Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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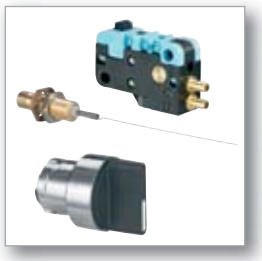
Crouzet

Pneumatics

Switching, automation systems, directional control in industrial and explosive atmospheres

Overview



■ Switching

■ Control systems

■ Directional control

www.crouzet.com

CST
CUSTOM SENSORS & TECHNOLOGIES

Contents

Editorial

For over 50 years, Crouzet has established a reputation for providing micro-control products, micro-motors and position sensors. Read on to discover Crouzet's complete offer of Pneumatic products for industrial and explosive atmospheres.

Always one step ahead of market trends and customer requirements, Crouzet is continually developing its range of both standard and customised automation components and solutions to cover all the latest commercial and industrial applications and meet the needs expressed by manufacturers of automated equipment and machinery.

Throughout the world, Crouzet the adaptation specialist provides you with technical and industrial expertise to ensure seamless integration, whatever the equipment environment or operating requirements of the machine.

CST (Custom Sensors & Technologies) Business Unit incorporates the companies BEI, Crouzet, Crydom & Kavlico. In addition to the Pneumatic solutions contained in this catalogue, CST also offers a complete range of detection, motorisation and micro-control products and solutions. This new organisation means even better service and technical choices for our customers.

Crouzet's Quality Control System has integrated environmental management into its processes. The production sites are ISO 9001 and ISO 14001 certified.

Eco-design is central to the company's "Offer Creation Process", the aim of which is to design products and services that correspond as closely as possible to customers' requirements and reduce their environmental impact throughout their life cycle.

All Crouzet products are fully compliant with the RoHS Directive.

RoHS

Crouzet

Expertise - for all your applications

■ **Crouzet's Pneumatic expertise** provides you with an offer to meet all your automation system requirements, including systems for explosive atmospheres.
The quality of the Pneumatic components is based on a rigorous organisation which meets all current European and international directives, standards and approvals.

■ **All our products are fully compliant** with the RoHS Directive and embody an eco-design concept. The Pneumatic offer is the result of the implementation of Crouzet applications and expertise:

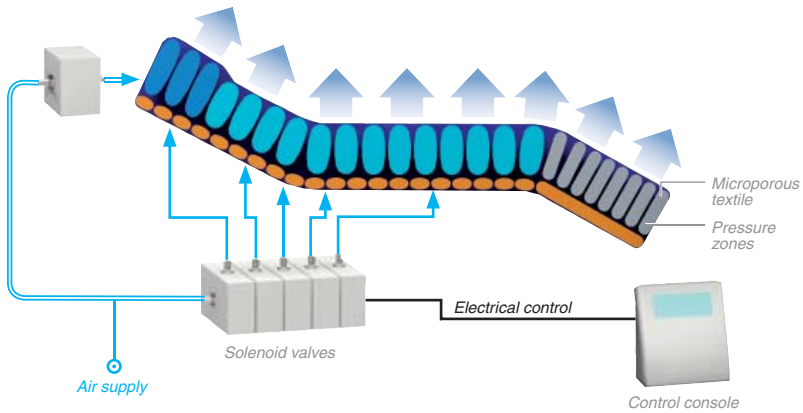
- **Listening to and analysing** your requirements
- **Expertise** in the associated applications: mechanical, electronic, sensors, etc.
- **Prototyping and industrialisation**
- **Tests**
- **Standardisation and certification** (IEC, EN, UL-CSA, ATEX, etc.)
- **Equipment** which is responsive and effective
- **International logistics** and after sales support

■ **Crouzet has developed broad expertise** in ensuring that your specific needs are taken into account. Thanks to this expertise, we are continuously developing our standard products to create solutions tailored to your requirements.

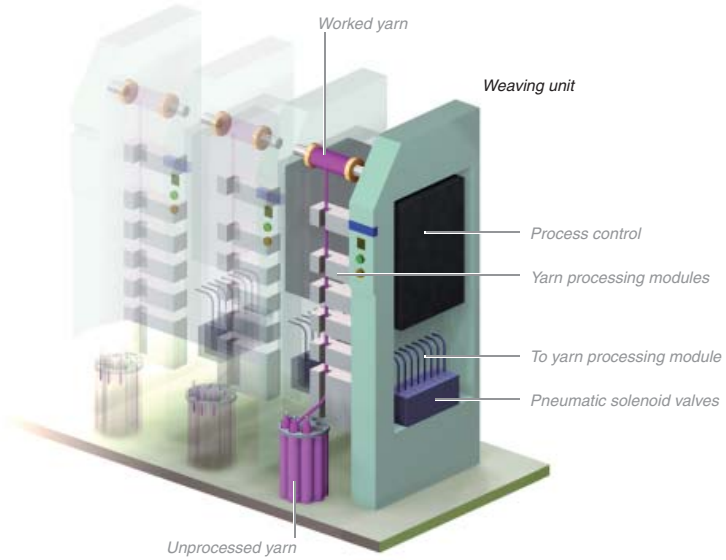
For more application examples, go to the Pneumatics section on our website: **www.crouzet.com**

Examples of applications:

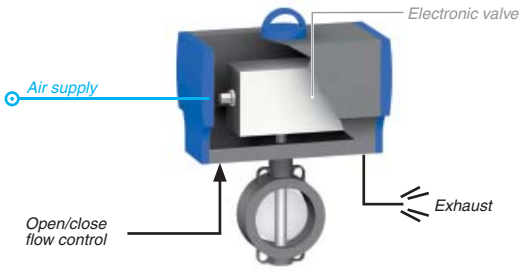
Medical mattress



Textile machine



Industrial valve



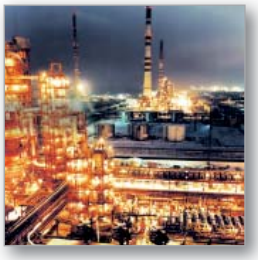
Pneumatic actuators for quarter-turn or proportional taps and valves allow open/close commands and flow rate changes to be automated.
The pneumatic actuating cylinder is operated by means of an air distributor valve built into the valve body and controlled by a solenoid valve.

Pneumatic offer for use in industrial and explosive atmospheres

This guide has been designed to help you quickly identify the appropriate products for your requirements. Most of our pneumatic components are available in a standard range and a range for use in explosive atmospheres (ATEX): this information is given in the right-hand column on each page.

■ Industrial range

The standard range of pneumatic components is designed to meet requirements for industrial applications.
The operating characteristics (pressure, flow rate, service life, etc.) have been optimised to best meet these needs.



■ Range for use in explosive atmospheres

The range for use in explosive atmospheres has been developed specifically for applications requiring compliance with European Directive 94/9/EC, the full details of which can be found on pages 30 and 31 of this guide.
The user is responsible for ensuring the compliance of his installations. All new installations must be compliant, and replacements in the event of breakdown or maintenance must comply with this directive.

CE Ex
ATEX
Directive 94/9/EC

■ Characteristics of our ATEX components

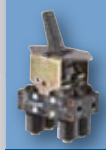
☐ ATEX products are specifically marked in accordance with the latest versions of harmonised standards
☐ Every product is supplied with a guide specifying the usage restrictions in explosive atmospheres
☐ A copy of the approval certificate can be provided if requested at the time of order
☐ The order entry must state the usage conditions Crouzet states the usage restrictions on acknowledgements of receipt of order, delivery notes and invoices

■ **Crouzet has produced a separate catalogue** for Pneumatic products for use in explosive atmospheres.

This catalogue gives details of the entire Crouzet range of ATEX pneumatic products along with associated standards, certifications, directives, markings and order conditions.

Pneumatic offer

All our push-in connections are designed to be connected to semi-rigid tubes complying with standard NFE 49100.
All our products are designed to operate with 50 µ filtered non lubricated air.

Product type	Range	Functions						
		Detect	Pilot	Amplify	Restric	Memorise	Signal	ATEX version
 Manually operated valves P. 6-7-8	■ Flow rate 200 Nl/min		■					✔ (1)
	■ Button Ø 22 mm		■					✔ (1)
 Detectors P. 9-10-11	■ On valve body	■	■					✔ (1)
	■ Low force	■	■					✔
	■ Miniature	■	■					
	■ Compact	■	■					
	■ Special	■	■					
 Logic elements and automation controls P. 12-13-14-15	■ Sequencer modules	■			■	■	■	✔
	■ Logic elements	■				■	■	✔
	■ Latching relays					■		✔
	■ Timers		■		■	■		✔
	■ Flow restrictors, capacities, non-return		■		■			✔
	■ Sub-bases							✔
 P. 16-17-18-19	■ Pressure switches	■					■	✔
	■ Pressure regulators	■					■	✔
	■ Vacuum switches	■					■	✔
	■ Leak detector relays	■	■	■			■	✔
	■ Amplifiers	■	■	■				✔
	■ Indicators	■					■	✔
	■ Counters	■				■		
	■ Two-hand controls	■	■					
	■ Vacuum generators	■	■					✔
 Valve modules P. 20-21-22-23-24-25-26-27	■ Miniature solenoid valves for valve modules		■					✔
	■ Sub-bases							✔
	■ Stand-alone miniature solenoid valves		■					✔
	■ Valve modules		■	■				✔
	■ Pre-assembled modules			■				✔
 Simulation kits P. 28	■ Standard	■	■	■	■	■	■	
	■ Specific	■	■	■	■	■	■	

*(1) **Note:** Manual control valves are deemed to be simple slow-moving components, without any hot surfaces, and are not subject to ATEX Directive 94/9/EC. They can be integrated in devices and equipment conforming to the requirements of this Directive without adversely affecting conformity. Nonetheless, parts of these components made of polymer can have an electrostatic charge and the user must take account of these charges.*

Valves, flow rate 200 Nl/min

Common characteristics

- Supply pressure: 2 - 8 bar
- Connection: push-in for ext. tube Ø 4 mm
- Operating temperature: -5°C → +50°C

V1

Products	Part number	Function	Outputs	Fixing	Environment	
3/2 valves					Industrial	ATEX explosive
	81280010	NO	Side	Frame	✔	✔ (1)
	81280510	NC	Side	Frame	✔	✔ (1)
	81281010	NO	Rear	Frame	✔	✔ (1)
	81281510	NC	Rear	Frame	✔	✔ (1)
	81282010	NO	Side	Clips	✔	✔ (1)
	81282510	NC	Side	Clips	✔	✔ (1)
	81283010	NO	Side	Nut	✔	✔ (1)
	81283510	NC	Side	Nut	✔	✔ (1)

Manually operated valves, flow rate 200 Nl/min

Common characteristics

- Supply pressure: 2 - 8 bar
- Connection: push-in for ext. tube Ø 4 mm
- Operating temperature: -5°C → +50°C

To build your manually operated valves:

1- Choose the valve body from the table V1 above

2- Choose the control accessory from the table below

Products	Part number	Actuator	Control	Shape	Colour	Modularity	Environment	
Control accessories							Industrial	ATEX explosive
	79455614	Single plunger		Round	Red	1 valve maximum	✔	✔ (1)
	79455615	Single plunger		Round	Black	1 valve maximum	✔	✔ (1)
	79455616	Single plunger		Square	Red	1 valve maximum	✔	✔ (1)
	79455617	Single plunger		Square	Black	1 valve maximum	✔	✔ (1)
	79455618	Double plunger		Round	Red/black	1 valve maximum	✔	✔ (1)
	79455619	Double plunger		Square	Red/black	2 valves maximum	✔	✔ (1)
	79455628	Lever, 3 positions, manual return	Simultaneous		Red	2 valves maximum (*)	✔	✔ (1)
	79455629	Lever, 3 positions, manual return	Simultaneous		Black	2 valves maximum (*)	✔	✔ (1)
	79455630	Lever, 3 positions, automatic return	Simultaneous		Red	2 valves maximum (*)	✔	✔ (1)
	79455631	Lever, 3 positions, automatic return	Simultaneous		Black	2 valves maximum (*)	✔	✔ (1)

(*) Can be converted to 2 positions on request.
NO and NC functions can be combined.

(1) Manual control valves are deemed to be simple slow-moving components, without any hot surfaces, and are not subject to ATEX Directive 94/9/EC. They can be integrated in devices and equipment conforming to the requirements of this Directive without adversely affecting conformity. Nonetheless, parts of these components made of polymer can have an electrostatic charge and the user must take account of these charges.

Manually operated valves for button Ø 22 mm

Common characteristics

- Flow rate: 90 Nl/min
- Operating temperature: -10°C → +60°C
- Supply pressure: 0 - 10 bar

Product	Part number	Type	Function	Connection	Environment	
					Industrial	ATEX explosive Ex
Valves						
	**89544001**	3/2 valves	NO	Push-in for ext. tube Ø 4 mm	✔	✔ (1)
	89544201	3/2 valves	NO	Gas 1/8	✔	✔ (1)
	89544501	3/2 valves	NC	Push-in for ext. tube Ø 4 mm	✔	✔ (1)
	89544701	3/2 valves	NC	Gas 1/8	✔	✔ (1)
	89545005	3/2 valves (*)	1 NO	Push-in for ext. tube Ø 4 mm	✔	✔ (1)
	89545105	3/2 valves (*)	1 NC	Push-in for ext. tube Ø 4 mm	✔	✔ (1)
	89545205	3/2 valves (*)	2 NC	Push-in for ext. tube Ø 4 mm	✔	✔ (1)
	89545305	3/2 valves (*)	1 NC + 1 NO	Push-in for ext. tube Ø 4 mm	✔	✔ (1)
	24679701	Adaptor Ø 22 mm			✔	✔ (1)

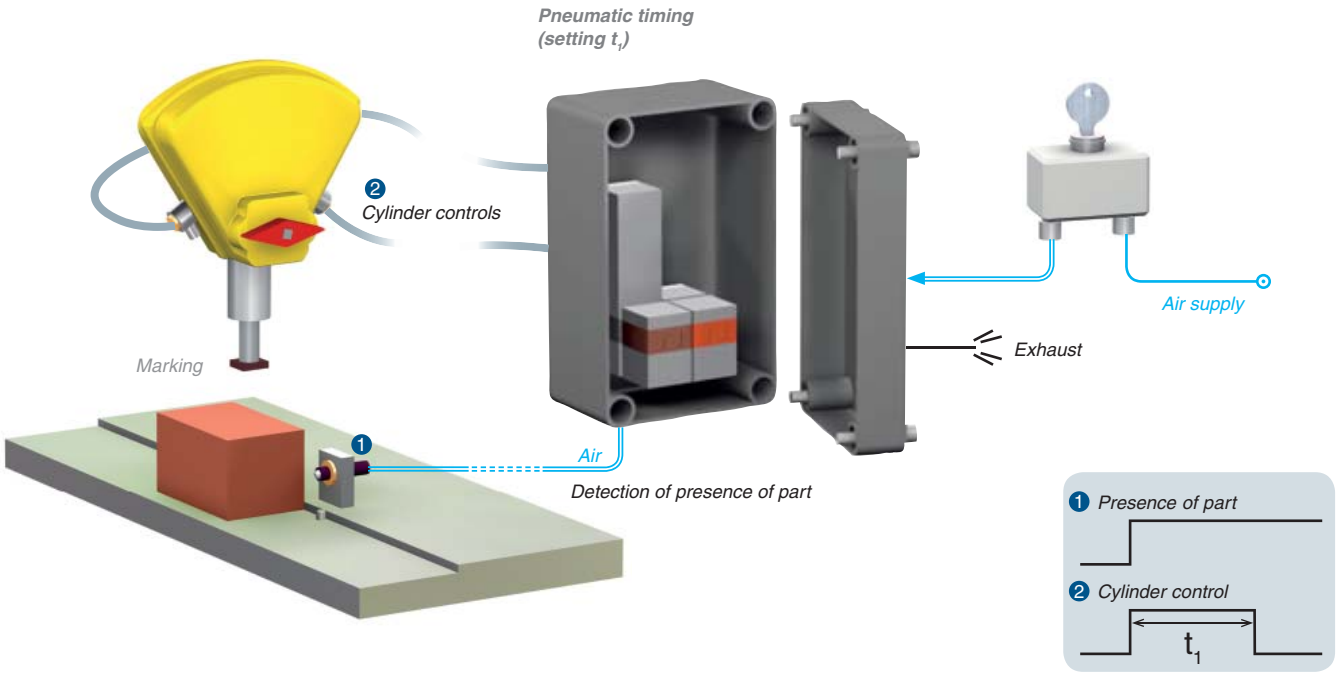
*(*) Valve supplied with adaptor **part no. 24679701**.*

Product	Part number	Type	Diagram	Environment	
				Industrial	ATEX explosive Ex
Pushbuttons					
	**24679127**	Flush-mounted momentary contact pushbutton, black		✔	✔ (1)
	24679128	Flush-mounted momentary contact pushbutton, green		✔	✔ (1)
	24679129	Flush-mounted momentary contact pushbutton, red		✔	✔ (1)
Mushroom pushbuttons					
	**24679171**	Push/turn mushroom button, red		✔	✔ (1)
	24679172	Momentary contact mushroom button, black		✔	✔ (1)
	24679173	Momentary contact mushroom button, red		✔	✔ (1)
Toggles					
	**24679174**	Toggle, black, 2 positions	 45°	✔	✔ (1)
	24679175	Lever toggle, black, 2 positions		✔	✔ (1)
	24679176	Toggle, black, 3 positions	 2 x 45°	✔	✔ (1)
	24679177	Lever toggle, black, 3 positions		✔	✔ (1)
	24679178	Return toggle, black, 3 positions	 2 x 45°	✔	✔ (1)
	24679179	Return toggle, black, 3 positions	 2 x 45°	✔	✔ (1)
Key toggles					
	**24679180**	Key toggle, 2 positions - removal at 0	 45°	✔	✔ (1)
	24679181	Key toggle, 3 fixed positions - removal at 0	 2 x 90°	✔	✔ (1)
	24679182	Key toggle, 3 positions, return to centre, removal at 0	 2 x 45°	✔	✔ (1)

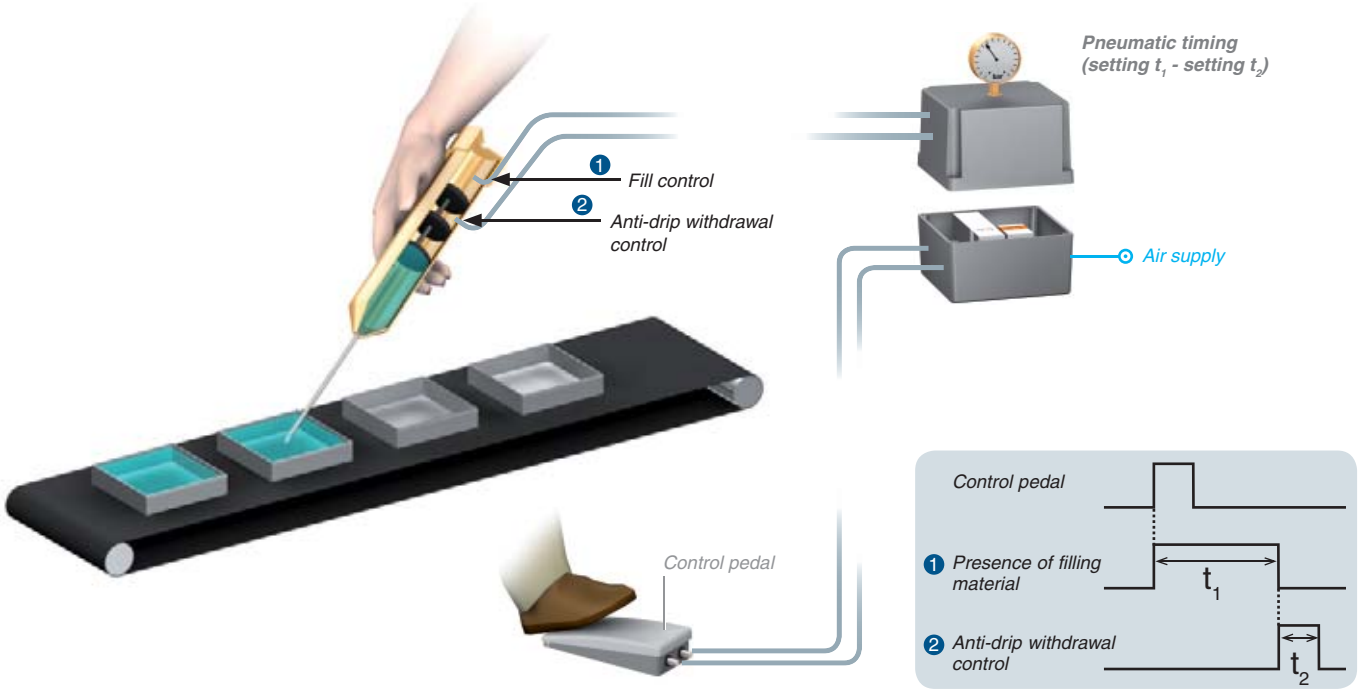
(1) Manual control valves are deemed to be simple slow-moving components, without any hot surfaces, and are not subject to ATEX Directive 94/9/EC. They can be integrated in devices and equipment conforming to the requirements of this Directive without adversely affecting conformity. Nonetheless, parts of these components made of polymer can have an electrostatic charge and the user must take account of these charges.

Applications

Marking control system



Semi-automatic resin filling system, with anti-drip control



Detectors on valve bodies

Common characteristics

- Flow rate: 200 Nl/min
- Outlet: semi-rigid tube, external Ø 4 mm
- Supply pressure: 2 - 8 bar
- Operating temperature: -5°C → +50°C

To build your detector:

1- Choose the valve body from the table V1 on page 6

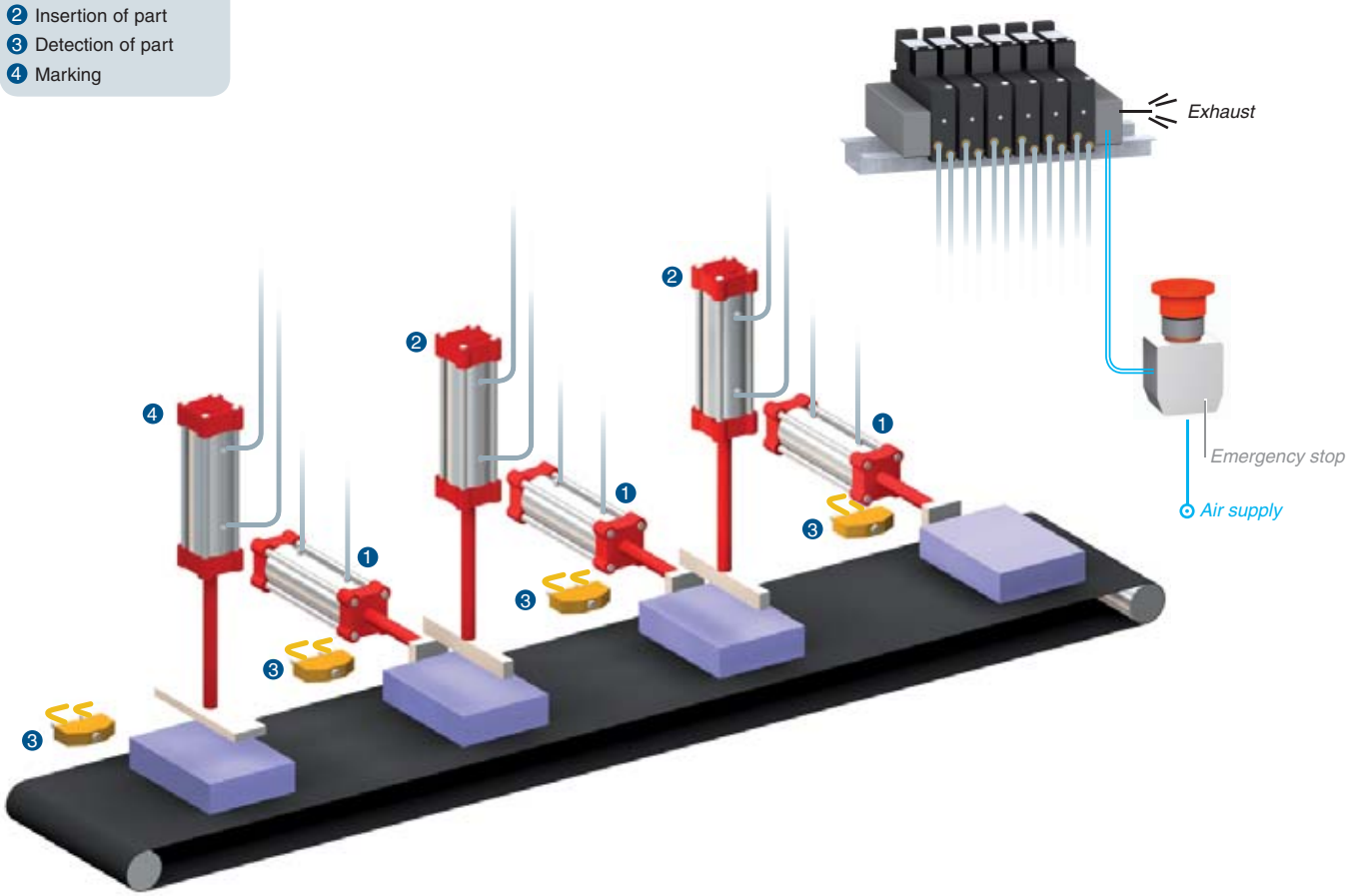
2- Choose the control accessory from the table below

Products	Part number	Actuator	Environment	
Detectors on valve bodies			Industrial	ATEX explosive
	79455632	Short straight lever	✔	
	79455633	Ball	✔	
	79455634	Idle-return roller	✔	
	79455635	Short roller	✔	
	79455636	Single plunger on threaded barrel Ø 16 mm	✔	
	79455637	Roller plunger on threaded barrel Ø 16 mm	✔	

Applications

1. Supply and positioning of part
2. Insertion of part
3. Detection of part
4. Marking

Automatic assembly system



Detectors

Product	Part number	Type	Function	Type of control
Low force				
	**81290001**	DDP(3) 3/2 - V3 - actuating force < 0.5 N	NC	Exposed plunger
	81290501	DDP(3) 3/2 - V3 - actuating force < 0.5 N	NO	Exposed plunger
	81290901	DDP(3) 3/2 - V3 - actuating force < 0.5 N	NC	Exposed plunger
Accessories				
	70507524	Lever 161A R = 25.4 for detector V3		Flat lever
	70507529	Lever 161E R = 24.1 for detector V3		Roller
ATEX explosive atmosphere				
		DDP(3) 3/2 - V3 - actuating force < 0.5 N	NC	
		DDP(3) 3/2 - V3 - actuating force < 0.5 N	NO	
Miniature				
	**81921501**	DDP(3) 3/2 actuating force < 18 N	NC	Single plunger
	81921505	DDP(3) 3/2 threaded barrel Ø M12 actuating force < 21 N	NC	Single plunger
	81921601	DDP(3) 3/2 actuating force < 18 N	NC	Single plunger
	81921701	DDP(3) 3/2	NC	Plastic roller
	81921702	DDP(3) 3/2	NC	Roller-bearing roller
	81921707	DDP(3) 3/2	NC	Plastic idle-return roller
	81921712	DDP(3) 3/2	NC	Roller-bearing idle-return roller
	81921714	DDP(3) 3/2 exhaust with barb connector	NC	Roller-bearing roller
	81921716	DDP(3) 3/2 Viton® O-ring	NC	Plastic roller
	81921717	DDP(3) 3/2 exhaust with barb connector	NC	Roller-bearing roller
	81921718	DDP(3) 3/2 exhaust with barb connector	NC	Plastic idle-return roller
	**81921719**	DDP(3) 3/2 exhaust with barb connector	NC	Roller-bearing roller
	81921806	DDP(3) 3/2 exhaust with barb connector	NC	Plastic roller
	81921814	DDP(3) 3/2 exhaust with M5 connector	NC	Roller-bearing roller
	81921901	DDP(3) 3/2 exhaust with barb connector	NO	Plastic roller
	81921902	DDP(3) 3/2 exhaust with barb connector	NO	Roller-bearing roller
	81921911	DDP(3) 3/2 exhaust with barb connector	NO	Plastic roller
	81921912	DDP(3) 3/2 exhaust with barb connector	NO	Roller-bearing roller
Compact				
	**81922010**	DDP(3) 3/2	NC	Programmable rotary head, no lever
	81922205	DDP(3) 3/2	NC	Rotary head, action to right - roller-bearing roller lever
	81922210	DDP(3) 3/2	NC	Programmable rotary head, no lever
	81922211	DDP(3) 3/2	NC	Programmable rotary head, no lever
	81922401	DDP(3) 3/2 smooth barrel	NC	Roller plunger
	81922521	DDP(3) 3/2 smooth barrel	NC	Single plunger
Accessories				
	79452103	Roller lever		Plastic roller
	79452104	Roller lever		Roller-bearing roller
	79452123	Adjustable roller lever		Plastic roller
	79452124	Adjustable roller lever		Roller-bearing roller
	79452133	Rod lever		Adjustable rod
Special				
	**81371401**	Inductive proximity sensor Sensing distance 6 - 10 mm Ø M12 (1)		Change in air flow
	81372201	Movement sensor Sensing distance 0 - 18 mm, open-ended (1)		Break in air flow
	81372401	Movement sensor Sensing distance 0 - 100 mm - Ø M12 (1)		Break in air flow
	81372901	Sensor with palette (1)- 100 mm/200 mm		Palette
	81504025	Pressure decay sensor Tripping threshold at 6 bar: 0.3 bar		Pressure drop
	81512201	Ball-actuated detector, actuating force 0.8 N (2), with leakage		Ball
	81512401	Wire-actuated leak sensor, actuating force 0.025 N (2), with leakage		Wire
	81923001	Threaded barrel plunger detector Ø M12, actuating force < 16 N	NC	Single plunger

*(1) For use with amplifiers **part no. 81510001** - (2) For use with relays for leak detectors **part no. 81502435** or **part no. 81505435** - (3) DDP: position detector*

Supply pressure	Connection	Operating temperature	Industrial environment
3 - 8 bar	Barbs for int. tube Ø 2.7 mm	-10°C → +60°C	✔
3 - 8 bar	Barbs for int. tube Ø 2.7 mm	-10°C → +60°C	✔
3 - 8 bar	Barbs for int. tube Ø 2.7 mm	-10°C → +60°C	✔
			✔
			✔
	ATEX part number	**Certification type Ex**	**Approval**
	81290006	CE Ex ExII2GcIIBT6	INERIS 18408/05
	81290506	CE Ex ExII2GcIIBT6	INERIS 18408/05
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	M5	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	M5	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Gas 1/8	-5°C → +50°C	✔
0.1 - 8 bar	Gas 1/8	-5°C → +50°C	✔
0.1 - 8 bar	Gas 1/8	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.5 - 2.5 bar	Barbs for int. tube Ø 2.7 mm	-20°C → +70°C	✔
0.5 - 2.5 bar	Barbs for int. tube Ø 2.7 mm	-20°C → +70°C	✔
0.5 - 2.5 bar	Barbs for int. tube Ø 2.7 mm	-20°C → +70°C	✔
1 - 4/2 - 8 bar	Barbs for int. tube Ø 2.7 mm	-20°C → +70°C	✔
2 - 8 bar	On sub-base for logic elements (pages 14 - 15)	-5°C → +50°C	✔
2 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
2 - 8 bar	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔
0.1 - 8 bar	Barbs for int. tube Ø 2.7 mm	-5°C → +50°C	✔

Logic elements and automation controls

Product	Part number	Type	Function	Colour	Supply pressure
Sequencer modules					
	**81550001**	Sequencer module	Locking		2 - 8 bar
	81550201	Sequencer module	Reset		2 - 8 bar
	81550401	Sequencer module	Offset and locking		2 - 8 bar
	81550601	Sequencer module	Offset and reset		2 - 8 bar
Logic elements					
	**81501025**	YES element	With pressure indicators	Yellow	2 - 8 bar
	81501065	YES element	With pressure indicators and manual override	Yellow	2 - 8 bar
	81503025	YES element with threshold	With threshold and pressure indicators	Orange	2 - 8 bar
	81504025	NO element	With pressure indicators	Light grey	2 - 8 bar
	81506025	NO element with threshold	Inhibit with pressure indicators	Dark grey	2 - 8 bar
	81521501	OR element	With pressure indicators	Blue	2 - 8 bar
	81522501	AND element	With pressure indicators	Green	2 - 8 bar
	**81540001**	Plug-in OR element		Blue	2 - 8 bar
	81540005	Plug-in OR element		Blue	2 - 8 bar
	81541001	Plug-in AND element		Green	2 - 8 bar
	81541005	Plug-in AND element		Green	2 - 8 bar
Memories					
	**81523201**	Memory	Pressure indicator		2 - 8 bar
	81523601	Memory	Pressure indicator and manual override		2 - 8 bar
Timers					
	**81503540**	Fixed timer (0.4 s)	Positive output		2 - 8 bar
	81503710	Adjustable timer (0.1 to 15 s)	Positive output		2 - 8 bar
	81503716	Adjustable timer (0.1 to 5 s)	Positive output		2 - 8 bar
	81503720	Adjustable timer (0.1 to 30 s)	Positive output		2 - 8 bar
	81503725	Adjustable timer (0.1 to 60 s)	Positive output		2 - 8 bar
	81506540	Fixed timer (0.4 s)	Negative output		2 - 8 bar
	81506710	Adjustable timer (0.1 to 15 s)	Negative output		2 - 8 bar
	81506720	Adjustable timer (0.1 to 30 s)	Negative output		2 - 8 bar
	81506725	Adjustable timer (0.1 to 60 s)	Negative output		2 - 8 bar
	**81506920**	Adjustable frequency generator	0.04 - 12 Hz		2 - 8 bar
	81506940	Adjustable frequency generator	0.02 - 8 Hz		2 - 8 bar
	81506944	Adjustable frequency generator	0.02 - 3 Hz		2 - 8 bar
	81507540	Fixed-length single pulse generator (0.4 s)	Negative output		2 - 8 bar
	81507542	Fixed-length single pulse generator (0.8 s)	Negative output		2 - 8 bar
	81507720	Adjustable-length single pulse generator (1 to 30 s)	Negative output		2 - 8 bar
Accessories					
	79451698	Panel-mounted adaptor (part no. 81503710 and part no. 81506710)			
	79451903	Panel-mounted adaptor (part no. 81503720 and part no. 81506720)			
	79451904	Panel-mounted adaptor (part no. 81507720)			
	79451905	Panel-mounted adaptor (part no. 81506940)			

Logic elements and automation controls

Flow rate	Connection	Operating temperature	Environment			
			Industrial	ATEX explosive atmosphere		
				ATEX part number	Certification type	Approval
150 Nl/min	On sub-base for register (pages 14 - 15)	-5°C → +50°C	✔	81550013	ExII2GDcIIB65°CT6	INERIS 18409/05
150 Nl/min	On sub-base for register (pages 14 - 15)	-5°C → +50°C	✔	81550213	ExII2GDcIIB65°CT6	INERIS 18409/05
150 Nl/min	On sub-base for register (pages 14 - 15)	-5°C → +50°C	✔	81550403	ExII2GDcIIB65°CT6	INERIS 18409/05
150 Nl/min	On sub-base for register (pages 14 - 15)	-5°C → +50°C	✔	81550603	ExII2GDcIIB65°CT6	INERIS 18409/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81501031	ExII2GDcIIB65°CT6	INERIS 18408/05
171 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81501066	ExII2GDcIIB65°CT6	INERIS 18408/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81503028	ExII2GDcIIB65°CT6	INERIS 18408/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81504035	ExII2GDcIIB65°CT6	INERIS 18408/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81506027	ExII2GDcIIB65°CT6	INERIS 18408/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81521508	ExII2GDcIIB65°CT6	INERIS 18408/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81522505	ExII2GDcIIB65°CT6	INERIS 18408/05
170 Nl/min	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔	81540015	ExII2GDcIIB65°CT6	INERIS 18408/05
200 Nl/min	Push-in for ext. tube Ø 6 mm	-5°C → +50°C	✔	81540017	ExII2GDcIIB65°CT6	INERIS 18408/05
170 Nl/min	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔	81541015	ExII2GDcIIB65°CT6	INERIS 18408/05
200 Nl/min	Push-in for ext. tube Ø 6 mm	-5°C → +50°C	✔	81541017	ExII2GDcIIB65°CT6	INERIS 18408/05
200 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81523205	ExII2GDcIIB55°CT6	INERIS 17564/04
200 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81523608	ExII2GDcIIB55°CT6	INERIS 17564/04
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81503543	ExII2GDcIIB60°CT6	INERIS 18410/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81503728	ExII2GDcIIB60°CT6	INERIS 18410/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔			
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81503729	ExII2GDcIIB60°CT6	INERIS 18410/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81503731	ExII2GDcIIB60°CT6	INERIS 18410/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81506541	ExII2GDcIIB60°CT6	INERIS 18410/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81506714	ExII2GDcIIB60°CT6	INERIS 18410/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81506721	ExII2GDcIIB60°CT6	INERIS 18410/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81506727	ExII2GDcIIB60°CT6	INERIS 18410/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔			
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81506945	ExII2GDcIIB60°CT6	INERIS 18410/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔			
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81507543	ExII2GDcIIB60°CT6	INERIS 18410/05
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔			
170 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81507724	ExII2GDcIIB60°CT6	INERIS 18410/05
			✔	79451698	Accessories are ATEX approved if used with an approved relay	INERIS 18410/05
			✔	79451903		INERIS 18410/05
			✔	79451904		INERIS 18410/05
			✔	79451905		INERIS 18410/05

Logic elements and automation controls

Product	Part number	Type	Function	Characteristics	Colour	Supply pressure
Flow restrictors, capacities, non-return						
	**79452808**	Capacity 30 cm^3				
	81520601	Plug element	Sub-base plug			
	81525101	Adjustable flow restrictor	One-way adjustable flow restrictor	Orifice diameter 0 to 0.5 mm		1 - 8 bar
	81526001	Adjustable flow restrictor	One-way adjustable flow restrictor	Orifice diameter 0 to 1.7 mm		2 - 8 bar
	81527001	Mini-regulator	Regulator	Output pressure 0.1 to 8 bar		2 - 8 bar
	81529003	Fixed flow restrictor	One-way in-line	Orifice diameter 0.3 mm	White	1 - 8 bar
	81529004	Fixed flow restrictor	One-way in-line	Orifice diameter 0.4 mm	Yellow	1 - 8 bar
	81529005	Fixed flow restrictor	One-way in-line	Orifice diameter 0.5 mm	Red	1 - 8 bar
	81529006	Fixed flow restrictor	One-way in-line	Orifice diameter 0.6 mm	Green	1 - 8 bar
	81529007	Fixed flow restrictor	One-way in-line	Orifice diameter 0.7 mm	Blue	1 - 8 bar
	81529008	Fixed flow restrictor	One-way in-line	Orifice diameter 0.8 mm	Grey	1 - 8 bar
	81529010	Fixed flow restrictor	One-way in-line	Orifice diameter 1 mm	Black	1 - 8 bar
	81529025	Fixed flow restrictor	One-way in-line	Orifice diameter 0.25 mm		1 - 8 bar
	81529901	Non-return	In-line			2 - 8 bar
					Component modularity	
					Memory (page 12)	Other
Sub-base						
For registers						
	**81551001**	Sub-base for register	Rear wiring	Clips		
	81551101	Sub-base for register	Front wiring, adjustable connections and pressure indicator	DIN rail mounting (Omega)		
	81552001	End bases for register	Rear wiring and pressure indicator	Clips		
	81552101	End bases for register	Front wiring, adjustable connections and pressure indicator	DIN rail mounting (Omega)		
	81552601	Diversion base for register	Front wiring, adjustable connections and pressure indicator	DIN rail mounting (Omega)		
For logic elements, timers, memories and valve modules						
	**81531001**	Sub-base for logic elements and relays	Rear wiring	Clips	1	2
	81532001	Sub-base for logic elements	Rear wiring	Frame mounting	-	1
	81532102	Sub-base for logic elements	Front wiring, adjustable connectors	DIN rail mounting (Omega)	-	1
	81532104	Sub-base for logic elements	Front wiring, adjustable connectors	DIN rail mounting (Omega)	-	1
	81542002	Sub-base for memories	Front wiring, adjustable connectors	DIN rail mounting (Omega)	1	-
Fixing positions						
	79450609	Clips	Bar mounted Ø 8 mm			
	79450618	Locking clip				
	81533001	Clip domino	Adjustable DIN rail fixing (asymmetrical) on 8 mm Ø rod			
	81533501	Hole domino	DIN rail fixing (asymmetrical) on end of 8 mm Ø rod			
	81536801	Supply base 13 outputs				

Logic elements and automation controls

	Flow rate	Connection	Operating temperature	Environment			
				Industrial	ATEX explosive atmosphere		
					ATEX part number	Certification type	Approval
		Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔	79458018	ExII2GDcIIB90°CT5	INERIS 18410/05
		On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81520 602	EXII2GDcIIBT6	INERIS 18410/05
	open 30 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81525106	ExII2GDcIIB60°CT6	INERIS 18410/05
	open 200 Nl/min	On sub-base (pages 14 - 15)	-5°C → +50°C	✔	81526006	ExII2GDcIIB60°CT6	INERIS 18410/05
	200 Nl/h at 6 bars	On sub-base (pages 14 - 15)	-5°C → +50°C	✔			
	180 at 300 Nl/h at 4 bars	Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔	81529013	ExII2GDcIIB60°CT6	INERIS 18410/05
	350 at 500 Nl/h at 4 bars		-5°C → +50°C	✔	81529014	ExII2GDcIIB60°CT6	INERIS 18410/05
	580 at 770 Nl/h at 4 bars		-5°C → +50°C	✔	81529015	ExII2GDcIIB60°CT6	INERIS 18410/05
	800 at 1060 Nl/h at 4 bars		-5°C → +50°C	✔	81529016	ExII2GDcIIB60°CT6	INERIS 18410/05
	1100 at 1390 Nl/h at 4 bars		-5°C → +50°C	✔	81529017	ExII2GDcIIB60°CT6	INERIS 18410/05
	1450 at 1650 Nl/h at 4 bars		-5°C → +50°C	✔	81529018	ExII2GDcIIB60°CT6	INERIS 18410/05
	2300 at 2800 Nl/h at 4 bars		-5°C → +50°C	✔	81529020	ExII2GDcIIB60°CT6	INERIS 18410/05
	80 at 120 Nl/h at 4 bars		-5°C → +50°C	✔	81529026	ExII2GDcIIB60°CT6	INERIS 18410/05
	200 Nl/h at 6 bars		-5°C → +50°C	✔	81529907	ExII2GDcIIB60°CT6	INERIS 18410/05
		Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔	81551004	ExII2GDcIIBT6	INERIS 18409/05
			-5°C → +50°C	✔	81551104	ExII2GDcIIBT6	INERIS 18409/05
			-5°C → +50°C	✔	81552005	ExII2GDcIIBT6	INERIS 18409/05
			-5°C → +50°C	✔	81552105	ExII2GDcIIBT6	INERIS 18409/05
			-5°C → +50°C	✔	81552605	ExII2GDcIIBT6	INERIS 18409/05
		Push-in for ext. tube Ø 4 mm	-5°C → +50°C	✔	81531008	ExII2GDcIIBT6	INERIS 17564/04
			-5°C → +50°C	✔	81532009	ExII2GDcIIBT6	INERIS 18408/05
			-5°C → +50°C	✔	81532109	ExII2GDcIIBT6	INERIS 18408/05
			-5°C → +50°C	✔	81532111	ExII2GDcIIBT6	INERIS 18408/05
			-5°C → +50°C	✔	81542004	ExII2GDcIIBT6	INERIS 17564/04
			-5°C → +50°C	✔	79450609	Accessories approved if used with an approved product	INERIS 18408/05
			-5°C → +50°C	✔	79450618		INERIS 18408/05
			-5°C → +50°C	✔	81533001	Accessories approved if used with an approved product	INERIS 18408/05
			-5°C → +50°C	✔	81533501		INERIS 18408/05
			-5°C → +50°C	✔	81536804	ExII2GDcIIBT6	INERIS 18408/05

Automation controls

Product	Part number	Type	Mounting	Version	Control	Pressure to make	Contact rating
Pressure switches							
	81509080	Pressure switch		No manual override	Pressure	1.4 ± 0.5 bar	5 A - 220 V ∿
	81509085	Pressure switch		With manual override	Pressure	1.4 ± 0.5 bar	5 A - 220 V ∿
	81513501	Pressure switch with pressure indicator	On DIN rail (Omega)	No manual override	Low pressure	0.3 - 1.2 bar	5 A - 220 V ∿
	81513502	Pressure switch with pressure indicator	On DIN rail (Omega)	No manual override	Pressure	2 - 8 bar	5 A - 220 V ∿
	81513509	Low-hysteresis pressure switch with pressure indicator	On DIN rail (Omega)	No manual override	Pressure	3 - 8 bar	5 A - 220 V ∿
	**81513510**	Pressure switch		With manual override	Pressure	2 - 8 bar	5 A - 220 V ∿
	81513516	Pressure switch		No manual override	Pressure	2 - 8 bar	5 A - 220 V ∿
	81513518	Pressure switch with Viton® membrane	On frame	No manual override	Low pressure	-0.3 - 1.2 bar	5 A - 220 V ∿
	81513533	Pressure switch	On frame	No manual override	Pressure	2 - 8 bar	5 A - 220 V ∿
	81513535	Pressure switch with Viton® membrane and pressure indicator	On frame	No manual override	Pressure	3 - 8 bar	5 A - 220 V ∿
	81513552	Pressure switch with pressure indicator	On DIN rail (Omega)	With manual override	Pressure	2 - 8 bar	5 A - 220 V ∿
	81513561	Pressure switch	On DIN rail (Omega)	With manual override	Pressure	3 - 8 bar	5 A - 220 V ∿
	81513570	Pressure switch	On frame	No manual override	Pressure	0.5 - 3 bar	5 A - 220 V ∿
	81513574	Pressure switch with pressure indicator	On DIN rail (Omega)	No manual override	Pressure	2 - 8 bar	5 A - 220 V ∿

Product	Part number	Type	Mounting	Version	Hysteresis	Adjustment range	Repeat accuracy
Pressure switches							
	**81502140**	Pressure switch		Negative output	60 mbar	50 - 500 mbar	10 %
	81502150	Pressure switch		Negative output	100 mbar	0.1 - 2.5 bar	4 %
	81502160	Pressure switch		Negative output	320 mbar	2 - 8 bar	4 %
	81505140	Pressure switch		Positive output	60 mbar	50 - 500 mbar	10 %
	81505150	Pressure switch		Positive output	100 mbar	0.1 - 2.5 bar	4 %
	81505160	Pressure switch		Positive output	320 mbar	2 - 8 bar	4 %
	81505161	Pressure switch, leaf-proof		Positive output	320 mbar	2 - 8 bar	4 %
	81508150	Pressure switch with electrical output			100 mbar	2 - 8 bar	
	81508160	Pressure switch with electrical output			250 mbar	0.1 - 2.5 bar	
Vacuum switches							
	**81502110**	Vacuum switch		Negative output	80 mbar	-0.1 - 0.9 bar	
	81505110	Vacuum switch		Positive output	80 mbar	-0.1 - 0.9 bar	
	81508110	Vacuum switch with electrical output		Electrical output	80 mbar	-0.1 - 0.9 bar	
	81513522	Vacuum switch	On DIN rail (Omega)	No manual override	Empty	-0.3 - 0.8 bar	5 A - 220 V ∿
	81513523	Vacuum switch	On frame	No manual override	Empty	-0.3 - 0.8 bar	5 A - 220 V ∿
	81513525	Vacuum switch with Viton® membrane	On frame	No manual override	Empty	-0.3 - 0.8 bar	5 A - 220 V ∿
	81513527	Vacuum switch		No manual override	Empty	-0.3 - 0.8 bar	5 A - 220 V ∿

	Connection	Operating temperature	Approval	Environment			
				Industrial	ATEX explosive atmosphere		
					ATEX part number	Certification type	Approval
	On sub-base (pages 14 - 15)	-10°C → +70°C		✔			
	On sub-base (pages 14 - 15)	-10°C → +70°C		✔			
	Push-in for ext. tube Ø 4 mm	-10°C → +70°C	MH15213R	✔			
	Push-in for ext. tube Ø 4 mm	-10°C → +70°C	MH15213R	✔			
	Push-in for ext. tube Ø 4 mm	-10°C → +70°C	MH15213R	✔			
	On sub-base (pages 14 - 15)	-10°C → +70°C	MH15213R	✔			
	On sub-base (pages 14 - 15)	-10°C → +70°C	MH15213R	✔			
	Gas 1/8	-10°C → +70°C	MH15213R	✔			
	Gas 1/8	-10°C → +70°C	MH15213R	✔			
	Gas 1/8	-10°C → +70°C	MH15213R	✔			
	Push-in for ext. tube Ø 4 mm	-10°C → +70°C	MH15213R	✔	81513530	ExII1GExiaIICT6	LCIE 02ATEX6121X
	Push-in for ext. tube Ø 4 mm	-10°C → +70°C	MH15213R	✔			
	Gas 1/8	-10°C → +70°C	MH15213R	✔			
	Push-in for ext. tube Ø 4 mm	-10°C → +70°C	MH15213R	✔			
			Flow rate at 4 bars				
	On sub-base (pages 14 - 15)	-5°C → +50°C	170 Nl/min	✔	81502141	ExII2GDcIIB60°CT6	INERIS 18410/05
	On sub-base (pages 14 - 15)	-5°C → +50°C	170 Nl/min	✔	81502151	ExII2GDcIIB60°CT6	INERIS 18410/05
	On sub-base (pages 14 - 15)	-5°C → +50°C	170 Nl/min	✔	81502162	ExII2GDcIIB60°CT6	INERIS 18410/05
	On sub-base (pages 14 - 15)	-5°C → +50°C	170 Nl/min	✔	81505141	ExII2GDcIIB60°CT6	INERIS 18410/05
	On sub-base (pages 14 - 15)	-5°C → +50°C	170 Nl/min	✔	81505151	ExII2GDcIIB60°CT6	INERIS 18410/05
	On sub-base (pages 14 - 15)	-5°C → +50°C	170 Nl/min	✔	81505164	ExII2GDcIIB60°CT6	INERIS 18410/05
	On sub-base (pages 14 - 15)	-5°C → +50°C	170 Nl/min	✔			
	On sub-base (pages 14 - 15)	-5°C → +50°C		✔			
	On sub-base (pages 14 - 15)	-5°C → +50°C		✔			
	On sub-base (pages 14 - 15)	-5°C → +50°C	170 Nl/min	✔	81502111	ExII2GDcIIB60°CT6	INERIS 18410/05
	On sub-base (pages 14 - 15)	-5°C → +50°C	170 Nl/min	✔	81505111	ExII2GDcIIB60°CT6	INERIS 18410/05
	On sub-base (pages 14 - 15)	-5°C → +50°C	170 Nl/min	✔			
	Push-in for ext. tube Ø 4 mm	-10°C → +70°C		✔			
	Gas 1/8	-10°C → +70°C		✔			
	Gas 1/8	-10°C → +70°C		✔			
	On sub-base (pages 14 - 15)	-10°C → +70°C		✔			

Automation controls

Product	Part number	Name	Mounting	Version	Average consumption	Pressure to make
Relays						
For leak detectors						
	**81502435**	Relay for leak detector		Positive output	5 Nl/min - 6 bar	
	81505435			Negative output	5 Nl/min - 6 bar	
Amplifier relays						
	**81502230**	Single amplifier		Positive output	5 Nl/min - 4 bar	10 - 20 mbar
	81502320	Pressure-sensitive amplifier		Positive output	5 Nl/min - 4 bar	1 - 4 mbar
	81505230	Single amplifier		Negative output	5 Nl/min - 4 bar	10 - 20 mbar
	81505320	Pressure-sensitive amplifier		Negative output	5 Nl/min - 4 bar	1 - 4 mbar
	81510001	Amplifier relay	On frame	Positive output		0.5 - 1.5 mbar
				Colour		
Indicators						
	**84150201**	Pneumatic indicator	Ø 22 mm	Red		
	84150202	Pneumatic indicator	Ø 22 mm	Green		
	84150203	Pneumatic indicator	Ø 22 mm	Yellow		
	84150204	Pneumatic indicator	Ø 22 mm	Blue		
				Version		
Counters						
	**99766001**	Flush-mounting counter	Base-mounted	6 digits, no reset		
	99766002	Flush-mounting counter	Base-mounted	4 digits, with reset		
	89538201	Preselection counter	Base-mounted	5 digits manual/ pneumatic reset		
				Version		**Approval**
Controls						
Two-hand controls						
	**81580503**	Two-hand control module	4 x 4.2 mm screws	Type III A- EN 574		EN574
	81580504			Type III B - EN 574		EN574
Foot switches						
	**81999501**	Pneumatic foot switch NC				
Pneumatic relays						
	81580101	Pneumatic relay for two-hand control	Sub-base	Type III A- EN 574		CE test type 0526 520 1690 0197
	81580202		Sub-base	Type III B - EN 574		CE test type 0526 520 1690 0197
				Version		
Vacuum generators						
	**81535 301**	Vacuum generator	Sub-base			
	81545 001	Vacuum generator	Plug-in	Male-Female-Female		
	81545 005	Vacuum generator	Plug-in	Female-Female-Female		

Logic elements and automation controls

	Connection	Supply pressure	Operating temperature	Environment			
				Industrial	ATEX explosive atmosphere		
					ATEX part number	Certification type	Approval
	On sub-base (pages 14 - 15)	2 - 8 bar	-5°C → +50°C	✔	81502438	ExII2GDcIIB60°CT6	INERIS 18410/05
		2 - 8 bar	-5°C → +50°C	✔	81505437	ExII2GDcIIB60°CT6	INERIS 18410/05
	On sub-base (pages 14 - 15)	2 - 8 bar	-5°C → +50°C	✔	81502238	ExII2GDcIIB60°CT6	INERIS 18410/05
		2 - 6 bar	-5°C → +50°C	✔	81502322	ExII2GDcIIB60°CT6	INERIS 18410/05
		2 - 8 bar	-5°C → +50°C	✔	81505231	ExII2GDcIIB60°CT6	INERIS 18410/05
		2 - 6 bar	-5°C → +50°C	✔	81505321	ExII2GDcIIB60°CT6	INERIS 18410/05
	Push-in for ext. tube Ø 4 mm		-5°C → +50°C	✔			
	Push-in for ext. tube Ø 4 mm	2 - 8 bar	-5°C → +50°C	✔	84150214	ExII2GDcIIB65°CT6	INERIS 18398/05
		2 - 8 bar	-5°C → +50°C	✔	84150215	ExII2GDcIIB65°CT6	INERIS 18398/05
		2 - 8 bar	-5°C → +50°C	✔	84150216	ExII2GDcIIB65°CT6	INERIS 18398/05
		2 - 8 bar	-5°C → +50°C	✔	84150217	ExII2GDcIIB65°CT6	INERIS 18398/05
	Push-in for ext. tube Ø 4 mm	2 - 8 bar	0 → +60°C	✔			
		2 - 8 bar	0 → +60°C	✔			
		2 - 8 bar	0 → +60°C	✔			
	Push-in for ext. tube Ø 4 mm	2 - 8 bar	-5°C → +50°C	✔			
		2 - 8 bar	-5°C → +50°C	✔			
	Push-in for ext. tube Ø 4 mm	2 - 8 bar	-5°C → +50°C	✔			
	On sub-base (pages 14 - 15)	2 - 8 bar	-5°C → +50°C	✔			
	Push-in for ext. tube Ø 4 mm	2 - 8 bar	-5°C → +50°C	✔			
	On sub-base (pages 14 - 15)	2 - 8 bar	-5°C → +50°C	✔	81535303	ExII2GDcIIB65°CT6	INERIS 18408/05
	Push-in for ext. tube Ø 4 mm	2 - 8 bar	-5°C → +50°C	✔	81545012	ExII2GDcIIB65°CT6	INERIS 18408/05
	Push-in for ext. tube Ø 6 mm	2 - 8 bar	-5°C → +50°C	✔	81545013	ExII2GDcIIB65°CT6	INERIS 18408/05

Miniature solenoid valves for valve modules

General characteristics

- Supply pressure: 1 - 8 bar
- Response time: 5 - 15 ms
- Operating temperature: -10°C → +50°C
- Electrical connection: flat faston connectors 2.8 x 0.5; with 4 possible positions
- MH 15085 approval
- Duty factor 100%

Product	Part number	Type	Characteristics
Miniature solenoid valves for valve modules			
Direct current			
	**81519031**	Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	No manual override
	81519032	Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	No manual override
	81519052	Miniature solenoid valves 3/2 NC - lead output - Ø 0.8 - 1 watt	No manual override
	81519060	Miniature solenoid valves 3/2 NC - Ø 1.5 - 2.8 watt	No manual override
	81519132	Miniature solenoid valves 3/2 NO - Ø 0.8 - 1 watt	No manual override
	81519331	Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	With manual override by impulse
	81519332	Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	With manual override by impulse
	81519333	Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	With manual override by impulse
	81519631	Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	With manual override by 1/4 turn latching
	81519632	Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	With manual override by 1/4 turn latching
Alternating current			
	81519080	Miniature solenoid valves 3/2 NC - Ø 0.5	No manual override
	81519378	Miniature solenoid valves 3/2 NC - Ø 0.5	With manual override by impulse
	81519379	Miniature solenoid valves 3/2 NC - Ø 0.5	With manual override by impulse
	81519380	Miniature solenoid valves 3/2 NC - Ø 0.5	With manual override by impulse
	81519381	Miniature solenoid valves 3/2 NC - Ø 0.5	With manual override by impulse
	81519678	Miniature solenoid valves 3/2 NC - Ø 0.5	With manual override by 1/4 turn latching
	81519679	Miniature solenoid valves 3/2 NC - Ø 0.5	With manual override by 1/4 turn latching
	81519680	Miniature solenoid valves 3/2 NC - Ø 0.5	With manual override by 1/4 turn latching
	81519681	Miniature solenoid valves 3/2 NC - Ø 0.5	With manual override by 1/4 turn latching
Miniature solenoid valves for valve modules, fitted with connector			
		Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	No manual override
		Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	With manual override by impulse
		Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	With manual override by 1/4 turn latching
		Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	No manual override
		Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	With manual override by impulse
		Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt	With manual override by 1/4 turn latching
Accessories			
	**81513052**	LED	Interference suppression and readout
	81513055	LED	Interference suppression and readout
	81513058	LED	Interference suppression and readout
	81513059	LED	Interference suppression and readout
	81513064	Indicator seal	
	**81537001**	Plug-in silencer	Plug-in Ø 6 mm
	81537201	Plug-in silencer	Plug-in Ø 8 mm
	81516081	Pneumatic pilot	No manual override/push-in for ext. tube Ø 4 mm
	81516082	Connector	
	81516085	Blanking plate	
Sub-bases			
	**81514101**	End base for miniature solenoid valve	Pneumatic indicator
	81514161	Intermediate base for miniature solenoid valve	Pneumatic indicator
	79453569	CNOMO sub-base for miniature solenoid valve	CNOMO NFE 49 066 footprint
	79452445	Blanking plate	

Supply voltage	Flow rate	Environment			
		Industrial	ATEX explosive atmosphere		
			ATEX part number	Certification type	Approval
12 V ⎓	25 Nl/min		81519034	ExII1GExiaIICT6	LCIE 02ATEX6121X
24 V ⎓	25 Nl/min	✔	81519035	ExII1GExiaIICT6	LCIE 02ATEX6121X
24 V ⎓	25 Nl/min	✔			
24 V ⎓		✔			
24 V ⎓	25 Nl/min	✔			
12 V ⎓	25 Nl/min		81519334	ExII1GExiaIICT6	LCIE 02ATEX6121X
24 V ⎓	25 Nl/min	✔	81519335	ExII1GExiaIICT6	LCIE 02ATEX6121X
48 V ⎓	25 Nl/min	✔			
12 V ⎓	25 Nl/min		81519634	ExII1GExiaIICT6	LCIE 02ATEX6121X
24 V ⎓	25 Nl/min	✔	81519635	ExII1GExiaIICT6	LCIE 02ATEX6121X
24 V ∿ - 50 - 60 Hz	12 Nl/min	✔			
110 V ∿ - 50 - 60 Hz	12 Nl/min	✔			
220 V ∿ - 50 - 60 Hz	12 Nl/min	✔			
24 V ∿ - 50 - 60 Hz	12 Nl/min	✔			
48 V ∿ - 50 - 60 Hz	12 Nl/min	✔			
110 V ∿ - 50 - 60 Hz	12 Nl/min	✔			
220 V ∿ - 50 - 60 Hz	12 Nl/min	✔			
24 V ∿ - 50 - 60 Hz	12 Nl/min	✔			
48 V ∿ - 50 - 60 Hz	12 Nl/min	✔			
12 V ⎓	25 Nl/min		81519047	(1)	LCIE 02ATEX6121X
12 V ⎓	25 Nl/min		81519347	(1)	LCIE 02ATEX6121X
12 V ⎓	25 Nl/min		81519647	(1)	LCIE 02ATEX6121X
24 V ⎓	25 Nl/min		81519048	(1)	LCIE 02ATEX6121X
24 V ⎓	25 Nl/min		81519348	(1)	LCIE 02ATEX6121X
24 V ⎓	25 Nl/min		81519648	(1)	LCIE 02ATEX6121X
	Connection				
24 V ∿ - 50 - 60 Hz		✔	81513052	Accessory (2)	LCIE 02ATEX6121X
48 V ∿ - 50 - 60 Hz		✔			
110 V ∿ - 50 - 60 Hz		✔			
220 V ∿ - 50 - 60 Hz		✔			
12-24 V ⎓ - 50 - 60 Hz		✔			
		✔			
		✔			
		✔	81516093	ExII2GDcIIBT6	INERIS 17564/04
		✔	81516085	Accessory (2)	INERIS 17564/04
Fixing	**Connection**				
DIN rail mounting (Omega)	Push-in for ext. tube Ø 4 mm	✔			
DIN rail mounting (Omega)	Push-in for ext. tube Ø 4 mm	✔			
2 x M4x10 screws		✔	79453569	Accessory (2)	INERIS 17564/04
		✔			

(1) *Reference:* ExII1GDExiaIICT6ExiaD20T80°C.
(2) *Accessory is ATEX approved if used with an ATEX product.*

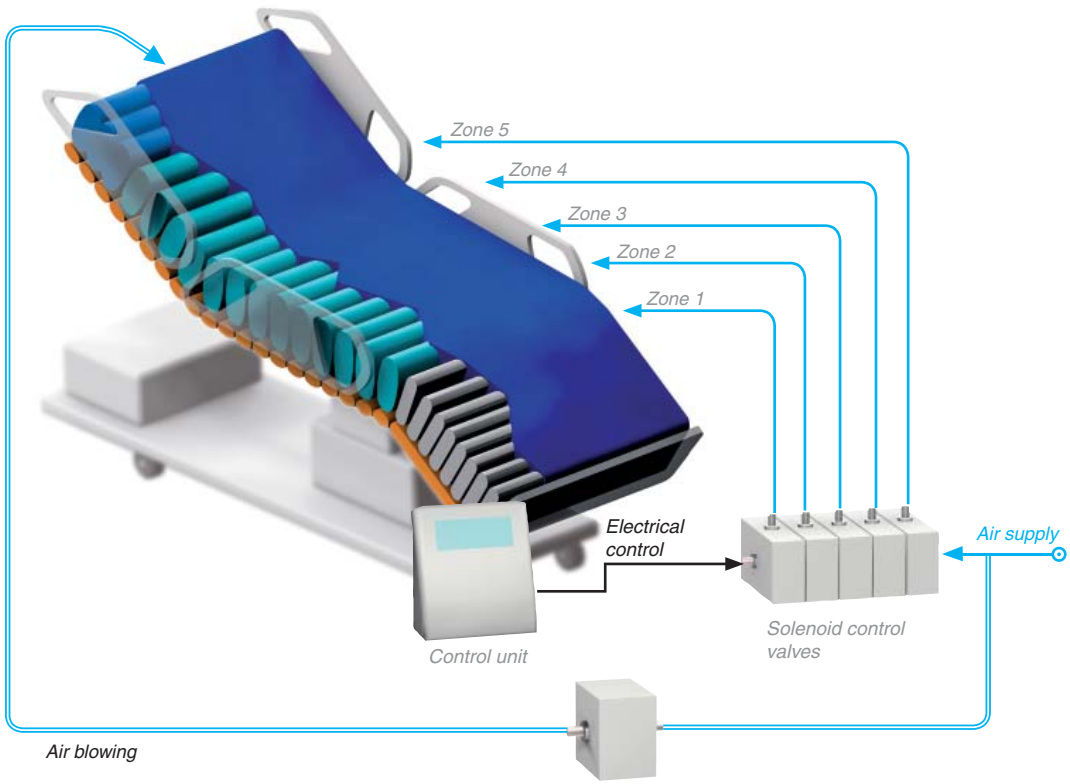
Stand-alone miniature solenoid valves

General characteristics

- Supply pressure: 1 - 8 bar
- Voltage: 24 V ⎓
- Operating temperature: -10°C → +50°C
- Response time: 5 - 15 ms
- Electrical connection: flat faston connectors 2.8 x 0.5; with 4 possible positions
- MH 15085 approval
- No manual override - no pressure indicator

Product	Part number	Type	Operation
Stand-alone miniature solenoid valves			
Direct current			
	**81546001**	Miniature solenoid valves 2/2 NC - Ø 0.8 - 1 watt - 24 V ⎓	Individual
	81547001	Set of 2 miniature solenoid valves 2/2 NC - Ø 0.8 - 1 watt - 24 V ⎓	In bank - end position
	81547501	Miniature solenoid valves 2/2 NC - Ø 0.8 - 1 watt - 24 V ⎓	In bank - intermediate position
	81548010	Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt - 24 V ⎓	Individual
	81549002	Set of 2 miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt - 24 V ⎓	In bank - end position
	81549010	Set of 2 miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt - 24 V ⎓	In bank - end position
	81549502	Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt - 24 V ⎓	In bank - intermediate position
	81549510	Miniature solenoid valves 3/2 NC - Ø 0.8 - 1 watt - 24 V ⎓	In bank - intermediate position

Medical bed application



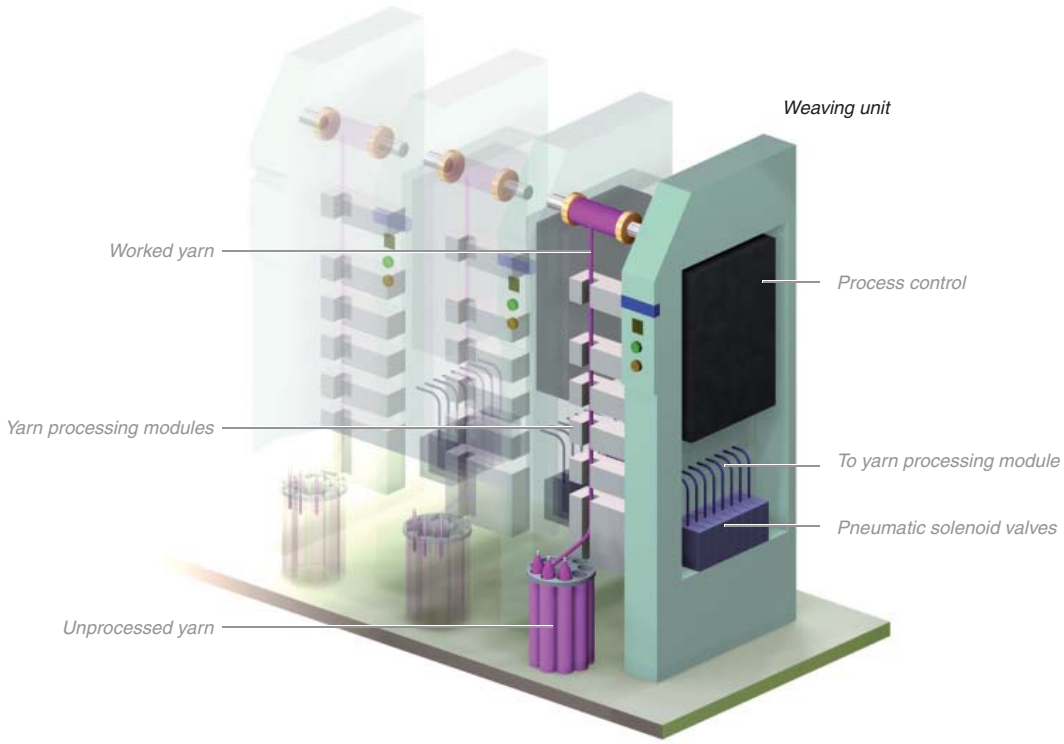
■ **Description**

Pressure-relief mattresses for medical applications make use of an automatic pressure control system to ensure maximum comfort for each patient.

Pneumatic valves are used to distribute the patient's weight in the best possible way; by alternating pressures it is possible to reduce the apparent weight on the mattress for the relief of pressure sores.

	Version	Connection	Environment			
			Industrial	ATEX explosive atmosphere Ⓔx		
				ATEX part number	Certification type	Approval
	NC	M5	✔			
	NC	M5	✔			
	NC	M5	✔			
	NC	M5	✔			
	NC	Barbs for int. tube Ø 2.7 mm	✔			
	NC	M5	✔			
	NC	Barbs for int. tube Ø 2.7 mm	✔			
	NC	M5	✔			

▷ Textile machine application



■ Description

Compressed air is used in the textile industry to control the principal functions in yarn processing (drawing, twisting, threading, attachment and lifting, etc.), minimising the contact points to improve the reliability of the process.

The winding units are arranged as independent modules in which pneumatic control is provided by a set (station) of interconnected pneumatic solenoid valves.

Valve modules

Product	Part number	Type	Flow rate	Function	Connection	Voltage
Valve modules						
3/2						
	**81513100**	Poppet valve module 17.5 mm	200/300 Nl/min	3/2 NC	On sub-base (below)	
	81513600	Poppet valve module 17.5 mm	200/300 Nl/min	3/2 NO	On sub-base (below)	
	81519732	Poppet valve module 17.5 mm	170 Nl/min	3/2 NC	On sub-base for logic elements (pages 14 - 15)	24 V ⎓
	81519774		170 Nl/min	3/2 NC		24 V ∿ - 50 - 60 Hz
	81519776		170 Nl/min	3/2 NC		110 V ∿ - 50 - 60 Hz
	81519777		170 Nl/min	3/2 NC		230 V ∿ - 50 - 60 Hz
	81519832		171 Nl/min	3/2 NO		24 V ⎓
4/2 - 5/2 - 5/3						
	**81513200**	Poppet valve module 17.5 mm	200/300 Nl/min	4/2 monostable	On sub-base (below)	
	81516100	Valve module 35 mm	300/400 Nl/min	4/2 pressure/spring	On sub-base (below)	
	81516200	Valve module 35 mm	300/400 Nl/min	4/2 pressure/pressure	On sub-base (below)	
	89541007	Valve module **(ISO size 1)**	1400 Nl/min	5/2 pressure/spring	On sub-base (below)	
	89541037	Valve module **(ISO size 1)**	1400 Nl/min	5/2 pressure/pressure	On sub-base (below)	
	89541047	Valve module **(ISO size 1)**	1400 Nl/min	5/3 pressure/pressure closed centre	On sub-base (below)	
	89541067	Valve module **(ISO size 1)**	1400 Nl/min	5/3 pressure/pressure centre open for exhaust	On sub-base (below)	
						Fixing
Sub-bases/Accessories						
	**81513001**	Supply module			Push-in for ext. tube Ø 6 mm	DIN rail mounting (Omega)
	81513011	End base			Push-in for ext. tube Ø 6 mm	
	81513012	End base			Gas 1/8	
	81513060	Sub-base 17.5 mm			Push-in for ext. tube Ø 4 mm	
	81513065	Sub-base 17.5 mm			Push-in for ext. tube Ø 6 mm	
	81516085	Blanking plate		Plug		
	**81517101**	Sub-base 35 mm (1)			Push-in for ext. tube Ø 4 mm	DIN rail mounting (Omega)
	81517201	Sub-base 35 mm (1)			Push-in for ext. tube Ø 6 mm	DIN rail mounting (Omega)
	81543006	Sub-base **(ISO size 1)**			Push-in for ext. tube Ø 6 mm	Clips for rod Ø 8
	81543206	Sub-base **(ISO size 1)**			Push-in for ext. tube Ø 8 mm	Clips for rod Ø 8

(1) Sub-base can take 2 valve modules of length 17.5 mm.

	Supply pressure	Operating temperature	Approval	Environment			
				Industrial	ATEX explosive atmosphere		
					ATEX part no.	Certification type	Approval
	3 - 8 bar	-10°C → +50°C		✔	81513196	ExII2GDcIIB55°CT6	INERIS 17567/04
	3 - 8 bar	-10°C → +50°C		✔	81513612	ExII2GDcIIB55°CT6	INERIS 17567/04
	2 - 8 bar	-5°C → +50°C	MH15085	✔			
	2 - 8 bar	-5°C → +50°C	MH15085	✔			
	2 - 8 bar	-5°C → +50°C	MH15085	✔			
	2 - 8 bar	-5°C → +50°C	MH15085	✔			
	2 - 8 bar	-5°C → +50°C	MH15086	✔			
	3 - 8 bar	-10°C → +50°C		✔	81513234	ExII2GDcIIB55°CT6	INERIS 17567/04
	3.5 - 8 bar	-10°C → +50°C		✔	81516107	ExII2GcIIB55°CT6	INERIS 17564/04
	2 - 8 bar	-10°C → +50°C		✔	81516208	ExII2GcIIB55°CT6	INERIS 17564/04
	3 - 10 bar	-10°C → +70°C		✔			
	3 - 10 bar	-10°C → +70°C		✔			
	3 - 10 bar	-10°C → +70°C		✔			
	3 - 10 bar	-10°C → +70°C					
	2 - 8 bar	-10°C → +50°C		✔	81513039	ExII2GDcIIBT6	INERIS 17564/04
	2 - 8 bar	-10°C → +50°C		✔	81513040	ExII2GDcIIBT6	INERIS 17564/04
	2 - 8 bar	-10°C → +50°C		✔			
	2 - 8 bar	-10°C → +50°C		✔	81513075	ExII1GExiaIICT6	LCIE 02ATEX6121X
	2 - 8 bar	-10°C → +50°C		✔	81513076	ExII1GExiaIICT6	LCIE 02ATEX6121X
	2 - 8 bar	-10°C → +50°C		✔	81516085	Accessory (2)	INERIS 17564/04
	2 - 8 bar	-10°C → +50°C		✔	81517106	Accessory (2)	LCIE 02ATEX6121X
	2 - 8 bar	-10°C → +50°C		✔	81517206	Accessory (2)	LCIE 02ATEX6121X
	3 - 10 bar	-10°C → +60°C		✔			
	3 - 10 bar	-10°C → +60°C		✔			

(2) Accessory is ATEX approved if used with an ATEX product.