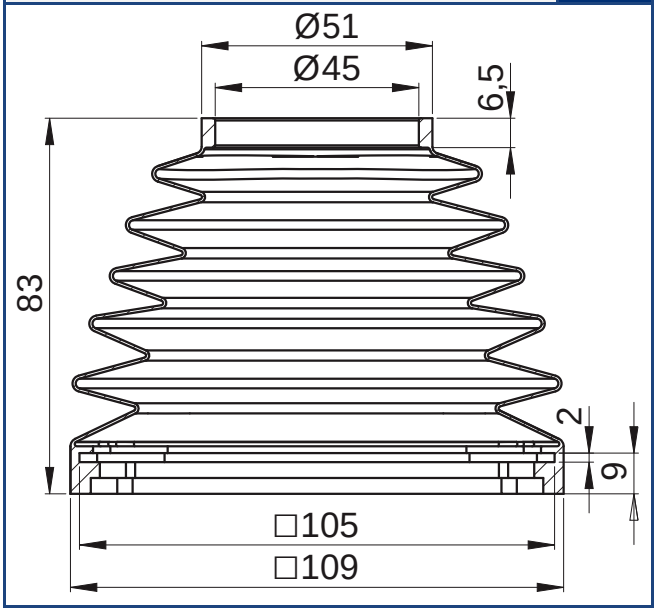
Multifunctional straight handle	IE2

Rubber boot for dual axis joystick

Without rubber boot	Z

Rectangular rubber boot, available only on single axis version	R

With square rubber boot	Q



Ordering key

JEP	A	B	IE20001	Q

Rubber boot protection (page 11):

- **Z =** Without boot
- **Q** = Square boot for joystick
- **R** = Rectangular boot for single axis

Handle (page10):

- **IE20001** = Handle part number, assigned by Fluidea (for handle option please refer to handle technical catalogue)
- **Z** = without handle

Joystick configuration:

- **B** = Dual axis
- **MR** = Single axis spring centered
- **MF** = Single axis with lever detent in any position

Output signal metering curve - analogue only (page 5):

- **A** = from 0,5 to 4,5 VDC one output (lateral zero)
- **B** = from 0,5 to 4,5 VDC one output (central zero)

Basic model:

- **JEP** = Proportional electrical 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 system
- Heath exchangers and cooling system
- Fluid monitoring & diagnostic instrument
- Bell housings, driving flanges & elastic coupling

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