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ATEX

Pneumatic Components for ATEX environments

Catalogue PDE2584TCUK November 2015

Parker

ENGINEERING YOUR SUCCESS.

Summary

Atmosphère explosible = Hazardous atmosphere

PRODUCTS	ORDER CODES	LABELS	ZONES	CERTIFICATION N°	PAGE
Air motor 	**P1V-S ***	II 2 GD c IIC T6 (80 °C) X II 2 GD c IIC T5 (95 °C) X	1, 2, 21, 22	IBExU04ATEXB004X	**8 to 10**
Air motor 	**P1V-M**	II 2 GD c IIC T6 (80 °C) X	1, 2, 21, 22	IBExU14ATEXB017X	**11 to 12**
Rodless cylinder 	**OSP-P SLIDELINE BASIC GUIDE**	II 2 GD c T4 T135°C -10°C ≤Ta≤+60°C	1, 2, 21, 22		**13**
Pneumatic cylinder 	**P1S**	II 2 GD c T4 120 °C	1, 2, 21, 22	CEF501005 (Avtal/«cert» nr 399801) (quality Véritas : 98-SKM-AQ-010)	**14**
Pneumatic cylinder 	**P1D-S**	II 2 GD c T4 120 °C	1, 2, 21, 22	CEF501005 (Avtal/«cert» nr 399801) (quality Véritas : 98-SKM-AQ-010)	**15**
Pneumatic cylinder 	**P1D-T**	II 2 GD c T4 120 °C	1, 2, 21, 22	CEF501005 (Avtal/«cert» nr 399801) (quality Véritas : 98-SKM-AQ-010)	**16 to 17**
Pneumatic valve 	**DX1, DX2, DX3 ****	II 2 GD c 85 °C	1, 2, 21, 22	LCIE 04 ATEX 6165X	**18 to 19**
Pneumatic valve 	**PVL-C**	II 2 GD c 135 °C	1, 2, 21, 22	Acknowledgement of file deposit LCIE 06 AR 018 NM	**20 to 21**
Viking Xtreme valve 	**P2L**	II 2 GD c 135 °C	1, 2, 21, 22	Acknowledgement of file deposit LCIE 07 AR 069 NM	**22 to 25**
Sensor 	**RS-K & ES-K P8S-GPFLX/EX**	II 3 G EEx nA II T4 X II 3 D T135 °C IP67	2 22	Not exist (internal product inspection VIII)	**17**
Solenoid 30 mm 	**P2FS**	II 2 GD Ex mb II T5 or T4 IP66 T100 °C ou T135 °C	1, 2, 21, 22	CESI 05 ATEX 085 X (quality Amisco : TÜV IT13 ATEX030) (quality Parker : LCIE 03 ATEX Q 8037)	**19**
Solenoid 22 mm 	**P2FS**	II 2 GD Ex e II T4 Ex tD A21 T135 °C IP65	1, 2, 21, 22	LCIE 03 ATEX 6278X (quality Parker : LCIE 03 ATEX Q 8037)	**21**
Viking Xtreme solenoid 	**P2FS**	II 2G EEx m II T4 II 2D IP65 T130 °C IEC Ex m II T4 IP65 DIP A21 T130 °C	1, 2, 21, 22	PTB 00 ATEX 2001X IECEx PTB 05.0006X	**25**
Limit switch 	**PXC-M**	II 2 GD c 85 °C	1, 2, 21, 22	Acknowledgement of file deposit LCIE 06 AR 064 NM	**26**
Control duty 	**PXV-F1 PXB-B3 PXB-B4**	II 2 GD c 85 °C II 2 GD c T6 80° II 2 GD c T6 80°	1, 2, 21, 22 1, 2, 21, 22 1, 2, 21, 22	Acknowl. of file deposit LCIE 06 AR 007 NM Acknowl. of file deposit LCIE09ATEX1032X	**27 to 30**
Logic 	**PLL-, PLK-, PLN-, PLJ-, PLM-, PRD-, PRF-, PRT-, PSM-, PSV-A1**	II 2 GD c 85 °C	1, 2, 21, 22	LCIE 04 ATEX 6164X	**31 to 32**
Air Preparation 	**P31 P32 P33 P3Y P3Z**	Can be used in a Group II Categoty 2 environment	1.21	Parker self declaration. Not withing the scope of Directive 94/9/EC.	**33 to 37**
Cylinder control 	**PWR-H PWR-HB PWS-P111**	II 2 GD c 85 °C	1, 2, 21, 22	Acknowledgement of file deposit LCIE 08 AR018NM	**38 to 39**

* For power P1V-S012, 20, 30, 60, 120

** Operators : EV3000200, EV3001200, EV3003200, EV3000100, EV3001100, EV3003100, 1EV0.310, 1EV1.310, 1EV3.310

Introduction to the European ATEX directive

Explosive atmospheres

Directive 94/9/EC defines an explosive atmosphere as a mixture of :

a) **flammable substances** – gases, vapours, mists or dusts
b) with **air**
c) under specific **atmospheric conditions**
d) in which, after ignition has occurred, combustion spreads to the entire flammable mixture

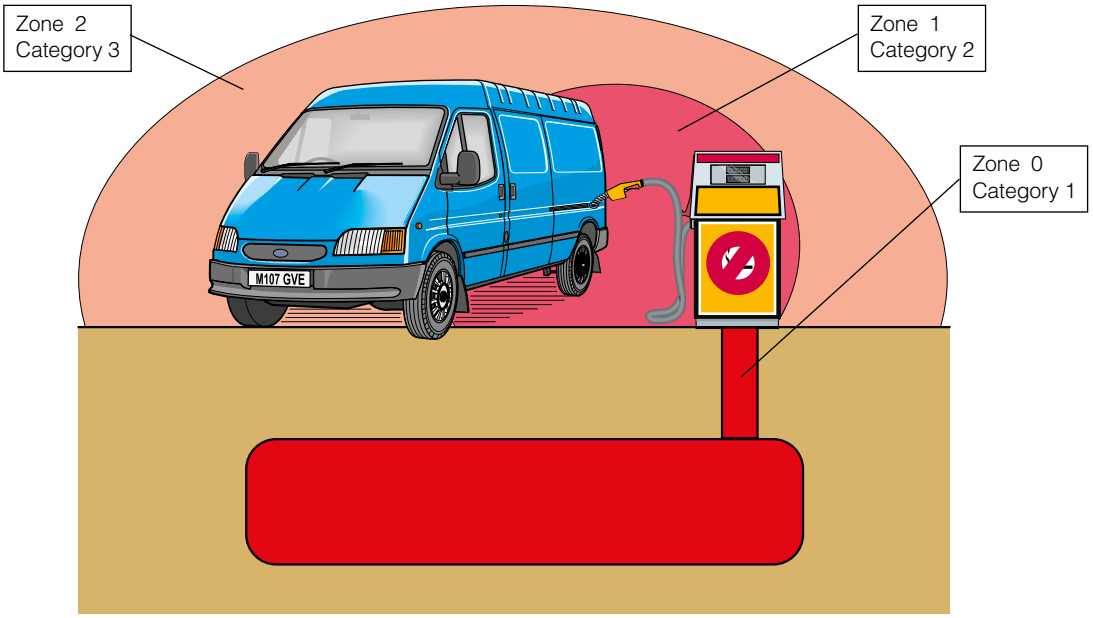
(NB: with regard to dust, it may be that not all dust is combusted after ignition has occurred)

An atmosphere with the potential to become an explosive atmosphere during operating conditions and/or under the influence of the surroundings is defined as a **potentially explosive atmosphere**. Products covered by directive 94/9/EC are defined as intended for use in potentially explosive atmospheres.

Harmonised European ATEX standard

The European Union has adopted two harmonised directives in the field of health and safety. The directives are known as ATEX 100a and ATEX 137.

Directive ATEX 100a (94/9/EC) lays down minimum safety requirements for products intended for use in potentially explosive atmospheres in European Union member states. Directive ATEX 137 (99/92/EC) defines minimum requirements for health and safety at the workplace, for working conditions and for the handling of products and materials in potentially explosive atmospheres. This directive also divides the workplace into **zones** and defines criteria by which products are **categorised** within these zones.
The table below describes the **zones** in an installation where there is a potential for explosive atmospheres. The **owner** of the installation must analyse and assess the area in which the explosive gas/dust mixture may occur, and if necessary must divide it into **zones**. This process of zoning then allows the correct plant and equipment to be selected for use in the area.



Zones Gas G	Zones Dust D	Presence of potentially explosive atmosphere	Type of risk
0	20	Present continuously or for long periods.	Permanent.
1	21	Likely to occur in normal operation occasionally.	Potential.
2	22	Not likely to occur in normal operation but, if it does occur, will persist for a short period only.	Minimal.

The ATEX directive has been in force throughout the European Union since 1 July 2003, replacing the existing divergent national and European legislation relating to explosive atmospheres.
Please note that for the first time, the directive covers mechanical, hydraulic and pneumatic equipment and not just electrical equipment as before.

With regard to the **machinery directive** 98/37/EC, note that a number of external requirements in 94/9/EC refer to hazards arising from potentially explosive atmospheres, where the Machinery directive only contains general requirements relating to explosion safety (Annex I 1.5.7).

As a result, directive 94/9/EC (ATEX 100a) takes precedence over the Machinery directive with regard to explosion protection in potentially explosive atmospheres. The requirements in the Machinery directive are applicable to all other risks relating to machinery.

In most cases full certification is not required, a much more simple "Risk Assessment" as detailed in the Directive,for the products to be supplied will suffice. At the moment we are conducting "Risk Assessments" in accordance with the Directive, on a broad range of core products which will be published on the web site. A more limited range of products will have the full ATEX certification where this is deemed necessary.

Levels of protection for the various equipment categories

The various equipment categories must be capable of operating in accordance with the manufacturer's operating specifications at defined levels of protection.

Level of protection	Category Group I	Category Group II	Type of protection	Operating specifications
Very high	M1		Two independent means of protection or safety, ensuring that the equipment remains functional even in the event of two faults occurring independently of each other.	The equipment remains energised and functional even with an explosive atmosphere present.
Very high		1	Two independent means of protection or safety, ensuring that the equipment remains functional even in the event of two faults occurring independently of each other.	The equipment remains energised and functional in zones 0, 1, 2 (G) and/or zones 20, 21, 22 (D).
High	M2		Protection suitable for normal operation and severe operating conditions.	The equipment is de-energised in the event of an explosive atmosphere.
High		2	Protection suitable for normal operation and frequent faults, or equipment in which faults normally have to be taken into account.	The equipment remains energised and functional in zones 1, 2 (G) and/or zones 21, 22 (D).
Normal		3	Protection suitable for normal operation.	The equipment remains energised and functional in zones 2 (G) and/or zones 22 (D).

Definition of groups (EN 1127-1)

Group I Equipment intended for use in underground parts of mines as well as those parts of surface installations of such mines likely to be endangered by flammable vapours and/or flammable dusts.

Group II Equipment intended for use in other places exposed to explosive atmospheres.

Group	I mines, combustible vapours		II other potentially explosive atmospheres (gases, dust)					
Category	**M1**	**M2**	**1**		**2**		**3**	
Atmosphere*			G	D	G	D	G	D
Zone			0	20	1	21	2	22

***** G = gas and D = dust

Temperature classes

Classification of flammable gases and vapours on the basis of ignition temperature.

Temperature class	Max. allowed temperature on the surface of the material (°C)
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

Parker components out of scope of the ATEX Directive :

Essential elements with the reliable use of the products and protection systems, but not having an autonomous function nor an own ignition source.

Note :

Sample instruction leaflets are illustrated in the ATEX catalogue PDE2584TC**
in French, English, German, Italian, Spanish and Swedish.
For other languages please consult your local Parker Sales Office.

Declaration of conformity

The product catalogues contain copies of the declaration of conformity demonstrating that the product meets the requirements of directive 94/9/EC.
The declaration is only valid in conjunction with the instructions contained in the installation manual relating to the safe use of the product throughout its service life.
The instructions relating to the conditions in the surrounding area are particularly important, as the certificate is invalidated if the instructions are found not to have been adhered to during operation of the product.
If there is any doubt as to the validity of the certificate of conformity, contact Parker Hannifin customer service.

Operation, installation and maintenance

The product installation manual contains instructions relating to the safe storage, handling, operation and servicing of the product.
The manual is available in different languages, and can be downloaded from **www.parker.com/euro_pneumatic**.
This document must be made accessible in a suitable place near where the product is installed. It is used as a reference for all personnel authorised to work with the product throughout its service life.
We, the manufacturer, reserve the right to modify, extend or improve the installation manual in the interests of the users.

For more information about ATEX see EUs homepage: **http://europa.eu.int/comm/enterprise/atex/**

ATEX products identification - Label example and significations

LCIE 04 ATEX 6165X

CE Ex II 2GD c 85 °C

Certification number

States the product fulfils at least one European Directive 94/9/CE

Specific symbol protection against explosion risks (ATEX)

Equipment group

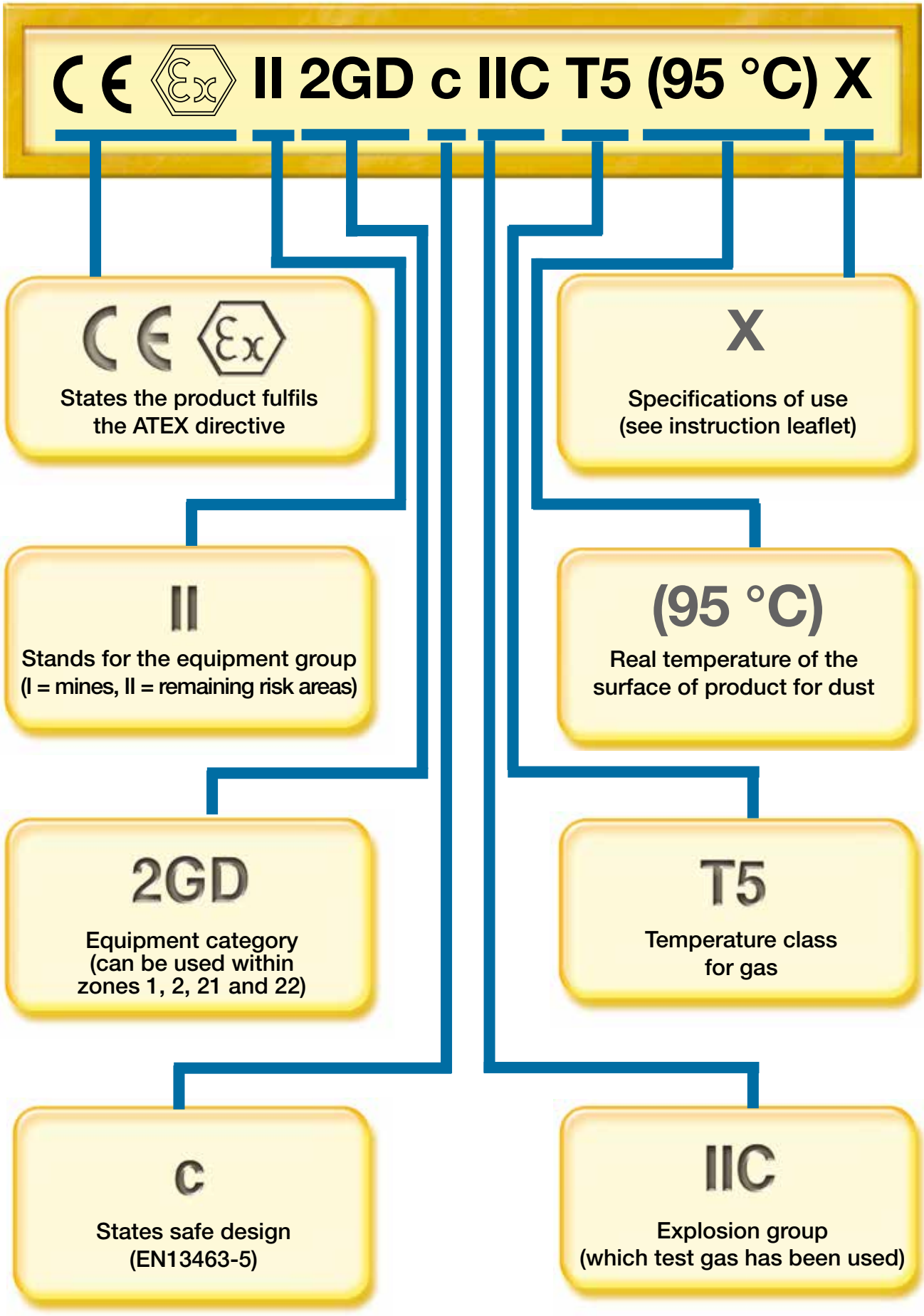
Equipment category

Gas, dust

State safe design

Max. real temperature of the product surface

See complete chart next page


CE Ex II 2GD c IIC T5 (95 °C) X
CE Ex
States the product fulfils the ATEX directive
X
Specifications of use (see instruction leaflet)
II
Stands for the equipment group (I = mines, II = remaining risk areas)
(95 °C)
Real temperature of the surface of product for dust
2GD
Equipment category (can be used within zones 1, 2, 21 and 22)
T5
Temperature class for gas
c
States safe design (EN13463-5)
IIC
Explosion group (which test gas has been used)

P1V-S is a range of air motors with all external components made of stainless steel, which means that they can be used in food grade applications, and in all other applications where there is a risk of corrosion.

- Power from 0.02 kW to 1.2 kW
- ATEX CE Ex approved from 0.12 kW to 1.2 kW
- Designed for arduous applications
- No-lube intermittent operation as standard

CE Ex II 2GD c IIC T6 (80 °C) X

CE Ex II 2GD c IIC T5 (95 °C) X

Operating information

Working pressure : Max 6 bar in Ex area
Working temperature : -20° to +40°C in Ex area
Fluid: Compressed air with ISO 8573-1 Quality class 3.4.3 (no-lube operation) and 3.-.5 (lube operation)

Note : All technical data are based on a working pressure of 6 bar and with oil. For oil-free performances are -10 to 15% lower. Data tolerance accuracy -+10%

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

Keyed shaft, P1V-S012A series, 120 watt - (G1/8)

CE Ex II2GD cIIC T6 (80°C) X

Max output kW	Free speed rpm	Speed at max output r/min	Torque at max output Nm	Min start torque Nm	Air consumption at max output l/s	Conn.	Min pipe ID	Order code
0.12	22000	11000	0.10	0.15	5.0	G1/8	6	**P1V-S012A0N00**
0.12	5500	2750	0.40	0.60	5.0	G1/8	6	**P1V-S012A0550**
0.12	3600	1800	0.60	0.90	5.0	G1/8	6	**P1V-S012A0360**
0.12	1400	700	1.60	2.40	5.0	G1/8	6	**P1V-S012A0140**
0.12	900	450	2.50	3.80	5.0	G1/8	6	**P1V-S012A0090**
0.12	600	300	3.80	5.00*	5.0	G1/8	6	**P1V-S012A0060**
0.12	100	50	5.00*	5.00*	5.0	G1/8	6	**P1V-S012A0010**

Threaded shaft, P1V-S012D series, 120 watt - (G1/8)

CE Ex II2GD cIIC T6 (80°C) X

0.12	22000	11000	0.10	0.15	5.0	G1/8	6	**P1V-S012D0N00**
0.12	5500	2750	0.40	0.60	5.0	G1/8	6	**P1V-S012D0550**
0.12	3600	1800	0.60	0.90	5.0	G1/8	6	**P1V-S012D0360**
0.12	1400	700	1.60	2.40	5.0	G1/8	6	**P1V-S012D0140**
0.12	900	450	2.50	3.80	5.0	G1/8	6	**P1V-S012D0090**
0.12	600	300	3,80	5.00*	5.0	G1/8	6	**P1V-S012D0060**
0.12	100	50	5.00*	5.00*	5.0	G1/8	6	**P1V-S012D0010**

Keyed shaft, P1V-S020A series, 200 watt - (G1/8)

CE Ex II2GD cIIC T6 (80°C) X

0.20	14500	7250	0.26	0,40	6.2	G1/8	10	**P1V-S020A0E50**
0.20	4600	2300	0.80	1,20	6.2	G1/8	10	**P1V-S020A0460**
0.20	2400	1200	1.60	2,40	6.2	G1/8	10	**P1V-S020A0240**
0.20	1400	700	2.70	4,10	6.2	G1/8	10	**P1V-S020A0140**
0.20	700	350	5.40	8,20	6.2	G1/8	10	**P1V-S020A0070**
0.20	320	160	12.00	18,00	6.2	G1/8	10	**P1V-S020A0032**
0.10	180	90	10.50	15,00	4.5	G1/8	10	**P1V-S020A0018**
0.18	50	25	20.00*	20,00*	6.2	G1/8	10	**P1V-S020A0005**
0.18	20	-	20.00*	20,00*	6.2	G1/8	10	**P1V-S020A0002**
0.18	10	-	20.00*	20,00*	6.2	G1/8	10	**P1V-S020A0001**
0.18	5	-	20.00*	20,00*	6.2	G1/8	10	**P1V-S020A00005**

* Max allowed torque

Reversible air motors

Threaded shaft, P1V-S020D series, 200 watt - (G1/8)

CE Ex II2GD cIIC T6 (80°C) X

Max output kW	Free speed rpm	Speed at max output r/min	Torque at max output Nm	Min start torque Nm	Air consumption at max output l/s	Conn.	Min pipe ID	Order code
0.20	14500	7250	0.26	0.40	6.2	G1/8	10	**P1V-S020D0E50**
0.20	4600	2300	0.80	1.20	6.2	G1/8	10	**P1V-S020D0460**
0.20	2400	1200	1.60	2.40	6.2	G1/8	10	**P1V-S020D0240**
0.20	1400	700	2.70	4.10	6.2	G1/8	10	**P1V-S020D0140**
0.20	700	350	5.40	8.20	6.2	G1/8	10	**P1V-S020D0070**
0.20	320	160	12.00	18.00	6.2	G1/8	10	**P1V-S020D0032**
0.10	180	90	10.50	15.00	4.5	G1/8	10	**P1V-S020D0018**
0.18	50	25	20.00*	20.00*	6.2	G1/8	10	**P1V-S020D0005**

Keyed shaft, P1V-S030A series, 300 watt - (G1/4)

CE Ex II2GD cIIC T6 (80°C) X

0.30	14500	7250	0.40	0.60	7.8	G1/4	10	**P1V-S030A0E50**
0.30	4600	2300	1.20	1.90	7.8	G1/4	10	**P1V-S030A0460**
0.30	2400	1200	2.40	3.60	7.8	G1/4	10	**P1V-S030A0240**
0.30	1400	700	4.10	6.10	7.8	G1/4	10	**P1V-S030A0140**
0.30	600	300	9.60	14.30	7.8	G1/4	10	**P1V-S030A0060**
0.30	340	170	16.90	25.30	7.8	G1/4	10	**P1V-S030A0034**
0.30	230	115	24.00	36.00	7.8	G1/4	10	**P1V-S030A0023**
0.13	180	90	13.80	21.00	4.7	G1/8	10	**P1V-S030A0018**
0.30	100	50	57.00	85.50	7.8	G1/4	10	**P1V-S030A0010**
0.30	50	25	36.00*	36.00*	7.8	G1/4	10	**P1V-S030A0005**

Threaded shaft, P1V-S030D series, 300 watt - (G1/4)

CE Ex II2GD cIIC T6 (80°C) X

0.30	14500	7250	0.40	0.60	7.8	G1/4	10	**P1V-S030D0E50**
0.30	4600	2300	1.20	1.90	7.8	G1/4	10	**P1V-S030D0460**
0.30	2400	1200	2.40	3.60	7.8	G1/4	10	**P1V-S030D0240**
0.30	1400	700	4.10	6.10	7.8	G1/4	10	**P1V-S030D0140**
0.30	600	300	9.60	14.30	7.8	G1/4	10	**P1V-S030D0060**
0.30	340	170	16.90	25.30	7.8	G1/4	10	**P1V-S030D0034**
0.13	180	90	13.80	21.00	4.7	G1/8	10	**P1V-S030D0018**
0.30	50	25	36.00*	36.00*	7.8	G1/4	10	**P1V-S030D0005**

Keyed shaft, P1V-S060A series, 600 watt - (G3/8)

CE Ex II2GD cIIC T6 (80°C) X

0.60	14000	7000	0.82	1.23	14.2	G3/8	12	**P1V-S060A0E00**
0.60	3500	1750	3.20	4.80	14.2	G3/8	12	**P1V-S060A0350**
0.60	2700	1350	4.20	6.40	14.2	G3/8	12	**P1V-S060A0270**
0.60	1700	850	6.70	10.10	14.2	G3/8	12	**P1V-S060A0170**
0.60	630	315	18.00	27.00	14.2	G3/8	12	**P1V-S060A0063**
0.60	480	240	23.90	36.00	14.2	G3/8	12	**P1V-S060A0048**
0.60	300	150	38.20	57.00	14.2	G3/8	12	**P1V-S060A0030**
0.30	150	75	38.00	57.00	14.2	G3/8	12	**P1V-S060A0015**

Keyed shaft, P1V-S090A series, 900 watt - (G3/8)

CE Ex II2GD cIIC T6 (80°C) X

0.90	12000	6000	1.40	2.10	23.3	G1/2	12	**P1V-S090A0C00**
0.90	3500	1750	4.90	7.30	23.3	G1/2	12	**P1V-S090A0350**
0.90	2700	1350	6.30	9.50	23.3	G1/2	12	**P1V-S090A0270**
0.90	1700	850	10.10	15.20	23.3	G1/2	12	**P1V-S090A0170**
0.90	630	315	27.00	40.00	23.3	G1/2	12	**P1V-S090A0063**
0.90	480	240	35.00	53.00	23.3	G1/2	12	**P1V-S090A0048**
0.90	300	150	57.00	85.00	23.3	G1/2	12	**P1V-S090A0030**

Keyed shaft, P1V-S120A series, 1200 watt - (G3/4)

CE Ex II2GD cIIC T5 (95°C) X

1.20	9000	4500	2.50	3.80	26.7	G3/4	19	**P1V-S120A0900**
1.20	2500	1250	8.20	13.70	26.7	G3/4	19	**P1V-S120A0250**
1.20	1100	550	21.00	31.00	26.7	G3/4	19	**P1V-S120A0110**
1.20	700	350	33.00	49.00	26.7	G3/4	19	**P1V-S120A0070**
1.20	320	160	71.00	107.00	26.7	G3/4	19	**P1V-S120A0032**
1.20	200	100	66.90	100.00	19.0	G3/4	19	**P1V-S120A0020**

* Max permitted torque to not damage the gearbox

Parker Hannifin Corporation
Pneumatic Division - Europe

The high torque motors of the P1V-S type are small in size but provide extremely high output. Our high torque motors are also less apt to stall. These drive solutions are particularly suitable for use in industrial agitators and mixers as used in the paint industry, food industry or pharmaceutical industry.

- Power 0.28, 0.57 and 0.86 kW
- Designed for arduous applications
- No-lube intermittent operation as standard

II 2 GD c IIC T6 (80°C) X

Operating information

Working pressure	Max 6 bar in Ex area
Working temperature	-20° to +40°C in Ex area
Fluid	Compressed air with ISO 8573-1 Quality class 3.4.3 (no-lube operation) and 3.-.5 (lube operation)

Note : All technical data are based on a working pressure of 6 bar and with oil.
For oil-free performances are -10 to 15% lower.
Data tolerance accuracy -+10%

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

Keyed shaft, P1V-S028A series, 285 watt - (G3/8)

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0.285	170	85	32	47	7.8	G3/8	10	2.700	**P1V-S028A0017**
0.285	80	40	62	92	7.8	G3/8	10	2.600	**P1V-S028A0008**
0.285	50	25	110	162	7.8	G3/8	10	2.900	**P1V-S028A0005**
0.280	26	13	210	320	7.8	G3/8	10	3.500	**P1V-S028A0003**
0.280	14	7	410	615	7.8	G3/8	10	3.500	**P1V-S028A0002**

Keyed shaft, P1V-S057A series, 570 watt - (G1/2)

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0.570	150	75	72	108	14.2	G1/2	10	3.600	**P1V-S057A0015**
0.570	110	55	98	147	14.2	G1/2	10	3.600	**P1V-S057A0011**
0.570	74	37	150	225	14.2	G1/2	10	3.600	**P1V-S057A0007**
0.565	40	20	265	400	14.2	G1/2	10	4.400	**P1V-S057A0004**

Keyed shaft, P1V-S086A series, 860 watt - (G1/2)

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0.860	150	75	160	110	23.3	G1/2	10	3.800	**P1V-S086A0015**
0.860	110	55	220	150	23.3	G1/2	10	3.900	**P1V-S086A0011**
0.860	70	35	335	225	23.3	G1/2	10	3.900	**P1V-S086A0007**
0.850	40	20	600	400	23.3	G1/2	10	4.700	**P1V-S086A0004**

* maximum admissible speed (idling)

P1V-M is a series of air motors, with or without gear box. They are made of grey casted iron and its robustness makes it suitable for all industrial air motor applications.

The range contains five different sizes with power ratings of 200, 400, 600, 900 and 1200 Watts,

The motor and gearbox are built to be extremely strong, making the motors suitable for applications requiring considerable robustness. The gearbox is of the planetary type, permanently lubricated with grease. The flange mounting is cast as an integral part of the case, and give, together with the foot bracket, plenty of opportunity for simple and robust installation.

- Power 0.2 kW, 0.4 kW, 0.6 kW, 0.9 kW & 1.2 kW
- Patented method for simple change of vanes
- Free speeds from 32 up to 10000 rpm
- Torque from 0.38 Nm up to 120 Nm by max output power
- Standard equipped with flange mounting
- Foot mountings as accessories

CE Ex II 2 GD c IIC T4 (130°C)

Operating information

Working pressure	Max 6 bar in Ex area
Working temperature	-20° to +40°C in Ex area
Fluid	Compressed air with ISO 8573-1 Quality class 3.4.3 (no-lube operation) and 3.-.5 (lube operation)

Note : All technical data are based on a working pressure of 6 bar and with oil.
For oil-free performances are -10 to 15% lower.
Data tolerance accuracy -+10%

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

Keyed shaft, P1V-M***B series, without gear boxes

Max power kW	Free speed* rpm	Nominal speed rpm	Nominal torque Nm	Min start torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0.200	10 000	5 000	0.38	0.57	5	G1/8	10	1.00	**P1V-M020B0A00**
0.400	10 000	5 000	0.76	1.10	10	G3/8	12	1.40	**P1V-M040B0A00**
0.600	10 000	5 000	1.10	1.70	15	G3/8	13	1.60	**P1V-M060B0A00**
0.900	10 500	5 250	1.60	2.40	36.7	G1/2	13	3.10	**P1V-M090B0A00**
1.200	10 500	5 250	2.20	3.30	43.3	G1/2	13	3.80	**P1V-M120B0A00**

* maximum admissible speed (idling)

Keyed shaft, P1V-M020C series, 200 watt - (G1/8)

Max power kW	Free speed* rpm	Nominal speed rpm	Nominal torque Nm	Min start torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0.200	2 300	1 150	1.60	2.40	5	G1/8	10	2.40	**P1V-M020C0230**
0.200	1 460	730	2.60	3.90	5	G1/8	10	2.40	**P1V-M020C0146**
0.200	540	270	7.00	10.50	5	G1/8	10	2.80	**P1V-M020C0054**
0.200	340	170	11.20	16.80	5	G1/8	10	2.80	**P1V-M020C0034**
0.200	210	105	18.20	27.30	5	G1/8	10	2.80	**P1V-M020C0021**
0.200	120	60	31.80	47.70	5	G1/8	10	3.20	**P1V-M020C0012**
0.200	80	40	47.80	71.70	5	G1/8	10	3.20	**P1V-M020C0008**
0.200	32	16	80**	80**	5	G1/8	10	3.20	**P1V-M020C0003**

* maximum admissible speed (idling) / ** gear box restriction

Keyed shaft, P1V-M040C series, 400 watt - (G3/8)

Max power kW	Free speed* rpm	Nominal speed rpm	Nominal torque Nm	Min start torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0.400	2 300	1 150	3.20	4.80	10	G3/8	12	2.80	**P1V-M040C0230**
0.400	1 460	730	5.20	7.80	10	G3/8	12	2.80	**P1V-M040C0146**
0.400	540	270	14.00	21.00	10	G3/8	12	3.20	**P1V-M040C0054**
0.400	340	170	22.40	33.60	10	G3/8	12	3.20	**P1V-M040C0034**
0.400	210	105	36.40	54.60	10	G3/8	12	3.20	**P1V-M040C0021**
0.400	120	60	63.60	80**	10	G3/8	12	3.60	**P1V-M040C0012**
0.400	80	40	80**	80**	10	G3/8	12	3.60	**P1V-M040C0008**

* maximum admissible speed (idling) / ** gear box restriction

Keyed shaft, P1V-M060C series, 600 watt - (G3/8)

Max power kW	Free speed* rpm	Nominal speed rpm	Nominal torque Nm	Min start torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0.600	2 300	1 150	5.00	7.50	15	G3/8	13	3.00	**P1V-M060C0230**
0.600	1 460	730	7.80	11.70	15	G3/8	13	3.00	**P1V-M060C0146**
0.600	540	270	21.00	31.50	15	G3/8	13	3.40	**P1V-M060C0054**
0.600	340	170	33.60	50.40	15	G3/8	13	3.40	**P1V-M060C0034**
0.600	210	105	54.50	80**	15	G3/8	13	3.40	**P1V-M060C0021**
0.600	120	60	80**	80**	15	G3/8	13	3.80	**P1V-M060C0012**

* maximum admissible speed (idling) / ** gear box restriction

Keyed shaft, P1V-M090C series, 900 watt - (G1/2)

Max power kW	Free speed* rpm	Nominal speed rpm	Nominal torque Nm	Min start torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0.900	2 450	1 225	7.00	10.50	36.7	G1/2	13	4.90	**P1V-M090C0245**
0.900	1 560	780	11.00	16.50	36.7	G1/2	13	4.90	**P1V-M090C0156**
0.900	580	290	30.00	45.00	36.7	G1/2	13	5.60	**P1V-M090C0058**
0.900	360	180	47.00	71.00	36.7	G1/2	13	5.60	**P1V-M090C0036**
0.900	230	115	75.00	112.00	36.7	G1/2	13	5.60	**P1V-M090C0023**
0.900	134	67	120**	120**	36.7	G1/2	13	6.30	**P1V-M090C0013**
0.900	90	45	120**	120**	36.7	G1/2	13	6.30	**P1V-M090C0009**
0.900	40	20	120**	120**	36.7	G1/2	13	6.30	**P1V-M090C0004**

* maximum admissible speed (idling) / ** gear box restriction

Keyed shaft, P1V-M120C series, 1200 watt - (G1/2)

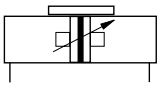
Max power kW	Free speed* rpm	Nominal speed rpm	Nominal torque Nm	Min start torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
1.20	2 450	1 225	9.40	14.00	43.3	G1/2	13	5.60	**P1V-M120C0245**
1.20	1 560	780	14.70	22.00	43.3	G1/2	13	5.60	**P1V-M120C0156**
1.20	580	290	40.00	60.00	43.3	G1/2	13	6.30	**P1V-M120C0058**
1.20	360	180	63.00	94.00	43.3	G1/2	13	6.30	**P1V-M120C0036**
1.20	230	115	100.00	120**	43.3	G1/2	13	6.30	**P1V-M120C0023**

* maximum admissible speed (idling) / ** gear box restriction

Components for EX-Areas

Information for ATEX-Directives

The rodless pneumatic cylinders of Parker Origa are the first linear drive unit, for that Ex range in the group of equipment II, Category 2 GD are certified. For more detailed information about the OSP series please consult catalogue P-A4P011GB.

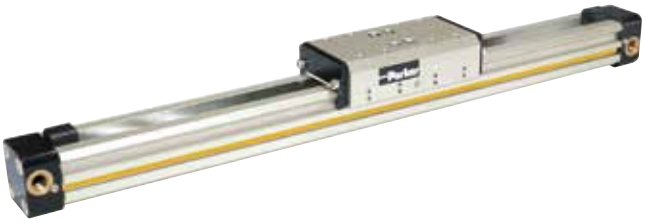


Rodless Cylinder Ø 10-80 mm

Basic Cylinder - Series: OSP-P ... ATEX

Basic Guide Ø 25-50 mm

Basic Guide - Series: BG ... ATEX



Plain Bearing Guide Ø 16-80 mm

SLIDELINE - Series: SL ... ATEX

Technical Data (deviant to the Standard Cylinder)

Characteristics	Description
General Features	
Ambient temperature range T_{min}	-10 °C
T_{max}	+60 °C
Max. switching frequency	1 Hz (double stroke/s) Basic cylinder 0.5 Hz (1stroke/s) Cylinder with guide
Operating pressure range p_{max}	Max. 8 bar
Max. speed v_{max}	3 m/s (Basic cylinder) 2 m/s (Cylinder with guide SLIDELINE and cylinder with guide BASIC GUIDE)
Medium	Filtered, unlubricated compressed air – free from water and dirt to ISO 8573-1 Solids: Class 7 particle size < 40 µm for Gas Water content: pressure dew point +3 °C, class 4, but at least 5 °C below minimum operating temperature
Noise level	70 dB (A)
Information for materials	
Aluminium	See data sheet ”Material“
Lubrication	See security data sheet ”Grease for use in Cylinder with guides“
Sealing bands	Corrosion resistant steel

Equipment Group II Category 2GD

Rodless cylinder: Ⓔx II 2GD c T4 T135°C -10°C≤Ta≤+60°C

Series	Size	Stroke range	Accessories
OSP-P	Ø 10 to 80	1– 6000 mm	Mountings programme
BASIC GUIDE	Ø 25 to 50	1– 6000 mm	Mountings programme
SLIDELINE	Ø 16 to 80	1– 5500 mm	Mountings programme

Parker Hannifin Corporation
Pneumatic Division - Europe

This range of stainless steel cylinders has been specially designed for use in difficult environments. Hygienic design, external seals of flourianted rubber and prelubricated with our food-industry-approved grease according to USDA-H1 make the cylinders particularly suitable for food industry use.
All cylinders have magnetic pistons for proximity position sensing. Fixing dimensions to ISO 6431 simplify installation and make the cylinders physically interchangeable throughout the world.

- Round cylinder to ISO 6431
- All stainless steel
- Clean, smooth washdown design
- Magnetic piston as standard
- Adjustable cushioning for long service life
- Complete range of mountings and sensors

CE Ex II 2GD c T4 120 °C

Operating information

Working pressure:	Max 10 bar
Temperature range:	-20°C to +70°C
ATEX approval :	CE Ex II 2GD c T4 120 °C

Prelubricated, further lubrication is not normally necessary.
If additional lubrication is introduced it must be continued.

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

Ø32mm - (G1/8)

Stroke mm	Order code
25	P1S-D032MS-0025-EXNN
50	P1S-D032MS-0050-EXNN
80	P1S-D032MS-0080-EXNN
100	P1S-D032MS-0100-EXNN
125	P1S-D032MS-0125-EXNN
160	P1S-D032MS-0160-EXNN
200	P1S-D032MS-0200-EXNN
250	P1S-D032MS-0250-EXNN
320	P1S-D032MS-0320-EXNN
400	P1S-D032MS-0400-EXNN
500	P1S-D032MS-0500-EXNN

Ø40mm - (G1/4)

Stroke mm	Order code
25	P1S-D040MS-0025-EXNN
50	P1S-D040MS-0050-EXNN
80	P1S-D040MS-0080-EXNN
100	P1S-D040MS-0100-EXNN
125	P1S-D040MS-0125-EXNN
160	P1S-D040MS-0160-EXNN
200	P1S-D040MS-0200-EXNN
250	P1S-D040MS-0250-EXNN
320	P1S-D040MS-0320-EXNN
400	P1S-D040MS-0400-EXNN
500	P1S-D040MS-0500-EXNN

Ø50mm - (G1/4)

Stroke mm	Order code
25	P1S-D050MS-0025-EXNN
50	P1S-D050MS-0050-EXNN
80	P1S-D050MS-0080-EXNN
100	P1S-D050MS-0100-EXNN
125	P1S-D050MS-0125-EXNN
160	P1S-D050MS-0160-EXNN
200	P1S-D050MS-0200-EXNN
250	P1S-D050MS-0250-EXNN
320	P1S-D050MS-0320-EXNN
400	P1S-D050MS-0400-EXNN
500	P1S-D050MS-0500-EXNN

Ø63mm - (G3/8)

Stroke mm	Order code
25	P1S-D063MS-0025-EXNN
50	P1S-D063MS-0050-EXNN
80	P1S-D063MS-0080-EXNN
100	P1S-D063MS-0100-EXNN
125	P1S-D063MS-0125-EXNN
160	P1S-D063MS-0160-EXNN
200	P1S-D063MS-0200-EXNN
250	P1S-D063MS-0250-EXNN
320	P1S-D063MS-0320-EXNN
400	P1S-D063MS-0400-EXNN
500	P1S-D063MS-0500-EXNN

Ø80mm - (G3/8)

Stroke mm	Order code
25	P1S-L080MS-0025-EXNN
50	P1S-L080MS-0050-EXNN
80	P1S-L080MS-0080-EXNN
100	P1S-L080MS-0100-EXNN
125	P1S-L080MS-0125-EXNN
160	P1S-L080MS-0160-EXNN
200	P1S-L080MS-0200-EXNN
250	P1S-L080MS-0250-EXNN
320	P1S-L080MS-0320-EXNN
400	P1S-L080MS-0400-EXNN
500	P1S-L080MS-0500-EXNN

Ø100mm - (G1/2)

Stroke mm	Order code
25	P1S-L100MS-0025-EXNN
50	P1S-L100MS-0050-EXNN
80	P1S-L100MS-0080-EXNN
100	P1S-L100MS-0100-EXNN
125	P1S-L100MS-0125-EXNN
160	P1S-L100MS-0160-EXNN
200	P1S-L100MS-0200-EXNN
250	P1S-L100MS-0250-EXNN
320	P1S-L100MS-0320-EXNN
400	P1S-L100MS-0400-EXNN
500	P1S-L100MS-0500-EXNN

Ø125mm - (G1/2)

Stroke mm	Order code
25	P1S-L125MS-0025-EXNN
50	P1S-L125MS-0050-EXNN
80	P1S-L125MS-0080-EXNN
100	P1S-L125MS-0100-EXNN
125	P1S-L125MS-0125-EXNN
160	P1S-L125MS-0160-EXNN
200	P1S-L125MS-0200-EXNN
250	P1S-L125MS-0250-EXNN
320	P1S-L125MS-0320-EXNN
400	P1S-L125MS-0400-EXNN
500	P1S-L125MS-0500-EXNN

The innovative P1D is a future-proof generation of ISO/VDMA cylinders. The cylinders are double-acting, with a new design of air cushioning.
The P1D complies with the current ISO 6431, ISO 15552, VDMA 24562 and AFNOR installation dimension standards.

- Available in 32 to 125 mm bores
- PUR seals for long service life
- Drop-in sensors
- Corrosion resistant design
- Magnetic piston as standard
- Lubricated with food grade grease

CE Ex II 2GD c T4 120 °C

Operating information

Working pressure :	Max 10 bar
Seals / Temperature options	
Standard :	-20°C to +80°C
ATEX approval :	CE Ex II 2GD c T4 120 °C

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

Ø32mm - (G1/8)

Stroke mm	Order code
25	P1D-S032MS-0025
40	P1D-S032MS-0040
50	P1D-S032MS-0050
80	P1D-S032MS-0080
100	P1D-S032MS-0100
125	P1D-S032MS-0125
160	P1D-S032MS-0160
200	P1D-S032MS-0200
250	P1D-S032MS-0250
320	P1D-S032MS-0320
400	P1D-S032MS-0400
500	P1D-S032MS-0500

Ø40mm - (G1/4)

Stroke mm	Order code
25	P1D-S040MS-0025
40	P1D-S040MS-0040
50	P1D-S040MS-0050
80	P1D-S040MS-0080
100	P1D-S040MS-0100
125	P1D-S040MS-0125
160	P1D-S040MS-0160
200	P1D-S040MS-0200
250	P1D-S040MS-0250
320	P1D-S040MS-0320
400	P1D-S040MS-0400
500	P1D-S040MS-0500

Ø50mm - (G1/4)

Stroke mm	Order code
25	P1D-S050MS-0025
40	P1D-S050MS-0040
50	P1D-S050MS-0050
80	P1D-S050MS-0080
100	P1D-S050MS-0100
125	P1D-S050MS-0125
160	P1D-S050MS-0160
200	P1D-S050MS-0200
250	P1D-S050MS-0250
320	P1D-S050MS-0320
400	P1D-S050MS-0400
500	P1D-S050MS-0500

Ø63mm - (G3/8)

Stroke mm	Order code
25	P1D-S063MS-0025
40	P1D-S063MS-0040
50	P1D-S063MS-0050
80	P1D-S063MS-0080
100	P1D-S063MS-0100
125	P1D-S063MS-0125
160	P1D-S063MS-0160
200	P1D-S063MS-0200
250	P1D-S063MS-0250
320	P1D-S063MS-0320
400	P1D-S063MS-0400
500	P1D-S063MS-0500

Ø80mm - (G3/8)

Stroke mm	Order code
25	P1D-S080MS-0025
40	P1D-S080MS-0040
50	P1D-S080MS-0050
80	P1D-S080MS-0080
100	P1D-S080MS-0100
125	P1D-S080MS-0125
160	P1D-S080MS-0160
200	P1D-S080MS-0200
250	P1D-S080MS-0250
320	P1D-S080MS-0320
400	P1D-S080MS-0400
500	P1D-S080MS-0500

Ø100mm - (G1/2)

Stroke mm	Order code
25	P1D-S100MS-0025
40	P1D-S100MS-0040
50	P1D-S100MS-0050
80	P1D-S100MS-0080
100	P1D-S100MS-0100
125	P1D-S100MS-0125
160	P1D-S100MS-0160
200	P1D-S100MS-0200
250	P1D-S100MS-0250
320	P1D-S100MS-0320
400	P1D-S100MS-0400
500	P1D-S100MS-0500

Ø125mm - (G1/2)

Stroke mm	Order code
25	P1D-S125MS-0025
40	P1D-S125MS-0040
50	P1D-S125MS-0050
80	P1D-S125MS-0080
100	P1D-S125MS-0100
125	P1D-S125MS-0125
160	P1D-S125MS-0160
200	P1D-S125MS-0200
250	P1D-S125MS-0250
320	P1D-S125MS-0320
400	P1D-S125MS-0400
500	P1D-S125MS-0500

The cylinders are supplied complete with a zinc plated steel piston rod nut.

Parker Hannifin Corporation
Pneumatic Division - Europe

P1D-T Large Bore Cylinders

The P1D-T range of tie rod cylinders is intended for use in a wide range of applications. Careful design and high quality manufacture throughout ensure long service life and optimum economy. Mounting dimensions fully in accordance with ISO 15552 (ISO 6431 and CETOP RP52P) greatly simplifies installation and world-wide interchangeability.

- Bore sizes Ø160 - Ø320mm
- Stroke lengths 10mm - 2000mm
- Magnetic piston as standard
- Adjustable cushioning as standard
- High temperature version
- Special version on request

CE Ex II 2GD c T4 120 °C

CE Ex

Operating information

Working pressure:	Max 10 bar
Seals / Temperature options	
Standard:	-20°C to +80°C
High temperature:	-10°C to +140°C
ATEX approval:	CE Ex IIGD c T4 120°C

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

Ø160mm

Stroke mm	Order code
50	**P1D-T160MS-0050-EXNN**
80	**P1D-T160MS-0080-EXNN**
100	**P1D-T160MS-0100-EXNN**
125	**P1D-T160MS-0125-EXNN**
160	**P1D-T160MS-0160-EXNN**
200	**P1D-T160MS-0200-EXNN**
250	**P1D-T160MS-0250-EXNN**
320	**P1D-T160MS-0320-EXNN**
400	**P1D-T160MS-0400-EXNN**
500	**P1D-T160MS-0500-EXNN**
800	**P1D-T160MS-0800-EXNN**
1000	**P1D-T160MS-1000-EXNN**

Ø200mm

Stroke mm	Order code
50	**P1D-T200MS-0050-EXNN**
80	**P1D-T200MS-0080-EXNN**
100	**P1D-T200MS-0100-EXNN**
125	**P1D-T200MS-0125-EXNN**
160	**P1D-T200MS-0160-EXNN**
200	**P1D-T200MS-0200-EXNN**
250	**P1D-T200MS-0250-EXNN**
320	**P1D-T200MS-0320-EXNN**
400	**P1D-T200MS-0400-EXNN**
500	**P1D-T200MS-0500-EXNN**
800	**P1D-T200MS-0800-EXNN**
1000	**P1D-T200MS-1000-EXNN**

Ø250mm

Stroke mm	Order code
50	**P1D-T250MS-0050-EXNN**
80	**P1D-T250MS-0080-EXNN**
100	**P1D-T250MS-0100-EXNN**
125	**P1D-T250MS-0125-EXNN**
160	**P1D-T250MS-0160-EXNN**
200	**P1D-T250MS-0200-EXNN**
250	**P1D-T250MS-0250-EXNN**
320	**P1D-T250MS-0320-EXNN**
400	**P1D-T250MS-0400-EXNN**
500	**P1D-T250MS-0500-EXNN**
800	**P1D-T250MS-0800-EXNN**
1000	**P1D-T250MS-1000-EXNN**

Ø320mm

Stroke mm	Order code
50	**P1D-T320MS-0050-EXNN**
80	**P1D-T320MS-0080-EXNN**
100	**P1D-T320MS-0100-EXNN**
125	**P1D-T320MS-0125-EXNN**
160	**P1D-T320MS-0160-EXNN**
200	**P1D-T320MS-0200-EXNN**
250	**P1D-T320MS-0250-EXNN**
320	**P1D-T320MS-0320-EXNN**
400	**P1D-T320MS-0400-EXNN**
500	**P1D-T320MS-0500-EXNN**
800	**P1D-T320MS-0800-EXNN**
1000	**P1D-T320MS-1000-EXNN**

The cylinders are supplied complete with a zinc plated steel piston rod nut.

Drop-in sensors

The completely new ”drop-in” P1D sensors can easily be installed from the side in the sensor groove, at any position along the piston stroke. The sensors are completely recessed and thus mechanically protected. Choose between electronic or reed sensors and several cable lengths and 8 mm and M12 connectors.
The same standard sensors are used for all P1D versions, i.e. even for P1D Clean with the patent applied system of integrated sensors. Please note that the sensors with 8 mm and M12 connector should have cable lengths 1 m for P1D Clean to allow flexible positioning of the sensors, including longer stroke lengths. There is a double jointed adapter for the tie-rod version, which offers simple and flexible use of standard sensors.

CE Ex II 3 G EEx nA II T4 X
II 3 D T135 °C IP67

Electronic sensors

The new electronic sensors are ”Solid State”, i.e. they have no moving parts at all. They are provided with short-circuit protection and transient protection as standard. The built-in electronics make the sensors suitable for applications with high on and off switching frequency, and where very long service life is required.

Ordering data

Output/function	Cable/connector		Weight kg	Order code
Electronic sensor , 18-30 V DC				
ATEX Certified	CE Ex II3G EEx nA II T4X II3D T135°C IP67			
PNP type, normally open	3 m PVC-cable without connector	CE Ex	0,030	**P8S-GPFLX/EX**

Ceramic slide valves for maximum operational life. Solenoid or air pilot operated with a wide choice of bases and manifolds. Vacuum to 10 bar applications.

- Size1, 2 and 3
- Ceramic technology for long life operation
- From vacuum up to 10 bar applications
- Internal or external pilot supply with same valves
- Pressure supply possible on exhaust ports

CE Ex II 2GD c 85 °C

ISO 5599-1

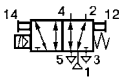
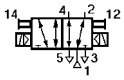
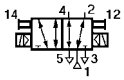
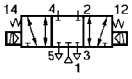
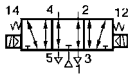
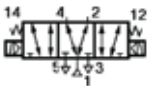
CE Ex

Operation information

Working pressure :		-0.9 to 10 bar	
Working temperature :		-10 to +60°C	
	DX1	**DX2**	**DX3**
Flow (Qmax.) :	1680 l/min	3640 l/min	6420 l/min
Flow (Qn.) :	1150 l/min	2330 l/min	4050 l/min
ATEX approval :	CE Ex II 2GD c 85 °C		

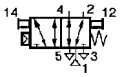
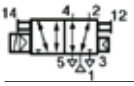
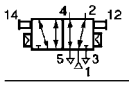
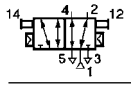
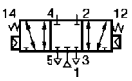
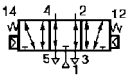
For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

Electrically actuated 5/2 and 5/3 valves for CNOMO 06-05-10 solenoid supplied without solenoid, refer to page 19 to select solenoid

Symbol	Description	Size	Actuator	Return	P min bar	Flow (Qn) l/min	Order Code No Solenoid
	5/2 Single Solenoid	1 2 3	Solenoid	Spring	2.5 2.0 2.0	1000 2280 3950	**DX1-621-EX** **DX2-621-EX** **DX3-621-EX**
	5/2 Single Solenoid differential	1 2 3	Solenoid	Internal air	2.0 2.0 2.0	1030 2280 3840	**DX1-651-EX** **DX2-651-EX** **DX3-651-EX**
	5/2 Double Solenoid	1 2 3	Solenoid	Solenoid	1.0 1.0 1.0	1150 2330 4050	**DX1-606-EX** **DX2-606-EX** **DX3-606-EX**
	5/2 Double Solenoid 14 prioritised	1 2 3	Solenoid	Solenoid	1.0 1.0 1.0	1150 2330 4050	**DX1-656-EX** **DX2-656-EX** **DX3-656-EX**
	5/3 Double Sol. APB	1 2 3	Solenoid	Solenoid	3.0 2.5 2.5	820 2100 3550	**DX1-616-EX** **DX2-616-EX** **DX3-616-EX**
	5/3 Double Solenoid CE	1 2 3	Solenoid	Solenoid	3.0 2.5 2.5	1030 1950 3470	**DX1-611-EX** **DX2-611-EX** **DX3-611-EX**
	5/3 pressurised centre	1 2	Solenoid	Solenoid	2.5 2.5	1100 1970	**DX1-613-EX** **DX2-613-EX**

APB = All Ports Blocked CE = Center Open to Exhaust

Pneumatically actuated 5/2 and 5/3 valves

Symbol	Description	Size	Actuator	Return	P min bar	Flow (Qn) l/min	Order Code
	5/2 Single Pilot	1 2 3	Air pilot	Spring	2.5 2.0 2.0	1000 2280 3950	**DX1-421-EX** **DX2-421-EX** **DX3-421-EX**
	5/2 Single Pilot differential	1 2 3	Air pilot	Internal air	2.0 2.0 2.0	1030 2280 3840	**DX1-451-EX** **DX2-451-EX** **DX3-451-EX**
	5/2 Double Pilot	1 2 3	Air pilot Air pilot	Air pilot Air pilot	1.0 1.0 1.0	1150 2330 4050	**DX1-406-EX** **DX2-406-EX** **DX3-406-EX**
	5/2 Double Pilot 14 prioritised	1 2 3	Air pilot	Air pilot	1.0 1.0 1.0	1150 2330 4050	**DX1-456-EX** **DX2-456-EX** **DX3-456-EX**
	5/3 Double Pilot APB	1 2 3	Air pilot Air pilot	Air pilot Air pilot	3.0 2.5 2.5	820 2100 3550	**DX1-416-EX** **DX2-416-EX** **DX3-416-EX**
	5/3 Double Pilot CE	1 2 3	Air pilot Air pilot	Air pilot Air pilot	3.0 2.5 2.5	1030 1950 3470	**DX1-411-EX** **DX2-411-EX** **DX3-411-EX**
	5/3 pressurised centre	1 2	Air pilot	Air pilot	2.5 2.5	1100 1970	**DX1-413-EX** **DX2-413-EX**

APB = All Ports Blocked CE = Center Open to Exhaust

CE Ex II 2GD
Ex mb II T5 or T4
IP66 T100 °C or T135 °C

Complete solenoid coils and CNOMO operator

	Voltage	Temperature class ° C	Order code Manual override non locking	Order code Manual override locking
EV310-2.5 W DC, 4.5 VA AC solenoids with CNOMO 06-05-10 interface and cable plug DIN 43650 form A (supplied with 3 m flying lead)				
 	24 V DC	T4	**P2FSB3A3L549**	-
	24 V DC	T5	**P2FSB3A3LT49**	**P2FSB3A3C549**
	24 V AC	T5	**P2FSB3A3LT42**	**P2FSB3A3CT42**
	48 V AC	T5	**P2FSB3A3LT69**	**P2FSB3A3CT69**
	230 V AC	T5	**P2FSB3A3LT57**	**P2FSB3A3CT57**

Parker Hannifin Corporation
Pneumatic Division - Europe

Stacking high flow valves with air pilot or solenoid actuation. Lightweight plastic bodies feature push-in or threaded connections. Stacking valves feature modular inlet and exhaust facility.

- High flow, compact size
- Push-in or threaded connection
- DIN rail or block mounting
- Light weight construction

CE Ex II 2GD c 135 °C

Operating information

Working pressure	
Pneumatically operated :	2-10 bar
Electrically operated, bistable :	2-10 bar
Electrically operated, monostable :	3-10 bar
Working temperature :	-15 °C to +60 °C
	PVL-C
Flow (Qmax) :	1800 l/min
Flow Qn :	1100 l/min

Flow measured with valve stacked in island.
ATEX approval : II 2GD c 135 °C

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

PVL-C directional control valves - Stand-alone version

Symbol	Connection Push-in/ Threaded	Actuator	Return	Signal pres. min, bar at 6 bar actua./return	Changeover time, ms at 6 bar actua./return	Order code
Size G1/4 - Pneumatically actuated 5/2 valves For use with air-pilot connector						
4 2	Ø8 mm	Air	Air	0.9/0.9	17/17	**PVL-C112608-EX ***
	G1/4	Air	Air	0.9/0.9	17/17	**PVL-C112619-EX**
	Ø8 mm	Air	Spring	2.8/1.0	25/60	**PVL-C111608-EX ***
	G1/4	Air	Spring	2.8/1.0	25/60	**PVL-C111619-EX**
	G3/8	Air	Spring	2.8/1.0	25/60	**PVL-C111613-EX**
Size G1/4 -Pneumatically actuated 5/3 valves For use with air-pilot connector						
	G1/4	APB	Air-Self centering	-	-	**PVL-C117619-EX**
Size G1/4 - Electrically / Pneumatically actuated 5/2 valves For use with 6 W / 8,5 VA solenoid actuator or air-pilot connector						
	G1/4	Electric or air	Electric or air	0.9/0.9	15/15	**PVL-C112419-EX**
	G1/4	Electric or air	Spring	2.8/1.0	20/50	**PVL-C111419-EX**

***** : NPT version **PVL-C1126097-EX, PVL-C1116097-EX,**
Threaded G1/4 version **PVL-C117419-EX**
APB = All Ports Blocked

The above valve operation can be either :
- Pneumatic, with the addition of one or two pilot connectors complete with Ø4 mm Push-in connections : PVA-P111, PVA-P121, or PVA-P125.
- Electrical, with the addition of one or two solenoid actuators, only 6 W / 8.5 VA, P2FS ATEX certified type, (see page 19).

Mounting

The valves have integral mounting holes suitable for M4 screws and can be directly mounted onto any suitable surface.
The pipework connections will be either use of threaded fittings or direct Push-in depending on the body selected.

PVL-C directional control valves - Stackable version

Symbol	Connection Push-in/ Threaded	Actuator	Return	Signal pres. min, bar at 6 bar actua./return	Changeover time, ms at 6 bar actua./return	Order code
Size G1/4 - Pneumatically actuated 5/2 valves For use with air-pilot connector						
	Ø8 mm	Air	Air	0.9/0.9	17/17	**PVL-C122608-EX**
	G1/4	Air	Air	0.9/0.9	17/17	**PVL-C122619-EX ***
	Ø8 mm	Air	Spring	2.8/1.0	25/60	**PVL-C121608-EX ***
	G1/4	Air	Spring	2.8/1.0	25/60	**PVL-C121619-EX ***
Size G1/4 - Pneumatically actuated 5/3 valves For use with air-pilot connector						
	G1/4	APB	Self centering	-	-	**PVL-C127619-EX**
	G1/4	CE	Self centering	-	-	**PVL-C128619-EX**
Size G1/4 - Electrically / Pneumatically actuated 5/2 valves For use with 6 W / 8.5 VA solenoid actuator or air-pilot connector						
	Ø8 mm	Electric or air	Electric or air	0.9/0.9	15/15	**PVL-C122408-EX**
	G1/4	Electric or air	Electric or air	0.9/0.9	15/15	**PVL-C122419-EX**
	Ø8 mm	Electric or air	Spring	2.8/1.0	20/50	**PVL-C121408-EX**
	G1/4	Electric or air	Spring	2.8/1.0	20/50	**PVL-C121419-EX**

***** : NPT version **PVL-C1126197-EX, PVL-C1216097-EX, PVL-C1216197-EX**
APB = All Ports Blocked, CE = Centre Open to Exhaust

Each valve is supplied with two tie rods for use in the “stacking” system.

The above valve operation can be either :
- Pneumatic, with the addition of one or two pilot connectors complete with Ø4 mm Push-in connections : PVA-P111, PVA-P121, or PVA-P125.
- Electrical, with the addition of one or two solenoid actuators, only 6 W / 8.5 VA, P2FS ATEX certified type, (see below).

- Standard head and tail sets (not submitted for ATEX approval) are associable with the stackable version :

Omega rail mounting
Single air supply : PVL-C1713
Dual air supply : PVL-C1723

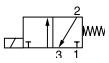
or

Surface mounting
Single air supply : PVL-C1819
Dual air supply : PVL-C1829

Solenoids 6 W / 8,5 VA

Without manual override

With prewired cable connector (22x30 mm)



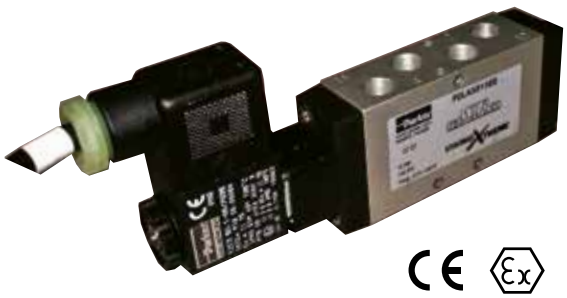
Voltage	Cable length m	Order code
24 V DC	3	**P2FS53A3AM49**
24 V DC	5	**P2FS53A3AM4905**
24 V DC	10	**P2FS53A3AM4910**
24 V DC	5	**P2FS53A3AM495R**

CE Ex II 2GD mb II C T4
Ex mb tb IIICT130°C IP65

Versions available for use in explosive atmospheres :
- conforming to certification LCIE 03 ATEX 6278X
- electrical equipment conforming to harmonised European standards
EN60079-0 (2009)
EN60079-18 (2009)
EN60079-31 (2009)
- marking code CE Ex II 2 GD
Ex mb IIC T4
Ex mb tb IIICT130°C IP65

Parker Hannifin Corporation
Pneumatic Division - Europe

Rugged metal bodied valve series with high flow and fast switching. Available with manual or automatic actuation and with a wide operating temperature range. The ideal valve for mobile applications.



- 3 sizes: G1/8, G1/4 and G1/2.
- High flow and fast switching.
- Compact design with good corrosion resistance.
- Wide range of 5/2 and 5/3 versions.
- High and low temperature versions available for transport applications.

CE Ex II 2GD c 135 °C

Operating information

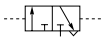
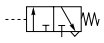
Working pressure, max :	10 bar			
Working temperature, standard				
Electrically actuated :	-10 °C to +50 °C			
Pneumatic actuated :	-40 °C to +60 °C			
Flow (Qmax) :	**P2LAX**	**P2LXB**	**P2LCX**	**P2LDX**
	1140 l/min	2280 l/min	4320 l/min	4680 l/min

ATEX approval : CE Ex II 2GD c 135 °C

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

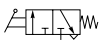
Pneumatic pilot operated valves - Xtreme operating pressure / temperature

Max operating pressure 16 bar (A & B) 12 bar (C & D). temp range -40°C to +60°C

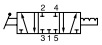
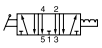
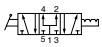
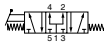
Symbol	Size	Actuation	Return	Min Operating Pressure (bar)	Changeover time (ms) at 6 bar @20°C actua./return	Weight Kg	Order code
3/2 valves, temperature -40°C to +60°C							
	G1/8	Air signal	Air signal	1.5	5/5	0.30	**P2LAX311PP-EX**
	G1/4			1.5	5/5	0.30	**P2LBX312PP-EX**
	G3/8			1.5	8/8	0.45	**P2LCX313PP-EX**
	G1/2			1.5	9/9	0.45	**P2LDX314PP-EX**
	G1/8	Air signal	Spring	3.2	8/15	0.30	**P2LAX311PS-EX**
	G1/4			3.5	10/20	0.30	**P2LBX312PS-EX**
	G3/8			3.5	10/30	0.45	**P2LCX313PS-EX**
	G1/2			3.5	10/30	0.45	**P2LDX314PS-EX**

Lever operated directional control valves

Max operating pressure 16 bar (A & B) 12 bar (C & D). temp range -40°C to +60°C

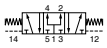
Symbol	Size	Actuation	Return	Changeover angle	Changeover Force	Type	Weight Kg	Order code
3/2 valves, standard temperature / Low temperature, lever 90° to ports								
	G1/8	Lever	Lever	20°	9 N	Std.	0.33	**P2LAX311VV-EX**
	G1/4	Lever	Lever	20°	9 N	Std.	0.33	**P2LBX312VV-EX**
	G3/8	Lever	Lever	32°	25 N	Std.	0.40	**P2LCX313VV-EX**
	G1/2	Lever	Lever	32°	25 N	Std.	0.60	**P2LDX314VV-EX**
	G1/8	Lever	Spring	20°	10N	Std.	0.33	**P2LAX311VS-EX**
	G1/4	Lever	Spring	20°	10N	Std.	0.33	**P2LBX312VS-EX**
	G3/8	Lever	Spring	32°	15 N	Std.	0.40	**P2LCX313VS-EX**
	G1/2	Lever	Spring	32°	15 N	Std.	0.60	**P2LDX314VS-EX**

Lever actuated 5/2 and 5/3 valves manually actuated

Symbol	Size	Actuator	Return	Changeover angle	Type	Order code
5/2 valves, temperature -40°C to +60°C, lever 90° to ports						
	G1/8	Lever	Lever	28°	Std	**P2LAX511VV-EX**
	G1/8	Lever	Spring	28°	Std	**P2LAX511VS-EX**
5/3 valves, temperature -40°C to +60°C, lever 90° to ports						
	G1/8	Lever	Lever	±14°	Std	**P2LAX61122-EX**
	G1/8	Lever	Lever	±14°	Std	**P2LAX81122-EX**
	G1/8	Lever	Lever	±14°	Std	**P2LAX71122-EX**
	G1/8	Lever	Lever	±14°	Std	**P2LAX61111-EX**
	G1/8	Lever	Lever	±14°	Std	**P2LAX81111-EX**
	G1/8	Lever	Lever	±14°	Std	**P2LAX71111-EX**

BSP : P2LAX511VV-EX
NPT : P2LAX591VV-EX

Pneumatically actuated 5/2 and 5/3 valves

Symbol	Size	Actuator	Return	Signal pressure **min.** (bar) **at 6 bar actua./return**	Changeover **time** (ms) **at 6 bar actua./return**	Order code
5/2 valves, temperature -40°C to +60°C						
	G1/8	Air pilot	Air pilot	1.5/1.5	6/6	**P2LAX511PP-EX**
	G1/4			1.5/1.5	10/10	**P2LBX512PP-EX**
	G3/8			1.5/1.5	12/12	**P2LCX513PP-EX**
	G1/2			2.0/2.0	20/20	**P2LDX514PP-EX**
	G1/8	Air pilot	Spring	3.2/-	8/18	**P2LAX511PS-EX**
	G1/4			3.5/-	15/25	**P2LBX512PS-EX**
	G3/8			3.5/-	10/15	**P2LCX513PS-EX**
	G1/2			3.5/-	20/25	**P2LDX514PS-EX**
5/3 valves, temperature -40°C to +60°C						
	G1/8	Air pilot closed centre position	Air pilot self centring	3.8/-	10/20	**P2LAX611PP-EX**
	G1/4			3.5/-	15/25	**P2LBX612PP-EX**
	G3/8			3.8/-	20/30	**P2LCX613PP-EX**
	G1/2			3.8/-	20/40	**P2LDX614PP-EX**
	G1/8	Air pilot vented centre	Air pilot self centring	3.8/-	10/20	**P2LAX811PP-EX**
	G1/4			3.5/-	15/25	**P2LBX812PP-EX**
	G3/8			3.8/-	20/30	**P2LCX813PP-EX**
	G1/2			3.8/-	20/40	**P2LDX814PP-EX**
	G1/8	Air pilot pressure centre	Air pilot self centering	3.8/-	10/20	**P2LAX711PP-EX**
	G1/4			3.5/-	15/25	**P2LBX712PP-EX**
	G3/8			3.8/-	20/30	**P2LCX713PP-EX**
	G1/2			3.8/-	20/40	**P2LDX714PP-EX**

BSP : P2LAX511PP-EX
NPT : P2LAX591PP-EX

Complete valve

Electrically actuated 5/2 and 5/3 valves (supplied with 22 mm solenoid operator and coil)

Symbol	Size	Actuator	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Order code
5/2 valves, internal air, temperature -10°C to +50°C						
	G1/8	Electric signal	Electric signal	1.5/1.5	10/10	**P2LAX511EEADDM****
	G1/4			1.5/1.5	22/22	**P2LBX512EEADDM****
	G3/8			1.5/1.5	40/40	**P2LCX513EEADDM****
	G1/2			1.5/1.5	40/40	**P2LDX514EENDDM****
	G1/8	Electric signal	Spring	3.2/-	12/30	**P2LAX511ESADDM****
	G1/4			3.5/-	15/25	**P2LBX512ESADDM****
	G3/8			3.7/-	25/65	**P2LCX513ESADDM****
	G1/2			3.7/-	25/65	**P2LDX514ESADDM****
	G1/8	Electric signal	Air signal	1.5/1.5	10/6	**P2LAX511EPADDM****
	G1/4			1.5/1.5	22/10	**P2LBX512EPADDM****
	G3/8			1.5/1.5	25/40	**P2LCX513EPADDM****
	G1/2			1.5/1.5	25/40	**P2LDX514EPADDM****
5/3 valves, internal air, temperature -10°C to +50°C						
	G1/8	Electric signal closed centre position	Electric signal self centering	3.8/-	16/34	**P2LAX611EEADDM****
	G1/4			3.5/-	25/30	**P2LBX612EEADDM****
	G3/8			4.0/-	90/90	**P2LCX613EEADDM****
	G1/2			4.0/-	90/90	**P2LDX614EEADDM****
	G1/8	Electric signal vented centre position	Electric signal self centering	3.8/-	16/34	**P2LAX811EEADDM****
	G1/4			3.5/-	25/30	**P2LBX812EEADDM****
	G3/8			4.0/-	90/90	**P2LCX813EEADDM****
	G1/2			4.0/-	90/90	**P2LDX814EEADDM****
	G1/8	Electric signal pressurised centre position	Electric signal self centering	3.8/-	16/34	**P2LAX711EEADDM****
	G1/4			3.5/-	25/30	**P2LBX712EEADDM****
	G3/8			4.0/-	90/90	**P2LCX713EEADDM****
	G1/2			4.0/-	90/90	**P2LDX714EEADDM****

Note :
Substitute ** with voltage code
12 V DC = 45
24 V DC = 49
110 V AC = 53
230 V AC = 57

BSP : P2LAX511EEADDM**
NPT : P2LAX591EEADDM**

Spare parts - 22 mm Solenoid operators complete with coils

With non-locking manual override

Coils fitted with prewired 3 m long cable

Voltage	Form	Order code
12 V DC	B	**P2FS13A3DM45**
24 V DC	B	**P2FS13A3DM49**
110 V 50 Hz, 120 V 60 Hz	B	**P2FS13A3DM53**
230 V 50 Hz, 230 V 60 Hz	B	**P2FS13A3DM57**

CE Ex II 2G EEx m II T4
II 2D IP65 T130 °C

IEC Ex m II T4
IP65 DIP A21 T130 °C

Parker Hannifin Corporation
Pneumatic Division - Europe

Compact 3/2 normally closed metal bodied valves with push-in air connections. Designed for the process duty cycle with high durability. Ideal for the process or packaging industry.

- High durability
- Very good repeat accuracy
- Designed for process duty cycle
- Push-in connection
- Versatile and easily maintained
- Miniature size

CE Ex II 2GD c 85 °C

Operating information

Working pressure : PXC-M 3 to 8 bar

Working temperature : -15 °C to +60 °C

	PXC-M11.	PXC-M12. PXC-M13.	PXC-M52.
Flow (Qmax) :	60 l/min	85 l/min	250 l/min

ATEX approval : CE Ex II 2GD c 85 °C

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

Bore Ø 1,5 mm, flow 60 l/min

	Symbol	Actuator	Return	Operating forces at 6 bar, N	Connection	Order code
		Steel plunger	Spring	11	Instant. Ø 4 mm	**PXC-M111-EX**
		Steel plunger	Spring	11	M5	**PXC-M115-EX**

Bore Ø 1,5 mm, flow 85 l/min

	Symbol	Actuator	Return	Operating forces at 6 bar, N	Connection	Order code
		Plastic roller	Spring	4.5	Instant. Ø 4 mm	**PXC-M121-EX**
		Plastic roller	Spring	4.5	M5	**PXC-M125-EX**
		Steel roller	Spring	4.5	Instant. Ø 4 mm	**PXC-M131-EX**
		Steel roller	Spring	4.5	M5	**PXC-M135-EX**

Bore Ø 2,5 mm, flow 250 l/min

	Symbol	Actuator at 6 bar, N	Return	Operating forces	Connection	Order code
		Plastic roller	Spring	7	Instant. Ø 4 mm	**PXC-M521-EX**

Designed to fit the standard electrical Ø22mm knock out, they can provide dual pneumatic and electrical output signals. A variety of button and switch actuators are available.

- Facia mounted operation
- 3/2 NO or NC
- Modular construction
- Wide range of actuators
- Dual pneumatic an electrical output signal

Flow characteristics (according to ISO 6358)

PXB-B3•• :	Qmax = 60 l/min Qn = 30 l/min
PXB-B4•• :	Qmax = 240 l/min Qn = 120 l/min
Connections :	Ø 4 mm push-in

CE Ex II 2GD c 85 °C

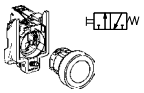
Operating information

Push button valves - Visual indicators

Working pressure	
PXB-B3•• :	1 to 9 bar
PXB-B4•• :	1 to 10 bar
PXV-•• :	1 to 8 bar
Working temperature	-15°C to +60°C
ATEX approval PXB :	CE Ex II 2GD c T6 80°C
PXV :	CE Ex II 2GD c 85 °C

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

Spring return push buttons

Symbol	Flow	Order code
	60 l/min	**PXB-B3111BA2-EX**
	240 l/min	**PXB-B4131BA2-EX**

Black - With 1 NC valve

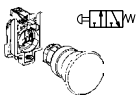
Symbol	Flow	Order code
	60 l/min	**PXB-B3111BA3-EX**
	240 l/min	**PXB-B4131BA3-EX**

Green - With 1 NC valve

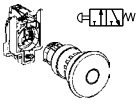
Symbol	Flow	Order code
	60 l/min	**PXB-B3111BA4-EX**
	240 l/min	**PXB-B4131BA4-EX**

Red - With 1 NC valve

Mushroom head push buttons

Symbol	Flow	Order code
	60 l/min	**PXB-B3111BC2-EX ***
	240 l/min	**PXB-B4131BC2-EX ***

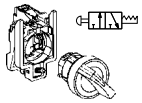
Black - Spring return - With 1 NC valve

Symbol	Flow	Order code
	60 l/min	**PXB-B3111BT4-EX**
	240 l/min	**PXB-B4131BT4-EX**

Red - Latching - With 1 NC valve

***** Replacing 2 by **3** = green, by **4** = red

Selector switches

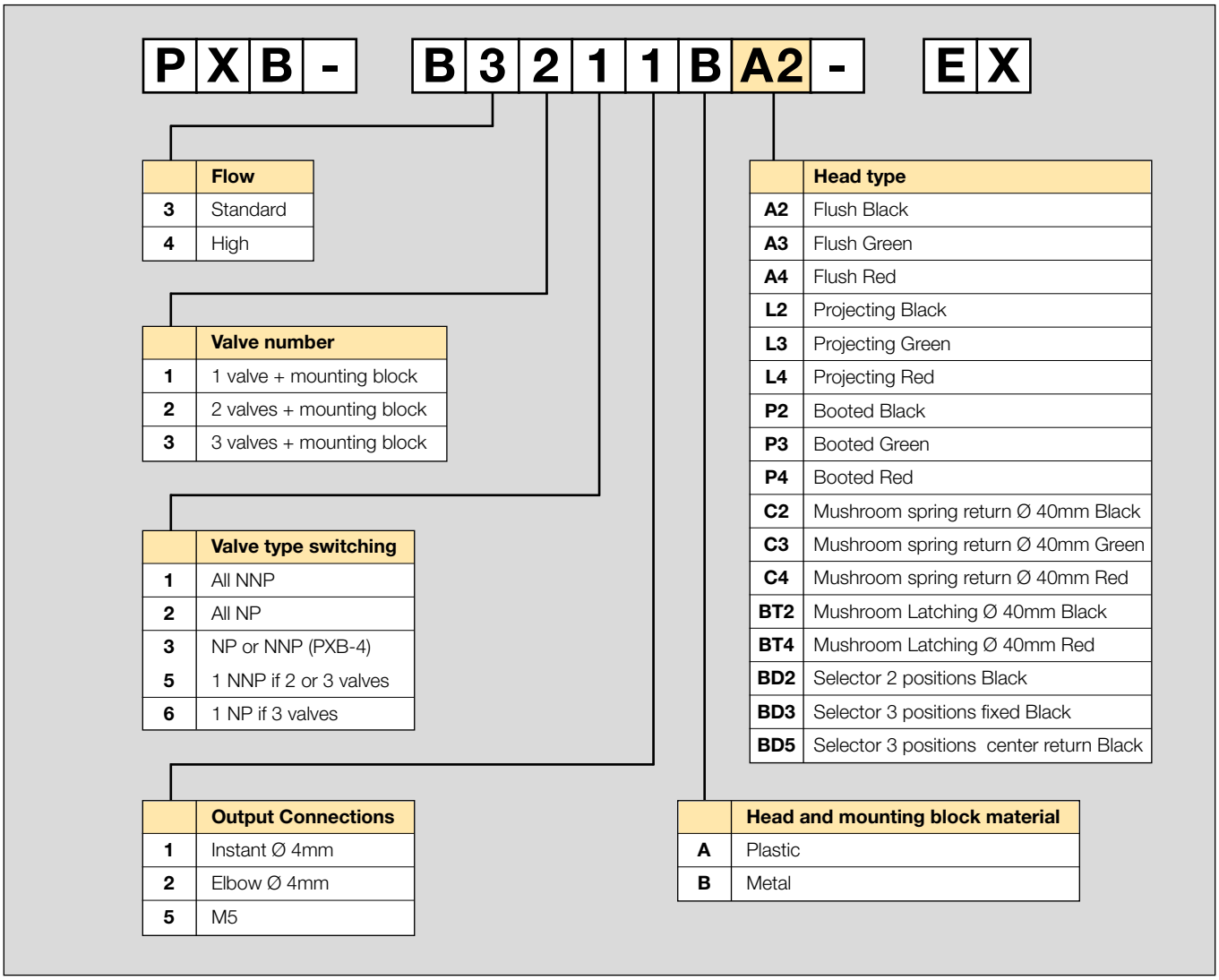
Symbol	Flow	Order code
	60 l/min	**PXB-B3111BD2-EX ****
	240 l/min	**PXB-B4131BD2-EX ****

Black - 2 positions - With 1 NC valve

****** Replacing 2 by **3** = 3 positions fixed, by **5** = 3 positions centre return

Order Key Code

1. Basic Pneumatic Push Button Valve



	Flow
3	Standard
4	High

	Valve number
1	1 valve + mounting block
2	2 valves + mounting block
3	3 valves + mounting block

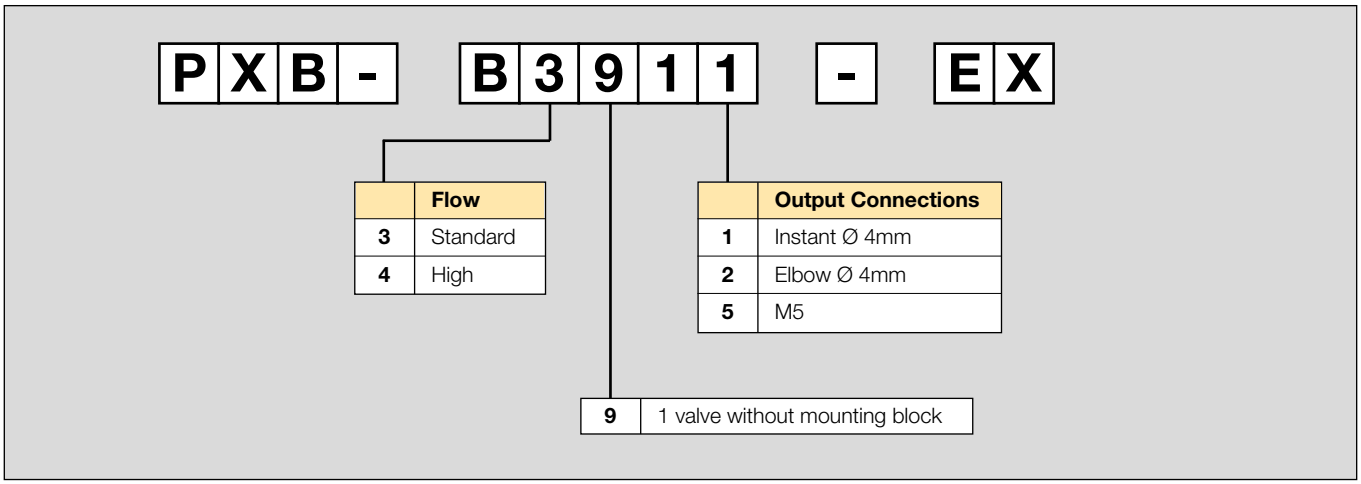
	Valve type switching
1	All NNP
2	All NP
3	NP or NNP (PXB-4)
5	1 NNP if 2 or 3 valves
6	1 NP if 3 valves

	Output Connections
1	Instant Ø 4mm
2	Elbow Ø 4mm
5	M5

	Head type
A2	Flush Black
A3	Flush Green
A4	Flush Red
L2	Projecting Black
L3	Projecting Green
L4	Projecting Red
P2	Booted Black
P3	Booted Green
P4	Booted Red
C2	Mushroom spring return Ø 40mm Black
C3	Mushroom spring return Ø 40mm Green
C4	Mushroom spring return Ø 40mm Red
BT2	Mushroom Latching Ø 40mm Black
BT4	Mushroom Latching Ø 40mm Red
BD2	Selector 2 positions Black
BD3	Selector 3 positions fixed Black
BD5	Selector 3 positions center return Black

	Head and mounting block material
A	Plastic
B	Metal

2. Additional Pneumatic Valve



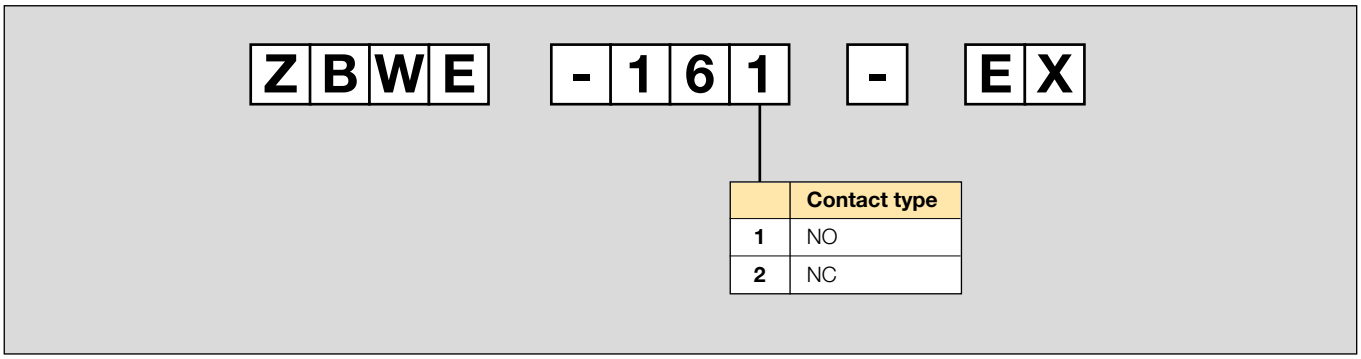
	Flow
3	Standard
4	High

	Output Connections
1	Instant Ø 4mm
2	Elbow Ø 4mm
5	M5

9	1 valve without mounting block

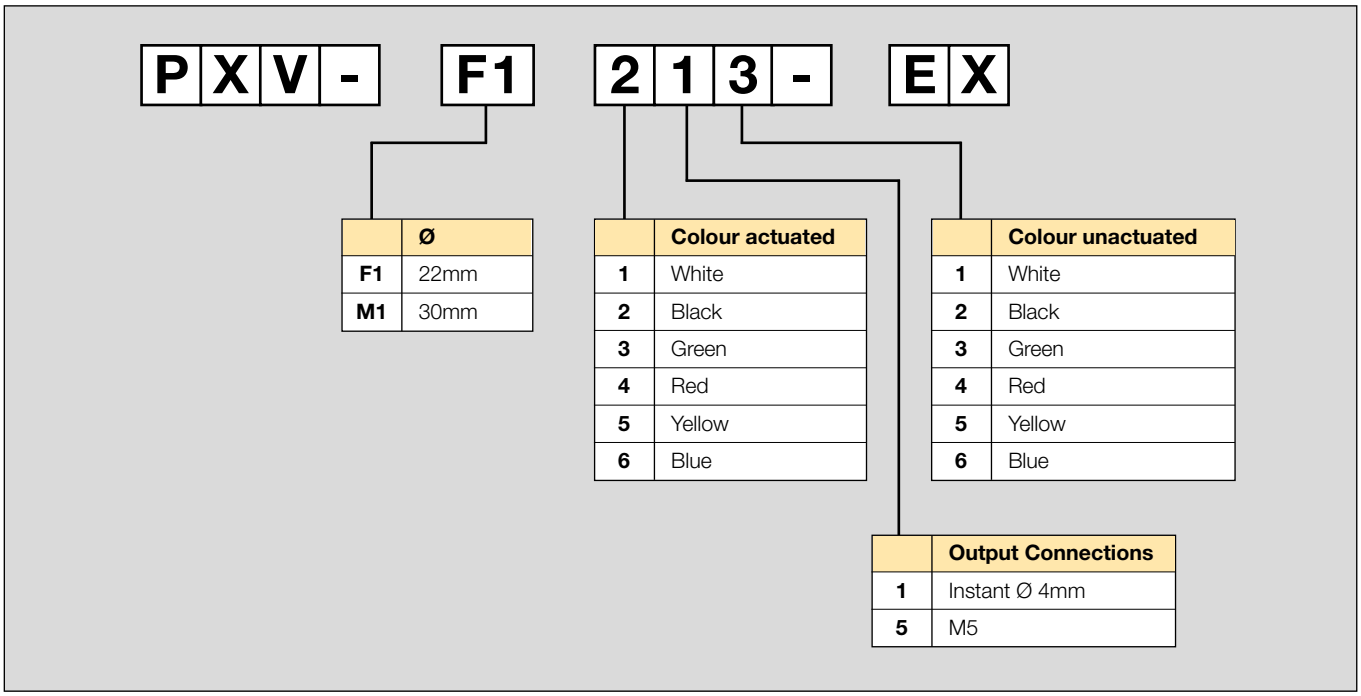
Order Key Code

3. Additional Electrical Contact Block



	Contact type
1	NO
2	NC

4. Visual Indicators



	Ø
F1	22mm
M1	30mm

	Colour actuated
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue

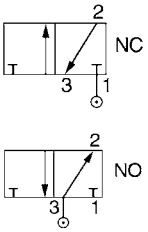
	Colour unactuated
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue

	Output Connections
1	Instant Ø 4mm
5	M5

Additional pneumatic switch valves, and electrical contact block without mounting brackets

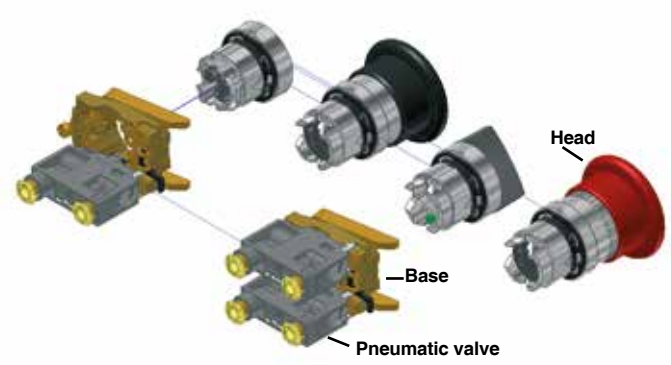
Symbol	Flow	Order code
	60 l/min NC	**PXB-B3911-EX**
	240 l/min NC	**PXB-B4931-EX**
	60 l/min NO	**PXB-B3921-EX**
	240 l/min NO	**PXB-B4931-EX**

Symbol	Contact	Order code
	Normally open NO	**ZBWE-161-EX**
	Normally closed NC	**ZBWE-162-EX**



All PXB-B4 valves can be connected either as normally closed 3/2 valve (NC) or normally open 3/2 valve (NO) as required, by connecting the primary air supply to port 1 or port 3.

Mixed products



Heads cannot be ordered separately. They are integrated into the basic pneumatic push button valve.

Mixed electro-pneumatic products can be built with a combination of a complete basic pneumatic push button valve and an additional electrical contact.

Eg : PXB -B3111BC2-EX + PXB-B4931-EX + ZBWE-161-EX

CE Ex II 2GD c 85 °C

Visual indicators

Colour actuated	Colour unactuated	Order code
Green	Black	**PXV-F131-EX**
Red	Black	**PXV-F141-EX**
Yellow	Black	**PXV-F151-EX**
Blue	Black	**PXV-F161-EX**
White	Black	**PXV-F111-EX**
Green	Red	**PXV-F1314-EX**
Black	Green	**PXV-F1212-EX**
Black	Red	**PXV-F1214-EX**

ATEX logic processing

Miniature high-speed valves in stand alone, stackable or combined modules, incorporating standard logic functions. The range also includes timers and impulse modules.

- Complete range
- Stand alone, stackable or combinable modules
- Very fast response time
- Flexible and highly maintainable system
- DIN rail mounting

II 2GD c 85 °C

Operating information

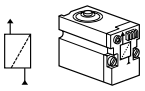
Working pressure :	3 to 8 bar
Working temperature :	-15 °C to 60 °C
Flow (Qmax) :	180 l/min (PRD = 90 l/min)
ATEX approval :	CE Ex II 2GD c 85 °C

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

Logic sequencer

Step modules

Visual indication of pneumatic output



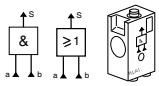
	Order code
Without subbase Manual override	**PSM-A10-EX**
With subbase Manual override	**PSM-A12-EX**
With subbase Wihtout manual override	**PSM-B12-EX**

Interlock Step module

	Order code
Additional interlock	**PSV-A12-EX**

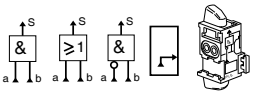
Logic elements

Line mounted elements



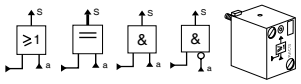
Logic Function	Order code
AND	**PLL-A11-EX**
OR	**PLK-A11-EX**

Combinable elements



Logic Function	Order code
AND	**PLL-B12-EX**
OR	**PLK-B12-EX**
NOT	**PLN-B12-EX**

Subbase mounted elements

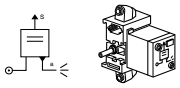


Logic Function	Order code
AND	**PLL-C10-EX**
NOT inhibit standard	**PLN-C10-EX**
NOT inhibit threshold	**PLN-D10-EX**
OR	**PLK-C10-EX**
YES regenerated	**PLJ-C10-EX**

3 port subbase to be ordered separately.

Logic relays

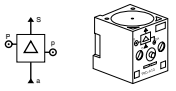
Sensor relays



	Order code
With subbase	**PRF-A12-EX**
Without subbase	**PRF-A10-EX**

Amplifier relays

To be used with 4 port subbase



	Order code
With subbase	**PRD-A12-EX**
Without subbase	**PRD-A10-EX**

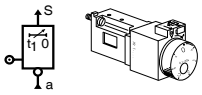
Memory relays

To be used with 4 port subbase

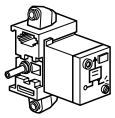
	Order code
With subbase	**PLM-A12-EX**
Without subbase	**PLM-A10-EX**

Time delay relays

To be mounted on 3 port subbase



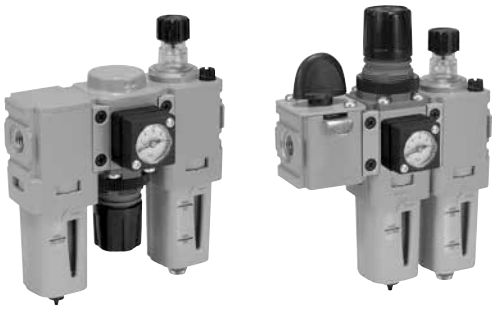
Function	Timing	Order code
Output after timed period	0.1 to 3s	**PRT-E10-EX**
	0.1 to 30s	**PRT-A10-EX**
	10 to 180s	**PRT-B10-EX**
With subbase	0.1 to 30s	**PRT-A12-EX**
Output during timed period	0.1 to 3s	**PRT-F10-EX**
	0.1 to 30s	**PRT-C10-EX**
	10 to 180s	**PRT-D10-EX**



Not elements

Description	Order code
PLNC10 on PZUA12 subbase	**PLN-C12-EX**
PLND10 on PZUA12 subbase	**PLN-D12-EX**

- Space saving integral gauge (P31 size only)
- Manifold style regulators available
- OSHA compliant shut-off valves
- Soft-Start & Quick Dump valves



Operating information

Working pressure :

Metal bowl: 17 bar max

Working temperature :

* Metal bowl: -10°C to +65.5°C

ATEX: 'Out of Scope' Certificate

* Refer to Technical Catalogue for individual unit temperatures

Flow characteristics

40mm body width 1/4" Ported		**60mm body width 1/4", 3/8", & 1/2" Ported**		**73mm body width 1/2" & 3/4" Ported**	
Flow	**dm³/s**	**Flow**	**dm³/s**	**Flow**	**dm³/s**
Filter	12	Filter	38	Filter	48
Coalescing Filter	2	Coalescing Filter	11	Coalescing Filter	20
Regulator	30	Regulator	67	Regulator	100
Filter Regulator	14	Filter Regulator	64	Filter Regulator	98
Lubricator	13	Lubricator	47	Lubricator	68

Filters - 5 µm

Port	Description	**Order code**
1/4"	Metal bowl - Manual drain	**P31FA12EMMN**
1/4"	Metal bowl - Pulse drain	**P31FA12EMBN**
1/4	Metal bowl sight glass - Manual drain	**P32FA12ESMN**
1/4	Metal bowl sight glass - Auto drain	**P32FA12ESAN**
3/8	Metal bowl sight glass - Manual drain	**P32FA13ESMN**
3/8	Metal bowl sight glass - Auto drain	**P32FA13ESAN**
1/2	Metal bowl sight glass - Manual drain	**P32FA14ESMN**
1/2	Metal bowl sight glass - Auto drain	**P32FA14ESAN**
1/2"	Metal bowl sight glass - Manual drain	**P33FA14ESMN**
1/2"	Metal bowl sight glass - Auto drain	**P33FA14ESAN**
3/4"	Metal bowl sight glass - Manual drain	**P33FA16ESMN**
3/4"	Metal bowl sight glass - Auto drain	**P33FA16ESAN**

Regulators

Port	Description	**Order code**
1/4"	8 bar relieving	**P31RA12BNNP**
1/4"	8 bar relieving + gauge	**P31RA12BNTP**
1/4"	8 bar (125 psi) Relieving	**P32RA12BNNP**
1/4"	8 bar (125 psi) Relieving + Gauge	**P32RA12BNGP**
3/8"	8 bar (125 psi) Relieving	**P32RA13BNNP**
3/8"	8 bar (125 psi) Relieving + Gauge	**P32RA13BNGP**
1/2"	8 bar (125 psi) Relieving	**P32RA14BNNP**
1/2"	8 bar (125 psi) Relieving + Gauge	**P32RA14BNGP**
1/2"	8 bar (125 psi) Relieving	**P33RA14BNNP**
1/2"	8 bar (125 psi) Relieving + Gauge	**P33RA14BNGP**
3/4"	8 bar (125 psi) Relieving	**P33RA16BNNP**
3/4"	8 bar (125 psi) Relieving + Gauge	**P33RA16BNGP**

Coalescing Filters + Absorbers - 0,01 µm

Port	Description	**Order code**
1/4"	Metal bowl - 0.01 µ - Manual drain	**P31FA12CMMN**
1/4"	Metal bowl - 0.01 µ - Pulse drain	**P31FA12CMBN**
1/4"	Metal bowl - Adsorber	**P31FA12AMMN**
1/4"	Metal bowl sight glass - 0.01 µ, Man. drain	**P32FA12DSMN**
1/4"	Metal bowl sight glass - 0.01 µ, Auto drain	**P32FA12DSAN**
3/8"	Metal bowl sight glass - 0.01 µ, Man. drain	**P32FA13DSMN**
3/8"	Metal bowl sight glass - 0.01 µ, Auto drain	**P32FA13DSAN**
1/2"	Metal bowl sight glass - 0.01 µ, Man. drain	**P32FA14DSMN**
1/2"	Metal bowl sight glass - 0.01 µ, Auto drain	**P32FA14DSAN**
1/4"	Metal bowl sight glass - Adsorber	**P32FA12ASMN**
3/8"	Metal bowl sight glass - Adsorber	**P32FA13ASMN**
1/2"	Metal bowl sight glass - Adsorber	**P32FA14ASMN**
1/2"	Metal bowl sight glass - 0.01 µ, Man. drain	**P33FA14DSMN**
1/2"	Metal bowl sight glass - 0.01 µ, Auto drain	**P33FA14DSAN**
3/4"	Metal bowl sight glass - 0.01 µ, Man. drain	**P33FA16DSMN**
3/4"	Metal bowl sight glass - 0.01 µ, Auto drain	**P33FA16DSAN**
1/2"	Metal bowl sight glass - Adsorber	**P33FA14ASMN**
3/4"	Metal bowl sight glass - Adsorber	**P33FA16ASMN**

Lubricators

Port	Description	**Order code**
1/4"	Metal bowl - No drain	**P31LA12LMNN**
1/4"	Metal bowl - No drain	**P32LA12LSNN**
3/8"	Metal bowl - No drain	**P32LA13LSNN**
1/2"	Metal bowl - No drain	**P32LA14LSNN**
1/2"	Metal bowl - No drain	**P33LA14LSNN**
3/4"	Metal bowl - No drain	**P33LA16LSNN**

Accessories

Description	**Order code**	P31 Series	P32 Series	P33 Series
Body Connector		**P31KA00CB**	**P32KA00CB**	
T-bracket with Body Connector		**P31KA00MT**	**P32KA00MT**	
Angle Bracket		**P31KA00MR**	**P32KA00MR**	**P33KA00MR**
C-bracket - fits Filter & Lubricator		**P31KA00MW**		
L-bracket - fits Filter & Lubricator			**P32KA00ML**	**P32KA00ML**

Filter Regulators - (P31) pressures 2 & 4 bar (P32/P33) pressures 2, 4 & 17 bar available.

Port	Description	Order code
1/4”	8 bar (125 psi) Relieving - Metal bowl - Manual drain	**P31EA12EMMBNTP**
1/4”	8 bar (125 psi) Relieving - Metal bowl - Pulse drain	**P31EA12EMBBNTP**
1/4”	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	**P32EA12ESMBNGP**
1/4”	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	**P32EA12ESABNGP**
3/8”	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	**P32EA13ESMBNGP**
3/8”	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	**P32EA13ESABNGP**
1/2”	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	**P32EA14ESMBNGP**
1/2”	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	**P32EA14ESABNGP**
1/2”	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	**P33EA14ESMBNGP**
1/2”	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	**P33EA14ESABNGP**
3/4”	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	**P33EA16ESMBNGP**
3/4”	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	**P33EA16ESABNGP**

Combined Soft Start Dump Valve and Remote Operated Dump Valve

Port	Description	Order code
1/4	Solenoid operated (not included)	**P31TA12SGN0000**
1/4	Air pilot operated	**P31TA12PPN**
1/2	Solenoid operated (not included)	**P32TA14SCN0000**
1/2	Air pilot operated	**P32TA14PPN**

Soft Start Valve

Port	Description	Order code
1/4	Solenoid operated (not included)	**P31SA12SGN0000**
1/4	External air pilot (1/8 threaded)	**P31SA12PPN**
1/2	Solenoid operated (not included)	**P32SA14SCN0000**
1/2	Internal air pilot operated	**P32SA14Y0N**
1/2	External air pilot (1/8 threaded)	**P32SA14PPN**

Safety Lockout Valves

Model Type	Port Size	Thread type	Safety Lockout Valve Flow from left to right
P31	1/4	BSPP	**P31VA12LSAN**
P32	3/8	BSPP	**P32VA13LSAN**
	1/2	BSPP	**P32VA14LSAN**
P33	1/2	BSPP	**P33VA14LSAN**
	3/4	BSPP	**P33VA16LSAN**
Model Type	Port Size	Thread type	Safety Lockout Valve Flow from right to left
P32	3/8	BSPP	**P32VA13LSBN**
	1/2	BSPP	**P32VA14LSBN**
P33	1/2	BSPP	**P33VA14LSBN**
	3/4	BSPP	**P33VA16LSBN**

For thread type: NPT **9**

Remote Operated Dump Valve

Port	Description	Order code
1/4	Solenoid operated (not included)	**P31DA12SGN0000**
1/4	Air pilot operated	**P31DA12PPN**
1/2	Solenoid operated (not included)	**P32DA14SCN0000**
1/2	Air pilot operated	**P32DA14PPN**

Modular Ball Valve

Model type	Port size	Thread type	Flow dm^3/s (scfm)	Modular Ball Valve Flow from left to right
P31	1/4"	BSPP	20 (42.4)	**P31VA12LBNN**
P32	3/8"	BSPP	90 (190.7)	**P32VA13LBNN**
	1/2"	BSPP	122 (258.5)	**P32VA14LBNN**
P33	1/2"	BSPP	122 (258.5)	**P33VA14LBNN**
	3/4"	BSPP	122 (258.5)	**P33VA16LBNN**

For thread type: BSPP **1**
NPT **9**

Manifold Blocks

Model Type	In / Out Port Size	Auxiliary Port Size Top	Auxilliary Port Size Bottom	Thread Type	Order Code
P31	1/4”	1/4”	1/4”	BSPP	**P31MA12022N**
P32	1/2”	1/4”	1/2”	BSPP	**P32MA14024N**
P33	3/4”	1/4”	1/2”	BSPP	**P33MA16024N**

For thread type: BSPP **1**
NPT **9**

Gauges

Port	Description		Order code
P31	Square Flush Mounting Gauge	0-4 bar	**K4511SCR04B**
		0-10 bar	**K4511SCR11B**
P31	40mm Round Gauge 1/8”	0-30 psi / 0-2 bar	**P3D-KAB1AYN**
		0-60 psi / 0-4.1 bar	**P3D-KAB1ALN**
		0-160 psi / 0-10 bar	**P3D-KAB1ANN**
P32 / P33	50mm Round Gauge 1/4”	0-60 psi / 0-4.1 bar	**P6G-ERB2040**
		0-160 psi / 0-10 bar	**P6G-ERB2110**
		0-300 psi / 0-20 bar	**P6G-ERB2200**

Parker Hannifin Corporation
Pneumatic Division - Europe

- Integral 3/4 or 1” ports (BSPP or NPT)
- High efficiency element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminium construction
- Secondary pressure ranges 12 and 16 bar
- Rolling diaphragm for extended life
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Low temperature -40’C with Regulators/Filters and Filter Regulators using combined manual/semi auto drain as standard without pressure gauge.

Operating information

Working pressure:	Max 17.5 bar
Working temperature:	-10 °C to +60 °C

ATEX: ‘Out of Scope’ Certificate

Flow characteristics

Flow dm³/s	**3/4**	**1”**
Filter	116	119
Dust Filter	137	145
Coalescing Filter	49	59
Adsorber Filter	47	50
Regulator	155	321
Filter Regulator	190	237
Lubricator	162	184

Filters - 40 micron element

Port size	Description	Order Code
G3/4	Manual drain/Semi auto	**P3YFA16GSCN**
G3/4	Auto drain	**P3YFA16GSAN**
G1”	Manual drain / Semi auto	**P3YFA18GSCN**
G1”	Auto drain	**P3YFA18GSAN**
	Mounting bracket	**P3YKA00CW**

Dust Filters - 1 micron element

Port size	Description	Order Code
G3/4	Manual drain/Semi auto	**P3YFA162SCN**
G3/4	Auto drain	**P3YFA162SAN**
G1”	Manual drain / Semi auto	**P3YFA182SCN**
G1”	Auto drain	**P3YFA182SAN**

Regulators - relieving type - non relieving options available

Port size	Description	Order Code
G3/4	12 bar relieving	**P3YRA16BNEN**
G3/4	12 bar relieving + gauge	**P3YRA16BNFN**
G1”	12 bar relieving	**P3YRA18BNEN**
G1”	12 bar relieving + gauge	**P3YRA18BNFN**
G3/4	12 bar relieving, lockable	**P3YRA16BAEN**
G3/4	12 bar relieving, lockable + gauge	**P3YRA16BAFN**
G1”	12 bar relieving, lockable	**P3YRA18BAEN**
G1”	12 bar relieving, lockable + gauge	**P3YRA18BAFN**

Pressure Gauges

	Order Code
0 - 10 bar	**KG8012-00**
0 - 16 bar	**KG8013-00**

Coalescing Filters - 0.01 micron element

Port size	Description	Order Code
G3/4	Coalescing 0.01µm, manual/semi auto drain	**P3YFA16DSCN**
G3/4	Coalescing Filter 0.01µm, auto drain	**P3YFA16DSAN**
G1”	Coalescing 0.01µm, manual/semi auto drain	**P3YFA18DSCN**
G1”	Coalescing Filter 0.01µm, auto drain	**P3YFA18DSAN**

Adsorber Filters

Port size	Description	Order Code
G3/4	Adsorber 0.01µm, manual drain	**P3YFA16ASCN**
G1”	Adsorber 0.01µm, manual drain	**P3YFA18ASCN**

Lubricators

Port size	Description	Order Code
G3/4	Oil mist, fill under pressure	**P3YLA16LSNN**
G1”	Oil mist, fill under pressure	**P3YLA18LSNN**

Filter/Regulators - relieving type - non relieving options available

Port size	Description	Order Code
G3/4	12 bar, relieving manual/semi auto drain	**P3YEA16GSCBNEN**
G3/4	12 bar, relieving auto drain	**P3YEA16GSABNEN**
G3/4	12 bar, relieving manual/semi auto + gauge	**P3YEA16GSCBNFN**
G3/4	12 bar, relieving auto drain + gauge	**P3YEA16GSABNFN**
G1”	12 bar, relieving manual/semi auto drain	**P3YEA18GSCBNEN**
G1”	12 bar, relieving auto drain	**P3YEA18GSABNEN**
G1”	12 bar, relieving manual/semi auto + gauge	**P3YEA18GSCBNFN**
G1”	12 bar, relieving auto drain + gauge	**P3YEA18GSABNFN**

Proportional Pressure Regulator

Port size	Description	Order Code
G3/4	Normally closed	**P3YPA16BD2VA2A**
G1"	Normally closed	**P3YPA18BD2VA2A**

Pilot Operated Regulator

Port size	Description	Order Code
G3/4	Pilot operated regulator	**P3YRA16BPPN**
G1"	Pilot operated regulator	**P3YRA18BPPN**

Combined Soft Start Dump Valve and Remote Operated Dump Valve

Port size	Description	Order Code
G3/4	Solenoid operated (not included)	**P3YTA16SCN0000**
G3/4	24VDC 22mm coil	**P3YTA16SCNB2CN**
G3/4	Air pilot operated	**P3YTA16PPN**
G1"	Solenoid operated (not included)	**P3YTA18SCN0000**
G1"	24VDC 22mm coil	**P3YTA18SCNB2CN**
G1"	Air pilot operated	**P3YTA18PPN**

Modular Ball Valve

Port size	Description	Order Code
G3/4	Modular Ball Valve	**P3YVA16LBN**
G1"	Modular Ball Valve	**P3YVA18LBN**

Modular Manifold

Port size	Description	Width	Order Code
G3/4	Modular Manifold	(80 mm)	**P3YMA1V0N**
G1"	Modular Manifold	(80 mm)	**P3YMA9V0N**
G3/4	Modular Manifold	(35 mm)	**P3YMA16024N**

Soft Start Valve

Port size	Description	Order Code
G3/4	Soft start valve	**P3YSA16Y0N**
G1"	Soft start valve	**P3YSA18Y0N**

Optional Port Block Kits

Port size	Description	Order Code
G1 1/4"	Port block kit - BSPP	**P3YKA1ACP**
G1 1/2"	Port block kit - BSPP	**P3YKA1BCP**
G3/4"	Port block kit - BSPP	**P3YKA16CP**
G1"	Port block kit - BSPP	**P3YKA18CP**

Neck mounting bracket kit

Description	Order Code
Neck mounting bracket kit	**P3YKA00MS**

Connector kit

Description	Order Code
Connector kit	**P3YKA00CB**

Wall mounting brackets

Description	Order Code
Wall mounting brackets	**P3YKA00CW**

The all metal P3Z Series FRLs are ideal for most medium sized ring main installations.

- Self relieving feature plus balanced poppet provides quick response and accurate pressure regulation.
- Threaded port flange available to G1-1/2" and G2"
- Proportional oil delivery over a wide range of air flows.

Operating information

Working pressure: 0 - 17.5 bar

Working temperature: 0 °C to +60 °C

ATEX: 'Out of Scope' Certificate

Flow characteristics

Flow	Filter	>666,6 dm^3/s
	Regulator	>666,6 dm^3/s
	Lubricator	>666,6 dm^3/s

Filters

Port size	Description	Order Code
-	40µ auto drain without flange SAE	**P3ZFA00HMAN**
G1.1/2"	40µ auto drain flange fitted to SAE	**P3ZFA1BHMAN**
G2"	40µ auto drain flange fitted to SAE	**P3ZFA1CHMAN**

Dust Filters

Port size	Description	Order Code
-	1µ auto drain (pressure relief) without flange SAE	**P3ZFA00MMAN**
G1.1/2"	1µ auto drain (pressure relief) flange fitted to SAE	**P3ZFA1BMMAN**
G2"	1µ auto drain (pressure relief) flange fitted to SAE	**P3ZFA1CMMAN**

Regulators

Port size	Description	Order Code
-	8 bar, relieving + gauge, without flange SAE	**P3ZRA00BNGN**
G1.1/2"	8 bar, relieving + gauge	**P3ZRA1BBNGN**
G2"	8 bar, relieving + gauge	**P3ZRA1CBNGN**
-	16 bar relieving + gauge, without flange SAE	**P3ZRA00BNJN**
G1.1/2"	16 bar, relieving + gauge	**P3ZRA1BBNJN**
G2"	16 bar, relieving + gauge	**P3ZRA1CBNJN**

Options & Accessories

Port size	Description	Order Code
G1.1/2"	Connection flange kit	**P3ZKA1BCP**
G2"	Connection flange kit	**P3ZKA1CCP**
-	Wall mounting kit	**P3ZKA00MW**
-	Coupling kit	**P3ZKA00CB**
-	Coupling 'O' ring kit (5 off)	**P3ZKA0CCY**
-	Porting block kit (1", 1/8" & 2 x 1/4" take off)	**P3ZMA1V0N**

Coalescing Filters

Port size	Description	Order Code
-	0.01 micron, auto drain	**P3ZFA00DMAN**
G1.1/2"	0.01 micron, auto drain, flange fitted to SAE	**P3ZFA1BDMAN**
G2"	0.01 micron, auto drain, flange fitted to SAE	**P3ZFA1CDMAN**

Adsorber Filters

Port size	Description	Order Code
-	Adsorber, auto drain	**P3ZFA00BMAN**
G1.1/2"	Adsorber, auto drain	**P3ZFA1BBMAN**
G2"	Adsorber, auto drain	**P3ZFA1CBMAN**

Lubricators

Port size	Description	Order Code
-	Lubricator, without flange SAE	**P3ZLA00LSMN**
G1.1/2"	Lubricator	**P3ZLA1BLSMN**
G2"	Lubricator	**P3ZLA1CLSMN**
	Lubricator OIL - VG32 - 1 Litre	**P3YKA00PPBB**

Regulators Pilot Control

Port size	Description	Order Code
-	16 bar, air pilot	**P3ZRA00BPPN**
G1.1/2"	16 bar, relieving + gauge	**P3ZRA1BBPPN**
G2"	16 bar, relieving + gauge	**P3ZRA1CBPPN**

A range of speed controls, flow controls and plug-in sensor designed to be mounted directly onto the cylinder in the optimum position for maximum performance.

- "Push-in" or threaded connection
- Multifunction options
- Fit directly to cylinder ports
- Swivelling pilot banjo
- Pneumatic back pressure sensor

CE Ex II 2GD c 85°C

Operating information

Working pressure :

PWR-H, HB	1-10 bar
PWS-P	0-10 bar

Working temperature : -15°C to +60°C

Pilot pressure at 6 bar supply :

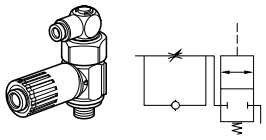
PWR-HB	(1/8", 1/4" versions)	: 4 bar
	(1/2" and 3/8" versions)	: 2.9 bar
PWS-P111		: 4.4 bar

ATEX approval : CE Ex II 2GD c 85 °C

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

Multifunction speed controls + blockers

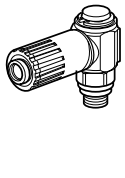
Symbol	Connection for pilot port	Thread for cylinder connection	Push-in connection Ø, mm	Tightening torque Nm	Qmax input at **6 bar**, l/min*	Order code
With push-in connection						
barrel adjustment and locknut	**Push-in, Ø 4 mm**	**G1/8**	4	8	330	**PWR-HB1448-EX**
			6	8	500	**PWR-HB1468-EX**
		G1/4	6	12	500	**PWR-HB1469-EX**
			8	12	600	**PWR-HB1489-EX**
		G3/8	8	30	1200	**PWR-HB1483-EX**
			10	30	1300	**PWR-HB1493-EX**
		G1/2	10	35	1400	**PWR-HB1492-EX**



* Screw closed

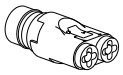
Speed controlers, with adjustable exhaust restriction

For direct port cylinder mounting

Symbol	Thread for cylinder connection	Push-in connection Ø, mm	Tightening torque Nm	Order code
	**G1/8**	4	8	**PWR-H1448-EX**
		6	8	**PWR-H1468-EX**
	G1/4	6	12	**PWR-H1469-EX**
		8	12	**PWR-H1489-EX**
	G3/8	8	30	**PWR-H1483-EX**
		10	30	**PWR-H1493-EX**

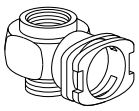
Plug-in sensor

For use with banjo sockets

	Sensing function	Output function	Push-in connection	Output characteristics	Order code
	Exhaust back pressure threshold	Pneumatic	Push-in Ø 4 mm	NO valve flow rate at 6 bar 1.5 l/s	**PWS-P111-EX**

Banjo sockets for plug-in sensors (not submitted for ATEX approval)

With sensor locking clip,for direct port cylinder mounting

	Thread size for cylinder port	Female thread	Tool required	Order code
	M5	M5	8 mm flat spanner	**PWS-B155**
	G1/8	G1/8	5 mm Allen key	**PWS-B188**
	G1/4	G1/4	8 mm Allen key	**PWS-B199**
	G3/8	G3/8	10 mm Allen key	**PWS-B133**
	G1/2	G1/2	12 mm Allen key	**PWS-B122**

Certificates summary

Risk assembly

Manufacturer
Particular considerations concerning the association of certified products ATEX constituting of sets, complete equipment or systems:
- cylinders and accessories as sensors, cylinder controls;
- valves assembled with solenoids, connectors, islands;
- FRL(s) combinations;
- logic components in cabinets or housings;
- mixed ATEX and non ATEX concerned components integrated on a single machine or device;

ANY ASSEMBLY IS NOT COMPULSORY ATEX

User
According to 99/92/EC directive, the user (employer) must identify the buildings at the risks and classify them in zones. It defines the equipment adapted to its site.

Thus when it installs a whole equipment incorporating Atex certified apparatuses, and to avoid any risk of explosion, it must take into account the lower level of protection of the whole with regard to : the category, the maximum temperature of surface... and any parmeter indicated on the marking and in the instruction leaflet of each apparatus.

P1V-S Declaration of Conformity acc. ATEX 94/9/EC
P1V-S Declaration of Incorporation acc. EC Machinery Directive 2006/42/EC

We Parker Hannifin Manufacturing
Germany GmbH & Co. KG
Pneumatic Division Europe
Industriestrasse 8
70794 Filderstadt Germany

Declare that the following Air Motors have been assessed in accordance with ATEX 94/9/EC (Products for use in potentially explosive atmospheres). Air Motors **P1V-S012, P1V-S020, P1V-S028, P1V-S030, P1V-S057, P1V-S060, P1V-S086** and **P1V-S090** range are compatible for the use in explosive atmosphere **Ex II 2 GD c T6 (T80°C) X.**
Air Motors **P1V-S120** range are compatible for the use in explosive atmosphere **Ex II 2 GD c T5 (T95°C) X.**
All without brake option.
P1V-S is designed for utilization in applications falling under the scope of the ATEX 94/9/EC. These products are designed and manufactured in compliance with following elements:

- **EN 1127-1:2007** Explosive atmospheres – Explosion prevention and protection – Part 1: Basic concepts and methodology
- **EN 13463-1:2009** Non electrical equipment for use in potentially explosive atmospheres – Part 1: Basic method and requirements
- **EN 13463-5** Non-electrical equipment intended for use in potentially explosive atmospheres – Part 5: Protection by constructional safety ´c´
- **EN 983+A1:2008** Safety of machinery – Safety requirements for fluid power systems and their components - Pneumatics

As manufacturer of the partly completed machine we declare that:

- The specified Air motor corresponds to the listed essential requirements of the EC Machinery Directive 2006/42/EC
- The relevant technical documentation is compiled in accordance with part B of Annex VII
- The relevant technical documentation in accordance with part B of Annex VII will be transmitted in response to a reasonable request by the national authorities

Product: Air motors P1V-S

Directives	**Date**	**Applied and fulfilled essential requirements**
2006/42/EC	2006-06	1.1.2, 1.1.5, 1.3.4, 1.5.3, 1.7.3, 1.7.4

Standards	**Date**	**Remark**
DIN EN ISO 12100	2011-03	Partly fulfilled

This partly completed machinery must not be put into service until the final machinery into which it is to be incorporates has been declared in conformity with the provisions of the Directive 2006/42/EG, were appropriated.

Sticker

Additional Information
This coverage could only be referred to as long as operations needed for final assembling and starting up of theses products comply with standards relating to the above mentioned directive. Each time this will be required for compliance purpose, the user will have to apply for a complete coverage of the final assembled system according to the above mentioned directive and relating standards

Filderstadt, Germany June 2014

Ing. Franck Roussillon
European Product Manager
Actuators Business Unit, Pneumatic Division Europe

Additional safety instructions for installation in explosive atmospheres

Serious, even fatal, damage or injury may be caused by the hot moving parts of the P1V-S motors in the presence of explosive gas mixtures and concentrations of dust.

All installation, connection, commissioning, servicing and repair work on P1V-S motors must be carried out by qualified personnel taking account of the following :

- These instructions.
- Notices on the motor.
- All other planning documents, commissioning instructions and connection diagrams associated with the application.
- Provisions and requirements specific to the application.
- Applicable national/international regulations (explosion protection, safety and accident prevention).

Real life applications

P1V-S motors are designed to provide rotary movement in industrial applications, and should only be used in accordance with the instructions in the technical specifications in the catalogue, and within the operating range indicated on the motor housing. The motors meet the applicable standards and requirements of the Machinery Directive 94/9/EC (ATEX).

The motors must not be used as brakes in explosive atmospheres.
Braking involves driving the motor against the direction of rotation for which the motor is supplied with compressed air. The motor is then operating as a compressor, and there is a corresponding increase in temperature.

The motors must **not** be used underground in mines susceptible to firedamp and/or combustible dust. The motors are intended for use in areas in which explosive atmospheres caused by gases, vapours or mists of combustible liquids, or air/dust mixtures may be expected to occur during normal use (infrequently).

Checklist

Before using the motors in a potentially explosive atmosphere, you should check the following:

Do the motor specifications match the classification of the area of use in accordance with Directive 94/9/EC (previously ATEX 100a)?

- Equipment group.
- Equipment category.
- Zone.
- Temperature class.
- Max. surface temperature.

1. When installing the motor, is it certain that there is no potentially explosive atmosphere, oil, acids, gases, vapours or radiation?
2. Is the ambient temperature as specified in the technical data in the catalogue at all times?
3. Is it certain that the P1V-S motor is adequately ventilated and that no additional heat is added (for example in the shaft connection)?
4. Are all the driven mechanical components ATEX certified?

Installation requirements in potentially explosive atmospheres

- The temperature of the supply air must not exceed the ambient temperature.
- The P1V-S may be installed in any position.
- An air treatment unit must be attached to the inlet of the P1V-S air motor.
- In a potentially explosive atmosphere, none of the motor ports may be blocked because this may cause an increase in temperature. The air from the port must be taken to the silencer or, preferably, outside the potentially explosive area.
- The P1V-S motor must be connected to ground at all times, through its support, a metallic tube or separate conductor.
- The outlet of the P1V-S motor must not open within a potentially explosive area, but must be passed to the silencer or, preferably, removed and released outside the potentially explosive area.
- The P1V-S motor may only drive units that are ATEX certified.
- Ensure that the motor is not exposed to forces greater than those permitted in accordance with the catalogue.

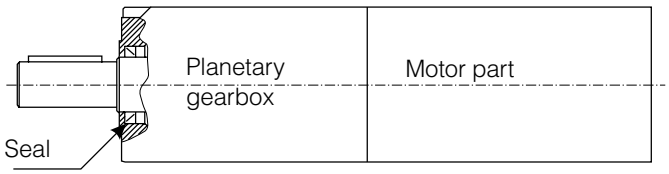
Measuring the temperature on the outside of the P1V-S motor (only when used in potentially explosive areas)

During the commissioning process, it is essential to measure temperature increases at the indicated positions on the outside of the P1V-S motor.
These measurements can be taken using standard thermometers.

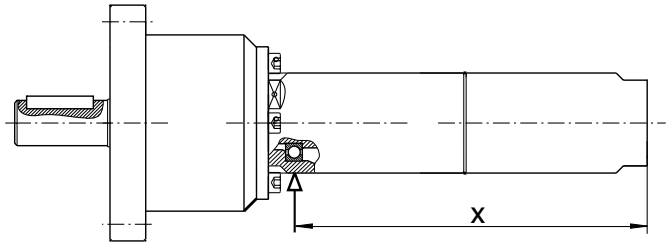
Checking the motor during operation

The motor must be kept clean on the outside, and a layer of dirt thicker than 5 mm must never be allowed to form.
Strong solvents should not be used for cleaning, because they can cause the seal (material NBR/FPM) around the drive shaft to swell, potentially increasing the temperature.

The temperature is measured on the metal surface next to the seal around the output shaft on all P1V-S012, P1V-S020, P1V-S028, P1V-S030, P1V-S057, P1V-S060, P1V-S086 and P1V-S090 motors.



Motors P1V-S030A0023 and P1V-S030A0010



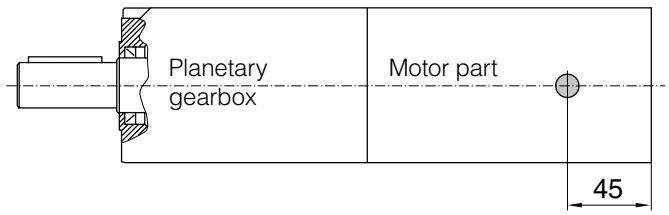
Motor	x [mm]
P1V-S030A0023	146
P1V-S030A0010	147,5

The maximum temperature is reached after approximately 1,5 hours of operation, and the difference in temperature between the motor and the ambient temperature must not exceed 40 °C.

If the temperature difference at the seal of a P1V-S 120 to 900 watts exceeds 40 °C, you should stop the motor immediately and contact Parker Hannifin.

The following applies to the P1V-S120 series:

The temperature is measured on the metal surface at a point 45 mm from the port end of the motor housing, on all P1V-S120.



The maximum temperature is reached after approximately 1,5 hours of operation, and the difference in temperature between the motor and the ambient temperature must not exceed 55 °C.

If the temperature difference at this point on a P1V-S120 exceeds 55 °C, you should stop the motor immediately and contact Parker Hannifin.

Marking of products

For all P1V-S 120 to 900 watts

CE Ex II2 GD c IIC T6 (80 °C) X

For the P1V-S120 1200 watts

CE Ex II2 GD c IIC T5 (95 °C) X

CE — **C**ommunatuté **E**uropéenne = EU
CE marking shows that as a manufacturer, Parker Hannifin meets the guidelines specified by the EU

Ex — **Ex** means that this product is intended for use in a potentially explosive area

II — stands for the equipment group (I = mines and II = other places liable to be endangered)

2GD — stands for equipment category
2G means the equipment can be used in zones 1 and 2 where there is a risk involving gas, vapour or mist of combustible liquids and **2D** in zones 21 and 22 where there is a risk involving dust .
2GD means the equipment can be used in zones 1, 2, 21 and 22.

c — Safe design (prEN 13463-5)

IIC — Explosion group, P1V-S air motors are tested to the highest standards in terms of test gases, and can be installed in the presence of all gases without restriction.

T6 — If equipment is in temperature class **T6**, the maximum surface temperature must not exceed 85 °C.
(To guarantee this, the product has been tested to ensure that the maximum is 80 °C. This provides a safety margin of 5 °K.)

T5 — If equipment is in temperature class **T5**, the maximum surface temperature must not exceed 100 °C.
(To guarantee this, the product has been tested to ensure that the maximum is 95 °C. This provides a safety margin of 5 °K.)

(80 °C) — Maximum permitted surface temperature on the motor in atmospheres containing potentially explosive dust.

X — Note special conditions

Test certificate number IBExU04ATEXB004 X from IBExU Institut für Sicherheitstechnik GmbH, D-09599 Freiberg, Germany

P1V-M Declaration of Conformity
According to ATEX 94/9/EC
P1V-M Declaration of Incorporation
According to EC Machinery Directive 2006/42/EC

We Parker Hannifin Manufacturing
Germany GmbH & Co. KG
Pneumatic Division Europe
Industriestrasse 8
70794 Filderstadt Germany

Declare that the following Air Motors have been assessed in accordance with ATEX 94/9/EC (Products for use in potentially explosive atmospheres). Air Motors here below from the P1V-M series are compatible for the use in explosive atmosphere **Ex II 2 GD c IIC T4 (130ºC) X.**
P/Ns are without gear boxes : P1V-M020B*xxx, P1V-M040B*xxx, P1V-M060B*xxx, P1V-M090B*xxx, P1V-M120B*xxx
And P/Ns with gear boxes are : P1V-M020C*xxx, P1V-M040C*xxx, P1V-M060C*xxx, P1V-M090C*xxx, P1V-M120C*xxx; * for internal vanes option 0 or Z, xxx for speed range
With *: for internal vanes option 0 or Z, xxx: for speed range

P1V-M is designed for utilization in applications falling under the scope of the ATEX 94/9/EC. These products are designed and manufactured in compliance with following elements:

- **EN 1127-1:2007** Explosive atmospheres – Explosion prevention and protection – Part 1: Basic concepts and methodology
- **EN 13463-1:2009** Non electrical equipment for use in potentially explosive atmospheres – Part 1: Basic method and requirements
- **EN 13463-5** Non-electrical equipment intended for use in potentially explosive atmospheres – Part 5: Protection by constructional safety ´c´
- **EN 983+A1:2008** Safety of machinery – Safety requirements for fluid power systems and their components - Pneumatics

As manufacturer of the partly completed machine we declare that:

- The specified Air motors correspond to the listed essential requirements of the **EC Machinery Directive 2006/42/EC**
- The relevant technical documentation is complied in accordance with **part B of Annex VII**
- The relevant technical documentation in accordance with part B of Annex VII will be transmitted in response to a reasonable request by the national authorities

Product: Air motor P1V-M Series

Directives	**Date**	**Applied and fulfilled essential requirements**
2006/42/EC	2006-06	1.1.2, 1.1.5, 1.3.4, 1.5.3, 1.7.3, 1.7.4

Standards	**Date**	**Remark**
DIN EN ISO 12100	2011-03	Partly fulfilled

This partly completed machinery must not be put into service until the final machinery into which it is to be incorporates has been declared in conformity with the provisions of the Directive 2006/42/EG, were appropriated.

Sticker

Additional Information
This coverage could only be referred to as long as operations needed for final assembling and starting up of theses products comply with standards relating to the above mentioned directive. Each time this will be required for compliance purpose, the user will have to apply for a complete coverage of the final assembled system according to the above mentioned directive and relating standards

Filderstadt, Germany June 2014

Ing. Franck Roussillon
European Product Manager
Actuators Business Unit, Pneumatic Division Europe

PDE/Ulricehamn

EC Declaration of Conformity

We, Parker Hannifin AB
Pneumatic Division
P.O. Box 110
S-523 23 ULRICEHAMN
Sweden

hereby declare that the VDMA cylinder P1D-S Standard* range is compatible for use in explosive atmospere Ex II 2 GD c T4 T120°C.

All models from range, Pneumatic cylinder ISO/VDMA P1D-S*, bore 32-125 mm.
P1D-S032MS-XXXX
P1D-S040MS-XXXX
P1D-S050MS-XXXX
P1D-S063MS-XXXX
P1D-S080MS-XXXX
P1D-S100MS-XXXX
P1D-S125MS-XXXX
XXXX= All strokes
*Without metal scraper ring

P1D-S are designed for utilization in applications falling under the scope of the Atex directive 94/9/EC. These products are designed and manufactured in compliance with the following elements:
EN 13463-1: 2001; Non-electrical equipment for potentially explosive atmosperes – Part 1: Basic method and requirements.
EN 13463-5: 2002: Non-electrical equipement intended for use in potentially explosive atmospheres – Part 5: Protection by constructional safety.
EN 983: Safety of machinery - Safety of requirements for fluid power systems and their components – Pneumatics.
The P1D complies with the current ISO 69431, ISO 15552, VDMA 24562 and AFNOR installation dimension standards
Parker Hannifin AB has been certified under the ISO 9001 QA standard since 1994.

Additional information:
This coverage could only be referred to as long as operations needed for final-assembling and starting up of theses products comply with standards relating to the above mentioned directive. Each time this will be required for compliance purpose, the user will have to apply for a complete coverage of the final assembled system according to the above mentioned directives and relating standards.

Sweden Issued at Ulricehamn December 22, 2004

Inge Melkersson
Head of Design Department

Safety instructions for the P1D-S cylinder with accessories

Supplementary safety instructions for P1D-S cylinders installed in Ex-areas

Serious, even fatal, damage or injury may be caused by the hot moving parts of the P1D cylinders in the presence of explosive gas mixtures and concentrations of dust.

All installation, connection, commissioning, servicing and repair work on P1D cylinders must be carried out by qualified personnel taking account of the following :

- These instructions.
- Markings on the cylinder.
- All other planning documents, commissioning instructions and connection diagrams associated with the application.
- Provisions and requirements specific to the application.
- National/international regulations (explosion protection, safety and accident prevention).

Real life applications

P1D cylinders are designed to provide linear movement in industrial applications, and should only be used in accordance with the instructions in the technical specifications in the catalogue, and within the operating range indicated on the rating plate. The cylinders meet the applicable standards and requirements of directive 94/9/EC (ATEX).

The cylinders must not be used underground in mines susceptible to firedamp and/or flammable dusts. The cylinders are intended for use in areas in which explosive atmospheres caused by gases, vapours or mists of flammable liquids, or air/dust mixtures may be expected to occur during normal use (infrequently) .

Checklist

Before using the cylinders in an Ex-area, you should check the following:
Do the specifications of the P1D-S cylinder match the Ex-classification of the area of use in accordance with directive 94/9/EC (previously ATEX 100a)?

- Equipment group.
- Ex-equipment category.
- Ex-zone.
- Temperature class.
- Max. surface temperature.

1. When installing the P1D-S cylinder, is it certain that there is no potentially explosive atmosphere, oil, acids, gases, vapours or radiation?
2. Is the ambient temperature as specified in the technical data in the catalogue at all times?
3. Is it certain that the P1D-S cylinder is adequately ventilated and that no forbidden additional heat is added?
4. Are all the driven mechanical components ATEX certified?
5. Check that the P1D-S cylinder is safely earthed.
6. Check that the P1D-S cylinder is supplied with compressed air. Explosive gas mixtures must not be used for driving the cylinder.
7. Check that the P1D-S cylinder is not equipped with a metal scraper ring (special version).

Installation requirements in Ex-areas

- The temperature of the supply air must not exceed the ambient temperature.
- The P1D-S cylinder may be installed in any position.
- An air treatment unit must be attached to the inlet of the P1D-S cylinder.
- The P1D-S cylinder must be connected to earth at all times, through its support, a metallic tube or separate conductor.
- The outlet of the P1D-S cylinder must not open within an Ex-area, but must be passed to the silencer or, preferably, removed and released outside the Ex-area.
- The P1D-S cylinder may only drive units that are ATEX certified.
- Ensure that the P1D-S cylinder is not exposed to forces greater than those permitted in accordance with the catalogue.
- The P1D-S cylinder must be supplied with compressed air. Explosive gas mixtures must not be used.
- P1D-S cylinders with metal scraper rings must not be used in Ex-areas.

Inspecting cylinders during operation

The P1D cylinder must be kept clean on the outside, and a layer of dust/dirt thicker than 1 mm must never be allowed to form.
Strong solvents should not be used for cleaning, because they can cause the seal (material PUR) around the piston rod to swell, potentially increasing the temperature. Inspect and verify that the cylinder, with attachments, compressed air fittings, hoses, tubes, etc. meet the standards of "safe" installation.

Marking of cylinder P1D-S Standard (P1D-S***MS-****)

II 2GD c T4 120 °C

CE **C**ommunauté **E**uropéenne = EU
CE on the product shows that Parker Hannifin products meet one or more EU directives.

Ex means that this product is intended for use in potentially explosive atmospheres.

II Stands for the equipment group (**I** = mines and **II** = other hazardous areas).

2GD Stands for equipment category.
2G means the equipment can be used in zones 1 and 2 where there is a risk involving gases, vapours or mists of combustible liquids and **2D** in zones 21 and 22 where there is a risk involving dusts. **2GD** Means the equipment can be used in zones 1, 2, 21 and 22.

c Safe design (EN 13463-5).

T4 If equipment is in temperature class **T4**, the maximum surface temperature must not exceed 135 °C. (To guarantee this, the product has been tested to ensure that the maximum is 130 °C. This provides a safety margin of 5 °K).

120 °C Maximum permitted surface temperature on P1D-S cylinder in atmospheres containing potentially explosive dust.

Safety instructions for the P1D-T cylinder with accessories

Supplementary safety instructions for installation of ATEX certified cylinders.

The safety instructions in this document are valid for the ATEX certified P1D-T cylinders, bore 160 - 320mm, as per below with reference to the order code key in the product catalogue.

P1D-T***MS-****-EXNN

All strokes in the range 50 - 1000mm

Serious, even fatal, damage or injury may be caused by the hot moving parts of the P1D-T cylinders in the presence of explosive gas mixtures and concentrations of dust.

All installation, connection, commissioning, servicing and repair work on P1D-T cylinders must be carried out by qualified personnel taking account of the following

- These instructions
- Markings on the cylinder
- All other planning documents, commissioning instructions and connection diagrams associated with the application.
- Provisions and requirements specific to the application
- National/international regulations (explosion protection, safety and accident prevention)

Real life applications

P1D-T cylinders are designed to provide linear movement in industrial applications, and should only be used in accordance with the instructions in the technical specifications in the catalogue, and within the operating range indicated on the rating plate.
The cylinders meet the applicable standards and requirements of directive 94/9/EC (ATEX)

The cylinders must not be used underground in mines susceptible to firedamp and/or flammable dusts. The cylinders are intended for use in areas in which explosive atmospheres caused by gases, vapours or mists of flammable liquids, or air/dust mixtures may be expected to occur during normal use (infrequently)

Checklist

Before using the cylinders in an Ex-area, you should check the following:
Do the specifications of the P1D-T cylinder match the Ex-classification of the area of use in accordance with directive 94/9/EC (previously ATEX 100a)

- Equipment group
- Ex-equipment category
- Ex-zone
- Temperature class
- Max. surface temperature

1. When installing the P1D-T cylinder, is it certain that there is no potentially explosive atmosphere, oil, acids, gases, vapours or radiation?
2. Is the ambient temperature as specified in the technical data in the catalogue at all times?
3. Is it certain that the P1D-T cylinder is adequately ventilated and that no forbidden additional heat is added?
4. Are all the driven mechanical components ATEX certified?
5. Check that the P1D-T cylinder is safely earthed.
6. Check that the P1D-T cylinder is supplied with compressed air. Explosive gas mixtures must not be used for driving the cylinder.
7. Check that the P1D-T cylinder is not equipped with a metal scraper ring (special version).

Installation requirements in Ex-areas

- The temperature of the supply air must not exceed the ambient temperature.
- The P1D-T cylinder may be installed in any position.
- The P1D-T cylinder must not be installed where there is a risk of mechanical contact with any surrounding part or component.
- An air treatment unit must be attached to the inlet of the P1D-T cylinder.
- The P1D-T cylinder must be connected to earth at all times, through its support, a metallic tube or separate conductor.
- The outlet of the P1D-T cylinder must not be open within an Ex-area, but must be connected to the silencer or, preferably, piped and released outside the Ex-area.
- The P1D-T cylinder may only drive units that are ATEX certified.
- Ensure that the P1D-T cylinder is not exposed to forces greater than those permitted in accordance with the catalogue
- The P1D-T cylinder must be supplied with compressed air. Explosive gas mixtures must not be used
- P1D-T cylinders with metal scraper rings must not be used in Ex-areas

Inspecting cylinders during operation

The P1D-T cylinder must be kept clean on the outside, and a layer of dust/dirt thicker than 1 mm must never be allowed to form.
Inspect and verify that the cylinder, with attachments, compressed air fittings, hoses, tubes, etc. meet the standards of "safe" installation.

Spare parts

Only spare parts, kits etc. supplied by Parker Hannifin may be used for repair and maintenance of the P1D-T cylinders.

Marking of ATEX certified P1D-T cylinders

The ATEX certified P1D-T cylinders, bore 160 - 320mm, as per below with reference to the order code key in the product catalogue have an ATEX certification marking as shown further below.

P1D-T***MS-****-EXNN

All strokes in the range 50 - 1000mm

CE Ex II 2GD c T4 120 °C

Communauté Européenne = EU

CE CE on the product shows that Parker Hannifin products meet one or more EU directives

Ex means that this product is intended for use in potentially explosive atmospheres

II Stands for the equipment group (I = mines and II = other hazardous areas)

2GD Stands for equipment category 2G means the equipment can be used in zones 1 and 2 where there is a risk involving gases, vapours or mists of combustible liquids and 2D in zones 21 and 22 where there is a risk involving dusts. 2GD Means the equipment can be used in zones 1, 2, 21 and 22.

c Safe design (prEN 13463-5)

T4 If equipment is in temperature class T4, the maximum surface temperature must not exceed 135 °C. (To guarantee this, the product has been tested to ensure that the maximum is 130°C. This provides a safety margin of 5 °K.)

120 °C Maximum permitted surface temperature on P1D-S cylinder in atmospheres containing potentially explosive dusts.

Supplementary safety instructions for P8S- GPFLX/EX sensors installed in Ex-areas

Serious, even fatal, damage or injury may be caused by the hot moving parts of the P1D cylinders in the presence of explosive gas mixtures and concentrations of dust.

Instructions for use

Safety instructions

- Cylinder sensor ATEX classed for category II3G and II3D.
- Ambient temperature Ta = -20 °C to +45 °C.
- Temperature class T4 (gas), or max. surface temperature of T = 135 °C (dust).
- Protection class IP67.
- Read installation instructions before startup.
- Installation, connection and commissioning must be carried out by trained personnel.

Applications

- This sensor is designed for use in the T-groove of cylinders, and detects the magnetic field in potentially explosive areas. The sensor can only be installed in the T-groove of these cylinders.
- The sensor may also be installed on round cylinders by means of the following attachments:

  P8S-TMC01 Suitable for P1S and P1A diameter 10 - 25 mm

  P8S-TMC02 Suitable for P1S diameter 32 - 63 mm

  P8S-TMC03 Suitable for P1S diameter 80 - 125 mm.

The following data applies to these attachments :

- Ambient temperature Ta = 0 °C to 45 °C
- Low energy absorption to EN 50 021.

- The sensor may also be installed on tie-rod cylinders or profile cylinders by means of this attachment :

  P8S-TMA0X Suitable for P1D-T diameter 32 - 125 mm, P1E-T diameter 160 – 200 mm and C41 diameter 160 – 200 mm.

Installation

General : The sensor must be protected from UV radiation. The cable must be installed such that it is protected from external influences, for example it may be necessary to attach an external strain relief to the cable.

Technical data for sensor

Operating voltage Ub = 18 to 30 V DC
Max. load current Ia = 70 mA
Ambient temperature: -20 °C to 45 °C

Commissioning

When connecting the sensor to a power source, please pay attention to the following
a) the load data (operating voltage, continuous load current)
b) the wiring diagram for the sensor.

Maintenance

Our P8S-GPFLX/EX cylinder sensor is maintenance free, but the cable connections should be checked at regular intervals.
The sensor must be protected from UV radiation. The sensor must be kept clean on the outside, and a layer of dirt thicker than 1 mm must never be allowed to form. Strong solvents should not be used for cleaning as they may damage the sensor.

P8S-GPFLX/EX cylinder sensor

CE Ex II 3G EEx nA II T4X
II 3D T135 °C IP67

CE **C**ommunatuté **E**uropéenne = EU
CE on the product shows that Parker Hannifin products meet one or more EU directives.

Ex **Ex** means that this product is intended for use in potentially explosive atmospheres.

II Stands for the equipment group (**I** = mines and **II** = other hazardous areas).

3G Stands for the equipment category.
3G means the equipment can be used in zone 2 where there is a risk involving gases, vapours or mists of combustible liquids.

EEx **EEx** means that this is an electrical product intended for use in Ex-areas.

nA II **n** Not ignitable to EN50021, **A** Explosion group tested with acetone, ethanol, toluene and xylene; **II** Not for use in the mining industry.

T4 X If equipment is in temperature class **T4**, the maximum surface temperature must not exceed 135 °C. (To guarantee this, the product has been tested to ensure that the maximum is 130 °C. This provides a safety margin of 5 °K). **X** Must be installed in accordance with the installation manual.

3D Stands for equipment category **3D** in zone 22 where there is a risk involving dust.

135 °C Maximum permitted surface temperature on the motor in atmospheres containing potentially explosive dust.

IP67 Satisfies protection class **IP67**.

Components such as cylinder attachments, tube fittings, tubes, etc.

Components

Parker Hannifin guarantees that our cylinder attachments, tube fittings, tubes, etc. are not subject to the provisions of the ATEX directive because they have no proper source of inflamation, nor an own ignition source.

A component means any item essential to the safe functioning of equipment and protective systems but with no autonomous function. Consequently, they are not marked and not any specific ATEX document will be added.

Examples :

- Tubes
- Fittings
- Fixings
- Mounting brackets
- Panels...

Parker

CE Ex II3G EEx nA II T4X
II3D T135°C IP67

9127007841EUR-ul

04.10

Global cylinder sensor P8S-GPFLX/EX for pneumatic cylinders

UK

Instructions for use

Safety instructions

- Cylinder sensor ATEX classed for category II3G and II3D
- Ambient temperature T_a = -20 °C to +45 °C
- Temperature class T4, or max. surface temperature of T = 135 °C
- Protection class IP67
- Read installation instructions before startup
- Installation, connection and commissioning must be carried out by trained personnel

Applications

- This sensor is designed for use in the T-groove of cylinders, and detects the magnetic field in explosion hazardous areas. The sensor can only be installed in the T-groove of these cylinders.
- The sensor may also be installed on round cylinders by means of the following attachments:
  - **P8S-TMC01** Suitable for P1S and P1A diameter 10 - 25 mm
  - **P8S-TMC02** Suitable for P1S diameter 32 - 63 mm
  - **P8S-TMC03** Suitable for P1S diameter 80 - 125 mm

  The following data applies to these attachments:
  - Ambient temperature Ta = 0 °C to 45 °C
  - High energy absorption to EN 50 021
- The sensor may also be installed on tie-rod cylinders or profile cylinders by means of this attachment:
  - **P8S-TMA0X** Suitable for P1D-T diameter 32 - 125 mm, P1E-T diameter 160 – 200 mm and C41 diameter 160 – 200 mm

Installation

General: The sensor must be protected from UV radiation. The cable must be installed such that it is protected from external influences, for example it may be necessary to attach an external strain relief to the cable.

Technical data for sensor

Operating voltage	U_b = 18 to 30 V DC
Max. load current	$I_a \leq$ 70 mA
Ambient temperature:	-20 °C to 45 °C

Commissioning

When connecting the sensor to a power source, please pay attention to the following
a.) the load data (operating voltage, continuous load current)
b) the wiring diagram for the sensor

Maintenance

Our P8S-GPFLX/EX cylinder sensor is maintenance free, but the cable connections should be checked at regular intervals.
The sensor must be protected from UV radiation. The sensor must be kept clean on the outside, and a layer of dirt thicker than 1 mm must never be allowed to form. Strong solvents should not be used for cleaning as they may damage the sensor.

Global cylindersensor P8S-GPFLX/EX för pneumatikcylinder

SE

Användningsinstruktion

Säkerhetsinstruktion

- Cylinder sensor ATEX klassad för kategori II3G och II3D
- Omgivningstemperatur T_a = -20 °C till +45 °C
- Temperaturklass T4, eller max yttemperatur på T = 135 °C
- Skyddsklass IP67
- Läs installationsanvisningen innan uppstart
- Montering, anslutning och idrifttagande skall göras av utbildad personal

Användningsområde

- Denna sensor för användning i T-spår på cylindrar är för att känna av magnetfältet i explosionsfarliga områden. På dessa cylindrar får sensorn bara monteras i T-spåren.
- Sensorn kan även monteras på rundcylindrar med hjälp av fästena:
  - **P8S-TMC01** Passar till P1S och P1A med diameter 10 - 25 mm
  - **P8S-TMC02** Passar till P1S med diameter 32 - 63 mm
  - **P8S-TMC03** Passar till P1S med diameter 80 - 125 mm

  För dessa fästen gäller följande:
  - Omgivningstemperatur T_a = 0 °C till 45 °C
  - Låg nivå av energiabsorption enligt EN 50 021
- Sensorn kan även monteras på cylindrar med dragstänger eller profilrör med hjälp av fästet:
  - **P8S-TMA0X** Passar till P1D-T diameter 32 –125 mm, P1E-T diameter 160 – 200 mm och C41 diameter 160 – 200 mm

Montering

Allmänt: Sensorn måste skyddas mot UV-strålning. Kabeln måste monteras så att den är skyddad mot yttre påverkan, tex kan en yttre dragavlastning av kabel behöva monteras.

Tekniska data på sensorn

Arbetsspänning	U_b = 18 till 30 V DC
Max belastningsström	$I_a \leq$ 70 mA
Omgivningstemperatur:	-20 °C till 45 °C

Idriftstagande

Vid anslutning av sensorn till en spänningskälla måste hänsyn tas till följande punkter
a) belastningsdata (arbetsspänning, kontinuerlig belastningsström)
b) anslutningsschema för sensorn

Underhåll

Vår cylindersensor P8S-GPFLX/EX är underhållsfri, dock bör kabelanslutningen kontrolleras med jämna mellanrum.
Sensorn måste skyddas mot UV-strålning. Sensorn måste hållas ren på utsidan och ett smutslager mer än 1 mm skall undvikas. Vid rengöring bör ej starka lösningsmedel användas då de kan skada sensorn.

Capteur mondial P8S-GPFLX/EX pour vérin pneumatique

FR

Instructions de service

Instructions de sécurité

- Capteur ATEX pour vérin, prévu pour les catégories II3G et II3D
- Température ambiante T_a = -20 °C à +45 °C
- Classe de température T4 ou température maximale de surface T = 135 °C
- Indice de protection IP67
- Lire le guide d'installation avant la mise en service
- Le montage, les connexions et la mise en service doivent être effectués par du personnel dûment formé

Champs d'utilisation

- Ce capteur qui s'enfiche dans les rainures en T d'un vérin a pour but de détecter le champ magnétique en atmosphère explosive. Le capteur ne peut être monté que dans les rainures en T de ces vérins.
- Le capteur peut également être monté sur des vérins cylindriques au moyen des fixations suivantes :
  - **P8S-TMC01** pour P1S et P1A, 10 à 25 mm de diamètre ;
  - **P8S-TMC02** pour P1S, 32 à 63 mm de diamètre ;
  - **P8S-TMC03** pour P1S, 80 à 125 mm de diamètre.

  Pour ces fixations, les données suivantes s'appliquent :
  - Température ambiante T_a = 0 °C à 45 °C
  - Faible niveau d'absorption énergétique selon EN 50 021
- Le capteur peut également être monté sur des vérins à tirants ou à tube profilé au moyen de la fixation suivante :
  - **P8S-TMA0X** pour P1D-T, 32 à 125 mm de diamètre ; pour P1E-T, 160 à 200 mm de diamètre ; pour C41, 160 à 200 mm de diamètre.

Montage

Généralités : Le capteur doit être protégé contre les UV. Le câble doit être monté de façon à être protégé contre les influences extérieures. Cela pourra nécessiter le montage d'une bride évitant les contraintes sur le câble du capteur.

Caractéristiques techniques du capteur

Tension d'utilisation	U_b = 18 à 30 V CC
Intensité de charge maxi.	$I_a \leq$ 70 mA
Température ambiante :	-20 °C à 45 °C

Mise en service

Lors de la mise sous tension du capteur, prendre en considération les points suivants :
a) paramètres de charge (tension d'utilisation, courant de charge continu)
b) schéma de câblage du capteur

Entretien

La capteur P8S-GPFLX/EX ne nécessite aucun entretien. Toutefois, il convient d'inspecter régulièrement la connexion du câble.
Le capteur doit être protégé contre les UV. Garder l'extérieur du capteur propre et éviter un encrassement trop important (plus de 1 mm). En nettoyant, ne pas utiliser des solvants forts car ils risquent d'endommager le capteur.

Globaler Zylindersensor P8S-GPFLX/EX für Pneumatikzylinder

DE

Anwendungsanleitung

Sicherheitshinweise

- Zylindersensor, ATEX-zugelassen für die Kategorien II3G und II3D
- Umgebungstemperatur T_a = -20 °C bis +45 °C
- Temperaturklasse T4, oder max. Außentemperatur T = 135 °C
- Schutzart IP67
- Vor Inbetriebnahme die Installationsanleitung lesen
- Montage, Anschluss und Inbetriebnahme muss durch geschultes Personal erfolgen

Anwendungsbereich

- Dieser Sensor wird in die T-Nut an Zylindern montiert und soll in explosionsgefährdeten Bereichen das Magnetfeld abtasten. An diesen Zylindern darf der Sensor ausschließlich in die T-Nut montiert werden.
- Der Sensor lässt sich mit Hilfe folgender Befestigungen auch an Rundzylinder montieren:
  - **P8S-TMC01** passend für P1S und P1A mit Ø 10 - 25 mm
  - **P8S-TMC02** passend für P1S mit Ø 32 -63 mm
  - **P8S-TMC03** passend für P1S mit Ø 80 -125 mm

  Für diese Befestigungen gilt Folgendes:
  - Umgebungstemperatur T_a = 0 °C bis 45 °C
  - Niedriger Gefärdungsgrad bzgl. Schlagenergie nach EN 50021
- Der Sensor lässt sich mittels folgender Befestigungen auf Zylinder mit Zugstangen oder Profilrohr montieren:
  - **P8S-TMA0X** passend für P1D-T, Ø 32 –125 mm, P1E-T, Ø 160 – 200 mm und C41, Ø 160 – 200 mm

Montage

Allgemein: Der Sensor ist vor UV-Strahlung zu schützen. Das Kabel so montieren, dass es vor äußeren Einwirkungen geschützt ist. So kann z.B. eine äußere Zugentlastung erforderlich sein.

Technische Daten des Sensors

Betriebsspannung	U_b = 18 bis 30 V GS
Max. Belastungsstrom	$I_a \leq$ 70 mA
Umgebungstemperatur:	-20 °C bis 45 °C

Inbetriebnahme

Bei Anschluss des Sensors an eine Spannungsquelle sind folgende Punkte zu beachten:
a) Belastungsdaten (Betriebsspannung, ständiger Belastungsstrom)
b) Anschluss-Schaltplan des Sensors

Wartung

Der Zylindersensor P8S-GPFLX/EX ist wartungsfrei. Jedoch sollte der Kabelanschluss regelmäßig kontrolliert werden.
Der Sensor ist vor UV-Strahlung zu schützen. Die Außenseite des Sensors muss sauber gehalten werden. Eine Schmutzschicht von mehr als 1 mm ist zu vermeiden. Zur Reinigung keine starken Lösungsmittel verwenden. Diese können den Sensor beschädigen.

Parker

CE Ex II3G EEx nA II T4X
II3D T135°C IP67

Sensore universale P8S-GPFLX/EX per cilindri pneumatici

IT

Istruzioni per l'uso

Norme di sicurezza

- Il sensore per cilindri a norma ATEX rientra nelle classi II3G e II3D
- Temperatura ambiente T_a: da -20 °C a +45 °C
- Classe di temperatura T4 o max. temperatura ambiente T di 135 °C
- Classe di protezione IP67
- Leggere le istruzioni per l'installazione prima dell'uso
- Installazione, collegamento e messa in funzione devono essere effettuati da personale addestrato

Applicazioni

- Questo sensore viene installato nella scanalatura a T dei cilindri per rilevare il campo magnetico in ambienti esplosivi. Su questi cilindri il sensore deve essere installato esclusivamente nella scanalatura a T.
- Il sensore può anche essere installato su cilindri rotondi per mezzo degli appositi attacchi:

P8S-TMC01	per l'installazione su P1S e P1A con diametro 10-25 mm;
P8S-TMC02	per l'installazione su P1S con diametro 32-63 mm;
P8S-TMC03	per l'installazione su P1S con diametro 80-125 mm.

Per i suddetti attacchi vale quanto segue:
- Temperatura ambiente T_a: da 0 °C a 45 °C
- Non esporre a sollecitazioni eccessive, come indicato nella norma EN 50021

- Il sensore può anche essere installato su cilindri con tiranti o tubi profilati per mezzo dell'apposito attacco:

P8S-TMA0X	per l'installazione su P1D-T con diametro 32-125 mm; P1E-T con diametro 160-200 mm; C41 con diametro 160-200 mm.

Installazione

Generalità: Il sensore deve essere protetto dai raggi UV. Il cavo deve essere installato in posizione protetta, ad es. potrebbe essere necessario montare un supporto esterno.

Dati tecnici del sensore

Tensione di esercizio	U_b = 18-30 V DC
Max. corrente di carico	$I_a \leq 70$ mA
Temperatura ambiente: da	-20 °C a 45 °C

Messa in funzione

In sede di collegamento del sensore a un generatore di tensione, prestare attenzione a quanto segue:
a) dati di carico (tensione di esercizio, corrente di carico continua);
b) schema di collegamento del sensore.

Manutenzione

Il nostro sensore per cilindri P8S-GPFLX/EX non richiede manutenzione, ma si consiglia di controllare regolarmente il raccordo del cavo.
Il sensore deve essere protetto dai raggi UV. L'esterno del sensore deve essere mantenuto pulito. Evitare strati di sporcizia superiori a 1 mm. Per la pulizia, non utilizzare solventi forti che potrebbero danneggiare il sensore.

Sensor de cilindro Global P8S-GPFLX/EX para cilindros neumáticos

ES

Instrucciones de uso

Instrucciones de seguridad

- Sensor de cilindro ATEX, clasificado en las categorías II3G y II3D
- Temperatura ambiente T_a = -20 °C a +45 °C
- Clase de temperatura T4, o temperatura máxima de superficie T = 135 °C
- Clase de protección IP67
- Leer las instrucciones de instalación antes de usar
- El montaje, la conexión y la puesta en funcionamiento deber hacerlo personal especializado.

Campos de uso

- Sensor para el uso en la ranura T de los cilindros, para detectar el campo magnético en entornos explosivos. En estos cilindros el sensor sólo se puede montar en la ranura T.
- El sensor también se puede montar en cilindros esféricos usando los siguientes soportes:

P8S-TMC01	para el P1S y P1A con diámetro 10 - 25 mm
P8S-TMC02	para el P1S con diámetro 32 -63 mm
P8S-TMC03	para el P1S con diámetro 80 -125 mm

Para estos soportes rige:
- Temperatura ambiente T_a = 0 °C a 45 °C
- Bajo grado de choque eléctrico según EN 50 021

- El sensor también se puede montar en cilindros con varillas o perfiles con los soportes:

P8S-TMA0X	para el P1D-T diámetro 32 –125 mm, P1E-T diámetro 160 – 200 mm y C41 diámetro 160 – 200 mm

Montaje

Generalidades: El sensor debe ser protegido contra las radiaciones UV. El cable debe ser montado protegiéndolo de los efectos externos, p. ej. puede ser necesario montar un soporte externo del cable.

Especificaciones técnicas del sensor

Tensión de trabajo	U_b = 18 a 30 V CC
Corriente máxima de carga	$I_a \leq 70$ mA
Temperatura ambiente:	-20 °C a 45 °C

Puesta en funcionamiento

Al conectar el sensor a una fuente de potencia se deben tener en cuenta los siguientes aspectos:
a) datos de carga (tensión de trabajo, corriente de carga continua)
b) esquema de conexión del el sensor

Mantenimiento

Nuestro sensor P8S-GPFLX/EX no requiere mantenimiento, pero la conexión del cable debe ser controlada regularmente.
El sensor debe ser protegido contra las radiaciones UV. El exterior del sensor se debe mantener limpio y se debe evitar una capa de suciedad de más de 1 mm. No usar agentes limpiadores fuertes, el sensor se puede dañar.

We hereby declare that sensors P8S-GPFLX/EX comply with the basic requirements of the EC Directive specified under point 1 .

Producer **Parker Hannifin AB, Box 110, S-52323 Ulricehamn, Sweden**

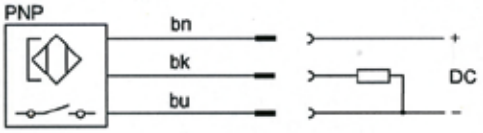
1. EC-directive
EC ATEX Directive 94/9/EC
EC EMC Directive 89/336/EEC as per 92/31/EEC, 93/68/EEC and 93/465//EEC

2. Harmonised standards used

EN 50281-1	Electrical apparatus for use in the presence	Ed. 98-09
EN 50281-1/A1	of combustible dust	Ed. 02-05
EN 60947-4-2	Low-voltage switchgear and controlgear-	Ed. 98-10
EN 60947-4-2/A1	Part 5-2: Control circuit devices and switching elements -EMC, alter section 7.2.6, 7.2.7 and 8.6	Ed. 99-08
EN 50021	Electrical apparatus for potentially explosive atmospheres – Type of protection "n"	Ed. 99-04

3. Test result CE Ex II 3G EEx nA II T4 X
II 3D T135 °C IP67
The declaration certifies conformance with the listed directives, but does not guarantee product characteristics.
The safety instructions contained in the product documentation must be observed.

Connection diagram



Wire colour assignment
bn brown + V DC
bk black NO
bu blue – V DC
Order code **P8S-GPFLX/EX**

Instruction Leaflet **GB**

ISOMAX VALVES
Type DX1, DX2 , DX3

CE ⟨ε⟩ Parker

1 – SPECIFICATIONS

	Size 1	Size 2	Size 3
• Max Operating Frequency	10 Hz	5 Hz	4 Hz
• Operating temperature (Ta)	← -10°C to +60°C (14°F to 140°F) →		
• Fluid temperature	← -10°C to +60°C (14°F to 140°F) →		
• Operating pressure			
➢ internal pressure	30 to 145 psi		
➢ external pressure	-13 to 145 psi		
• Air condition	ISO 8573-1 : - Filtered air or inert gas class 5, - Dry air or inert gas class 4		
• Operating position	Any position		

2 – FUNCTIONS

5/2 Bistable	5/3 Pressure exhausted neutral
5/2 Bistable 14 prioritised	5/3 Pressure held neutral
5/2 Air-return monostable	5/3 Pressure applied neutral
5/2 Spring-return monostable	Pneumatic or electric piloting mode

3 – INSTALLATION

- Mounting interface for sub-bases according to ..... ISO 5599-1
- Recommended torque on sub-bases ..... DX1 : 3 Nm, DX2 : 4 Nm, DX3 : 8 Nm
- Electrical connection of the protective earth on the cover ..... with M5x10 clamping screw
- Connection of the subbase to protective earth
- Selection of internal or external pilot supply ..... by positioning the selector plate

With an electric pilot:

- Mounting interface for the electric operator ..... CNOMO 06-05-10
- Mounting with one of the following pilot operators: EV3000200, EV3001200, EV3003200, 1EV0*310, 1EV1*310, 1EV3*310 equipped with an ATEX solenoid type ..... EV30.A.EX...

WARNING

- Conditions for installing the product have to comply with specifications mentioned in chapters 1 and 3.
- Before maintenance on the product, stop the air and ensure that pipes are exhausted. Then proceed.
- The replacement of the product or of one of its parts must be done with a product or a part of the same ATEX category.
- Product cleaning should be done by a method complying with the specifications of the ATEX zone, preferably by aspiration and/or utilization of antistatic products. The deposit of dust should not exceed 5 mm.
- **The installation and maintenance of the product must be done by qualified personnel.**

4 – ATEX CLASSIFICATION

⟨ε⟩ II 2 GD c 85 °C

⟨ε⟩	Specific logo for safety in hazardous atmospheres
II	Destination: Group II: Atmospheres other than in mines
2	For use in zones 1 and 21
GD	Gas or Dust atmospheres
c	Protection mode: "c", constructional safety
85 °C	Temperature class (T6)

The maximum ambient temperature (Ta) of the equipment or of the subassembly incorporating ISOMAX valves will be defined as:

- (Ta) of the element having the lowest limit if this one is <60°C,
- 60°C if elements other than the valve have a (Ta) > 60°C.

Instruction de service **FR**

DISTRIBUTEURS ISOMAX
Type DX1, DX2, DX3

CE ⟨ε⟩ Parker

1 – SPECIFICATIONS

	Taille 1	Taille 2	Taille 3
• Fréquence de service maxi	10 Hz	5 Hz	4 Hz
• Température de service (Ta)	← -10°C à + 60°C →		
• Température du fluide	← -10°C à + 60°C →		
• Pression de service			
➢ alimentation interne	2 à 10 bar		
➢ alimentation externe	-0,9 à 10 bar		
• Fluide admissible et qualité	ISO 8573-1 : - Air ou gaz neutre filtré classe 5, - Air sec ou gaz neutre classe 4		
• Position de fonctionnement	Indifférente		

2 – FONCTIONS

5/2 Bistable	5/3 Centre ouvert
5/2 Bistable à Cde prioritaire par 14	5/3 Centre fermé
5/2 Monostable différentiel	5/3 Centre pression
5/2 Monostable à rappel ressort	Pilotage pneumatique ou électrique

3 – INSTALLATION

- Montage sur embase selon plan de pose ..... ISO 5599-1
- Couples de serrage sur embases ..... DX1 : 3 Nm, DX2 : 4 Nm, DX3 : 8 Nm
- Raccordement électrique terre de protection du carter ..... par vis étrier M5x10
- Raccordement de l'embase à la terre
- Sélection de la pression de pilotage interne ou externe ..... par positionnement du sélecteur de pilotage

Avec pilotage électrique :

- Interface pour l'opérateur électrique ..... CNOMO 06-05-10
- Installation avec un des opérateurs suivants : EV3000200, EV3001200, EV3003200, 1EV0*310, 1EV1*310, 1EV3*310 équipé d'une bobine ATEX type ..... EV30.A.EX...

ATTENTION

- Le produit doit être installé dans un environnement conforme aux spécifications des chapitres 1 et 3.
- Avant toute intervention sur le produit, couper l'air comprimé. S'assurer que le circuit est purgé puis procéder à l'intervention.
- Le remplacement du produit ou de l'un de ses composants doit être effectué avec un produit ou un composant de même catégorie ATEX.
- Le nettoyage des produits sera réalisé selon une méthode respectant les spécificités ATEX de l'installation, de préférence par aspiration et/ou par utilisation de produits antistatiques. Le dépôt de poussière ne doit pas excéder 5 mm.
- **L'installation et la maintenance du produit doivent être effectuées par du personnel qualifié.**

4 – CLASSIFICATION ATEX

⟨ε⟩ II 2 GD c 85 °C

⟨ε⟩	Logo de référence pour la sécurité en atmosphères explosibles
II	Destination : Groupe II : Atmosphères de surface
2	Utilisation en zones 1 et 21
GD	Atmosphères de type gaz ou poussière
c	Mode de protection : "c", sécurité de construction
85 °C	Classe de température (T6)

La limite de température ambiante (Ta) de l'équipement ou de l'ensemble incorporant un distributeur ISOMAX sera définie comme suit :

- (Ta) du composant ayant la limite la plus faible si celle-ci est < 60°C,
- 60°C si les constituants autres que le distributeur ont une (Ta) > 60°C.

EC DECLARATION of CONFORMITY ⟨ε⟩

We, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

*hereby declare that the following **ISOMAX** pneumatic valves :*

- **DX1 ..., DX2..., DX3...**, followed by a **"-EX"** suffix,

*are compatible for use in explosive atmosphere **II 2 GD (zones 1,2 and 21,22).***

These products are designed and manufactured in compliance with the European Directive:

- 94/9/EC, March 1994, **"ATEX"** .

The present declaration is based on the compliance with the following standards:

- Standard EN 13463-1, 2001 and AC:2002, Non-electrical equipment for potentially explosive atmospheres. Part 1: Basic methods and requirements,
- Standard EN 13463-5, 2003, Non-electrical equipment intended for use in potentially explosive atmospheres. Part 5: Protection by constructional safety "c" .

Type examination certificate: LCIE 04 ATEX 6165X

Delivered by: LCIE

Additional information:

These products are designed for utilization in applications falling under the scope of the ATEX Directive 94/9/EC. This coverage could only be referred to as long as operations required for the installation and the maintenance of these products are complying with related standards.

The user will have to comply with procedures for getting an approval of the final assembled system according to related regulations.

Issued at Evreux — Date : January 24th, 2007

CE marked: 2004

DECLARATION CE de CONFORMITE ⟨ε⟩

Nous, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

*déclarons que les distributeurs pneumatiques **ISOMAX** référencés :*

- **DX1 ..., DX2..., DX3...**, suivis du suffixe **"-EX"**,

*sont utilisables en atmosphère explosible **II 2 GD (zones 1,2 et 21,22).***

Ces produits sont construits conformément aux dispositions de la directive européenne :

- 94/9/CE, mars 1994, **"ATEX"** .

La présente déclaration est établie sur la base de la conformité aux normes suivantes :

- norme EN 13463-1, 2001 et AC:2002, Matériel non électrique pour utilisation en atmosphères explosibles. Partie 1 : prescriptions et méthodes de base,
- norme EN 13463-5, 2003, Appareils non électriques destinés à être utilisés en atmosphères explosibles. Partie 5: Protection par sécurité de construction "c".

Attestation d'examen de type : LCIE 04 ATEX 6165X

Délivrée par : LCIE

Information complémentaire :

La conception de ces produits permet leur utilisation dans un environnement soumis à l'application de la Directive ATEX 94/9/CE sous réserve que les opérations nécessaires à leur installation et à leur maintenance soient effectuées en conformité avec les dispositions des normes en vigueur.

L' utilisateur prendra en charge la mise en conformité de l'installation finale conformément à la réglementation en vigueur.

Fait à Evreux — Date : 24 janvier 2007

Jean-François VISTE
Responsable ATEX

Date d'application marquage CE : 2004

Instruction Leaflet **GB** — **VALVE WITHOUT SUBBASE** — **PVL-C type**

1 – SPECIFICATIONS

• Max Operating Frequency	10 Hz (5 Hz for monostable)
• Operating temperature (Ta)	-15°C to + 60°C
• Fluid temperature	-15°C to + 60°C
• Operating pressure	
➢ Internal pressure	2 to 10 bar (3 to 10 for monostable valve electrically actuated)
• Air condition	ISO 8573-1 : - Filtered air or inert gas class 5, - Dry air or inert gas class 4
• Protection level : IP65	According to ISO 60529, dustproof
• Operating position	Any position

2 – FUNCTIONS

5/2 Bistable	5/3 Pressure exhausted neutral (COE and COP)
5/2 Air return monostable	5/3 Pressure held neutral
5/2 Spring return monostable	With a pneumatical or electric pilot

3 – INSTALLATION

- Mounting according to Parker technical leaflet.
- Earth connection is recommended for mounting rail.
- Maxi number of valve per island : 6 (to avoid electrostatic load)

With a pneumatical pilot :

- PVA-P111, PVA-P115 connectors for PVL-C1..6..
- PVA-P121, PVA-P122, PVA-P125 connectors for PVL-C1..4..
- Maxi torque on fittings : 1/8" : 10Nm, 1/4" : 20 Nm , 3/8" : 55 Nm

With an electric pilot :

- Mounting with ATEX solenoid PVA-F102BX.. and PVA-F102EX.. type

Head modules, tail air feed modules and intermediary air supply modules :

PVL-C1713, PVL-C1723, PVL-C1819, PVL-C1829, PVU-LCB119, PVU-LCC119

WARNING

- Conditions for installing the product have to comply with specifications mentioned in chapters 1 and 3.
- Before maintenance on the product, stop the air and ensure that pipes are exhausted. Then proceed.
- The replacement of the product or of one of its parts must be done with a product or a part of the same ATEX category.
- Product cleaning should be done by a method complying with the specifications of the ATEX zone, preferably by aspiration and/or utilization of antistatic products. The deposit of dust should not exceed 5 mm.
- **The installation and maintenance of the product must be done by qualified personnel.**

4 – ATEX CLASSIFICATION

 II 2 GD c 135 °C

	Specific logo for safety in hazardous atmospheres
II	Destination : Group II : Atmospheres other than in mines
2	For use in zones 1 and 21
GD	Gas or Dust atmospheres
c	Protection mode: "c", constructional safety
135 °C	Temperature class (T4)

The maximum ambient temperature (Ta) of the equipment or of the subassembly incorporating PVL-C without subbase valves will be defined as:

- (Ta) of the element having the lowest limit if this one is <60°C,
- 60°C if elements other than the valve have a (Ta) > 60°C.

Instruction de service **FR** — **DISTRIBUTEURS SANS EMBASE** — **Type PVL-C**

1 – SPECIFICATIONS

• Fréquence de service maxi	10 Hz (5 Hz pour les monostables)
• Température de service (Ta)	-15°C à + 60°C
• Température du fluide	-15°C à + 60°C
• Pression de service	
➢ alimentation interne	2 à 10 bar (3 à 10 bar pour commande électrique d'un monostable)
• Fluide admissible et qualité	ISO 8573-1 : - Air ou gaz neutre filtré classe 5, - Air sec ou gaz neutre classe 4
• Degré de protection : IP65	Selon ISO 60529, étanchéité à la poussière
• Position de fonctionnement	Indifférente

2 – FONCTIONS

5/2 Bistable	5/3 Centre ouvert (COE et COP)
5/2 Monostable différentiel	5/3 Centre fermé
5/2 Monostable à rappel ressort	Pilotage pneumatique ou électrique

3 – INSTALLATION

- Montage selon description du catalogue PARKER.
- Mise à la terre recommandée du rail supportant les produits.
- Nombre maximal de distributeurs par îlot : 6 (Évitement de l'apparition de la charge électrostatique)

Avec pilotage pneumatique :

- Connecteurs PVA-P111, PVA-P115 pour PVL-C1..6..
- Connecteurs PVA-P121, PVA-P122, PVA-P125 pour PVL-C1..4..
- Couples de serrage maximal des raccords : 1/8" : 10Nm, 1/4" : 20 Nm , 3/8" : 55 Nm

Avec pilotage électrique :

- Installation avec une bobine ATEX type PVA-F102BX.. et PVA-F102EX..

Extrémités d'alimentation et modules intermédiaires :

PVL-C1713, PVL-C1723, PVL-C1819, PVL-C1829, PVU-LCB119, PVU-LCC119

ATTENTION

- Le produit doit être installé dans un environnement conforme aux spécifications des chapitres 1 et 3.
- Avant toute intervention sur le produit, couper l'air comprimé. S'assurer que le circuit est purgé puis procéder à l'intervention.
- Le remplacement du produit ou de l'un de ses composants doit être effectué avec un produit ou un composant de même catégorie ATEX.
- Le nettoyage des produits sera réalisé selon une méthode respectant les spécificités ATEX de l'installation, de préférence par aspiration et/ou par utilisation de produits antistatiques. Le dépôt de poussière ne doit pas excéder 5 mm.
- **L'installation et la maintenance du produit doivent être effectuées par du personnel qualifié.**

4 – CLASSIFICATION ATEX

 II 2 GD c 135 °C

	Logo de référence pour la sécurité en atmosphères explosibles
II	Destination : Groupe II : Atmosphères de surface
2	Utilisation en zones 1et 21
GD	Atmosphères de type gaz ou poussière
c	Mode de protection : "c", sécurité de construction
135 °C	Classe de température (T4)

La limite de température ambiante (Ta) de l'équipement ou de l'ensemble incorporant un distributeur sans embase type PVL-C sera définie comme suit :

- (Ta) du composant ayant la limite la plus faible si celle-ci est < 60°C,
- 60°C si les constituants autres que le distributeur ont une (Ta) > 60°C.

EC DECLARATION of CONFORMITY

We, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

hereby declare that

- **PVL-C.....**

are compatible for use in explosive atmosphere ***II 2 GD (zones 1,2 and 21,22)***.

These products are designed and manufactured in compliance with the European Directive:

- 94/9/EC, March 1994, **"ATEX"** .

The present declaration is based on the compliance with the following standards:

- Standard EN 13463-1, 2001 and AC:2002, Non-electrical equipment for potentially explosive atmospheres. Part 1 : Basic method and requirements,
- Standard EN 13463-5, 2003, Non-electrical equipment intended for use in potentially explosive atmospheres. Part 5 : Protection by constructional safety "c" .

Technical file : 1260909 X

Submitted at : LCIE
33 avenue du Général Leclerc, 92260 Fontenay-Aux-Roses

Additional information :

These products are designed for utilization in applications falling under the scope of the ATEX Directive 94/9/EC. This coverage could only be referred to as long as operations required for the installation and the maintenance of these products are complying with related standards.

The user will have to comply with procedures for getting an approval of the final assembled system according to related regulations.

Issued at Evreux — Date : January 24th, 2007

CE marked : 2006

DECLARATION CE de CONFORMITE

Nous, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

déclarons que les distributeurs sans embase référencés :

- **PVL-C.....**

sont utilisables en atmosphère explosible ***II 2 GD (zones 1,2 et 21,22).***

Ces produits sont construits conformément aux dispositions de la directive européenne :

- 94/9/CE, mars 1994, **"ATEX"** .

La présente déclaration est établie sur la base de la conformité aux normes suivantes :

- norme EN 13463-1, 2001 et AC : 2002, Matériels non électriques pour utilisation en atmosphères explosibles. Partie 1 : Prescriptions et méthode de base,
- norme EN 13463-5, 2003, Appareils non électriques destinés à être utilisés en atmosphères explosibles. Partie 5 : Protection par sécurité de construction "c".

Dossier technique : 1260909 X

Déposé auprès de : LCIE
33 avenue du Général Leclerc, 92260 Fontenay-Aux-Roses

Information complémentaire :

La conception de ces produits permet leur utilisation dans un environnement soumis à l'application de la Directive ATEX 94/9/CE sous réserve que les opérations nécessaires à leur installation et à leur maintenance soient effectuées en conformité avec les dispositions des normes en vigueur.

L'utilisateur prendra en charge la mise en conformité de l'installation finale conformément à la réglementation en vigueur.

Fait à Evreux — Date : 24 janvier 2007

Date d'application marquage CE : 2006

Jean-François Viste
Responsable ATEX

Instruction Leaflet **GB**

PILOT-OPERATOR
Type PVA-F102BX... and P2FS...

1 – SPECIFICATIONS

Operating pressure	0 to 10 bar (0 to 145 psi)
Operating temperature (Ta)	-15°C to +40°C (5°F to +104°F)
Air condition	ISO 8573-1 : - Filtered air or inert gas class 5 - Dry air or inert gas class 4
Operating voltage	PVA-F102B. : 24 Vdc ; PVA-F102E. : 48 Vdc
Voltage Tolerance	-10 % to +10 %
Current	PVA-F102B. : 24 Vdc ; P2FS. : 0,125 A
Polarity	Polarity insensitive
Consumption	6 W
Duty factor	100% to 40°C (104°F)
Protection degree	IP65 (EN 60529), dustproof
Operating position	Any position
Protection against mechanical shocks	With an envelope withstanding shocks ≥ 7 joules
Association with PRS-D10 Subbase	Stacked on PZU-A12 or PZU-C12

2 –FUNCTIONS

Pre-wired 3/2 NC Operator.

3 – INSTALLATION

Dimensions of mounting interface	22x30 mm
Screw for mounting the armature	M12 x 0,5mm
Max torque for the armature	6 Nm maxi
Recommendation for a cabinet	- SAREL : SPACIAL 3D, type : 83... - RITTAL : type KEL EX or equivalent
Maximum number of operators 100% ED	4 in an envelope of 8 dm³
Electrical connection by a cable pre-wired on the operator	2P+E, 3 x ∅ 0,75 mm² (Yellow-green for Earth)
Connector	Not removable
Torque for fastening the connector	0,3 to 0,5 Nm

WARNING

- Conditions for installing the operator must comply with specifications mentioned in chapters 1 and 3. The permanently connected cable must be terminated according to one type of protection described in EN 60079-0 standard
- Installing the operator in a cabinet rated IP40 or more requires a provision for exhaust by either funnelling or with a muffler.
- Before energising, ensure that the voltage of the supply is the same as the voltage marked on the coil.
- Before maintenance operations, stop the air and electrical supply and ensure that pipes are exhausted. Then disconnect the 3 wires and proceed. Check the state of the 3 wires.
- The replacement of the product or of one of its parts must be done with a product or a part of the same ATEX category.
- Cleaning operations should be done in compliance with the specifications of the ATEX zone, preferably by aspiration and/or utilization of antistatic products. The deposit of dust should not exceed 5 mm.
- **The installation and maintenance operations must be done by qualified personnel.**

4 – ATEX CLASSIFICATION

II 2 G D Ex e II T4 Ex tD A21 T135°C IP65

	Specific logo for safety in hazardous atmospheres
II	Destination : Group II : Atmospheres other than in mines
2	For use in zone 1 and 21
GD	Gas or Dust atmospheres
Ex	Compliance with CENELEC standards
e	Protection mode : "e" increased safety
T4	Temperature class : 135 °C
tD A21	Protection mode : "tD" protection by enclosures in the presence of combustible dust zone 21
T 135 °C	Maximum surface temperature (for dusty atmosphere)

The maximum ambient temperature (Ta) of the subassembly equipped with the pilot operator will be 40°C (104°F) according to chapter 1.

Instruction de service **FR**

ELECTROVANNE
Type PVA-F102BX... et P2FS...

1 – SPECIFICATIONS

Pression de service	0 à 10 bar
Température de service (Ta)	-15°C à +40°C
Fluide admissible et qualité	ISO 8573-1 : - Air ou gaz neutre filtré classe 5 - Air sec ou gaz neutre classe 4
Tension de service	PVA-F102B. : 24 Vdc ; PVA-F102E. : 48 Vdc
Tolérance de tension	-10 % à +10 %
Courant	PVA-F102B. : 24 Vdc ; P2FS. : 0,125 A
Polarité	Non polarisée
Puissance consommée	6 W
Taux de charge	100% à 40°C
Indice de protection	IP65 (EN 60529), étanchéité à la poussière
Position de fonctionnement	Indifférente
Protection contre les chocs mécaniques	Par enveloppe résistant à des chocs ≥ 7 joules.
Association avec embase PRS-D10	Montée sur PZU-A12 ou PZU-C12

2 –FONCTIONS

Electrovanne 3/2 NF précâblée.

3 – INSTALLATION

Dimensions de l'interface mécanique	22x30 mm
Fixation du noyau par vis de	M12 x 0,5mm
Couple de serrage du noyau	6 Nm maxi
Préconisation pour montage en enveloppe	- coffret SAREL : SPACIAL 3D, type 83... - coffret RITTAL : type KEL EX ou équivalent
Nombre maximum d'électrovannes	4 en service continu dans une enveloppe de 8 dm³
Raccordement électrique par cordon pré-câblé sur la bobine	2P+T, 3 x ∅ 0,75 mm² (Ti jaune-vert pour la terre)
Connecteur	Non débrochable
Couple de serrage du connecteur	0,3 à 0,5 Nm

ATTENTION

- Le produit doit être installé dans un environnement conforme aux spécifications des chapitres 1 et 3. L'extrémité libre du câble de connexion soldaire doit répondre à l'un des types de protection décrits dans la norme EN 60079-0.
- L'installation du produit dans une enveloppe classée IP40 ou plus nécessite de ménager une mise à l'échappement canalisée ou par silencieux.
- Avant mise sous tension, s'assurer de la parfaite concordance de la tension entre la bobine et l'alimentation électrique.
- Avant toute opération de maintenance, couper l'air comprimé et l'alimentation électrique. S'assurer que le circuit est purgé puis débrancher le câble électrique. Vérifier l'état du câble.
- Le remplacement du produit ou de l'un de ses composants doit être effectué avec un produit ou un composant de même catégorie ATEX.
- Les opérations de nettoyage seront réalisées conformément aux spécificités ATEX de l'installation, de préférence par aspiration et/ou par utilisation de produits antistatiques. Le dépôt de poussière ne doit pas excéder 5 mm.
- **L'installation et les opérations de maintenance doivent être effectuées par du personnel qualifié.**

4 – CLASSIFICATION ATEX

II 2 G D Ex e II T4 Ex tD A21 T135°C IP65

	Logo de référence pour la sécurité en atmosphères explosibles
II	Destination : Groupe II : Atmosphères de surface
2	Utilisation en zone 1 et 21
GD	Atmosphères de type gaz ou poussière
Ex	Conformité aux normes CENELEC
e	Mode de protection : "e" sécurité augmentée
T4	Classe de température : 135°C
tD A21	Mode de protection : "tD" protection par enveloppe en présence de poussières combustibles zone 21
T 135 °C	Température maximale de surface (pour atmosphère poussiéreuse)

La température ambiante maximale (Ta) du sous-ensemble équipé de l'électrovanne sera de 40°C conformément au chapitre 1.

EC DECLARATION of CONFORMITY CE

We, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

hereby declare that the following electro-pneumatic valves:

- **type PVA-F102BX... and P2FS...**

are compatible for use in explosive atmosphere ***II 2 GD (zones 1,2 and 21,22).***

These products are designed and manufactured in compliance with the European directive:

- 94/9/EC, March 1994, **"ATEX"**

The present declaration is based on the compliance with the following standards:

- standard EN 60079-0, 2006, electrical apparatus for explosive gas atmospheres. Part 0 : General requirements.
- standard EN 60079-7, 2003, electrical apparatus for explosive gas atmospheres. Part 7 : Increased safety "e".
- standard EN 61241-1, 2006, electrical apparatus for use in the presence of combustible dust. Part 1 : Protection by enclosures "tD".

EC certificate of conformity: LCIE 03 ATEX 6278X
Quality assurance certificate: LCIE 03 ATEX Q 6037
Delivered by: LCIE – id. 0081

Additional information:

These products are designed for utilization in applications falling under the scope of the ATEX Directive 94/9/EC. This coverage could only be referred to as long as operations required for the installation and the maintenance of these products are complying with related standards.

The user will have to comply with procedures for getting an approval of the final assembled system according to related regulations.

Issued at Evreux — Date : January 31th, 2008

CE marked: 2006

DECLARATION CE de CONFORMITE CE

Nous, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

déclarons que les distributeurs électro-pneumatiques :

- **type PVA-F102BX... et P2FS...**

sont utilisables en atmosphère explosible ***II 2 GD (zones 1, 2 et 21, 22).***

Ces produits sont construits conformément aux dispositions de la directive européenne :

- 94/9/CE, mars 1994, **"ATEX"**

La présente déclaration est effectuée sur la base de la conformité aux normes suivantes :

- norme EN 60079-0, 2006, matériel électrique pour atmosphères explosives gazeuses. Partie 0 : Règles générales.
- norme EN 60079-7, 2003, matériel électrique pour atmosphères explosives gazeuses. Partie 7 : Sécurité augmentée "e".
- norme EN 61241-1, 2006, matériels électriques pour utilisation en présence de poussières combustibles. Partie 1 : Protection par enveloppes "tD".

Attestation de conformité CE : LCIE 03 ATEX 6278X
Certificat d'assurance qualité : LCIE 03 ATEX Q 6037
Délivrés par : LCIE – id. 0081

Information complémentaire :

La conception de ces produits permet leur utilisation dans un environnement soumis à l'application de la Directive ATEX 94/9/CE sous réserve que les opérations nécessaires à leur installation et à leur maintenance soient effectuées en conformité avec les dispositions des normes en vigueur.

L' utilisateur prendra en charge la mise en conformité de l'installation finale conformément à la réglementation en vigueur.

Fait à Evreux — Date : 31 janvier 2008

Date d'application marquage CE : 2006

Jean-François Viste
Responsable ATEX

Instruction Leaflet — GB

30mm CNOMO Operator System

Type P2FSB.2EX and P2FSB.3EX
Solenoid type P2FSB.A2EX.. and P2FSB.A3EX..

1 – SPECIFICATIONS

Solenoid:	P2FSB.A2EX..	P2FSB.A2EX..	P2FSB.A3EX..
• Operating temperature (Ta)	← -15°C to +50°C (+5°F to +122°F) →		
• Operating voltages	24, 48 Vdc	24, 48, 115, 230 Vac	24, 48 Vdc
• Voltage Tolerance	-10%to +10%	-10%to +10%	-10%to +10%
• Duty factor	100%	100%	100%
• Consumption	3 W	3,2 VA	3,8 W
• ATEX temperature class	T5	T5	T4

Assembly with operators:

- Association with operators types: EV000*00, EV001*00, EV003*00, 1EV0*310, 1EV1*310, 1EV2*310
- Operators interface: CNOMO 06-05-10
- IP level: IP66 (EN60529)
- Operating position: Any position
- Operating pressure: 0 to 10 bar
- Air condition: ISO 8573-1: - Filtered air or inert gas class 5
  - Dry air or inert gas class 4

2 – FUNCTIONS

3/2 CNOMO Operator System for piloting pneumatic valves.

3 – INSTALLATION

- Association with operators: see chapter 1
- Electrical connection on the equipment: 3 wires Ø 0,75 mm², 2P+E (Yellow-green for Earth)
- Connection of the connector's body to earth: optional
- Fastening torque on valves: 1,5 Nm

WARNING

- The installation must be done in compliance with specifications mentioned in chapters 1 and 3. The permanently connected cable must be terminated according to one type of protection described in EN 50014 standard.
- If the installation is done in a cabinet rated IP40 or more, it is necessary to have a provision for exhaust by either funnelling or with a muffler.
- Before energizing, ensure that the voltage of the supply is the same as the voltage marked on the coil.
- Before maintenance operations, stop the air and electrical supplies and ensure that the pipes are exhausted. Then disconnect the 3 wires and proceed.
- The replacement of the product or one of its parts must be done with a product or a part having the same ATEX category.
- Cleaning operations should be done in compliance with the specifications of the ATEX zone, preferably by aspiration and/or utilization of antistatic products.
- **The installation and maintenance operations must be done by qualified personnel.**

4 – ATEX CLASSIFICATION and SOLENOID MARKING

Ex II 2 GD Ex mb II T(*) IP66 T(**)

Ex	Specific logo for safety in hazardous atmospheres
II	Group II: Atmospheres other than in mines
2	For use in zones 1 and 21
GD	Gas or Dust Atmospheres
Ex	Compliance with CENELEC standards
m	Protection mode: "m" encapsulation
T(*)	Temperature class: - T5 (100°C) for EV00.A2EX.. - T4 (135°C) for EV00.A3EX..
T (**)	Maximum surface temperature: - 100°C for EV00.A2EX.. - 135°C for EV00.A3EX..

- **Operator system:**
  The installation of the Operator system in compliance with chapters 1 and 3 assures an ATEX classification category 2, for utilisation in zones 1, 2 and 21, 22 for Gas and Dust atmospheres.
- **Incorporation in an equipment:**
  Maximum ambient temperature (Ta) of the equipment or of the subassembly incorporating this product:
  - (Ta) of the element having the lowest limit if this one is < 50°C,
  - 50°C if elements other than the solenoid have a (Ta) > 50°C.

Instruction de service — FR

Electrovanne CNOMO 30mm

Type P2FSB.2EX et P2FSB.3EX
Bobine type P2FSB.A2EX.. et P2FSB.A3EX..

1 – SPECIFICATIONS

Bobine :	P2FSB.A2EX..	P2FSB.A2EX..	P2FSB.A3EX..
• Température de service (Ta)	← -15°C à +50°C →		
• Tensions de service	24, 48 Vdc	24, 48, 115, 230 Vac	24, 48 Vdc
• Tolérances de tension	-10% à +10%	-10% à +10%	-10% à +10%
• Taux de charge	100%	100%	100%
• Puissance consommée	3 W	3,2 VA	3,8 W
• Classe de température ATEX	T5	T5	T4

Assemblage avec les opérateurs :

- Association avec les opérateurs: EV000*00, EV001*00, EV003*00, 1EV0*310, 1EV1*310, 1EV2*310
- Interface des opérateurs: CNOMO 06-05-10
- Indice de protection: IP66 (EN60529)
- Position de fonctionnement: Indifférente
- Pression de service: 0 à 10 bar
- Fluide admissible et qualité: ISO 8573-1 : - Air ou gaz neutre filtré classe 5
  - Air sec ou gaz neutre classe 4

2 – FONCTIONS

Electrovanne CNOMO 3/2 pour pilotage de distributeurs pneumatiques

3 – INSTALLATION

- Association avec les opérateurs: voir chapitre 1
- Raccordement électrique sur l'équipement: 3 fils de Ø 0,75 mm², 2P+T (jaune-vert pour la terre)
- Raccordement à la terre du corps du connecteur de la bobine: facultatif
- Couple de serrage sur les distributeurs: 1,5 Nm

ATTENTION

- L'installation doit être réalisée dans un environnement conforme aux spécifications des chapitres 1 et 3. L'extrémité libre du câble de connexion solidaire doit répondre à l'un des types de protection décrits dans la norme EN 50014.
- Si l'installation est réalisée dans une enveloppe classée IP40 ou plus, il est nécessaire de ménager une mise à l'échappement canalisée ou par silencieux.
- Avant mise sous tension, s'assurer de la concordance de la tension entre la bobine et l'alimentation électrique.
- Avant toute opération de maintenance, couper l'air comprimé et l'alimentation électrique. S'assurer que le circuit est purgé puis débrancher le câble électrique.
- Le remplacement du produit complet ou de l'un de ses composants doit être réalisé avec un produit ou un composant de même catégorie ATEX.
- Les opérations de nettoyage seront réalisées conformément aux spécificités ATEX de l'installation, de préférence par aspiration et/ou par utilisation de produits antistatiques.
- **L'installation et les opérations de maintenance doivent être réalisées par du personnel qualifié.**

4 – CLASSIFICATION ATEX et MARQUAGE BOBINE

Ex II 2 GD Ex mb II T(*) IP66 T(**)

Ex	Logo de référence pour la sécurité en atmosphères explosibles
II	Destination : Groupe II : Atmosphères de surface
2	Utilisation en zones 1 et 21
GD	Atmosphères de type gaz ou poussière
Ex	Conformité aux normes CENELEC
m	Mode de protection : "m" encapsulage
T(*)	Classe de température : - T5 (100°C) pour EV00.A2EX.. - T4 (135°C) pour EV00.A3EX..
T (**)	Température maximale de surface : - 100°C pour EV00.A2EX.. - 135°C pour EV00.A3EX..

- **Electrovanne :**
  L'installation de l'électrovanne conformément aux chapitres 1 et 3 assure une classification ATEX en catégorie 2, pour utilisation en zones 1, 2 et 21, 22 pour atmosphères Gaz et Poussière.
- **Incorporation dans un équipement :**
  Limite de température ambiante (Ta) de l'équipement ou de l'ensemble incorporant ce produit :
  - (Ta) du composant ayant la limite la plus faible si celle-ci est < 50°C,
  - 50°C si les constituants autres que la bobine ont une (Ta) > 50°C.

EC DECLARATION of CONFORMITY

We, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

*hereby declare that the 30mm **ATEX** solenoids used for driving electro-pneumatic valves intended for use in explosive atmospheres **II 2 GD in zones 1, 2 and 21, 22**:*

- **types EV00.A2EX. and EV00.A3EX..**

are designed and manufactured in compliance with the European directive:

- 94/9/EC, March 1994, "**ATEX**"

The present declaration is based on the compliance with the following elements:

- standard EN 50014, 1997 and A1, A2:1999, electrical apparatus for potentially explosive atmospheres. General requirements.
- standard EN 60079-18, 2004, Electrical apparatus for explosive gas atmospheres. Part 18: Construction, test and marking of type of protection encapsulation "m" electrical apparatus.
- standard EN 50281-1-1, 1998 and A1:2002, Electrical apparatus for use in the presence of combustible dust – Part 1-1: Electrical apparatus protected by enclosures - Construction and testing.

EC type certificate: CESI 05 ATEX 065 X
Quality assurance certificate: LCIE 03 ATEX Q 9037

Additional information:
These products are designed for utilization in applications falling under the scope of the ATEX Directive 94/9/EC. This coverage could only be referred to as long as:

- these products are assembled with operators type EV300.100, EV300.200 or 1EV.*310,
- operations required for installation and maintenance are complying with related standards. Each time this will be required for compliance purpose, the user will have to apply for a coverage of the final assembled equipment.

Issued at Evreux — Date: June 12th, 2005

DECLARATION CE de CONFORMITE

Nous, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

*déclarons que les bobines **ATEX** 30mm pour commande de distributeurs électro-pneumatiques utilisables en atmosphères explosibles **II 2 GD, en zones 1, 2 et 21, 22** :*

- **types EV00.A2EX. et EV00.A3EX..**

sont construits conformément aux dispositions de la directive européenne :

- 94/9/CE, mars 1994, "**ATEX**".

La présente déclaration est établie sur la base de la conformité aux normes suivantes :

- norme EN 50014, 1997 et A1, A2:1999, matériel électrique pour atmosphères explosibles. Règles générales.
- norme EN 60079-18, 2004, matériel électrique pour atmosphères explosibles gazeuses. Partie 18 : Construction, essais et marquage des matériels électriques du type de protection par encapsulage "m".
- norme EN 50281-1-1, 1998 et A1:2002, Matériels électriques destinés à être utilisés en présence de poussières combustibles – Partie 1-1 : Matériels électriques protégés par enveloppes - Construction et essais.

Attestation de conformité CE : CESI 05 ATEX 065 X
Certificat d'assurance qualité : LCIE 03 ATEX Q 9037

Information complémentaire :
La conception de ces produits permet leur utilisation dans un environnement soumis à l'application de la Directive ATEX 94/9/CE sous réserve que :

- ces produits soient assemblés avec les opérateurs type EV300.100, EV300.200 ou 1EV.*310,
- les opérations nécessaires à leur installation et à leur maintenance soient effectuées en conformité avec les normes en vigueur. Chaque fois que cela sera nécessaire, l'utilisateur devra effectuer la démarche de mise en conformité de l'équipement final.

Fait à Evreux — Date : 12 juin 2005

Jean-François Vitse
Responsable Engineering
Responsable ATEX

Instruction Leaflet **GB** — **VikingXtreme VALVES** P2L.X type

1 – SPECIFICATIONS

- Max Operating Frequency ..... 1 Hz
- Operating temperature (Ta) ..... - 40 °C to + 60 °C (air pilot, lever)
  - 10 °C to + 50 °C (electrical valves)
- Fluid temperature ..... - 40 °C to + 60 °C (air pilot, lever)
  - 10 °C to + 50 °C (electrical valves)
- Operating pressure
  - Internal pressure ..... 2 to 10 bar
- Air condition ..... ISO 8573-1 : - Filtered air or inert gas class 5,
  - Dry air or inert gas class 4
- Operating position ..... Any position

2 – FUNCTIONS

5/2 Bistable	5/3 Pressure exhausted neutral (COE and COP)
5/2 Air return monostable	5/3 Pressure held neutral
5/2 Spring return monostable	With a pneumatical or electric pilot

3 – INSTALLATION

- Mounting according to Parker technical leaflet
- Electrical connection of the protective earth by M3, M4 or M5 screw
- Maxi number of pneumatic valve per island (to avoid electrostatic load) : 10 (size A or B), 6 (size C or D)
- Maxi torque of fixing screws : M3 : 1.3 Nm ; M4 : 3 Nm ; M6 : 10.5 Nm
- Maxi torque on operator : 1.4 Nm
- Maxi torque on fittings : 1/8" : 10 Nm ; 1/4" : 40 Nm ; 3/8" : 55 Nm ; 1/2" : 75 Nm

With an electric pilot :

Mounting with ATEX Nass solenoid 0513 00 to 0513 49 and 1213 00 to 1213 49 type
Or ATEX Nass solenoid 0515 30 to 0515 59 and 1215 30 to 1215 59 type (take care of dimensions for valve island)
Or ATEX Nass solenoid 0515 60 to 0515 99 and 1215 60 to 1215 99 type

WARNING

- Conditions for installing the product have to comply with specifications mentioned in chapters 1 and 3.
- Before maintenance on the product, stop the air and ensure that pipes are exhausted. Then proceed.
- The replacement of the product or of one of its parts must be done with a product or a part of the same ATEX category.
- Product cleaning should be done by a method complying with the specifications of the ATEX zone, preferably by aspiration and/or utilization of antistatic products. The deposit of dust should not exceed 5 mm.
- **The installation and maintenance of the product must be done by qualified personnel.**

4 – ATEX CLASSIFICATION

II 2 GD c 135 °C

	Specific logo for safety in hazardous atmospheres
II	Destination : Group II : Atmospheres other than in mines
2	For use in zones 1 and 21
GD	Gas or Dust atmospheres
c	Protection mode: "c", constructional safety
135 °C	Temperature class (T4)

The maximum ambient temperature (Ta) of the equipment or of the subassembly incorporating P2L..X valves will be defined as :
- (Ta) of the element having the lowest limit if this one is < 50°C,
- 50°C if elements other than the valve have a (Ta) > 50°C.

Instruction de service **FR** — **DISTRIBUTEURS VikingXtreme** Type P2L.X

1 – SPECIFICATIONS

- Fréquence de service maxi ..... 1 Hz
- Température de service (Ta) ..... - 40 °C à + 60 °C (commande pneumatique, à levier)
  - 10 °C à + 50 °C (électrique)
- Température du fluide ..... - 40 °C à + 60 °C (commande pneumatique, à levier)
  - 10 °C à + 50 °C (électrique)
- Pression de service
  - Alimentation interne ..... 2 à 10 bar
- Fluide admissible et qualité ..... ISO 8573-1 : - Air ou gaz neutre filtré classe 5,
  - Air sec ou gaz neutre classe 4
- Position de fonctionnement ..... Indifférente

2 – FONCTIONS

5/2 Bistable	5/3 Centre ouvert (COE et COP)
5/2 Monostable différentiel	5/3 Centre fermé
5/2 Monostable à rappel ressort	Pilotage pneumatique ou électrique

3 – INSTALLATION

- Montage selon description du catalogue PARKER
- Raccordement électrique terre par vis M3, M4 ou M5
- Nombre maximal de distributeurs pneumatiques par îlot (Evitement charge électrostatique) : 10 (taille A ou B), 6 (taille C ou D)
- Couple de serrage maximal des vis de fixation : M3 : 1.3 Nm ; M4 : 3 Nm ; M6 : 10.5 Nm
- Couple de serrage maximal de l'opérateur : 1.4 Nm
- Couple de serrage maximal des raccords : 1/8" : 10 Nm ; 1/4" : 40 Nm ; 3/8" : 55 Nm ; 1/2" : 75 Nm

Avec pilotage électrique :

- Installation avec une bobine ATEX type Nass 22 mm 0513 00 à 0513 49 et 1213 00 à 1213 49

Ou ATEX type Nass 30 mm 0515 30 à 0515 59 et 1215 30 à 1215 59 (Attention à l'encombrement pour un îlot)
Ou ATEX type Nass 30 mm 0515 60 à 0515 99 et 1215 60 à 1215 99

ATTENTION

- Le produit doit être installé dans un environnement conforme aux spécifications des chapitres 1 et 3.
- Avant toute intervention sur le produit, couper l'air comprimé. S'assurer que le circuit est purgé puis procéder à l'intervention.
- Le remplacement du produit ou de l'un de ses composants doit être effectué avec un produit ou un composant de même catégorie ATEX.
- Le nettoyage des produits sera réalisé selon une méthode respectant les spécificités ATEX de l'installation, de préférence par aspiration et/ou par utilisation de produits antistatiques. Le dépôt de poussière ne doit pas excéder 5 mm.
- **L'installation et la maintenance du produit doivent être effectuées par du personnel qualifié.**

4 – CLASSIFICATION ATEX

II 2 GD c 135 °C

	Logo de référence pour la sécurité en atmosphères explosibles
II	Destination : Groupe II : Atmosphères de surface
2	Utilisation en zones 1 et 21
GD	Atmosphères de type gaz ou poussière
c	Mode de protection : "c", sécurité de construction
135 °C	Classe de température (T4)

La limite de température ambiante (Ta) de l'équipement ou de l'ensemble incorporant un distributeur VikingXtreme type P2L..X sera définie comme suit :
- (Ta) du composant ayant la limite la plus faible si celle-ci est < 50°C,
- 50°C si les constituants autres que le distributeur ont une (Ta) > 50°C.

EC DECLARATION of CONFORMITY

We, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

hereby declare that the following VikingXtreme valves

- **P2L.X...., P2L.X5....**

are compatible for use in explosive atmosphere ***II 2 GD (zones 1,2 and 21,22).***

These products are designed and manufactured in compliance with the European Directive:

- 94/9/EC, March 1994, **"ATEX"** .

The present declaration is based on the compliance with the following standards:

- Standard EN 13463-1, 2001 and AC:2002, Non-electrical equipment for potentially explosive atmospheres. Part 1 : Basic method and requirements,
- Standard EN 13463-5, 2003, Non-electrical equipment intended for use in potentially explosive atmospheres. Part 5 : Protection by constructional safety "c" .

Technical file : 3001880X

Submitted at : LCIE
33 avenue du Général Leclerc, 92260 Fontenay-Aux-Roses

Additional information :

These products are designed for utilization in applications falling under the scope of the ATEX Directive 94/9/EC. This coverage could only be referred to as long as operations required for the installation and the maintenance of these products are complying with related standards.

The user will have to comply with procedures for getting an approval of the final assembled system according to related regulations.

Issued at Evreux — Date : November 27th, 2007

CE marked : 2007

DECLARATION CE de CONFORMITE

Nous, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

déclarons que les distributeurs VikingXtreme référencés :

- **P2L.X...., P2L.X5....**

sont utilisables en atmosphère explosible ***II 2 GD (zones 1,2 et 21,22).***

Ces produits sont construits conformément aux dispositions de la directive européenne :

- 94/9/CE, mars 1994, **"ATEX"** .

La présente déclaration est établie sur la base de la conformité aux normes suivantes :

- norme EN 13463-1, 2001 et AC : 2002, Matériels non électriques pour utilisation en atmosphères explosibles. Partie 1 : Prescriptions et méthode de base,
- norme EN 13463-5, 2003, Appareils non électriques destinés à être utilisés en atmosphères explosibles. Partie 5 : Protection par sécurité de construction "c".

Dossier technique : 3001880X

Déposé auprès de : LCIE
33 avenue du Général Leclerc, 92260 Fontenay-Aux-Roses

Information complémentaire :

La conception de ces produits permet leur utilisation dans un environnement soumis à l'application de la Directive ATEX 94/9/CE sous réserve que les opérations nécessaires à leur installation et à leur maintenance soient effectuées en conformité avec les dispositions des normes en vigueur.

L'utilisateur prendra en charge la mise en conformité de l'installation finale conformément à la réglementation en vigueur.

Fait à Evreux — Date : 27 novembre 2007

Date d'application marquage CE : 2007

Jean-François Viste
Responsable ATEX

EC DECLARATION of CONFORMITY

We, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

Hereby declare that the following electro-pneumatic valves:

- **P2L.X....A...., P2L.X5....A.....**

Are compatible for use in explosive atmosphere II 2 GD (zones 1,2 and 21,22).

These products are designed and manufactured in compliance with the European Directive:

- 94/9/EC, mars 1994, **"ATEX"**.

The present declaration is based on the compliance with the following standards, for the products indicated hereafter entering the composition of the unit above mentioned :

➢ **P2L.X..... et P2L.X5.... type valves**

II 2 GD c 135 °C

- standard EN 13463-1, 2001 and AC : 2002, Non-electrical equipment for potentially explosive atmospheres. Part 1: Basic method and requirements,
- standard EN 13463-5, 2003, Non-electrical equipment intended for use in potentially explosive atmospheres. Part 5: Protection by constructional safety "c".

Technical file: 3001880X

Submitted at: LCIE
33 avenue du Général Leclerc, 92260 Fontenay-Aux-Roses

➢ **0513 00 to 0513 49 and 1213 00 to 1213 49 solenoid type manufactured by Nass Magnet GmbH company, Hanover**

	II 2G EEx m II T4 II 2D IP65 T130 °C	IEC Ex m II T4 IP65 DIP A21 T130 °C

- standard DIN EN 50014, 1997, Electrical apparatus for potentially explosive atmospheres (General requirements)
- standard DIN EN 50028, 1987, Electrical apparatus for potentially explosive atmospheres (Encapsulation 'm')
- standard IEC 60079-0, 2000, Electrical apparatus for explosive gas atmospheres (General requirements)
- standard IEC 60079-18, 1992, Electrical apparatus for explosive gas atmospheres (Encapsulation 'm')
- standard DIN EN 50281-1-1, 1998, Electrical apparatus for use in the presence of combustible dust
- standard IEC 61241-1-1, 1998, Electrical apparatus for use in the presence of combustible dust
- standard DIN EN 60529, 2000, Degrees of protection provided by enclosures (IP Code)
- standard DIN EN 61000-6-4, 2002, Electromagnetic compatibility, interference emissions, industrial sector (met by additional circuitry measures)
- standard DIN EN 61000-6-2, 2002, Electromagnetic compatibility, interference immunity, industrial sector
- standard DIN VDE 0580, 2000, Electromagnetic devices and components (General specifications)

Homologation certificates : PTB 00 ATEX 2001X and IECEx PTB 05.0006X
Issued by PTB – id. 0102

Or

➢ **0515 30 to 0515 59 and 1215 30 to 1215 59 solenoid type manufactured by Nass Magnet GmbH company, Hanover**

	II 2G EEx m II T5 II 2D IP65 T95 °C	IEC Ex m II T5 IP65 DIP A21 T95 °C

Same standards applied as for the above solenoid except standard DIN VDE 0580, 1994, Electromagnetic devices and components (General specifications)

Homologation certificates : PTB 03 ATEX 2018X and IECEx PTB 04.0002X
Issued by PTB – id. 0102

Or

➢ **0515 60 to 0515 99 and 1215 60 to 1215 99 solenoid type manufactured by Nass Magnet GmbH company, Hanover**

	II 2G EEx m II T6 II 2D IP65 T80 °C	IEC Ex m II T6 IP65 DIP A21 T80 °C

Same standards applied as for the above solenoid except standard DIN VDE 0580, 1994, Electromagnetic devices and components (General specifications)

Homologation certificates : PTB 03 ATEX 2018X and IECEx PTB 04.0002X
Issued by PTB – id. 0102

Additional information:
These products are designed for utilization in applications falling under the scope of the ATEX Directive 94/9/EC. This coverage could only be referred to as long as operations required for the installation and the maintenance of these products are complying with related standards.
The user will have to comply with procedures for getting an approval of the final assembled system according to related regulations.

Issued at Evreux

Date : November 27th, 2007

CE marked : 2007

Jean-François Viste
ATEX manager

Instruction Leaflet **GB**

Limit switches

CE ⟨Ex⟩ Parker

1 – SPECIFICATIONS

• Operating temperature (Ta)	-15°C to +60°C (5°F to +140°F)
• Fluid temperature	-15°C to +60°C (5°F to +140°F)
• Operating pressure	3 to 8 bar (45 to 116 psi)
• Air condition	ISO 8573-1: - Filtered air or inert gas class 5 - Dry air or inert gas class 4
• Flow rate (l/mn) at 6 bar (ISO 6358)	60 for PXC-M11. 85 for PXC-M12., PXC-M13. 250 for PXC-M52.
• Max Operating Frequency	5 Hz
• Protection degree	IP 65 (EN 60529), dustproof
• Operating position	Any position

2 – MODELS AND FUNCTIONS

PXC-M... : 3/2 limit switches

3 – INSTALLATION

- Mounting according to the PARKER catalogue
- The speed of attack must be lower than 1m/s for all the product range
- The fixing of the product must be firm
- Earth connection recommended

WARNING

- Conditions for installing the components must comply with specifications mentioned in chapters 1 and 3.
- Before maintenance operations, stop the air and ensure that pipes are exhausted. Then proceed.
- The replacement of a component must be done with a component of the same ATEX category.
- Cleaning operations should be done in compliance with the specifications of the ATEX zone, preferably by aspiration and/or utilization of antistatic products. The deposit of dust should not exceed 5 mm.
- **The installation and maintenance operations must be done by qualified personnel.**

4 – ATEX CLASSIFICATION

⟨Ex⟩ II 2 GD c 85 °C

⟨Ex⟩	Specific logo for safety in hazardous atmospheres
II	Destination : Group II : Atmospheres other than in mines
2	For use in zones 1 and 21
GD	Gas or Dust atmospheres
c	Protection mode : "c", constructional safety
85°C	Temperature class (T6)

The maximum ambient temperature (Ta) of the equipment or of the subassembly incorporating limit switches will be defined as:

- (Ta) of the element having the lowest limit if this one is < 60°C,
- 60°C if elements other than the limit switches have a (Ta) > 60°C.

Instruction de service **FR**

Interrupteurs de position

CE ⟨Ex⟩ Parker

1 – SPECIFICATIONS

• Température de service (Ta)	-15°C à +60°C
• Température du fluide	-15°C à +60°C
• Pression de service	3 à 8 bar
• Fluide admissible et qualité	ISO 8573-1 : - Air ou gaz neutre filtré classe 5 - Air sec ou gaz neutre classe 4
• Débit (en l/mn) à 6 bar (ISO 6358)	60 pour le PXC-M11. 85 pour le PXC-M12., PXC-M13. 250 pour le PXC-M52.
• Fréquence de service maxi	5 Hz
• Degré de protection	IP 65 selon EN 60529, étanchéité à la poussière
• Position de fonctionnement	Indifférente

2 – TYPES ET FONCTIONS

PXC-M... : Interrupteurs de position 3/2

3 – INSTALLATION

- Montage selon description du catalogue PARKER
- La vitesse d'attaque doit être inférieure à 1 m/s pour toute la gamme
- La fixation du produit doit être ferme
- Raccordement à la terre du produit

ATTENTION

- Les composants doivent être installés dans un environnement conforme aux spécifications des chapitres 1 et 3.
- Avant toute opération de maintenance, couper l'air comprimé. S'assurer que le circuit est purgé puis procéder à l'intervention.
- Le remplacement d'un composant doit être effectué avec un composant de même catégorie ATEX.
- Les opérations de nettoyage seront réalisées conformément aux spécificités ATEX de l'installation, de préférence par aspiration et/ou par utilisation de produits antistatiques. Le dépôt de poussière ne doit pas excéder 5 mm.
- **L'installation et les opérations de maintenance doivent être effectuées par du personnel qualifié.**

4 – CLASSIFICATION ATEX

⟨Ex⟩ II 2 GD c 85 °C

⟨Ex⟩	Logo de référence pour la sécurité en atmosphères explosibles
II	Destination : Groupe II : Atmosphères de surface
2	Utilisation en zones 1 et 21
GD	Atmosphères de type gaz ou poussière
c	Mode de protection : "c", sécurité de construction
85°C	Classe de température (T6)

La limite de température ambiante (Ta) de l'équipement ou de l'ensemble incorporant les interrupteurs de position sera définie comme suit :

- (Ta) du composant ayant la limite la plus faible si celle-ci est < 60°C,
- 60°C si les constituants autres que les interrupteurs de position ont une (Ta) > 60°C.

EC DECLARATION of CONFORMITY CE ⟨Ex⟩

We, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

hereby declare that the following components from the limit switches range:

- **PXC-M...** : 3/2 limit switches

are compatible for use in explosive atmosphere ***II 2 GD (zones 1,2 and 21,22).***

These components are designed and manufactured in compliance with the European Directive:

- 94/9/EC, March 1994, **"ATEX"**

The present declaration is based on the compliance with the following standards:

- Standard EN 13463-1, 2001 and AC: 2002, Non-electrical equipment for potentially explosive atmospheres. Part 1 : Basic method and requirements
- Standard EN 13463-5, 2003, Non-electrical equipment intended for use in potentially explosive atmospheres. Part 5: Protection by constructional safety "c".

Technical file: 1509070 X
Submitted at: LCIE,
33 avenue du général Leclerc, 92260 Fontenay-aux-roses

Additional information:

These products are designed for utilization in applications falling under the scope of the ATEX Directive 94/9/EC. This coverage could only be referred to as long as operations for the installation and the maintenance of these products are complying with related standards.

The user will have to comply with procedures for getting an approval of the final assembled system according to related regulations.

Issued at Evreux — Date: January 24th, 2007

CE marked: 2006

DECLARATION CE de CONFORMITE CE ⟨Ex⟩

Nous, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

déclarons que les composants de la gamme des interrupteurs de position référencés :

- **PXC-M...** : Interrupteurs de position 3/2

sont utilisables en atmosphère explosible ***II 2 GD (zones 1,2 et 21,22).***

Ces composants sont construits conformément aux dispositions de la directive européenne :

- 94/9/CE, mars 1994, **"ATEX"**

La présente déclaration est établie sur la base de la conformité aux normes suivantes :

- norme EN 13463-1, 2001 et AC:2002, Matériels non électriques pour utilisation en atmosphères explosibles. Partie 1 : Prescriptions et méthode de base.
- norme EN 13463-5, 2003, Appareils non électriques destinés à être utilisés en atmosphères explosibles. Partie 5 : Protection par sécurité de construction "c".

Dossier technique : 1509070 X
Déposé auprès de : LCIE,
33 avenue du général Leclerc, 92260 Fontenay-aux-roses

Information complémentaire :

La conception de ces produits permet leur utilisation dans un environnement soumis à l'application de la Directive ATEX 94/9/CE sous réserve que les opérations nécessaires à leur installation et à leur maintenance soient effectuées en conformité avec les dispositions des normes en vigueur.

L'utilisateur prendra en charge la mise en conformité de l'installation finale conformément à la réglementation en vigueur.

Fait à Evreux — Date : 24 janvier 2007

Date d'application marquage CE : 2006

Jean-François Visle
Responsable ATEX

Instruction Leaflet **GB**

Visual indicators

1 – SPECIFICATIONS

• Operating temperature (Ta)	-15°C to +60°C (5°F to +140°F)
• Fluid temperature	-15°C to +60°C (5°F to +140°F)
• Operating pressure	1 to 8 bar (14,5 to 116 psi)
• Air condition	ISO 8573-1: - Filtered air or inert gas class 5 - Dry air or inert gas class 4
• Max Operating Frequency	1 Hz
• Operating position	Any position

2 – MODELS AND FUNCTIONS

PXV-F1... Visual indicator Ø 22 mm

3 – INSTALLATION

- Mounting according to the PARKER catalogue.

WARNING

- Conditions for installing the components must comply with specifications mentioned in chapters 1 and 3.
- Before maintenance operations, stop the air and ensure that pipes are exhausted. Then proceed.
- The replacement of a component must be done with a component of the same ATEX category.
- Cleaning operations should be done in compliance with the specifications of the ATEX zone, preferably by aspiration and/or utilization of antistatic products. The deposit of dust should not exceed 5 mm.
- **The installation and maintenance operations must be done by qualified personnel.**

4 – ATEX CLASSIFICATION

 II 2 GD c 85 °C

	Specific logo for safety in hazardous atmospheres
II	Destination : Group II : Atmospheres other than in mines
2	For use in zones 1 and 21
GD	Gas or Dust atmospheres
c	Protection mode: "c", constructional safety
85°C	Temperature class (T6)

The maximum ambient temperature (Ta) of the equipment or of the subassembly incorporating visual indicators will be defined as:

- (Ta) of the element having the lowest limit if this one is < 60°C,
- 60°C if elements other than the visual indicators have a (Ta) > 60°C.

Instruction de service **FR**

Voyants

1 – SPECIFICATIONS

• Température de service (Ta)	-15°C à +60°C
• Température du fluide	-15°C à +60°C
• Pression de service	1 à 8 bar
• Fluide admissible et qualité	ISO 8573-1 : - Air ou gaz neutre filtré classe 5 - Air sec ou gaz neutre classe 4
• Fréquence de service maxi	1 Hz
• Position de fonctionnement	Indifférente

2 – TYPES ET FONCTIONS

PXV-F1... Voyant Ø 22 mm

3 – INSTALLATION

- Montage selon description du catalogue PARKER.

ATTENTION

- Les composants doivent être installés dans un environnement conforme aux spécifications des chapitres 1 et 3.
- Avant toute opération de maintenance, couper l'air comprimé. S'assurer que le circuit est purgé puis procéder à l'intervention.
- Le remplacement d'un composant doit être effectué avec un composant de même catégorie ATEX.
- Les opérations de nettoyage seront réalisées conformément aux spécifités ATEX de l'installation, de préférence par aspiration et/ou par utilisation de produits antistatiques. Le dépôt de poussière ne doit pas excéder 5 mm.
- **L'installation et les opérations de maintenance doivent être effectuées par du personnel qualifié.**

4 – CLASSIFICATION ATEX

 II 2 GD c 85 °C

	Logo de référence pour la sécurité en atmosphères explosibles
II	Destination : Groupe II : Atmosphères de surface
2	Utilisation en zones 1 et 21
GD	Atmosphères de type gaz ou poussière
c	Mode de protection : "c", sécurité de construction
85°C	Classe de température (T6)

La limite de température ambiante (Ta) de l'équipement ou de l'ensemble incorporant les voyants sera définie comme suit :

- (Ta) du composant ayant la limite la plus faible si celle-ci est < 60°C,
- 60°C si les constituants autres que les voyants ont une (Ta) > 60°C.

EC DECLARATION of CONFORMITY

We, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

hereby declare that the following components from the visual indicators range :

- **PXV-F1...**

are compatible for use in explosive atmosphere ***II 2 GD (zones 1,2 and 21,22).***

These components are designed and manufactured in compliance with the European Directive:

- 94/9/EC, March 1994, **"ATEX"**

The present declaration is based on the compliance with the following standards:

- Standard EN 13463-1, 2001 and AC: 2002, Non-electrical equipment for potentially explosive atmospheres. Part 1: Basic methods and requirements
- Standard EN 13463-5, 2003, Non-electrical equipment intended for use in potentially explosive atmospheres. Part 5: Protection by constructional safety "c".

Technical file: 1509084 X

Submitted at: LCIE,
33 avenue du général Leclerc, 92260 Fontenay-aux-roses

Additional information:

These products are designed for utilization in applications falling under the scope of the ATEX Directive 94/9/EC. This coverage could only be referred to as long as operations for the installation and the maintenance of these products are complying with related standards.

The user will have to comply with procedures for getting an approval of the final assembled system according to related regulations.

Issued at Evreux Date: January 24th, 2007

CE marked: 2005

DECLARATION CE de CONFORMITE

Nous, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

déclarons que les composants de la gamme de voyants référencés :

- **PXV-F1...**

sont utilisables en atmosphère explosible ***II 2 GD (zones 1,2 et 21,22).***

Ces composants sont construits conformément aux dispositions de la directive européenne:

- 94/9/CE, mars 1994, **"ATEX"**

La présente déclaration est établie sur la base de la conformité aux normes suivantes :

- norme EN 13463-1, 2001 et AC:2002, Matériel non électrique pour utilisation en atmosphères explosibles. Partie 1 : prescriptions et méthodes de base,
- norme EN 13463-5, 2003, Appareils non électriques destinés à être utilisés en atmosphères explosibles. Partie 5: Protection par sécurité de construction "c".

Dossier technique : 1509084 X

Déposé auprès de : LCIE,
33 avenue du général Leclerc, 92260 Fontenay-aux-roses

Information complémentaire :

La conception de ces produits permet leur utilisation dans un environnement soumis à l'application de la Directive ATEX 94/9/CE sous réserve que les opérations nécessaires à leur installation et à leur maintenance soient effectuées en conformité avec les dispositions des normes en vigueur.

L'utilisateur prendra en charge la mise en conformité de l'installation finale conformément à la réglementation en vigueur.

Fait à Evreux Date : 24 janvier 2007

Date d'application marquage CE : 2005

Jean-François Viste
Responsable ATEX

Instruction Leaflet **GB**

Logic elements

1 – SPECIFICATIONS

• Operating temperature (Ta)	-15°C to +60°C (5°F to +140°F)
• Fluid temperature	-15°C to +60°C (5°F to +140°F)
• Operating pressure	3 to 8 bar (45 to 116 psi)
• Air condition	ISO 8573-1: - Filtered air or inert gas class 5 - Dry air or inert gas class 4
• Max Operating Frequency	5 Hz
• Operating position	Any position

2 – MODELS AND FUNCTIONS

PLL-... / PLK-... / PLN-... / PLJ-C10 / PLM-... / ...	Functions AND, OR, NOT, YES and Latch memory,
PRD-... / PRF-... / PRT-... /	Amplifier, Sensor, Timer,
PSM-... / PSV-A12	Modular Sequencer.

3 – INSTALLATION

• Mounting according to the PARKER catalogue, in conjunction with subbases and input modules:

PLE-B1. / PZU-...	for functions and latch memory
PZU-...	for Amplifier, Sensor, Timer,
PSE-A1. / PSD-... / PSB-A1.	for Modular Sequencer

WARNING

- Conditions for installing the components must comply with specifications mentioned in chapters 1 and 3.
- Before maintenance operations, stop the air and ensure that pipes are exhausted. Then proceed.
- The replacement of a component must be done with a component of the same ATEX category.
- Cleaning operations should be done in compliance with the specifications of the ATEX zone, preferably by aspiration and/or utilization of antistatic products. The deposit of dust should not exceed 5 mm.
- **The installation and maintenance operations must be done by qualified personnel.**

4 – ATEX CLASSIFICATION

 II 2 GD c 85 °C

	Specific logo for safety in hazardous atmospheres
II	Destination : Group II : Atmospheres other than in mines
2	For use in zones 1 and 21
GD	Gas or Dust atmospheres
c	Protection mode : "c", constructional safety
85°C	Temperature class (T6)

The maximum ambient temperature (Ta) of the equipment or of the subassembly incorporating logic elements will be defined as:

- (Ta) of the element having the lowest limit if this one is < 60°C,
- 60°C if elements other than the logic have a (Ta) > 60°C.

Instruction de service **FR**

Cellules logiques

1 – SPECIFICATIONS

• Température de service (Ta)	-15°C à +60°C
• Température du fluide	-15°C à +60°C
• Pression de service	3 à 8 bar
• Fluide admissible et qualité	ISO 8573-1 : - Air ou gaz neutre filtré classe 5 - Air sec ou gaz neutre classe 4
• Fréquence de service maxi	5 Hz
• Position de fonctionnement	Indifférente

2 – TYPES ET FONCTIONS

PLL-... / PLK-... / PLN-... / PLJ-C10 / PLM-... / ..	Fonctions : ET, OU, NON, OUI et mémoire
PRD-... / PRF-... / PRT-.../	amplificateur, capteur à fuite, temporisation,
PSM-... / PSV-A12	Séquenceur modulaire.

3 – INSTALLATION

• Montage selon description du catalogue PARKER, en association avec les embases et modules d'entrée :

PLE-B1../ PZU-...	fonctions et mémoire
PZU-...	amplificateur, capteur à fuite, temporisation
PSE-A1. / PSD-... / PSB-A1.	séquenceur modulaire

ATTENTION

- Les composants doivent être installés dans un environnement conforme aux spécifications des chapitres 1 et 3.
- Avant toute opération de maintenance, couper l'air comprimé. S'assurer que le circuit est purgé puis procéder à l'intervention.
- Le remplacement d'un composant doit être effectué avec un composant de même catégorie ATEX.
- Les opérations de nettoyage seront réalisées conformément aux spécificités ATEX de l'installation, de préférence par aspiration et/ou par utilisation de produits antistatiques. Le dépôt de poussière ne doit pas excéder 5 mm.
- **L'installation et les opérations de maintenance doivent être effectuées par du personnel qualifié.**

4 – CLASSIFICATION ATEX

 II 2 GD c 85 °C

	Logo de référence pour la sécurité en atmosphères explosibles
II	Destination : Groupe II : Atmosphères de surface
2	Utilisation en zones 1 et 21
GD	Atmosphères de type gaz ou poussière
c	Mode de protection : "c", sécurité de construction
85°C	Classe de température (T6)

La limite de température ambiante (Ta) de l'équipement ou de l'ensemble incorporant les éléments de logique sera définie comme suit :

- (Ta) du composant ayant la limite la plus faible si celle-ci est < 60°C,
- 60°C si les constituants autres que la logique ont une (Ta) > 60°C.

EC DECLARATION of CONFORMITY

We, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

hereby declare that the following components from the ***Telepneumatic*** *pneumatic logic range :*

- **PLL-... / PLK-... / PLN-... / PLJ-C10 /** Functions AND, OR, NOT, YES,
- **PLM-... / PRD-.../ PRF-.../ PRT-.../** Latch memory, Amplifier, Sensor, Timer,
- **PSM-... / PSV-A1.** Modular Sequencer,

are compatible for use in explosive atmosphere ***II 2 GD (zones 1,2 and 21,22).***

These components are designed and manufactured in compliance with the European Directive:

- 94/9/EC, March 1994, **"ATEX"**

The present declaration is based on the compliance with the following standards:

- Standard EN 13463-1, 2001 and AC:2002, Non-electrical equipment for potentially explosive atmospheres. Part 1: Basic methods and requirements
- Standard EN 13463-5, 2003, Non-electrical equipment intended for use in potentially explosive atmospheres. Part 5: Protection by constructional safety "c".

Type certificate: LCIE 04 ATEX 6164X

Delivered by: LCIE

Additional information:

These products are designed for utilization in applications falling under the scope of the ATEX Directive 94/9/EC. This coverage could only be referred to as long as operations for the installation and the maintenance of these products are complying with related standards.

The user will have to comply with procedures for getting an approval of the final assembled system according to related regulations.

Issued at Evreux — Date: January 24th, 2007

CE marked: 2004

DECLARATION CE de CONFORMITE

Nous, **Parker Hannifin France S.A.S.**
Etablissement d'Evreux
Rue H. Becquerel – BP 3124
27031 EVREUX CEDEX – France

déclarons que les composants de la gamme de logique pneumatique ***Telepneumatic*** *référencés :*

- **PLL-... / PLK-... / PLN-... / PLJ-C10 /** Fonctions ET, OU, NON, OUI,
- **PLM-... / PRD-... / PRF-... / PRT-... /** mémoire, amplificateur, capteur à fuite, temporisateur,
- **PSM-... / PSV-A1.** séquenceur modulaire,

sont utilisables en atmosphère explosible ***II 2 GD (zones 1,2 et 21,22).***

Ces composants sont construits conformément aux dispositions de la directive européenne:

- 94/9/CE, mars 1994, **"ATEX"**

La présente déclaration est établie sur la base de la conformité aux normes suivantes :

- norme EN 13463-1, 2001 et AC:2002, Matériel non électrique pour utilisation en atmosphères explosibles. Partie 1 : prescriptions et méthodes de base,
- norme EN 13463-5, 2003, Appareils non électriques destinés à être utilisés en atmosphères explosibles. Partie 5: Protection par sécurité de construction "c".

Attestation d'examen de type : LCIE 04 ATEX 6164X

Délivrée par : LCIE

Information complémentaire :

La conception de ces produits permet leur utilisation dans un environnement soumis à l'application de la Directive ATEX 94/9/CE sous réserve que les opérations nécessaires à leur installation et à leur maintenance soient effectuées en conformité avec les dispositions des normes en vigueur.

L'utilisateur prendra en charge la mise en conformité de l'installation finale conformément à la réglementation en vigueur.

Fait à Evreux — Date : 24 janvier 2007

Date d'application marquage CE : 2004

Jean-François Viste
Responsable ATEX

DECLARATION OF CONFORMITY (ATEX)

We **Parker Hannifin Ltd.**
Pneumatic Division
Walkmill Lane
Bridgtown
Cannock
Staffs
WS11 0LR

Declare that the following product families are non electrical and have been assessed in accordance with ATEX 94/9/EC (products for use in potentially explosive atmospheres). Electrical items supplied with any of the listed products will have their own Declaration of Conformities: -

Global Air Preparation

…….. Referenced Normative Documents

EN13463 Non-electrical equipment for potential explosive atmospheres

…….. Equipment Group and Category classification

II 3 GD 80^0 C - Self Certification

…….. In addition
We have conducted a hazard risk assessment analysis and concluded that the products do not possess their own potential ignition source. The basis of this declaration is the self-ignition hazard assessment on representative test samples of the product family.

For Parker Pneumatic Division, Cannock

David G E Davies
Chief Engineer – Cannock
PH165/A
15-12-06

DECLARATION

We **Parker Hannifin Manufacturing Ltd**
Pneumatic Division
The Collins Centre
Lichfield South
Lichfield
WS14 0QP
UK

Product	Series	Category
Filter*	P31FA, P32FA, P33FA	for zone 1, 21
Regulator	P31RA, P32RA, P33RA	for zone 1, 21
Filter regulator*	P31EA, P32EA, P33EA	for zone 1, 21
Lubricator*	P31LA, P32LA, P33LA	for zone 1, 21
Ball Valve & Slide Valve	P31VA, P32VA, P33VA	for zone 1, 21
Manifold	P31MA, P32MA, P33MA	for zone 1, 21
For non-fitted solenoid product		
Soft Start & Dump Valve	P31TA, P32TA	for zone 1, 21
Soft Start Valve	P31SA, P32SA	for zone 1, 21
Dump Valve	P31DA, P32DA	for zone 1, 21

*Filter, Filter Regulator and Lubricator – This evaluation applies to products fitted with metal bowls only.

Following Ignition Hazard Assessments performed on the non-electrical products listed above, in accordance with the requirements of EN 13463-1:2009, it was considered that the equipment does not contain its own source of ignition, and therefore is not within the scope of directive 94/9/EC.

The products can be used in a Group II Category 2 environment assuming that the ATEX Directive and the following conditions are complied with:

- Installation and maintenance of the product must be undertaken by qualified personnel.
- Do not mount the products in an area where impact may occur.
- Filters must be used to limit the introduction of particles and to capture particles generated in service.
- Supply air quality must be within ISO 8573-1:2010 Class 1.4.2.
- Maximum working temperature to be as stated on product label.
- WARNING – pulsating pressure and/or a closed circuit can generate heat.
- Deposits of dust on the product must not exceed 5mm thickness.
  Refer to technical file for surface areas of plastics.
  The unit must be earthed via the compressed air supply line.
- The unit must not come into contact with liquid solvents, acids or alkalis.
  Refer to technical file for chemicals known to be incompatible.
  Product cleaning must be undertaken using a method complying with the specification of the ATEX zone, preferably by using mild soap and water or antistatic products.
- **Regulators, Filter Regulators:**
  Do not use Regulators or Filter Regulators within systems that can create vibration within the Regulator/Filter Regulator unit.
- **Solenoid Operated Valves:**
  Are suitable for use in an ATEX environment, (Group II Category 2) providing ATEX approved solenoids are fitted.
- Technical file available on request.

Approved by:

A. MacGuire
Engineering Manager – Air Preparation EMEA

DECLARATION

We **Parker Hannifin Manufacturing Austria GmbH**
Pneumatic Division
Dr. Alexander Schärfstrasse 12
2700 Wiener Neustadt
Austria

Product	**Series**	**Category**
Filter	P3YFA	for zone 1, 21
Regulator	P3YRA	for zone 1, 21
Filter regulator	P3YEA	for zone 1, 21
Lubricator	P3YLA	for zone 1, 21
Ball Valve	P3YVA	for zone 1, 21
Manifold	P3YMA	for zone 1, 21
For non-fitted solenoid product		
Soft Start & Dump Valve	P3YTA	for zone 1, 21
Soft Start Valve	P3YSA	for zone 1, 21
Dump Valve	P3YDA	for zone 1, 21

Following Ignition Hazard Assessments performed on the non-electrical products listed above, in accordance with the requirements of EN 13463-1:2009, it was considered that the equipment does not contain its own source of ignition, and therefore is not within the scope of directive 94/9/EC.

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  Refer to technical file for chemicals known to be incompatible.
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- **Regulators, Filter Regulators:**
  Do not use Regulators or Filter Regulators within systems that can create vibration within the Regulator/Filter Regulator unit.
- **Solenoid Operated Valves:**
  Are suitable for use in an ATEX environment, (Group II Category 2) providing ATEX approved solenoids are fitted.
- Technical file available on request.

Approved by:

E. Bauregger (Location Engineering Manager)

DECLARATION

We **Parker Hannifin Manufacturing Austria GmbH**
Pneumatic Division
Dr. Alexander Schärfstrasse 12
2700 Wiener Neustadt
Austria

Product	**Series**	**Category**
Filter	P3ZFA	for zone 1, 21
Regulator	P3ZRA	for zone 1, 21
Lubricator	P3ZLA	for zone 1, 21
Manifold	P3ZMA	for zone 1, 21
For non-fitted solenoid product		
Soft Start & Dump Valve	P3ZTA	for zone 1, 21
Soft Start Valve	P3ZSA	for zone 1, 21
Dump Valve	P3ZDA	for zone 1, 21

Following Ignition Hazard Assessments performed on the non-electrical products listed above, in accordance with the requirements of EN 13463-1:2009, it was considered that the equipment does not contain its own source of ignition, and therefore is not within the scope of directive 94/9/EC.

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  Are suitable for use in an ATEX environment, (Group II Category 2) providing ATEX approved solenoids are fitted.
- Technical file available on request.

Approved by:

E. Bauregger (Location Engineering Manager)

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