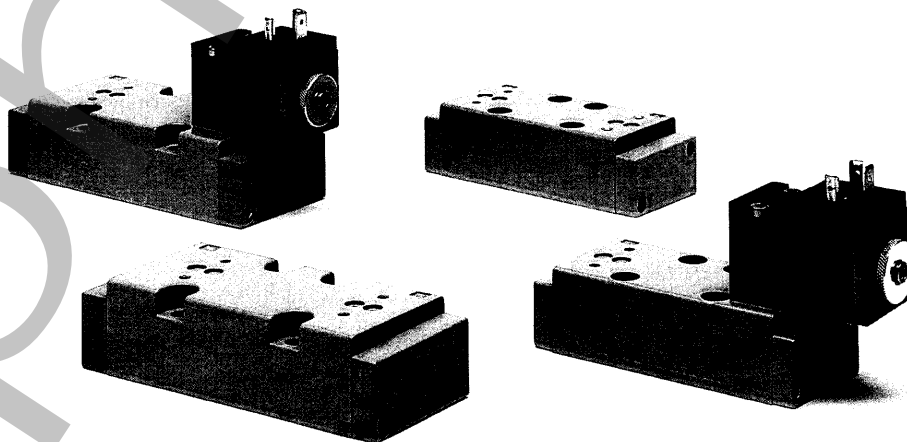




# ***ISO Compact***

## ***Sub-Base mounted Valves***



# Sub-base mounted valves

## General Information

Each NUMATICS valve is fitted with the famous NUMATICS lapped spool and sleeve assembly field proven over decades.

The spool and sleeve assembly is a matched set consisting of a stainless steel spool assembled into a stainless steel sleeve. The steel used is a 440C stainless hardened to 62 Rockwell "C". The tolerance is such that air is entrained between the spool and sleeve forming an "air bearing" effect which ensures safe, wear-free operation with extremely short cycles and low shift forces. At the same time reliability of the spool and sleeve assembly is maintained both for lubricated and non-lubricated air. Under both sets of conditions the spool moves with minimal friction leading to very low shifting forces enabling quick response. The

hardness of the spool and sleeve ensures no damage from pipe scale or other airline contaminants while the stainless steel construction combats any line moisture. These features will allow a typical service life of **200 million cycles**. The spool is balanced with respect to air pressure and coupled with the absence of wearing parts, it allows extreme versatility of valve applications. On NUMATICS valves, the air can flow in any direction at any pressure or vacuum. This unique design enables cylinder working strokes at one pressure while unloaded reverse strokes can be carried out economically at low pressure.

**2**


- Strong and rugged due to lapped spool and sleeve assembly constructed from hardened stainless steel
- Wearfree as sensitive sealing medium is not used
- Environment-friendly as oil-free operation is equally as reliable as lubricated usage
- Low, constant shifting forces allow direct solenoid operation with resulting simple and reliable construction
- Large internal porting ensures high flow capacity
- Elastic bearing of the sleeve prevents that the spool gets jammed when housing twists occur
- Any flow direction possible
- Low cost and economical valve operation due to its multi purpose design

# Sub-base mounted valves



ISO I-Series 5-ported  
2 & 3 pos. \_\_\_ G 1/4 \_\_\_ NI/min 1300 \_\_\_ 1 to 16 bar \_\_\_ solenoid pilot actuated \_\_\_ 4-5

ISO I-Series 5-ported  
2 & 3 pos. \_\_\_ G 1/4 \_\_\_ NI/min 1300 \_\_\_ 1 to 16 bar \_\_\_ air pilot actuated \_\_\_ 6-7

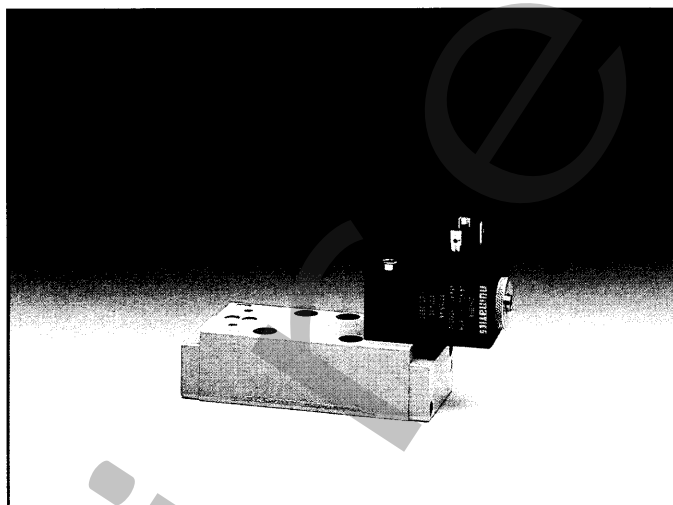
**C O N T E N T S** **3**

ISO II-Series 5-ported  
2 & 3 pos. \_\_\_ G 3/8 \_\_\_ NI/min 2200 \_\_\_ 1 to 16 bar \_\_\_ solenoid pilot actuated \_\_\_ 8-9

ISO II-Series 5-ported  
2 & 3 pos. \_\_\_ G 3/8 \_\_\_ NI/min 2200 \_\_\_ 1 to 16 bar \_\_\_ air pilot actuated \_\_\_ 10-11

## ISO 1 to ISO 5599/1

- compact design
- 5-ported, 2 & 3 positions
- lapped spool and sleeve assembly
- aluminium alloy housing
- unlubricated or lubricated operation
- internal pilot air supply



Port (base)	G 1/4
Flow capacity [Nl/min]	1300
C <sub>v</sub>	1.3

## Technical data

Temperature range	-20 °C to +80 °C			
Medium temperature	max. 50 °C			
Operating pressure range/Pilot pressure range	1 to 10 bar (on request 1 to 16 bar)			
Voltages	D. C. 24 V	A. C. 24 V, 50-60 Hz 110 V, 50-60 Hz 230 V, 50-60 Hz		
	Plug-in connector: type A (DIN 43650) other voltages and Ex-solenoids on request			
Power input	Inrush	2.7 W	6.0 VA	
	Holding	2.7 W	3.7 VA	
Plug specification	IP 65 with plug-in connector			
Solenoid rating [ED]	100 %			
Response time [ms]				
pilot/spring (5/2)	Energise 20	De-Energ. 32	Energise 15	De-Energ. 36
pilot/pilot (5/2)	Energise 20	De-Energ. 20	Energise 15	De-Energ. 15
pilot/pilot (5/3)	Energise 20	De-Energ. 32	Energise 15	De-Energ. 36

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## How to order

Valve without base	without manual override			
	24 V	24 V, 50-60 Hz	110 V, 50-60 Hz	230 V, 50-60 Hz
	C12BA4004026Z61	C12BA4002026Z20	C12BA4002026Z30	C12BA4002026Z40
	C12BW4004026Z61	C12BW4002026Z20	C12BW4002026Z30	C12BW4002026Z40
	C12BB4004026Z61	C12BB4002026Z20	C12BB4002026Z30	C12BB4002026Z40
	C12BB5004026Z61	C12BB5002026Z20	C12BB5002026Z30	C12BB5002026Z40
	C12BB6004026Z61	C12BB6002026Z20	C12BB6002026Z30	C12BB6002026Z40
	C12BB7004026Z61	C12BB7002026Z20	C12BB7002026Z30	C12BB7002026Z40

## ISO 1 - Valve, solenoid pilot actuated

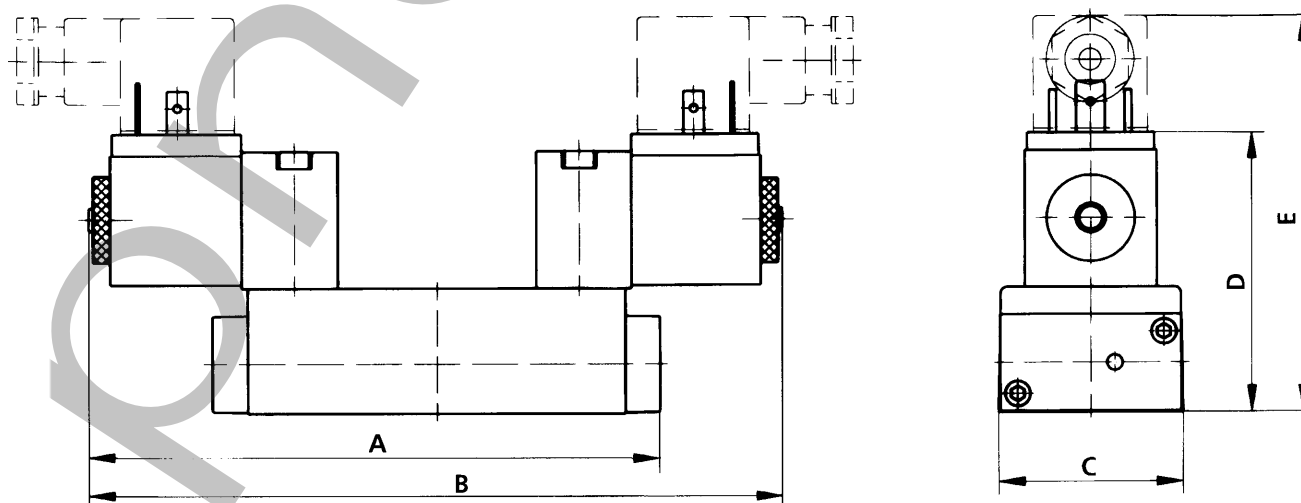
### How to order

Valve without base	flush non-locking manual override			
	24 V	24 V, 50-60 Hz	110 V, 50-60 Hz	230 V, 50-60 Hz
	C12BA4004026Y61	C12BA4002026Y20	C12BA4002026Y30	C12BA4002026Y40
	C12BW4004026Y61	C12BW4002026Y20	C12BW4002026Y30	C12BW4002026Y40
	C12BB4004026Y61	C12BB4002026Y20	C12BB4002026Y30	C12BB4002026Y40
	C12BB5004026Y61	C12BB5002026Y20	C12BB5002026Y30	C12BB5002026Y40
	C12BB6004026Y61	C12BB6002026Y20	C12BB6002026Y30	C12BB6002026Y40
	C12BB7004026Y61	C12BB7002026Y20	C12BB7002026Y30	C12BB7002026Y40

Valve without base	locking manual override			
	24 V	24 V, 50-60 Hz	110 V, 50-60 Hz	230 V, 50-60 Hz
	C12BA4004017G61	C12BA4002017G20	C12BA4002017G30	C12BA4002017G40
	C12BW4004017G61	C12BW4002017G20	C12BW4002017G30	C12BW4002017G40
	C12BB4004017G61	C12BB4002017G20	C12BB4002017G30	C12BB4002017G40
	C12BB5004017G61	C12BB5002017G20	C12BB5002017G30	C12BB5002017G40
	C12BB6004017G61	C12BB6002017G20	C12BB6002017G30	C12BB6002017G40
	C12BB7004017G61	C12BB7002017G20	C12BB7002017G30	C12BB7002017G40

Bases and accessories, see master catalogue, VALVES  
 Sandwich pressure regulator, see master catalogue, VALVES  
 Plug-in connectors to be ordered separately, see ACCESSORIES  
 On request: NPTF-ports

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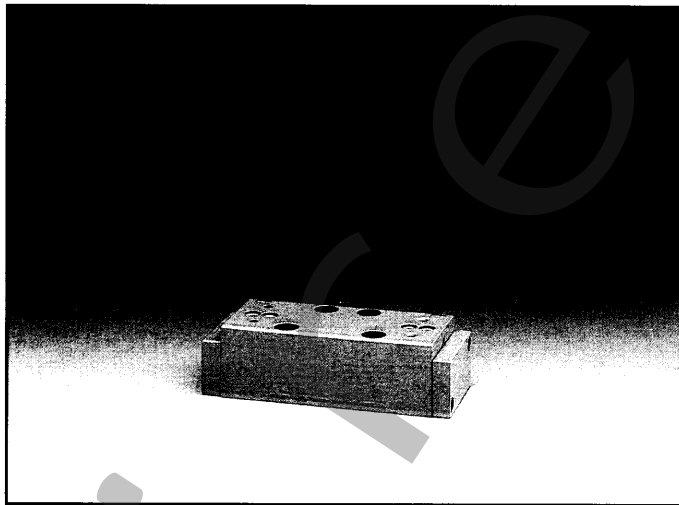
### Dimensions [mm]

Type	A	B	C	D	E
C12BA4/BW4...	132	-	42	64.6	91.6
C12BB4,5,6,7...	-	160	42	64.6	91.6

incl. nuts and gaskets

## ISO 1 to ISO 5599/1

- compact design
- air pilot actuated
- 5-ported, 2 & 3 positions
- lapped spool and sleeve assembly
- aluminium alloy housing
- unlubricated or lubricated operation



Port (base)	G 1/4
Flow capacity [Nl/min]	1300
C <sub>v</sub>	1.3

## Technical data

Temperature range	-20 °C to +80 °C	
Medium temperature	max. 50 °C	
Operating pressure range	1 to 16 bar	
Pilot pressure range	1 to 16 bar	
Response time [ms]		
pilot/spring (5/2)	Energise 15	De-Energ. 36
pilot/pilot (5/2)	Energise 15	De-Energ. 15
pilot/pilot (5/3)	Energise 15	De-Energ. 36

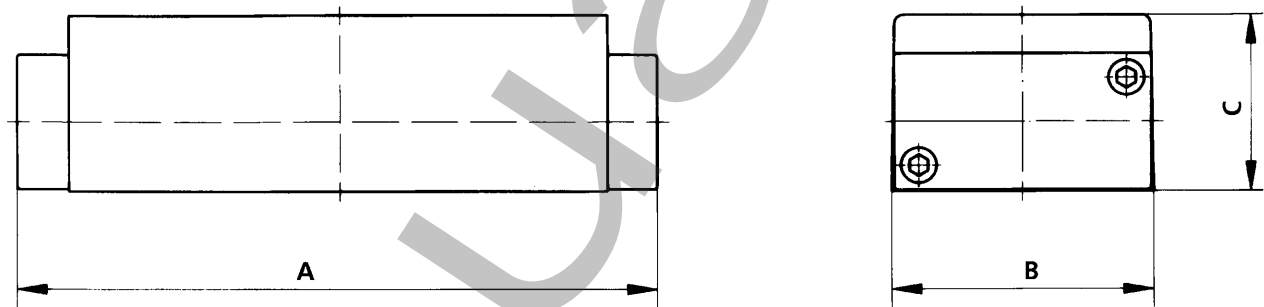
6

## How to order

Valve without base	without manual override
	E12PA4000000000
	E12PP4000000000
	E12PP5000000000
	E12PP6000000000
	E12PP7000000000

Bases and accessories, see master catalogue, VALVES  
 Sandwich pressure regulator, see master catalogue, VALVES  
 NPTF-ports on request

ISO 1 - Valve, air pilot actuated



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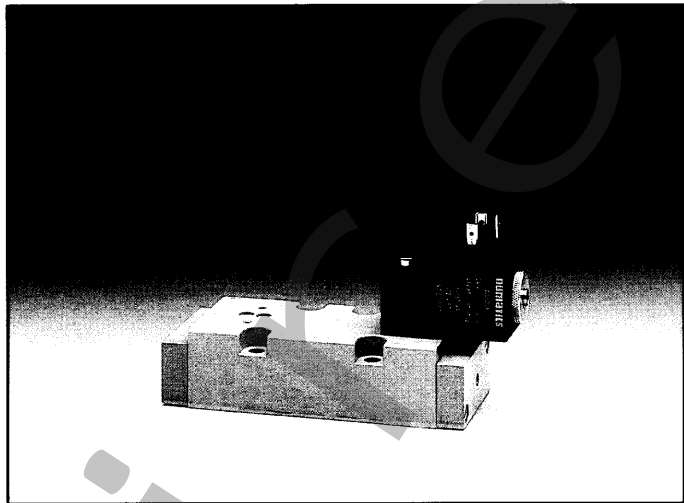
**Dimensions [mm]**

Typ	A	B	C
E12PA4./PP4/5/6/7..	104	42	29

incl. nuts and gaskets

### ISO II to ISO 5599/1

- compact design
- 5-ported, 2 & 3 positions
- lapped spool and sleeve assembly
- aluminium alloy housing
- unlubricated or lubricated operation
- internal pilot air supply



Port (base)	G 3/8
Flow capacity [Nl/min]	2200
C <sub>v</sub>	2.2

### Technical data

Temperature range	-20 °C to +80 °C			
Medium temperature	max. 50 °C			
Operating pressure range/Pilot pressure range	1 to 10 bar (on request 1 to 16 bar)			
Voltages	D. C. 24 V	A. C. 24 V, 50-60 Hz 110 V, 50-60 Hz 230 V, 50-60 Hz		
	other voltages and Ex-solenoids on request			
Power input	Inrush	2.7 W	6.0 VA	
	Holding	2.7 W	3.7 VA	
Plug specification	IP 65 with plug-in connector			
Solenoid rating [ED]	100 %			
Response time [ms]				
pilot/spring (5/2)	Energise 20	De-Energ. 32	Energise 15	De-Energ. 36
pilot/pilot (5/2)	Energise 20	De-Energ. 20	Energise 15	De-Energ. 15
pilot/pilot (5/3)	Energise 20	De-Energ. 32	Energise 15	De-Energ. 36

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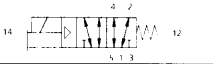
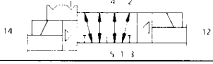
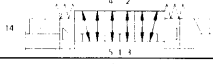
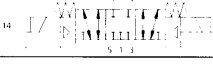
### How to order


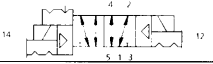
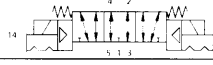

Valve without base	without manual override			
	24 V	24 V, 50-60 Hz	110 V, 50-60 Hz	230 V, 50-60 Hz
	C23BA4004026Z61	C23BA4002026Z20	C23BA4002026Z30	C23BA4002026Z40
	C23BB4004026Z61	C23BB4002026Z20	C23BB4002026Z30	C23BB4002026Z40
	C23BB5004026Z61	C23BB5002026Z20	C23BB5002026Z30	C23BB5002026Z40
	C23BB6004026Z61	C23BB6002026Z20	C23BB6002026Z30	C23BB6002026Z40



## ISO II - Valve, solenoid pilot actuated

### How to order

Valve without base	flush non-locking manual override			
	24 V	24 V, 50-60 Hz	110 V, 50-60 Hz	230 V, 50-60 Hz
	C23BA4004026Y61	C23BA4002026Y20	C23BA4002026Y30	C23BA4002026Y40
	C23BB4004026Y61	C23BB4002026Y20	C23BB4002026Y30	C23BB4002026Y40
	C23BB5004026Y61	C23BB5002026Y20	C23BB5002026Y30	C23BB5002026Y40
	C23BB6004026Y61	C23BB6002026Y20	C23BB6002026Y30	C23BB6002026Y40

Valve without base	locking manual override			
	24 V	24 V, 50-60 Hz	110 V, 50-60 Hz	230 V, 50-60 Hz
	C23BA4004017G61	C23BA4002017G20	C23BA4002017G30	C23BA4002017G40
	C23BB4004017G61	C23BB4002017G20	C23BB4002017G30	C23BB4002017G40
	C23BB5004017G61	C23BB5002017G20	C23BB5002017G30	C23BB5002017G40
	C23BB6004017G61	C23BB6002017G20	C23BB6002017G30	C23BB6002017G40

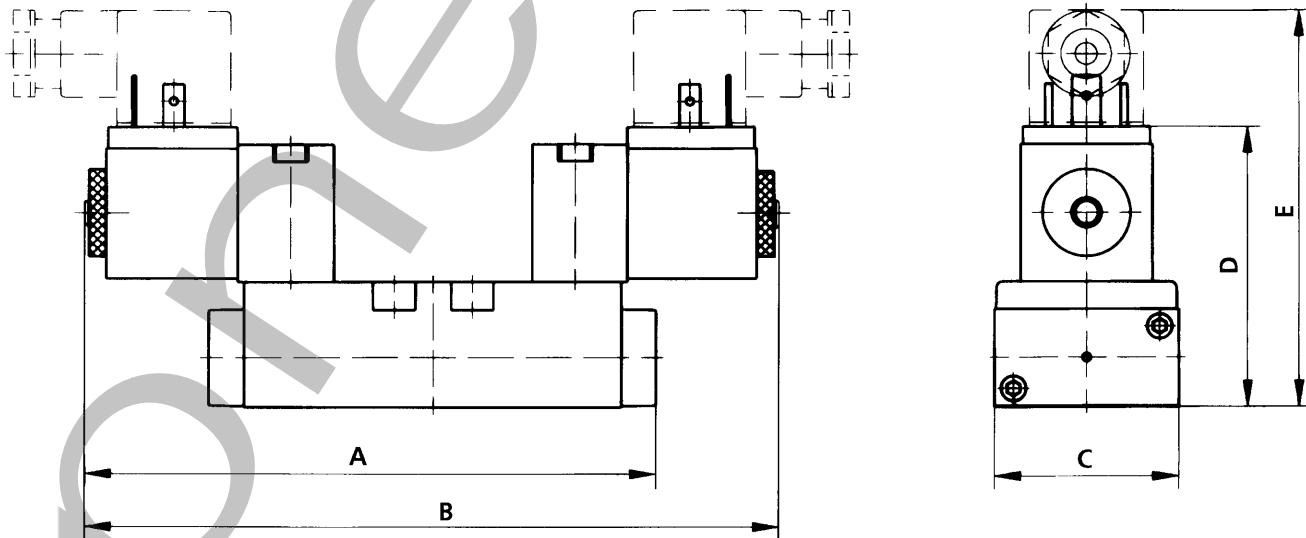
Bases and accessories, see master catalogue, VALVES

Sandwich pressure regulator, see master catalogue, VALVES

Plug-in connectors to be ordered separately, see ACCESSORIES

Please note: Function 7 (1 connected with 2 and 4 in spring centered position) is not available.

On request: NPTF-ports



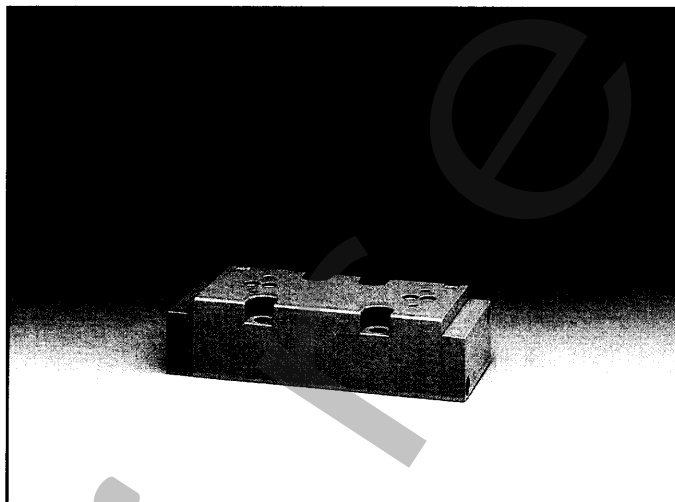
### Dimensions [mm]

Typ	A	B	C	D	E
C23BA4...	145	-	50.8	67.5	94.5
C23BB4,5,6...	-	161	50.8	67.5	94.5

incl. nuts and gaskets

## ISO II to ISO 5599/1

- compact design
- air pilot actuated
- 5-ported, 2 & 3 positions
- lapped spool and sleeve assembly
- aluminium alloy housing
- unlubricated or lubricated operation



Port (base)	G 3/8
Flow capacity [Nl/min]	2200
C <sub>v</sub>	2.2

## Technical data

Temperature range	-20 °C to +80 °C	
Medium temperature	max. 50 °C	
Operating pressure range	1 to 16 bar	
Pilot pressure range	1 to 16 bar	
Response time [ms]		
pilot/spring (5/2)	Energise 15	De-Energ. 36
pilot/pilot (5/2)	Energise 15	De-Energ. 15
pilot/pilot (5/3)	Energise 15	De-Energ. 36

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## How to order

Valve without base	without manual override
	E23PA4000000000
	E23PP4000000000
	E23PP5000000000
	E23PP6000000000

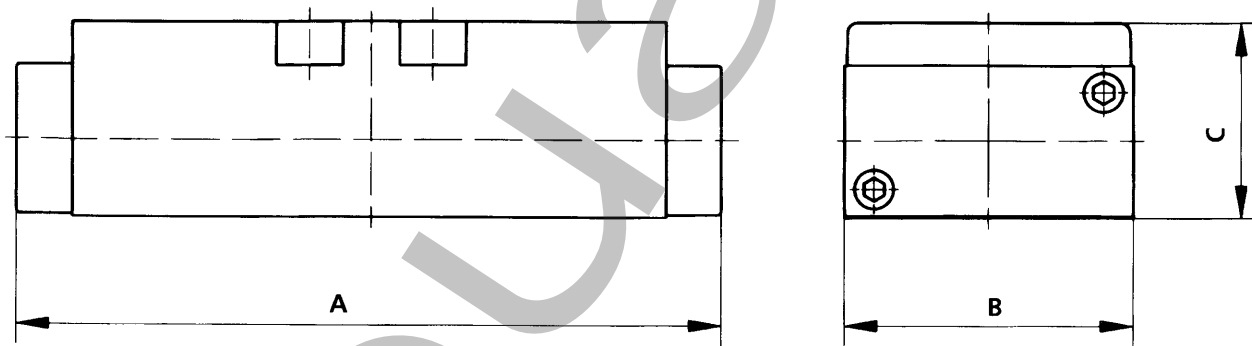
Bases and accessories, see master catalogue, VALVES

Sandwich pressure regulator, see master catalogue, VALVES

Please note: Function 7 (1 connected with 2 and 4 in spring centered position) is not available.

On request: NPTF-ports

ISO II - Valve, air pilot actuated



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**Dimensions [mm]**

Typ	A	B	C
E23PA4../PP4/5/6...	126	50.8	31.6
incl. nuts and gaskets			