

MECHANICAL-MANUAL-FOOT VALVES

Series CH/AI/AC/AL/AZ/AM

CH

2/2 - 3/2 G1/8 poppet valves

Main features:

- closed centers
- high flow rate
- quick response time

Suitable for heavy duties and where the number of mechanical operation is high.



TECHNICAL CHARACTERISTICS

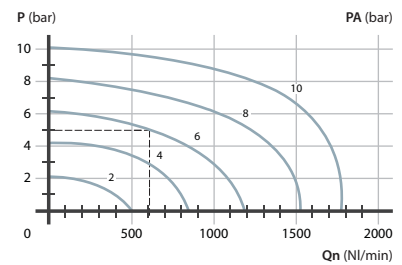
Ambient temperature	-10 ÷ +45 °C
Fluid temperature	max + 50 °C
Fluid	filtered air 50 µm, lubricated or not
Commutation system	poppet system
Ways/Positions	2/2 NC, 3/2 NC, 2/2 NO, 3/2 NO
Pressure	max 10 bar
Control	manual, mechanical
Return	mechanical spring
Connections	G1/8
Nominal Ø	5 mm
Nominal flow rate (NI/min)	NC = 600 NO = 550

CONSTRUCTIVE CHARACTERISTICS

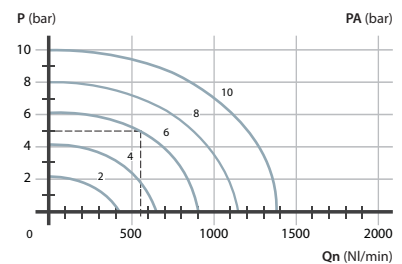
Valve body	die-cast zamak
Seals	nitrile rubber
Actuators	zinc-plated steel/technopolymer
Spool	nickel-plated brass

Flow rate characteristics

>> 3/2 NC



>> 3/2 NO

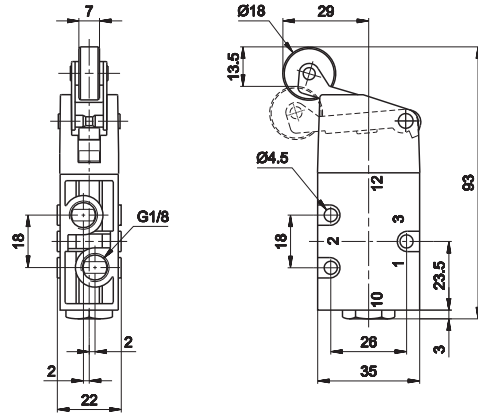


P = Working pressure
PA = Supply pressure
Qn = Flow rate

Roller lever - spring



Symbol	Flow rate (Nl/min)	Force N	Weight Kg	Part no.
	600	21	0,2	CH-250
	600	21	0,2	CH-252
	550	15	0,2	CH-254
	550	15	0,2	CH-256

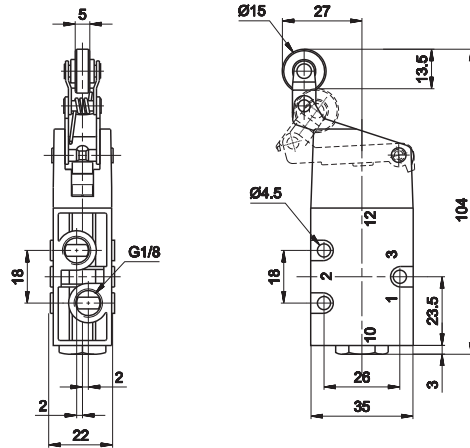


- 1 = Supply port
- 2 = Use
- 3 = Exhaust
- 12 = Control
- 10 = Return

Uni-directional roller lever - spring



Symbol	Flow rate (Nl/min)	Force N	Weight Kg	Part no.
	600	16	0,21	CH-260
	600	16	0,21	CH-262
	550	12	0,21	CH-264
	550	12	0,21	CH-266

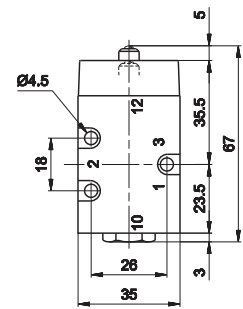
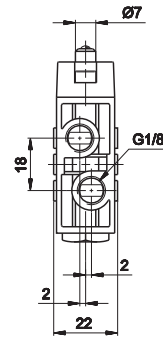


- 1 = Supply port
- 2 = Use
- 3 = Exhaust
- 12 = Control
- 10 = Return

Technical modifications keep in reserve !

(2020/10)

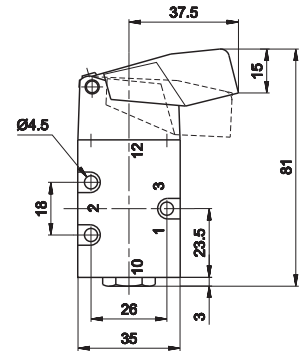
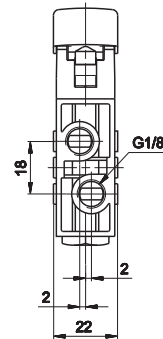
Ball-push - spring



	Symbol	Flow rate (NI/min)	Force N	Weight Kg	Part no.
3/2 NC		600	51	0,18	CH-270
2/2 NC		600	51	0,18	CH-272
3/2 NO		550	39	0,18	CH-274
2/2 NO		550	39	0,18	CH-276

- 1 = Supply port
- 2 = Use
- 3 = Exhaust
- 12 = Control
- 10 = Return

Button lever - spring



	Symbol	Flow rate (NI/min)	Force N	Weight Kg	Part no.
3/2 NC		600	18	0,18	CH-280
2/2 NC		600	18	0,18	CH-282
3/2 NO		550	14	0,18	CH-284
2/2 NO		550	14	0,18	CH-286

- 1 = Supply port
- 2 = Use
- 3 = Exhaust
- 12 = Control
- 10 = Return

Red button lever

Technical modifications keep in reserve !

(2020/10)

AI JET

Pneumatic switches JET series

- Light with compact design
- Low operating force and high response time
- M5 threaded connections or push-in fitting tube Ø4
- Wide range of actuators and manual overrides for mounting panel (Original Univer)



TECHNICAL CHARACTERISTICS

Ambient temperature	-10 ÷ +90 °C
Fluid temperature	max +50 °C
Fluid	filtered air 50 µm, lubricated or not
Commutation system	poppet system
Ways/Positions	2/2 NC, 3/2 NC, 2/2 NO, 3/2 NO
Pressure	max 10 bar
Control	manual, mechanical
Return	mechanical spring
Connections	M5, tube Ø4
Nominal Ø	2,5 mm
Nominal flow rate (NI/min)	98 NI/min

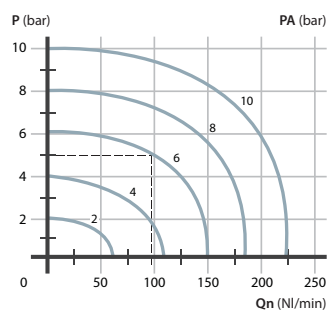
CONSTRUCTIVE CHARACTERISTICS

Valve body	zamak
Seals	nitrile rubber
Spool	nickel-plated brass

OTHER VERSIONS AVAILABLE



Flow rate characteristics



P = Working pressure
 PA = Supply pressure
 Qn = Flow rate

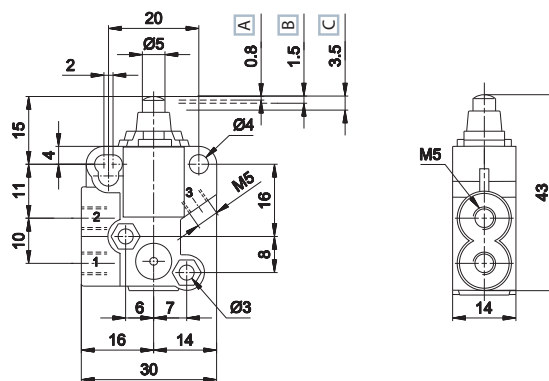
Technical modifications keep in reserve !

(2020/10)

Ball-push - spring M5



	Symbol	Connection	Force (a)	Weight	Part no.
			N	Kg	
3/2 NC		M5	14	0,060	AI-9000M
3/2 NO		M5	14	0,060	AI-9010M
2/2 NC		M5	14	0,060	AI-9020M
2/2 NO (b)		M5	14	0,060	AI-9030M

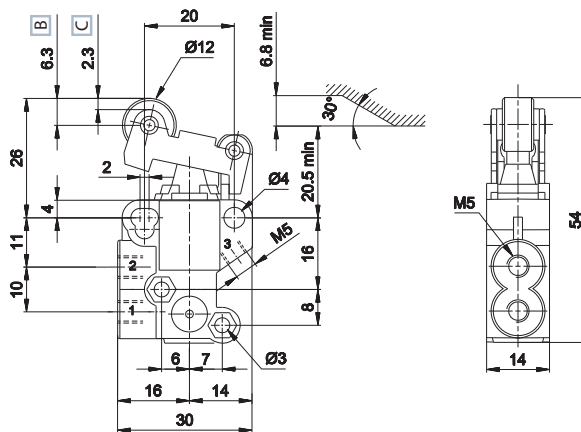


- A Pre-stroke
 - B Maximum opening
 - C Total stroke
- 1 = Supply port
 - 2 = Use
 - 3 = Exhaust

Roller lever - spring M5



	Symbol	Connection	Force (a)	Weight	Part no.
			N	Kg	
3/2 NC		M5	7	0,085	AI-9100M
3/2 NO		M5	7	0,085	AI-9110M
2/2 NC		M5	7	0,085	AI-9120M
2/2 NO (b)		M5	7	0,085	AI-9130M

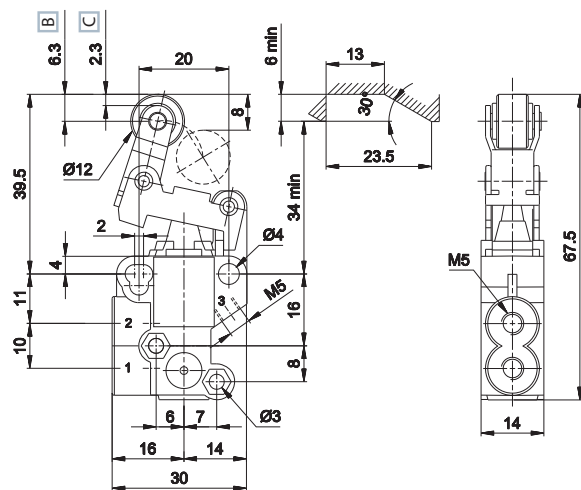


- B Maximum opening
 - C Total stroke
- 1 = Supply port
 - 2 = Use
 - 3 = Exhaust

Uni-directional roller lever - spring M5



	Symbol	Connection	Force (a)	Weight	Part no.
			N	Kg	
3/2 NC		M5	4	0,085	AI-9200M
3/2 NO		M5	4	0,085	AI-9210M
2/2 NC		M5	4	0,085	AI-9220M
2/2 NO (b)		M5	4	0,085	AI-9230M



- B Maximum opening
 - C Total stroke
- 1 = Supply port
 - 2 = Use
 - 3 = Exhaust

(a) = at 6 bar (b) = upon request 2/2 NO version

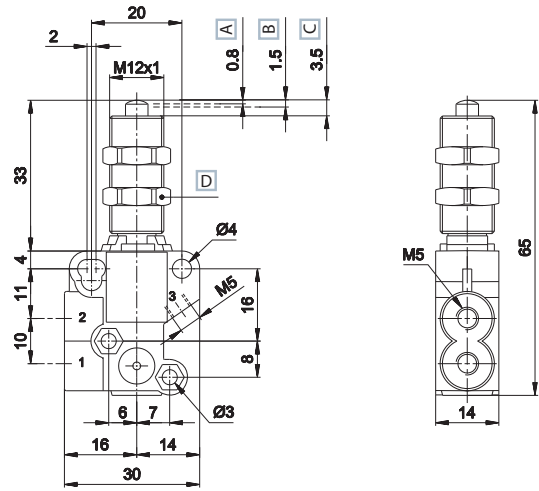
Technical modifications keep in reserve !

(2020/10)

Mechanical push button with screw mounting - spring M5



Symbol	Connection	Force (a) N	Weight Kg	Part no.
	M5	14	0,082	AI-9300M
	M5	14	0,082	AI-9310M
	M5	14	0,082	AI-9320M
	M5	14	0,082	AI-9330M



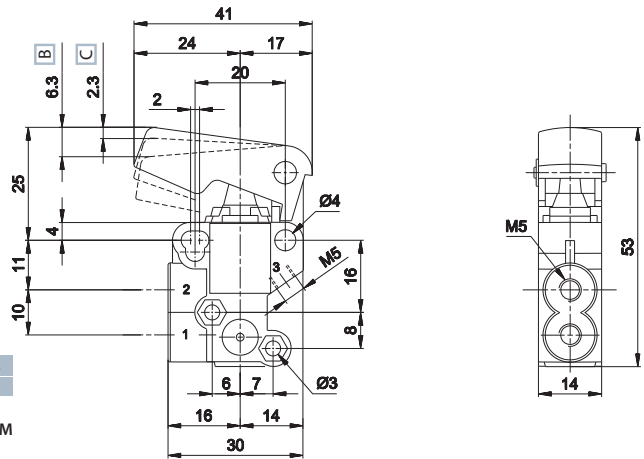
- A Pre-stroke
 - B Maximum opening
 - C Total stroke
 - D Wrench 14
- 1 = Supply port
2 = Use
3 = Exhaust

Button - spring M5



Symbol	Connection	Force (a) N	Weight Kg	Part no.
	M5	7	0,065	AI-9350M
	M5	7	0,065	AI-9360M
	M5	7	0,065	AI-9370M
	M5	7	0,065	AI-9380M

Button yellow colour



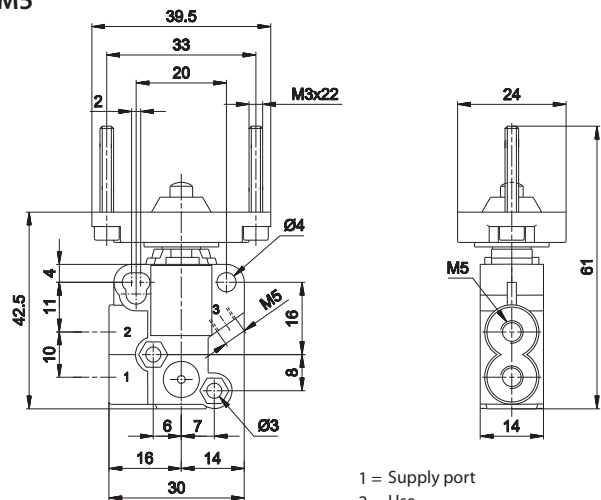
- B Maximum opening
 - C Total stroke
- 1 = Supply port
2 = Use
3 = Exhaust

Mechanical push button for panel mounting - spring M5



Symbol	Connection	Force (a) N	Weight Kg	Part no.
	M5	14	0,075	AI-9400M
	M5	14	0,075	AI-9410M
	M5	14	0,075	AI-9420M
	M5	14	0,075	AI-9430M

(a) = at 6 bar (b) = upon request 2/2 NO version



- 1 = Supply port
2 = Use
3 = Exhaust

Technical modifications keep in reserve !

(2020/10)

AI

Miniature limit switches

Univer limit switches, mounted on sub-bases with threaded connections or with quick couplings, may be combined with different types of manual operators for panel mounting complying with the various need of the plant.



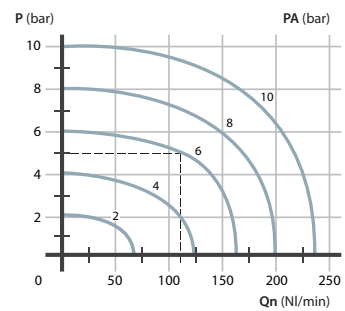
TECHNICAL CHARACTERISTICS

Ambient temperature	-10 ÷ +90 °C
Fluid temperature	max +50 °C
Fluid	filtered air 50 µm, lubricated or not
Commutation system	poppet system
Ways/Positions	2/2 NC, 3/2 NC, 2/2 NO, 3/2 NO
Pressure	max 10 bar
Control	manual, mechanical
Return	mechanical spring
Connections	interface for sub-base
Nominal Ø	2,3 mm (1,5 sensible type)
Nominal flow rate (NI/min)	110 NI/min

CONSTRUCTIVE CHARACTERISTICS

Valve body	zamak
Seals	nitrile rubber
Sub-base	zamak
Spool	nickel-plated brass

Flow rate characteristics



P = Working pressure
PA = Supply pressure
Qn = Flow rate

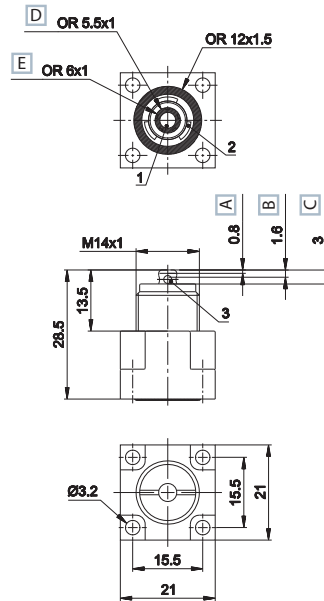
Mechanical push button - spring



- A Pre-stroke
- B Max opening
- C Total stroke
- D 3/2 NC - 3/2 NO - 2/2 NC
- E 2/2 NO

	Symbol	Ø mm	Flow rate NI/min	Force N	Weight Kg	Part no.
3/2 NC		2,3	110	15	0,040	AI-3500
		1,5	55	4	0,040	AI-3500S (a)
3/2 NO		2,3	110	15	0,040	AI-3501
		1,3	45	4	0,040	AI-3501S(a)
2/2 NC		2,3	110	15	0,040	AI-3502
2/2 NO (b)		2,3	110	15	0,040	AI-3503

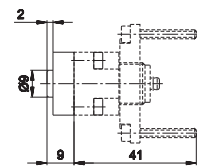
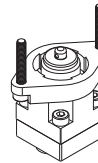
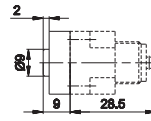
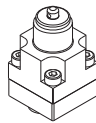
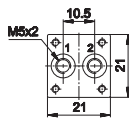
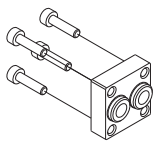
(a) = sensible (b) = 2/2 NO version available upon request



AI-3610

AI-3610 + AI-3500

AI-3610 + AI-3500Q

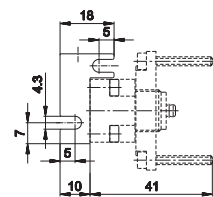
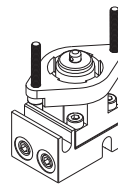
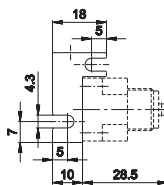
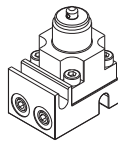
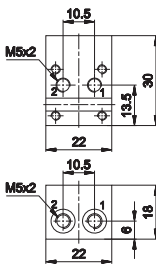
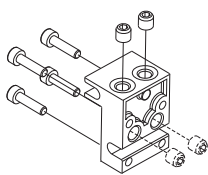


Sub-base with M5 threaded connections
weight: 0,020 Kg

AI-3612

AI-3612 + AI-3500

AI-3612 + AI-3500Q



Sub-base with side or dorsal consumptions and threaded connections M5
weight: 0,020 Kg

Part numbers include M3x12 fixing screws (4 pcs) and M5x5 dowel pins to close the unused ways. The M5x5 dowel pins must be mounted with loctite (243 type). Be sure that loctite does not obstruct the ports or sinks inside the valve. The dowel pins must be screwed till reaching the base surface. Avoid screwing them completely.

AI-3620



Subbase with lateral threaded connections 1/8"

AC

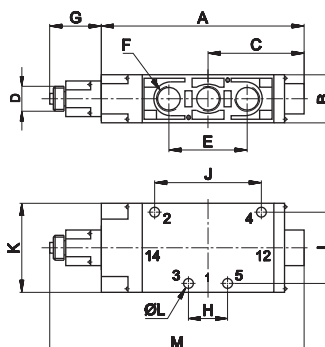
MIXED threaded valves G1/8 - G 1/4 - G1/2



Indirect mechanical control for use with pneumatic, mechanical and manual actuators



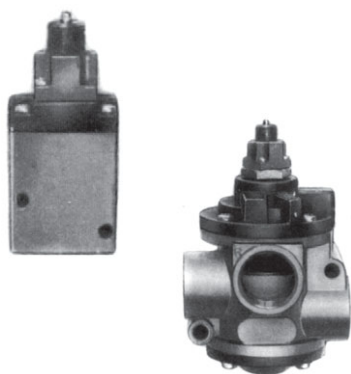
1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
14 = Control
12 = Return



	G1/8	G1/4	G1/2
A	99	114	163
B	25	27	40
C	47	54	83
D	M14x1	M14x1	M14x1
E	36	44	80
F	G1/8	G1/4	G1/2
G	27	27	27
H	18	22	40
I	26	40	50
J	36	60	108
K	40	50	63
L	4,5	5,5	6,5
M	126	141	190

Symbol	Connection	Control	Return	Pressure bar	Weight Kg	Part no.
5/2 	G1/8	ball pushrod	pneumomechanical spring	1,8÷10	0,27	AC-7010
	G1/4			2,3÷10	0,28	AC-8010
	G1/2			2÷10	0,33	AC-9010

SERVO MECHANICAL 3/2 VALVES FOR USE WITH PNEUMATIC & MECHANICAL OPERATORS Series AL



Basic 3/2 valve			
	NC	1/8"	AL-4630
	NO	1/8"	AL-4631
	NC	1/4"	AL-4640
	NO	1/4"	AL-4641
	NC	3/8"	AL-4650
	NO	3/8"	AL-4651
	NC	1/2"	AL-4660
	NO	1/2"	AL-4661
	NC	3/4"	AL-4670
	NO	3/4"	AL-4671
	NC	1"	AL-4680
	NO	1"	AL-4681

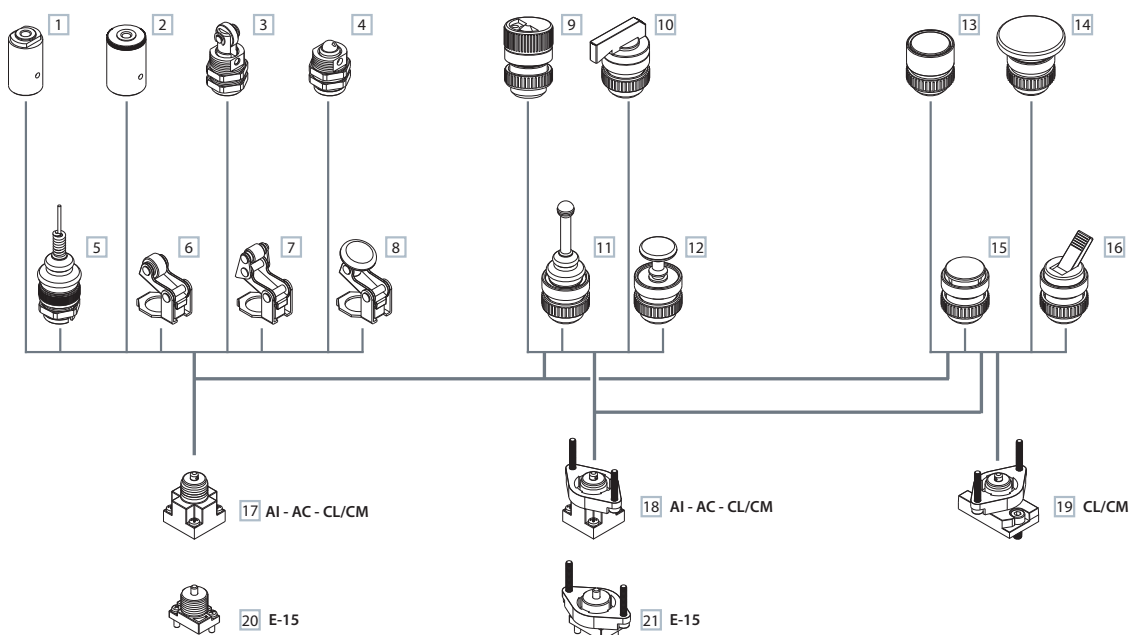
Technical modifications keep in reserve !

(2020/10)

BUTTONS



Modular system actuators/buttons



PNEUMATIC / MECHANICAL ACTUATORS

- 1 Pneumatic actuator
- 2 Amplified pneumatic actuator
- 3 Roller operator 1 position
- 4 Ball-push operator 1 position
- 5 Operator with omni-directional antenna 1 position
- 6 Roller lever operator 1 position
- 7 Articulated roller lever operator 1 position
- 8 Key operator 1 position

MANUAL ACTUATORS

- 9 Rotating selector
- 10 Rotating lever selector
- 11 Omni-directional operator
- 12 Push-pull operator
- 13 Recessed button
- 14 Head button
- 15 Button
- 16 Lever operator

VERRIDE



- 17 Threaded indirect operation
- 18 Indirect operation for panel mounting
- 19 Direct operation for panel mounting
- 20 Direct operation with tappet
- 21 Direct operation with tappet for panel mounting

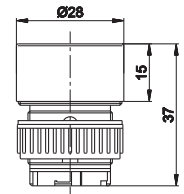
Technical modifications keep in reserve !

(2020/10)

Recessed button







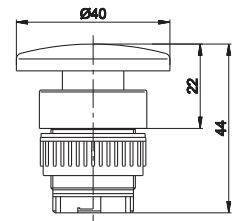
Symbol	Colour	Force ^(a) N	Weight Kg	Part no.
1 POSITION				
	black ■	16	0,031	AI-3511
	red ■	16	0,031	AI-3512
	green ■	16	0,031	AI-3513
FOR PANEL MOUNTING 1 POSITION (b)				
	black ■	16	0,031	AI-3511Q
	red ■	16	0,031	AI-3512Q
	green ■	16	0,031	AI-3513Q



Head button





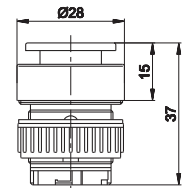
Symbol	Colour	Force ^(a) N	Weight Kg	Part
1 POSITION				
	red ■	16	0,022	AI-3514
	black ■	16	0,022	AI-3516
FOR PANEL MOUNTING 1 POSITION (b)				
	red ■	16	0,022	AI-3514Q
	black ■	16	0,022	AI-3516Q
2 POSITIONS				
	red ■	16	0,022	AI-3514D
	black ■	16	0,022	AI-3516D
FOR PANEL MOUNTING 2 POSITIONS (b)				
	red ■	16	0,022	AI-3514QD
	black ■	16	0,022	AI-3516QD



Button





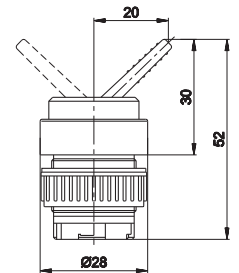
Symbol	Colour	Force ^(a) N	Weight Kg	Part no.
1 POSITION				
	green ■	12,5	0,025	AI-3515
	red ■	12,5	0,025	AI-3517
	black ■	12,5	0,025	AI-3519
FOR PANEL MOUNTING 1 POSITION (b)				
	green ■	12,5	0,025	AI-3515Q
	red ■	12,5	0,025	AI-3517Q
	black ■	12,5	0,025	AI-3519Q



Lever operator







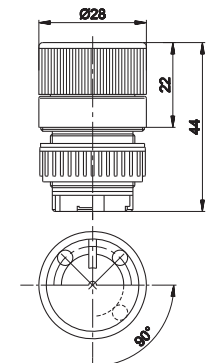
Symbol	Colour	Force ^(a) N	Weight Kg	Part no.
2 POSITIONS				
	black ■	6	0,022	AI-3524
FOR PANEL MOUNTINGS 2 POSITIONS (b)				
	black ■	6	0,022	AI-3524Q



Accident prevention rotating selector



Symbol	Colour	Force ^(a) N	Weight Kg	Part no.
WITH INDICATOR LAMP 1 POSITION				
	black ■	12,5	0,025	AI-3521
FOR PANEL MOUNTING WITH INDICATOR LAMP 1 POSITION (b)				
	black ■	12,5	0,025	AI-3521Q
WITH INDICATOR LAMP 2 POSITIONS				
	black ■	12,5	0,025	AI-3520
FOR PANEL MOUNTING WITH INDICATOR LAMP 2 POSITIONS (b)				
	black ■	12,5	0,025	AI-3520Q



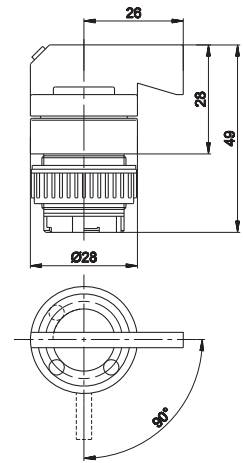
(a) = force at 6 bar with actuators assembled on AI-35.. standard limit switch

(b) = to be used with valves preset with flange for panel mounting

Rotating lever selector



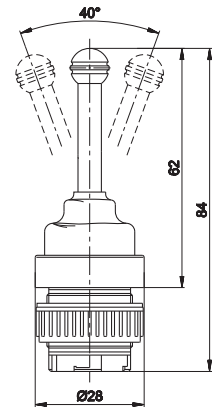
Symbol	Colour	Force (a) N	Weight Kg	Part no.
WITH INDICATOR LAMP 1 POSITION				
	black ■	12,5	0,025	AI-3523
FOR PANEL MOUNTING WITH INDICATOR LAMP 1 POSITION (b)				
	black ■	12,5	0,025	AI-3523Q
WITH INDICATOR LAMP 2 POSITIONS				
	black ■	12,5	0,025	AI-3522
FOR PANEL MOUNTING WITH INDICATOR LAMP 2 POSITIONS (b)				
	black ■	12,5	0,025	AI-3522Q



Omni-directional operator



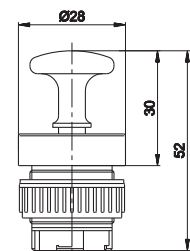
Symbol	Colour	Force (a) N	Weight Kg	Part no.
WITH CENTRE RETURN 1 POSITION				
	■	7	0,029	AI-3525
FOR PANEL MOUNTING WITH CENTRE RETURN 1 POSITION (b)				
	■	7	0,029	AI-3525Q



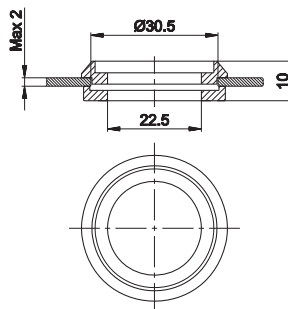
Push-pull operator



Symbol	Colour	Force (a) N	Weight Kg	Part no.
2 POSITIONS				
	black ■	16	0,029	AI-3526
FOR PANEL MOUNTING 2 POSITIONS (b)				
	black ■	16	0,029	AI-3526Q



AI-3529



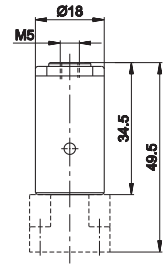
reducer for Ø 30,5 to Ø 22,5, to be used with AI-35..Q limit switches

(a) = force at 6 bar with actuators assembled on AI-35..
 (b) = to be used with valves preset with flange for panel mounting

Pneumatic operator



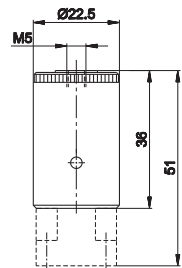
Symbol	Control pressure bar	Operating pressure bar	Weight Kg	Part no.
	1,9÷2,7	1÷9	0,020	AI-3550



Amplified pneumatic operator



Symbol	Control pressure bar	Operating pressure bar	Weight Kg	Part no.
	0,6÷0,9	1÷9	0,030	AI-3551

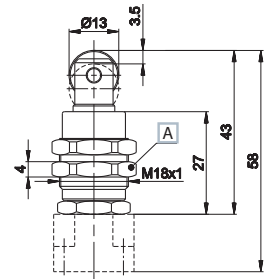


Roller operator



Wrench 20

Symbol	Force (a) N	Weight Kg	Part no.
WITH DUST PROTECTION			
	-	0,031	AI-3560

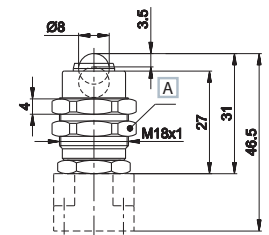


Ball-push operator



Wrench 20

Symbol	Force (a) N	Weight Kg	Part no.
WITH DUST PROTECTION			
	26	0,023	AI-3562

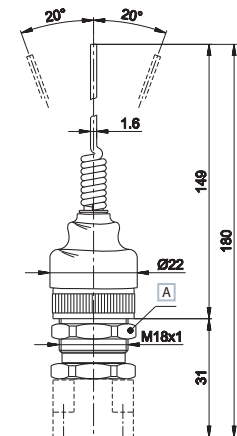


Operator with omni-directional antenna



Wrench 20

Symbol	Force (a) N	Weight Kg	Part no.
1 POSITION WITH CENTRE RETURN			
	3,3	0,034	AI-3563



(a) = force at 6 bar with actuators assembled on AI-35..standard limit switch

Technical modifications keep in reserve !

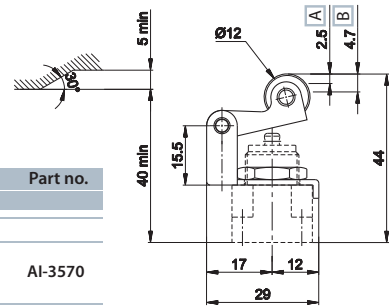
(2020/10)

Roller lever operator



Symbol	Force (a) N	Weight Kg	Part no.
1 POSITION			
	10	0,021	AI-3570

A Max opening
B Total stroke

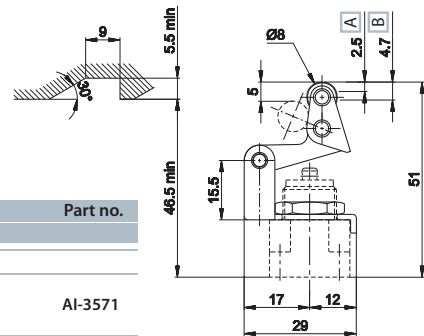


Articulated roller operator



Symbol	Force (a) N	Weight Kg	Part no.
1 POSITION			
	10	0,021	AI-3571

A Max opening
B Total stroke

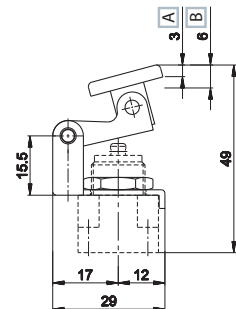


Key operator



Symbol	Force (a) N	Weight Kg	Part no.
1 POSITION			
	10	0,021	AI-3572

A Max opening
B Total stroke



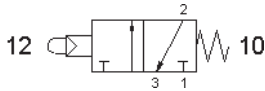
(a) = force at 6 bar with actuators assembled on AI-35..

EMERGENCY & KEY SELECTOR VALVES Series AZ

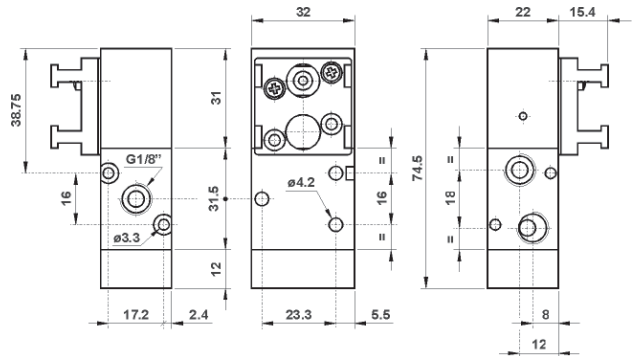
Nominal orifice: 5 mm
Nominal flow rate at 6 bar: 550 NI/min
Temperature range: max +60°C
Working pressure: 2.5 ... 10 bar
Actuating force: 4 N
Fluid: 50µ filtered, lubricated or non lubricated air

Materials
Body: aluminium 11S
Spool: nickel plated aluminium
Seals: NBR
Springs: stainless steel
Internal parts: brass OT 58

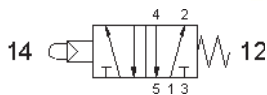
3/2 1/8" NC servo-piloted tappet with 90° actuator adaptor for panel mounting - spring return



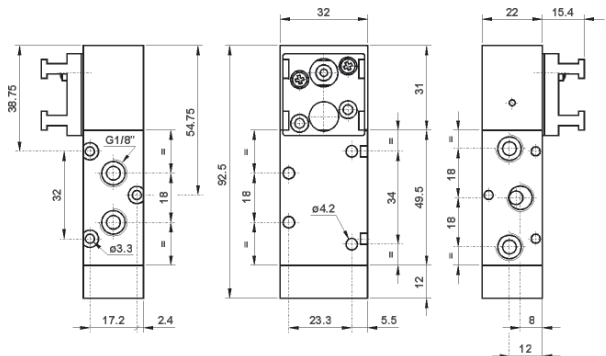
Order code:
321MB90



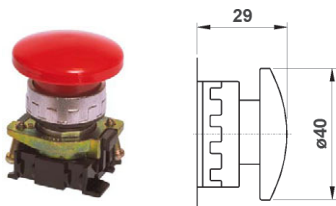
5/2 1/8" servo-piloted tappet with 90° actuator adaptor for panel mounting - spring return



Order code:
521MB90

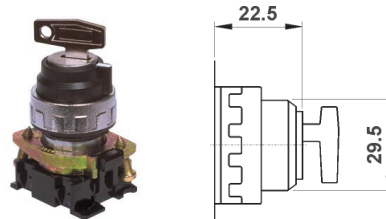


Actuators for panel mounting



Emergency mushroom Ø40 Red

Order code:
RM065R



Bi-stable key selector Black

Order code:
SSC/CD-V

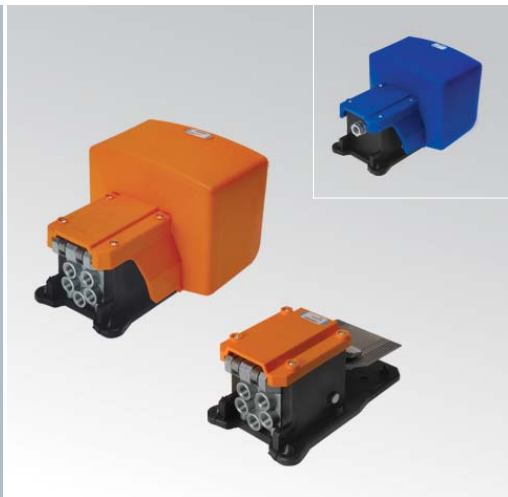
Technical modifications keep in reserve !

(2020/10)

AM

Pneumatic and electric foot valves

- Double poppet system appreciated for its reliability and high flow rate
- Aluminium valve body and pedal lever to the max strenght
- Available with and without protection (in the latter case the protection is to be realized by the machine builder according to the current rules)
- Available with safety devices to prevent unintentional operations
- Available with pneumatic servo-assistance in case of minimum stress
- Electric foot valves with single or double microswitch complete the foot valve range



TECHNICAL CHARACTERISTICS

Ambient temperature	-10 ÷ +70 °C	
Fluid temperature	-10 ÷ +50 °C	
Fluid	filtered air 50 µm, lubricated or not	
Commutation system	poppet system	
Ways/Positions	2/2 NC, 3/2 NC, 2/2 NO, 3/2 NO, 5/2	
Pressure	max 10 bar	
Control	pedal	
Return	mechanical spring, pedal	
Connections	G1/8	G1/4
Nominal Ø (mm)	2,3	8
Nominal flow rate (NI/min)	98	800

CONSTRUCTIVE CHARACTERISTICS

PNEUMATIC FOOT VALVE:

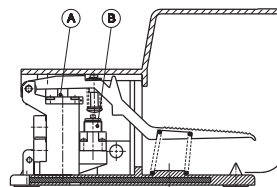
Valve body	die-cast zamak
Foot valve lever	aluminium
Pedal body and protections	nylon with steel reinforcing plate
Seals	oil/wear-resistant compound
Spool	aluminium

ELECTRIC FOOT VALVE:

Valve body, foot valve lever, protections	dielectric plastic material
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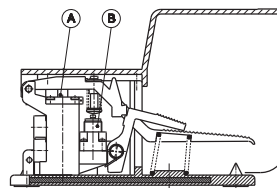
Functioning

Pedal with spring return



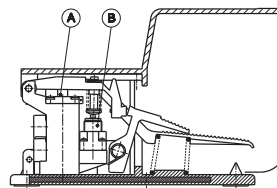
Direct operation A or pneumatic servo-assistance B.

Pedal with two positions (bistable)



The pedal must be deeply pressed. The unlocking pedal brings the pedal back to the starting position.

Pedal with safety device

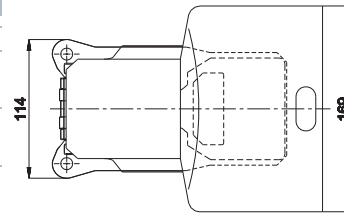
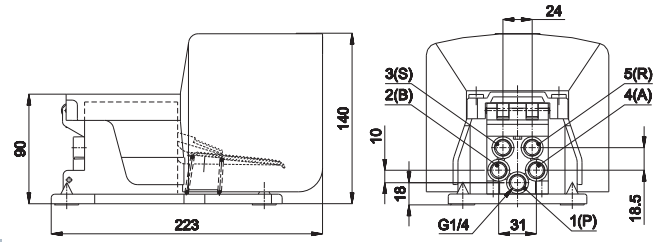


Operation is possible only by pushing both pedals at the same time. Pedals return to the starting position by releasing them. In this case unintentional operation is avoided.

Technical modifications keep in reserve !

(2020/10)

G1/4 pneumatic foot valve with protection



Symbol	Return	Force N	Weight Kg	Part no.	
SPRING RETURN PEDAL					
3/2 NC		mechanical spring	20	1,25	AM-5000
5/2		mechanical spring	20	1,45	AM-5001
3/2 NO		mechanical spring	20	1,25	AM-5002
BISTABLE PEDAL					
3/2 NC		pedal	20	1,37	AM-5003
5/2		pedal	20	1,52	AM-5004
3/2 NO		pedal	20	1,37	AM-5005
PEDAL WITH SAFETY CONTROL					
5/2		mechanical spring	20	1,45	AM-5011
3/2 NO		mechanical spring	20	1,25	AM-5012
3/2 NC		mechanical spring	20	1,25	AM-5015
SERVOASSISTED PEDAL - SPRING RETURN					
5/2		mechanical spring	20	1,45	AM-5021
SERVOASSISTED BISTABLE PEDAL					
5/2		mechanical spring	20	1,45	AM-5031
SERVOASSISTED PEDAL WITH SAFETY CONTROL					
5/2		mechanical spring	20	1,45	AM-5041

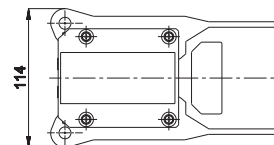
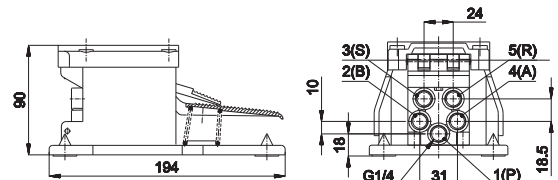
1 (P) = Supply port
 2 - 4 (B - A) = Use
 3 - 5 (S - R) = Exhaust

Threaded connections for different functions

2/2 NC		2/2 NO		3/2 NC			3/2 NO			5/2				
A	P	B	P	A	P	R	B	P	S	A	B	P	R	S
4	1	2	1	4	1	5	2	1	3	4	2	1	5	3

Pneumatic foot valve with orange as standard protection.

G1/4 pneumatic foot valves without protection



Symbol	Return	Force N	Weight Kg	Part no.	
PEDAL					
3/2 NC		mechanical spring	20	1,25	AM-5000A
5/2		mechanical spring	20	1,45	AM-5001A
BISTABLE PEDAL					
3/2 NC		pedal	20	1,37	AM-5003A
5/2		pedal	20	1,52	AM-5004A

1 (P) = Supply port
 2 - 4 (B - A) = Use
 3 - 5 (S - R) = Exhaust

Threaded connections for different functions

2/2 NC		2/2 NO		3/2 NC			3/2 NO			5/2				
A	P	B	P	A	P	R	B	P	S	A	B	P	R	S
4	1	2	1	4	1	5	2	1	3	4	2	1	5	3

Other versions upon request.

If this version is used the protection is to be realized by the user according to the current rules.

Technical modifications keep in reserve !

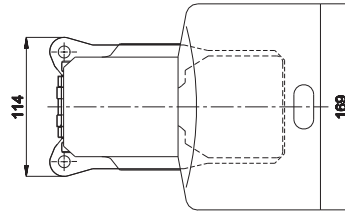
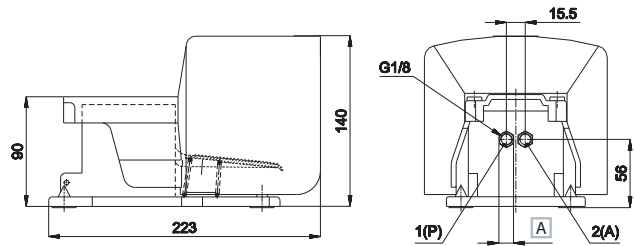
(2020/10)

G1/8 pneumatic foot valves with protection



Symbol	Return	Force N	Weight Kg	Part no.	
PEDAL					
3/2 NC		mechanical spring	20	0,96	AM-5043
2/2 NC		mechanical spring	20	0,96	AM-5043B
3/2 NO		mechanical spring	20	0,96	AM-5043C
2/2 NO		mechanical spring	20	0,96	AM-5043D

Pneumatic foot valve with orange protection.
Upon request version without protection.



A Wrench 12

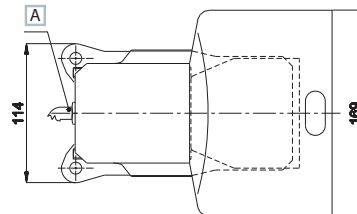
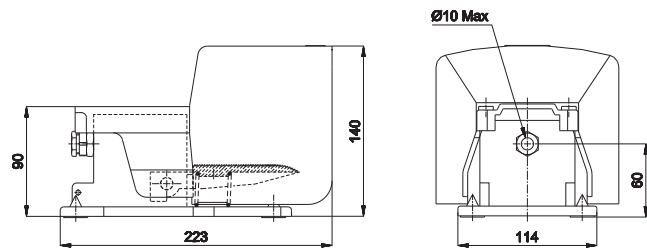
1 (P) = Supply port
2 (A) = Use

Electric foot valves



Symbol	Description	Force N	Weight Kg	Part no.
	pedal without electric microswitch	20	0,86	AM-5050
	pedal with electric microswitch	20	0,92	AM-5051
	pedal with double electric microswitch	20	0,95	AM-5052

Electric foot valve with blue protection.



A Electric cable

Technical modifications keep in reserve !

(2020/10)