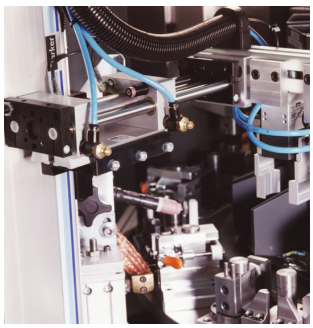
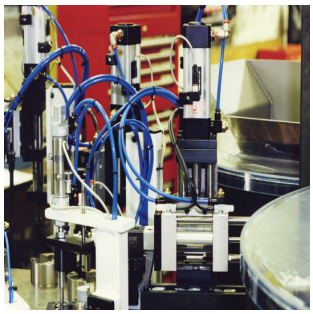
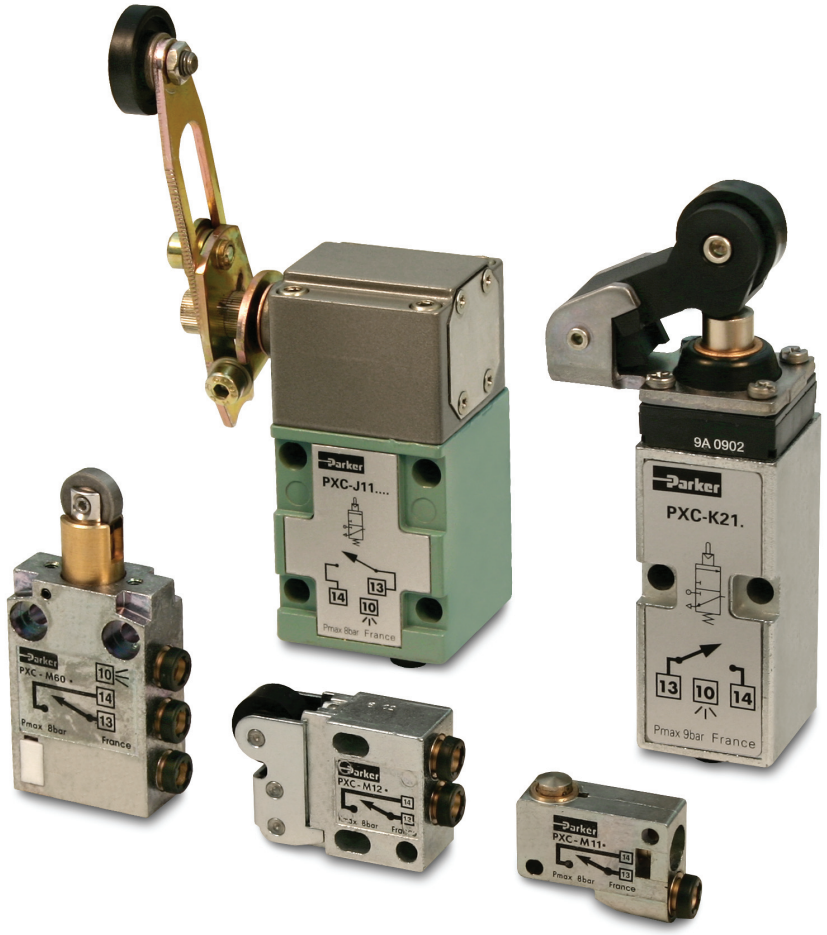




aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding





Limit Switches, Bleed sensors

PDE2629TCUK August 2009



Parker

ENGINEERING YOUR SUCCESS.

Summary

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Important !
Before carrying out any service work, ensure that the valve and manifold have been vented. Remove the primary supply air hose to ensure total disconnection of the air supply before dismantling valves or blank connection blocks.

NB !
All technical data in this catalogue is typical only.

The air quality is decisive for the valve life: see ISO 8573.

WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.
This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met. The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

SALE CONDITIONS

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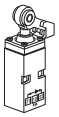
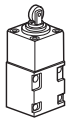
Limit Switches and Bleed Sensors

	Limit switches Control and process only					Bleed Sensors
						
Series	Miniature	Compact	K-series	J-series	M43	PXF
Connection, * Push-in	Ø4*	Ø4*	Ø4* or M5	Ø4*	M5	Ø4* or M5
Flow at 6 bar, Qn l/s Qmax l/s Cv	1	4,2	2	3,5	1 1,89 0,127	3
Pipeable exhaust		No	Yes	No	Yes	No
Working temperature	-15 to +60°C	-15 to +60°C	-15 to +60°C	-15 to +60°C	-10 to +80°C	-15 to +60°C
Pneumatic switching	3/2 NC	3/2 NC	3/2 NC 3/2 NO	3/2 NC 3/2 NO	3/2 NC	
Construction material	Zinc die cast	Zinc die cast	Zinc die cast	Turrethead Zinc die cast, brass	Zinc die cast	Brass
Interchangeable with electrical version		Yes	Yes	Yes		
Actuator type						
Air hydraulic oil, fresh water, brine						
Plunger	●	●	●	●	●	
Roller		●		●	●	
Roller plunger		●	●	●		
Roller lever	●		●		●	
Whisker			●	●		
Variable offset lever			●	●		
Ball operated						
Cam				●		
Refer to page	5	5	6	8	15	16

- High durability
- Very good repeat accuracy
- Design for process duty cycle
- Push-in or threaded connection
- Versatile and easily maintained
- Wide range of body size and actuator style



Operating information

Working pressure;
PXC-M101, PXC-M111, PXC-M121,
PXC-M521, PXC-M601,
PXC-J: 3-8 bar
PXC-K: 3-9 bar

Working temperature -15 °C to +60 °C

		PXC-M101	PXC-M111	PXC-M121	PXC-M521/ PXC-M601
Flow: (acc. to ISO 6358)	Qmax=	60	60	85	250 l/s

		PXC-K	PXC-J
Flow: (acc. to ISO 6358)	Qmax=	210	210 l/s

3/2 miniatures limit switches

With Ø4 mm Push-in connections (M5 on request)

Bore Ø1,5 mm, flow 60 Nl/min

	Symbol	Actuator	Return	Operating forces at 6 bar, N	Weight kg	Order code
		Steel plunger	Spring	11	0,030	**PXC-M111**
		Steel plunger	Spring	11	0,030	**PXC-M101**
Operating levers		Plastic roller lever			0,008	**PXC-Z11**
		Plastic roller lever, one way trip			0,008	**PXC-Z12**

Bore Ø1,5 mm, flow 85 Nl/min

	Symbol	Actuator	Return	Operating forces at 6 bar, N	Weight kg	Order code
		Plastic roller	Spring	4,5	0,040	**PXC-M121**
		Steel roller	Spring	4,5	0,045	**PXC-M131**

Bore Ø2,5 mm, flow 250 Nl/min

	Symbol	Actuator	Return	Operating forces at 6 bar, N	Weight kg	Order code
		Plastic roller	Spring	7	0,060	**PXC-M521**

3/2 compact limit switches

With Ø4 mm Push-in connections
with pipeable exhaust port

Bore Ø2,5 mm, flow 250 Nl/min

With plunger head

	Symbol	**Actuator**	**Return**	**Operating forces** at 6 bar, N	**Weight** kg	Order code
		Steel plunger	Spring	24	0,150	**PXC-M601A110**

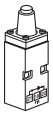
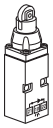
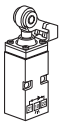
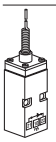
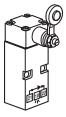
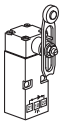
	Symbol	Actuator	Return	Operating forces at 6 bar, N	Weight kg	Order code
		Steel roller plunger	Spring	24	0,160	**PXC-M601A102**
		90° steel roller plunger	Spring	24	0,160	**PXC-M601A103**

3/2 limit switches “K series”

With Ø4 mm Push-in connections
with pipeable exhaust port
snap action and low operating force

Bore Ø3 mm

With plunger

	Symbol	Actuator	Return	Operating forces at 6 bar, N	Weight kg	Order code
		Steel plunger	Spring	16 N	0,270	**PXC-K21101**
		Steel plunger	Spring	16 N	0,270	**PXC-K22101**
		Steel roller plunger	Spring	16 N	0,310	**PXC-K21102**
		Steel roller plunger	Spring	16 N	0,310	**PXC-K22102**
		Plastic roller plunger	Spring	16 N	0,320	**PXC-K21121**
		Plastic roller plunger	Spring	16 N	0,320	**PXC-K22121**
		Whisker	Spring	0,05 Nm	0,270	**PXC-K21106**
		Whisker	Spring	0,05 Nm	0,270	**PXC-K22106**
		Plastic roller lever *	Spring	0,21 Nm	0,360	**PXC-K2110531**
		Plastic roller lever *	Spring	0,21 Nm	0,360	**PXC-K2210531**
		Adjustable lever with Delrin roller *	Spring	0,21 Nm	0,360	**PXC-K2110541**
		Adjustable lever with Delrin roller	Spring	0,21 Nm	0,360	**PXC-K2210541**

* Direction of actuation can be set as required
- from right and left
- from right
- from left

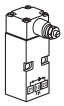
3/2 limit switches “K series”

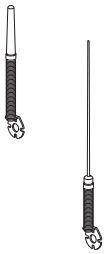
Bore Ø3 mm

Pneumatic switch bodies, for use in association with all **ZCK-D**.. series operating heads

	Symbol	Actuator	Return	Operating forces at 6 bar, N	Weight kg	Order code
		-		16	0,320	**PXC-K211**
		-		16	0,320	**PXC-K221**

Pneumatic switch bodies with rotary heads
Direction of actuation can be set as required:
- From right and left
- From right
- From left

	Symbol	Actuator	Return	Operating forces at 6 bar, Nm	Weight kg	Order code
		Rotary head	Spring	0,21	0,340	**PXC-K21105**
		Rotary head	Spring	0,21	0,340	**PXC-K22105**

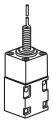
		Actuator	Weight kg	Order code
Rod		Ø3 mm fibre glass	0,025	**ZCK-Y55**
		Square steel 3 mm	0,025	**ZCK-Y54**
Spring rod		Plastic	0,010	**ZCK-Y81**
		Metal	0,030	**ZCK-Y91**

3/2 limit switches "J series"

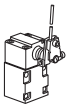
With Ø4 mm Push-in connections (M5 or G1/8 on request)
With pipeable exhaust port
Snap action and low operating force

Bore Ø3 mm

With plunger head

	Symbol	Actuator	Return	Operating forces at 6 bar, N	Weight kg	Order code
		Steel plunger	Spring	16	0,515	**PXC-J11161**
		Steel plunger	Spring	16	0,515	**PXC-J12161**
		Steel roller plunger	Spring	16	0,525	**PXC-J11162**
		Steel roller plunger	Spring	16	0,525	**PXC-J12162**
		Whisker	Spring	16	0,510	**PXC-J11170**
		Whisker	Spring	16	0,510	**PXC-J12170**

With rotary head and operating lever

	Symbol	Actuator	Direction of actuation	Return	Operating forces at 6 bar, N	Weight kg	Order code
		Rigid rod	Right AND left	Spring	0,05	0,570	**PXC-J1110151**
		Rigid rod	Right AND left	Spring	0,05	0,570	**PXC-J1210151**
		Rigid rod	Right OR left	Spring	0,05	0,570	**PXC-J1110551**
		Rigid rod	Right OR left	Spring	0,05	0,570	**PXC-J1210551**

With rotary head and operating lever

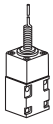
	Symbol	Actuator	Direction of actuation	Return	Operating forces at 6 bar, N	Weight kg	Order code
		Delrin roller lever	Right AND left	Spring	0,25	0,565	**PXC-J1110111**
				Spring	0,25	0,565	**PXC-J1210111**
		Delrin roller lever	Right OR left	Spring	0,25	0,565	**PXC-J1110511**
				Spring	0,25	0,565	**PXC-J1210511**
		Variable length lever with thermoplastic roller	Right AND left	Spring	0,25	0,580	**PXC-J1110131**
				Spring	0,25	0,580	**PXC-J1210131**
		Variable length lever with thermoplastic roller	Right OR left	Spring	0,25	0,580	**PXC-J1110531**
				Spring	0,25	0,580	**PXC-J1210531**

3/2 limit switches "J series"

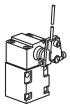
With G1/8 connection
With pipeable exhaust port
Snap action and low operating force

Bore Ø3 mm

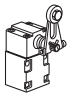
With plunger head

	Symbol	Actuator	Return	Operating forces at 6 bar, N	Weight kg	Order code
		Steel plunger	Spring	16	0,515	**PXC-J11861**
		Steel plunger	Spring	16	0,515	**PXC-J12861**
		Steel roller plunger	Spring	16	0,525	**PXC-J11862**
		Steel roller plunger	Spring	16	0,525	**PXC-J12862**
		Whisker	Spring	16	0,510	**PXC-J11870**
		Whisker	Spring	16	0,510	**PXC-J12870**

With rotary head and operating lever

	Symbol	Actuator	Direction of actuation	Return	Operating forces at 6 bar, Nm	Weight kg	Order code
		Rigid rod	Right AND left	Spring	0,05	0,570	**PXC-J1180151**
		Rigid rod	Right AND left	Spring	0,05	0,570	**PXC-J1280151**
		Rigid rod	Right OR left	Spring	0,05	0,570	**PXC-J1180551**
		Rigid rod	Right OR left	Spring	0,05	0,570	**PXC-J1280551**

With rotary head and operating lever

	Symbol	Actuator	Direction of actuation	Return	Operating forces at 6 bar, Nm	Weight kg	Order code
		Delrin roller lever	Right AND left	Spring	0,25	0,565	**PXC-J1180111**
				Spring	0,25	0,565	**PXC-J1280111**
		Delrin roller lever	Right OR left	Spring	0,25	0,565	**PXC-J1180511**
				Spring	0,25	0,565	**PXC-J1280511**
		Variable length lever with thermoplastic roller	Right AND left	Spring	0,25	0,580	**PXC-J1180131**
				Spring	0,25	0,580	**PXC-J1280131**
		Variable length lever with thermoplastic roller	Right OR left	Spring	0,25	0,580	**PXC-J1180531**
				Spring	0,25	0,580	**PXC-J1280531**

3/2 limit switches “J series”

With Ø4 mm Push-in connections

Bore Ø3 mm

Pneumatic switch bodies*
For use in association with all **ZC2-JC••** operating heads

	Symbol	Actuator	Return	Operating forces at 6 bar, N	Weight kg	Order code
		-	Spring	16	0,320	**PXC-J111**
		-	Spring	16	0,320	**PXC-J121**

	Symbol	Actuator	Direction of actuation	Return	Operating forces at 6 bar, Nm	Weight kg	Order code
		-	Right AND left	Spring	0,05	0,535	**PXC-J11101**
		-	Right AND left	Spring	0,05	0,535	**PXC-J12101**
		-	Right OR left	Spring	0,05	0,535	**PXC-J11105**
		-	Right OR left	Spring	0,05	0,535	**PXC-J12105**

	Actuator	Weight kg	Order code
	Steel roller lever	0,040	**ZC2-JY13**
	Spring plastic rod	0,040	**ZC2-JY81**
	Spring metal rod	0,040	**ZC2-JY91**
	Variable length lever with delrin roller	0,050	**ZC2-JY41**

* The switch bodies are available with G1/8 threaded connection.
Replace the 3rd digit in the reference by 8. Example PXC-J11861

Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

3/2 limit switches "J series"

With G1/8 connection

Bore Ø3 mm

Pneumatic switch bodies*
For use in association with all **ZC2-JC••** operating heads

	Symbol	Actuator	Return	Operating forces at 6 bar, N	Weight kg	Order code
		-		16	0,320	**PXC-J118**
		-		16	0,320	**PXC-J128**

	Symbol	Actuator	Direction of actuation	Return	Operating forces at 6 bar, Nm	Weight kg	Order code
		-	Right AND left	Spring	0,05	0,535	**PXC-J11801**
		-	Right AND left	Spring	0,05	0,535	**PXC-J12801**
		-	Right OR left	Spring	0,05	0,535	**PXC-J11805**
		-	Right OR left	Spring	0,05	0,535	**PXC-J12805**

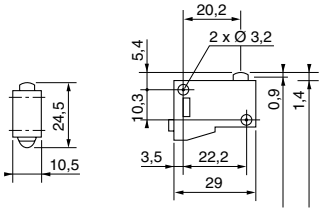
	Actuator	Weight kg	Order code
	Steel roller lever	0,040	**ZC2-JY13**
	Spring plastic rod	0,040	**ZC2-JY81**
	Spring metal rod	0,040	**ZC2-JY91**
	Variable length lever with delrin roller	0,050	**ZC2-JY41**

Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

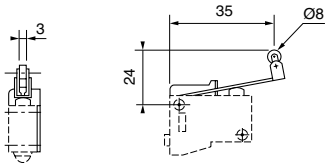
Dimensions, Limit switches, Series PXC

3/2 miniature limit switches

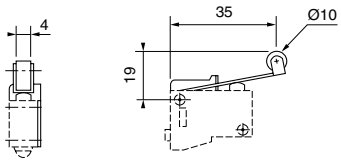
PXC-M111



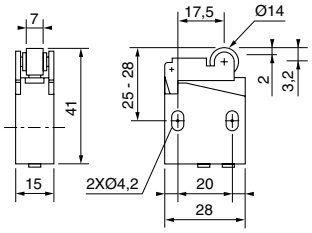
PXC-Z12



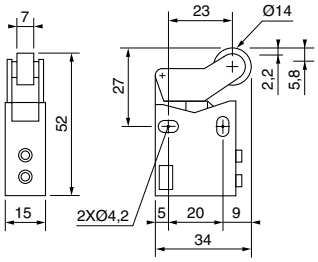
PXC-Z11



PXC-M121 - PXC-M131

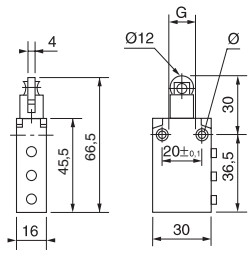


PXC-M521

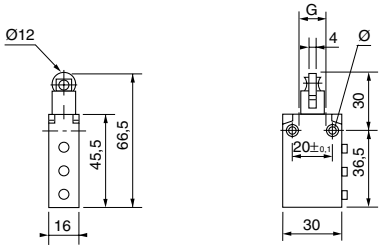


3/2 compact limit switches

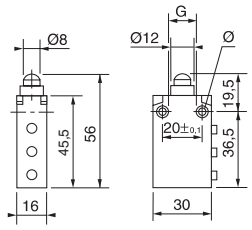
PXC-M601A102



PXC-M601A103

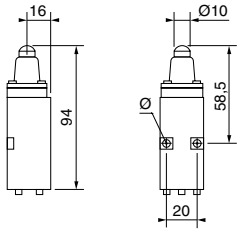


PXC-M601A110

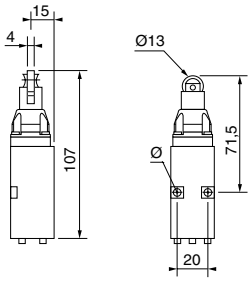


With plunger heads

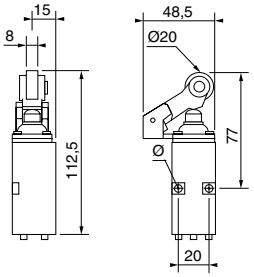
PXC-K21101, PXC-K22101



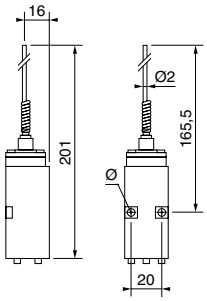
PXC-K21102, PXC-K22102



PXC-K21121, PXC-K22121

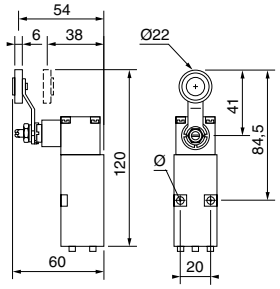


PXC-K21106, PXC-K22106



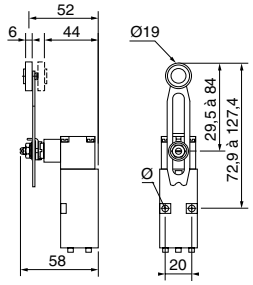
With rotary heads and operating levers

PXC-K21110531, PXC-K2210531



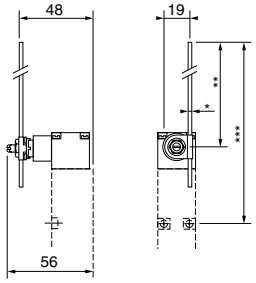
Ø=2 holes Ø5,2 mm

PXC-K21110541, PXC-K2210541



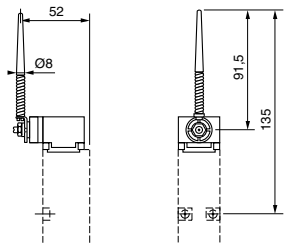
With rotary heads and operating levers

ZCK-Y54, ZCK-Y55

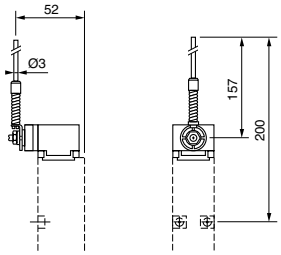


ZCK-Y55	ZCK-Y54
* Ø3	Ø 3
** 11 to 115	11 to 115
*** 53 to 158	53 to 158

ZCK-Y81

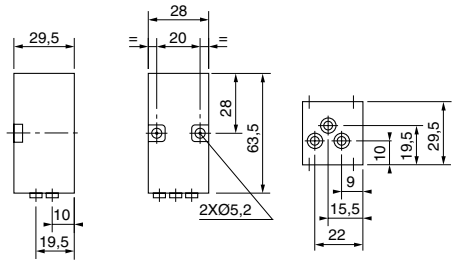


ZCK-Y91



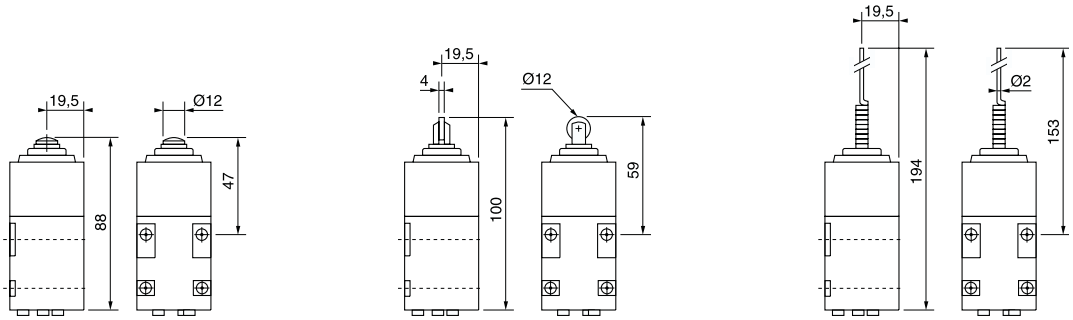
Pneumatic switch bodies

PXC-K211, PXC-K221



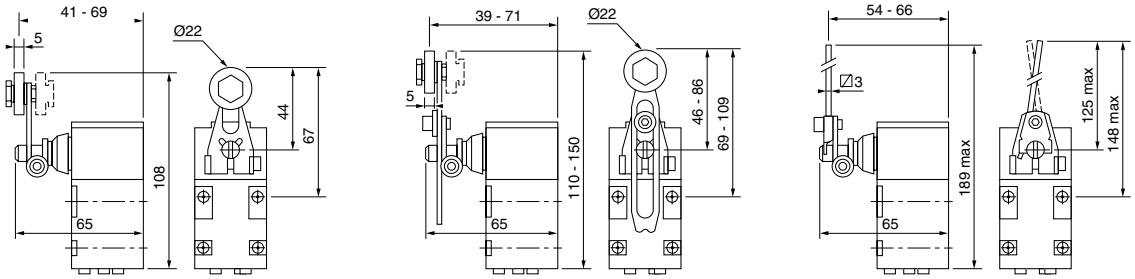
With plunger heads

PXC-J11161, PXC-J12161 PXC-J11162, PXC-J12162 PXC-J11170, PXC-J12170



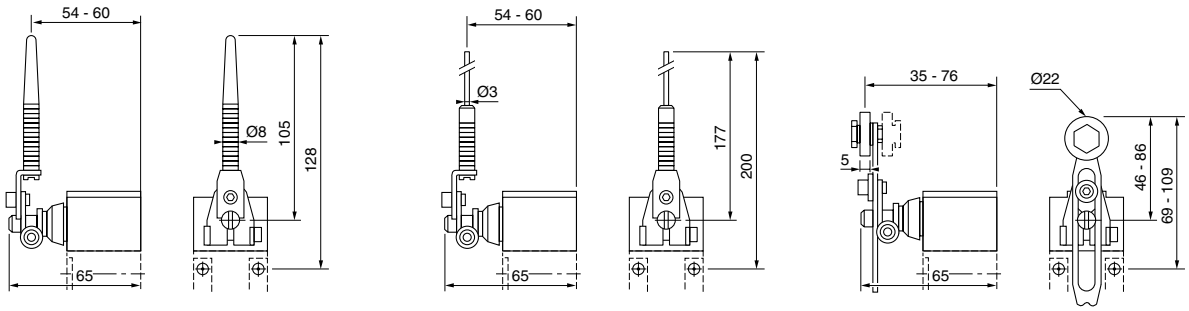
With rotary heads and operating levers

PXC-J1110111, J1210111, J1110511, J1210511 PXC-J1110131, J1210131, J1110531, J1210531 PXC-J1110151, J1210151, J1110551, J1210551



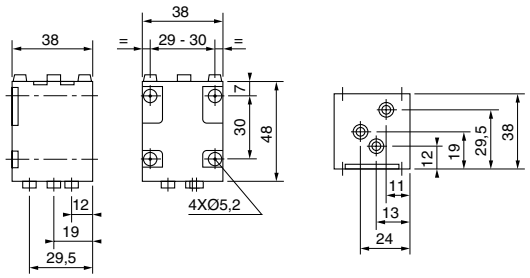
With rotary heads and operating levers

ZC2-JY81 ZC2-JY91 ZC2-JY41



Pneumatic switch bodies

PXC-J111, PXC-J121



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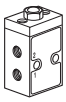
- Ultra small size
- Light actuation forces
- Spring return as standard
- 3/2 NC as standard
- M5 body ported
- Lever adjustment on roller options



Operating information

Working temperature	-10 °C to +80 °C		
		Flow;	C=0,27
Working pressure	0-7 bar	(acc. to ISO 6358)	b=0,26
Port size	M5		Qn=1 l/s
			Qmax=1,89 l/s
			Cv=0,127

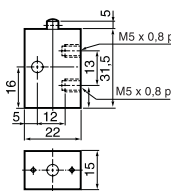
Main data for Mechanically operated valves, M43303 Series

	Symbol	Actuator	Return	Operating force at 6 bar, N	Weight kg	Order code
		Plunger	Spring	18	0,054	**M43303C**
		Roller-Lever	Spring	10	0,058	**M43303R**
		Roller, one way trip	Spring	10	0,060	**M43303T**
		Ball	Spring	18	0,062	**M43303B**

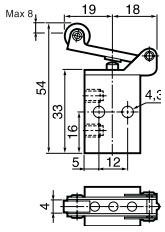
Normally closed only

Mechanically operated valves

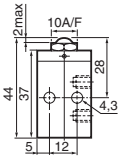
Plunger operated (basic valve)
M43303C



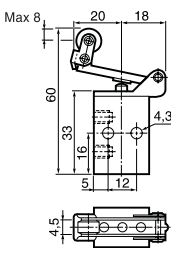
Roller lever operated
M43303R



Ball operated
M43303B



One way roller trip operated
M43303T



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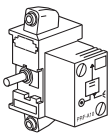
Bleed sensors

For use with PRF-A12 relay

	Symbol	Connection	Actuator	Return	Operating forces at 6 bar, N	Weight kg	Order code
		Ø4 mm Push-in	Direct	-	3 N	0,030	**PXF-A111**
		M5	Direct	-	3 N	0,030	**PXF-A115**
		Ø4 mm Push-in	Ball roller	Spring	3 N	0,035	**PXF-A121**
		M5	Ball roller	Spring	3 N	0,035	**PXF-A125**
		Ø4 mm Push-in	Whisker	Spring	0,125 Nm	0,035	**PXF-A131**
		M5	Whisker	Spring	0,125 Nm	0,035	**PXF-A135**

Bleed sensor relay

	Symbol	Connection	Function	Weight kg	Order code
		Ø4 mm Push-in	Provides a supply to a bleed sensor and generates a pneumatic signal equal to its supply pressure when the bleed sensor operates	0,070	**PRF-A12**

Application

Bleed sensors make it possible to sense very low actuating forces or small movements and are very compact. They are easy to install and connect as they only require a single tube. However, the length of the interconnecting tube must remain short if quick response times are required.

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