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AirGuard Protection System

Airfuse - protection of personnel, machinery and equipment

Catalogue PDE2604TCUK September 2014



Parker

ENGINEERING YOUR SUCCESS.

PDE2604TCUK

AirGuard Protection System

Protect your most important assets: your employees and their equipment!

The AirGuard offers simple but efficient protection to pneumatic systems in the event of a broken compressed-air hose or pipe. The air supply is immediately shut off by the AirGuard, should the volume of air exceed a set value. This “value” is factory preset and is set to allow normal air consumption when using air tools.

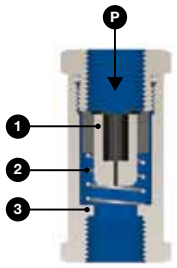
Should the air consumption exceeds the set value, e.g. the air line is severed, then the internal piston instantly shuts off the main flow. An integral bleed hole allows some air to flow though. This enables the line pressure to automatically reset the AirGuard once the main line break is repaired.

Management Responsibility:
It is the duty of management to ensure a safe working environment for their employees and that the equipment complies with **ISO 4414** or **“PUWER”** (the Provision and Use of Work Equipment Regulations)

Complies with the 2010 ISO4414 (5.4.5.11.1)
“When failure of a hose assembly or plastic piping constitutes a whiplash hazard, it shall be restrained or shielded by suitable means. In addition, an air fuse for compressed air should be mounted.”

Function:

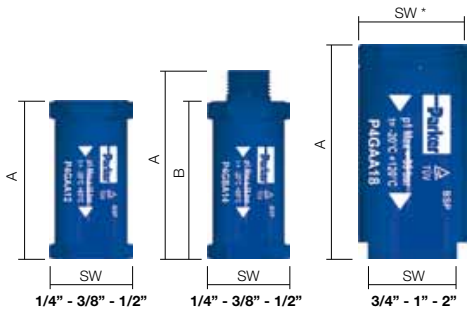
(P) is the inlet. The air flows over piston (1) and continues through seat (3). The flow of air over the piston is slowed down by several longitudinal grooves on the exterior of the piston. If the flow becomes excessive, the current of air cannot flow over the piston quickly enough.
The piston is then pressed against spring (2) beneath it, and towards the seat. If the flow is exceeded, for example, if the hose suddenly breaks, the air supply is automatically shut off.



Special Applications

Stainless Steel AirGuard available in 1/2” size

Some branches of industry with a high hazard potential, such as chemical and pharmaceutical as well as clean room and offshore technologies place extremely high demands on both the safety of their employees and the protection of their facilities. Compressed air is typically used as an energy transfer medium in these industries and is no means without its dangers: compressed air hoses can rupture or burst, as can fixed pipes. This may expose personnel working in such areas to extreme hazards as well as potential damage to expensive facilities and costly production downtime.





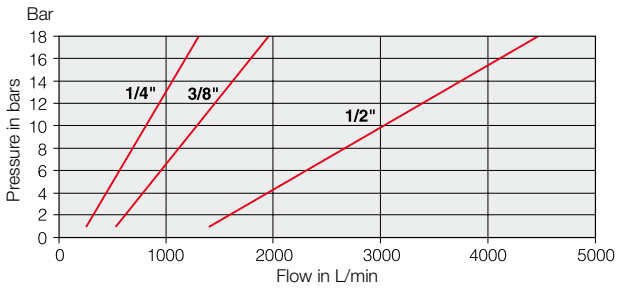
Technical Data and Ordering Information

Thread connection BSP	dimensions (mm)			Weight (g)	Maximum inlet pressure	Temperature range	Material	P1 inlet thread	P2 outlet thread	Order Code
	A	B	SW							
1/4”	48	-	22	30	18 bar (255 PSIG)	-20°C to 80°C (-4°F to 176°F)	Housing: aluminium Piston: polyoxy-methylene	female	female	**P4GAA12**
1/4”	58	49	22	36				male	female	**P4GBA12**
3/8”	59	-	27	58				female	female	**P4GAA13**
3/8”	71	59	27	62				male	female	**P4GBA13**
1/2”	65	-	30	78				female	female	**P4GAA14**
1/2”	80	65	30	85				male	female	**P4GBA14**
1/2”	62	-	28	132			Housing: stainless steel Piston: polyoxy methylene	female	female	**P4GCA14**
3/4”	76	-	30 / 36*	107		-20°C to 120°C (-4°F to 248°F)	Housing: aluminium Piston: aluminium	female	female	**P4GAA16**
1”	100	-	41 / 50*	300	35 bar (500 PSIG)			female	female	**P4GAA18**
2”	130	-	70 / 80*	775				female	female	**P4GAA1C**

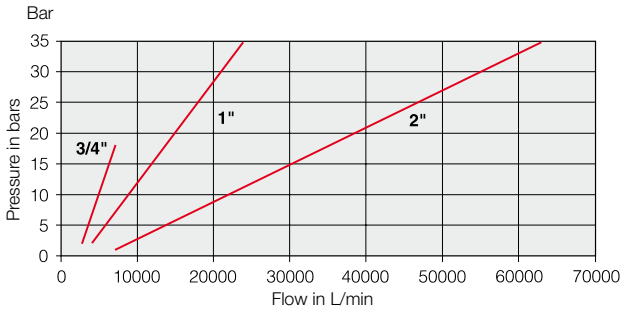
Note: NPT version available on request - 1/4” high flow version available on request.

Closing Flow Graphs

1/4", 3/8" and 1/2" flow rates



3/4", 1" and 2" flow rates



Dimensioning of compressed air hoses and equipment

Connection Size	Hose length 0 to 10 meters			Hose length 10 to 20 meters		
	Inner diameter Minimum mm	Minimum pressure bar	Flow at 6 bar l/min	Inner diameter minimum	Minimum pressure bar	Flow at 6 bar l/min
1/4"	7	4	480	8	4	480
3/8"	10	4	1100	12	4	1100
1/2"	12	4	2000	14	4	2000
3/4"	18	4	3800	20	4	3800
1"	24	4	6500	26	4	6500
2"	45	4	16000	50	4	16000

If the pressure is lower than stated in the table, a hose with a larger internal diameter must be used.

To select the correct size AirGuard, the pneumatic tool or equipment must have a maximum flow requirement to the left of the red line.

e.g.: 15 bar @20000 L/m = 2" size AirGuard
8 bar @1000 L/m = 3/8" size AirGuard

TÜV Approval: 01-02-0145

ATEX

These products are out of scope of the ATEX Directive 94/9/EC; however they can be used in a Group II Category 2 environment assuming that the ATEX Directive and the following conditions are complied with:

- Maximum working temperature to be as stated on product label.
- Product cleaning must be undertaken using a method complying with the specification of the ATEX Zone, preferably by aspiration and/or utilization of Antistatic Products.
- Deposits of dust on the product must not exceed 5mm thickness.
- Installation and Maintenance of the product must be done by a qualified personnel.
- Do not mount products in an area where Impact may occur.

AirGuard - P4G for zone 1, 21

Complies with: ISO 4414 5.4.5.11

Failure of hose assemblies and plastic piping 5.4.5.11.1

"When failure of a hose assembly of plastic piping constitutes a whiplash hazard, it shall be restrained or shielded by suitable means. In addition, **an air fuse for compressed air should be mounted"**

Table 1: Dimensioning of compressed air hoses and equipment

Thread	Hose length 0 to 10 meters			Hose length 10 to 20 meters		
	Inner diameter Minimum mm	Minimum pressure bar	Flow at 6 bar l/min	Inner diameter minimum	Minimum pressure bar	Flow at 6 bar l/min
1/4"	7	4	480	8	4	480
3/8"	10	4	1100	12	4	1100
1/2"	12	4	2000	14	4	2000
3/4"	18	4	3800	20	4	3800
1"	24	4	6500	26	4	6500
2"	45	4	16000	50	4	16000

If the pressure is lower than stated in the table, a hose with a larger internal diameter must be used.

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