



Dual Axis Hydraulic Joystick Series JH4

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Description:

Dual axis hydraulic joysticks Series JH4 are proportional remote controls operating on the principle of direct acting pressure reducing valves.

They can work up to a maximum inlet pressure of 100 bar and a maximum service pressure of 60 bar, with an inlet flow ranging from 5 up to 15 l/min.

JH4 joysticks are typically used for hydraulic remote control of directional control valves, proportional valves, servo controls of variable displacement pumps & motors, hydraulic clutches and hydraulic brakes.

The relatively low energy consumption, the minimum maintenance, the anti-oscillation system of the control lever and the reduced control effort minimize operating costs whilst optimizing control sensitivity and operator comfort.

A robust kinematic control mechanism, a zinc plated cast iron body, a wide range of metering curves combined with the facility of matching the joystick to the whole range of Fluidea's ergonomic, cylindrical and palm handles, fitted with "on-off" push button switches or contactless proportional rollers and the optional shuttle valves block, make this product flexible and reliable for heavy duty applications: from agricultural to earth moving and construction machines, from marine to industrial applications.

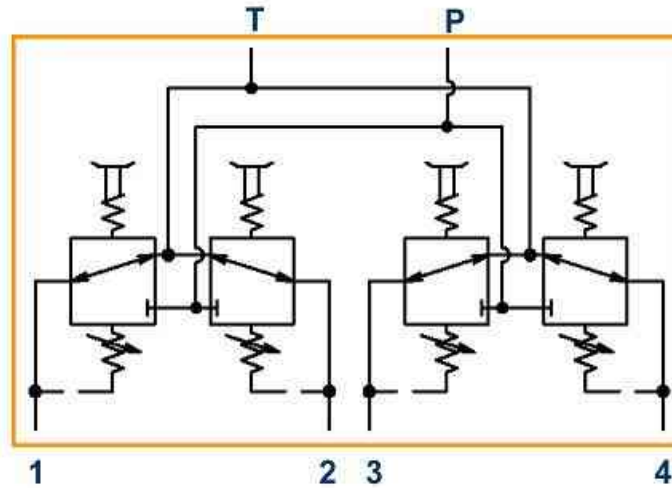
Technical data:

Minimum inlet flow:	5 l/min
Maximum inlet flow:	15 l/min
Maximum inlet pressure (P):	100 bar
Maximum service pressure (1,2,3,4):	60 bar
Maximum tank return pressure (T):	3 bar
Maximum hysteresis:	0,5 bar
Internal leakage:	1,5 ÷ 3,0 cc/min @ 30 bar
Fluids:	Hydraulic mineral oils HL, HLP DIN 51524
Fluid's temperature range:	- 20 ÷ + 80 °C
Ambient temperature range:	- 40 ÷ + 60 °C
Fluid's viscosity range:	10 ÷ 300 Cst
Fluid's cleanliness class:	21/16/13 ISO 4406
Body material:	Casted iron
Plungers material:	Stainless steel
Plungers' guide material:	Brass
Body' surface protection:	Zinc plated
Service ports:	1/4" ISO 228/1 - 9/16 UNF 2B ISO 11226

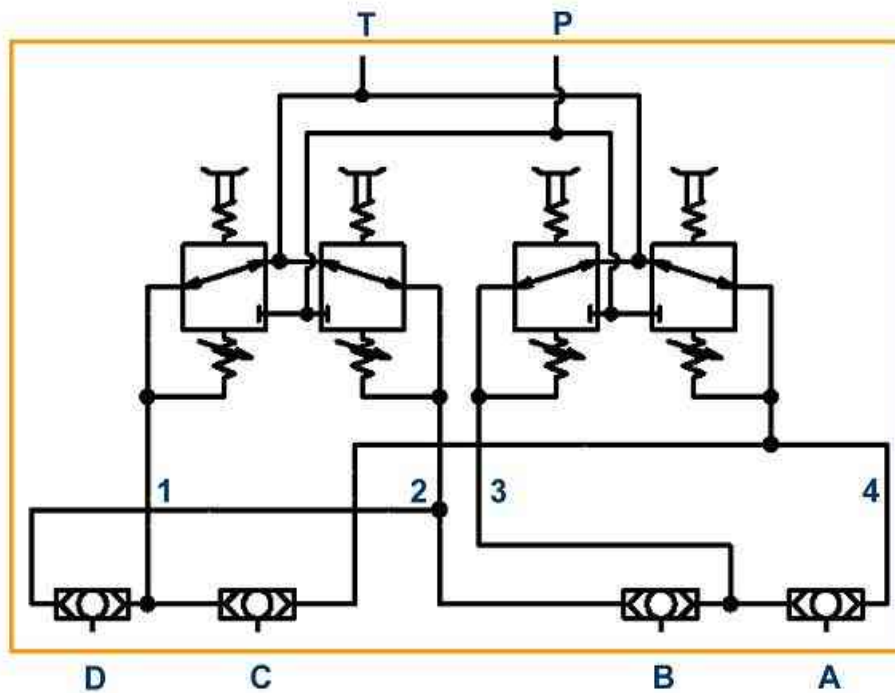
All data reported on this catalogue are referred to the standard product; they are not binding and the maker reserves the right to modify them at any time, for technical improvement purposes, without notice. The maker is not responsible for any damage caused by an inappropriate use of the product.

Hydraulic circuit diagrams (joysticks):

Standard joystick JH4

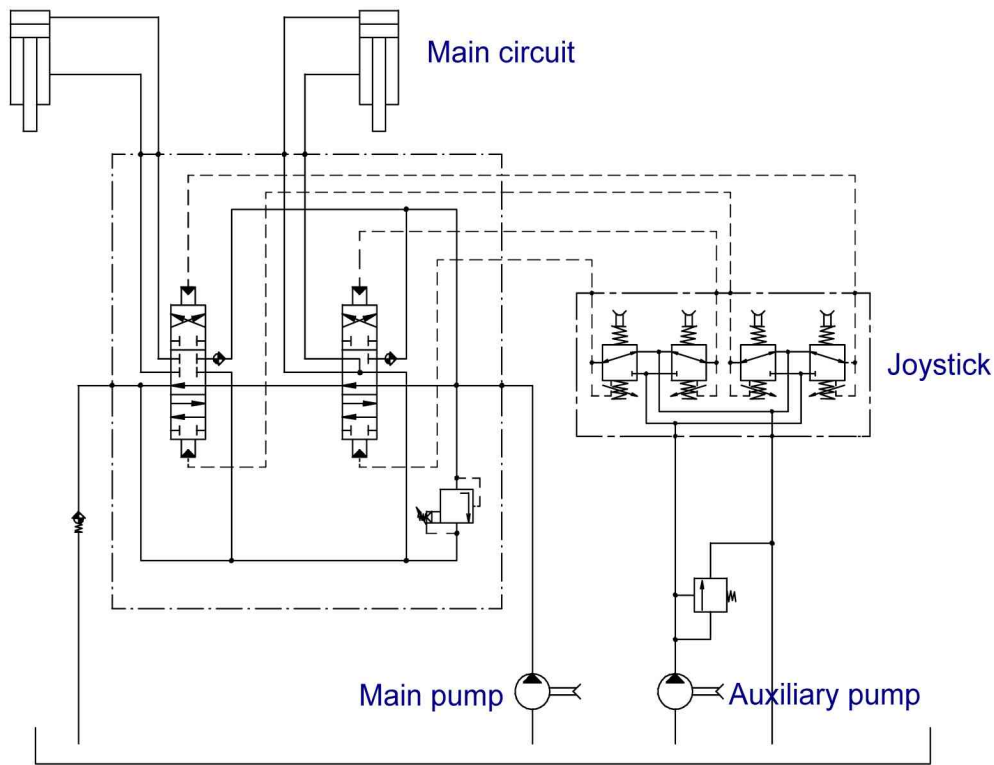


JH4 joystick with optional shuttle valves block

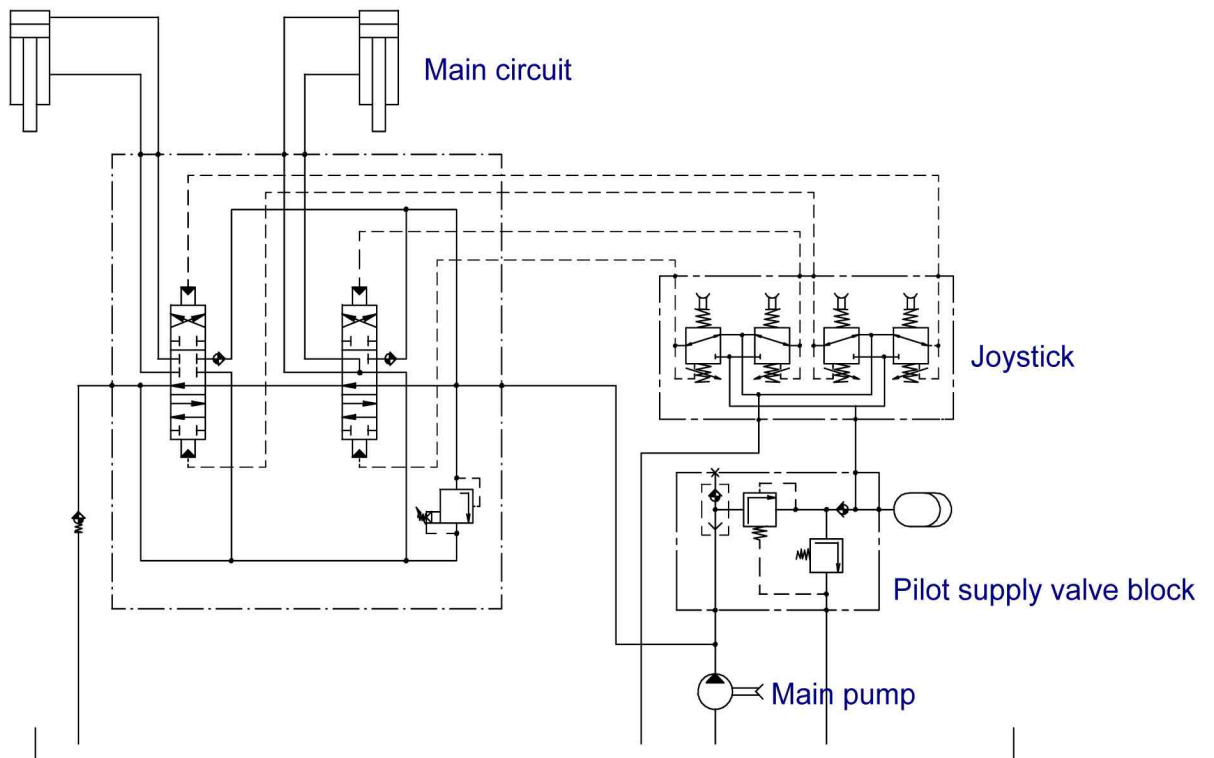


Typical hydraulic circuit diagrams (systems):

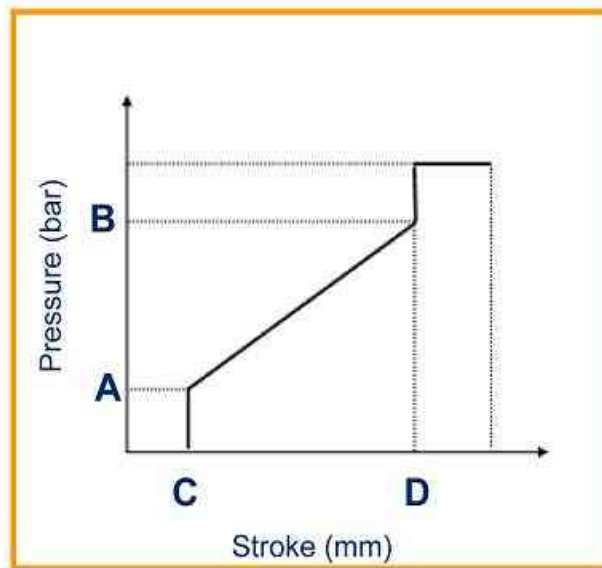
Pilot signal from auxiliary pump



Pilot signal from pressure reducing valve block



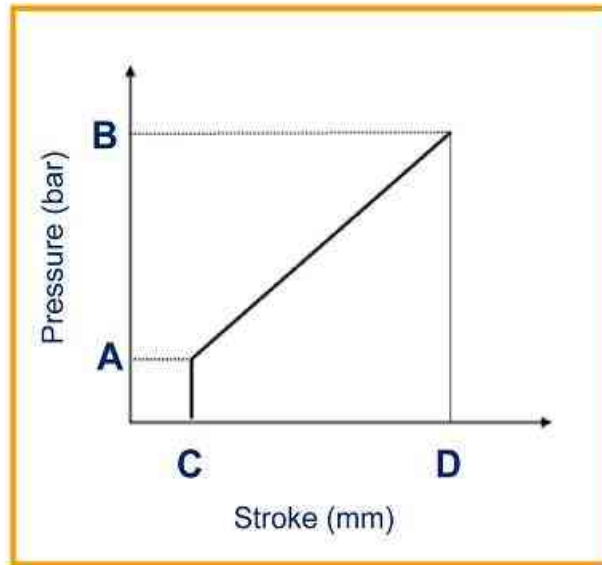
Metering curves:



Linear characteristic with step type **A**

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	13	40	4	17	15	18	20	8	10	32	20	17	29
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
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	9,5
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	7,0	7,1	7,5	6,0	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	6,0	7,5	7,5	7,5	7,5	7,5	

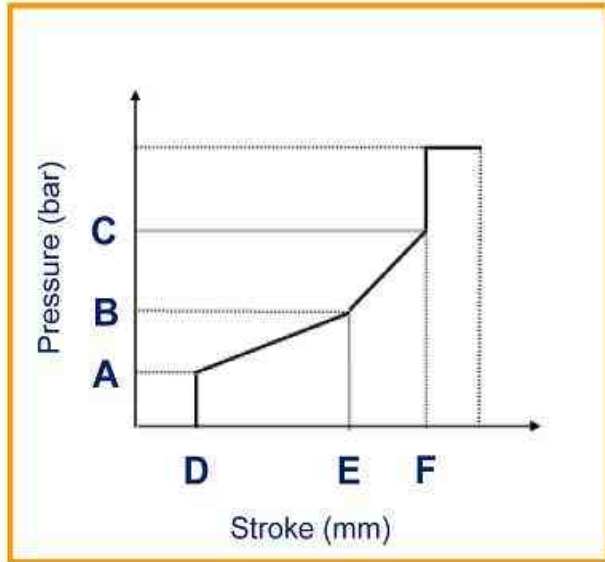
Metering curves:



Linear characteristic without step type **B**

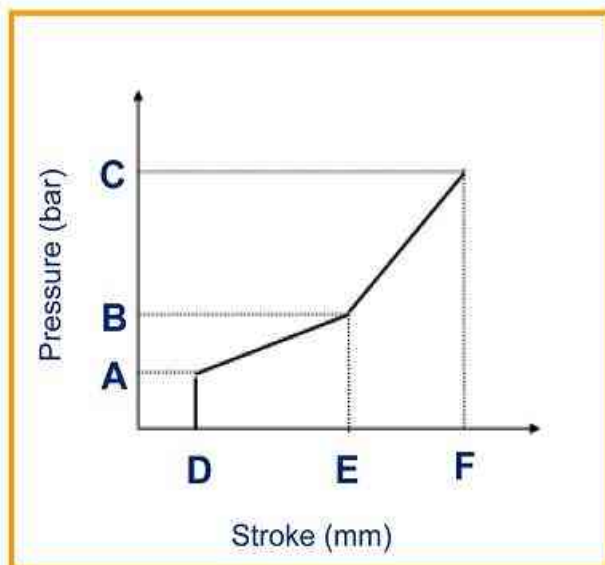
CURVE CODE		B01	B02	B03	B04	B05	B06	B07	B08
Press. (bar)	A	5,0	5,0	5,0	2,0	7,5	5,0	4,0	3,0
	B	22,0	19,0	16,0	16,5	32,5	20,0	10,5	14,5
Stroke (mm)	C	1,5	1,5	1,5	1,5	1,0	1,05	1,5	1,5
	D	8,0	8,0	8,0	8,0	8,0	8,0	8,0	8,0
CURVE CODE		B09	B10	B11	B12	B13	B14	B15	B16
Press. (bar)	A	6,0	2,0	7,2	8,3	8,0	6,0	10,4	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
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:



CURVE CODE		C01	C02	C03	C04	C05
Pressure (bar)	A	2,0	3,0	7,0	7,0	5,0
	B	6,0	7,0	18,0	18,0	11,0
	C	15,0	16,0	27,0	27,0	18,0
Stroke (mm)	D	1,5	1,5	0,5	0,5	1,0
	E	5,0	5,0	4,8	6,3	5,0
	F	7,5	7,5	6,5	8,0	7,5

Broken characteristic with step type **C**

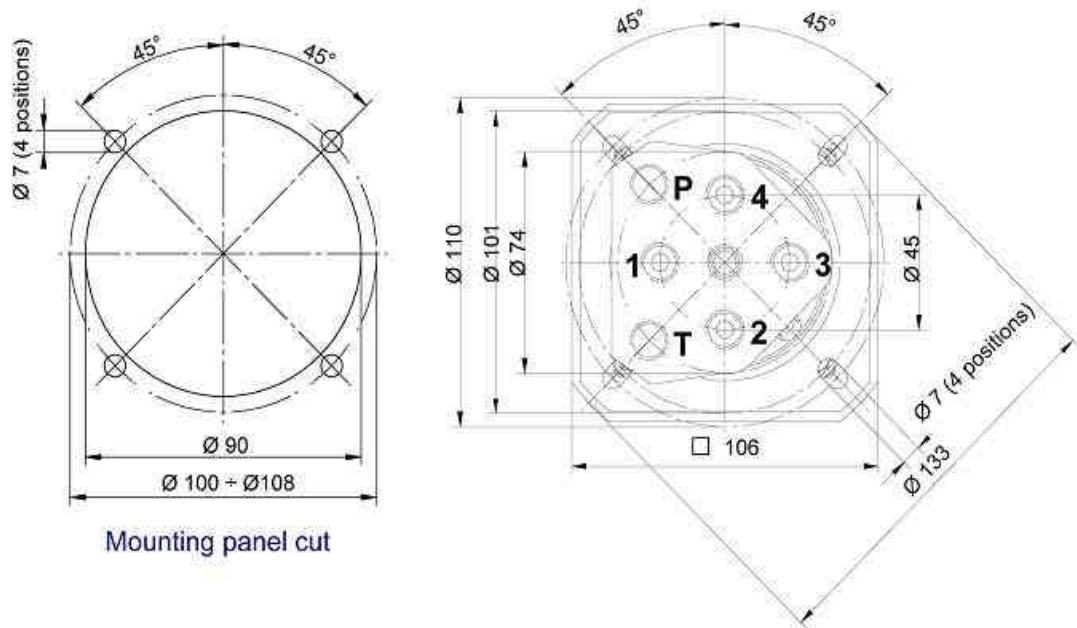


CURVE CODE		D01	D02
Pressure (bar)	A	2,0	4,2
	B	6,0	9,0
	C	15,0	22,0
Stroke (mm)	D	1,5	1,0
	E	5,0	5,0
	F	8,0	8,0

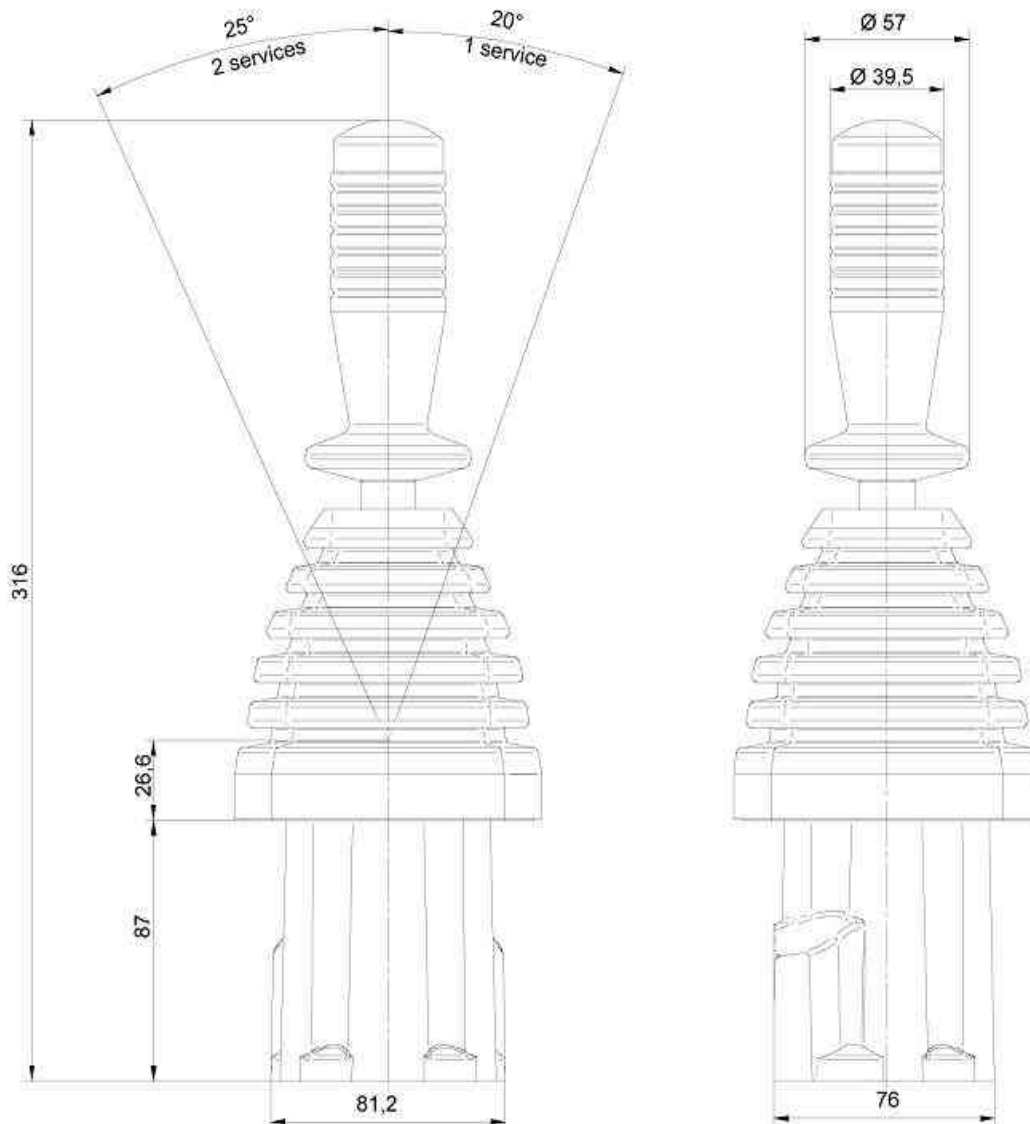
Broken characteristic Without step type **D**

Dual axis hydraulic joysticks **SERIES JH4**

Dimensional data:

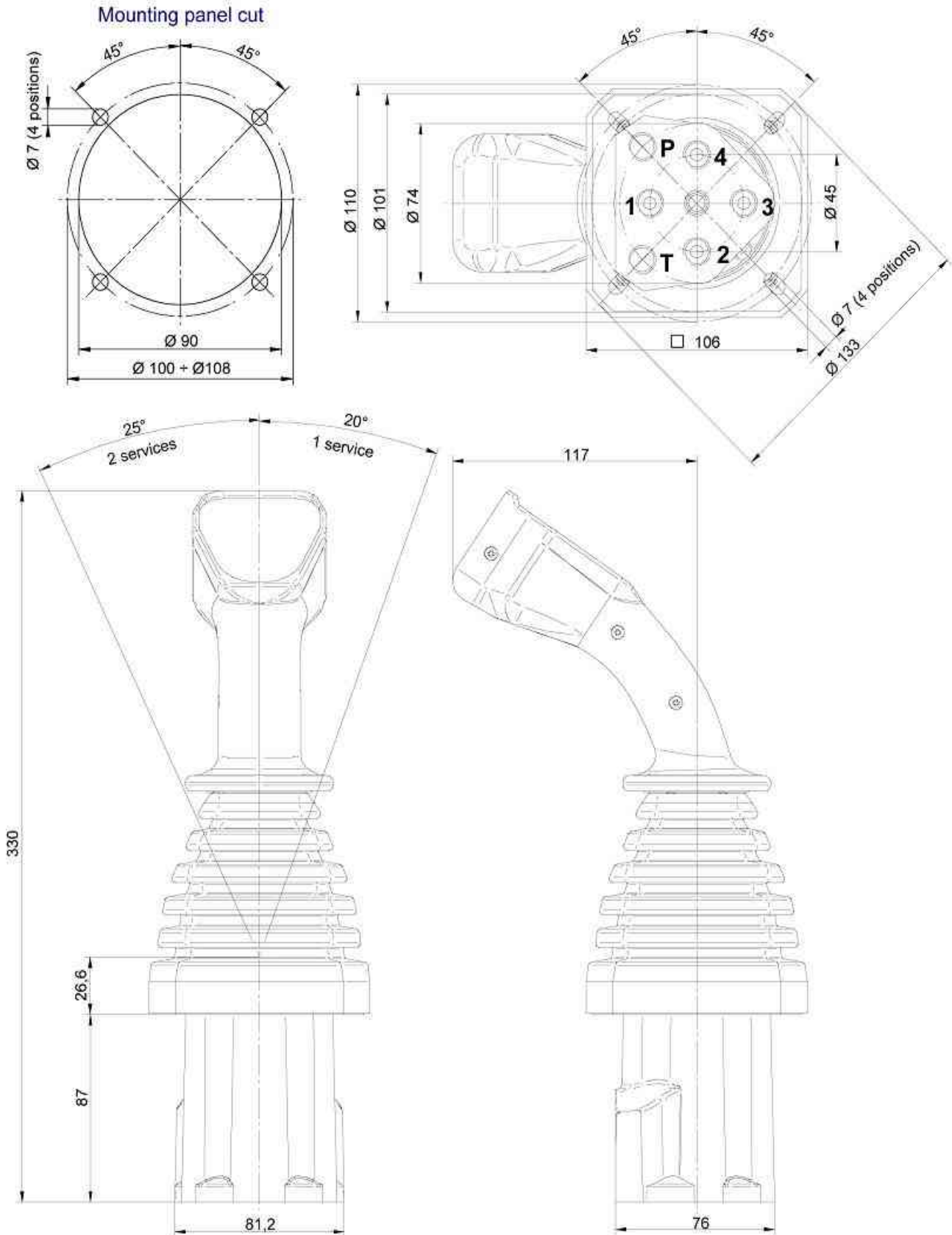


Mounting panel cut



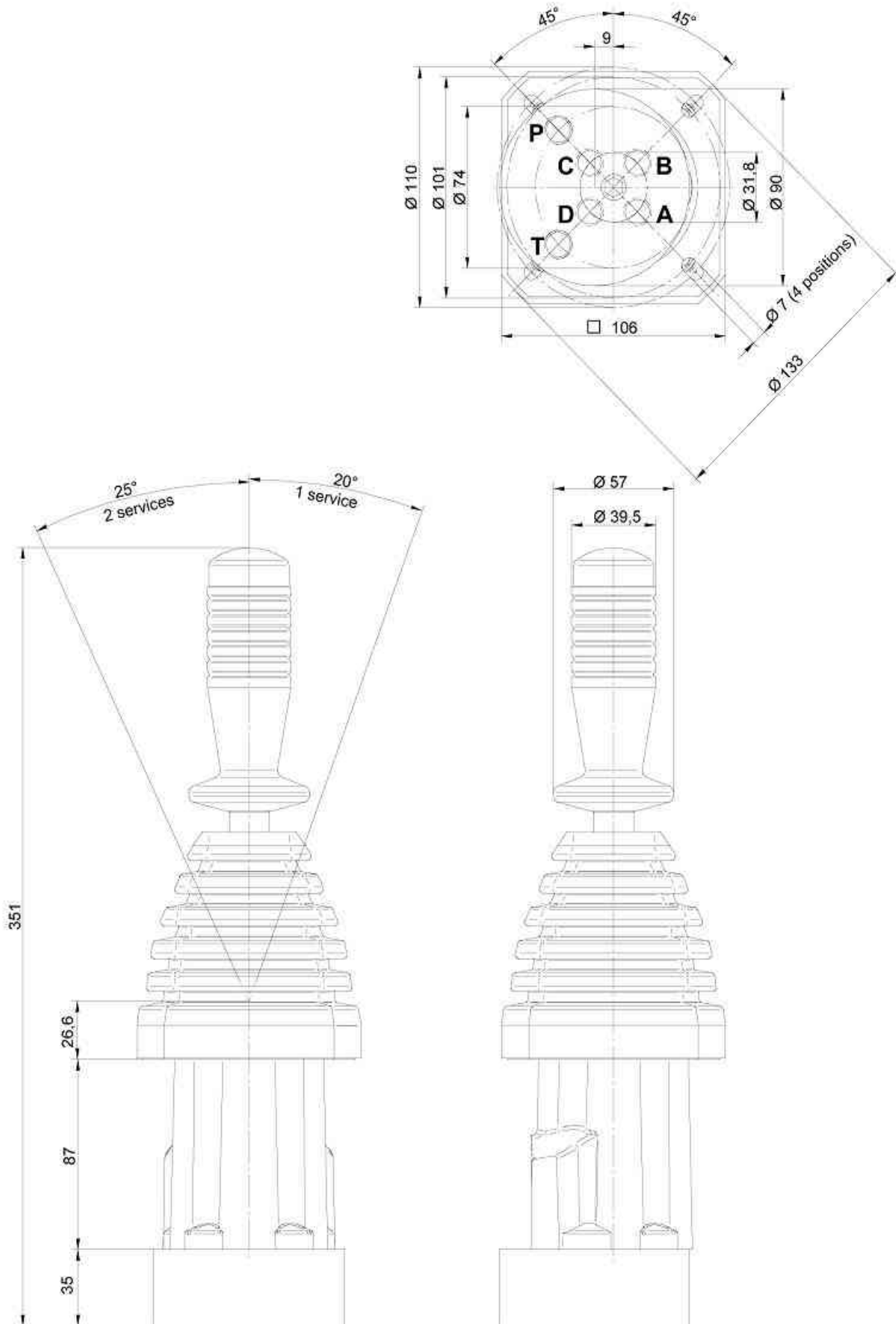
JH4 dual axis joystick fitted with cylindrical handle series ID1 without switches

Dimensional data:



JH4 dual axis joystick fitted with ergonomic handle series IE1 without switches

Dimensional data:



JH4 dual axis joystick fitted with optional shuttle valves block

Protection boots:

Without protection boot

0

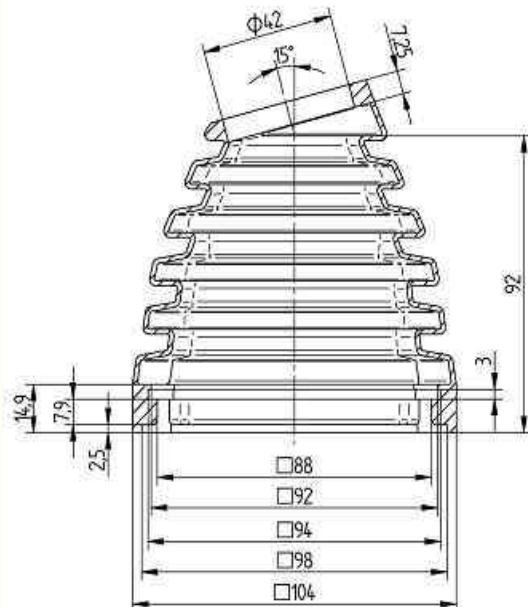
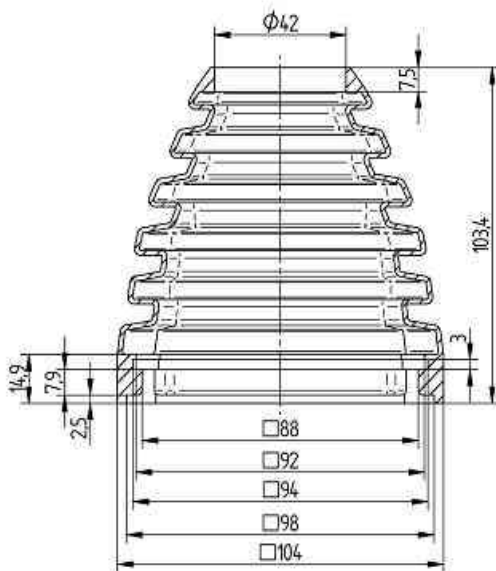


Square protection boot with upper collar straight

1

Square protection boot with upper collar bent by 15°

2



Control handles:

For details on the configuration of the required handle please consult the specific catalogue

Without control handle

Z

Standard cylindrical handle

ID1



Multifunction cylindrical handle

ID2



Multifunction ergonomic handle

IE1



Multifunction ergonomic handle

IG3



Ordering key:

JH4	A01	L	B	1	ID1	XXXX	B
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Optional supplement:

- **B** = Shuttle valve block, see circuit diagram on page 4 (omit if not required)

Control handle identification code:

To be assigned by Fluidea's Technical Office

Control handle (page 13):

- **Z** = Without handle
- **ID1** = Cylindrical handle series ID1
- **ID2** = Cylindrical handle series ID2
- **IE1** = Ergonomic handle series IE1
- **IG3** = Ergonomic handle series IG3

Protection boot (page 12):

- **0** = Without protection boot
- **1** = Square with straight upper collar (standard version)
- **2** = Square, with upper collar bent by 15°

Service ports:

- **B** = 1/4" BSP
- **U** = 9/16x18 UNF

Return springs:

- **L** = Light (standard version)
- **M** = Medium
- **P** = Heavy

Metering curves (pages 6-7-8):

- **A**** = Linear characteristic with step
- **B**** = Linear characteristic without step
- **C**** = Broken characteristic with step
- **D**** = Broken characteristic without step

Design series:

- **JH4** = Dual axis hydraulic joystick 4 services



*excellence in hydraulic
& electronic systems
with competence*

& innovative ideas