

# Fluidea

*...we know how!*



## JH4 HYDRAULIC DUAL AXIS JOYSTICKS

20.03



### Index:

Description and technical features:	Page 3
Internal hydraulic circuits:	Page 4
Connection hydraulic circuits:	Page 5
Metering curves:	Pages 6-7-8
Overall dimension:	Pages 9-10-11
Rubber boot:	Page 12
Control handles:	Page 13
Model coding:	Page 14



## Description:

Dual axis hydraulic joystick series JH4 are proportional remote control operating by the principle of the direct action reducer valves.

They can work up to 100 bar supply pressure and a maximum 60 bar control pressure, flow range from 5 to 15 l/min and they are suitable for the remote control of main valves, proportional valves, servo controls for the adjustment of hydraulic pump and motor variable displacement, hydraulic clutches and brakes.

The consumed energy is extremely low, very little maintenance is needed, the anti-oscillation system of the control lever and the reduced operating force minimize the operational costs and optimize the working sensitivity and comfort.

The robust control device, the galvanized cast iron body, the wide range of metering curves, the possibility to assemble all our range of multifunction ergonomic handles with on-off and proportional hall effect rollers, the availability of straight and bent rubber boots, the check valve block for translation control, make this product flexible and reliable for the heaviest application: from agricultural to earth moving machine, from the naval to industrial applications.

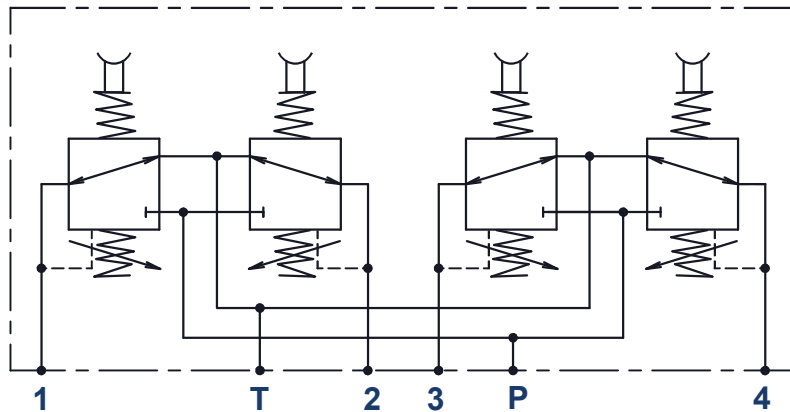
## Technical features:

Minimum input flow:	5 l/min
Maximum input flow:	15 l/min
Maximum input pressure (P):	100 bar
Maximum output pressure (1,2,3,4):	60 bar
Maximum tank counter pressure (T):	3 bar
Maximum hysteresis:	0,5 bar
Internal leakage:	1,5 ÷ 3,0 cc/min @ 30 bar
Fluids:	Mineral hydraulic oils HL, HLP DIN 51524
Fluid temperature range:	- 20 ÷ + 80 °C
Ambient temperature range:	- 40 ÷ + 60 °C
Fluid viscosity range:	10 ÷ 300 cSt
Fluid contamination class:	21/16/13 ISO 4406
Body material:	Cast iron
Plunger materials:	Stainless steel
Plunger guide material:	Brass
Body surface treatment:	Galvanization
Ports:	1/4" ISO 228/1; 9/16"-18 UNF-2B ISO 11226

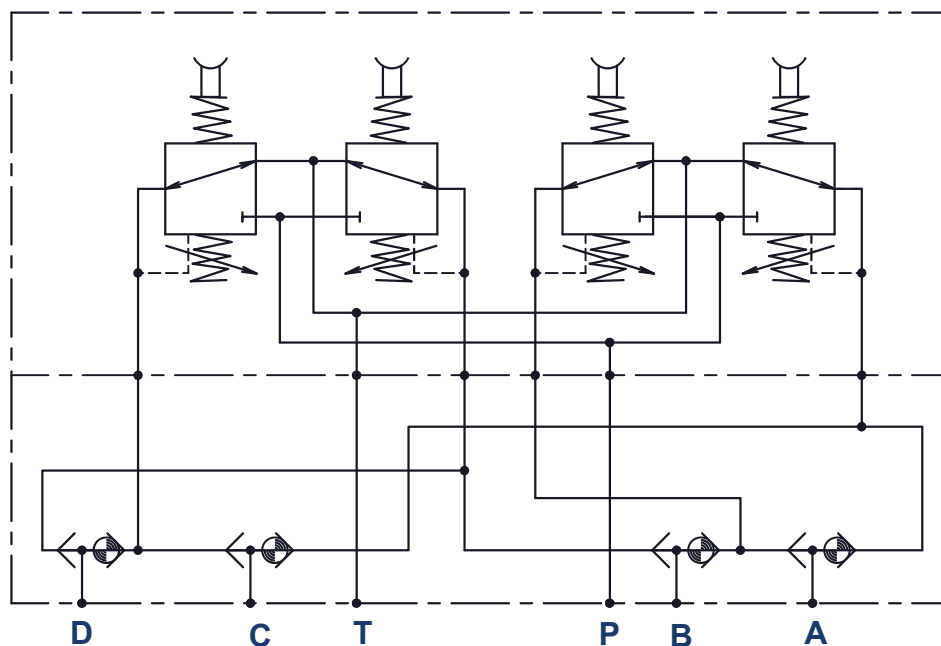
The data and the technical features in this catalogue are not binding. The manufacturer reserves the right to carry out modifications, by its unquestionable judgement and without prior notice, in order to improve its products. The manufacturer is not responsible for damage to people or properties caused by an improper use of the product.

### Internal hydraulic circuits:

Standard joystick JH4 hydraulic circuit

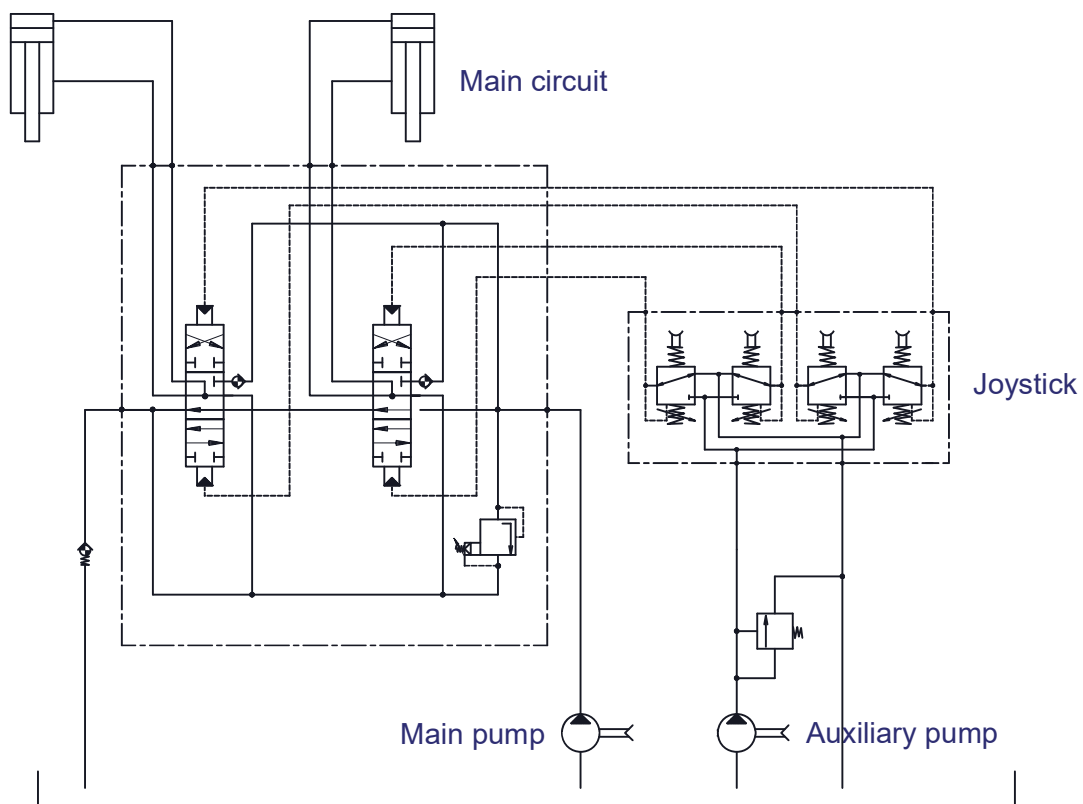


Standard joystick JH4 hydraulic circuit  
with check valve block for translation control

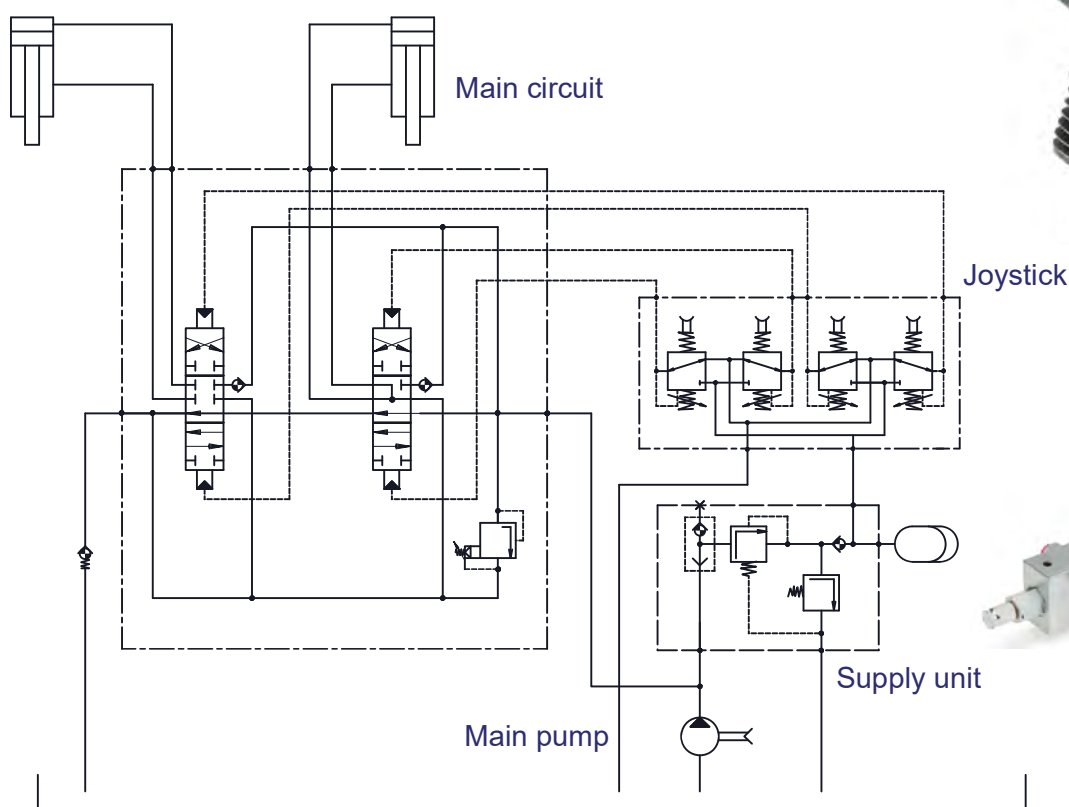


### Connection hydraulic circuits:

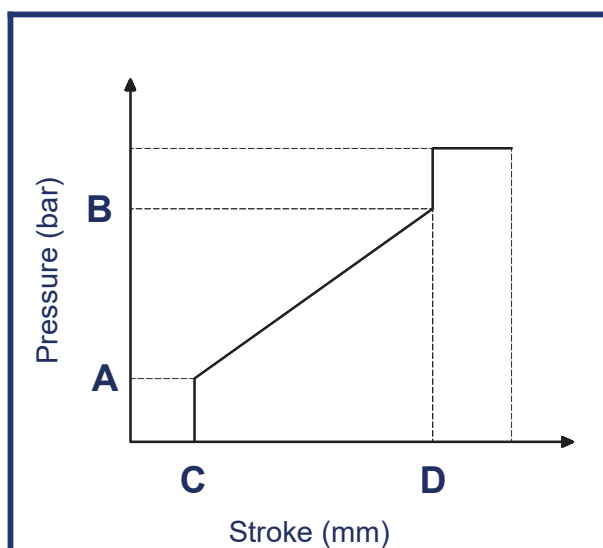
#### Supply from auxiliary pump



#### Supply from pressure reducer valve



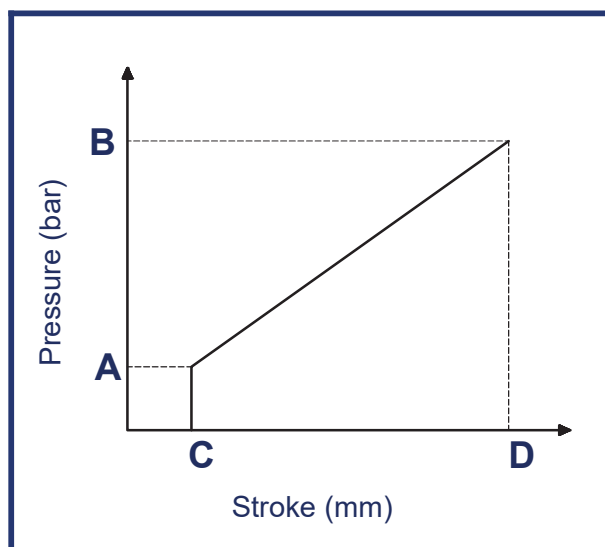
### Metering curves:



### Diagram and metering curve specification type **A**

METERING CURVE CODE		A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11	A12	A13	A14	A15
Press. (bar)	A	5,8	5,0	2,0	6,0	0,0	4,0	5,0	2,0	5,0	2,0	4,0	11,5	10,0	7,0	7,5
	B	19,5	25,0	13,0	40,0	4,0	17,0	15,0	18,0	20,0	8,0	10,0	32,0	20,0	17,0	29,0
Stroke (mm)	C	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
	D	7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5	6,0	7,5	7,5	7,5	7,5	7,5	7,5
METERING CURVE CODE		A16	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30
Press. (bar)	A	6,0	0,0	4,0	6,0	8,0	5,0	5,8	6,8	5,8	4,5	2,8	8,0	3,0	8,0	5,8
	B	22,0	20,0	16,0	20,6	28,0	20,5	18,3	23,5	19,2	14,5	20,8	34,0	16,2	27,6	15,5
Stroke (mm)	C	1,5	1,0	1,5	1,5	1,5	1,5	1,5	1,0	1,5	1,0	1,5	1,5	1,5	1,5	1,5
	D	7,5	7,5	7,0	7,0	7,5	8,0	8,0	7,5	9,5	5,0	10,0	7,5	7,5	10,0	7,5
METERING CURVE CODE		A31	A32	A33	A34	A35	A36	A37	A38	A39	A40	A41	A42	A43	A44	
Press. (bar)	A	5,7	7,0	10,8	0,0	5,8	7,4	7,1	7,5	6,6	6,5	5,9	6,6	3,0	14,5	
	B	25,7	15,5	27,5	28,0	24,0	21,0	18,8	17,7	16,4	11,6	17,4	16,3	22,2	26,9	
Stroke (mm)	C	1,5	1,2	1,0	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,0	
	D	7,5	7,5	7,5	7,5	9,5	7,5	7,0	7,5	7,5	7,5	7,5	9,5	7,5	7,5	

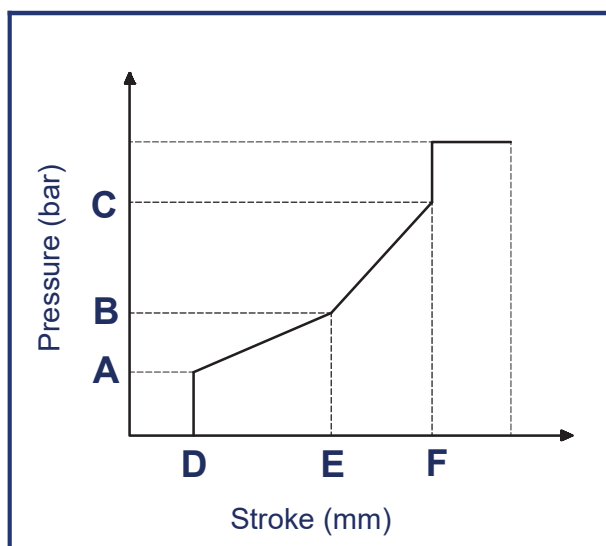
### Metering curves:



### Diagram and metering curve specification type **B**

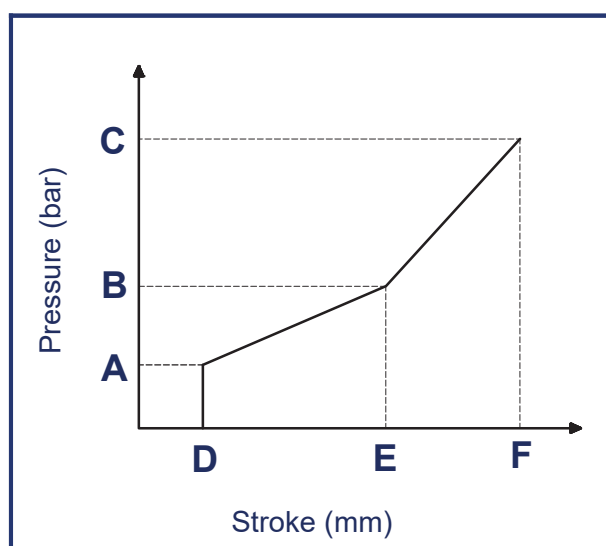
METERING CURVE CODE		B01	B02	B03	B04	B05	B06	B07	B08
Press. (bar)	A	5,0	5,0	5,0	2,0	7,5	5,0	4,0	3,0
	B	22,0	19,0	16,0	16,5	32,5	20,0	10,5	14,5
Stroke (mm)	C	1,5	1,5	1,5	1,5	1,0	1,0	1,5	1,5
	D	8,0	8,0	8,0	8,0	8,0	8,0	8,0	8,0
METERING CURVE CODE		B09	B10	B11	B12	B13	B14	B15	B16
Press. (bar)	A	6,0	2,0	7,2	8,3	8,0	6,0	10,4	6,5
	B	24,3	19,3	21,3	22,4	22,8	23,0	25,5	12,0
Stroke (mm)	C	1,0	1,5	1,0	1,0	1,0	1,5	1,0	1,0
	D	8,0	8,0	7,5	7,5	7,5	8,0	7,5	8,0
METERING CURVE CODE		B17	B18	B19	B20	B21	B22	B23	B24
Press. (bar)	A	2,1	5,8	6,5	2,0	2,0	5,8	4,0	10,2
	B	20,3	27,0	12,0	8,5	13,7	16,4	18,0	25,1
Stroke (mm)	C	1,0	1,5	1,5	1,5	1,5	1,2	1,5	1,0
	D	8,0	8,0	8,0	8,0	8,0	7,7	8,0	8,0

### Metering curves:



METERING CURVE CODE		C01	C02	C04	C07	C08	C10
Pressure (bar)	A	2,0	3,0	7,0	4,2	6,5	5,4
	B	6,0	7,0	18,0	9,0	11,0	10,9
	C	15,0	16,0	27,0	20,0	18,5	17,3
Stroke (mm)	D	1,5	1,5	0,5	1,5	1,0	1,0
	E	5,0	5,0	6,3	5,0	5,0	5,0
	F	7,5	7,5	8,0	7,5	7,5	7,5

Diagram and metering curve specification type **C**



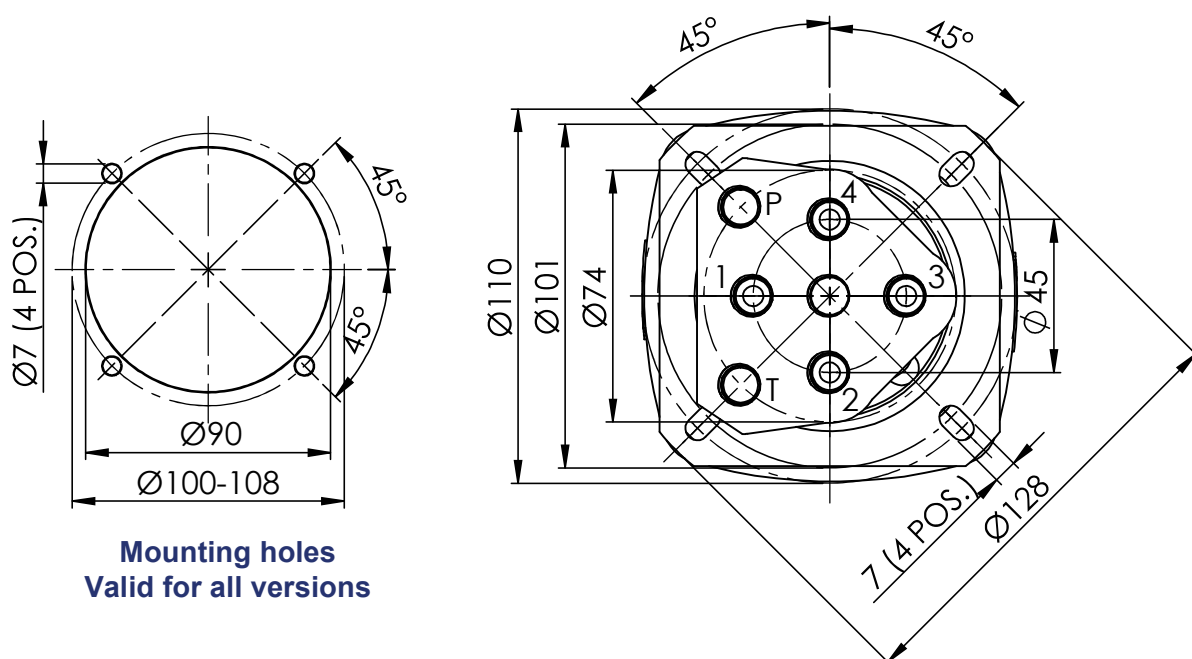
METERING CURVE CODE		D01	D02	D04
Pressione (bar)	A	2,0	4,2	5,0
	B	6,0	9,0	16,0
	C	15,0	22,0	20,0
Corsa (mm)	D	1,5	1,0	1,0
	E	5,0	5,0	7,5
	F	8,0	8,0	8,0

Diagram and metering curve specification type **D**

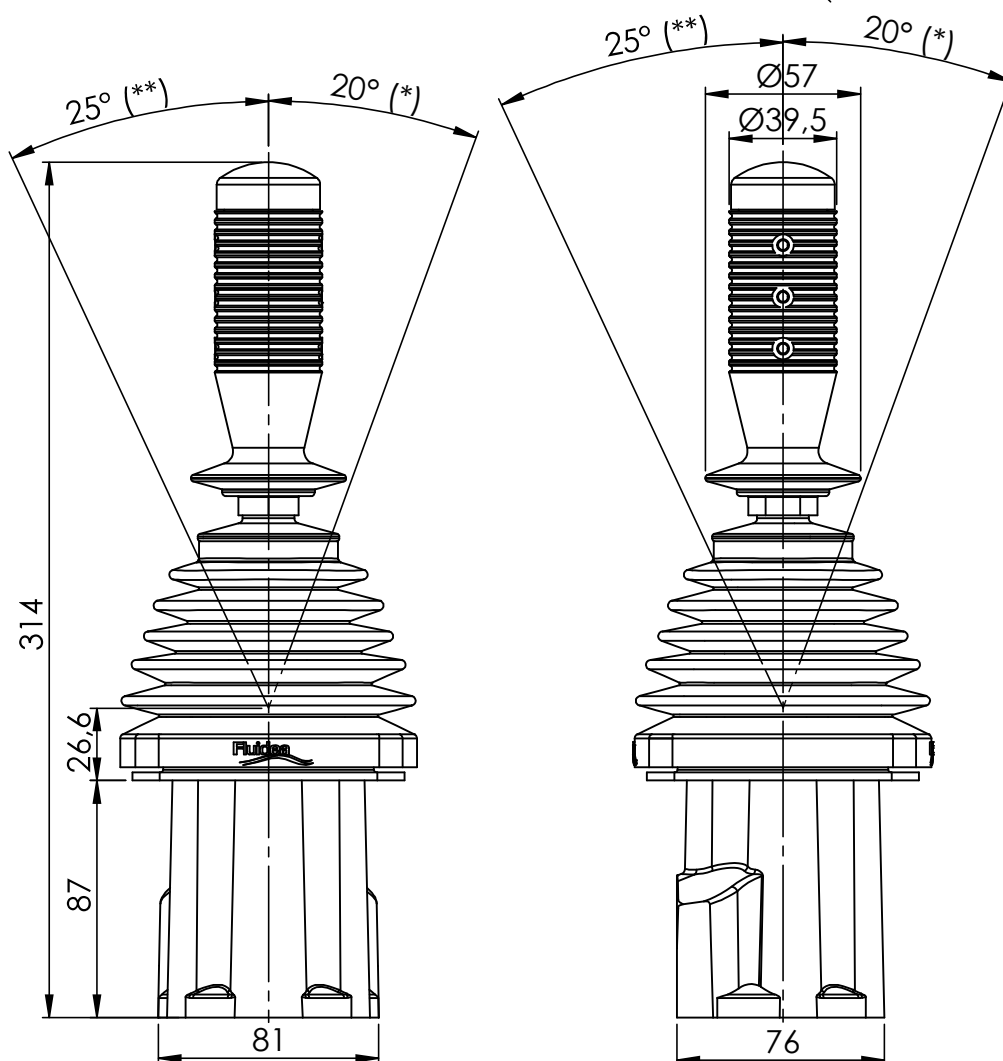


### Overall dimension:

Dual axis joystick JH4 with straight handle IC1 and square rubber boot Q



**Mounting holes**  
Valid for all versions

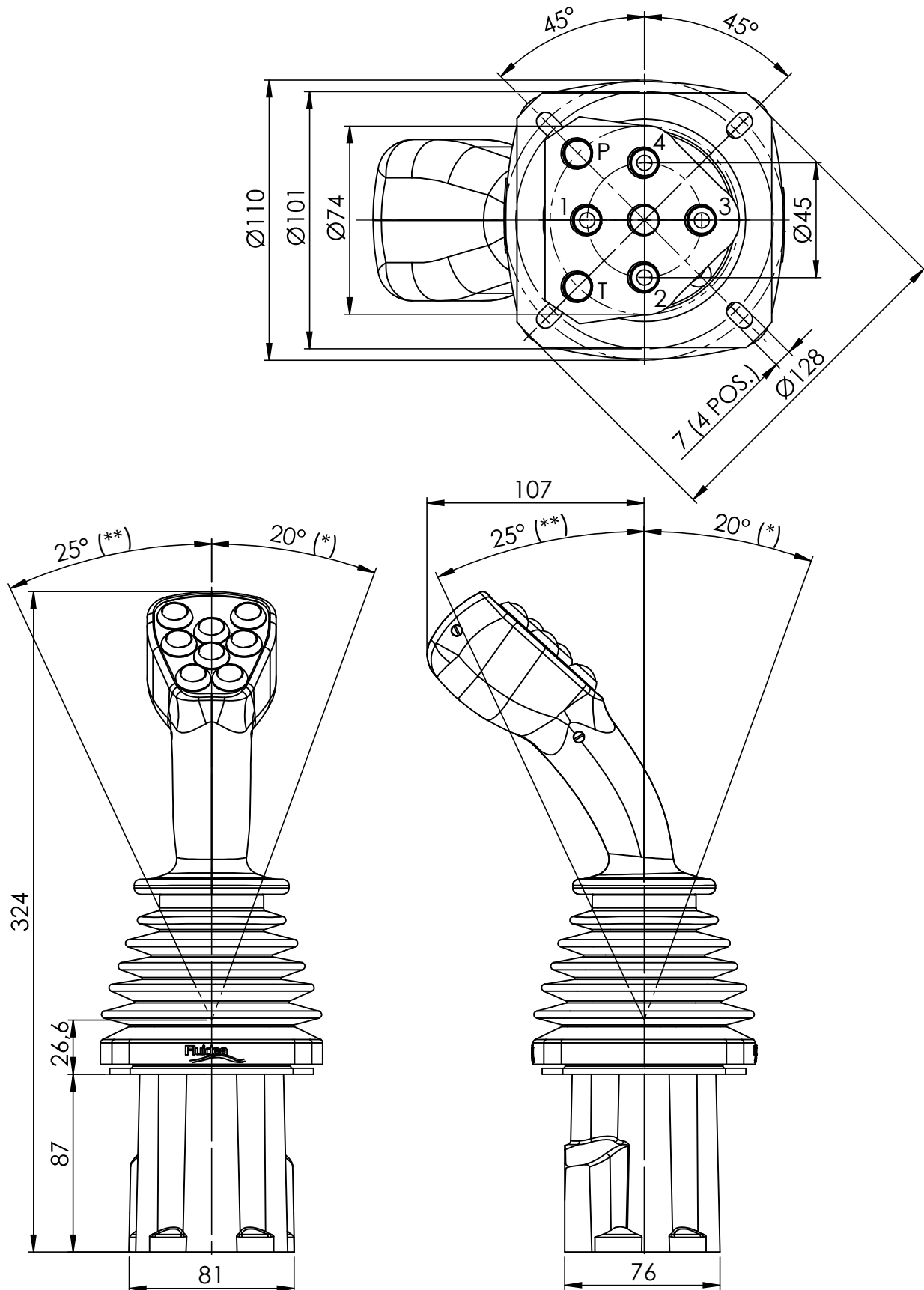


(\*) Maximum for X - Y movements

(\*\*) Maximum for combined movements

## Overall dimension:

Dual axis joystick JH4 with ergonomic handle IE2 and square rubber boot Q

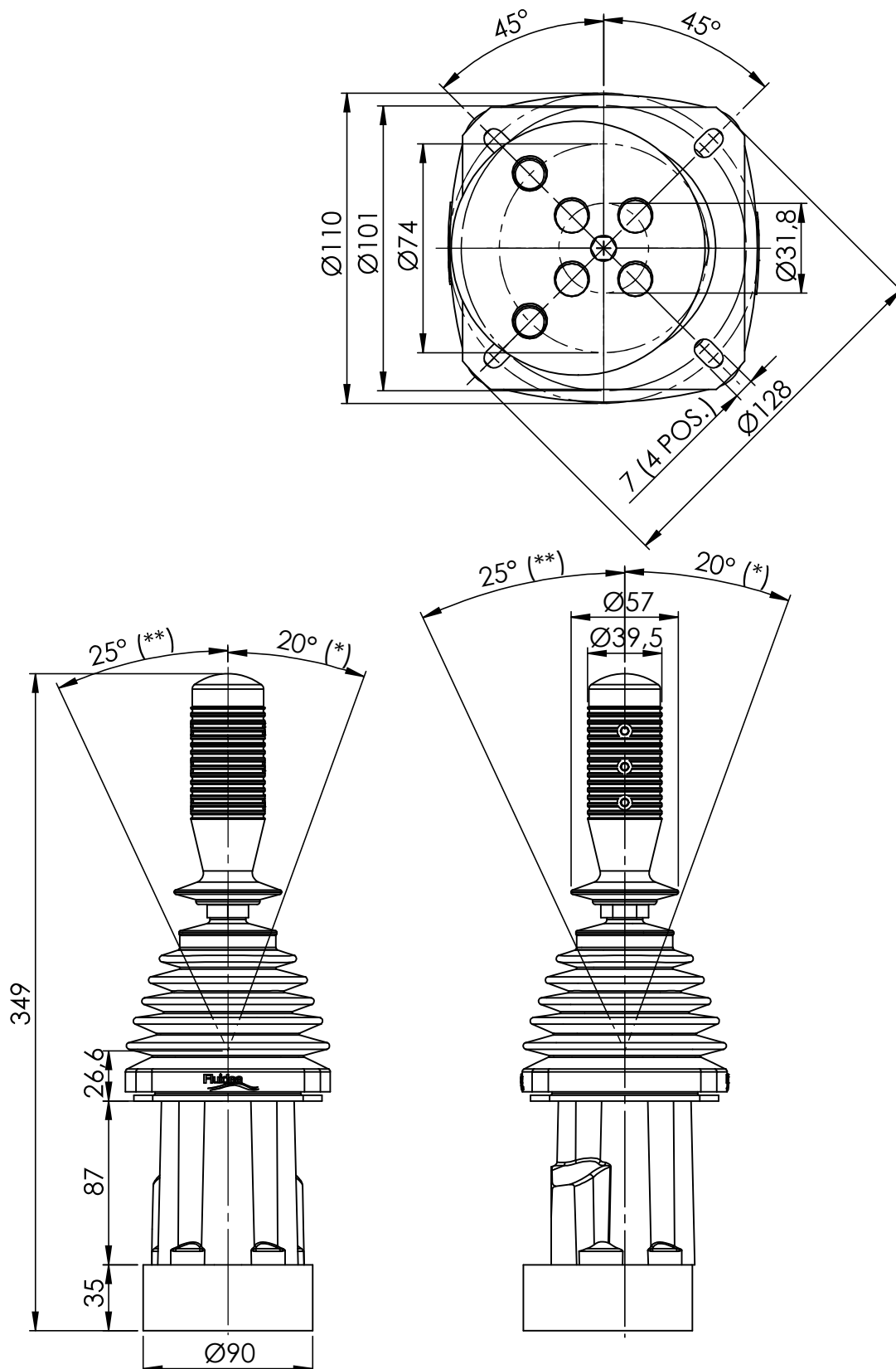


(\*) Maximum for X - Y movements

(\*\*) Maximum for combined movements

## Overall dimension:

## Dual axis joystick JH4 with check valve block for translation control



(\*) Maximum for X - Y movements

(\*\*) Maximum for combined movements

### Rubber boot:

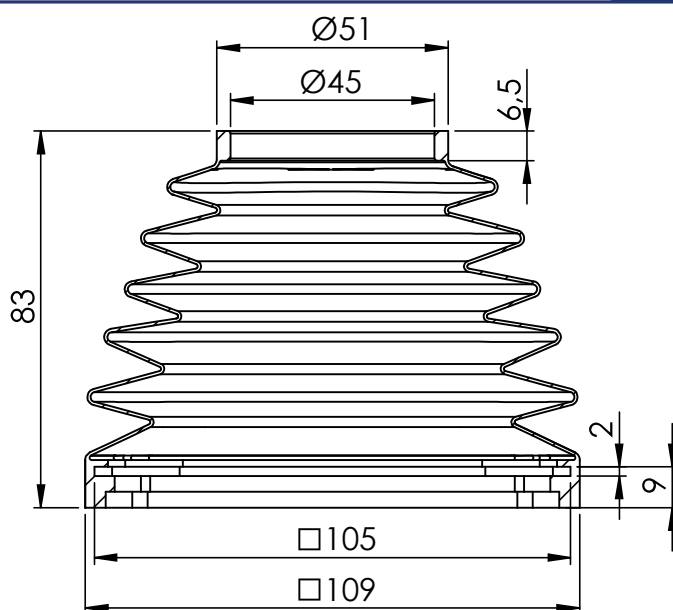
Without rubber boot

0



With square rubber boot

1



### 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



## Model coding:

JH4	A01	S	B	1	IE20001	B
-----	-----	---	---	---	---------	---

### Extra option:

- **B** = Check valve block for translation control (omit if not requested)

### Handle (page 13):

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

### Rubber boot (page 12):

- **0** = Without rubber boot
- **1** = With square rubber boot

### Ports:

- **B** = 1/4" BSP ports
- **U** = 9/16"-18 UNF ports

### Return spring:

- **A** = Standard (Preload 29,5 N - End stroke load 44,0 N)
- **B** = Light (Preload 14,6 N - End stroke load 29,4 N)
- **C** = Medium (Preload 73,5 N - End stroke load 135,5 N)
- **D** = Heavy (Preload 98,0 N - End stroke load 186,0 N)

### Metering curve type (pages 6-7-8):

- **A\*\*** = Linear metering curve with step
- **B\*\*** = Linear metering curve without step
- **C\*\*** = Broken metering curve with step
- **D\*\*** = Broken metering curve without step

**JH4** = Dual axis joystick with 4 service ports

\*\* Replace with the metering curve number shown in the tables

## THE COMPREHENSIVE RANGE OF MANUFACTURED AND MARKETING 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
- Heat exchangers and cooling systems
- Fluid monitoring & diagnostic instruments
- Bell housings, driving flanges & elastic couplings



**Fluidea S.r.l.**

Via Magazzino, 2586 - I-41056 Savignano S/P (MO)

Tel. +39 059 8635156 - Fax: +39 059 8635157

info@fluidea.net - www.fluidea.net

