

# Puma™

## Inert Gas 'DUPLEX ST' Pressure Relief Dampers

### 120 min Hydrocarbon Fire Test IMO MSC.307 (88) - H0 Rated

Compliance to BS EN 15004-1:2008

Fire Tested at the Building Research Establishment - BRE Global - United Kingdom to International Maritime Organisation (IMO) Resolution MSC.307 (88) FTP Code 2010 and Marine Equipment Directive (MED) Type Approval Certificate  
120 minute Hydrocarbon Fire Test in an H60 Bulkhead to achieve an H0 Rating

#### MARINE GRADE MATERIALS

The DUPLEX ST Pressure Relief Damper is manufactured from Marine Grade 316 L Stainless Steel. The entire product is pickled and passivated to ISO 9001 standard. The precision engineering and high quality material ensure a robust product designed for the extreme conditions experienced in the Offshore and Coastal Environments.

#### DUPLEX FUNCTION

Each DUPLEX ST PRD comprises of a Fire Integrity Section (FIS) with balanced, profiled blades, and an integral Self Closing Door (SCD) incorporating a weatherproof seal, and held shut with strong Neodymium magnets.

These two components provide an intrinsic sound barrier and a positive air, dust and noise seal. This natural thermal barrier will help to prevent condensation forming on the Fire Integrity Section blades. Additional insulation can be fitted to increase the thermal and sound absorption characteristics.

#### QUALITY FINISH

The Marine Grade 316 L stainless steel has a natural finish as standard. Coloured polyester powder coat paint or marine grade paints such as Ameron are available on request.



**DUPLEX ST PRD 225 showing Self Closing Door (SCD) and Magnetic catch**

#### OPERATION

The PUMA DUPLEX ST Pressure Relief Dampers provide Free Vent Areas between 0.021 m<sup>2</sup> and 0.515 m<sup>2</sup>. The balanced, profiled blades are set to be fully open at 1000 Pa, the Self Closing Door (SCD) is set at 250 Pa ± 10%.

Other pressure settings are available on request.

A full table of the entire range is shown on the reverse page.



**DUPLEX ST PRD 225  
Self Closing Door**

High Pressure Inert Gaseous Extinguishing systems such as INERGEN IG 01 - IG 541 and IG 55 require Over Pressure relief. The PUMA range of DUPLEX ST Pressure Relief Dampers or Vents are designed specifically for the Marine Environment.

The range of NINE individual models has been designed with the maximum available Free Vent Area possible. The blade design, construction, and assembly has been tested to IMO Resolution MSC.307(88) FTP Code 2010 - Rated at 2 Hours by BRE Global. All DUPLEX PRD's have Type Approval Certification, independently verified by Bureau Veritas.



**DUPLEX ST PRD 525 Fire Integrity Section**

#### INSTALLATION

The PUMA DUPLEX ST PRD has been designed to be fitted in an H60/A60 Bulkhead or Division. The appropriate IMO MSC Code states that the PRD be fitted in an insulated duct extending 450mm either side of the Bulkhead. This allows easy fitting of the PRD to the coaming or flange of the duct, and allows the fitting of a suitable Weather Louvre or Grille to the other or external side of the Bulkhead or Division.



ISO 9001:2008  
Certificate Number: 1206 Issue:01



Unit C, Alexander Bell Centre, Hopkinson Way, West Portway Business Park,  
Andover, Hampshire, SP10 3UR, England



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### Puma™ Products - innovation - design - quality

#### TECHNICAL SUPPORT

PUMA can offer a wealth of experience in sales, application, and technical support

Using the latest CAD design software, we can provide detailed drawings in dxf or pdf formats

#### SERVICES AVAILABLE

- Technical Support
- Installation and Setup
- Maintenance
- Application Support
- Fitting Instructions
- 3 Year Warranty \*

#### 3RD PARTY TESTED

BS EN 13030:2001 - Airflow Test  
BS EN 1751:2014 - Leakage Test  
BS EN 1314-1 - Free Area Calcs

#### BESPOKE SOLUTIONS

Puma Products operates a continuous design and improvement policy, and reserves the right to change designs and specifications without notice

#### CONTACT DETAILS

For more information on any of our products or services please visit us on the Web at:

[www.pumaproducts.co.uk](http://www.pumaproducts.co.uk)

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Type Approval:  
34833/A0 BV

Type Approval:  
F - 20689



**Hydrocarbon Fire Test for a Duplex ST in a H60 Steel Bulkhead**

Puma Products Limited™ has supported the specific requirements of the Data Hall - Server Room - Electronic Data Processing Environment for over 30 years. Located in the South of England, we at Puma are widely recognized as experts in the field of Air Movement. Using our knowledge and expertise, we have developed many products, such as Fresh Air Supply and Fire Extinguishant Gas Extract Systems, incorporating Fire/Smoke Dampers. The innovative Hot Water Condensate Pumps © continue to lead the market in 'Humidifier Flush Down' disposal.

In 1999 we developed the first Fire Rated Pressure Relief Dampers to relieve the Over Pressure spike on the release of high pressure Inert Gas Systems. In 2012 the first 'DUALFLOW' PRD was introduced for Synthetic Gas Systems. The DUPLEX ST combines the concept of both dampers with marine grade Stainless Steel - 316 L

Nine Vent Sizes suitable for H60/A60 Marine Bulkheads in Coastal and Offshore Environments

Model Number	Free Vent Area in m <sup>2</sup>	Hole Cut-out in mm		Approx Weight kg
		Width	Height	
DUPLEX ST PRD 150	0.021	210	210	5
DUPLEX ST PRD 225	0.045	285	285	7.5
DUPLEX ST PRD 300	0.079	360	360	10
DUPLEX ST PRD 375	0.124	435	435	15
DUPLEX ST PRD 450	0.178	510	510	18
DUPLEX ST PRD 525	0.252	585	585	25
DUPLEX ST PRD 600	0.317	660	660	30
DUPLEX ST PRD 675	0.417	735	735	35
DUPLEX ST PRD 750	0.515	810	810	40

\* Refer to Operating and Maintenance Instructions



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