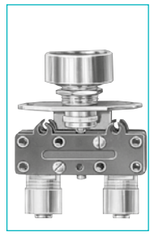
MANUAL ACTUATED VALVES

Push buttons diameter 12 and actuators





Features		Actuator color	Valve color	Push button round	Push button double round
Version	NC	black	black	81 735 511	—
		red	black	81 735 512	—
		black/red	black	—	81 733 511
	N0	black	grey	81 735 011	—
		red	grey	—	—
		black/red	grey	—	—

Symbol

NC





NO



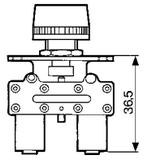


Characteristics

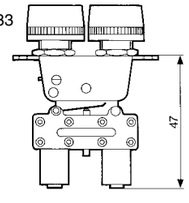
Operating pressure		bar	2 → 8	2 → 8
Orifice diameter		mm	2.7	2.7
Flow at 6 bars		Nl/mn.	200	200
Valves	NC : black		●	●
	NO : grey		●	
Operating forces (depending on actuator)		N	8 → 18	8 → 18
Effective travel		mm	1	1
Fluid: dry or lubricated air			●	●
Push-in connectors for semi-rigid tubing (NFE 49100)		mm	Ø 4	Ø 4
Operating temperature		°C	-5 → +50	-5 → +50
Mechanical life		operations	1.5 x 10^6	1.5 x 10^6
Weight		g	35	40

Dimensions

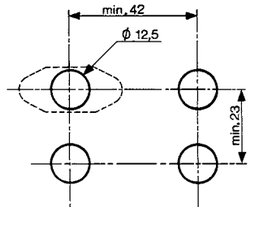
81 735



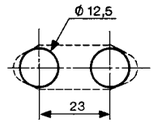
81 733

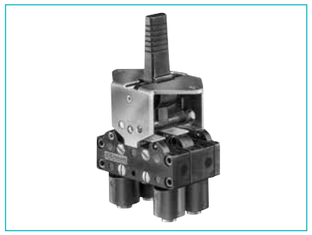


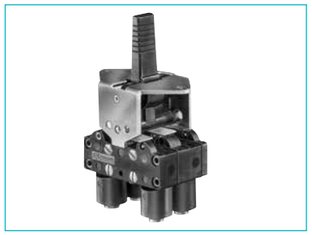
Threaded barrel

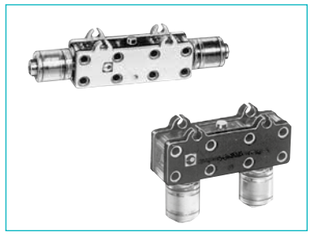


2 threaded barrels

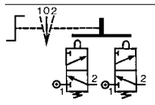


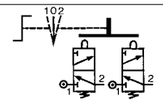






3-position lever manual return		3-position lever spring return		Horizontal outputs	Vertical outputs
81 716 511		81 715 511		81 280 510	81 281 510
81 716 512		81 715 512		—	—
—		—		—	—
—		—		81 280 010	81 281 010
—		—		—	—
—		—		—	—





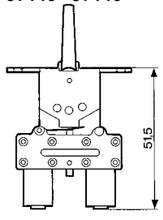




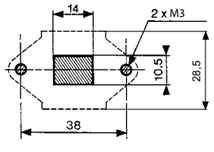


2 → 8		2 → 8	2 → 8	2 → 8
2.7		2.7	2.7	2.7
200		200	200	200
●		●	—	—
●		●	—	—
8 → 18		8 → 18	—	—
1		1	1	1
●		●	—	—
Ø 4		Ø 4	Ø 4	Ø 4
-5 → +50		-5 → +50	-5 → +50	-5 → +50
1.5 x 10^6		1.5 x 10^6	1.5 x 10^6	1.5 x 10^6
65		65	14	14

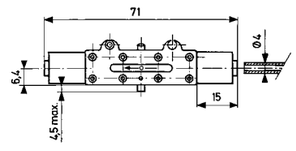
81 715 - 81 716



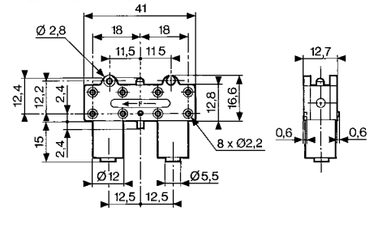
Square lever



81 280 010 - 81 280 510



81 281 010 - 81 281 510

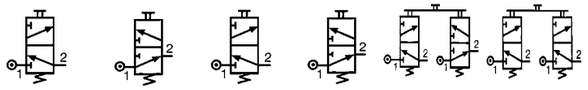


3/2 valves for manual actuators Ø 22 mm



3/2 valve supplied with screws for fixing the adaptator	Connection Ø4	89 543 501	89 543 101	—	—	—	—	—
	Gas 1/8	89 543 701	89 543 201	—	—	—	—	—
Valve(s) 3/2 fixed on adaptator (supplied with adaptator not assembled)	Connection Ø4	—	—	89 543 105	89 543 005	89 543 305	89 543 205	—
Adaptator for 3/2 valve on actuators Ø 22		—	—	—	—	—	—	24 679 702
Version		NC	NO	NC	NO	NC + NO	NC + NC	

Symbol

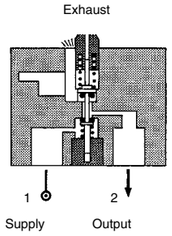


Characteristics

Operating pressure	bar	0 → 8	0 → 8	0 → 8	0 → 8	0 → 8	0 → 8	—
Orifice diameter	mm	2	2	2	2	2	2	—
Flow at 6 bars	Nl/min	112	112	112	112	112	112	—
Control force	N	12.6	12.6	12.6	12.6	12.6	12.6	—
Operating temperature in dry air	°C	-5 → +60	-5 → +60	-5 → +60	-5 → +60	-5 → +60	-5 → +60	—
Life	operations	1.5 x 10^6	1.5 x 10^6	1.5 x 10^6	1.5 x 10^6	1.5 x 10^6	1.5 x 10^6	—
Non-connectable exhaust		●	●	●	●	●	●	—
Weight	g	50	50	60	60	110	110	40

Principle of operation

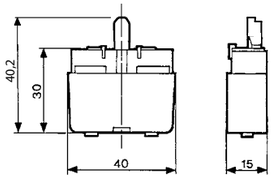
NC version



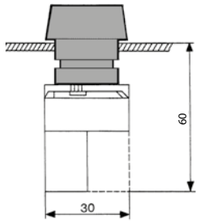
Dimensions

89 543 001 - 89 543 201

89 543 501 - 89 543 701

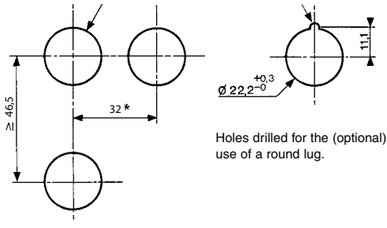


Ø 22 series



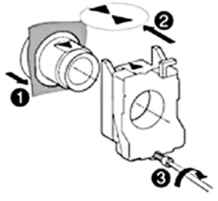
Holes drilled in panel for actuators Ø 22

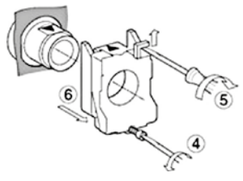
EN 50007



Holes drilled for the (optional) use of a round lug.

Installation





* > 40 Ø 40 push-buttons

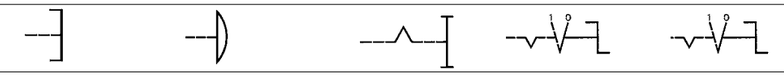
* > 45 for lever type rotary switches

Actuators Ø 22 mm for manually operated valves



Push buttons	Red	24 678 129	24 678 173	24 678 171	—	—	—
	Green	24 678 128	—	—	—	—	—
	Black	24 678 127	24 678 172	—	—	—	—
2-positions rotary switches		—	—	—	24 678 174	24 678 175	
3-positions rotary switches		—	—	—	—	—	
Function		Flush push contact	Emergency stop plastic Ø 40	Emergency stop Ø 40 mm push-turn	Black symmetrical actuator	Long lever Black	

Symbol



Position

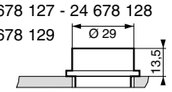


Weight	g	30	45	45	45	45

Dimensions

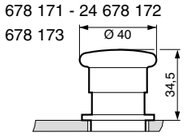
24 678 127 - 24 678 128

24 678 129



24 678 171 - 24 678 172

24 678 173



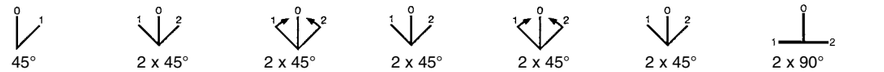


2-positions rotary switches	24 678 180	—	24 678 176	24 678 178	24 678 177	24 678 179	24 678 182	24 678 181
3-positions rotary switches	—	24 678 176						
Function	RONIS key 455 removable in position 0	Black symmetrical actuator	Black symmetrical actuator with return	Long lever Black	Black Long lever, spring to center	RONIS key 455 remov. in pos. 0 3 positions with spring to center	RONIS key 455 removable in position 0 3 fixed positions	

Symbol



Position

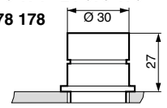


Weight	70	45	45	16	45	70	70

Dimensions

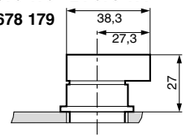
24 678 174 - 24 678 176

24 678 178



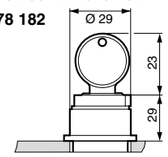
24 678 175 - 24 678 177

24 678 179



24 678 180 - 24 678 181

24 678 182



Pneumatic 2-hand control

Conforms to the Machinery Directive



Definition (conforming to EN 574 +A1)

A pneumatic 2-hand control device is used with dangerous machinery and requires the simultaneous use of both hands to trigger and maintain machine operation. Such a device must be located outside the dangerous zone, so that the operator cannot enter this zone before the machine has come to a complete standstill.

A pneumatic 2-hand control device is composed of 2 parts :

- 2 manual pushbuttons which require the simultaneous use of both hands.
- A pneumatic relay.

Types of 2-hand control devices

Requirements	Type				
	I	II	III		
			A	B	C
Use of both hands (simultaneous actuation)	●	●	●	●	●
Relationship between input signals and output signal	●	●	●	●	●
Cessation of the output signal	●	●	●	●	●
Prevention of accidental operation	●	●	●	●	●
Prevention of defeat	●	●	●	●	●
Reinitiation of the output signal		●	●	●	●
Synchronous actuation			●	●	●
Use of category 1 (EN 954-1)	●		●		
Use of category 3 (EN 954-1)		●		●	
Use of category 4 (EN 954-1)					●

Category 1 (EN ISO 13849) : the system should use well tried components and principles.

Category 3 (EN ISO 13849) : the system must be designed so that a single fault will not cause the loss of the safety function.

Category 4 (EN ISO 13849): the system must be designed so that an accumulation of faults must not lead to a loss of the safety function.

Synchronous action

An output signal is only generated if both control actuating devices are actuated within 500 ms.

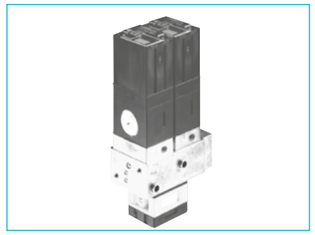
Resetting the output signal

The release of a single control device interrupts the output signal, but a reset is only possible once both control devices have been released.

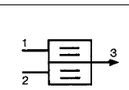
Pneumatic relay for two-hand control

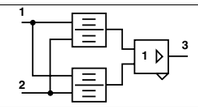
- **100% pneumatic**
- **Complies with Machinery Directive and the standard EN 574 +A1**
- **CE Certification type-IIIA and IIIB**





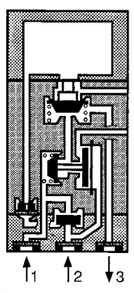
Pneumatic relay for two-hand control		81 580 101	81 580 202
EN 574 +A1 classification		III A	III B
Symbol			
Characteristics			
Operating pressure	bar	2 → 8	2 → 8
Orifice diameter	mm	2.5	2.5
Max. delay between input signals	s	0.2 max.	0.2 max.
Connection		Sub-base 81 532 001	Semi-rigid tubing Ø 4 (NFE 49100)
Operating temperature	°C	-5 → +50	-5 → +50
Mechanical life	operations	10^7	10^7
Weight	g	90	320





Principle of operation

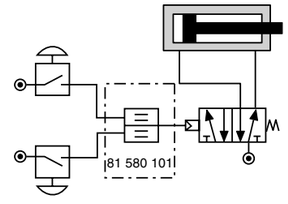
81 580 101



To obtain an output signal it is necessary to give simultaneous input signals 'a' and 'b' with a max. delay of 0.45. The output signal 's' is lost if one or both of the inputs are removed.

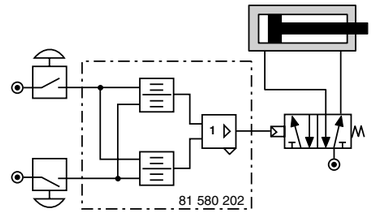
Connections (Typical application with double-acting cylinder)

81 580 101



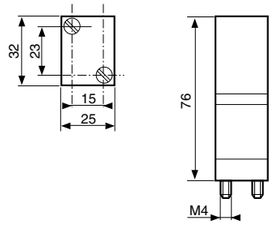
Components follow current standards

81 580 202



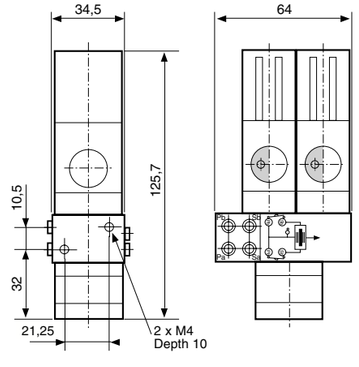
Dimensions

81 580 101



Mounted on sub-base 81 532 001
(See page 55 of Pneumatic catalogue)

81 580 202



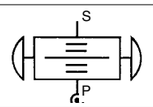
Two-hand pneumatic safety start module

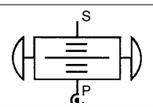
- **Conforms to the Machinery Directive and standard EN 574**
- **Including pneumatic relay to classification IIIA or IIIB depending on version**





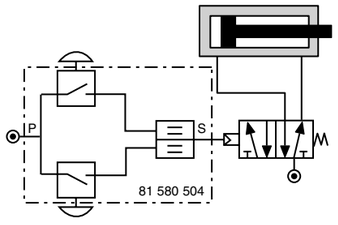
Two-hand pneumatic safety start module		81 580 504	81 580 503
Pneumatic relay (to EN 574)		Type III A	Type III B
Symbol			
Characteristics			
Operating pressure	bar	2 → 8	2 → 8
Orifice diameter	mm	2.5	2.5
Max. delay between input signals	s	0.2 max.	0.2 max.
Connection		Semi-rigid tubing Ø 4 (NFE 49100)	Semi-rigid tubing Ø 4 (NFE 49100)
Operating temperature	°C	-5 → +50	-5 → +50
Mechanical life	operations	1.5 x 10^6	1.5 x 10^6
Weight	g	1000	1410



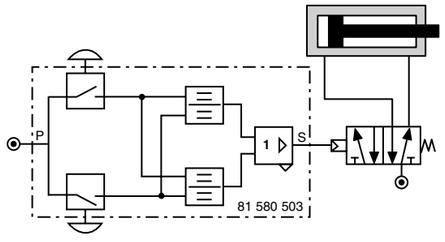


Connections (Typical application with double-acting cylinder)

81 580 504



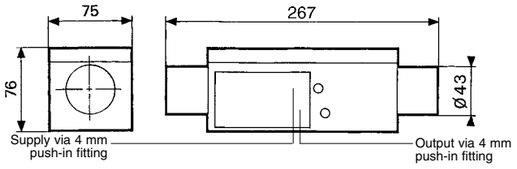
81 580 503



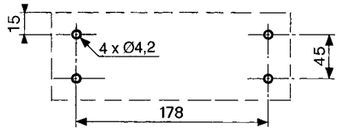
Components follow current standards

Dimensions

81 580 503 - 81 580 504



Fixing viewed from below



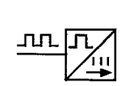
Pneumatic impulse counters

- **4, 5, 6 digits with or without reset**
- **With or without pre-selection**

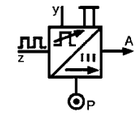




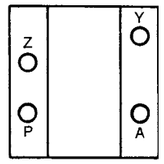
Totalizer		99 766 001	99 766 002	—
Preselection counter		—	—	89 538 201
Version		6 digits no reset to zero	4 digits with manual zero reset	5 digits with manual or pneumatic zero reset
Symbol				
Characteristics				
Supply pressure	bar	2 → 8	2 → 8	2 → 8
Pressure to break	bar	> 0.3	> 0.3	> 0.15
Pressure to make	bar	> 1.4	> 1.4	> 0.8
Reset : Minimum pressure	bar	—	—	2
Reset time	ms	—	—	150
Circuit pressure		—	—	2 → 8
bar		—	—	●
Signal emitted when preset is reached		0 → +60	0 → +60	0 → +60
Operating temperature	°C	150	150	136
Weight -	g			







Connection



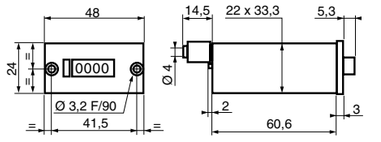
A - Output signal
P - Supply
Y - 'Reset to zero' signal
Z - Input signal

Note : the count pulse must be removed before the reset pulse is applied. The preset value can be changed during operation without the counter resetting to zero.

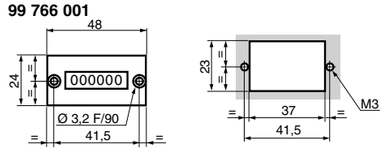
Dimensions

Connectors for semi-rigid tubing Ø 4 (NFE 49100)

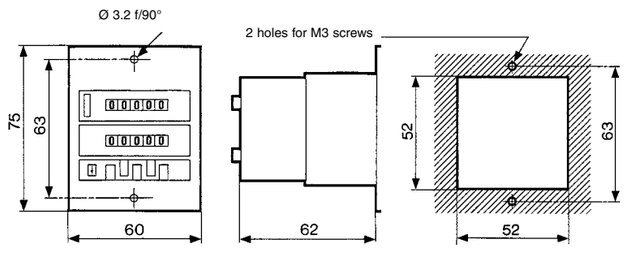
99 766 002



99 766 001



89 538 201



Indicators and pedal valves

› Ergonomics

Also available in **ATEX** version for use in potentially explosive atmospheres in accordance with 94/9/EC Directive

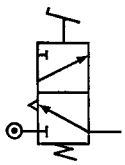




Pneumatic indicators Ø 22	Red	84 150 201	—
	Green	84 150 202	—
	Yellow	84 150 203	—
	Blue	84 150 204	—
Pedal valve - Version NC		—	81 999 501

Symbol



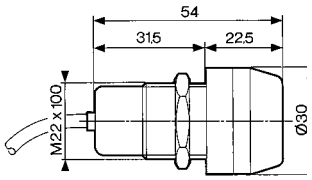


Characteristics

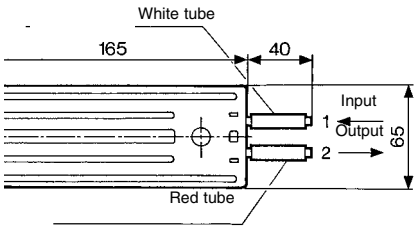
Operating pressure	bar	2 → 8	—
Push-in connection for semi-rigid tubing (NFE 49100)	mm	Ø4	Ø4
Operating temperature	°C	-5 → +50	-5 → +50
Mechanical life	operations	10^7	1.5 x 10^6
Weight	g	34	290

Dimensions

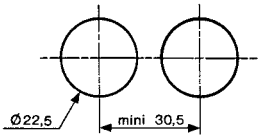
84 150 201 - 84 150 202
84 150 203 - 84 150 204

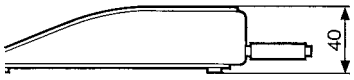


81 999 501



Holes drilled for indicators





ATEX version products are available in the following catologues: **Pneumatic products for explosive atmospheres** or on our website **www.crouzet.com**

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

CROUZET:

81513509 88 827 155 88827145 88950400 82862202 83163222 83250023 84137320N 87621125 99772715 GNB4D2B 81516100 89452062 79211759 80547017 83293001 83870101 84137141N 88974023 89451003 99775412 83870102 83873102 84872140 88974163 80180002 GN050DSRL GN025DSRL 82862205 GNRDM4A1C